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UNITED STATES STEEL INTERNATIONAL

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SUMMARY REPORT

MICROFILMED

RECONNAISSANCE AUGER PROGRAMME AND STRATIGRAPHIC DIAMOND DRILLING E.L. 9/71 & 15/71, KING ISLAND

BY

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Survey profiles and interpretation

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I. SUMMARY

A reconnaissance geochemical auger program accompanied with stratigraphic diamond drilling has been completed in the area of Exploration Licence 9/71 and 15/71. The results of this work are evaluated in this report. The regional surveys have revealed,

(i) anomalous geochemical patterns, the parameters of which are strikingly similar to those of Bold Head.

(ii) granite intrusives, the mineralogical composition of which are similar to the mineralising granite of Bold Head, where a tungsten orebody of considerable size was discovered.

(iii) a 2" wide band of contact altered carbonate rock intersected by diamond drilling, indicating the presence of carbonate horizon(s) nearby.

Follow up work is recommended in order to,

(i) further outline the anomalies.

(ii) pinpoint drilling targets.

(iii) test the mineralisation of these targets.

The estimated costs for the exploration recommended in this report amounts to $70,000.

L. G. SZABO Dip. Geol., I.A.S.
Consulting Mining and Exploration Geologist. 9th June, 1972.

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II. INTRODUCTION

1. This report sets out to document geological investigations carried out in a flat lying area covered by sand, swamps and thick scrub. Accessibility and visibility are very poor, and outcrops are very sparse in this area. Airborne surveys, bulldozing, auger and diamond drilling are the means which can provide material of and information about the bedrock and possible mineralisation potential.

2. Regional exploration comprising line cutting, auger drilling, geochemical and ground magnetometer surveys, were carried out on four reconnaissance lines. This work outlined sections worthy of semi-detailed and detailed surveys. Due to very short time available the client wished to bypass these stages and instead put down some diamond drill holes in order to obtain information about the stratigraphy, structure and possible mineralisation potential of the area adjacent to the granite-country rock contact, broadly outlined by reconnaissance auger drilling. Bulldozing and 2000' of auger drilling were permitted in order to locate drilling targets for 1000' of diamond drilling.

3. The reconnaissance work was commenced in December, 1971, and completed at the end of March, 1972. In the next three weeks bulldozing and approximately 1000 ft of auger drilling was carried out, in order to select targets for diamond drilling.

   Diamond drilling was commenced on April 27. Drilling of the third hole was discontinued on May 23, due to inadequate core recovery, slow progress and short time available for the evaluation of results.

4. The option which expired originally on May 31, was extended till June 15, in order to allow more time for the evaluation of results and reporting.

5. This report has been compiled and written during 12 days. Time was, therefore, not allowed to discuss theoretical aspects and analog cases. Appended is however a list of references of which the theoretical background was synthesized. The practical aspects of this exploration was based on the author's experience obtained by closely studying three skarn type ore deposits in Europe and conducting exploration in eleven granite-skarn complexes in Australia.

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III. TARGET, SCOPE, MEANS

1. Target

One of the largest tungsten mineralisations in the world occurs at King Island. This mineralisation is derived from Devonian granitic intrusions which have been the sources of tin, tungsten and molybdenum mineralisation in the Tasman geosynclinal area.

The tungsten mineralisation was introduced into

(i) fractures of detrital sedimentary and/or igenous rocks in Aberfoyle (Australia's second largest tungsten producer) and other places resulting in high grade - low tonnage deposits. The mining costs of such deposits are high and the profitability of operation is scattered and unpredictable.

(ii) carbonate rocks resulting in large - low grade deposits with disseminated scheelite and/or powellite minerals in the zone of metasomatic alteration. The mining costs of such deposits are low and the profitability depends on the market fluctuation only.

Low grade - large tonnage tungsten deposits (skarn type) were the prime targets of the exploration dealt with in this report.

Other metals such as copper, lead, nickel, tin, molybdenum and gold have, however, also been sought.

2. Scope

The skarn type deposits are controlled by

(i) Granitic intrusives which can be the source of tungsten mineralisation.

(ii) Carbonate rocks in the close proximity to the country rock - intrusive contact, which can absorb and accumulate tungsten from very low concentrated solutions.

(iii) Major fractures which could have served as channels for mineralising liquids.

The scope of this exploration was therefore to locate

(i) Contact altered rocks around granitic intrusions.

(ii) Carbonate rocks or their altered equivalents (garnet hornfels, diopside hornfels, their combinations, skarns etc.).

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(iii) Major fractures, faults and shear zones.

(iv) Higher concentrations of the elements sought (W, Mo, Sn) than those of non mineralised, but similar geological complexes.

(v) Weak magnetic anomalies due to iron introduced by metasomatic processes.

3. Means

Since the area is covered by sand, swamp and thick scrub, the cutting of survey lines and access roads, deep sampling, geochemical and instrumented surveys and diamond drilling were employed to obtain answers to the questions posed by the scope.

IV. BULLDOZING

In order to make access possible within the areas of the E.L.'s about 12 miles of access roads, and nine survey lines for a total of 19 miles were bulldozed using D-6 and D-7 dozers.

The survey lines followed the magnetic east-west direction, but bad deviations occurred along line Nos. 2 and 4 due to the very soft ground and boggy conditions prevailing in December.

Bulldozing revealed few outcrops and floaters of granite, contact altered pelitic - psammitic rocks and regional metamorphic schists.

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V. AUGER DRILLING

283 auger holes were drilled in the area of E.L. 9/71 and 15/71, for a total of 9700 feet, using tractor mounted Gemco rig and 2 7/8" drill bit.

In order to avoid contamination of the auger samples, the drillers were instructed not to use drill bits of tungsten and/or molybdenum alloy.

The holes were drilled to the bedrock surface of which samples were taken. A number of holes were sampled at six foot intervals in order to test suitable areas for secondary enrichments of tin, gold, zircon and rutil.

In the reconnaissance stage 225 holes were drilled on four regional lines. Drill sites were pegged 200 feet apart, but many holes were drilled at 400 feet and 600 feet intervals over the granite areas and in other places inaccessible for the Gemco rig.

In the follow up stage 35 holes were drilled on a 100 foot and 200 foot by 400 foot grid between Line Nos. 2 and 4.

Between Line Nos. 4 and 6, 23 holes were drilled on a 1000 foot by 1000 foot grid. Many holes were either abandoned or not drilled at all, as the width of Cainozoic cover exceeded the capacity of the Gemco rig (120 ft.)

Samples taken from the bottom of the holes were analysed for a wide range of elements.

Drill cuttings of hard rock were recovered from the auger samples by panning. The lithology of rock chips were determined by using stereomicroscopy.

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VI. MAGNETIC SURVEYING

Ground magnetometer surveys were completed on all lines and in selected areas using a Scintex MF-2 fluxgate magnetometer.

Readings were made at 100 ft intervals, but when deviations greater than 50 gammas were detected, readings were made at 50 ft, 25 ft and 12.5 ft intervals in order to depict accurately the alteration of magnetic intensity.

Several checks were made on pre-selected reference points in order to reduce the readings by diurnal alterations and instrument drift. The latter varied greatly between 20 and 300 gammas depending on the quality of battery used.

The magnetic surveys outlined anomalous sections on the survey lines. These anomalies are several thousand feet in width and vary from 50 to 200 gammas. Results are plotted on the relevant sections.

In one area a bipole anomaly was recorded and drilled (R1). The source of anomaly proved to be of acid dykes.

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VII. GEOCHEMISTRY

1. General

A reconnaissance geochemical survey was carried out on four widely spaced lines. Anomalous sections were recorded but, apart from minor detailed work geochemical follow up was not completed.

The Auger samples, regarded to be the mixture of bedrock and residual soils, were analysed by Spectrum Analytical Laboratories for

Cu, Pb, Ni, Mo, W, Sn & Au

using AAS and colorimetric methods. Assay reports are appended (Appendix I).

2. Check Assays

Check assays for tungsten carried out by D. C. Griffiths showed inherent discrepancies which lead to additional checks by other well reputed analysts: McPhar and AMDEL. Both analysts found that anomalous concentrations of tungsten were present in the check samples, being in strong disagreement with D. C. Griffiths, whose results were therefore disregarded. Assay reports are appended (Appendix II - III). The comparisons of the results supplied by the different analysts have been tabulated (Table Nos. 1 and 2).

3. Statistical Methods and Definitions

The lognormal distribution of elements has been accepted as a basis for the evaluation of the geochemical assays.

Clarke values were computed from the average concentration of elements found to be present in the relevant rocks by Rankama & Sahama, Hawkes & Webb and Ginzburg.

From the assay results means were estimated using the mathematical model given by Sichel.

When the mean was higher than the clarke, the assays were divided into background and anomalous populations for which means were computed.

Contrast factor of the background and anomalous populations were calculated:

$$\text{Contrast factor} = \frac{\text{Anomalous assays X Anomalous mean}}{\text{Background assays X Background mean}}$$

It is essential that the contrast factor be close to or greater than 1.

The highest assay value included in the estimation of background mean is the regional threshold value.

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TABLE 1

COMPARISON OF GEOCHEMICAL CHECK ASSAYS

SPECTRUM, D.C. GRIFFITHS, McPHAR AND AMDEL

LINE No.	HOLE No.	DEPTH Ft From-To	SAMPLE No.	A S S A Y S						ANALYST	REPORT No.	ANALYTICAL TECHNIQUES Mo,W,Sn	SUBMITTED FOR ANALYSIS BY	NOTE
				Cu	Pb	Ni	Mo	W	Sn					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2	12	28-31	53	51	20	50	2	L2	60	Spectrum	0363	Colorimetric	L.G.S.	Correct
		28-31	54	46	20	45	2	L2	70	"	"	"	L.G.S.	
2	86	6-12	121	15	5	15	L2	100	L2	Spectrum	0380	Colorimetric	L.G.S.	
		6-12	KI-1				L2	12		McPhar	CH 3751	"	L.G.S.	Discrepant
		6-12	KI-1					10		AMDEL	AN 4960/72	XRF	L.G.S.	
2	96	11-17	116	15	20	20	2	85	4	Spectrum	0380	Colorimetric	L.G.S.	
		11-17	KI-2				L2	90		McPhar	CH 3751	"	L.G.S.	Correct
		11-17	KI-2					45		AMDEL	AN 4960/72	XRF	L.G.S.	
2	152	19-25	102	9	25	85	L2	15	12	Spectrum	0380	Colorimetric	L.G.S.	
		19-25	INY-9-71-2-9	13	44	80	9	4	110	D.C. Griffith		Not stated	U.S.S.I.-N.Y.	
		19-25	INY-9-71-2-10	14	52	84	6	6	310	"		" "	U.S.S.I.-N.Y.	
		19-25	INY-9-71-2-9					L20	L20	McPhar	CH 3554	XRF	U.S.S.I.-N.Y.	Correct
		19-25	INY-9-71-2-9					20		"	CH 3550	Colorimetric	U.S.S.I.-N.Y.	
		19-25	INY-9-71-2-10					30	45	"	CH 3554	XRF	U.S.S.I.-N.Y.	
		19-25	INY-9-71-2-10					20		"	CH 3554	Colorimetric	U.S.S.I.-N.Y.	
4	8	10-16	10	11	10	10	2	30	15	Spectrum	0363	Colorimetric	L.G.S.	W discrepant,
		10-16	45	8	15	9	4	L2	20	"	"	"	L.G.S.	others correct
4	30	4-10	24	9	305	10	2	130	L2	Spectrum	0363	Colorimetric	L.G.S.	
		4-10	INY-9-71-4-1	9	270	18	L1	4	40	D.C.Griffith		Not stated	U.S.S.I.-N.Y.	
		4-10	INY-9-71-4-1					65	20	McPhar	CH 3554	XRF	U.S.S.I.-N.Y.	Fairly correct
		4-10	INY-9-71-4-1					60		"	CH 3554	Colorimetric	U.S.S.I.-N.Y.	
		4-10	KI-6				L2	30		"	CH 3751	"	L.G.S.	
		4-10	KI-6					15		AMDEL	AN 4960/72	XRF	L.G.S.	
4	32	25-28	27	34	55	35	L2	60	4	Spectrum	0363	Colorimetric	L.G.S.	Discrepant
		25-28	46	28	45	50	4	8	10	"	"	"	L.G.S.	
4	80	22-28	60	165	40	30	10	6	2	Spectrum	0369	Colorimetric	L.G.S.	
		22-28	INY-9-71-4-2	91	60	35	21	4	40	D.C.Griffith		Not stated	U.S.S.I.-N.Y.	Fairly correct
		22-28	INY-9-71-4-2					L20	25	McPhar	CH 3554	XRF	U.S.S.I.-N.Y.	
		22-28	INY-9-71-4-2					2		"	CH 3554	Colorimetric	U.S.S.I.-N.Y.	
4	82	22-28	61	50	20	40	2	2	2	Spectrum	0369	Colorimetric	L.G.S.	
		22-28	62	53	20	40	2	2	6	"	"	"	L.G.S.	Mo discrepant,
		22-28	KI-7				20	10		McPhar	CH 3751	"	L.G.S.	others fairly
		22-28	KI-7					5		AMDEL	AN 4960/72	XRF	L.G.S.	correct
4	92	14-20	71	5	25	10	2	40	2	Spectrum	0369	Colorimetric	L.G.S.	
		14-20	INY-9-71-4-3	17	64	26	4	8	50	D.C.Griffith		Not stated	U.S.S.I.-N.Y.	
		14-20	INY-9-71-4-3					45	35	McPhar	CH 3554	XRF	U.S.S.I.-N.Y.	Fairly correct
		14-20	INY-9-71-4-3					50		"	"	Colorimetric	U.S.S.I.-N.Y.	
		14-20	KI-8				L2	20		"	CH 3751	"	L.G.S.	
		14-20	KI-8					25		AMDEL	AN 4960/72	XRF	L.G.S.	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
4	34	16-19	72	17	15	10	6	120	6	Spectrum	0369	Colorimetric	L.G.S.	
		16-19	INY-9-71-4-4	24	49	26	6	10	300	D.C.Griffith		Not stated	U.S.S.I.-N.Y.	
		16-19	INY-9-71-4-4					60	20	McPhar	CH 3554	XRF	U.S.S.I.-N.Y.	
		16-19	INY-9-71-4-4					60		"	CH 3554	Colorimetric	U.S.S.I.-N.Y.	Fairly correct
		16-19	KI-3				L2	90		"	CH 3751	"	L.G.S.	
		16-19	KI-13				L2	60		"	CH 3751	"	L.G.S.	
		16-19	KI-3					45		AMDEL	AN 4960/72	XRF	L.G.S.	
		16-19	KI-13					50		"	AN 4960/72	XRF	L.G.S.	
4	112	20-26	79	6	20	15	6	50	L2	Spectrum	0369	Colorimetric	L.G.S.	
		20-26	INY-9-71-4-5	12	51	21	4	20	20	D.C.Griffith		Not stated	U.S.S.I.-N.Y.	
		20-26	INY-9-71-4-8	24	51	11	L1	10	90	"		Not stated	U.S.S.I.-N.Y.	
		20-26	INY-9-71-4-5					L20	L20	McPhar	CH 3554	XRF	U.S.S.I.-N.Y.	
		20-26	INY-9-71-4-5					20		"	CH 3554	Colorimetric	U.S.S.I.-N.Y.	Fairly correct
		20-26	INY-9-71-4-8					35	L20	"	CH 3554	XRF	U.S.S.I.-N.Y.	
		20-26	INY-9-71-4-8					30		"	CH 3554	Colorimetric	U.S.S.I.-N.Y.	
		20-26	KI-9				L2	40		"	CH 3751	"	L.G.S.	
		20-26	KI-12				L2	40		"	CH 3751	"	L.G.S.	
		20-26	KI-9					15		AMDEL	AN 4960/72	XRF	L.G.S.	
		20-26	KI-12					15		AMDEL	AN 4960/72	XRF	L.G.S.	
4	114	28-34	80	23	25	75	6	2	L2	Spectrum	0369	Colorimetric	L.G.S.	
		28-34	INY-9-71-4-6	21	59	67	8	8	210	D.C.Griffith		Not stated	U.S.S.I.-N.Y.	
		28-34	INY-9-71-4-6					L20	35	McPhar	CH 3554	XRF	U.S.S.I.-N.Y.	Fairly correct
		28-34	INY-9-71-4-6					20		"	CH 3554	Colorimetric	U.S.S.I.-N.Y.	
		28-34	KI-10				L2	5		"	CH 3751	"	L.G.S.	
		28-34	KI-10					5		AMDEL	AN 4960/72	XRF	L.G.S.	
4	118	25-31	82	11	15	20	4	40	2	Spectrum	0369	Colorimetric	L.G.S.	
		25-31	INY-9-71-4-7	19	56	29	1	50	150	D.C.Griffith		Not stated	U.S.S.I.-N.Y.	
		25-31	INY-9-71-4-7					45	L20	McPhar	CH 3554	XRF	U.S.S.I.-N.Y.	Correct
		25-31	INY-9-71-4-7					60		"	CH 3554	Colorimetric	U.S.S.I.-N.Y.	
		25-31	KI-11				L2	30		"	CH 3751	"	L.G.S.	
		25-31	KI-11					25		AMDEL	AN 4960/72	XRF	L.G.S.	
6	98	46-52	169	12	20	15	8	35	6	Spectrum	0387	Colorimetric	L.G.S.	
		46-52	KI-4				5	40		McPhar	CH 3751	"	L.G.S.	
		46-52	KI-14				5	10		"	CH 3751	"	L.G.S.	Fairly correct
		46-52	KI-4					25		AMDEL	AN 4960/72	XRF	L.G.S.	
		46-52	KI-14					10		"	AN 4960/72	"	L.G.S.	
8	10	34-40	196	18	20	20	2	17.5	12.5	Spectrum	0387	Colorimetric	L.G.S.	Discrepant
		34-40	291	23	20	10	L2	2	2	"	0397	"	L.G.S.	
8	20	68-74	185	25	20	15	2	35	13	Spectrum	0387	Colorimetric	L.G.S.	
		68-74	KI-5				L2	20		McPhar	CH 3751	"	L.G.S.	Fairly correct
		68-74	KI-5					10		AMDEL	AN 4960/72	XRF	L.G.S.	

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TABLE 2

GEOCHEMICAL CHECK ASSAYS

SPECTRUM AND McPHAR

LINE No.	HOLE No.	DEPTH Ft. From-To	SAMPLE No. McPhar 3751	SAMPLE No. McPhar 3837	SAMPLE No. Spectrum 0429	W ASSAYS McPhar 3751	W ASSAYS McPhar 3837	W ASSAYS Spectrum 0429	Mo ASSAYS McPhar 3751	Mo ASSAYS McPhar 3837	Mo ASSAYS Spectrum 0429
6	134	28-32	292	KI-15	292	L2	L2	2	10	L2	L2
6	140	190-192	293	KI-16	293	20	15	16	L2	L2	L2
6	146	178-184	294	KI-17	294	20	10	245	L2	L2	2
6	146	178-184	295	KI-18	295	-	20	140	-	L2	L2
6	108	118-124	296	KI-19	296	L2	L2	8	L2	L2	L2
6	118	76-82	297	KI-20	297	2	20	16	L2	L2	L2
6	128	106-112	298	KI-21	298	20	20	10	L2	L2	4
6-2	110	19-25	299	KI-22	299	15	10	10	L2	L2	2
6-2	120	30-36	300	KI-23	300	L2	L2	6	L2	L2	L2
6-2	130	120-126	301	KI-24	301	30	15	10	L2	L2	2
6-2	165	114-120	302	KI-25	302	10	L2	6	L2	L2	2
6-3	165	40-45	303	KI-26	303	L2	L2	2	L2	L2	L2
6-3.5	165	5-11	304	KI-27	304	L2	10	6	L2	L2	2
6-3.5	168	10-12	305	KI-28	305	L2	L2	4	L2	L2	L2
6-4	165	14-20	306	KI-29	306	40	30	25	L2	L2	4
6-3.45	168	7-8	307	KI-30	307	30	30	6	L2	L2	2
6-3.5	167	8-8.5	308	KI-31	308	10	10	4	2	L2	2
6-3.5	166	12-13	309	KI-32	309	15	L2	4	L2	L2	2
6-3.5	160	34-40	310	KI-33	310	15	L2	4	L2	L2	2
6-4	168	9-15	311	KI-34	311	5	L2	2	L2	L2	L2
6-3	168	20-26	312	KI-35	312	30	20	8	40	L2	4
6-3	160	52-56	313	KI-36	313	L2	L2	2	L2	L2	L2
6-4	160	44-50	314	KI-37	314	60	60	30	L2	L2	2
6-3	110	15-16	315	KI-38	315	L2	10	8	2	L2	8
6-3	120	3-9	316	KI-39	316	L2	L2	4	L2	5	2
6-3	130	34-40	317	KI-40	317	5	15	10	L2	L2	L2
6-4	110	10-16	318	KI-41	318	L2	L2	2	L2	L2	L2
6-4	121	19-25	319	KI-42	319	L2	15	6	L2	L2	L2
6-4	130	13-19	320	KI-43	320	L2	20	2	L2	L2	L2
6-4	140	28-34	321	KI-44	321	L2	30	8	L2	L2	2

The mean of anomalous populations has been used as the local anomaly threshold.

The contract of local anomaly is given by:

$$\text{Local contrast} = \frac{\text{Anomalous assay}}{\text{Local threshold}} - 1$$

It is essential that the local contrast be greater than 2.

Frequency and cumulative distribution curves have been drawn for all elements analysed. The latter have also been plotted for background and anomalous populations where relevant.

Assays totalling 283 samples supplied by Spectrum have been included in this statistical evaluation. McPhar and AMDEL's results have only served as check assays.

All calculation sheets and graphs are appended (Appendix Nos. IV - XI).

4. Evaluation of Results

(i) Copper

The mean of the 283 samples included in this analysis has been estimated at 29 PPM, being practically identical with the clarke of 30 PPM. The cumulative curve does not show anomalous deviation either.

Anomalous trends and/or zones are not present in the area.

(ii) Lead

A few anomalous values occur in the area, however, the contrast factor and the local contrasts are very low apart from the zone on

Line 4 between 2600E & 3400E

where the local contrast is excessively high (7.6).

Follow up work is warranted, as high tungsten values overlap.

(iii) Nickel

Clarke of nickel for the relevant rock types has been calculated to be 35 PPM. The mean of 29 PPM for the total samples is below this figure.

The frequency and cumulative distribution curves do not show anomalous trend. It has therefore been concluded that anomalous nickel mineralisation is not present in the area.

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TABLE 3

COMPARISON OF PARAMETERS

OF TUNGSTEN GEOCHEMICAL SURVEYS

AREA	POPULATION							REMARKS
	TOTAL		BACKGROUND		ANOMALOUS			
	Mean PPM	Number of Assays	Mean PPM	Number of Assays	Mean PPM	Number of Assays	Contrast Factor	
EL-9/71-15/71	8.2	283	3.8	218	26.3	65(23.0%)	2.06	Reconnaissance survey.
Bold Head	5.9	499	2.6	402	28.9	97(19.4%)	2.68	Detailed survey, large orebody discovered.
No. 1	5.5	219	2.5	180	24.7	39(17.8%)	2.14	Reconnaissance survey, follow up in progress.
No. 2	L2	170	L2	170	-	-	-	Reconnaissance survey, 2 assays are greater than 2 PPM.
No. 3	2.2	213	1.8	206	15.7	7(3.3%)	0.30	Reconnaissance survey. Follow up work encountered a 400' by 15' outcrop with scheelite mineralisation at an average grade of 0.042%W (14 samples analysed).
No. 4	L2	74	L2	74	-	-	-	Reconnaissance survey, 2 assays are greater than 2 PPM.
No. 5	L2	31	L2	31	-	-	-	Reconnaissance survey, 2 assays are greater than 2 PPM.
No. 6	2.5	165	1.9	148	19.5	17(10.3%)	1.18	Reconnaissance survey. Follow up work was not completed.

Note: 1. Reconnaissance lines were spaced 2000' to 5000' apart.

2. Residual soils were sampled in each case using Gemco and hand augers and suitable hand tools when the residual soil was close to the surface.

3. All samples were analysed using colorimetric methods by reputed Australian laboratories: McPhar, Spectrum, G.S.C. etc.

(iv) Molybdenum

Very low concentrations of this element are present in the rock types similar to those encountered in the area of Exploration Licence. Clarke has therefore been estimated at less than 2 PPM.

Local anomalies have been encountered in places, but they are not regarded as significant due to inadequate contrast.

(v) Tungsten

The clarke of tungsten is 2 PPM, which is significantly exceeded by the mean of total assays (8.2 PPM) indicating that the whole area is regionally anomalous.

In support of this, the background mean was found to be 3.8 PPM using 10 PPM cut off. This mean is still above the clarke confirming the conclusion that the area is situated in a tungsten province.

For a direct comparison the statistical evaluation of an earlier geochemical survey conducted by the author over the Bold Head area (situated approximately 14 miles south of the area covered by this exploration) has been presented in similar fashion and attached to this report. This survey was directly responsible for the discovery of a large tungsten orebody. The comparison of parameters shows striking similarities. It is essential to note however that the survey at Bold Head covered less than half a square mile while the present exploration covered approximately 8 square miles.

Parameters of six other surveys conducted by the author in eastern Australian have also been tabulated and included in this report (Table 3). Although Table 3 is self explanatory, it is essential to remark that:

(a) the geologically suitable environments are not necessarily mineralised, as the mean values in area Nos. 2, 4 and 5 did not exceed the clarke.

(b) in area No. 3 the source of anomalous population was located, although the contrast factor was hopelessly low.

(c) completely barren, insignificantly mineralised and economically mineralised areas have been successfully outlined by geochemical surveys.

It has therefore been concluded that the area of present exploration is situated in a tungsten province and contains highly significant anomalies.

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(vi) Tin

The mean of tin assays is far below the clarke, indicating the absence of anomalous mineralisation.

(vii) Gold

A few low and small anomalies of gold have been detected. These anomalies indicate that gold mineralisation has taken place, but results so far are inadequate to justify follow up work.

5. Reliability of Geochemical Assaying

Spectrum, McPhar and AMDEL's results show anomalous trends the magnitude of which are, however, discrepant.

AMDEL reported the lowest, McPhar reported intermediate and Spectrum reported the highest values. Below 100 PPM McPhar and Spectrum's results are broadly identical.

AMDEL used XRF technique, the reliability of which depends on a number of factors, particularly in the low PPM range:

(a) stability of electric current, temperature, moist etc.

(b) matrix of the specimen analysed

(c) matrix of standard specimens

(d) experience of the operator

From verbal communications it has become apparent that AMDEL has no adequate experience in analysing for tungsten in the very low PPM range. Consequently, suitable standards may not have been available and/or the matrix effect may have been overlooked. Results supplied by AMDEL have therefore been excluded from the further evaluation.

Several consultations with world authorities (Dr.A.M. Asklund, Mineral Chemist, Sweden, Et. Al.) in the theoretical and practical aspects of chemical analysis, and the comparison of check assays have resulted in the conclusions

(a) Analysis in the very low PPM ranges can provide discrepant results, because the even distribution of element sought can not be achieved by the most thorough pulverising technique, if the element in question occurs as a grain, and not as an even precipitate from solution.

This is the explanation of many discrepancies shown in Table Nos. 1 and 2.

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Similar discrepancies were encounted in connection with the geochemical survey at Bold Head. Six identical samples were submitted under different identification numbers. Results are:

SP 103	250 PPM W
104	250 "
105	375 "
106	675 "
107	200 "
108	200 "

Another set of identical samples yielded discrepancies as follows:

SP 109	4 PPM W
110	L2 "
111	4 "
112	60 "
113	4 "
114	4 "

The samples were analysed by McPhar using colorimetric modified Dithiol method.

(b) Colorimetric quantitative determinations are based on the intensity of colours. In the two extremities of very dense and very pale colours, readings are erratic owing to the poor distinguishing abilities of both the human eye and instrumented technique. This is well demonstrated by realiability checks conducted in connection with the Bold Head surveys.

Two mill head samples analysed using XRF technique by King Island Scheelite Ltd.'s own laboratory, were submitted for colorimetric analysis to McPhar. Results are as follows:

Mill head 66 - XRF - : 0.50% WO_3 (5000 PPM)

Checks by McPhar:	MH 66	1200 PPM
	SP 117	800 PPM
	SP 118	1000 PPM

Mill head 67 - XRF - : 0.35% WO_3 (3500 PPM)

Checks by McPhar:	SP 116	800 PPM

(c) A comparison of check assays by Spectrum and McPhar have been presented on the graph enclosed.

The graph clearly shows that the major discrepancies occur

(i) in the very low range from L2 to 10 PPM and

(ii) in the high range, above 90

Results supplied by both analysts follow the same pattern and do not show significant discrepancies between 10 PPM and 90 PPM.

(d) In order to eliminate the factor of error explained in (b) and (c), results below 10 PPM and above 80 PPM were excluded from a tentative statistical evaluation.

The striking similarities of the geochemical patterns of the exploration area and those of Bold Head have not faded out, but on the contrary, become more prominent.

Results are tabulated below:

Area	Samples between 10 & 80 PPM		Mean (Lognormal)
	Number	%	
E.L.9/71-16/71	60	21.2	21.2 PPM
Bold Head	87	17.4	20.8 PPM

(e) The reliability of both analysts is good within certain limitations:

(i) In the very low PPM range the accuracy can not be and is not needed to improve from practical point of view.

(ii) In the high PPM range (at and above 100 PPM) the reliability can be improved by diluting the solution analysed. This is a time consuming procedure which requires technical knowledge and experience. In a profit motivated operation these requirements can not be fulfilled within the existing price structure.

More credit is however given to Spectrum who used instrumented comparison in the range of 50 to 500 PPM (Appendix I)

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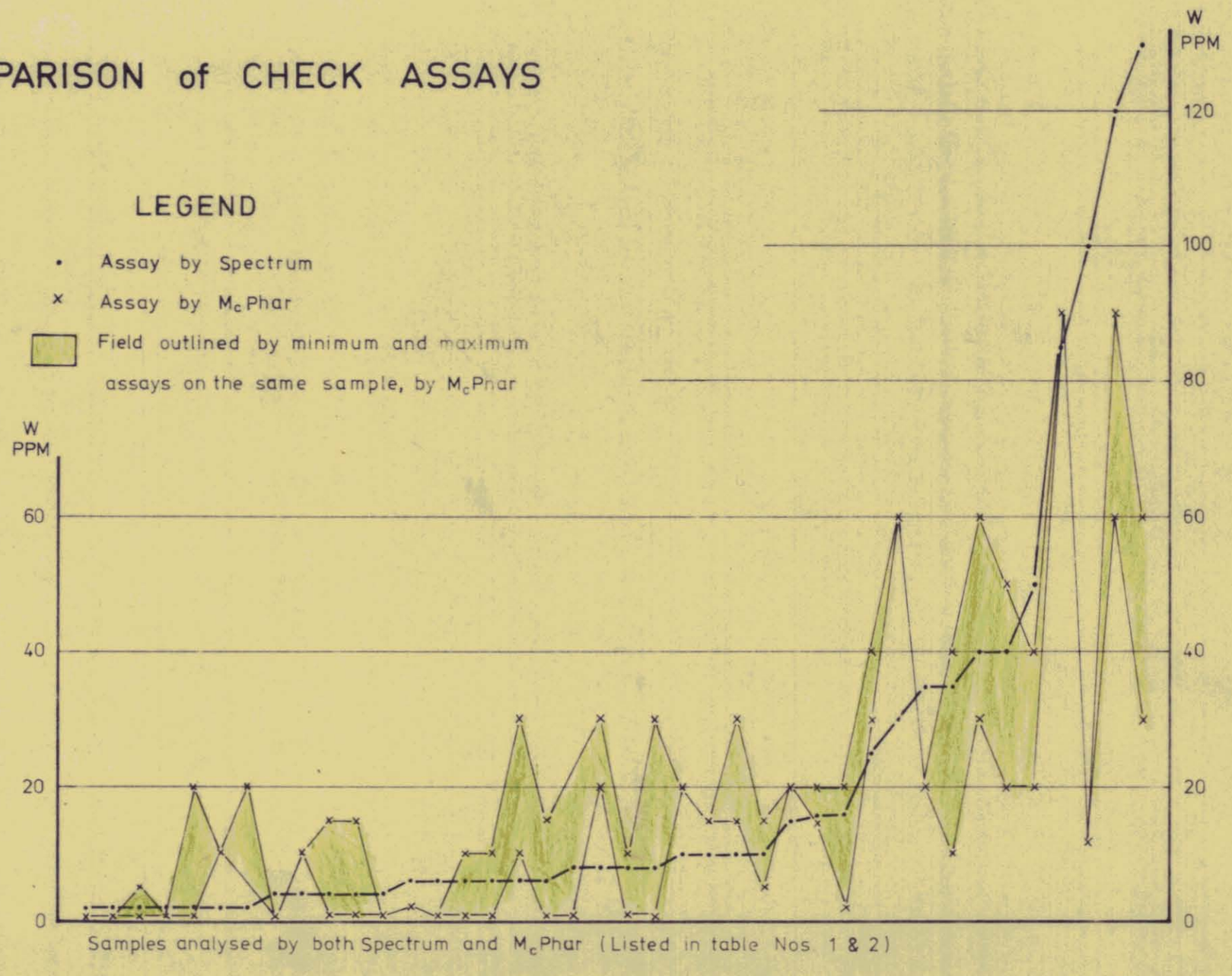
COMPARISON of CHECK ASSAYS



VIII. GEOLOGY

1. Regional Aspects

King Island is made up of pre-Cambrian metamorphics which outcrop along the western coast of the island, and are overlain by low grade regionally metamorphosed pelitic sediments which are only exposed in road metal pits. This sequence may belong to the upper pre-Cambrian or lower Cambrian system.

In the south-eastern part mining and exploration have exposed a sequence of clastic and carbonate sediments, the regional metamorphic grade of which is insignificant in comparison with the pre-Cambrian metamorphics.

Apparently there is a major unconformity between these rock units which places the latter into the Cambrian age.

The Cambrian sequences of the Tasman geosynclinal area are known to include carbonate rocks in both Tasmania and the south-east Australian mainland. Consequently it is obvious that the carbonate rocks at Grassy, King Island, are not isolated phenomena, but are part of a regional carbonate horizon. Hence this horizon is postulated as being present along and/or adjacent to the eastern half of the island.

Two groups of granitic rocks occur at King Island:

(i) older, mainly foliated granites
(ii) Devonian granites

The latter is the source of the tungsten mineralisation at Grassy, and is associated with tin, tungsten, molybdenum and bismuth deposits in the Tasman geosynclinal area.

2. Exploration Licence Nos. 9/71 & 15/71

Subsurface geology of the area has been postulated on the basis of drill cuttings obtained by the panning of auger samples. The cuttings could have come from many sources (floaters, pebbles or bedrock). It is thought, however, that they broadly represent the underlying suboutcrops.

(i) The following rock types have been identified from the drill cuttings:

(a) Regionally metamorphosed rocks: schist, micaschist, blackschist.

(b) Slate, shale, siltstone & sandstone.

(c) Contact altered pelitic-psammitic sedimentary rocks, quartz/muscovite/biotite/chlorite hornfels, spotted hornfels, andalusite/sillimanite(?)/kyanite(?) hornfels and garnet (grossularite) rocks.

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(d) Granitic rocks: aplite, pegmatite and chilled granite (microgranite).

(e) Quartz.

(f) Laterite/haematite/geothite.

(ii) Minerals identified are as follows:

(a) Pyrite.

(b) Scheelite (mostly dull yellow fluorescent, in many instances it may have been fluorescent sillimanite(?) and/or kyanite(?).

(c) Zircon (bright golden yellow fluorescent grains).

(iii) Underlying Geology

Drill cuttings show that the western third of the area is made up of pre-Cambrian schistose rocks which are followed by slate, shale and silty rocks to the east showing lower grades of regional metamorphism. These rocks are situated west of a major granitic intrusive and are postulated to be upper pre-Cambrian - lower Cambrian pelitic - psammitic rocks.

Between Lines 4 and 6 a major fault is postulated along which the pre-Cambrian schistose rocks have apparently been displaced.

On the eastern side of the granitic intrusive, younger and regionally less metamorphosed pelitic rocks have been mapped. These rocks are contact metamorphosed representing a wide range of metamorphic grades from chlorite - biotite to andalusite-sillimanite(?) hornfels. Great similarities have been noticed between these rocks and the rocks mapped and logged as volcanics/meta-volcanics/ metadolerites in the Bold Head and Grassy areas. These so-called volcanics(?) overlie and interfinger carbonate sequences in which tungsten mineralisation occurs. It is strongly suggested that these are, in fact, chlorite-biotite and andalusite-sillimanite(?) hornfels.

In the extreme eastern part of the area some garnet rock was identified in the auger chips and geochemical assays have shown some anomalous tungsten and molybdenum values.

Previous workers (McDougall & Leggo) noted that undeformed, similar adamallites are found near Grassy and in the area of the Exploration Licences.

The granitic intrusive occupying about one third of the area is similar in age and appearance to the granitic rocks of Bold Head.

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Granite samples from

(a) daimond drilling in the area of Exploration Licences (R1 & R2)

(b) Grassy (3 samples)

(c) Bold Head

were subjected to petrographic examinations (Appendix XII & XIII). Results are shown in Table 4.

TABLE 4

COMPARISON OF THE

MINERALOGICAL COMPOSITIONS OF GRANITIC SAMPLES

Locality	Quartz %	Alkali Feldspar %	Calc-Alkali Feldspar %	Rock Name
Bold Head	15	55-60	15	Porphyritic granite
R1	15	65-75	5-10	Leucogranite
R2	15	65-75	10	"
Grassy (3 samples)	40	10-12	15-20	Granodiorite

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IX. DIAMOND DRILLING

1. Scope

After completion of reconnaissance surveys in the area, the client decided to test the area in depth by 1000' of diamond drilling. The scope of drilling was to obtain information about

(a) The stratigraphy and lithology of the area with specific interest regarding the presence of carbonate rocks.

(b) Structure, major faults or fractures.

(c) The possible mineralisation potential of the area.

2. Drilling

Three holes were drilled for a total of 825 feet. With the exception of DDH R-1 core recovery was poor.

(i) DDH-R1.

The hole was drilled near the eastern boundary of the area where the youngest stratigraphic horizons were postulated. Drilling was sited about 600' south-south-east of the exposed granite-sedimentary contact and was directed towards a sharp, anomalous magnetic bipole, which was designed to be intersected about 100' below the surface between 120' and 180' drill interval.

Drill cuttings from the immediate vicinity contained small fragments of grossularite garnet/garnet hornfels. Geochemical assaying (received when drilling was in progress) yielded 30 PPM tungsten.

The drill hole intersected a sequence of contact metamorphosed pelitic sedimentary rocks comprising andalusite-chlorite-biotite hornfels which graded into muscovite-biotite, quartz-muscovite hornfels. At the postulated target interval two major granite dykes were intersected. Below the first, a number of hydrothermally altered blebs of pyroxene-garnet-calcite hornfels were included in the contact altered sediments. At 130.8' - 131.0' a calcite-garnet hornfels band assaying 40 and 112 PPM tungsten was intersected.

From 220' to the end of the hole (352') quartz-muscovite hornfels became predominant.

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(ii) DDH-R2

The target of the hole was a local tungsten geochemical anomaly clearly outlined on the northern side of Line 4, in the vicinity of granite outcrops. The anomaly of 120 PPM tungsten was not defined southwards.

Drilling intersected a sequence of contact altered (schistose?) silty sediments which were intruded by several granite dykes. The hole hit the massive granite body at 98'. Drilling was stopped at 114'.

Samples from 61' - 62.5' assayed 130 PPM molybdenum, 215 PPM copper, 135 PPM nickel and 1.0% titanium, in an andalusite-sillimanite(?) hornfels, with abundant pyrite.

(iii) DDH-R3

Target zone of the hole was an aeromagnetic anomaly which could be indicative of a major regional fault in close proximity to a prominent granite intrusive.

The hole intersected a contact altered sequence of schistose rocks. The grade of contact alteration varies from chlorite-biotite to andalusite-sillimanite(?) hornfels. Drilling was stopped at 359'.

Three fault zones were intersected. The core recovery was very poor. Samples analysed did not show significant mineralisation.

From 0' - 92' drill core was not available. Sludge sampling yielded 225 - 305 PPM zinc. and 4 - 8 PPM tungsten within this interval.

3. Analysis of Drill Cores

A total of 35 drill core and 1 grab samples were analysed by Spectrum for

Cu, Pb, Zn, Ni, Mo, W, Sn, Au

using evaluation AAS and colorimetric methods.

Five samples were subjected to AAS scanning analysis for

Sb, As, Bi, Ag, Co, Cr, Fe, Mn, Ti, V, U, Hg

Apart from one sample in which 1.0% titanium and 130 PPM molybdenum were detected, no significant mineralisation was observed. Assay reports are appended (Appendix XIV).

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X. MINERALISATION

1. Tungsten

The presence of tungsten mineralisation in the area explored has been indicated by a large number of significant geochemical anomalies which are similar and greater in size than those recorded over the Bold Head orebody.

In some instances scheelite was positively identified in auger rock chips and substantiated by geochemical assaying. In one auger hole (2-15, 200E) gravels of garnet - skarn with scheelite mineralisation was encountered.

Diamond drill hole R1 located east of the granite intrusive intersected a band of calcite-garnet hornfels with disseminated scheelite mineralisation assaying 40 and 112 PPM with 10 PPM Mo, indicating the ore mineral powellite. A number of anomalies were recorded over the chilled granite rim in which thin quartz-scheelite veinlets are common in Grassy.

2. Molybdenum - Titanium

Some anomalous molybdenum geochemical results indicate that mineralisation is present in the area. In DDH-R2 130 PPM molybdenum and 1.0% titanium were detected by AAS scanning analysis from 61' - 62.5'.

3. Pyrite

The whole area is mineralised throughout by pyrite which occurs as vein fillings, blebs and fragments amongst the auger drill cuttings. Two forms are present in these cuttings:

(a) fragments of vein fillings and idiomorphic crystals

(b) fragments of swamp pyrite, formed in shallow water under reducing conditions.

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XI. DISCUSSIONS

The whole exploration program was geochemically orientated as the exploration comprised geochemical auger drilling, with the postulation of subsurface geology on the basis of the residual soil/bedrock chip samples collected.

The exploration has fulfilled its original target because,

1. previous geological inferences have been adequately tested and broadly confirmed. An intrusive granite body (similar to the intrusive at Bold Head), an extensive contact zone, and a highly anomalous tungsten dispersion pattern, in places adjacent to the granite-country rock contact, have been located.

2. target areas worthy of follow up work have been marked out.

   (i) Target area 1, defined by the co-ordinates 10,000E - 16,850E & 20,000N - 26,000N.

   This area was tested by auger drilling on a very broad grid and one diamond drill hole.

   The area is divided by a postulated granite dyke which is approximately 2000' wide. West of this dyke floaters of strongly sheared rocks with ample pyrite in the fractures, and spotted hornfels were located. East of the dyke, younger probably Cambrian shales converted to andalusite-biotite-chlorite hornfelses were mapped from auger drill chips and sparse outcrops. Anomalous tungsten and molybdenum values are common in this area.

   DDH-R1 intersected a band of contact altered carbonate rock, which is indicative of the presence of carbonate horizon(s) nearby. The carbonate rock was accompanied with scheelite, which indicates that tungsten mineralisation has taken place in this area.

   It must be noted that the area adjacent to the eastern boundary appears to have greater potential than that of target area 1.

   (ii) Target area 2 defined by the co-ordinates 8,000E - 10,000E & 26,000E - 32,000N.

   The area has been partly tested by geochemical auger drilling on a close grid pattern. Two significant anomalous trends were located but neither have been adequately followed up.

   Two diamond drill holes, R2 and R3, were drilled mainly for general stratigraphic information.

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The holes intersected contact altered schistose rocks but the sources of tungsten anomalies have remained undetected.

(iii) Target area 3, defined by the co-ordinates 2,000E - 3,000E & 24,000N - 28,000N.

In this area laterite (gossan?) and quartz fragments are accompanied with tungsten and lead anomalies characterised by highly significant contrasts.

These anomalies have not yet been tested, although they may have been derived from mineralised veins.

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XII. CONCLUSIONS

(i) Granite intrusives have been encountered and broadly outlined in the area.

(ii) The granite is similar in composition to the mineralising granite at Bold Head.

(iii) Mineralising solutions have accompanied the intrusion of the granite as indicated by tungsten assays up to 130 PPM in auger samples, and molybdenum up to 130 PPM in diamond drill core.

(iv) Contact aureola has developed, 1000' - 2000' in width, around the granite.

(v) A small band of contact altered carbonate rock converted to calcite garnet hornfels, has been intersected in one diamond drill hole.

(vi) Major fracture zones are present in the area, although not mineralised in DDH-R3.

(vii) Shear zones with pyrite mineralisation have been encountered in a number of places.

(viii) Anomalous concentrations of tungsten, molybdenum, lead and gold are present in the area.

(ix) The tungsten anomalies are significant and similar both in magnitude and distribution to those of Bold Head where an orebody of considerable size was discovered on the basis of geochemical surveying.

(x) The western half of the area is not suitable to accommodate low grade - large tonnage type disseminated scheelite deposit. Although high grade - small tonnage type deposit can occur, as indicated by overlapping lead tungsten.anomalies on Line 4.

(xi) An area of 5000' by 7000' in the south-east corner of the E.L. 9/71 is considered to be suitable of accommodating carbonate rocks which are the pre-requisite of low grade - large tonnage deposits.

(xii) Exploration Licence 15/71 has been inadequately covered by reconnaissance surveys. The information available does not suggest that suitable environments for mineralisation are present.

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XIII. RECOMMENDATIONS

The area shows remarkable similarities to Bold Head. It is essential therefore that further exploration be conducted in order to locate suitably situated fracture zones and carbonate rocks.

The possible potential of this region is great, but the area of particular interest is small and is situated near to the boundary of E.L. 9/71. It is recommended therefore that either,

(i) efforts be made to bring into control the areas located adjacent to the eastern boundary at realistic costs, or

(ii) the interest be relinquished.

If the interest is retained it is recommend that further work be completed over the area. This work should include geochemical auger drilling programs, geophysical (magnetic, I.P., E,M, etc.) surveys and stratigraphic diamond drilling.

This work should be concentrated in the south-eastern quarter of E.L. 9/71 and in the areas located eastwards adjacent to the granite contact. The estimated costs of the follow up work are,

Auger drilling, line cutting and geochemical assaying	$20,000
Geophysical surveys	$ 6,000
Stratigraphic diamond drilling	$40,000
Miscellaneous	$ 4,000
TOTAL:	$70,000

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53 Szabo, L. G., Le Messurier, P., 1969
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54 Szabo, L.G., 1969
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Report on the Exploration Licence 9/71, King Island,
Preliminary Assessment
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Progress Report and Stage 2 Exploration Programme E.L. 9/71, King Island
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Unpublished Report

59 Volker, J., 1970
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Notes:

1. References listed above are available for inspection in L.G. Szabo's library, excepting Nos. 36 and 41 which are available in professional public libraries.

2. Publication by R.R. Large (Metasomatism and Scheelite Mineralisation at Bold Head, King Island, AIMM, Proceedings No. 238, 1972) has not been included, as it is a broad repetition of Reference No. 53.)

3. In order to substantiate Table 3, assay reports and evaluation sheets are available for inspection, but information regarding the clients associated with and whereabouts of the areas can not be revealed.

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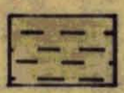
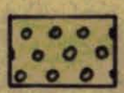
LEGEND

Schist , Mica schist

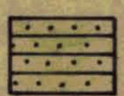
Black schist



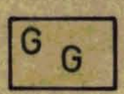
Shale, slate, siltstone, sandstone



Spotted hornfels



Biotite/ Chlorite/ Muscovite / Quartz Hornfels/ Quartzite



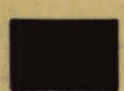
Gornet rock, Gornet hornfels

Granite

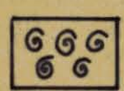
Acid igneous (Aplite?, Microgranite)

Granite sand

Quartz vein

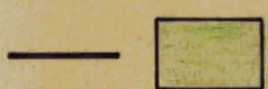


Laterite



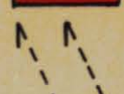
Bioclastic limestone

Sand & gravels

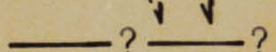


Regional anomaly

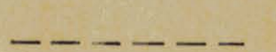
Local anomaly



Fracture zone



Fault, inferred



Boundary, inferred

APPENDIX I

ASSAY REPORTS BY SPECTRUM

Analytical Methods
(Letter of February 2, 1972)

Quotation No: 209

Analytical Reports
Nos: 0363
0369
0380
0387
0397
0429

040

7330-1

SPECTRUM ANALYTICAL LABORATORIES

5 MARY PARADE, RYDALMERE, N.S.W. 2116 Telephone: 638-5905

P.O. BOX: 275 RYDE, 2114

TELEX: 23074

GLJ:DAC

2 February 1972

Mr. L.G. Szabo,
3/210 St. Kilda Street,
BRIGHTON, VIC. 3186.

Dear Sir,

Further to your telephone request of the 2nd. instant, we have pleasure in offering the following details of the methods used for the analyses of reports nos. 0363 & 0369.

Copper:	Hydrochloric/Nitric/Perchloric dissolution on a 1 gm. sample by gently boiling for 1 hour. Determination is by Atomic Absorption Spectrophotometry.
Lead:	As for Copper.
Nickel:	As for Copper.
Tin:	Ammonium Iodide sublimation attack on a 0.5 gm. sample followed by dissolution in 2N hydrochloric acid. Determination is by visual comparison of the pink coloured complex formed in a buffered solution with gallein with a standard series.
Molybdenum:	Potassium bisulphate fusion on a 0.2 gm. sample followed by dissolution in conc. hydrochloric acid. Determination is by visual comparison of the green coloured complex formed with dithiol, after extraction into petroleum spirits, with a standard series.
Tungsten:	As for Molybdenum except that the greenish-blue complex is visually compared up to 50 ppm and then read with a Unicam SP 600 spectrophotometer to the nearest 5 ppm above this range.
NBB-	Conditions for Mo and W are so adjusted (by reduction and acidity) before extraction so that a one hundred fold excess of one or the other does not effect the values obtained.
Gold:	Aqua regia attack on a 10 gm. sample; the sample is then taken to dryness and redissolved in hydrochloric acid to give a final conc of 1N. After addition of hydrobromic acid the gold is extacted into methyl iso-butyl ketone and determined by AAS.

Should you require any further information please do not hesitate to contact us.

SPECTRUM ANALYTICAL LABORATORIES

G. L. Jackson

G. L. Jackson (B.App.Sc.)
Laboratory Manager.

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SPECTRUM ANALYTICAL LABORATORIES

sal

6 MARY PARADE, RYDALMERE, N.S.W. 2116 Telephone: 638-5905

P.O. BOX: 275 RYDE, 2114
TELEX: 23074

GLW:dac

30 August 1971

Our Ref: Q209

QUOTATION No 209

This quotation is for the analysis of approximately 300-500 samples to be delivered in batches of 50 or more over a period of about four months. Samples will require part or all of the following analyses:-

Copper	Molybdenum
Lead	Tungsten
Nickel	Gold
Tin	

This quotation is valid for a period of four (4) months from date of issue. Notice of renewal will be required after this period unless the programme has commenced.

SPECTRUM ANALYTICAL LABORATORIES.

G.L. WINDRIDGE.
Managing Director

RECEIPT OF SAMPLES:

Prices quoted apply for samples delivered to our laboratories at:

5 Mary Parade,
RYDALMERE. N.S.W.

Samples can be collected from point of arrival in Sydney if required. This service would be undertaken at cost.

PREPARATION:

Sample preparation will be as follows:-

Drying: charged at a rate of 10 cents per sample.

Pulverising: samples less than 1lb 50 cents per sample.

samples between 1lb & 2lb 75 cents per sample.

samples greater than 2lb $6:00 per hour.

NOTE:

(1) Total sample is pulverised to minus 80 mesh.

(2) Samples containing fractions +1/8" will require jaw crushing at a cost of an additional 25 cents per sample.

(3) Augar drill samples will probably not require jaw crushing but if very wet, will require breaking after drying. Charges for this service are 10 cents per sample.

ANALYSIS BASE COST:

Element	Detection Limit	Accuracy	Base Cost
Cu	1 ppm	±10% acid sol. above 50ppm	50 cents
Pb	5 ppm	±10% acid sol. above 100ppm	50 cents
Ni	1 ppm	±10% acid sol. above 50 ppm	50 cents
Sn	2 ppm	to within concentration steps either side of concentration stated.	$1:00
Mo	2 ppm	as for Sn	$1:20
W	2 ppm	as for Sn	$1:00
Au	0.1 ppm	±10% above 1 ppm	$1:80

SPECTRUM ANALYTICAL LABORATORIES

per: .....

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Certain element groupings are possible with a common attack:

(1) Cu:Pb:Ni can be determined for a base rate of $1:00
(2) W:Mo can be determined for a base rate of $2:00

Dilution charges for Cu;Pb;Ni:

1,000	to	10,000 ppm	10 cent surcharge
1%	to	10%	20 cent surcharge
10%	to	100%	30 cent surcharge

Base rate for total analysis is thus $5:80 if Cu, Pb and Ni are less than 1,000 ppm.

Sn: Mo: W are reported as ppm in the following steps:
2:4:6:8:10:12.5:15:17.5:20:25:30:35:40:45:50:55:60:65:70:85:100: etc.

Elements will be analysed by the following methods:

Copper:	Hydrochloric / Nitric / perchloric acid attack followed by Atomic Absorption Spectrophotometry.
Lead:	AS for Copper
Nickel:	As for Copper, Lead.
Tin:	Ammonium Iodide sublimation attack followed by acid digestion and colorimetric determination with gallein.
Molybdenum:	Potassium Bisulphate fusion followed by colorimetric determination with zinc dithiol.
Tungsten:	As for Molybdenum.
Gold:	Aqua regia attack, bake, then hydrochloric acid dissolution followed by MIBK extraction and subsequent determination by AAS.

DESPATCH OF RESULTS:

Results will normally be despatched by air mail but may be telephoned or telexed (at cost) if so required.

TURNAROUND:

Results will normally be available within one week of sample receipt. Batches of 100 samples or less can be processed within 48 hours if requested "URGENT".

SAMPLE STORAGE:

All samples will be stored for the duration of the programme and six months thereafter free- of - charge.

SPECTRUM ANALYTICAL LABORATORIES.

per: [signature]

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GUARANTEE:

Spectrum Analytical Laboratories guarantee the results of all analysis to within the limits specified. Should the results of any sample be found to be outside the accuracy specified, repeat analysis will be carried out free - of - charge.

COSTING:

Base Analytical Rate:	$5:80 per sample
Sample Preparation (less 1lb no crushing jaw, or breaking.)	:60 per sample
	$6:40 per sample
LESS 12½ % DISCOUNT	:80 per sample
	$5:60 per sample

An administration charge of $4:00 per batch applies to all batches received at the laboratories irrespective of the number of samples in the batch. A 12½% discount also applies to this charge.

SPECTRUM ANALYTICAL LABORATORIES.

per:

045

SPECTRUM ANALYTICAL LABORATORIES

sal

5 MARY PARADE, RYDALMERE, N S W. 2116 Telephone 638-5905

P.O. BOX: 275 RYDE, 2114
TELEX: 23074

GLW:DAC
Our Ref: Q209

21 October 1971

Chief Geologist,
Northland Minerals Limited,
8 th Floor, 150 Queen Street,
MELBOURNE. VIC. 3000.

Attention: Mr. L. G. Szabo.

Dear Sir,

I would like to confirm our offer made by 'phone on the 20th instant, by Mr. Graham Jackson, concerning tungsten by geochemical analysis detailed in our quotation No 209 of 30 August 1971.

Tungsten may be determined to the neatest 5 ppm in the range 50 - 500 ppm by using instrumental comparison rather than visual comparison. While this will increase our cost, we have pleasure in advising that there is no adjustment to the rate in the above mentioned quotation.

Assuring you of a fast, accurate and confidential service at all times.

Yours faithfully,
SPECTRUM ANALYTICAL LABORATORIES

G.L. Windridge
Managing Director

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SPECTRUM ANALYTICAL LABORATORIES

sal

5 MARY PARADE, RYDALMERE, N.S.W 2116 Telephone: 638-5905

P.O. BOX: 275 RYDE, 2114

TELEX: 23074

GLJ:DAC

24 January 1972

ANALYTICAL REPORT

Customer: Mr. L.G. Szabo
3/210 St. Kilda Street,
BRIGHTON, VIC, 3186

Report No. 0363

Refer: Quote 209

Date Received: 18.1.72

No. of Samples: 54

Date Reported: 24.1.72

To Follow: nil

Type of Analysis: Geochemical AAS
Evaluation AAS

Sheet 1 of

Your Sample No.	SAL Code No.	Elements ppm Cu	Pb	Ni	Sn	W	Au	Mo
1	B218/1	8	20	20	<2	<2	<0.1	2
2	2	470	20	15	<2	<2	<0.1	12.5
3	3	30	15	15	<2	<2	<0.1	2
4	4	59	30	30	<2	<2	<0.1	2
5	5	40	25	15	<2	<2	<0.1	<2
6	6	67	20	40	<2	<2	<0.1	4
7	7	7	30	10	<2	12.5	<0.1	<2
8	8	16	15	15	<2	<2	<0.1	2
9	9	4	15	8	10	20	<0.1	<2
10	10	11	10	10	15	30	<0.1	2
11	11	11	10	8	6	12.5	<0.1	2
12	12	31	10	8	45	20	<0.1	8
13	13	3	15	10	<2	<2	<0.1	2
14	14	13	15	15	<2	8	<0.1	2
15	15	52	145	55	6	2	<0.1	2
16	16	21	10	20	<2	6	<0.1	<2
17	17	38	40	15	<2	10	<0.1	4
18	18	28	20	10	<2	<2	<0.1	2
19	19	70	25	25	60	<2	<0.1	4
20	20	81	45	20	8	<2	<0.1	6
21	21	35	20	10	20	<2	<0.1	6
22	22	45	35	50	8	6	<0.1	12.5
23	23	54	85	35	2	2	<0.1	2

Report No. 0363

24 January 1972

Your Sample No.	SAL Code No.	Elements ppm Cu	Pb	Ni	Sn	W	Au	Mo
24	B218/24	9	305	10	<2	130	<0.1	2
25	25	22	690	9	6	35	<0.1	<2
26	26	21	575	20	4	80	<0.1	2
27	27	34	55	35	4	60	<0.1	<2
28	28	20	30	25	20	2	<0.1	<2
29	29	32	30	20	15	<2	<0.1	10
30	30	14	15	10	2	4	<0.1	2
31	31	30	15	30	45	<2	<0.1	<2
32	32	31	25	20	65	<2	<0.1	2
33	33	50	30	50	20	4	<0.1	2
34	34	20	25	15	17.5	<2	<0.1	2
35	35	34	30	40	60	<2	<0.1	2
36	36	51	30	55	55	<2	<0.1	4
37	37	33	30	25	6	<2	<0.1	<2
38	38	49	35	55	4	<2	<0.1	<2
39	39	52	30	40	12.5	2	<0.1	4
40	40	58	20	45	<2	2	<0.1	2
41	41	61	25	25	<2	<2	<0.1	8
42	42	50	25	45	<2	15	<0.1	2
43	43	52	20	50	35	2	<0.1	2
44	44	65	30	70	55	8	<0.1	8
45	45	8	15	9	20	<2	<0.1	4
46	46	28	45	50	10	8	<0.1	4
47	47	30	15	40	60	8	<0.1	2
48	48	12	170	35	22.5	<2	<0.1	2
49	49	27	40	50	20	<2	<0.1	2
50	50	41	15	45	17.5	8	<0.1	2
51	51	31	15	35	<2	6	<0.1	4
52	52	110	25	75	70	8	<0.1	2
53	53	51	20	50	60	<2	<0.1	2
54	54	46	20	45	70	<2	<0.1	2

G. L. Jackson

G. L. Jackson (B.App.Sc.)
Laboratory Manager

SPECTRUM ANALYTICAL LABORATORIES

sal

5 MARY PARADE, RYDALMERE, N.S.W 2116 Telephone: 638-5905

P.O. BOX: 275 RYDE, 2114

TELEX: 23074

GLJ:DAC

2 February 1972.

ANALYTICAL REPORT

Customer: Mr. L.G.Szabo,
3/210 St. Kilda Street,
BRIGHTON VIC. 3186.

Report No. 0369

Refer: Quote 209

Date Received: 27.1.72

No of Samples: 36

Date Reported: 2.2.72

To Follow: Nil

Type of Analysis: See enclosed letter.

Sheet 1 of 2

Your Sample No.	SAL Code No.	Elements ppm Cu	Pb	Ni	Sn	W	Au	Mo
55	B225/1	80	20	65	< 2	6	< 0.1	8
56	2	66	15	40	2	15	< 0.1	4
57	3	32	25	45	< 2	6	< 0.1	10
58	4	57	30	50	< 2	8	< 0.1	10
59	5	43	25	55	< 2	4	< 0.1	20
60	6	165	40	30	< 2	6	< 0.1	10
61	7	50	20	40	2	2	< 0.1	2
62	8	53	20	40	6	2	< 0.1	2
63	9	49	15	7	< 2	2	< 0.1	2
64	10	59	30	9	< 2	15	< 0.1	12.5
65	11	31	40	10	2	10	< 0.1	2
66	12	72	25	75	2	4	< 0.1	2
67	13	53	20	50	2	2	< 0.1	8
68	14	37	35	30	2	4	< 0.1	6
69	15	32	20	10	< 2	4	< 0.1	4
70	16	8	30	9	2	17.5	< 0.1	4
71	17	5	25	10	2	40	< 0.1	2
72	18	17	15	10	6	120	0.4	6
73	19	38	15	8	< 2	35	< 0.1	12.5
74	20	13	10	10	6	25	< 0.1	8
75	21	10	20	20	< 2	25	< 0.1	8
76	22	16	20	55	< 2	20	< 0.1	6
77	23	10	50	30	55	< 2	< 0.1	4

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Report No. 0369

2 February 1972

Your Sample No.	SAL Code No.	Elements ppm Cu	Pb	Ni	Sn	W	Au	Mo
78	B225/24	12	40	70	70	< 2	< 0.1	4
79	25	6	20	15	< 2	50	< 0.1	6
80	26	23	25	75	< 2	2	0.3	6
81	27	9	30	25	< 2	2	0.3	4
82	28	11	15	20	2	40	< 0.1	4
83	29	9	15	40	< 2	25	< 0.1	4
84	30	20	15	15	4	10	< 0.1	4
85	31	8	15	35	4	55	< 0.1	4
86	32	7	20	35	2	4	< 0.1	4
87	33	8	20	30	2	12.5	< 0.1	2
88	34	14	25	25	6	15	< 0.1	2
89	35	13	25	25	< 2	10	< 0.1	4
90	36	17	20	25	2	4	< 0.1	2
	CHECK ANALYSIS							
9	B218/9				8	15		2
24	24				< 2	120		2
27	27				4	50		4
45	45				20	2		4
46	46				8	12.5		6
53	53				60	2		4
54	54				60	2		4

G.L. Jackson

G.L. Jackson (B.App. Sc.)
Laboratory Manager.

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SPECTRUM ANALYTICAL LABORATORIES

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5 MARY PARADE, RYDALMERE, N.S.W 2116 Telephone: 638-5905

P.O. BOX: 275 RYDE, 2114
TELEX: 23074

GLJ:DAC

22 February 1972

ANALYTICAL REPORT

Report No. 0380

Customer: Mr. L.G. Szabo,
3/210 St. Kilda Road,
BRIGHTON, VIC. 3186

Copy to: King Island, Tas.

Date Received: 16. 2.72 — No. of Samples 74

Date Reported: 22. 2.72 — To Follow: nil

Type of Analysis: As per quote 209 — Sheet 1 of 3

Your Sample No.	SAL Code No.	Elements ppm Cu	Pb	Ni	Au	Sn	W	Mo
91	B235/1	15	25	25	<0.1	20	20	<2
92	2	20	20	35	<0.1	15	30	<2
93	3	15	15	45	<0.1	15	15	<2
94	4	10	15	30	<0.1	15	35	<2
95	5	25	15	25	<0.1	17.5	<2	<2
96	6	15	25	25	<0.1	12.5	6	<2
97	7	25	20	35	<0.1	<2	15	2
98	8	15	15	30	<0.1	17.5	6	2
99	9	20	20	30	<0.1	17.5	4	2
100	10	25	50	20	<0.1	4	<2	<2
101	11	40	35	20	<0.1	<2	2	<2
102	12	9	25	85	<0.1	<2	15	<2
103	13	20	20	35	<0.1	<2	6	<2
104	14	15	15	40	<0.1	2	8	<2
105	15	15	10	35	<0.1	25	10	<2
106	16	20	20	30	<0.1	2	12.5	2
107	17	20	20	30	<0.1	4	4	<2
108	18	10	15	15	<0.1	4	6	2
109	19	20	10	20	<0.1	4	2	<2
110	20	15	20	20	<0.1	4	2	<2
111	21	15	10	15	<0.1	<2	4	<2
112	22	10	10	20	<0.1	10	8	2
113	23	8	10	10	<0.1	<2	4	<2
114	24	7	10	20	<0.1	10	20	<2

Report No. 0380 22 February 1972

Your Sample No.	SAL Code No.	Elements ppm Cu	Pb	Ni	Au	Sn	W	Mo
115	B235/25	6	10	20	< 0.1	10	20	2
116	26	15	20	20	< 0.1	4	85	2
117	27	10	15	40	< 0.1	8	8	2
118	28	8	20	20	< 0.1	2	30	2
119	29	7	15	30	< 0.1	25	10	2
120	30	5	20	15	< 0.1	10	6	< 2
121	31	15	5	15	< 0.1	< 2	100	< 2
122	32	20	20	15	< 0.1	10	4	2
123	33	5	5	10	< 0.1	2	2	2
124	34	10	25	15	< 0.1	6	2	2
125	35	10	15	15	< 0.1	2	4	< 2
126	36	75	20	20	< 0.1	< 2	6	< 2
127	37	30	10	25	< 0.1	6	4	4
128	38	25	20	10	< 0.1	10	2	< 2
129	39	40	25	40	< 0.1	6	2	< 2
130	40	10	25	7	< 0.1	8	< 2	< 2
131	41	20	30	20	< 0.1	< 2	2	< 2
132	42	10	25	15	0.1	4	2	< 2
133	43	20	15	15	0.1	2	4	2
134	44	15	40	20	0.1	2	< 2	< 2
135	45	20	30	20	< 0.1	< 2	6	< 2
136	46	50	25	35	< 0.1	2	6	2
137	47	2	25	10	0.1	< 2	6	< 2
138	48	3	10	10	< 0.1	< 2	2	< 2
139	49	10	20	20	< 0.1	< 2	2	< 2
140	50	20	20	20	< 0.1	2	< 2	< 2
141	51	45	25	10	< 0.1	< 2	6	2
142	52	3	15	10	< 0.1	10	2	< 2
143	53	10	45	20	< 0.1	< 2	< 2	< 2
144	54	60	40	40	0.1	< 2	< 2	< 2
145	55	40	25	15	< 0.1	< 2	4	< 2
146	56	45	20	15	< 0.1	< 2	2	< 2
147	57	50	30	20	< 0.1	< 2	2	< 2
148	58	40	40	20	< 0.1	< 2	2	< 2
149	59	20	15	10	< 0.1	< 2	4	< 2
150	60	20	25	25	< 0.1	< 2	< 2	< 2
151	61	50	25	50	< 0.1	4	2	2
152	62	65	30	20	< 0.1	< 2	2	< 2
153	63	60	30	25	< 0.1	4	2	< 2
154	64	45	25	55	< 0.1	4	2	2

Report No. 0380 22 February 1972

Your Sample No.	SAL Code No.	Elements ppm Cu	Pb	Ni	Au	Sn	W	Mo
155	B235/65	55	15	40	< 0.1	6	< 2	6
156	66	40	20	40	< 0.1	< 2	< 2	< 2
157	67	55	20	55	< 0.1	< 2	4	2
158	68	50	20	55	< 0.1	< 2	2	2
159	69	25	15	15	< 0.1	< 2	6	< 2
160	70	50	25	100	< 0.1	2	4	< 2
161	71	20	20	15	< 0.1	2	2	< 2
162	72	20	15	10	< 0.1	< 2	2	< 2
163	73	20	30	30	< 0.1	2	< 2	< 2
164	74	10	20	20	< 0.1	< 2	2	< 2
		Check Analysis						
9	B218/9	5	15	15	< 0.1	6	17.5	2
24	24	10	300	8	< 0.1	2	130	< 2
27	27	30	50	35	< 0.1	4	50	2
46	46	30	45	45	< 0.1	8	10	6

G.L. Jackson

G.L. Jackson (B.App.Sc.)
Laboratory Manager

053

755054

SPECTRUM ANALYTICAL LABORATORIES

sal

5 MARY PARADE, RYDALMERE. N.S.W. 2116 Telephone: 638-5905
638-4445

P.O. BOX: 275 RYDE, 2112.

GLW:DAC

7 March 1972

ANALYTICAL REPORT

Customer: Mr. L. G. Szabo.
3/210 St. Kilda Road,
BRIGHTON, VIC, 3186.

Copy to: KING ISLAND

Report No: 0387

Refer: Q 209

Date Received: 28.2.72

Date Reported: 7.3.72

Type of Analysis: As per quote Q209

No of Samples: 87

To Follow: Nil

Sheet: 1 of 3

Your Sample Number.	SAL Code No.	Element(s) ppm Cu	Pb	Ni	Au	Sn	W	Mo
165	B242/1	42	20	45	0.1	15	15	4
166	2	60	20	40	L0.1	12.5	15	4
167	3	38	15	30	L0.1	6	17.5	2
168	4	19	20	15	L0.1	8	15	6
169	5	12	20	15	L0.1	6	35	8
170	6	39	20	20	L0.1	4	12.5	6
171	7	38	15	10	L0.1	6	8	4
172	8	12	5	15	L0.1	6	4	2
173	9	15	10	10	0.1	2	8	4
174	10	21	10	20	0.1	4	4	6
175	11	13	10	10	L0.1	2	4	4
176	12	29	10	15	0.1	6	15	6
177	13	13	10	15	L0.1	4	8	2
178	14	27	10	20	L0.1	4	12.5	4
179	15	10	15	10	L0.1	15	12.5	2
180	16	22	20	25	0.1	10	10	L2
181	17	4	10	15	L0.1	4	8	L2
182	18	18	10	15	L0.1	4	4	L2
183	19	11	15	10	L0.1	8	8	2
184	20	8	15	15	L0.1	4	8	4
185	21	25	20	15	L0.1	8	35	2
186	22	9	20	10	L0.1	10	15	2
187	23	18	20	30	L0.1	8	4	L2
188	24	13	15	20	L0.1	4	35	4
189	25	10	15	50	L0.1	4	45	4

.../2,

Your Sample Number.	SAL Code No.	Element(s) ppm Cu	Pb	Ni	Au	Sn	W	Mo
190	B242/26	7	15	40	L0.1	4	8	L2
191	27	4	10	30	L0.1	2	2	4
192	28	29	15	35	L0.1	20	17.5	4
193	29	19	20	20	L0.1	12.5	4	4
194	30	8	15	20	0.1	17.5	6	4
195	31	25	20	20	L0.1	10	30	4
196	32	18	20	20	0.1	12.5	17.5	2
197	33	79	20	10	L0.1	30	2	L2
198	34	75	30	10	L0.1	50	L2	2
199	35	37	10	10	L0.1	30	4	2
200	36	18	15	6	L0.1	4	8	2
201	37	33	20	15	L0.1	40	2	8
202	38	29	10	15	L0.1	15	2	L2
203	39	30	10	40	L0.1	30	2	2
204	40	52	25	30	L0.1	15	2	L2
205	41	32	15	20	L0.1	20	2	L2
206	42	32	45	15	L0.1	20	L2	L2
207	43	41	15	10	L0.1	25	L2	2
208	44	60	60	10	L0.1	12.5	4	L2
209	45	40	135	10	L0.1	15	6	4
210	46	18	16	15	L0.1	10	2	L2
211	47	48	14	10	L0.1	6	2	4
212	48	40	5	20	L0.1	4	10	L2
213	49	33	15	45	L0.1	25	30	L2
214	50	43	15	20	L0.1	40	2	L2
215	51	73	10	10	L0.1	30	L2	2
216	52	27	15	8	L0.1	25	2	L2
217	53	69	10	30	L0.1	12.5	6	4
218	54	73	10	15	L0.1	10	6	L2
219	55	60	10	40	L0.1	10	2	L2
220	56	33	10	45	L0.1	17.5	6	2
221	57	67	15	55	L0.1	15	2	2
222	58	36	20	10	L0.1	10	2	L2
223	59	22	25	10	L0.1	6	2	L2
224	60	13	20	15	L0.1	20	8	2
225	61	33	15	25	L0.1	4	2	L2
226	62	13	20	60	0.1	25	4	L2
227	63	27	10	20	L0.1	12.5	4	L2
228	64	11	10	30	L0.1	10	4	L2
229	65	12	10	20	L0.1	12.5	4	L2
230	66	40	15	50	L0.1	17.5	4	L2
231	67	62	20	30	L0.1	12.5	4	4
232	68	29	15	20	L0.1	20	2	2
233	69	38	10	30	L0.1	20	4	4
234	70	5	10	20	0.1	60	4	2

.../3.

Your Sample Number.	SAL Code No.	Element(s) ppm Cu	Pb	Ni	Au	Sn	W	Mo
235	B242/71	3	5	20	0.1	20	4	L2
236	72	3	5	20	L0.1	15	4	L2
237	73	49	15	25	L0.1	8	4	2
238	74	16	10	15	0.3	4	8	L2
239	75	12	25	25	L0.1	17.5	4	L2
240	76	12	20	20	0.1	15	4	L2
241	77	3	5	15	0.1	15	6	4
242	78	4	5	9	L0.1	25	4	L2
243	79	3	5	15	0.1	25	15	L2
244	80	11	25	20	0.2	20	4	L2
245	81	13	20	30	L0.1	17.5	2	L2
246	82	18	15	40	L0.1	20	6	L2
247	83	3	5	10	0.1	8	15	L2
248	84	51	30	55	L0.1	12.5	8	L2
249	85	13	20	20	0.1	10	4	L2
250	86	23	30	30	L0.1	20	4	4
251	87	31	10	15	L0.1	12.5	4	2

CHECK ANALYSIS:

9	B218/9	4	14	10	L0.1	10	17.5	L2
24	24	8	310	10	L0.1	2	120	L2
27	27	32	55	35	L0.1	4	60	2
46	46	30	47	48	L0.1	10	10	4

COMMENTS:

All elements reported in ppm.

Method of Analysis: Ref. letter of 2.2.72

G.L. Windridge (Dip. Chem.)
Managing Director.

056

755057

SPECTRUM ANALYTICAL LABORATORIES

5 MARY PARADE, RYDALMERE. N.S.W. 2116 Telephone: 638-5905
638-4445

P.O. BOX: 275 RYDE, 2112.

GLJ:DAC

18 March 1972

ANALYTICAL REPORT

Customer: Mr. L. G. Szabo.
3/210 St. Kilda Road,
BRIGHTON. VIC. 3186.

Copy to: KING ISLAND.

Report No: 0397

Refer: Quotation 209

Date Received: 14.3.72

Date Reported: 18.3.72

Type of Analysis: Ref; Quotation 209.

No of Samples: 40

To Follow: Nil

Sheet: 1 of 2

Your Sample Number.	SAL Code No.	Element(s) ppm Cu	Pb	Ni	Au	Sn	W	Mo
252	B255/1	63	25	20	L0.1	15	2	10
253	2	20	25	15	L0.1	5	6	4
254	3	73	20	40	L0.1	4	4	4
255	4	9	30	20	L0.1	10	2	2
256	5	23	25	10	0.2	10	25	6
257	6	49	30	15	0.1	15	2	4
258	7	39	50	15	L0.1	15	4	2
259	8	18	35	10	L0.1	12.5	6	6
260	9	28	45	25	L0.1	20	4	2
261	10	15	30	90	L0.1	15	6	L2
262	11	49	50	210	0.1	20	6	L2
263	12	16	35	10	L0.1	10	4	8
264	13	12	35	15	L0.1	15	2	6
265	14	27	55	15	L0.1	10	2	4
266	15	47	25	15	L0.1	10	4	6
267	16	3	20	10	L0.1	12.5	4	6
268	17	3	5	10	0.1	4	2	L2
269	18	3	10	25	L0.1	4	2	L2
270	19	7	15	10	L0.1	2	2	L2
271	20	15	30	15	L0.1	2	2	4
272	21	8	50	10	L0.1	2	2	4
273	22	29	25	15	L0.1	4	4	4
274	23	15	30	10	L0.1	2	2	2
275	24	29	30	15	0.1	2	2	2
276	25	38	30	15	0.1	2	2	2

.../2.

755058

Your Sample Number	SAL Code No.	Element(s) ppm Cu	Pb	Ni	Au	Sn	W	Mo
277	B255/26	41	25	20	0.4	2	2	2
278	27	55	30	15	L0.1	4	2	4
279	28	28	25	10	L0.1	4	2	2
280	29	40	30	20	L0.1	2	2	2
281	30	38	30	20	0.1	2	2	2
282	31	42	30	20	L0.1	2	2	L2
283	32	6	20	20	L0.1	2	15	L2
284	33	4	20	15	L0.1	L2	6	L2
285	34	5	10	20	0.2	L2	6	2
286	35	7	25	10	L0.1	L2	4	2
287	36	9	20	10	0.1	2	2	L2
288	37	16	40	10	L0.1	2	2	L2
289	38	9	20	15	0.1	4	12.5	L2
290	39	21	20	20	L0.1	2	2	2
291	40	23	20	10	0.1	2	2	L2
CHECK ANALYSIS:								
9	B218/9	4	15	10	L0.1	6	17.5	L2
24	24	10	320	10	L0.1	L2	120	L2
27	27	33	50	35	L0.1	4	55	L2
46	46	28	45	45	L0.1	8	10	4
26	B218/26						80	
60	B225/6						4	
71	B225/17						35	
72	B225/18						120	
79	B225/25						50	
80	B225/26						2	
102	B235/12						15	

COMMENTS:

All elements reported in ppm.
L indicates less than.
Method of Analysis: Ref. letter of 2.2.72.

G. L. Jackson

G. L. Jackson (B.App.Sc.)
Laboratory Manager.

058

755059

SPECTRUM ANALYTICAL LABORATORIES

sal

5 MARY PARADE, RYDALMERE. N.S.W. 2116 Telephone: 638-5905
638-4445

P.O. BOX: 275 RYDE, 2112.

GLJ:DAC

23 May 1972

ANALYTICAL REPORT

Customer: Mr. L. G. Szabo,
3/210 St. Kilda Road,
BRIGHTON. VIC. 3186.

Report No: 0429

Refer: Q 209

Copy To : KING ISLAND.

Date Received: 16.5.72

No of Samples: 40

Date Reported: 23.5.72

To Follow: Nil

Type of Analysis: As per Quote 209.

Sheet: 1 of 2

Your Sample Number.	SAL Code No.	Element(s) ppm Cu	Ni	Pb	Au	Sn	Mo	W
292	B284/1	11	75	40	L0.1	20	L2	2
293	2	12	30	30	L0.1	15	L2	16
294	3	25	25	40	L0.1	6	2	245
295	4	19	40	60	0.1	4	L2	140
296	5	40	20	20	0.1	2	L2	8
297	6	11	15	30	0.1	4	L2	16
298	7	12	25	20	0.1	10	4	10
299	8	56	15	45	L0.1	10	2	10
300	9	22	25	30	L0.1	20	L2	6
301	10	26	15	25	L0.1	4	2	10
302	11	13	20	40	L0.1	15	2	6
303	12	21	25	25	L0.1	20	L2	2
304	13	7	10	25	0.1	15	2	6
305	14	13	25	25	L0.1	15	L2	4
306	15	20	25	20	L0.1	30	4	25
307	16	6	50	30	L0.1	15	2	6
308	17	6	30	20	L0.1	15	2	4
309	18	3	25	20	0.1	10	2	4
310	19	30	15	25	L0.1	4	2	4
311	20	12	15	20	0.1	10	L2	2
312	21	13	30	15	L0.1	20	4	8
313	22	11	15	20	0.1	20	L2	2
314	23	17	20	35	L0.1	30	2	30
315	24	10	25	30	0.1	15	8	8
316	25	12	25	25	L0.1	25	2	4
317	26	28	20	40	L0.1	6	L2	10

.../2.

059

755060

Report No: 0429 - 2 - 23 May 1972

Your Sample Number.	SAL Code No.	Element(s) ppm Cu	Ni	Pb	Au	Sn	Mo	W
318	B284/27	28	20	20	L0.1	20	L2	2
319	28	19	20	15	0.2	25	L2	6
320	29	33	45	20	0.1	8	L2	2
321	30	14	30	40	0.1	15	2	8
322	31	23	20	25	0.1	15	2	2
323	32	11	35	20	0.1	30	2	2
324	33	12	15	15	L0.1	10	L2	2
325	34	6	15	35	L0.1	75	2	4
326	35	4	20	10	0.1	2	L2	4
327	36	10	15	25	0.1	8	2	4
328	37	140	30	45	0.1	25	2	2
329	38	7	10	25	0.1	6	2	2
330	39	73	6	30	0.1	15	220	2
331	40	10	15	15	0.1	10	4	2

CHECK ANALYSIS:

9	B218/9	4	7	15	L0.1	8	L2	15
24	24	10	10	300	L0.1	L2	2	120
27	27	36	35	60	L0.1	4	L2	55
46	46	29	45	45	L0.1	8	2	8

COMMENTS:

All elements reported in ppm:

L .... indicates less than :

Method of Attack : Refer letter of 2.2.72 re Q209.

G. L. Jackson

G. L. Jackson (B.App.Sc.)
Laboratory Manager.

APPENDIX II

ASSAY REPORTS BY McPHAR AND D.C. GRIFFITHS

Analytical Methods
(Letter of May 17, 1972)

Analytical Reports
Nos: CH 3738
CH 3751
CH 3554

Assay results by D.C.Griffiths
(supplied by Dr.D.H.Hose)

061

755062

McPHAR GEOPHYSICS PTY. LTD

50-52 MARY STREET, UNLEY, SOUTH AUSTRALIA
POSTAL ADDRESS: P.O. BOX 42, UNLEY, SOUTH AUSTRALIA 5061

TELEPHONE 72 2133

CABLE
"PHARGEO" ADELAIDE
TELEX
"PHARGEO" AA82623

17th May, 1972.

Mr. L. G. Szabo,
Exploration & Mining Geologist,
P.O. Box 308,
Currie, King Island
TASMANIA 7256

Dear Sir,

The detection limits of the colorimetric methods we use for W and Mo determination are 2 ppm in each case. I believe we sent you one of our current brochures in a previous letter but in case we did not, I am enclosing one with this letter. Contained therein, are summaries of all analytical methods used in our laboratories and the detection limits.

Regarding accuracy of these geochemical analyses, we claim nothing better than a 30% relative accuracy at the levels encountered, although in a number of samples checked by XRF, the accuracy appears to be better than this at the 100 ppm level.

Please accept our apologies for any inconveniences caused by our oversight.

Yours faithfully,
McPHAR GEOPHYSICS PTY.LTD.

DR. J. R. BEEVERS,
Manager & Chief Chemist,
Chemistry Division

enc.

062

McPHAR

GEOCHEMICAL RESULTS

50-52 MARY STREET
UNLEY, S.A. 5061
PHONE: 72 2133
CABLE: "PHARGEO"
ADELAIDE
TELEX: "PHARGEO"
AA82623

Samples from: L.G. SZABO
Area:
Samples of:
Batch No.: CH 3837

Sheet No.: 1
Date: 24/5/72

SAMPLES DISPOSED OF AFTER TWO MONTHS UNLESS WE ARE OTHERWISE ADVISED

Sample Description	W,ppm	Mo,ppm
K.I. 15	<2	<2
6	15	<2
7	10	<2
8	20	<2
9	<2	<2
20	20	<2
1	20	<2
2	10	<2
3	<2	<2
4	15	<2
5	<2	<2
6	<2	<2
7	10	<2
8	<2	<2
9	30	<2
30	30	<2
1	10	<2
2	<2	<2
3	<2	<2
4	<2	<2
5	20	<2
6	<2	<2
7	60	<2
8	10	<2
9	<2	5
40	15	<2
1	<2	<2
2	15	<2
3	20	<2
4	30	<2
5	<2	<2
6	<2	5
7	<2	<2
8	<2	<2
K.I. 49	<2	<2

Please refer our letter of 17th May, 1972 re accuracy.

ANALYTICAL METHODS: Mo, W by modified Dithiol method following potassium pyrosulphate fusion on 0.2,0.1 g samples.
PREPARATION: Dried and pulverised
DISTRIBUTION: 2 copies to L.G. Szabo,KI.

Signed: R Beeney

37007

063

McPHAR

GEOCHEMICAL RESULTS

755064

50-52 MARY STREET
UNLEY, S.A. 5061
PHONE: 72 2133
CABLE: "PHARGEO"
ADELAIDE
TELEX: "PHARGEO"
AA82623

Samples from: L. G. SZABO

Area:

Samples of:

Batch No.: CH 3751

Sheet No.: 1

Date: 27.4.72

SAMPLES DISPOSED OF AFTER TWO MONTHS UNLESS WE ARE OTHERWISE ADVISED

Sample Description	W, ppm	Mo, ppm
K.I. 1	10	<2
2	90	<2
3	90	<2
4	40	5
5	20	<2
6	30	<2
7	10	20
8	20	<2
9	40	<2
10	5	<2
1	30	<2
2	40	<2
3	60	<2
K.I. 14	10	5
292	<2	10
3	20	<2
4	20	<2
295- not received	-	-
6	<2	<2
7	2	<2
8	20	<2
9	15	<2
300	<2	<2
1	30	<2
2	10	<2
3	<2	<2
4	<2	<2
5	<2	<2
6	40	<2
7	30	<2
8	10	2
9	15	<2
10	15	<2
1	5	<2
2	30	40
3	<2	<2
4	60	<2
5	<2	2
6	<2	<2
7	5	<2
8	<2	<2
9	<2	<2
20	<2	<2
321	<2	<2

ANALYTICAL METHODS: W, Mo, by modified dithiol method following potassium pyrosulphate fusion on 0.1 and 0.2 samples respectively.

PREPARATION: Drying and pulverising

DISTRIBUTION: 2 copies to P.O. Box 308, Currie, King Island.

Signed: A. Al-Dainy

ACPHAR

50-52 MARY STREET
UNLEY, S.A. 5061
PHONE: 72 2133
CABLE: "PHARGEO" ADELAIDE
TELEX: "PHARGEO" AA82623

ASSAYS

Samples from: U.S. STEEL INTERNATIONAL INC.

Area:

Samples of:

Batch No.: CH 3554 (Your Ref. A-a-6-b-F-(d)

Sheet No.: 1

Date: 30.3.72

SAMPLES DISPOSED OF AFTER TWO MONTHS UNLESS WE ARE OTHERWISE ADVISED

Sample Description	Sn, ppm	(1) W, ppm	(2) W, ppm
INY -9-71-4-1	20	60	65
2	25	2	<20
3	35	50	45
4	20	60	60
5	<20	20	<20
6	35	20	<20
7	<20	60	45
8	<20	30	35
-2-9	<20	20	<20
INY -9-71-4-10	45	20	30

Elements are present in the samples which interfere with the colorimetric Sn method. Hence, all Sn values were obtained by XRF.

YTICAL METHODS: W, (1) by modified Dithiol method following potassium pyrosulphate fusion on 0.1 g sample. W, (2) determined by XRF.

EPARATION: Pulverising

STRIBUTION: 2 copies sent to U.S. Steel International Inc., Frankston.

Signed:

065

KING ISLAND AUGER DRILL SAMPLES

sent to

Daniel C. Griffith (Vic.) Pty. Ltd.

INY Spl.No.	Expl. Lic. No.	Line No.	Hole No.	Szabo Bag No.	Ni ppm	Pb ppm	Cu ppm	Mo ppm	W ppm	Sn ppm	Remarks
INY-9-71-4-1	9/71 ✓	4	30 (4'-10')	1 24	10 / 18	305 / 270	9 / 9	2 / <1	130 / 4	<2 / 40	120
INY-9-71-4-2	9/71 ✓	4	80	2 60	30 / 35	40 / 60	165 / 91	10 / 21	6 / 4	2 / 40	4
INY-9-71-4-3	9/71 ✓	4	92	3 71	10 / 26	25 / 64	5 / 17	2 / 4	40 / 8	2 / 50	35 ⊗
INY-9-71-4-4	9/71 ✓	4	94	4 72	10 / 26	15 / 49	17 / 24	6 / 6	120 / 10	6 / 300	120 ⊗
INY-9-71-4-5	9/71 ✓	4	112	5 79	15 / 21	20 / 51	6 / 12	6 / 4	50 / 20	<2 / 20	50 ⊗
INY-9-71-4-6	9/71 ✓	4	114	6 80	75 / 67	25 / 57	23 / 21	6 / 8	2 / 8	<2 / 210	2
INY-9-71-4-7	9/71 ✓	4	118	7 82	20 / 29	15 / 56	±" / 19	4 / 1	40 / 50	2 / 150	
INY-9-71-4-8	9/71 ✓	4	112	5 79	15 / 24	20 / 51	6 / 11	6 / <1	50 / 10	<2 / 90	50
INY-9-71-2-9	9/71 ✓	2	152 (19'-25')	102 Licence - line-hole-depth	85 / 80	25 / 44	9 / 13	<2 / 9	15 / 4	<2 / 110	15
INY-9-71-2-10	9/71 ✓	2	152 (19'-25')	same	85 / 84	25 / 52	9 / 14	<2 / 6	15 / 6	<2 / 310	SPECTRUM 15 D.C. GRIFFITH

date sent 12.FEB.71

date received .....

255066

A P P E N D I X III

ASSAY REPORT BY AMDEL

Report No: AN 4960/72

amdel
The Australian Mineral Development Laboratories
Flemington Street, Frewville, South Australia 5063
Phone 79 1662, telex AA82530

Please address all correspondence to the Director
In reply quote: AN3/0/0 - 4960/72

2 May 1972

Mr L.G. Szabo
Reekara
KING ISLAND Tas 7256

REPORT AN4960/72

YOUR REFERENCE:	Letter (undated) from L.G. Szabo
IDENTIFICATION:	K.I. 1 to K.I. 14
DATE RECEIVED:	21/4/72

Enquiries quoting AN4960/72 to Officer in Charge please.

Analysis by: G.R. Holden

Officer in Charge, Analytical Section: A.B. Timms

for F.R. Hartley
Director

plm

ANALYSIS

parts per million

Sample Mark	Tungsten W
K.I. 1	10
2	45
3	45
4	25
5	10
6	15
7	5
8	25
9	15
10	5
11	25
12	15
13	50
14	10

NOTE: Tungsten has been determined on these samples by X-ray fluorescence.

We consider the limit of detection to be 5 ppm and at the levels of concentration present the results are also considered to be within ±5 ppm.

APPENDIX IV

STATISTICAL EVALUATION - COPPER

070

755071

L.G. SZABO AND PARTNERS PTY. LTD. Client: USSI-NY Page: 1
Consulting Exploration & Mining
Geologists, Hydrogeologists.

STATISTICAL EVALUATION OF GEOCHEMICAL ASSAYS

AREA: EL 9/71 & 14/71 ELEMENT: Cu

Assay Interval (PPM)	Frequency f	f%	Cumulative f%	Log. Interval.	Log. Mid-point.	(Log. mid-point)^2	f x Log midpoint	f x (Log mid-point)^2
1.00- 1.26				0-0.1	0.05	.0025		
1.26- 1.59				0.1-0.2	0.15	.0225		
1.59- 1.99				0.2-0.3	0.25	.0625		
1.99- 2.51	1	0.4	0.4	0.3-0.4	0.35	.1225	.35	.1225
2.51- 3.16	8	2.8	3.2	0.4-0.5	0.45	.2025	3.60	1.6200
3.16- 3.98			32	0.5-0.6	0.55	.3025		
3.98- 5.01	6	2.1	5.3	0.6-0.7	0.65	.4225	3.90	2.5350
5.01- 6.31	5	1.8	7.1	0.7-0.8	0.75	.5625	3.75	2.8125
6.31- 7.94	7	2.5	9.6	0.8-0.9	0.85	.7225	5.95	5.0575
7.94- 10.00	14	4.9	14.5	0.9-1.0	0.95	.9025	13.30	12.6350
10.00- 12.59	35	12.4	26.9	1.0-1.1	1.05	1.1025	36.75	38.5875
12.59- 15.85	28	9.9	36.8	1.1-1.2	1.15	1.3225	32.20	37.0300
15.85- 19.95	15	5.3	42.1	1.2-1.3	1.25	1.5625	18.75	23.4375
19.95- 25.12	40	14.1	56.2	1.3-1.4	1.35	1.8225	54.00	72.9000
25.12- 31.62	25	8.8	65.0	1.4-1.5	1.45	2.1025	36.25	52.5625
31.62- 39.81	25	8.8	73.8	1.5-1.6	1.55	2.4025	38.75	60.0625
39.81- 50.12	34	12.0	85.8	1.6-1.7	1.65	2.7225	56.10	92.5650
50.12- 63.10	24	8.5	94.3	1.7-1.8	1.75	3.0625	42.00	73.5000
63.10- 79.43	13	4.6	98.9	1.8-1.9	1.85	3.4225	24.05	44.4925
79.43 100.00	2	0.7	99.6	1.9-2.0	1.95	3.8025	3.90	7.6050
100.00-125.9			99.6	2.0-2.1	2.05	4.2025		
125.9 -158.5	1	0.4	100	2.1-2.2	2.15	4.6225	2.15	4.6225
158.5 -199.5				2.2-2.3	2.25	5.0625		
199.5 -251.2				2.3-2.4	2.35	5.5225		
251.2 -316.2				2.4-2.5	2.45	6.0025		
316.2 -398.1				2.5-2.6	2.55	6.5025		
398.1 -501.1				2.6-2.7	2.65	7.0225		
501.2 -631.0				2.7-2.8	2.75	7.5625		
631.0 -794.3				2.8-2.9	2.85	8.1225		
794.3 -1000				2.9-3.0	2.95	8.7025		
TOTAL	283	100.0	XXXXXXX	XXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXXX	375.75	532.1475

071

755072

Area: Element: Cu Page: 2

CALCULATION SHEET.

MEAN FOR ....TOTAL..... POPULATION
(LOGNORMAL DISTRIBUTION)

$\bar{x} = \frac{\Sigma(f \times \text{Lg.mid point})}{\Sigma f} = \frac{375.75}{283}$ = 1.3277

$m_2' = \frac{\Sigma(f \times \text{Lg.mid point}^2)}{\Sigma f} = \frac{532.1475}{283}$ = 1.8804

$n = \Sigma f$ = 283 Antilog $\bar{x}$ = 21.267

$V = 5.3019\left[m_2' - (\bar{x})^2 \right] = 5.3019(1.8804 - 1.7628) =$

$= 5.3019 \times 0.1176 = 0.6235$ 0.62

Interpolation:

V	n_1	$\gamma\, n_1V$	V	n_{11}	$\gamma\, n_{11}V$
0.60	283	1.349			
0.62	283	1.362			
0.70	283	1.417			

$\therefore \gamma\, nV$ = 1.362

MEAN:

t = Antilog $\bar{x} \times \gamma\, nV = 21.267 \times 1.362 =$ 28.9657 PPM

SUMMARY.

POPULATION	MEAN PPM	CUMULATIVE FREQUENCY	
		f	%
Background - -	- -	- -	- -
Anomalous - -	- -	- -	- -
Total 283 assays	29.0	191	67.5

Clarke: 30 PPM

Background/Regional Threshold: - PPM

Local Threshold: - PPM

Contrast Factor: - PPM

ANOMALIES:

REGIONAL		LOCAL		LOCAL
Location	No. of Samples	Location	No. of Samples	Contrast

REMARKS: Anomalous trends and/or zones were not encountered.

Evaluated by..L.G. SZABO..... Date:..5/6/72.....

APPENDIX V

STATISTICAL EVALUATION - LEAD

074

72507.5

I.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining
Geologists, Hydrogeologists.

Client: USSI-NY

STATISTICAL EVALUATION OF GEOCHEMICAL ASSAYS

AREA: EL 9/71 & 14/71

ELEMENT: Pb

Assay Interval (PPM)	Frequency f	f%	Cumulative f%	Log. Interval.	Log. Mid-point.	(Log. mid-point)^2	f x Log mid-point	f x (Log mid-point)^2
1.00- 1.26				0-0.1	0.05	.0025		
1.26- 1.59				0.1-0.2	0.15	.0225		
1.59- 1.99				0.2-0.3	0.25	.0625		
1.99- 2.51				0.3-0.4	0.35	.1225		
2.51- 3.16				0.4-0.5	0.45	.2025		
3.16- 3.98				0.5-0.6	0.55	.3025		
3.98- 5.01	6	2.1	2.1	0.6-0.7	0.65	.4225	3.90	2.5350
5.01- 6.31			2.1	0.7-0.8	0.75	.5625		
6.31- 7.94			2.1	0.8-0.9	0.85	.7225		
7.94- 10.00			2.1	0.9-1.0	0.95	.9025		
10.00- 12.59	35	12.4	14.5	1.0-1.1	1.05	1.1025	36.75	38.5875
12.59- 15.85	54	19.1	33.6	1.1-1.2	1.15	1.3225	62.10	71.4150
15.85- 19.95	1	0.4	34.0	1.2-1.3	1.25	1.5625	1.25	1.5625
19.95- 25.12	111	39.2	73.2	1.3-1.4	1.35	1.8225	149.85	202.297
25.12- 31.62	37	13.1	86.3	1.4-1.5	1.45	2.1025	53.65	77.7952
31.62- 39.81	8	2.8	89.1	1.5-1.6	1.55	2.4025	12.40	19.2200
39.81- 50.12	23	8.1	97.2	1.6-1.7	1.65	2.7225	37.95	62.6175
50.12- 63.10	3	1.1	98.3	1.7-1.8	1.75	3.0625	5.25	9.1875
63.10- 79.43			98.3	1.8-1.9	1.85	3.4225		
79.43 100.00	1	0.4	98.7	1.9-2.0	1.95	3.8025	1.95	3.8025
100.00-125.9			98.7	2.0-2.1	2.05	4.2025		
125.9 -158.5	2	0.7	99.4	2.1-2.2	2.15	4.6225	4.30	9.2450
158.5 -199.5	1	0.4	99.8	2.2-2.3	2.25	5.0625	2.25	5.0625
199.5 -251.2			98.8	2.3-2.4	2.35	5.5225		
251.2 -316.2			98.8	2.4-2.5	2.45	6.0025		
316.2 -398.1			98.8	2.5-2.6	2.55	6.5025		
398.1 -501.1			98.8	2.6-2.7	2.65	7.0225		
501.2 -631.0	1	0.4	100.2	2.7-2.8	2.75	7.5625	2.75	7.5625
631.0 -794.3				2.8-2.9	2.85	8.1225		
794.3 -1000				2.9-3.0	2.95	8.7025		
TOTAL	283	100.2	XXXXXXXX	XXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXX	374.35	510.8902

075

I.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining
Geologists, Hydrogeologists.

Client: USSI-NY

STATISTICAL EVALUATION OF GEOCHEMICAL ASSAYS

AREA: [redacted]

ELEMENT: Pb Anomalous Population

Assay Interval (PPM)	Frequency f	f%	Cumulative f%	Log. Interval.	Log. Mid-point.	(Log. mid-point)^2	f x Log midpoint	f x (Log mid-point)^2
1.00- 1.26				0-0.1	0.05	.0025		
1.26- 1.59				0.1-0.2	0.15	.0225		
1.59- 1.99				0.2-0.3	0.25	.0625		
1.99- 2.51				0.3-0.4	0.35	.1225		
2.51- 3.16				0.4-0.5	0.45	.2025		
3.16- 3.98				0.5-0.6	0.55	.3025		
3.98- 5.01				0.6-0.7	0.65	.4225		
5.01- 6.31				0.7-0.8	0.75	.5625		
6.31- 7.94				0.8-0.9	0.85	.7225		
7.94- 10.00				0.9-1.0	0.95	.9025		
10.00- 12.59				1.0-1.1	1.05	1.1025		
12.59- 15.85				1.1-1.2	1.15	1.3225		
15.85- 19.95				1.2-1.3	1.25	1.5625		
19.95- 25.12				1.3-1.4	1.35	1.8225		
25.12- 31.62				1.4-1.5	1.45	2.1025		
31.62- 39.81				1.5-1.6	1.55	2.4025		
39.81- 50.12	23	74.2	74.2	1.6-1.7	1.65	2.7225		
50.12- 63.10	3	9.7	83.9	1.7-1.8	1.75	3.0625		
63.10- 79.43				1.8-1.9	1.85	3.4225		
79.43 100.00	1	3.2	87.1	1.9-2.0	1.95	3.8025		
00.00-125.9				2.0-2.1	2.05	4.2025		
125.9 -158.5	2	6.5	93.6	2.1-2.2	2.15	4.6225		
58.5 -199.5	1	3.2	96.8	2.2-2.3	2.25	5.0625		
199.5 -251.2				2.3-2.4	2.35	5.5225		
51.2 -316.2				2.4-2.5	2.45	6.0025		
316.2 -398.1				2.5-2.6	2.55	6.5025		
98.1 -501.1				2.6-2.7	2.65	7.0225		
501.2 -631.0	1	3.2	100	2.7-2.8	2.75	7.5625		
31.0 -794.3				2.8-2.9	2.85	8.1225		
94.3 -1000				2.9-3.0	2.95	8.7025		
TOTAL	31	100	XXXXXXXX	XXXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXX		

CALCULATION SHEET.

MEAN FOR .....Pb..... POPULATION
(LOGNORMAL DISTRIBUTION)

$\bar{x} = \frac{\Sigma(f \times \text{lg.mid point})}{\Sigma f} = \frac{374.35}{283}$ 1.3228

$m_2' = \frac{\Sigma(f \times \text{lg.mid point}^2)}{\Sigma f} = \frac{510.8902}{283}$ 1.8053

$n = \Sigma f =$ 283 Antilog $\bar{x} =$ 21.028

$V = 5.3019\left[m_2' - (\bar{x})^2 \right] = 5.3019(1.8053 - 1.7498) =$

$= 5.3019 \times 0.0555 =$ 0.2943

Interpolation:

V	n_1	$\gamma\, n_1V$	V	n_{11}	$\gamma\, n_{11}V$
0.20	283	1.105			
0.29	283	1.156			
0.30	283	1.162			

$\therefore \gamma\, nV =$ 1.156

MEAN:

$t = \text{Antilog } \bar{x} \times \gamma nV = 21.028 \times 1.156 =$ 24.3084 PPM

077

755078

Area: 9/71 Element: Pb Page: 4

CALCULATION SHEET.

MEAN FOR ..BACKGROUND..... POPULATION
(LOGNORMAL DISTRIBUTION)

$\bar{x} = \frac{\Sigma(f \times \text{Lg.mid point})}{\Sigma f} = \frac{319.9}{252}$ = 1.2694

$m_2' = \frac{\Sigma(f \times \text{Lg.mid point}^2)}{\Sigma f} = \frac{413.4127}{252}$ = 1.6406

$n = \Sigma f$ = 252 Antilog $\bar{x}$ = 18.595

$V = 5.3019\left[m_2' - (\bar{x})^2 \right] = 5.3019(1.6406 - 1.6114) =$

$= 5.3019 \times 0.0292 =$ 0.1548

Interpolation:

V	n_1	$\gamma\, n_1 V$	V	n_{11}	$\gamma\, n_{11} V$
0.15	252	1.078			

$\therefore \gamma\, nV$ = 1.078

MEAN:

t = Antilog $\bar{x} \times \gamma nV = 18.595 \times 1.078 =$ 20.045 PPM

078

755079

Area: 9/71 Element: Pb Page: 5

CALCULATION SHEET.

MEAN FOR ... ANOMALOUS..... POPULATION
(LOGNORMAL DISTRIBUTION)

$\bar{x} = \frac{\Sigma(f \times \text{Lg.mid point})}{\Sigma f} = \frac{54.45}{31}$ 1.7565

$m_2' = \frac{\Sigma(f \times \text{Lg.mid point}^2)}{\Sigma f} = \frac{97.4775}{31}$ 3.1444

$n = \Sigma f =$ 31 Antilog $\bar{x} =$ 57.108

$V = 5.3019\left[m_2' - (\bar{x})^2 \right] = 5.3019(3.1444 - 3.0853) =$

$= 5.3019 \times 0.0591 =$ 0.3133

Interpolation:

V	n_1	$\gamma\, n_1V$	V	n_{11}	$\gamma\, n_{11}V$
0.30	31	1.161			
0.31	31	1.167			
0.40	31	1.220			

$\therefore \gamma\, nV =$ 1.167

MEAN:

$t =$ Antilog $\bar{x} \times \gamma\, nV = 57.108 \times 1.167 =$ 66.645 PPM

SUMMARY.

POPULATION		MEAN PPM	CUMULATIVE FREQUENCY	
			f	%
Background	252 assays	20.0	205	81.5
Anomalous	31 assays	66.7	26	83.5
Total	283 assays	24.3	225	79.5

Clarke: 20 PPM

Background/Regional Threshold: 40 PPM

Local Threshold: 67 PPM

Contrast Factor: 0.41

ANOMALIES:

REGIONAL		LOCAL		LOCAL
Location	No. of Samples	Location	No. of Samples	Contrast
Line 4 1400E - 1800E	2	1600E	1	1.2
Line 4 2600E - 3400E	3	3000E	1	7.6
Line 2 0 - 400E	1	200E	1	1.5
Line 2 4200E - 4800E	2	4400E	1	1.0

REMARKS: Anomaly on Line 4 - 2600E - 3400E warrants follow up work.

Evaluated by....L.G. SZABO..... Date:....5/6/72....

APPENDIX VI

STATISTICAL EVALUATION - NICKEL

081

755082

I.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining
Geologists, Hydrogeologists.

Client: USSI-NY

STATISTICAL EVALUATION OF GEOCHEMICAL ASSAYS

AREA: EL 9/71 & 14/71

ELEMENT: Ni

Assay Interval (PPM)	Frequency f	f%	Cumulative f%	Log. Interval.	Log. Mid-point.	(Log. mid-point)^2	f x Log midpoint	f x (Log. mid-point)^2
1.00- 1.26				0-0.1	0.05	.0025		
1.26- 1.59				0.1-0.2	0.15	.0225		
1.59- 1.99				0.2-0.3	0.25	.0625		
1.99- 2.51				0.3-0.4	0.35	.1225		
2.51- 3.16				0.4-0.5	0.45	.2025		
3.16- 3.98				0.5-0.6	0.55	.3025		
3.98- 5.01				0.6-0.7	0.65	.4225		
5.01- 6.31	1	0.4	0.4	0.7-0.8	0.75	.5625	.75	0.5625
6.31- 7.94	1	0.4	0.8	0.8-0.9	0.85	.7225	.85	.7225
7.94- 10.00	5	1.8	2.6	0.9-1.0	0.95	.9025	4.75	4.5125
10.00- 12.59	48	16.9	19.5	1.0-1.1	1.05	1.1025	50.40	52.9200
12.59- 15.85	53	18.7	38.2	1.1-1.2	1.15	1.3225	60.95	70.0925
15.85- 19.95			38.2	1.2-1.3	1.25	1.5625		
19.95- 25.12	82	29.0	67.2	1.3-1.4	1.35	1.8225	110.70	149.4450
25.12- 31.62	11	3.9	79.6	1.4-1.5	1.45	2.1025	17.05	26.4275
31.62- 39.81	38	13.4	93.0	1.5-1.6	1.55	2.4025	62.70	103.4550
39.81- 50.12	11	3.9	96.9	1.6-1.7	1.65	2.7225	19.25	33.6875
50.12- 63.10	5	1.8	98.7	1.7-1.8	1.75	3.0625	9.25	17.1125
63.10- 79.43	2	0.7	99.4	1.8-1.9	1.85	3.4225	3.90	7.6050
79.43 100.00	1	0.4	99.8	1.9-2.0	1.95	3.8025	2.05	4.2025
100.00-125.9			99.8	2.0-2.1	2.05	4.2025		
125.9 -158.5			99.8	2.1-2.2	2.15	4.6225		
158.5 -199.5	1	0.4	100.2	2.2-2.3	2.25	5.0625	2.35	5.5225
199.5 -251.2				2.3-2.4	2.35	5.5225		
251.2 -316.2				2.4-2.5	2.45	6.0025		
316.2 -398.1				2.5-2.6	2.55	6.5025		
398.1 -501.1				2.6-2.7	2.65	7.0225		
501.2 -631.0				2.7-2.8	2.75	7.5625		
631.0 -794.3				2.8-2.9	2.85	8.1225		
794.3 -1000				2.9-3.0	2.95	8.7025		
TOTAL	283	100.2	XXXXXXXX	XXXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXX	379.75	526.7275

082

755083

Area: EL 9/71 & 14/71 Element: Ni

CALCULATION SHEET.

MEAN FOR .....Ni..... POPULATION
(LOGNORMAL DISTRIBUTION)

$\bar{x} = \frac{\Sigma(f \times \text{Lg.mid point})}{\Sigma f} = \frac{379.75}{283}$ = 1.3419

$m_2' = \frac{\Sigma(f \times \text{Lg.mid point}^2)}{\Sigma f} = \frac{526.7275}{283}$ = 1.8612

$n = \Sigma f$ = 283 Antilog $\bar{x}$ = 21.974

$V = 5.3019\left[m_2' - (\bar{x})^2 \right] = 5.3019(1.8612 - 1.8007) =$

$= 5.3019 \times 0.0605 = 0.3208$ = 0.32

Interpolation:

V	n_1	$\gamma\, n_1 V$	V	n_{11}	$\gamma\, n_{11} V$
0.30	283	1.162			
0.32	283	1.174			
0.40	283	1.221			

$\therefore \gamma\, nV$ = 1.174

MEAN:

t = Antilog $\bar{x} \times \gamma\, nV = 21.974 \times 1.174 =$ 25.7975 PPM

083

755084

Area: EL 9/71 & 14/71 Element: Ni

SUMMARY.

POPULATION		MEAN PPM	CUMULATIVE FREQUENCY f	CUMULATIVE FREQUENCY %
Background	- -	- -	- -	- -
Anomalous	- -	- -	- -	- -
Total	283 assays	29	217	76.5

Clarke: 35 PPM

Background/Regional Threshold: - PPM

Local Threshold: - PPM

Contrast Factor: - PPM

ANOMALIES:

REGIONAL		LOCAL		LOCAL
Location	No. of Samples	Location	No. of Samples	Contrast

REMARKS: Anomalous trend and/or zones were not encountered.

Evaluated by....I.G. SZABO..... Date:....5/6/72....

A P P E N D I X VII

STATISTICAL EVALUATION - MOLYBDENUM

755086

G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining
Geologists, Hydrogeologists.

Client: USSI-NY   Page: 1

STATISTICAL EVALUATION OF GEOCHEMICAL ASSAYS

AREA: EL 9/71 & 14/71   ELEMENT: Mo

Assay Interval (PPM)	Frequency f	f%	Cumulative f%	Log. Interval	Log. Mid-point.	(Log. mid-point)^2	f x Log midpoint	f x (Log. mid-point)^2
1.00- 1.26				0-0.1	0.05	.0025		
1.26- 1.59				0.1-0.2	0.15	.0225		
2 [illegible]	1.14		40.3	0.2-0.3	0.25	.0625	28.50	7.1250
1.99- 2.51	87	30.7	71.0	0.3-0.4	0.35	.1225	30.45	10.6575
2.51- 3.16			71.0	0.4-0.5	0.45	.2025		
3.16- 3.98			71.0	0.5-0.6	0.55	.3025		
3.98- 5.01	47	16.6	87.6	0.6-0.7	0.65	.4225	30.55	19.8575
5.01- 6.31	16	5.7	93.3	0.7-0.8	0.75	.5625	12.00	9.000
6.31- 7.94			93.3	0.8-0.9	0.85	.7225		
7.94- 10.00	11	3.9	97.2	0.9-1.0	0.95	.9025	10.45	9.9275
10.00- 12.59	7	2.5	99.7	1.0-1.1	1.05	1.1025	7.35	7.7175
12.59- 15.85			99.7	1.1-1.2	1.15	1.3225		
15.85- 19.95			99.7	1.2-1.3	1.25	1.5625		
19.95- 25.12	1	0.4	100.1	1.3-1.4	1.35	1.8225	1.35	1.8225
25.12- 31.62				1.4-1.5	1.45	2.1025		
31.62- 39.81				1.5-1.6	1.55	2.4025		
39.81- 50.12				1.6-1.7	1.65	2.7225		
50.12- 63.10				1.7-1.8	1.75	3.0625		
63.10- 79.43				1.8-1.9	1.85	3.4225		
79.43 100.00				1.9-2.0	1.95	3.8025		
100.00-125.9				2.0-2.1	2.05	4.2025		
125.9 -158.5				2.1-2.2	2.15	4.6225		
158.5 -199.5				2.2-2.3	2.25	5.0625		
199.5 -251.2				2.3-2.4	2.35	5.5225		
251.2 -316.2				2.4-2.5	2.45	6.0025		
316.2 -398.1				2.5-2.6	2.55	6.5025		
398.1 -501.1				2.6-2.7	2.65	7.0225		
501.2 -631.0				2.7-2.8	2.75	7.5625		
631.0 -794.3				2.8-2.9	2.85	8.1225		
794.3 -1000				2.9-3.0	2.95	8.7025		
TOTAL	283	100.1	XXXXXXX	XXXXXXXX	XXXXXXXXXXX	XXXXXXXXXX	120.65	66.1075

P.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining
Geologists, Hydrogeologists.

Client: USSI-NY

STATISTICAL EVALUATION OF GEOCHEMICAL ASSAYS

AREA:

ELEMENT: Mo Anomalous Population

Assay Interval (PPM)	Frequency f	f%	Cumulative f%	Log. Interval.	Log. Mid-point.	(Log. mid-point)^2	f x Log midpoint	f x (Log. mid-point)^2
1.00- 1.26				0-0.1	0.05	.0025		
1.26- 1.59				0.1-0.2	0.15	.0225		
1.59- 1.99				0.2-0.3	0.25	.0625		
1.99- 2.51				0.3-0.4	0.35	.1225		
2.51- 3.16				0.4-0.5	0.45	.2025		
3.16- 3.98				0.5-0.6	0.55	.3025		
3.98- 5.01				0.6-0.7	0.65	.4225		
5.01- 6.31	16	45.7	45.7	0.7-0.8	0.75	.5625		
6.31- 7.94				0.8-0.9	0.85	.7225		
7.94- 10.00	11	31.4	77.1	0.9-1.0	0.95	.9025		
10.00- 12.59	7	20.0	97.1	1.0-1.1	1.05	1.1025		
12.59- 15.85				1.1-1.2	1.15	1.3225		
15.85- 19.95				1.2-1.3	1.25	1.5625		
19.95- 25.12	1	2.9	100	1.3-1.4	1.35	1.8225		
25.12- 31.62				1.4-1.5	1.45	2.1025		
31.62- 39.81				1.5-1.6	1.55	2.4025		
39.81- 50.12				1.6-1.7	1.65	2.7225		
50.12- 63.10				1.7-1.8	1.75	3.0625		
63.10- 79.43				1.8-1.9	1.85	3.4225		
79.43 100.00				1.9-2.0	1.95	3.8025		
100.00-125.9				2.0-2.1	2.05	4.2025		
125.9 -158.5				2.1-2.2	2.15	4.6225		
158.5 -199.5				2.2-2.3	2.25	5.0625		
199.5 -251.2				2.3-2.4	2.35	5.5225		
251.2 -316.2				2.4-2.5	2.45	6.0025		
316.2 -398.1				2.5-2.6	2.55	6.5025		
398.1 -501.1				2.6-2.7	2.65	7.0225		
501.2 -631.0				2.7-2.8	2.75	7.5625		
631.0 -794.3				2.8-2.9	2.85	8.1225		
794.3 -1000				2.9-3.0	2.95	8.7025		
TOTAL	35	100	XXXXXXX	XXXXXXXXX	XXXXXXXXXXX	XXXXXXXXXX		

CALCULATION SHEET.

MEAN FOR .....TOTAL..... POPULATION
(LOGNORMAL DISTRIBUTION)

$\bar{x} = \frac{\Sigma(f \times \text{lg.mid point})}{\Sigma f} = \frac{120.65}{283}$ 0.4263

$m_2' = \frac{\Sigma(f \times \text{lg.mid point}^2)}{\Sigma f} = \frac{66.1075}{283}$ 0.2336

$n = \Sigma f =$ 283 Antilog $\bar{x} =$ 2.6687

$V = 5.3019\left[m_2' - (\bar{x})^2 \right] = 5.3019(0.2336 - 0.1817) =$

$= 5.3019 \times 0.0519 = 0.2805$ 0.27

Interpolation:

V	n_1	$\gamma\, n_1 V$	V	n_2	$\gamma\, n_2 V$
0.20	283	1.105			
0.28	283	1.150			
0.30	283	1.162			

$\therefore \gamma\, nV =$ 1.150

MEAN:

$t = \text{Antilog } \bar{x} \times \gamma\, nV = 2.6687 \times 1.150 =$ 3.0690 PPM

088

755089

Area: 9/71 & 15/71 Element: Mo Page: 4

CALCULATION SHEET.

MEAN FOR ...**BACKGROUND**..... POPULATION
(LOGNORMAL DISTRIBUTION)

$\bar{x} = \frac{\Sigma(f \times \text{Lg.mid point})}{\Sigma f} = \frac{89.50}{248}$ = 0.3609

$m_2' = \frac{\Sigma(f \times \text{Lg.mid point}^2)}{\Sigma f} = \frac{37.6400}{248}$ = 0.1518

$n = \Sigma f$ = 248 Antilog $\bar{x}$ = 2.2956

$V = 5.3019\left[m_2' - (\bar{x})^2 \right] = 5.3019(0.1518 - 0.1302) =$

$= 5.3019 \times 0.0216 =$ 0.1145

Interpolation:

V	n_1	$\gamma\, n_1 V$	V	n_{11}	$\gamma\, n_{11} V$
0.10	248	1.051			
0.11	248	1.056			
0.12	248	1.062			

$\therefore \gamma\, nV$ = 1.056

MEAN:

t = Antilog $\bar{x} \times \gamma\, nV = 2.2956 \times 1.056 =$ 2.42 PPM

Oc

755090

Area: Element: Mo Page: 5

CALCULATION SHEET.

MEAN FOR ....ANOMALOUS..... POPULATION
(LOGNORMAL DISTRIBUTION)

$\bar{x} = \frac{\Sigma(f \times \text{lg.mid point})}{\Sigma f} = \frac{31.15}{35}$ — 0.8900

$m_2' = \frac{\Sigma(f \times \text{lg.mid point}^2)}{\Sigma f} = \frac{28.4675}{35}$ — 0.8134

$n = \Sigma f =$ 35 Antilog $\bar{x} =$ — 6.5073

$V = 5.3019\left[m_2' - (\bar{x})^2 \right] = 5.3019(\ 0.8134 - 0.7921) =$

$= 5.3019 \times 0.0213 =$ — 0.1129

Interpolation:

V	n_1	$\gamma\, n_1 V$	V	n_2	$\gamma\, n_2 V$
0.10	35	1.051			
0.11	35	1.051			
0.12	35	1.062			

$\therefore \gamma\, nV =$ 1.051

MEAN:

$t = \text{Antilog } \bar{x} \times \gamma\, nV = 6.5073 \times 1.057 =$ — 6,878 PPM

090

755091

Area: 9/71 - 15/71 Element: Mo

SUMMARY.

POPULATION		MEAN PPM	CUMULATIVE FREQUENCY	
			f	%
Background	248 assays	2.4	184	74.0
Anomalous	35 assays	6.9	21	60.0
Total	283 assays	3.1	215	76.0

Clarke: L2 PPM

Background/Regional Threshold: 5 PPM

Local Threshold: 7 PPM

Contrast Factor: 0.41 ~~PPM~~

ANOMALIES:

REGIONAL		LOCAL		LOCAL
Location	No. of Samples	Location	No. of Samples	Contrast
Line 4 5800E - 10200E	18	7200E - 8000E	4	1.8
Line 6-3000N 16000E - 16800E	3	16800E	1	4.7 (McPhar)

REMARKS: Local anomalies were recorded in numerous places but are considered insignificant due to the inadequate contrast and the lack of suitable geological environment and/or accompanied anomalies.

Evaluated by....L.G..SZABO..... Date:..5/6/72.....

A P P E N D I X VIII

STATISTICAL EVALUATION - TUNGSTEN

092

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining
Geologists, Hydrogeologists.

Client: USSI-NY

STATISTICAL EVALUATION OF GEOCHEMICAL ASSAYS

AREA: EL 9/71 - 15/71

ELEMENT: W

Assay Interval (PPM)	Frequency f	f%	Cumulative f%	Log. Interval.	Log. Mid-point.	(Log. mid-point)^2	f x Log mid-point	f x (Log mid-point)^2
1.00- 1.26				0-0.1	0.05	.0025		
1.26- 1.59				0.1-0.2	0.15	.0225		
1.59- 1.99	35	12.4	12.4	0.2-0.3	0.25	.0625	8.75	2.1875
1.99- 2.51	78	27.6	40.0	0.3-0.4	0.35	.1225	27.30	9.5550
2.51- 3.16			40.0	0.4-0.5	0.45	.2025		
3.16- 3.98			40.0	0.5-0.6	0.55	.3025		
3.98- 5.01	50	17.7	57.7	0.6-0.7	0.65	.4225	32.50	21.1250
5.01- 6.31	33	11.7	69.4	0.7-0.8	0.75	.5625	24.75	18.5625
6.31- 7.94			69.4	0.8-0.9	0.85	.7225		
7.94- 10.00	22	7.8	77.2	0.9-1.0	0.95	.9025	20.90	19.8550
10.00- 12.59	17	6.0	83.2	1.0-1.1	1.05	1.1025	17.85	18.7425
12.59- 15.85	11	3.9	87.1	1.1-1.2	1.15	1.3225	12.65	14.5475
15.85- 19.95	6	2.1	89.2	1.2-1.3	1.25	1.5625	7.50	9.3750
19.95- 25.12	10	3.5	92.7	1.3-1.4	1.35	1.8225	13.50	18.2250
25.12- 31.62	5	1.8	94.5	1.4-1.5	1.45	2.1025	7.25	10.5125
31.62- 39.81	5	1.8	96.3	1.5-1.6	1.55	2.4025	7.75	12.0125
39.81- 50.12	4	1.4	97.7	1.6-1.7	1.65	2.7225	6.60	10.8900
50.12- 63.10	2	0.7	98.4	1.7-1.8	1.75	3.0625	3.50	6.1250
63.10- 79.43			98.4	1.8-1.9	1.85	3.4225		
79.43 100.00	2	0.7	99.1	1.9-2.0	1.95	3.8025	3.90	6.1650
100.00-125.9			99.1	2.0-2.1	2.05	4.2025		
125.9 -158.5	2	0.7	99.8	2.1-2.2	2.15	4.6225	4.30	9.2450
158.5 -199.5			99.8	2.2-2.3	2.25	5.0625		
199.5 -251.2	1	0.4	100.2	2.3-2.4	2.35	5.5225	2.35	5.5235
251.2 -316.2				2.4-2.5	2.45	6.0025		
316.2 -398.1				2.5-2.6	2.55	6.5025		
398.1 -501.1				2.6-2.7	2.65	7.0225		
501.2 -631.0				2.7-2.8	2.75	7.5625		
631.0 -794.3				2.8-2.9	2.85	8.1225		
794.3 -1000				2.9-3.0	2.95	8.7025		
TOTAL	283	100.2	XXXXXXX	XXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXX	201.35	192.647

093

755093

L.G. SZABO AND PARTNERS PTY. LTD.
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Client: USSI-NY

STATISTICAL EVALUATION OF GEOCHEMICAL ASSAYS

AREA: 9/71 - 15/71

ELEMENT: W Anomalous Population

Assay Interval (PPM)	Frequency f	f%	Cumulative f%	Log. Interval.	Log. Mid-point.	(Log. mid-point)^2	f x Log mid-point	f x (Log. mid-point)^2
1.00- 1.26				0-0.1	0.05	.0025		
1.26- 1.59				0.1-0.2	0.15	.0225		
1.59- 1.99				0.2-0.3	0.25	.0625		
1.99- 2.51				0.3-0.4	0.35	.1225		
2.51- 3.16				0.4-0.5	0.45	.2025		
3.16- 3.98				0.5-0.6	0.55	.3025		
3.98- 5.01				0.6-0.7	0.65	.4225		
5.01- 6.31				0.7-0.8	0.75	.5625		
6.31- 7.94				0.8-0.9	0.85	.7225		
7.94- 10.00				0.9-1.0	0.95	.9025		
10.00- 12.59	17	26.2	26.2	1.0-1.1	1.05	1.1025		
12.59- 15.85	11	16.9	43.1	1.1-1.2	1.15	1.3225		
15.85- 19.95	6	9.2	52.3	1.2-1.3	1.25	1.5625		
19.95- 25.12	10	15.4	67.7	1.3-1.4	1.35	1.8225		
25.12- 31.62	5	7.7	75.4	1.4-1.5	1.45	2.1025		
31.62- 39.81	5	7.7	83.1	1.5-1.6	1.55	2.4025		
39.81- 50.12	4	6.2	89.3	1.6-1.7	1.65	2.7225		
50.12- 63.10	2	3.1	92.4	1.7-1.8	1.75	3.0625		
63.10- 79.43			92.4	1.8-1.9	1.85	3.4225		
79.43 100.00	2	3.1	95.5	1.9-2.0	1.95	3.8025		
100.00-125.9			95.5	2.0-2.1	2.05	4.2025		
125.9 -158.5	2	3.1	98.6	2.1-2.2	2.15	4.6225		
158.5 -199.5			98.6	2.2-2.3	2.25	5.0625		
199.5 -251.2	1	1.5	100.1	2.3-2.4	2.35	5.5225		
251.2 -316.2				2.4-2.5	2.45	6.0025		
316.2 -398.1				2.5-2.6	2.55	6.5025		
398.1 -501.1				2.6-2.7	2.65	7.0225		
501.2 -631.0				2.7-2.8	2.75	7.5625		
631.0 -794.3				2.8-2.9	2.85	8.1225		
794.3 -1000				2.9-3.0	2.95	8.7025		
TOTAL	65		XXXXXXX	XXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXX		

CALCULATION SHEET.

MEAN FOR .....TOTAL..... POPULATION
(LOGNORMAL DISTRIBUTION)

$\bar{x} = \frac{\Sigma(f \times \text{lg.mid point})}{\Sigma f} = \frac{201.35}{283}$ 0.7115

$m_2' = \frac{\Sigma(f \times \text{lg.mid point}^2)}{\Sigma f} = \frac{192.6475}{283}$ 0.6807

$n = \Sigma f =$ 283 Antilog $\bar{x} =$ 5.1464

$V = 5.3019\left[m_2' - (\bar{x})^2 \right] = 5.3019(0.6807 - 0.5062) =$

$= 5.3019 \times 0.1745 =$ 0.9252

Interpolation:

V	n_1	$\gamma\, n_1 V$	V	n_{11}	$\gamma\, n_{11} V$
0.90	283	1.566			
0.93	283	1.590			
1.00	283	1.646			

$\therefore \gamma\, nV =$ 1.59

MEAN:

$t = \text{Antilog } \bar{x} \times \gamma\, nV = 5.1464 \times 1.59 =$ 8.18 PPM

035

Area: 9/71 - 15/71 Element: W

755095

Page: 4

CALCULATION SHEET.

MEAN FOR ...**BACKGROUND**..... POPULATION
(LOGNORMAL DISTRIBUTION)

$\bar{x} = \frac{\Sigma(f \times \text{lg.mid point})}{\Sigma f} = \frac{114.2}{218}$ 0.5239

$m_2' = \frac{\Sigma(f \times \text{lg.mid point}^2)}{\Sigma f} = \frac{71.285}{218}$ 0.327

$n = \Sigma f =$ 218 Antilog $\bar{x} =$ 3.3411

$V = 5.3019\left[m_2' - (\bar{x})^2 \right] = 5.3019(0.327 - 0.2745) =$

$= 5.3019 \times 0.0525 =$ 0.2783

Interpolation:

V	n_1	$\Gamma n_1 V$	V	n_{11}	$\Gamma n_{11} V$
0.20	218	1.105			
0.28	218	1.151			
0.30	218	1.162			

$\therefore \Gamma nV =$ 1.151

MEAN:

$t =$ Antilog $\bar{x} \times \Gamma nV = 3.3411 \times 1.151 =$ 3.845 PPM

CALCULATION SHEET.

MEAN FOR ...ANOMALOUS..... POPULATION
(LOGNORMAL DISTRIBUTION)

$\bar{x} = \frac{\Sigma(f \times \text{lg.mid point})}{\Sigma f} = \frac{87.15}{65}$ **1.3408**

$m_2' = \frac{\Sigma(f \times \text{lg.mid point}^2)}{\Sigma f} = \frac{121.3625}{65}$ **1.8671**

$n = \Sigma f =$ 65 Antilog $\bar{x}$ = **21.918**

$V = 5.3019\left[m_2' - (\bar{x})^2 \right] = 5.3019(\ 1.8671 - 1.7977) =$

$= 5.3019 \times 0.0694 =$ **0.368**

Interpolation:

V	n_1	$\Upsilon n_1 V$	V	n_{11}	$\Upsilon n_{11} V$
0.30	65	1.161			
0.37	65	1.202			
0.40	65	1.220			

$\therefore \Upsilon nV =$ 1.202

MEAN:

$t =$ Antilog $\bar{x} \times \Upsilon nV = 21.918 \times 1.202 =$ **26.345** P

SUMMARY.

POPULATION		MEAN PPM	CUMULATIVE FREQUENCY f	%
Background	218 assays	3.8	113	52
Anomalous	65 assays	26.3	47	72
Total	283 assays	8.2	215	76

Clarke: 2 PPM

Background/Regional Threshold: 10 PPM

Local Threshold: 26 PPM

Contrast Factor: 2.06

ANOMALIES:

REGIONAL		LOCAL		LOCAL
Location	No. of Samples	Location	No. of Samples	Contrast
Line 4 600E - 1000E	3	800E	1	0.15
Line 4 2800E - 3400E	2	3000E - 3200E	2	4.0
Line 4 8000E- 15000E	7	9200E - 9600E	3	3.6
		11200	1	0.9
		11800	1	0.5
		12800	1	1.1
		14200	1	0.2
		15000	1	0.3
Line 2 8300 - 10100E	5	8600		2.8
		9600	1	2.1

.../6(b)

REMARKS:

Evaluated by..... Date:.....

SUMMARY.

POPULATION	MEAN PPM	FREQUENCY	
		f	%
Background Anomalous Total			

Clarke: PPM

Background/Regional Threshold: PPM

Local Threshold: PPM

Contrast Factor: PPM

ANOMALIES:

REGIONAL		LOCAL		LOCAL
Location	No. of Samples	Location	No. of Samples	Contrast
Line 4-400N 8800E	1	-	-	-
Line 4-1200N 9200E	1	-	-	-
Line 4-1600N 9000E	1	-	-	-
Line 6 9000E - 10,000E	6	9800	1	0.3
Line 6 11200E - 12600E	6	12000E - 12200E	2	0.7
Line 6-2000N 6-4000N	Whole area drilled on 2000' by 1000' grid, is anomalous & yields some local anomalies up to 60PPM			Max.1.3
Line 8 0E	1	-	-	-

.../6(c)

REMARKS:

Evaluated by..... Date:.....

09.

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Area: Element: Page: 6(c)

SUMMARY.

POPULATION	MEAN PPM	FREQUENCY	
		f	%
Background Anomalous Total			

Clarke: PPM

Background/Regional Threshold: PPM

Local Threshold: PPM

Contrast Factor: PPM

ANOMALIES:

REGIONAL		LOCAL		LOCAL
Location	No. of Samples	Location	No. of Samples	Contrast
Line 8 600E	1	600E	1	0.2
Line 8 2000E - 2400E	2	2000E	1	0.3

REMARKS: Very significant anomalies: Line 2 2800E - 3400E
Line 2 9200E - 9600E
Line 4 8600E - 9600E.
Whole area situated East of 1600E is anomalous.

Evaluated by.....L.G..SZABO..... Date:..5/6/72.....

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100

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining
Geologists, Hydrogeologists.

Client: USSI - NY Page: 7

STATISTICAL EVALUATION OF GEOCHEMICAL ASSAYS

AREA: E.L. 9/71 - 15/71 ELEMENT: W (10 to 80 PPM)

Assay Interval (PPM)	Frequency f	f%	Cumulative f%	Log. Interval.	Log. Mid-point.	(Log. mid-point)^2	f x Log mid-point	f (Log mid-point)^2
1.00- 1.26				0-0.1	0.05	.0025		
1.26- 1.59				0.1-0.2	0.15	.0225		
1.59- 1.99				0.2-0.3	0.25	.0625		
1.99- 2.51				0.3-0.4	0.35	.1225		
2.51- 3.16				0.4-0.5	0.45	.2025		
3.16- 3.98				0.5-0.6	0.55	.3025		
3.98- 5.01				0.6-0.7	0.65	.4225		
5.01- 6.31				0.7-0.8	0.75	.5625		
6.31- 7.94				0.8-0.9	0.85	.7225		
7.94- 10.00				0.9-1.0	0.95	.9025		
10.00- 12.59	17	28.3	28.3	1.0-1.1	1.05	1.1025		
12.59- 15.85	11	18.3	46.6	1.1-1.2	1.15	1.3225		
15.85- 19.95	6	10.0	56.6	1.2-1.3	1.25	1.5625		
19.95- 25.12	10	16.7	73.3	1.3-1.4	1.35	1.8225		
25.12- 31.62	5	8.3	81.6	1.4-1.5	1.45	2.1025		
31.62- 39.81	5	8.3	89.9	1.5-1.6	1.55	2.4025		
39.81- 50.12	4	6.7	96.6	1.6-1.7	1.65	2.7225		
50.12- 63.10	2	3.3	99.9	1.7-1.8	1.75	3.0625		
63.10- 79.43	-	-	99.9	1.8-1.9	1.85	3.4225		
79.43 100.00				1.9-2.0	1.95	3.8025		
100.00-125.9				2.0-2.1	2.05	4.2025		
125.9 -158.5				2.1-2.2	2.15	4.6225		
158.5 -199.5				2.2-2.3	2.25	5.0625		
199.5 -251.2				2.3-2.4	2.35	5.5225		
251.2 -316.2				2.4-2.5	2.45	6.0025		
316.2 -398.1				2.5-2.6	2.55	6.5025		
398.1 -501.1				2.6-2.7	2.65	7.0225		
501.2 -631.0				2.7-2.8	2.75	7.5625		
631.0 -794.3				2.8-2.9	2.85	8.1225		
794.3 -1000				2.9-3.0	2.95	8.7025		
TOTAL	60	99.9	XXXXXXX	XXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXX		

CALCULATION SHEET.

MEAN FOR ..10 - 80 PPM..... POPULATION
(LOGNORMAL DISTRIBUTION)

$\bar{x} = \frac{\Sigma(f \times \text{lg.mid point})}{\Sigma f} = \frac{76.60}{60}$ = 1.2767

$m_2' = \frac{\Sigma(f \times \text{lg.mid point}^2)}{\Sigma f} = \frac{100.4300}{60}$ = 1.6738

$n = \Sigma f$ = 60 Antilog $\bar{x}$ = 18.910

$V = 5.3019\left[m_2' - (\bar{x})^2\right] = 5.3019(1.6738 - 1.6300) =$

$= 5.3019 \times 0.0438 =$ 0.2322

Interpolation:

V	n_1	$\gamma\, n_1V$	V	n_{11}	$\gamma\, n_{11}V$
0.20	.50	1.105			
0.23	60	1.122			
0.30	60	1.161			

$\therefore \gamma\, nV$ = 1.122

MEAN:

t = Antilog $\bar{x} \times \gamma\, nV = 18.91 \times 1.122 =$ 21.2170 PP

APPENDIX IX

STATISTICAL EVALUATION - TUNGSTEN (BOLD HEAD)

103

755103

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Consulting Exploration & Mining
Geologists, Hydrogeologists.

Client: USSI-NY

STATISTICAL EVALUATION OF GEOCHEMICAL ASSAYS

AREA: Bold Head (Detailed survey) ELEMENT: W

	Assay Interval (PPM)	Frequency f	f%	Cumulative f%	Log. Interval.	Log. Mid-point.	(Log. mid-point)^2	f x Log midpoint	f x (Log mid-point)
	1.00- 1.26				0-0.1	0.05	.0025		
	1.26- 1.59				0.1-0.2	0.15	.0225		
L2	1.59- 1.99	121	24.3	24.3	0.2-0.3	0.25	.0625	30.25	7.56
	1.99- 2.51	181	36.2	60.5	0.3-0.4	0.35	.1225	63.35	22.17
	2.51- 3.16			60.5	0.4-0.5	0.45	.2025		
	3.16- 3.98			60.5	0.5-0.6	0.55	.3025		
	3.98- 5.01	100	20.0	80.5	0.6-0.7	0.65	.4225	65.0	42.25
	5.01- 6.31			80.5	0.7-0.8	0.75	.5625		
	6.31- 7.94			80.5	0.8-0.9	0.85	.7225		
	7.94- 10.00			80.5	0.9-1.0	0.95	.9025		
	10.00- 12.59	52	10.4	90.9	1.0-1.1	1.05	1.1025	54.60	57.33
	12.59- 15.85	6	1.2	92.1	1.1-1.2	1.15	1.3225	6.90	7.93
	15.85- 19.95			92.1	1.2-1.3	1.25	1.5625		
	19.95- 25.12	11	2.2	94.3	1.3-1.4	1.35	1.8225	14.85	20.04
	25.12- 31.62	6	1.2	95.5	1.4-1.5	1.45	2.1025	8.70	16.61
	31.62- 39.81			95.5	1.5-1.6	1.55	2.4025		
	39.81- 50.12	10	2.0	97.5	1.6-1.7	1.65	2.7225	16.50	27.22
	50.12- 63.10	2	0.4	97.9	1.7-1.8	1.75	3.0625	3.50	6.12
	63.10- 79.43			97.9	1.8-1.9	1.85	3.4225		
	79.43 100.00	3	0.6	98.5	1.9-2.0	1.95	3.8025	5.85	11.40
	100.00-125.9	7	1.4	99.9	2.0-2.1	2.05	4.2025	14.36	29.41
	125.9 -158.5				2.1-2.2	2.15	4.6225		
	158.5 -199.5				2.2-2.3	2.25	5.0625		
	199.5 -251.2				2.3-2.4	2.35	5.5225		
	251.2 -316.2				2.4-2.5	2.45	6.0025		
	316.2 -398.1				2.5-2.6	2.55	6.5025		
	398.1 -501.1				2.6-2.7	2.65	7.0225		
	501.2 -631.0				2.7-2.8	2.75	7.5625		
	631.0 -794.3				2.8-2.9	2.85	8.1225		
	794.3 -1000				2.9-3.0	2.95	8.7025		
	TOTAL	499	99.9	XXXXXXX	XXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXX	283.86	248.08

L.G. SZABO AND PARTNERS PTY. LTD.
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Geologists, Hydrogeologists.

Client:

STATISTICAL EVALUATION OF GEOCHEMICAL ASSAYS

AREA: Bold Head

ELEMENT: W Anomalous Population

Assay Interval (PPM)	Frequency f	f%	Cumulative f%	Log. Interval.	Log. Mid-point.	(Log. mid-point)^2	f x Log mid-point	f (Log mid-point
1.00- 1.26				0-0.1	0.05	.0025		
1.26- 1.59				0.1-0.2	0.15	.0225		
1.59- 1.99				0.2-0.3	0.25	.0625		
1.99- 2.51				0.3-0.4	0.35	.1225		
2.51- 3.16				0.4-0.5	0.45	.2025		
3.16- 3.98				0.5-0.6	0.55	.3025		
3.98- 5.01				0.6-0.7	0.65	.4225		
5.01- 6.31				0.7-0.8	0.75	.5625		
6.31- 7.94				0.8-0.9	0.85	.7225		
7.94- 10.00				0.9-1.0	0.95	.9025		
10.00- 12.59	52	53.6	53.6	1.0-1.1	1.05	1.1025		
12.59- 15.85	6	6.2	59.8	1.1-1.2	1.15	1.3225		
15.85- 19.95			59.8	1.2-1.3	1.25	1.5625		
19.95- 25.12	11	11.3	71.1	1.3-1.4	1.35	1.8225		
25.12- 31.62	6	6.2	77.3	1.4-1.5	1.45	2.1025		
31.62- 39.81			77.3	1.5-1.6	1.55	2.4025		
39.81- 50.12	10	10.3	87.6	1.6-1.7	1.65	2.7225		
50.12- 63.10	2	2.1	89.7	1.7-1.8	1.75	3.0625		
63.10- 79.43			89.7	1.8-1.9	1.85	3.4225		
79.43 100.00	3	3.1	92.8	1.9-2.0	1.95	3.8025		
100.00-125.9	7	7.2	100.0	2.0-2.1	2.05	4.2025		
125.9 -158.5				2.1-2.2	2.15	4.6225		
158.5 -199.5				2.2-2.3	2.25	5.0625		
199.5 -251.2				2.3-2.4	2.35	5.5225		
251.2 -316.2				2.4-2.5	2.45	6.0025		
316.2 -398.1				2.5-2.6	2.55	6.5025		
398.1 -501.1				2.6-2.7	2.65	7.0225		
501.2 -631.0				2.7-2.8	2.75	7.5625		
631.0 -794.3				2.8-2.9	2.85	8.1225		
794.3 -1000				2.9-3.0	2.95	8.7025		
TOTAL	97	100	XXXXXXX	XXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXX		

CALCULATION SHEET.

MEAN FOR .....TOTAL..... POPULATION
(LOGNORMAL DISTRIBUTION)

$\bar{x} = \frac{\Sigma(f \times \text{Lg.mid point})}{\Sigma f} = \frac{283.86}{499}$ **0.5689**

$m_2' = \frac{\Sigma(f \times \text{Lg.mid point}^2)}{\Sigma f} = \frac{248.0875}{499}$ **0.4972**

$n = \Sigma f =$ 499 Antilog $\bar{x} =$ **3.7060**

$V = 5.3019\left[m_2' - (\bar{x})^2\right] = 5.3019(0.4972 - 0.3236) =$

$= 5.3019 \times 0.1736 =$ **0.9204**

Interpolation:

V	n_1	$\gamma\, n_1 V$	V	n_{11}	$\gamma\, n_{11} V$
0.90	499	1.5665			
0.92	499	1.5826			
1.00	499	1.6470			

$\therefore \gamma\, nV =$ 1.5826

MEAN:

$t = \text{Antilog } \bar{x} \times \gamma\, nV = 3.706 \times 1.5826 =$ **5.865** PP

CALCULATION SHEET.

MEAN FOR ..BACKGROUND..... POPULATION L10
(LOGNORMAL DISTRIBUTION)

$\bar{x} = \frac{\Sigma(f \times \text{Lg.mid point})}{\Sigma f} = \frac{158.6}{402}$ 0.3945

$m_2' = \frac{\Sigma(f \times \text{Lg.mid point}^2)}{\Sigma f} = \frac{71.985}{402}$ 0.1791

$n = \Sigma f =$ 402 Antilog $\bar{x} =$ 2.4803

$V = 5.3019\left[m_2' - (\bar{x})^2 \right] = 5.3019(0.1791 - 0.1556) =$

$= 5.3019 \times 0.0135 =$ 0.072

Interpolation:

V	n_1	$\gamma\, n_1 V$	V	n_{11}	$\gamma\, n_{11} V$
0.060	402	1.030			
0.072	402	1.042			
0.080	402	1.041			

$\therefore \gamma\, nV =$ 1.042

MEAN:

$t = \text{Antilog } \bar{x} \times \gamma\, nV = 2.4803 \times 1.042 =$ 2.584 PP

CALCULATION SHEET.

MEAN FOR .... ANOMALOUS..... POPULATION
(LOGNORMAL DISTRIBUTION)

$\bar{x} = \frac{\Sigma(f \times \text{Lg.mid point})}{\Sigma f} = \frac{125.26}{97}$ **1.2913**

$m_2' = \frac{\Sigma(f \times \text{Lg.mid point}^2)}{\Sigma f} = \frac{176.1025}{97}$ **1.8155**

$n = \Sigma f =$ 97 Antilog $\bar{x} =$ **19.556**

$V = 5.3019\left[m_2' - (\bar{x})^2 \right] = 5.3019(1.8155 - 1.6675) =$

$= 5.3019 \times 0.1480 =$ **0.7847**

Interpolation:

V	n_1	$\gamma\, n_1 V$	V	n_{11}	$\gamma\, n_{11} V$
0.700	97	1.417			
0.785	97	1.479			
0.800	97	1.490			

$\therefore \gamma\, nV =$ 1.479

MEAN:

$t = \text{Antilog } \bar{x} \times \gamma\, nV =$ 19.557 x 1.979 = **28.92** PP

10c

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Area: Bold Head (Detailed survey). Element: W Page: 6

SUMMARY.

POPULATION		MEAN PPM	CUMULATIVE FREQUENCY	
			f	%
Background	402 assays	2.6	219	54.5
Anomalous	97 assays	28.9	75	77.5
Total	499 assays	5.9	389	78.0

Clarke: 2 PPM

Background/Regional Threshold: 10 PPM

Local Threshold: 29 PPM

Contrast Factor: 2.68 XXXX

ANOMALIES:

REGIONAL		LOCAL		LOCAL
Location	No. of Samples	Location	No. of Samples	Contrast

REMARKS:

Evaluated by L.G. SZABO..... Date: 1969.....

L.G. SZABO AND PARTNERS PTY. LTD.
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STATISTICAL EVALUATION OF GEOCHEMICAL ASSAYS

AREA: Bold Head ELEMENT: W (10 - 80 PPM)

Assay Interval (PPM)	Frequency f	f%	Cumulative f%	Log. Interval.	Log. Mid-point.	(Log. mid-point)^2	f x Log midpoint	f x (Log midpoint)
1.00- 1.26				0-0.1	0.05	.0025		
1.26- 1.59				0.1-0.2	0.15	.0225		
1.59- 1.99				0.2-0.3	0.25	.0625		
1.99- 2.51				0.3-0.4	0.35	.1225		
2.51- 3.16				0.4-0.5	0.45	.2025		
3.16- 3.98				0.5-0.6	0.55	.3025		
3.98- 5.01				0.6-0.7	0.65	.4225		
5.01- 6.31				0.7-0.8	0.75	.5625		
6.31- 7.94				0.8-0.9	0.85	.7225		
7.94- 10.00				0.9-1.0	0.95	.9025		
10.00- 12.59	52	59.8	59.8	1.0-1.1	1.05	1.1025		
12.59- 15.85	6	6.9	66.7	1.1-1.2	1.15	1.3225		
15.85- 19.95	-	-	66.7	1.2-1.3	1.25	1.5625		
19.95- 25.12	11	12.6	79.3	1.3-1.4	1.35	1.8225		
25.12- 31.62	6	6.9	86.2	1.4-1.5	1.45	2.1025		
31.62- 39.81	-	-	86.2	1.5-1.6	1.55	2.4025		
39.81- 50.12	10	11.5	97.7	1.6-1.7	1.65	2.7225		
50.12- 63.10	2	2.3	100.0	1.7-1.8	1.75	3.0625		
63.10- 79.43	-	-	100.0	1.8-1.9	1.85	3.4225		
79.43 100.00				1.9-2.0	1.95	3.8025		
100.00-125.9				2.0-2.1	2.05	4.2025		
125.9 -158.5				2.1-2.2	2.15	4.6225		
158.5 -199.5				2.2-2.3	2.25	5.0625		
199.5 -251.2				2.3-2.4	2.35	5.5225		
251.2 -316.2				2.4-2.5	2.45	6.0025		
316.2 -398.1				2.5-2.6	2.55	6.5025		
398.1 -501.1				2.6-2.7	2.65	7.0225		
501.2 -631.0				2.7-2.8	2.75	7.5625		
631.0 -794.3				2.8-2.9	2.85	8.1225		
794.3 -1000				2.9-3.0	2.95	8.7025		
TOTAL	87	100.0	XXXXXXX	XXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXXX		

CALCULATION SHEET.

MEAN FOR ..10 - 80 PPM..... POPULATION
(LOGNORMAL DISTRIBUTION)

$\bar{x} = \frac{\Sigma(f \times \text{Lg.mid point})}{\Sigma f} = \frac{105.05}{87}$ 1.2075

$m_2' = \frac{\Sigma(f \times \text{Lg.mid point}^2)}{\Sigma f} = \frac{135.2795}{87}$ 1.5549

$n = \Sigma f =$ 87 Antilog $\bar{x} =$ 16.125

$V = 5.3019\left[m_2' - (\bar{x})^2 \right] = 5.3019(1.5549 - 1.4581) =$

$= 5.3019 \times 0.0968 =$ 0.5132

Interpolation:

V	n_1	$\Upsilon n_1 V$	V	n_{11}	$\Upsilon n_{11} V$
0.50	6	1.282			
0.51	60	1.289			
0.60	6	1.348			
		06.6			

$\therefore \Upsilon nV =$ 1,289

MEAN:

$t = \text{Antilog } \bar{x} \times \Upsilon nV = 16.125 \times 1.289 =$ 20.7851 PPM

A P P E N D I X X

STATISTICAL EVALUATION - TIN

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Geologists, Hydrogeologists.

Client: USSI-NY

STATISTICAL EVALUATION OF GEOCHEMICAL ASSAYS

AREA: EL 9/71 & 14/21

ELEMENT: Sn

Assay Interval (PPM)	Frequency f	f%	Cumulative f%	Log. Interval.	Log. Mid-point.	(Log. mid-point)^2	f x Log midpoint	f x (Log mid-point)^2
1.00- 1.26				0-0.1	0.05	.0025		
1.26- 1.59				0.1-0.2	0.15	.0225		
1.59- 1.99	55	19.4	19.4	0.2-0.3	0.25	.0625	13.75	3.4375
1.99- 2.51	40	14.1	33.5	0.3-0.4	0.35	.1225	14.00	4.9000
2.51- 3.16			33.5	0.4-0.5	0.45	.2025		
3.16- 3.98			33.5	0.5-0.6	0.55	.3025		
3.98- 5.01	38	13.4	46.9	0.6-0.7	0.65	.4225	24.70	16.0550
5.01- 6.31	19	6.7	53.6	0.7-0.8	0.75	.5625	14.25	10.6875
6.31- 7.94			53.6	0.8-0.9	0.85	.7225		
7.94- 10.00	11	3.9	57.5	0.9-1.0	0.95	.9025	10.45	9.9275
10.00- 12.59	39	13.8	71.3	1.0-1.1	1.05	1.1025	40.95	42.9975
12.59- 15.85	23	8.1	79.4	1.1-1.2	1.15	1.3225	26.45	30.4175
15.85- 19.95	9	3.1	82.5	1.2-1.3	1.25	1.5625	11.25	14.0625
19.95- 25.12	28	10.1	92.6	1.3-1.4	1.35	1.8225	37.80	51.0300
25.12- 31.62	6	2.1	94.7	1.4-1.5	1.45	2.1025	8.70	12.6150
31.62- 39.81	1	0.7	95.4	1.5-1.6	1.55	2.4025	1.55	2.4025
39.81- 50.12	5	1.8	97.2	1.6-1.7	1.65	2.7225	8.25	13.6125
50.12- 63.10	7	2.5	99.7	1.7-1.8	1.75	3.0625	12.25	21.4375
63.10- 79.43	2	0.7	100.4	1.8-1.9	1.85	3.4225	3.70	6.8450
79.43 100.00				1.9-2.0	1.95	3.8025		
100.00-125.9				2.0-2.1	2.05	4.2025		
125.9 -158.5				2.1-2.2	2.15	4.6225		
158.5 -199.5				2.2-2.3	2.25	5.0625		
199.5 -251.2				2.3-2.4	2.35	5.5225		
251.2 -316.2				2.4-2.5	2.45	6.0025		
316.2 -398.1				2.5-2.6	2.55	6.5025		
398.1 -501.1				2.6-2.7	2.65	7.0225		
501.2 -631.0				2.7-2.8	2.75	7.5625		
631.0 -794.3				2.8-2.9	2.85	8.1225		
794.3 -1000				2.9-3.0	2.95	8.7025		
TOTAL	283	100.4	XXXXXXX	XXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXXX	228.05	240.4275

NO PAGE 2.

113

NO PAGE 2.

755113

Area: 9/71 - 15/71 Element: Sn Page: 3

CALCULATION SHEET.

MEAN FOR .....**TOTAL**..... POPULATION
(LOGNORMAL DISTRIBUTION)

$\bar{x} = \frac{\Sigma(f \times \text{Lg.mid point})}{\Sigma f} = \frac{228.05}{283}$ 0.8058

$m_2' = \frac{\Sigma(f \times \text{Lg.mid point}^2)}{\Sigma f} = \frac{240.4275}{283}$ 0.8496

$n = \Sigma f =$ 283 Antilog $\bar{x} =$ 6.3944

$V = 5.3019\left[m_2' - (\bar{x})^2 \right] = 5.3019(0.8496 - 0.6493) =$

$= 5.3019 \times 0.2003 =$ 1.0620

Interpolation:

V	n_1	$\gamma n_1 V$	V	n_{11}	$\gamma n_{11} V$
1.000	283	1.646			
1.062	283	1.651			
1.100	283	1.729			

$\therefore \gamma nV =$ 1.651

MEAN:

$t = \text{Antilog } \bar{x} \times \gamma nV = 6.3944 \times 1.651 =$ 10.5572 PPM

CALCULATION SHEET.

MEAN FOR ..ANOMALOUS..... POPULATION
(LOGNORMAL DISTRIBUTION)

$\bar{x} = \frac{\Sigma(f \times \text{lg.mid point})}{\Sigma f} = \frac{150.9}{120}$ 1.2575

$m_2' = \frac{\Sigma(f \times \text{lg.mid point}^2)}{\Sigma f} = \frac{195.42}{120}$ 1.6285

$n = \Sigma f =$ 120 Antilog $\bar{x} =$ 18.093

$V = 5.3019\left[m_2' - (\bar{x})^2 \right] = 5.3019(1.6285 - 1.5813) =$

$= 5.3019 \times 0.0472 = 0.2502$ 0.2502

Interpolation:

V	n_1	$\gamma n_1 V$	V	n_{11}	$\gamma n_{11} V$
0.20	120	1.105			
0.25	120	1.133			
0.30	120	1.162			

$\therefore \gamma nV =$ 1.133

MEAN:

$t = \text{Antilog } \bar{x} \times \gamma nV = 18.093 \times 1.133 =$ 20.499 PPM

SUMMARY.

POPULATION		MEAN PPM	CUMULATIVE FREQUENCY	
			f	%
Background	- -	- -	- -	- -
Anomalous	- -	- -	- -	- -
Total	283 assays	10.6	163	57.5

Clarke: 32 PPM

Background/Regional Threshold: - PPM

Local Threshold: - PPM

Contrast Factor: - PPM

ANOMALIES:

REGIONAL		LOCAL		LOCAL
Location	No. of Samples	Location	No. of Samples	Contrast

REMARKS: Anomalous trends and/or zones were not encountered

Evaluated by...I.G..SZABO..... Date:...5/6/72.....

A P P E N D I X XI

STATISTICAL EVALUATION - GOLD

755117

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining
Geologists, Hydrogeologists.

Client: USSI-NY

STATISTICAL EVALUATION OF GEOCHEMICAL ASSAYS

AREA: EL 9/71 - 15/71

ELEMENT: Au

Assay Interval (PPM) $X10^{-2}$	Frequency f	f%	Cumulative f%	Log. Interval.	Log. Mid-point. $X10^{2}$	(Log. mid-point)^2 $X10^{2}$	f x Log midpoint	f x (Log. mid-point)^2
0.01-0.0126 1.00- 1.26				0-0.1	0.05	.0025		
.0126- .0159 1.26- 1.59				0.1-0.2	0.15	.0225		
.0159 - .0199 1.59- 1.99				0.2-0.3	0.25	.0625		
.0199 - .125 1.99- 2.51				0.3-0.4	0.35	.1225		
.025 - .032 2.51- 3.16				0.4-0.5	0.45	.2025		
.032 - .040 3.16- 3.98				0.5-0.6	0.55	.3025		
.040 - .050 3.98- 5.01				0.6-0.7	0.65	.4225		
.050 - .063 5.01- 6.31				0.7-0.8	0.75	.5625		
.063 - .079 6.31- 7.94				0.8-0.9	0.85	.7225		
.079 - .100 7.94- 10.00	241	85.2	85.2	0.9-1.0	0.95	.9025	228.95	217.500
.100 - .126 10.00- 12.59	34	12.0	97.2	1.0-1.1	1.05	1.1025	35.70	37.485
.126 - .159 12.59- 15.85			97.2	1.1-1.2	1.15	1.3225		
.159 - .199 15.85- 19.95			97.2	1.2-1.3	1.25	1.5625		
.199 - .251 19.95- 25.12	3	1.1	98.3	1.3-1.4	1.35	1.8225	4.05	5.467
.251 - .316 25.12- 31.62	3	1.1	99.4	1.4-1.5	1.45	2.1025	4.35	6.307
.316 - .398 31.62- 39.81			99.4	1.5-1.6	1.55	2.4025		
.398 - .501 39.81- 50.12	2	0.7	100.1	1.6-1.7	1.65	2.7225	3.30	5.445
.50.12- 63.10				1.7-1.8	1.75	3.0625		
63.10- 79.43				1.8-1.9	1.85	3.4225		
79.43 100.00				1.9-2.0	1.95	3.8025		
100.00-125.9				2.0-2.1	2.05	4.2025		
125.9 -158.5				2.1-2.2	2.15	4.6225		
158.5 -199.5				2.2-2.3	2.25	5.0625		
199.5 -251.2				2.3-2.4	2.35	5.5225		
251.2 -316.2				2.4-2.5	2.45	6.0025		
316.2 -398.1				2.5-2.6	2.55	6.5025		
398.1 -501.1				2.6-2.7	2.65	7.0225		
501.2 -631.0				2.7-2.8	2.75	7.5625		
631.0 -794.3				2.8-2.9	2.85	8.1225		
794.3 -1000				2.9-3.0	2.95	8.7025		
TOTAL	283		XXXXXXX	XXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXX	278.15	272.2050

Y.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining
Geologists, Hydrogeologists.

Client:

STATISTICAL EVALUATION OF GEOCHEMICAL ASSAYS

AREA:

ELEMENT: Au

Assay Interval (PPM) $X10^{-2}$	Frequency f	f%	Cumulative f%	Log. Interval.	Log. Mid-point.	(Log. mid-point)^2	f x Log mid-point	f x (Log mid-point)^2
1.00- 1.26				0-0.1	0.05	.0025		
1.26- 1.59				0.1-0.2	0.15	.0225		
1.59- 1.99				0.2-0.3	0.25	.0625		
1.99- 2.51				0.3-0.4	0.35	.1225		
2.51- 3.16				0.4-0.5	0.45	.2025		
3.16- 3.98				0.5-0.6	0.55	.3025		
3.98- 5.01				0.6-0.7	0.65	.4225		
5.01- 6.31				0.7-0.8	0.75	.5625		
6.31- 7.94				0.8-0.9	0.85	.7225		
7.94- 10.00				0.9-1.0	0.95	.9025		
10.00- 12.59	34	81.0	81.0	1.0-1.1	1.05	1.1025		
12.59- 15.85				1.1-1.2	1.15	1.3225		
15.85- 19.95				1.2-1.3	1.25	1.5625		
19.95- 25.12	3	7.1	88.1	1.3-1.4	1.35	1.8225		
25.12- 31.62	3	7.1	95.2	1.4-1.5	1.45	2.1025		
31.62- 39.81			95.2	1.5-1.6	1.55	2.4025		
39.81- 50.12	2	4.8	100.0	1.6-1.7	1.65	2.7225		
50.12- 63.10				1.7-1.8	1.75	3.0625		
63.10- 79.43				1.8-1.9	1.85	3.4225		
79.43 100.00				1.9-2.0	1.95	3.8025		
100.00-125.9				2.0-2.1	2.05	4.2025		
125.9 -158.5				2.1-2.2	2.15	4.6225		
158.5 -199.5				2.2-2.3	2.25	5.0625		
199.5 -251.2				2.3-2.4	2.35	5.5225		
251.2 -316.2				2.4-2.5	2.45	6.0025		
316.2 -398.1				2.5-2.6	2.55	6.5025		
398.1 -501.1				2.6-2.7	2.65	7.0225		
501.2 -631.0				2.7-2.8	2.75	7.5625		
631.0 -794.3				2.8-2.9	2.85	8.1225		
794.3 -1000				2.9-3.0	2.95	8.7025		
TOTAL	42	100	XXXXXXX	XXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXX		

SUMMARY.

POPULATION		MEAN PPM	CUMULATIVE FREQUENCY f	%
Background	241 assays	L0.1	217	N90
Anomalous	42 assays	0.103	28	67
Total	283 assays	L0.1	246	N87

Clarke: L0.1 PPM

Background/Regional Threshold: L0.1 PPM

Local Threshold: 0.1 PPM

Contrast Factor: 0.18 XXX

ANOMALIES:

REGIONAL		LOCAL		LOCAL
Location	No. of Samples	Location	No. of Samples	Contrast
Line 4 9400E	1	9400E	1	3
Line 4 11200E - 11400E	2	11200E - 11400	2	2
Line 4-400N 8600E - 8800E	2	8800E	1	1
Line 4-1200N 8100E - 8300E	3	8100E	1	3
Line 4-1600 N 8800E	1	8800E	1	1
Line 6-4000N 12000E - 14000E	3	12100E	1	1
Line 6 200E - 1200E	5	800E - 1000E	2	2

REMARKS:

Evaluated by.....L.G..SZABO..... Date:....5/6/72...

A P P E N D I X XII

PETROGRAPHIC DESCRIPTION OF ROCK SAMPLES

BY

AMDEL

Report No: MP 5015/72

121

755121

amdel
The Australian Mineral Development Laboratories
Flemington Street, Frewville, South Australia 5063
Phone 79 1662, telex AA82520

Please address all correspondence to the Director
In reply quote: MP 3/0/0

3 May, 1972

L. G. Szabo Esq.,
Reekara,
KING ISLAND,
Tasmania 7256

REPORT MP 5015/72

YOUR REFERENCE:	Letter of 26/4/72
MATERIAL:	Six rocks
LOCALITY:	King Island
IDENTIFICATION:	CZ-1 to CZ-6
DATE RECEIVED:	27/4/72
WORK REQUIRED:	Petrography

Investigation and Report by: Dr B. G. Steveson

Officer in Charge, Mineralogy/Petrology Section: Dr K. J. Henley

K. J. Henley

for F. R. Hartley
Director

PETROGRAPHY OF SIX HORNFELS FROM KING ISLAND

Sample: CZ-1: TS 28910:

Location:
King Island

Rock Name:
Andalusite-biotite-hornfels

Hand Specimen:
A spotted hornfels containing characteristic round spots 3-5 mm across.

Thin Section:
An optical estimate of the constituents gives the following:

	%
Feldspar and quartz	65-70
Biotite	2-5
Opaques	Trace
Chlorite	<2
Andalusite	5
Sericite/muscovite	15-20
Tourmaline	Trace

The sample is a recrystallized, metamorphic rock with a porphyroblastic texture of seived andalusite crystals in a matrix of quartz, feldspar and accessory phyllosilicates.

Most of the groundmass material has a grain size of approximately 0.05 mm, although some muscovite flakes are up to 0.25 mm long. Quartz is the dominant component and has a granoblastic form. Flakes of muscovite, biotite and chlorite (the last two commonly rather equant in shape) have a decussate arrangement and occur evenly throughout the mass of quartz. Minor amounts of albitic plagioclase were noted also.

Andalusite occurs as indefinite, partly altered crystals, now sieved with alteration products and other minerals (largely sericite and quartz). The size and shape of these andalusite crystals can best be seen in hand specimen where they occur as rounded, equant shapes 2-3 mm in diameter.

This is a contact metamorphosed pelitic rock; the metamorphic facies is either albite-epidote hornfels or hornblende-hornfels facies. Sericitisation of andalusite is probably the result of some retrogressive recrystallization.

Sample: CZ-2: TS 28911:

Rock Name:

[illegible]

Rock Name:
?Retrogressed biotite hornfels.

Hand Specimen:
A massive, grey, aphanitic rock. On the cut surface slightly darker wisps and lenses can be seen.

Thin Section:
An optical estimate of the constituents gives the following:

	%
Quartz and feldspar	80
Sericite/muscovite	10-15
Biotite	3-5
Opaques	2
Tourmaline	Trace

This rock is similar to CZ-1, but extensive alteration has resulted in a complete replacement of andalusite by poorly defined sericitic material.

As in CZ-1 the groundmass consists essentially of granoblastic quartz and feldspar (both plagioclase and microcline) with decussate biotite, muscovite and brown tourmaline.

Opaques occur both as irregular crystals about 0.02 - 0.05 mm across, and also as dusty (?carbonaceous) matter. Andalusite is not present in this rock but rounded masses of sericite and fine-grained opaques are probably pseudomorphs after the pre-existing andalusite. Dark, irregular patches in the hand specimen are these replaced andalusite crystals.

The sample is a hornfels, which probably contained andalusite but now has suffered a later, retrogressive recrystallization.

Sample: CZ-3: TS 28912:

Location:
King Island

Rock Name:
Retrogressed andalusite hornfels.

Hand Specimen:
An aphanitic, grey rock which is massive and unweathered.

Thin Section:
An optical estimate of the constituents gives the following:

	%
Quartz	55-65
Muscovite/sericite	30-40
Biotite	3-5
Opaques	Trace
Tourmaline	Trace
?Andalusite	Trace
Rutile	Rare

This fine-grained, schistose rock consists predominantly of a fine 'mat' of quartz and sericite with rarer coarser patches of quartz and biotite.

The rock has a weak foliation resulting from parallel orientation of white mica where this mineral occurs in dense masses with quartz. The grain size of this material is of the order to 0.03 mm.

One patch (6 mm x 2 mm) consists mostly of quartz and biotite surrounding a skeletal porphyroblast of andalusite which shows marginal alteration to sericite.

The large masses of sericite and quartz may also be pseudomorphous after andalusite.

In its overall mineralogy and texture this sample is similar to CZ-1 and 2, being a ?retrogressed andalusite-bearing hornfels, derived from a pelitic sediment.

Sample: CZ-4: TS 28913:

Location:
King Island

Rock Name:
?Andalusite-biotite-muscovite hornfels.

Hand Specimen:
A massive, pink rock with round black spots generally about 5 mm across.

Thin Section:
An optical estimate of the constituents gives the following:

	%
Quartz	65-70
Feldspar	<2
Biotite	3-5
Sericite	20-25
Opaques	Trace
Muscovite	5
Chlorite	<1

Porous masses of sericite after andalusite occur in a relatively coarse groundmass of quartz, biotite and muscovite.

The grain size of the groundmass is approximately 0.1 mm; quartz has a granoblastic form and biotite and muscovite occur as moderately elongate, subidiomorphic flakes. Rare crystals of sodic plagioclase were noted in this material.

This groundmass is subordinate to large (1-3 mm) round areas of sericite containing widespread quartz, biotite and muscovite; however, sericite forms distinctive, well defined patches and occupies 70-80% of these areas. By analogy with other rocks in this collection, it is thought that these areas are pseudomorphs after andalusite and the rock is a pelitic hornfels.

Sample: CZ-5: TS 28914:

Location:
King Island

Rock Name:
Chlorite-muscovite-quartz hornfels.

Hand Specimen:
A compact, massive, pale grey rock which appears to be highly siliceous in composition. Individual crystals are too small to be seenwith the naked eye.

Thin Section:
An optical estimate of the constituents gives the following:

	%
Quartz	90
Feldspar	3
Chlorite	3-5
Muscovite	2-3
Opaques	Trace
?Rutile	Trace

The mineralogy of this sample is significantly different from that of the preceding four rocks; the rock is siliceous and there is no development of aluminosilicates or mafic minerals.

Quartz, feldspar and chlorite occur as xenomorphic equant crystals, generally 0.05 - 0.08 mm across. Some small monomineralic patches of quartz have a grain size of about 0.01 mm. Muscovite forms irregular crystals up to 0.2 mm across.

This is a siliceous metasedimentary hornfels.

Sample: CZ-6: TS 28915:

Location:
King Island

Rock Name:
Retrogressed andalusite hornfels.

Hand Specimen:
A massive, grey rock showing small spots (about 1 mm in size) of a slightly darker colour.

Thin Section:
An optical estimate of the constituents gives the following:

	%
Quartz	75-80
Sericite	15
Opaques	3-5
Biotite	2
Tourmaline	Trace
Muscovite	2-3

In this sample pseudomorphs of sericite after andalusite are well developed. Most are 0.1 - 0.3 mm across and some show characteristic rectangular or square outlines. All now consist entirely of fine-grained, pale brown sericite.

The groundmass is largely quartz with subordinate flakes of biotite. A dusting of fine opaque material (possibly carbonaceous), like that described in CZ-2, obscures some of this groundmass. A few large muscovite flakes are sieved with quartz.

The rock is a ?retrogressed andalusite hornfels, probably derived originally from a pelitic sedimentary rock.

jey: 5

A P P E N D I X XIII

PETROGRAPHIC DESCRIPTION BY SPECTRUM

Report No: 0439

128

755128

SPECTRUM ANALYTICAL LABORATORIES

sal

5 MARY PARADE, RYDALMERE. N.S.W. 2116 Telephone: 638-5905
638-4445

P.O. BOX: 275 RYDE, 2112.

GLJ:DAC

8 June 1972

ANALYTICAL REPORT

Customer: Mr. L.G. Szabo,
3/210 St.Kilda Street,
BRIGHTON, VIC, 3186.

Report No: 0439

Refer: 0439/7.6.72

Date Received: 5.6.72

No of Samples: 8 T/S

Date Reported: 8.6.72

To Follow: Nil

Type of Analysis: Full Petrographic Descriptions.

Sheet: 33 Pages

DETAILED PETROGRAPHIC INVESTIGATION
OF EIGHT ROCK SAMPLES
FOR

Mr. L.G.SZABO.

G.L. Jackson

G.L. Jackson (B.App.Sc.)
Laboratory Manager.

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1. INTRODUCTION

At the request of Spectrum Analytical Laboratories, eight rock samples (B.298-I to B.298-8) were prepared as thin sections for detailed petrographic description.

As requested, attention was directed to providing information concerning the following aspects of the rocks, during the course of the petrographic studies:-

(a) constituent minerals and percentages

(b) observations on opaque minerals, textures, etc.

(c) origin of the rock

(d) name of the rock

(e) hydrothermal alterations

(f) petrogenesis.

(NOTE: Estimation of the mode for extremely fine grained rocks, e.g. hornfels, and coarse grained rocks, e.g. granites, is only an approximation. It is difficult to determine the relative proportions of very fine grained minerals in rocks with variable composition, and coarse grained rocks present unrepresentative fields of view in thin section.).

2. PETROGRAPHIC DESCRIPTION OF ROCKS IN THIN SECTION:

2.1 B.298/1:

2.1.1 IDENTIFICATION:

Fine-grained, quarts-biotite-muscovite-graphite schist grading into fine-grained, quartz-sericite(-muscovite)-graphite schist. There is evidence to suggest that these schistose rocks have been recrystallized as pelitic hornfels (spotted hornfels).

2.1.2. HAND SPECIMEN ($1\frac{3}{4}$" DIAMOND-DRILL CORE):

A fine-grained, dark-grey, metasedimentary rock with the appearance of a spotted hornfels.

2.1.3 THIN SECTION:

A fine-grained, schistose rock with a lepidoblastic texture that is overprinted by a later, decussate recrystallization of micas. The rock consists essentially of quarts, biotite, sericite (-muscovite) and graphite, with minor, disseminated, opaque mineral grains. The estimated mode for the rock is as follows:

Quartz	50% - 55%
Biotite	5% - 10%
Sericite/Muscovite	20% - 25%
Graphite	5% - 7%
Opaques	3% approx.

Quartz

Granoblastic quartz is present as xenoblastic grains with a maximum diameter of 0.1mm.

Biotite

The biotite occurs as ragged xenoblasts up to 0.15mm in length. The biotite exhibits a reddish-brown/pale-brown pleochroism.

Muscovite

Colourless muscovite occurs as ragged xenoblasts up to 0.15mm in length.

Sericite

Minor amounts of extremely fine-grained sericite are

present in the rock.

Graphite

Xenoblastic graphite is present as grains of less than 0.02mm.

Opaques

About 3% of anhedral, opaque mineral grains are present in the rock. The opaque mineral grains have a diameter between 0.2mm and 0.6mm and are thought to be mainly pyrite (?)

Texture

The fine-grained, graphite occurs as ovoid segregation ("spots") and layers; the latter define a weak planar fabric, which has been microfolded by crenulation (strainslip) cleavage.

The biotite and muscovite exhibit a decussate texture, cutting across the crenulation cleavage, indicating that the micas crystallized after the microfolding of the original planar fabric.

The quartz-biotite-muscovite-graphite schist, described

above, grades into a fine-grained, porphyroblastic, lepidoblastic rock with a well-developed crenulation (strain-slip) cleavage. The rock consists essentially of poorly-defined, ovoid, porphyroblasts of fine-grained, sericite, pseudomorphing original andalusite (?), set in a lepidoblastic/granoblastic quartz-graphite groundmass containing minor biotite chlorite and cordierite (?). Traces of muscovite and opaque mineral grains are also present in the rock. The estimated mode for the rock is as follows:-

Sericite (Porphyroblasts)	5% - 15%
Quartz	60% - 70%
Graphite	10% approx.
Biotite/Chlorite	10% - 15%
Cordierite	1% - 2%
Opaques	2% approx.

Sericite

Colourless sericite occurs as xenoblasts, with a maximum length of less than 0.02mm, which occur as ovoid seggregations that are thought to have resulted from the breakdown of andalusite porphyroblasts.

Quartz

Quartz occurs as granoblastic xenoblasts with a maximum diameter of 0.07mm and an average diameter of less than 0.03mm.

Graphite

Xenoblastic, platey xenoblasts exhibit a maximum length of 0.05mm; the smaller xenoblasts have an average diamter of less than 0.02mm.

Biotite

The biotite occurs as ragged xenoblasts, 0.05mm to 0.1mm in length. The xenoblasts exhibit a reddish-brown/pale-brown pleochroism, the biotite is associated with pale-green; low-birefringence, chlorite.

Cordierite

Cordierite (?) occurs as colourless, poikiloblastic, xenoblastic with a maximum diameter of 0.18mm. The cordierite is distinguished from quartz by its biaxial character in conoscopic polarized light, and by the presence of numerous, tiny inclusions. There is evidence of breakdown of the cordierite to a yellowish chloritic material (pinite).

Opaques

About 2% of disseminated, anhedral, opaque mineral grains are present in the rock. The opaque mineral grains have an average grain size of 0.4mm, and are thought to be mainly pyrite (?)

2.1.4 Texture

The fine-grained, graphite defines a well-developed planar fabric, which has been microfolded by crenulation (strain-slip) cleavage.

The crystallization of the biotite and the muscovite probably post-dates the formation of the crenulation cleavage.

The breakdown of andalusite to sericite is a retrogressive mineralogical reaction.

2.1.5 Remarks

Textural and mineralogical evidence in thin section, combined with the hand specimen appearance, suggest that the mineral assemblage represents an original aluminous, pelitic, sedimentary rock that has undergone low-grade, regional, dynamo-thermal metamorphism to yield phyllites (quartz-sericite schists). Subsequently, the phyllites have been subjected to a low- to medium-grade thermal metamorphism with the recrystallization of sericite as muscovite, and the development of biotite and cordierite. The micas exhibit a decussate texture cutting across the earlier crenulation cleavage.

The retrogressive breakdown of andalusite, and for that matter cordierite, is often regarded as post-thermal metamorphic reaction. However it is not unreasonable to suppose that the andalusite could have developed in the phyllitic rocks as a result of low-pressure, regional, dynamothermal metamorphism. Superposition of thermal metamorphism on the knotted schist (andalusite schist) would lead to the recrystallization of the micas and possibly the breakdown of andalusite.

2.2 B.298/2:

2.2.1 IDENTIFICATION

Medium-grained, micrographic leucogranite.

2.2.2 HAND SPECIMEN ($1\frac{3}{4}$" DIAMOND-DRILL CORE)

A medium-grained, leucocratic, igneous rock identified in hand specimen as a granite.

2.2.3 THIN SECTION

A medium-grained, leucocratic, holocrystalline, hypidiomorphic granular, plutonic, igneous rock of granite composition,

which exhibits a micrographic intergrowth between quartz and alkali feldspar. The estimated mode for the rock is as follows:-

Alkali feldspar	65% - 75%
Plagioclase feldspar	5% - 10%
Quartz	15% approx.
Biotite/chlorite	3% approx.
Muscovite	1% approx.
Tourmaline)	trace amounts
Apatite)	

Alkali Feldspar

The alkali feldspar is present as allotriomorphic grains with a maximum grain size of 3.8mm to 4.0mm. The alkali feldspar is a microcline microperthite, which encloses subidiomorphic grains of quartz in a poikilitic fashion. Fine-grained quartz is intergrown with the alkali feldspar in a micrographic intergrowth.

The average grain size of the microcline microperthite is 1.5mm. The microcline microperthite exhibits a greater degree of incipient, secondary alteration than the plagioclase feldspar.

Plagioclase Feldspar

Plagioclase feldspar is subordinate to alkali feldspar. It exhibits a maximum length of 2.6mm, with an average grain size of 0.75mm. The plagioclase feldspar is present as idiomorphic to subidiomorphic grains which exhibits combined carlsbad-albite law twinning, with minor pericline law twinning. The low, maximum extinction angle (X∧(010)) for albite law twins in the symmetrical zone indicates that the plagioclase feldspar is an oligoclase in composition.

Quartz

Quartz, exhibiting undulosed extinction in polarized light, is present as allotriomorphic grains with a maximum grain size of 2mm. The average grain size of the quartz, excluding the quartz in the micrographic intergrowth, is about 1mm.

Biotite/Chlorite

Biotite is present as narrow, ragged flakes with a maximum length of 2mm, and an average length of 0.6mm. The biotite exhibits a blackish-brown/pale-brown pleochroism, and it is partially, or wholly, replaced by a low-birefringence, pale-

green, pleochroic, chlorite along (001) cleavage traces.

Muscovite

Muscovite occurs as colourless flakes with a maximum length of 0.3mm.

Tourmaline

Tourmaline is present in trace amounts. It is present as subidiomorphic/allotriomorphic, varicoloured, blue to brownish-orange, pleochroic, tourmaline.

Apatite

Accessory, colourless apatite is present as subidiomorphic to allotriomorphic grains.

2.2.4 REMARKS

The low content of biotite, and the presence of a micrographic intergrowth between alkali feldspar and quartz, suggest that the rock represents a late-stage residuum close to the quarts alkali-feldspar eutectic.

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The muscovite, present in the leucogranite, is thought to be of secondary derivation, rather than of primary, magmatic origin.

2.3 B.298/3:

2.3.1. IDENTIFICATION

Fine-grained, spotted hornfels (andalusite-sericite (-muscovite)-quartz-chlorite-biotite hornfels) which exhibits retrogressive breakdown of andalusite.

2.3.2 HAND SPECIMEN (1¾" DIAMOND-DRILL CORE):

A fine-grained, grey, porphyroblastic, metasedimentary rock with appearance of a spotted hornfels (andalusite, or cordierite, hornfels).

2.3.3 THIN SECTION

A fine-grained, porphyroblastic rock with an overall decussate texture. The rock consists essentially of quartz, sericite (-muscovite), biotite, chlorite and andalusite, with traces of cordierite (?). Ovoid porphyroblasts of andalusite, or fine-grained, sericite-chlorite pseudomorphs after andalusite,

are set in a fine-grained, decussate, granoblastic groundmass. The estimated mode for the rock is as follows:-

Andalusite	40% - 50%
Sericite/Chlorite	1% - 2%
Biotite	5% - 10%
Quartz	20% approx.
Muscovite	10% - 15%
(Cordierite)	trace amounts

Andalusite/Sericite/Chlorite

Andalusite occurs as xenoblastic, ovoid, porphyroblasts, ranging in size from 2mm to 5mm, which enclose quartz, biotite and muscovite in a poikiloblastic fashion. Most of the andalusite porphyroblasts have undergone alteration to an extremely fine-grained, intergrowth of sericite and pale-green, low-birefringence chlorite.

Biotite

The biotite is present as ragged xenoblasts ranging in length from 0.05mm to 0.2mm, with an average length of 0.1mm. The biotite exhibits a reddish-brown/pale yellow-brown pleochroism.

Quartz

Granoblastic quartz is present as xenoblastic grains, with a maximum diameter of 0.2mm and an average diameter of less than o.1mm.

Muscovite

Colourless muscovite is present as narrow, subidioblastic-xenoblastic grains, with an average length of about 0.4mm.

Cordierite (?)

Cordierite may be present in the fine-grained, quartz-biotite-muscovite groundmass surrounding the porphyroblasts.

2.3.4 REMARKS

The original, aluminous, pelitic, sedimentary rock appears to have undergone only thermal metamorphism. There is no evidence of any planar fabric that might indicate an earlier regional, dynamothermal metamorphism. The possibility that the thermal metamorphism has obliterated all traces of earlier metamorphic events should not be discounted.

The evidence in thin section suggests that the retrogressive breakdown of andalusite is associated with a post-thermal metamorphic diaphthoresis.

2.4 B.298/4

2.4.1 IDENTIFICATION

Fine- to medium-grained, graphite-quartz rock containing clay mineral, carbonate and opaque minerals.

2.4.2 HAND SPECIMEN (1 " DIAMOND-DRILL CORE)

A fine-grained, friable, greyish-black/black rock rich in graphite, which imparts a sooty stain to the fingers when handled.

2.4.3. THIN SECTION

The presence of graphite and clay (?) mineral makes the preparation of a decent thin section difficult. The rock appears to consist of medium-grained quartz and clay mineral, and fine-grained carbonate and graphite. , The estimated mode for the rock is as follows:-

Graphite	30% - 40%
Quartz	30% - 40%

Clay Mineral	10% - 15%
Carbonate	5% approx.

2.5 B.298/5

2.5.1 IDENTIFICATION

A knotted schist (andalusite schist) which has undergone recrystallization as a pelitic hornfels (andalusite-sericite (-muscovite)-biotite-quartz hornfels). The andalusite exhibits partial, retrogressive breakdown to fine-grained sericite.

2.5.2. HAND SPECIMEN ($1\frac{3}{4}$" DIAMOND-DRILL CORE)

A knotted schist containing large, equant, porphyroblasts of chiastolite (andalusite) which exhibit a fine-grained, marginal alteration zone. The knotted schist exhibits a colour banding reflecting a well-defined compositional layering, which may be related to the initial bedding, or early slatey cleavage.

2.5.3. THIN SECTION

A fine-grained, porphyroblastic rock with an overall decussate texture which has more, or less, obliterated an early planar fabric.

The rock consists essentially of andalusite, biotite, sericite (-muscovite) and quartz. The equant, andalusite porphyroblasts are set in a fine-grained, decussate, granoblastic groundmass. A narrow alteration rim of fine-grained sericite, and minor, recrystallized muscovite, surrounds the andalusite, which tends to develop preferentially in the biotite-rich, quartz-muscovite layers of the rock. The estimated mode for the rock is as follows:-

Andalusite/Sericite	10% approx.
Quartz	25% - 35%
Biotite	20% - 25%
Muscovite(-Sericite)	30% - 35%
Opaques	5% - 10%

Andalusite/Sericite

Andalusite occurs as idioblastic/subidioblastic, equant, porphyroblasts, ranging in size from 2mm to 5mm, which enclose narrow, ragged, flakes of altered biotite in a poikiloblastic fashion. The original andalusite is thought to have been the variety known as chiastolite. The andalusite porphyroblasts exhibit marginal alteration to fine-grained, sericite, with minor recrystallized muscovite.

Quartz

Granoblastic quartz occurs as xenoblastic grains with an average grain size of 0.05mm.

Biotite

The biotite is present as xenoblastic grains with a maximum grain size of 0.1mm and an average grain size of about 0.05mm. It exhibits a reddish-brown/pale brown pleochroism.

Muscovite

Colourless muscovite occurs as narrow, xenoblastic grains with an average length of 0.04mm.

Opaques

Minor, elongated, anhedral opaque mineral grains are present in the rock. They are typically associated with an early generation of lepidoblastic biotite.

Texture

The mineralogical composition of rock, expressed by the

alternate light and dark layers in hand specimen, ranges from biotite-rich, andalusite-quartz-muscovite hornfels to muscovite-rich quartz-biotite hornfels. The variation in mineralogical composition is thought to reflect the original compositional variation in the pelitic sediment, possibly modified by an early planar fabric.

The minor, elongated opaque mineral grains, and an earlier generation (?) of partially-altered, lepidoblastic biotite appear to define an early planar fabric (schistosity) in the biotite-rich layers. This early planar fabric has been more, or less, obliterated elsewhere in the rock by the decussate recrystallization of muscovite, and to a lesser extent a later generation (?) of biotite.

The breakdown of andalusite to sericite is a retrogressive mineralogical reaction, whilst the recrystallization of part of this sericite appears to be a prograde reaction.

2.5.4 REMARKS

Textural and mineralogical evidence in thin section suggests that the mineral assemblage represents an original aluminous, pelitic, sedimentary rock that has undergone low-grade (low-pressure ?) regional, dynamothermal metamorphism to yield a

knotted schist containing andalusite.

Subsequent thermal metamorphism appears to have initially led to the partial breakdown of the earlier generation of biotite, defining the planar fabric in the rock, and to the marginal alteration of andalusite porphyroblasts to fine-grained sericite. With increasing grades of thermal metamorphism decussate recrystallization of biotite and muscovite destroyed much of the original planar fabric; part of the fine-grained sericite alteration after andalusite was also recrystallized as muscovite.

2.6 B.298/6

2.6.1 IDENTIFICATION

Medium- to coarse-grained, porphyritic, micrographic, leucogranite.

2.6.2 HAND SPECIMEN (1 " DIAMOND-DRILL CORE)

A medium- to coars-grained, porphyritic, leucocratic, igneous rock identified in hand specimen as a granite.

2.6.3 THIN SECTION

A medium- to coarse-grained, porphyritic, leucocratic, holocrystalline, hypidiomorphic granular, plutonic, igneous rock of granitic composition, which exhibits a well-defined, micrographic intergrowth between quartz and alkali feldspar. The estimated mode for the rock is as follows:-

Alkali feldspar	65% - 75%
Plagioclase feldspar	10% approx.
Quartz	15%
Biotite/chlorite	5%
Muscovite	<1%
Accessories	traces of apatite and zircon

Alkali Feldspar

The alkali feldspar is present as large, allotriomorphic grains with a diameter of 4mm and above. The alkali feldspar is a microcline microperthite, which is typically intergrown with subidiomorphic quartz in a striking micrographic texture. Incipient secondary alteration in the alkali feldspar appears to be concentrated in the albite exsolution lamellae.

Plagioclase feldspar

Subordinate plagioclase feldspar, ranging from 0.75mm

to 3.8mm in length, occurs as idiomorphic to subidiomorphic grains. The plagioclase feldspar exhibits combined carlsbad-albite law twinning. The low, maximum extinction angle (X^(010)) for albite law twins in the symmetrical zone indicates that the plagioclase feldspar is an oligoclase in composition.

Quartz

Quartz, exhibiting undulosed extinction in polasized light, is present as allotriomorphic grains of varying grain size up to 6mm; the average grain size of the quartz is of the order of 1mm.

Biotite/Chlorite/Muscovite

Biotite is present as narrow, ragged flakes up to 1.2mm in length. The biotite exhibits a dark-brown/pale yellow-brown pleochroism, and is partially replaced by pale-green chlorite and colourless muscovite.

2.6.4 REMARKS

The low content of ;biotite, and the presence of a well-developed micrographic intergrowth between alkali feldspar and quartz, suggest that the rock represents a late-stage residuum close to the quartz-alkali feldspar eutectic.

2.7 B.298/7

2.7.1 IDENTIFICATION

Fine-grained, spotted hornfels (quartz-sericite (-muscovite)-biotite hornfels.

2.7.2 HAND SPECIMEN (1 3/8" DIAMOND-DRILL CORE)

A fine-grained, grey, porphyroblastic, metasedimentary rock with the appearance of a spotted hornfels (andalusite, or cordierite hornfels).

2.7.3 THIN SECTION

A fine-grained, schistose, porphyroblastic, rock consisting of sericite (-muscovite) -quartz, biotite and disseminated opaque mineral grains; minor graphite may be present in the rock. Ovoid porphyroblasts of fine-grained sericite, 0.75mm to 4mm in diameter, presumably represent original andalusite. The porphyroblasts are set in a fine-grained, lepidoblastic quartz-sericite (-muscovite)-biotite groundmass. The estimated mode for the rock is as follows:-

Sericite Porphyroblasts	60% - 65%
Quartz	15% - 20%
Biotite	5% - 10%
Sericite(-Muscovite)	10% - 15%
Opaques/Graphite	1% - 2%
Zircon	trace amounts

Sericite (Porphyroblasts)

Segregations of fine-grained sericite, with a grain size of less than 0.02mm, and minor, fine-grained xenoblastic quartz define ovoid pseudomorphs after original andalusite (?).

Quartz

Granoblastic quartz is present as xenoblasts up to 0.05mm in diameter.

Biotite

The biotite occurs as ragged xenoblasts up to 0.07mm in length. It exhibits a reddish-brown/pale brown pleochroism, and it is typically associated with the opaque mineral grains.

Sericite(-Muscovite)

Colourless muscovite occurs as narrow xenoblasts up to 0.05mm. It is associated with very fine-grained sericite.

Opaques

Opaque mineral grains occur as elongated, anhedral grains ranging in size from 0.2mm to 1.2mm

Texture

Fine-grained sericite and micas impart a lepidoblastic texture to the rock, and in combination with the subparallel alignment of the elongated opaque mineral grains impart an early planar fabric to the rock.

The ovoid porphyroblasts appear to post-date the early planar fabric, in as much as they deflect the schistocity defined by the opaque mineral grains.

The breakdown of andalusite to fine-grained sericite is a retrogressive mineralogical reaction.

2.7.4 REMARKS

Textural and mineralogical evidence in thin section suggest

that the mineral assemblage represents an original aluminous, pelitic, sedimentary rock that has undergone low-grade, regional dynamothermal to yield a phyllite (quartz-sericite schist). Subsequently thermal metamorphism of the phyllite has led to the growth of andalusite porphyroblasts, which deflect the original planar fabric, and the development of biotite and recrystallization of muscovite from original sericite. In this context the retrograde alteration of andalusite to fine-grained sericite would be consistent with a post-thermal metamorphic diaphthoresis.

2.8 B.298/8

2.8.1 IDENTIFICATION

Partially-altered, medium- to coarse-grained, porphyritic granite.

2.8.2 HAND SPECIMEN (SURFACE GRAB SAMPLE)

A medium- to coarse-grained, porphyritic, leucocratic, igneous rock of granitic composition.

2.8.3 THIN SECTION

A medium- to coarse-grained, partially altered, porphyritic, leucocratic, holocrystalline, hypidiomorphic granular, plutonic, igneous rock of granitic composition. The estimated mode for the rock is as follows:-

Alkali Feldspar	55% - 60%
Plagioclase Feldspar	15%
Quartz	15%
Biotite/Chlorite	5% - 7%
Hornblende	2%
Sphene	1% - 2%
Apatite	1%
Accessories	trace amounts of zircon, epidote and carbonate.

Alkali Feldspar

Alkali feldspar is present as allotriomorphic grains ranging in grain size from 1mm to 2.5mm. The alkali feldspar is a microcline microperthite, which exhibit strong secondary alteration. The interpenetrant, cross-hatched microcline law twinning is poorly-defined in the alkali feldspar; the principle twin law present is of the carlsbad type.

Plagioclase Feldspar

Plagioclase feldspar is present as idioblastic to sub-idioblastic grains, ranging from 1.5mm to 4mm in length. The plagioclase feldspar exhibits combined carlsbad-albite law twinning and strong, marginal oscillatory zoning. Measurement of the maximum extinction angle (X^(010)) of albite law twins in the symmetrical zone suggests that the compositional zoning remains within the oligoclase composition.

Quartz

Quartz, exhibiting marked undulose extinction, occurs as allotriomorphic grains ranging up to 4mm - 5mm. Finer-grained quartz, with an average grain size of 0.4mm, is partially, or wholly, enclosed by alkali feldspar in a poikilitic fashion.

Biotite/Chlorite

The biotite is present as ragged flakes ranging from 0.2mm to 2.7mm in length. The biotite exhibits a dark reddish-brown/pale yello-brown pleochroism, and it is partially, or wholly, altered to pale-green, pleochroic chlorite.

Hornblende

Hornblende is a minor constituent of the rock. It occurs as green/pale-green, pleochroic, allotriomorphic grains, 1mm to 1.5mm in length. The hornblende exhibits alteration to chlorite and carbonate.

Spene

Sphene is present as idiomorphic/subidiomorphic to allotriomorphic wedge-shaped, yellow-orange/pale-yellow, pleochroic grains up to 0.4mm in length.

Apatite

Apatite occurs as idiomorphic/subidiomorphic, colourless grains 0.15mm to 0.6mm in length.

Accessories

Epidote/clinozoisite, zircon and cassiterite in trace amounts. The single grain of cassiterite, observed in this thin section, has a diameter of 0.15mm, and exhibits a reddish-brown/pale yellowish-brown pleochroism.

2.8.4 REMARKS

By comparison with 298/2 and 298/6, 298/8 contains a higher content of biotite. The presence of hornblende and accessory sphene, and the absence of micrographic intergrowth between alkali feldspar, also serve to distinguish this rock from the two leucogranite samples.

3 GENERAL COMMENTS:

The rocks studied in thin section may be divided into two groups:

(a) Acid, plutonic, igneous intrusion (granites)

(b) Thermally-metamorphosed, aluminous, pelitic, sediments (spotted hornfels and graphitic hornfels).

(a) Granites

Samples 298/2 and 298/6 are similar from a mineralogical and textural point of view; 298/2 appears to be a finer-grained phase of 298/6.

Sample 298/8 is texturally similar to 298/6, apart from the micrographic intergrowth, but differs from 298/2 and 298/6 on the

basis of the amount and nature of the ferromagnesian minerals, and on the nature of the accessory mineral phases.

Samples 298/2 and 298/6 represent late-stage residuum assemblage close to the quartz-alkali feldspar eutectic. Sample 298/8 appears to be a normal calc-alkalic intrusive differentiate, possibly representing the main intrusive phase.

(b) Spotted Hornfelds

Samples 298/1, 298/3, 298/5 and 298/7 are aluminous, pelitic, sedimentary rocks that have been subjected to thermal metamorphism under P/T conditions consistent with the hornblende hornfels facies.

There is textural and mineralogical evidence in the form of palimpsest planar fabric, crenulation cleavage and prograde recrystallization to suggest that the pelitic metasediments were subjected to a low-grade, possibly low-pressure, regional, dynamothermal metamorphism under P/T conditions of the greenschist facies.

Breakdown of andalusite to fine-grained sericite is probably a result of a post-thermal metamorphic diaphthoresis, although andalusite developing during low-pressure, regional metamorphism

would undergo retrograde alteration at the onset of thermal metamorphism.

Sample 298/4 is a graphite rich pelitic rock which is assumed to be an original carboneceous sediment that has been subjected to low-grade regional, and/or thermal, metamorphism.

The petrographic description of the spotted hornfels is consistent with the hornfels described in AMDEL report MP 5015/72 (May 1972), entitled "Petrography of six hornfels from King Island".

A P P E N D I X XIV

ASSAY REPORTS ON DRILL CORE SAMPLES

Spectrum No: 0439
McPhar No: CH 3925

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555165

SPECTRUM ANALYTICAL LABORATORIES

sal

5 MARY PARADE, RYDALMERE. N.S.W. 2116 Telephone: 638-5905
638-4445

P.O. BOX: 275 RYDE, 2112.

GLJ:DAC

7 June 1972

ANALYTICAL REPORT

Customer: Mr. L.G. Szabo,
3/210 St. Kilda Street,
BRIGHTON. VIC. 3186.

Report No: 0439

Refer: Quotation 209

Date Received: 5.6.72

No of Samples: 37

Date Reported: 7.6.72

To Follow: 5 Scans
8 T/Sect.

Type of Analysis: Ref: Q209

COMMENTS:

Method of Analysis: As per Quotation 209 & letter of 2.2.72.

Five AAS Scans for the following elements to follow:

Sb; As; Bi; Ag; Co; Cr; Fe; Mn; Ti; V; U; Hg.

Eight Petrographic descriptions of C Z series samples to follow to-day.

G.L. Jackson

G.L. Jackson (B.App.Sc.)
Laboratory Manager.

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Your Sample Number.	SAL Code No.	Element(s) ppm Cu	Pb	Zn	Ni	Au	Mo	W	Sn
C Z 7	B298/1	35	15	63	25	<0.1	70	2	8
C Z 8	2	5	35	24	5	<0.1	2	2	10
C Z 10	3	5	30	62	10	<0.1	2	4	10
C Z 11	4	4	10	66	15	<0.1	2	4	12
C Z 12	5	22	20	125	30	<0.1	2	4	8
C Z 13	6	5	25	16	6	<0.1	2	2	8
C Z 14	7	54	30	140	35	<0.1	2	4	10
C Z 15	8	5	35	25	20	<0.1	<2	2	10

NOTE:

All elements expressed as ppm.

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..../3,

Your Sample Number.	SAL Code No.	Element(s) ppm Cu	Pb	Zn	Ni	Au	Mo	W	Sn
A 1	B300/1	9	10	15	7	<0.1	2	2	12
A 2	2	38	10	84	25	<0.1	4	2	4
A 3	3	11	15	76	20	<0.1	2	2	6
A 4	4	215	10	135	75	<0.1	130	4	4
A 5	5	46	25	305	55	<0.1	2	8	8
A 6	6	65	25	225	55	<0.1	6	4	10
A 7	7	14	15	48	10	<0.1	<2	2	10
A 8	8	41	25	150	35	<0.1	<2	2	10
A 9	9	44	15	92	35	<0.1	2	2	6
A 10	10	60	15	190	45	<0.1	4	2	6
A 11	11	89	15	245	30	<0.1	4	2	8
A 12	12	82	90	115	35	<0.1	2	2	8
A 13	13	3	15	320	15	<0.1	2	2	6
A 14	14	43	20	105	25	<0.1	2	2	10
A 15	15	14	15	70	15	<0.1	2	4	10
A 16	16	20	15	73	15	<0.1	2	2	12
A 17	17	12	10	75	15	<0.1	2	2	12
A 18	18	5	15	93	9	<0.1	2	4	6
A 19	19	9	15	47	15	<0.1	2	4	6
A 20	20	17	10	80	15	<0.1	4	4	8
A 21	21	15	15	100	15	<0.1	<2	4	10
A 22	22	25	15	87	20	<0.1	2	2	15

25516-1

...../4.

Your Sample Number.	SAL Code No.	Element(s) ppm Cu	Pb	Zn	Ni	Au	Mo	W	Sn
A 23	B300/23	27	20	59	10	<0.1	2	8	10
A 24	24	24	25	69	15	<0.1	2	4	8
A 25	25	9	20	55	10	<0.1	2	2	4
A 26	26	18	15	49	15	<0.1	1	4	8
A 27	27	7	15	77	10	<0.1	2	6	10
CORE 1	28	31	20	64	15	<0.1	2	6	10
CORE 2	29	37	95	66	15	<0.1	4	115	10
CHECK ANALYSIS:									
9	B218/9	4	15		8	<0.1	<2	20	10
24	24	10	300		10	<0.1	2	125	<2
27	27	35	55		35	<0.1	<2	60	4
46	46	28	45		50	<0.1	4	8	8

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755169

GLJ:DAC

8 June 1972

ANALYTICAL REPORT

Customer: Mr. L.G. Szabo,
3/210 St. Kilda Street,
BRIGHTON. VIC. 3186.

Report No: 0439

Refer: 0439/ 7.6.72

Date Received: 5.6.72

No of Samples: 5 Scans

Date Reported: 8.6.72

To Follow: 8 Thin Section.

Type of Analysis: Geochemical AAS Scans.

Sheet: 1 of 2

G.L. Jackson (B.App.Sc.)
Laboratory Manager.

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SPECTRUM ANALYTICAL LABORATORIES

REPORT No: 0439 - 2 - 8 June 1972

YOUR SAMPLE NUMBER.	SAL CODE NO.	Element(s) ppm Sb	Bi	As	Ag	Co	Cr
A 4	B300/4	10	25	10	1.3	30	65
A 7	7	15	35	<5	1.9	15	10
A 12	12	10	25	<5	1.6	35	40
A 13	13	15	30	5	1.8	15	55
CORE 1	28	15	25	<5	1.6	15	170

		Fe	Mn	Ti	U	Hg	V
A 4	B300/4	4.8%	440	1.0%	<10	<0.005	100
A 7	7	28%	3900	1200	<10	<0.005	30
A 12	12	4.8%	280	4800	<10	<0.005	55
A 13	13	12%	1.7%	3600	<10	<0.005	10
CORE 1	28	2.7%	1450	3200	<10	<0.005	20

COMMENTS:

All elements reported in ppm unless otherwise stated.

171

McPHAR

GEOCHEMICAL RESULTS

055171

50-52 MARY STREET
UNLEY, S.A. 5061
PHONE: 72 2133
CABLE: "PHARGEO"
ADELAIDE
TELEX: "PHARGEO"
AA82623

Samples from: L.G. SZABO
Area:
Samples of: CORES
Batch No.: CH 3925

Sheet No.: 1
Date: 6/6/72

SAMPLES DISPOSED OF AFTER TWO MONTHS UNLESS WE ARE OTHERWISE ADVISED

Sample Description	W, ppm	Mo, ppm
CORE 1	<2	<2
CORE 2	40	10

ANALYTICAL METHODS: W, Mo by modified Dithiol method following potassium bisulphate fusion on 0.1, 0.2 g samples respectively.
PREPARATION: Pulverised
DISTRIBUTION: 2 copies to L.G. Szabo, South Melbourne.

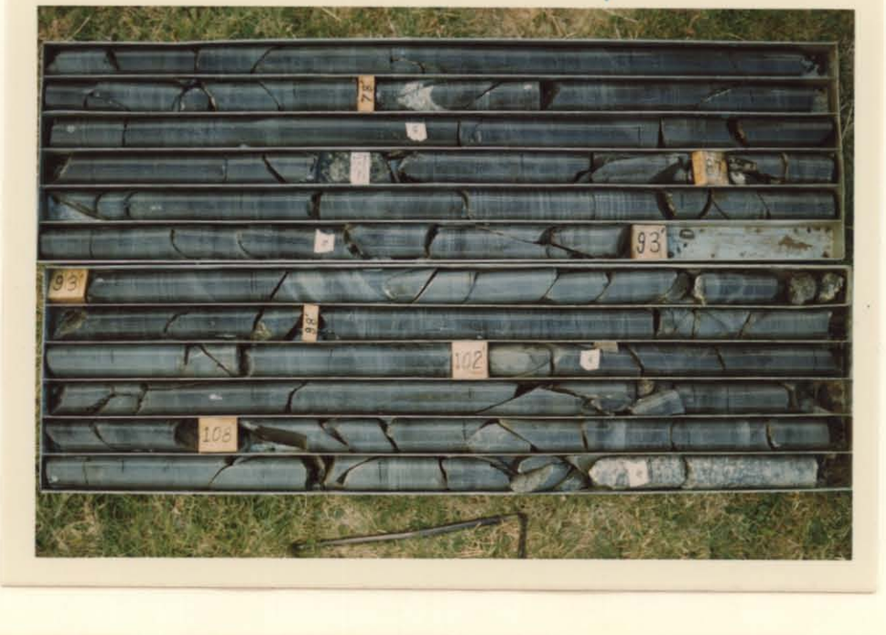
Signed: A.Lewin M.Dainy

★37007

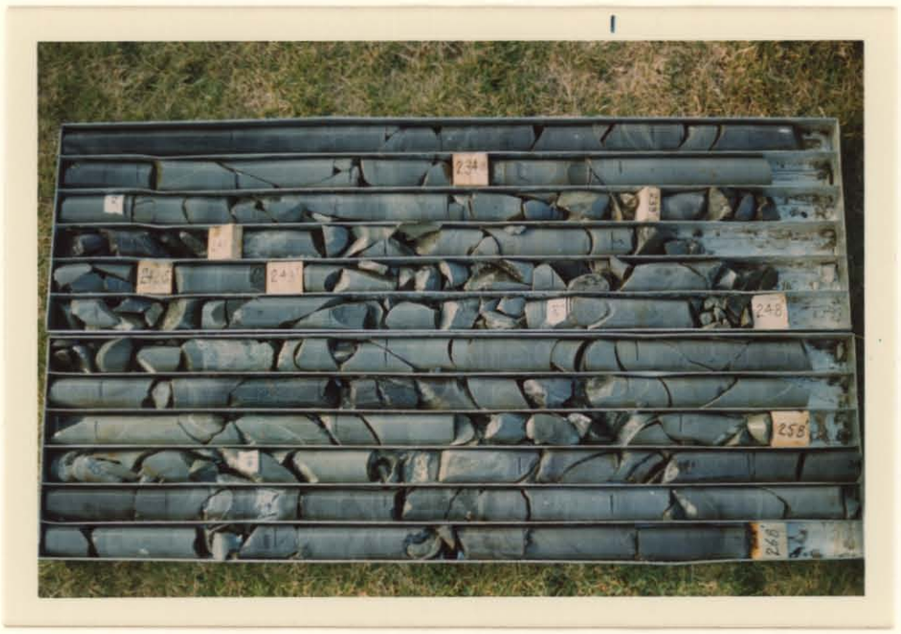
A P P E N D I X XV

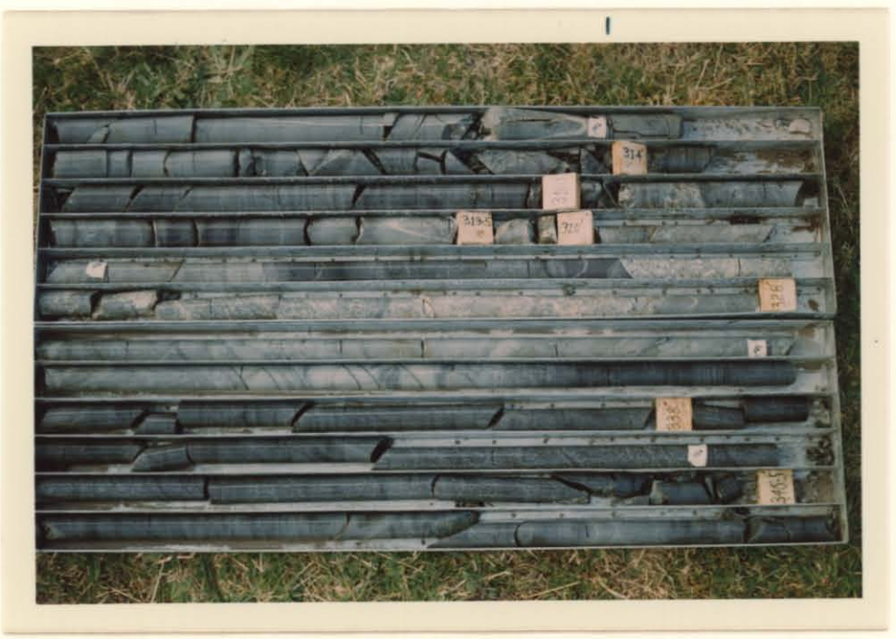
PHOTOGRAPHS OF DRILL CORES: R1, R2, R3

R-1




118
128
138
142
148





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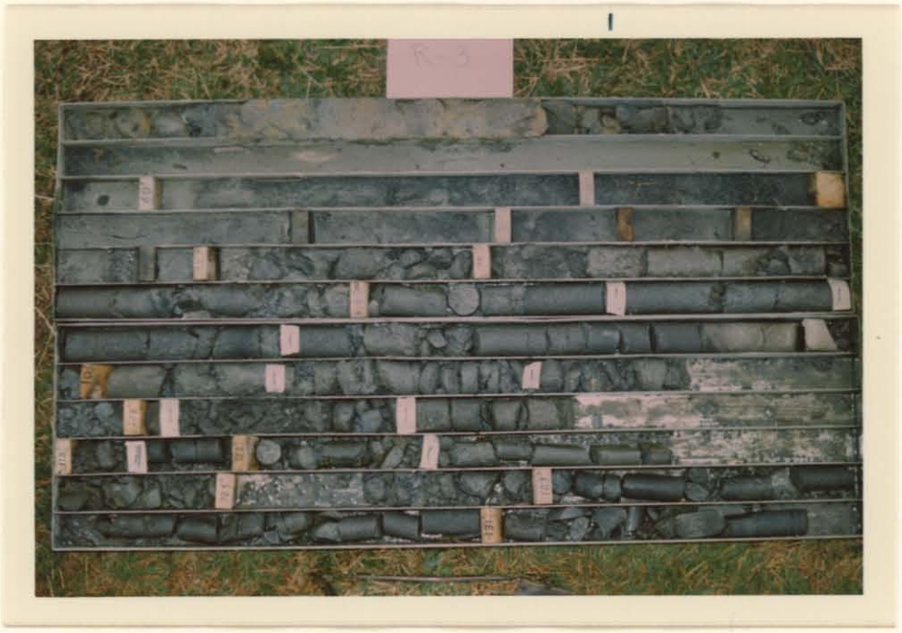
755176

R - 2

R - 3



A P P E N D I X XVI

DRILLING RECORD DDH - R 1

755181

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: HOLE No.: R1 PAGE: 1

Property: E.L. 9/71 **Co-ordinates x:**
Date Collared: 27th April, 1972. **y:**
Date Completed: 12th May, 1972. **z:**

Bearing: 52.5° Magnetic
Dip: 55°
Depth: 352'

Logged By: L.G. SZABO
Checked By:
Drilled By: A.D.D.

Drilling Technique: Diamond
Core Size: NQ. &BQ.
Client: U.S.S.I.- N.Y.

249863E 5589191 N

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
	0	7.0	7.0	0.5	7.1	1.Top soil clay and boulders of weathered andalusite hornfels.																
	7.0	12.1	5.1	5.1	100	2.Andalusite-Biotite Hornfels. Dark grey with 2-3mm Andalusite porphyroblasts in fine grained biotitic matrix. Prominent fractures subparallel to core axis with limonite-goethite fillings.																
	12.1	14.3	2.2	2.1	97.8	3. Chlorite-Biotite Hornfels. Dark brown-grey with pseudomorphs after 2-4mm andalusite with chlorite-biotite rims.																
	14.3	15.4	1.1	1.1	100	4.Andalusite-Biotite Hornfels. Dark grey with 2-3mm Andalusite porphyroblasts in fine grained biotitic matrix.																
	15.4	16.3	0.9	0.8	88.9	5. Psammitic-Muscovite-Chlorite Hornfels. Yellow-brown-grey, with yellow muscovite chlorite pseudomorphs after 3-5mm andalusite porphyroblasts. Soft, weathered material.																
	16.3	17.7	2.4	1.4	100	6.Chlorite-Biotite Hornfels. Dark brown-grey with pseudomorphs after 2-4mm andalusite with chlorite-biotite rims.			17.5	17.7	Dr.Hase											

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: HOLE No.: R1 PAGE: 2

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft.			Recovery		Description	Rock Unit	Mineral-isation	Sampled Ft		Sample No.	Assays										
	From	To	Width	Ft.	%				From	To		Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
	17.7	18.7	1.0	1.0	100	7. Andalusite-Biotite Hornfels. Dark grey with 2-3mm andalusite porphyroblasts in fine grained biotitic matrix.																
	18.7	28.0	9.5	9.3	97.8	8. Chlorite-Biotite Hornfels. Dark brown-grey with pseudomorphs after 2-4mm andalusite with chlorite-biotite rims. 21.2', 1" & 22.5', 2" Andalusite-Biotite Hornfels. Core B.P. angle 35°. Pyrite occurring as individual blebs (1-2mm) along Biotite Hornfels bands 5-10mm wide.		Py													
	28.0	30.5	2.5	2.2	87.8	9. Andalusite-Biotite Hornfels. Dark grey with 2-3mm andalusite porphyroblasts in fine grained biotitic matrix. 29.1', ½" granitic vein. Core B.P. angle approx.30°.																
	30.5	33.2	2.7	2.7	85.2	10. Chlorite-Biotite Hornfels. Dark brown-grey with pseudomorphs after 2-4mm andalusite with chlorite-biotite rims.																
	33.2	34.9	1.7	1.5	88.2	11. Andalusite-Biotite Hornfels. Dark grey with 2-3mm andalusite porphyroblasts in fine grained biotitic matrix. With 5-15mm Biotite Hornfels bands,Approx.core B.P. angle 35°. Pyrite infilling fractures and as a few blebs (1-2mm).		Py													

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
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LINE No.: HOLE No.: R1 PAGE: 3

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft.			Recovery		Description	Rock Unit	Mineral-isation	Sampled Ft		Sample No.	Assays										
	From	To	Width	Ft.	%				From	To		Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
	34.9	35.5	0.6	0.5	83.3	12. Graphite. Very dark grey and sandy with core B.P. angle approx. 35°. Slickes present along bedding planes.			34.9	35.2	Dr.Hase.											
									34.9	35.5	A13	3	15	320	15		2	2	6	L0.1		
	35.5	36.5	1.0	1.0	100	13. Andalusite-Biotite Hornfels. Dark grey with 2-3mm andalusite porphyroblasts in fine grained biotitic matrix. With 5-15mm Biotite Hornfels bands. Approx. core B.P. angle 35°. Pyrite infilling fractures and as a few blebs (1-2mm).		Py													
	36.5	37.2	0.7	0.7	100	14. Biotite Hornfels. Dark brown-grey with 1-2mm blebs of Pyrite. Core B.P. angle 38°.		Py	36.5	37.0	A14	43	20	105	25		2	2	10	L0.1		
	37.2	42.8	5.6	6.3	112.6	15. Andalusite-Biotite Hornfels. Dark grey with 2-3mm andalusite porphyroblasts in fine grained biotitic matrix. With 5-15mm Biotite Hornfels bands. Approx. core B.P. angle 38°. Pyrite infilling fractures and as a few blebs (1-2mm). Few unidentified yellow-white fluorescent minerals.		Py													
	42.8	43.9	1.1	1.1	100	16. Chlorite-Biotite Hornfels. Dark brown-grey with pseudomorphs after 2-4mm andalusite with chlorite-biotite rims. With 1-2mm Pyrite blebs and Pyrite along prominent fractures at core angle 15°.		Py	42.8	43.8	A15	14	15	70	15		2	4	10	L0.1		

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
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LINE No.: HOLE No.: R1 PAGE: 4

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft.			Recovery		Description	Rock Unit	Mineral-isation	Sampled Ft		Sample No.	Assays										
	From	To	Width	Ft.	%				From	To		Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
	43.9	44.2	0.3	0.3	100	17.Quartz-Muscovite Hornfels. Grey, fine grained, very hard.																
	44.2	44.7	0.5	0.4	80.0	18.Quartz-Muscovite Hornfels. Grey, fine grained, very hard, breciated material in siliceous cement.																
	44.7	45.8	1.1	1.0	90.0	19.Quartz-Muscovite-Biotite Hornfels. Medium brown-grey, fine grained.																
	45.8	46.8	1.0	1.0	100	20.Quartz-Muscavite-Biotite Hornfels. Medium brown-grey, fine grained, breciated material in siliceous cement.																
	46.8	47.9	1.1	1.0	90.9	21.Quartz-Muscovite Hornfels. Grey, fine grained, very hard.																
	47.9	49.7	1.8	1.8	100	22.Muscovite-Biotite Hornfels. Medium brown-grey, fine grained. Core B.P. angle 38°.			49.1	49.3	Dr.Hase											
	49.7	51.9	2.2	2.2	100	23.Andalusite-Biotite Hornfels. Dark grey with 2-3mm andalusite porphyroblasts in fine grained biotitic matrix. Grain size changing rhythmically (0.5-2mm) at 0.5' intervals.																

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DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
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LINE No.: HOLE No.: R1 PAGE: 5

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
	51.9	55.5	3.6	3.7	97.3	24. Chlorite-Biotite Hornfels. Dark brown-grey with pseudomorphs after 2-4mm andalusite with chlorite-biotite rims. Pyrite blebs (1-2mm) and along prominent fractures approx. 15° to core axis.		Py														
	55.5	56.9	1.4	1.1	78.6	25. Andalusite-Biotite Hornfels. Dark grey with 2-3mm andalusite porphyroblasts in fine grained biotitic matrix. Pyrite blebs (2-3mm) and veins along fractures.		Py														
	56.9	57.5	0.6	0.4	66.7	26. Chlorite-Biotite Hornfels. Dark brown-grey with pseudomorphs after 2-4mm andalusite with chlorite-biotite rims.																
	57.5	59.6	2.1	2.0	95.2	27. Quartz-Muscovite-Biotite Hornfels. Medium brown-grey, fine grained. Prominent pyrite filled fracture at 50° to core axis. Core B.P. angle 38°.																
	59.6	60.1	0.5	0.5	100	28. Chlorite-Biotite Hornfels. Dark brown-grey with pseudomorphs after 2-4mm andalusite with chlorite-biotite rims.																
	60.1	60.6	0.5	0.5	100	29. Andalusite-Biotite Hornfels. Dark grey with 2-3mm andalusite porphyroblasts in fine grained biotitic matrix. Core B.P. angle 38°															

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DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
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LINE No.: HOLE No.: R1 PAGE: 6

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineral-isation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
	60.6	62.7	2.1	2.1	100	30.Chlorite-Biotite Hornfels. Dark brown-grey with pseudo-morphs after 2-4mm andalusite with chlorite-biotite rims.																
	62.7	72.6	9.9	9.3	93.8	31.Quartz-Muscovite-Sericite Hornfels. Grey, fine grained very hard with very broken zone between 64'-65',67'-68'. At 70.6', 2" band ofBiotite Hornfels. Core B.P. angle 38°.																
	72.6	73.6	1.0	1.0	100	32.Chlorite-Biotite Hornfels. Dark brown-grey with pseudo-morphs after 2-4mm andalusite with chlorite-biotite rims. Pyrite along fractures.		Py	72.6	73.5	A16	20	15	73	15		2	2	12	L0.1		
	73.6	81.0	7.4	7.2	97.3	33.Andalusite-Biotite/Chlorite-Biotite Hornfels. Interchanging at approx. 1' intervals. 1" granitic vein at 77.2'. Pyrite veins and blebs comm-on. Few unidentified yellow-white fluorescent minerals.		Py														
	81.0	85.1	4.1	4.1	100	34.Biotite Hornfels. Dark grey, fine grained and bedded.Pyrite occurring fre-quently along B.P.s,fractures and as strata controlled blebs (1-2mm).1' of abundant unidentified yellow-white fluorescent minerals. Core B.P. angle 38°.		Py	82.5	82.7	CZ7	35	15	63	25		70	2	8	L0.1		

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DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
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LINE No.: HOLE No.: R1 PAGE: 7

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
	85.1	86.7	1.6	1.5	94.7	35. Andalusite-Biotite Hornfels. Dark grey with 2-3mm andalusite porphyroblasts in fine grained biotitic matrix. Pyrite blebs (2-3mm) and veins along fractures.		Py	85.2	85.4	Dr.Hase											
	86.7	87.2	0.5	0.6	120	36.Chlorite-Biotite Hornfels. Dark grey, fine grained,very hard, very broken with 1-2mm pyrite fracture fillings. Abundant,unidentified yellow-white fluorescent mineral.		Py														
	87.2	87.9	0.7	0.8	114.3	37.Andalusite-Biotite Hornfels. Dark grey with 2-3mm andalusite porphyroblasts in fine grained biotitic matrix. Core B.P. angle 38°.																
	87.9	88.3	1.4	1.4	100	38.Chlorite-Biotite Hornfels. Dark brown-grey with pseudomorphs after 2-4mm andalusite, with chlorite-biotite rims.																
	88.3	90.9	2.6	2.6	100	39.Andalusite-Biotite Hornfels. Dark grey with 2-3mm andalusite porphyroblasts in fine grained biotitic matrix. Pyrite blebs (2-3mm) and veins along fractures.		Py														
	90.9	92.1	1.2	1.2	100	40.Chlorite-Biotite Hornfels. Dark brown-grey with pseudomorphs after 2-4mm andalusite, with chlorite-biotite rims. Pyrite along fractures.Few unidentified yellow-white fluorescent minerals.		Py														

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: HOLE No.: R1 PAGE: 8

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
	92.1	96.8	4.7	4.4	93.6	Hornfels 41.Quartz-Muscovite/Biotite Hornfels. Interchanging at 1-2" intervals.Core B.P. angle 38°.																
	96.8	99.4	2.6	2.4	92.3	42.Andalusite-Biotite Hornfels. Dark grey with 2-3mm andalusite porphyroblasts in fine grained biotitic matrix. Pyrite blebs (2-3mm) and veins along fractures.		Py														
	99.4	102.3	2.9	2.9	100	Hornfels 43.Quartz-Muscovite/Biotite Hornfels. Interchanging at 0.5' intervals.																
	102.3	104.1	1.8	1.7	94.5	44.Chlorite-Biotite Hornfels. Dark brown- grey with pseudomorphs after 2-4mm andalusite with chlorite-biotite rims. Pyrite along fractures.		Py														
	104.1	109.0	4.9	4.5	91.9	45.Andalusite-Sillimanite(?) Hornfels. Dark grey, fine-medium grained with 1-3mm andalusite-sillimanite(?) porphyroblasts. Pyrite along sub-parallel fractures.		Py	104.1	109.0	A17	12	10	75	15		2	2	12	L0.1		
	109.0	112.6	3.6	3.6	100	46.Quartz-Muscovite Hornfels. Grey, fine grained, very hard.																
	112.6	116.8	4.2	4.1	97.6	47.Granitic Dyke. Contact core axis angle 15°.			116.3	116.5	CZ8	5	35	24	5		2	2	10	L0.1		

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: HOLE No.: R1 PAGE: 9

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation
	116.8	118.9	2.1	2.1	100	48. Quartz-Muscovite Hornfels. Grey, fine grained, very hard.		
	118.9	119.5	0.6	0.4	66.7	49. Granitic Vein. Contact core axis angle 15°.		
	119.5	126.0	6.5	6.3	97.0	50. Quartz-Muscovite Hornfels. Grey, fine grained, very hard. ¼" Granitic vein at 121.4'		
	126.0	130.8	4.8	4.8	100	51. Andalusite Sillimanite(?) Hornfels. Dark grey, fine-medium grained with 1-3mm andalusite-sillimanite(?) porphyroblasts. Pyrite along fractures. Abundant, unidentified yellow-white fluorescent minerals.		Py
	130.8	131.0	0.2..	0.2	100	52. Calcite-Garnet Hornfels. With fine grained scheelite mineralization surrounded by metasomatic rims of light grey siliceous material & green Pyroxene hornfels, both ⅛" wide. Upper contact irregular, lower with core B.P. angle 38°.		Sch.
	131.0	131.7	0.7	0.7	100	53 Chlorite-Biotite Hornfels. Dark grey grading into light grey, fine grained. Abundant, unidentified yellow-white fluorescent minerals.		

Sampled Ft From	To	Sample No.	Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
130.8	131.0	CZ9*											
130.8	130.9	Core 1	31	20	64	15		2	6	10	L0.1	Spectrum	
130.9	131.0	Core 2	37	95	66	15		4	115	10	Lo.1	Spectrum	
130.8	130.9	Core 1						L2	L2			McPhar	
130.9	131.0	Core 2						10	40			McPhar	

* Divided and re-numbered as Core 1 and Core 2.

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: HOLE No.: R1 PAGE: 10

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
	131.7	135.6	3.9	3.8	97.5	54. Andalusite-Sillimanite(?) Hornfels. Dark grey, fine-medium grained with 1-3mm andalusite-sillimanite (?) porphyroblasts Pyrite along fractures. Abundant unidentified yellow-white fluorescent minerals.																
	135.6	138.2	2.6	2.5	96.1	55.Quartz-Muscovite-Biotite Hornfels. Medium brown-grey, fine grained.Few unidentified yellow-white fluorescent minerals.																
	138.2	144.5	6.3	6.0	95.3	56.Quartz-Muscovite Hornfels. Light grey, fine grained, very hard. With 4" of Calcite -Garnet-Pyroxene Hornfels at 142.3' & 2" Garnet(?) Hornfels bleb at 143.0'. Core B.P. angle 38°.			142.1 142.9	142.5 143.1	A18 A19	5 9	15 15	93 47	9 15		2 2	4 4	6 8	L0.1 L0.1		
	144.5	146.1	1.6	1.6	100	57. Andalusite Biotite Hornfels/ Biotite Hornfels. Interchanging at 1" intervals.																
	146.1	147.1	1.0	1.0	100	58.Quartz-Muscovite Hornfels. Light grey, fine grained, very hard, Core B.P. angle 38°.																

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: HOLE No.: R1 PAGE: 11

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
	147.1	154.7	7.6	7.3	96.1	59. Andalusite-Sillimanite(?) Hornfels. Dark grey, fine-medium grained with 1-3mm andalusite sillimanite(?) porphyroblasts. Pyrite as individual blebs (1-4mm) & along fractures. Abundant unidentified yellow-white fluorescent minerals.		Py													
	154.7	156.2	1.5	1.5	100	60. Chlorite-Biotite Hornfels. Dark brown-grey with pseudomorphs after 2-4mm andalusite, with chlorite-biotite rims.																
	156.2	161.0	4.8	4.6	95.9	61. Quartz-Muscovite Hornfels. Light grey, fine grained, very hard. Core B.P. angle 38°.																
	161.0	171.5	10.5	10.5	100	62. Andalusite-Sillimanite(?) Hornfels. Dark grey, fine-medium grained, with 1-3mm andalusite-sillimanite(?) porphyroblasts. Abundant, unidentified yellow-white fluorescent minerals.			166.2	166.4	CZ10	5	30	62	10		2	4	10	10.1		
	171.5	179.0	7.5	7.5	100	63. Granitic Dyke. Contact at core axis, angle 10°-15°, with 4" chlorite biotite hornfels inclusion at 173.5'.																

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DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: HOLE No.: R1 PAGE: 12

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
	179.0	191.4	12.4	12.3	99.2	64. Chlorite-Biotite Hornfels/ Biotite Hornfels. Interchanging from 1"-6" Pyrite blebs & B.P. enrichments along Biotite Hornfels beds. Few,unidentified yellow-white fluorescent minerals.		Py														
	191.4	193.6	2.2	2.1	97.8	65. Quartz Muscavite Hornfels/ Quartz-Biotite Hornfels. Interchanging at 1"-2" Fine grained bleb of possible intrusive igneous origin at 191.7'. 1" of Biotite-Chlorite with corroded boundaries at 192.5'.			191.5	191.9	A20	17	10	80	15		4	4	8	L0.1		
	193.6	194.9	1.3	1.3	100	66. Quartz-Muscovite Hornfels. Light grey, fine grained, very hard with 4" of Calcite-Garnet-Pyroxene Hornfels.																
	194.9	212.5	17.6	17.5	99.5	67. Andalusite-Biotite Hornfels. Dark grey with 2-3mm andalusite porphyroblasts in fine grained biotitic matrix. With interbedded Biotite-Chlorite Hornfels, color becomes gradually lighter towards bottom. Pyrite in joints and fractures and as individual blebs (1-3mm) adjacent to Andalusite-Biotite Hornfels/Chlorite-Biotite Hornfels boundaries. Sub-parallel core axis fracture filled with pyrite and chlorite. Few unidentified yellow-white fluorescent minerals.		Py													

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: HOLE No.: R1 PAGE: 13

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft.			Recovery		Description	Rock Unit	Mineral-isation	Sampled Ft		Sample No.	Assays										
	From	To	Width	Ft.	%				From	To		Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
	212.5	215.7	3.2	3.0	93.8	68. Biotite Hornfels. Very dark grey, fine grained with Pyrite common along fractures & possibly B.P.s. Core B.P. angle approx. 38°. At 215.3' quartz veins (L3mm) with ample Pyrite. Abundant unidentified yellow-white fluorescent minerals.		Py														
	215.7	226.5	10.8	10.8	100	69. Quartz-Muscovite-Biotite Hornfels. Medium brown-grey, fine grained.																
	226.5	233.2	6.7	6.7	100	70. Andalusite-Biotite Hornfels. Dark grey with 2-3mm andalusite porphyroblasts in fine grained biotitic matrix. With interbedded Biotite-Chlorite Hornfels, color becomes gradually lighter towards bottom. Pyrite in joints and fractures and as individual blebs (1-3mm) adjacent to Andalusite-Biotite Hornfels/Chlorite-Biotite Hornfels boundaries. 228'-228.5', abundant unidentified yellow-white fluorescent minerals.		Py														
	233.2	239.1	5.9	5.5	93.2	71. Quartz-Muscovite-Biotite Hornfels. Medium brown-grey, fine grained.																

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: HOLE No.: R1 PAGE: 14

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft.			Recovery		Description	Rock Unit	Mineral-isation	Sampled Ft		Sample No.	Assays										
	From	To	Width	Ft.	%				From	To		Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
	239.1	240.0	0.9	0.8	89.9	72. Biotite Hornfels. Very dark grey,fine grained with Pyrite common along fractures and possibly B.P.s Core B.P. angle 38° approx.		Py														
	240.0	240.2	0.2	0.2	100	73. Hydrothermally Altered Bleb. With Pyroxene(?) & unidenti-fied dark minerals surrounded by alteration rims.			240.0	240.2	A21	15	15	100	15		L2	4	10	L0.1		
	240.2	248.6	8.4	7.8	92.9	74. Quartz-Muscovite-Biotite Hornfels. Medium brown-grey,fine grained.																
	248.6	249.0	0.4	0.4	100	75. Granitic Vein. Contact angle 75° to core axis. Large muscovite grains & Pyrite blebs (upto 4mm).		Py														
	249.0	252.4	3.4	2.5	73.6	76. Quartz-Muscovite-Biotite Hornfels. Medium brown-grey, fine grained.		Py														
	252.4	253.5	1.1	1.0	90.9	77. Andalusite-Sillimanite(?) Hornfels. Dark grey, fine-medium grained with 1-3mm andalusite sillimanite(?) porphyroblasts. Pyrite along fractures. Abundant unidentified yellow-white fluorescent minerals.																
	253.5	259.7	6.2	5.5	88.7	78. Quartz-Muscovite-Biotite Hornfels. Medium brown-grey,fine grained.																

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: HOLE No.: R1 PAGE: 15

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft.			Recovery		Description	Rock Unit	Mineral-isation	Sampled Ft		Sample No.	Assays										
	From	To	Width	Ft.	%				From	To		Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
	259.7	263.2	3.5	3.5	100	79. Chlorite-Biotite Hornfels. Dark grey grading into light grey, fine grained with 0.5' of Andalusite Hornfels at the bottom. 1" wide at 262'Calcite-Garnet Hornfels with Pyroxene Hornfels & siliceous alteration rims.At 262.3',3" wide breciated & siliceously cemented zone with alteration rims. Epidote(?) - Diopside Hornfels inclusions & Pyrite veins and blebs (up to 8mm). Frequent Calcite veins (1-3mm) present.		Py	262.0	262.4	A22	25	15	87	20		2	2	13	LO.1		
	263.2	272.8	9.6	9.2	95.9	80. Quartz-Muscovite-Biotite Hornfels. Medium brown-grey, fine grained. Minor Calcite veins (1mm).																
	272.8	274.7	1.9	1.8	94.8	81. Andalusite-Biotite Hornfels. Dark grey with 2-3mm Andalusite porphyroblasts in fine grained biotitic matrix with minor interbedded Chlorite-Biotite Hornfels color becoming gradually lighter towards the bottom. Pyrite in joints,fractures & as individual blebs(1-3mm) adjacent to the Andalusite-Biotite Hornfels/Chlorite-Biotite Hornfels boundaries. Frequent Calcite veins(1mm). Abundant unidentified yellow-white fluorescent minerals. At 274' 1"of Andalusite-Sillimanite(?) H'fels.		Py													

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: HOLE No.: R1 PAGE: 16

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft.			Recovery		Description	Rock Unit	Mineral-isation	Sampled Ft		Sample No.	Assays										
	From	To	Width	Ft.	%				From	To		Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
	274.7	276.0	1.3	1.2	92.4	82.Chlorite-Biotite Hornfels. Dark grey grading into light grey,fine grained,with Calcite & Pyrite veins(1mm).		Py														
	276.0	281.8	5.8	5.5	94.8	83.Quartz-Muscovite-Biotite Hornfels. Grey,fine grained. Grades into Biotite Hornfels with Calcite veins(1mm). At 278.8' 1" hydrothermally altered zone.			278.7	278.9	A23	27	20	59	10		2	8	10	L0.1		
	281.8	282.9	1.1	1.0	90.9	84.Chlorite-Biotite Hornfels. Dark brown-grey with pseudo-morphs after 2-4mm Andalusite with Chlorite-Biotite rims.																
	282.9	284.4	1.5	1.5	100	85.Quartz-Muscovite-Biotite Hornfels. Medium brown-grey,fine grained.																
	284.4	285.7	1.3	1.3	100	86.Biotite Hornfels. Very dark grey, fine grained with Pyrite common along fractures & possibly B.P.s. Ample Pyrite(up to 6mm). Core B.P. angle approx. 34°.		Py														
	285.7	287.2	1.5	1.5	100	87.Quartz-Muscovite-Biotite Hornfels. Medium brown-grey,fine grained																

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: **HOLE No.:** R1 **PAGE:** 17

Property: **Co-ordinates x:** **Bearing:** **Logged By:** **Drilling Technique:**
Date Collared: **y:** **Dip:** **Checked By:** **Core Size:**
Date Completed: **z:** **Depth:** **Drilled By:** **Client:**

Hole No.	Drilled Ft.			Recovery		Description	Rock Unit	Mineral-isation	Sampled Ft		Sample No.	Assays										
	From	To	Width	Ft.	%				From	To		Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
	287.2	290.2	3.0	3.0	100	88.Biotite Hornfels. Very dark grey, fine grained with Pyrite common along fractures & possibly B.P.s. Ample Pyrite (up to 6mm). Core B.P. angle approx.34°.		Py														
	290.2	291.2	1.0	1.0	100	89.Quartz-Muscovite-Biotite Hornfels. Medium brown-grey, fine grained.																
	291.2	296.8	5.6	5.6	100	90.Quartz-Muscovite-Biotite Hornfels/Andalusite-Biotite Hornfels. Interbedded at 0.5 - 1' intervals. Fractured, re-cemented & hydrothermally altered in places. Few unidentified yellow-white fluorescent minerals.			291.2	296.6	A24	24	25	69	15		2	4	8	LO.1		
	296.8	297.3	0.5	0.5	100	91.Graphitic Bed. Very dark grey and sandy with brown & white mineral inclusions. (1-5mm)			296.8	297.0	CZ11	4	10	66	15		2	4	12	LO.1		
	297.3	297.6	0.3	0.3	100	92.Quartz-Muscovite-Biotite Hornfels. Grey, fine grained, grades into Biotite Hornfels with Calcite veins (1mm)																

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: **HOLE No.:** R1 **PAGE:** 18

Property: **Co-ordinates x:** **Bearing:** **Logged By:** **Drilling Technique:**
Date Collared: **y:** **Dip:** **Checked By:** **Core Size:**
Date Completed: **z:** **Depth:** **Drilled By:** **Client:**

Hole No.	Drilled Ft.			Recovery		Description	Rock Unit	Mineral-isation	Sampled Ft		Sample No.	Assays										
	From	To	Width	Ft.	%				From	To		Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
	297.6	302.4	4.8	4.8	85.4	93. Andalusite-Sillimanite(?) Hornfels. Dark grey,fine-medium grained with 1-3mm Andalusite-Sillimanite(?) porphyroblasts & stringers of Biotite Hornfels.Pyrite in fractures & as blebs (up to 3mm). Abundant unidentified yellow-white fluorescent minerals.		Py															
	302.4	312.6	10.2	9.5	93.1	94. Quartz-Muscovite-Biotite Hornfels. Grey,fine grained. 305.3', 1" fractures,hydrothermally altered & re-cemented. 306.9', 6mm Pyrite filled fracture vein. 308.9' - 311.0' sub-parallel to core axis granitic vein(5mm). Abundant unidentified yellow-white fluorescent minerals, 302.3' to 302.9'		Py	305.2 306.8	305.4 307.0	A25 A26	9 18	20 15	55 49	10 15		2 1	2 4	4 8	L0.1 L0.1			
	312.6	316.5	3.9	3.8	97.4	95. Chlorite-Biotite Hornfels/ Andalusite-Sillimanite(?) Hornfels. Interchanging at irregular intervals. Few unidentified yellow-white fluorescent minerals.																
	316.5	322.0	5.5	5.5	100	96. Quartz-Muscovite-Biotite Hornfels. Grey,fine grained,grades into Biotite Hornfels with Calcite veins(1mm).																

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: **HOLE No.:** R1 **PAGE:** 19

Property: **Co-ordinates x:** **Bearing:** **Logged By:** **Drilling Technique:**
Date Collared: **y:** **Dip:** **Checked By:** **Core Size:**
Date Completed: **z:** **Depth:** **Drilled By:** **Client:**

Hole No.	Drilled Ft.			Recovery		Description	Rock Unit	Mineral-isation	Sampled Ft		Sample No.	Assays										
	From	To	Width	Ft.	%				From	To		Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
	322.0	323.7	1.7	1.6	94.2	97.Chlorite-Biotite Hornfels/ Andalusite-Sillimanite(?) Hornfels. Interbedded at 2"-3" intervals.																
	323.7	327.5	3.8	3.7	97.4	98.Granitic Dyke. Contact to core axis angle 40°.																
	327.5	333.8	5.5	6.2	112.8	99.Quartz-Muscovite Hornfels. Light grey, fine grained with dark grey B.P. bands (2-3mm).																
	333.8	346.2	12.4	11.8	92.2	100.Andalusite-Sillimanite(?)-Biotite Hornfels. With stringers of Biotite Hornfels,Andalusite porphyroblasts up to 5mm & Sillimanite(?) porphyroblasts up to 3mm. Pyrite blebs up to 2mm in a fine grained,green-grey matrix. Abundant unidentified yellow-white fluorescent minerals.		Py														
	346.2	349.2	3.0	3.1	103.3	101.Quartz-Muscovite-Biotite Hornfels. Medium brown-grey,fine grained. Interbedded with Andalusite-Biotite Hornfels at irregular intervals.																

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: **HOLE No.:** R1 **PAGE:** 20

Property: **Co-ordinates x:** **Bearing:** **Logged By:** **Drilling Technique:**
Date Collared: **y:** **Dip:** **Checked By:** **Core Size:**
Date Completed: **z:** **Depth:** **Drilled By:** **Client:**

Hole No.	Drilled Ft.			Recovery		Description	Rock Unit	Mineral-isation	Sampled Ft		Sample No.	Assays										
	From	To	Width	Ft.	%				From	To		Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
	349.2	352.0	2.8	2.9	103.6	102.Quartz-Muscovite-Biotite Hornfels. Grey, fine grained. At 350.3', 2" hydrothermally altered zone with Quartz,Chlorite & Pyrite blebs in siliceous cement.		Py	350.1	350.5	A27	7	15	77	10		2	6	10	L0.1		
						END OF HOLE 352.0'																

A P P E N D I X XVII

DRILLING RECORD DDH - R 2

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755202

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: HOLE No.: R2 PAGE: 1

Property: E.L. 9/71 **Co-ordinates x:**
Date Collared: 14th May, 1972. **y:**
Date Completed: 17th May, 1972. **z:**

Bearing: 45° Magnetic
Dip: 55°
Depth: 114'

Logged By: L.G. SZABO
Checked By:
Drilled By: A.D.D.

Drilling Technique: Diamond
Core Size: NQ. & BQ.
Client: U.S.S.I. - N.Y.

247756E 5590429N

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
	0	26.0	26.0	5.0	19.2	1.Psammitic Andalusite-Sillimanite(?) Hornfels. Dark grey, medium grained with Andalusite-Sillimanite porphyroblasts in silty matrix. Few, unidentified yellow-white fluorescent minerals. Quartz,sandstone & Schistose rock fragments in upper part of core.															
	26.0	29.0	3.0	1.7	56.7	2.Microgranite(?). Cream,fine grained with green mica in some fractures. Broken with dark grey siltstone inclusions with fractured boundaries.			26.0	28.0	A1	9	10	15	7		2	2	12	L0.1		
	29.0	33.0	4.0	2.4	60.0	3.Quartz-Muscovite-Chlorite Hornfels. Brown-grey, silty with white mica in some fractures.																
	33.0	35.0	2.0	2.0	100	4.Andalusite-Sillimanite(?) Hornfels. Grey-brown with coarse grained (4-5mm) porphyroblasts in light grey matrix. 34.0',1" Microgranite(?) inclusion with Pyrite around the boundaries.		Py	33.5	34.5	A2	38	10	84	25		4	2	4	L0.1		
	35.0	38.0	3.0	1.7	56.7	5.Microgranite(?). Cream,fine grained with green mica in some fractures. Very broken with dark grey silt stone inclusions with fractured boundaries.																

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: **HOLE No.:** R2 **PAGE:** 2

Property: **Co-ordinates x:** **Bearing:** **Logged By:** **Drilling Technique:**
Date Collared: **y:** **Dip:** **Checked By:** **Core Size:**
Date Completed: **z:** **Depth:** **Drilled By:** **Client:**

Hole No.	Drilled Ft.			Recovery		Description	Rock Unit	Mineral-isation	Sampled Ft		Sample No.	Assays										
	From	To	Width	Ft.	%				From	To		Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
	38.0	43.0	5.0	2.6	52.0	6.Granite. Cream,medium grained, weathered, with dark grey siltstone inclusions, increasing to the lower boundary. Few unidentified yellow-white fluorescent minerals.																
	43.0	44.0	1.0	0.3	33.3	7.Andalusite-Sillimanite(?) Hornfels. Gray-brown with coarse grained (4-5mm) porphyroblasts in light grey matrix.		Py	43.8 43.0	44.0 43.8	CZ12 A3	22 11	20 15	125 76	30 20		2 2	4 2	8 6	LO.1 LO.1		
	44.0	45.0	1.0	0.4	40.0	8.Quartz-Muscovite Hornfels. Brown-grey, silty & broken.																
	45.0	47.0	2.0	1.3	65.0	9.Microgranite.																
	47.0	51.0	4.0	3.0	75.0	10.Quartz-Muscovite Hornfels. Grey,silty,broken.																
	51.0	58.5	7.5	6.3	84.0	11.Granitic Dyke. Cream-grey, medium grained.			51.5	51.8	CZ13	5	25	16	6		2	2	8	LO.1		
	58.5	61.0	2.5	1.5	60.0	12.Quartz-Muscovite Hornfels. Grey,silty, broken.																
	61.0	62.5	1.5	1.3	86.7	13.Andalusite-Sillimanite(?) Hornfels. Grey-brown with up to 2cm undetermined porphyroblasts. Tectonically deformed (zig-zag) B.P.s with ample Pyrite.Also Pyrite as inclusion in the porphyroblasts.		Py	61.0	62.5	A4	215	10	135	75		130	4	4	LO.1		

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: **HOLE No.:** R2 **PAGE:** 3

Property: **Co-ordinates x:** **Bearing:** **Logged By:** **Drilling Technique:**
Date Collared: **y:** **Dip:** **Checked By:** **Core Size:**
Date Completed: **z:** **Depth:** **Drilled By:** **Client:**

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
	62.5	70.0	7.5	5.8	77.4	14. Quartz-Muscovite Hornfels. Grey,silty,broken.66',1"(?) fine grained Granitic vein. Few, unidentified yellow-white fluorescent minerals.																
	70.0	90.0	20.0	16.3	81.5	15. Andalusite-Sillimanite Hornfels. Grey-brown with coarse grained (4-5mm) porphyroblasts in light grey matrix. With Quartz-Muscovite Hornfels zones at approx. 73.0' (3");74.0' (3"wide);76'(8" wide);78.0'-79.0'. 79',¼" wide Granitic vein. Few unidentified yellow-white fluorescent minerals.															
	90.0	93.0	3.0	2.5	83.3	16. Quartz-Muscovite-Biotite Hornfels. Brown-grey,silty. 91', ½" Granitic vein. CoreB.P. angle approx. 25°. Few unidentified yellow-white fluorescent minerals.																
	93.0	96.0	5.0	2.0	40.0	17. Quartz-Muscovite Hornfels. Grey,silty,broken. Few unidentified yellow-white fluorescent minerals.																
	96.0	98.0	2.0	1.3	65.0	18. Andalusite-Sillimanite(?) Hornfels. Grey-brown with coarse grained (4-5mm) porphyroblasts in light grey matrix.																

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DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: **HOLE No.:** R2 **PAGE:** 4

Property: **Co-ordinates x:** **Bearing:** **Logged By:** **Drilling Technique:**
Date Collared: **y:** **Dip:** **Checked By:** **Core Size:**
Date Completed: **z:** **Depth:** **Drilled By:** **Client:**

Hole No.	Drilled Ft.			Recovery		Description	Rock Unit	Mineral-isation	Sampled Ft		Sample No.	Assays										
	From	To	Width	Ft.	%				From	To		Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
	98.0	114.0	16.0	15.0	94.7	19.Granite. Cream grey, fine-medium grained. 112',8" Quartz-Muscovite Hornfels. END OF HOLE 114.0'.																

A P P E N D I X XVIII

DRILLING RECORD DDH - R 3

755207

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: **HOLE No.:** R3 **PAGE:** 1

Property: E.L.9/71
Date Collared: 18th May,1972
Date Completed: 23rd May,1972

Co-ordinates x:
y:
z:

Bearing: 60° Magnetic
Dip: 55°
Depth: 359'

Logged By: L.G. SZABO
Checked By:
Drilled By: A.D.D.

Drilling Technique: Diamond
Core Size: NQ.& BQ.
Client: U.S.S.I.-N.Y.

247526 E 5590481 N

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
	0	60.0				No core-casing.																
	60.0	92.0	32.0	0	0	1.Drill Cuttings Only. Dark grey, 1-2mm cuttings of schistose rocks.			60.0 68.0	68.0 92.0	A5 A6	46 65	25 25	305 225	55 55		2 6	8 4	8 10	L0.1 L0.1		
	92.0	102.0	10.0	7.6	76.0	2.Weathered Schistose Rock. Grey, medium grained with kaolin & decomposed dark minerals.																
	102.0	103.5	1.5	1.5	100	3.Clayey Siltstone. Brown to grey, fine grained. CoreB.P. angle approx.62°.																
	103.5	127.0	23.5	8.7	37.0	4.Weathered Schistose Rock. Grey, medium grained with kaolin & decomposed dark minerals.																
	127.0	167.0	40.0	20.1	50.3	5.Spotted Hornfels. Grey - dark grey, fine grained with 1-3mm unidentified dark minerals. Minor sericite and ample pyrite in fractures. At 132.5',4" of bedded Chlorite-Biotite Hornfels. Core B.P. angle approx. 70°.																
	167.0	170.0	3.0	1.2	40.0	6.Breccia. 1-15mm schist & spotted hornfels fragments in yellow-brown,fine grained siliceous clayey cement.			167.0	170.0	A7	14	15	48	10		L2	2	10	L0.1		

755208

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: HOLE No.: R3 PAGE: 2

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft.			Recovery		Description	Rock Unit	Mineral-isation	Sampled Ft		Sample No.	Assays										
	From	To	Width	Ft.	%				From	To		Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
	170.0	179.3	9.3	3.6	38.8	7.Chlorite-Biotite Hornfels/ Spotted Hornfels. Fractured & broken core.																
	179.3	209.0	29.7	26.3	88.6	8.Spotted Hornfels. Grey - dark grey, fine grained with 1-3mm unidentified dark minerals.Minor sericite and ample pyrite in fractures.At 182.7', quartz filled fracture veins. (up to 3mm). Core B.P. angle approx.70°.			187.5	187.8	CZ14	54	30	140	35		2	4	10	L0.1		
	209.0	210.0	1.0	1.0	100	9.Quartz Filled Fracture Zone With Pyrite & minor sphalerite.			209.0	210.0	A12	82	90	115	35		2	2	8	L0.1		
	210.0	252.0	42.0	33.2	79.0	10.Chlorite-Biotite Hornfels/ Spotted Hornfels. Broken core.																
	252.0	252.2	0.2	0.2	100	11.Breccia. 1-15mm schist & spotted hornfels fragments in yellow-brown, fine grained,siliceous clayey cement.			252.0	252.2	A8	41	25	150	35		L2	2	10	L0.1		
	252.2	315.0	63.8	50.3	78.8	12.Chlorite-Biotite Hornfels/ Spotted Hornfels. Core B.P. angle 60°.At 289.5', quartz filled fracture veins (up to ¼").At 308', fracture zone & hydrothermal alterations along fractures. Pyrite common.			307.5	309.0	A11	89	15	245	30		4	2	8	L0.1		

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: HOLE No.: R3 PAGE: 3

Property: **Co-ordinates x:** **Bearing:** **Logged By:** **Drilling Technique:**
Date Collared: **y:** **Dip:** **Checked By:** **Core Size:**
Date Completed: **z:** **Depth:** **Drilled By:** **Client:**

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
	315.0	316.0	1.0	0.9	90.0	13.Breccia. 1-15mm schist & spotted hornfels fragments in yellow-brown, fine grained siliceous cement.			315.0	316.0	A9	44	15	92	35		2	2	6	L0.1		
	316.0	325.0	9.0	7.0	77.8	14.Chlorite-Biotite Hornfels/ Spotted Hornfels.																
	325.0	359.0	34.0	30.1	88.5	15.Spotted Hornfels. Dark grey, fine grained with 1-3mm dark unidentified minerals & bands of Biotite Hornfels (from 0.2"-2'). Ample pyrite in fractures. At 329', quartz filled fracture veins (up to ¼").			328.9	329.1	A10	60	15	190	45		4	2	6	L0.1		
						END OF HOLE 359.0'.																

A P P E N D I X XIX

DRILLING RECORD: AUGER LINE - 2

755211

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: 2 **HOLE No.:** **PAGE:** 1

Property: E.L. 9/71 **Co-ordinates x:** **Bearing:** **Logged By:** L.G. SZABO **Drilling Technique:** GEMCO AUGER
Date Collared: **y:** **Dip:** **Checked By:** **Core Size:** 3"
Date Completed: **z:** **Depth:** **Drilled By:** A.D.D. **Client:** U.S.S.I.-N.Y.

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
0	0	58	244985E 5591891N			Clay:Bluegrey,moist. Chips:Micaschist.			56	58	47	30	15		40		2	8	60	L0.1		
2	0	46	245046E 5591887N			Clay: Bluegrey,moist. Chips:Micaschist.		Py	44	46	48	12	170		35		2	L2	22.5	L0.1		
4	0	34	245108E 5591875 N			Clay: Light grey, wet. Chips:Micaschist.		Py	28	34	221	67	15		55		2	2	15	L0.1		
6	0	46	245171E 5591867 N			Clay: Bluegrey,moist. Chips:Pyritic micaschist.		Py	44	46	49	27	40		50		2	L2	20	L0.1		
8	0	29	245229E 5591859 N			Clay: Bluegrey,moist. Chips:Micaschist.			27	29	50	41	15		45		2	8	17.5	L0.1		
10	0	50	245283E 5591851 N			Clay: Bluegrey,moist. Chips:Micaschist.		Py	48	50	51	31	15		35		4	6	L2	L0.1		
12	0	31	245348E 5591838 N			Clay: Bluegrey,wet. Chips:Micaschist.		Py	26 28 28	28 31 31	52 53 54	110 51 46	25 20 20		75 50 45		2 2 2	8 L2 L2	70 60 70	L0.1 L0.1 L0.1	 Spectrum "	
14						Not drilled.																
16						Not drilled.																
18	0	34	245406E 5591835 N			Clay: Grey,wet. Chips:Micaschist.			28	34	220	33	10		45		2	6	17.5	L0.1		
20	0	32	245470E 5591828 N			Clay: Grey,wet. Chips:Micaschist.			26	32	219	60	10		40		L2	2	10	L0.1		
22	0	31	245528E 5591815 N			Clay: Gritty,grey,wet. Chips:Quartz and Micaschist.			25	31	218	73	10		15		L2	6	10	L0.1		

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755212

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists, Hydrogeologists

LINE No.: 2 HOLE No.: PAGE: 2

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
24	0	37	245586E 5591808N			Clay: Gritty,grey,wet. Chips:Quartz and Micaschist.			31	37	217	69	10		30		4	6	12.5	L0.1		
26	0	31	245653E 5591799N			Clay: Brown,wet. Chips:Laterite.			25	31	216	27	15		8		L2	2	25	L0.1		
28	0	27	245711E 5591792N			Clay: Brown,wet. Chips:Laterite,quartz.		Py	21	27	215	73	10		10		2	L2	30	L0.1		
30	0	17	245772E 5591783N			Clay: Gritty,brown,wet. Chips:Laterite,quartz.			11	17	214	43	15		20		L2	2	40	L0.1		
32	0	18	245830E 5591775N			Clay: Khaki-green,wet. Chips:Laterite,schist.			12	18	213	33	15		45		L2	30	25	L0.1		
34	—					Not drilled.																
36	—					Not drilled.																
38	0	28	245897E 5591765N			Clay:Fine,green,wet. Chips:Laterite.			22	28	212	40	5		20		L2	10	4	L0.1		
40	0	16	245959E 5591759N			Soil: Dark khaki-brown,moist. Chips:Laterite quartz.		Py	10	16	211	48	14		10		4	2	6	L0.1		
42	0	22	246131E 5591709N			Clay: Brown,wet. Chips:Laterite.		Py	16	22	210	18	16		20		L2	2	10	L0.1		
44	0	11	246186E 5591688N			Clay: Brown,wet. Chips:Black schist,laterite.			5	11	209	40	135		15		4	6	15	L0.1		
46	0	20	246247E 5591665N			Clay: Brown,wet. Chips:Black schist,laterite.			14	20	208	60	60		10		L2	4	12.5	L0.1		

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DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: 2 HOLE No.: PAGE: 3

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineral-isation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
48	0	16	246309E	559164	5N	Clay: Brown,wet. Chips:Black schist,laterite.			10	16	207	41	15		10		2	L2	25	L0.1		
50	0	28	246371E	559162	5N	Clay: Brown,wet. Chips:Black schist, laterite.			22	28	206	32	45		10		L2	L2	20	L0.1		
52	0	15	246437E	559159	8N	Clay:Brown,wet. Chips:Black schist, laterite.			0	15	205	32	15		15		L2	2	20	L0.1		
54	0	17	246516E	559157	6N	Clay: Bluegrey,moist. Chips:Micaschist.		Py	11	17	204	52	25		30		L2	2	15	L0.1		
56	0	24	246587E	559155	0N	Clay: Bluegrey,moist. Chips:Micaschist.		Py	18	24	203	30	10		40		2	2	30	L0.1		
58	0	24	246653E	559152	8N	Clay: Grey,moist. Chips:Siltstone,quartz.		Py	18	24	202	29	10		15		L2	2	15	L0.1		
60	0	16	246714E	559150	6N	Clay: Grey,moist. Chips:Siltstone,quartz.		Py	10	16	201	33	20		15		8	2	40	L0.1		
62	0	34	246783E	559147	9N	Clay: Grey,moist. Chips:Quartz,siltstone.		Py	28	34	200	18	15		6		2	8	4	L0.1		
64	0	24	246848E	559145	9N	Clay: Grey,moist. Chips:Quartz,siltstone.		Py	17	24	199	37	10		10		2	4	30	L0.1		
66	0	25	246912E	559142	9N	Clay: Bluegrey,wet. Chips:Quartz,pyrite,muscovite-biotite hornfels (spotted).		Py	19	25	198	75	30		10		2	L2	50	L0.1		
68	0	26	246978E	559140	9N	Clay:Bluegrey,wet. Chips:Quartz,pyrite,muscovite-biotite hornfels (spotted).		Py	20	26	197	79	20		10		L2	2	30	L0.1		

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: 2 HOLE No.: PAGE: 4

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineral-isation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
70	0	25	247046E 5591384N			Clay: Bluegrey,moist. Chips:Siltstone,spotted.			19	25	129	40	25		40		L2	2	6	L0.1		
72	0	28	247120E 5591361N			Clay: Bluegrey,moist. Chips:Siltstone,spotted.			22	28	128	25	20		10		L2	2	10	L0.1		
74	0	16	247184E 5591339N			Clay: Bluegrey,moist. Chips:Siltstone,spotted.			10	16	127	30	10		25		4	4	6	L0.1		
76	0	31	247250E 5591315N			Clay: Grey,moist. Chips:Quartz-Muscovite Hornfels.		Zr,Sch (rounded)	25	31	126	75	20		20		L2	6	L2	L0.1		
78	0	47	247306E 5591297N			Clay: Bluegrey,moist. Chips:Quartz-Muscovite Hornfels.		Zr,Sch	41	47	125	10	15		15		L2	4	2	L0.1		
80	0	30	247383E 5591278N			Clay: Grey,moist. Chips:Quartz and sand.			2	30	124	10	25		15		2	2	6	L0.1		
82	0	3	247428E 5591253N			Clay: Sandy,grey,moist. Chips:Siltstone.			0	3	123	5	5		10		2	2	2	L0.1		
84	0	12	247508E 5591225N			Clay: Yellow-grey,moist. Chips:Granite and quartz-muscovite-biotite hornfels.		Zr	6	12	122	20	20		15		2	4	10	L0.1		
86	0	12	247584E 5591196N			Clay: Gritty,yellow-grey,moist. Chips:Quartz and fine grained granite.		Zr,Sch?	6 6 6	12 12 12	121 KI-1 "	15	5		15		L2 L2	100 12 10	L2	L0.1	Spectrum McPhar AMDEL	
88	0	28	247647E 5591176N			Clay: Grey,moist. Chips:Fine grained granite.			22	28	120	5	20		15		L2	6	10	L0.1		

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DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: 2 HOLE No.: PAGE: 5

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft.			Recovery		Description	Rock Unit	Mineral-isation	Sampled Ft		Sample No.	Assays										
	From	To	Width	Ft.	%				From	To		Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
90	0	22	247703E	5591156 N		Clay: Gritty,grey,moist. Chips:Granite.			16	22	119	7	15		30		2	10	25	L0.1		
92	0	16	247768E	5591134 N		Clay: Gritty,yellow-grey,moist. Chips:Granite.		Zr,Sch?	10	16	118	8	20		20		2	30	2	L0.1		
94	0	25	247847E	5591106 N		Clay: Gritty,yellow-grey,moist. Chips:Granite.			19	25	117	10	15		40		2	8	8	L0.1		
96	0	18	247927E	5591080 N		Clay: Gritty,yellow-grey,moist. Chips:Granite.			11 11 11	17 17 17	116 KI-2 KI-2	15	20		20		2 L2	85 90 45	4	L0.1	Spectrum McPhar AMDEL	
98	0	11	247992E	5591059 N		Clay: Gritty,yellow-grey,moist. Chips:Granite.			5	11	115	6	10		20		2	20	10	L0.1		
100	0	16	248045E	5591041 N		Clay: Gritty,yellow-grey,moist. Chips:Granite.		Zr	10	16	114	7	10		20		L2	20	10	L0.1		
102	0	11	248099E	5591024 N		Clay: Gritty,yellow-grey,moist. Chips:Granite.		Zr	5	11	113	8	10		10		L2	4	L2	L0.1		
104	0	19	248163E	5591005 N		Clay: Gritty,moist. Chips:Granite.			13	19	112	10	10		20		2	8	10	L0.1		
106						Not drilled.																
108						Not drilled.																
110	0	18	248224E	5590984 N		Clay: Grey,moist. Chips:Granite sand.		Zr,Sch?	12	18	111	15	10		15		L2	4	L2	L0.1		
112						Not drilled.																
114						Not drilled.																

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DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: 2 HOLE No.: PAGE: 6

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
116	0	34	24839E	55	9903N	Clay: Grey,moist. Chips:Granite sand.		Zr	28	34	110	15	20		20		L2	2	4	L0.1		
118	—					Not drilled.																
120	—					Not drilled.																
122	0	22	24857E	55	9085N	Clay: Bluegrey,moist. Chips:Granite.			16	22	109	20	10		20		L2	2	4	L0.1		
124	—					Not drilled.																
126	—					Not drilled.																
128	0	11	24874E	55	9079S N	Clay: Grey,moist. Chips:Granite.			5	11	108	10	15		15		2	6	4	L0.1		
130	0	18	24890E	55	9073 4 N	Clay: Grey,moist. Chips:Granite.		Zr	12	18	107	20	20		30		L2	4	4	L0.1		
132	—					Not drilled.																
134	—					Not drilled.																
136	0	24	24897E	55	9071 9 N	Clay: Grey,moist. Chips:Granite.			18	24	106	20	20		30		2	12.5	2	L0.1		
138	—					Not drilled.																
140	—					Not drilled.																
142	0	20	24914E	55	9065 2 N	Clay: White-grey,moist. Chips:Granite sand.		Zr	14	20	105	15	10		35		L2	10	25	L0.1		

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DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: 2 HOLE No.: PAGE: 7

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
144	—					Not drilled.																
146	—					Not drilled.																
148	0	34	249318E	5590598N		Clay: Sand, brown, unsorted,wet. Chips: -------		Zr,Sch	28	34	104	15	15		40		L2	8	2	L0.1		
150	0	40	249491E	5590540N		Clay: Grey,moist. Chips:Sand.		Zr	34	40	103	20	20		35		L2	6	L2	L0.1		
152	0	25	249552E	5590520N		Clay: Grey,moist. Chips:Gravels of garnet skarn, pyroxene hornfels.		Zr,Sch	19	25	102	9	25		85		L2	15	L2	L0.1	Spectrum	
								Py	19	25	INY-9-71-2-9	13	44		80		9	4	110		D.C.Griffith	
									19	25	"						L20	L20			McPhar	
									19	25	"						20				McPhar	
									19	25	INY-9-71-2-10	14	52		84		6	6	310		D.C.Griffith	
									19	25	"							30	45		McPhar	
									19	25	"							20			"	
154	0	40	249611E	5590496N		Clay: Whitegrey,wet. Chips:Granite.			34	40	101	40	35	20			L2	2	L2	L0.1		
156	0	35	249665E	5590480N		Clay: Whitegrey,wet. Chips:Granite.			29	35	100	25	50	20			L2	L2	4	L0.1		
158	—					Not drilled.																
160	—					Not drilled.																
162	0	25	249720E	5590460N		Clay: Whitegrey,wet. Chips:Granite.		Zr	19	25	99	20	20	30			2	4	17.5	L0.1		
164	—					Not drilled.																
166	—					Not drilled.																

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DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: 2 HOLE No.: PAGE: 8

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft.			Recovery		Description	Rock Unit	Mineral-isation	Sampled Ft		Sample No.	Assays										
	From	To	Width	Ft.	%				From	To		Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
168	0	46	249839E 5590420 N			Clay: Whitegrey,wet. Chips:Granite.			40	46	98	15	15	30			2	6	17.5	L0.1		

A P P E N D I X XX

DRILLING RECORD: AUGER LINE - 4

755220

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: 4 HOLE No.: PAGE: 1

Property: E.L. 9/71 Co-ordinates x: Bearing: Logged By: L.G. SZABO Drilling Technique: GEMCO AUGER
Date Collared: y: Dip: Checked By: Core Size: 3"
Date Completed: z: Depth: Drilled By: A.D.D. Client: USSI-NY

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
0	0	23	24482SE	55906	52 N	Clay: Khaki to grey, moist. Chips:Micaschist with dissolved cavities.			0	4	1	8	20		20		2	L2	L2	L0.1		
									4	10	2	470	20		15		12.5	L2	L2	L0.1		
									10	16	3	30	15		15		2	L2	L2	L0.1		
									16	22	4	59	30		30		2	L2	L2	L0.1		
									22	23	5	40	25		15		L2	L2	L2	L0.1		
2	—					Not drilled																
4	0	19	24495SE	55906	42 N	Clay: Khaki to grey, moist. Chips:Micaschist with quartz veins. Laterite.		Py	16	19	6	67	20		40		4	L2	L2	L0.1		
6	0	20	24501IE	55906	35 N	Clay: Grey, moist. Chips:Micaschist,laterite.			22	23	7	7	30		10		L2	12.5	L2	L0.1		
8	0	23	24508SE	55906	28N	Clay: Brown to grey, moist. Chips:Vein-quartz with silicified micaschist.			0	4	8	16	15		15		2	L2	L2	L0.1		
									4	10	9	4	15		8		L2	20	10	L0.1		
									10	16	10	11	10		10		2	30	15	L0.1		
									10	16	45	8	15		9		4	L2	20	L0.1		
									16	22	16	21	10		20		L2	6	L2	L0.1		
									22	23	11	11	10		8		2	12.5	6	L0.1		
10	0	22	24514SE	5590	21 N	Clay: Grey, moist. Chips:Vein-quartz with silicified schist.			21	22	12	31	10	8			8	20	45	L0.1		
12	0	34	24520SE	55906	5N	Clay: Grey, wet. Chips:Micaschist.			28	34	13	3	15	10			2	L2	L2	L0.1		

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DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: 4 HOLE No.: PAGE: 2

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineral-isation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
14	0	34	245261E	5590606N		Clay: Grey, wet. Chips:Muscavite-Biotite schist with quartz veins.			32	34	14	13	15	15			2	8	L2	L0.1		
16	0	22	245326E	5590602N		Clay: Grey, wet. Chips:Shale and Pyrite.		Py	21	22	15	52	145	55			2	2	6	L0.1		
18	0	22	245385E	5590593 N		Clay: Grey, wet. Chips:Siliceous shale.			20	22	17	38	40	15			2	10	L2	L0.1		
20	0	22	245445E	5590589N		Clay: Grey, wet. Chips:Silty Micaschist.		Py	21	22	18	28	20	10			2	L2	L2	L0.1		
22	0	19	245512E	5590583N		Clay: Grey, wet. Chips:Micaschist.			18	19	19	70	25		25		4	L2	60	L0.1		
24	0	24	245573E	5590575N		Clay: Grey, wet. Chips:Micaschist.			22	24	20	81	45		20		6	L2	8	L0.1		
26	0	16	245633E	5590567N		Clay: Khaki to grey, wet. Chips:Micaschist, large vein-quartz fragments and Laterite.			4 10	10 16	21 22	35 45	20 35		10 50		6 12.5	L2 6	20 8	L0.1 L0.1		
28	0	16	245701E	5590559N		Clay: Grey, wet. Chips:Laterite and micaschist.			15	16	23	54	85		35		2	2	2	L0.1		

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DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists, Hydrogeologists

LINE No.: 4 HOLE No.: PAGE: 3

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
30	0	17	245760E	5590550N		Clay: Brown to khaki, moist.			4	10	24	9	305		10		2	130	L2	L0.1		
						Chips: Quartz, little laterite and tourmaline.			4	10	INY-9-71-4-1	9	270		18		L1	4	40	-	D.C.Griffith	
									4	10	"							60	20		McPhar,Colorimetric.	
									4	10	"							65			McPhar,XRF	
									4	10	K1-6						L2	30			McPhar,Colorimetric.	
									4	10	K1-6							15			AMDEL,XRF.	
									4	10	K1-6							15				
									10	16	25	22	690		9		2	35	6	L0.1		
									16	17	26	21	575		20		L2	80	4	L0.1		
32	0	25	245827E	5590545N		Clay: Grey, wet.		Py	25	28	27	34	55		35		L2	60	4	L0.1		
						Chips: Shale, dark grey, micaceous.			25	28	46	28	45		50		4	8	10	L0.1		
34	0	33	245894E	5590541N		Clay: Khaki, wet			30	33	28	20	30		25		L2	2	20	L0.1		
						Chips: Shale, dark, micaceous.																
36	0	22	245964E	5590532N		Clay: Khaki, moist.			19	22	29	32	30		20		10	L2	15	L0.1		
						Chips: Shale, dark, micaceous.																
38	0	21	246029E	5590524N		Clay: Khaki, moist.			17	21	30	14	15		10		2	4	2	L0.1		
						Chips: Siltstone, light grey.																
40	0	34	246095E	5590516N		Clay: Khaki, wet.			30	34	31	30	15		30		L2	L2	45	L0.1		
						Chips: Black-schist, mica-schist.																
42	—					Not drilled.																

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DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: 4 HOLE No.: PAGE: 4

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
44	0	18	246169E	5590S	11N	Clay: Brown, moist. Chips:Micaschist, little quartz.			16	18	32	31	25		20		2	L2	65	L0.1		
46	0	23	246234E	5590S	6N	Clay: Brown, wet. Chips:Micaschist, little siltstone.			22	23	33	50	30		50		2	4	20	L0.1		
48	0	46	246291E	5590S	5N	Clay: Grey, wet. Chips:Micaschist and black-schist.		Py	40	46	34	20	25		15		2	L2	17.5	L0.1		
50	0	50	246361E	5590S	0S	Clay: Green, wet. Chips:Micaschist and black-schist.		Py	46	50	35	34	30		40		2	L2	60	L0.1		
52	0	42	246443E	5590S	2N	Clay; Green, wet. Chips:Laterite.		Py Plenty	40	42	36	51	30		55		4	L2	55	L0.1		
54	0	21	246509E	5590	498N	Clay: Brown, wet. Chips:Laterite.			20	21	37	33	30		25		L2	L2	6	L0.1		
56	0	26	246587E	5590	495N	Clay: Brown, wet. Chips:Micaschist, Laterite, Pyritic sugary quartz.		Py	20	26	38	49	35		55		L2	L2	4	L0.1		
58	0	28	246648E	5590	495N	Clay: Brown, wet. Chips:Micaschist, Laterite.		Py	22	28	39	52	30		40		4	2	12.5	L0.1		

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: 4 HOLE No.: PAGE: 5

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft.			Recovery		Description	Rock Unit	Mineral-isation	Sampled Ft		Sample No.	Assays										
	From	To	Width	Ft.	%				From	To		Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
60	0	30	246696E	559048	9 N	Clay; Brown, wet. Chips:Pyritic, black schist.		Py	24	30	40	58	20		45		2	2	L2	L0.1		
62	0	23	246756E	559048	8 N	Clay: Brown, wet. Chips:Pyritic black schist.		Py	17	23	41	61	25		25		8	L2	L3	L0.1		
64	0	22	246820E	559048	6 N	Clay: Browngrey, wet. Chips:Micaschist siltstone.			16	22	42	50	25		45		2	15	L2	L0.1		
66	0	23	246889E	559049	2 N	Clay: Bluegrey, wet. Chips:Pyrite and micaschist.		Py	17	23	43	52	20		50		2	2	35	L0.1		
68	0	35	246959E	559050	3 N	Clay: Bluegrey, wet. Chips:Pyritic quartz(veins).		Py	29	35	44	65	30		70		8	8	55	L0.1		
70	0	32	247028E	559051	2 N	Clay: Bluegrey,wet. Chips:Spotted siltstone (muscovite-biotite hornfels?) with pyrite veins. Dark grey.		Py	26	32	55	80	80		65		8	6	L2	L0.1		
72	0	24	247102E	559052	0 N	Clay: Bluegrey, wet. Chips:Spotted siltstone (as above).		Py	18	24	56	66	15		40		4	15	2	L0.1		

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DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: 4 HOLE No.: PAGE: 6

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
74	0	36	247169E	5590532 N		Clay: Bluegrey, wet. Chips:Shale, spotted dark grey.		Py	30	36	57	32	25		45		10	6	L2	L0.1		
76	0	31	247235E	5590543N		Clay: Bluegrey, wet Chips:Shale, spotted dark grey.		Py	28	31	58	57	30		50		10	8	L2	L0.1		
78	0	38	247301E	5590551N		Clay: Bluegrey, wet. Chips:Shale, spotted dark grey, pyrite in quartz veins.		Py	32	38	59	43	25		55		20	4	L2	L0.1		
80	0	28	247359E	5590549 N		Clay: Bluegrey, wet. Chips:Shale, spotted dark grey, quartz.		Py	22	28	60	165	40		30		10	6	2	L0.1	Spectrum.	
									22	28	INY-9-71-4-2	91	60		35		21	4	40		D.C.Griffith	
									22	28	"							L20	25		McPhar	
									22	28	"							2			McPhar	
82	0	28	247412E	5590549 N		Clay: Bluegrey, wet. Chips:Quartz Muscovite Biotite Hornfels.		Py,Zr	22	28	61	50	20		40		2	2	2	L0.1	Spectrum	
									22	28	62	53	20		40		2	2	6	Lo.1	Spectrum	
									22	28	KI-7						20	10			McPhar	
									22	28	KI-7							5			AMDEL	
84	0	52	247470E	5590538N		Clay: Grey, wet. Chips:Quartz Muscovite Biotite Hornfels.		Py	0	10	63	49	15		7		2	2	L2	L0.1		
									10	22	64	59	30		9		12.5	15	L2	L0.1		
									22	34	65	31	40		10		2	10	2	L0.1		
									34	46	66	72	25		75		2	4	2	L0.1		
									46	52	67	53	20		50		8	2	2	L0.1		
86	0	44	247535E	5590524N		Clay: Grey, moist. Chips:Quartz Muscovite Biotite Hornfels.		Py	40	44	68	37	35		30		6	4	2	L0.1		
88	0	28	247593E	5590514N		Clay: Grey, moist. Chips:Quartz Muscovite Biotite Hornfels.			22	28	69	32	20		10		4	4	L2	L0.1		

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DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: 4 HOLE No.: PAGE: 7

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineral-isation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
90	0	16	247657E	5590498N		Clay: White-grey, moist. Chips:Granite, fine grained, Muscovite Biotite Horn-fels.			10	16	70	8	30		9		4	17	2	L0.1		
92	0	20	247730E	5590478N		Clay: Grey, wet. Chips:Granite,quartz feldspar.		Sch,Zr	14	20	71	5	25		10		2	40	2	L0.1	Spectrum	
									14	20	INY-9-71-4-3	17	64		26		4	8	50		D.C.Griffith	
									14	20	"							45	35		McPhar	
									14	20	"							50			McPhar	
									14	20	KI-8						L2	20			McPhar	
									14	20	KI-8							25			AMDEL	
94	0	19	247796E	5590459N		Clay: Grey, wet. Chips:Quartz,granite.		Sch	16	19	72	17	15		10		6	120	6	0.4	Spectrum	
									16	19	INY-9-71-4-4	24	49		26		6	10	300		D.C.Griffith	
									16	19	"							60	20		McPhar	
									16	19	"							60			McPhar	
									16	19	KI-13						L2	90			"	
									16	19	KI-13						L2	60			"	
									16	19	KI-3							45			AMDEL	
									16	19	KI-13							50			"	
96	0	40	247864E	5590441N		Clay: Grey, wet. Chips:Quartz, aplite granite.			34	40	73	38	15		8		12.5	35	L2	L0,1		
98	0	39	247927E	5590425N		Clay: Grey, wet. Chips:Granite-grit.		Zr	34	39	74	13	10		10		8	25	6	L0.1		
100	0	28	247983E	5590402N		Clay:Grey, wet. Chips:Biotite-granite.		Zr	22	28	75	10	20		20		8	25	L2	L0.1		
102	0	47	248036E	5590377N		Clay: Grey, moist. Chips:Biotite-granite.		Zr	41	47	76	16	20		55		6	20	L2	L0.1		

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: 4 HOLE No.: PAGE: 8

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft.			Recovery		Description	Rock Unit	Mineral-isation	Sampled Ft		Sample No.	Assays										
	From	To	Width	Ft.	%				From	To		Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
104	0	32	248083E	55903	8 N	Clay& Bioclastics: Grey,moist. Chips:Bioclastic limestone.		Zr	26	32	77	10	50		30		4	L2	55	L0.1		
106	0	25	248134E	55903	4 N	Clay & Bioclastics:Grey,moist. Chips:Bioclastic limestone.		Zr	19	25	78	12	40		70		4	L2	70	L0.1		
108	—					Not drilled																
110	—					Not drilled																
112	0	26	248191E	55903	9N	Clay: Biotitic,grey,moist. Chips:Biotite granite.		Sch, Zr	20	26	79	6	20		15		6	50	L2	L0.1		
									20	26	INY-9-71-4-5	12	51		21		4	20	20			D.C.Griffith
									20	26	"							L20	L20			McPhar
									20	26	"							20				"
									20	26	INY-9-71-4-8	24	51		11		L1	10	90			D.C.Griffith
									20	26	"							35	L20			McPhar
									20	26	"							30				"
									20	26	KI-9						L2	40				"
									20	26	KI-12						L2	40				"
									20	26	KI-9							15				AMDEL
									20	26	KI-12							15				AMDEL
114	0	34	248366E	55902	34N	Clay: Brown-grey, moist. Chips:Granite sand.		Zr,Sch?	28	34	80	23	25		75		6	2	L2	0.3		Spectrum
									28	34	INY-9-71-4-6	21	59		67		8	8	210			D.C.Griffith
									28	34	"							L20	35			McPhar
									28	34	"							20				"
									28	34	KI-10						L2	5				"
									28	34	"							5				AMDEL

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DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: 4 HOLE No.: PAGE: 9

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
116	0	26	248416E	559021	3N	Clay: Grey, moist. Chips:Granite sand.		Zr,Sch?	20	26	81	9	30		25		4	2	L2	0.3		
118	0	31	248470E	559018	7 N	Clay: Grey, moist. Chips:Granite sand.		Zr	25 25	31 31	82 INY-9-71-4-7	11 19	15 56		20 29		4 1	40 50	2 150	L0.1	Spectrum D.C.Griffith	
									25	31	"							45	L20		McPhar	
									25	31	"							60			"	
									25	31	KI-11						L2	30			"	
									25	31	"							25			AMDEL	
120	0	30	248523E	559015	8 N	Clay: Grey, moist. Chips:Granite.			24	30	83	9	15		40		4	25	L2	L0.1		
122	—					Not drilled.																
124	0	24	248578E	559012	6N	Clay: Grey, moist. Chips:Granite.			18	24	84	20	15		15		4	10	4	L0.1		
126	—					Not drilled.																
128	0	50	248720E	559000	71 N	Clay: Grey, moist. Chips:Granite.		Sch	44	50	85	8	15		35		4	55	4	L0.1		
130	—					Not drilled.																
132	—					Not drilled.																
134	0	52	248830E	559003	2N	Clay: Grey, moist. Chips:Granite.			4	10	86	7	20		35		4	4	2	L0.1		
									10	16	87	8	20		30		2	12.5	2	L0.1		
									16	22	88	14	25		25		2	15	6	L0.1		
									22	28	89	13	25		25		4	10	L2	L0.1		
									46	52	90	17	20		25		2	4	2	L0.1		

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: 4 HOLE No.: PAGE: 10

Property: **Co-ordinates x:** **Bearing:** **Logged By:** **Drilling Technique:**
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
136	—					Not drilled																
138	0	52	249004E	5589959 N		Clay: Grey, moist. Chips:Granite sand.			46	52	91	15	25		25		L2	20	20	L0.1		
140	—					Not drilled.																
142	0	40	249161E	5589904 N		Clay: Grey, moist. Chips:Granite Sand.			34	40	92	20	20		35		L2	30	15	L0.1		
144	—					Not drilled.																
146	0	46	249243E	5589891 N		Clay: Grey, moist. Chips:Granite sand.			40	46	93	15	15		45		L2	15	15	L0.1		
148	—					Not drilled.																
150	0	34	249388E	5589880 N		Clay: Grey, moist. Chips:Granite sand.			28	34	94	10	15		30		L2	35	15	L0.1		
152	—					Not drilled.																
154	0	36	249496E	5589866 N		Clay: Grey, moist. Chips:Granite sand.			30	36	95	25	15		25		L2	L2	17.5	L0.1		
156	—					Not drilled.																
158	0	52	249664E	5589845 N		Clay: Grey, moist. Chips:Granite sand,			46	52	96	15	25		25		L2	6	12.5	L0.1		
160	—					Not drilled.																
162	0	40	249750E	5589831 N		Clay: Grey, moist. Chips:Granite sand.		Zr	34	40	97	25	20		35		2	15	L2	L0.1		

A P P E N D I X XXI

DRILLING RECORD: AUGER LINES 4-400N TO 4-1600N

232

755231

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: 4-400 N HOLE No.: PAGE: 1

Property: E.L. 9/71 **Co-ordinates x:** **Bearing:** **Logged By:** L.G. SZABO **Drilling Technique:** GEMCO AUGER
Date Collared: **y:** **Dip:** Checked By: Core Size: 3"
Date Completed: **z:** **Depth:** Drilled By:A.D.D. Client: U.S.S.I.-N.Y.

Hole No.	Drilled Ft.			Recovery		Description	Rock Unit	Mineral-isation	Sampled Ft		Sample No.	Assays										
	From	To	Width	Ft.	%				From	To		Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
84E	0	28	247593E	5590467N		Clay: Khaki,wet. Chips:Muscovite-Biotite Hornfels.		Sch?	22	28	258	39	50		15		2	4	15	L0.1		
86E	0	28	247644	E5590649N		Clay: Brown-grey,wet. Chips:Muscovite-Biotite Hornfels		Zr,Sch?	22	28	257	49	30		15		4	2	15	0.1		
88E	0	22	247707E	5590624N		Clay: Light brown,wet. Chips:Quartz and Feldspar Pegmatite.		Sch?	16	22	256	23	25		10		6	25	10	0.2		
90E	0	16	247765E	5590602N		Clay: Light brown,moist. Chips:Biotite-Muscovite Hornfels and Hematite		Zr,Sch	10	16	255	9	30		20		2	2	10	L0.1		
92E	0	23	247819E	5590581N		Clay: Grey,moist. Chips:Granite and Biotite Hornfels.		Sch	17	23	259	18	35		10		6	6	12.5	L0.1		
94E	0	24	247877E	5590561N		Gritty mud,light brown,wet. Chips:Granite.		Zr	18	24	260	28	45		25		2	4	20	L0.1		
96E	0	57	247937E	5590544N		Gritty mud,light brown,wet. Chips:Granite and Pyrite.		Zr Py abundant	51	57	261	15	30		90		L2	6	15	L0.1		
98E	0	64	247995E	5590521N		Gritty mud,light brown,wet. Chips:Granite and Pyrite.		Zr Py abundant	58	64	262	49	50		210		L2	6	20	0.1		

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755232

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.:4-800 N HOLE No.: PAGE: 1

Property: E.L. 9/71 Co-ordinates x: Bearing: Logged By: L.G. SZABO Drilling Technique: GEMCO AUGER
Date Collared: y: Dip: Checked By: Core Size:3"
Date Completed: z: Depth: Drilled By:A.D.D. Client: U.S.S.I.-N.Y.

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineral-isation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
82E	0	20	247573E 5590810 N			Clay:Dark grey, wet. Chips:Andalusite?-Biotite Hornfels.			14	20	266	47	25		15		6	4	10	L0.1		
84E	0	34	247635E 5590785 N			Clay: Grey-green,wet. Chips:Aplite & Muscovite-Biotite Hornfels.		Sch	28	34	265	27	55		15		4	2	10	L0.1		
86E	0	28	247691E 5590766N			Clay: Light grey,moist. Chips:Muscovite-Biotite Hornfels & Granite.			22	28	264	12	35		15		6	2	15	L0.1		
88E	0	52	247751E 5590741 N			Clay: Light grey,moist. Chips:Granite & Aplite.			46	52	263	16	35		10		8	4	10	L0.1		
90E	0	8	247806E 5590723 N			Clay: Yellow-brown,moist. Chips:Granite sand.			2	8	267	3	20		10		6	4	12.5	L0.1		
92E	0	16	247860E 5590701N			Clay: Red-brown,wet. Chips:Granite sand.			0	16	268	3	5		10		L2	2	4	0.1		

755233

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists, Hydrogeologists

LINE No.: 4-1200 N HOLE No.: PAGE: 1

Property: E.L. 9/71
Date Collared:
Date Completed:

Co-ordinates x:
y:
z:

Bearing:
Dip:
Depth:

Logged By: L.G. SZABO
Checked By:
Drilled By: A.D.D.

Drilling Technique: GEMCO AUGER
Core Size: 3"
Client: U.S.S.I.-N.Y.

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
76	0	22	247439E	5590986 N		Mud: Gritty,brown,wet. Chips: Spotted Shale, Biotite Hornfels - Pyroxene Hornfels.		Sch?	16	22	282	42	30		20		L2	2	2	L0.1		
77	0	30	247463E	5590978 N		Mud: Gritty,brown,wet. Chips: Spotted shale, Biotite Hornfels.			24	30	281	38	30		20		2	2	2	0.1		
78	0	19	247494E	5590963 N		Clay: Gritty,brown,wet. Chips: Biotite Hornfels & Spotted Shale (higher grade).		Sch (many)	13	19	280	40	30		20		2	2	2	L0.1		
79	0	24	247522E	5590952 N		Clay: Gritty,grey,wet. Chips: Spotted shale (higher grade)		Sch	18	24	279	28	28		10		2	2	4	L0.1		
80	0	25	247548E	5590940 N		Clay: Gritty,grey,wet. Chips: Spotted shale - siltstone (lower grade).			19	25	278	55	30		15		4	2	4	L0.1		
81	0	30	247574E	5590933 N		Clay: Grey,wet. Chips: Spotted shale - siltstone (lower grade).			24	30	277	41	25		20		2	2	2	0.4		
82	0	32	247604E	5590922 N		Clay: Gritty,grey-green,wet. Chips: Spotted shale - siltstone.		Sch,Zr	26	32	276	38	30		15		2	2	2	0.1		
83	0	22	247632E	5590914 N		Clay: Gritty,grey-green,wet. Chips: Spotted Quartz-Biotite-Muscovite Hornfels & Quartz.		Sch	16	22	275	29	30		15		2	2	2	0.1		
84	0	19	247663E	5590901 N		Clay: Light brown,wet. Chips: Spotted Quartz-Biotite Hornfels & Aplite.		Sch (dull) Zr	13	19	274	15	30		10		2	2	2	L0.1		

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: 4-1200 N HOLE No.: PAGE: 2

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
85	0	26	247699E	5590859 N		Clay: Gritty,dark green,wet. Chips:Spotted Quartz-Biotite Hornfels & Aplite and green Pyroxene Hornfels?		Sch (dull), Zr	20	26	273	29	25		15		4	4	4	L0.1		
86	0	15	247726E	5590880N		Clay: Gritty,dark grey,wet. Chips:Biotite Hornfels.		Sch,Zr	9	15	272	8	50		10		4	2	2	L0.1		
87	0	35	247751E	5590867 N		Clay: Gritty,green-grey,wet. Chips:Quartz-Biotite Hornfels.		Sch (dull), Zr	29	35	271	15	30		15		4	2	2	L0.1		
88	0	17	247778E	5590861 N		Clay: Gritty,light grey,wet. Chips:Granite & Biotite Hornfels.			11	17	270	7	15		10		L2	2	2	L0.1		
89	—					Not drilled.																
90	0	8	247841E	5590836N		Sand: Gritty,light brown,wet. Chips:Granite & Aplite.			2	8	267	3	10		25		L2	2	4	L0.1		
91	—					Not drilled.																
92	0	29	247902E	5590815N		Clay: Gritty,green-grey,wet. Chips:Granite.			23	29	239	9	20		15		L2	12.5	4	0.1		

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.:4-1600 N HOLE No.: PAGE: 1

Property:E.L. 9/71 Co-ordinates x: Bearing: Logged By: L.G. SZABO Drilling Technique:GEMCO AUGER
Date Collared: y: Dip: Checked By: Core Size:3"
Date Completed: z: Depth: Drilled By:A.D.D. Client: U.S.S.I.-N.Y.

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineral-isation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
82	0	18	247657E	5591047 N		Clay: With chips,grey,wet. Chips:Spotted siltstone.		Zr	12	18	288	16	40		10		L2	2	2	L0.1		
84	0	13	247706E	5591026N		Clay: Gritty,grey,wet. Chips:Muscovite-Biotite Horn-fels & Sand.		Zr	7	13	287	9	20		10		L2	2	2	0.1		
86	0	17	247771E	5591001 N		Gritty material,light grey,wet. Chips:Granite,Quartz & Feldspar.			10	17	286	7	25		10		2	4	L2	L0.1		
88	0	17	247826E	5590983N		Gritty material,light grey, wet. Chips:Granite,Quartz & Feldspar.			11	17	285	5	10		20		2	6	L2	0.2		
90	0	15	247892E	5590956N		Gritty material,grey-green,wet. Chips:Granite.			9	15	283	6	20		20		L2	15	2	L0.1		
92	0	14	247946E	5590937N		Mud: Gritty,grey,wet. Chips:Granite.			8	14	284	4	20		15		L2	6	L2	L0.1		

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: 6-West HOLE No.: PAGE: 1

Property: E.L. 9/71
Date Collared:
Date Completed:

Co-ordinates x:
y:
z:

Bearing:
Dip:
Depth:

Logged By: L.G. SZABO
Checked By:
Drilled By: A.D.D.

Drilling Technique: GEMCO AUGER
Core Size: 3"
Client: U.S.S.I.-N.Y.

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
0W	0	28	244672E 5589384 N			Clay: Grey-green,wet. Chips:Micaschist.			22	28	222	36	20		10		L2	2	10	L0.1		
2W	0	22	244620E 5589399 N			Grit: Yellow-brown,wet. Chips:Micaschist.			16	22	223	22	25		10		L2	2	6	L0.1		
4W	0	52	244562E 5589413 N			Clay: White-brown,wet. Chips:Micaschist.			46	52	224	13	20		15		2	8	20	L0.1		
6W	0	28	244503E 5589426 N			Clay: Grey,wet. Chips:Laterite.			22	28	225	33	15		25		L2	2	4	L0.1		
8W	0	34	244439E 5589442 N			Clay: White-grey,wet. Chips:Micaschist,Laterite.			28	34	226	13	20		60		L2	4	25	0.1		
10W	0	28	244376E 5589457 N			Clay: White-grey,wet. Chips:Laterite,Micaschist.			22	28	227	27	10		20		L2	4	12.5	L0.1		
12W	0	34	244317E 5589471 N			Clay: Grey,wet. Chips:Micaschist.			28	34	228	11	10		30		L2	4	10	L0.1		
14W	0	22	244257E 5589481 N			Powdery material,grey,moist. Chips:Micaschist.			16	22	229	12	10		20		L2	4	12.5	L0.1		
16W	0	28	244203E 5589502 N			Clay: Fine,grey,wet. Chips:Laterite,Micaschist.		Py	22	28	230	40	15		50		L2	4	17.5	L0.1		
18W	0	18	244139E 5589512 N			Clay: Fine,grey,wet. Chips:Micaschist.			12	18	231	62	20		30		4	4	12.5	L0.1		
20W	0	52	244091E 5589529 N			Clay: Red-brown,moist. Chips:Micaschist,Laterite.		Py	22 46	28 52	232 233	29 38	15 10		20 30		2 4	2 4	20 20	L0.1 L0.1		
22W	0	34	244028E 5589542N			Clay: Grey,moist. Chips:Micaschist.		Py	28	34	254	73	20		40		4	4	4	L0.1		

A P P E N D I X XXII

DRILLING RECORD: AUGER LINE 6

755238

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: 6 HOLE No.: PAGE: 1

Property: E.L. 9/71 **Co-ordinates x:** **Bearing:** **Logged By:** L.G. SZABO **Drilling Technique:** GEMCO AUGER
Date Collared: **y:** **Dip:** Checked By: Core Size: 3"
Date Completed: **z:** **Depth:** Drilled By: A.D.D. Client: U.S.S.I.-N.Y.

Hole No.	Drilled Ft.			Recovery		Description	Rock Unit	Mineral-isation	Sampled Ft		Sample No.	Assays										
	From	To	Width	Ft.	%				From	To		Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
2	0	22	244739E 5589370N			Clay: Silty,grey,moist. Chips:Micaschist.			0 4 10	4 10 16	234 235 236	5 3 3	10 5 5		20 20 20		2 L2 L2	4 4 4	60 20 15	0.1 0.1 L0.1		
4	0	19	244794E 5589355N			Clay: Silty,whitegrey,moist. Chips:Micaschist.			16 13	22 19	237 238	49 16	15 10		25 15		2 L2	4 8	8 4	L0.1 0.3		
6	0	24	244861E 5589342N			Clay: Brown,wet. Chips:Micaschist.			18	24	239	12	25		25		L2	4	17.5	L0.1		
8	0	30	244921E 5589325N			Clay: Silty,grey,moist. Chips:Micaschist.			24	30	240	12	20		20		L2	4	15	0.1		
10	0	34	244976E 5589315N			Clay: Pebbly,light brown,wet. Chips:Micaschist.			0 4 10 16 22 28	4 10 16 22 18 34	241 242 243 244 245 246	3 4 3 11 13 18	5 5 5 25 20 15		15 9 15 20 30 40		4 L2 L2 L2 L2 L2	6 4 15 4 2 6	15 25 25 20 17.5 20	0.1 L0.1 0.1 0.2 L0.1 L0.1		
12	0	10	245037E 5589296N			Pebbly naterial,brown,moist. Chips:Micaschist,laterite.			6	10	247	3	5		10		L2	15	8	0.1		
14	0	28	245093E 5589284N			Fine powdery material,grey, moist. Chips:Micaschist.			22	28	248	51	30		55		L2	8	12.5	L0.1		
16	0	52	245149E 5589265N			Clay: Grey,moist. Chips:Micaschist.			46	52	164	10	20		20		L2	2	L2	L0.1		
18	0	25	245211E 5589253N			Clay: Grey,moist. Chips:Micaschist.			19	25	163	20	20		30		L2	L2	2	L0.1		
20	0	18	245247E 5589241N			Clay: Grey,moist. Chips:Micaschist.			12	18	162	20	15		10		L2	2	L2	L0.1		

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DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: 6 HOLE No.: PAGE: 2

Property: **Co-ordinates x:** **Bearing:** **Logged By:** **Drilling Technique:**
Date Collared: **y:** **Dip:** **Checked By:** **Core Size:**
Date Completed: **z:** **Depth:** **Drilled By:** **Client:**

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
22	0	25	25	245326E 5589230N		Clay: Grey,moist. Chips:Quartz and Micaschist.			19	25	130	10	25		7		L2	L2	8	L0.1		
24	0	52	52	245384E 5589211N		Clay: Grey,moist. Chips:Quartz and Micaschist.			46	52	131	20	30		20		L2	2	L2	L0.1		
26	0	36	36	245445E 5589196N		Clay: Grey,moist. Chips:Micaschist.			30	36	132	10	25		15		L2	2	4	L0.1		
28	0	22	22	245505E 5589183N		Clay: Whitegrey,moist. Chips:Micaschist.			16	22	133	20	15		15		2	4	2	L0.1		
30	0	36	36	245560E 5589166N		Clay: Red,moist. Chips:Micaschist.			30	36	134	15	40		20		L2	L2	2	L0.1		
32	0	34	34	245619E 5589153N		Clay: Brown,moist. Chips:Shale and Quartz.		Py abundant	28	34	135	20	30		20		L2	6	L2	L0.1		
34	0	28	28	245677E 5589138N		Clay: Grey,moist. Chips:Pyrite,Quartz.		Py abundant	22	28	136	50	25		35		2	6	2	L0.1		
36	0	16	16	245744E 5589124N		Clay: Grey,moist. Chips:Shale and Quartz.			10	16	137	2	25		10		L2	6	L2	0.1		
38	0	28	28	245799E 5589108N		Clay: Grey,moist. Chips:Shale.			22	28	138	3	10		10		L2	2	L2	L0.1		
40	0	34	34	245856E 5589090N		Clay: Grey,moist. Chips:Shale.			28	34	139	10	20		20		L2	2	L2	L0.1		
42	0	31	31	245922E 5589074N		Powdery material,whitegrey, moist. Chips:Shale.			25	31	140	20	20		20		L2	L2	L2	L0.1		
44	0	28	28	245981E 5589062N		Clay: Whitegrey,moist. Chips:Shale.			22	28	141	45	25		10		2	6	L2	L0.1		

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DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: 6 HOLE No.: PAGE: 3

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
46	0	16	246036E	5589050N		Clay: Gritty,whitegrey,wet. Chips:Shale.			10	16	142	3	15		10		L2	2	10	L0.1		
48	0	36	246095E	5589036N		Fine powdery material, light grey,moist. Chips:Shale.			30	36	143	10	45		20			L2	L2	L0.1		
50	0	52	246155E	5589022N		Clay: Grey,moist. Chips:Shale and Quartz.			46	52	144	60	40		40			L2	L2	0.1		
52	0	16	246212E	5589007N		Clay: Grey,moist. Chips Shale and Laterite.			10	16	145	40	25		15			4	L2	L0.1		
54	0	26	246275E	5588991N		Clay: Brown,moist. Chips:Laterite.			20	26	146	45	20		15			2	L2	L0.1		
56	0	28	246334E	5588976N		Clay: Grey,moist. Chips:Shale.			22	28	147	50	30		20			2	L2	L0.1		
58	0	34	246399E	5588961N		Clay:Grey,moist. Chips:Shale.			28	34	148	40	40		20			2	L2	L0.1		
60	0	28	246449E	5588947N		Clay: Grey,moist. Chips:Pyrite and Shale.		Py	22	28	149	20	15		10			4	L2	L0.1		
62	0	21	246513E	5588928N		Clay: Grey,moist. Chips:Shale.			15	21	150	20	25		25			L2	L2	L0.1		
64	0	22	246576E	5588917N		Mud: Green,moist. Chips:Laterite.					NOT		SAMPLED.									
66	0	46	246632E	5588902N		Mud: Green,moist Chips:Shale Laterite.			40	46	151	50	25		50			2	4	L0.1		
68	0	49	246694E	5588887N		Clay: Green,moist. Chips:Shale.			43	49	152	65	30		20			2	L2	L0.1		

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: 6 HOLE No.: PAGE: 4

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineral-isation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
70	0	34	246749E 5588875N			Clay: Green,moist. Chips:Shale.		Py	28	34	153	60	30		25			2	4	L0.1		
72	0	34	246812E 5588859N			Clay: Grey,moist. Chips:Pyritic shale (spotted?)		Py	28	34	154	45	25		55			2	4	L0.1		
74	0	46	246874E 5588840N			Clay: Grey,moist. Chips:Quartz and Shale Laterite.		Py	40	46	155	55	15		40		6	L2	6	L0.1		
76	0	40	246931E 5588827N			Clay: Grey,moist. Chips:Shale,Laterite.			34	40	156	40	20		40		L2	L2	L2	L0.1		
78	0	37	246989E 5588814N			Clay: Grey,moist. Chips:Shale,Laterite.		Py	32	37	157	55	20		55		2	4	L2	L0.1		
80	0	52	247042E 5588799N			Clay: Grey,moist. Chips: ---------				NOT		SAMPLED										
82	0	52	247105E 5588787N			Clay: Grey,moist.			46	52	158	50	20		55		2	2	L2	L0.1		
84	0	48	247174E 5588773N			Clay: Grey,moist. Chips:Pyrite,Quartz shale.		Py	42	48	159	25	15		15		L2	6	L2	L0.1		
86	0	52	247231E 5588755N			Fine powdery material,grey, moist. Chips:Pyrite,Quartz,Shale.		Py 50%	46	52	161	20	20		15		L2	2	2	L0.1		
88	0	40	247294E 5588743N			Clay: Grey,moist. Chips:Pyrite,Biotite.		Py 50%	34	40	160	50	25		100		L2	4	2	L0.1		
90	0	42	247353E 5588726N			Clay: Grey,moist. Chips:Sugary Quartz and Pyrite.		Py 30%	36	42	165	42	20		45		4	15	15	0.1		
92	0	42	247411E 5588707N			Clay: Grey,moist. Chips:Sugary Quartz and Pyrite.		Sch,Zr Py 30%	36	42	166	60	20		40		4	15	12.5	L0.1		

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DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: 6 HOLE No.: PAGE: 5

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
94	0	52	247467E	5588697N		Clay: Grey,moist. Chips:Shale,Pyrite.		Py	46	52	167	38	15		30		2	17.5	6	LO.1		
96	0	43	247528E	5588679N		Clay: Grey,moist. Chips:Gravel.		Py	37	43	168	19	20		15		6	15	8	LO.1		
98	0	76	247582E	5588666N		Clay: Grey,moist. Chips:Shale.			46	52	169	12	20		15		8	35	6	LO.1	Spectrum	
									46	52	KI-4						5	40			McPhar	
									46	52	KI-14						5	10			"	
									46	52	KI-4							25			AMDEL	
									46	52	KI-14							10			"	
100	0	40	247633E	5588649N		Clay: Grey,moist. Chips:Gravel.		Py	34	40	170	39	20		20		6	12.5	4	LO.1		
102	0	52	247692E	5588638N		Clay: Grey,moist. Chips:Gravel.		Zr,Py	46	52	171	38	15		10		4	8	6	LO.1		
104	0	52	247755E	5588624N		Clay: Grey,moist. Chips:Gravel.		Zr	46	52	172	12	5		15		2	4	6	LO.1		
106	0	58	247813E	5588609N		Clay: Grey,moist. Chips:Gravel.		Zr,Sch?	52	58	173	15	10		10		4	8	2	0.1		
108	0	124	247872E	5588599N		Clay: Gritty,grey,wet. Chips:Shale.		Py	46	52	174	21	10		20		6	4	4	0.1		
									118	124	296						L2	L2			McPhar	
									118	124	KI-19						L2	L2			"	
									118	124	296	40	20		20		L2	8	2	0.1	Spectrum	
110	0	46	247934E	5588582N		Mud: Gritty,light grey,wet. Chips:Granite,quartz gravel.		Py	42	46	175	13	10		10		4	4	2	LO.1		
112	0	60	247996E	5588569N		Mud: Grey,wet. Chips:Quartz and Granite gravel.		Zr,Py	54	60	176	29	10		15		6	15	6	0.1		

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DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: 6 HOLE No.: PAGE: 6

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
114	0	52	248058E	5588556N		Mud: Grey,wet. Chips:Quartz and Granite gravel.		Zr,Py	46	52	177	13	10		15		6	15	6	0.1		
116	0	46	248117E	5588537N		Mud: Grey,wet. Chips:Quartz and Granite gravel.		Zr,Py	40	46	178	27	10		20		4	12.5	4	L0.1		
118	0	82	248168E	5588522 N		Clay: Gritty,light grey,wet. Chips Shale.		Py	58	64	179	10	15		10		2	12.5	15	L0.1		
									76	82	297	11	30		15		L2	16	4	0.1	Spectrum	
									76	82	KI-20						L2	20			McPhar	
									76	82	297						L2	2			"	
120	0	58	248228E	5588507N		Clay: Gritty,dark grey,wet. Chips:Gravel.			52	58	188	13	15		20		4	35	4	L0.1		
122	0	36	248294E	5588491N		Sand: Gritty,brown-grey,wet. Chips:Gravel.			30	36	189	10	15		50		4	45	4	L0.1		
124	—					Not drilled.																
126	0	52	248421E	5588462 N		Sand: Gritty,brown,wet. Chips:----------			46	52	190	7	15		40		L2	8	4	L0.1		
128	0	112	248479E	5588450 N		Sand: Gritty,brown,wet. Chips:Shale,(spotted?)		Py	52	58	191	4	10		30		4	2	2	L0.1		
									106	112	298						L2	20			McPhar	
									106	112	KI-21						L2	20			"	
									106	112	298	12	20		25		4	10	10	0.1	Spectrum	
130	—					Not drilled.																
132	—					Not drilled.																

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: 6 HOLE No.: PAGE: 7

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
134	0	32	248647E	5588408N		Clayey material,brown,wet.			28	32	292						10	L2			McPhar	
						Chips:Bioclastic Limestone.			28	32	KI-15						L2	L2			"	
									28	32	292	11	40		75		L2	2	20	L0.1	Spectrum	
136	—					Not drilled.																
138	—					Not drilled.																
140	0	192	248824E	5588370N		Clay: Grey,wet.			190	193	293	12	30		30		L2	16	15	L0.1	Spectrum	
						Chips:Quartz Feldspar Hornblende			190	193	KI-16							15	L2			
						Hornfels.			190	193	293							20	L2		McPhar	
142	—					Not drilled.																
144	—					Not drilled.																
146	0	184	248994E	5588322N		Clay: Gritty,brown-grey,wet.			178	184	294	15	40		25		2	245	5	L0.1	Spectrum	
						Chips:Dark shale,Quartz and			178	184	295	19	60		40		L2	140	4	0.1	"	
						white non-magnetic metal			178	184	KI-17						L2	10			McPhar	
						fragments.			178	184	KI-18						L2	20			"	
									178	184	294						L2	20			"	

A P P E N D I X XXIII

DRILLING RECORD: AUGER LINES 6-2000N TO 6-4000N

755246

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.:6-2000 N HOLE No.: PAGE: 1

Property: E.L. 9/71 Co-ordinates x: Bearing: Logged By: L.G. SZABO Drilling Technique: GEMCO AUGER
Date Collared: y: Dip: Checked By: Core Size: 3"
Date Completed: z: Depth: Drilled By: A.D.D. Client: U.S.S.I.-N.Y.

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
110	0	25	249704E	5588	788N	Clay: Grey,moist. Chips:Siltstone - shale.			19 19 19	25 25 25	299 KI-22 299	56	45		15		2 L2 L2	10 10 15	10	L0.1	Spectrum McPhar "	
120	0	36	248663E	5589	52 N	Clay: Grey,moist. Chips:Spotted siltstone.			30 30 30	36 36 36	300 KI-23 300	22	30		25		L2 L2 L2	6 L2 L2	20	L0.1	Spectrum McPhar "	
130	0	126	248375E	5589	21N	Clay: Gritty,grey,moist. Chips:Sand,Granite-sand.			120 120 120	126 126 126	301 KI-24 301	26	25		15		2 L2 L2	10 15 30	4	L0.1	Spectrum McPhar McPhar	
140	—					Not drilled.																
150	—					Not drilled.																
160	—					Not drilled.																
165	0	120	248073E	5589	99N	Clay: Quartz,gritty,brown-grey,wet. Chips:Quartz gravel & chips.			114 114 114	120 120 120	302 KI-25 302	13	40		20		2 L2 L2	6 L2 10	15	L0.1	Spectrum McPhar "	

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DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists, Hydrogeologists

LINE No.: 6-3000 N HOLE No.: PAGE: 1

Property: E.L. 9/71 Co-ordinates x: Bearing: Logged By: L.G. SZABO Drilling Technique: GEMCO AUGER
Date Collared: y: Dip: Checked By: Core Size: 3"
Date Completed: z: Depth: Drilled By: A.D.D. Client: U.S.S.I.-N.Y.

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
110	0	22	24986E	55890	79 N	Clay: Silty, khaki, moist.			15	16	315	10	30		25		8	8	15	0.1	Spectrum	
						Chips: Sandstone, grey & Biotite-Chlorite Hornfels.			15	16	KI-38						L2	10			McPhar	
									15	16	315						2	L2			"	
									16	22	Drilling continued by Tungsten Carbide bit to recover bedrock chips.											
120	0	13	24977E	55891	00 N	Clay: Silty, khaki-brown, moist.			3	9	316	12	25		25		2	4	25	L0.1	Spectrum	
						Chips: Dark Chlorite-Biotite Hornfels.			3	9	KI-39						5	L2			McPhar	
									3	9	316						L2	L2			"	
									9	13	Drilling continued by Tungsten Carbide bit to recover bedrock chips.											
130	0	40	24962E	55891	35 N	Clay: Gritty, light grey, wet.			34	40	317	28	40		20		L2	10	6	L0.1	Spectrum	
						Chips: Quartz, Feldspar, Granite.			34	40	KI-40						L2	15			McPhar	
									34	40	317						L2	5			"	
140	—					Not drilled.																
150	—					Not drilled.																
160	0	56	24873E	55893	54 N	Clay: Sandy, bluegrey, wet.		Zr, Sch?	52	56	313	11	20		15		L2	2	20	0.1	Spectrum	
						Chips: Sandstone, light grey, with Andalusite porphyroblasts.			52	56	KI-36						L2	L2			McPhar	
									52	56	313						L2	L2			"	
165	0	45	24844E	55894	30 N	Clay: Gritty, grey, wet.			40	45	303	21	25		25		L2	2	20	L0.1	Spectrum	
						Chips: Sand & gravel of Pyroxene Hornfels & Biotite Hornfels.			40	45	KI-26						L2	L2			McPhar	
									40	45	303						L2	L2			"	
168	0	26	24814E	55895	05 N	Clay: Silty, grey, wet.			20	26	312	13	15		30		4	8	20	L0.1	Spectrum	
						Chips: Grey, Biotitic Sandstone & Biotite-Chlorite Hornfels.			20	26	KI-35						L2	20			McPhar	
									20	26	312						40	30			"	

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DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.:6-3450 N HOLE No.:16800 E PAGE: 1

Property: E.L. 9/71 Co-ordinates x: Bearing: Logged By: L.G. SZABO Drilling Technique: GEMCO AUGER
Date Collared: y: Dip: Checked By: Core Size: 3"
Date Completed: z: Depth: Drilled By: A.D.D. Client:U.S.S.I.-N.Y.

Hole No.	Drilled Ft.			Recovery		Description	Rock Unit	Mineral-isation	Sampled Ft		Sample No.	Assays										
	From	To	Width	Ft.	%				From	To		Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
168	0	8.5	249899E 556	9213N		Clay: Silty,grey-brown,moist.		Zr,	7	8	307	6	30		50		2	6	15	L0.1	Spectrum	
						Chips:Spotted rock & grossularite rock.		Sch(plenty)?	7	8	KI-30											
									7	8	307						L2	30			McPhar	
									8	8.5	Drilling continued by Tungsten Carbide bit to recover bedrock chips.											

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DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.:6-3500 N HOLE No.: PAGE: 1

Property: E.L. 9/71 Co-ordinates x: Bearing: Logged By: L.G. SZABO Drilling Technique: GEMCO AUGER
Date Collared: y: Dip: Checked By: Core Size: 3"
Date Completed: z: Depth: Drilled By: A.D.D. Client:U.S.S.I.-N.Y.

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
160	0	40	249902E	5589234N		Clay:Silty,light brown,wet.		Sch?	34	40	310	30	25		15		2	4	4	L0.1	Spectrum	
						Chips:Dark grey,Quartzite		(plenty)	34	40	KI-33						L2	L2			McPhar	
						(contact rock).			34	40	310						L2	15			"	
165	0	11	249864E	5589240N		Clay: Silty,light brown,moist.			5	11	304	7	25		10		2	6	15	0.1	Spectrum	
						Chips:Acid Igneous,- Aplite?,			5	11	KI-27						L2	10			McPhar	
						Microgranite?			5	11	304						L2	L2			"	
									0	11	Complete hole drilled by Tungsten Carbide Bit.											
166	0	15	249846E	5589247N		Silt: Clayey,yellow-brown,moist.		Sch?	12	13	309	3	20		25		2	4	10	0.1	Spectrum	
						Chips:Garnet Hornfels? & Spotted			12	13	KI-32						L2	L2			McPhar	
						Rock.			12	13	309						L2	15			"	
									13	15	Drilling continued by Tungsten Carbide Bit to recover bedrock chips.											
167	0	8.5	249808E	5589258N		Silt: Clayey,light brown,moist.			8	8.5	308	6	20		30		2	4	15	L0.1	Spectrum	
						Chips:Spotted siltstone &			8	8.5	KI-31						L2	10			McPhar	
						Garnet.			8	8.5	308						2	10			"	
168	0	12	249661E	5589293N		Clay: Silty,grey-brown,moist.		Sch?	10	12	305	13	25		25		L2	4	15	L0.1	Spectrum	
						Chips:Garnet Rock,(Grossulaite).			10	12	KI-28						L2	L2			McPhar	
									10	12	305						L2	L2			"	

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DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: 6-4000 N HOLE No.: PAGE: 1

Property:E.L. 9/71 Co-ordinates x: Bearing: Logged By: L.G. SZABO Drilling Technique: GEMCO AUGER
Date Collared: y: Dip: Checked By: Core Size: 3"
Date Completed: z: Depth: Drilled By:A.D.D. Client: U.S.S.I.-N.Y.

Hole No.	Drilled Ft.			Recovery		Description	Rock Unit	Mineral-isation	Sampled Ft		Sample No.	Assays										
	From	To	Width	Ft.	%				From	To		Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
110	0	16	2499408E	5589381 N		Clay: Silty,khaki-brown,moist.			10	16	318	28	20		20		L2	2	20	L0.1	Spectrum	
						Chips:Spotted Siltstone.			10	16	KI-41						L2	L2			McPhar	
									10	16	318						L2	L2			"	
120	—					Not drilled.																
121	0	25	2499468E	5589411 N		Clay: Silty,khaki-brown,wet.			19	25	319	19	15		20		L2	6	25	0.2	Spectrum	
						Chips:Spotted shale - Siltstone.			19	25	KI-42						L2	15			McPhar	
									19	25	319						L2	L2			"	
130	0	19	2499495E	5589444 N		Clay: Silty,light brown,moist			13	19	320	33	20		45		L2	2	8	0.1	Spectrum	
						Chips:Spotted shale-Siltstone			13	19	KI-43						L2	20			McPhar	
									13	19	320						L2	L2			"	
140	0	34	2491038E	5589514 N		Clay: Sandy,khaki-grey,moist.			28	34	321	14	40		30		2	8	15	0.1	Spectrum	
						Chips:Quartz & Feldspar,			28	34	KI-44						L2	30			McPhar	
						Granite.			28	34	321						L2	L2			"	
150	—					Not drilled.																
160	0	56	2488098E	5589666 N		Clay: Sandy,blue-grey,wet.			44	50	314	17	35		20		2	30	30	L0.1	Spectrum	
						Chips:Granite,fine grained.			44	50	KI-37						L2	60			McPhar	
									44	50	314						L2	60			"	
									50	56	No sample - Drill Flite & Bit lost.											
165	0	20	2485376E	5589735 N		Silt: Clayey,light brown,moist.			14	20	306	20	20		25		4	25	30	L0.1	Spectrum	
						Chips:Spotted shale.			14	20	KI-29						L2	30			McPhar	
									14	20	306						L2	40			McPhar	
168	0	15	2482158E	5589818 N		Silt: Clayey,khaki-brown,moist.			9	15	311	12	20		15		L2	2	10	0.1	Spectrum	
						Chips:Spotted rock & Garnet			9	15	KI-34						L2	L2			McPhar	
						rock?			9	15	311						L2	5			"	

A P P E N D I X XXIV

DRILLING RECORD: AUGER LINE 8

755252

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: 8 HOLE No.: PAGE: 1

Property:E.L. 15/71 Co-ordinates x: Bearing: Logged By: L.G. SZABO Drilling Technique:GEMCO AUGER
Date Collared: y: Dip: Checked By: Core Size: 3"
Date Completed: z: Depth: Drilled By: A.D.D. Client:U.S.S.I.-N.Y.

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
0	0	40	246813E	5587578N		Clay: Gritty,grey,wet. Chips:Micaschist.			34	40	192	29	15		35		4	17.5	20	L0.1		
2	0	40	246688E	5587604N		Clay: Gritty,grey,wet. Chips:Micaschist with Pyrite.		Py	34	40	193	19	20		20		4	4	12.5	L0.1		
4	0	34	246570E	5587636N		Clay: Gritty,grey,wet. Chips:Quartz with Pyrite.		Py	28	34	194	8	15		20		4	6	17.5	0.1		
6	0	40	246455E	5587664N		Clay: Gritty,grey,wet. Chips:Quartz with Pyrite & Sand.		Py	34	40	195	25	20		20		4	30	10	L0.1		
8	0	34	246342E	5587693N		Clay: Gritty,grey,wet. Chips:Quartz with Pyrite & Sand.		Py	28	34	290	21	20		20		2	2	2	L0.1		
10	0	40	246220E	5587725N		Clay: Grey,wet. Chips:Sand & Pyrite.		Py	34 34	40 40	196 291	18 23	20 20		20 10		2 L2	17.5 2	12.5 2	0.1 0.1		
12	0	64	246099E	5587751N		Clay: Gritty,grey,wet. Chips:Sand & Pyrite.		Py	58	64	180	22	20		25		L2	10	10	0.1		
14	0	58	245986E	5587781N		Clay: Sandy,grey,wet. Chips:Sand & Pyrite.		Py	22 33 52	28 39 58	181 182 183	4 18 11	10 10 15		15 15 10		L2 L2 2	8 4 8	4 4 8	L0.1 L0.1 L0.1		
16	0	34	245865E	5587815N		Clay: Sandy,grey,moist. Chips:Sand & Pyrite.		Py	28	34	184	8	15		15		4	8	4	L0.1		
18	—					Not drilled.																
20	0	74	245805E	5587828N		Clay: Grey,moist. Chips:Quartz gravel & sand & Pyrite.		Py	68 68 68	74 74 74	185 KI-5 KI-5	25	20		15		2 L2	35 20 10	8	L0.1	Spectrum McPhar AMDEL	
22	—					Not drilled.																

755253

DRILLING RECORD

L.G. SZABO AND PARTNERS PTY. LTD.
Consulting Exploration & Mining Geologists,Hydrogeologists

LINE No.: 8 HOLE No.: PAGE: 2

Property: Co-ordinates x: Bearing: Logged By: Drilling Technique:
Date Collared: y: Dip: Checked By: Core Size:
Date Completed: z: Depth: Drilled By: Client:

Hole No.	Drilled Ft. From	To	Width	Recovery Ft.	%	Description	Rock Unit	Mineralisation	Sampled Ft From	To	Sample No.	Assays Cu	Pb	Zn	Ni	Bi	Mo	W	Sn	Au	Ag	U
24	0	70	245749E	5587845 N		Clay: Grey,moist. Chips:Quartz,gravel,sand & Pyrite.		Py	64	70	186	9	20		10		2	15	10	L0.1		
26	—					Not drilled.																	
28	0	70	245694E	5587857 N		Clay: Grey,moist. Chips:Micaschist.			64	70	187	18	20		30		L2	4	8	L0.1		
30	—					Not drilled.																	
32	0	70	245633E	5587873 N		Clay: White-grey,wet. Chips:Micaschist & Pyrite.		Py	64	70	249	13	20		20		2	4	10	0.1		
34	—					Not drilled.																	
36	0	70	245573E	5587890 N		Clay: Gritty,grey,wet. Chips:Quartz,gravel,sand & Pyrite.		Py	64	70	250	23	30		30		2	4	20	L0.1		
38	—					Not drilled.																	
40	0	70	245515E	5587904 N		Clay: Gritty,light grey,wet. Chips:Sand & Pyrite.		Py	64	70	251	31	10		15		2	4	12.5	L0.1		
42	—					Not drilled.																	
44	0	70	245462E	5587921 N		Clay: Gritty,light grey,wet. Chips:Sand & Pyrite.		Py	64	70	252	63	25		20		10	2	15	L0.1		
46	—					Not drilled.																	
48	0	64	245349E	5587936 N		Clay: Gritty,light grey,wet. Chips:Laterite,sand & Pyrite.		Py	58	64	253	20	25		15		4	6	5	L0.1		

Colours refer to Isaacs geology (legend in summary report)

Locality map

LINE 2

LINE 4

LINE 6

LINE 4 – 1600 N

LINE 4 – 1200 N

LINE 4 – 800 N

LINE 4 – 400 N

LINE 6 4000 N

LINE 6 3500 N

LINE 6 3000 N

LINE 6 2000 N

LINE 6 1000 N

DDH-R 3

DDH-R 2

Mag.

Pb

Mo

Au

250400
5591000

247950
5588300

250400
5588300

753254

line 8:

5 cm

United States Steel International (New York), Inc.

Exploration Licence 9/71 – King Island, Tasmania

Facts and geological interpretation

(46 Acheron Ave Mt Eliza 3930) 72-874

SURVEYED AND COMPILED BY

L.G. SZABO Dip. Geol I.A.S. Exploration and Mine Geological Consultant

DEC. 1971 – MAY 1972

Scale: 1" = 1000'	Drawn: J. Balint	Drg. No: 1. 2204
Date: 27. 5. 72.	Checked:	

6000 W 4000 W 2000 W 0 2000 E 4000 E 6000 E 8000 E 10000 E 12000 E

20000 N 18000 N 16000 N 14000 N 12000 N 10000 N 8000 N

MINERAL LEASES HELD BY

HAWKES ALLUVIAL TIN LTD.

0 2 4 6 8 10 12 W 14 16 W 20 24 28 32 36 40 44 48 Mg. LINE 8

Locality map

5 cm

United States Steel International (New York), Inc.	
Exploration Licence 15/71 – King Island, Tasmania	
Facts and geological interpretation	
72-874	
SURVEYED AND COMPILED BY L.G. SZABO Dip. Geol., I.A.S., Exploration and Mine Geological Consultant DEC. 1971 – MAY 1972	
Scale: 1" = 1000'	Drawn: J. Balint
Date: MAY 1972	Checked:
	Drg. No: 2.2205

16200 E

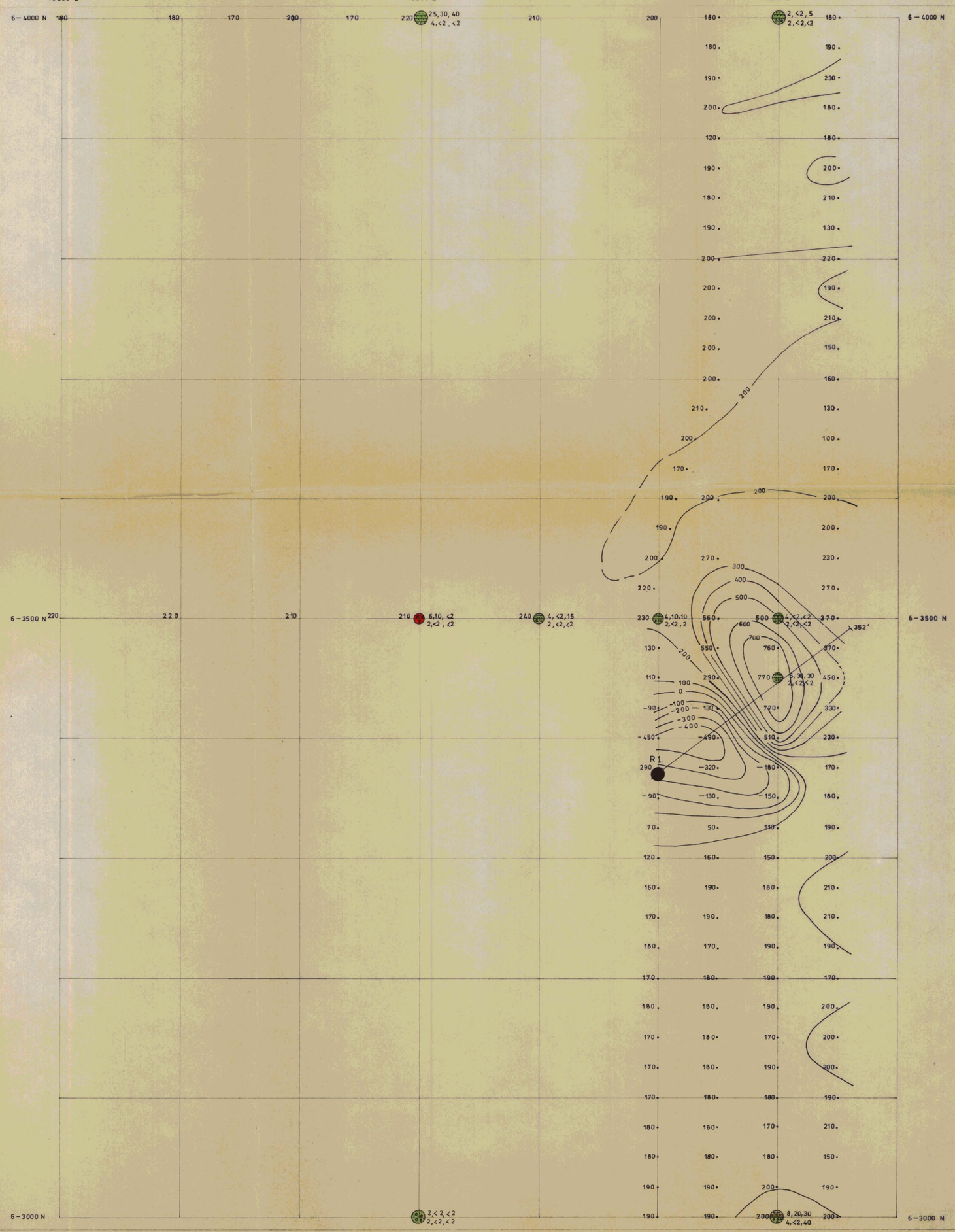
16500 E

16800 E

6 – 4000 N

6 – 3500 N

6 – 3000 N



LEGEND

- Diamond drill hole
- Auger hole
- 210 | 110. — Vertical magnetic intensity
- 210 | 6, 10, <2 / 2, <2, <2 — Tungsten p.p.m: Spectrum, M^cphar, M^cphar
- Molybdenum p.p.m: Spectrum, M^cphar, M^cphar
- — 300 — Magnetic contours

5 cm

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Target Area – DDH R-1

72-874

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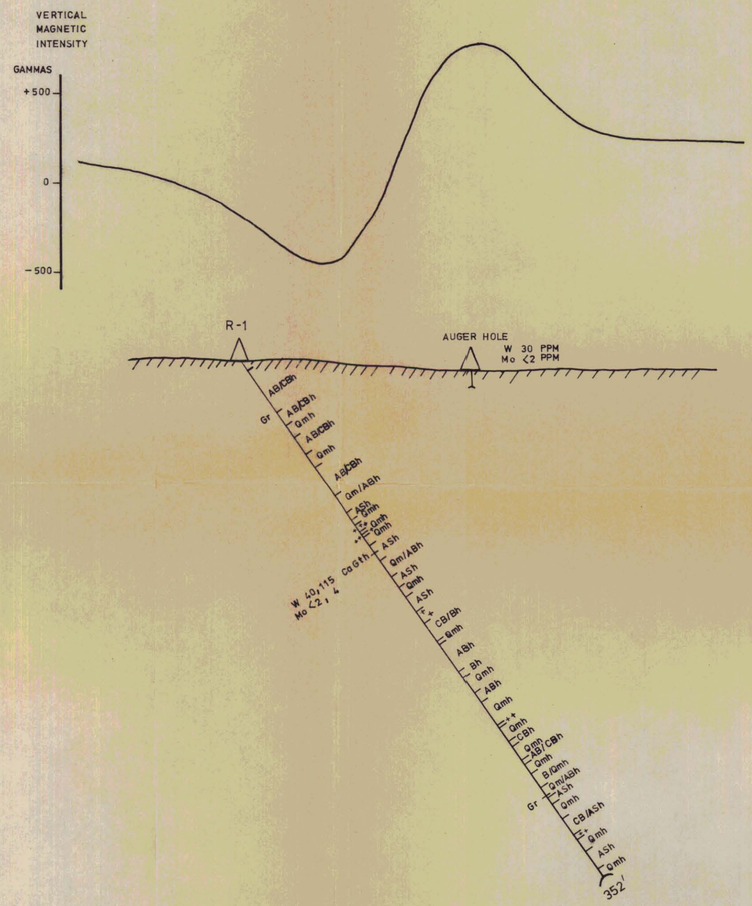
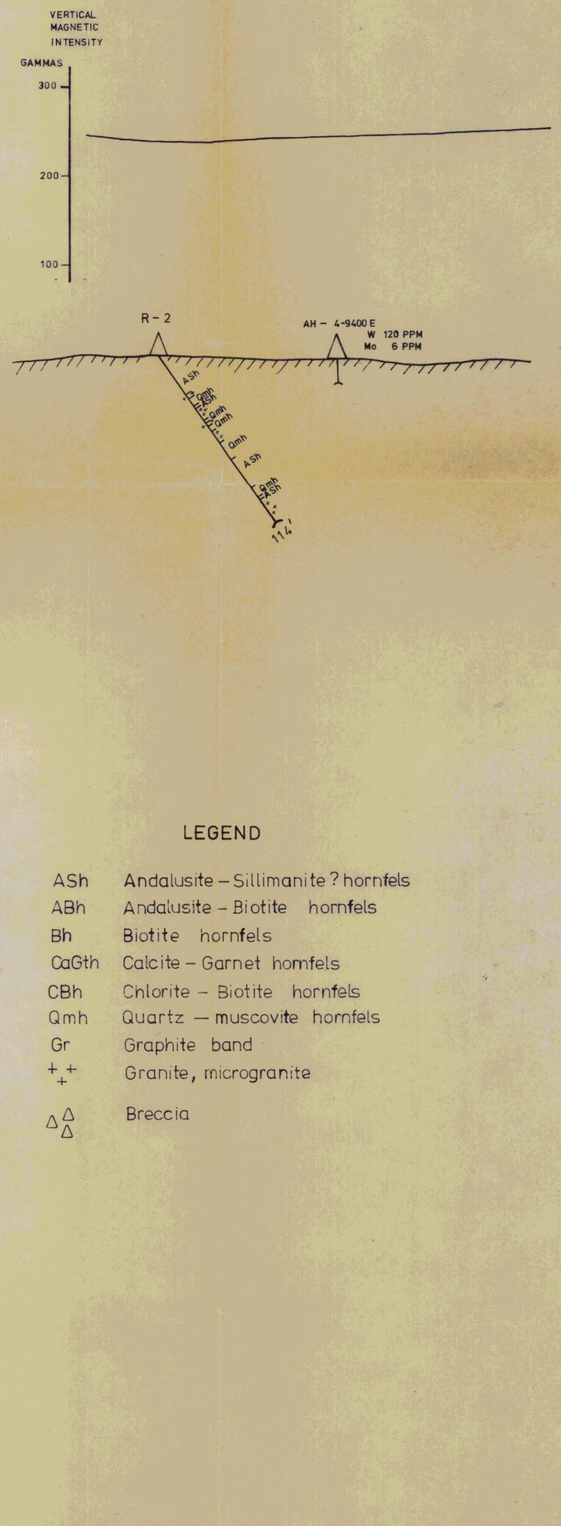
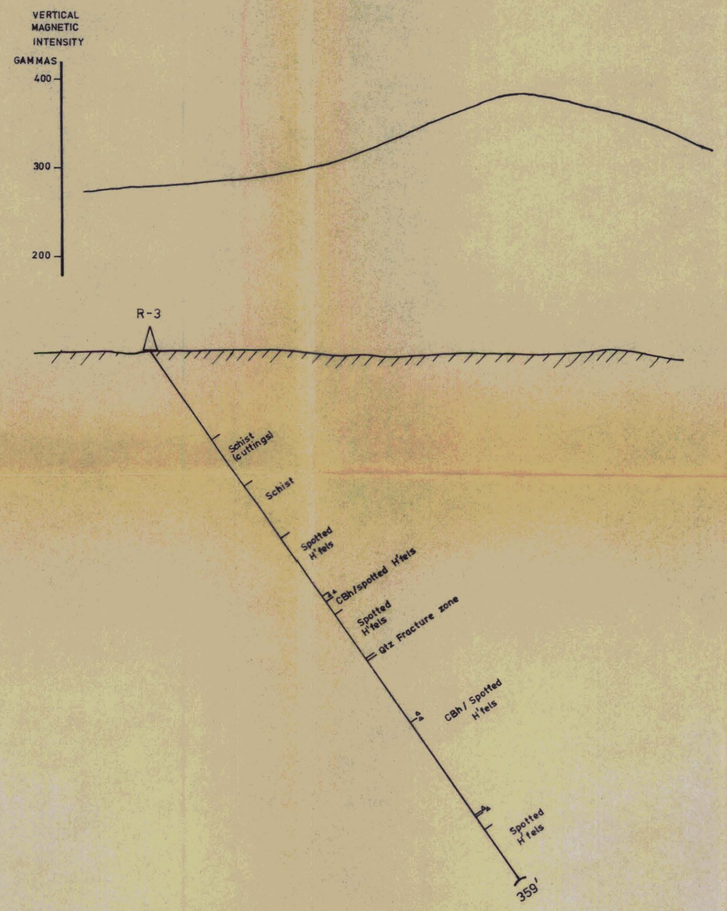
DEC. 1971 — MAY 1972

Scale : 1" = 50'	Drawn : J. Balint	Drg. No: 3. 2206
Checked :	Date : MAY, 1972	







LEGEND

ASh	Andalusite – Sillimanite ? hornfels
ABh	Andalusite – Biotite hornfels
Bh	Biotite hornfels
CaGth	Calcite – Garnet hornfels
CBh	Chlorite – Biotite hornfels
Qmh	Quartz — muscovite hornfels
Gr	Graphite band
+ +	Granite, microgranite
△ △	Breccia

755257

5 cm

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Exploration Licence 9/71– King Island, Tasmania

Drill hole sections
DDH – R1, R2, R3.

2207

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L.G SZABO Dip. Geol. I.A.S. Exploration and Mine Geological Consultant
DEC. 1971 – MAY 1972

Scale : 1" = 50'	Drawn: J. Balint	Drg. No: 4.
Checked :	Date : MAY 1972	

0 2000 E 4000 E 6000 E 8000 E 10000 E 12000 E 14000 E 16000 E 18000 E

PPM

Ni

100

0

Pb

100

0

Cu

100

0

Mo

100

0

Au

1

0

W

100

0

Sn

100

0

GAMMAS

VERTICAL MAGNETIC INTENSITY

400

300

200

603

AUGER CHIPS

GEOLOGICAL INTERPRETATION

S

0 2000 E 4000 E 6000 E 8000 E 10000 E 12000 E 14000 E 16000 E 18000 E

755258

5 cm

United States Steel International (New York), Inc.

Exploration Licence 9/71 – King Island, Tasmania

LINE 2

Survey Profiles and Interpretation 72-874

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DEC. 1971 – MAY 1972

Scale: 1"= 1000'	Drawn: J. Balint	Drg. No: 5.2208
Date: 28.5.72.	Checked:	

0 2000 E 4000 E 6000 E 8000 E 10000 E 12000 E 14000 E 16000 E 18000 E

Ni — PPM — 100 — 0

Pb — 100 — 0 — 1575

Cu — 100 — 0 — 470

Mo — 100 — 0

Au — 1 — 0

W — 100 — 0

Sn — 100 — 0

GAMMAS — 300 — 200 — 100

VERTICAL MAGNETIC INTENSITY

AUGER CHIPS

GEOLOGICAL INTERPRETATION

0 2000 E 4000 E 6000 E 8000 E 10000 E 12000 E 14000 E 16000 E

755259

5 cm

16000 E

72-874

United States Steel International (New York), Inc.

Exploration Licence 9/71 – King Island, Tasmania

LINE 4

Survey Profiles and Interpretation

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DEC. 1971 – MAY 1972

Scale: 1"= 1000'	Drawn: J. Balint	Drg. No: 2208 6.
Date: 28. 5. 72	Checked:	

LINE 4-400N

LINE 4-800

LINE 4-1200

LINE 4-1600

6000 E 8000 E 10000 E

PPM

Ni

Pb

Cu

Mo

Au

W

Sn

100

0

1

GRAMMAS

500

400

300

200

VERTICAL MAGNETIC INTENSITY

FLITE LEFT IN HOLE

AUGER CHIPS

GEOLOGICAL INTERPRETATION

755260

5 cm

72-874

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LINE Nos. 4-400 N, 4-800 N, 4-1200 N, & 4-1600 N

Survey profiles and Interpretation

2210

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DEC. 1971 – MAY 1972

Scale: 1" = 1000'

Drawn: J. Balint

Drg. No: 7.

Checked:

Date: MAY 1972

4000 W | 2000 W | 0 | 2000 E | 4000 E | 6000 E | 8000 E | 10000 E | 12000 E | 14000 E | 16000 E

Ni — PPM — 100 — 0

Pb — 100 — 0

Cu — 100 — 0

Mo — 100 — 0

Au — 1 — 0

W — 100 — 0

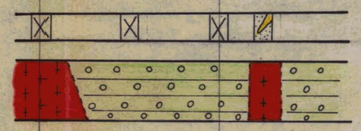
Sn — 100 — 0

GAMMAS — 200 — 100 — 0

VERTICAL MAGNETIC INTENSITY

AUGER CHIPS

GEOLOGICAL INTERPRETATION



14000 E | 16000 E

75361

5 cm

4000 W | 2000 W | 0 | 2000 E | 4000 E | 6000 E | 8000 E | 10000 E | 12000 E

United States Steel International (New York), Inc.

Exploration Licence 9/71 – King Island, Tasmania

LINE 6 – 2000 2211

Survey profiles and Interpretation 72-874

SURVEYED AND COMPILED BY

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DEC. 1971 – MAY 1972

Scale: 1" = 1000'	Drawn: J. Balint	Drg. No: 8.
Date: 28. 5. 72.	Checked:	

4000 W | 2000 W | 0 | 2000 E | 4000 E | 6000 E | 8000 E | 10000 E | 12000 E | 14000 E | 16000 E

PPM

Ni 100 0

Pb 100 0

Cu 100 0

Mo 100 0

Au 1 0

W 100 0

Sn 100 0

GAMMAS 200 100

VERTICAL MAGNETIC INTENSITY 0

AUGER CHIPS

GEOLOGICAL INTERPRETATION

14000 E | 16000 E

4000 W | 2000 W | 0 | 2000 E | 4000 E | 6000 E | 8000 E | 10000 E | 12000 E

755262

5 cm

United States Steel International (New York), Inc.

Exploration Licence 9/71 – King Island, Tasmania

LINE 6 – 3000 2212

Survey profiles and Interpretation 72-874

SURVEYED AND COMPILED BY

L.G. SZABO Dip. Geol, I.A.S., Exploration and Mine Geological Consultant

DEC. 1971 – MAY 1972

Scale: 1" = 1000'	Drawn: J. Balint	Drg. No: 9.
Date: 28. 5. 72.	Checked:	

LINE 6 - 3500 N

LINE 6 - 4000 N

10000 E 12000 E 14000 E 16000 E 18000 E

6000 E 8000 E 10000 E 12000 E 14000 E 16000 E

PPM

Ni 0 100

Pb 0 100

Cu 0 100

Mo 0 100

Au 0 1

W 0 100

Sn 0 100

GAMMAS 500 400 300 200

VERTICAL MAGNETIC INTENSITY

GAMMAS 200 100 0

AUGER CHIPS

GEOLOGICAL INTERPRETATION

10 000 E 12000 E 14000 E 16000 E 18000 E

6 000 E 8 000 E 10 000 E 12000 E

14 000 E 16000 E

10,000 E 12,000 E 14,000 E 16,000 E 18,000 E

755263

5 cm

United States Steel International (New York), Inc.

Exploration Licence 9/71 - King Island, Tasmania

LINE Nos. 6-3500 N & 6-4000 N 2213

Survey profiles and Interpretation 72-874

SURVEYED AND COMPILED BY

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DEC. 1971 - MAY 1972

Scale: 1"= 1000'	Drawn: J. Balint	Drg. No: 10.
Date: 28. 5. 72.	Checked:	

4000 W | 2000 W | 0 | 2000 E | 4000 E | 6000 E | 8000 E | 10000 E | 12000 E | 14000 E | 16000 E

PPM

Ni

Pb

Cu

Mo

Au

W

Sn

GAMMAS

VERTICAL MAGNETIC INTENSITY

AUGER CHIPS

GEOLOGICAL INTERPRETATION

4000 W | 2000 W | 0 | 2000 E | 4000 E | 6000 E | 8000 E | 10000 E | 12000 E

14000 E | 16000 E

755264

5 cm

United States Steel International (New York), Inc.

Exploration Licence 9/71 – King Island, Tasmania

LINE 6 2214

Survey profiles and Interpretation 72-874

SURVEYED AND COMPILED BY

L.G. SZABO Dip. Geol., I.A.S., Exploration and Mine Geological Consultant

DEC. 1971 – MAY 1972

Scale: 1"= 1000'	Drawn: J. Balint	Drg. No: 11.
Date: 28. 5. 72.	Checked:	

4000 W | 2000 W | 0 | 2000 E | 4000 E | 6000 E | 8000 E | 10000 E | 12000 E | 14000 E | 16000 E

PPM

Ni — 100 — 0

Pb — 100 — 0

Cu — 100 — 0

Mo — 100 — 0

Au — 1 — 0

W — 100 — 0

Sn — 100 — 0

GAMMAS

VERTICAL MAGNETIC INTENSITY — 400 — 300 — 200

AUGER CHIPS

GEOLOGICAL INTERPRETATION

4000 W | 2000 W | 0 | 2000 E | 4000 E | 6000 E | 8000 E | 10000 E | 12000 E | 14000 E | 16000 E

755265

5 cm

United States Steel International (New York), Inc.

Exploration Licence 15/71 – King Island, Tasmania

LINE 8 2215

Survey profiles and Interpretation 72-874

SURVEYED AND COMPILED BY

L.G. SZABO Dip. Geol., I.A.S., Exploration and Mine Geological Consultant

DEC. 1971 – MAY 1972

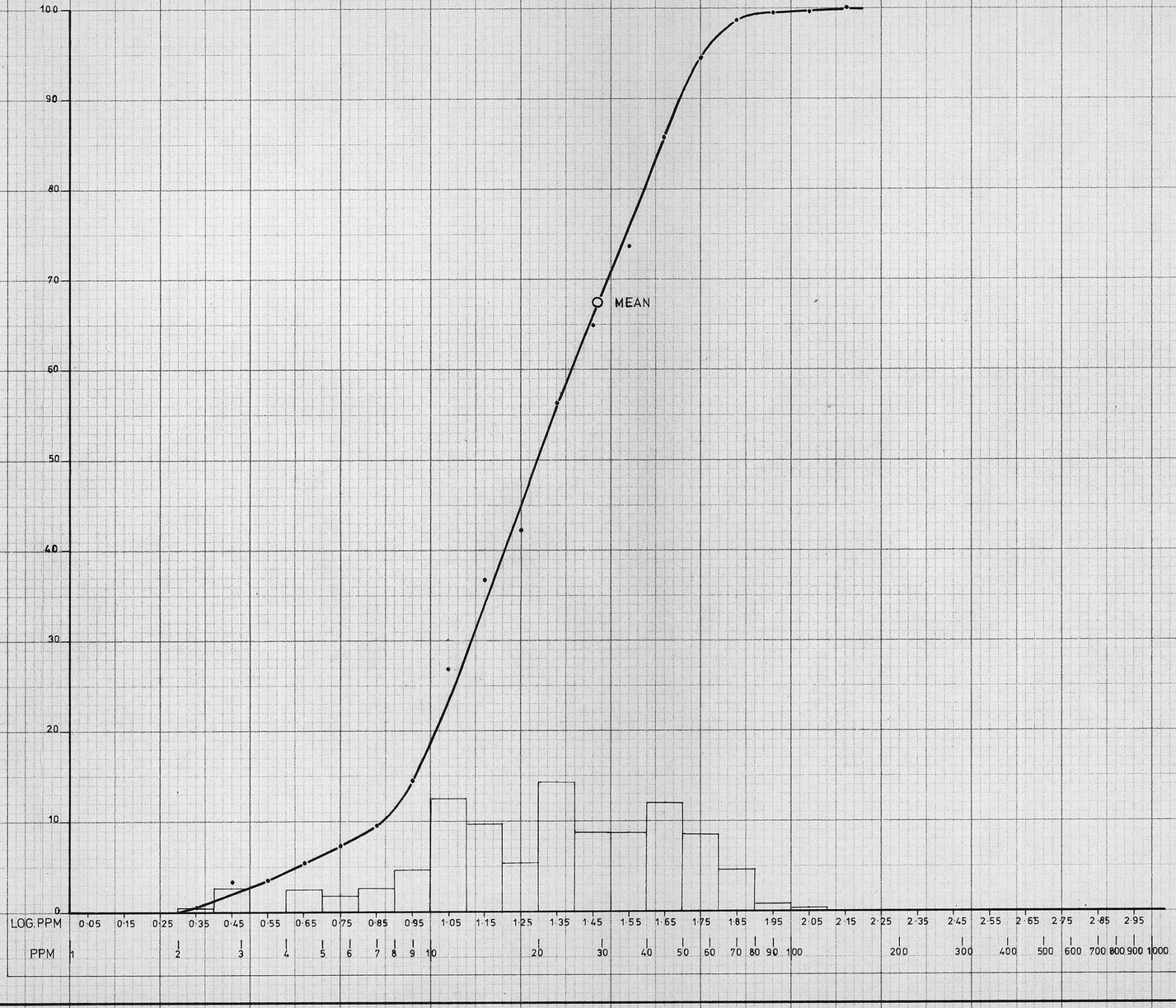
Scale: 1" = 1000'

Drawn: J. Balint

Drg. No: 12.

Date: 28. 5. 72.

Checked:



Background : nil
Anomalous : nil
Total : 283 assays

7552 66

5 cm

72-874

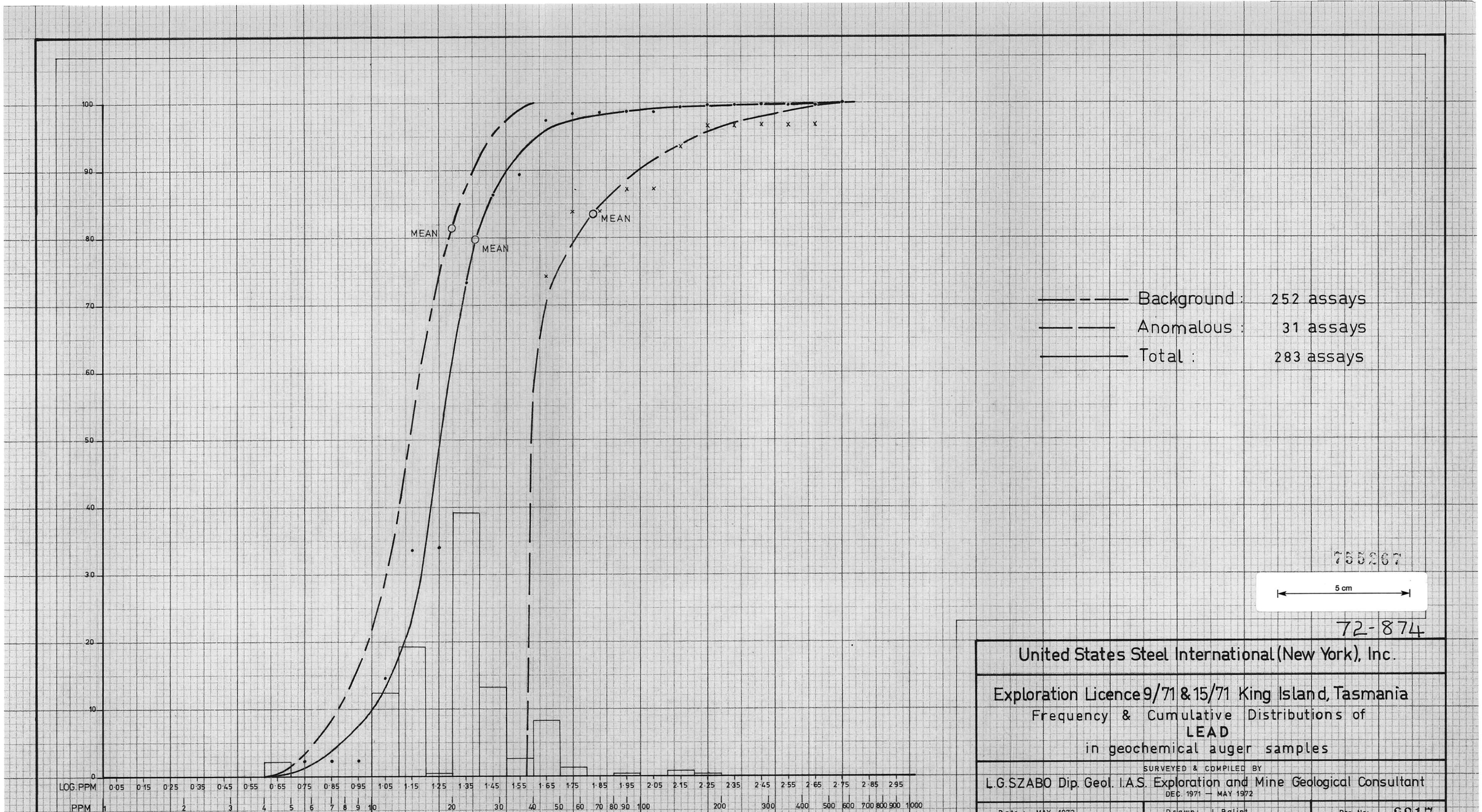
United States Steel International (New York), Inc.

Exploration Licence 9/71 & 15/71 King Island, Tasmania

Frequency & Cumulative Distributions of
COPPER
in geochemical auger samples

SURVEYED AND COMPILED BY
L.G. SZABO Dip. Geol. I.A.S. Exploration and Mine Geological Consultant
DEC. 1971 – MAY 1972

Date: MAY 1972	Drawn: J. Balint	Drg. No.: 13. 2216
Checked:		



755267

5 cm

72-874

United States Steel International (New York), Inc.

Exploration Licence 9/71 & 15/71 King Island, Tasmania

Frequency & Cumulative Distributions of

LEAD

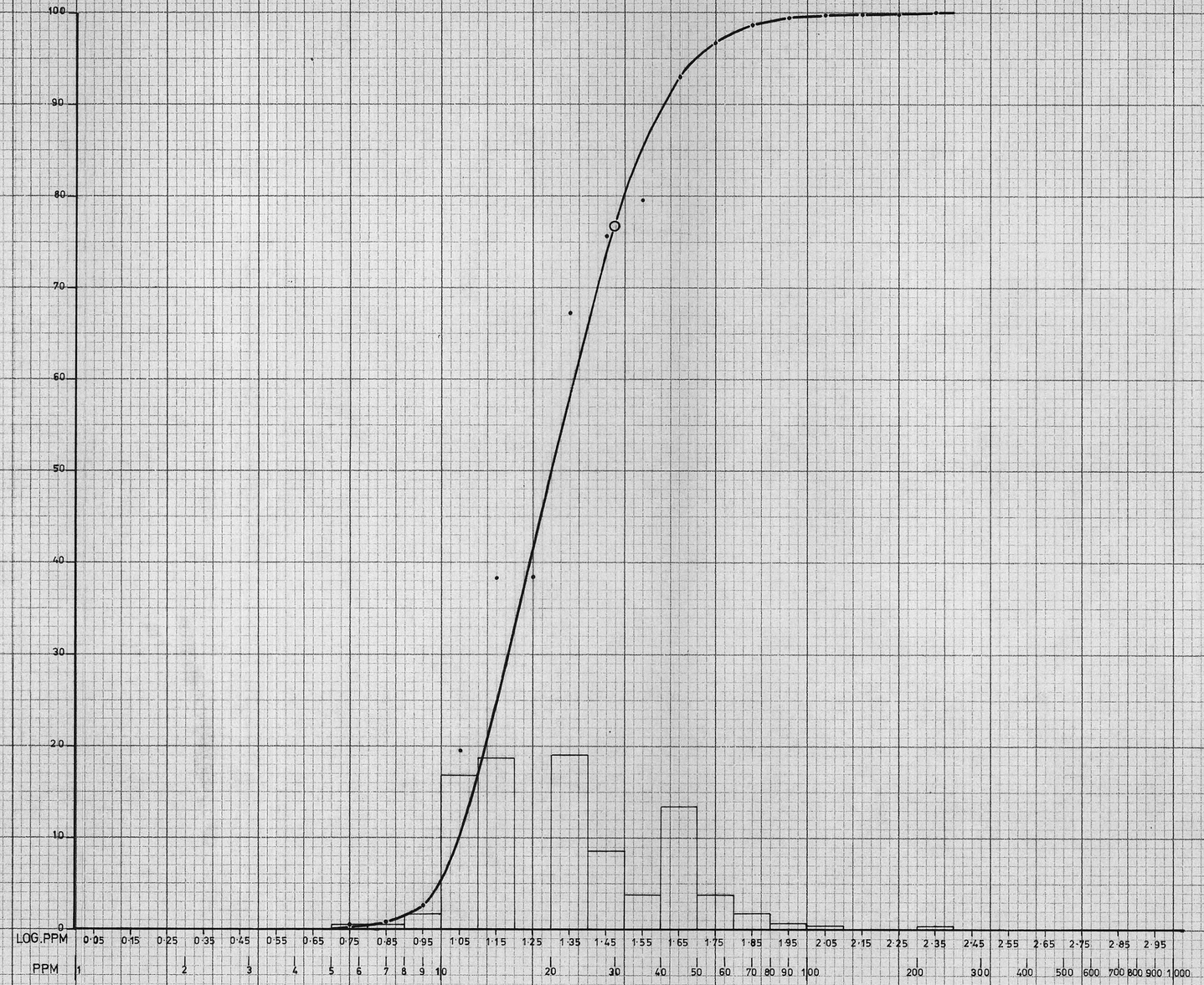
in geochemical auger samples

SURVEYED & COMPILED BY

L.G.SZABO Dip. Geol. I.A.S. Exploration and Mine Geological Consultant

DEC. 1971 — MAY 1972

Date : MAY. 1972	Drawn : J. Balint	Drg. No: 2217 14.
Checked :		



Background : nil
Anomalous : nil
Total : 217 assays

755268

5 cm

72-874

United States Steel International (New York), Inc.

Exploration Licence 9/71 & 15/71 King Island, Tasmania

Frequency & Cumulative Distributions of

NICKEL

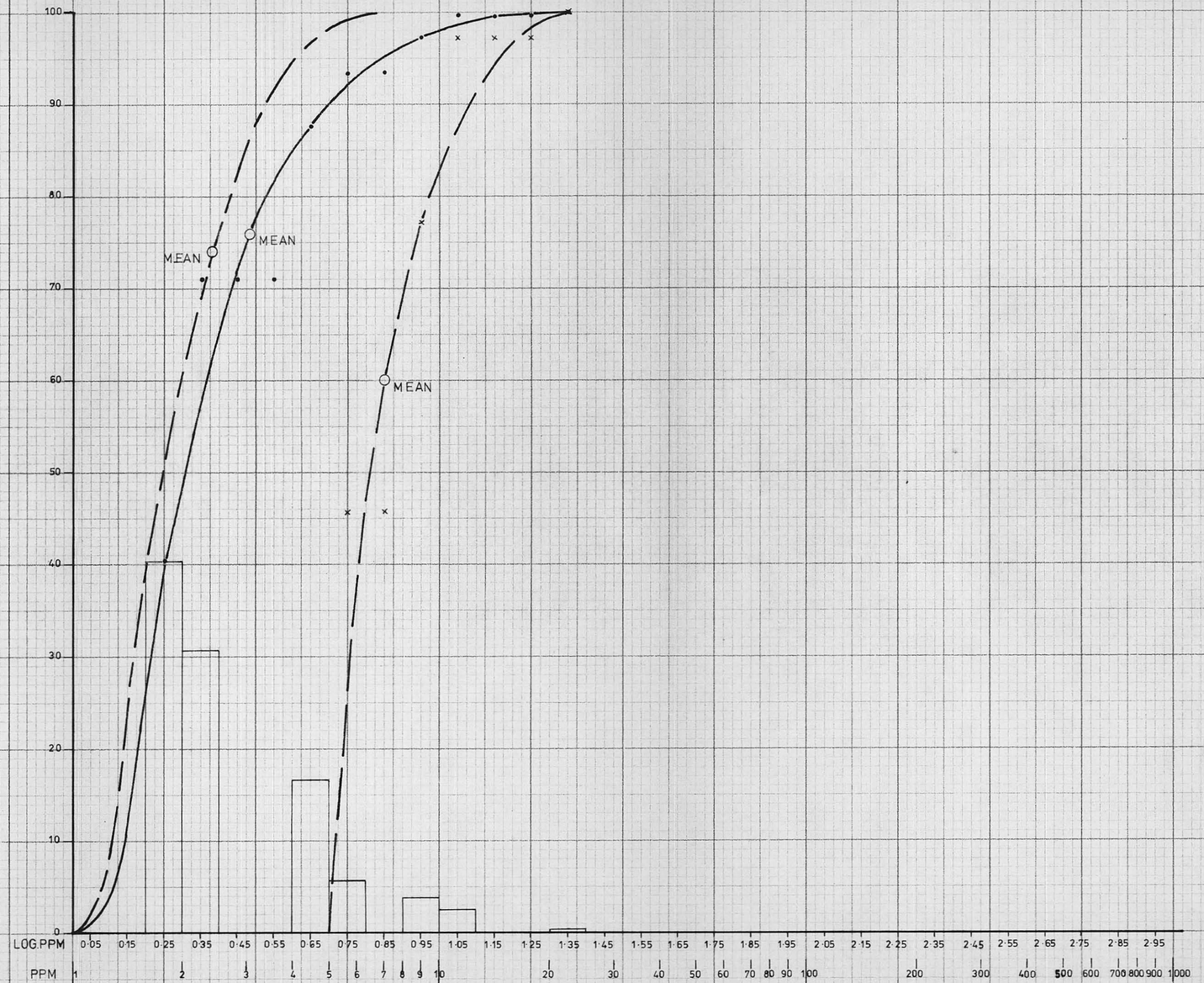
in geochemical auger samples

SURVEYED AND COMPILED BY

L. G. SZABO Dip Geol. I.A.S. Exploration & Mine Geological Consultant

DEC. 1971 — MAY 1972

Date : MAY 1972	Drawn : J. Balint	Drg. No: 152218
Checked :		



Background : 248 assays

Anomalous : 35 assays

Total : 283 assays

755269

5 cm

72-874

United States Steel International (New York), Inc.

Exploration Licence 9/71 & 15/71 King Island, Tasmania

Frequency & Cumulative Distributions of

MOLYBDENUM

in geochemical auger samples

SURVEYED AND COMPILED BY

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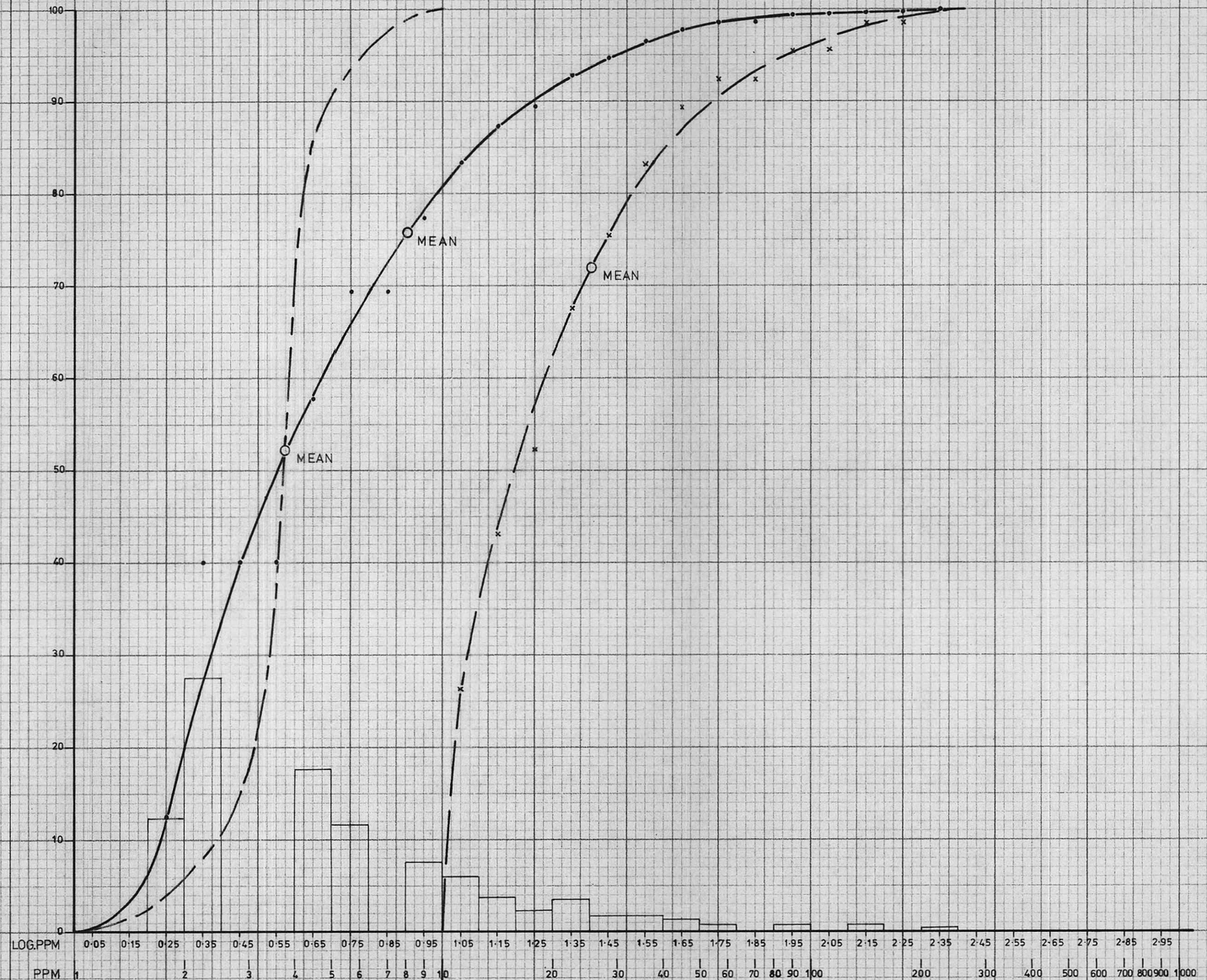
DEC. 1971 — MAY 1972

Date : MAY 1972	Drawn : J. Balint	Drg. No : 2219 16.
Checked :		



Background : 218 assays
Anomalous : 65 assays
Total: 283 assays

755270

5 cm

72-874

United States Steel International (New York), Inc.

Exploration Licence 9/71 & 15/71 King Island, Tasmania

Frequency & Cumulative Distributions of

TUNGSTEN

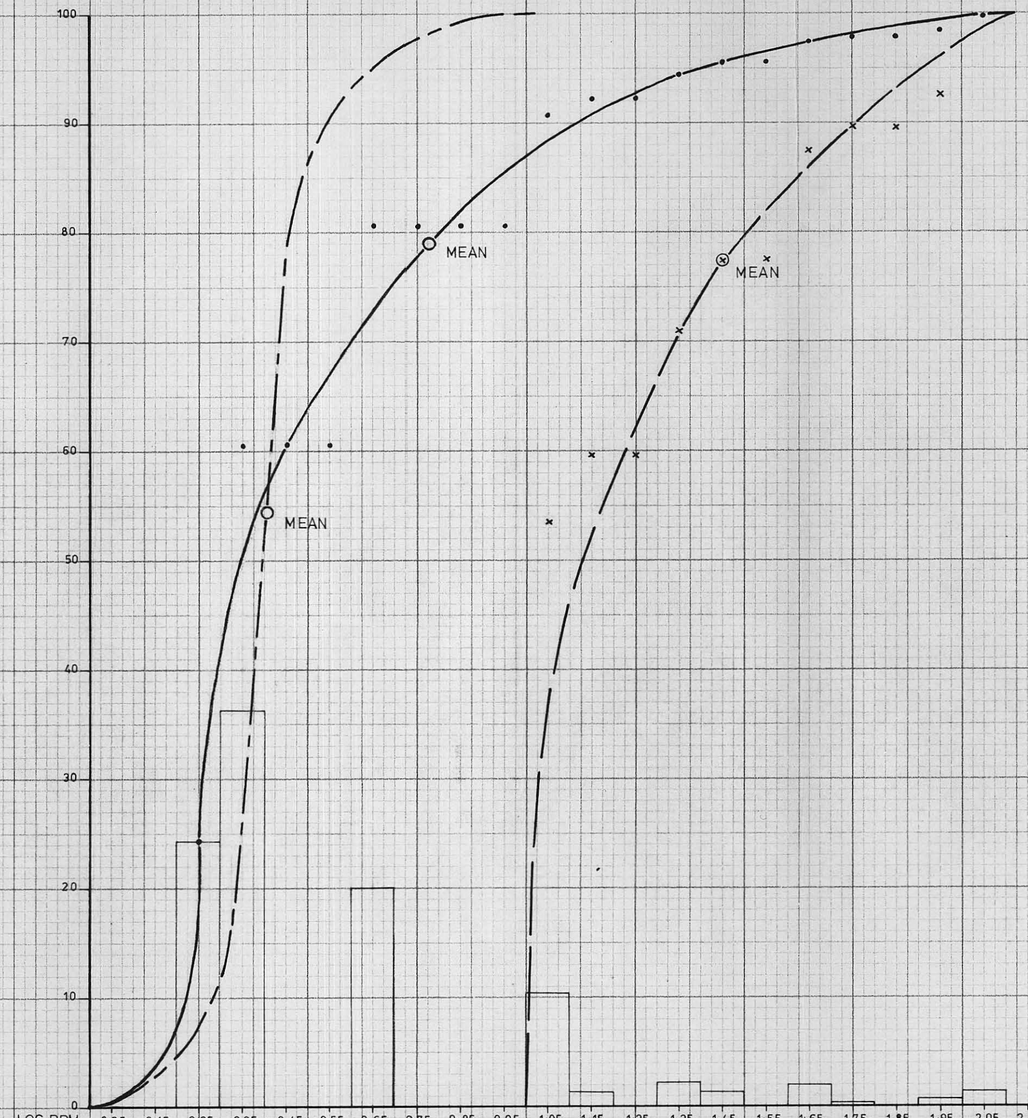
in geochemical auger samples

SURVEYED AND COMPILED BY

L.G. SZABO Dip. Geol. I.A.S. Exploration and Mine Geological Consultant

DEC. 1971 — MAY 1972

Date: MAY 1972	Drawn: J. Balint	Drg. No.: 17. 2220
Checked:		



Background : 402 assays
Anomalous : 97 assays
Total: 499 assays

755271

5 cm

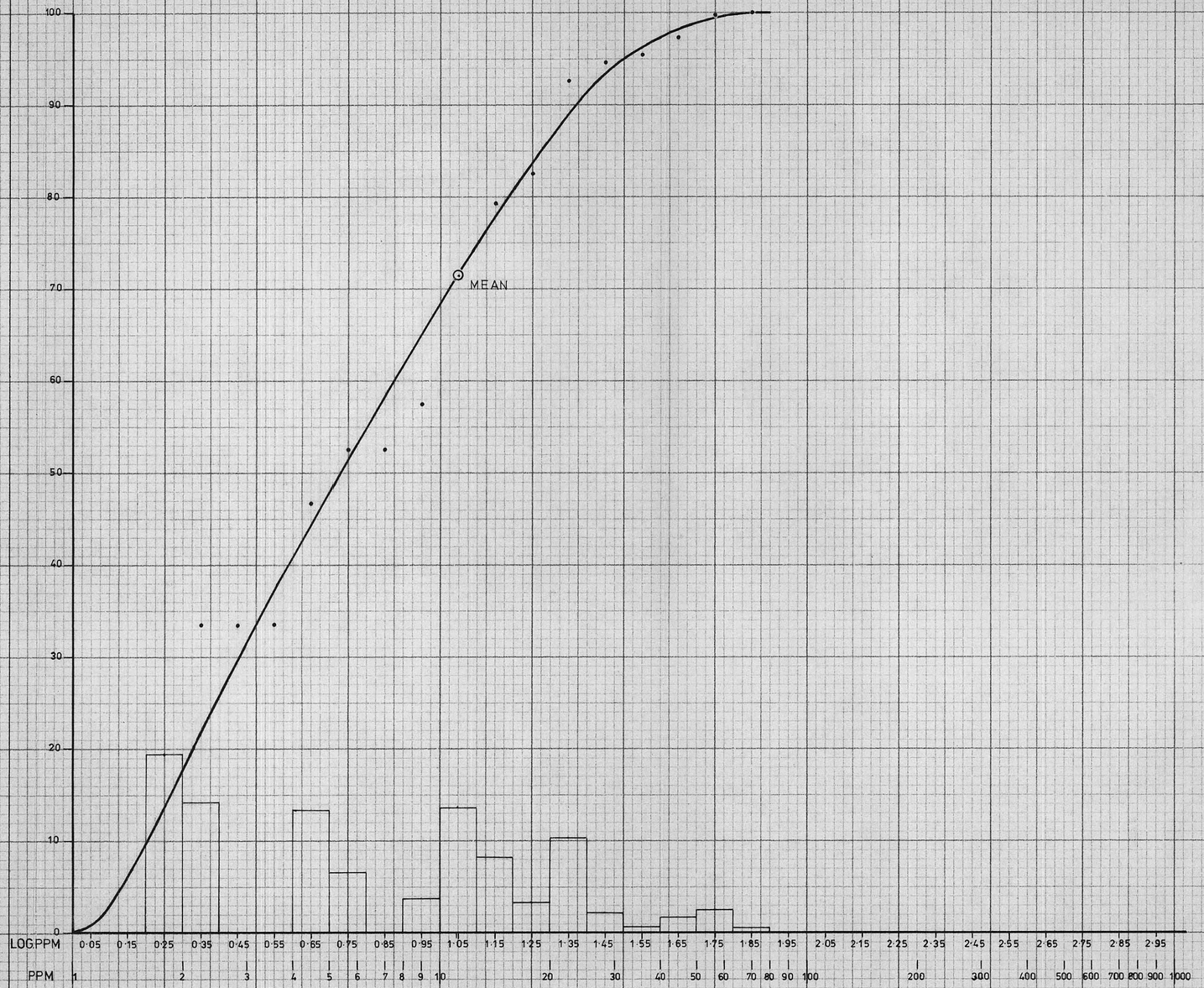
72-874

Bold Head Detailed Survey

Frequency & Cumulative Distributions of
TUNGSTEN
in geochemical auger samples

SURVEYED AND COMPILED BY
L.G. SZABO Dip. Geol. I.A.S. Exploration and Mine Geological Consultant
1969

Date: MAY 1972	Drawn: J. Balint	Drg. No: 18. 2221
Checked:		



Background : nil
Anomalous : nil
Total : 283 assays

755272

5 cm

72-874

United States Steel International (New York), Inc.

Exploration Licence 9/71 & 15/71 King Island, Tasmania

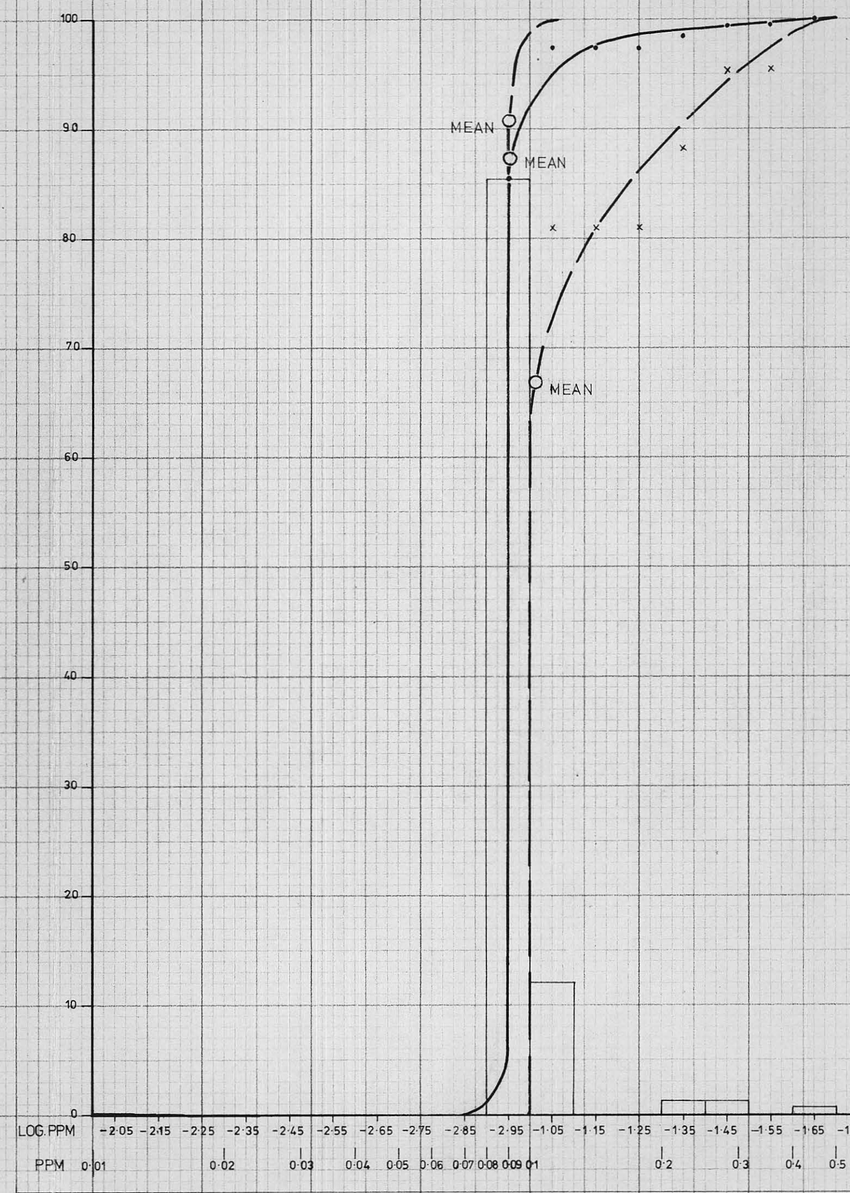
Frequency & Cumulative Distributions of TIN in geochemical auger samples 2222

SURVEYED AND COMPILED BY

L. G. SZABO Dip Geol. I.A.S. Exploration and Mine Geological Consultant

DEC. 1971 — MAY 1972

Date: MAY 1972	Drawn: J. Balint	Drg. No: 19.
Checked:		



——— - ——— Background : 241 assays

——— —— Anomalous : 42 assays

——————— Total : 283 assays

755273

5 cm

72-874

United States Steel International (New York), Inc.

Exploration Licence 9/71 & 15/71 King Island, Tasmania

Frequency & Cumulative Distributions of

GOLD 2223

in geochemical auger samples

SURVEYED AND COMPILED BY

L.G. SZABO Dip. Geol. I.A.S. Exploration and Mine Geological Consultant

DEC. 1971 — MAY 1972

Date : MAY 1972	Drawn : J. Balint	Drg. No : 20.
Checked :		