463001

CRA EXPLORATION PTY.LIMITED.

EXPLORATION RESULTS, BEULAH, STAVERTON, GOG RANGE AND IRELAND PROSPECTS - SHEFFIELD EL 7/73, TASMANIA

REPORT FOR THE 12 MONTHS ENDING 15TH FEBRUARY, 1984.

Author: G.B.Weber

Date: 7th February, 1984.

Submitted to: T.W.Dickson

Accepted by:

Copies: CRAE Canberra
CRAE Hobart
CRAE Burnie
Mines Department, Tasmania.

SUMMARY

The attached four memoranda cover the exploration results at four prospects - Beulah Baryte (drilling) Staverton Pb/Zn (drilling), Gog Range (Pan Concentrate sampling for gold)and Irelands Prospect (magnetic traversing, bedrock geochemistry). All four prospects lie within EL 7/73 Sheffield in Northern Tasmania.

CONTENTS

CRA EXPLORATION PTY. LIMITED
(INC. IN N.S.W.)

LEVEL 4, BELLERIVE QUAY,
CAMBRIDGE ROAD, BELLERIVE, 7018, TASMANIA, AUSTRALIA

P.O. BOX 138
BELLERIVE 7018
TELEGRAMS: CRAEX
TELEX: AA57144
TELEPHONE: 44 3533
AREA CODE: (002)

IN REPLY PLEASE QUOTE

14th December, 1983.

Memorandum To : T. W. Dickson

Copy To : P. Temby

From : G. B. Weber

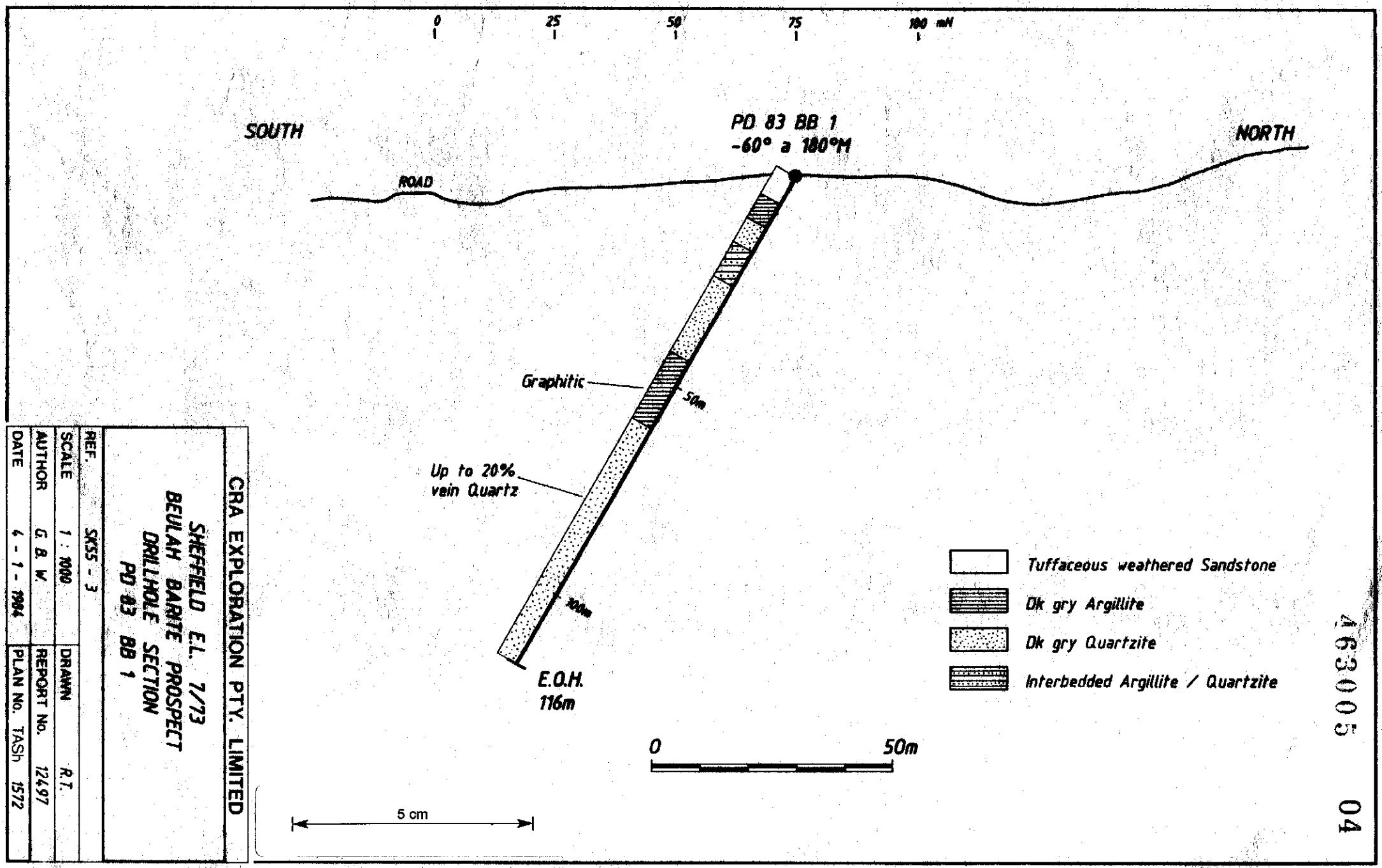
RE : PERCUSSION DRILLHOLE AT THE BEULAH BARYTE PROSPECT

A U.T.E.M. survey was completed over the Beulah Baryte Prospect in May 1983 (refer CRAE Report No. 12279 by M. Flis) several weak, short time constant anomalies were located. A drillhole was recommended to test the major zone along the southern edge of the Prospect.

A percussion drillhole was sited at 75m north on line 'o' drilled at -60°, azimuth 180° magnetic to intersect a target zone at 63m north at 50 metres depth. The hole intersected a sequence of dark grey quartzites and argillites with minor reef quartz. No significant mineralisation was found. The hole also intersected 16 metres of graphitic shales from 44 - 60 metres the target zone which adequately explains the UTEM response. A drillhole log of the hole is attached together with the geochemical assay values.

The results were disappointing and downgrade the prospect.

Graeme B. Weber.



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SHEFFIELD E.L. 7/73
BEULAH BARITE PROSPECT
DRILLHOLE SECTION
PD 83 BB 1

REF.	SKSS - 3
SCALE	1 : 1000
AUTHOR	G. B. W.
DATE	4 - 1 - 1984
DRAWN	R.T.
REPORT No.	12497
PLAN No. TASh	1572

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C.R.A. EXPLORATION PTY. LIMITED
DRILL CORE LOG

SHEET No. 1 of 2
TENEMENT NAME SHEFFIELD No. 773
PLAN – MAP REFERENCE

CO-ORDINATES 075N LINE 0 AZIMUTH 180°m DRILLERS OVERLAND COMMENCED 06.09.83 DEPTH 116 metres HOLE No. PD83.881
RL COLLAR INCLINATION -60° DRILL TYPE WARMAN 500 COMPLETED 09.09.83 CASING LEFT 60 metres PVC DPO No(s)

DEPTH From (M)	DEPTH To (M)	Core Rec. (M)	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by ANALABS) Cu	Pb	Zn	Ag	Fe	As	Ba	Au	Au+ Ba
0.0	44.0				70% dk gy qtzite 30% argillite 10% vein qtz N.V.M.		1141162	40.0	44.0	–	50	5	45	1.0	3.45%	x	300		
44.0	60.0				Upto 35% V dk gy graphitic argillite/clstn 10% V dk gy qtzite upto 5% vein qtz	occ. minor py	1141163	44.0	48.0	–	70	20	60	x	3.85%	500	270	X	
							1141164	48.0	52.0	–	70	5	40	x	3.40%	100	225		
							1141165	52.0	56.0	–	65	15	45	x	3.55%	x	260	X	
							1141166	56.0	60.0	–	70	20	45	x	3.60%	x	200		
60.0	116.0				60% dk gy qtzite 10–30% dk bluish clstn minor graphitic material upto 20–30% vein qtz. The quartzite may have a slightly siliceous component.	Argillites very fractured, fractures infilled with vein qtz – thin no preferred orientation. V. minor pyrite. One fragment of chloritic qtzite contained minor galena mineralisation in sample 78–80m interval	1141167	60.0	62.0	–	55	5	75	x	3.70%	x	230		
							1141168	62.0	68.0	–	65	x	70	x	3.65%	x	180	0.01	
							1141169	68.0	74.0	–	70	x	55	x	3.75%	200	140	X	
							1141170	74.0	78.0	–	60	10	40	x	3.30%	x	180	X	
							1141171	78.0	84.0	–	30	20	35	x	3.05%	x	260		
							1141172	84.0	90.0	–	15	x	30	x	3.15%	400	260		
							1141173	90.0	96.0	–	20	x	25	x	3.40%	x	230		
							1141174	96.0	102.0	–	25	5	30	x	3.40%	x	280		
							1141175	102.0	108.0	–	35	10	40	x	4.00%	300	245		
					E.O.H.		1141176	108.0	112.0	–	40	10	35	x	3.75%	x	7800*		2670
							1141177	112.0	116.0	–	30	10	45	x	3.55%	200	205		

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C.R.A. EXPLORATION PTY. LIMITED
DRILL CORE LOG

SHEET No. ONE
TENEMENT NAME SHEFFIELD No. 7/73
PLAN – MAP REFERENCE

CO-ORDINATES 075N LINE O AZIMUTH 180°m DRILLERS OVERLAND COMMENCED 06·09·83 DEPTH 116 metres HOLE No. PD83 BB 1.
RL COLLAR INCLINATION -60° DRILL TYPE WARMAN 500 COMPLETED 09·09·83 CASING LEFT 60 metres PVC. DPO No(s)

DEPTH From (M)	DEPTH To(M)	Core Rec. (M)	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by ANALABS) Cu	Pb	Zn	Ag	Fe	As	Ba	Au
0	6·0	–	–		red yellow-grn to pale greenish grn tuffaceous oxidized & tuffaceous grits – weathered min dk grn shaley argillites		114 1152	0·0	6·0		40	5	70	x	3·45%	x	80	
6·0	12·0				90% dk grn argillites some 5-10% buff – white clays – weathered feldspathic dykes? minor reef qtz V min 5=		114 1153	6·0	12·0		50	10	75	x	3·30%	x	110	
12·0	18·0				V. dk grn quartzites min dk grn argillites – V. dk grn carbonaceous specks in qtzites – slight volcanic component.	16-18m 15% reef/vein qtz.	114 1154	12·0	16·0		70	10	90	x	3·60%	x	80	
							114 1155	16·0	18·0		70	10	90	0·5	3·50%	x	80	0·01
18·0	26·0				Dk grn argillites upto 95% of sample rest of sample dk grn quartzites	Vein qtz 8% 20-24 m	114 1156	18·0	20·0		65	15	100	x	3·75%	200	75	x
							114 1157	20·0	24·0		65	10	100	x	3·45%	x	90	
							114 1158	24·0	26·0		45	15	120	0·5	3·60%	<	140	
26·0	28·0				70% dk grn qtzites 25% argillites V dk grn 3% py, 2% vein qtz.		114 1159	26·0	28·0		60	15	115	x	3·55%	<	150	x
28·0	40·0				80-85% Dk grn qtzites 10% argillites upto 10% vein qtz N.V.M.	V min py 36-38m	114 1160	28·0	34·0		40	5	80	0·5	3·05%	x	200	
							114 1161	34·0	40·0		45	10	75	x	3·15%	x	130	

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(INC. IN N.S.W.)

LEVEL 4, BELLERIVE QUAY,
CAMBRIDGE ROAD, BELLERIVE, 7018, TASMANIA, AUSTRALIA

P.O. BOX 138
BELLERIVE 7018
TELEGRAMS: CRAEX
TELEX: AA57144
TELEPHONE: 44 3533
AREA CODE: (002)

IN REPLY PLEASE QUOTE

20th December, 1983.

Memorandum To : T. W. Dickson

Copy To : P. Temby

From : G. B. Weber

PERCUSSION DRILLHOLE AT STAVERTON PROSPECT

During May 1983 three grid lines on the Staverton Prospect were covered with a U.T.E.M. survey (Flis 1983). There was no significant conductor recorded during the survey but a low order response indicating a disseminated source.

A percussion hole was drilled to test corresponding geochemical anomaly, I.P. response (Purvis 1981) and the minor U.T.E.M. anomaly. The hole was sited on the 600E line at 165mN and drilled -65° at 225°m (grid south). It intersected a sequence of sericite schists as mapped at surface which were very weathered to 29m where the watertable was reached. Below this level fresher quartz? sericite schists were intersected. Due to casing not being through the watertable the hole was lost at 102 metres when continual caving of material at the watertable jammed the hole.

The assay results received are a fair representation of the mineralisation expected from prior geochemical and geophysical surveys. The prospect has not been fully evaluated and the following points are made :-

1. Pulse E.M. (Chrone) was completed over 4 lines (Clementson and Flis 1983) but no anomalies were recorded. Lines 600E, 700E, 900E and 1000E were surveyed. The type and style of mineralisation intersected in PD83 SP1 would not be expected to give an E.M. response in the Chrone system.

2. As reported by Clementson and Flis (1983) no ground magnetrometry has been completed however from the cuttings received in drillhole SP1 nothing that would give a magnetic response was intersected.

3. From evidence received from Que River the very short time delay in reading the delay curve is responsible for the incredible success of the U.T.E.M. system. This system outlined a very low order response on the Staverton grid on the three lines completed.

4. The geochemistry as outlined on plans TASh 1142 - 1147 show lines 400 - 600E are only slightly more anomalous than values on lines 700 - 1000E. Copper in fact is more anomalous on line 900E and lead reached a value of 0.23% on line 1000E.

5. The terrain very steep and ~~Ge~~steaning would require major earthworks and maynot be acceptable to the landowner.

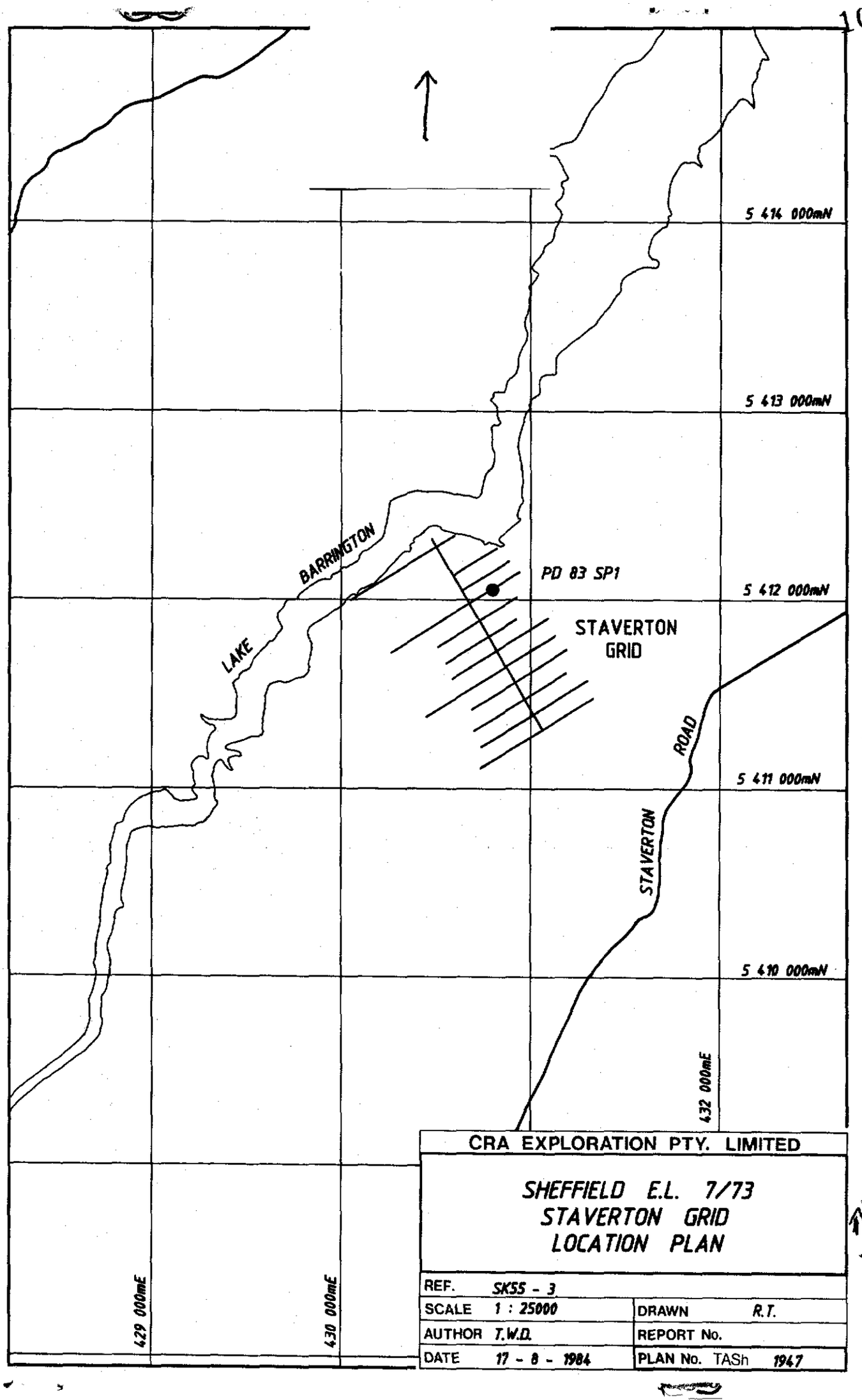
From these points the following recommendations are made :-

A U.T.E.M. survey be conducted over lines 700 - 1000mE lines over the anomalous geochemical zones. If responses greater than that recorded over lines 400 - 600mE are obtained a diamond drillhole should be drilled so the style of mineralisation intersected can be examined in core. The thickness of mineralisation in the original intersection makes this prospect a CRAE target - the problem is the grade which should be solved by the U.T.E.M. survey.

REFERENCES

CLEMENTSON, I.M. & FLIS, M.F.	1983	EL 7/73 Sheffield North Tasmania Report on Exploration during 1982 CRAE Report No. 11883
FLIS, M.F.	1983	Electromagnetic Surveys on the Beulah Baryte and Staverton Prospect Sheffield EL 7/73 Tasmania CRAE Report No. 12279
PURVIS, J.G.	1981	Exploration at the Lake Barrington Copper Prospect, Sheffield EL 7/73 Northern Tasmania July 1979 - March 1981 CRAE Report No. 10520

Graeme B. Weber.



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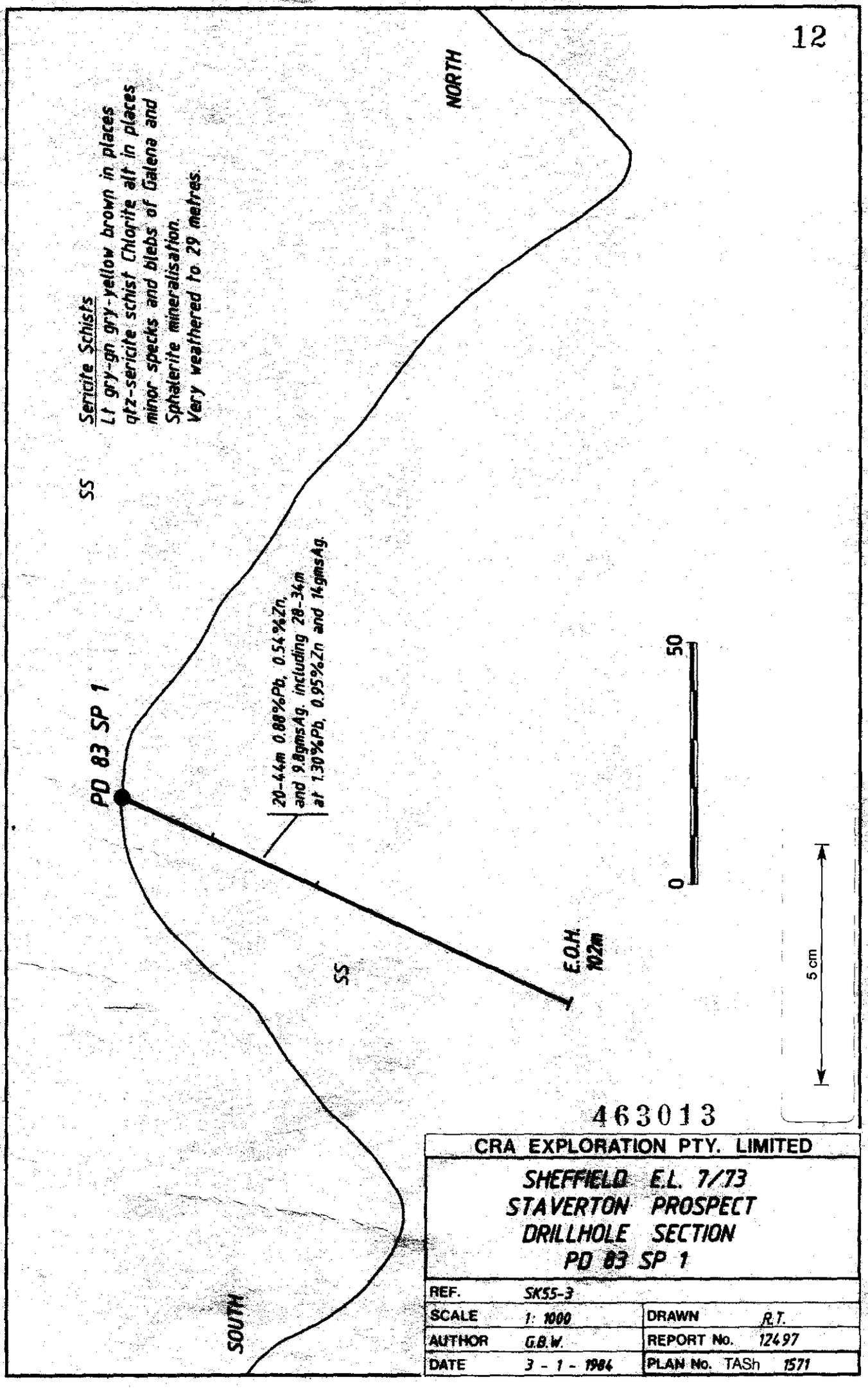
SHEFFIELD E.L. 7/73
STAVERTON GRID
LOCATION PLAN

REF.	SK55 - 3		
SCALE	1 : 25000	DRAWN	R.T.
AUTHOR	T.W.D.	REPORT No.	
DATE	17 - 8 - 1984	PLAN No. TASh	1947



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SHEFFIELD E.L. 7/73
STAVERTON PROSPECT
DRILLHOLE SECTION
PD 83 SP 1

REF.	SK55-3		
SCALE	1: 1000	DRAWN	R.T.
AUTHOR	G.B.W.	REPORT No.	12497
DATE	3 - 1 - 1984	PLAN No. TASh	1571

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C.R.A. EXPLORATION PTY. LIMITED
DRILL CORE LOG

SHEET No. one

TENEMENT NAME SHEFFIELD No. 7/73

PLAN – MAP REFERENCE

CO-ORDINATES 165N 600E AZIMUTH 225°m DRILLERS OVERLAND COMMENCED 12-09-83 DEPTH 102 metres HOLE No. PD83 SP1

RL COLLAR INCLINATION -65° DRILL TYPE WARMAN 500 COMPLETED 14-09-83 CASING LEFT 6 metres PVC DPO No(s) 30239

DEPTH From (M)	DEPTH To(M)	Core Rec. (M)	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by ANALABS) Cu	Pb	Zn	Ag	Fe	As	Ba	Au
0	2.0	–	–		Red-bn and dk bn weathered schistose mn rich volcanics		114101	0	2.0		125	1800	480	0.5	9.2%	x	535	
2.0	4.0				Med gy-bn weathered schistose volcanic		114102	2.0	4.0		45	210	370	x	6.5%	x	785	
4.0	6.0				ditto		114103	4.0	6.0		25	40	310	x	6.2%	x	520	
6.0	8.0				ditto		114104	6.0	8.0		15	30	320	x	5.15%	x	320	
8.0	10.0				ditto		114105	8.0	10.0		90	20	260	x	5.20%	x	275	
10.0	12.0				ditto – particles more silicified NVm.		114106	10.0	12.0		70	60	240	x	5.05%	x	210	
12.0	14.0				ditto		114107	12.0	14.0		60	290	165	0.5	3.75%	x	210	
14.0	16.0				ditto		114108	14.0	16.0		25	230	135	x	2.05%	x	205	
16.0	18.0				ditto more quartzose bands – schistose quartzite		114109	16.0	18.0		80	775	335	0.5	5.70%	x	250	
18.0	20.0				Yellow-bn dust-ferruginous schistose – mins quartzite – contamination?		114110	18.0	20.0		110	210	610	x	8.15%	x	215	
20.0	22.0				ditto more gy-bn		114111	20.0	22.0		290	6700	1425	4	7.35%	x	220	
22.0	24.0				ditto more yellow-bn colour		114112	22.0	24.0		610	5850	1150	10	10.0%	x	230	
24.0	26.0				ditto		114113	24.0	26.0		265	7175	1650	11	8.45%	x	190	
26.0	28.0				ditto colour slightly dkr yellow		114114	26.0	28.0		155	7550	2800	8	7.10%	x	175	
28.0	30.0				50% as above 50% lt gy mod chloritic sericite silicified – qtzose? schist 2% $S^{=}$ py > gn > cp no Sp observed		114115	28.0	30.0		135	1.55%	7125	11	8.60%	x	135	
30.0	32.0				lt gy mod chloritic sericite silicified – qtzose? schist 2% $S^{=}$ py > gn > cp no Sp observed		114116	30.0	32.0		170	6050	9250	9	4.10%	x	170	
32.0	34.0				Pale green chloritic silicified schist gn 5% v.mins py		114117	32.0	34.0		65	1.94%	1.21%	22	8.55%	x	125	
34.0	36.0				ditto $S^{=} \approx 3\%$ gn		114118	34.0	36.0		100	5850	5125	5	5.95%	x	130	

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C.R.A. EXPLORATION PTY. LIMITED
DRILL CORE LOG

SHEET No. Two
TENEMENT NAME SHEFFIELD No. 7/73
PLAN – MAP REFERENCE

CO-ORDINATES 165N 600E AZIMUTH 225°m DRILLERS OVERLAND COMMENCED 12.09.83 DEPTH 102 metres HOLE No. PD83 SP1
RL COLLAR INCLINATION -65° DRILL TYPE COMPLETED 14.09.83 CASING LEFT 60 metres PVC DPO No(s) 30239

DEPTH From (M)	DEPTH To(M)	Core Rec. (M)	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by ANALABS) Cu	Pb	Zn	Ag	Fe	As	Ba	Au
0	38.0	–	–		ditto $S^{=}$ = 4% py > gn		1141119	36.0	38.0		80	2650	5775	3	5.15%	x	125	
5.0	40.0				ditto $S^{=}$ 8-10% gn > py		1141120	38.0	40.0		90	6025	6675	7	4.2%	x	120	
					reef qtz 20%													
0.0	42.0				ditto $S^{=}$ 4-6% gn		1141121	40.0	42.0		140	1.16%	8050	12	6.8%	x	110	
2.0	44.0				ditto $S^{=}$ 4-6% gn		1141122	42.0	44.0		90	7050	3850	10	9.45%	x	125	
4.0	46.0				Pale gn-gy chlorite-sericite schist (silicified) non-mineralised – 60%; 20% lt gy qtzite mica min^{2}. 20% dk gy-blue min^{2}?		1141123	44.0	46.0		45	2300	1700	6	5.3%	x	115	
5.0	48.0				ditto – V dk gy-blue-probably chlorite		1141124	46.0	48.0		30	1600	815	4	2.15%	x	130	
8.0	50.0				ditto		1141125	48.0	50.0		300	1875	1600	37	3.05%	x	110	
0.0	52.0				ditto sl. more dk gy blue chlorite		1141126	50.0	52.0		40	1200	510	3	1.85%	x	125	
2.0	54.0				70% pale gn sericite-chlorite rich schist sl. qtzose 30% dk gy chlorite rich rock mica $S^{=}$		1141127	52.0	54.0		45	545	425	x	3.3%	x	165	
4.0	56.0				90% pale gn-gy sericite schist. v. sl. chloritic 10% lt gy qtzose unit.		1141128	54.0	56.0		95	380	350	x	5.05%	x	230	
6.0	58.0				30% white qtzite gn min^{2} in fractures 70% pale gn-gy sericite schist $S^{=}$ upto 2% gn		1141129	56.0	58.0		50	475	525	x	5.0%	x	270	
8.0	60.0				ditto less sulphide		1141130	58.0	60.0		40	575	465	x	4.3%	x	405	
0.0	62.0				50% white qtzite 50% lt gn gy schist mica $S^{=}$		1141131	60.0	62.0		110	590	460	x	6.2%	x	295	
2.0	64.0				30% white schistose qtzite 70% lt gn gy sericite schist 2-3% $S^{=}$ Cu > py		1141132	62.0	64.0		70	1000	545	x	6.2%	x	325	

C.R.A. EXPLORATION PTY. LIMITED

463016 DRILL CORE LOG

SHEET No. THREE

TENEMENT NAME SHEFFIELD No. 7/73

PLAN – MAP REFERENCE

CO-ORDINATES 165N 600E AZIMUTH 225°m DRILLERS OVERLAND COMMENCED 12.09.83 DEPTH 102 metres HOLE No. PD83 SP1

RL COLLAR INCLINATION -65° DRILL TYPE WARMAN 500 COMPLETED 14.09.83 CASING LEFT 60m PVC DPO No(s) 30239

DEPTH From (M)	DEPTH To (M)	Core Rec. (M)	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by ANMABS) Cu	Pb	Zn	Ag	Fe	As	Ba	Au
4·0	66·0	–	–		ditto v. minor py min²		1141133	64·0	66·0		40	555	385	x	4·4%	x	400	
·0	68·0				ditto but laterite/sinstone particles – contamination		1141134	66·0	68·0		75	1155	570	x	4·6%	x	220	
·0	70·0				30% lt gy-gy schists 5% white qfite. 5% dk gy chlorite rich schist.		1141135	68·0	70·0		45	570	295	x	4·3%	x	535	
·0	72·0				90% med gy-gy schists 5% lt gy-white schistose qfites 5% dk gy-gy chloritic schists		1141136	70·0	72·0		10	185	175	x	5·9%	x	420	
2·0	74·0				90% med-dk gy-gy schists – chloritic 10% lt gy-white schistose qfites S= 2% gn > py		1141137	72·0	74·0		20	400	295	x	5·3%	x	675	
4·0	76·0				ditto S= 2%? gn > py – contamination?		1141138	74·0	76·0		20	380	320	x	5·3%	x	480	
6·0	78·0				20-30% white schistose qfites 70-80% lt-med gy-gy schists 2% laterite 1% S= -gn.		1141139	76·0	78·0		15	325	320	x	4·8%	x	495	
8·0	80·0				10% white qfites 90% med-dk gy chloritic schists – chloritic altered material		1141140	78·0	80·0		15	225	235	x	5·2%	x	685	
·0	82·0				20% white schistose qfites 80% med-dk gy-gy schists N.V.M.		1141141	80·0	82·0		20	195	210	x	5·6%	x	400	
·0	84·0				lt gy. med gy-dk gy gy chloritic – sericite schists S= <1%		1141142	82·0	84·0		15	160	120	x	3·4%	x	320	
4·0	86·0				40% lt gy quartzose units 60% med-lt gy gy + minor dk gy chloritic schists occ. lt gy-yellow sericitic? basement. N.V.M.		1141143	84·0	86·0		10	110	125	x	4·5%	x	290	

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C.R.A. EXPLORATION PTY. LIMITED
DRILL CORE LOG

SHEET No. FOUR
TENEMENT NAME SHEFFIELD No. 7/73
PLAN – MAP REFERENCE

CO-ORDINATES 16SN 600E AZIMUTH 225°m DRILLERS OVERLAND COMMENCED 12·09·83 DEPTH 102 metres HOLE No. PD 83 SP1
RL COLLAR INCLINATION -65° DRILL TYPE WARMAN 500 COMPLETED 14·09·83 CASING LEFT 60m PVC. DPO No(s) 30240

DEPTH From (M)	DEPTH To (M)	Core Rec. (M)	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by ANALABS) Cu	Pb	Zn	Ag	Fe	As	Ba	Au
·0	88·0	—	—		30-40% lt gy qtzose units 50-60% med-dk gn gy chloritic sericite schists 10% lt gy-gy schists		1141144	86·0	88·0		10	170	135	x	4·65%	x	290	
8·0	90·0				20% lt gy schistose qtzites 80% med-dk gy chloritic sericitic schists V. minor S^2		1141145	88·0	90·0		10	100	155	x	4·70%	x	440	
0·0	92·0				ditto minor py		1141146	90·0	92·0		10	110	130	x	4·30%	x	660	
2·0	94·0				ditto		1141147	92·0	94·0		15	140	175	x	3·70%	x	550	
·0	96·0				10% lt gy-white qtzose units 60% lt-med gn gy chloritic schists 30% dk blue-gy chloritic? (strongly) schistose material		1141148	94·0	96·0		20	1125	550	x	3·65%	x	545	
·0	98·0				90% pale gn-gy to dk gn gy chloritic - sericitic schists 10% dk blue gy strongly chloritic material		1141149	96·0	98·0		25	675	550	x	4·60%	x	530	
·0	100·0				ditto minor gn min^2		1141150	98·0	100·0		30	2050	1400	2	3·15%	x	+800	
0·0	102·0				ditto more min^2 gn contamination from min^2 zones above?		1141151	100·0	102·0		25	1600	1250	2	2·20%	x	+800	
					E.O.H.													

463018

CRA EXPLORATION PTY. LIMITED
(INC. IN N.S.W.)

LEVEL 4, BELLERIVE QUAY,
CAMBRIDGE ROAD, BELLERIVE, 7018, TASMANIA, AUSTRALIA

P.O. BOX 138
BELLERIVE 7018
TELEGRAMS: CRAEX
TELEX: AA57144
TELEPHONE: 44 3533
AREA CODE: (002)

IN REPLY PLEASE QUOTE

12th December, 1983.

Memorandum To : T. W. Dickson

Copy To : P. Temby

From : G. B. Weber

RE : EXPLORATION AT GOG RANGE SHEFFIELD EL 7/73

During 1983 four panned concentrate samples was collected from the Gog Range Prospect Sheffield EL to test the potential of the volcanic units for gold mineralisation. A rock sample was collected at one of the sample sites and a thin section description obtained. Panned concentrate and rock ledgers are attached together with a location map.

Only one sample which drains the western end of the prospect contained any significant values. The panned concentrate sample returned 320ppm Au and 389ppm W (an unexpected value). It is recommended that the trenching programme recommended by Clementson / Flis in their 1983 Sheffield report be completed as the Panned Concentrate was taken from the creek system draining this anomalous area.

10 oz Au what!

Graeme Weber

Graeme B. Weber.

PETROLOGICAL DESCRIPTION

SAMPLE NO. 1141193

CLASSIFICATION - COMPOSITION

Sheared Lithic Sandstone. Framework of greenschist quartzose psammopelite, sericitic pelite, sericitic - chloritic "rhyolite" clasts, quartz grains, andesitic lava clasts. lll- defined chloritic - sericitic matrix.

FABRIC

Poorly sorted (fine to coarse) sandy angular clastic, with a weak but penetrative slaty cleavage.

ACCESSORIES

Conspicuous clastic opagues, leucoxenic semi - opagues, minor impure chert clasts, sericitised feldspar grains.

COMMENTS

Low - greenscist facies regionally metamorphosed polymict lithic sandstone. Rhyolitic components appear to represent a primary pyroclastic component.

463020

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Completed by GBW

Date 12/12/83.

TASMANIA

CRA EXPLORATION INDEX LEDGER

SAMPLE IDENTIFICATION							LOCATION						OTHER		REMARKS			
DPO	SAMPLE No.		Month	Year	S. Type	Company	Central Co-ordinates		AMG Zone	E.L. Number	File Number	Sheet Number	Laboratory	Dummy	Licence Area	Sample Type	1:100 000 Sheet	Other
	From	To					East AMG	North AMG										
30242	1141191	1141195	10	83	4	1	448 000	5405000	55	0773			1		SHEF	PC	FTH	
30242	1141193	1141193	10	83	1	1	448000	5405000	55	0773			1		SHEF	PC	FTH	

20

KEY TO GEOCHEMICAL PANNED CONCENTRATE SAMPLING LEDGER

463021

SAMPLE LEDGER

CRAE 7 digit no.

LOCATION

Co-ordinates Australian Metric
Grid References in Metres

SAMPLE DESCRIPTION

Sample Type

1 Original Sample
2 Resample
3 Reanalysis of Original Sample

Start Weight

Initial Dry Weight of Sample in Kilograms or Guesstimate

End Weight

Dry Weight of Concentrate in Kilograms

SITE DESCRIPTION

Width Width of Channel in metres

Flow

1 Dry
2 Dry with Puddles
3 Slow
4 Medium
5 Fast

Bank

1 Alluvial
2 Colluvial
3 Alluvial/Colluvial
4 No Defined Channel

SITE DESCRIPTION CONT'D

Catchment

1 Catchment Area > 100 km²
2 " " 50 - 100 km²
3 " " 20 - 50 km²
4 " " 10 - 50 km²
5 " " 5 - 10 km²
6 " " 2 - 5 km²
7 " " 1 - 2 km²
8 " " .5 - 1 km²
9 " " < 0.5 km²

Vegetation

1 Button Grass/Open Heathland
2 Eucalypt Forest
3 Rain Forest
4 Ti Tree
5 Cultivation

Staining

1 Minor Iron Staining
2 Major Iron Staining
3 Minor Manganese Staining
4 Major Manganese Staining
5 Minor Carbonate Staining
6 Major Carbonate Staining

Contamination

1 None Apparent
2 Urban - Houses, Rubbish etc.
3 Roads, Railways, Dams Etc.
4 Metalliferous Mine Workings
5 Agricultural
6 Natural Dilution by Banks
7 Logging

Site Rating

1 Good
2 Moderate
3 Poor
4 Unsatisfactory

HEAVY MINERALS

Visible

1 None Visible
2 Trace
3 Disseminated
4 Abundant

Major Heavy Minerals

5 CHROMITE
6 fluorite
10 PYRITE
15 MOLYBDENITE
16 bismuthinite
20 ARSENOPYRITE
25 BORNITE
30 CHALCOPYRITE
31 malachite
32 azurite
33 cobaltite
35 CHALCOCITE
36 tetrahedrite
37 tennantite
40 PYRRHOTITE
45 PENTLANDITE
50 GALENA
51 cerussite
52 jarosite
55 BARYTE
60 SPHALERITE
61 smithsonite
62 willemite
65 ILMENITE
66 rutile
67 magnesite
70 CASSITERITE
71 stannite
75 WOLFRAMITE
80 HEMATITE
81 maghemite
85 SCHEELITE
90 MAGNETITE
91 goethite
92 siderite
93 limonite
95 GOLD
96 gold tellurides
97 native copper
98 native silver

Minor Heavy Minerals

Coded as per Major Heavy Minerals

ROCK TYPE

Outcrop

1 Fine Grained Clastic Sediment
2 Coarse Grained Clastic Sed.
3 Conglomerate
4 Breccia
5 Greywacke
6 Arkose
7 Sandstone
8 Siltstone
9 Shale
10 Black Shale+/Carbon/Graphite
11 Gravel Grey Billy / Recent

15 Bituminous Coal
16 Brown Coal
17 Lignite/Peat
18 Kerogen Oil Shale
19 Tasmanites Oil Shale

20 Undiffereniated Carbonate
21 Limestone
22 Dolomite
23 Magnesite
24 Calcareous Shale
25 Chert
26 Banded Iron Formation

30 Undifferentiated Acid Intrusive
31 Granite
32 Porphyritic Granite
33 Adamellite
34 Aplite
35 Pegmatite
36 Syenite

40 Undiffereniated Intermediate Intrusive
41 Granodiorite
42 Diorite

50 Undifferentiated Basic Intrusive
51 Dolerite
52 Gabbro

60 Undifferentiated Ultrabasic Intrusive
61 Peridotite
62 Serpentinite

70 Undifferentiated Acid Volcanic
71 Undifferentiated Acid Lava
72 Undifferentiated Acid Pyroclastic
73 Rhyolite
74 Trachyte
75 Andesite

ROCK TYPE CONT'D

80 Undifferentiated Intermediate Volcanic
81 Undifferentiated Intermediate Lava
82 Undifferentiated Intermediate Pyroclastic
83 Rhyodacite
84 Dacite
85 Tuff/Tuffaceous Shale

90 Undifferentiated Basic Volcanic
91 Undifferentiated Basic Lava
92 Undifferentiated Basic Pyroclastic
93 Basalt

100 Quartzite
101 Hornfels
102 Marble
103 Slate
104 Phyllite
105 Schist
106 Amphibolite
107 Gneiss

110 Skarn

120 Greisen
122 Gossan
123 Ironstone
124 Laterite

999 Fubarite

Float

Coded as per outcrop.

LOOK

Refer to Original Ledger for Information Outside the Scope of this File

1 Refer to Ledger

2

inconclusive
short term report

Updated June 1983

TASMANIA

CRA EXPLORATION PTY. LTD.

463022 P

Sample Number	LOCATION AMG Co-ordinates East	North	SAMP DESC. S. Type	Start Wt. (Kg)	End Wt. (Kg)	SITE DESC. Width (M)	Flow	Bank	Catchment	Vegetation	Staining	Contam.	Sit. Rating	HEAVY MINS. Visible	Major	Minor	Minor	OUTCROP Outcrop	Float	LOOK	METAL CONTENT ppm / % Cu	Pb	Zn	Ag	Fe%	Mn	Cr	As	Co/Ag	Sn/W	Geological Observations
114 1195	445360	5405540	1	40	0.57	1	3	3	7	2	3	1	2	1				30	30	1	55	10	180	0.5	3.10%	380	70	x	20/1	x/389	Site from next trip sampled over one metre long.
																													320		
1141191	447360	5405360	1	20	0.41	1.5	4	1	7	2	3	1	2	1				30	30	1	20	30	220	x	2.35%	1200	40	x	10/0.05	x/x	Drain Dickson anomaly.
1141192	448780	5405520	1	20	0.58	1	3	3	7	2		7	2	1				30	3	1	5	20	35	x	1.35%	325	60	x	5/0.02	x/x	Very narrow creek large boulder of Roland conglomerate
1141194	450170	5405270	1	20	0.56	1	3	3	7	2		1	2	1				3		1	x	x	10	x	4550	20	280	x	x/0.12	x/x	Behind Roland Conglomerate quarry very diff. to sample

Letter from T.W. Dickson states that concept assay value is 320 ppm Au

MRG 21/8/84.

GEOCHEMICAL PANNED CONCENTRATE SAMPLING LEDGER	DETECTION LIMIT	5	5	5	0.5	50	5	5	60	5		
	ANALYTICAL METHOD	AAS										

Tenement Name: SHEFFIELD EL 7/73 — Project: — AMG Zone: 55 — Sheet No.: 1 OF 1.

Area / Prospect: GOG RANGE PROSPECT — DPO's: 30242 — Laboratory: ANALABS

Map / Photo Ref.: — Sample No's: 1141191 — 1141195 — Collected By: GBW — Date: 10/83

2

463023

KEY TO GEOCHEMICAL ROCK SAMPLING LEDGER

SAMPLE NO.

CRAE 7 digit number.

LOCATION

Co-ordinates Local grid or Metric Grid reference

Exposure

1 Outcrop
2 Float
3 Uncertain

Sample Type

1 Channel Sample
2 Chip Sample
3 Grab Sample - Single
4 Grab Sample - Multiple
5 Diamond Drill Core Split
6 Diamond Drill Core Grind
7 Percussion Chips
8 Petrology

Width

Width of sample zone in metres

Interval

Sample interval in metres

ROCK TYPE

1 Fine Grained Clastic Sediment
2 Coarse Grained Clastic Sediment
3 Conglomerate
4 Breccia
5 Greywacke
6 Arkose
7 Sandstone
8 Siltstone
9 Shale
10 Black Shale +/Carbon/Graphite
11 Gravel Grey Billy/Recent
15 Bituminous Coal
16 Brown Coal
17 Lignite/Peat
18 Kerogen Oil Shale
19 Tasmanites Oil Shale

ROCK TYPE CONT'D

20 Undifferentiated carbonate
21 Limestone
22 Dolomite
23 Magnesite
24 Calcareous Shale
25 Chert
26 Banded iron formation

30 Undifferentiated acid intrusive
31 Granite
32 Porphyritic granite
33 Adamellite
34 Aplite
35 Pegmatite
36 Syenite

40 Undiff. intermediate intrusive
41 Granodiorite
42 Diorite

50 Undifferentiated basic intrusive
51 Dolerite
52 Gabbro

60 Undiff. ultrabasic intrusive
61 Peridotite
62 Serpentinite

70 Undifferentiated acid volcanic
71 Undifferentiated acid lava
72 Undifferentiated acid pyroclastic
73 Rhyolite
74 Trachyte
75 Andesite

80 Undifferentiated intermediate volcanic
81 Undifferentiated intermediate lava
82 Undifferentiated intermediate pyroclastic
83 Rhyodacite
84 Dacite
85 Tuff/Tuffaceous shale

90 Undifferentiated basic volcanic
91 Undifferentiated basic lava
92 Undifferentiated basic pyroclastic
93 Basalt

100 Quartzite
101 Hornfels
102 Marble
103 Slate
104 Phyllite
105 Schist
106 Amphibolite
107 Gneiss

110 Skarn

ROCK TYPE CONT'D

120 Quartz veins
121 Greisen
122 Gossan
123 Ironstone
124 Laterite

999 Fubarite

ALTERATION

1 Argillisation
2 Albitisation
3 Carbonatisation
4 Chloritisation
5 Dolomitisation
6 Propylitisation
7 Pyritisation
8 Saussuritisation
9 Sericitisation
10 Silicification
11 Zeolitisation
12 Ferruginisation
13 Tourmalinisation
14 Potassic
15 Calc-silicate
16 Kaolinisation
17 Talcose
18 Weathered
19 Other

MINERALISATION

Visible

1 None visible
2 Trace
3 Disseminated
4 Abundant

Style

1 Veins /Net veining
2 Shear zones
3 Stratabound
4 Pipe
5 Stockwork
6 Skarn
7 Irregular
8 Planar Controlled i.e. bedding, cleavage, joints, etc.
9 Boxworks or possible associates of Mineraliation
10 Place
11 Other

Major Ore

5 CHROMITE
6 fluorite
10 PYRITE
15 MOLYBDENITE
16 bismuthinite
20 ARSENOPYRITE
25 BORNITE
30 CHALCOPYRITE
31 malachite
32 aurite
33 cobaltite
35 CHALCOCITE
36 tetrahedrite
37 tennantite
40 PYRRHOTITE
45 PENTLENDITE
50 GALENA
51 cerussite
52 jarosite
55 BARYTE
60 SPHALERITE
61 smithsonite
62 willemite
65 ILMENITE
66 rutile
67 magnesite
70 CASSITERITE
71 stannite
75 WOLFRAMITE
80 hematite
81 maghemite
85 SCHEELITE
90 MAGNETITE
91 goethite
92 siderite
93 limonite
95 GOLD
96 gold tellurides
97 native copper
98 native silver

Minor Minerals

Coded as per major

Gangue

1 Quartz
2 Feldspar
3 Calcite
4 Baryte
5 Fluorite
6 Chlorite
7 Garnet

LOOK Refer to original ledger for information outside the scope of this file.

1 Refer to Ledger

TASMANIA

CRA EXPLORATION PTY. LTD.

463024 R

Sample Number	LOCATION							ROCK TYPE			MINERALISATION							METAL CONTENT ppm / %										Geological Observations
	Co-ordinates AMG / Grid		Exposure	S. Type	Width (m)	Interval		Major Rock	Minor Rock	Alteration	Visible	Style	Major	Minor	Minor	Gangue	LODE	Cu	Pb	Zn	Ag	Fe%	Mn	Cr	As	Co		
	East	North				From	To																					
114193	448780	5405360	1	3				2		4	1						1	5	x	95	x	5.2%	340	90	x	20		Sheared lithic Sandstone looked like highly chloritised breccio-conglomerate unusual for this area.

GEOCHEMICAL ROCK SAMPLING LEDGER

DETECTION LIMIT

ANALYTICAL METHOD

Tenement Name:

Area / Prospect:

Map / Photo Ref.:

Project:

DPO's: AS PER P/C SHEET

Sample No's:

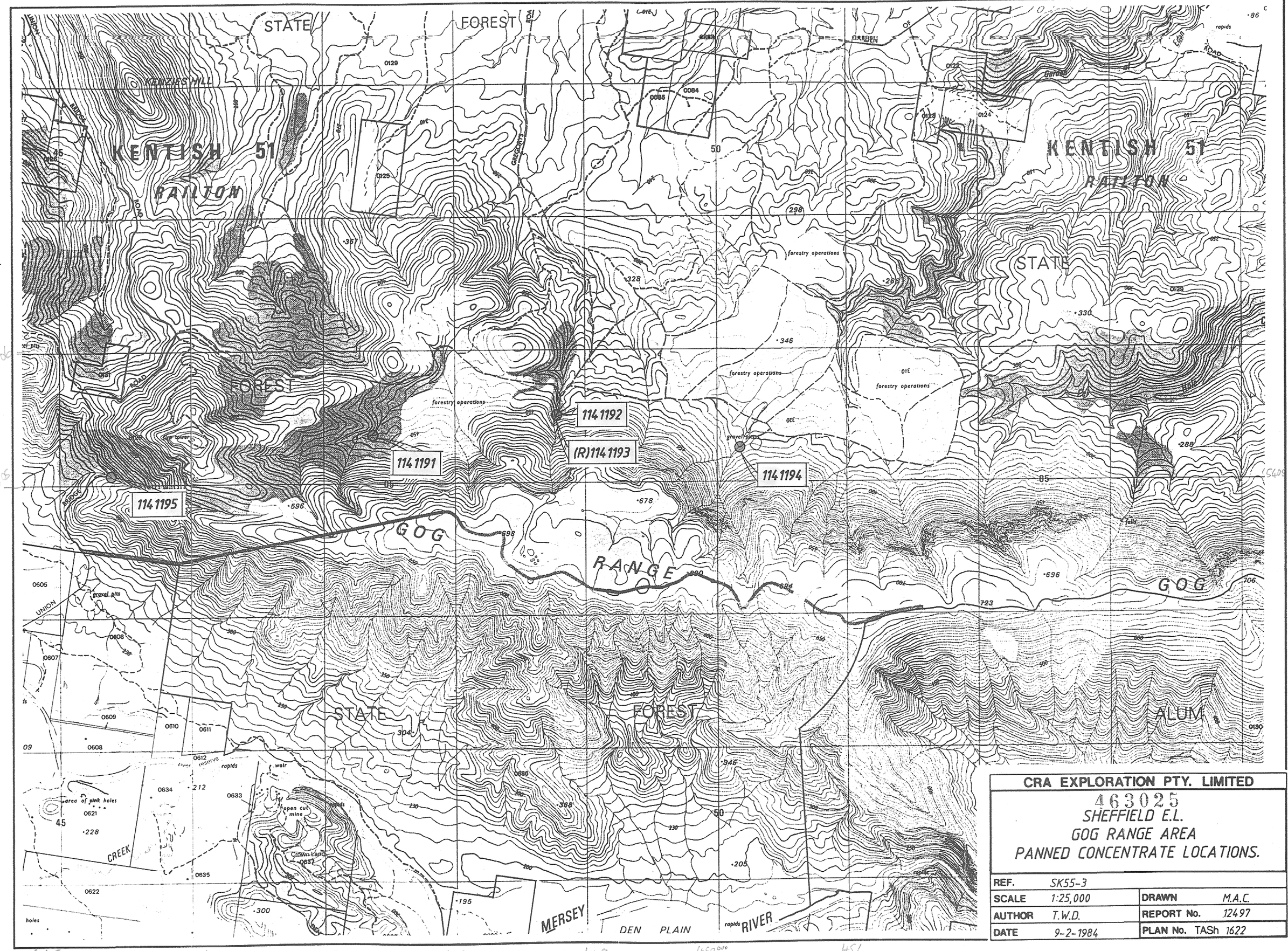
AMG Zone:

Sheet No.:

Laboratory:

Collected By:

Date:



CRA EXPLORATION PTY. LIMITED			
463025			
SHEFFIELD E.L.			
GOG RANGE AREA			
PANNED CONCENTRATE LOCATIONS.			
REF.	SK55-3		
SCALE	1:25,000	DRAWN	M.A.C.
AUTHOR	T.W.D.	REPORT No.	12497
DATE	9-2-1984	PLAN No.	TASh 1622

5 cm

5405000

4450E 446 447 448 449 450000 451

463026

CRA EXPLORATION PTY. LIMITED
(INC. IN N.S.W.)

LEVEL 4, BELLERIVE QUAY,
CAMBRIDGE ROAD, BELLERIVE, 7018, TASMANIA, AUSTRALIA

P.O. BOX 138
BELLERIVE 7018
TELEGRAMS: CRAEX
TELEX: AA57144
TELEPHONE: 44 3533
AREA CODE: (002)

IN REPLY PLEASE QUOTE

12th December, 1983.

Memorandum To : T. W. Dickson

Copy To : P. Temby

From : G. B. Weber

RE : IRELAND PROSPECT - SHEFFIELD EL 7/73

The Ireland Prospect was initiated from a discrete 'bullseye' magnetic anomaly located at the headwaters of a creek in which Asarco obtained anomalous stream sediment values (46ppm Pb, 180ppm Zn and 12ppm Cu).

Four ground magnetic traverses were made to locate the magnetic anomaly and one line was soil sampled. The magnetic traverses are attached together with the soil ledgers. Several stream sediment and rock samples were collected (refer attached ledgers). The magnetic anomaly is due to a andesitic lava containing primary magnetite. No anomalous soil values were recorded.

No further work is recommended on this prospect.

Graeme B. Weber.

PETROLOGICAL DESCRIPTION

SAMPLE NO. 1141186

CLASSIFICATION - COMPOSITION

Altered Trachyandesite. Frequent saussurite - stained / albitised plagioclase, chloritised amphibole, biotite, pyroxene, minor partly resorbed quartz phenocrysts in a weakly quartz - amygdaloidal, cryptocrystalline, alkali feldspathic groundmass.

FABRIC

Andesitic, weakly flow - structured, weakly cognate - xenolithic, incipiently stressed.

ACCESSORIES

Conspicuous primary magnetite, traces of apatite.

COMMENTS

Exhibits hybrid characteristics in corroded? xenocrystal quartz and strongly poikilitic to skeletal (altered) ferromags. Alteration is of deuteric character.

Updated June 1983

2

463028 I

Completed by GBW

Date 12/12/83

TASMANIA

CRA EXPLORATION INDEX LEDGER

SAMPLE IDENTIFICATION							LOCATION						OTHER		REMARKS			
DPO	SAMPLE No. From	SAMPLE No. To	Month	Year	S. Type	Company	Central Co-ordinates East AMG	Central Co-ordinates North AMG	AMG Zone	E.L. Number	File Number	Sheet Number	Laboratory	Dummy	Licence Area	Sample Type	1:100 000 Sheet	Other
30242	1141180	1141189	10	83	2	1	439000	5412000	55	0773			1		SHEF	S	FTH	
30242	1141186	1141186	10	83	1	1	439000	5412000	55	0773			1		SHEF	R	FTH	
30242	1141190	1141190	10	83	3	1	439000	5412000	55	0773			1		SHEF	SS	FTH	
30242	1141196	1141197	10	83	1	1	439000	5412000	55	0773			1		SHEF	R	FTH	
30242	1141198	1141198	10	83	4	1	439000	542000	55	0773			1		SHEF	PC	FTH	

KEY TO CRA GEOCHEMICAL SOIL SAMPLING LEDGER

463029

SAMPLE NO.

CRAE 7 digit no.

LOCATION

Line Ref. or Co-ordinate

Position on line or AMG Co-ordinates

SOIL DESCRIPTION

Depth — Depth of sample in metres

Colour — Three digit number e.g. 115 i.e. Light Red Brown

1 Light	1 Red	1 Red
2 Medium	2 Yellow	2 Yellow
3 Dark	3 Grey	3 Grey
	4 Black	4 Black
	5 Brown	5 Brown
	6 White	6 White
	7 Green	7 Green
	8 Orange	8 Orange
	9 Blue	9 Blue

Horizon

1 A
2 A - B
3 B
4 B - C
5 C
6 Bedrock
7 Gravels (Alluvial or Eluvial masking residual soils.)

Rock — Percentage

Sand — Percentage

Silt — Percentage

Clay — Percentage

Organic
0 None
1 Low
2 Moderate
3 High

Soil Type
1 Skeletal
2 Residual
3 Colluvial
4 Alluvial
5 Transported
6 Laterite

BEDROCK

Rock Type

1 Fine grained clastic sediment
2 Coarse grained clastic sediment
3 Conglomerate
4 Breccia
5 Greywacke
6 Arkose
7 Sandstone
8 Siltstone
9 Shale
10 Black Shale +/Carbon/Graphite
11 Gravel Grey Billy/Recent
12 Aeolian Sands
13 Mudstone
14 Fluviatile/Marine Sands
15 Bituminous Coal
16 Brown coal
17 Lignite/Peat
18 Kerogen Oil Shale
19 Tasmanites Oil Shale
20 Undifferentiated Carbonate
21 Limestone
22 Dolomite
23 Magnesite
24 Calcareous Shale
25 Chert
26 Banded Iron Formation

30 Undifferentiated Acid Intrusive
31 Granite
32 Porphyritic granite
33 Adamellite
34 Aplite
35 Pegmatite
36 Syenite

40 Undiff. Acid Intrusive
41 Granodiorite
42 Diorite

50 Undifferentiated Basic Intrusive
51 Dolerite
52 Gabbro

60 Undiff. Ultrabasic intrusive
61 Peridotite
62 Serpentinite

70 Undiff. Acid Volcanic
71 Undiff. Acid Lava
72 Undiff. Acid Pyroclastic
73 Rhyolite
74 Trachyte
75 Andesite

80 Undiff. Intermediate Volcanic
81 Undiff. Intermediate Lava
82 Undiff. Intermediate Pyroclastic
83 Rhyodacite
84 Dacite
85 Tuff/Tuffaceous shale

90 Undiff. basic volcanic
91 Undiff. basic lava
92 Undiff. basic pyroclastic
93 Basalt

100 Quartzite
101 Hornfels
102 Marble
103 Slate
104 Phyllite
105 Schist
106 Amphibolite
107 Gneiss

110 Skarn

120 Quartz veins
121 Greisen
122 Gossan
123 Ironstone
124 Laterite

999 Fubarite

Alteration

1 Argillisation
2 Albitisation
3 Carbonatisation
4 Chloritisation
5 Dolomitisation
6 Propylitisation
7 Pyritisation
8 Saussuritisation
9 Sericitisation
10 Silicification
11 Zeolitisation
12 Ferruginisation
13 Tourmalinisation
14 Potassic
15 Calc-silicate
16 Kaolinisation
17 Talcose
18 Weathered

MINERALISATION

Visible

1 None Visible
2 Trace
3 Disseminated
4 Abundant

Mineral Type

10 Pyrite
20 Arsenopyrite
30 Chalcopyrite
40 Pyrrhotite
50 Galena
60 Sphalerite
70 Cassiterite
80 Hematite
90 Magnetite

For full list of minerals, see Rock Ledger LOOK

Refer to original ledger for information outside the scope of this file

1 Refer to Ledger

TASMANIA

CRA EXPLORATION PTY. LTD.

463030 S

Sample Number	SOIL DESCRIPTION: Co-ordinates AMG / Grid East	North	Depth (m)	Colour	Horizon	% Rock	% Sand	% Silt	% Clay	Organic	Soil Type	BEDROCK: Rock Type	Alteration	Vis. Min.	Min. Type	LOOK	METAL CONTENT ppm / %: Cu	Pb	Zn	Ag	Fe%	Mn	Cr	As	Co	Geological Observations
1141180		200 S	1·2	255	4						3	3		1		1	10	125	175	0·5	3·55	465	40	x	20	Mod bn soil under Roland conc
1141181		225 S	1·3	285	4						2	80		1		1	20	100	200	x	4·10	190	40	100	20	Minor Roland conc
1141182		250 S	1·0	311	4						2	80		1		1	10	15	65	x	4·80	1250	45	x	30	Undiff. volcanics
1141183		275 S	1·0	315	4						2	80		1		1	10	15	125	x	4·20	1450	35	x	30	Dk red bn volcanic soil
1141184		305 S	1·0	125	4						2	80		1		1	35	20	160	x	5·10	2400	55	200	35	Weathered yellow-bn + dk red bn volc.
1141185		325 m S	0·6	125	4						2	80		1		1	40	75	190	x	5·45	385	50	x	25	Yellow-bn weathered volc. in dk bn soil - magnetic fragments.
1141187		350 S	0·4	125	4						2	80		1		1	20	35	115	x	4·55	1850	65	x	40	Weathered yellow-bn int volcanic
1141188		375 S	0·5	315	3						2	80		1		1	20	15	50	x	3·70	680	50	x	20	Deep red bn soil and weathered int. volc.
1141189		400 S	0·4	215	3						2	80		1		1	20	5	90	x	4·10	1500	30	x	20	Mod red bn soil float volc. and Roland Conglomerate.
DETECTION LIMIT																	5	5	5	0·5	50	5	5	100	5	
ANALYTICAL METHOD																	AAS	AAS	AAS	AAS	AAS	AAS	AAS	AAS	AAS	

GEOCHEMICAL SOIL SAMPLING LEDGER

Tenement Name: SHEFFIELD EL 7/73.

Area / Prospect: IRELAND PROSPECT

Map / Photo Ref:

Project: AMG Zone: 55

DPO's: 30242

Sample No's: 1141180 – 1141189.

Sheet No.: 1 OF 1.

Laboratory: ANALABS

Collected By: GBW Date: 10/83.

463031

KEY TO GEOCHEMICAL ROCK SAMPLING LEDGER

SAMPLE NO.

CRAE 7 digit number.

LOCATION

Co-ordinates Local grid or
Metric Grid reference

Exposure

1 Outcrop
2 Float
3 Uncertain

Sample Type

1 Channel Sample
2 Chip Sample .
3 Grab Sample - Single
4 Grab Sample - Multiple
5 Diamond Drill Core Split
6 Diamond Drill Core Grind
7 Percussion Chips
8 Petrology

Width

Width of sample zone in metres

Interval

Sample interval in metres

ROCK TYPE

1 Fine Grained Clastic Sediment
2 Coarse Grained Clastic Sediment
3 Conglomerate
4 Breccia
5 Greywacke
6 Arkose
7 Sandstone
8 Siltstone
9 Shale
10 Black Shale +/Carbon/Graphite
11 Gravel Grey Billy/Recent

15 Bituminous Coal
16 Brown Coal
17 Lignite/Peat
18 Kerogen Oil Shale
19 Tasmanites Oil Shale

ROCK TYPE CONT'D

20 Undifferentiated carbonate
21 Limestone
22 Dolomite
23 Magnesite
24 Calcareous Shale
25 Chert
26 Banded iron formation

30 Undifferentiated acid intrusive
31 Granite
32 Porphyritic granite
33 Adamellite
34 Aplite
35 Pegmatite
36 Syenite

40 Undiff. intermediate intrusive
41 Granodiorite
42 Diorite

50 Undifferentiated basic intrusive
51 Dolerite
52 Gabbro

60 Undiff. ultrabasic intrusive
61 Peridotite
62 Serpentinite

70 Undifferentiated acid volcanic
71 Undifferentiated acid lava
72 Undifferentiated acid pyroclastic
73 Rhyolite
74 Trachyte
75 Andesite

80 Undifferentiated intermediate volcanic
81 Undifferentiated intermediate lava
82 Undifferentiated intermediate pyroclastic
83 Rhyodacite
84 Dacite
85 Tuff/Tuffaceous shale

90 Undifferentiated basic volcanic
91 Undifferentiated basic lava
92 Undifferentiated basic pyroclastic
93 Basalt

100 Quartzite
101 Hornfels
102 Marble
103 Slate
104 Phyllite
105 Schist
106 Amphibolite
107 Gneiss

110 Skarn

ROCK TYPE CONT'D

120 Quartz veins
121 Greisen
122 Gossan
123 Ironstone
124 Laterite

999 Fubarite

ALTERATION

1 Argillisation
2 Albitisation
3 Carbonatisation
4 Chloritisation
5 Dolomitisation
6 Propylitisation
7 Pyritisation
8 Saussuritisation
9 Sericitisation
10 Silicification
11 Zeolitisation
12 Ferruginisation
13 Tourmalinisation
14 Potassic
15 Calc-silicate
16 Kaolinisation
17 Talcose
18 Weathered
19 Other

MINERALISATION

Visible

1 None visible
2 Trace
3 Disseminated
4 Abundant

Style

1 Veins /Net veining
2 Shear zones
3 Stratabound
4 Pipe
5 Stockwork
6 Skarn
7 Irregular
8 Planar Controlled i.e.
bedding, cleavage, joints, etc.
9 Boxworks or possible associates of
Mineraliation
10 Place
11 Other

Major Ore

5 CHROMITE
6 fluorite
10 PYRITE
15 MOLYBDENITE
16 bismuthinite
20 ARSENOPYRITE
25 BORNITE
30 CHALCOPYRITE
31 malachite
32 aurite
33 cobaltite
35 CHALCOCITE
36 tetrahedrite
37 tennantite
40 PYRRHOTITE
45 PENTLENDITE
50 GALENA
51 cerussite
52 jarosite
55 BARYTE
60 SPHALERITE
61 smithsonite
62 willemite
65 ILMENITE
66 rutile
67 magnesite
70 CASSITERITE
71 stannite
75 WOLFRAMITE
80 hematite
81 maghemite
85 SCHEELITE
90 MAGNETITE
91 soethite
92 siderite
93 limonite
95 GOLD
96 gold tellurides
97 native copper
98 native silver

Minor Minerals

Coded as per major

Gangue

1 Quartz
2 Feldspar
3 Calcite
4 Baryte
5 Fluorite
6 Chlorite
7 Garnet

LOOK Refer to original ledger for information outside the scope of this file.

1 Refer to Ledger

TASMANIA

CRA EXPLORATION PTY. LTD.

463032 R

Sample Number	LOCATION							ROCK TYPE			MINERALISATION						LOOK	METAL CONTENT ppm / %									Geological Observations
	Co-ordinates AMG / Grid		Exposure	S. Type	Width (m)	Interval		Major Rock	Minor Rock	Alteration	Visible	Style	Major	Minor	Minor	Gangue		Cu	Pb	Zn	Ag	Fe%	Mn	Cr	As	Co	
	East	North				From	To																				
114186		325mS.	2	3				81		4	1						1	30	10	210	x	4·5%	455	75	x	20	Magnetic int. volcanics see petrological description.
114196			2	3				81			1							35	20	135	x	4·5%	1700	20	x	30	Gossan? volcanic from piled rocks at start of Traverse 4.
114197			2	3				81		4	1							15	x	230	x	4·35%	460	20	x	25	Appox. 50m N of 114196 V. chloritic gossan? volcanic.
DETECTION LIMIT																		5	5	5	0·5	50	5	5	100	5	
ANALYTICAL METHOD																		AAS	AAS	AAS	AAS	AAS	AAS	AAS	AAS	AAS	

GEOCHEMICAL ROCK SAMPLING LEDGER

Tenement Name: SHEFFIELD EL 7/73

Area / Prospect: IRELAND PROSPECT

Map / Photo Ref.:

Project:

DPO's: 30242

Sample No's: 114186.

AMG Zone: 55

Sheet No.: 1 OF 1

Laboratory: ANALABS

Collected By: GBW

Date: 10/83

KEY TO GEOCHEMICAL STREAM SEDIMENT SAMPLING LEDGER

463033

SAMPLE NUMBER

CRAE 7 figure no.

LOCATION

Co-ordinates Australian Metric Grid References in Metres

SAMPLE DESCRIPTION

Sample Type

1 Original Sample
2 Resample
3 Reanalysis of Original Sample

Mesh
1 Total Sample Pulverised
2 -10# - + 40#
3 -40# - + 80#
4 -80#
5 Suspension
6 Other

Gravel Percentage

Sand Percentage

Silt Percentage

Organic
1 Low
2 Medium
3 High

SITE DESCRIPTION

Width

Width of Channel in Metres

Flow

1. Dry 2. Dry with Puddles
3. Slow 4. Medium
5. Fast

Bank

1 Alluvial
2 Colluvial
3 Alluvial/Colluvial
4 No Defined Channel

SITE DESCRIPTION CONT'D

Catchment

1 Catchment area >100 km²
2 Catchment area 50 - 100 km²
3 Catchment area 20 - 50 km²
4 Catchment area 10 - 50 km²
5 Catchment area 5 - 10 km²
6 Catchment area 2 - 5 km²
7 Catchment area 1 - 2 km²
8 Catchment area .5 - 1 km²
9 Catchment area <0.5 km²

Vegetation

1 Button Grass/Open Heathland
2 Eucalypt Forest
3 Rain Forest
4 Ti Tree
5 Cultivation

Stain

1 Minor Iron Staining
2 Major Iron Staining
3 Minor Manganese Staining
4 Major Manganese Staining
5 Minor Carbonate Staining
6 Major Carbonate Staining

Contamination

1 None Apparent
2 Urban - Houses, Rubbish etc.
3 Roads, Railways, Dams etc.
4 Metalliferous Mine Workings
5 Agricultural
6 Natural Dilution by Banks
7 Logging

Site

1 Good
2 Moderate
3 Poor
4 Unsatisfactory

ROCK TYPE

Outcrop

1 Fine grained clastic sediment
2 Coarse grained clastic sediment
3 Conglomerate
4 Breccia
5 Greywacke
6 Arkose
7 Sandstone
8 Siltstone
9 Shale
10 Black shale+/Carbon/Graphite
11 Gravel Grey Billy/Recent

15 Bituminous coal
16 Brown coal
17 Lignite/Peat
18 Kerogen Oil Shale
19 Tasmanites Oil Shale

20 Undifferentiated Carbonate
21 Limestone
22 Dolomite
23 Magnesite
24 Calcareous Shale
25 Chert
26 Banded Iron Formation

30 Undifferentiated Acid Intrusive
31 Granite
32 Porphyritic Granite
33 Adamellite
34 Aplite
35 Pegmatite
36 Syenite

40 Undifferentiated Intermediate Intrusive
41 Granodiorite
42 Diorite

50 Undifferentiated Ultrabasic Intrusive
51 Peridotite
52 Gabbro

60 Undifferentiated Ultrabasic Intrusive
61 Peridotite
62 Serpentinite

70 Undifferentiated Acid Volcanic
71 Undifferentiated Acid Lava
72 Undifferentiated Acid Pyroclastic
73 Rhyolite
74 Trachyte
75 Andesite

80 Undifferentiated Intermediate Volcanic
81 Undifferentiated Intermediate Lava
82 Undifferentiated Intermediate Pyroclastic
83 Rhyodacite
84 Dacite
85 Tuff/Tuffaceous Shale

ROCK TYPE CONT'D

90 Undifferentiated Basic Volcanic
91 Undifferentiated Basic Lava
92 Undifferentiated Basic Pyroclastic
93 Basalt

100 Quartzite
101 Hornfels
102 Marble
103 Slate
104 Phyllite
105 Schist
106 Amphibolite
107 Gneiss

110 Skarn

120 Quartz Veins
121 Greisen
122 Gossan
123 Ironstone
124 Laterite

999 Pubarite

Float

Coded as per outcrop

LOOK

Refer to Original Ledger for Information Outside the Scope of this File.

1 Refer to Ledger

Updated June 1983

463034

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SS

Sample Number	LOCATION AMG Co-ordinates East	North	SAMPLE DESC. S. Type	Mesh	% Gravel	% Sand	% Silt	Organic	SITE DESCRIPTION Width	Flow	Bank	Catchment	Vegetation	Staining	Contam.	Sit. Rating	ROCK TYPE Outcrop	Maj. Float	Min. Float	LOOK
114190		400mS	1	4	10	15	5		1m	3	2	7	2	1	1	2	3	3	81	

Sample Number	METAL CONTENT ppm / % Cu	Pb	Zn	Ag	Fe%	Mn	Cr	As	Co		Geological Observations
114190	20	125	180	X	7.3%	7100	4	X	75		St. Sed at top of Traverse.

GEOCHEMICAL STREAM SEDIMENT SAMPLING LEDGER

	Cu	Pb	Zn	Ag	Fe%	Mn	Cr	As	Co
DETECTION LIMIT	5	5	5	0.5	50	5	5	100	5
ANALYTICAL METHOD	AAS	AAS	AAS	AAS	AAS	AAS	AAS	AAS	AAS

Tenement Name: SHEFFIELD EL 7/73

Project:

AMG Zone: 55

Sheet No.: 1 OF 1.

Area / Prospect: IRELAND PROSPECT

DPO's: 30242

Laboratory: ANALABS

Map / Photo Ref

KEY TO GEOCHEMICAL PANNED CONCENTRATE SAMPLING LEDGER

463035

SAMPLE LEDGER

CRAE 7 digit no.

LOCATION

Co-ordinates Australian Metric
Grid References in Metres

SAMPLE DESCRIPTION

Sample Type

1 Original Sample
2 Resample
3 Reanalysis of Original Sample

Start Weight

Initial Dry Weight of Sample in Kilograms or Guesstimate

End Weight

Dry Weight of Concentrate in Kilograms

SITE DESCRIPTION

Width Width of Channel in metres

Flow

1 Dry
2 Dry with Puddles
3 Slow
4 Medium
5 Fast

Bank

1 Alluvial
2 Colluvial
3 Alluvial/Colluvial
4 No Defined Channel

SITE DESCRIPTION CONT'D

Catchment

1 Catchment Area > 100 km²
2 " " 50 - 100 km²
3 " " 20 - 50 km²
4 " " 10 - 50 km²
5 " " 5 - 10 km²
6 " " 2 - 5 km²
7 " " 1 - 2 km²
8 " " .5 - 1 km²
9 " " < 0.5 km²

Vegetation

1 Button Grass/Open Heathland
2 Eucalypt Forest
3 Rain Forest
4 Ti Tree
5 Cultivation

Staining

1 Minor Iron Staining
2 Major Iron Staining
3 Minor Manganese Staining
4 Major Manganese Staining
5 Minor Carbonate Staining
6 Major Carbonate Staining

Contamination

1 None Apparent
2 Urban - Houses, Rubbish etc.
3 Roads, Railways, Dams Etc.
4 Metalliferous Mine Workings
5 Agricultural
6 Natural Dilution by Banks
7 Logging

Site Rating

1 Good
2 Moderate
3 Poor
4 Unsatisfactory

HEAVY MINERALS

Visible

1 None Visible
2 Trace
3 Disseminated
4 Abundant

Major Heavy Minerals

5 CHROMITE
6 fluorite
10 PYRITE
15 MOLYBDENITE
16 bismuthinite
20 ARSENOPYRITE
25 BORNITE
30 CHALCOPYRITE
31 malachite
32 azurite
33 cobaltite
35 CHALCOCITE
36 tetrahedrite
37 tennantite
40 PYRRHOTITE
45 PENTLANDITE
50 GALENA
51 cerussite
52 jarosite
55 BARYTE
60 SPHALERITE
61 smithsonite
62 willemite
65 ILMENITE
66 rutile
67 magnesite
70 CASSITERITE
71 stannite
75 WOLFRAMITE
80 HEMATITE
81 maghemite
85 SCHEELITE
90 MAGNETITE
91 goethite
92 siderite
93 limonite
95 GOLD
96 gold tellurides
97 native copper
98 native silver

Minor Heavy Minerals

Coded as per Major Heavy Minerals

ROCK TYPE

Outcrop

1 Fine Grained Clastic Sediment
2 Coarse Grained Clastic Sed.
3 Conglomerate
4 Breccia
5 Greywacke
6 Arkose
7 Sandstone
8 Siltstone
9 Shale
10 Black Shale+/Carbon/Graphite
11 Gravel Grey Billy/Recent
12 Aeolian Sands
13 Mudstone
14 Fluviatile/Marine Sands
15 Bituminous coal
16 Brown Coal
17 Lignite/Peat
18 Kerogen Oil Shale
19 Tasmanites Oil Shale

20 Undifferentiated Carbonate
21 Limestone
22 Dolomite
23 Magnesite
24 Calcareous Shale
25 Chert
26 Banded Iron Formation

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34 Aplite
35 Pegmatite
36 Syenite

40 Undifferentiated Intermediate Intrusive
41 Granodiorite
42 Diorite

50 Undifferentiated Basic Intrusive
51 Dolerite
52 Gabbro

60 Undifferentiated Ultrabasic Intrusive
61 Peridotite
62 Serpentinite

70 Undifferentiated Acid Volcanic
71 Undifferentiated Acid Lava
72 Undifferentiated Acid Pyrolcastic

ROCK TYPE CONT'D

Outcrop

73 Rhyolite
74 Trachyte
75 Andesite
80 Undifferentiated Intermediate Volcanic
81 Undifferentiated Intermediate Lava
82 Undifferentiated Intermediate Pyroclastic
83 Rhyodacite
84 Dacite
85 Tuff/Tuffaceous Shale

90 Undifferentiated Basic Volcanic
91 Undifferentiated Basic Lava
92 Undifferentiated Basic Pyroclastic
93 Basalt

100 Quartzite
101 Hornfels
102 Marble
103 Slate
104 Phyllite
105 Schist
106 Amphibolite
107 Gneiss
110 Skarn
120 Greisen
122 Gossan
123 Ironstone
124 Laterite
999 Fubarite

Float

Coded as per outcrop.

LOOK

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1 Refer to Ledger

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Updated June 1983

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CRA EXPLORATION PTY. LTD.

463036

P

Sample Number	LOCATION		SAMP DESC.			SITE DESC.								HEAVY MINS.				OUTCROP		METAL CONTENT ppm / %									Geological Observations
	AMG Co-ordinates																												
	East	North	S. Type	Start Wt. (Kg)	End Wt. (Kg)	Width (M)	Flow	Bank	Catchment	Vegetation	Staining	Contam.	Sit. Rating	Visible	Major	Minor	Minor	Outcrop	Float	LOOK	Cu	Pb	Zn	Ag	Fe%	Mn	Cr	As	Co	
1141198			1	40	35	1	1	3	7	5	3	5	2	1						1	10	20	100	x	3.4%	725	70	100	20	At top of dam on creek Reported heavy mineral occurrence

GEOCHEMICAL PANNED CONCENTRATE SAMPLING LEDGER

DETECTION LIMIT

ANALYTICAL METHOD

Tenement Name:

Project: AMG Zone:

Sheet No.:

Area / Prospect:

DPO's:

Laboratory:

Map / Photo Ref:

Sample Nos

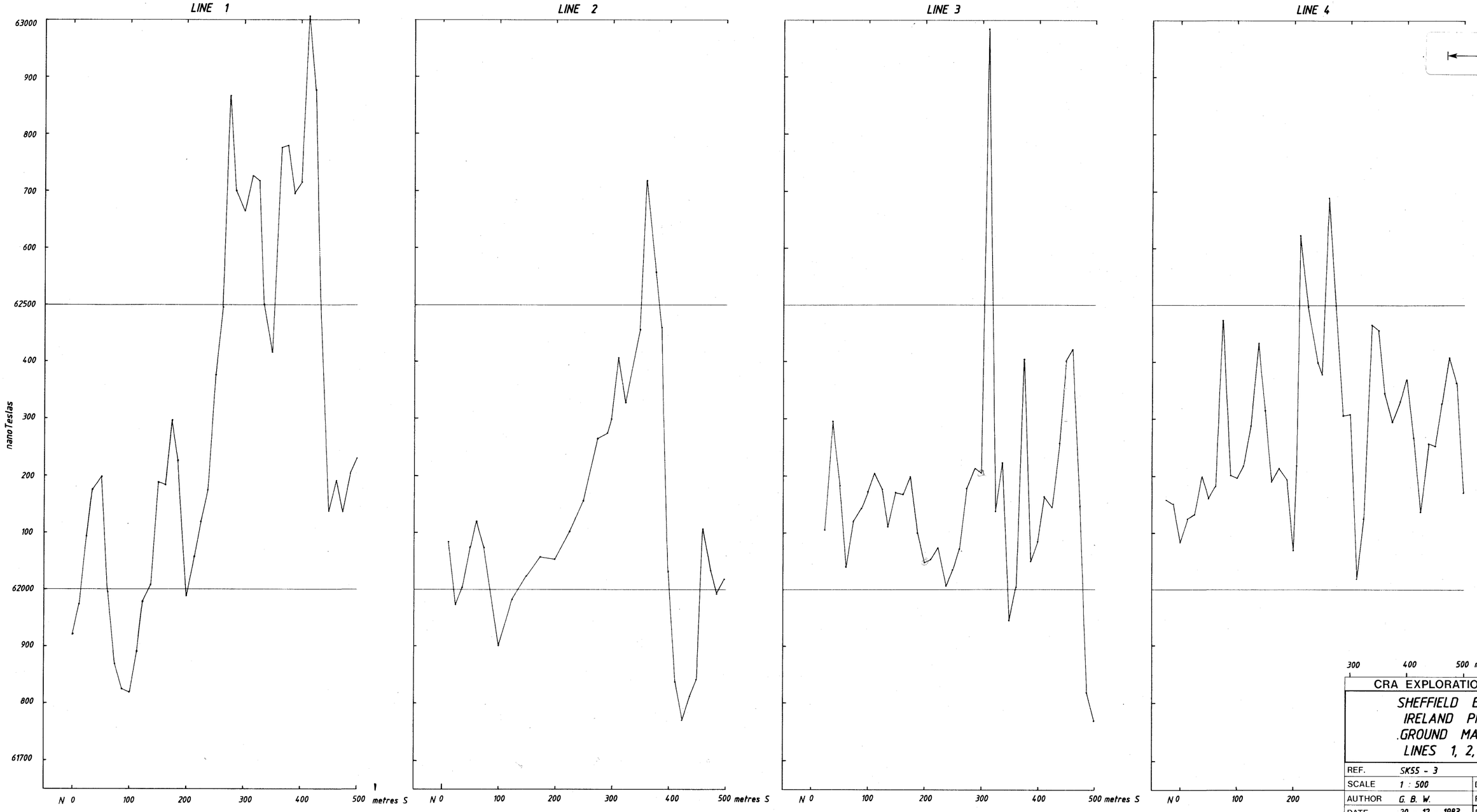
463037mN

5 cm

CRA EXPLORATION PTY. LIMITED

SHEFFIELD E.L. 7/73
IRELAND PROSPECT
LOCATION DIAGRAM

REF.	SK55 - 3		
SCALE	1 : 25 000	DRAWN	R. T.
AUTHOR	G. B. W.	REPORT No.	12497
DATE	20 - 12 - 1983	PLAN No. TASh	1568



463038

CRA EXPLORATION PTY. LIMITED			
SHEFFIELD E.L. 7/73 IRELAND PROSPECT GROUND MAGNETICS LINES 1, 2, 3, & 4			
REF.	SK55 - 3		
SCALE	1 : 500	DRAWN	R. T.
AUTHOR	G. B. W.	REPORT No.	12497
DATE	20 - 12 - 1983	PLAN No. TASh	1567