

CRA EXPLORATION PTY.LIMITED.

INTERVIEW PINNACLES EL 36/80

PROGRESS REPORT FOR YEAR ENDING

28TH MARCH 1984

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				Request
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## 1. INTRODUCTION

The Interview Licence area is largely inaccessible by conventional means, and a helicopter borne geochemical drainage survey has therefore been completed throughout the Licence area to infill gaps left by previous surveys. During the survey, particular attention was paid to streams draining the sites of aeromagnetic anomalies detected by the Tasmanian Mines Department West Coast Aeromagnetic Survey. Three types of drainage samples, a pan concentrate, a clay fraction, and a minus 80 mesh stream sediment, together with rock chip samples were collected at each site.

Only the minus 80 mesh sample results were available for inclusion in this report and data on the other sample types will be reported separately.

Old mine workings in the Toner River area were also visited during the survey.

## 2. SUMMARY

Three types of drainage sample (minus 80 mesh stream sediment, a panned concentrate and a clay fraction) were collected during a helicopter borne reconnaissance of EL 36/80.

A total of approximately 70 sites were sampled. Rock chip samples either outcrop or float were collected at the majority of sites. To date, analytical results have only been received for the minus 80 mesh stream sediments.

The stream sediment data was statistically treated using the computer package program MICROGAS, geochemical symbol maps prepared and anomalies identified.

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Copper workings in the vicinity of the Toner River were visited and assessed.

### 3. CONCLUSIONS

The stream sediment survey was effective in defining two major anomalous areas, the Pinnacle and Bolton prospects, together with two lesser anomalies at Mt. Edith and the Toner River.

The Pinnacle anomaly drains an area of approximately 6km<sup>2</sup> and shows anomalous zinc (max. 1150 ppm), iron (max. 1.72%), barium (max. 430 ppm) and tungsten (max. 50 ppm) geochemistry in a number of creeks.

The drainage area is overlain by an aeromagnetic high. A dolerite dyke swarm has been mapped in this vicinity though it does not appear to be causative of the geochemical anomaly owing to the lack of elevated nickel and copper geochemistry.

The Bolton anomaly is smaller than the Pinnacle anomaly and shows anomalous zinc (max. 710 ppm), iron (max. 1.83%), and barium (max. 340 ppm). It is overlain by an aeromagnetic high and dolerite dykes have also been mapped in this vicinity. No associated nickel or copper geochemistry is evident.

The Toner River anomaly exhibits anomalous lead (25 ppm Pb), iron (1.54% Fe) and manganese (280 ppm Mn) at a single site whilst the Mt. Edith anomaly is solely anomalous in lead (30 ppm Pb).

Copper workings in the vicinity of the Toner River are related to quartz filled fault zones. Mineralisation is dominantly pyrite with minor arsenopyrite and chalcopyrite and appears to be of a restricted nature. Assay results are awaited.

4. RECOMMENDATIONS (PLAN TASH 1707)

On the basis of incomplete analytical results, it is recommended that:

The Pinnacle anomaly requires gridding, soil sampling, and ground magnetics to establish the cause of the aeromagnetic high and stream geochemical anomalies.

The Bolton anomaly requires detailed stream sediment sampling and gridding on the basis of these results.

The Mt. Edith and Toner River anomalies require detailed stream sediment sampling.

The Toner River copper workings do not require any further work unless assay results are contradictory.

5. GEOLOGY

The southern part of EL 36/80 has been mapped by Spry and Ford (1956) whilst the northern part remains essentially unmapped.

The geology is dominated by the Precambrian Interview beds, a sequence of phyllites and quartzites probably equivalent to Ward's (1911) Balfour slates and sandstones. This sequence has been intruded by a NE trending dyke swarm of predominantly altered dolerite and is possibly equivalent to the Cooe dolerites in the north.

A number of mine workings are known in the vicinity of the Interview (Cu, Pb, Ag) and Toner (Cu) Rivers.

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5.1 The Toner River Copper Workings (Plan TASH 1710)

Workings to the north and south of the Toner River were inspected.

5.1.1. Locality 1. Main Shaft Area

This locality comprises a flooded shaft approximately 30ft deep and a 25m long trench trending 015°M. The workings are situated in light grey laminated pyritic siltstones trending 010°M and dipping 30° to the east. Siltstones approximately 150m to the north have an attitude of 065°M and dip 15° to the east. Mineralisation is restricted to a 1m wide, quartz filled fault zone exposed in the northern end of the trench. Silicification of the surrounding siltstones is apparent up to 1m either side of the fault. Mineralisation is dominantly pyrite with minor arsenopyrite and chalcopyrite. Secondary copper minerals were noted in vuggy, leached pyritic quartz off the mullock heaps. A number of smaller faults are also exposed in the trench.

5.1.2. Locality 2, 1.5km North West of Main Shaft Area

Two small trenches approximately 200m apart are situated approximately 1.5km to the north-west of the main shaft area. Both trenches are situated in chloritic pyjama type siltstones trending 065°M and dipping 30° to the south. Float from the mullock heaps is dominantly vuggy quartz with abundant pyrite.

5.1.3. Locality 3,4 Southern Side of the Toner River

Two sets of workings were visited on the southern side of the Toner River and appear to be related to a major photolinear (fault?) trending NNW. The siltstones exhibit a strong foliation, are sheared and slightly hematitic in places. Mineralisation is dominantly pyrite hosted in quartz. No copper mineralisation was observed.

6. GEOCHEMISTRY

Three types of drainage samples were collected during the survey, but to date, analytical results have only been received for minus 80 mesh stream sediments. Routine rock chip samples, outcrop or float were collected from the majority of sites.

6.1 Sampling Technique

6.1.1. Clay Fraction

A panfull of sediment collected from suitable trap sites was stirred in water to release the clay fraction. The resulting muddy liquid was poured into a plastic bag and left to settle whilst the remaining samples were collected. The excess water was carefully decanted. Samples were dried and sieved to minus 100 mesh.

6.1.2. Stream Sediment

In order to reduce the sample size, sediment was collected from a number of suitable trap sites and sieved to minus 3mm in a minimum of water to fill a 16 inch diameter pan. The minus 3mm material was quartered and opposite quarters placed in a plastic bag. The sample was dried and sieved to minus 80 mesh by the laboratories.

6.1.3. Panned Concentrate

Sediment resulting from the collection of the clay fraction and the stream sediment was sieved to minus 1mm into a 13 inch diameter pan, together with material from other trap sites until the pan was 3/4 full. This material was collected into a plastic bag and subsequently sieved through minus 60 mesh at the office and carefully panned to approximately 50-100 grams.

6.2 Assay Techniques

All samples were sent to ALS laboratories in Brisbane for analysis.

The stream sediments and clay fractions were analysed for the following elements:

Cu,Pb,Zn,Ag,Ni,Co,Mn,Fe,As by ICP 580

Sn,W,Ba by XRF 1A

Similarly for the rock chips though Fe and Mn were excluded.

The panned concentrates were analysed for the following:

Cu,Pb,Zn,Ni,Co,Mo,Ag,Fe,Mn,Cr by ICP 587

Sn,W,Ba by XRF 1A

Au by PM209 Fire Assay/AAS

The difference in ICP methods was to account for the expected increase in iron in the panned concentrates.

7. STATISTICS

The minus 80 mesh stream sediment data was manipulated statistically using the DSTATS subroutine of MICROGAS (a package statistical program). Histograms were plotted for both raw element (Plan TASH 1691) and log element data (Plan TASH 1692).

Element thresholds were obtained by eyeballing both sets of histograms and by use of the Mean + 2 Standard deviations.

7.1 Element Thresholds

7.1.1. Copper

Copper has a very limited distribution and reflects a single population.

Mean = 2.49 ppm

SD = 1.50 ppm

Mean + 2SD = 5.49 ppm

Threshold values were selected as follows:

0 - 7.5 ppm Low background

> 7.5 ppm High background

7.1.2. Lead

Lead shows a similar distribution to copper though appears to have a significant tail.

Mean = 9.44 ppm

SD = 5.99 ppm

Mean + 2SD = 21.42 ppm

Threshold values were selected as follows:

0 - 14 ppm

14 - 19 ppm High background

19 - 24 ppm Possibly anomalous

> 24 ppm Anomalous

7.1.3. Zinc

Zinc shows a wide distribution with three definite populations.

Mean = 64.57 ppm

SD = 188.24 ppm

Mean + 2SD = 441.17 ppm

Threshold values were selected at :

0 - 15.8 ppm  
15.8 - 63 ppm High background  
63 - 316 ppm Possibly anomalous  
> 316 ppm Anomalous

7.1.4 Nickel

Nickel has a limited distribution characteristic of a single population.

Mean = 10.03 ppm

SD = 6.34 ppm

Mean + 2SD = 22.7 ppm

Threshold values were selected at:

0 - 25.1 Low background  
> 25.1 High background

7.1.5. Cobalt

Cobalt exhibits a very limited distribution.

Mean = 3.40 ppm

SD = 1.69 ppm

Mean + 2SD = 6.78 ppm

Threshold values were set at:

0 - 7.9 ppm Low background  
> 7.9 ppm High background

7.1.6. Silver

The majority of silver values fall below the detection limit.

Mean = 0.55 ppm

SD = 0.31 ppm

Mean + 2SD = 1.37 ppm

Threshold values were set at:

0 - 0.9 ppm Low background  
0.9 - 1.9 ppm High background  
> 1.9 ppm Possibly anomalous

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7.1.7. Molybdenum

Molybdenum has a limited distribution characteristic of a single population.

Mean = 5.68 ppm

SD = 2.13 ppm

Mean + 2SD = 9.94 ppm

Threshold values were set at:

0 - 9.7 ppm

9.7 - 14.5 ppm High background

> 14.5 ppm Anomalous

7.1.8. Arsenic

Arsenic has a limited distribution though a tail off is apparent.

Mean = 1.81 ppm

SD = 1.60 ppm

Mean + 2SD = 5.01 ppm

Threshold values were set at:

0 - 3.9

3.9 - 5.0 High background

> 5.0 Possibly anomalous

7.1.9. Iron

Iron shows a complex distribution and a number of populations are evident.

Mean = 0.67%

SD = 0.41%

Mean + 2SD = 1.49%

Threshold values were set at:

0 - 0.18%)

0.18 - 0.31%) Low background

0.31 - 0.45%)

0.45 - 0.66% High background

0.66 - 1.06% Possibly anomalous

> 1.06% Anomalous

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7.1.10 Manganese

Manganese has a wide distribution and indicates four populations.

Mean = 68.93 ppm  
SD = 52.62 ppm  
Mean + 2SD = 174.17 ppm  
Thresholds were set at:

0 - 56.2 ppm  
56.2 - 105.9 ppm High background  
105.9 - 177.8 ppm Possibly anomalous  
> 177.8 ppm Anomalous

7.1.11 Tin

Tin has a very limited distribution.

Mean = 3.21 ppm  
SD = 2.59 ppm  
Mean + 2SD = 8.39 ppm

Thresholds were set at:

0 - 10 ppm Low background  
> 10 ppm High background

7.1.12 Tungsten

Two major populations are evident from the distribution of tungsten.

Mean = 20.79 ppm  
SD = 13.82 ppm  
Mean + 2SD = 59.9 ppm

Thresholds were set at:

0 - 39.8 ppm Background  
39.8 - 59.9 ppm Possibly anomalous  
> 59.9 ppm Anomalous

013

7.1.13 Barium

Barium shows a complex distribution and four populations are evident.

Mean = 121.4 ppm

SD = 79.67 ppm

Mean + 2SD = 280.48 ppm

Thresholds were set at:

0 - 70.7 ppm	
70.7 - 190 ppm	High background
190 - 316 ppm	Possibly anomalous
> 316 ppm	Anomalous

8. INTERPRETATION

8.1 Copper Plan TASH 1693

Two elevated copper values occur in the upper reaches of the Toner River and in a tributary of the Interview River.

8.2 Lead Plan TASH 1694

Anomalous lead occurs in the upper reaches of the Toner River and in the vicinity of Mt. Edith. High background values exist to the NW of Mt. Bolton and in a tributary of Rocky Creek.

8.3 Zinc Plan TASH 1695

Anomalous zinc occurs to the northwest of Mt. Bolton in a single sample whilst four anomalous samples (max. 1150 ppm) occur in separate creeks to the southwest of Interview Pinnacle, together with possibly anomalous values. This anomaly drains an area of approximately 6km<sup>2</sup>.

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8.4 Nickel Plan TASH 1696

One elevated nickel value occurs in the vicinity of Eighty Creek, the remainder are background.

8.5 Cobalt Plan TASH 1697

One elevated value occurs in the south-east corner of the Licence area; the remainder are background.

8.6 Silver Plan TASH 1698

Two elevated values occur to the northwest of Mt. Bolton, whilst one anomalous (?) sample occurs in a tributary of the Interview River.

8.7 Arsenic Plan TASH 1700

Anomalous arsenic occurs to the northwest of Mt. Bolton whilst high background values are prevalent around the zinc anomaly.

8.8 Molybdenum Plan TASH 1699

Molybdenum is very spotty with one anomalous sample in a tributary of the Interview River.

8.9 Iron Plan TASH 1701

Anomalous iron is prevalent to the northwest of Mt. Bolton and to the southwest of Interview Pinnacle.

8.10 Manganese Plan TASH 1702

Anomalous manganese occurs in the upper reaches of the Toner River. Possibly anomalous values occur to the northwest of Mt. Bolton and to the southwest of Interview Pinnacle. Manganese values are low and probably do not reflect metal scavenging.

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8.11 Tin Plan TASH 1703

Three elevated tin values occur to the southwest of Interview Pinnacle; the remainder are background levels.

8.12 Tungsten Plan TASH 1704

Two anomalous values occur to the southwest of Interview Pinnacle, together with high background values. High background values also occur in the upper reaches of the Toner River.

8.13 Barium Plan TASH 1705

Anomalous Barium together with high background values occur to the northwest of Mt. Bolton and to the southwest of Interview Pinnacle.

9. DISCUSSION

Two major minus 80 mesh stream geochemical anomalies emerge from this survey, together with two smaller anomalies.

9.1 Major Anomalies

9.1.1. Pinnacle Anomaly

This anomaly is located to the southwest of Interview Pinnacle, and is dominated by anomalous zinc geochemistry (max. 1150 ppm Zn) together with iron, tungsten and barium. The anomaly is supported by lesser amounts of lead, tungsten, arsenic, cobalt and tin.

The anomaly is obtained in several creeks and drains an area of approximately 6km<sup>2</sup> which is overlain by a "thumbprint" aeromagnetic high (plan TASH 1706).

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Geologically, this area is dominated by siltstones and quartzites intruded by a dolerite dyke swarm. No dolerite or basalt was recorded at any of the sample sites.

9.1.2. Bolton Anomaly

This anomaly occurs to the northwest of Mt. Bolton and is dominated by anomalous zinc, barium, iron and tungsten, together with lesser lead, silver manganese and more widespread barium.

This area also drains an aeromagnetic high, though the aeromagnetics is somewhat messy.

A number of dolerite dykes have been mapped in this vicinity and may be causitive.

9.2 Minor Anomalies

9.2.1. Toner River

Anomalous lead, iron and manganese occur in a tributary of the Toner River. No high background values of other elements occur.

9.2.2. Mt. Edith

A single spot anomalous lead value occurs to the east of Mt. Edith.

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10. KEYWORDS

Precambrian - Undiff sediments, dolerite dyke, geochem drainage, assays-geochem, computer-MICROGAS, Geophysics - airborne mag.

11. LOCATION

Burnie 1:250 000 sheet SK 55-3

12. LIST OF REFERENCES

1. Dickson T.W. & Weber G.B. 1983 Progress Report on EL 36/80 Interview Pinnacles area for six months ending 28th April, 1983. CRAE unpub.report No.12091.
2. Spry A. and Ford R. 1956 A reconnaissance of the Corinna-Pieman Heads area - Geology. Proc.Roy.Soc. Tasmania Vol.91.
3. Ward L.K. 1911 The Mount Balfour Mining Field. Geol. Surv. Bull. No.10.

018

13. LIST OF PLANS

<u>Plan No.</u>	<u>Title</u>	<u>Scale</u>
TASh 1707	Targets warranting further exploration	1:100 000
TASh 1710	Sketch map of the Toner River Copper Workings	1: 20 000
TASh 1684	-80# Stream Sediment Location Plan	1:100 000
TASh 1685	Panned Concentrate Location Plan	1:100 000
TASh 1687	Clay Fraction Location Plan	1:100 000
TASh 1686	Rock Chip Location Plan	1:100 000
TASh 1706	Aeromagnetic Contour Plan	1:100 000
TASh 1691	-80# Stream Sediment, Element Histograms	1:100 000
TASh 1692	" " " Log Element Histograms	1:100 000
TASh 1693	" " " Copper Geochem	1:100 000
TASh 1694	" " " Lead Geochem	1:100 000
TASh 1695	" " " Zinc Geochem	1:100 000
TASh 1696	" " " Nickel Geochem	1:100 000
TASh 1697	" " " Cobalt Geochem	1:100 000
TASh 1698	" " " Silver Geochem	1:100 000
TASh 1699	" " " Molybdenum Geochem	1:100 000
TASh 1700	" " " Arsenic Geochem	1:100 000
TASh 1701	" " " Iron Geochem	1:100 000
TASh 1702	" " " Manganese Geochem	1:100 000
TASh 1703	" " " Tin Geochem	1:100 000
TASh 1704	" " " Tungsten Geochem	1:100 000
TASh 1705	" " " Barium Geochem	1:100 000

14. LIST OF APPENDICES

1. -80 mesh Stream Sediment Ledgers.
2. -80 mesh Stream Sediments - Assay Results.

APPENDIX I

-80 MESH STREAM SEDIMENT LEDGERS

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STREAM SEDIMENT SAMPLE FIELD SHEET

SAMPLE NUMBER	LOCATION		SAMPLE DESCRIPTION							SITE DESCRIPTION							GEOLOGY			MIN/ALT	ORDER	LOCK	VEGETATION	GEOLOGICAL OBSERVATIONS					
	EAST	NORTH	ZONE	SAMPLE TYPE	GRAVEL %	SAND %	SILT %	CLAY %	ORG %	WIDTH	CATCHMENT	FLOW	BANKS	CHANNEL	STAINING	CONTRM.	SITE	OUTCROP	FLOAT										
																			MAJOR						MINOR				
1142817	331850	5415800	55	-3	60	20	10	10		2	1.5	L	O/C	D	FEL		HB	SILT	SILT	QTZT				1	1	0	Also occ.Mn stain		
1142822	336800	5411550	55	002	40	20	20	20		.5	2	S	B	N	N		R		QTZT	QTVN						0			
1142823	334600	5411800	55	002	40	20	20	20		.5	1	S	C	W	N		SB	QTZT	QTZT	SILT						1	0	QTZT is Ferruginous and brecciated	
1142824	334700	5411950	55	002	40	20	20	20		1	1	S	OC	D	FEL		HB	SILT	QTZT	SILT							0		
1142825	333200	5412400	55	002	60	20	10	10		1	3	S	C	N	N		SB		QTZT	SILT						1	0	Very qz rich sed.	
1142826	333300	5412400	55	002	60	20	10	10		1	4	S	A	N	N		R		QTZT	QTVN						1	0	Magnetite rich sed.	
1142829	335900	5414700	55	002	50	15	15	20		1	1	S	B	N	N		SB		SILT	QTZT							0		
1142830	335975	5414700	55	002	50	20	15	15		1	1	S	B	N	FEL		SB	SILT	SILT	QTZT							0		
1142831	335400	5415750	55	002	40	20	20	20		1.5	1	S	C	D	N		BD		QTZT	SILT							0		
1142846	334000	5405150	55	002	60	20	15	5		2.5	1	S	OC	W	N		BB	QTZT	QTZT								0/R		
1153047	334150	5405050	55	002	60	20	15	5		2.5	3	S	C	W	N		BD		QTZT								0/R		
1153048	333800	5407100	55	002	60	20	15	5		4	5	F	OC	D	N		BD	QTZT	QTZT								R		
1153049	333900	5407000	55	002	70	15	10	5		3	2	S	OC	D	N		BB	QTZT	QTZT	SILT							R		
1153050	336250	5407000	55	002	50	30	15	5		2	1.5	S	OC	W	N		BB	QTZT	QTZT	SILT							RO		
1153053	333300	5403650	55	002	60	30	5	5		4	2	F	C	W	FEL		BB		QTZT	SILT							0		
1153058	333150	5400700	55	002	5	10	80	5		1	2	S	A	N	N		R										0		
1153059	333250	5400750	55	002	50	20	20	10		1.5	2	F	B	N	N		SB		QTZT	SILT							0		
1153060	333800	5398450	55	002	40	40	10	10		1		S	B	N	N		V		SILT	QTZT							1	0	
1153061	333550	5396700	55	002	50	20	20	10		1		S	OC	N	FEL		SB		SILT	QTZT							1	0	
1153062	333500	5395400	55	002	50	20	20	10		1.5		S	C	N	FEL		SB		SILT								1	0	
1153094	332200	5414700	55	-3	66	25	13	1	1	2	2.5	S	A	W	-	-	SB	-	SSVD								Y	0	Some pyritic? sst.
1153095	332100	5414800	55	-3	60	30	8	1	1	3	1.5	S	A	N	O		SB		SILT	SSUD							Y	0	Proximal Turbidites
1153096	336100	5411050	55	-3	70	20	8	1	1	2	6	F	A	W	-	-	BD	SILT	SSUD	DOLR							Y	0	Pyritic sandstone
1153097	336100	5411660	55	-3	40	30	28	1	1	4	8	S	A	W	O		BB	SILT	SILT	QTVN							Y	0	



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STREAM SEDIMENT SAMPLE FIELD SHEET

SAMPLE NUMBER	LOCATION		SAMPLE DESCRIPTION							SITE DESCRIPTION							GEOLOGY				GEOLOGICAL OBSERVATIONS						
	EAST	NORTH	ZONE	SAMPLE TYPE	GRAVEL %	SAND %	SILT %	CLAY %	ORG %	WIDTH	CATCHMENT	FLOW	BANKS	CHANNEL	STAINING	CONDM.	SITE	OUTCROP	FLOAT		MIN/ALT	ORDER	LOOK	VEGETATION			
																			MAJOR	MINOR							
1153098	336400	5412700	55	-3	40	30	27	2	1	1	1	S	A	W	-	-	SB		SSUD	SILT				Y O	Pyritic sst.		
1153099	333850	5413900	55	-3	5	60	32	2	1	1	1.5	S	A	W			SB		SILT				Y O	Bedded massive py partings in silt			
1153100	334000	5413950	55	-3	30	50	18	1	1	1	1.5	S	A	W			SB		SILT	SSUD			Y O	Some Py in silt			
1153112	334450	5410700	55	-3	45	40	10	5		2	1	S	C	W			SB		QTZT	AMPB	PEU			O			
1153113	336800	5409800	55	-3	75	15	5	5		7	14	S	C	W			HB	SILT	SILT	QTZT	"			T			
1153114	336625	5409700	55	-3	65	20	10	5		3	2	S	C	W			SB	SILT	QTZT	AMPB	"			T			
1153115	336900	5405875	55	-3	25	40	30	5		25	2	S	C	W			BB	SILT	SILT	QTZT	"			R			
1153117	335575	5404725	55	-3	45	30	20	5		4	3.5	S	B	D			BD		QTZT	SILT	"			O			
1153120	336900	5399500	55	-3	45	30	20	5		1.5	1.5	S	B	W			BD		QTZT	QTVN	"			O			
1153121	336800	5399350	55	-3	35	40	20	5		1.0	1.5	S	B	W			BD		QTZT	QTVN	"			T			
1153122	334400	5398700	55	-3	35	30	30	5		1.0	1.0	S	C	W			BB	SILT	QTVN		"		Y	T			
1153123	334400	5398500	55	-3	55	30	10	5		2.5	2.5	S	C	W			SB		QTZT	QTVN	"			T			
1153172	333100	5414000	55	-3	2	97	0.3	0.3	0.3	2	0.3	P	A	W	-1	N	P	-1	-1	-1			-1	-1	N	O	
1153173	333000	5414200	55	-3	0	0	80	15	5	3	0.25	D	A	W	-1	N	P	-1	-1	-1			-1	-1	N	O	Bulked
1153174	335950	5411300	55	-3	60	39	0.3	0.3	0.3	1.5	1.0	S	B	W	-1	N	M	SILT	SILT	QTZT			-1	-1	N	O	
1153175	335200	5410150	55	-3	85	14	0.3	0.3	0.3	2.5	0.5	S		W	-1	N	G	QTZT	QTZT	QTZT							
1153176	334150	5411550	55	-3	60	39	0.3	0.3	0.3	1	2.3	S	A	W	-1	N	M	SILT	QTZT	QTVN			-1	-1	N	O	O/C is pyjama siltstone ± 5% Pyrite blebs
1153177	334100	5411700	55	-3	80	18	0.6	0.6	0.6	1	0.3	S	B	W	-1	N	G	SILT	QTZT	SILT			-1	-1	N	O	
1153178	333000	5413100	55	-3	80	19	0.3	0.3	0.3	3	1	S	B	W	-1	N	G	-1	QTZT	-1			-1	-1	N	O	
1153179	332900	5413200	55	-3	50	45	1.6	1.6	1.6	2	0.75	S	B	W	-1	N	M	-1	QTZT	SILT			-1	-1	N	O	
1153188	336150	5411350	55	-3	80	15	1.6	1.6	1.6	2	1.5	P	B	W	-1	N	M	-1	QTZT	QTVN			-1	-1	N	O	
1153194	334800	5409550	55	-3	95	4.5	0.2	0.2	0.2	2.5	1.5	S	B	W	-1	N	M	-1	QTZT	QTVN			-1	-1	N	O	
1153195	336900	5409600	55	-3	60	35	1.6	1.6	1.6	3	0.5	S	A	W	-1		M	-1	QTZT	QTVN			-1	-1	Y	T	Prospect Workings in catchment chlorite spotted quartzite floater

441024

## KEY TO STREAM SEDIMENT SAMPLE FIELD SHEET

Sample No - CRAE 6 or 7 digit No.

East - AMG Coord in m.

North - AMG Coord in m.

Zone - AMG Zone.

Sample type - Mesh size.

Gravel, Sand, Silt Clay, Org - as %.

Width - Stream width in m.

Catchment - Contributing catchment area in km<sup>2</sup>.

Flow - Dry (D), Pools (P), Slow (S), Fast (F)

Banks - Alluv (A), Colluv (C), Colluv/Alluv (B)  
No defined channel (N)Channel - Incised deeply (D), weakly (W),  
not (N); Braided (B)Staining - Major Fe (FEH), Minor Fe (FEL)  
Major Mn (MNH), Minor Mn (MNL)  
Major Carbonate (CBH), Minor Carbonate (CBL)  
None (N)Contamination - None (N), Possible (PO), Probable (PR)  
Definite (D), Metal mine in catchment (M)Site - (2 alternatives) Good (G), Moderate (M),  
Poor (P) or Hole in b'rock (HB), B'rock bar  
(BB), Boulders (BD), Sed. bar (SB), Veg (V),  
Trap undiff (T), Random (R)

Outcrop, Float - Rock type codes.

Major Strat Unit - Symbol on 1:250 000 sheet.

Min/Alt - Attached code list (both may be recorded and  
refer to outcrop or float. If more detail,  
record in Geol. Obs and flag the LOOK column).

Scint - Scintillimeter reading in cps

Look - Other item of interest recorded in Geological  
Observation column, Y/N.Vegetation - Open heath (O), Eucalypt forest (F),  
Rain forest (R), Ti Tree (T)  
Cultivation (C), Arid grassland (A),  
Desert (D).

## ROCK TYPE CODE

## Sediments - Clastic

Sedimentary  
Rock ..... SDRC  
Conglomerate .... CONG  
Breccia ..... BREC  
Grit ..... GRIT  
Sandstone -  
Undiff ..... SSUD  
Greywacke ..... GREY  
Arkose ..... ARKS  
Calcarenite ..... CLAR  
Siltstone ..... SILT  
Shale ..... SHAL  
Calcareous  
Shale ..... CLSH  
Black Shale+/  
Carb/Graphite .. BLSH  
Oil Shale ..... OLSH  
Lignite ..... LIGN  
Coal-Black ..... CLBL  
Coal-Brown ..... CLBR  
Mudstone ..... MUDE  
Marl ..... MARL  
Clay ..... CLAY  
Tillite ..... TILL

## Sediments - Chemical

Carbonate -  
Undiff ..... CRUD  
Limestone ..... LIMS  
Dolomite ..... DOLM  
Travertine ..... TRAV  
Argillaceous  
Limestn ..... ARLM  
Chert ..... CHER  
Jasperoid ..... JASP  
Evaporite ..... EVAP  
Phosphate Rock .. PHRC  
Magnesite ..... MGST  
Iron Formation . IRFM

## Miscellaneous

Silcrete ..... SLRT  
Calcrete ..... CLRT  
Bauxite ..... BAUX  
Ironstone ..... IRST  
Laterite ..... LATR  
Gossan ..... GOSS  
Sulphides ..... SULP  
Quart Vein ..... QTVN  
Gresien ..... GRES  
Fubarite ..... FUBR

## Volcanics

Agglomerate ..... AGLM  
Lapilli Tuff .... LPTF  
Ash Flow Tuff ... AFTF  
Ignimbrite ..... IGNM  
Crystal Tuff .... CRTF  
Vitric Tuff ..... VTTF  
Obsidian ..... OBSD  
Mudflows ..... MUDF  
Tuffaceous  
Sandstone .... TFSS  
Tuffaceous  
Shale ..... TFSH  
Basic Volc.  
Undiff ..... BVUD  
Basalt ..... BASL  
Basic Lava ..... BSLV  
Basic Pyroclast . BSPY  
Intermed Volc.  
Undiff ..... IVUD  
Andesite ..... ANDS  
Intermed. Lava .. INLV  
Intermed.  
Pyroclastic .. INPY  
Acid Volc.  
Undiff ..... AVUD  
Rhyolite ..... RHYL  
Rhyodacite ..... RHDC  
Dacite ..... DACT  
Trachyte ..... TRAC  
Acid Lava ..... ACLV  
Acid Pyroclast .. ACPY

## Metamorphics

Metamorphic Rock  
Undiff ..... MRUD  
Breccia ..... BREC  
Mylonite ..... MLON  
Gouge ..... GOUG  
Marble ..... MARB  
Calc Silicate ... CLSL  
Skarn ..... SKAR  
Hornfels ..... HORN  
Slate/Phyllite .. SLAT  
Quartzite ..... QTZT  
Meta Sediment -  
Fine ..... MSFN  
Meta Sediment -  
Course ..... MCCR  
Metavolcanic .... MTVL  
Greenschist .... CRSC  
Schist Undiff ... SCUD  
Schist Mafic .... SCMF  
Schist Leuco .... SCCL  
Schist Amphibole. SCAM  
Schist  
Andalusite ... SCAN  
Schist Biotite .. SCBT

Schist Chlorite . SCCH  
Schist Garnet ... SCGR  
Schist Muscovite. SCMS  
Schist Mica ..... SCMC  
Schist Pelitic .. SCPL  
Schist Psammitic. SCPS  
Schist Sericite . SCSR  
Schist Quartz  
Mica ..... SCOM  
Schist  
Staurolite ... SCST  
Schist Talc ..... SCTL  
Amphibolite .... AMPH  
Gneiss Undiff ... GNUD  
Gneiss Mafic .... GNMF  
Gneiss Leuco .... GNLC  
Gneiss Amphibole. GNAM  
Gneiss Augen .... GNAG  
Gneiss Biotite .. GNBT  
Gneiss Garnet ... GNGT  
Gneiss Granite .. GNGR  
Gneiss  
Sillimanite .. GMSL  
Gneiss  
Staurolite ... GNST  
Granulite ..... GRLT  
Migmatite ..... MIGM

## Igneous - Intrusives

Greenstone ..... GREN  
Ultrabasic Intr.  
Undiff ..... UIUD  
Eclogite ..... ECLG  
Peridotite ..... PERD  
Serpentinite .... SERP  
Anorthosite .... AMOR  
Gabbro ..... GABB  
Alkali Gabbro ... ALGB  
Norite ..... NORT  
Picrite ..... PICR  
Pyroxenite ..... RYRX  
Dunite ..... DUNT  
Carbonatite ..... CARB  
Kimberlite ..... KIMB  
Coarse Basic  
Intr. .... CBIN  
Med Basic Intr. . MBIN  
Fine Basic Intr. . FBIN  
Lamprophyre .... LAMP  
Coarse Intermed  
Intr. .... CIIN  
Med Intermed  
Intr. .... MIIN  
Fine Intermed  
Intr. .... FIIN  
Syenite ..... SYEN  
Dolerite ..... DOLR  
Diorite ..... DIOR  
Coarse Acid Intr. CAIN

Medium Acid Intr. MAIN  
Fine Acid Intr. . FAIN  
Granite ..... GRAN  
Aplite ..... APLT  
Adamellite ..... ADAM  
Granodiorite .... GRDR  
Quartz Porphyry . QUPR  
Quartz Feldspar  
Porphyryry .... OFFR  
Granophyre ..... GRPH  
Pegmatite ..... PEGM  
Glass ..... GLAS

## MINERALISATION/ALTERATION CODE

Veins ..... VEIN  
Gossan ..... GOSN  
Boxworks After Sulphides.. BOXW  
Massive Sulphides ..... MSSL  
Dissem. Sulphides ..... DSSL  
Heavy Minerals ..... HVMN  
Cu Staining ..... CUST  
Magnetic Minerals ..... MGMN  
Evaporites ..... EVAP  
Argillisation ..... ARGL  
Albitisation ..... ALBT  
Calc Silicate ..... CLSL  
Carbonatation ..... CARB  
Chloritisation ..... CHLR  
Dolomitisation ..... DOLM  
Ferruginisation ..... FERG  
Kaolinisation ..... KAOL  
Potassic ..... POTS  
Propylitisation ..... PROP  
Pyritisation ..... PYRT  
Saussurisation ..... SAUS  
Sericitisation ..... SERC  
Silicification ..... SILC  
Talcose ..... TALC  
Tourmalinisation ..... TOUR  
Zeolitisation ..... ZEOL  
Other ..... OTHR

SAMPLE NUMBER	LOCATION			SAMPLE DESCRIPTION							SITE DESCRIPTION							GEOLOGY				MIN/ALT	GRS	LOOK	VEGETATION	GEOLOGICAL OBSERVATIONS			
	EAST	NORTH	ZONE	SAMPLE TYPE	GRAVEL %	SAND %	SILT %	CLAY %	ORG %	WIDTH	CATCHMENT	FLOW	BANKS	CHANNEL	SPRING	CONVM.	SITE	OUTCROP	FLOAT		MIN/ALT						GRS	LOOK	VEGETATION
																			MAJOR	MINOR									
1153196	333300	5404000	55	-3	80	18	0.6	0.6	0.6	2	1.75	S		D	-1	N	M	QTZT	-1	-1	-1	-1	N	O	Banks are bedrock				
1153197	336000	5403000	55	-3	60	25	1.6	1.6	1.6	1.5	1	P	B	W	-1	N	G	QTZT	-1	-1			-1	N	O				
1153198	336050	5403000	55	-3	50	45	1.6	1.6	1.6	0.4	2	S	B	W	-1	N	M	SLAT	QTZT	QTVN	-1	-1	N	O					
1153199	335500	5400500	55	-3	60	39	0.3	0.3	0.3	4	4.5	S	B	W	-1	N	G	-1	QTZT	QTVN	-1	-1	N	O					
1153202	333450	5395550	55	-3	15	75	7	2	1	1		S	B	W	-1	N	M	QTVN	QTVN	-1	-1	-1	N	O					
1153206	336800	5394600	55	-3	95	4.5	0.2	0.2	0.2	6	2.5	S		D	-1	-1	M	SILT	SILT	-1	-1	-1	N	O	Banks are bedrock Colluvial outcrop is grey laminated siltstone.				
1153242	331950	5415800	55	-3	40	55	3	2	-	3	10	F	C	W	FEH	N	HB	SSUD	QTZT	SILT					O	Unmarked site			
1153245	333000	5414825	55	-3	30	55	10	5	-	2	5	F	C	W	N	N	BD	None	QTZT	SILT					O				
1153246	332850	5414850	55	-3	40	50	5	5	-	3	5	F	C	W	FEL	N	BB	SILT	QTZT	SSUD				Y	O				
1153247	336050	5410650	55	-3	50	40	5	5	-	5	5	F	o/c	W	FEL	N	BB	SILT	QTZT	QTVN				Y	O	Lam.silt/s with qtzite interbeds			
1153248	335950	5410300	55	-3	50	30	10	10	-	1	2	S	C	D	N	N	SB	-	QTZT	SILT				Y	O				
1153249	336750	5411750	55	-3	50	40	5	5	-	3	3	F	o/c	D	FEH	N	BB	SILT	QTZT	SILT	DSSL			N	O	Py bands lam.s/s			
1153250	335250	5412125	55	-3	50	40	5	5	-	3	5	F	o/c	W	FEH	N	BD	QTZT	QTVN	SILT	DSSL			N	O	Py bands Qtzt/silt interbeds.			
1153251	335425	5412350	55	-3	50	40	5	5	-	4	2	S	C	W	FEH	N	BD	-	QTZT	QTVN				N	O				
1153252	335575	5413550	55	-3	40	50	5	5	-	3	1	F	C	W	N	N	SB	-	QTZT	SILT				N	O	OHM dissem. in QTZT			
1153255	335550	5414660	55	-3	30	30	20	10	10	2	2	D	o/c	W	N	N	V	SILT	QTZT	QTVN				N	O	Pyjama Siltstones			
1153256	336310	5414340	55	-3	50	40	5	5	-	2	2	S	o/c	W	FEH	N	BB	SILT	QTZT	SSUD				N	O	Silt-SSUD inter- beds.			
1153270	335000	5406180	55	-3	50	40	5	5	-	3	1	F	o/c	W	FEL	N	BD	AMPH	AMPH	QTZT				N	R				
1153272	334410	5408300	55	-3	40	40	15	5	0	2	2	F	C	W	N	N	BD	-	QTZT	QTVN				N	R	Massive white qtzits.			
1153273	334295	5408420	55	-3	40	35	15	5	5	2	1	F	o/c	D	FEL	N	BD	QTZT	QTZT	QTVN				N	R	Massive grey qtzits.			

KEY TO STREAM SEDIMENT SAMPLE FIELD SHEET

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East - AMG Coord in m.

North - AMG Coord in m.

Zone - AMG Zone.

Sample type - Mesh size.

Gravel, Sand, Silt Clay, Org - as %.

Width - Stream width in m.

Catchment - Contributing catchment area in km<sup>2</sup>.

Flow - Dry (D), Pools (P), Slow (S), Fast (F)

Banks - Alluv (A), Colluv (C), Colluv/Alluv (B)  
No defined channel (N)

Channel - Incised deeply (D), weakly (W),  
not (N); Braided (B)

Staining - Major Fe (FEH), Minor Fe (FEL)  
Major Mn (MNH), Minor Mn (MNL)  
Major Carbonate (CBH), Minor Carbonate (CBL)  
None (N)

Contamination - None (N), Possible (PO), Probable (PR)  
Definite (D), Metal mine in catchment (M)

Site - (2 alternatives) Good (G), Moderate (M),  
Poor (P) or Hole in b'rock (HB), B'rock bar  
(BB), Boulders (BD), Sed. bar (SB), Veg (V),  
Trap undiff (T), Random (R)

Outcrop, Float - Rock type codes.

Major Strat Unit - Symbol on 1:250 000 sheet.

Min/Alt - Attached code list (both may be recorded and  
refer to outcrop or float. If more detail,  
record in Geol. Obs and flag the LOOK column).

Scint - Scintillimeter reading in cps

Look - Other item of interest recorded in Geological  
Observation column, Y/N.

Vegetation - Open heath (O), Eucalypt forest (F),  
Rain forest (R), Ti Tree (T)  
Cultivation (C), Arid grassland (A),  
Desert (D).

ROCK TYPE CODE

Sediments - Clastic

Sedimentary  
Rock ..... SDRC  
Conglomerate .... CONG  
Breccia ..... BREC  
Grit ..... GRIT  
Sandstone -  
Undiff ..... SSUD  
Graywacke ..... GREY  
Arkose ..... ARKS  
Calcarenite ..... CLAR  
Siltstone ..... SILT  
Shale ..... SHAL  
Calcareous  
Shale ..... CLSH  
Black Shale/  
Carb/Graphite .. BLSH  
Oil Shale ..... OLSH  
Lignite ..... LIGN  
Coal-Black ..... CLBL  
Coal-Brown ..... CLBR  
Mudstone ..... MUDE  
Marl ..... MARL  
Clay ..... CLAY  
Tillite ..... TILL

Sediments - Chemical

Carbonate -  
Undiff ..... CRUD  
Limestone ..... LIMS  
Dolomite ..... DOLM  
Travertine ..... TRAV  
Argillaceous  
Limestn ..... ARLM  
Chert ..... CHER  
Jasperoid ..... JASP  
Evaporite ..... EVAP  
Phosphate Rock .. PHRC  
Magnesite ..... MGST  
Iron Formation . IRFM

Miscellaneous

Silcrete ..... SLRT  
Calcrete ..... CLRT  
Bauxite ..... BAUX  
Ironstone ..... IRST  
Laterite ..... LATR  
Gossan ..... GOSS  
Sulphides ..... SULP  
Quartz Vein ..... QTVN  
Gresian ..... GRES  
Fubarite ..... FUBR

Volcanics

Agglomerate ..... AGLM  
Lapilli Tuff .... LPTF  
Ash Flow Tuff .... APTF  
Ignimbrite ..... IGNM  
Crystal Tuff .... CRTF  
Vitric Tuff ..... VTTF  
Obsidian ..... OBSD  
Mudflows ..... MUDF  
Tuffaceous  
Sandstone .... TFSS  
Tuffaceous  
Shale ..... TFSH  
Basic Volc.  
Undiff ..... BVUD  
Basalt ..... BASL  
Basic Lava ..... BSLV  
Basic Pyroclast . BSPY  
Intermed Volc.  
Undiff ..... IVUD  
Andesite ..... ANDS  
Intermed. Lava .. INLV  
Intermed.  
Pyroclastic .. INPY  
Acid Volc.  
Undiff ..... AVUD  
Rhyolite ..... RHYL  
Rhyodacite ..... RHDC  
Dacite ..... DACT  
Trachyte ..... TRAC  
Acid Lava ..... ACLV  
Acid Pyroclast .. ACPY

Metamorphics

Metamorphic Rock  
Undiff ..... MRUD  
Breccia ..... BREC  
Mylonite ..... MLON  
Gouge ..... GOUG  
Marble ..... MARB  
Calc Silicate ... CLSL  
Skarn ..... SKAR  
Hornfels ..... HORN  
Slate/Phyllite .. SLAT  
Quartzite ..... QTZT  
Meta Sediment -  
Fine ..... MSFN  
Meta Sediment -  
Course ..... MCCR  
Metavolcanic .... MTVL  
Greenschist .... CRSC  
Schist Undiff .... SCUD  
Schist Mafic .... SCMF  
Schist Leuco .... SCLC  
Schist Amphibole. SCAM  
Schist  
Andalusite ... SCAN  
Schist Biotite .. SCBT

Schist Chlorite . SCCH  
Schist Garnet ... SCGR  
Schist Muscovite. SCMS  
Schist Mica ..... SCMC  
Schist Pelitic .. SCPL  
Schist Psammitic. SCPS  
Schist Sericite . SCSE  
Schist Quartz  
Mica ..... SCQM  
Schist  
Staurolite ... SCST  
Schist Talc ..... SCTL  
Amphibolite .... AMPH  
Gneiss Undiff ... GNUD  
Gneiss Mafic .... GNMF  
Gneiss Leuco .... GNLC  
Gneiss Amphibole. GNAM  
Gneiss Augen ... GNAG  
Gneiss Biotite .. GNBT  
Gneiss Garnet ... GNGT  
Gneiss Granite .. GNGR  
Gneiss  
Sillimanite .. GNSL  
Gneiss  
Staurolite ... GNST  
Granulite ..... GRGT  
Migmatite ..... MIGM

Igneous - Intrusives

Greenstone ..... GREEN  
Ultrabasic Intr.  
Undiff ..... UIUD  
Eclogite ..... ECLG  
Peridotite ..... PERD  
Serpentine ..... SERP  
Anorthosite .... ANOR  
Gabbro ..... GABR  
Alkali Gabbro ... ALGB  
Norite ..... NORT  
Picrite ..... PICR  
Pyroxenite ..... PYRX  
Dunite ..... DUNT  
Carbonatite .... CARB  
Kimberlite ..... KIMS  
Coarse Basic  
Intr. .... CBIN  
Med Basic Intr. . MBIN  
Fine Basic Intr. . FBIN  
Lamprophyre .... LAMP  
Coarse Intermed  
Intr. .... CIIN  
Med Intermed  
Intr. .... MIIN  
Fine Intermed  
Intr. .... FIIN  
Syanite ..... SYEN  
Dolerite ..... DOLA  
Diorite ..... DIOR  
Coarse Acid Intr. CAIN

Medium Acid Intr. MAIN  
Fine Acid Intr. . FAIN  
Granite ..... GRAN  
Aplite ..... APLT  
Adamellite ..... ADAM  
Granodiorite .... GRDR  
Quartz Porphyry . QUPR  
Quartz Feldspar  
Porphyry .... QPPR  
Granophyre ..... GRPH  
Pegmatite ..... PEGM  
Glass ..... GLAS

MINERALISATION/ALTERATION CODE

Veins ..... VEIN  
Gossan ..... GOSN  
Boxworks After Sulphides.. BOXW  
Massive Sulphides ..... MSSL  
Dissem. Sulphides ..... DSSL  
Heavy Minerals ..... HVHM  
Cu Staining ..... CUST  
Magnetic Minerals ..... MGHN  
Evaporites ..... EVAP  
Argillisation ..... ARGL  
Albitisation ..... ALBT  
Calc Silicate ..... CLSL  
Carbonatation ..... CARB  
Chloritisation ..... CHLR  
Dolomitisation ..... DOLM  
Ferruginisation ..... FERG  
Kaolinisation ..... KAOL  
Potassic ..... POTS  
Propylitisation ..... PROP  
Pyritisation ..... PYRT  
Saussuritisation ..... SAUS  
Sericitisation ..... SERC  
Silicification ..... SILC  
Talcose ..... TALC  
Tourmalinisation ..... TOUR  
Zeolitisation ..... ZEOL  
Other ..... OTHR

CRA EXPLORATION PTY. LIMITED

STREAM SEDIMENT SAMPLE FIELD SHEET

SAMPLE NUMBER	LOCATION		SAMPLE DESCRIPTION							SITE DESCRIPTION							GEOLOGY			MIN/ALT	ORDER	LOOK	VEGETATION	GEOLOGICAL OBSERVATIONS		
	EAST	NORTH	ZONE	SAMPLE TYPE	GRAVEL %	SAND %	SILT %	CLAY %	ORG %	WIDTH	CATCHMENT	FLOW	BANKS	CHANNEL	STAINING	CONDM.	SITE	OUTCROP	FLOAT						MIN/ALT	
																			MAJOR							MINOR
1153274	333860	5404550	55	-3	50	40	5	5	0	2	4	F	c/c	D	N	N	BD	QTZT	QTZT	QTVN			N	O	Massive white qtzits.	
1153275	333250	5403440	55	-3	50	40	7	3	0	6	2	F	c/c	W	FEL	N	BB	QTZT	QTZT	QTVN			N	O	Massive qtzits.	
1153280	333880	5399780	55	-3	30	30	20	5	15	0.5	2	S	A	N	FEH	N	SB	-	QTZT	QTVN			N	O	Massive white qtzits, with abundant qtz. veins	

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Sample type - Mesh size.

Gravel, Sand, Silt Clay, Org - as %.

Width - Stream width in m.

Catchment - Contributing catchment area in km<sup>2</sup>.

Flow - Dry (D), Pools (P), Slow (S), Fast (F)

Banks - Alluv (A), Colluv (C), Colluv/Alluv (B) No defined channel (N)

Channel - Incised deeply (D), weakly (W), not (N); Braided (B)

Staining - Major Fe (FEH), Minor Fe (FEL) Major Mn (MNH), Minor Mn (MNL) Major Carbonate (CBH), Minor Carbonate (CBL) None (N)

Contamination - None (N), Possible (PO), Probable (PR) Definite (D), Metal mine in catchment (M)

Site - (2 alternatives) Good (G), Moderate (M), Poor (P) or Hole in b'rock (HB), B'rock bar (BB), Boulders (BD), Sed. bar (SB), Veg (V), Trap undiff (T), Random (R)

Outcrop, Float - Rock type codes.

Major Strat Unit - Symbol on 1:250 000 sheet.

Min/Alt - Attached code list (both may be recorded and refer to outcrop or float. If more detail, record in Geol. Obs and flag the LOOK column).

Scint - Scintillimeter reading in cps

Look - Other item of interest recorded in Geological Observation column, Y/N.

Vegetation - Open heath (O), Eucalypt forest (F), Rain forest (R), Ti Tree (T) Cultivation (C), Arid grassland (A), Desert (D).

Table with columns: ROCK TYPE CODE, Volcanics, Sediments - Clastic, Sediments - Chemical, Metamorphics, Miscellaneous, Schist Chlorite, Schist Garnet, Schist Muscovite, Schist Mica, Ash Flow Tuff, Ignimbrite, Crystal Tuff, Vitric Tuff, Obsidian, Mudflows, Tuffaceous, Sandstone, Tuffaceous, Shale, Basic Volc., Undiff, Basalt, Basic Lava, Basic Pyroclast, Intermed Volc., Undiff, Andesite, Intermed. Lava, Intermed. Pyroclastic, Acid Volc., Undiff, Rhyolite, Rhyodacite, Dacite, Trachyte, Acid Lava, Acid Pyroclast, Metamorphics, Metamorphic Rock, Undiff, Breccia, Mylonite, Gouge, Marble, Calc Silicate, Skarn, Hornfels, Slate/Phyllite, Quartzite, Meta Sediment, Fine, Meta Sediment, Course, Metavolcanic, Greenschist, Schist Undiff, Schist Mafic, Schist Leuco, Schist Amphibole, Schist, Andalusite, Schist Biotite, Schist Chlorite, Schist Garnet, Schist Muscovite, Schist Mica, Schist Pelitic, Schist Psammitic, Schist Sericite, Schist Quartz, Mica, Schist Staurolite, Schist Talc, Amphibolite, Gneiss Undiff, Gneiss Mafic, Gneiss Leuco, Gneiss Amphibole, Gneiss Augen, Gneiss Biotite, Gneiss Garnet, Gneiss Granite, Sillimanite, Gneiss, Staurolite, Granulite, Migmatite, Igneous - Intrusives, Greenstone, Ultrabasic Intr., Undiff, Eclogite, Peridotite, Serpentinite, Anorthosite, Gabbro, Alkali Gabbro, Norite, Picrite, Pyroxenite, Dunite, Carbonatite, Kimberlite, Coarse Basic, Intr., Med Basic Intr., Fine Basic Intr., Lamprophyre, Coarse Intermed, Intr., Med Intermed, Intr., Fine Intermed, Intr., Syenite, Dolerite, Diorite, Coarse Acid Intr., MINERALISATION/ALTERATION CODE, Veins, Gossan, Boxworks After Sulphides, Massive Sulphides, Dissem. Sulphides, Heavy Minerals, Cu Staining, Magnetic Minerals, Evaporites, Argillisation, Albitisation, Calc Silicate, Carbonatisation, Chloritisation, Dolomitisation, Ferruginisation, Kaolinisation, Potassic, Propylitisation, Pyritisation, Sausuritisation, Sericitisation, Silicification, Talcosse, Tourmalinisation, Zeolitisation, Other.

APPENDIX II

-80 MESH STREAM SEDIMENTS - ASSAY RESULTS

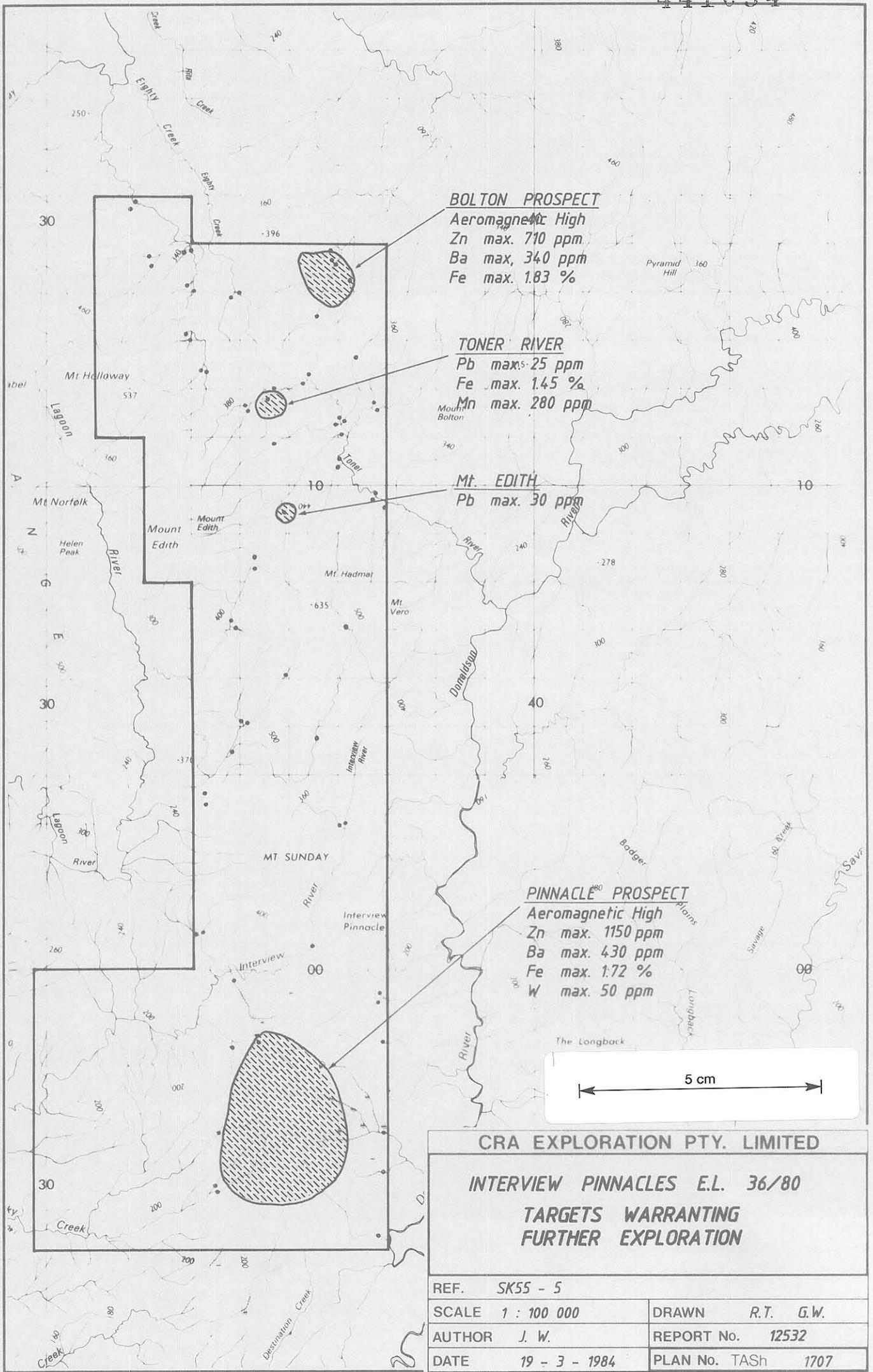
SAMPLE NO.	EAST	NORTH	CU	FE	ZN	NI	CO	AL	MO	FEX	MN
1142817	331850	5415799	2	5	5	20	2	0.5	10	0.61	65
1142822	336800	5411549	2	20	10	10	5	0.5	5	1.54	280
1142823	334599	5411800	2	25	10	15	5	0.5	5	1.15	270
1142824	334700	5411950	2	10	5	20	5	0.5	5	0.91	125
1142825	333200	5412399	2	10	2	10	2	0.5	5	0.4	65
1142826	333300	5412400	2	15	85	10	5	0.5	5	0.64	120
1142829	335899	5414700	2	20	710	15	5	1	5	1.83	145
1142830	335975	5414700	2	5	35	5	5	1	5	1.42	130
1142831	335398	5415750	2	5	30	2	5	0.5	5	0.71	55
1142846	333999	5403150	2	5	45	20	2	0.5	5	0.31	25
1153047	334151	5405050	2	5	2	20	2	0.5	10	0.34	25
1153048	333800	5407099	2	5	10	20	2	0.5	10	0.39	25
1153049	333899	5406999	2	5	5	15	2	0.5	5	0.26	20
1153050	336250	5407000	2	5	155	15	2	0.5	5	0.37	35
1153053	333300	5403650	2	5	10	10	2	0.5	5	0.32	30
1153058	333150	5400699	2	10	5	10	5	3	5	0.53	90
1153059	333250	5400750	2	5	10	15	2	0.5	5	0.54	85
1153060	333799	5398450	2	10	20	10	5	0.5	5	1.49	85
1153061	333549	5396700	2	15	730	15	5	0.5	5	1.66	45
1153062	333549	5395400	2	20	90	10	5	0.5	5	0.97	90
1153094	332200	5414699	2	5	2	5	2	0.5	5	0.26	35
1153095	332100	5414800	2	5	2	5	2	0.5	5	0.27	25
1153096	336100	5411050	2	5	1	5	2	0.5	5	0.27	30
1153097	336100	5411600	10	15	10	10	5	0.5	5	0.93	135
1153098	336100	5412700	2	5	5	10	5	0.5	5	1.15	70
1153099	333050	5413900	2	15	5	5	2	0.5	5	0.68	185
1153100	334000	5413950	2	10	10	10	5	0.5	5	0.56	95
1153112	334447	5410700	2	5	2	2	2	0.5	5	0.62	45
1153113	334800	5409800	2	10	5	2	2	0.5	5	0.55	65
1153114	336625	5409700	2	5	2	2	2	0.5	5	0.3	40
1153115	336900	5405675	2	10	1	2	2	0.5	5	0.27	35
1153117	335574	5404725	2	5	5	2	2	0.5	5	0.37	40
1153120	336900	5399500	5	5	2	5	2	0.5	5	0.6	50
1153121	336799	5399350	5	15	40	5	5	0.5	5	0.88	85
1153122	334400	5398700	2	10	510	5	5	0.5	5	0.69	65
1153123	334400	5398500	10	10	115	10	5	0.5	5	1.35	115
1153172	333099	5413999	2	10	20	5	5	0.5	5	0.28	50
1153173	332999	5414200	2	10	20	5	5	0.5	5	0.43	50
1153174	335951	5411500	2	10	20	10	5	0.5	5	0.82	70
1153175	335199	5410150	2	5	25	5	5	0.5	5	0.55	50
1153176	334149	5411550	2	10	10	5	5	0.5	5	0.5	50
1153177	334100	5411699	2	15	20	5	5	0.5	5	0.72	60
1153178	333000	5413100	2	5	5	10	5	0.5	5	0.39	55
1153179	332899	5413199	2	5	10	5	5	0.5	5	0.35	60
1153188	336150	5411349	2	15	25	10	5	0.5	5	0.8	60
1153194	334800	5407550	2	30	30	5	5	0.5	5	0.24	55
1153195	336900	5409600	2	20	20	15	5	0.5	5	0.76	100
1153196	333299	5404000	2	5	20	5	5	0.5	5	0.21	55
1153197	336901	5405000	2	5	20	15	5	0.5	5	0.29	55
1153198	336049	5403000	2	10	35	5	5	0.5	5	0.39	55
1153199	335498	5400700	2	5	145	20	5	0.5	5	0.37	55
1153202	333450	5395550	2	20	1150	10	5	0.5	5	0.37	55
1153206	336800	5394600	2	10	170	15	5	0.5	5	1.72	100
1153242	331951	5415799	2	5	1	30	5	0.5	5	0.7	55
1153245	333000	5414824	2	10	1	5	5	0.5	5	0.4	60
1153246	332850	5414850	2	5	1	20	5	0.5	5	0.33	25
1153247	336050	5416650	2	5	5	20	5	0.5	5	0.76	90
1153248	335950	5410300	2	15	2	5	5	0.5	5	0.82	100
1153249	336750	5411749	2	10	10	25	5	0.5	5	1.13	60
1153250	335250	5412120	2	5	5	5	5	0.5	5	0.78	55

SAMPLE NO.	EAST	NORTH	CU	FB	ZN	NI	CO	AG	MO	FEZ	MN
1153251	335425	5412350	2	10	1	15	2	0.5	5	0.73	50
1153252	335525	5413549	5	15	1	5	5	0.5	5	0.43	90
1153255	335549	5414660	5	20	10	20	5	0.5	5	0.86	50
1153256	336310	5414540	2	10	15	10	5	0.5	5	1.1	85
1153270	334999	5406180	2	2	2	5	2	0.5	5	0.26	25
1153272	334409	5408299	2	2	1	5	2	0.5	2	0.23	20
1153273	334295	5408420	2	2	1	5	2	0.5	10	0.27	20
1153274	333860	5404550	2	5	1	5	2	0.5	5	0.27	25
1153275	333248	5403440	2	5	2	10	2	0.5	10	0.36	30
1153280	333879	5399780	2	5	15	10	5	0.5	5	1.28	75

SAMPLE NO.	AS	SN	W	BA
1142817	1	2.5	10	140
1142822	3	2.5	20	160
1142823	1	2.5	10	120
1142824	1	2.5	10	120
1142825	1	2.5	10	90
1142826	1	2.5	10	80
1142829	9	2.5	5	250
1142830	3	2.5	20	340
1142831	2	2.5	30	270
1142846	0.5	2.5	10	30
1153047	1	2.5	10	40
1153048	0.5	2.5	20	40
1153049	0.5	2.5	5	40
1153050	3	2.5	10	110
1153053	5	2.5	5	50
1153058	1	2.5	10	80
1153059	0.5	2.5	10	50
1153060	2	15	40	260
1153061	3	15	40	270
1153062	5	5	20	230
1153094	1	2.5	10	80
1153095	1	2.5	5	80
1153096	1	2.5	5	80
1153097	2	2.5	10	150
1153098	6	2.5	10	180
1153099	1	2.5	10	100
1153100	1	2.5	10	110
1153112	1	2.5	20	140
1153113	3	2.5	10	150
1153114	1	2.5	10	100
1153115	1	2.5	20	70
1153117	1	2.5	10	80
1153120	1	2.5	60	80
1153121	3	2.5	40	100
1153122	3	5	30	130
1153123	4	5	50	140
1153172	1	2.5	20	40
1153173	1	2.5	40	70
1153174	1	2.5	20	150
1153175	1	2.5	30	30
1153176	2	2.5	20	70
1153177	1	2.5	40	130
1153178	1	2.5	30	70
1153179	1	2.5	40	180
1153186	2	2.5	20	150
1153194	2	2.5	20	50
1153195	5	2.5	20	130
1153196	1	2.5	10	40
1153197	0.5	2.5	10	60
1153198	1	2.5	20	120
1153199	0.5	2.5	10	40
1153202	3	15	40	180
1153206	5	5	10	130
1153242	1	2.5	20	80
1153245	0.5	2.5	20	80
1153246	1	2.5	30	30
1153247	1	2.5	10	140
1153248	2	2.5	30	140
1153249	2	2.5	20	110
1153250	4	2.5	20	200

SAMPLE NO.	AS	SN	W	BA
1153251	3	2.5	10	160
1153252	1	2.5	20	100
1153253	1	3	30	220
1153254	3	2.5	20	240
1153270	0.5	2.5	20	40
1153272	0.5	2.5	30	40
1153273	0.5	2.5	20	30
1153274	0.5	2.5	40	40
1153275	0.5	2.5	30	30
1153280	1	2.5	60	230

033



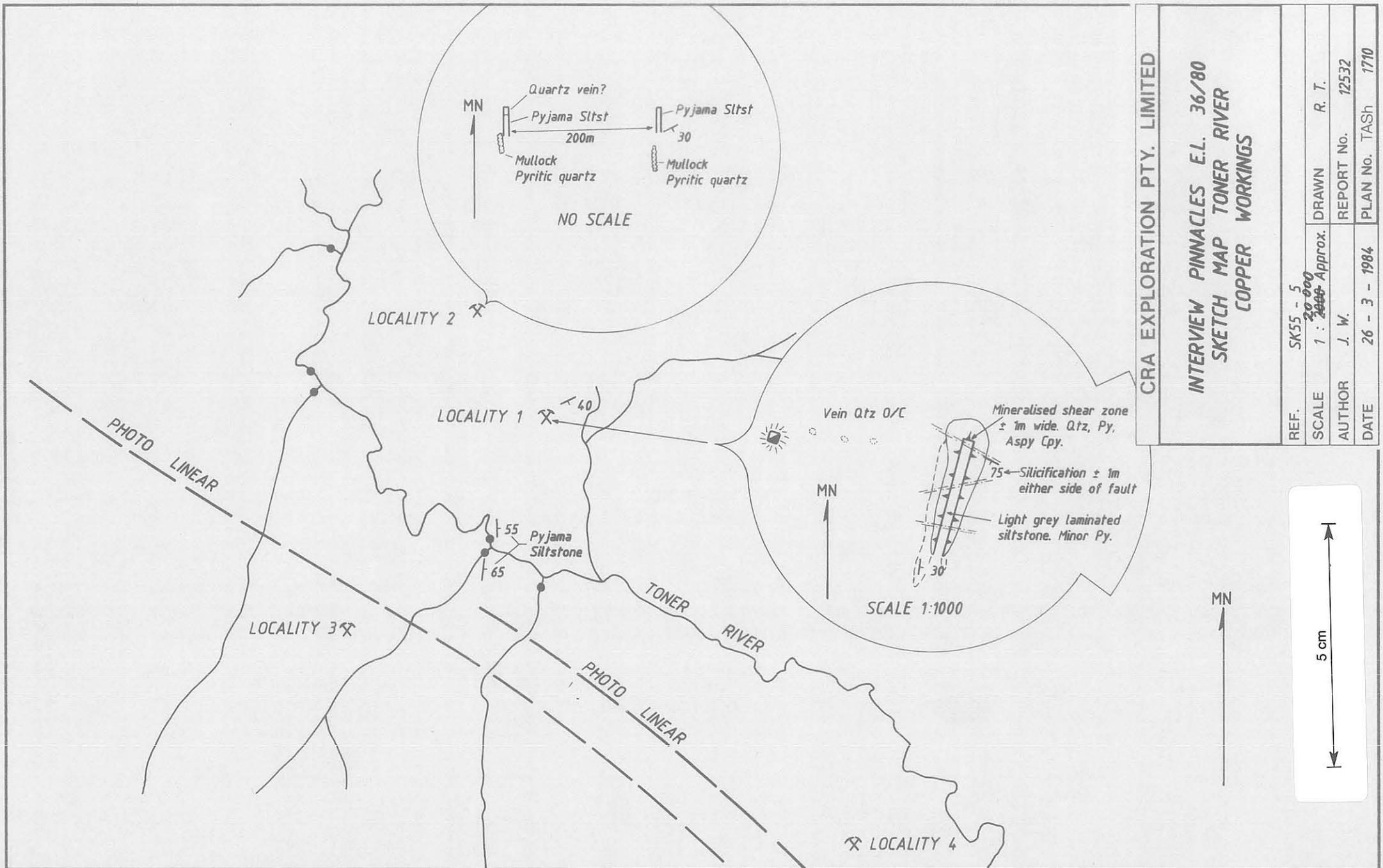
**CRA EXPLORATION PTY. LIMITED**

**INTERVIEW PINNACLES E.L. 36/80**

**TARGETS WARRANTING FURTHER EXPLORATION**

REF.	SK55 - 5	
SCALE	1 : 100 000	DRAWN R.T. G.W.
AUTHOR	J. W.	REPORT No. 12532
DATE	19 - 3 - 1984	PLAN No. TASH 1707

441035

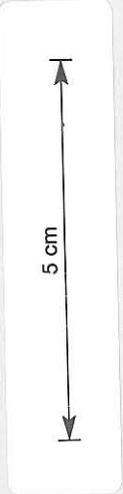


CRA EXPLORATION PTY. LIMITED

INTERVIEW PINNACLES E.L. 36/80  
 SKETCH MAP TONER RIVER  
 COPPER WORKINGS

REF.	SK55 - 5
SCALE	1 : <del>2000</del> <sup>20000</sup> Approx.
AUTHOR	J. W.
DATE	26 - 3 - 1984
DRAWN	R. T.
REPORT No.	12532
PLAN No.	TASH 1710

MN ↑

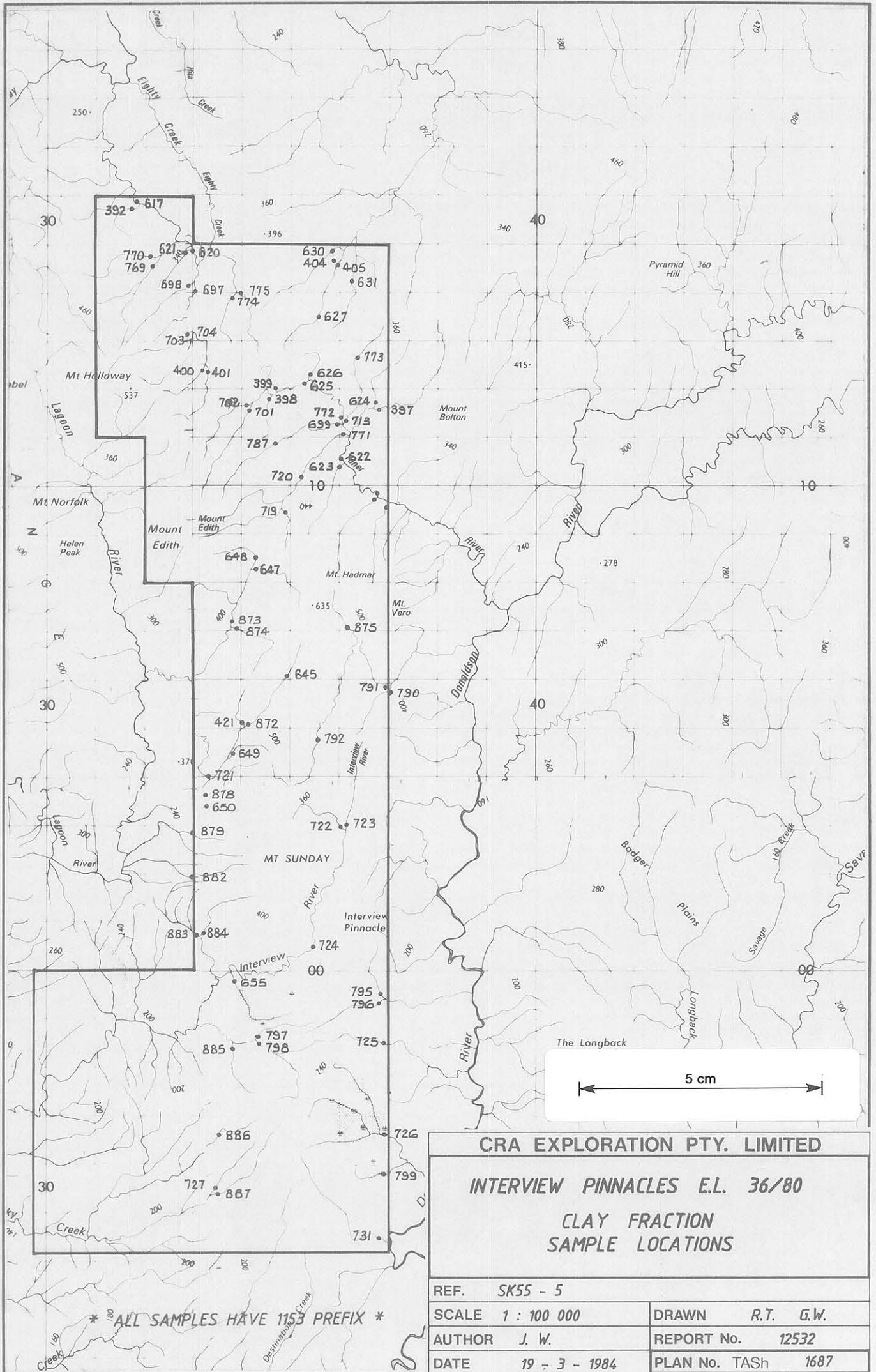


034





037

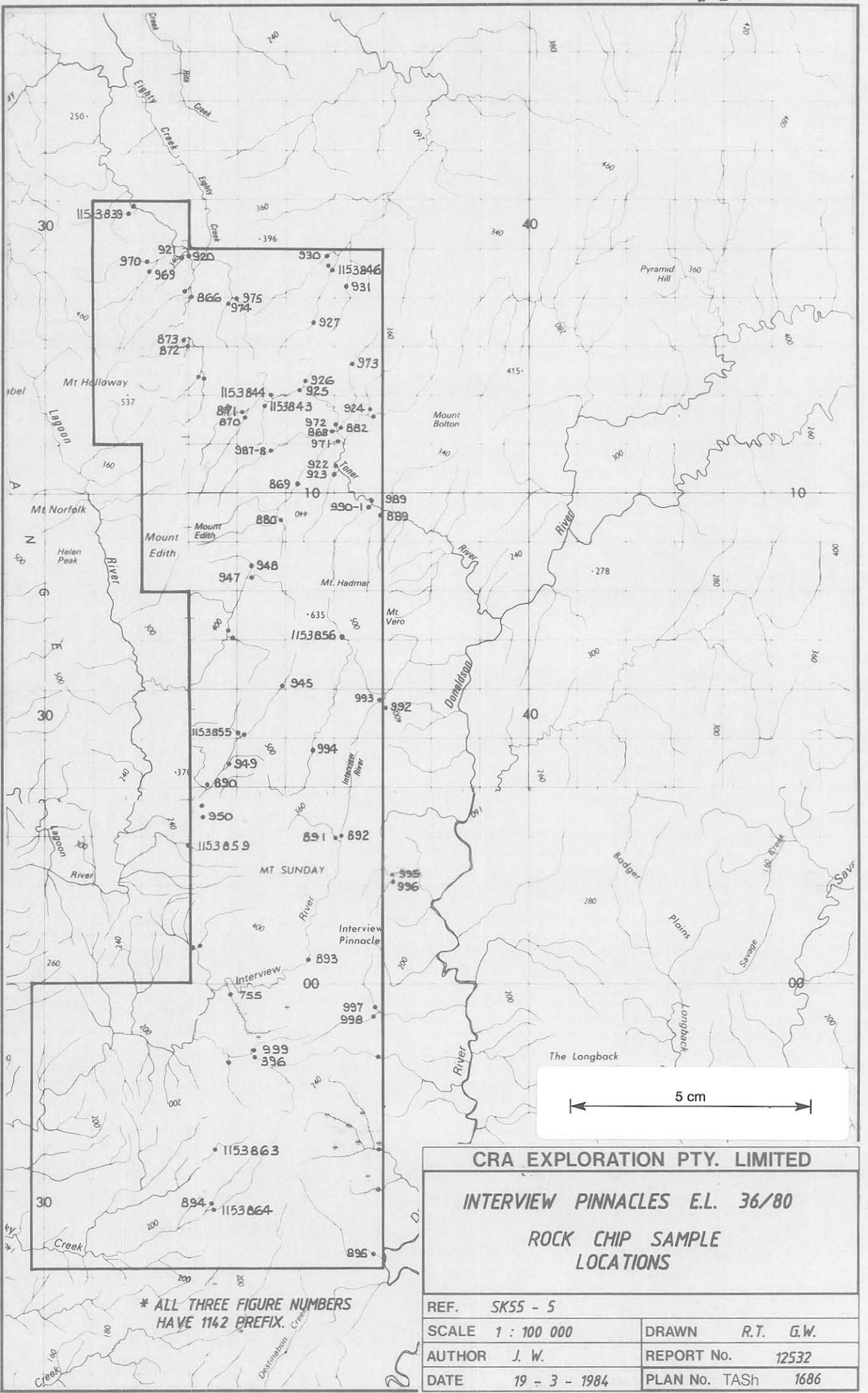


**CRA EXPLORATION PTY. LIMITED**  
**INTERVIEW PINNACLES E.L. 36/80**  
**CLAY FRACTION**  
**SAMPLE LOCATIONS**

REF.	SK55 - 5	DRAWN	R.T. G.W.
SCALE	1 : 100 000	REPORT No.	12532
AUTHOR	J. W.	PLAN No.	TASH 1687
DATE	19 - 3 - 1984		

\* ALL SAMPLES HAVE 1153 PREFIX \*

038

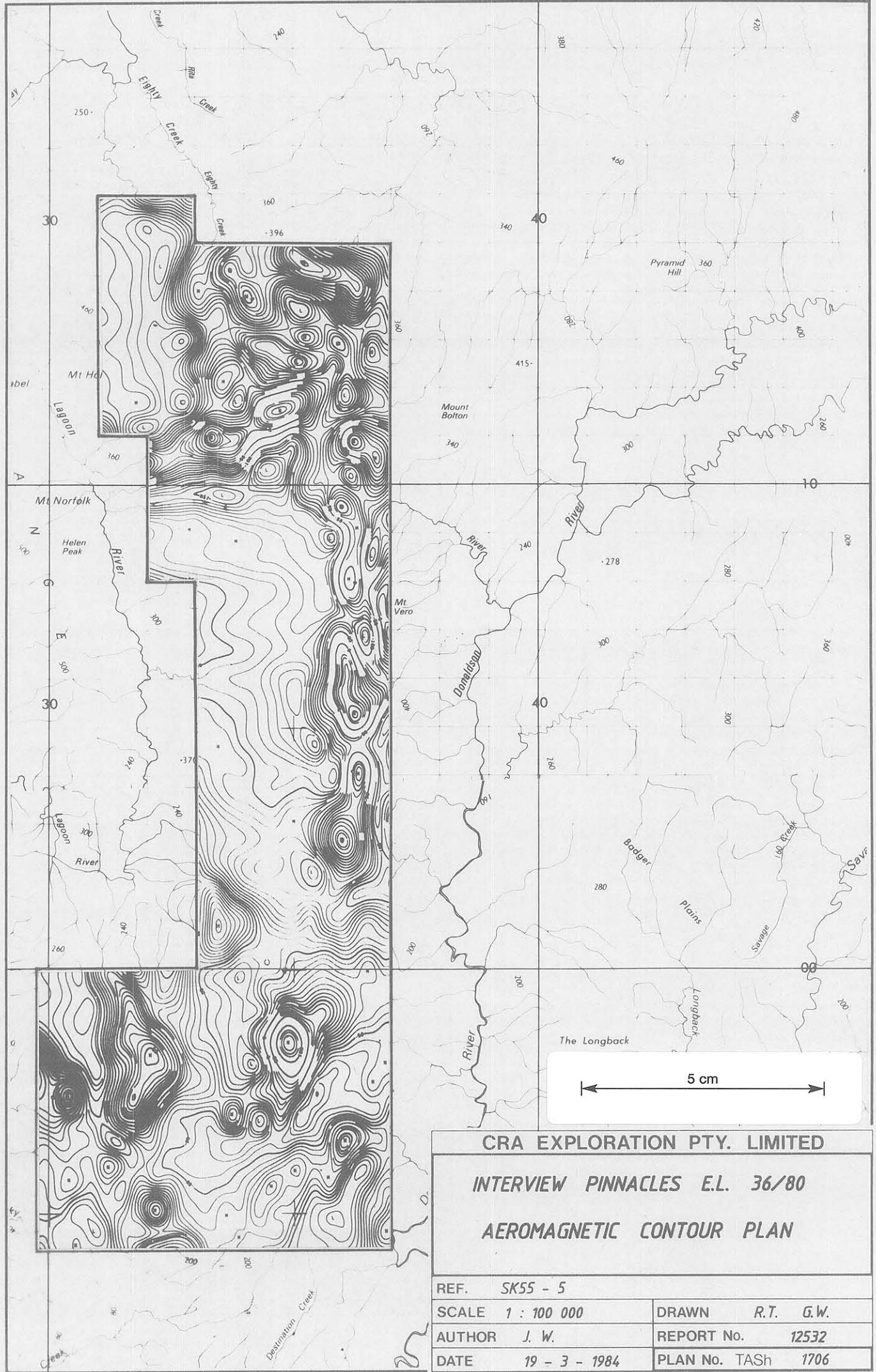


**CRA EXPLORATION PTY. LIMITED**  
**INTERVIEW PINNACLES E.L. 36/80**  
**ROCK CHIP SAMPLE LOCATIONS**

REF.	SK55 - 5	DRAWN	R.T. G.W.
SCALE	1 : 100 000	REPORT No.	12532
AUTHOR	J. W.	PLAN No.	TASh 1686
DATE	19 - 3 - 1984		

\* ALL THREE FIGURE NUMBERS  
 HAVE 1142 PREFIX.

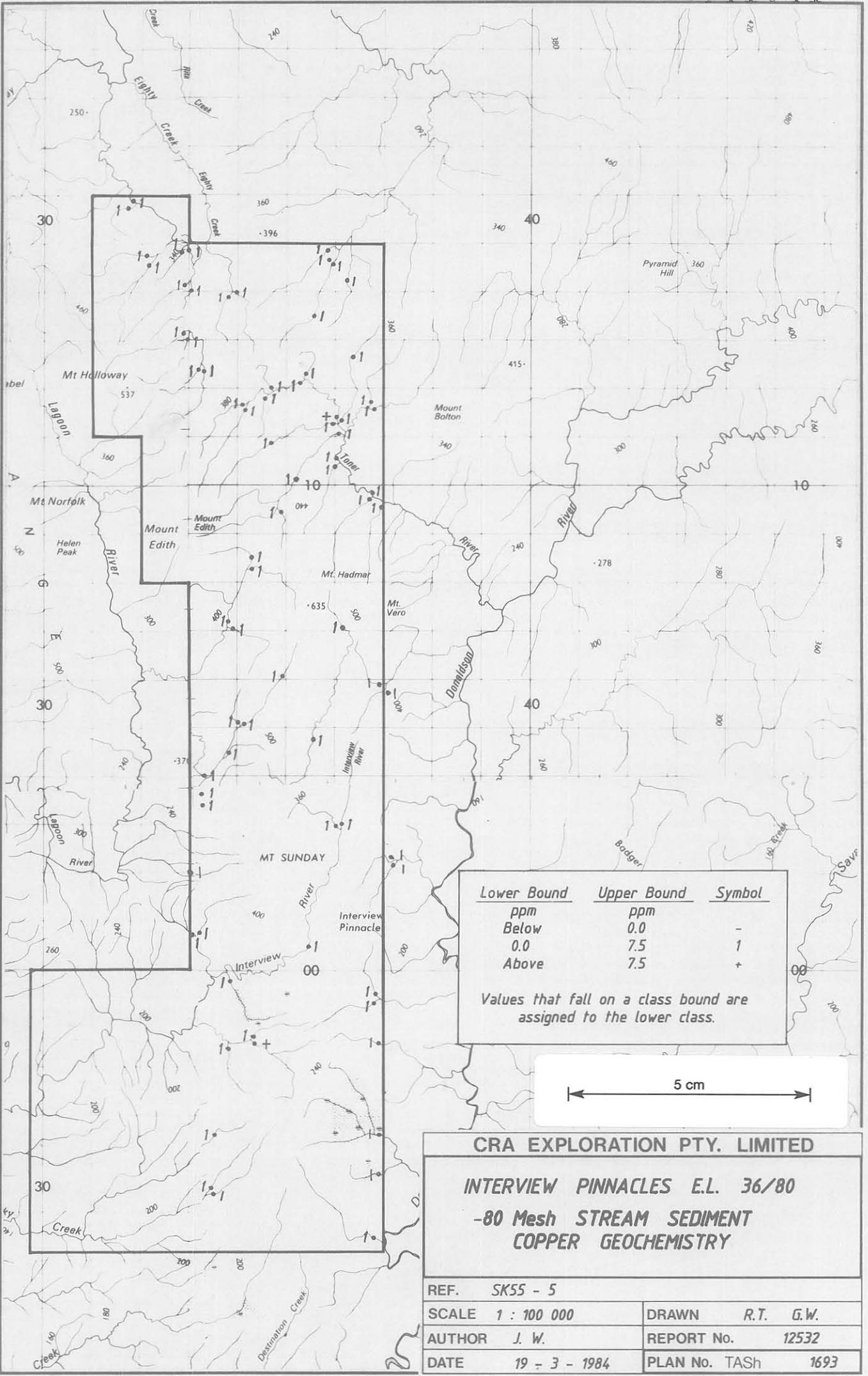
039



**CRA EXPLORATION PTY. LIMITED**  
**INTERVIEW PINNACLES E.L. 36/80**  
**AEROMAGNETIC CONTOUR PLAN**

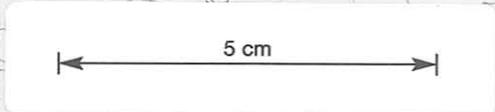
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SCALE	1 : 100 000	REPORT No.	12532
AUTHOR	J. W.	PLAN No.	TASH 1706
DATE	19 - 3 - 1984		

040



Lower Bound	Upper Bound	Symbol
ppm	ppm	
Below 0.0	0.0	-
0.0	7.5	1
Above 7.5	7.5	+

Values that fall on a class bound are assigned to the lower class.



**CRA EXPLORATION PTY. LIMITED**

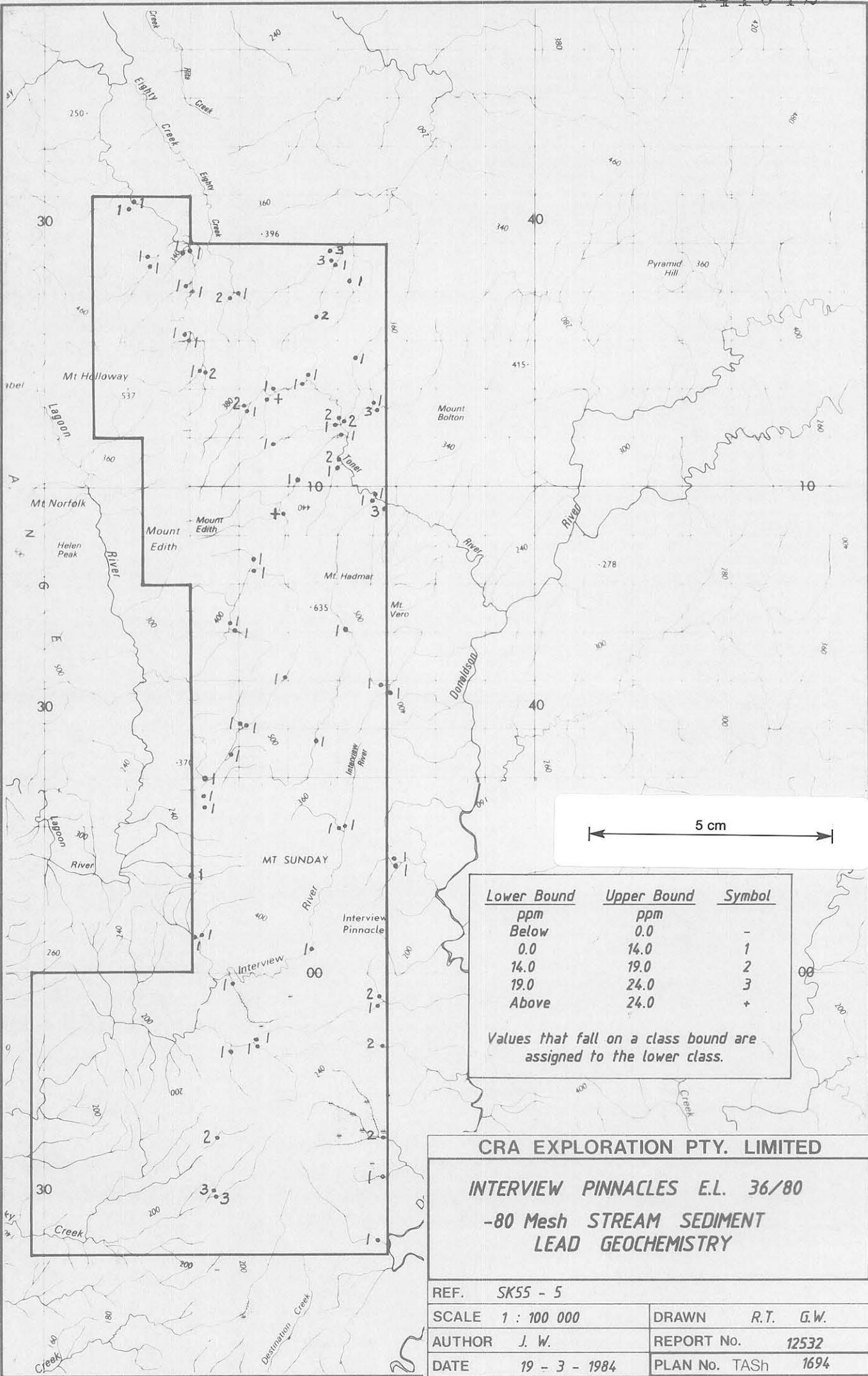
**INTERVIEW PINNACLES E.L. 36/80**

**-80 Mesh STREAM SEDIMENT COPPER GEOCHEMISTRY**

REF.	SK55 - 5	DRAWN	R.T. G.W.
SCALE	1 : 100 000	REPORT No.	12532
AUTHOR	J. W.	PLAN No.	TASH 1693
DATE	19 - 3 - 1984		

041

111042



<u>Lower Bound</u>	<u>Upper Bound</u>	<u>Symbol</u>
ppm	ppm	
Below	0.0	-
0.0	14.0	1
14.0	19.0	2
19.0	24.0	3
Above	24.0	+

Values that fall on a class bound are assigned to the lower class.

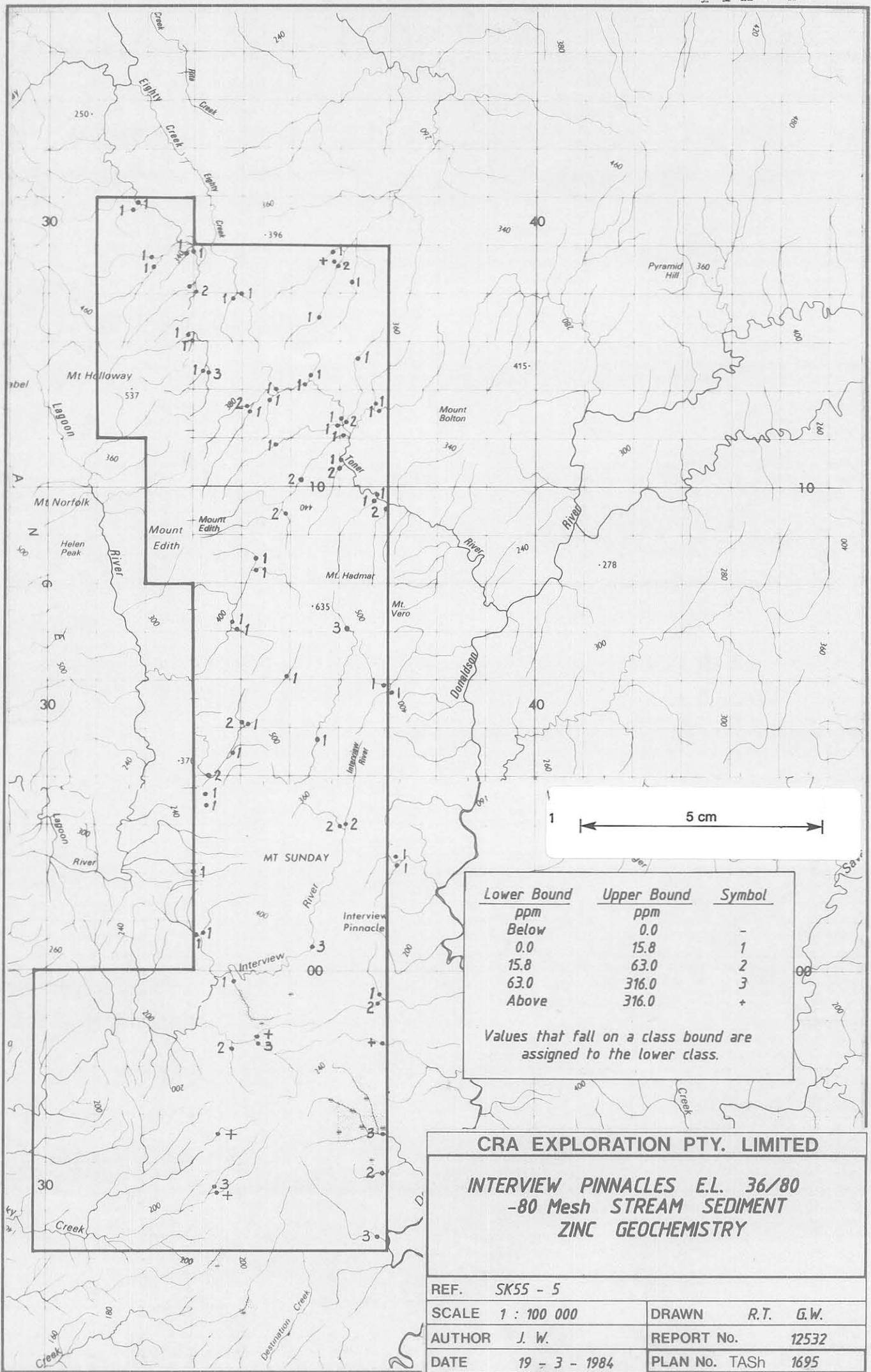
**CRA EXPLORATION PTY. LIMITED**

**INTERVIEW PINNACLES E.L. 36/80**

**-80 Mesh STREAM SEDIMENT LEAD GEOCHEMISTRY**

REF.	SK55 - 5		
SCALE	1 : 100 000	DRAWN	R.T. G.W.
AUTHOR	J. W.	REPORT No.	12532
DATE	19 - 3 - 1984	PLAN No.	TASh 1694

042



<u>Lower Bound</u>	<u>Upper Bound</u>	<u>Symbol</u>
Below 0.0	0.0	-
0.0	15.8	1
15.8	63.0	2
63.0	316.0	3
Above 316.0	316.0	+

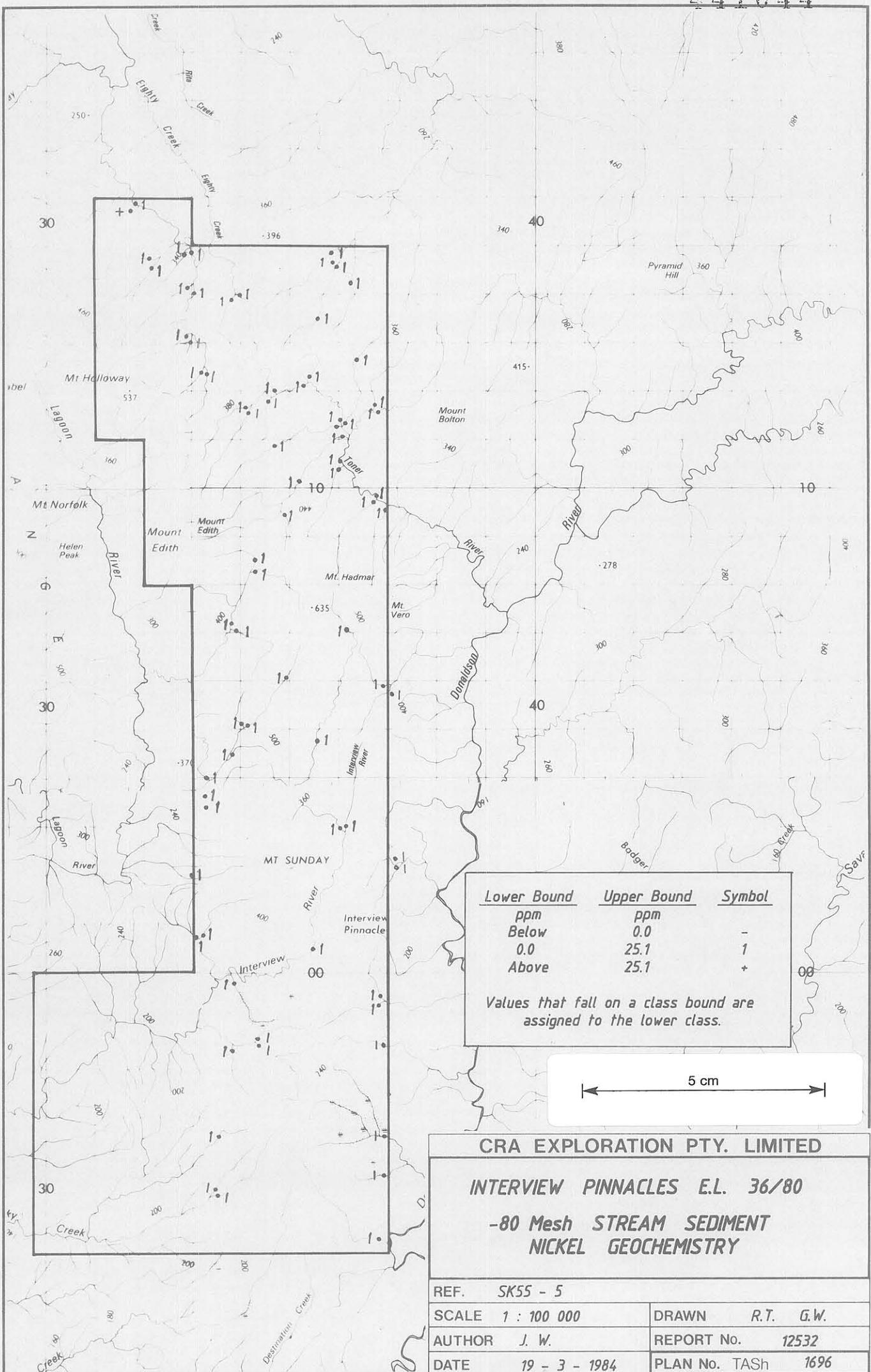
Values that fall on a class bound are assigned to the lower class.

**CRA EXPLORATION PTY. LIMITED**

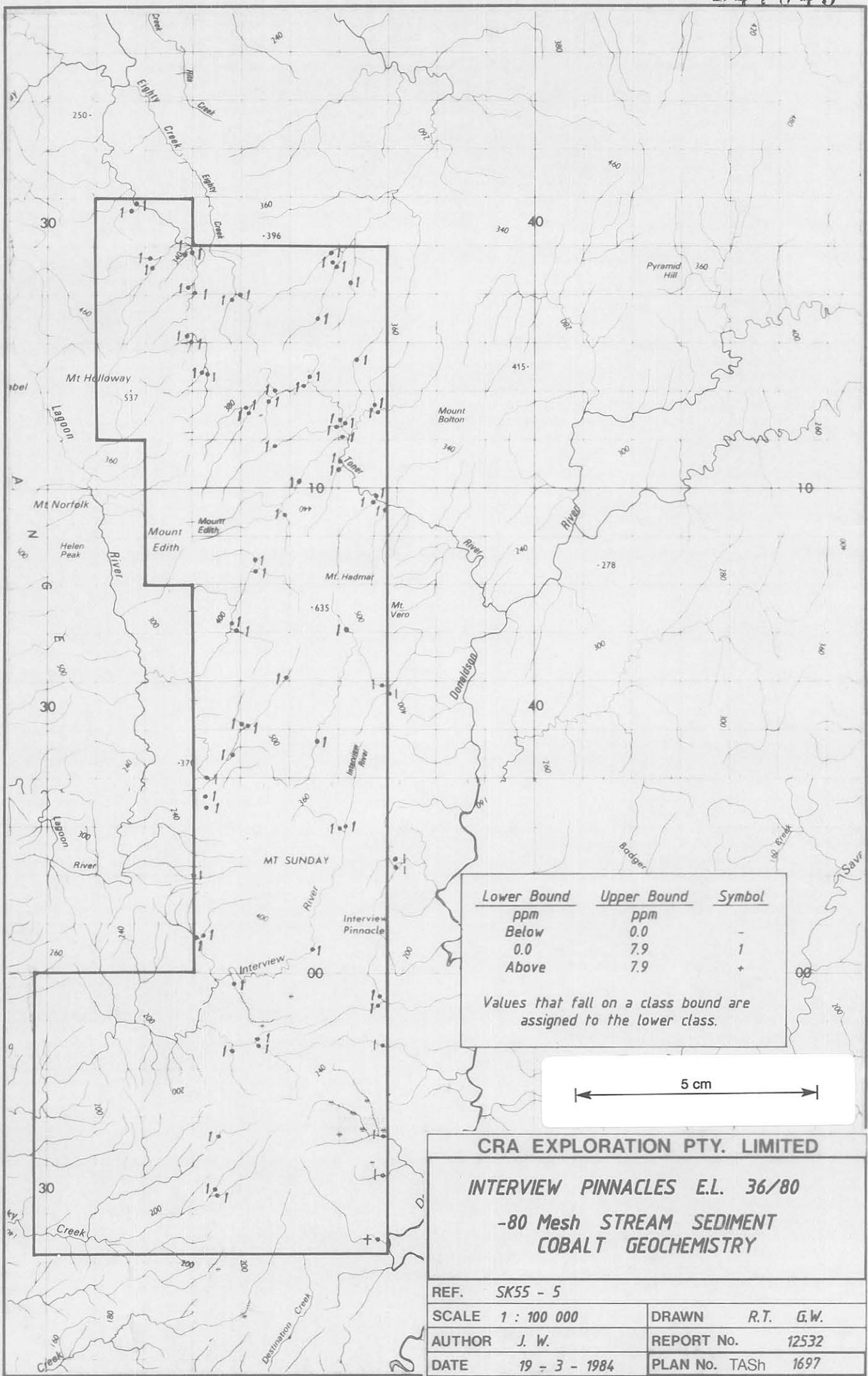
**INTERVIEW PINNACLES E.L. 36/80**  
**-80 Mesh STREAM SEDIMENT**  
**ZINC GEOCHEMISTRY**

REF. SK55 - 5	DRAWN R.T. G.W.
SCALE 1 : 100 000	REPORT No. 12532
AUTHOR J. W.	PLAN No. TASH 1695
DATE 19 - 3 - 1984	

043

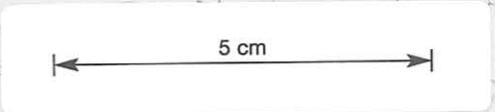


044



<u>Lower Bound</u>	<u>Upper Bound</u>	<u>Symbol</u>
ppm	ppm	
Below 0.0	0.0	-
0.0	7.9	1
Above 7.9	7.9	+

Values that fall on a class bound are assigned to the lower class.



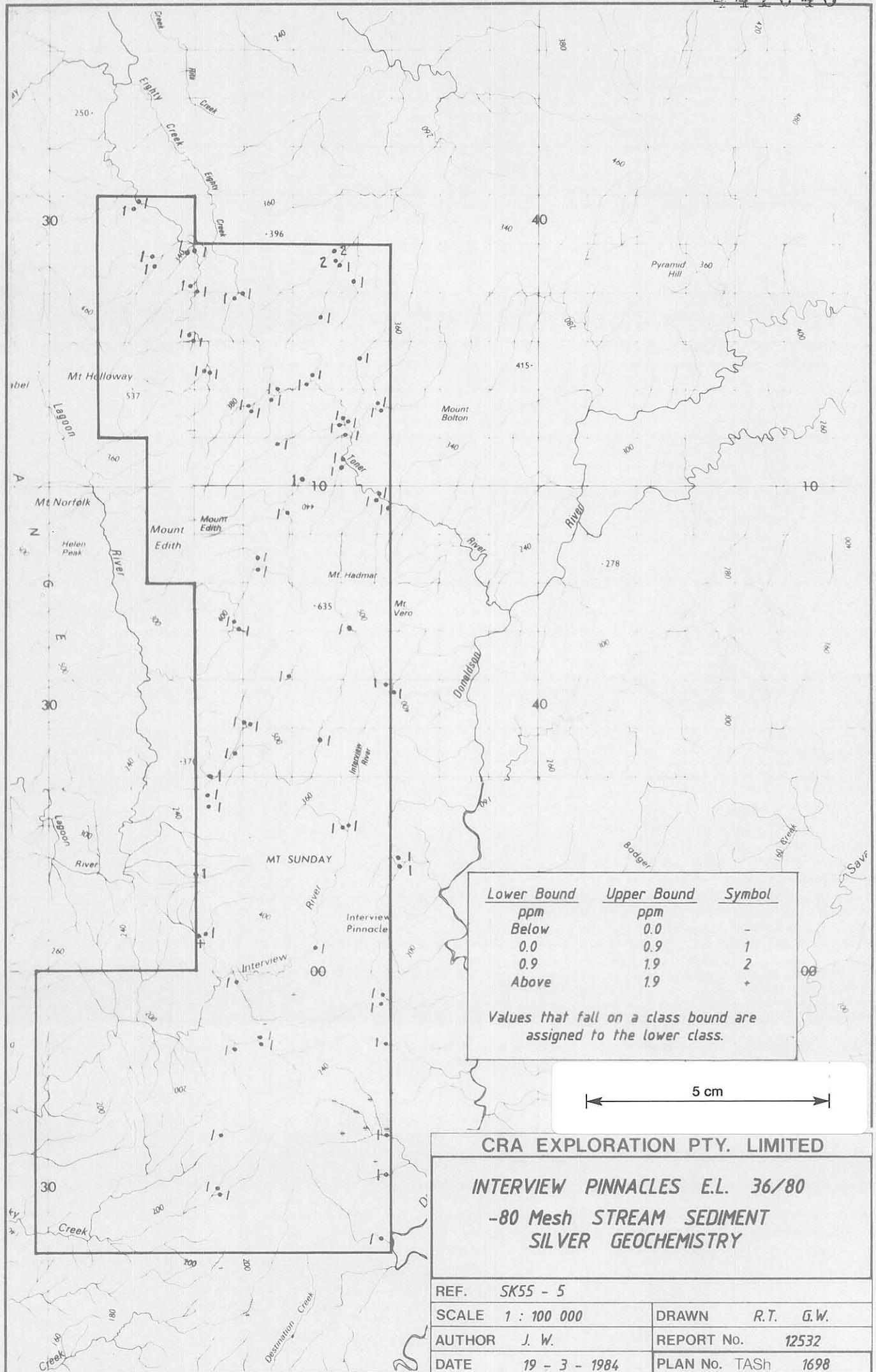
**CRA EXPLORATION PTY. LIMITED**

**INTERVIEW PINNACLES E.L. 36/80**

**-80 Mesh STREAM SEDIMENT COBALT GEOCHEMISTRY**

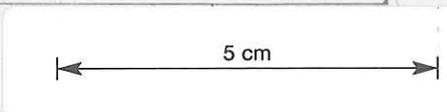
REF.	SK55 - 5	DRAWN	R.T. G.W.
SCALE	1 : 100 000	REPORT No.	12532
AUTHOR	J. W.	PLAN No.	TASh 1697
DATE	19 - 3 - 1984		

045



<u>Lower Bound</u>	<u>Upper Bound</u>	<u>Symbol</u>
ppm	ppm	
Below 0.0	0.0	-
0.0	0.9	1
0.9	1.9	2
Above 1.9	1.9	+

Values that fall on a class bound are assigned to the lower class.



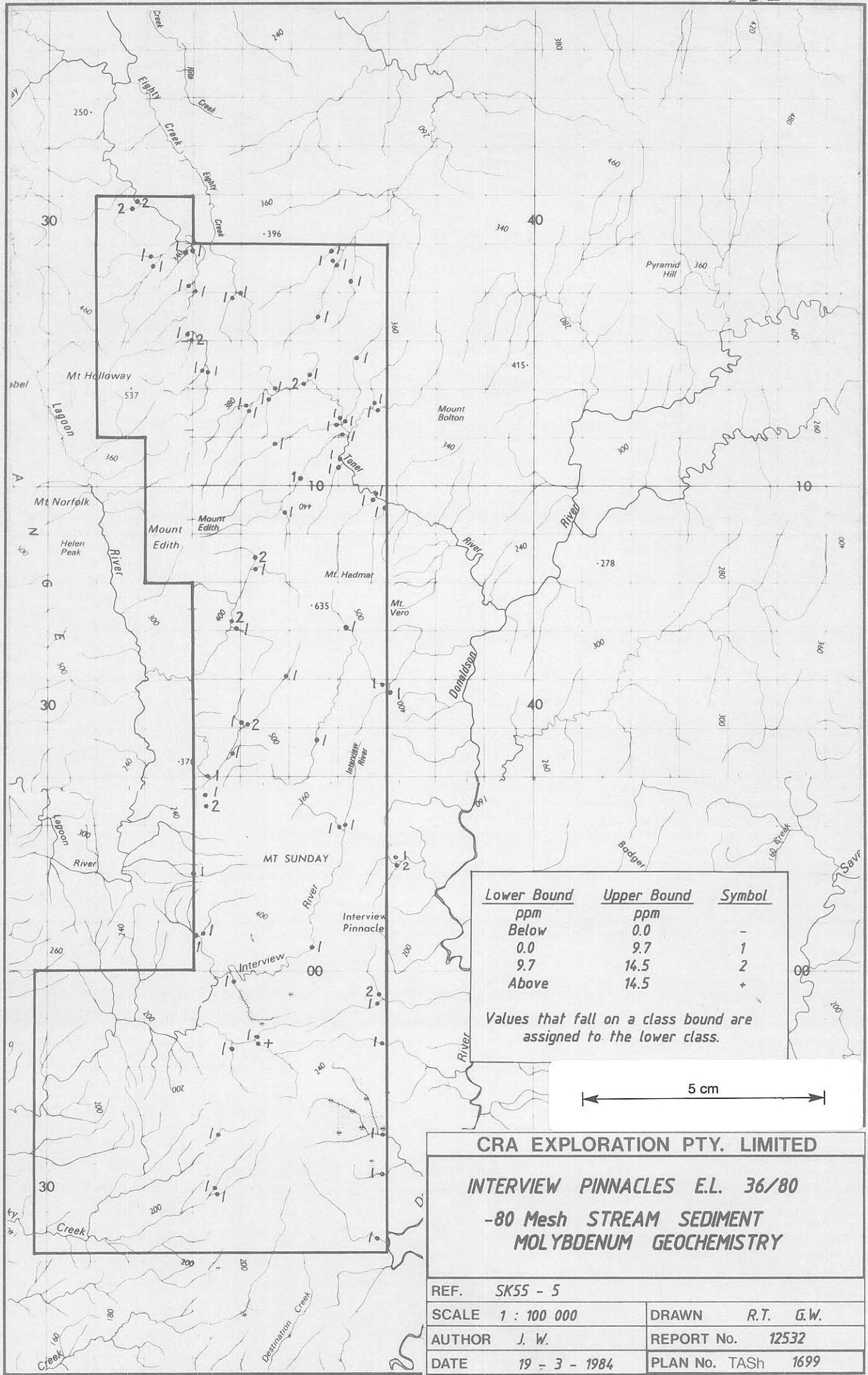
**CRA EXPLORATION PTY. LIMITED**

**INTERVIEW PINNACLES E.L. 36/80**

**-80 Mesh STREAM SEDIMENT SILVER GEOCHEMISTRY**

REF.	SK55 - 5	DRAWN	R.T. G.W.
SCALE	1 : 100 000	REPORT No.	12532
AUTHOR	J. W.	PLAN No.	TASh 1698
DATE	19 - 3 - 1984		

046



<u>Lower Bound</u>	<u>Upper Bound</u>	<u>Symbol</u>
ppm	ppm	
Below	0.0	-
0.0	9.7	1
9.7	14.5	2
Above	14.5	+

Values that fall on a class bound are assigned to the lower class.

5 cm

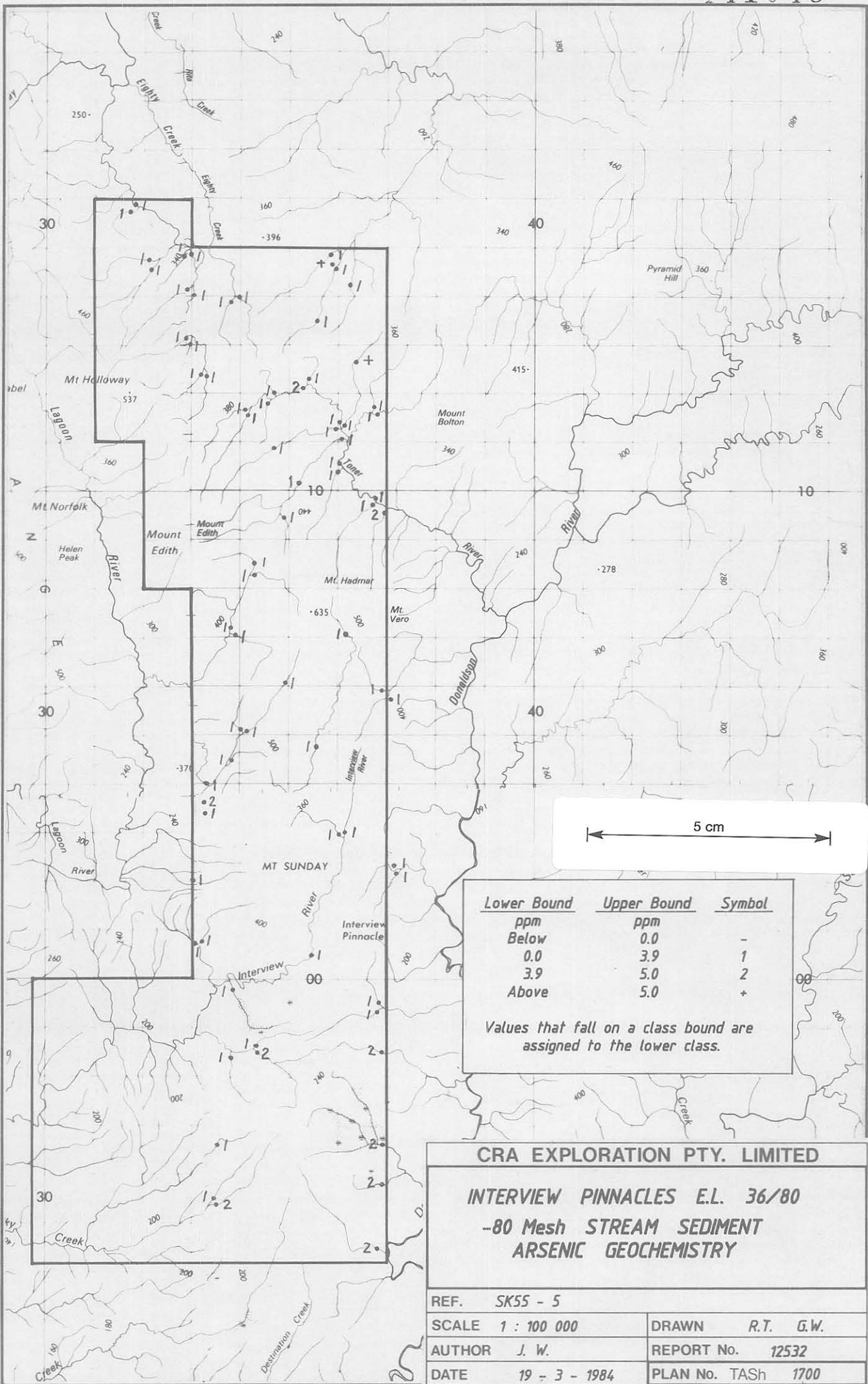
**CRA EXPLORATION PTY. LIMITED**

**INTERVIEW PINNACLES E.L. 36/80**

**-80 Mesh STREAM SEDIMENT MOLYBDENUM GEOCHEMISTRY**

REF. SK55 - 5	
SCALE 1 : 100 000	DRAWN R.T. G.W.
AUTHOR J. W.	REPORT No. 12532
DATE 19 - 3 - 1984	PLAN No. TASH 1699

047



<u>Lower Bound</u>	<u>Upper Bound</u>	<u>Symbol</u>
ppm	ppm	
Below	0.0	-
0.0	3.9	1
3.9	5.0	2
Above	5.0	+

Values that fall on a class bound are assigned to the lower class.

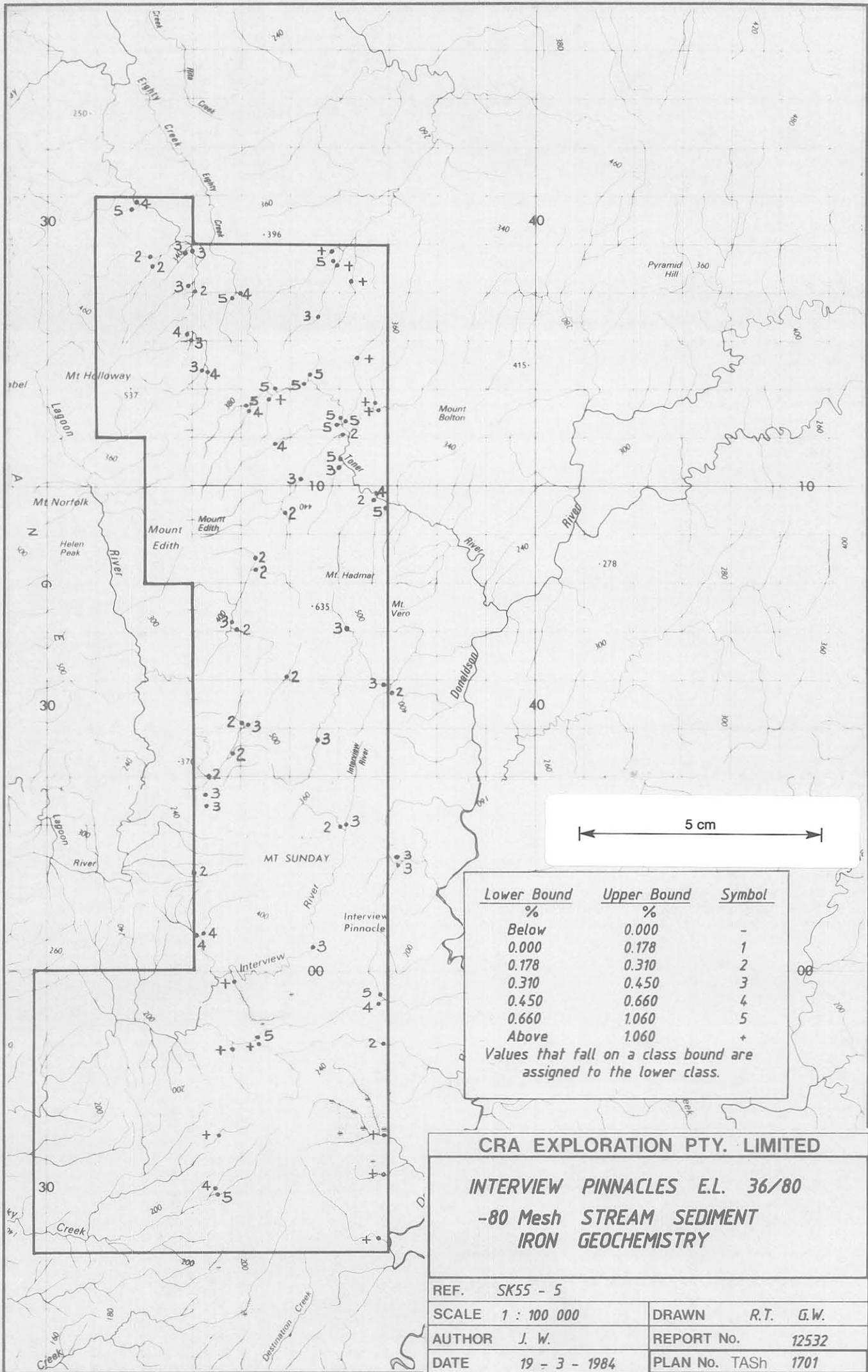
**CRA EXPLORATION PTY. LIMITED**

**INTERVIEW PINNACLES E.L. 36/80**

**-80 Mesh STREAM SEDIMENT ARSENIC GEOCHEMISTRY**

REF.	SK55 - 5	DRAWN	R.T. G.W.
SCALE	1 : 100 000	REPORT No.	12532
AUTHOR	J. W.	PLAN No.	TASh 1700
DATE	19 - 3 - 1984		

048



Lower Bound	Upper Bound	Symbol
%	%	
Below	0.000	-
0.000	0.178	1
0.178	0.310	2
0.310	0.450	3
0.450	0.660	4
0.660	1.060	5
Above	1.060	+

Values that fall on a class bound are assigned to the lower class.

**CRA EXPLORATION PTY. LIMITED**

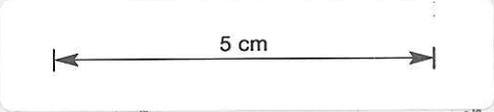
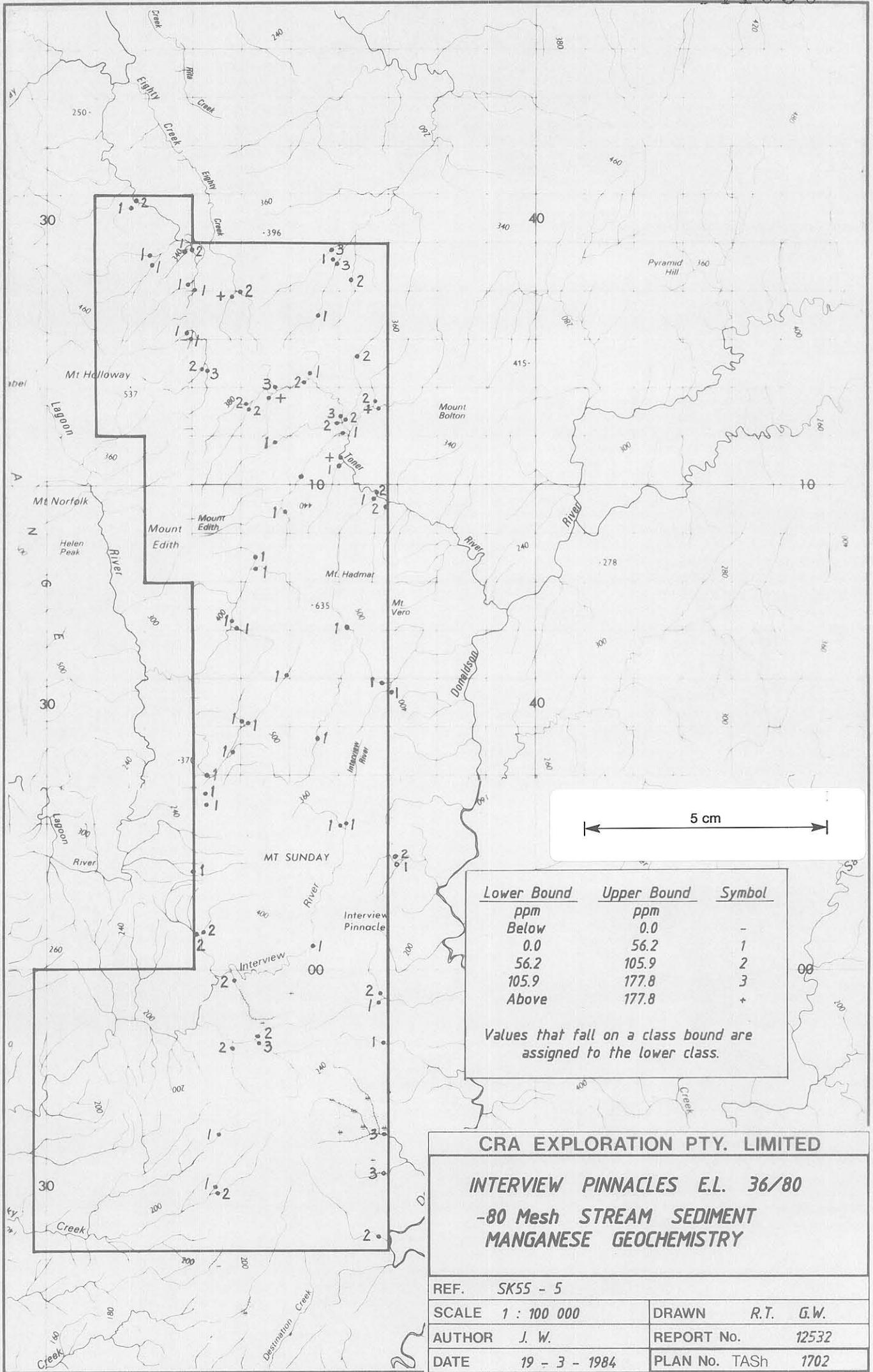
**INTERVIEW PINNACLES E.L. 36/80**

**-80 Mesh STREAM SEDIMENT IRON GEOCHEMISTRY**

REF.	SK55 - 5	DRAWN	R.T. G.W.
SCALE	1 : 100 000	REPORT No.	12532
AUTHOR	J. W.	PLAN No.	TASH 1701
DATE	19 - 3 - 1984		

043

441050



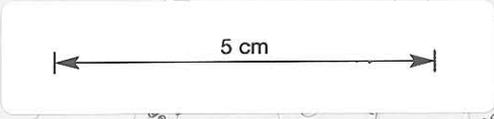
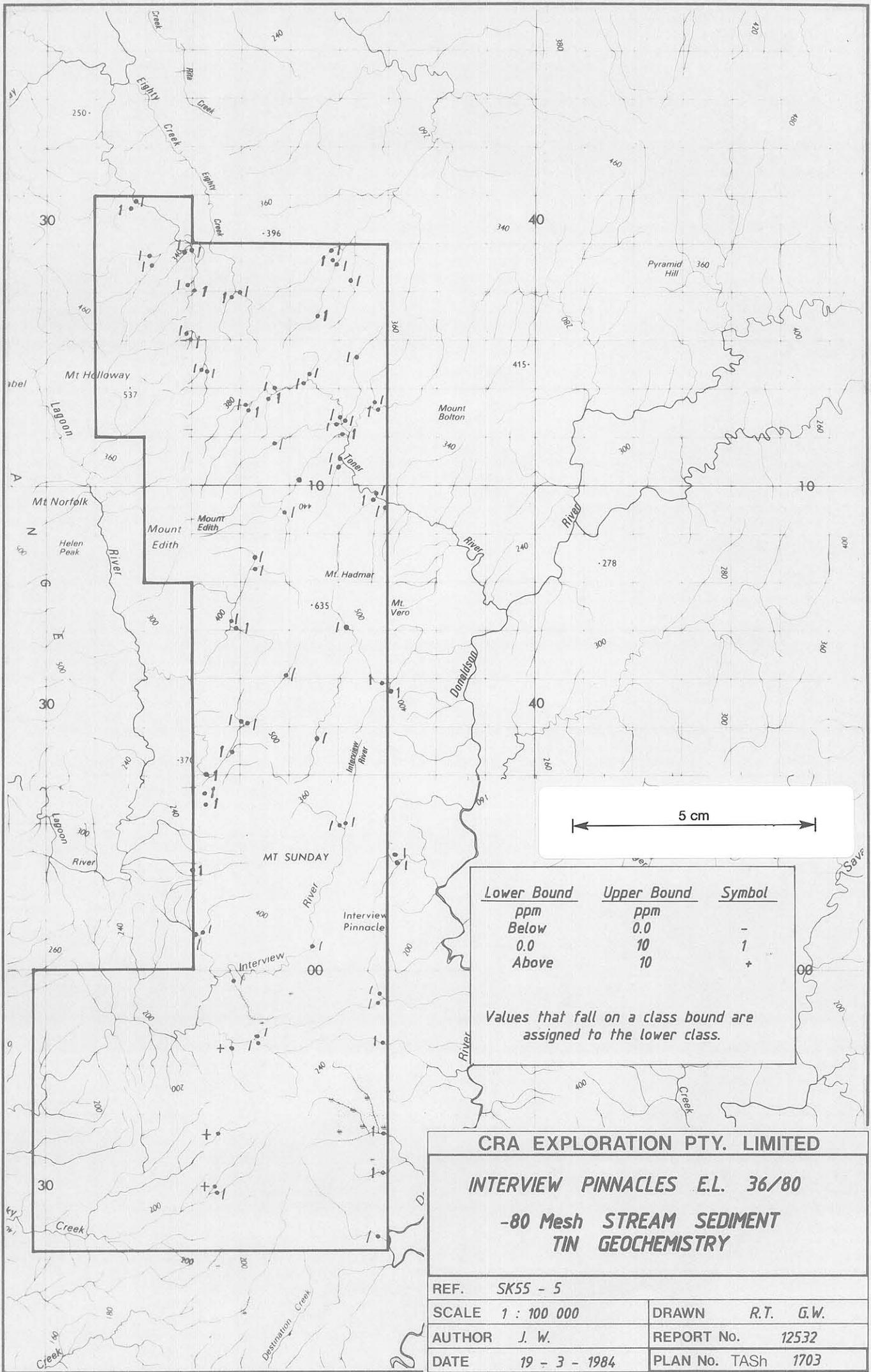
Lower Bound	Upper Bound	Symbol
ppm	ppm	
Below 0.0	0.0	-
0.0	56.2	1
56.2	105.9	2
105.9	177.8	3
Above 177.8	177.8	+

Values that fall on a class bound are assigned to the lower class.

**CRA EXPLORATION PTY. LIMITED**  
**INTERVIEW PINNACLES E.L. 36/80**  
**-80 Mesh STREAM SEDIMENT**  
**MANGANESE GEOCHEMISTRY**

REF.	SK55 - 5	DRAWN	R.T.	G.W.
SCALE	1 : 100 000	REPORT No.	12532	
AUTHOR	J. W.	PLAN No.	TASh	1702
DATE	19 - 3 - 1984			

050



<u>Lower Bound</u>	<u>Upper Bound</u>	<u>Symbol</u>
ppm	ppm	
Below 0.0	0.0	-
0.0	10	1
Above 10	10	+

Values that fall on a class bound are assigned to the lower class.

**CRA EXPLORATION PTY. LIMITED**

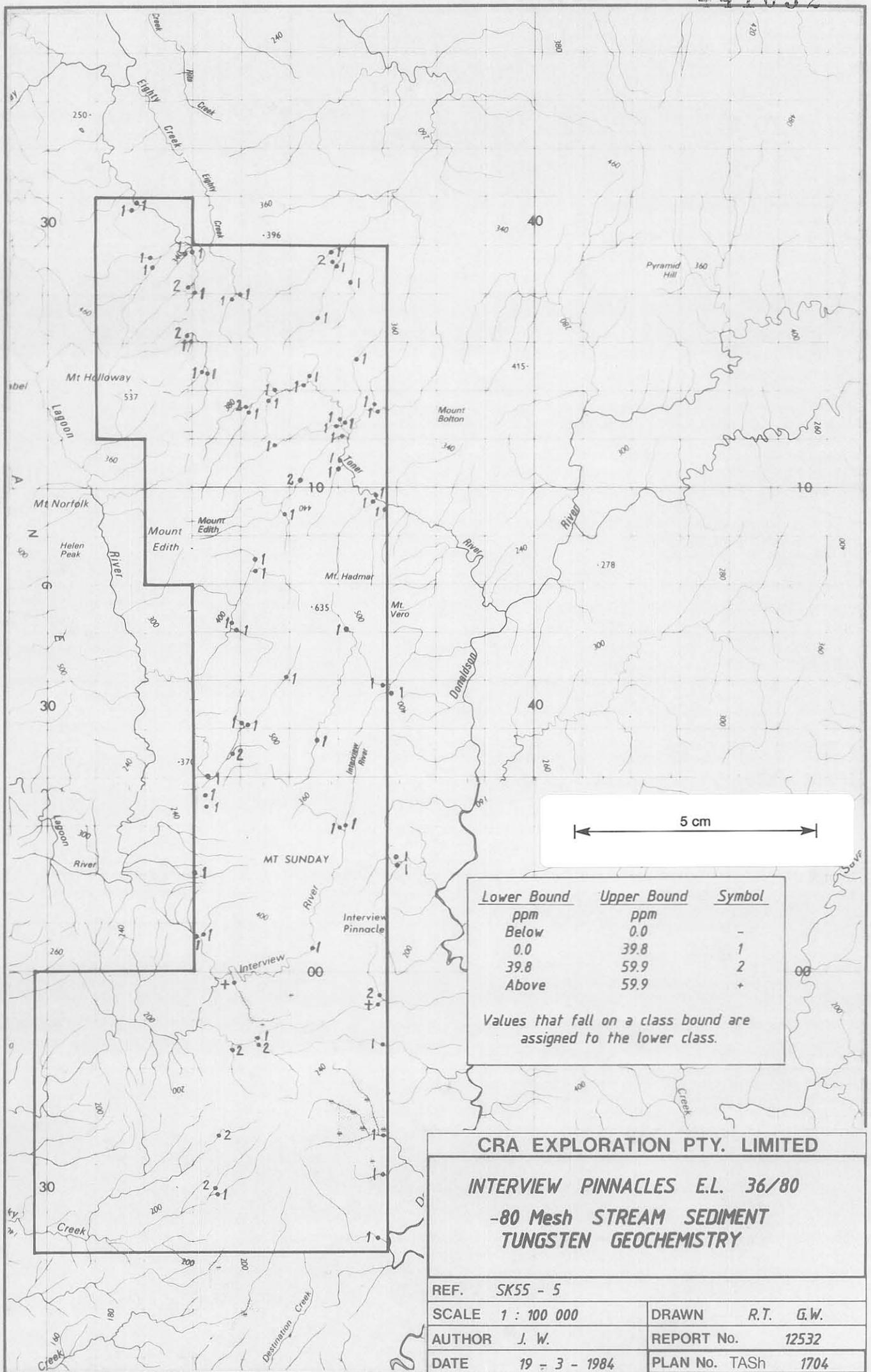
**INTERVIEW PINNACLES E.L. 36/80**

**-80 Mesh STREAM SEDIMENT TIN GEOCHEMISTRY**

REF.	SK55 - 5	DRAWN	R.T. G.W.
SCALE	1 : 100 000	REPORT No.	12532
AUTHOR	J. W.	PLAN No.	TASh 1703
DATE	19 - 3 - 1984		

051

441052



<u>Lower Bound</u>	<u>Upper Bound</u>	<u>Symbol</u>
ppm	ppm	
Below 0.0	0.0	-
0.0	39.8	1
39.8	59.9	2
Above 59.9	59.9	+

Values that fall on a class bound are assigned to the lower class.

**CRA EXPLORATION PTY. LIMITED**

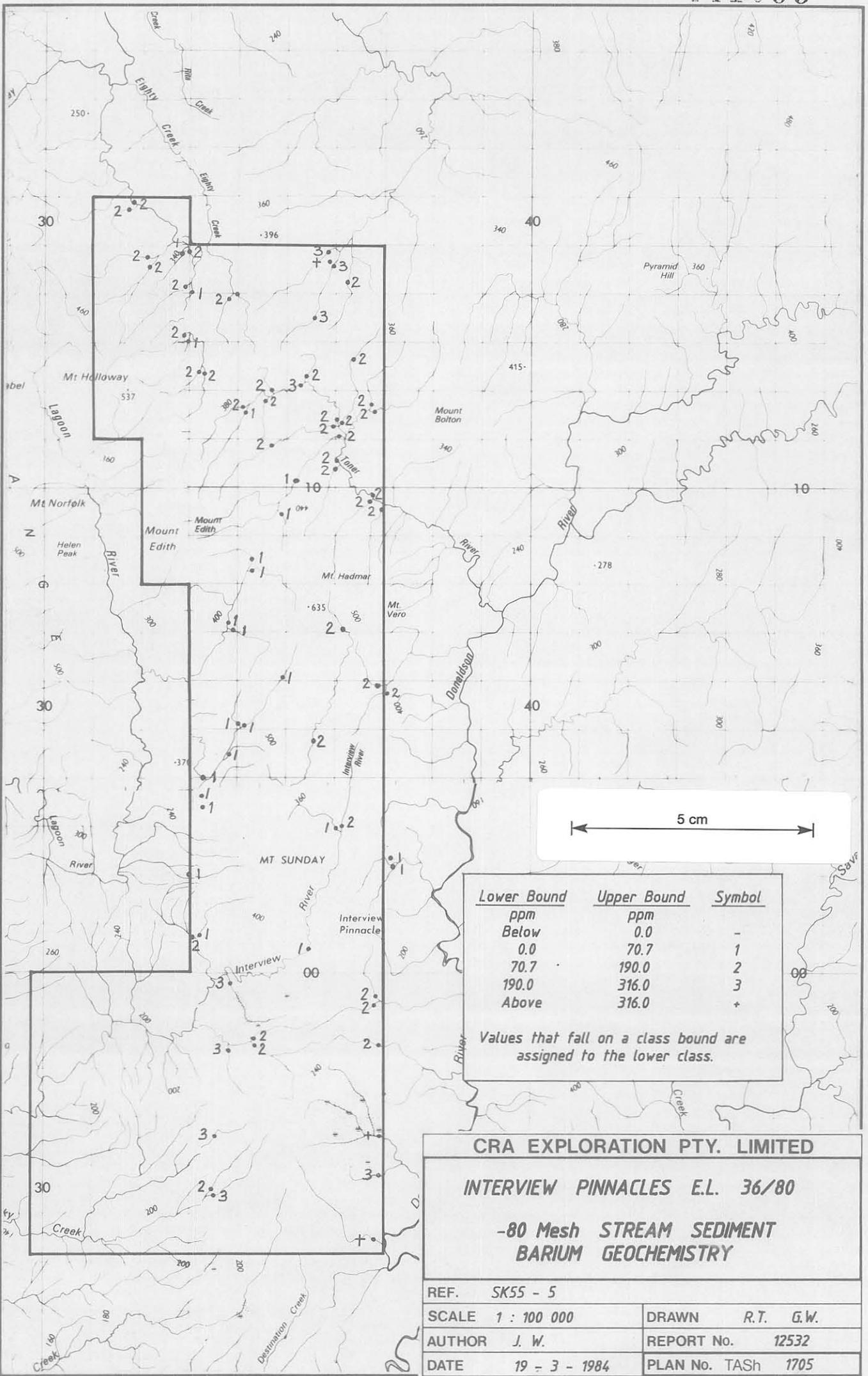
**INTERVIEW PINNACLES E.L. 36/80**

**-80 Mesh STREAM SEDIMENT**

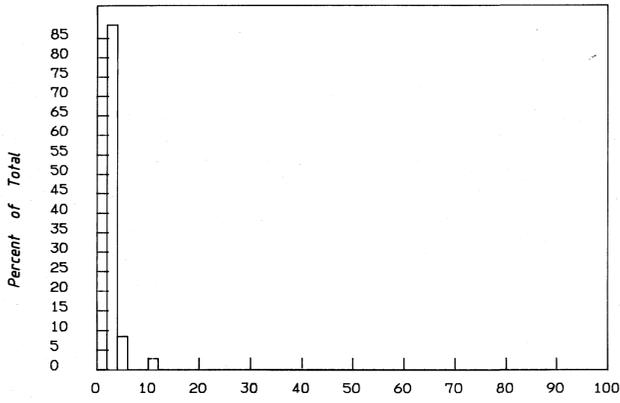
**TUNGSTEN GEOCHEMISTRY**

REF.	SK55 - 5	DRAWN	R.T. G.W.
SCALE	1 : 100 000	REPORT No.	12532
AUTHOR	J. W.	PLAN No.	TASh 1704
DATE	19 - 3 - 1984		

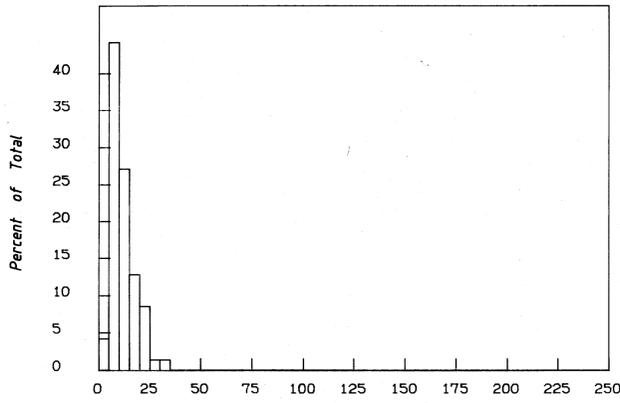
052



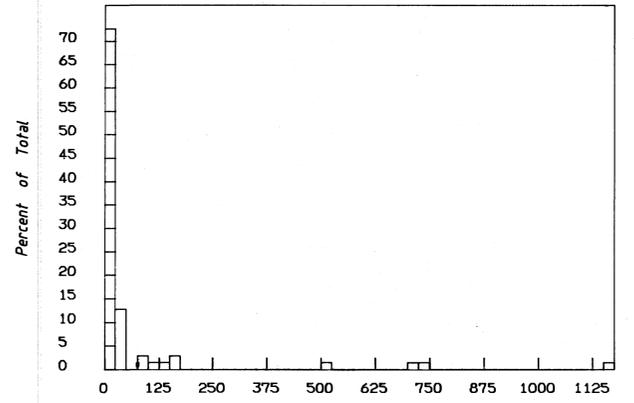
Variable: CU Total observations : 70  
 Minimum: 0.000 Mean: 2.49  
 Maximum: 100.000 Std. Deviation: 1.55



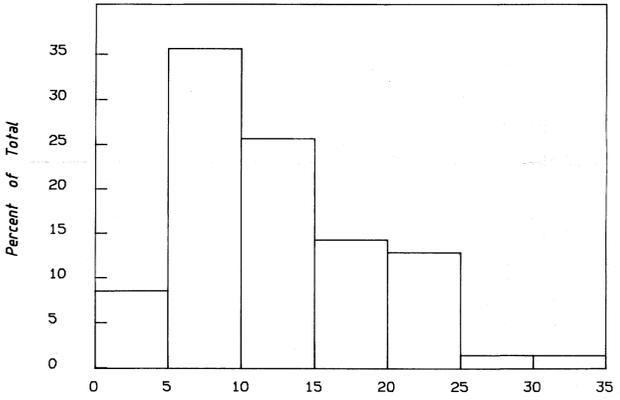
Variable: PB Total observations : 70  
 Minimum: 0.000 Mean: 9.44  
 Maximum: 250.000 Std. Deviation: 5.89



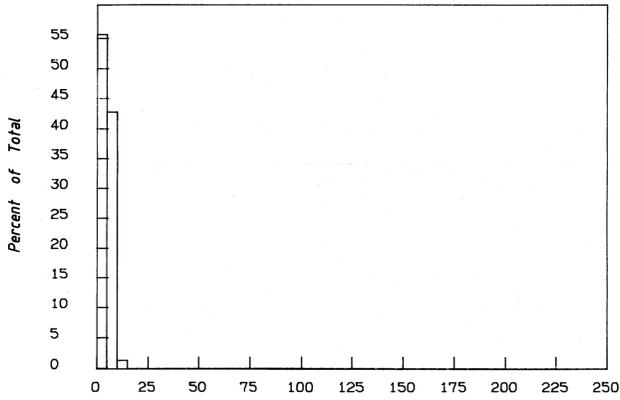
Variable: ZN Total observations : 70  
 Minimum: 0.000 Mean: 64.57  
 Maximum: 1250.000 Std. Deviation: 188.24



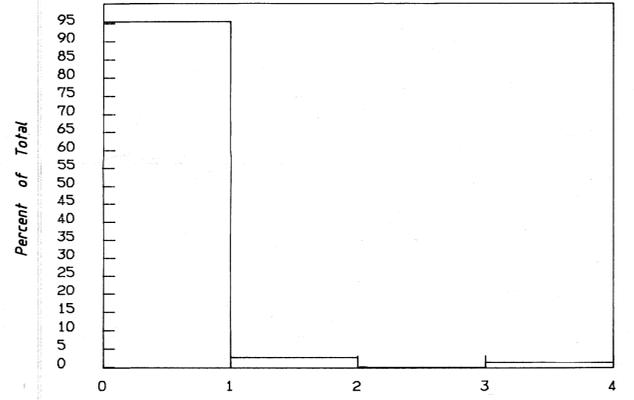
Variable: NI Total observations : 70  
 Minimum: 0.000 Mean: 10.03  
 Maximum: 250.000 Std. Deviation: 6.35



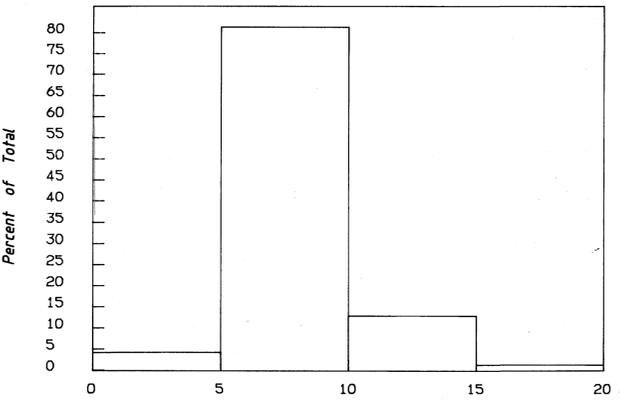
Variable: CO Total observations : 70  
 Minimum: 0.000 Mean: 3.40  
 Maximum: 250.000 Std. Deviation: 1.69



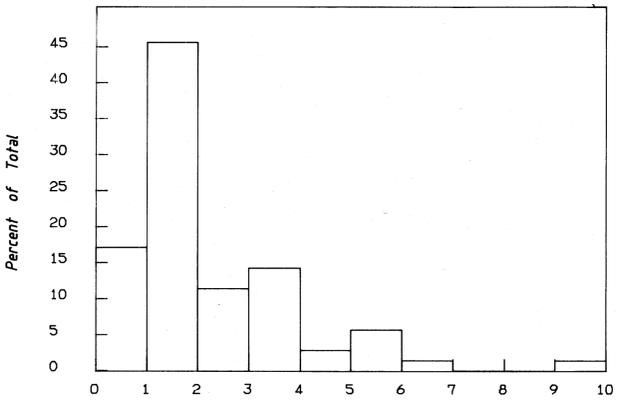
Variable: AG Total observations : 70  
 Minimum: 0.000 Mean: 0.55  
 Maximum: 50.000 Std. Deviation: 0.31



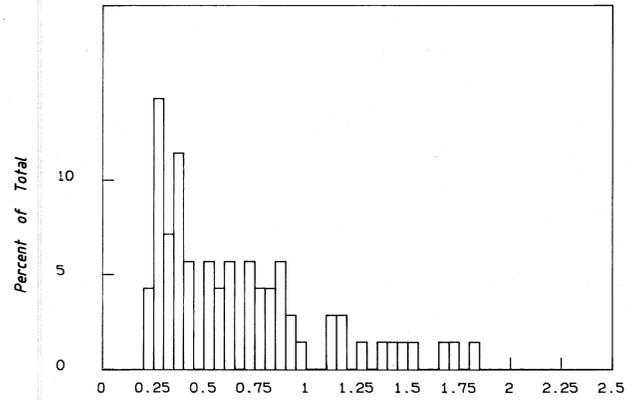
Variable: MO Total observations : 70  
 Minimum: 0.000 Mean: 5.68  
 Maximum: 250.000 Std. Deviation: 2.12



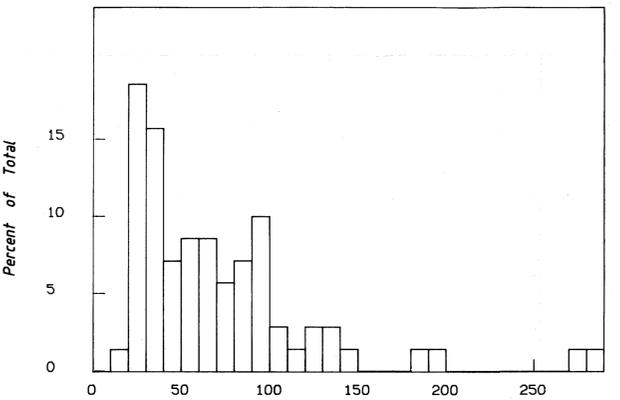
Variable: AS Total observations : 70  
 Minimum: 0.000 Mean: 1.81  
 Maximum: 50.000 Std. Deviation: 1.60



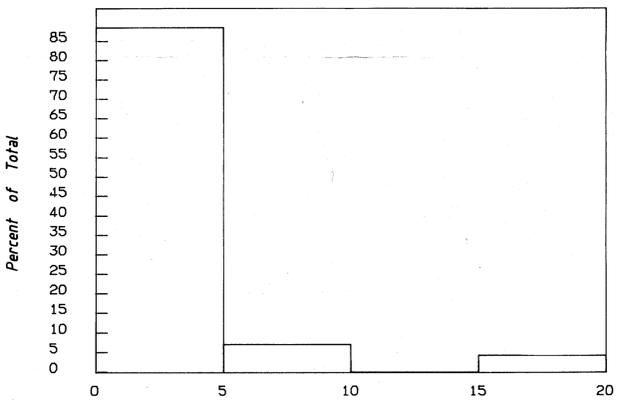
Variable: FEZ Total observations : 70  
 Minimum: 0.000 Mean: 0.67  
 Maximum: 2.500 Std. Deviation: 0.41



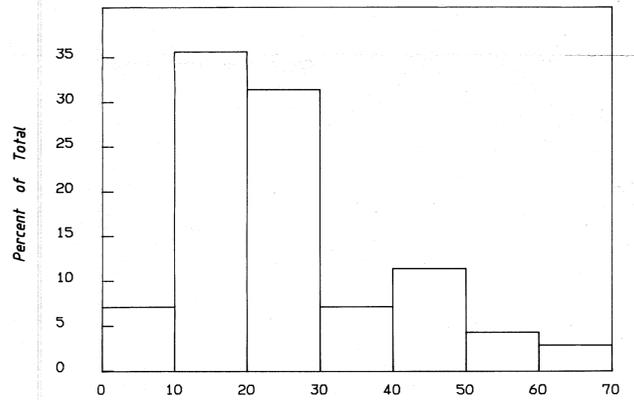
Variable: MN Total observations : 70  
 Minimum: 0.000 Mean: 68.93  
 Maximum: 500.000 Std. Deviation: 52.62



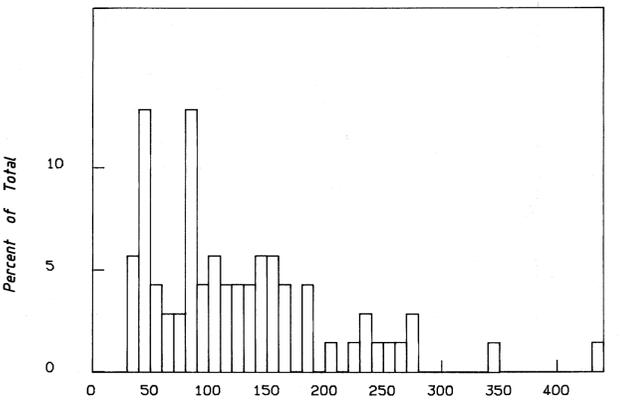
Variable: SN Total observations : 70  
 Minimum: 0.000 Mean: 3.21  
 Maximum: 250.000 Std. Deviation: 2.59



Variable: W Total observations : 70  
 Minimum: 0.000 Mean: 20.79  
 Maximum: 500.000 Std. Deviation: 13.82



Variable: BA Total observations : 70  
 Minimum: 0.000 Mean: 121.14  
 Maximum: 500.000 Std. Deviation: 79.66



441054

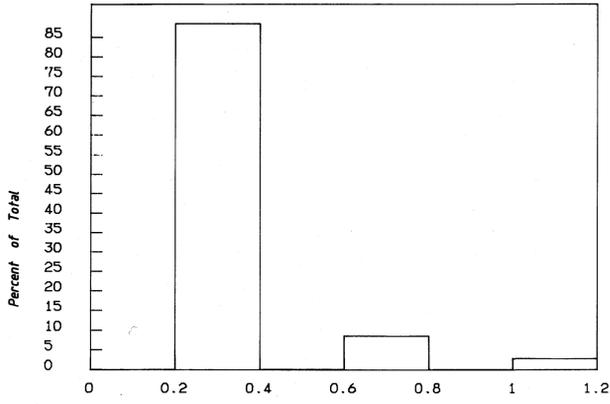
5 cm

\*\* NOTE \*\*

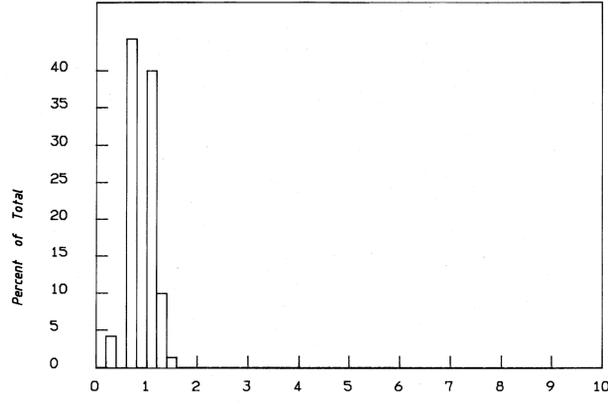
All Values in ppm Unless  
 Otherwise Stated.

CRA EXPLORATION PTY. LIMITED	
INTERVIEW PINNACLES E.L. 36/80 -80 Mesh STREAM SEDIMENTS ELEMENT HISTOGRAMS 053	
Ref: SK55 - 5	Drawn: G.W. R.T.
Scale: As Shown	Report No. 12532
Author: J.W.	Date: 21 - 3 - 1984
Plan No. TASH 1691	

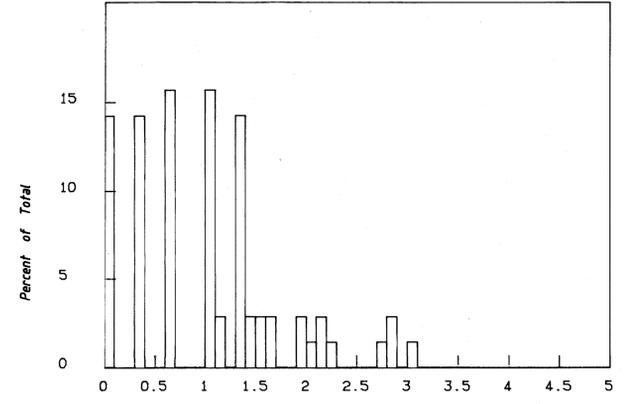
Variable: LOGCU Total observations: 70  
 Minimum: 0.000 Mean: 0.36  
 Maximum: 10.000 Std. Deviation: 0.16



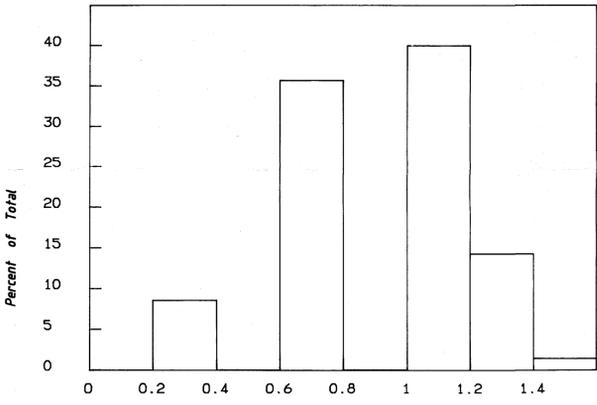
Variable: LOGPB Total observations: 70  
 Minimum: 0.000 Mean: 0.90  
 Maximum: 10.000 Std. Deviation: 0.26



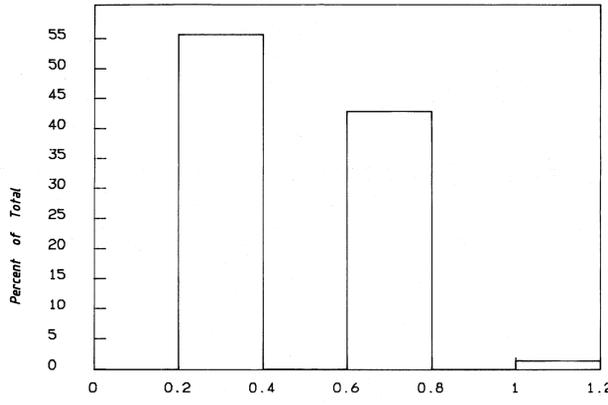
Variable: LOGZN Total observations: 70  
 Minimum: 0.000 Mean: 1.01  
 Maximum: 5.000 Std. Deviation: 0.76



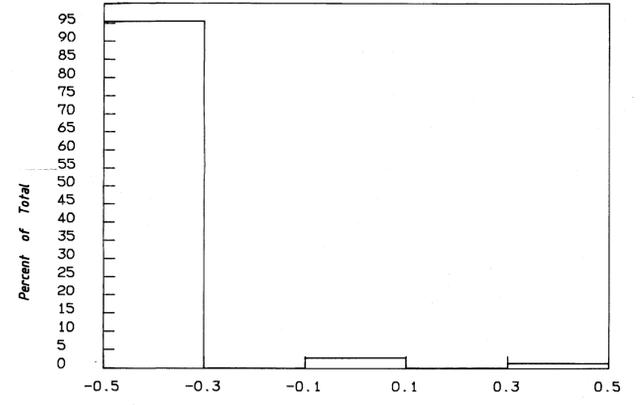
Variable: LOGNI Total observations: 70  
 Minimum: 0.000 Mean: 0.91  
 Maximum: 10.000 Std. Deviation: 0.30



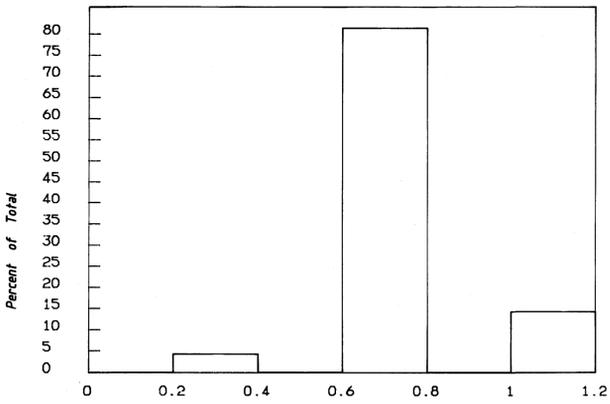
Variable: LOGCO Total observations: 70  
 Minimum: 0.000 Mean: 0.48  
 Maximum: 10.000 Std. Deviation: 0.21



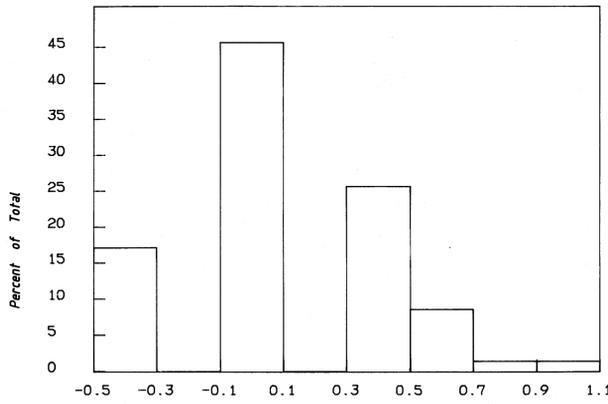
Variable: LOGAG Total observations: 70  
 Minimum: -0.500 Mean: -0.28  
 Maximum: 9.500 Std. Deviation: 0.10



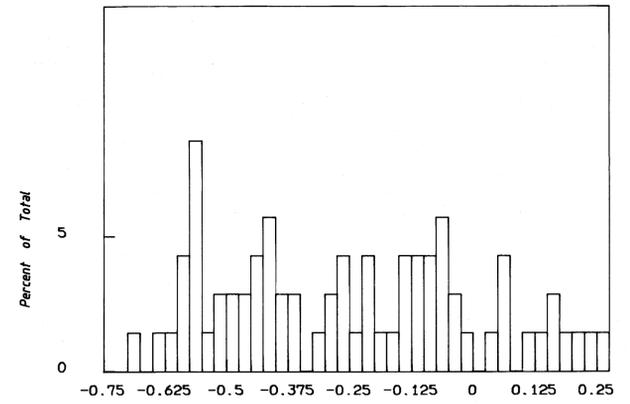
Variable: LOGMO Total observations: 70  
 Minimum: 0.000 Mean: 0.73  
 Maximum: 10.000 Std. Deviation: 0.13



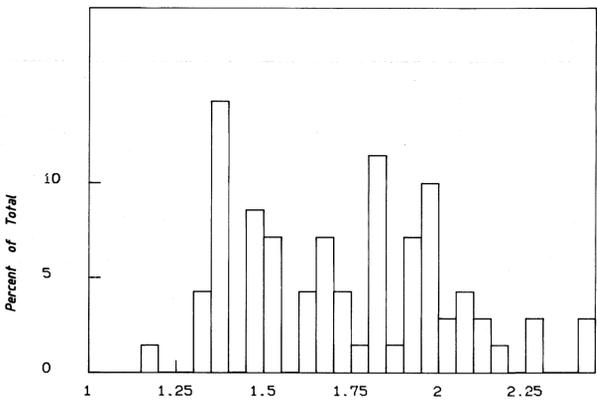
Variable: LOGAS Total observations: 70  
 Minimum: -0.500 Mean: 0.13  
 Maximum: 9.500 Std. Deviation: 0.32



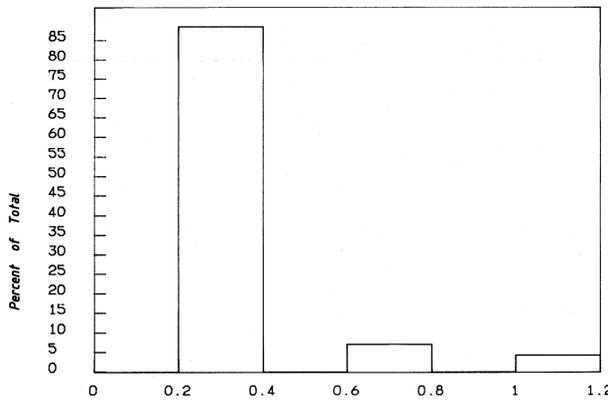
Variable: LOGFEZ Total observations: 70  
 Minimum: -0.750 Mean: -0.25  
 Maximum: 0.500 Std. Deviation: 0.26



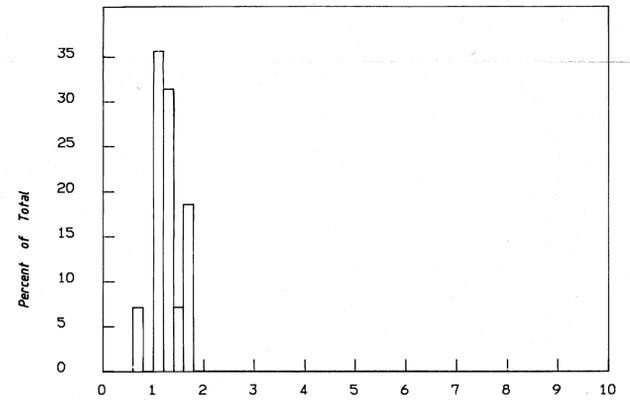
Variable: LOGMN Total observations: 70  
 Minimum: 1.000 Mean: 1.74  
 Maximum: 3.500 Std. Deviation: 0.29



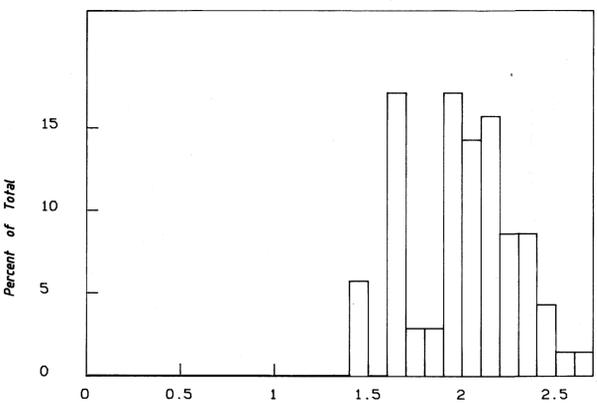
Variable: LOGSN Total observations: 70  
 Minimum: 0.000 Mean: 0.45  
 Maximum: 10.000 Std. Deviation: 0.17



Variable: LOGW Total observations: 70  
 Minimum: 0.000 Mean: 1.23  
 Maximum: 10.000 Std. Deviation: 0.28



Variable: LOGBA Total observations: 70  
 Minimum: 0.000 Mean: 1.99  
 Maximum: 5.000 Std. Deviation: 0.29



441055

5 cm

24-2112