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TITLE: E.L. 10/76 CETHANA

REPORT ON EXPLORATION FOR 12 MONTHS

TO FEBRUARY 1987

AUTHOR: S.J. Caithness &
T. von Strokirch

AMG REFERENCE POINTS ADDED

DATE: 5 February, 1987.

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DEPARTMENT OF MINES - TASMANIA
MINERAL INDUSTRY UNPUBLISHED REPORT

DATA SHEET

REPORT NUMBER TCR _____

☐ CF ☐ RF ☐ OF

AUTHOR(S): S J CAITHNESS & T VON STROKIRCH

DATE: 5 February 1987

TITLE: EL 10/76 CETHANA
REPORT ON EXPLORATION FOR 12 MONTHS TO FEBRUARY 1987

COMPANY(S): CRA EXPLORATION PTY LIMITED

FORMAT: No. of Volumes: 1 Structure: 6 Pges Text, 6 Plans, 2 Appendices

COMPANY REF. (if any): CRAE Rep 14327

LICENCE / LEASE: EL 10/76 CETHANA

LOCALITY: SK55- ☐ 1 ☐ 2 ☒ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8

Map sheet: BURNIE SK5503

Geographic: (not in title) ROUND MOUNTAIN

MAPPING - GEOLOGICAL
- ☐ Surface - scale: _____
- ☐ Mine/ Underground

DRILLING
- ☒ Diamond
- ☐ Percussion
- ☐ Auger
- ☐ _____
- ☐ Logs
- ☐ Analysis
- ☒ Metallic Minerals
- ☐ Non-metallic Minerals

GEOPHYSICS
GND/AIR
- ☐ ☐ Magnetic
- ☐ ☐ Electromagnetic
- ☐ ☐ Radiometric
- ☐ A.P. ☐ S.P. ☐ E.P.
- ☐ E.I.P./M.I.P ☐ Resist.
- ☐ Gravity
- ☐ Seismic - Refraction
- ☐ Seismic -Reflection
- ☐ _____
- ☐ On - shore ☐ Off-shore
- ☐ Well-logging

GEOCHEMISTRY
- ☒ Stream Sediment
- ☐ Soil: _____
- ☐ Rock - chip
- ☐ Gossan
- ☐ Water: _____
- ☐ Biogeochemistry
- ☐ _____
- ☒ Cu ☒ Pb ☒ Zn
- ☐ Sn ☐ W ☐ Mo
- Au
- ☐ Rock: ☐ Maj. ☐ Tr.

- ☐ PETROLOGY
- ☐ ORE GENESIS
- ☐ ORE RESERVES
- ☐ FEASIBILITY STUDY
- ☐ MINERAL PROCESSING
- ☐ MINING
- ☐ ENVIRONMENT
- ☐ ENGINEER. GEOLOGY
- ☐ INDUST. MINERALS
- ☐ CONSTRUCT. MAT.
- ☐ FUELS: _____

MINERALS: _____

MINE / DEPOSIT NAME(S): Round Mountain Ag/Pb

OTHER KEYWORDS: Geochemistry-Drainage, Drill Diamond, Drill Percussion, Volcanics

ANNOTATION: _____

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CRA EXPLORATION PTY LTD

EL 10/76 CETHANA

REPORT ON EXPLORATION FOR 12 MONTHS

TO FEBRUARY 1987

Authors: S J Caithness &
T von Strokirch

Date: 5 February 1987

Submitted to: T W Dickson

Accepted by:

Copies: CRAE Hobart
CRAE Canberra
Department of Mines,
Tasmania

REPORT NO: 14327

CONTENTS

1. SUMMARY

Two diamond drillholes were drilled to test the Cethana West prospect. The holes tested a suite of tuffs, shales and schists. No major concentration of sulphides was intersected.

2. INTRODUCTION

This report describes all work carried out over Cethana, EL 10/76 for the 12 months ending 28th February 1987. The EL was pegged in 1976 to cover a relinquished Mines Department Reserve within EL 7/73.

Work carried out over the EL to date includes stream sediment, soil and rock chip geochemistry, gridding, geophysics, geological mapping and drilling.

3. CONCLUSIONS

Drilling to test for possible base metal extensions of the pyrite zone in PD84 CC9 did not discover significant quantities of sulphide. Drilling of DD86 CC13 to test a prospective geological sequence and a geochemical anomaly was also unsuccessful. Further anomalous gold was detected in stream sediments.

4. RECOMMENDATIONS

No further drilling is recommended at this stage.

Follow-up drainage sampling and geological investigation of the old mine sites within the EL remains important.

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5. GEOLOGY

EL 10/76 covers a portion of the northeastern extension of the Cambrian Mt Read Volcanic Belt. These volcanics are unconformably overlain by the Roland conglomerate which underlies the Ordovician Moina Sandstone. Numerous old workings are scattered in and around the EL. Details of the geology are shown on Plan TASh 2915 (after Jennings, 1979).

6. DRILLING

6.1 Results

Two holes were drilled to test the Cethana West prospect.

The first hole, DD86 CC11 was designed to test a UTEM response associated with favourable geology, along strike from a previous drillhole (PD84 CC9) which reported semi massive sulphide mineralisation. This sulphide consisted largely of pyrite within pyritic black shales in a sequence of highly altered volcanics. It was hoped that a weaker extension of the UTEM anomaly might represent more massive zinc rich sulphides of lower conductivity.

Hole DD86 CC11 was drilled to test this anomaly. This hole was abandoned at 77 metres due to drilling difficulties and a redrill (DD86 CC12) was collared one metre away. The hole traversed a sequence of chloritically and sericitically altered tuffs. The best assay results were between 69.0 and 73.3 metres where 0.3% combined sulphides were recorded.

DD86 CC13 was designed to test a C horizon soil geochemical anomaly and a prospective geological sequence.

The first material recovered from the hole was a quartz sericite schist from 9 to 16 metres. Thereafter the hole traversed a sequence of tuffs with an increasing sediment component at the bottom of the hole. Chlorite alteration is ubiquitous throughout the hole. A generally high background level of Pb and Zn was recorded in the assays including a value of 0.8 at 134.0 to 137.0 metres. Cu was low.

6.2 Downhole Geophysics

Downhole EM surveying was recommended for the drillholes but insurmountable noise problems were encountered as both holes were drilled within 50 metres of major high tension power lines. The survey was then abandoned.

6.3 Discussion

Neither of the holes intersected significant quantities of sulphides. All the most promising anomalies from the geochemistry, IP and UTEM surveys have been tested and re-appraisal of the EL is now required.

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7. REGIONAL STREAM GEOCHEMISTRY

Four follow-up locations were sampled to test an anomaly recorded in Machinery Creek near the Cethana Bridge (Appendix 2). These continue to be anomalous for gold although the -80 mesh samples are not consistent with the cyanide leach sampling. The -80 mesh sampling recorded significant gold (2.8 ppm) only upstream in Machinery Creek, whereas a cyanide leach anomaly of 2550 ppt was noted in a tributary draining from the north.

These gold anomalies both require further tracing. At this stage a likely source for the Machinery Creek anomaly is still likely to be the Round Mountain Ag/Pb Mine. The mine area should therefore be tested for gold.

8. REFERENCES

Caithness S J 1986 EL 10/76 Cethana, North Western Tasmania. Report on Exploration for 12 Months to February 1986. CRAE Report No 13743

Flis M F 1983 Exploration of Cethana EL 10/76, North Tasmania 1981-82. CRAE Report No 11923.

Jennings I B 1979 Geological Atlas, 1 Mile Series, Sheet 37, Sheffield Explanatory Report. Department of Mines, Tasmania.

Purvis J G 1979 Exploration at East Cethana EL 10/76 Northern Tasmania - September 1977 to September 1979. CRAE Report No 9717.

Temby P A 1985 EL 10/76 Cethana Area, Northern Tasmania. Report on Exploration for 12 Months to 28th February 1985. CRAE Report No 13109

9. LOCATION

Burnie 1:250 000 Sheet SK5503

10. KEYWORDS

Geochemistry-drainage, Drill diamond, Drill percussion, Volcanics

11. LIST OF PLANS

Plan No		Scale
TASh 2916	Cethana EL 10/76 Location Plan	1:2 000 000
TASh 2662	Sheffield EL 7/73 & Cethana EL 10/76 Location Plan	1:100 000
TASh 2915	Cethana EL 10/76 Geology and Drillhole Location Plan	1:5 000
TASh 2925	Cethana EL 10/76 West Cethana Geophysical & Geochemical Anomaly Compilation	1:5 000
TASh 3086	Cethana EL 10/76 Drillhole DD86 CC13 Section Line 700E (Looking West)	1:1 000

TASh 3087 Cethana EL 10/76 Drillhole
DD86 CC12 Section Line 900E
(Looking West) 1:1 000

12. LIST OF APPENDICES

Appendix 1 Drilling Logs and Assay Results from the 1986 Cethana Drilling

Appendix 2 Stream Sediment Geochemistry Results

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APPENDIX 1

DRILLING LOGS AND ASSAY RESULTS

FROM THE 1986 CETHANA DRILLING

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

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SHEET No. 1

TENEMENT NAME CETHANA EL No. 1076

PLAN – MAP REFERENCE

AMG CO-ORDINATES 428670E 5408460N

LOCAL CO-ORDINATES 700E 020S AZIMUTH 232° AMG DRILLERS K. PARRY COMMENCED 22-4-86 DEPTH 77.0m HOLE No. DD86CE1

RL COLLAR INCLINATION -55° DRILL TYPE BOYLES COMPLETED 30-4-86 CASING LEFT DPO No(s) 32040

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 ALS) Cu	Pb	Zn	Ag	As	Fe %	Mn	Ba	Au
0.00	9.00				Tricone precollar – no core.														
9.00	36.40				Tertiary sediments; dark brown-grey carbonaceous soft silts and clays with layers of coarse, rounded quartzite-rich gravels; likely to be deep lead sediments trapped under Tertiary basalt.	9.0–15.0m Coarse, quartzite rich rounded gravel layer 17.3–18.0m As above. 19.55–19.8m Coarse (1cm) rounded clasts with the dark grey-brown matrix.	1197479	9.0	15.0		40	<5	85	1	<1	3.02	65	160	<.01
							480	15.0	17.3		15	20	310	1	<1	1.71	290	440	.06
							481	17.3	18.0		15	<5	250	1	<1	1.10	180	200	.02
							482	18.0	21.0		15	25	240	1	<1	3.48	710	550	<.01
							483	21.0	30.0		20	40	810	1	<1	3.25	490		.01
							484	30.0	33.0		25	65	290	2	<1	5.27	760	860	.02
							485	33.0	36.4		30	25	190	2	30	5.71	1650	1000	<.01
36.40	70.40				Pale green, sulphidic and siliceous sericite schist; contains coarse siliceous "clasts" after either lithic fragments or quartz phenocrysts	Moderate – strong pervasive sericite with minor chlorite alteration; weak pervasive carbonate Minor pyrite and galena (2–3%) in veinlets and disseminated. Well developed foliation Possible epidote (?) developed towards the end of the unit	486	36.4	39.0		10	640	110	2	<1	3.20	1.41%	1950	<.01
							487	39.0	42.0		15	700	1600	2	<1	2.81	1.26%	1650	<.01
							488	42.0	45.0		25	370	1080	2	<1	3.21	1.11%	1750	.02
							489	45.0	48.0		5	440	850	2	<1	3.01	1.50%	2000	<.01
							490	48.0	50.0		5	340	970	3	<1	2.24	7650	1850	.01
							491	50.0	52.0		10	175	340	2	<1	2.47	8000	1600	.02
							492	52.0	55.0		10	180	390	2	<1	1.85	5050	1750	.02
							493	55.0	58.0		20	410	1150	6	<1	2.66	3150	1700	.02
							494	58.0	61.0		10	510	380	3	<1	3.02	6950	1600	.02
							495	61.0	64.0		15	360	820	3	<1	3.60	5900	1650	.03
							496	64.0	67.0		60	390	680	2	13	4.28	5250	1350	.01
							497	67.0	70.0		70	620	2100	4	5	6.88	8750	780	.02
70.40	74.50				Dark green fine grained quartz porphyry; contains medium grained (<5mm) rounded quartz phenocrysts in a dark green fine grained (aphanitic) matrix; minor rounded chert clasts; evidence of syneresis in quartz phenocrysts	Pervasive chlorite. Minor sulphides (~1%) in blebs and veinlets. Weak pervasive carbonate and weak haematite alteration.	498	70.0	74.5		95	95	1700	2	<1	13.3	5450	280	.01

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DRILL CORE LOG

SHEET No. 3/2

TENEMENT NAME CETHANA EL No. 10/76

PLAN – MAP REFERENCE ...

CO-ORDINATES ... AZIMUTH ... DRILLERS ... COMMENCED ... DEPTH ... HOLE No. DD86CC11

RL COLLAR ... INCLINATION ... DRILL TYPE ... COMPLETED ... CASING LEFT ... 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 ...) Cu	Pb	Zn	Ag	As	% Fe	Mn	Ba	Au
74.50	77.00				Pale green quartz sericite schist containing common medium grained quartz phenocrysts and minor lapilli clasts; possibly after a lithic crystal tuff.	Strong pervasive sericite and weak pervasive carbonate. Minor sulphides (1-2%) occurring in veinlets and disseminations.	197497	74.5	76.0		15	250	730	½	9	4.80	2050	660	.02
							500	76.0	77.0		15	430	730	2	<1	2.60	5400	1100	.02
	77.00				Hole abandoned due to drilling difficulties. Casing left down hole.														

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

SHEET No. 1 of 2

TENEMENT NAME Gethania EL No. 10/76

PLAN – MAP REFERENCE

CO-ORDINATES 700E 215 AZIMUTH 232° MAG DRILLERS K. Parry COMMENCED 1-5-86 DEPTH 190m HOLE No DD86GE12

RL COLLAR INCLINATION -55° DRILL TYPE Boyles COMPLETED 9-5-86 CASING LEFT DPO No(s) 32040

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 ALS) Cu	Pb	Zn	Ag	As	% Fe	Mn	Ba	Au
0.0	45.5				Precollar														
45.5	66.4				Pale green-brown, sericitic lithic tuff; contains clasts up to 5cm across; clasts are rounded	Highly sericitic core; minor hematite alteration of some fragments giving them a red-brown colour; minor chlorite alteration. Minor disseminated and veined sulphide mineralisation (py, ga); approximately 3% overall but reaching 5-10% in narrow zones (eg 47.3-47.4m) Well developed foliation.	1198251	45.5	48.0		10	360	420	2	<1	2.77	1.08%	2000	0.02
							252	48.0	51.0		20	145	470	3	<1	2.29	6200	2100	<0.01
							253	51.0	54.0		20	400	550	3	<1	2.76	6500	1500	0.01
							254	54.0	57.0		40	430	390	5	10	3.57	4000	1450	<0.01
							255	57.0	60.0		25	200	660	3	<1	4.43	8250	1600	0.02
							256	60.0	63.0		20	250	350	3	<1	3.57	3750	1750	0.02
							257	63.0	66.4		85	350	1850	3	<1	7.77	7050	800	0.02
66.4	73.4				Dark green-mottled brown vitric tuff containing approx. 5% coarse lithic clasts; clasts range to 4cm across and are commonly rounded to subrounded; clasts often of cherty composition and contain syngenetic cracks which have been argillically (?) altered.	Strong sericite alteration and common hematite alteration of clasts; weak pervasive carbonate alteration. Trace-minor disseminated pyrite blebs. Foliation developed.	1198258	66.4	69.0		640	620	4200	7	<1	9.52	6980	600	0.03
							259	69.0	71.0		145	220	1250	3	<1	12.5	7300	600	0.01
							260	71.0	73.3		20	340	1550	3	4	10.2	3600	400	0.01
73.4	105.1				Pale brown-grey sericitic lithic tuff containing clasts up to 8cm.	Highly sericitic with minor chlorite alteration; weak pervasive carbonate. Common pyrite up to 5%	1198261	73.3	77.0		30	340	970	3	<1	1.92	3000	2150	0.01
							262	77.0	80.0		30	220	500	2	<1	1.93	2100	1100	0.01
							263	80.0	83.0		120	55	300	2	<1	3.03	3000	1450	<0.01
							264	83.0	86.0		40	100	430	2	<1	3.19	2450	1500	<0.01

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

SHEET No. 2

TENEMENT NAME CETHANA EL No. 10/76

PLAN – MAP REFERENCE

CO-ORDINATES 700E 205 AZIMUTH 232° Mag DRILLERS K. Parry COMMENCED 1-5-86 DEPTH 90.m HOLE No. 2086CC12

RL COLLAR INCLINATION -55° DRILL TYPE Boyles COMPLETED 9-5-86 CASING LEFT 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..... Cu	Pb	Zn	Ag	As	%Fe	Mn	Ba	Au
						with occasional semi-massive	1198265	86.0	89.0		50	1000	1200	2	<1	3.47	3450	1550	.08
						veins; trace galena	266	89.0	92.0		60	90	670	2	<1	5.07	2550	1200	<.01
						92.9-94.7m Quartz vein +	267	92.0	93.0		90	1650	2550	4	3	4.35	6800	980	.02
						shear zone; carbonate and	268	93.0	98.0		25	420	500	2	<1	4.39	4850	970	<.0
						sericite; argillic alter"; trace	269	98.0	101.0		20	730	1400	2	<1	3.72	3300	1350	<.01
						pyrite and galena	270	101.0	105.1		45	620	900	2	<1	3.26	3900	1200	.02
						99.4-100.1m Quartz vein and													
						shear zone as above.													
105.1	117.4				Green-brown chloritic +	Differs from previous unit	1198271	105.1	107.0		125	410	1100	3	<1	5.00	6950	880	.03
					sericitic lithic tuff containing	due to darker green colour.	272	107.0	110.0		30	210	640	2	<1	5.38	8250	1250	.02
					coarse clasts up to 3cm;	Intense sericitic and moderate	273	110.0	113.0		15	120	460	3	<1	4.67	5350	2350	<.0
					clasts generally rounded	chlorite alteration; weak	274	113.0	115.0		20	280	400	3	<1	4.78	4600	3150	<.0
					and of variable composition	pervasive carbonate	275	115.0	117.4		20	175	520	2	<1	4.92	4200	1250	.0
						Minor disseminated and													
						vein pyrite with trace													
						galena.													
						Foliation developed.													
						110.45-110.65m Quartz vein													
						with carbonate.													
117.4	121.0				Pale green sericitic lithic	Intense sericite alteration;	1198276	117.4	119.0		10	55	310	2	<1	3.65	6850	1000	<.0
					tuff containing coarse	Foliation developed.	277	119.0	122.0		20	95	340	2	<1	2.97	2350	1450	<.0
					rounded clasts up to	117.65-118.1m Fractured													
					5cm across; clasts of	quartz + carbonate vein.													
					variable composition.														
121.0	156.0				Grey-green sericitic and	Chlorite content increasing	1198278	122.0	125.0		45	240	440	3	<1	4.73	3800	1250	.07
					chloritic lithic tuff; rounded	with depth; weak pervasive	279	125.0	128.0		120	320	360	2	<1	2.87	8650		.0
					clasts up to 3cm.	carbonate alteration with	280	128.0	131.0		20	470	420	2	<1	1.97	3500	1550	.0

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

SHEET No. 3

TENEMENT NAME... CETHANA ... EL ... No. 10/76

PLAN – MAP REFERENCE... 01

CO-ORDINATES... 700E 20S ... AZIMUTH... 232° AMG ... DRILLERS... K. Parry ... COMMENCED... 1-5-86 ... DEPTH... 190m ... HOLE No. DDB6CC12

RL COLLAR... ... INCLINATION... -55° ... DRILL TYPE... Bonnes ... COMPLETED... 9-5-86 ... CASING LEFT... ... DPO No(s) 32040

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 ...) Cu	Pb	Zn	Ag	As	Fe (%)	Mn	Ba	Au
						minor pinkish patches	1198281	131·0	134·0		35	710	620	6	<1	2·23	4150	1000	·04
						indicative of possible potassic	282	134·0	137·0		60	500	1900	2	<1	3·24	4300	1600	·01
						alter".	283	137·0	139·5		15	185	300	2	<1	2·38	3300	1600	·04
						Rare narrow quartz + carbonate	284	139·5	143·0		25	140	670	2	<1	3·38	4650	1150	·0
						veins.	285	143·0	146·0		10	75	470	2	<1	3·24	4700	620	·01
						Trace - minor veinlets and	286	146·0	149·0		20	45	660	3	<1	5·26	3400	600	·02
						disseminated sulphides (py, gn)	287	149·0	152·0		20	125	360	2	<1	3·86	2500	840	·03
							288	152·0	156·0		10	110	380	2	<1	3·76	2250	1100	·01
156·0	159·2				Pale brown-green sericitic	Dominant sericite alteration	289	156·0	159·3		10	320	370	2	<1	2·04	2400	1050	·03
					lithic tuff containing coarse	with lesser chlorite + minor													
					clasts up to 4cm in a fine	argillic alter" along fractures													
					sericitic matrix; clasts are	with pervasive carbonate.													
					rounded.	Trace - minor disseminated													
						sulphides (py, ga).													
						Foliation developed													
159·2	175·4				Dark green, chloritic lithic	Dominant chlorite alter"	1198290	159·3	161·0		25	150	520	2	<1	3·81	4200	3100	·02
					crystal tuff; contains minor	with lesser sericite; minor	291	161·0	164·0		15	250	430	2	<1	3·75	3100	1700	·0
					rounded clasts up to 2cm	haematite alter" along	292	164·0	167·0		10	100	360	3	<1	5·95	2850	3050	·02
					with a fine dark green	fractures and in veinlets;	293	167·0	170·0		20	440	660	3	<1	6·20	2800	3500	<·0
					matrix; silica "chert"(?)	weak pervasive carbonate	294	170·0	173·0		55	240	1050	4	<1	8·55	3300	3600	<·01
					commonly contain syneresis	Minor sulphides disseminated	295	173·0	175·5		20	155	790	2	<1	7·23	4000	2250	<·0
					cracks	and in veinlets (py).													
175·4	190·0				Dark green + minor red brown	Increased pervasive carbonate	1198296	175·5	179·0		20	175	980	2	<1	5·87	4500	3550	·02
					lithic crystal tuff; minor	and sericite alter"; haematite	297	179·0	182·0		5	85	370	3	<1	5·10	2650	3400	·0
					coarse rounded clasts up to	alter" along fractures + veins;	298	182·0	185·0		35	350	1450	4	<1	6·86	3850	2950	·02
					3cm with more common	minor argillic alter"	299	185·0	188·0		10	195	390	2	<1	5·23	3300	3800	·07
					silica phenocrysts agn with	Trace - minor disseminated	300	188·0	190·0										·03
					syneresis cracks.	+ blebs of pyrite.													

946017

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

SHEET No. 1/4

TENEMENT NAME GETHANIA EL No. 10/76

PLAN – MAP REFERENCE

CO-ORDINATES 900E 50N AZIMUTH 232° AMG DRILLERS K. Parry COMMENCED 13-5-86 DEPTH 229.5m HOLE No. DDB6CC13

RL COLLAR INCLINATION -60° DRILL TYPE Boyles COMPLETED 23-5-86 CASING LEFT ? DPO No(s) 32040

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 .....) Cu	Pb	Zn	Ag	As	Fe %	Mn	Ba	Au
0.0	9.0				Recollar - no core.														
9.0	16.0				Highly weathered pale green-cream coloured quartz sericite schist.	Highly fractured and weathered; strong argillic alteration - core loss; limonite pitting.	1198321	9.0	16.30		30	250	105	2	<1	1.04	65	1750	.01
16.0	108.15				Dark green, medium grained chloritic lithic crystal tuff; minor coarse lithic clasts up to 3cm at top of unit; foliated.	Moderate pervasive chlorite alteration with lesser sericite and minor potassic alteration.	1198322	16.3	20.0		20	220	690	2	<1	2.96	380	950	.01
							323	20.0	23.0		10	330	880	2	<1	3.50	530	880	.01
							324	23.0	26.0		15	115	760	2	<1	4.09	680	700	.02
							325	26.0	29.0		20	90	680	2	<1	4.48	1200	680	<.01
						Trace-minor pyrite and galena disseminated throughout unit	326	29.0	32.0		15	195	750	2	<1	4.05	6550	700	<.01
							327	32.0	35.0		10	300	1000	2	<1	2.85	9600	1300	.05
							328	35.0	38.0		10	400	920	3	<1	3.89	1.19%	1400	.02
						Carbonate occurs as veins and blebs.	329	38.0	41.0		35	370	1250	2	<1	4.03	7550	1100	.01
							330	41.0	44.0		15	180	1050	3	6	5.92	7850	1100	.02
						16.0-21.0m Weakly weathered section which contains limonite staining along fracture surfaces.	331	44.0	47.0		45	1150	1750	3	<1	4.38	1.03%	1050	.01
							332	47.0	50.0		40	1050	4700	3	<1	5.70	6050	1150	.03
							333	50.0	53.0		10	570	950	2	<1	4.07	6500	670	.02
							334	53.0	56.0		5	30	620	2	<1	8.42	3450	1050	.02
						20.3-32.0m Minor disseminated pyrite (~2%); highly fractured core between 20.3-26.0m	335	56.0	59.0		10	90	550	2	<1	3.30	3900	7700	.02
							336	59.0	62.0		5	15	570	2	<1	2.83	3500	1350	.02
							337	62.0	65.0		15	160	550	2	<1	3.34	2800	1200	<.01
						39.5-39.75m Pale brown strongly sericitic section	338	65.0	68.0		5	85	590	2	<1	4.06	3250	1250	<.01
							339	68.0	71.0		30	1800	660	2	<1	3.40	3850	1550	.01
						60.0-108.15m Weak potassic alteration (?) of phenocrysts giving them a pink colour.	340	71.0	74.0		15	105	490	2	2	4.10	3150	780	.04
							341	74.0	77.0		30	680	920	3	<1	4.53	3250	950	.02
							342	77.0	80.0		15	520	640	2	<1	3.31	4100	940	.04
						86.6-87m Carbonate and quartz vein containing galena blebs	343	80.0	83.0		20	350	720	6	3	4.08	6550	1950	.04
							344	83.0	86.0		15	300	900	2	<1	4.12	3600	1100	.02

946018

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

SHEET No. 2/4
TENEMENT NAME CETHANA EL. No. 10/76
PLAN – MAP REFERENCE

CO-ORDINATES 900E 00N AZIMUTH 232° AMG DRILLERS K. PRIOR COMMENCED 13-5-86 DEPTH 229.5m HOLE No. DD86CC13
RL COLLAR INCLINATION -60° DRILL TYPE BOYLES COMPLETED 23-5-86 CASING LEFT 0 DPO No(s) 320410

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 ALS								
											Cu	Pb	Zn	Ag	As	% Fe	Mn	Ba	Au
						87.1–88.4m Pink potassic altered quartz rich crystal tuff	1198345	86.0	89.0		20	2350	900	3	<1	3.66	3450	1450	.06
							346	89.0	92.0		10	270	750	2	<1	4.53	4100	1600	.04
							347	92.0	95.0		30	360	1550	2	<1	4.48	3850	1150	.04
							348	95.0	98.0		20	190	760	2	<1	4.13	3450	1050	.02
108.15	118.50				Coarse pale brown and dark green lithic crystal tuff; contains coarse lithic fragments up to 5cm and common rounded siliceous fragments (possible quartz phenocrysts).	Minor pyrite with trace chalcopyrite and galena. Moderate pervasive potassic alteration and moderate-strong chlorite.	349	98.0	101.0		20	440	1250	2	<1	4.09	3550	1050	.04
							350	101.0	104.0		20	175	810	2	<1	3.26	4100	940	.06
							351	104.0	108.0		25	110	690	2	<1	3.61	4400	1300	.04
							352	108.0	110.0		10	790	610	2	<1	1.39	2900	1700	.02
							353	110.0	113.0		10	90	760	2	<1	2.37	2750	4350	<.01
							354	113.0	116.0		10	370	640	3	<1	2.32	2500	1050	<.01
							355	116.0	119.0		25	600	1650	2	<1	1.81	4100	1100	<.01
118.50	129.60				Dark green medium grained chloritic lithic crystal tuff; minor medium lithic clasts plus distinct medium siliceous phenocrysts.	Strong pervasive chlorite and lesser pervasive sericite alteration; minor potassic and carbonate alteration. Trace-minor (<1%) sulphides in veinlets and disseminated	1198356	119.0	122.0		35	480	1150	3	<1	1.84	2700	1100	<.01
							357	122.0	125.0		35	1400	1850	3	<1	2.09	3600	1150	.02
							358	125.0	129.6		30	330	830	2	<1	2.73	3800	1500	<.01
129.60	139.65				Fine grey-green lithic crystal tuff; distinct medium grained quartz phenocrysts and minor lithic fragments in a fine grey-green matrix. More massive than the surrounding core.	Minor pyrite (~2%) disseminated throughout unit. Weak chlorite and sericite alteration with sericite becoming more common towards the end of the unit.	1198359	129.6	131.0		10	185	680	2	2	2.93	4700	1700	<.01
							360	131.0	134.0		25	660	1300	3	<1	2.98	3150	1100	<.01
							361	134.0	137.0		20	3500	4850	4	<1	3.68	4050	1000	<.01
							362	137.0	140.0		10	650	1350	2	<1	2.75	1450	1050	<.01

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

946019

SHEET No. 3

TENEMENT NAME Cethana EL No. 10/76

PLAN – MAP REFERENCE

CO-ORDINATES 900E 000N AZIMUTH 232° Mag DRILLERS K. Parry COMMENCED 13-5-86 DEPTH 229.5m HOLE No DD86CC13

RL COLLAR INCLINATION -60° DRILL TYPE Boyles COMPLETED 23-5-86 CASING LEFT 0.1m DPO No(s) 32040

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 ALS) Cu	Pb	Zn	Ag	As	% Fe	Mn	Ba	Au
139.65	147.0				Pale to dark green lithic crystal tuff; unit has a chalky appearance in places	Moderate-strong pervasive chlorite with lesser sericite alteration. Trace disseminated pyrite and galena	1198363	140.0	142.9		15	620	1400	2	<1	3.56	2950	1150	.02
							364	142.9	146.5		20	1200	1400	3	<1	4.65	6400	1450	<.01
147.0	201.0				Dark green, speckled, mottled grained chloritic lithic crystal tuff as per 16.0-108.15m.	Dominant chlorite with lesser sericite alteration; minor carbonate, potassic and hematitic alteration. Trace disseminated pyrite. 172.5-174.3m Purple hematite alteration zone. 174.3-201.0m Increasing potassic alteration; weak over entire zone but increases to strong over short intervals. 186.0-187.4m Pale brown-pink potassic and sericitic altered interval. 200.85-201.0m Quartz-carbonate veining.	1198365	146.5	149.0		15	320	450	2	2	3.13	5550	9350	<.01
							366	149.0	152.0		85	260	400	2	1	2.64	5450	6850	<.01
							367	152.0	155.0		20	55	440	2	2	3.68	4550	1350	<.01
							368	155.0	158.0		15	65	380	1	<1	3.40	5250	2050	<.01
							369	158.0	162.0		35	250	480	2	<1	3.57	5050	2150	<.0
							370	162.0	165.0		80	370	290	2	3	8.21	5060	2400	.03
							371	165.0	168.0		10	30	340	2	<1	3.47	3150	1380	.02
							372	168.0	171.0		20	90	340	2	<1	3.81	2950	990	.02
							373	171.0	174.0		5	<5	270	1	<1	3.13	3150	1050	.01
							374	174.0	177.0		5	30	320	1	1	3.10	1750	1800	.03
							375	177.0	180.0		5	<5	230	1	<1	2.55	2050	1000	.0
							376	180.0	183.0		2	15	330	2	<1	3.31	1850	1500	.02
							377	183.0	186.0		10	35	300	1	3	2.97	2950	890	.02
							378	186.0	187.4		5	<5	320	1	<1	2.97	2400	1050	.04
							379	187.4	188.7		5	420	65	1	<1	0.81	1600	1000	.04
							380	188.7	192.0		10	40	230	2	<1	2.54	3050	1450	.0
							381	192.0	195.0		2	<5	280	2	<1	3.11	2650	3850	<.0
							382	195.0	198.0		2	<5	230	2	<1	3.05	2450	1150	.04
201.0	203.5				Dark green-grey fine grained chalky mudstone.	Chlorite alteration plus weak pervasive carbonate. Trace pyrite	383	198.0	201.0		15	<5	175	3	<1	2.35	2000	890	.03
							384	201.0	204.0		65	2000	880	3	1	2.92	1850	650	<.0

946020

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

SHEET No. 4

TENEMENT NAME Cethank EL No. 10/76

PLAN – MAP REFERENCE 018

CO-ORDINATES 900E 00N AZIMUTH 232° AMG DRILLERS K. Parry COMMENCED 13-5-86 DEPTH 229.5m HOLE No. DD86CC13

RL COLLAR .... INCLINATION -60° DRILL TYPE Boyles COMPLETED 23-5-86 CASING LEFT .... DPO No(s) 32040.

ASSAY VALUES (Analysed by ALS)

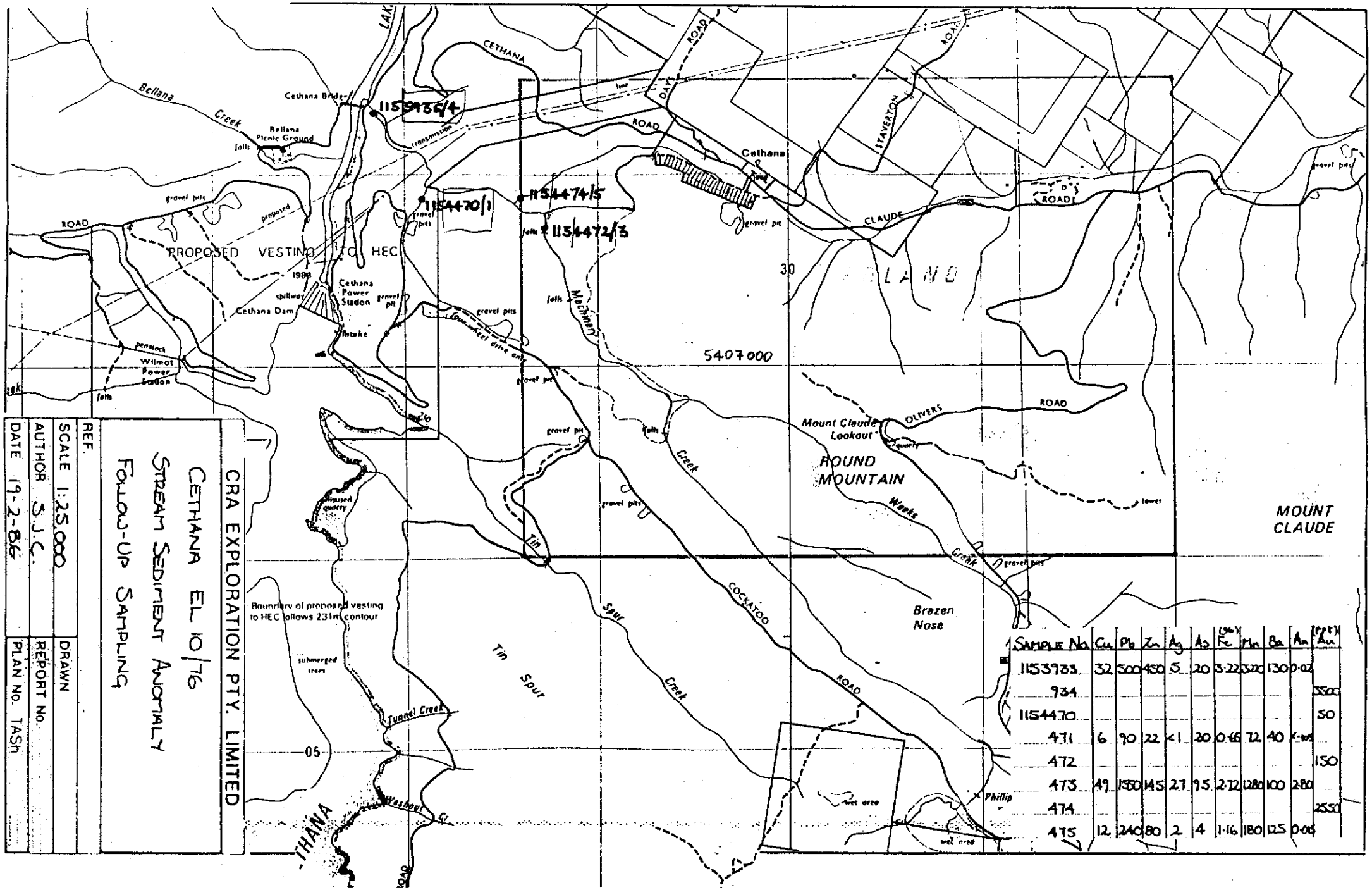
DEPTH From (M)	DEPTH To (M)	Core Rec. (M)	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	Cu	Pb	Zn	Ag	As	% Fe	Mn	Ba	Au
203.5	206.4				Green coarse grained lithic tuff; medium-coarse rounded clasts up to 2cm.	Weak pervasive chlorite and sericite alteration. Trace pyrite.	1198385	204.0	206.4		20	55	250	<1	2	2.04	1100	920	<.0
206.4	229.5				Dark green-grey fine grained cherty mudstone	Quartz and carbonate veinlets. Trace disseminated pyrite.	1198386	206.4	210.0	?	3800	6500	4600	10	50	3.42	1200	230	.02
							387	210.0	213.0		25	300	590	3	15	2.85	1180	580	<.0
						207.15 – Core axis to bedding = 40°	388	213.0	216.0		40	500	1300	3	22	2.59	780	2050	.04
							389	216.0	219.0		15	55	190	2	44	2.76	1050	510	.0
					End of hole.		390	219.0	222.0		25	75	240	2	17	2.83	960	630	.02
							391	222.0	225.0		15	50	115	2	15	2.78	930	700	<.0
							392	225.0	229.5		25	55	75	2	14	2.97	910	770	<.0

APPENDIX 2

STREAM SEDIMENT GEOCHEMISTRY RESULTS

946022 020

5 cm



SAMPLE No.	Cu	Pb	Zn	Ag	As	Fe (%)	Mn	Ba	Au	Au (ppb)
1153933	32	500	450	5	20	3·22	3220	130	0·02	
934										3500
1154470										50
471	6	90	22	<1	20	0·46	72	40	<0·05	
472										150
473	49	1350	145	27	95	2·72	1280	100	2·80	
474										2550
475	12	240	80	2	4	1·16	180	125	0·06	

CRA EXPLORATION PTY. LIMITED

CETHANA EL 10/76

STREAM SEDIMENT ANOMALY

FOLLOW-UP SAMPLING

REF.	
SCALE	1:25,000
AUTHOR	S.J.C.
DATE	19-2-86
DRAWN	
REPORT NO.	
PLAN NO.	TAS/

CRA EXPLORATION PTY. LTD.

946023

021

SAMPLE NUMBER	LOCATION Easting	LOCATION Northing	Sample Type	Cu	Pb	Zn	Ag	As	Fe (%)	Mn	Ba	Au (ppm)	Au (ppb)	Geological Observations
154470	428100	5407870	-4#										50	Moderately incised; slow flow; 2m wide; eucalypts;
471			-80#	6	90	22	<1	20	0.65	72	40	<0.005		alluvial banks; 10% gravel, 50% sand, 40% silt;
														moderate organics.
														Sst; qtz; vein quartz, conglomerate float; quartzite
														o/c.
154472	428740	5407700	-4#										150	Well incised; mod. flow; 5m wide; eucalypts;
473			-80#	49	1550	145	27	95	2.72	1280	100	2.80		colluvial banks; 40% gravel, 40% sand, 20% silt;
														low organics.
														Dominant conglomerate; sst; quartzite; vein quartz
														conglomerate o/c.
154474	428620	5407870	-4#										2550	Moderately incised; slow flow; 1m wide; eucalypts;
475			-80#	12	240	80	2	4	1.16	180	125	0.015		alluvial banks; 25% gravel, 45% sand, 30% silt; Mn
														staining; moderate organics.
														Dominant conglomerate float; quartzite; sst; vein quartz;
														siltstone o/c.
DETECTION LIMIT														
ANALYTICAL METHOD														

5 cm

Project: SHEFFIELD - MOINA.

1 : 250 000 Sheet: BURNIE AMG Zone:

Sheet No.: 1

Tenement: CETHANA EL 10/76

DPO's:

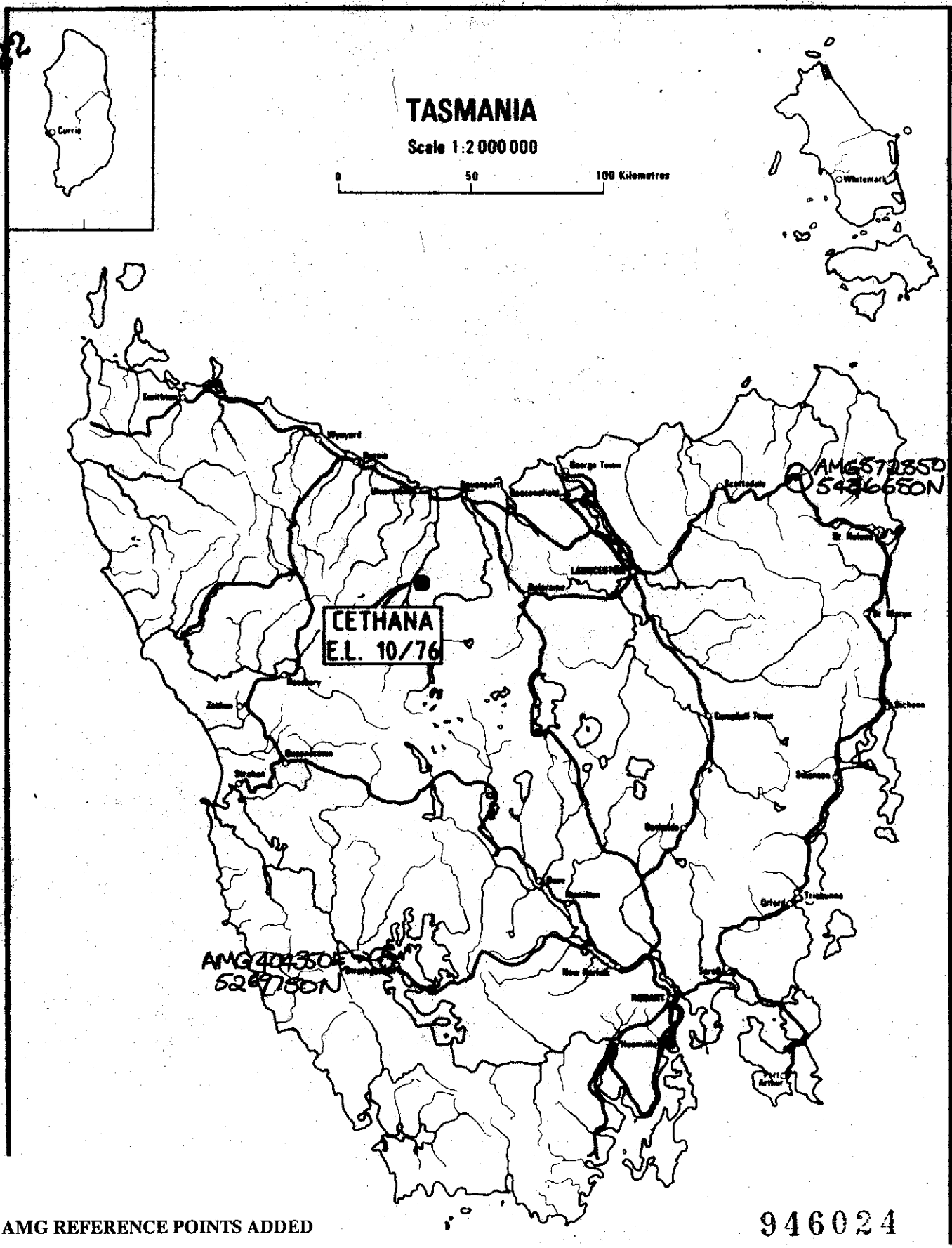
Laboratory: AMDEL

Area / Prospect: ANOMALY FOLLOW-UP

Collected By: B. FITZPATRICK Date: JANUARY 1986.

A. EDWARDS.

022



AMG REFERENCE POINTS ADDED

946024

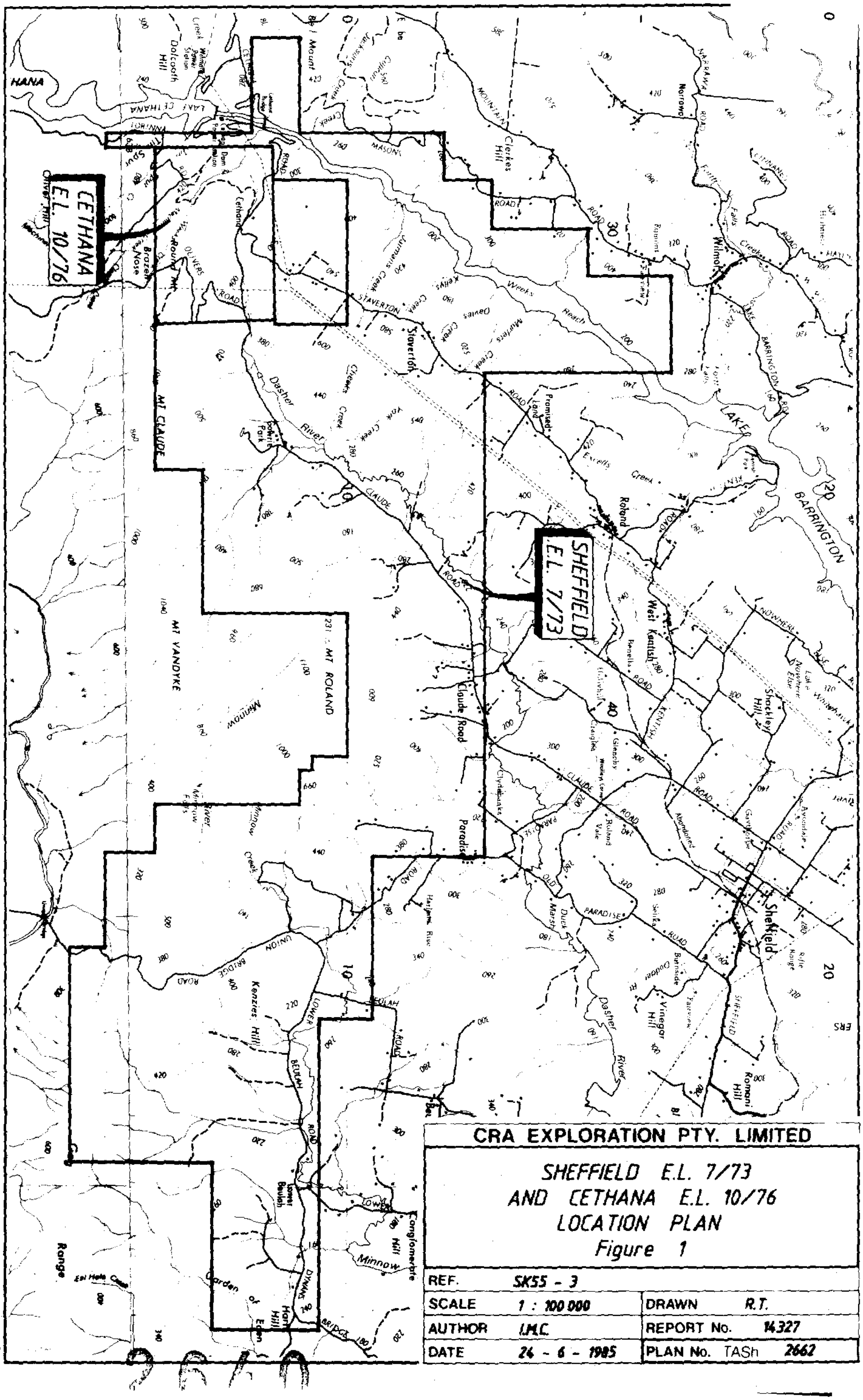
5 cm

CRA EXPLORATION PTY. LIMITED	
CETHANA E.L. 10/76	
E.L. LOCATION PLAN	
REF. SIGS - 3	(B/W)
SCALE 1 : 2 000 000	DRAWN R.T.
AUTHOR T.vS.	REPORT No. K327
DATE 6 - 2 - 1986	PLAN No. TASh 298

87-2640

023

946025



CETHANA
E.L. 10/76
SHEFFIELD
E.L. 7/73
MT CLAUDE
MT VANDYKE
MT ROLAND
LAKE BARRINGTON
Sheffield
West Kentish
Staverton
Promised Land
Dasher River
Kenzies Hill
Lower Beulah
Conglomerate Hill
Garden of Eden
Vinegar Hill
Romani Hill
Shackley Hill
Wilmot
Claude Road
Paradise
CRA EXPLORATION PTY. LIMITED
SHEFFIELD E.L. 7/73
AND CETHANA E.L. 10/76
LOCATION PLAN
Figure 1
REF. SK55 - 3
SCALE 1 : 100 000
DRAWN R.T.
AUTHOR I.M.C.
REPORT No. 14327
DATE 24 - 6 - 1985
PLAN No. TASh 2662

5 cm


HIDDDEN TREASURE
Quartz veins ingreisen
1.5t 20mass% WO3
with Mo, Fe, Cu
PREMIER
Quartz veins W, Mo, Bi, Cu, As, F, Fe
FALLS
Detrital Sn
WEST MOUNT CLAUDE
Pb, Ag, Au Tonnage included in ROUND HILL EAST
ROUND HILL WEST
Pb, Ag, Au, Tonnage included in ROUND HILL EAST
ROUND HILL CENTRAL
Pb, Ag, Au, Tonnage included in ROUND HILL EAST
ROUND HILL EXTENDED
2.4% Zn, 3.6% Pb, 144g/t Ag, 0.2g/t Au
Structurally controlled.
ROUND HILL EAST (or MAIN)
31.5kg Au, 10.8t Ag, 4743t Pb
Structurally controlled.
5 406 000 mN
428 000 mE
430 000 mE
432 000 mE
946026
87-2640
CRA EXPLORATION PTY. LIMITED
CETHANA E.L. 10/76
GEOLOGY AND
DRILLHOLE LOCATION PLAN
REF. SK55 - 3 (8114)
SCALE 1 : 5000
DRAWN R.T.
AUTHOR I.M.C.
REPORT No. 14327
DATE 4 - 2 - 1986
PLAN No. TASh 2915

025

U.T.E.M. INEFFECTIVE ABOUT THIS POWERLINE

Transmission Line

CETHANA

CETHANA ROAD

CLAUDE ROAD

OLIVERS ROAD

STAVERTON ROAD

Lake Barrington

Cethana Dam

Dasher River

Power Line

Machinery Creek

COCKATOO ROAD

LORINNA ROAD

LAKE CETHANA

PD84 CC9

DD86 CC13

DD77 CC1

DD86 CC11&12

DD77 CC2

DD77 CC3

PD84 CC10

DD77 CC8

DD77 CC6

DD77 CC5

DD77 CC4

DD77 CC7

5 409 000 mN

5 408 000 mN

5 407 000 mN

5 406 000 mN

E.L. 10/76

E.L. 7/73

LEGEND

- DD77 CC4 DIAMOND DRILLHOLE LOCATION
- PD84 CC9 PERCUSSION DRILLHOLE LOCATION
- " B " PROPOSED DRILLHOLE LOCATION

GEOPHYSICS

- U.T.E.M. ANOMALY
- I.P. RESISTIVITY LOW
- I.P. CHARGEABILITY HIGH

SOIL GEOCHEMISTRY

- Pb : Cu 30 : 1
- Pb 500ppm (Max. 1560)
- Zn 500ppm (Max 3000)

946027

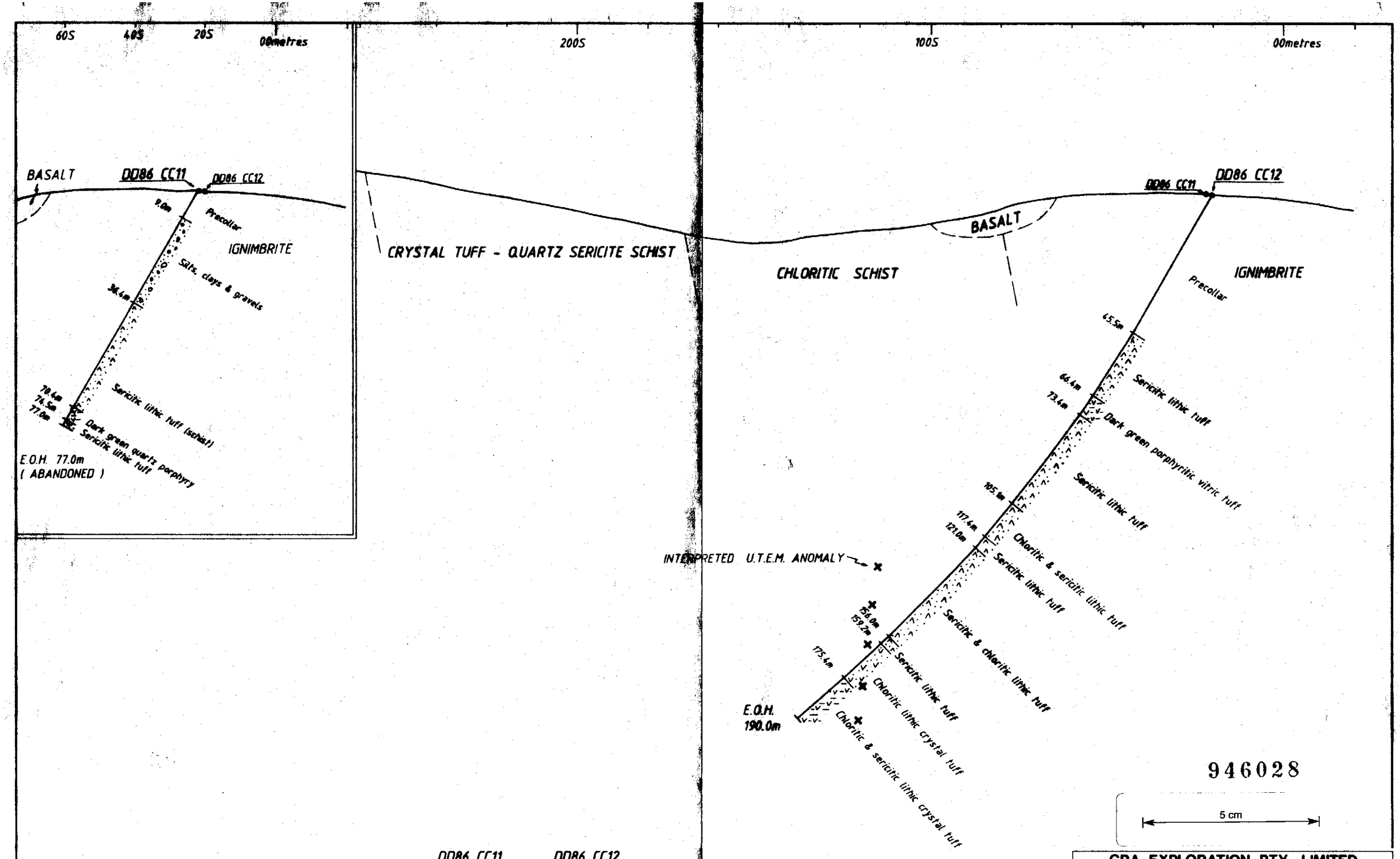
5 cm

CRA EXPLORATION PTY. LIMITED

CETHANA E.L. 10/76
WEST CETHANA
GEOPHYSICAL AND GEOCHEMICAL
ANOMALY COMPILATION

REF.	SK55 - 3	(8114)	
SCALE	1:5000	DRAWN	R.T.
AUTHOR	I.M.C.	REPORT No.	14327
DATE	17 - 2 - 1986	PLAN No. TASh	2925

87 2640



	DD86 CC11	DD86 CC12
Collar Co-ords.	: 700E	: 700E
	: 020S	: 021S
A.M.G.	: 428 670mE	: 428 670mE
	: 5 408 460mN	: 5 408 460mN
Azimuth	: 232° A.M.G.	: 232° A.M.G.
Dip	: -55°	: -55°
Total Depth	: 77.0 metres	: 190.0 metres

027

946028

5 cm

87-2640

CRA EXPLORATION PTY. LIMITED		
CETHANA E.L. 10/76 SECTION LINE 700E LOOKING WEST DRILL HOLE DD86 CC11 / CC12		
REF. SKSS - 3		(8715)
SCALE 1 : 1000	DRAWN R.T.	
AUTHOR S.J.C.	REPORT No. 16327	
DATE Aug. 1986	PLAN No. TASh 3086	

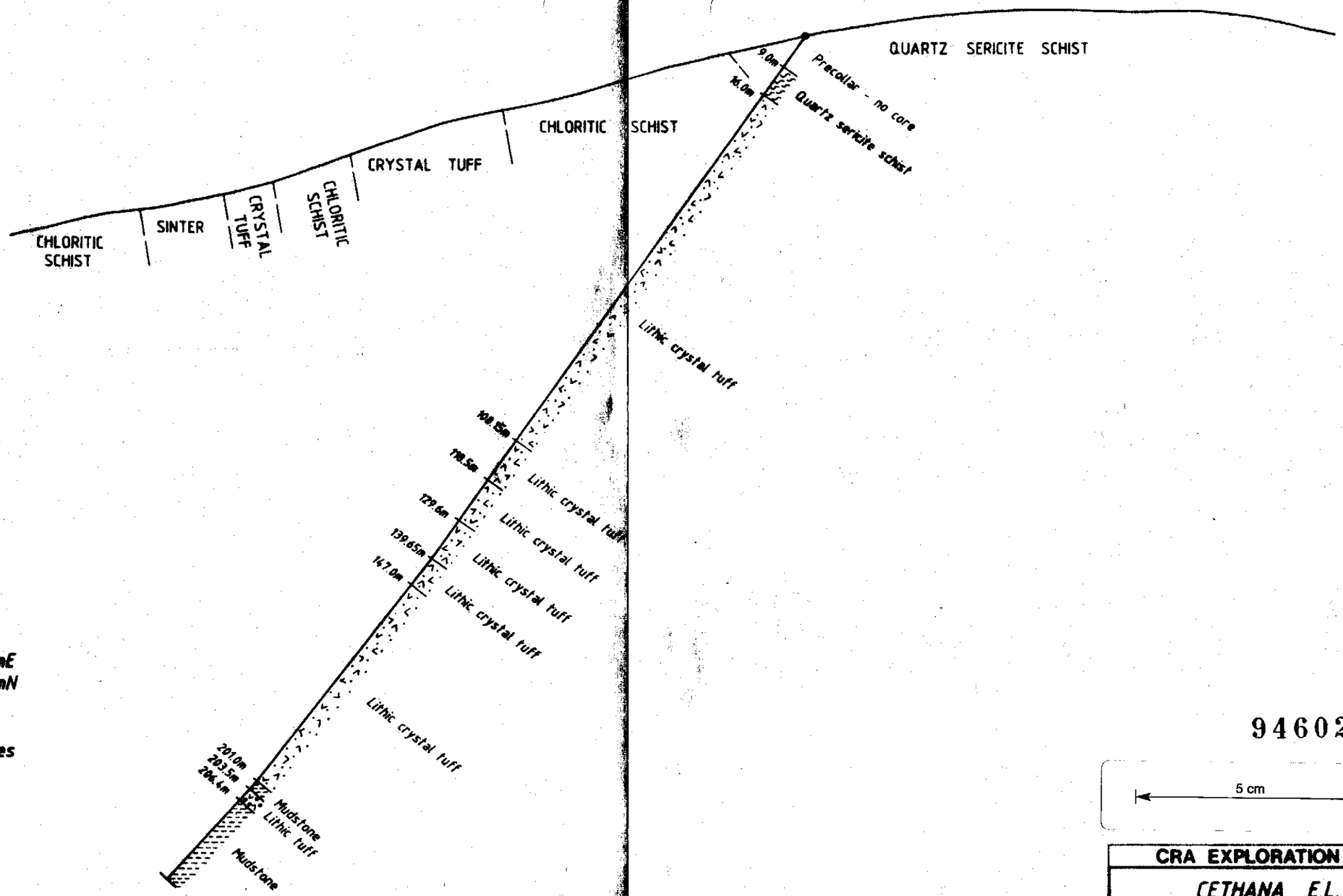
200S 100S 00m 100N

026

Pb : Cu (soils) >30:1

Pb >500ppm

DD86 CC13



Collar co-ords : 900E
: 00N
A.M.G. : 420 700mE
: 5 408 275mN
Azimuth : 232°
Dip : -60°
Total Depth : 229.5 metres

946029

5 cm

87-2640

CRA EXPLORATION PTY. LIMITED

CETHANA E.L. 10/76
SECTION LINE 900E
LOOKING WEST
DRILL HOLE DD86 CC13

REF.	SK55 - 3		(8115)
SCALE	1 : 1000	DRAWN	R.T.
AUTHOR	S.J.C.	REPORT No.	16327
DATE	Aug. 1986	PLAN No. TASh	3007