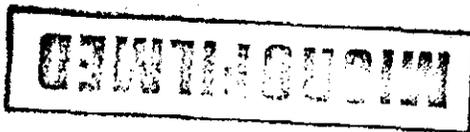


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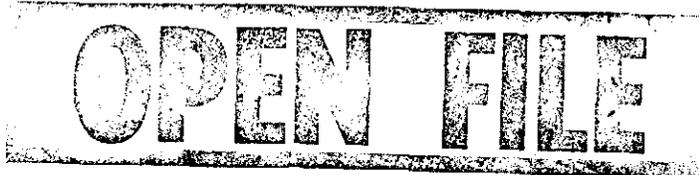


CRA EXPLORATION PTY LTD

MINES	
File Ref.	EL 41/85
13 JUL 1987	
Doc. Ref.	
Action Officer	Initials
LETTER	
8. 7. '87	
REFERS.	
Resubmit to	Date

EL 41/85 HATFIELD RIVER

REPORT ON EXPLORATION FOR 12 MONTHS TO 14 AUGUST 1987



Author: W A Sheppard

Date: 17 June 1987

Submitted to: T W Dickson

Accepted by:

Copies: CRAE Hobart
CRAE Canberra
Department of Mines,
Tasmania

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REPORT NO: 14541

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1. SUMMARY

The Hatfield River EL 41/85 was acquired to test two targets. First, reported Pb/Zn stream sediment anomalies within the Dundas Group sediments were identified as shale hosted Pb/Zn targets. Second, the volcanic-sediment contact in the southeast was identified as an area with a potential for stockwork gold and volcanogenic massive sulphide targets. Drainage geochemical sampling of the EL by CRA Exploration produced disappointing results. If rock geochemical sampling of a carbonate alteration zone adjacent to the volcanic sediment contact fails to detect anomalous base metal or gold values then the EL should be relinquished.

2. INTRODUCTION

This report describes work carried out on EL 41/85 for the year ending 14 August 1987.

The EL (43km²) occurs some 10 km due north of Tullah, west of the Murchison Highway (plan TASH 2831). It is underlain for the most part by Dundas Group sediments with Mt Read volcanics confined to the southeast of the EL.

A stream geochemical survey was carried out over the entire EL. The targets being sought were shale hosted Pb/Zn within the Dundas Group Sediments and stockwork gold and volcanogenic massive sulphide targets at the volcanic-sediment contact in the southeast.

2.

3. CONCLUSIONS

Results of stream geochemical sampling were disappointing. The only anomaly of significance was a value of 4300 ppt Au from a cyanide leach sample, this did not repeat however.

Carbonate alteration discovered during stream sampling remains the sole feature of interest within the EL. This requires rock geochemical sampling.

4. RECOMMENDATIONS

An aggressive programme of rock chip sampling should be undertaken in the vicinity of all known carbonate alteration close to the sediment-volcanic contact in the southeast of the EL. If this does not discover high background or anomalous Au or base-metal geochemistry the EL should be relinquished. Positive results on the other hand should lead to geophysical testing to define drill targets.

5. GEOLOGY (See also Appendix 1)

The rocks within the EL include Mt Read Volcanics and Dundas Group Sediments. Dips are predominantly to the northwest. (plan TASH 3020).

5.1 Mt Read Volcanics

Mt. Read Volcanics are confined to the southeast of the EL. The dominant lithology within the volcanics is a medium grained, feldspar and quartz phyric felsic lithology with abundant volcanic lithics (<20 cms). These lithics are prominent on weathered surfaces. Two medium grained quartz feldspar porphyry bodies were identified. These showed weak compositional banding and had a weakly chloritic groundmass.

5.2 Dundas Group Sediments

Two units of Dundas Group Sediments were identified. First, an eastern sequence of interlayered siltstone, tuffaceous sandstone, crystal lithic tuffs and minor carbonates was defined. This unit close to the volcanics was distinguished by its high proportion of volcanic detritus. Second, a unit of more typical Dundas Group sediments. This unit included siltstones, greywackes, mudstone, conglomerate and minor quartz conglomerates and sandstone.

Stratigraphy-parallel magnetic anomalies within the sediments (plan TASH 2936) were field checked. These were explained by magnetitic crystal lithic tuffs and a pebble conglomerate with fine grained magnetite in the matrix.

The contact between the volcanics and sediments appears to be conformable. The main contact features of interest are brecciated carbonates and carbonate veining with minor pyrite.

6. PREVIOUS EXPLORATION (plan TASH 3448)

The area was previously held as part of EL 5/63 by Comstaff.

Drainage geochemistry (total coverage but limited Pb determinations and rare Au assays) and INPUT-EM surveys identified anomalies for follow-up. Aeromagnetics were also flown but not integrated into the follow-up.

Drainage anomalies:

C3 (HI): Zn anomaly. Detailed resampling, soil sampling and mapping was done. Crimson Creek (Dundas Group) sediments were located but no anomalous geochemistry. Implication of possible basalt contamination.

C2 (Hatfield Soil sampling located anomalous Ba, Zn & Pb Zinc in soils over a suite of black shales and Anomaly): greywackes. Not regarded as encouraging and dropped.

BUL 1 (Q1): Pb, Cu, Zn) Attributed to contamination

BUL 2 (Q2): Pb (Cu, Zn)) from railway

BUL 3 (Q3): Pb (Cu, Zn))

BUL 4 (Q4): Pb. Offset from the railway. Soil sampling failed to locate any anomalies over the greywackes and black shales of the area.

INPUT-EM:

Anomaly CAH: Attributed to the railway (by Geoterrex); as being low bird height by Comstaff.

Aeromagnetics:

No interpretation of the magnetics appears to have been done. One anomaly identified was written off as having no Sn-potential.

7. GEOCHEMISTRY

A total of 33 sites were stream geochemically tested (plan TASH 3019). At each site a -80# and -4# sample was collected, the latter for cyanide leach Au analysis. Results are shown on plan TASH 3101.

Base metal values for all samples were disappointing, previously reported Zn anomalies could not be repeated. One stream in the west of the EL returned 4300 ppt from cyanide leach analysis. This creek was checked at two additional sample points. The cyanide leach value was not repeated. The sample upstream of the original site however gave 105 ppb Au from a -80# sample. Given the small size of the creek these results are regarded as of limited interest.

8. GEOPHYSICS

Interpretation of airborne geophysical data (plan TASH 2936) highlighted the presence of magnetitic horizons within the Dundas sediments. No similar trends were identified within the volcanics. A number of northwest trending features were also identified. These coincide with topographic features and are interpreted as faults or shears.

9. LOCATION

Burnie 1:250 000 Sheet SK5503

6.

10. KEYWORDS

Cambrian, Volcanics, Sediments, Geochem-drainage,
Geophysics-aeromagnetics

11. LIST OF PLANS

TASh 3080	HATFIELD RIVER EL 41/85 Location Plan	1:1 000 000
TASh 2831	Application for Exploration Licence HATFIELD RIVER Area 43 Sq Km (Approx)	1:100 000
TASh 3020	HATFIELD RIVER EL 41/85 Geological Sketch Plans	1:25 000
TASh 3019	HATFIELD RIVER EL 41/85 Stream Sediment and Rock Sample Sites	1:25 000
TASh 3101	HATFIELD RIVER EL 41/85 Stream Sediment Geochemistry Results	1:25 000
TASh 2936	HATFIELD RIVER EL 41/85 Aeromagnetic Interpretation	1:25 000
TASh 3448	HATFIELD RIVER EL 41/85 Targets based on previous exploration	1:50 000

12. APPENDICES

Appendix 1 Stream Sediments and Geological Reconnaissance
EL 41/85 - HATFIELD RIVER - April 1986
Roger Poltock Geological Pty Ltd

Appendix 2 Stream Sediment Sample Data Sheets

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APPENDIX 1

STREAM SEDIMENTS AND GEOLOGICAL RECONNAISSANCE

EL 41/85 - HATFIELD RIVER, APRIL 1986,

by Roger Poltock Geological Pty. Ltd.

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STREAM SEDIMENTS AND GEOLOGICAL RECONNAISSANCE

EL 41/85 - Hatfield River

April, 1986

Roger Poltock Geological Pty. Ltd.

FOR

C.R.A. Exploration Pty. Ltd.

PHOTOS

1. Felsic ignimbrite. Rock No. 974789.
2. Quartz feldspar porphyry. Rock No. 974789.
3. Dundas Group tuffaceous sandstone. Rock No. 974781.
4. Dundas Group crystal lithic tuff. Rock No. 974782.
5. Dundas Group carbonate breccia. Rock No. 974787.
6. Dundas Group crystal lithic tuff with magnetite. Rock No. 974783.
7. Dundas Group jasper grit - pebble conglomerate with magnetite. Rock No. 974785.
8. Carbonate veining and alteration with minor pyrite. Rock No. 974788.

PLANS

- TASh 2932 - Geology and Sample Locations - Scale 1:25,000
TASh 2935 - Aeromagnetic Plan

REFERENCE

- Corbett, K.D., 1984, Geological Survey of Tasmania, Geological Compilation
Map of the Mt. Read Volcanics.

INTRODUCTION

During April 1986 eleven field days were spent collecting active stream sediments, both -80# and 5 kg -4# samples, the latter for gold determination via cyanide leach.

In conjunction with the sampling reconnaissance and detailed mapping traverses were completed in the eastern sector of the E.L. in the vicinity of Que River and the Emu Bay Railway.

Aim of mapping:

- a) define nature of the Mt. Read Volcanics contact with Dundas Group sediments.
- b) determine the source of magnetic anomalies in the eastern sector of the E.L.
- c) test the potential of Dundas Group shales to host Pb-Zn mineralization.

SUMMARY

1. -80# and -4# active stream sediments collected at 31 sites (see Plan TASH 2932).
2. The contact between the Mt. Read Volcanics and the Dundas Group is sharply defined, abundant volcanic detritus occurring in the Dundas Group but absence of volcanic units. A brecciated carbonate with minor pyrite being the only significant feature of this contact zone.
3. Minor detrital? magnetite in medium-coarse grained Dundas Group sediments in the vicinity of the volcanic contact is considered to be the source of the disturbed magnetic features in this area (see Plan TASH 2935).
4. The Dundas Group appears to be devoid of shale hosted sulphide mineralization, only minor grey-black shales being located.

LITHOLOGIES

(See Plan TASH 2932)

1. Felsic ignimbrite

This is the dominant rock type of the Mt. Reads in this area, exposed along the E.B.R. line and forestry roading at Bulgobac.

Typically it is medium grained, feldspar and quartz phyric with abundant volcanic lithics <20 cm, the latter being most prominent on weathered surfaces.

This unit is interpreted to be an airfall tuff or ignimbrite.

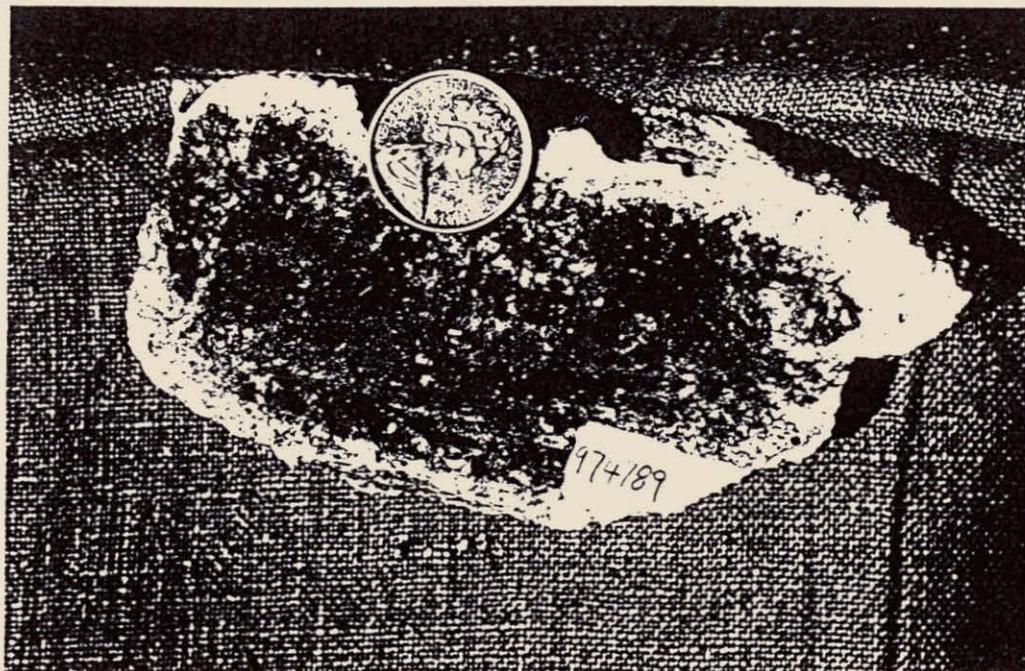


Photo 1. Felsic ignimbrite. Rock No. 974789

2. Quartz feldspar porphyry

Only two bodies of this located, the main rock type is medium grained quartz feldspar porphyry, phenocrysts set in a fine grained slightly chloritic ground mass.

Compositional banding and the shape of porphyry bodies (see Plan TASH 2932) suggests that the unit is extrusive, possibly a lava or variant of the ignimbrite. The massive nature of outcrops and regular jointing are the only features in common with intrusives.

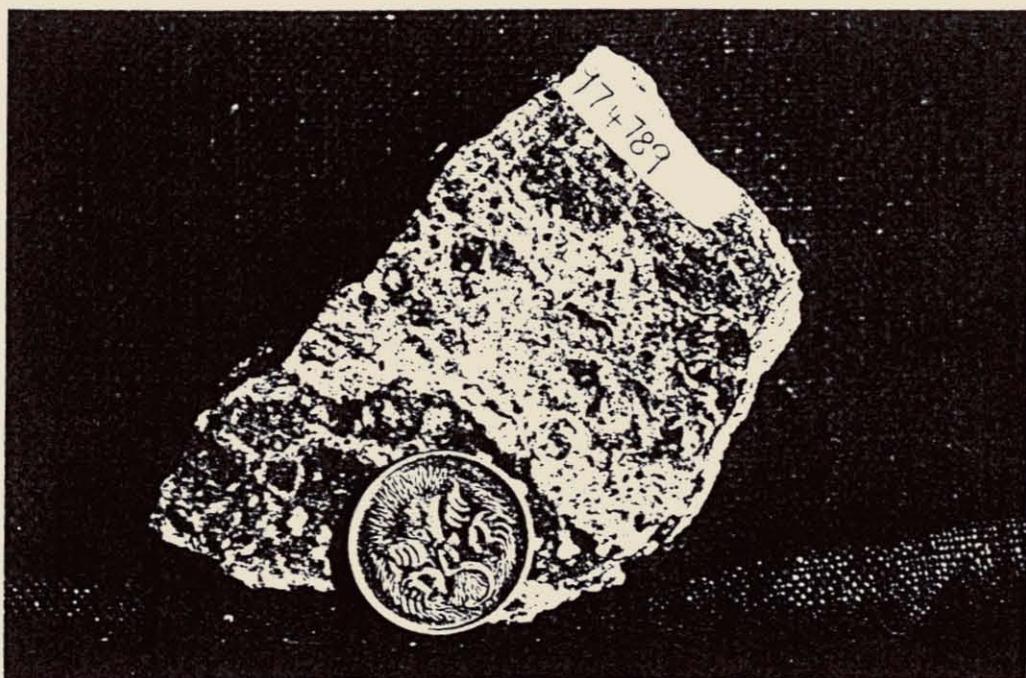


Photo 2. Quartz feldspar porphyry. Rock No. 974789.

3. Dundas Group Sediments

This group has been broadly subdivided on the basis of proportion of volcanic detritus, reflecting proximity to volcanic source rocks.

- a) Eastern sequence, overlies the Mt. Read Volcanics, consists of inter-layered siltstone, tuffaceous sandstone, crystal lithic tuffs and minor carbonates.

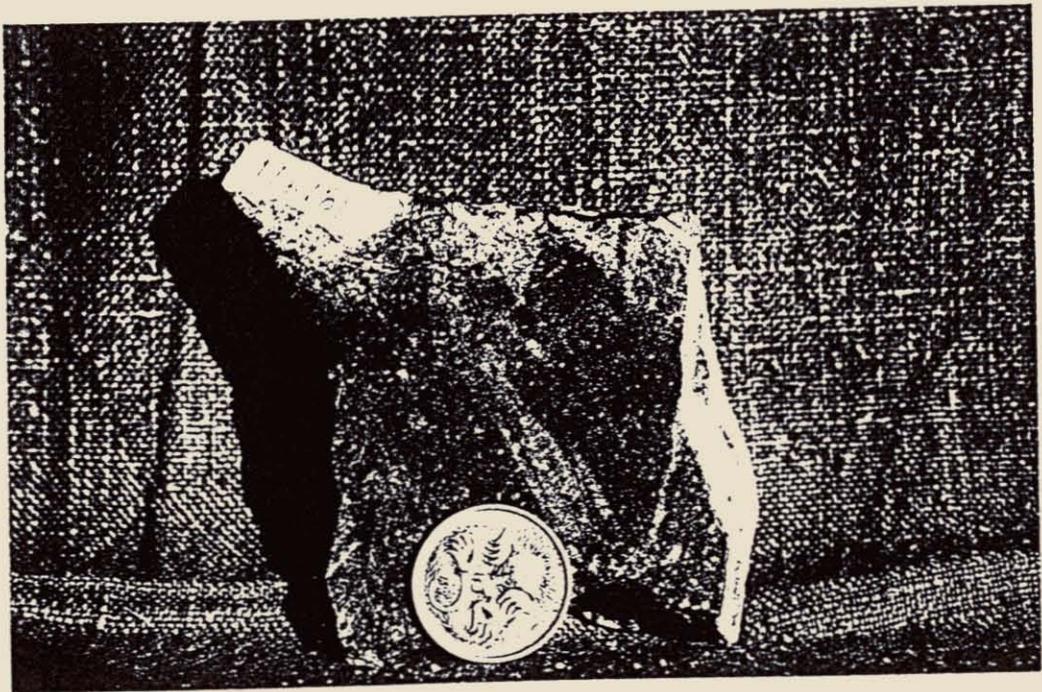


Photo 3. Dundas Group Tuffaceous Sandstone. Rock No. 974781

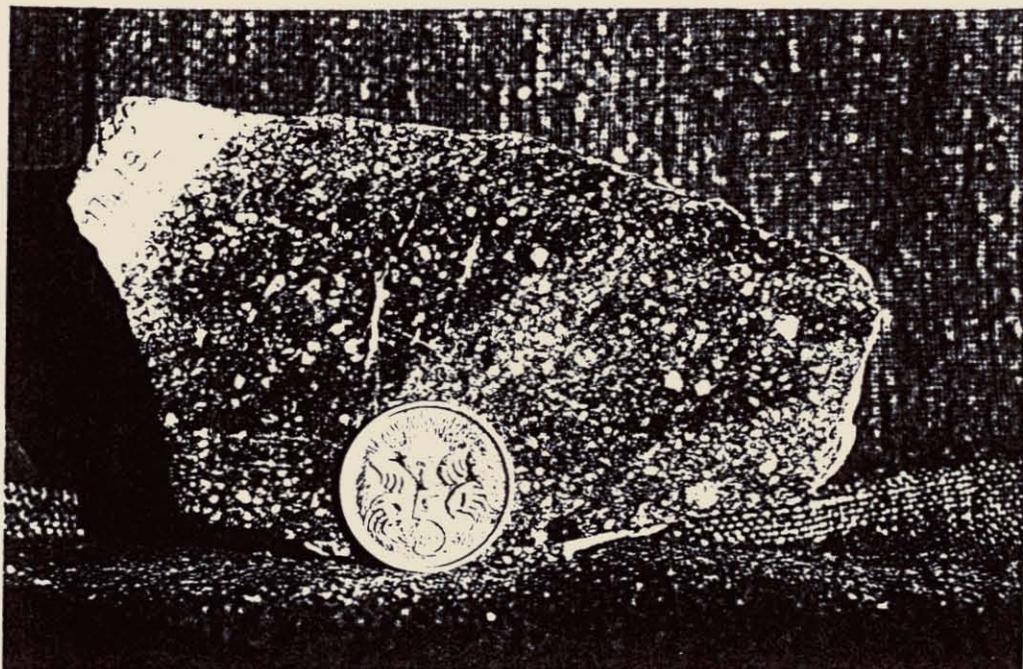


Photo 4. Dundas Group Crystal Lithic Tuff. Rock No. 974782.

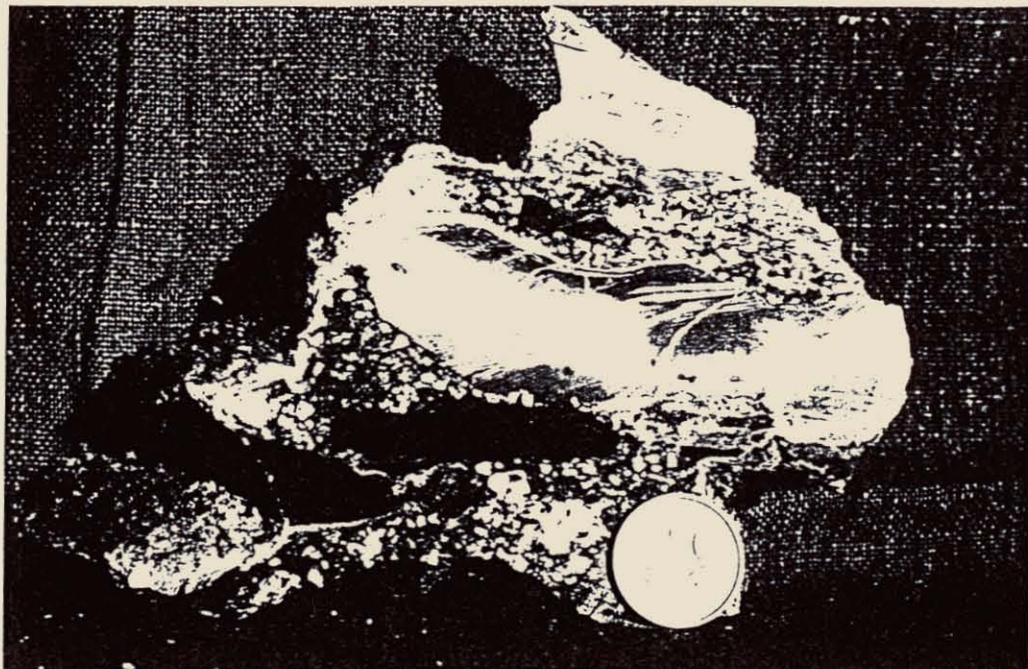


Photo 5. Carbonate Breccia. Rock No. 974787.

- b) Lower Que River/Hatfield River sequence, these sediments are more typical of the Dundas Group consisting of siltstone, greywacke, mudstone conglomerate with minor quartzose conglomerate and sandstone. Geological detail wasn't collected in this area, stream float was checked at each sample site for anything of interest. Lithologies are as mapped by Corbett 1984.

MAGNETICS

see Plan TASH 2936

1. Bulgobac anomaly

No magnetite bearing units were located in this area of ignimbrite and porphyry outcrop. The anomaly is interpreted to be due to a deep non-outcropping source.

2. Disturbed magnetic trends in Dundas Group sediments near volcanic contact

Two magnetite bearing units were located in the Que River Traverse.

- a) Crystal lithic tuff, medium grained, grey green slightly chloritic, with scattered grains of magnetite and fine grained aggregates of pyrite. The magnetite is interpreted to be detrital grains, this and the chloritic nature of the sediment may indicate an intermediate basic volcanic source for the sediment.

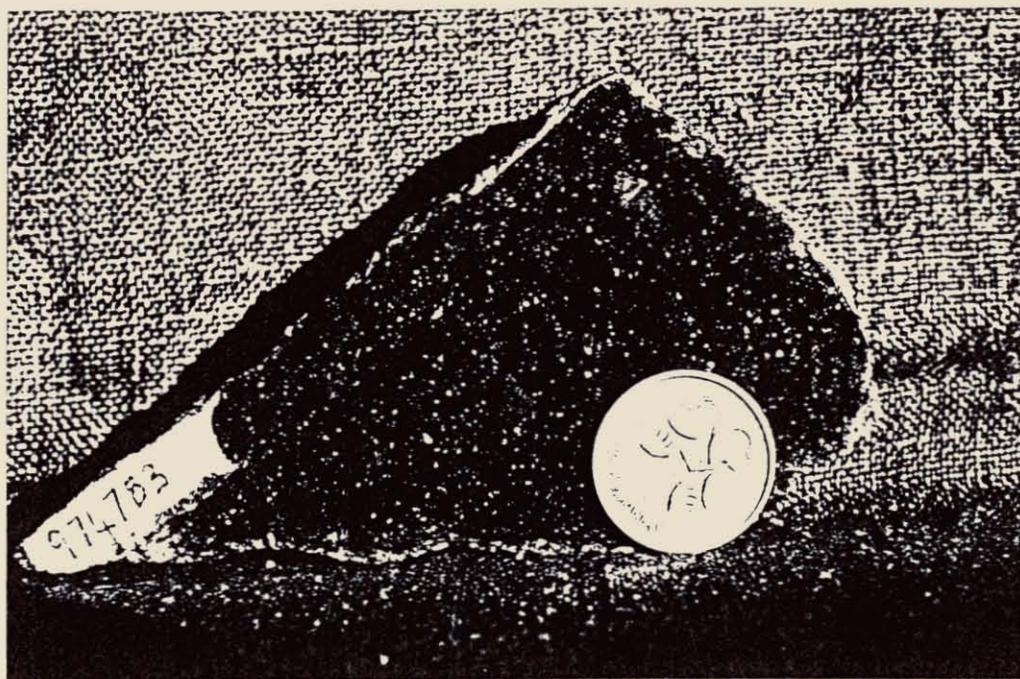


Photo 6. Dundas Group Crystal lithic tuff with magnetite. Rock No. 974783.

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- b) Jaspergrit - pebble conglomerate with fine grained magnetite in matrix.

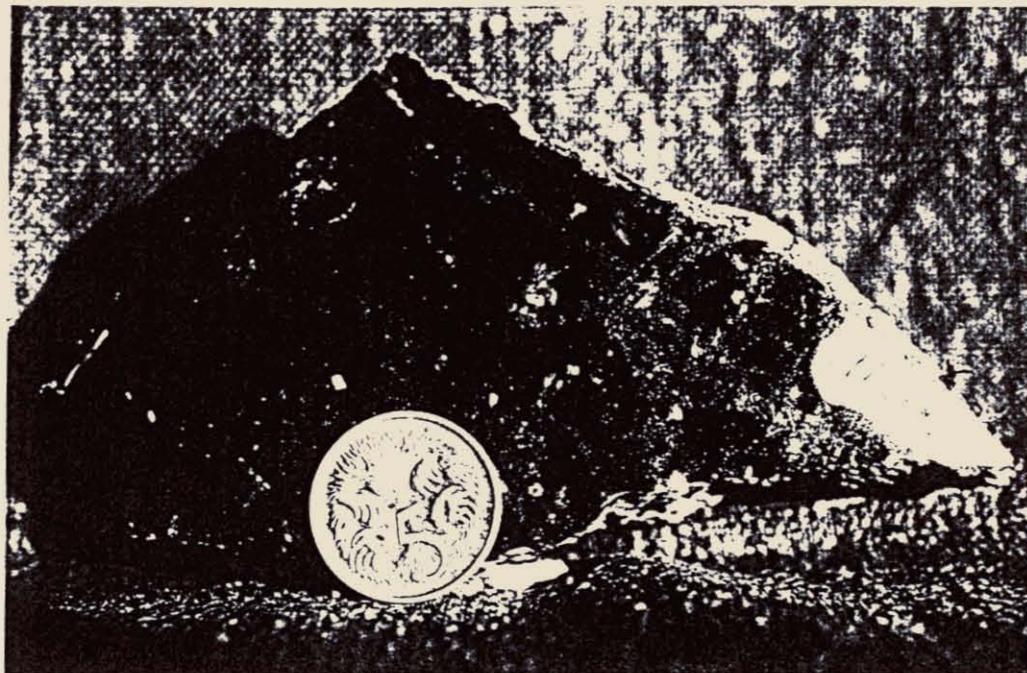


Photo 7. Dundas Group Jasper grit with magnetite. Rock No. 974785.

3. NW trending dislocations in magnetics

These inferred faults weren't located on the ground, but linears with a similar NW trend can be seen on topographic plans, possibly reflecting a major joint direction.

ALTERATION - MINERALIZATION

The contact between the volcanics and Dundas Group appears to be conformable, sedimentary layering is regular. Significant deformation or alteration not apparent.

Brecciated carbonates and carbonate veining with minor pyrite being the only feature of interest in the area.

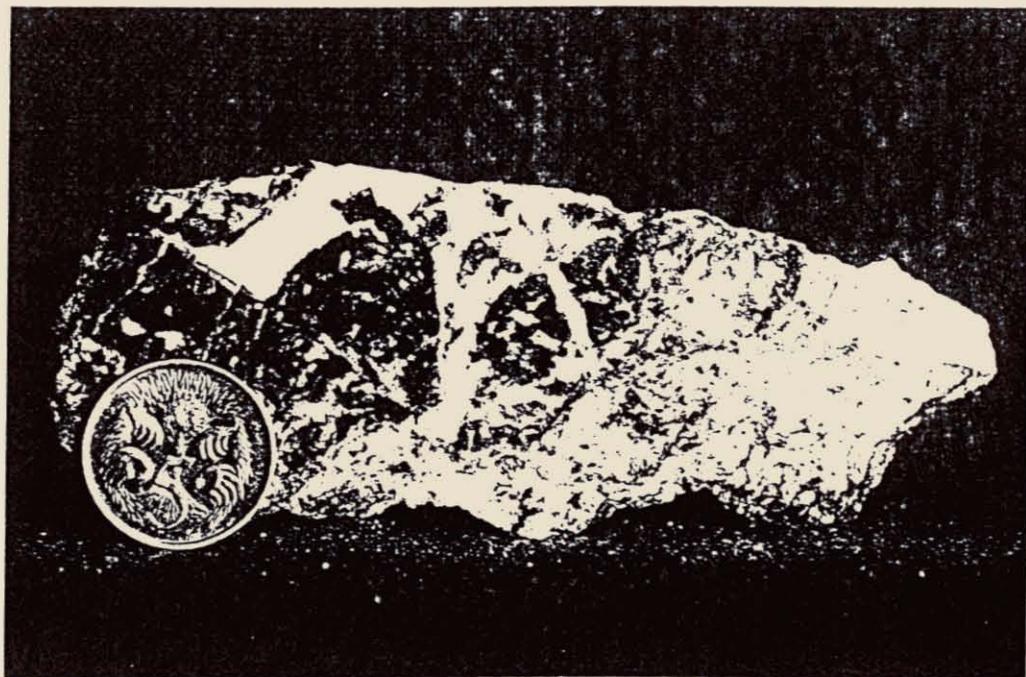


Photo 8. Carbonate veining and alteration with minor pyrite.

Rock No. 974788

APPENDIX 2

STREAM SEDIMENT SAMPLE DATA SHEETS

022

CRA EXPLORATION PTY. LTD.

SAMPLE NUMBER	LOCATION		Sample Type	ANALYSES								Geological Observations		
	Easting	Northing		Cu	Pb	Zn	Ag	As	Fe (%)	Mn	Au (ppb)	Au CN (ppb)		
970421 422	381220	5397400	-4#									350		
			-80#	10	55	60	<1	12	1.78	460	<3			
970423 424	380505	5396220	-4#									150		
			-80#	10	175	170	<1	17	3.00	1450	<3			
970425 426	379900	5396000	-4#									100		
			-80#	10	90	110	<1	2	2.00	810	<3			
970427 428	379860	5395690	-4#									150		
			-80#	5	60	70	<1	11	1.54	730	<3			
970429 430	379605	5395760	-4#									150		
			-80#	15	65	60	<1	14	2.96	790	<3			
970431 432	379310	5396420	-4#									50		
			-80#	10	65	65	<1	14	3.05	490	<3			
970433 434	378795	5396020	-4#									100		
			-80#	10	60	70	<1	14	2.70	400	<3			
DETECTION LIMIT				2	5	2	1	1	0.01	5	3	50		
ANALYTICAL METHOD														

Project : <u>QUEENSTOWN - ZEEHAN</u>	1 : 250 000 Sheet : <u>BURNIE</u>	AMG Zone :	Sheet No. : <u>1/6</u>
Tenement : <u>HATFIELD EL 41/85</u>	DPO's : <u>32024, 32026</u>		Laboratory : <u>ALS + AMDEL</u>
Area / Prospect : <u>DEEPAWAL STRONG SEDIMENTS</u>			Collected By : <u>D PALOCK</u> Date : <u>April 1986</u>

915023

023

CRA EXPLORATION PTY. LTD.

SAMPLE NUMBER	LOCATION		Sample Type	ANALYSES									Geological Observations	
	Easting	Northing		Cu	Pb	Zn	Ag	As	Fe (%)	Mn	Au (ppb)	AN Leach (ppt)		
D0435 436	378575	5395910	-4#									150		
			-80#	10	60	75	<1	12	2.96	710	<3			
D0437 438	378330	5395460	-4#									150		
			-80#	20	90	105	<1	21	4.44	910	<3			
D0439 440	378695	5396840	-4#									100		
			-80#	10	85	85	<1	17	3.60	140	<3			
D0441 442	378615	5396800	-4#									100		
			-80#	10	60	80	<1	14	2.86	570	<3			
D0443 444	382990	5389690	-4#									<50		
			-80#	<5	30	10	<1	5	0.28	140	<3			
D0445 446	383060	5389050	-4#									<50		
			-80#	<5	90	20	<1	12	0.66	560	<3			
D0447 448	383080	5390480	-4#									<50		
			-80#	<5	45	35	<1	8	0.45	30	<3			
DETECTION LIMIT				2	5	2	1	1	0.01	5	3			
ANALYTICAL METHOD				K-580										

Project : QUEENSTOWN-ZEEHAN 1 : 250 000 Sheet : BURNIE AMG Zone : _____ Sheet No. : 2/6

Tenement : HATFIELD EL 41/85 DPO's : 32024, 32026 Laboratory : ALS + AMDEL

Area / Prospect : DECIMAL STREAM SEDIMENTS Collected By : D. Murray Date : Aug 2006

915024

CRA EXPLORATION PTY. LTD.

SAMPLE NUMBER	LOCATION		Sample Type	ANALYSES								Geological Observations		
	Easting	Northing		Cu	Pb	Zn	Ag	As	Fe (%)	Mn	Au (ppb)	Au CN leach (ppt)		
989049 450	380420	5392820	-4#									50		
			-80#	<5	80	55	<1	11	1.22	570	<3			
989073 074	380470	5392790	-4#									200		
			-80#	<5	75	70	<1	12	1.61	670	<3			
989075 076	380840	5392450	-4#									<50		
			-80#	<5	70	50	<1	7	1.50	1100	<3			
989077 078	381580	5391910	-4#									100		
			-80#	10	135	350	<1	17	2.63	510	<3			
989079 080	381695	5391640	-4#									100		
			-80#	<5	55	60	<1	11	0.77	135	<3			
989081 082	381625	5391450	-4#									<50		
			-80#	<5	55	25	<1	10	0.47	105	<3			
989083 084	381525	5391470	-4#									<50		
			-80#	<5	65	40	<1	10	1.13	400	<3			
DETECTION LIMIT				2	5	2	1	1	0.01	5	3	50		
ANALYTICAL METHOD				IC-580										

Project : QUEENSTOWN - ZEEHAN	1 : 250 000 Sheet : BURNIE	AMG Zone :	Sheet No. : 3/6
Tenement : HATFIELD EL 41/85	DPO's : 32024, 32026		Laboratory : ALS + AMDEL
Area / Prospect : DE MINERALISED SEDIMENTS			Collected By : R POLLOCK Date : April 1986

915025

CRA EXPLORATION PTY. LTD.

025

SAMPLE NUMBER	LOCATION			ANALYSES										Geological Observations	
	Easting	Northing	Sample Type	Cu	Pb	Zn	Ag	As	Fe (%)	Mn	Au (ppb)	Au CN (each ppt)			
989085 086	382390	5390490	-4#									<50			
			-80#	<5	60	35	<1	9	0.63	280	<3				
989087 088	382350	5394350	-4#									50			
			-80#	5	75	50	<1	14	1.41	290	<3				
989089 090	383310	5393020	-4#									50			
			-80#	<5	25	<5	<1	3	0.16	60	<3				
989091 092	383310	5392080	-4#									50			
			-80#	<5	20	<5	<1	3	0.09	10	<3				
989093 094	381950	5389930	-4#									<50			
			-80#	<5	40	30	<1	6	0.60	100	<3				
989095 096	381600	5389210	-4#									<50			
			-80#	<5	50	25	<1	7	1.24	170	<3				
931471 472	379050	5392680	-4#									50			
			-80#	5	85	65	<1	14	1.32	380	<3				
DETECTION LIMIT				2	5	2	1	1	0.21	5	3	50			
ANALYTICAL METHOD				ICP-MS → PM205											

Project : <u>QUEENSTOWN - ZEEHAN</u>	1 : 250 000 Sheet : <u>BURNIE</u>	AMG Zone :	Sheet No. : <u>4/6</u>
Tenement : <u>HATFIELD FL 4/85</u>	DPO's : <u>32024, 32026</u>		Laboratory : <u>ALS + AMDEL</u>
Area / Prospect : <u>REGIONAL STREAM SEDIMENTS</u>			Collected By : <u>R. POLTOCK</u> Date : <u>APRIL 1986</u>

915026

0226

CRA EXPLORATION PTY. LTD.

SAMPLE NUMBER	LOCATION		Sample Type	ANALYSES								Geological Observations		
	Easting	Northing		Cu	Pb	Zn	Ag	As	Fe (g)	Mn	Au (ppb)	Au CN (ppt)		
131473	378710	5393080	-4#								2.00			
474			-80#	<5	70	30	<1	11	2.81	50	<3			
131475	378060	5392940	-4#								150			
476			-80#	20	100	75	1	22	3.53	920	<3			
131477	376650	5393820	-4#								4300			
478			-80#	15	80	110	1	25	4.22	660	<3			
131479	377910	5394130	-4#								150			
480			-80#	20	85	15	1	20	3.82	640	<3			
131494	378140	5394540	-80#	10	75	75	<1	14	2.02	510	<3			
495			-4#	1								950		
131496	378210	5394730	-80#	15	75	10	<1	14	2.82	510	<3			
497			-4#									100		
131498	379020	5394480	-80#	15	70	75	<1	13	2.11	840	<3			
499			-4#									100		
DETECTION LIMIT				2	5	2	1	1	0.01	5	3	50		
ANALYTICAL METHOD				IC580								PM3005		

Project : QUEENSTOWN - ZEEHAN
 Tenement : HATFIELD EL 41/85
 Area / Prospect : DENOMIAL STRONGMAN SEDIMENTS

1 : 250 000 Sheet : BURNIE
 DPO's : 32024, 32026

AMG Zone :
 Sheet No. : 5/6
 Laboratory : ALS + AMDEL
 Collected By : R POLTOCK Date : APRIL 1986

915027

CRA EXPLORATION PTY. LTD.

027

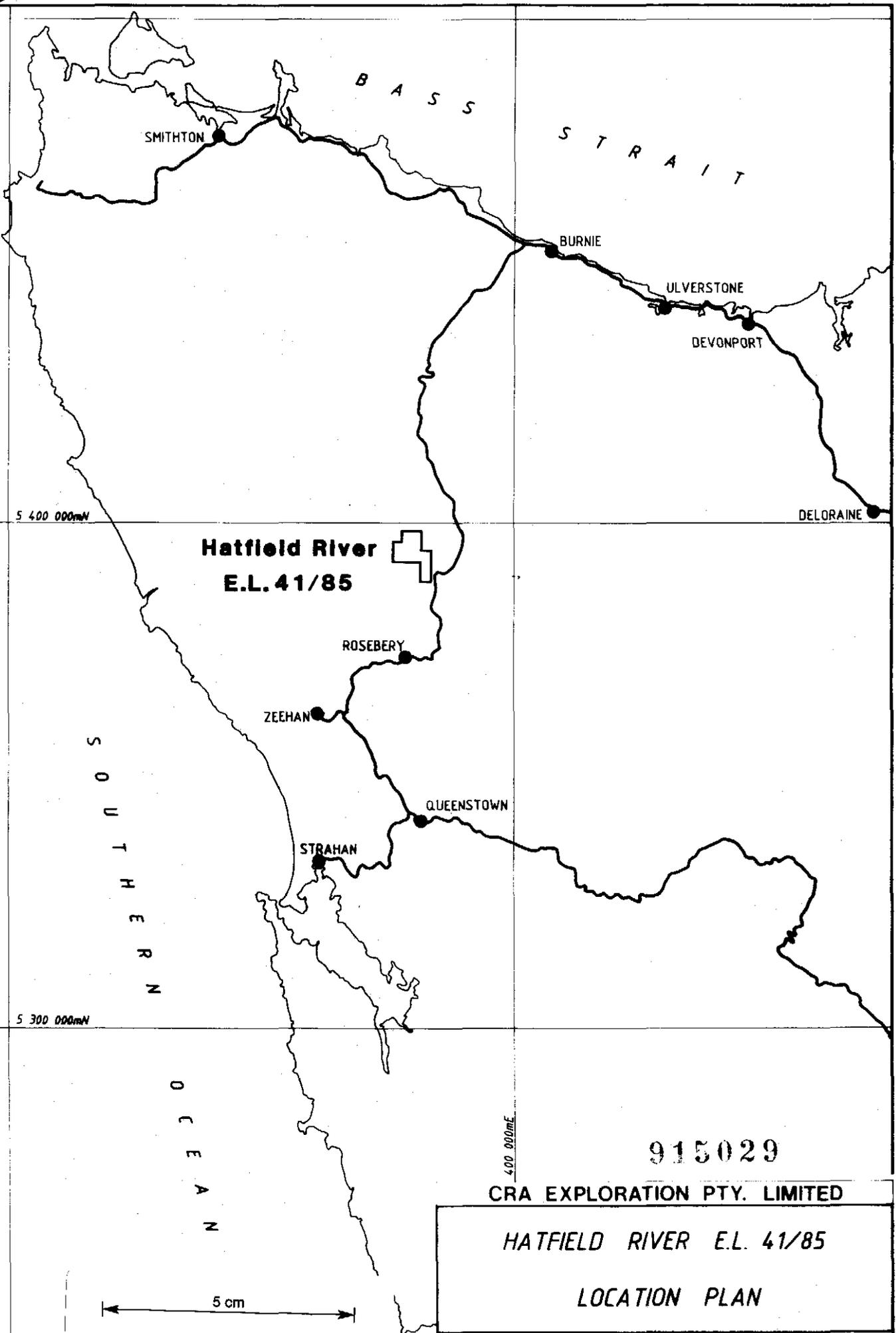
SAMPLE NUMBER	LOCATION		Sample Type	ANALYSES										Geological Observations	
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131500	378040	5394390	-80#	10	45	60	<1	11	1.26	510	<3				
131737			-4#										100		
990919	376870	5394520	-80#	10	30	110	<1	2	3.95	520	105				
20			-4#	18	38	135			5.2	790		160	150		
21	376680	5393885	-80#	10	30	110	<1	<1	3.30	580	15				
22			-4#	15	30	120			3.69	790		<50	140		

DETECTION LIMIT	2	5	2	1	1	0.01	5	3	50		
ANALYTICAL METHOD	IC580	X3						PT205	A3	X3	

Project: QUEENSTOWN - ZEEHAN	1 : 250 000 Sheet : BURNIE	AMG Zone :	Sheet No. : 6/6
Tenement : HATFIELD EL 41/85	DPO's : 32024, 32026, 31992		Laboratory : ALS & AMOR
Area / Prospect : OPEN SEDIMENT			Collected By : R. POLLOCK Date : April 1987

07016

029



Hatfield River
E.L. 41/85

915029

CRA EXPLORATION PTY. LIMITED

HATFIELD RIVER E.L. 41/85

LOCATION PLAN

5 cm

87-2670

REF.	SK55 - 3	(8014)
SCALE	1 : 1000 000	DRAWN R.T.
AUTHOR	T.v.S.	REPORT No. 14541
DATE	26 - 6 - 1986	PLAN No. TASH 3080

5 400 000mN

5 300 000mN

400 000mE

300 000mE

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SMITHTON

BURNIE

ULVERSTONE

DEVONPORT

DELORAINÉ

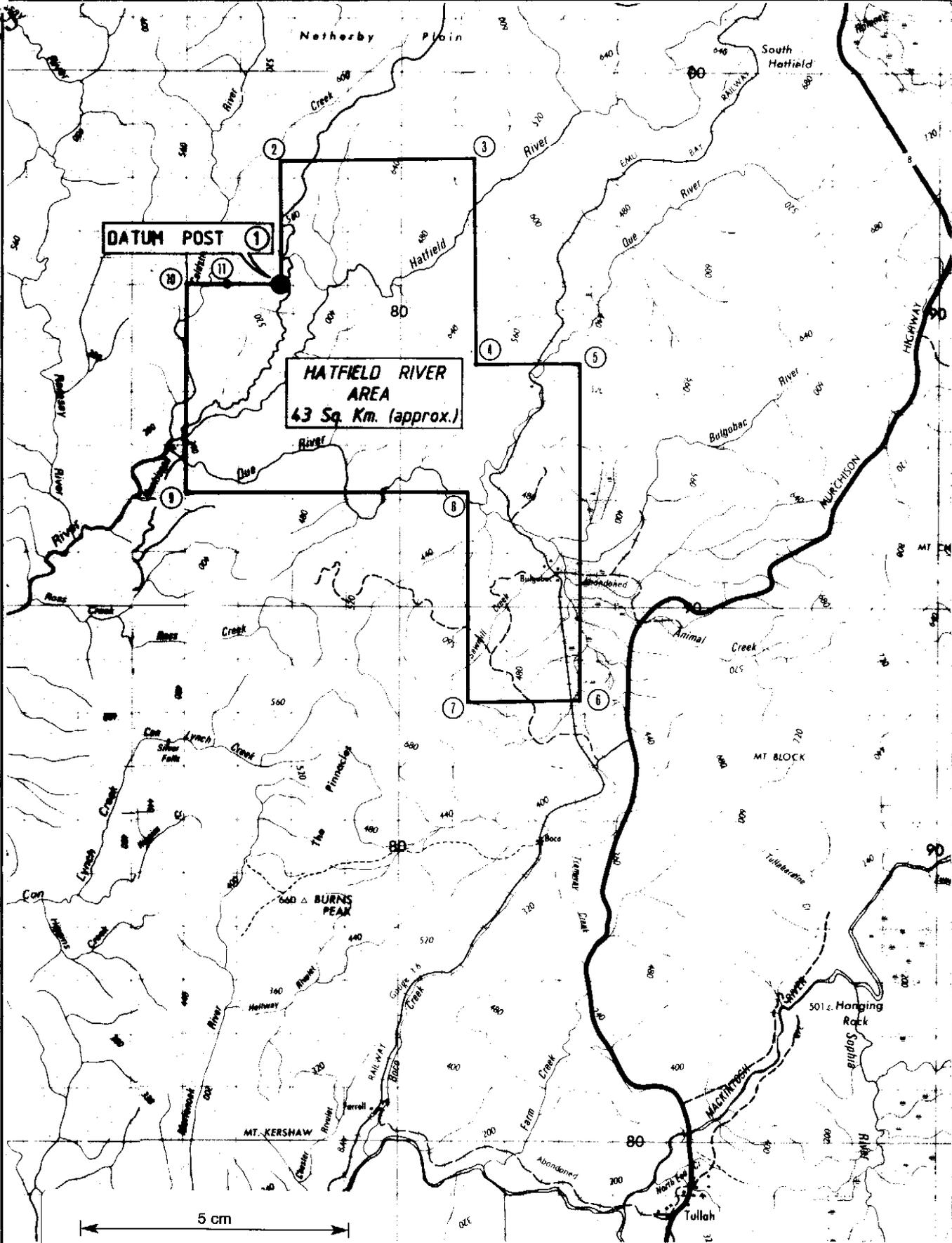
ROSEBERY

ZEEHAN

QUEENSTOWN

STRAHAN

023



DATUM POST ①

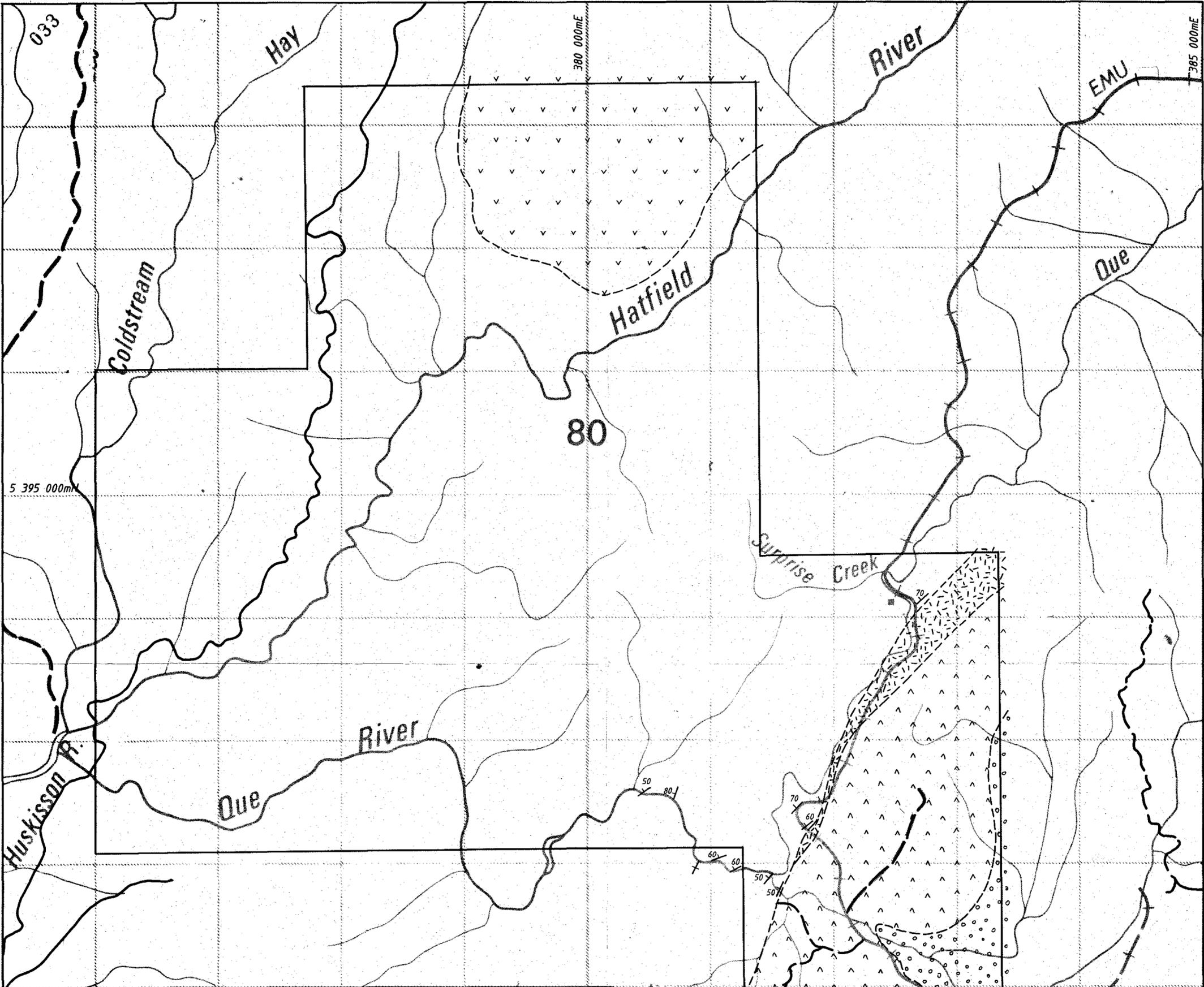
HATFIELD RIVER AREA
43 Sq. Km. (approx.)

- 1. 377 730mE 5 396 020mN (Datum)
- 2. 377 705mE 5 398 305mN
- 3. 381 360mE 5 398 345mN
- 4. 381 405mE 5 394 505mN
- 5. 383 325mE 5 394 530mN
- 6. 383 395mE 5 388 220mN
- 7. 381 295mE 5 388 195mN
- 8. 381 250mE 5 392 125mN
- 9. 376 000mE 5 392 065mN
- 10. 376 000mE 5 396 005mN
- 11. 376 760mE 5 396 005mN

915030

CRA EXPLORATION PTY. LIMITED	
APPLICATION FOR EXPLORATION LICENCE HATFIELD RIVER AREA 43 Sq. Km. (Approx.)	
REF. SK55 - 3	(8014)
SCALE 1 : 100,000	DRAWN R.T.
AUTHOR T.W.D.	REPORT No. 14547
DATE 5 - 11 - 1985	PLAN No. TASH 2831

87-2671

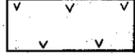


LEGEND

TERTIARY - RECENT



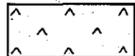
FLUVIOGLACIALS



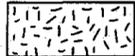
BASALT

CAMBRIAN

FELSIC VOLCANICS



1. Ignimbrites? medium grained feldspar quartz crystal groundmass. Variable content volcanic lithics ≤ 20cm.

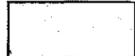


2. Porphyry quartz feldspar phytic, weak compositional banding, possibly intrusive but most likely a variant of 1.

SEDIMENTS



1. Eastern sequence vicinity of volcanics. Siltstone, tuffaceous sandstone, crystal lithic-tuffaceous sediments.



2. Lower Que River and Hatfield River sequence. Siltstone, tuffaceous sandstone-grit with minor quartzose conglomerates and sandstone.

Ross

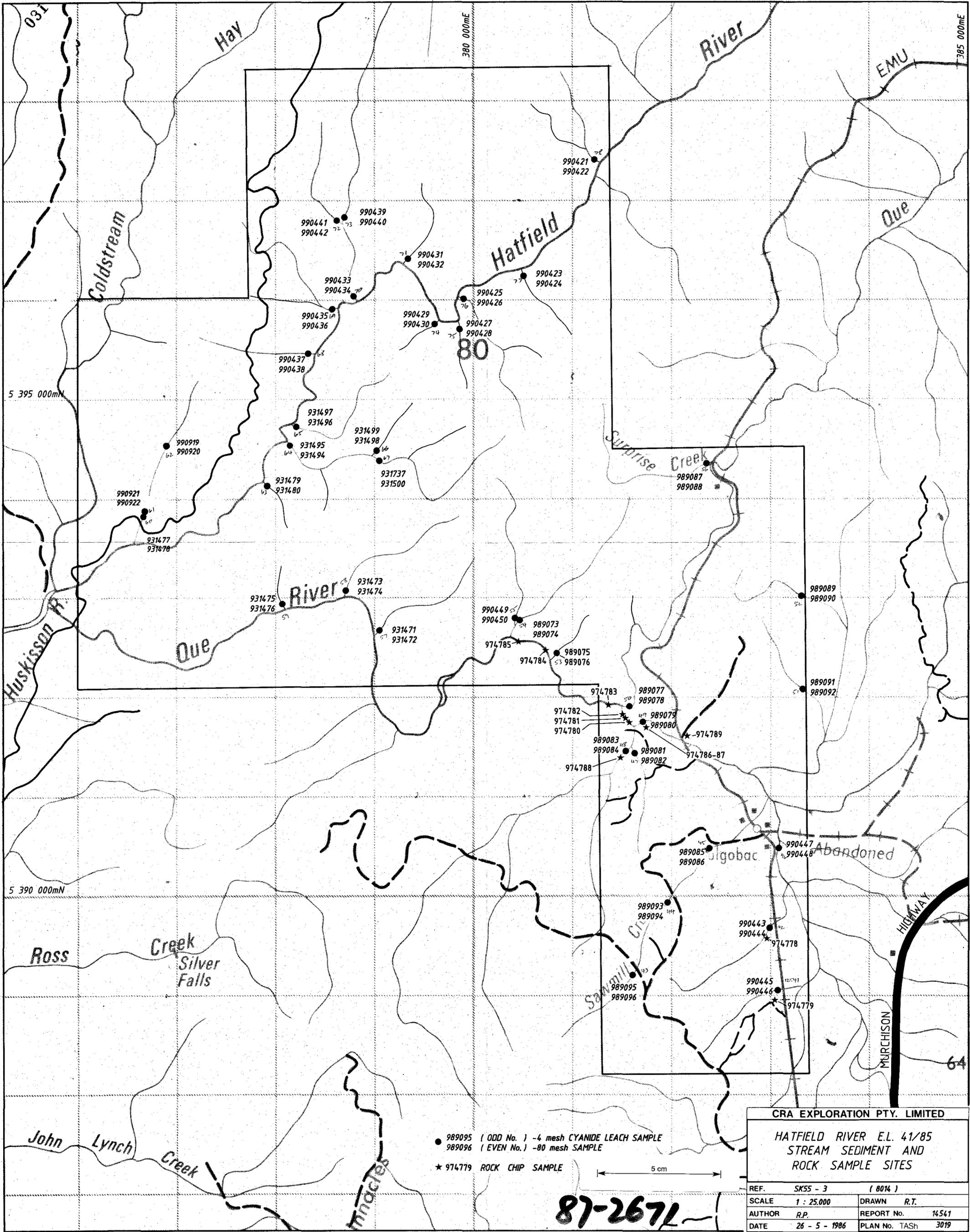
John

5 cm

87-2671

915031

CRA EXPLORATION PTY. LIMITED	
HATFIELD RIVER E.L. 41/85	
GEOLOGICAL SKETCH PLAN	
REF. SK55 - 3	(8014)
SCALE 1 : 25,000	DRAWN R.T.
AUTHOR R.P.	REPORT No. 14541
DATE 27 - 5 - 1986	PLAN No. TASH 3020

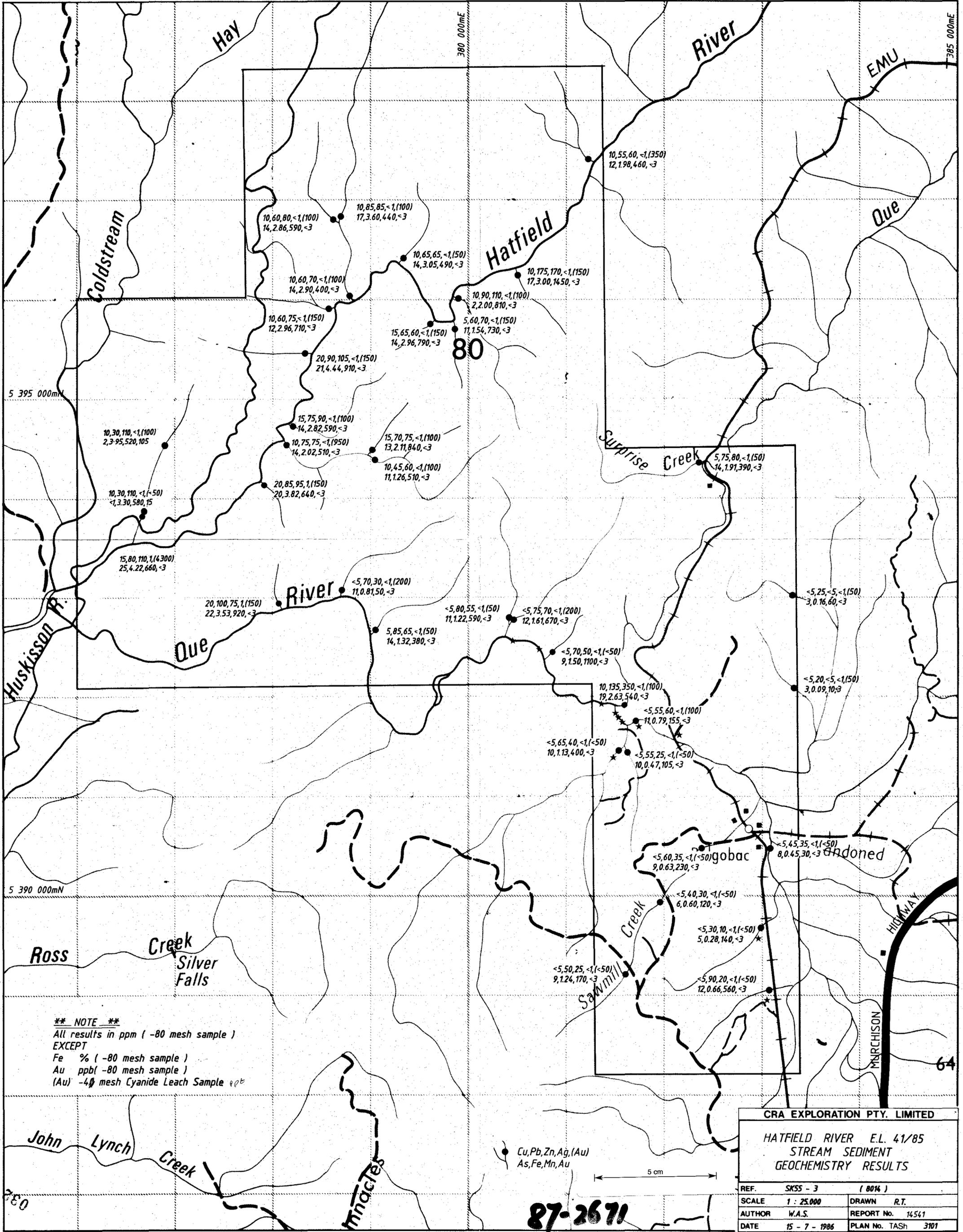


- 989095 (ODD No.) -4 mesh CYANIDE LEACH SAMPLE
- 989096 (EVEN No.) -80 mesh SAMPLE
- ★ 974779 ROCK CHIP SAMPLE

5 cm

87-2671

CRA EXPLORATION PTY. LIMITED			
HATFIELD RIVER E.L. 41/85 STREAM SEDIMENT AND ROCK SAMPLE SITES			
REF.	SK55 - 3	(8014)	
SCALE	1 : 25,000	DRAWN	R.T.
AUTHOR	R.P.	REPORT No.	14541
DATE	26 - 5 - 1986	PLAN No.	TASH 3019



**** NOTE ****
 All results in ppm (-80 mesh sample)
 EXCEPT
 Fe % (-80 mesh sample)
 Au ppb (-80 mesh sample)
 (Au) -40 mesh Cyanide Leach Sample

● Cu,Pb,Zn,Ag,(Au)
 ● As,Fe,Mn,Au

5 cm

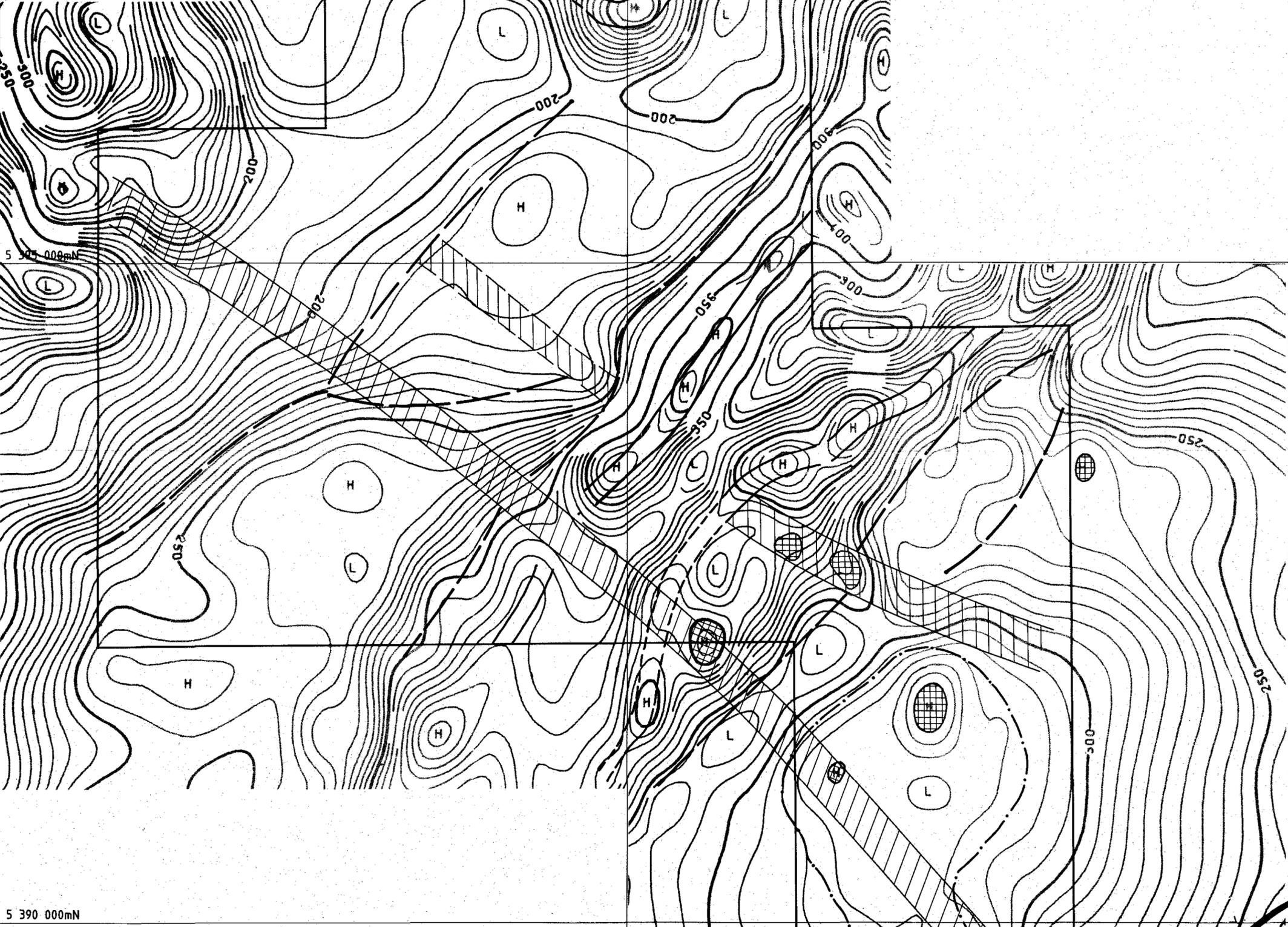
CRA EXPLORATION PTY. LIMITED	
HATFIELD RIVER E.L. 41/85 STREAM SEDIMENT GEOCHEMISTRY RESULTS	
REF. SK55 - 3	(8014)
SCALE 1 : 25,000	DRAWN R.T.
AUTHOR W.A.S.	REPORT No. 14541
DATE 15 - 7 - 1986	PLAN No. TASH 3101

87-2671

915033

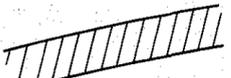
034

385 000mE



5 390 000mN

REFERENCE



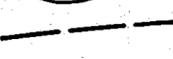
SHEAR OR ALTERATION ZONE



UNEXPLAINED HIGH OR LOW



STRATIGRAPHIC UNIT



INTERPRETED FAULT



APPROXIMATE BOUNDARY OF INTERMEDIATE INTRUSIVE?

87-2671

5 cm

CRA EXPLORATION PTY. LIMITED

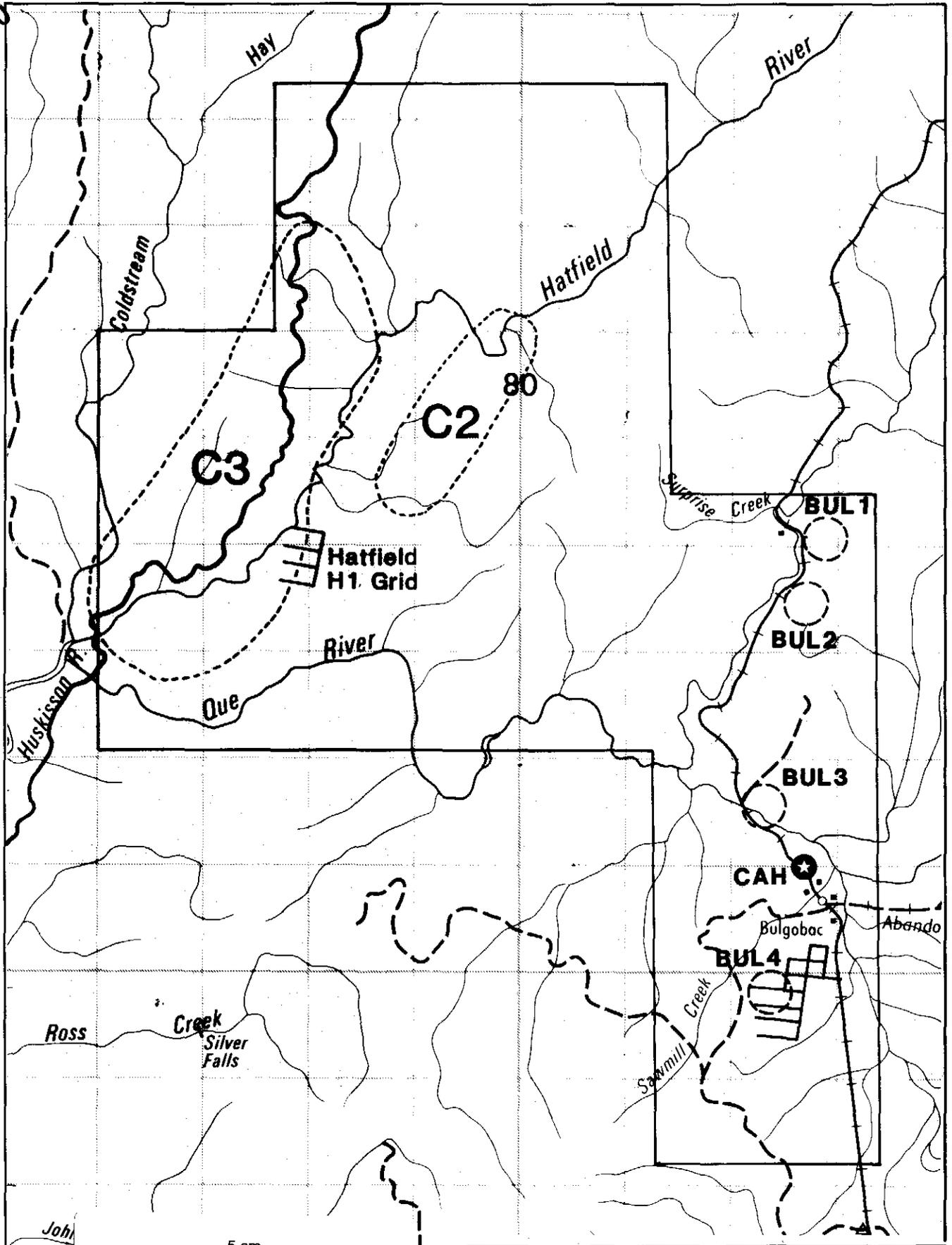
HATFIELD RIVER E.L. 41/85

AEROMAGNETIC INTERPRETATION

REF.	SK55 - 3	(8014)
SCALE	1 : 25,000	DRAWN R.T.
AUTHOR	T.v.S.	REPORT No. 14541
DATE	21 - 2 - 1986	PLAN No. TASH 2936

915034

030



915035

-  **C2** GEOCHEMICAL TARGET
-  **BUL2** GEOCHEMICAL TARGET
-  **CAH** GEOPHYSICAL TARGET

27-2671

CRA EXPLORATION PTY. LIMITED		
HATFIELD RIVER E.L. 41/85 TARGETS BASED ON PREVIOUS EXPLORATION		
REF.	SK55 - 3	(8016)
SCALE	1 : 50,000	DRAWN R.T.
AUTHOR	W.A.S.	REPORT No. 14541
DATE	23 - 6 - 1987	PLAN No. TASH 3448