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CRA EXPLORATION PTY LTD



SHEFFIELD EL 7/73, NORTHERN TASMANIA

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RELINQUISHMENT REPORT
INCORPORATING EXPLORATION FOR THE PERIOD
FEBRUARY 1987 TO JULY 1987

OPEN FILE

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Date: 10 July 1987

Submitted to: T W Dickson

Accepted by: 

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Tasmania

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1. SUMMARY

This report contains a general summary of work carried out on EL 7/73 between 1973 and 1987. The report also includes a detailed coverage of exploration activities from 15 February to 10 July 1987.

During this latter period limited trenching was carried out over the Stonebridge gossan which was shown to overly a narrow, near vertical limonitic vein stockwork.

Considering time constraints, Sheffield EL 7/73 is considered to have been adequately explored for CRAE sized targets.

2. INTRODUCTION

Sheffield EL 7/73 was held in Joint Venture with Asarco until 1983 when CRAE assumed sole title for the EL.

EL 7/73 lies just north of Mt Roland, approximately 25 kilometres south of Devonport, Northern Tasmania (see plan TASH 2665). The licence area contains a mixture of agricultural land, native and pine forests.

The exploration carried out between February and July 1987 consisted of a detailed evaluation of the Stonebridge gossan.

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3. CONCLUSIONS

1. Airborne magnetics and DIGHEM have been flown over the area. Regional stream sediment programmes have been completed, sample types collected include pan concentrates, -80 mesh and cyanide leach.
2. The geophysical and geochemical surveys identified a number of anomalies. These have been subject to detailed geochemical, geophysical and geological investigation leading to drill testing in the cases of the Beulah Barite, Gog Range, Gowrie Park, Lake Barrington copper and West Mount Roland prospects.
3. No economically significant mineralisation was intersected by any of the drillholes.

4. RECOMMENDATIONS

Despite a concentrated exploration effort no significant resources have been identified within EL 7/73. It is recommended that the ground be relinquished immediately.

5. PREVIOUS EXPLORATION

EL 7/73 Sheffield, has been the subject of considerable geological investigation over the last 14 years. Most of the work has already been reported and reference is made to Caithness et.al 1987, Von Strokirch T (1986), Temby P A (1985), Weber G B (1983 & 1984), Clementson I M et.al (1983) and Purvis J G (1978). In addition to the work referenced above BHP carried out work over part of EL 7/73 while investigating EL 15/65, see Cochrane (1970).

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It was hoped to identify volcanogenic mineralisation within the Cambrian volcanics or alternatively base metal and tungsten mineralisation associated with the Devonian Dalcoath granite.

All of the anomalies investigated by CRAE, with the exception of the Beulah Barite Prospect, were originally outlined by the stream sediment sampling programme carried out by ASARCO. The Beulah Barite prospect has a long history "with approximately 635 tonnes of Barite being mined between 1911 and 1920 ... predominantly by the Electrolytic Zinc Corporation of Australia", Jennings (1979).

6. GEOLOGY

The EL is comprised, in part, of a suite of Cambrian volcanics which are considered to be the northern extension of the Mount Read Volcanics. Lying unconformably above the Cambrian volcanics is the Ordovician Roland conglomerate which is in turn overlain by the Moina sandstone. The Moina sandstone is conformably overlain by the Gordon Limestone. A detailed account of the regional geology is given in Jennings (1979).

7. WORK COMPLETED - FEBRUARY TO JULY 1987

7.1 Stonebridge Prospect

7.1.1 Introduction

Located 1.5 kilometres south of Paradise the prospect was identified by stream sediment geochemistry carried out by ASARCO and CRAE. From this work lead values up to 760 ppm were recorded

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and trace disseminated galena was observed in the rhyolites from Stonebridge creek. Soil sampling, "C-Horizon", was carried out over the prospect grid. See plans TASH 2468, 2469, 2470 and 2471 for Cu, Pb, Zn, Ba values respectively.

Detailed geological mapping combined with ground magnetic and GENIE EM surveys were carried out, see plan TASH 3148. In early 1985 a gossan was identified which returned up to 1% Pb, 0.1% Zn, 0.15% Cu and 18 ppm Ag from surface rock chips.

7.1.2 Trenching

During March trenches were cut across and along the outcropping gossan, see plan TASH 3359. The gossan was shown to have an aerial extent of 20m by 2 metres and to directly overly a narrow steeply dipping limonitic stockwork vein set, see plate 1. Five metre channel sampling across the gossan returned highs of 1.35% Pb, 0.135% Zn, 780 ppm Cu, 60 ppm Ag and 0.13 ppm Au. The gossan is located in an altered sequence of acid volcanics whose composition varied from rhyolitic to dacitic, see plan TASH 3466. Appendix 1 and 2 contain the geochemical ledgers and petrographic report for the samples collected from the Stonebridge gossan.

Petrographic analysis has suggested that strong clay alteration was produced by a low temperature event, most probably by weathering, see Appendix 2.



Plate 1

Cross section view of the Stonebridge Gossan. Sample number 1232123 was taken from near the head of the G-pick, see TASH 3359.

7.1.3 Discussion

The trenching has confirmed that the Stonebridge gossan is a true gossan and not an enriched basal basalt feature as had been previously suggested, Caithness & Von Strokirch (1987). The gossan and

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vein set were shown to be striking at 010° (mag) which compares with a regional strike of 270° (mag). The mineralisation is thought to have been localised along a minor fault structure which may have been shear related, see plan TASH 3148.

8. REFERENCES

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2469	SHEFFIELD EL 7/73 Pb Soil Geochemistry - Stonebridge Barite Grid	1:5 000
2470	SHEFFIELD EL 7/73 Zn Soil Geochemistry - Stonebridge Barite Grid	1:5 000
2471	SHEFFIELD EL 7/73 Ba Soil Geochemistry - Stonebridge Barite Grid	1:1 000
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12. LIST OF APPENDICES

Appendix 1 Geochemical Ledgers - Stonebridge Prospect

Appendix 2 Petrological Report - Stonebridge Prospect

APPENDIX 1

STONEBRIDGE PROSPECT

GEOCHEMICAL LEDGERS

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SAMPLE NUMBER	LOCATION		Sample Type	ANALYSES										Au Check	Geological Observations
	Easting	Northing		Cu	Pb	Zn	Ag	As	Fe %	Mn	Mo	Ba	Au		
1232120	See TASSL 3359		c/s	65	860	185	<1	260	7.42	1450	<2	770	0.02		
1232121			c/s	65	480	145	<1	360	5.98	680	<2	730	0.03		
2122			c/s	90	1500	220	<1	210	7.47	680	<2	710	0.02		
2123			g/s	330	5400	1050	<1	850	33.6	2350	5	230	0.03		
2124			c/s	780	9300	1350	4	370	37.1	5700	15	280	0.11	0.12	
2125			c/s	75	2300	185	<1	42	7.41	1350	<2	500	0.02		
2126			c/s	55	850	280	<1	34	8.80	750	<2	60	0.02		
2127			c/s	65	510	135	<1	24	7.53	430	<2	770	0.01		
2128			c/s	75	580	185	<1	32	12.0	2400	<2	720	0.01		
2129			c/s	310	8200	320	1	38	12.9	407	<2	1750	0.02	0.04	
2130			c/s	490	6900	980	<1	260	27.1	6250	15	430	0.07		
2131			c/s	420	1350	780	6	155	25.4	2.22%	<2	690	0.06		
2132			c/s	370	9800	470	5	135	21.4	2.24%	<2	860	0.05		
2133			c/s	230	4000	540	2	90	15.8	3600	<2	310	0.02		
2134			c/s	200	3500	370	2	160	12.8	5750	<2	430	0.04		
2135			c/s	230	6800	630	3	95	41.0	1.15%	<2	600	0.01		
1232136			g/s	350	5900	330	60	820	22.7	5000	5	130	0.13	Only sample containing some 60% fresh sulphide.	
DETECTION LIMIT				2	5	2	1	1	0.01	← ppm →	5	2	10	0.01	
ANALYTICAL METHOD				← ICS80 →											ppm 209

Project : STONEBRIDGE TRENCHING	1 : 250 000 Sheet : BURNIE SWFS-3 AMG Zone :	Sheet No. : 01
Tenement : SHEFFIELD T173	DPO's : 38715	Laboratory : ALS
Area / Prospect : STONEBRIDGE BARITE		Collected By : FRF
		Date : 18-3-1987

APPENDIX 2

STONEBRIDGE PROSPECT

PETROLOGICAL REPORT

Amdel
31 Flemington Street,
Frewville, S.A. 5063
Telephone: (08) 372 2700

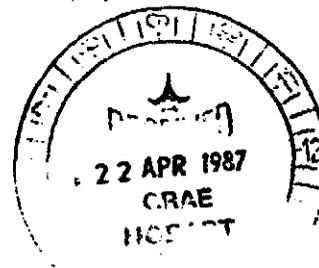
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Address all correspondence to:
P.O. Box 114,
Eastwood, S.A. 5063
Telex: AA82520
Facsimile: (08) 79 6623

15 April 1987

GS 3/1/6/0

CRA Exploration Pty. Limited,
P.O. Box 138,
ROSNY PARK, TAS. 7018

ATT: MR. P.R. FUNNELL



REPORT G 7036/87

YOUR REFERENCE: DPO No. 38720 dated 30/3/87
IDENTIFICATION: 1232120, 22, 27, 32, 33
MATERIAL: Five rock samples
DATE RECEIVED: 7 April 1987
WORK REQUIRED: Petrography (5 Code MA1.3), Mineragraphy (1 Code MA2.2)
and X-Ray Diffraction (5 Code MB5)

Investigation and Report by: Frank Radke and Dr Roger Brown
Manager - Geological Services: Dr Keith J Henley

Keith Henley

for Dr William G Spencer
General Manager
Applied Sciences Group

c.c. CRA Exploration Pty. Ltd.,
P.O. Box 138,
ROSNY PARK, TAS. 7018
ATT: DISTRICT ADMIN. OFFICER

CRA Exploration Pty. Ltd.,
P.O. Box 656,
FYSHWICK, A.C.T. 2609
ATT: CHIEF GEOLOGIST INFORMATION SERVICES

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PETROLOGY OF FIVE ALTERED ACID VOLCANIC ROCKS

1. SUMMARY

Five samples submitted for petrographic examination by CRA Exploration Pty. Limited were given the following rock names.

<u>SAMPLE & THIN SECTION NO.</u>	<u>ROCK NAME</u>
1232120: TSC48648	Altered rhyodacite
1232122: TSC48649	Altered rhyodacite
1232127: TSC48650	Altered welded tuff
1232132: TSC48651	Siliceous breccia
1232133: TSC48652	Altered dacite

All five of these samples are highly altered rocks containing abundant clay and other degraded phyllosilicates intergrown with granular quartz. Most of these samples exhibit remnant porphyritic textures including sericite-rich patches pseudomorphic after feldspar phenocrysts and probable mafic phenocrysts. At least some of the samples contain what are thought to be pseudomorphs after biotite phenocrysts now represented by fibrous sericite/clay with lamellar intergrowths of limonitic iron oxides. Some of these samples also exhibit groundmass textures typical of acid volcanic rock including patchy textures believed to be of devitrification origin. Sample 1232127 exhibits remnant groundmass textures interpreted to be of pyroclastic origin. It is considered possible if not likely that all of the other rocks are also of pyroclastic origin although remnant pyroclastic textures were not observed.

Sample 1232132 has a fragmental texture and also contains abundant vein-type quartz with moderate amounts of intergrown pyrite. Pyrite is the major sulphide in this sample although traces of pyrrhotite, chalcopyrite and possible sphalerite occur as small inclusions within the pyrite.

2. BULK MINERALOGY BY X-RAY DIFFRACTION

A portion of each sample was finely powdered and used to prepare X-ray diffraction traces which were interpreted.

The results are given in Table 1 which for each sample lists the minerals found in approximate order of decreasing abundance using the given semiquantitative abbreviations. In most of the samples the clay consists of a poorly crystalline kaolinite with muscovite/illite. The poorly crystalline nature of the kaolinite as well as the presence of probable interstratified mica/illite suggests a very low temperature of formation. It is considered possible if not likely that these clays have been formed by weathering. Sample 123133 contains plumbogummite which is also most likely a weathering feature along with the goethite which is present in all samples.

3. PETROLOGY

All of the hand specimens described in this report have been stained with sodium cobaltinitrite after a hydrofluoric acid etch to detect the possible presence and location of potash feldspar. Potash feldspar was not detected in any of the samples.

For some samples (123120, 123122 and 123133) the proportion of quartz indicated by X-ray diffraction analysis is much higher than that found by petrographic examination. This is thought to be due to the presence of very finely granular cherty quartz intergrown with the argillaceous matrix which is difficult to distinguish from weakly birefringent clay.

SAMPLE: 1232120: TSC48648

Rock Name:

Altered Rhyodacite

Hand Specimen:

A pale tan to reddish-brown coloured rock with an argillaceous and friable character.

Thin Section:

An optical estimate of the constituents gives the following :

	<u>%</u>
Clay/sericite	60
Quartz	35
Opagues and semi-opaques	5

This is a highly altered rock comprised mainly of granular quartz intergrown with finely divided sericite/clay. A remnant porphyritic texture is produced by prismatic shaped patches up to about 1 mm in size comprised largely of more birefringent sericitic phyllosilicates which are believed to represent completely altered feldspar phenocrysts. The rock also contains fibrous textured flaky patches up to 2 mm long which generally exhibit a translucent, reddish-brown iron stained colour and would most likely represent the mica patches noted in hand specimen. These large flakes are thought to be pseudomorphs after original mafic phenocrysts such as biotite flakes or possibly some hornblende crystals.

The matrix consists mainly of finely granular quartz with a typical grain size ranging up to 0.1 mm intergrown with finely divided clay and sericite, the clay typically has a very weakly birefringent character. This fine-grained matrix at least locally exhibits irregular textures typical of acid volcanic rocks and is thought to represent a completely altered felsic matrix in which the granular quartz is the only remnant primary mineral.

Some quartz forms larger grains and polycrystalline aggregates up to 1 mm in size some of which are intergrown with limonitic material. At least some of this coarser grained quartz is thought to be of secondary origin. It is possible some of this quartz represents recrystallized quartz phenocrysts. Most of the limonitic material forms irregular patches up to 1 mm wide which are intergrown with the matrix. The matrix clay as well as some of the fibrous textured pseudomorphs also tend to have an orange to reddish-brown iron stained character. Some opaques were also disseminated through the rock as anhedral grains up to 0.2 mm wide.

This is thought to be an acid to intermediate volcanic rock possibly of rhyodacitic composition which has been subjected to pervasive alteration completely replacing the original minerals with secondary phyllosilicates comprised mainly of clay and sericite. Much of the clay has a translucent iron stained colour. The highly degraded nature of this rock indicates that the alteration is of a low temperature type and could be largely of weathering origin.

SAMPLE: 1232122: TSC48649

Rock Name:

Altered Rhyodacite

Hand Specimen:

This is a pale tan, essentially massive rock with a slightly mottled character produced by small, irregular patches with a slightly darker reddish-brown colour.

Thin Section:

An optical estimate of the constituents gives the following :

	<u>%</u>
Argillaceous/felsic matrix	45
Sericitic pseudomorphs	25
Mafic pseudomorphs	15
Quartz	10
Opagues and semi-opagues	5

This is a highly altered rock comprised mainly of secondary phyllosilicates but which still retains a well preserved porphyritic texture. The rock contains irregular patches up to 1.5 mm wide with prismatic shapes which are comprised mainly of very finely divided sericitic material. The shapes of these patches indicate that they represent completely altered feldspar phenocrysts. The rock also contains what are thought to represent altered mafic phenocrysts now comprised of reddish-brown iron stained prismatic patches up to 3 mm long. These patches consist of weakly birefringent orange clay or chlorite some of which have a fibrous texture suggesting that they represent altered biotite flakes. Other reddish-brown iron stained prismatic patches have shapes suggesting that they could represent altered amphibole or pyroxene crystals.

These altered phenocrysts are disseminated through an altered matrix now comprised mainly of weakly birefringent clay intergrown with very finely granular quartz. The matrix has a patchy, variegated character possibly representing a devitrification texture in an original acid volcanic rock. The matrix also contains small irregular patches of weakly birefringent iron stained clay which tend to have slightly elongate shapes defining a possible vague foliation.

Quartz is disseminated through the rock as grains and granular aggregates up to 0.8 mm wide. Most of this quartz appears to be of secondary origin although it is possible that some of the larger quartz grains and aggregates could represent recrystallised quartz phenocrysts.

Opagues are disseminated through the rock as small grains ranging up to 0.15 mm wide.

This is a highly altered rock with a well preserved remnant igneous texture comprised of altered feldspar and mafic phenocrysts disseminated through a highly altered matrix. The matrix retains a patchy texture which at least locally could be of devitrification origin. The rock is certainly an altered acid volcanic rock and has been termed a rhyodacite although it is possible that it could represent a more basic rock such as a dacite. It is also considered possible that the rock could be of pyroclastic origin although well preserved tuffaceous textures are not evident.

SAMPLE: 1232127: TSC48650

Rock Name:

Altered Welded Tuff

Hand Specimen:

This is a mottled rock containing irregular orange coloured patches up to a few millimetres wide distributed through a dark reddish-brown matrix. The rock exhibits a foliated character evident both as a vague schistose foliation and as a preferred orientation of elongate orange coloured patches.

Thin Section:

An optical estimate of the constituents gives the following :

	<u>%</u>
Argillaceous/felsic matrix	50
Clay/sericite patches	40
Quartz	2
Opagues and semi-opagues	8

This is a highly altered rock comprised mainly of secondary phyllosilicates. The rock contains irregular flaky patches up to several millimetres in size comprised of birefringent sericite intergrown with smaller amounts of weakly birefringent clay distributed through a very fine-grained matrix comprised of weakly birefringent clay possibly intergrown with some felsic minerals. The sericitic patches would represent the orange coloured patches noted in hand specimen while the argillaceous matrix would represent the dark brown matrix in hand specimen. The colour of the matrix is due to finely intergrown opaque to translucent iron oxides.

Some of the larger sericite patches have vague prismatic shapes suggesting that they represent altered crystals possibly of feldspar. These patches also typically contain intergrowths of translucent limonitic material which are concentrated around their outer margins and account for their orange colour in hand specimen. Some less stained fibrous sericite patches have elongate shapes somewhat similar to flattened pumice lapelli.

The fine-grained matrix has a strongly foliated texture produced mainly by a tendency for the opagues to be concentrated in narrow discontinuous lamellae and by a preferred orientation of some fine phyllosilicate flakes. Within localised regions the matrix also exhibits a somewhat patchy texture reminiscent of devitrification textures in igneous rocks. Within some of these areas irregular vague shard-like textures are also locally present. All of these textures strongly suggest that this is a highly altered pyroclastic rock such as a welded tuff.

Minor quartz was noted locally as grains and granular aggregates up to 2 mm wide. This quartz locally replaces vague prismatic shaped crystals within deformed and contorted portions of the thin section. Minor quartz also forms small disseminated grains below 0.1 mm wide.

Opaque to translucent iron oxides form irregular patches and narrow fracture and vein fillings. Translucent reddish-brown limonitic material forms intimate intergrowths with the sericite patches. Opagues also form very fine intergrowths with the matrix.

This is a highly altered rock which retains a foliated texture believed to represent a remnant compaction texture in a welded tuff. Within localised regions the matrix exhibits a patchy texture believed to be of devitrification origin or vague shard structures strongly indicating a pyroclastic origin.

SAMPLE: 1232132: TSC48651

Rock Name:

Siliceous Breccia

Hand Specimen:

A mottled rock which generally has a reddish-brown iron stained character although some regions up to several centimetres long have a pale grey colour. These regions also contain intergrowths of fine-grained pyritic sulphide.

Polished Thin Section:

An optical estimate of the constituents gives the following :

	%
Quartz	75
Sericite/clay	10
Pyrite	10
Limonite	5
Pyrrhotite	Tr
Chalcopyrite	Tr
(?)Sphalerite	Tr

This sample consists mainly of quartz intergrown with smaller amounts of clay, pyrite and limonite. The quartz forms a granular mosaic with a typical grain size of 0.1 to 0.2 mm and at least locally forms an interlocking mosaic of vein-type quartz. Much of this vein-type quartz forms slightly elongate crystals with a random orientation. Other quartz particularly in the limonitic altered portions of the rock has a much more finely granular texture.

Weakly birefringent clay tends to be concentrated in the limonitic stained portions of the sample as interstitial fillings between quartz grains and granular quartz aggregates. The clay invariably has a weakly birefringent character with only minor amounts of more birefringent sericite. Some weakly birefringent clay also forms irregular patches up to a few millimetres wide which occur within the coarser grained vein-type quartz.

Pyrite occurs as anhedral to subhedral crystals up to 2 mm wide which are intergrown with the vein-type quartz. These portions of the rock also have a much less iron stained character. Traces of pyrrhotite, chalcopyrite and a grey mineral which is possibly sphalerite form small (below 0.03 mm wide) inclusions within the pyrite. Galena was not noted anywhere in the sample.

Limonite is concentrated in the reddish-brown iron stained portions of the rock as interstitial patches and narrow fracture and vein fillings. Some of the limonite is obviously pseudomorphic after original pyrite crystals but other limonite forms irregular interstitial fillings. The more intensely limonite stained portions of the rock also tend to have a higher proportion of clay and at least some have irregular patches of iron stained clay. Some of these iron stained portions of the rock also have iron stained prismatic patches somewhat similar to the clay pseudomorphs after feldspar crystals in the previously described acid volcanic rocks. It is considered possible that these portions of the sample could represent a highly altered acid volcanic rock. Possible jarosite detected by X-ray diffraction would be masked by the limonite.

This rock has been called a siliceous breccia since it has a fragmental character containing abundant vein-type quartz. Some portions of the sample which exhibit intense iron staining have vague textures suggesting that they could represent fragments of acid volcanic rock. Pyrite is the major sulphide in this rock although traces of pyrrhotite, chalcopyrite and possible sphalerite occur as small inclusions within the pyrite.

SAMPLE: 1232133: TSC48652

Rock Name:

Altered Dacite

Hand Specimen:

A very fine-grained rock with a mottled reddish-brown to pale tan colour which contains some narrow dark brown limonite lined fractures.

Thin Section:

An optical estimate of the constituents gives the following :

	<u>%</u>
Argillaceous/felsic matrix	50
Clay/sericite patches	20
Quartz	20
Opagues and semi-opagues	10

This is a highly altered rock comprised mainly of secondary phyllosilicates intergrown with granular quartz. The phyllosilicates consist mainly of weakly birefringent clay most of which has a translucent, reddish-brown iron stained colour particularly within localised patches. Minor amounts of sericite are intergrown with the weakly birefringent clay and also locally form patches up to a few millimetres wide. Some of the sericite-rich patches have prismatic shapes and are thought to represent completely altered phenocrysts. Some of these could represent altered feldspar phenocrysts but other sericite patches have fibrous textures with lamellar intergrowths with limonitic iron oxides and are thought to represent altered biotite phenocrysts.

The matrix consists mainly of argillaceous material intergrown with finely granular quartz. Within localised areas the matrix phyllosilicates have a translucent, reddish-brown iron stained colour. Within localised areas the matrix also exhibits a vague foliation produced by elongate irregular clay patches. Quartz tends to be concentrated within localised areas where it could at least in part be of metasomatic origin.

Translucent, reddish-brown iron oxides occur as narrow fracture and vein fillings as well as irregular patches up to 1 mm wide. Some of the irregular limonite patches and intensely limonite stained clay patches are intergrown with granular quartz with a maximum grain size of 0.3 mm which appears to be of secondary origin. Plumbogummite tentatively identified by X-ray diffraction in this sample is probably masked by the limonite.

This is a highly altered rock believed to represent an altered acid to intermediate volcanic rock such as a dacite. The alteration is quite pronounced but at least locally vague remnant porphyritic textures are evident.

TABLE 1: BULK MINERALOGY BY X-RAY DIFFRACTION

123120		123122		123127	
Q	D	Q	D	M ⁽²⁾	D
K	SD	M ⁽¹⁾	A-SD	Q	SD
G	A-SD	K	A-SD	G	A
M	A	G	A-SD	K?	A
H	Tr			H	Tr-A

123132		123133	
Q	D	Q	D
G	A-SD	G	A-SD
Py	A	M	A
H	A	K	A
J?	Tr	Pg?	A
		V?	Tr-A

Mineral Key

G	Goethite
H	Hematite
J	Jarosite or similar group mineral
K	Kaolinite (poorly crystalline)
M	Muscovite/illite
M ⁽¹⁾	Mixture of normal 2M ₂ form and 1Md polymorph
M ⁽²⁾	Mica/illite with weak broad basal reflections - probably interstratified material
Pg	Plumbogummate or ?similar group mineral
Py	Pyrite
Q	Quartz
V	Vermiculite

SEMIQUANTITATIVE ABBREVIATIONS:

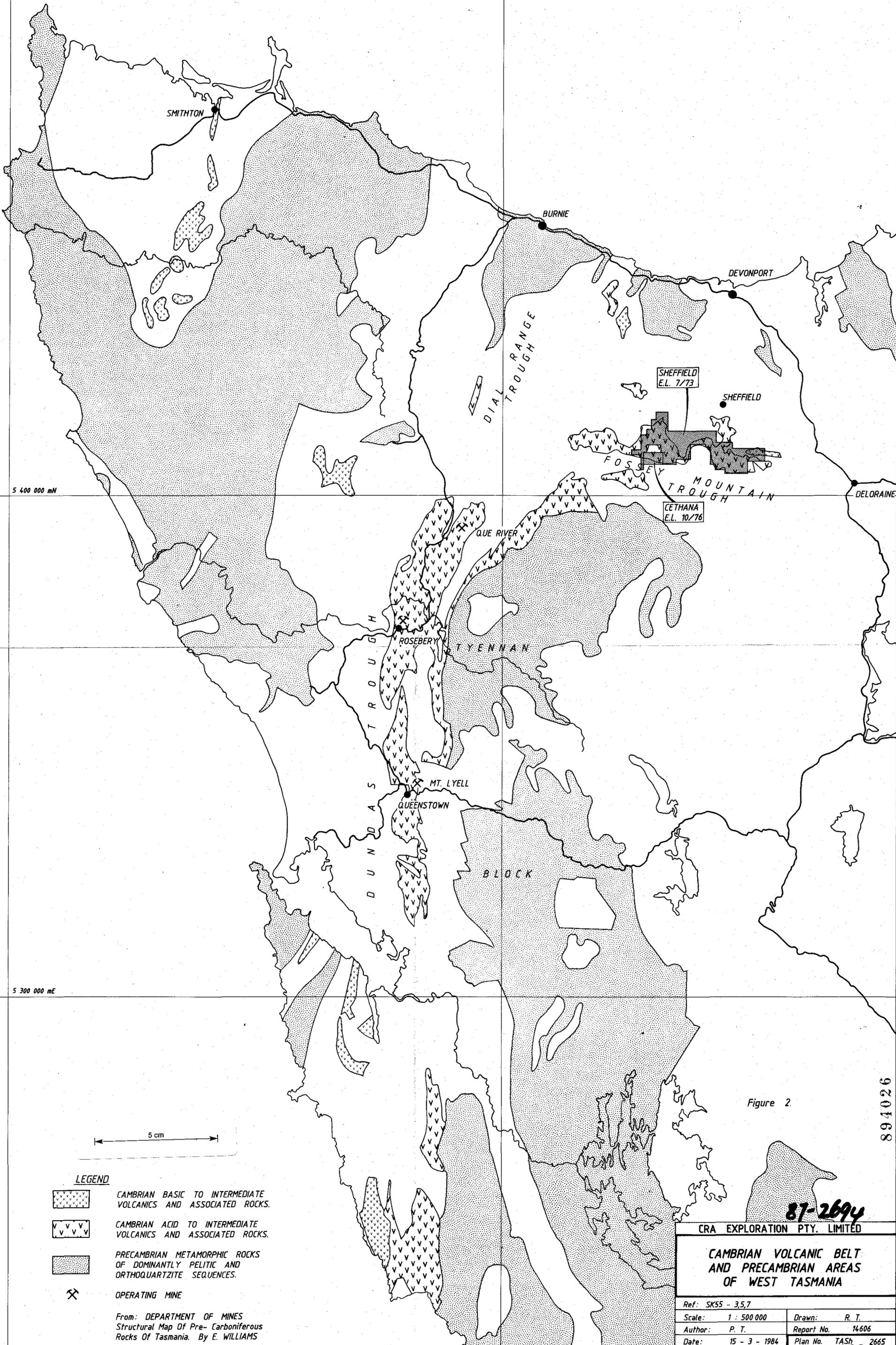
- D = Dominant. Used for the component apparently most abundant, regardless of its probable percentage level.
- SD = Sub-dominant. The next most abundant component(s) providing its percentage level is judged above about 20.
- A = Accessory. Components judged to be present between the levels of roughly 5 and 20%.
- Tr = Trace. Components judged to be below about 5%.

300 000 mE
5 500 000 mN

400 000 mE

5 400 000 mN

5 300 000 mE



LEGEND

-  CAMBRIAN BASIC TO INTERMEDIATE VOLCANICS AND ASSOCIATED ROCKS.
-  CAMBRIAN ACID TO INTERMEDIATE VOLCANICS AND ASSOCIATED ROCKS.
-  PRECAMBRIAN METAMORPHIC ROCKS OF DOMINANTLY PELITIC AND ORTHOQUARTZITE SEQUENCES.
-  OPERATING MINE

From: DEPARTMENT OF MINES
Structural Map Of Pre-Carboniferous
Rocks Of Tasmania. By E. WILLIAMS

Figure 2.

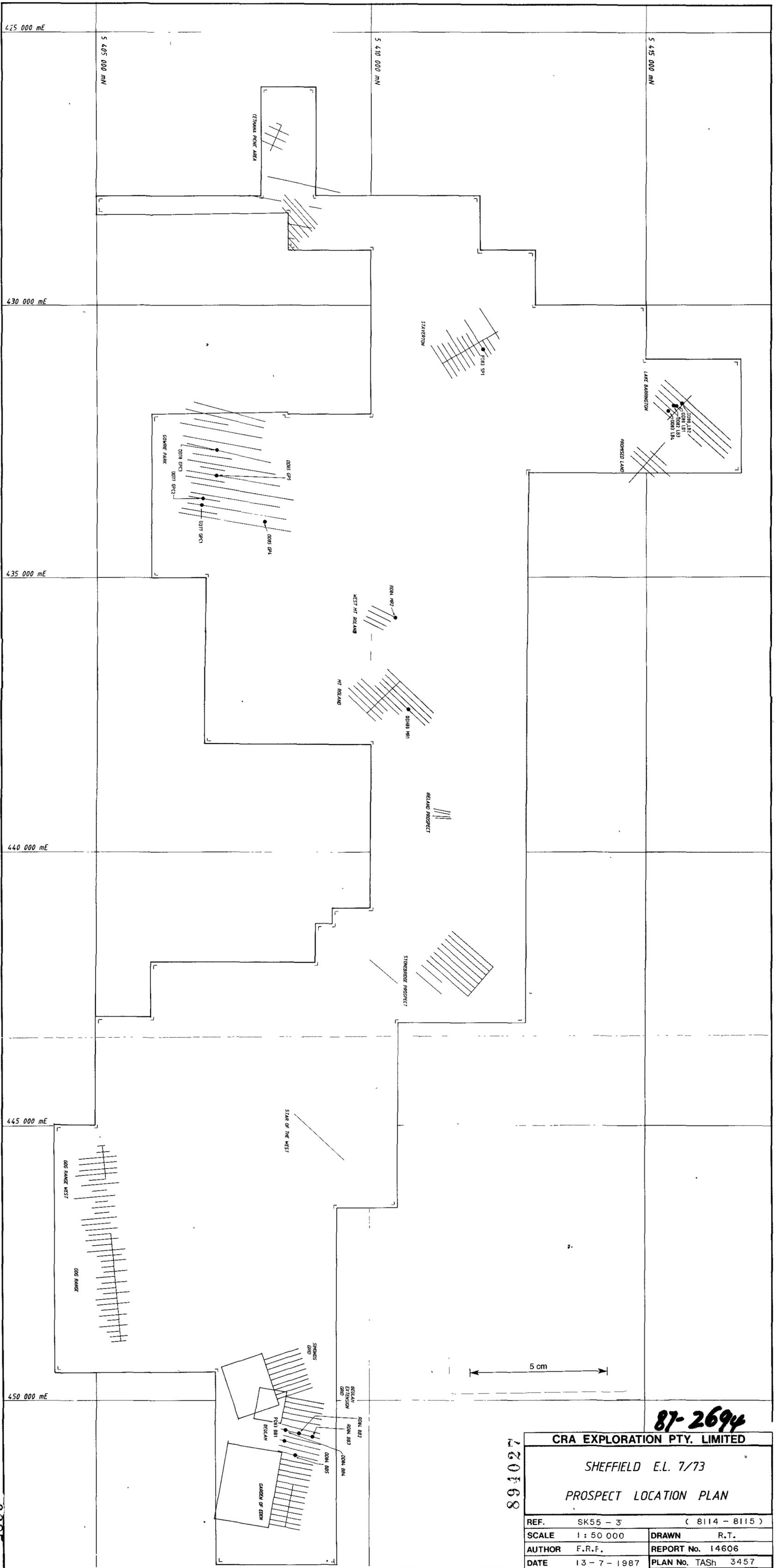
87-2694

CRA EXPLORATION PTY. LIMITED

**CAMBRIAN VOLCANIC BELT
AND PRECAMBRIAN AREAS
OF WEST TASMANIA**

Ref: SK55 - 3,5,7	
Scale: 1 : 500 000	Drawn: R. T.
Author: P. T.	Report No. 14606
Date: 15 - 3 - 1984	Plan No. TASH 2665

894026



6685

894027

87-2694

CRA EXPLORATION PTY. LIMITED	
SHEFFIELD E.L. 7/73	
PROSPECT LOCATION PLAN	
REF. SK55 - 3	(8114 - 8115)
SCALE 1 : 50 000	DRAWN R.T.
AUTHOR F.R.F.	REPORT No. 14606
DATE 13 - 7 - 1987	PLAN No. TASH 3457

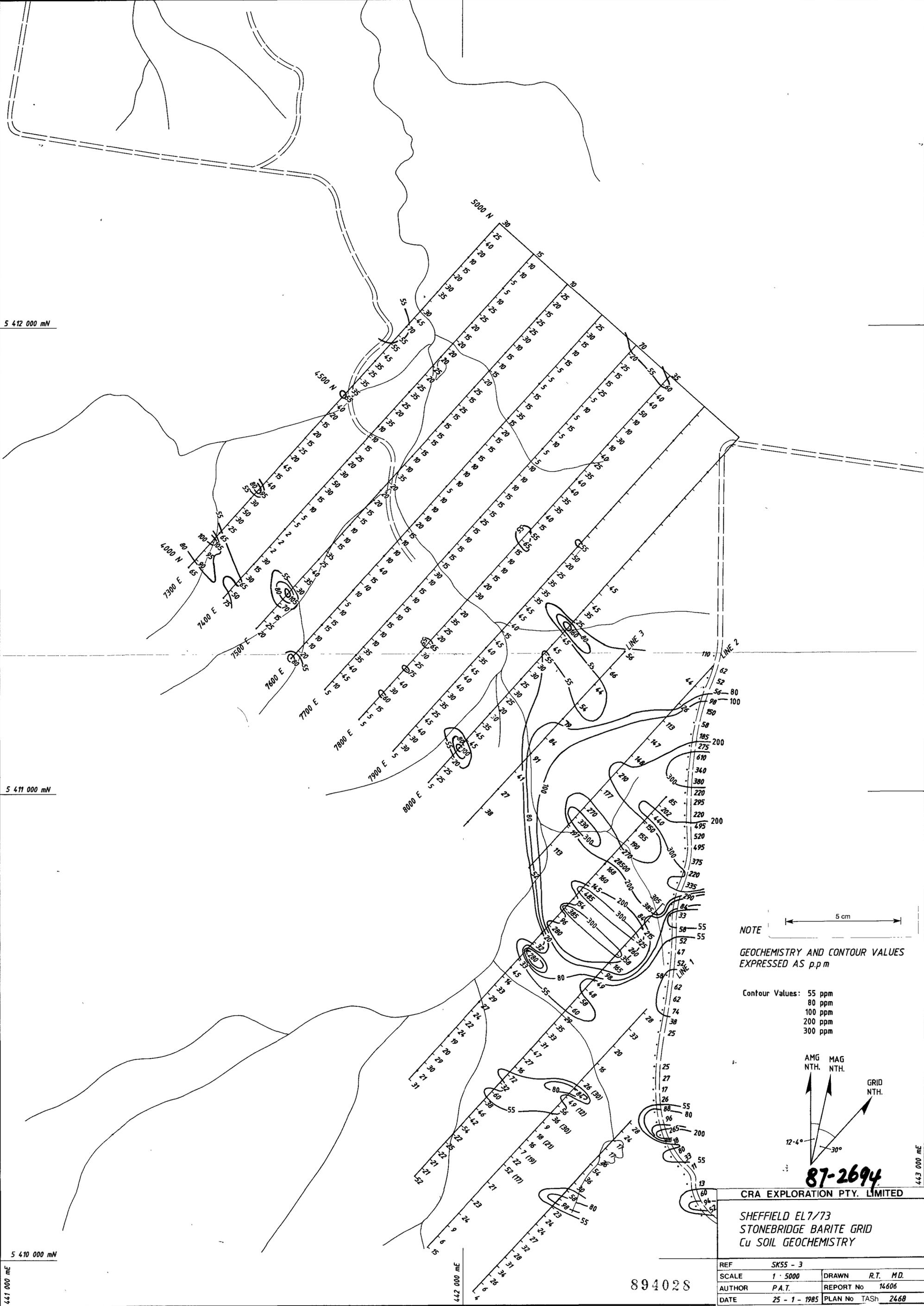
5 412 000 mN

5 411 000 mN

5 410 000 mN

4441 000 mE

442 000 mE

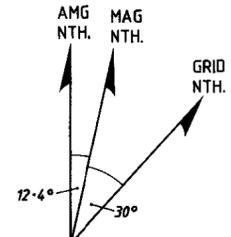


NOTE

5 cm

GEOCHEMISTRY AND CONTOUR VALUES EXPRESSED AS ppm

- Contour Values: 55 ppm
- 80 ppm
- 100 ppm
- 200 ppm
- 300 ppm



87-2694

CRA EXPLORATION PTY. LIMITED

SHEFFIELD EL7/73
 STONEBRIDGE BARITE GRID
 Cu SOIL GEOCHEMISTRY

REF	SK55 - 3	
SCALE	1 : 5000	DRAWN R.T. M.D.
AUTHOR	P.A.T.	REPORT No 14606
DATE	25 - 1 - 1985	PLAN No TASH 2468

894028

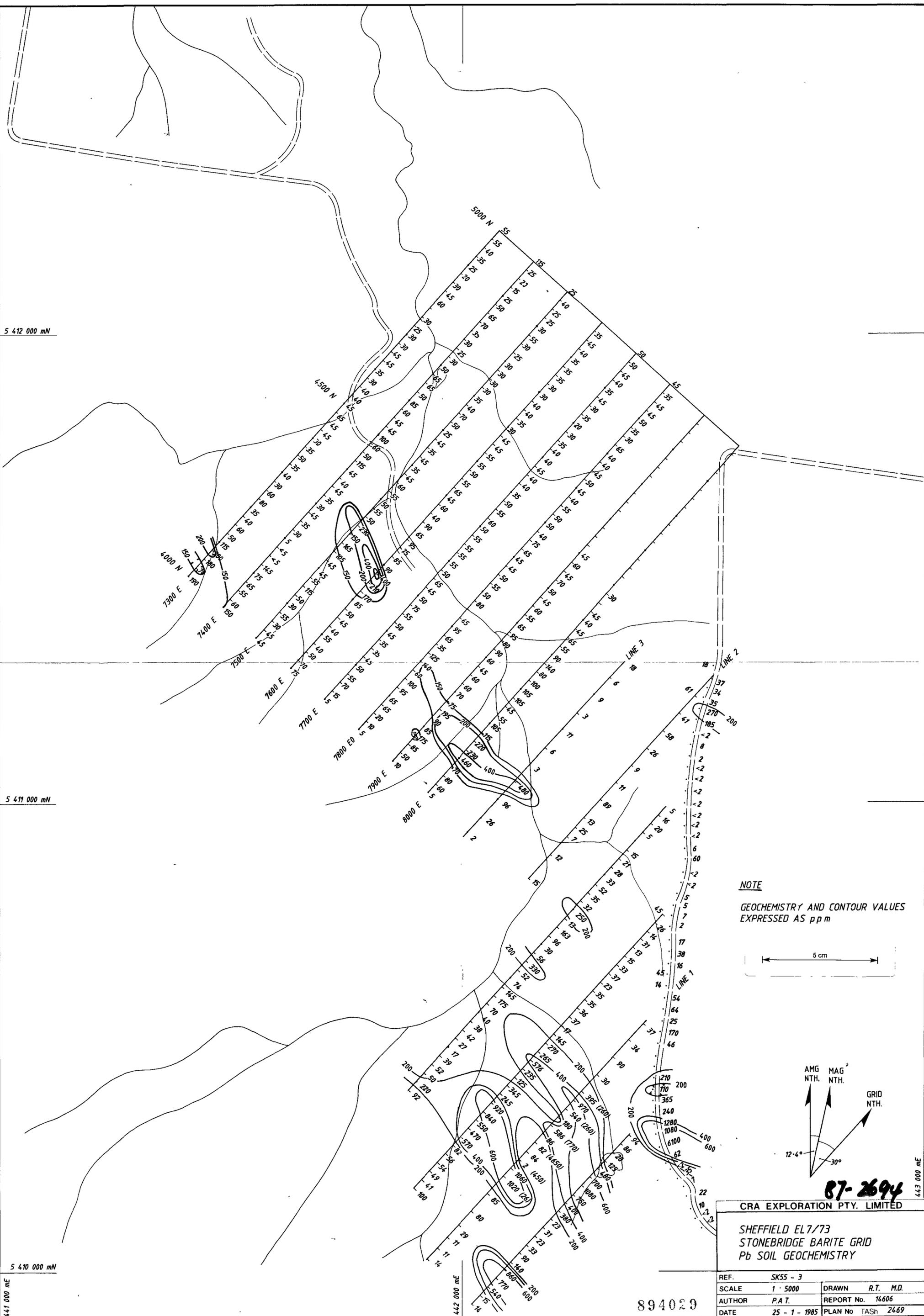
5 412 000 mN

5 411 000 mN

5 470 000 mE

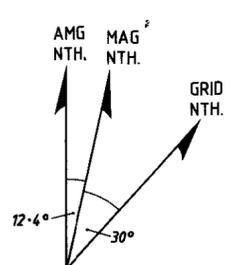
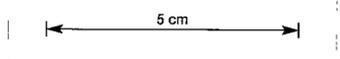
441 000 mE

443 000 mE



NOTE

GEOCHEMISTRY AND CONTOUR VALUES EXPRESSED AS ppm



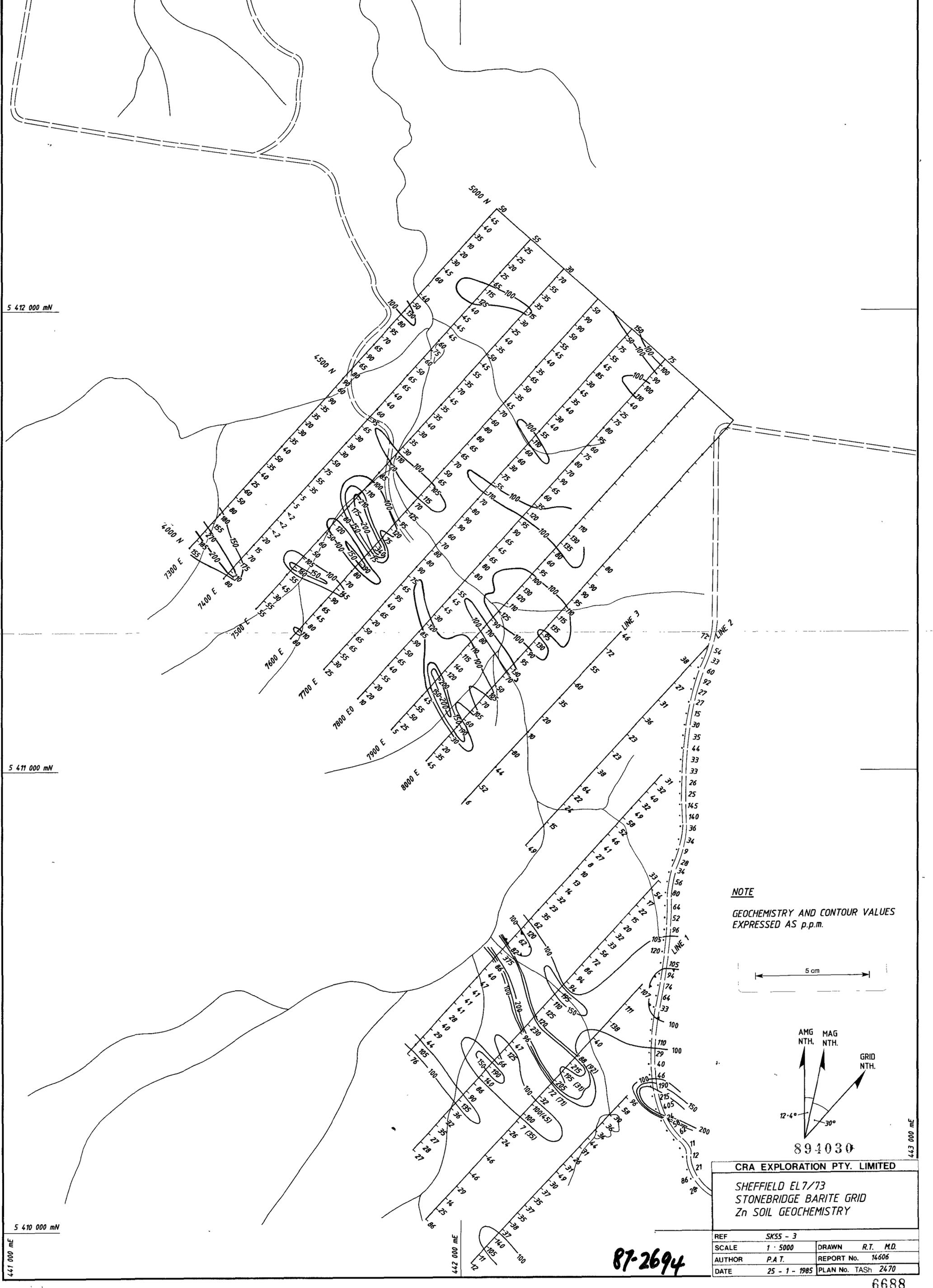
87-2694

CRA EXPLORATION PTY. LIMITED

SHEFFIELD EL7/73
STONEBRIDGE BARITE GRID
Pb SOIL GEOCHEMISTRY

REF.	SK55 - 3	
SCALE	1 : 5000	DRAWN R.T. M.D.
AUTHOR	P.A.T.	REPORT No. 14606
DATE	25 - 1 - 1985	PLAN No. TASH 2469

894029



5 412 000 mN

5 411 000 mN

5 410 000 mN

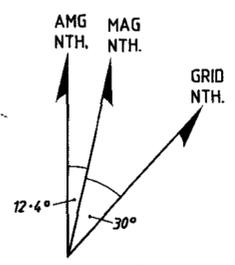
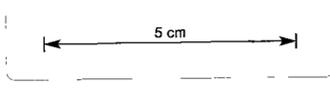
441 000 mE

442 000 mE

443 000 mE

NOTE

GEOCHEMISTRY AND CONTOUR VALUES EXPRESSED AS p.p.m.



894030

CRA EXPLORATION PTY. LIMITED

SHEFFIELD EL7/73
STONEBRIDGE BARITE GRID
Zn SOIL GEOCHEMISTRY

REF	SK55 - 3	DRAWN	R.T. M.D.
SCALE	1 : 5000	REPORT No.	14606
AUTHOR	P.A.T.	PLAN No.	TASh 2470
DATE	25 - 1 - 1985		

87-2694

5 412 000 mN

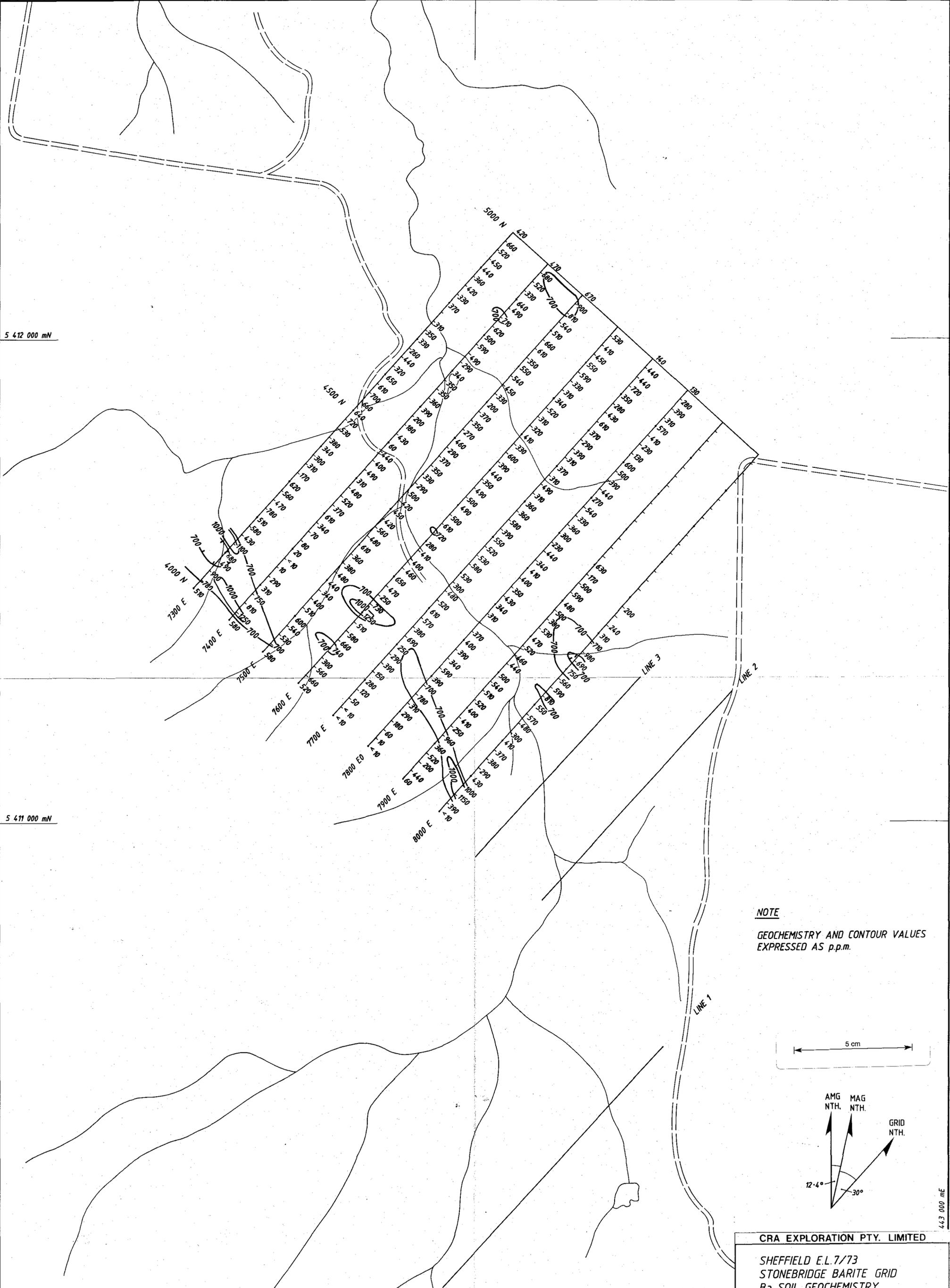
5 411 000 mN

5 410 000 mN

441 000 mE

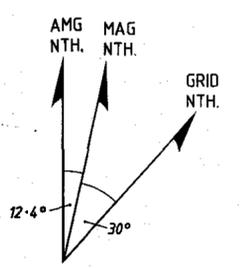
442 000 mE

443 000 mE



NOTE

GEOCHEMISTRY AND CONTOUR VALUES EXPRESSED AS p.p.m.



CRA EXPLORATION PTY. LIMITED

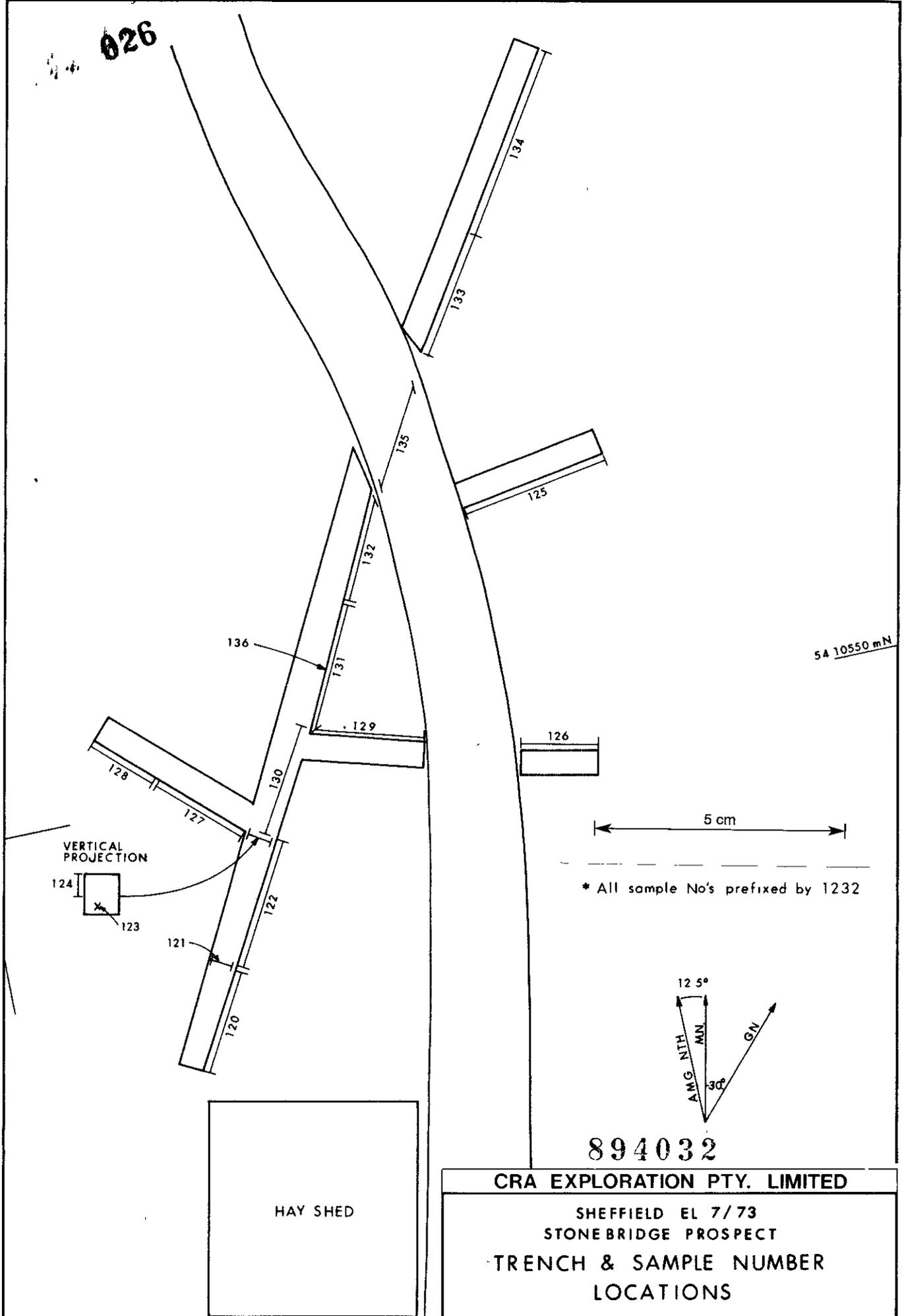
SHEFFIELD E.L. 7/73
STONEBRIDGE BARITE GRID
Ba SOIL GEOCHEMISTRY

894031

87-2694

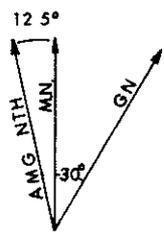
REF.	SK55 - 3	
SCALE	1 : 5000	DRAWN R.T. M.D.
AUTHOR	P.A.T.	REPORT No. 14606
DATE	25 - 1 - 1985	PLAN No. TASH 2471

026



5 cm

* All sample No's prefixed by 1232



894032

HAY SHED

CRA EXPLORATION PTY. LIMITED	
SHEFFIELD EL 7/73 STONEBRIDGE PROSPECT	
TRENCH & SAMPLE NUMBER LOCATIONS	
REF SK55-3	(8115)
SCALE 1:200	DRAWN TN
AUTHOR FRF	REPORT No. 14606
DATE 23-3-86	PLAN No. TASH 3359

AA2400ME

87-2694

025

KEY



Gossan - strongly developed



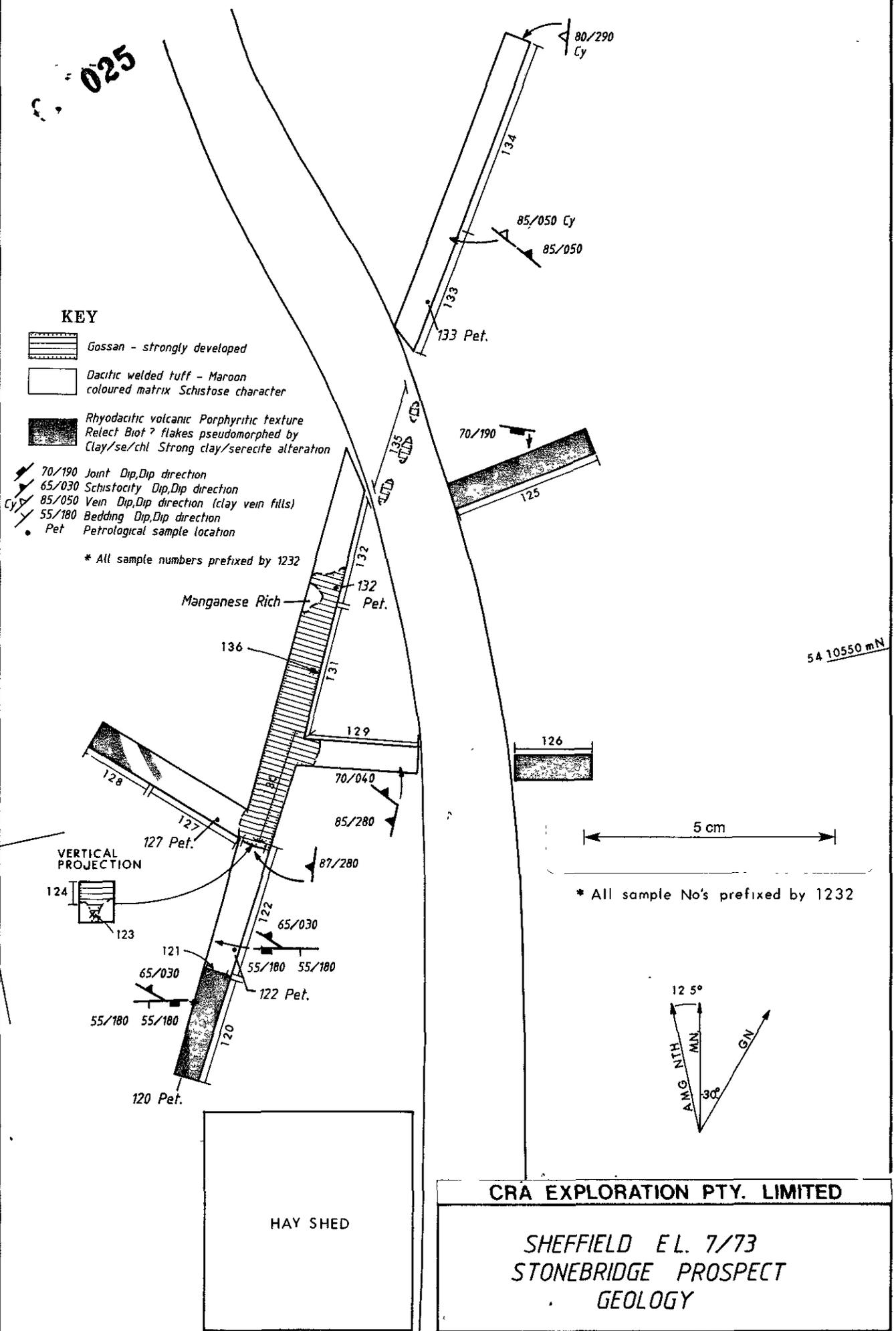
Dacitic welded tuff - Maroon coloured matrix Schistose character



Rhyodacitic volcanic Porphyritic texture
Relect Biot ? flakes pseudomorphed by
Clay/se/chl Strong clay/sericite alteration

- 70/190 Joint Dip, Dip direction
- 65/030 Schistosity Dip, Dip direction
- 85/050 Vein Dip, Dip direction (clay vein fills)
- 55/180 Bedding Dip, Dip direction
- Pet Petrological sample location

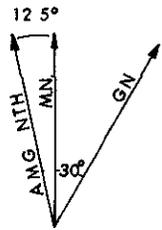
* All sample numbers prefixed by 1232



54 10550 mN

5 cm

* All sample No's prefixed by 1232



HAY SHED

894033

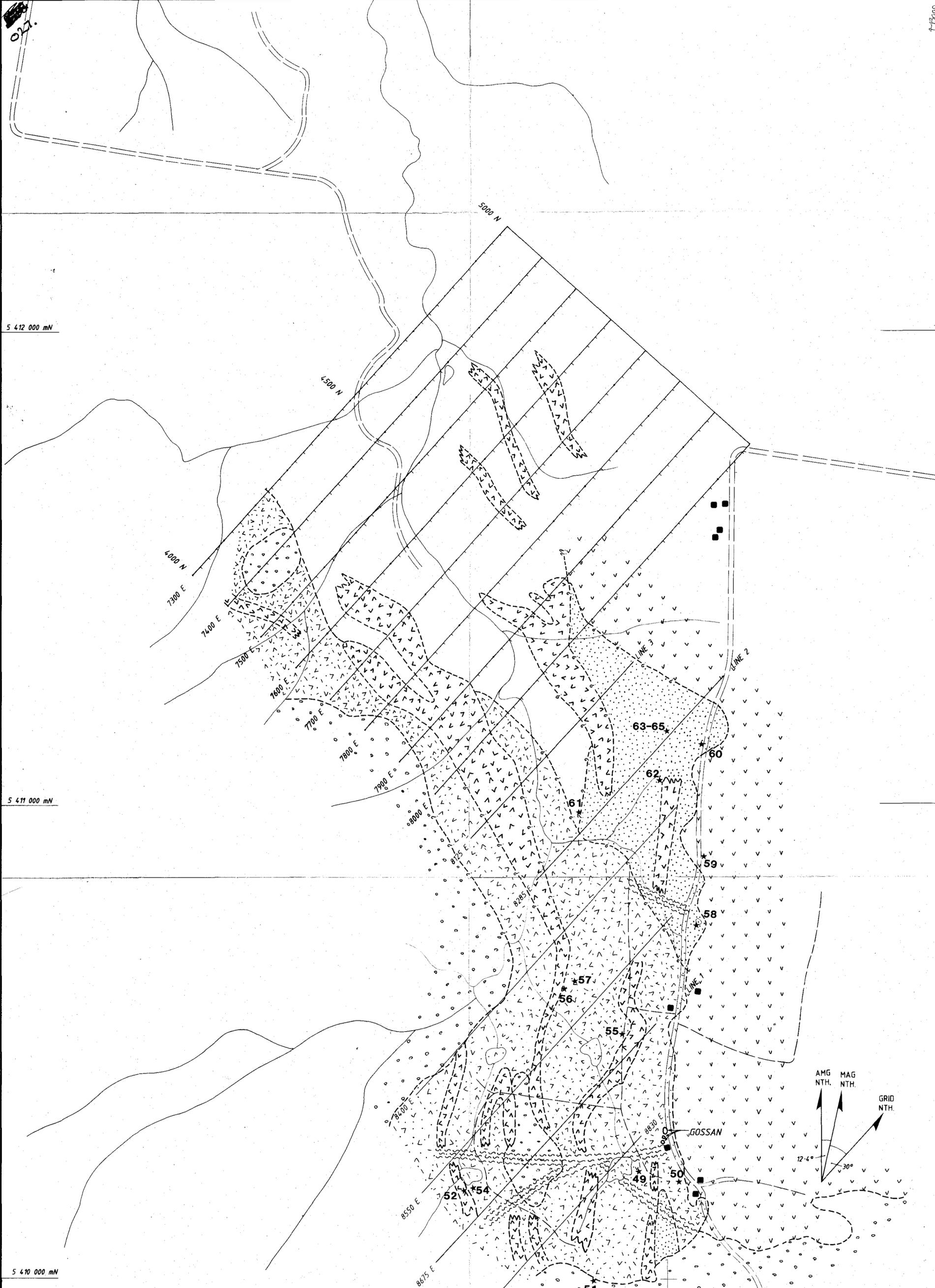
87-2694

442400 mE

CRA EXPLORATION PTY. LIMITED

SHEFFIELD E.L. 7/73
STONEBRIDGE PROSPECT
GEOLOGY

REF	SK55 - 3	(8115)
SCALE	1 : 200	DRAWN R.T.
AUTHOR	F.R.F	REPORT No. 14606
DATE	15 - 7 - 1987	PLAN No. TASH 3466



021.

7-12-86

S 412 000 mN

S 411 000 mN

S 410 000 mN

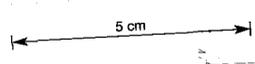
- Tertiary basalt
- Matrix rich tuffs: feldspar rich with minor quartz: foliated. Often has spotted appearance with white clasts in maroon matrix.
- Tuffaceous and micaceous sandy unit.
- Mafic phenocryst rich intermediate volcanic: magnetic.
- Conglomerate

Shear Zone postulated from ground magnetics

★ 62 Sample Number ■ Building

* N.B. *
All sample numbers
have 12316..... prefix.

894034



87-2694

CRA EXPLORATION PTY. LIMITED	
SHEFFIELD E.L. 7/73 STONEBRIDGE BARYTE GRID GEOLOGICAL INTERPRETATION PLAN	
REF. SK55 - 3	(814 - 815)
SCALE 1 : 5000	DRAWN R.T.
AUTHOR S.J.C.	REPORT No. 14606
DATE 29 - 1 - 1986	PLAN No. TASH 3148

44/000