

C.R.A. EXPLORATION PTY. LIMITED

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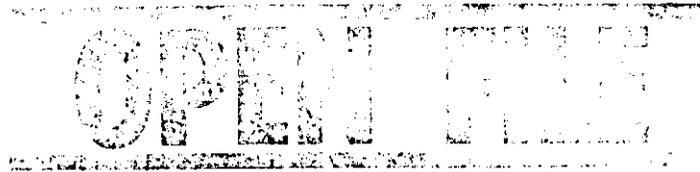
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SUBJECT:

OONAH PROSPECT - TASMANIA
REPORT ON FIRST STAGE OF EXPLORATION
UNDER THE CRAE - MINOPS J.V. AGREEMENT

VOL I - TEXT



AUTHOR:

A.D. MC KAY

DATE:

AUGUST 28, 1980

80-1484
VOL 1
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C.R.A. EXPLORATION PTY. LIMITED

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VOL I - TEXT

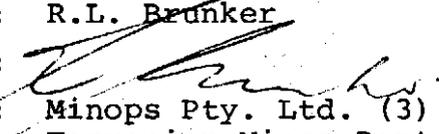
Author : A.D. McKay
Date : August 28, 1980
Submitted to : R.L. Brunker
Accepted by : 
Copies to : Minops Pty. Ltd. (3)
Tasmanian Mines Dept. (1)
CRAE Library (1)
I.R. Johnson (1)

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1. SUMMARY

The regional geology of the Oonah area can be divided into three sedimentary formations:

- Crimson Creek Formation - Cambrian
- Success Creek Group - Lower Cambrian (?)
- Oonah Quartzites - Upper Proterozoic

The largest bodies of Sn-Cu-Ag sulphide mineralisation in the Zeehan area (i.e. Zeehan-Montana, Zeehan-Western, Queen Hill and Oonah) occur within black shale units of the Success Creek Group.

At Oonah, the "stannite lode" consists of stannite, chalcopyrite, Pb-Ag sulphides and pyrite. Mineralisation occurs within two types of lithologies:

- black shale units which have been brecciated
- in basic pyroclastics - mineralisation occurs in quartz siderite veins and as vesicle fillings

DD 79 OC 1/2 intersected three zones of significant mineralisation:

178.04m - 187.10m	:	9.06m @ 0.33%	Sn 90 ppm Cu 12 g/t Ag
209.75m - 214.20m	:	4.45m @ 0.59%	Sn 0.61% Cu 85 g/t Ag
241.00m - 244.60m	:	3.60m @ 0.43%	Sn 57 ppm Cu <1 g/t Ag

DD 80 OC 3 intersected one zone of mineralisation:

259.90m - 264.70m	:	4.80m @ 0.42%	Sn 515 ppm Cu 4 g/t Ag
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The cores from Minops drill holes M4, M6 and M10 were relogged and resampled. Comparison of the new assay date with the old results showed that for low values (i.e. values <0.5% Sn,

<0.5% Cu) there is good correlation between the two sets of results. However, for high assay values (i.e. >0.5% Sn, >0.5% Cu) the correlation is poor and Minops' results are generally higher than the new assay results by AMDEL.

For Ag, there appears to be a fairly good correlation between Minops' results and AMDEL's results.

2. INTRODUCTION

CRAE entered into a Farm-in and Joint Venture Agreement with Minops Pty. Ltd. for exploration work on the Oonah prospect. The Agreement states that CRAE must spend \$100,000 before April 22, 1982, to earn 70% equity in the Oonah Joint Venture. At the completion of \$100,000 expenditure, Minops must decide whether or not to commence contributing to the Joint Venture budget at the rate of 30% of future expenditure.

CRAE has spent a total of \$105,386 to July 31, 1980 on the Oonah Joint Venture.

This report documents the results of all exploration work carried out by CRAE under the Joint Venture Agreement and is presented to Minops Pty. Ltd. so that Minops may decide on its future level of commitment to the Oonah Joint Venture.

3. CONCLUSIONS AND RECOMMENDATIONS

For the period September to December 1980 it is recommended that the following two holes be drilled:

- 1 hole of 150m on section 5160 N; to test a broad zone of low grade mineralisation in black shales.
- 1 hole of 150m to test the Junction mineralisation.

Also, it is recommended that survey control for grid location and drill collar surveying be established over ML 35M/72.

For 1980 it is recommended that a total of \$250,000 should be spent on continuing exploration. This programme will consist of approximately 2,620 metres of diamond drilling; detailed soil geochemistry and geophysics.

4. WORK COMPLETED

The following work has been carried out in the first stage of exploration under the Oonah Joint Venture:

1. Regional mapping of the Oonah-Queen Hill area; scale 1:6000
2. Detailed outcrop mapping of the Oonah lease area - scale 1:500. For this work a base-line and 40 m spaced cross-lines were cut.
3. Retraying and storage of core from 10 Minops diamond drill holes: M1 - M10 complete.
4. Relogging and complete resampling of holes M4, M6, M10.
5. Two holes were drilled and sampled:

DD 79 OC 1/2	-	280.4m
DD 80 OC 3	-	343.7m
6. Two electrodes were placed in drill hole OC 1/2 at depths of 190m and 211m for a mese-la-masse geophysical survey.

5. REGIONAL GEOLOGY

The regional stratigraphy of the Zeehan area can be subdivided into three distinct formations (Plan Tv 39):

CRIMSON CREEK FORMATION	-	CAMBRIAN
SUCCESS CREEK GROUP	-	CAMBRIAN (?)
OONAH QUARTZITES	-	UPPER PROTEROZOIC

The "Oonah Quartzite Formation" consists of quartzites (muscovite-rich in places) and grey slate. This sequence is resistant to weathering and forms prominent hills throughout the area.

The Success Creek Group is a thin sequence of interbedded grey shales, carbonaceous black shales and altered basic pyroclastics commonly showing vesicular textures. In the Zeehan district, the Success Creek Group is less than 1,000m thick and has a limited strike extent. The Oonah quartzites are much more complexly folded than the overlying Success Creek Group and it seems likely that an unconformity occurs between the two sequences.

Conformably overlying the Success Creek Group is the Crimson Creek Formation which comprises greywackes, grey shales and quartzites.

The four largest mines (in terms of total production of Ag and Pb) in the Zeehan field are the Zeehan-Montana, Zeehan-Western, Queen Hill and Oonah. All these deposits occur within the narrow belt of Success Creek Group. In general, the best developments of complex Sn-Cu-Ag mineralisation are hosted by black shales of the Success Creek Group.

6. GEOLOGY AND MINERALISATION OF THE OONAH PROSPECT

The most prominent rock type in the vicinity of the Oonah prospect is a grey shale sequence with finely interbedded grey quartzites (refer Plans Tv 83, Tv 84, Tv 85). Soft sediment slump structures occur in the more finely laminated portions and here the shales are similar in appearance to "pyjama rock". Accessory amounts of tourmaline (schorl) have been identified in thin sections of these shales.

Black shale outcrops as a lens-shaped unit which appears to be spatially related to "The Slide" shear zone.

Basic pyroclastics form an irregular dome-shaped mass which is completely weathered in outcrop to bright orange clay. The rock consists of large welded fragments of vesicular pumice and there is a lack of stratification or sorting within the pyroclastics. Chlorite alteration is widespread and the vesicles are filled with secondary quartz, chlorite, calcite and dolomite.

"The Slide" shear zone is best known from old underground workings where it has been described as a shear zone containing high grade sulphide mineralisation and quartz-carbonate veining. It is difficult to identify the Slide in surface outcrop. It generally appears as a broad zone with weakly developed shearing and there is a general relationship between this shear zone and the occurrence of sulphides.

The Oonah prospect consists of two distinct lode zones:

- Galena lode
- Stannite lode

The galena lode consists of high grade Pb-Ag mineralisation within a breccia zone. It is best developed to the south of the Slide where it has been extensively mined by the old Oonah Silver Mining Company.

The stannite lode occurs both to the north and south of the Slide. The current exploration work has been aimed at testing the extensions of the stannite lode only.

Complex Sn-Cu-Ag mineralisation occurs as two ore types:

- sulphide mineralisation in brecciated black shale with quartz-siderite veining (refer Plans Tv 85, Tv 80).
- sulphides forming vesicle-filling and vein mineralisation in basic pyroclastics (refer Plan Tv 80).

Although the sulphide mineralisation in black shales often occurs as veins and breccia-fillings, the mineralised zone is broadly stratabound and can be correlated with the stratigraphy.

The principal sulphides are pyrite, stannite, chalcopryrite, Pb-Ag sulphides and galena. Pyrite is widespread and occurs as disseminations and fine grained sedimentary bands mainly within the black shales.

7. DIAMOND DRILLING RESULTS

Two diamond drill holes were completed in this first stage of exploration. Detailed drill logs and complete assay results are included in Appendices I and II. The results of these holes may be summarised as follows:

DD 79 OC 1/2 (Plan Tv 80)

Co-ordinates : 5060N 5166E
 Azimuth : grid W (255° Mag.)
 Inclination : 60°

This hole was drilled to test the depth continuations of the stannite lode south of the "Slide". Three significant zones of mineralisation were intersected.

178.04m - 187.10m : 9.06m @ 0.33% Sn 90 ppm Cu 12 g/t Ag
 - in basic pyroclastics
 209.75m - 214.20m : 4.45m @ 0.59% Sn 0.61% Cu 85 g/t Ag
 - in brecciated black shales
 241.00m - 244.60m : 3.60m @ 0.43% Sn 57 ppm Cu <1 g/t Ag
 - in siltstone

DD 80 OC 3 (Plan Tv 81)

Co-ordinates : 5173.0N 5171.5E
 Azimuth : 258° Mag.
 Inclination : 64°

This hole was drilled to test the depth continuations of the stannite lode north of the Slide and was extended to test the possible development of mineralisation within the Slide shear zone proper. Only one significant zone of mineralisation was intersected:

259.9m - 264.7m : 4.8m @ 0.42% Sn 515 ppm Cu 4 g/t Ag

This occurs within a broader zone of disseminated mineralisation with an overall low grade:

259.9m - 272.0m : 12.1m @ 0.23% Sn 217 ppm Cu 2 g/t Ag

Only trace amounts of mineralisation were encountered in the Slide shear zone. The zone consists of disseminated pyrite in brecciated black shale from 314.1m to 316.1m.

8. MINOPS CORE - RELOGGING AND ASSAYING

Three of the old holes drilled by Minops Pty. Ltd. were relogged and completely re-assayed. Those sections of the core which had been previously sampled were resampled by quartering the core. As well, further sampling was carried out to test for low grade mineralisation away from the main zone. The purpose of this resampling was firstly to check the accuracy of the Minops assay data and secondly to test for a broad zone of lower grade Sn-Cu-Ag mineralisation enclosing the high grade zones.

The detailed logging and assay results are included in Appendices III, IV and V; however, the results may be summarised as follows:

M4 (Plan Tv 79)

Co-ordinates : 4998.0m N 5089.5m E
Azimuth : 260° Mag.
Inclination : 70°

This hole intersected a broad zone of mineralisation:

509.0 ft - 590.0 ft : 81.0 ft (24.7m) @ 0.25% Sn 0.63% Cu
68 g/t Ag - in black shales and grey
quartzites

Within this broad zone was a narrower zone of higher grade mineralisation:

558.5 ft - 590.0 ft : 31.5 ft (9.6m) @ 0.33% Sn 1.33% Cu
150 g/t Ag - in black shales and
quartzite

M6 (Plan Tv 78)

Co-ordinates : 4956m N 5100m E
Azimuth : 258° Mag.
Inclination : 68°

Because of the badly oxidised condition of the core from the sulphide zone and the small amount of split core remaining in the trays, it was decided to accept the Minops assay results (1970) for the interval 796.8 ft - 829.3 ft.

This hole did not intersect economic grade mineralisation. A zone of low grade mineralisation occurs from 796.8 ft - 818.2 ft : 21.4 ft (6.52m) averaging 0.11% Sn 0.26% Cu 7 g/t Ag in black shales and basic pyroclastics.

M10 (Plan Tv 82)

Co-ordinates : 5207m N 4998m E
Azimuth : 253^o Mag.
Inclination : 50^o

This hole intersected two zones of "economic grade" mineralisation.

104.5 ft - 114.5 ft : 10.0 ft (3.0m) @ 0.82% Sn 95 ppm Cu
19 g/t Ag - quartz siderite pyrite
veins in basic pyroclastics

388.0 ft - 414.0 ft : 26.0 ft (7.9m) @ 0.31% Sn 0.18% Cu
40 g/t Ag in black shale

A zone of low grade mineralisation was intersected:

354.0 ft - 388.0 ft : 34.0 ft (10.34m) @ 0.20% Sn 466 ppm Cu
3 g/t Ag

9. EXPENDITURE

In the period from April 23, 1979 ("commencement date" for Oonah Joint Venture Agreement) to July 31, 1980 a total of \$105,386 has been spent on exploration work at Oonah. This total expenditure consists of:

	\$
Drilling	41,651
Pay-roll	15,721
General supplies	14,527
Vehicles	5,438
Travel and accommodation	1,603
Rent	539
Assays	2,654
Contracts	11,814
Local overheads	5,308
Central overheads	6,131
	<hr/>
TOTAL	\$ 105,386 =====

10. PROPOSED WORK PROGRAMME AND BUDGET

August - December 1980

For the period August - December 1980 it is proposed to complete the following:

- Diamond drilling:
 - 1 hole 150m on section 5160 N to test broad zone of low grade mineralisation in black shales
 - 1 hole 150m to test Junction mineralisation
 - Total 300m @ \$65/m \$ 19,500
- Establish grid and survey stations \$ 2,000

The over-run of \$5,386 on first stage of exploration, together with the cost of report preparation are to be included in the budget for August - December.

1980 (AUGUST - DECEMBER) BUDGET

	<u>AUGUST, SEPTEMBER</u>	<u>OCTOBER, NOVEMBER, DECEMBER</u>
Diamond drilling		\$ 19,500
Survey and gridding		\$ 2,000
Payroll	\$ 500	\$ 4,500
Report preparation	\$ 500	
General supplies, vehicles		\$ 2,000
Assays		\$ 2,000
Over-run on Stage I	\$ 5,386	
TOTAL	\$ 6,386	\$ 30,000

TOTAL 1980 BUDGET (AUGUST - DECEMBER) \$36,386

January - December 1981

The following work programme is planned:

	\$
- Drilling - 2,620 metres @ \$65/m (contractor cost only)	170,500
- Detailed soil geochemistry over southern extensions of stannite lode	3,000
- Grid cutting	1,000
- Bulldozing and site preparation	2,000
- Geophysics	10,000
- Capital items including new core shed, racks and trays	6,000

1981 JANUARY - DECEMBER BUDGET

(QUARTERLY BASIS)

ALL COSTS IN \$

	<u>JAN - MAR</u>	<u>APRIL - JUNE</u>	<u>JULY - SEPT</u>	<u>OCT - DEC</u>
Diamond drilling	43,000	43,000	43,000	41,500
Soil geochemistry	1,500	1,500	-	-
Grid cutting	1,000	-	-	-
Bulldozing site prep.	500	500	500	500
Geophysics	-	5,000	5,000	-
Payroll	4,000	4,000	4,000	3,000
General supplies, vehicles	4,000	4,000	4,000	3,000
Assays	500	500	500	500
Rents	-	500	-	-
Local and central overheads	6,000	6,500	6,000	6,500
Capital items	1,000	5,000	-	-
TOTAL	61,500	70,500	63,000	55,000

TOTAL 1981 BUDGET \$250,000

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KEYWORDS

Tin, copper, silver, black shale, basic volcanics, drilling, budgets

LIST OF PLANS

<u>Plan No.</u>	<u>Title</u>	<u>Scale</u>
Tv 39	Oonah Area - Geological Plan	1:6 000
Tv 83	Oonah Tin Prospect - Outcrop Plan South Sheet	1:500
Tv 84	Oonah Tin Prospect - Ourcrop Plan North Sheet	1:500
Tv 85	Oonah Tin Prospect - Geological Interpretation	1:500
Tv 80	Oonah Prospect - Cross Section 5060 N	1:500
Tv 81	Oonah Prospect - Cross Section 5180 N	1:500
Tv 79	Oonah Prospect - Cross Section 5020 N	1:500
Tv 78	Oonah Prospect - Cross Section 4960 N	1:500
Tv 82	Oonah Prospect - Cross Section 5200 N	1:500
Tv 77	Longitudinal Projection Stannite Lode	1:1 000

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APPENDIX I

DD 79 OC 1/2 DRILL LOG SHEETS

LOGGED: V.T. ROBERTS
A.D. MCKAY

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

TENEMENT NAME OONAH SHEET No. 1
No.

CO-ORDINATES 5060 N
5166 E AZIMUTH 255° M DRILLERS DC DRILLING COMMENCED 20-12-79
RL COLLAR 316.6m INCLINATION 60° DRILL TYPE LONG-YEAR 38 COMPLETED 2-2-80

PLAN - MAP REFERENCE
DEPTH 280.4 m HOLE No. DD790C1
CASING LEFT NIL DPO No(s) 25840 841 842

DEPTH		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 <u>843 844</u> <u>846 847</u>)										
From (M)	To (M)										Sn	Cu	Ag	Pb	Zn	Co	Bi	Sb	W		
0.0	15.35				TRICONED																
15.35	24.0		NQ		SILTY SHALES	weathered	189309	15.35	19.00	2.57	44	42	1	65	18	5	<10	44	10	8.5	
15.35	17.15	0.99			Well bedded black		189310	19.00	21.80	2.54	10	60	1	110	55	5	<10	8	<10	5	
17.15	17.65	0.40			and grey shales with		189085	21.80	24.00	1.85	45	80	3	80	120	30	20	40	<10	5.7	
17.65	19.00	1.18			frequent of siltstone																
19.00	20.50	1.27			bands 1-50 mm																
20.50	21.80	1.27			thick and short																
21.80	23.40	1.25			sections of (up to	21.90-24.00m: Tr Py															
					30 cms.) of banded	as f.g. blebs or															
					siltstone, contorted	m.g. patches // to															
					bedding over short	bedding															
					sections; minor																
					Carbonate veining -																
					mostly // to bedding;																
					siltstone is micaceous																
					(muscovite).																
					From 17.65 m "pyram																
					rock" is developed																
					Δ 45°-75° mostly 50°																
24.00	29.50		NQ		VESICULAR VOLCANICS	Weathered															
23.40	26.30	0.81			f.g. lava?																
26.30	29.40				TRICONED																
HOLE OC-1 ABANDONED AT 26.30m																					
OC-2 COMMENCED ALONGSIDE AND TRICONED TO 29.40m																					
29.50	35.20		NQ		BLACK SHALE																
29.40	31.10	1.64			Moderate - strongly	29.50 - 30.3: minor	189086	29.50	30.30	0.80	45	30	1	20	40	55	15	<10	40	4.70m	
31.10	34.20	1.96			weathered	py visible	189311	30.30	35.20	3.70	44	25	<1	30	180	25	<10	8	<10	4.4	
34.20	36.20	1.47			30.3 - 30.6: vesicular	30.6 - 35.2: Tr py															
					volcanics Δ 0-55°	still visible														26.41	

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

SHEET No. 2

CO-ORDINATES 5060 N 5166 E AZIMUTH 255° M
RL COLLAR 316.6 m INCLINATION 60°

DRILLERS D.C. DRILLING COMMENCED 20-12-89
DRILL TYPE LONGYEAR 38 COMPLETED 2-2-80

TENEMENT NAME CONAH No.

PLAN - MAP REFERENCE

DEPTH 280.4 m HOLE No. DD790C/2

CASING LEFT NL DPO No(s) 2520 841 842 843 844

DEPTH		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 (Analyzed by 846 847)												
From (M)	To (M)										Sn	Cu	Ag	Pb	Zn	Co	B ₁	Sb	W				
35-20	40-20		NQ		PUMICEOUS TUFF																		
36-20	38-50	1.48			Moderate - strongly weathered.	35-20 - 40-20 : Tr - 1% v.f.g. py - disseminated	189087	35-20	38-50	1.95	5	60	2	30	220	60	20	<10	<10				
38-50	40-10	1.08			Massive moderate - strongly chloritic		189088	38-50	40-20	1.18	<5	70	2	30	380	20	20	20	<10				
40-20	103-40		NQ		GREY SHALE																		
40-10	41-75	1.22			Similar to shale above with few siltstone sections, strongly banded, has pyjama rock texture in places.	40-20 - 42.00 : 1-3% py as py rich bands // bedding, dissemination & blebs related to bedding.	189089	40-20	42-00	1.37	<5	25	1	50	140	20	15	60	<10				
41-75	43-30	1.40																					
43-30	46-00	1.30																					
45-00	46-50	1.51																					
46-50	48-10	1.40					189090	44-00	45-50	1.10	5	20	1	35	130	20	20	<10	<10				
48-10	49-65	1.68					189091	47-20	49-40	2.00	<5	25	2	50	130	20	15	<10	<10				
49-65	51-15	1.56					189092	60-20	61-70	1.48	5	30	1	50	175	10	20	20	<10				
51-15	52-70	1.54					189093	61-70	63-30	1.66	5	30	1	55	130	20	15	40	<10				
52-70	54-20	1.63					189094	65-55	67-00	1.41	10	30	1	70	55	10	20	20	40				
54-20	55-40	0.78					189095	67-00	68-10	1.17	5	30	1	80	35	10	20	10	40				
55-40	57-10	1.48					189096	68-10	70-00	1.90	<5	30	1	110	210	10	15	<10	<10				
57-10	58-60	1.58					189312	70-00	75-60	5.28	12	40	<1	20	140	15	10	44	25	G			
58-60	60-10	1.75					189313	75-60	81-40	5.76	14	48	<1	35	370	10	40	44	20	G			
60-10	61-30	1.18					189314	81-40	86-50	5.61	6	65	<1	20	130	15	10	6	30	G			
61-30	62-80	1.56					189315	86-50	92-70	6.27	4	44	<1	25	130	15	10	12	15	G			
62-80	64-40	1.63					189316	92-70	97-50	4.69	<4	28	<1	20	130	10	10	10	20	G			
64-40	66-00	1.56					189097	97-50	99-00	1.44	<5	30	2	200	145	15	10	20	<10				
66-00	67-50	1.57					189317	99-00	103-40	4.32	8	32	1	250	320	10	110	8	10				
67-50	70-80	3.01																					
70-80	73-80	2.91																					
73-80	75-60	1.76																					
75-60	78-30	2.69																					
78-30	81-40	3.07																					
81-40	83-40	2.06																					

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

SHEET No. 3

TENEMENT NAME CONAH No.

PLAN - MAP REFERENCE

DEPTH HOLE No. DD79 OC 1/2

CASING LEFT DPO No(s)

CO-ORDINATES AZIMUTH DRILLERS COMMENCED

RL COLLAR INCLINATION DRILL TYPE COMPLETED

DEPTH		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.....)											
From (M)	To (M)										Sn	Cu	Ag	Pb	Zn	Co	Bi	Sb	W			
83.40	86.50	3.01			Δ 45°-50° 40.20 - 49.0																	
86.50	89.60	3.23			Δ 35°-40° 49.0 - 96.0																	
89.60	92.70	3.04			Δ 45°-75° 96.0 - 99.0																	
92.70	95.85	3.02			Δ 35°-40° 99.0 - 103.0																	
95.85	99.00	3.09			(P @ 63.50m)																	
99.00	102.15	3.07			(P @ 85.3m, 92.8m)																	
103.40	108.85		NQ		SILTSTONE																	
102.15	105.25	2.88			Well bedded micaceous	103.40 - 108.85 : Tr. py.	189318	103.40	108.85	6.30	4	40	41	25	95	15	410	10	25	G		
105.25	106.50	1.22			of siltstone with grey																	
106.50	109.20	2.46			shale sections																	
					10-30 cms thick																	
					108.2 - 108.85 : breccia																	
					zone : FAULT																	
					Δ = 0-70° 103 - 105m																	
					Δ = 65° 105 - 106.5m																	
					Δ = 35-50° 106.5-109																	
108.85	132.45				VESICULAR VOLCANICS,																	
108.80	121.83		NQ		108.80 - 121.83 : f.g. lava																	
11.90	115.00	3.03	NQ		with carbonate +		189319	108.85	113.50	4.52	44	34	41	10	120	45	410	44	410	G		
115.00	116.00	0.73	NQ		chlorite filled vesicles		189320	113.50	118.00	4.16	6	36	41	20	180	45	410	44	410	G		
116.00	119.05	3.00	BQ		121.83-126.1 : Coarse		189098	118.00	120.10	2.05	45	50	4	240	340	60	25	40	410			
119.05	122.20	3.10	BQ		stuff with clasts of	120.13-121.83 : Tr-1/9n	189099	120.10	121.90	0.80	35	95	70	1.67	0.26	50	25	60	40			
122.20	125.30	3.12	BQ		above lava to	+ Tr. py - patches	189100	121.90	124.00	2.05	45	40	5	960	0.19	55	30	40	410			
125.30	128.35	3.02	BQ		15 cms ; matrix	in blbs & vesicles	189321	124.00	126.00	2.02	10	34	41	25	260	50	410	10	15	G		
128.35	131.40	3.02	BQ		has similar composition	Associated with																
					to clasts - some	-carbonate in a																
					inherent carbonate	weak zone of carbonate																
					126.10 - 132.44	pyrite																
					or fine vesicular	veining																

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

SHEET No. 4

TENEMENT NAME CONAH No.

PLAN - MAP REFERENCE

CO-ORDINATES AZIMUTH DRILLERS COMMENCED DEPTH HOLE No. PD 79 OC 1/2

RL COLLAR INCLINATION DRILL TYPE COMPLETED CASING LEFT DPO No(s)

DEPTH		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.....)										
From (M)	To (M)										Sn	Cu	Ag	Pb	Zn	Co	Bi	Sb	W		
					tuff with weak carbonation (spotting) (P @ 115.0 m 124.0m)																
132.45	139.30		BQ		BLACK AND GREY SHALES																
131.40	134.40	2.77			well bedded, similar to above shales	132.45-139.30: Tr-1% py	189251	132.45	134.15	1.70	45	20	2	145	230	15	45	10	40		
134.40	137.40	2.92					189252	134.15	135.85	1.47	45	30	2	70	155	25	5	20	40		
137.40	140.10	2.85			135.0-135.85 contorted brecciated section		189253	136.40	137.85	1.37	45	25	2	75	155	20	45	20	40		
					135.85-136.40 short section of vesicular tuff		189254	137.85	139.30	1.45	45	20	3	55	130	20	5	20	40		
					Δ 45°-55° not contorted																
139.30	147.56		BQ		VESICULAR VOLCANICS																
140.10	143.20	3.13			fg. and massive variants.																
143.20	146.30	3.08																			
146.30	149.30	3.07																			
147.56	165.20		BQ		GREY SHALES																
149.30	152.10	2.30			bedded with gh siltstone sections	147.56-149.30: Tr-1% py															
152.10	155.20	3.00			similar to above	mostly in clasts															
155.20	158.30	3.02																			
158.30	159.50	0.83			147.56-149.30 conglomeratic section - clasts of siltstone up to 15cms in, contorted shale matrix																
159.50	161.30	1.69																			
161.30	164.30	2.74																			
					152.10-154.10: siltstone section																
					154.10-155.20: contorted and brecciated section																

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

SHEET No. 5

TENEMENT NAME OONAH No.

PLAN - MAP REFERENCE

CO-ORDINATES..... AZIMUTH..... DRILLERS..... COMMENCED..... DEPTH..... HOLE No. DP 79.00/2

RL COLLAR..... INCLINATION..... DRILL TYPE..... COMPLETED..... CASING LEFT..... DPO No(s).....

DEPTH		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.....)									
From (M)	To (M)										Sn	Cu	Ag	Pb	Zn	Co	Bi	Sb	W	G
	156.20-157.40				siltstone		189322	149.30	155.20	5.3	18	220	4	350	260	15	40	44	110	G
	158.30-159.70				siltstone	155.45-155.80 : 10% f.g. fgy as	189255	155.20	156.20	1.00	45	35	4	115	150	20	45	40	410	
	159.70-160.00				gy breccia zone some core loss - FAULT ZONE	dissem. & blebs related to bedding (includes one massive section)	189256	156.20	158.30	2.12	45	35	2	105	160	10	45	10	410	
	160.00-160.98				f.g. carbonated volcanics	2-3 cms.														
	160.98-165.20				mostly siltstone & silicified shale	158.30-160.00 : Tr-1% fgy 160.00-160.98 : Tr-1% fgy dissem. & ind fractures	189257 189258	158.30 160.00	160.00 161.70	1.33 1.59	15 45	140 45	12 4	680 680	70 260	15 35	5 5	20 30	410 410	
					Δ 20°-55° 152-155 m	160.98-161.70 : 1% f.g. fgy														
					Δ 55° 155-158 m	dissem. & ind fractures														
					Δ 35° 158-160 m															
					Δ 45° 161-164 m															
					Δ 30° 164-167 m															
165.20	172.20	7.12	BQ		SILTSTONE	164.30-167.30 : 1% f.g. fgy banded as dissem. & blebs	189259 189260	164.30 165.80	165.80 167.30	1.50 1.53	30 105	15 15	3 2	110 145	80 55	15 10	5 45	40 20	410 410	
					f.g. grey massive siltstone gy chlorite siltstone core loss probably due to soft shale bands being ground away (P @ 168.0m)	167.30-172.20 : Tr fgy, mostly in fgs.														
172.20	178.30	4.97	BQ		GREY SHALE	173.60-174.10 : 1-3% fgy 174.10-178.04 : Tr fgy	189323 189261	172.20 173.60	173.60 174.10	0.46 0.50	4 0.24	50 175	8 12	190 0.12	38 40	15 20	40 10	40 410	15 410	
					fossily bedded with siltstone bands & silicified bands	175.20-175.95 : grey massive micc siltstone														

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

SHEET No. 6

TENEMENT NAME OONAH No.

PLAN - MAP REFERENCE.....

CO-ORDINATES..... AZIMUTH..... DRILLERS..... COMMENCED..... DEPTH..... HOLE No. DD 79 001/2

RL COLLAR..... INCLINATION..... DRILL TYPE..... COMPLETED..... CASING LEFT..... DPO No(s).....

DEPTH		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.....)								
From (M)	To (M)										Sn	Cu	Ag	Pb	Zn	Co	Bi	Sb	W
					Δ 45°-70° 172-174m														
					Δ 20°-30° 176-178m		189324	176.30	178.04	1.74	46	30	5	400	15	20	410	32	10
178.30	187.10	9.70	BQ		VESICULAR VOLCANICS														
					178.30-180.50 Vesicular lapilli tuff -	178.04-182.00: 10% f.g. fry as vesicles	189262	178.04	180.00	1.60	0.52	200	22	0.20	75	40	25	40	410
					pyrite with qtz and chlorite-filled vesicles	(5-15 cms) dissemination vesicle fillings related to fros.	189263	180.00	182.00	1.98	0.37	115	11	0.12	135	50	25	90	410
					180.50-187.10 v.f.g. aphanitic lava with numerous qtz + chlorite filled vesicles.	Dr. of silvery sulfide mineral (Sn?)													
						182.00-185.50: Tr fry as above with minor galena	189264	182.00	184.00	2.00	950	40	9	0.24	330	50	40	30	410
					(P @ 179.0m 181.0m)		189265	184.00	185.50	1.53	130	60	9	0.16	150	75	30	60	410
						185.50-187.10: 10% m.g. fry, patchy, mainly associated with siliceous chlorite veins @ 186.1 186.5 186.9 (30-70% fry over 10-15 cm (leg); also f.g. disseminated in vesicles	189266	185.50	187.10	1.60	0.69	15	6	140	100	75	45	150	410
187.10	204.40	16.30	BQ		BLACK + GREY SHALES														
					poorly bedded contacted + brecciated with minor qtz + carbonate blebs	187.10-189.35: Tr f.g. fry - dissemination and as blebs along bedding	189267	187.10	189.35	2.22	85	10	5	330	125	35	25	40	410

022

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

SHEET No. 7

TENEMENT NAME OONAH No.

PLAN - MAP REFERENCE.....

DEPTH..... HOLE No. DP 79 OC 1/2

CASING LEFT..... DPO No(s).....

CO-ORDINATES..... AZIMUTH..... DRILLERS..... COMMENCED.....

RL COLLAR..... INCLINATION..... DRILL TYPE..... COMPLETED.....

DEPTH		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.....)										
From (M)	To (M)										Sn	Cu	Ag	Pb	Zn	Co	Bi	Sb	W		
					+ veinlets	189.35-191.50 : 10-20% m.g.	189268	189.35	191.50	2.06	0.11%	280	14	0.11%	35	40	30	50	<10		
					192.65 - 195.25 : volcanic massive lava as above some fine tuff / tuffite	py occurs as veining (to 10cm) + some minor disseminations															
					195.80 - 195.90 : volcanic - fine tuff / tuffite	+ blebs - minor arsenopy @ 189.50															
					197.55 - 200.40 : massive siltstone Δ 45° - 55°	191.50 - 192.65 : 1% f.g. py - disseminated + blebby along bedding	189269	191.50	192.65	1.15	315	15	3	80	10	30	25	30	<10		
					192.65 - 195.25 : Tr py	associated with qtz carbonate veining	189270	192.65	195.25	2.30	205	80	6	420	260	55	35	10	<10		
					195.25 - 196.40 : 15% mg py	in qtz carbonate veins	189271	195.25	196.40	0.87	0.28	350	28	0.18%	50	50	55	60	<10		
					196.40 - 198.20 : 3-5% f.g.	py disseminated + associated c fractures	189272	196.40	198.20	1.80	460	55	7	0.16%	35	25	20	<10	<10		
					198.20 - 200.30 : 5-10% py	as above	189273	198.20	200.30	2.04	170	30	1	240	20	10	20	<10	<10		
					200.30 - 201.80 : 1-3% py	as above Tr gn. pt in qtz carbonate veins @ 200.68	189274	200.30	201.80	1.50	110	35	1	370	0.18%	15	30	10	<10		
					201.80 - 204.90 : 5% py as above		189275	201.80	203.20	1.10	185	15	1	40	10	20	30	20	<10		
							189276	203.20	204.90	1.70	80	20	2	60	15	20	35	<10	<10		

023

042025

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

SHEET No. 8

TENEMENT NAME OONAH No.

PLAN - MAP REFERENCE

CO-ORDINATES..... AZIMUTH..... DRILLERS..... COMMENCED..... DEPTH..... HOLE No. DD 79 001/2
RL COLLAR..... INCLINATION..... DRILL TYPE..... COMPLETED..... CASING LEFT..... DPO No(s).....

DEPTH		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.....)									
From (M)	To (M)										Sn	Cu	Ag	Pb	Zn	Co	Bi	Sb	W	
204.40	209.75		BQ		SILTSTONE															
203.20	206.30	290			Grey massive micaceous	204.90 - 207.20 1% fvy	189277	204.90	207.20	1.90	265	10	1	30	10	15	20	410	410	
206.30	207.20	0.70			of siltstone with	mostly disseminated														
207.20	208.20	0.71			minor bedded	207.20 - 208.20 Tr - 1% fvy	189284	207.20	208.20	0.71	380	15	2	10	10	5	20	20	410	
208.20	208.35	0.18			sections	as above														
208.35	209.75	3.17			208.20 - 209.75 minor	208.20 - 209.75: 3-5% fvy	189278	208.20	209.75	1.58	380	420	7	45	5	25	80	20	410	
					of veinlets.	disseminated														
						along bedding, as														
						beds in fvs														
						+ assoc. with														
						of carbonate														
						veinlets, rare														
						chy.														
209.75	214.15		BQ		BLACK SHALE															
211.60	212.40	0.28			209.75 - 211.70: veins of	209.75 - 212.40: 40% fvy	189279	209.75	212.40	2.05	0.4%	0.7%	80	680	175	70	500	50	410	
212.40	215.30	2.68			+ fvy - minor	fr. chy. -														
					fault (?) - breccia	disseminated, in														
					with siltstone &	beds + veinlets														
					shale fragments	212.40 - 213.10: 5% fvy	189280	212.40	213.10	0.70	910	40	6	100	15	30	40	40	410	
					211.70 - 212.40	disseminated														
					lumpy	in beds + veinlets														
					brecciated black															
					shale (fault	213.10 - 214.20: 30% fvy	189281	213.10	214.20	1.10	0.7%	0.6%	148	660	115	50	0.11%	320	410	
					gouge) - core	fr. chy - mostly														
					lakes	in large fvs.														
					212.40 - 214.15: poorly															
					bedded black															
					shale & minor															
					fine of filled															
					fracturing -															
					siliceous zone	213.15 - 213.55														

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042026

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

SHEET No. 10

TENEMENT NAME OONAH No.

PLAN - MAP REFERENCE

DEPTH HOLE No. DD790C1/2

CASING LEFT DPO No(s)

CO-ORDINATES AZIMUTH DRILLERS COMMENCED

RL COLLAR INCLINATION DRILL TYPE COMPLETED

DEPTH		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.....)								
From (M)	To (M)										Su	Cu	Ag	Pb	Zn	Co	Bi	Sb	W
					(P @ 223.0m)	251.37 - 251.92 : 1% gn dissem.	189295	251.30	252.45	1.15	195	130	18	0.96	0.24	10	40	20	<10
						1% fgy dissem.	189331	252.45	254.60	1.61	4	20	21	5	25	5	<10	4	10
						1% fgy dissem.	189332	254.60	257.30	2.45	44	25	1	15	25	10	<10	44	<10
						257.45 - 258.40 : 10% fgy.	189296	257.30	258.60	0.60	550	1.33	27	0.28	1.5	30	70	10	<10
						1-5% cpy assoc with 10% carbonate in halcia zone	189333	258.60	260.20	1.56	200	28	1	45	35	10	<10	16	20
258.50	280.40	BQ			GREY SHALE - as above with some "pylona rock" - poor - moderately bedded with some siltstone sections siltstone sections	262.25 - 263.00 : 1% fgy dissem. and assoc with bedding.	189297	262.20	263.00	0.69	40	45	3	60	40	20	25	10	<10
						264.20 - 265.20 : Tr-1% fg fgy cpy - bleached and assoc with of carbonate veins	189298	264.20	265.20	0.85	905	140	4	30	40	10	40	<10	<10
					271.00 - 272.30 m 276.25 - 277.40 m 278.12 - 280.40 m	265.20 - 271.20 : Tr fgy as above	189334	269.20	271.20	2.00	44	26	1	20	44	10	40	44	20 G
					Δ 0-50° 260-265m Δ 0-45° 274-280m	271.20 - 274.35 : 5% fgy, Tr cpy.	189299	271.20	272.80	1.68	0.28	20	3	35	15	20	30	<10	<10
					(P @ 277.0m)	274.35 - 280.40 : Tr f-g. fgy.	189300	272.80	274.40	1.60	0.15	35	3	50	15	20	25	<10	<10
							189335	274.40	276.40	2.00	20	170	3	20	180	15	<10	8	170 G

END OF HOLE

* G - denotes sample taken by core grinding
* P - denotes detailed petrological description from thin section

V. F. ROBERTS JAN-FEB 1980
Aden McKay MARCH 1980

026
042028

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

TENEMENT NAME CONAH No.

PLAN - MAP REFERENCE

CO-ORDINATES..... AZIMUTH..... DRILLERS..... COMMENCED..... DEPTH..... HOLE No. DD19 OC 1/2

RL COLLAR..... INCLINATION..... DRILL TYPE..... COMPLETED..... CASING LEFT..... DPO No(s).....

DEPTH		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.....)											
From (M)	To (M)																					
<u>SURVEYS</u>																						
<u>DEPTH</u>					<u>AZIMUTH</u>	<u>INCLINATION</u>																
	0m				255° MAG.	60°																
	37m				257° MAG	59°																
	67m				258° MAG	57 ³ / ₄ °																
	97m				258° MAG.	55°																
	130m				262 ¹ / ₂ ° MAG	55 ¹ / ₂ °																
	160m				262° MAG	56°																
	190m				262 ¹ / ₄ ° MAG.	55 ¹ / ₄ °																
	220m				262° MAG.	54°																
	250m				265° MAG.	52 ³ / ₄ °																
	280m				268° MAG.	50 ³ / ₄ °																
<u>NOTE:</u>		A correction (-1 ¹ / ₂ °) has been made to azimuth as constant error in camera. In addition it is suspected that a correction of -4° should be made at 130m 160m 190m 220m 250m 280m because of highly magnetic BQ rods.																				

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042029

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

TENEMENT NAME OONAH SHEET No.
No.

PLAN - MAP REFERENCE

DEPTH..... HOLE No. DD79001/2

CASING LEFT..... DPO No(s).....

CO-ORDINATES..... AZIMUTH..... DRILLERS..... COMMENCED.....

RL COLLAR..... INCLINATION..... DRILL TYPE..... COMPLETED.....

DEPTH		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.....)									
From (M)	To (M)										Sn	Cu	Ag							
					<u>BULKING OF ASSAY DATA</u>															
								15.35	24.00	8.65	5	57	1							
								29.50	35.20	5.70	4	26	<1							
								35.20	40.20	5.0	45	63	2							
								40.20	42.00	1.80	45	25	1							
								44.00	45.50	1.50	5	20	1							
								47.20	49.40	2.20	5	25	2							
								60.20	63.30	3.10	5	30	1							
								65.55	103.40	37.85	7	38	<1							
								103.40	108.85	5.45	4	40	<1							
								108.85	126.00	17.15	7	44	8							
								132.45	135.85	3.4	45	25	2							
								136.40	139.30	2.90	45	22	2							
								144.30	161.70	12.40	17	139	5							
								144.30	167.30	3.00	68	15	2							

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042030

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

TENEMENT NAME OONAH SHEET No.
No.

PLAN - MAP REFERENCE.....

CO-ORDINATES..... AZIMUTH..... DRILLERS..... COMMENCED..... DEPTH..... HOLE No. DD 79 001/2

RL COLLAR..... INCLINATION..... DRILL TYPE..... COMPLETED..... CASING LEFT..... DPO No(s).....

DEPTH		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.....)									
From (M)	To (M)										Sn	Cu	Ag							
<u>BULKING OF ASSAY DATA</u>																				
								172.20	174.10	1.90	635	83	9							
								176.30	178.04	1.74	46	30	5							
								178.04	180.00	1.96	0.52	200	22							
								180.00	182.00	2.00	0.34	115	11							
								182.00	184.00	2.00	950	40	9	9.06 m						
								184.00	185.50	1.50	130	60	9	0.33/sn	90 Cu	12g/Ag				
								185.50	187.10	1.60	0.69	15	6							
								187.10	195.25	8.15	423	102	7							
								195.25	196.40	1.15	0.28	350	28							
								196.40	209.75	13.35	249	72	3							
								209.75	212.40	2.65	0.64	0.74	80							
								212.40	213.10	0.70	910	40	6	4.45 m	0.59/sn					
								213.10	214.20	1.10	0.72	0.68	148		0.61/sn	Cu	85g/Ag			
								214.20	241.00	26.80	309	54	2							
								241.00	243.40	2.40	0.49	75	41	3.60 m	0.43/sn					
								243.40	244.60	1.20	0.30	20	1		57 Cu	21 Ag				
								244.60	260.20	15.60	221	0.17	4							
								262.20	263.00	0.80	40	45	3							
								264.20	265.20	1.00	905	140	4							
								269.20	276.40	7.20	973	67	3							

023

042031

APPENDIX II

DD 80 OC 3 DRILL LOG SHEETS

LOGGED A.D. MCKAY

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

TENEMENT NAME **CONAH** SHEET No. **2**
No. **11**
PLAN - MAP REFERENCE.....

CO-ORDINATES..... AZIMUTH..... DRILLERS..... COMMENCED..... DEPTH..... HOLE No. **DD800C-3**
RL COLLAR..... INCLINATION..... DRILL TYPE..... COMPLETED..... CASING LEFT..... DPO No(s) **26506**
26507
26508

DEPTH		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 AMDEL)									
From (M)	To (M)										Sn	Cu	Ag	Pb	Zn	W	Au			
35.6	43.9	7.4	NO		INTERBEDDED GREY SHALES AND QUARTZITES		819866	39.0	40.0	1.0	18	26	4	35	490	<10				
					<i>finely interbedded grey shales and quartzites. Laminar average < 1cm in thickness. minor black carbonaceous shale turbidity current bedding and soft sediment slump structures in places</i>	<i>Fine laminal of sedimentary pyrite 39.0 - 43.9 m pyrites less than 2% of rock.</i>	819867	40.0	41.0	1.0	16	20	4	35	330	<10				
					<i>Bedding av. 45°</i>		819868	41.0	43.9	1.1	4	12	4	25	350	<10				
43.9	46.1	1.0			BASIC TUFF AND TUFFACEOUS SANDSTONE		819869	43.9	46.1	1.0	10	32	4	20	600	<10				
					<i>interbedded basic pyroclastics and tuffaceous sandstone. Angular inclusions of black shale. Chlorite and talc as vesicle-filling. Bedding 50°</i>	<i>Minor disseminated pyrite and chalcopyrite. Core badly broken. Core loss 1.2m</i>														

032

042034

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

TENEMENT NAME DONAH SHEET No. 3
No. 11

CO-ORDINATES..... AZIMUTH..... DRILLERS..... COMMENCED..... DEPTH..... HOLE No. DD 80 OC-3
RL COLLAR..... INCLINATION..... DRILL TYPE..... COMPLETED..... CASING LEFT..... DPO No(s) 26506
26507
26508

DEPTH		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 <u>26508</u>)									
From (M)	To (M)										Sn	Cu	Ag	Pb	Zn	W	Au			
46.1	53.4	7.3	NQ		<u>INTERBEDDED GREY SHALES AND BLACK SHALES</u>		819870	46.1	47.0	0.9	10	24	<1	30	250	<10				
					<i>minor thin quartzite beds < 1 cm. thick soft sediment slump structures</i>	<i>Pyrite occurs as thin sedimentary bands and small patches throughout</i>	819871	47.0	48.0	1.0	14	20	<1	45	210	<10				
							819872	48.0	49.0	1.0	8	22	<1	40	420	<10				
							819873	49.0	50.0	1.0	8	30	<1	40	230	<10				
							819874	50.0	51.0	1.0	8	28	1	30	55	<10				
							819875	51.0	52.0	1.0	8	28	<1	25	90	10				
						<i>Bedding av. 60°</i>	819876	52.0	53.1	1.1	6	20	1	25	120	<10				
						<i>Core badly broken</i>														
						<i>52.1 - 53.1 m</i>														
						<i>Core loss 0.6 m</i>														
						<i>52.1 - 53.8 m</i>														
53.4	54.9	1.5	NQ		<u>QUARTZ SPIDERITE VEINS IN BLACK SHALE</u>		819877	53.4	54.9	1.5	6	22	3	150	1600	10				
					<i>Abundant veins of quartz siderite, pyrite. Black shale is brecciated.</i>	<i>Pyrite occurs in veins and fractures</i>														
54.9	70.7	14.3	NQ		<u>INTERBEDDED BLACK SHALES AND QUARTZITES</u>		819878	54.9	56.0	1.1	10	22	3	210	100	<10				
					<i>soft sediment slumping, and brecciation</i>	<i>minor pyrite on bedding planes</i>	819879	56.0	57.0	1.0	<4	14	2	65	80	<10				
					<i>Bedding 0° 53.4-69.2m</i>	<i>minor quartz - siderite veins</i>														
					<i>80° 69.2-70.7m</i>	<i>Core badly broken</i>														
						<i>54.9 - 56.5 m</i>														
						<i>59.0 - 69.2 m</i>														
						<i>Core loss 0.7m</i>														
						<i>68.2 - 69.0 m</i>														

033

042035

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

SHEET No. 4
No. 11

TENEMENT NAME CONAH
PLAN - MAP REFERENCE

CO-ORDINATES..... AZIMUTH..... DRILLERS..... COMMENCED..... DEPTH..... HOLE No. DD 80 OC -3
RL COLLAR..... INCLINATION..... DRILL TYPE..... COMPLETED..... CASING LEFT..... DPO No(s) 26506
507 508

DEPTH		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 AMDEL)								
From (M)	To (M)										Sn	Cu	Ag	Pb	Zn	W	Au		
70.7	73.6	0.8	NQ		FAULT ZONE Brecciated black shale Cavities and bad core loss	Core loss 2.1 m 70.7 - 73.6 m Not cemented @ 72.8 m													
73.6	88.2	14.6	NQ TO 1170		BLACK SHALE Thinly bedded Mudstone in place Bedding 80°	Occasional fine laminar of sedimentary pyrite Abundant quartz siderite veining with minor pyrite 82.5 - 86.5 m	819880	83.0	84.0	1.0	10	20	1	130	400	10			
			BQ 1170 TO				819881	84.0	85.0	1.0	16	18	2	140	580	<10			
							819882	85.0	86.0	1.0	10	24	2	210	630	10			
88.2	93.7	4.5	EDH		BASIC TUFFS Vesicular talc & chlorite in veicles	Highly altered to chlorite assemblage badly broken - Core loss													
93.7	136.5	42.8	BQ		INTERBEDDED GREY SHALES AND QUARTZITES WITH DISSEMINATED MINERALISATION Thinly interbedded grey shales and micaceous quartzite Minor black shale bands in places PUG - 93.6 - 93.7 m - fault zone	Quartz-siderite veining throughout Pyrite occurs in veins, and as sedimentary layers patena mineralization in small veins	819883	93.7	95.0	1.3	12	22	1	25	75	<10			
							819884	95.0	96.0	1.0	16	20	41	360	120	<10			
							819885	96.0	97.0	1.0	44	120	46	5000	230	<10			
							819886	97.0	98.0	1.0	6	14	2	180	60	<10			
							819887	98.0	99.0	1.0	16	14	2	600	32	<10			
							819888	99.0	100.0	1.0	22	24	4	1600	30	<10			
							819889	100.0	101.0	1.0	32	34	8	4100	120	<10			
							819890	101.0	102.0	1.0	140	370	110	3.7	180	15			
							819891	102.0	103.0	1.0	10	28	8	626	80	10			
							819892	103.0	104.0	1.0	12	26	1	110	65	<10			
							819893	104.0	105.0	1.0	14	14	1	60	26	<10			
							819894	105.0	106.0	1.0	4	26	41	65	55	<10			

034
042036

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

TENEMENT NAME COONAH SHEET No. 5
No. 11
PLAN - MAP REFERENCE.....
DEPTH..... HOLE No. DD 80 OC-3
DPO No(s).....

CO-ORDINATES..... AZIMUTH..... DRILLERS..... COMMENCED.....
RL COLLAR..... INCLINATION..... DRILL TYPE..... COMPLETED.....

DEPTH		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.....)							
From (M)	To (M)										Sn	Cu	Ag	Pb	Zn	W	Au	
					<i>Sedding 30° @ 94.8m</i>	<i>5 cm. band of</i>	<i>89895</i>	<i>106.0</i>	<i>107.0</i>	<i>1.0</i>	<i>12</i>	<i>10</i>	<i><1</i>	<i>85</i>	<i>42</i>	<i><10</i>		
					<i>70° @ 97.0m</i>	<i>sedimentary flyrite</i>	<i>896</i>	<i>107.0</i>	<i>108.0</i>	<i>1.0</i>	<i>8</i>	<i>12</i>	<i><1</i>	<i>70</i>	<i>50</i>	<i><10</i>		
					<i>50-60° 100.0 - 104.0m</i>	<i>@ 109.4m</i>	<i>897</i>	<i>108.0</i>	<i>109.0</i>	<i>1.0</i>	<i>8</i>	<i>22</i>	<i>1</i>	<i>55</i>	<i>48</i>	<i><10</i>		
					<i>0° @ 110.0m</i>		<i>898</i>	<i>109.0</i>	<i>110.0</i>	<i>1.0</i>	<i>6</i>	<i>24</i>	<i>2</i>	<i>65</i>	<i>46</i>	<i><10</i>		
					<i>70° 112.0 - 136.0m</i>		<i>899</i>	<i>110.0</i>	<i>111.0</i>	<i>1.0</i>	<i>12</i>	<i>22</i>	<i>1</i>	<i>20</i>	<i>26</i>	<i><10</i>		
							<i>89900</i>	<i>111.0</i>	<i>112.0</i>	<i>1.0</i>	<i>16</i>	<i>22</i>	<i>2</i>	<i>25</i>	<i>14</i>	<i><10</i>		
							<i>901</i>	<i>112.0</i>	<i>113.0</i>	<i>1.0</i>	<i>50</i>	<i>24</i>	<i>2</i>	<i>80</i>	<i>16</i>	<i><10</i>		
							<i>902</i>	<i>113.0</i>	<i>114.0</i>	<i>1.0</i>	<i>18</i>	<i>28</i>	<i><1</i>	<i>55</i>	<i>16</i>	<i><10</i>		
						<i>galena flyrite</i>	<i>903</i>	<i>127.0</i>	<i>129.0</i>	<i>2.0</i>	<i>18</i>	<i>22</i>	<i><1</i>	<i>200</i>	<i>65</i>	<i><10</i>		
						<i>mineralization in</i>	<i>904</i>	<i>129.0</i>	<i>131.0</i>	<i>2.0</i>	<i>30</i>	<i>40</i>	<i>1</i>	<i>310</i>	<i>85</i>	<i><10</i>		
						<i>quartz siderite vein</i>	<i>905</i>	<i>131.0</i>	<i>133.0</i>	<i>2.0</i>	<i>1100</i>	<i>520</i>	<i>85</i>	<i>3.1%</i>	<i>1500</i>	<i><10</i>		
						<i>@ 132.0m</i>	<i>906</i>	<i>133.0</i>	<i>135.0</i>	<i>2.0</i>	<i>14</i>	<i>22</i>	<i>8</i>	<i>2100</i>	<i>38</i>	<i>15</i>		
							<i>907</i>	<i>135.0</i>	<i>136.5</i>	<i>1.5</i>	<i>200</i>	<i>24</i>	<i><1</i>	<i>110</i>	<i>20</i>	<i><10</i>		
<i>136.5</i>	<i>181.8</i>	<i>45.3</i>	<i>BQ</i>		<i>BASIC TUFFS</i>	<i>Calcrete veining</i>												
					<i>basic tuffaceous</i>	<i>throughout v. tuffs</i>												
					<i>pyroclastics,</i>	<i>are altered to</i>												
					<i>irregular texture</i>	<i>chlorite - rich</i>												
					<i>Rock is composed</i>	<i>assemblages.</i>												
					<i>of large welded</i>													
					<i>fragments of</i>													
					<i>vesicular pumice</i>													
					<i>vesicles filled with</i>													
					<i>calcite, chlorite +</i>													
					<i>talc</i>													
					<i>Lack of stratification</i>													
					<i>and sorting</i>													
					<i>suggests air-fall</i>													
					<i>origin for tuffs.</i>													

035

042037

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

TENEMENT NAME OONAH SHEET No. 6
No. 11

PLAN - MAP REFERENCE.....

DEPTH..... HOLE No. DD80 OC-3

CASING LEFT..... DPO No(s).....

CO-ORDINATES..... AZIMUTH..... DRILLERS..... COMMENCED.....

RL COLLAR..... INCLINATION..... DRILL TYPE..... COMPLETED.....

DEPTH		Core Rec. (M)	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weather, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)									
From (M)	To (M)										Sn	Cu	Ag	Pb	Zn	W	Au			
					Abundant, altered glass shards.															
181.8	183.7	1.9			GREY SHALE Bedding 20° @ 181.8m 70° @ 183.7m	Quartz siderite veins with minor siderite fuzite														
183.7	184.7	1.0			BASIC TUFF	Minor disseminated fuzite														
184.7	185.8	1.1			GREY SHALES Bedding 30-40°	Minor disseminated fuzite. Quartz-siderite veining throughout.														
185.8	206.8	11.0			BASIC TUFF Vesicular Welded fuzite fragments Lack of bedding.	Calcite veining throughout. Minor quartz-siderite veining. From 200.0 - 206.8m, fuzite occurs as vesicle-filling within the fuzite fragments	819908	198.0	200.0	2.0	10	36	41	190	250	10				
							909	200.0	202.0	2.0	370	24	3	1700	480	10				
							910	202.0	204.0	2.0	540	32	1	170	140	<10				
							911	204.0	206.0	2.0	820	20	2	240	120	<10				
							912	206.0	206.8	0.8	1750	22	1	180	240	10				
206.8	212.0	5.2			BLACK SHALE Small 10 cm. band of tuff @ 208.5m Bedding 30° @ 206.8m Bedding variable 0-30° throughout	Quartz siderite veining throughout Limited occurs in veins.	819913	206.8	208.0	1.2	480	10	1	250	26	10				
							914	208.0	210.0	2.0	310	40	5	2100	48	<10				
							819915	210.0	212.0	2.0	85	14	2	85	24	<10				

036

042038

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

SHEET No. 7
No. 11

TENEMENT NAME OONAH

PLAN - MAP REFERENCE

CO-ORDINATES AZIMUTH DRILLERS COMMENCED DEPTH HOLE No. DD 80 OC-3

RL COLLAR INCLINATION DRILL TYPE COMPLETED CASING LEFT DPO No(s)

DEPTH		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.....)								
From (M)	To (M)										Sn	Cu	Ag	Pb	Zn	W	Au		
212.0	239.0	27.0			INTERBEDDED GREY SHALE AND QUARTZITE		819916	212.0	214.0	2.0	26	12	2	620	64.0	<10			
					Thinly interbedded - laminal < 1 cm Mudstone in places soft sediment chipping + brecciation bedding angles variable 20° - 60° at 45°	Major quartz siderite veining throughout. Pyrite occurs in veins and as fine sedimentary layers	917	214.0	216.0	2.0	40	8	1	170	36	<10			
							819918	230.0	232.0	2.0	540	10	41	10	22	10			
							919	232.0	234.0	2.0	1700	16	2	15	16	<10			
							920	234.0	236.0	2.0	1050	44	1	15	14	15			
							921	236.0	238.0	2.0	80	16	41	35	16	10			
							922	238.0	239.0	1.0	110	16	1	45	16	<10			
239.0	249.0	10.0			MICACEOUS QUARTZITE	Veinlets containing quartz siderite pyrite chalcocyanite pyrite occurs as disseminations, fine sedimentary bands and vein fillings	819923	239.0	240.0	1.0	4650	22	1	30	26	<10			
					Dark coloured impure micaceous quartzite bedding 70°		924	240.0	242.0	2.0	260	6	41	15	26	<10			
							925	242.0	244.0	2.0	490	2	41	15	18	<10			
							926	244.0	246.0	2.0	340	2	41	10	8	<10			
							927	246.0	248.0	2.0	940	2	41	10	42	10			
							928	248.0	249.0	1.0	1050	2	1	10	4	10			
249.0	249.6	0.6			MINERALISATION IN BLACK SHALES	Stannite, Ag-Pb sulphide (to tetra- hedrite?) and pyrite in quartz siderite veins, small, rough with siderite crystals	929	249.0	249.6	0.6	700	14	2	35	75	15			

037

042039

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

SHEET No. 8
No. 11

TENEMENT NAME DONAH

PLAN - MAP REFERENCE

CO-ORDINATES AZIMUTH DRILLERS COMMENCED DEPTH HOLE No. DD 80 OC-3

RL COLLAR INCLINATION DRILL TYPE COMPLETED CASING LEFT DPO No(s)

DEPTH		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.....)									
From (M)	To (M)										Sn	Cu	Ag	Pb	Zn	W	Au			
249.6	258.0	8.4			GREY SHALES Minor quartzite bands Finely laminated soft sediment, sharp structure, bedding variable averages 70°	Quartz siderite veins throughout - best developed between 249.6 - 254.0 m. Pyrite occurs in veins and as disseminations	819	249.6	250.7	1.1	2350	14	21	20	10	<10				
							931	250.7	252.0	1.3	180	14	<1	30	12	<10				
							932	252.0	254.0	2.0	44	42	2	30	22	<10				
							933	254.0	256.0	2.0	8	28	2	35	30	<10				
							934	256.0	258.0	2.0	14	30	3	30	20	<10				
258.0	261.4	3.4			MINERALISATION IN BLACK SHALES Abundant graphite	Abundant quartz siderite veins containing pyrite, pyrrhotite, chalcopyrite Minor chlorite in veins.	935	258.0	258.9	0.9	46	28	4	45	16	<10				
							936	258.9	259.9	1.0	440	18	4	40	4	<10				
							937	259.9	261.4	1.5	700	70	4	20	8	<10				
261.4	270.5	9.1			GREY SHALES Bedding 70°	Quartz siderite veins with pyrite, visible cassiterite tetrahedrite (?) and chalcopyrite in veins between 264.3 - 264.7 m. Pyrite disseminated throughout	938	261.4	263.4	2.0	370	30	2	45	6	10				
							939	263.4	264.3	0.9	250	28	4	50	6	15				
							940	264.3	264.7	0.4	1.69%	0.57%	10	20	48	20				
							941	264.7	266.0	1.3	800	70	1	35	8	10				
							942	266.0	268.0	2.0	350	24	4	30	8	15				
							943	268.0	269.0	1.0	780	26	2	30	6	10				
							944	269.0	270.5	1.5	55	36	2	35	8	20				

038

042040

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

TENEMENT NAME CONAM SHEET No. 9
No. 11

CO-ORDINATES..... AZIMUTH..... DRILLERS..... COMMENCED..... DEPTH..... HOLE No. DD800C-3
RL COLLAR..... INCLINATION..... DRILL TYPE..... COMPLETED..... CASING LEFT..... DPO No(s).....

DEPTH		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.....)									
From (M)	To (M)										Sn	Cu	Ag	Pb	Zn	W	Au			
270.5	273.5	3.0			<u>MINERALISATION IN GREY SHALES AND QUARTZITES</u> <i>Abundant quartz veining - possible fault zone</i>	<i>Abundant quartz siderite veining. Pyrite occurs in veins and as disseminations</i>	819945 946	270.5 272.0	272.0 273.5	1.5 1.5	2100 440	18 14	1 2	20 25	8 14	10 10				
273.5	277.1	3.6			<u>BLACK SHALE</u> <i>Rock is mostly graphite - soft and fuggy. Bedding 30°</i>	<i>minor white quartz veining disseminated pyrite</i>	947 948 949	273.5 275.0 276.1	275.0 276.1 277.1	1.5 1.1 1.0	44 150 350	48 85 250	3 2 4	45 60 50	16 22 30	10 10 35				
277.1	280.6	3.5			<u>MINERALISATION IN BRECCIATED BLACK SHALE</u> <i>Brecciated shale with abundant white quartz and pyrite. Abundant graphite. Possible fault zone fuggy soft broken core</i>	<i>Abundant quartz pyrite veining minor chalcopyrite</i>	950 951 952	277.1 278.0 279.6	278.0 279.6 280.6	0.9 1.6 1.0	1450 1500 2100	1600 420 95	38 9 3	300 990 120	400 370 310	600 55 25	0.2 0.1 10.1			
280.6	285.6	5.0			<u>BRECCIATED QUARTZITE</u> <i>Bedding 70°</i>	<i>Abundant white quartz siderite veining. Pyrite occurs in veins and as disseminations</i>	953 954 955 956 957	280.6 281.6 282.6 283.6 284.6	281.6 282.6 283.6 284.6 285.6	1.0 1.0 1.0 1.0 1.0	65 90 520 130 210	18 15 40 6 40	1 1 1 1 1	20 10 25 10 20	18 20 25 16 30	10 15 15 10 10	10.1 10.1 10.1 10.1 10			
285.6	296.2	10.6			<u>INTERBEDDED QUARTZITES AND GREY SHALES</u> <i>Bedding 60° 285.6 - 290.0m 20° 291.0 - 296.2m</i>	<i>Minor quartz siderite veining and minor pyrite.</i>	819959	287.6	289.6	2.0	42	38	1	50	75	10				

039

042041

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

SHEET No. 10
No. 11

TENEMENT NAME OONAH
PLAN - MAP REFERENCE

CO-ORDINATES..... AZIMUTH..... DRILLERS..... COMMENCED..... DEPTH..... HOLE No. DD 80 OC-3
RL COLLAR..... INCLINATION..... DRILL TYPE..... COMPLETED..... CASING LEFT..... DPO No(s).....

DEPTH		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.....)								
From (M)	To (M)										Sn	Cu	Ag	Pb	Zn	W	Au		
296.2	299.3	3.1			QUARTZITE	Minor quartz siderite veins	819960	297.3	299.3	2.0	65	4	27	5	18	<10			
299.3	300.8	1.5			INTERBEDDED GREY SHALES AND QUARTZITES	Two 10 cm. bands of massive fynite between 299.5 - 299.8 m	961	299.3	299.5	0.2	44	10	2	15	20	10			
					Thinly bedded - beds average 2 cms. Bedding 40°		962	299.5	299.8	0.3	70	190	3	1300	4600	10			
							963	299.8	300.8	1.0	28	28	2	40	110	10			
300.8	314.1	13.9			QUARTZITE	Minor fracturing with quartz siderite and minor fynite	964	300.8	302.8	2.0	26	8	1	25	60	<10			
					Minor bands of grey shale and black shale		965	310.6	312.7	2.1	30	26	1	25	28	<10			
					Bedding 30-40° av. or Bedding 20° 306.0 - 314.1 m	Fracturing best developed 312.7-314.1 m	966	312.7	314.1	1.4	85	10	1	20	14	<10			
314.1	326.2	12.1			BLACK SHALE		967	314.1	315.1	1.0	22	20	<1	35	22	<10			
					Bedding 45-50°		968	315.1	317.1	2.0	26	28	1	40	24	<10			
					Core badly broken 314.1 - 316.1 m with graphitic fng.		969	317.1	319.1	2.0	34	32	3	55	40	<10			
					FAULT ZONE 314.1 - 316.1 m														
326.2	333.2	7.0			QUARTZITE	Minor quartz siderite veins	819970	326.2	328.2	2.0	40	14	1	20	28	<10			
					Minor black shale bands up to 2cm	Minor fynite @ 326.3 m													
					Quartzite is fine grained and grey in colour														
					Bedding 50-60°														

040

042042

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

SHEET No.

TENEMENT NAME 00NAH No.

PLAN - MAP REFERENCE

CO-ORDINATES..... AZIMUTH..... DRILLERS..... COMMENCED..... DEPTH..... HOLE No. 7D 80 00-3

RL COLLAR..... INCLINATION..... DRILL TYPE..... COMPLETED..... CASING LEFT..... DPO No(s).....

DEPTH		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.....)											
From (M)	To (M)																					
<u>SURVEYS</u>																						
<u>DEPTH</u>					<u>AZIMUTH</u>	<u>INCLINATION</u>																
	0 m				258° MAG	64°																
	18.0 m				INSIDE RODS	62 1/4°																
	84.0 m				246° MAG	61°																
	107.0 m				247° MAG	59 1/2°																
	134.0 m				250° MAG	56 1/2°																
	170.0 m				250° MAG	55 3/4°																
	200.0 m				253° MAG	55°																
	230.0 m				INSIDE RODS	52°																
	266.0 m				251° MAG	44 1/4°																
	300.0 m				245° MAG	45°																
<u>NOTE:</u>		No consistent correction has been made to the azimuth readings to allow for possible camera error																				

042

042044

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

TENEMENT NAME OONAH SHEET No.
No.

CO-ORDINATES..... AZIMUTH..... DRILLERS..... COMMENCED..... DEPTH..... HOLE No. DD 80 03
RL COLLAR..... INCLINATION..... DRILL TYPE..... COMPLETED..... CASING LEFT..... DPO No(s).....

DEPTH		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.....)									
From (M)	To (M)										Sn	Cu	Ag							
					<u>BULKING OF ASSAYS</u>															
								39.0	43.9	3.9	11	18	<1							
								43.9	46.1	2.2	10	32	<1							
								46.1	53.1	7.0	9	25	<1							
								53.4	57.0	3.6	6	20	3							
								83.0	86.0	3.0	12	21	2							
								93.7	101.0	7.3	21	35	9							
								101.0	102.0	1.0	140	370	110							
								102.0	136.5	34.5	81	44	3							
								198.0	206.8	8.8	555	27	1							
								206.8	212.0	5.2	263	23	3							
								212.0	216.0	4.0	33	10	2							
								230.0	239.0	9.0	761	21	1							
								239.0	240.0	1.0	0.44	22	1							
								240.0	249.0	9.0	568	3	<1							
								249.0	249.6	0.6	700	14	2							
								249.6	250.7	1.1	0.23	14	<1							
								250.7	259.9	9.2	92	28	3							
								259.9	264.7	4.8	0.42	515	4							
								264.7	272.0	7.3	0.11	34	1							
								272.0	277.1	5.1	344	86	3							
								277.1	280.6	3.5	0.47	439	15							
								280.6	289.6	9.0	127	31	1							
								297.3	302.8	5.5	34	20	1							
								310.6	314.1	3.5	52	20	1							
								314.1	319.1	5.0	28	28	2							

12.1m 0.23% Sn 27mm
Cu
2g/t Ag

043

042045

APPENDIX III

M4 DRILL LOG SHEETS

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

SHEET No. 2 of 6
No.

TENEMENT NAME *Oenah*

PLAN - MAP REFERENCE

CO-ORDINATES..... AZIMUTH..... DRILLERS..... COMMENCED..... DEPTH..... HOLE No. *M4 (Minops)*
RL COLLAR..... INCLINATION..... DRILL TYPE..... COMPLETED..... CASING LEFT..... DPO No(s).....

DEPTH		Core Rec. (ft)	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (ft)	To (ft)	Rec (ft)	ASSAY VALUES (Analysed by.....)										
From (ft)	To (ft)										Sn	Cu	Ag	Pb	Zn	Co	Bi	Sb	W		
					<i>and glassy groundmass (devitrified? Reolined?) weak schistosity Δ ~ 30° 173.3-176.0: tuff (or flow-top breccia?) with fragments to 2" 176.0-180.0: flow</i>																
<i>180.0</i>	<i>186.9</i>		<i>NQ</i>		<u>SLATES & FAULT ZONE</u> <i>mixed zone as follows: 180.0-182.0: chloritic slate (transition zone) 182.0-184.2: broken zone of black shale & vein qtz (FAULT) 184.2-185.3: brecciated chlorite rock with interstitial carbonate (including some siderite) 185.3-186.9: chloritic black shale (transition zone)</i>																
<i>186.9</i>	<i>231.5</i>		<i>NQ</i>		<u>PUMICEOUS VOLCANICS</u> <i>chloritic filling of vesicles (50%) and glassy groundmass (devitrified? Reolined?) mostly tuff (or flow-top breccia) with fragments having same composition as matrix;</i>																

046

042048

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

SHEET No. 3 of 6

TENEMENT NAME *Penah* No. *1*

PLAN - MAP REFERENCE

CO-ORDINATES AZIMUTH DRILLERS COMMENCED DEPTH HOLE No. *M4 (Minops)*

RL COLLAR INCLINATION DRILL TYPE COMPLETED CASING LEFT DPO No(s)

DEPTH		Core Rec.	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (ft)	To (ft)	Rec (ft)	ASSAY VALUES (Analysed by										
From (ft)	To (ft)										Sn	Cu	Ag	Pb	Zn	Co	Bi	Sb	W		
					fragments to 2"-3" some vfg lava (acid-intermediate?) with chlorite and qtz-carbonate filled vesicles <u>230.0-231.5: chlorite-rich</u>																
231.5	235.3		NQ		<u>TRANSITION ZONE</u> siliceous in part, grading from rock type above to what below, contains minor vein qtz and qtz blebs	231.5-235.3: eg Gn, Ch, → Sp, Py associated with qtz approx 5% sulphide overall with possible zoning Gn → Ch → Py → Sp downwards. Sampling by Minops (229.75 - 231.55, 231.55 - 233.15) appears to coincide with 230.5-232.8, 234.8-235.6 of present logging.	188721	231.5	232.8	1.3	70	390	182	7.08	1.64	40	30	60	<10		
							188722	232.8	234.8	2.0	45	30	7	0.18	0.12	50	30	<10	<10		
							188723	234.8	235.6	0.8	85	350	120	4.80	4.12	65	30	80	50		
235.3	247.3		NQ		<u>INTERMEDIATE LAVA</u> fg, massive: feldspar, chlorite actinolite (?) rock with >10% chlorite filled vesicles; also >5% qtz-carbonate spotting (vesicles/blebs?); the less vesicular sections sometimes partly carbonated and have patchy qtz and/or carbonate veinlets. Occasional		188724	235.6	238.0	3.0	40	55	14	0.32	0.32	45	35	20	<10		
							188725	262.5	264.5	2.0	<5	70	3	130	180	45	25	20	<10		
							188726	267.5	270.0	1.8	25	15	6	0.11	0.32	40	30	80	<10		

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048

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

SHEET No. 4 of 6

TENEMENT NAME *Dona h* No.

PLAN - MAP REFERENCE.....

CO-ORDINATES..... AZIMUTH..... DRILLERS..... COMMENCED..... DEPTH..... HOLE No. *M.A. (Minghs)*

RL COLLAR..... INCLINATION..... DRILL TYPE..... COMPLETED..... CASING LEFT..... DPO No(s).....

DEPTH		Core Rec. (ft)	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (ft)	To (ft)	Rec (ft)	ASSAY VALUES (Analysed by.....)									
From (ft)	To (ft)										Sn	Cu	Ag	Pb	Zn	Co	Bi	Sb	W	
					chloritic bands (with or without carbonate) may represent pillow margins. The following zones include siderite in quartz-carbonate veinlets: <u>273.0-279.0</u>	270.0-271.5: 3" massive sulphides	188727	270.0	271.5	1.4	120	760	274	5.80	0.44	60	25	200	<10	
						also sulphide blebs - ~50%	188728	271.5	273.0	1.5	45	20	8	0.28	720	50	30	50	<10	
						overall: Py >> Ch, Gn	188729	273.0	276.0	3.0	15	10	7	0.15	0.12	40	30	100	<10	
						Te Ga, rare Ch sometimes associated with quartz-carbonate veins as in the zones: <u>273.0-279.0</u>	188730	276.0	279.5	3.5	25	120	9	0.24	400	45	30	70	<10	
					<u>287.0-291.5</u>	<u>287.0-291.5</u>	188731	287.0	292.0	4.7	<5	20	3	480	740	50	30	50	<10	
					<u>293.5-296.0</u>	<u>293.5-296.0</u>	188732	292.0	297.0	4.4	55	60	6	0.16	580	45	30	20	<10	
<i>297.3</i>	<i>378.5</i>		<i>NQ</i>		<i>PUMICEOUS VOLCANICS</i>		188733	297.0	300.0	3.0	15	185	6	0.16	600	40	30	60	<10	
					as above; weak schistosity $\Delta 30^\circ-40^\circ$; several short sections lava (without quartz-carbonate spotting) at	300.0-303.0 } Tr Gn, rare Ch	188734	300.0	303.0	3.0	5	320	5	840	740	40	30	40	<10	
						304.5-309.5 } as above	188735	303.0	306.0	3.7	15	40	3	300	210	45	30	40	<10	
						319.8-320.5: massive Py >> Ch; Stannite? (or Sp?)	188736	306.0	309.5	3.0	15	20	7	0.20	160	25	30	90	<10	
					331.3-343.5. The following zones include siderite in quartz-carbonate veinlets:		188737	319.8	321.3	1.5	200	310	11	880	0.42	50	35	130	<10	
					<u>300.0-303.0</u>	329.5-329.9: massive sulphide - Py, Ch >> Aspy, some Cassit.?	188738	329.0	331.5	2.5	450	260	8	0.19	0.44	60	35	20	<10	
					<u>304.5-309.5</u>															
<i>378.5</i>	<i>473.5</i>		<i>NQ</i>		<i>INTERMEDIATE LAVA</i>															
					as above; preferred fracture direction $\Delta 30^\circ-45^\circ$	334.5-338.0 } rare Tr Gn/Ch	188739	334.0	335.0	2.5	75	200	4	760	190	40	30	30	<10	
						347.0-352.0 } Py associated	188740	335.0	338.5	3.5	55	150	9	0.20	0.26	40	30	60	<10	
					some weak siderite in carbon-ate filled fractures	389.7-392.0 } with carbonate														
						401.0-403.5 } filled fractures	188741	347.0	352.0	5.0	60	30	4	720	940	40	30	30	<10	
						at 410.0: 2" massive sulphide: Py > Ch	188742	389.7	392.0	2.3	5	25	2	50	110	40	30	10	<10	
						412.0-416.0: as for 401.0-403.5														

042050

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

SHEET No. 5 of 6
No.

TENEMENT NAME *Oenah*

PLAN - MAP REFERENCE

CO-ORDINATES..... AZIMUTH..... DRILLERS..... COMMENCED..... DEPTH..... HOLE No. *M4 (Mines)*

RL COLLAR..... INCLINATION..... DRILL TYPE..... COMPLETED..... CASING LEFT..... DPO No(s).....

DEPTH		Core Rec. (ft)	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (ft)	To (ft)	Rec (ft)	ASSAY VALUES (Analysed by.....)									
From (ft)	To (ft)										Sn	Cu	Ag	Pb	Zn	Co	Bi	Sb	W	
					421.8-473.5: leached, soft & broken with considerable core loss (~40% recovery) - possibly due to faulting, probably due to proximity to contact with slates below. Scattered siderite veinlets to 0.1'		188743	401.0	403.5	2.5	15	50	3	760	500	50	35	60	<10	
							188744	409.5	410.5	1.0	65	170	8	370	380	60	40	100	<10	
							188745	412.0	416.0	4.0	15	35	3	600	640	50	30	120	<10	
473.5	540.7		NQ		BEDDED BLACK SLATES mostly black some grey and siliceous; bedding generally // to schistosity (mostly dip 50-58), some slumping drag folding	473.5-509.0: ~1% Ag, Py disseminated and along fractures														
					509.0-534.0: zone with some vein qtz, some silicification	509.0-534.0: 1-10% Ag, Py as above in addition to below:	188746	509.0	514.1	4.3	0.23	0.26	12	140	40	20	320	35	<10	
							188747	514.1	517.1	3.0	0.34	0.40	29	140	30	20	420	50	<10	
							188748	517.1	520.5	3.8	0.14	0.27	10	120	10	10	120	15	<10	
					* 509.0-536.0: core badly broken and decrepitated - partly due to splitting for samples.	at 513.0: 0.5' qtz vein with 25% Py	188749	520.5	525.0	5.0	760	210	7	130	10	10	50	40	<10	
							188750	525.0	530.0	5.7	750	90	5	110	10	10	35	20	<10	
						at 514.6: 0.2 qtz vein with 5-10% Py	188751	530.0	534.0	3.5	0.37	0.28	36	260	100	20	270	40	<10	
						515.0-515.5: massive Py, Ch. with minor vein qtz														
						531.0-534.0: massive Py with some vein qtz - core decrepitated														
						534.0-540.7: (some mixing of core?) - includes 0.5' massive Ch. > Py and 0.5' massive Py > Ch also 10%? Py (mostly?)	188752	534.0	538.0	4.0	0.43	0.64	18	190	70	30	720	60	<10	
							188753	538.0	542.0	4.2	0.16	0.15	13	75	30	30	160	20	<10	

049

042051

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

SHEET No 6 of 6

TENEMENT NAME *Cenah* No.

PLAN - MAP REFERENCE.....

DEPTH..... HOLE No. *MA(Minaps)*

CASING LEFT..... DPO No(s).....

CO-ORDINATES..... AZIMUTH..... DRILLERS..... COMMENCED.....

RL COLLAR..... INCLINATION..... DRILL TYPE..... COMPLETED.....

DEPTH		Core Rec.	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (ft)	To (ft)	Rec (ft)	ASSAY VALUES (Analysed by.....)												
From (ft)	To (ft)										Sn	Cu	Ag	Pb	Zn	Co	Bi	Sb	W				
540.7	607.0				MASSIVE QUARTZITE fg, mostly grey (except as noted below), some slate etc as follows:																		
					540.7-555.0: ~3% fg disseminated Py (Tr Ch.?)	188754	542.0	545.0	2.0	190	260	5	20	5	10	50	20	<10					
					555.0-559.0: broken black slate with qtz-carbonate veinlets	188755	545.0	553.5	5.8	0.23	0.20	10	40	10	10	800	50	<10					
					559.0-586.8: broken & silicified, with common qtz veins & veinlets	188756	553.5	558.5	5.0	570	760	33	85	95	20	200	10	<10					
					586.8-600: qtzite has Tr muscovite and contains minor black shale bands																		
					600-607.0: reddish colour - due to minor disseminated hematite?	188760	570.0	572.0	2.0	0.26	0.72	34	60	80	30	90	10	<10					
					559.0-569.5: fg disseminated Py varies 1-10%; averages ~2-3% - in addition to Tr-1% Ch >= Py, Tr, Bi and/or Stannite	188757	558.5	564.0	4.7	0.50	1.04	184	240	120	20	460	40	30					
					571.5-573.5: ~1% Ch, 5-10% Py	188758	564.0	568.0	4.8	0.15	0.56	21	30	30	10	75	<10	70					
					573.5-577.5: 20% Ch, 20% Py	188759	568.0	570.0	2.0	0.71	0.86	40	30	120	10	70	<10	40					
					577.5-579.5: 3-5% Py, Tr, Ch	188761	572.0	574.5	2.5	60	270	3	20	5	10	25	<10	<10					
					579.5-582.5: 5-10% Ch, 5-10% Py	188762	574.5	577.5	3.0	0.92	4.08	380	560	380	25	0.15	180	160					
					582.5-586.8: 10% Py, 10% Ch, some siderite	188763	577.5	583.0	5.5	0.17	1.42	104	240	120	30	560	80	30					
					586.8-588.0: ~3% fg Py	188764	583.0	586.8	3.2	0.14	2.00	374	520	50	20	0.18	120	100					
					588.0-591.5: 1-3% Py	188765	586.8	590.0	3.4	0.24	0.98	106	175	70	10	430	20	120					
					591.5-592.0: ~10% fg Py																		
					592.0-607.0: Tr-1% fg Py																		
					* 607.0-612.0: CORE MISSING.																		
					END OF HOLE																		

050

042052

APPENDIX IV

M6 DRILL LOG SHEETS

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

TENEMENT NAME Qanah No.

PLAN - MAP REFERENCE.....

CO-ORDINATES..... AZIMUTH..... DRILLERS..... COMMENCED..... DEPTH..... HOLE No. M6 (Mimp's)

RL COLLAR..... INCLINATION..... DRILL TYPE..... COMPLETED..... CASING LEFT..... DPO No(s).....

DEPTH		Core Rec.	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (ft)	To (ft)	Rec (ft)	ASSAY VALUES (Analysed by.....)										
From	To										Sn	Cu	Ag	Pb	Zn	Co	Bi	Sb	W		
<u>90</u>	<u>114.5</u>				<u>105.0-114.5: broken grey slate with some vein qtz.</u>																
<u>114.5</u>	<u>119.5</u>		<u>NQ</u>		<u>FAULT ZONE</u> <u>broken zone with vein qtz, in rocks as below; leached? significant core loss</u>																
<u>119.5</u>	<u>227.4</u>		<u>NQ</u>		<u>VOLCANOCLASTIC ROCK</u> <u>-clasts mostly fq tuff(?) but some grey shale fragments, a qtz, carbonate and/or chlorite rich matrix; few vesicles; may be tuff or tuff derived sediment; some fq crystal tuff(?); rare clasts to 2 1/2"</u>																
					<u>119.5-128.0: med-strongly leached</u>																
					<u>128.0-135.0: slight-mod "</u>	<u>at 143.0: 1/2" siderite vein</u>															
					<u>181.0-182.0: soft weathered section - possible fault gouge (surrounding zone, 172-188 less soft & weathered).</u>	<u>with 15% Gn (over 0.3')</u>	<u>189049</u>	<u>150.0</u>	<u>153.0</u>	<u>3.0</u>	<u>5</u>	<u>25</u>	<u>3</u>	<u>30</u>	<u>75</u>	<u>50</u>	<u>50</u>	<u>10</u>	<u><10</u>		
							<u>189050</u>	<u>197.0</u>	<u>201.0</u>	<u>4.0</u>	<u>15</u>	<u>10</u>	<u>4</u>	<u>520</u>	<u>0.36</u>	<u>60</u>	<u>35</u>	<u>80</u>	<u><10</u>		
					<u>201.6-204.0: siderite veining</u>	<u>201.6-204.0: minor patchy Py</u>	<u>189051</u>	<u>201.0</u>	<u>204.0</u>	<u>3.8</u>	<u>40</u>	<u>40</u>	<u>8</u>	<u>0.24</u>	<u>0.98</u>	<u>55</u>	<u>40</u>	<u>40</u>	<u><10</u>		
					<u>204.0-205.5: strongly sericitic section</u>	<u>and 1/2" Py vein at 202.7 - 3% Py overall</u>	<u>189052</u>	<u>204.0</u>	<u>210.0</u>	<u>4.6</u>	<u><5</u>	<u>35</u>	<u>3</u>	<u>65</u>	<u>170</u>	<u>60</u>	<u>55</u>	<u>410</u>	<u><10</u>		
					<u>205.5-212.7: some clasts > 6"</u>																
					<u>212.7-214.2: partly silicified</u>																

053

042055

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

TENEMENT NAME Oonah No.

PLAN - MAP REFERENCE.....

CO-ORDINATES..... AZIMUTH..... DRILLERS..... COMMENCED..... DEPTH..... HOLE No. M6 (Minops)

RL COLLAR..... INCLINATION..... DRILL TYPE..... COMPLETED..... CASING LEFT..... DPO No(s).....

DEPTH		Core Rec.	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (ft)	To (ft)	Rec (ft)	ASSAY VALUES (Analysed by.....)												
From (ft)	To (ft)										Sn	Cu	Ag	Pb	Zn	Co	Bi	Sb	W				
					banded shale (possible large clast)																		
					<u>230.0-243.0</u> : tightly compacted with some chlorite matrix																		
					<u>256.0-270.0</u> : ditto																		
					<u>280.2-283.2</u> : bedded siliceous sediment band																		
					<u>284.2-285.7</u> : ditto	<u>284.2-285.7</u> : 1% fg Py, disseminated.	189053	279.7	285.7	4.8	<5	15	2	80	155	40	40	60	<10				
					Δ (foliation) = 45° at 125-150 Δ = 55° at ~ 215 Δ = 50° at 280-283																		
							189054	285.7	291.0	5.6	<5	20	2	40	75	40	50	<10	<10				
<u>287.4</u>	<u>301.0</u>		NQ		<u>TUFFACEOUS SILTSTONE</u> greywacke; banded in part, Tr 1% biotite(?) in narrow qtz filled fractures	(fg "biotite(?)" may be Sp)	189055	291.0	296.3	4.3	<5	20	2	30	70	30	40	10	<10				
							189056	296.3	301.0	4.3	<5	5	2	35	60	25	35	60	<10				
<u>301.0</u>	<u>398.0</u>		NQ		<u>VOLCANOCLASTIC ROCK</u> as above, mostly with chloritic matrix																		
					<u>355.0-398.0</u> : carbonated in part, particularly matrix at 388.0-398.0 (sideritic)		189057	365.5	370.5	4.6	5	15	3	30	90	60	65	110	<10				
							189058	370.5	374.9	4.2	<5	15	3	35	140	65	50	100	<10				
							* core missing - slope ??																
					<u>374.5-387.0</u> : 0.4' core rec- every - core missing due to old slope??		189059	387.0	392.0	4.8	20	10	6	0.24%	0.4%	70	50	180	<10				
					<u>388.0-394.0</u> : Tr 1% Gn, disseminated		189060	392.0	395.8	3.7	45	30	6	0.26%	0.18%	60	45	60	<10				
					<u>394.0-396.3</u> : Tr Gn, 1% Py																		
					<u>396.3-397.5</u> : > 70% Py																		

054

042056

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

SHEET No. 5 of 7

TENEMENT NAME Oonah No.

PLAN - MAP REFERENCE.....

DEPTH..... HOLE No. M6 (Minops)

CASING LEFT..... DPO No(s).....

CO-ORDINATES..... AZIMUTH..... DRILLERS..... COMMENCED.....

RL COLLAR..... INCLINATION..... DRILL TYPE..... COMPLETED.....

DEPTH		Core Rec. (ft)	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (ft)	To (ft)	Rec (ft)	ASSAY VALUES (Analysed by.....)										
From (ft)	To (ft)										Sn	Cu	Ag	Pb	Zn	Co	Bi	Sb	W		
					<u>549.5-592.8</u> : coarser grained - almost siltstone	patchy - up to 5-10% Py over short sections															
					$\Delta = 25^\circ - 55^\circ$ at 469.5-488	492.8-523.0: Tr-1% fg Py, patchy															
					$\Delta = 0^\circ - 30^\circ$ at 493-523	523.0-542.0: Tr fg Py, patchy															
					$\Delta = 35^\circ - 40^\circ$ at 523-542	542.8-549.5: ditto															
					$\Delta = 30^\circ - 50^\circ$ at 542-592.8	571.8-575.5: 1% mg Py, along fractures & bedding	189074	571.0	578.0	6.2	135	25	2	110	40	10	20	20	<10		
						587.3-592.8: ditto	189075	578.0	585.0	6.5	10	30	2	330	290	10	20	40	<10		
							189076	585.0	592.0	8.5	110	25	2	190	210	10	20	40	<10		
<u>592.8</u>	<u>717.0</u>		BQ		<u>VESICULAR VOLCANICS</u>																
					<u>592.8-615.0</u> : massive, aphanitic scoriaceous (chlorite filled vesicles), lava acid-intermediate?																
					<u>615.0-641.4</u> : massive, humicaceous tuff (or flow breccia) with clasts to 4"	at 615.8: 3" Py band/veinlet															
					<u>641.4-649.5</u> : lava as above	637.0-638.0: 10% Py associated with qtz-carbonate veinlet (at 15° to core axis)															
					<u>649.5-717.0</u> : tuff as above																
					$\Delta = 50^\circ$ at 677	638.7-641.4: 1-5% Py as dissem- inations, blebs & along fractures	189077	637.0	641.0	4.3	180	30	4	0.10	0.10	40	20	60	<10		
<u>717.0</u>	<u>746.0</u>		BQ		<u>BEDDED SLATE</u> dark green to black, occasion- al medium to coarse banding,																
					<u>738.0-746.0</u> : some carbonate banding (and contortion)	738.0-746.0: Tr-1% Py as in veinlets & along schistosity	189078	738.0	746.0	7.5	5	50	1	50	240	15	15	20	<10		

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042058

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

SHEET No. 6 of 7
No.

TENEMENT NAME Oonah

PLAN - MAP REFERENCE
DEPTH..... HOLE No. M6 (Minops)
CASING LEFT..... DPO No(s).....

CO-ORDINATES..... AZIMUTH..... DRILLERS..... COMMENCED.....
RL COLLAR..... INCLINATION..... DRILL TYPE..... COMPLETED.....

DEPTH		Core Rec.	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (ft)	To (ft)	Rec (ft)	ASSAY VALUES (Analysed by.....)										
From (ft)	To (ft)										Sn	Cu	Ag	Pb	Zn	Co	Bi	Sb	W		
					$\Delta = 45^\circ$ at 717-746																
<u>746.0</u>	<u>771.9</u>		BQ		<u>VESICULAR VOLCANIC</u> tuff as above, mostly lapilli, some finer grained																
<u>771.9</u>	<u>789.5</u>		BQ		<u>BEDDED SLATE</u> <u>771.9-780.3</u> : transitional contact due to drag folding and/or faulting - repetition of rock types as above & below																
					<u>780.3-789.5</u> : dark green to black slates as above	<u>784.7-789.6</u> : 1% Py, patchy	189079	779.0	789.5	8.3	55	20	2	220	145	20	20	55	<10		
<u>789.5</u>	<u>805.0</u>		BQ		<u>VESICULAR VOLCANIC</u> tuff as above	<u>789.5-796.1</u> : Tr Py, patchy	189080	789.5	796.2	6.7	150	55	3	40	100	40	30	150	<10		
						<u>796.1-805.0</u> : Tr-1% Py, patchy, mostly associated with qtz remnants, some siderite	Minops (1970)	796.8	800.0	?	0.22	50	1								
						(#796.2 above = Minops 796.8)		800.0	804.8	4.8	0.4	70	<1								
<u>805.0</u>	<u>809.0</u>		BQ		<u>QUARTZITE</u> massive, fq. (ex qtz muscovite siltstone/greywacke)	<u>805.0-809.0</u> : Tr Py as above	Minops (1970)	804.8	806.6	1.8	450	100	<1								
								806.6	808.0	1.4	800	20	<1								
								808.0	809.8	1.8	700	420	<1								

057

042059

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

SHEET No. 7 of 7

TENEMENT NAME Donah No.

PLAN - MAP REFERENCE

CO-ORDINATES..... AZIMUTH..... DRILLERS..... COMMENCED..... DEPTH..... HOLE No. M.6. (Minaps)

RL COLLAR..... INCLINATION..... DRILL TYPE..... COMPLETED..... CASING LEFT..... DPO No(s).....

DEPTH		Core Rec. (ft)	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (ft)	To (ft)	Rec. (ft)	ASSAY VALUES (Analysed by.....)											
From (ft)	To (ft)										Sn	Cu	Ag	Pb	Zn	Co	Bi	Sb	W			
<u>809.0</u>	<u>830.5</u>		<u>BQ</u>		<u>BLACK SLATE</u> with contortion, silicification, qtz veinlets																	
					<u>809.0-814.5: 3-5% Py as above</u>			<u>809.8</u>	<u>813.1</u>	<u>3.3</u>	<u>0.13</u>	<u>0.12</u>	<u>5</u>									
					<u>811.8-813.0: qtz vein</u>			<u>813.1</u>	<u>815.2</u>	<u>2.1</u>	<u>300</u>	<u>0.31</u>	<u>8</u>									
					<u>814.5-824.0: v. siliceous brecciated? section</u>	<u>814.5-824.0: 5-20% Py, disseminated; v. yg in part</u>		<u>815.2</u>	<u>818.2</u>	<u>3.0</u>	<u>750</u>	<u>1.50</u>	<u>33</u>									
					<u>with some carbonate veining</u>		<u>Minaps (1970)</u>	<u>818.2</u>	<u>819.2</u>	<u>1.0</u>	<u><100</u>	<u>270</u>	<u>1</u>									
					<u>* 819.0-830.0: core has been mixed</u>	<u>824.0-827.0: 5-10% Py as above</u>		<u>819.2</u>	<u>822.2</u>	<u>3.0</u>	<u><100</u>	<u>100</u>	<u>3</u>									
					<u>827.0-830.5: v. siliceous with qtz veinlets</u>	<u>827.0-830.5: 10-30% Py as above</u>		<u>822.2</u>	<u>826.0</u>	<u>3.8</u>	<u><100</u>	<u>20</u>	<u>1</u>									
								<u>826.0</u>	<u>829.3</u>	<u>3.3</u>	<u><100</u>	<u><20</u>	<u><1</u>									
<u>830.5</u>	<u>880.0</u>		<u>BQ</u>		<u>QUARTZITE</u>																	
			<u>to</u>		<u>830.5-854.0: massive veined & silicified, ex qtz muscovite siltstone</u>	<u>830.5-836.0: 5-10% Py as above</u>	<u>189081</u>	<u>829.5</u>	<u>837.0</u>	<u>8.2</u>	<u>130</u>	<u>30</u>	<u>1</u>	<u>20</u>	<u>10</u>	<u>5</u>	<u>15</u>	<u>10</u>	<u><10</u>			
			<u>856.0</u>		<u>& silicified at 836-845</u>	<u>836.0-845.0: Py as above</u>	<u>189082</u>	<u>837.0</u>	<u>843.0</u>	<u>6.0</u>	<u>0.12</u>	<u>100</u>	<u>2</u>	<u>40</u>	<u>60</u>	<u>10</u>	<u>20</u>	<u><10</u>	<u><10</u>			
			<u>then</u>		<u>- becomes less veined</u>	<u>decreases from 5% to 1%</u>	<u>189083</u>	<u>843.0</u>	<u>850.0</u>	<u>5.7</u>	<u>0.15</u>	<u>5</u>	<u>1</u>	<u>15</u>	<u>10</u>	<u>10</u>	<u>15</u>	<u>10</u>	<u><10</u>			
			<u>AQ</u>		<u>854.0-861.5: broken & contorted shaly qtzite.</u>	<u>845.0-854.0: 1% Py as above</u>	<u>189084</u>	<u>850.0</u>	<u>856.0</u>	<u>5.4</u>	<u>0.12</u>	<u>10</u>	<u>1</u>	<u>20</u>	<u>10</u>	<u>25</u>	<u>20</u>	<u><10</u>	<u><10</u>			
					<u>861.5-880.0: (* 14 ft of core missing) - ex qtz muscovite siltstone with reddish colour (due to carbonate?)</u>	<u>856.0-861.5: Tr-1% Py as above</u>																
						<u>861.5-880.0: rare-Tr Py.</u>																

END OF HOLE

058

042060

APPENDIX V

M10 DRILL LOG SHEETS

060

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

SHEET No 195
No 25123

CO-ORDINATES 5207N (metric) 4998E (grid) AZIMUTH 253° (Magnetic) DRILLERS AS James Pyllb COMMENCED 11/11/70 DEPTH 453 (ft) HOLE No M.10 (Mings)
RL COLLAR 326.1m INCLINATION -50° DRILL TYPE ACKER COMPLETED 3/12/70 CASING LEFT ? DPO No(s) 00421

TENEMENT NAME Lenah

PLAN - MAP REFERENCE

DEPTH		Core Rec. (ft)	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (ft)	To (ft)	Rec (ft)	ASSAY VALUES (Analysed by.....)									
From (ft)	To (ft)										Sn	Cu	Ag	Pb	Zn	Co	Bi	Sb	W	
0	72.0		NX		<u>PUMICEOUS VOLCANIC</u> <u>v. strongly weathered tuff,</u> <u>pale brown-yellow colour,</u> <u>v. poor core recovery</u>															
* NOTE:																				
72.0	121.5		NX		<u>VESICULAR LAVA</u> <u>acid-intermediate? fg.</u>															
	100.0		to		<u>72.0-75.0: v. strongly weathered</u> <u>v. soft (may be fault</u> <u>zone), grey-brown colour</u>	<u>This log & sampling is a re-</u> <u>log & re-sample in Nov-Dec</u> <u>1979 (by VJ Roberts). There has</u> <u>been some mixing and loss of</u> <u>core and depth markers, so</u> <u>that a good correspondence</u> <u>with the 1970 Mings log</u> <u>is not expected. Some sulphide</u> <u>sections are now decapitated</u> <u>or badly tarnished etc, so</u> <u>that their description is not</u> <u>reliable.</u>														
			then		<u>75.0-83.5: v. strongly weathered</u> <u>grey-brown colour</u>															
			BX		<u>83.5-96.0: strongly weathered</u> <u>grey-brown colour</u>															
					<u>96.0-121.5: med.-weakly</u> <u>weathered; chlorite filled</u> <u>vesicles (some with qtz)</u>															
					<u>104.5-109.5: siliceous zone with</u> <u>qtz-carbonate veining</u>	<u>104.5-109.5: patchy Py in</u> <u>qtz-carbonate veinlets</u> <u>< 1% overall</u>	188766	104.5	109.5	3.8	530	45	23	127	190	65	35	60	<10	
					<u>112.2-112.9: Ditto</u>	<u>112.2-112.9: 20-30% fg Py, 10%</u> <u>fg Gn associated with</u> <u>qtz-carbonate veinlets</u>	188767	109.5	112.9	2.8	159	45	14	0.72	320	80	50	100	<10	
121.5	144.0		BX		<u>PUMICEOUS VOLCANIC</u> <u>chlorite filling of vesicles,</u> <u>and glassy groundmass</u> <u>(is it iron? or oil?)</u>															

042062

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

SHEET No. 2 of 5
No.

TENEMENT NAME Denah

PLAN - MAP REFERENCE

CO-ORDINATES..... AZIMUTH..... DRILLERS..... COMMENCED..... DEPTH..... HOLE No. M10 (Minex)
RL COLLAR..... INCLINATION..... DRILL TYPE..... COMPLETED..... CASING LEFT..... DPO No(s).....

DEPTH		Core Rec. (ft)	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (ft)	To (ft)	Rec (ft)	ASSAY VALUES (Analysed by.....)										
From (ft)	To (ft)										Sn	Cu	Ag	Pb	Zn	Co	Bi	Sb	W		
					mostly tuff? with fragments having same composition as matrix																
144.0	197.0		BX		<u>BEDDED GREY SLATES</u> with black and green bands, some contorted bedding; bedding generally // to schistosity (Δ 45°-50°) 144.0-152.0: contains qtz veins - poor core recovery																
					144.0-160.0: chloritic zone		188768	144.0	159.0	2.5	270	55	1	140	100	15	10	<10	<10		
					161.0-162.5: siliceous zone		188769	159.0	165.3	6.0	180	20	1	210	90	15	15	<10	<10		
					175.3-176.3: qtz veining with some siderite	175.3-176.3: 30% Py, Tr Cassit. & Stannite(?) with qtz	188770	165.3	170.3	5.0	365	20	1	110	40	20	10	10	<10		
					177.5-181.0: qtz filled fracturing	veining	188771	170.3	175.3	4.2	760	140	6	170	15	15	10	<10	<10		
					183.3-188.5: qtz veining with some siderite	veining	188772	175.3	176.3	1.0	600	0.11%	14	0.48%	12%	35	60	320	<10		
					183.3-188.5: qtz veining with some siderite	veining	188773	176.3	183.3	6.0	80	95	3	145	80	15	10	80	<10		
					183.3-188.5: qtz veining with some siderite	veining	188774	183.3	188.0	3.8	565	115	3	150	20	15	25	80	<10		
					195.0-197.0: siliceous zone		188775	188.0	191.5	3.0	40	45	6	40	15	15	10	40	<10		
197.0	223.0		BX		<u>NON-BEDDED GREY & BLACK SLATES</u> similar to above slates																
					197-205: schistosity Δ 35°-45°																
					204.0-205.5: siliceous zone	204.0-205.5: 10% Py	188776	204.0	205.5	1.5	940	55	1	50	20	15	10	<10	<10		
					205-240: schistosity 30°-60°																
					218.5-220.6: siliceous (qtzite)																
					222.5-225.0: fa. massive (qtzite)																

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

SHEET No. 3 of 5

TENEMENT NAME Qenah No. _____

PLAN - MAP REFERENCE _____

DEPTH _____ HOLE No. M10 (Minghs)

COMPLETED _____ CASING LEFT _____ DPO No(s) _____

CO-ORDINATES _____ AZIMUTH _____ DRILLERS _____ COMMENCED _____

RL COLLAR _____ INCLINATION _____ DRILL TYPE _____

DEPTH		Core Rec (ft)	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (ft)	To (ft)	Rec (ft)	ASSAY VALUES (Analysed by _____)									
From (ft)	To (ft)										Sn	Cu	Ag	Pb	Zn	Co	Bi	Sb	W	
	239.0-240.5				qtz veining	239.0-240.5: 10% Py, 3-5% Chy??	188777	239.0	240.5	1.7	0.71	0.26	21	200	40	25	45	10	<10	
	240-260				schistosity Δ 20-40°															
	244.7-245.5				siliceous (qtzite) band	244.7-245.5: 5% Py > Ch	188778	243.0	247.5	4.2	145	100	3	65	20	20	10	50	<10	
	247.5-251.4						188779	247.5	251.4	3.3	100	60	3	70	20	20	10	120	<10	
	251.4-253.5				qtz veining	251.4-253.5: 5-10% Py > Ch	188780	251.4	253.8	2.0	0.88	30	2	80	20	25	30	30	<10	
	258.0-259.5				fg qtzite as above	258.0-259.5: 1-3% fg disseminated Py	188781	253.8	258.0	4.8	135	45	3	60	20	25	15	50	<10	
	258.0-260.0						188782	258.0	260.0	2.0	0.27	20	41	30	5	15	15	90	<10	
	260.5-283.0				slate sections somewhat sheared and brecciated - Δ varies 5-40°, averages ~60°															
	262.5-263.0				massive qtzite band		188783	260.0	264.0	3.2	275	20	2	45	10	15	20	80	<10	
	264.0-265.0				fg, red-brown (due to fg disseminated hematite), massive qtzite band with minor fg muscovite	264.0-265.0: 1-3% fg disseminated Py	188784	264.0	268.0	4.0	590	15	1	30	10	10	5	80	<10	
	266.8-267.8				ditto	266.8-267.8: patchy fg Py ~1% overall	188785	266.8	271.8	3.1	750	15	2	40	5	15	10	50	<10	
	271.8-277.0				sheared/schistose Δ 5-10°		188786	271.8	277.0	5.2	0.12	20	5	30	5	10	25	100	<10	
	277.0-278.0					277.0-278.0: 3-5% fg Py	188787	277.0	282.0	5.0	820	110	11	210	10	20	20	150	<10	
	278.0-278.8				qtzite as above with some qtz veining	278.0-278.8: ~30% Py associated with qtz veining - includes 0-2' massive Py														
283.0	354.0		BX		BEDDED BLACK, GREY & GREEN SLATES		188788	282.0	287.5	2.0	50	30	4	55	10	25	25	110	<10	
					includes thin cherty bands 0-1-10"; some bedding apparent	283.0-354.0: Tr Py - fg disseminated & in fractures														

062

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

TENEMENT NAME Oenah No.
 PLAN - MAP REFERENCE.....
 CO-ORDINATES..... AZIMUTH..... DRILLERS..... COMMENCED..... DEPTH..... HOLE No. M10 (Minops)
 RL COLLAR..... INCLINATION..... DRILL TYPE..... COMPLETED..... CASING LEFT..... DPO No(s).....

DEPTH		Core Rec.	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (ft)	To (ft)	Rec (ft)	ASSAY VALUES (Analysed by.....)									
From (ft)	To (ft)										Sn	Cu	Ag	Pb	Zn	Co	Bi	Sb	W	
					to 333' then well bedded	veinlets (with some siderite?)														
	283.0-300.0				slate sheared & brecciated (Δ varies 5°-98° averages ~60°)	288.0-290.0: 1-3% fg Py (as above)	188784	287.5	291.0	3.5	135	30	4	70	5	20	15	160	<10	
	295.5-297.5				v. siliceous															
	299.8-300.5				v. siliceous															
	300-355				bedding generally // to schistosity (Δ varies 20°-55° averages 45°-55°)															
	311.3-312.6				siliceous section															
	313.3-316.5				" "															
	316.5-330.0				black slate with quartzose section at 318.4-318.9															
	345.2-346.5				siliceous section															
							188790	350.0	354.0	4.0	720	40	<1	20	15	15	5	160	<10	
354.0	383.0		BX		<u>BROKEN QUARTZ-FILLED, SILICEOUS BLACK SLATE</u>															
						354.0-358.5: 1-3% Py - fg disseminated and in fractures, very patchy	188791	354.0	359.0	3.0	0.24	20	<1	20	5	10	<5	80	<10	
							188792	359.0	363.5	4.5	0.16	15	2	50	5	20	5	220	<10	
							188793	363.5	368.0	4.3	605	10	<1	15	<2	15	10	200	<10	
						358.5-364.0: Tr-1% Py as above	188794	368.0	373.0	5.0	0.34	15	<1	20	2	15	5	150	<10	
							188795	373.0	378.0	5.0	0.20	200	3	85	10	25	5	90	<10	
						364.0-367.0: Tr Py as above	189041	378.0	383.0	5.0	0.31	20	10	70	40	25	40	140	<10	
						367.0-383.0: 3-5% Py as above														
383.0	414.0		BX		<u>NON-BEDDED BLACK SLATE</u>															
					broken vene as	383.0-388.0: 3-5% Py as above	189042	383.0	388.0	5.0	950	115	5	70	10	20	30	150	<10	

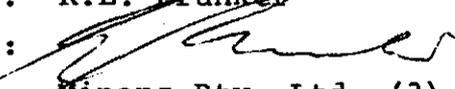
063

042065

C.R.A. EXPLORATION PTY. LIMITED

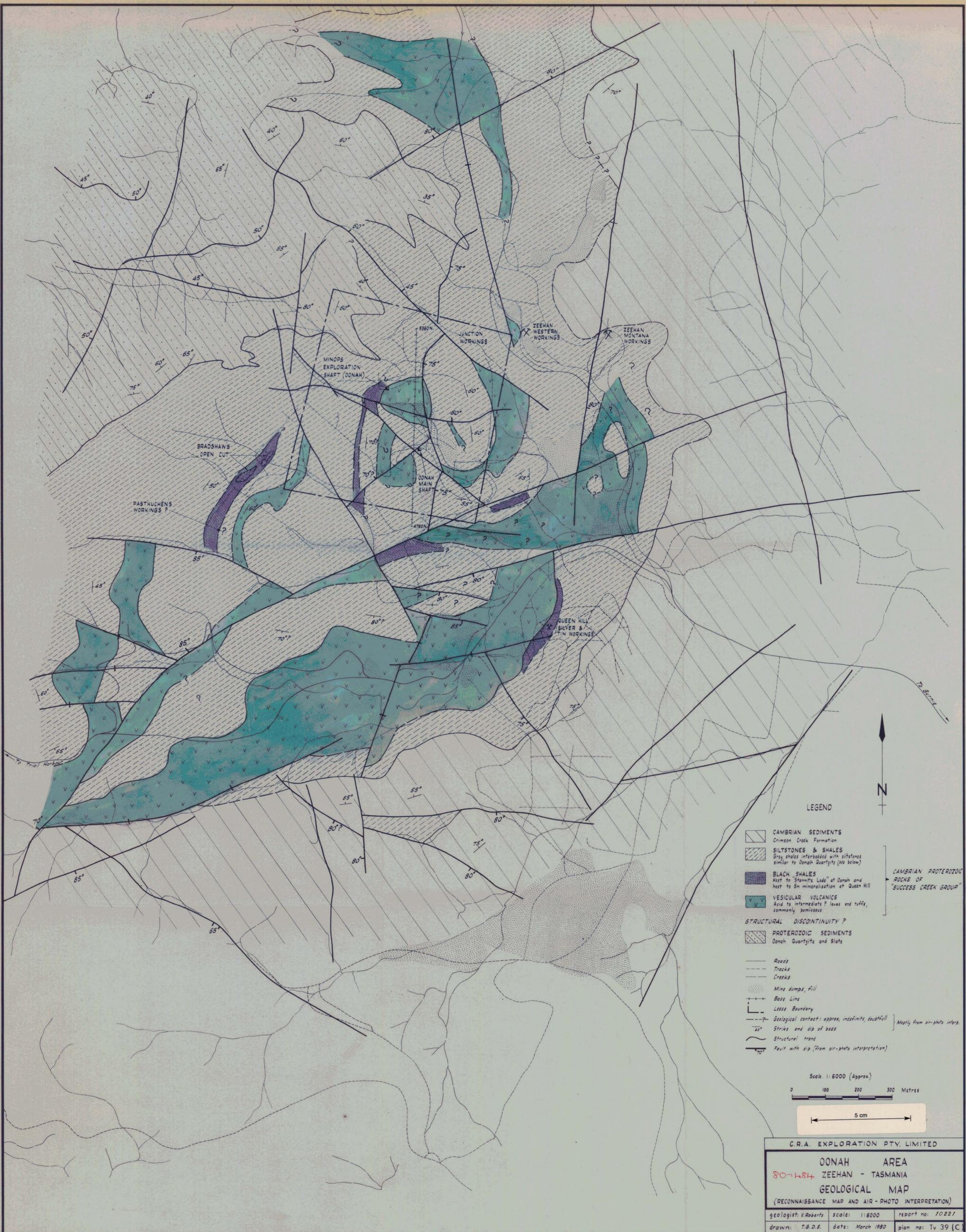
OONAH PROSPECT - TASMANIA
REPORT ON THE FIRST STAGE OF EXPLORATION UNDER
THE CRAE - MINOPS J.V. AGREEMENT

VOL. II - PLANS

Author : A.D. McKay
Date : August 28, 1980
Submitted to : R.L. Brunke
Accepted by : 
Copies to : Minops Pty. Ltd. (3)
Tasmanian Mines Dept. (1)
CRAE Library (1)
I.R. Johnson (1)

LIST OF PLANS

<u>Plan No.</u>	<u>Title</u>	<u>Scale</u>
Tv 39 .	Oonah Area - Geological Plan	1:6 000
Tv 83 .	Oonah Tin Prospect - Outcrop Plan South Sheet	1:500
Tv 84 .	Oonah Tin Prospect - Outcrop Plan North Sheet	1:500
Tv 85 .	Oonah Tin Prospect - Geological Interpretation	1:500
Tv 80 .	Oonah Prospect - Cross Section 5060 N	1:500
Tv 81 .	Oonah Prospect - Cross Section 5180 N	1:500
Tv 79 .	Oonah Prospect - Cross Section 5020 N	1:500
Tv 78 .	Oonah Prospect - Cross Section 4960 N	1:500
Tv 82 .	Oonah Prospect - Cross Section 5200 N	1:500
Tv 77 .	Longitudinal Projection Stannite Lode	1:1 000

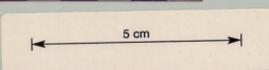


LEGEND

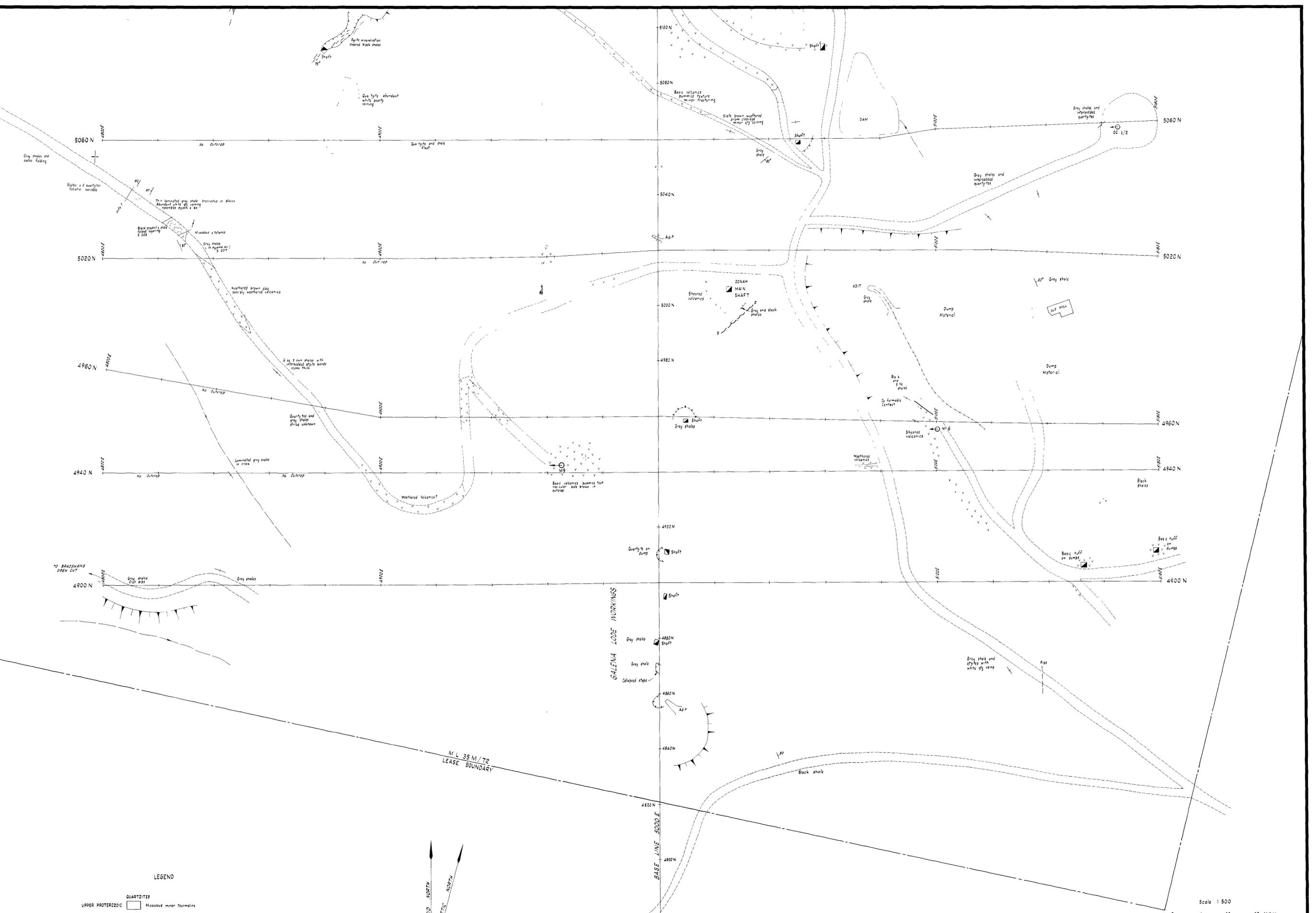
- CAMBRIAN SEDIMENTS
Crimson Creek Formation
- SILTSTONES & SHALES
Grey shales interbedded with siltstones similar to Oonah Quartzite (see below)
- BLACK SHALES
Host to "Stannite Lode" at Oonah and host to Sn mineralisation at Queen Hill
- VESICULAR VOLCANICS
Aid to intermediate? lavas and tuffs, commonly pumiceous
- STRUCTURAL DISCONTINUITY ?**
- PROTEROZOIC SEDIMENTS
Oonah Quartzite and Slate
- Roads
- Tracks
- Creeks
- Mine dumps, fill
- Base line
- Lease boundary
- Geological contact: approx, indefinite, doubtful } Mostly from air-photo interp.
- Strike and dip of beds
- Structural trend
- Fault with dip (from air-photo interpretation)



Scale: 1:6000 (Approx.)
0 100 200 300 Metres

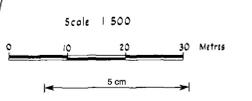
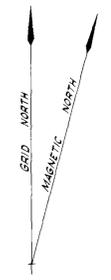


C.R.A. EXPLORATION PTY. LIMITED		
OONAH AREA		
30-1484 ZEEHAN - TASMANIA		
GEOLOGICAL MAP		
(RECONNAISSANCE MAP AND AIR - PHOTO INTERPRETATION)		
geologist: V.Roberts	scale: 1:6000	report no: 10221
drawn: T.G.D.S.	date: March 1980	plan no: Tv 39 (C)



LEGEND

- UPPER PROTEROZOIC
 - QUARTZITES
 - Mississippian minor tourmaline
 - BASIC VOLCANICS
 - Spillites mainly altered scoriaeous breccia with pumice fragments vesicles filled with pale green Mg chlorite and dolomite
- SUCCESSIVE GREEN GROUP
 - GREY SHALES
 - Pyritic, carbonaceous in places dolomite in minor varieties and/or bedding plane films minor tourmaline
 - BLACK SHALES
 - Carbonaceous pyritic fine grained tourmaline
- MINERALISATION
 - Argentiferous galena stamens in zones of brecciation with white quartz veining
 - Fault zone
 - Diamond drill collar



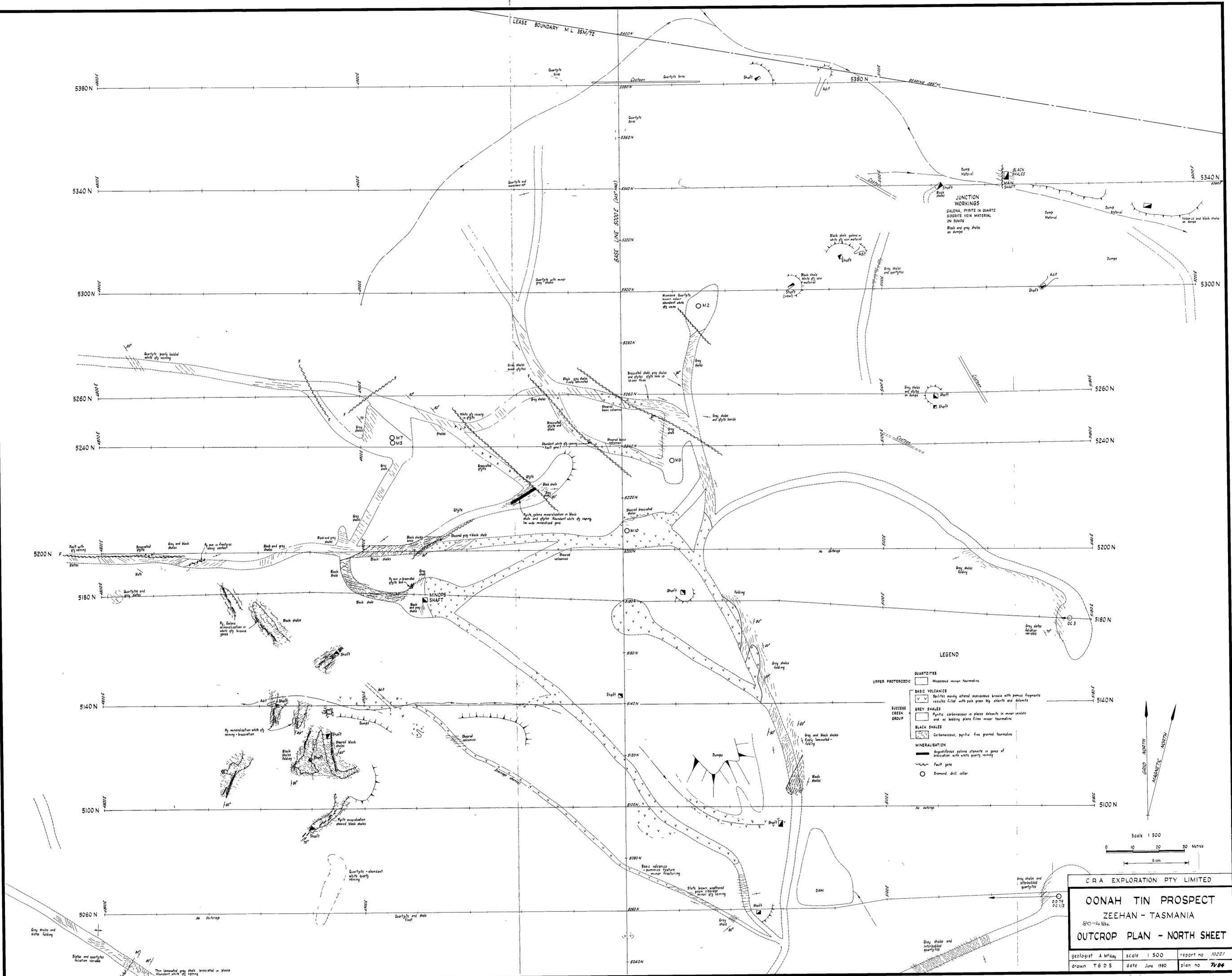
CRA EXPLORATION PTY LIMITED

OONAH TIN PROSPECT

30-145th ZEEHAN - TASMANIA

OUTCROP PLAN - SOUTH SHEET

geologist A McKay	scale 1:500	report no 10221
drawn T G O S	date June 1980	plan no 77-89



LEGEND

- QUARTZITES**
 - Micaceous minor tourmaline
- UPPER PROTEROZOIC**
- BASIC VOLCANICS**
 - Spillite mainly altered stanniferous breccia with porphy fragments vesicles filled with pale green-ky chlorite and dolomite
- SUCCESS CREEK GROUP**
- GREY SHALES**
 - Pyritic carbonaceous in places dolomite in minor veins and as bedding plane films minor tourmaline
- BLACK SHALES**
 - Carbonaceous, pyritic fine grained tourmaline
- MINERALISATION**
 - Assemblages galena stannite in zones of brecciation with white quartz veining
 - Fault zone
 - Diamond drill collar

Scale 1:500
0 10 20 30 Metres
5 cm

GRID NORTH
MAGNETIC NORTH

C R A EXPLORATION PTY LIMITED

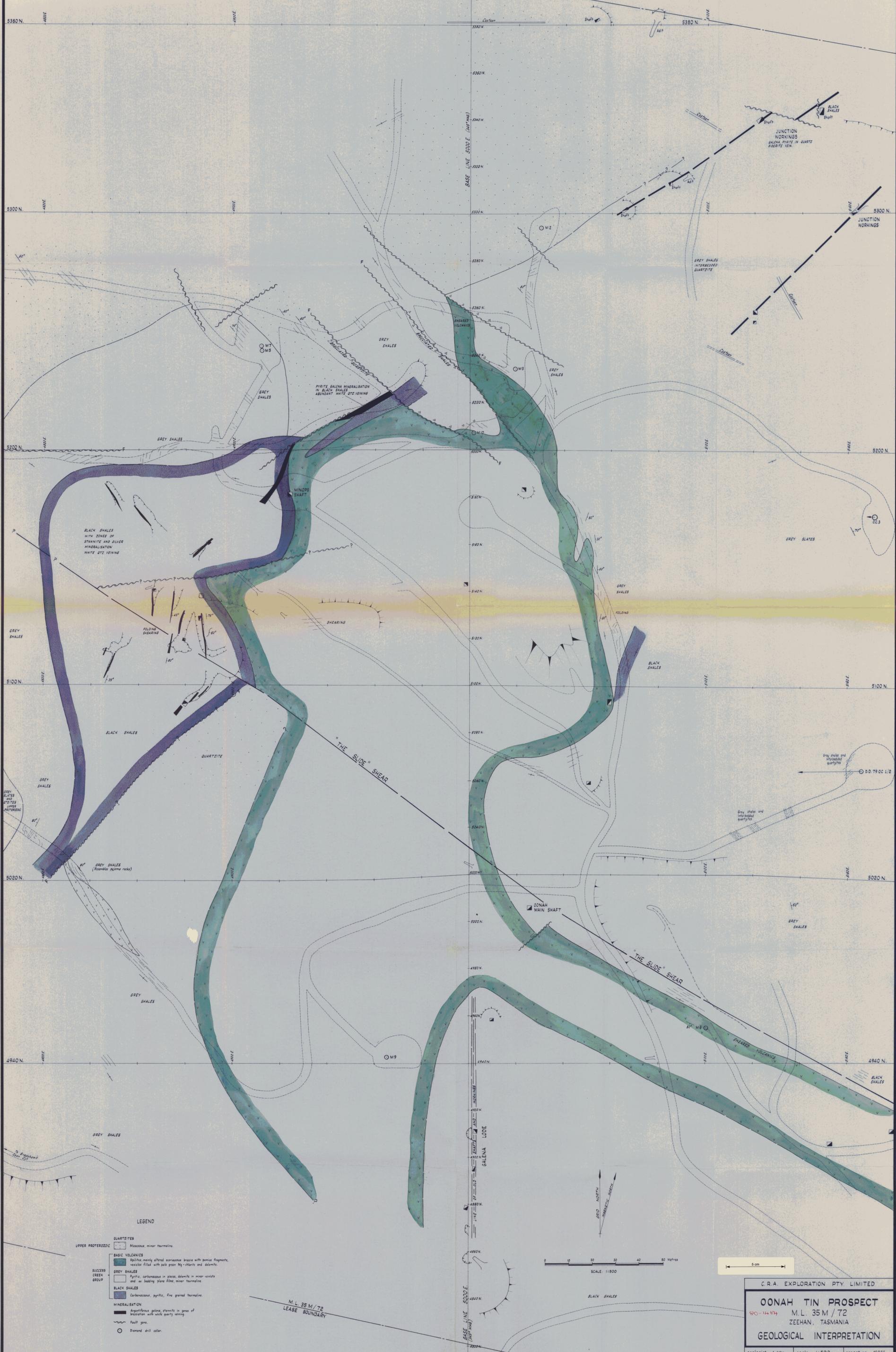
OONAH TIN PROSPECT
ZEEHAN - TASMANIA
SP0-14 SH

OUTCROP PLAN - NORTH SHEET

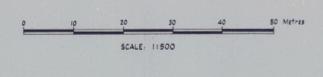
geologist A McKay	scale 1:500	report no 10221
drawn T G D S	date Jun 1980	plan no 7404

042071 6767

LEASE BOUNDARY M.L. 35M/72



- LEGEND**
- QUARTZITES
UPPER PROTEROZOIC: Micaceous, minor tourmaline.
 - BASIC VOLCANICS: Slightly mainly altered rhyolite breccia with garnet fragments, vesicles filled with bold green Mg-chlorite and dolomite.
 - GREY SHALES: Pyritic, carbonaceous in places, dolomite in minor veins and in bedding plane fill, minor tourmaline.
 - BLACK SHALES: Carbonaceous, pyritic, fine grained tourmaline.
 - MINERALIZATION: Argentiferous galena, stannite in zones of brecciation with white quartz veining; Fault zone.
 - Diamond drill collar.



C.R.A. EXPLORATION PTY. LIMITED

OONAH TIN PROSPECT
M.L. 35M / 72
ZEEHAN, TASMANIA

GEOLOGICAL INTERPRETATION

geologist: A.M. Kay scale: 1:500 report no: 10221
drawn: T.G.D.S. date: June 1980 plan no: 7c 85

SOUTH - WEST

NORTH - EAST

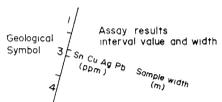


LEGEND

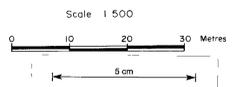
GEOLOGY SYMBOLS

- Basic pyroclastics and tuffs
- Tuffaceous sandstone
- Black shale
- Grey shale
- Siltstone
- Quartzite (micaceous)
- Breccia zone - fault
- Mineralised zone - sulphide mineralisation associated with quartz-siderite veining

DRILL HOLES



Section Reference Line



CRA EXPLORATION PTY LIMITED

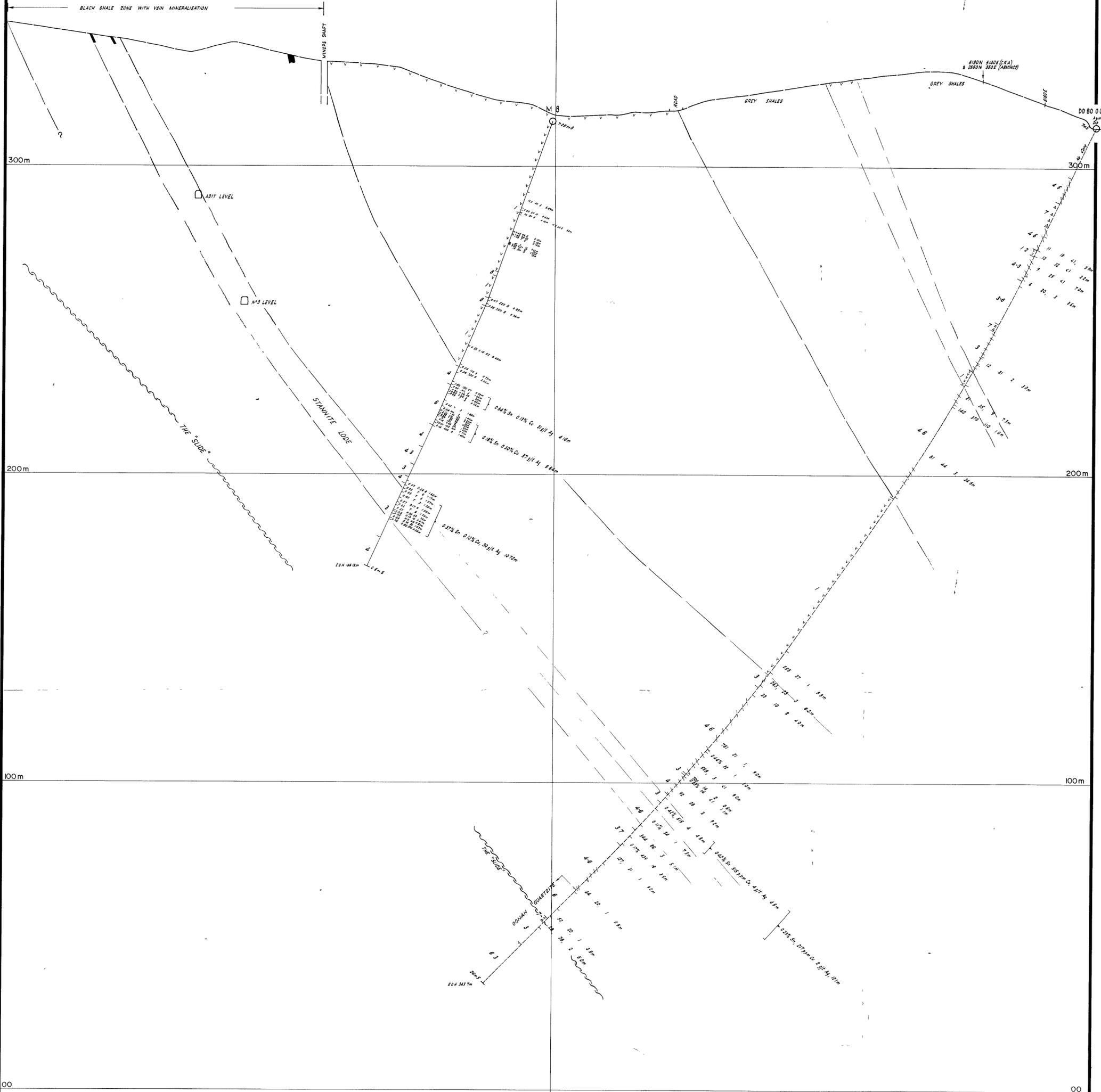
OONAH PROSPECT
 ZEEHAN - TASMANIA

CROSS SECTION 5060N

geologist A D McKay V Roberts	scale 1 500	report no 10221
drawn TGS	date August 1980	plan no TV-80

SOUTH - WEST

NORTH - EAST

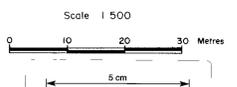
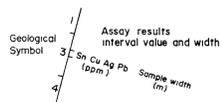


LEGEND

GEOLOGY SYMBOLS

- Basic pyroclastics and tuffs
- Tuffaceous sandstone
- Black shale
- Grey shale
- Siltstone
- Quartzite (micaceous)
- Breccia zone fault
- Mineralised zone - sulphide mineralisation associated with quartz siderite veining

DRILL HOLES

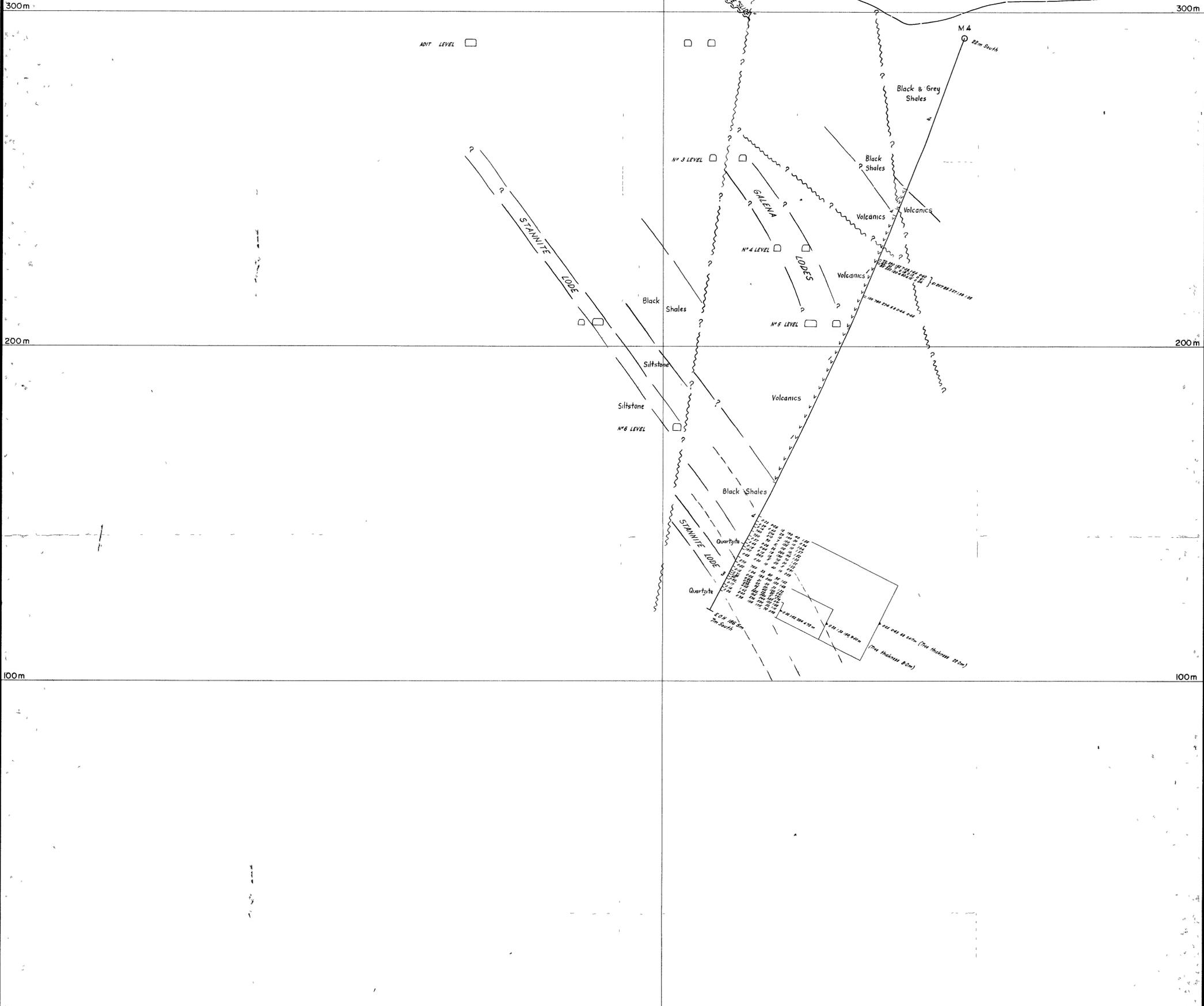


CRA EXPLORATION PTY LIMITED

OONAH PROSPECT
 SO-114874
 ZEEHAN - TASMANIA
 042071

CROSS SECTION 5180N.

geologist A.D.M. Hay	scale 1:500	report no 10221
drawn 7822	date August 1980	plan no 76/81

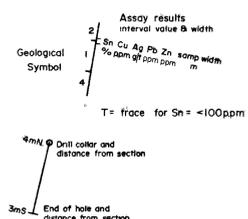


LEGEND

GEOLOGY SYMBOLS

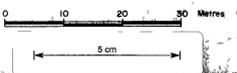
- 1 Basic pyroclastics and/or lavas
- 2 Quartz arenite, micaceous sandstone or quartzite
- 3 Siltstone
- 4 Shale
- 5 Slate
- 6 Mudstone
- 7 "Lode" - mineralised interval or quartz veining
- 8 Breccia
- 2/1,4/1 tuffaceous sandstone or shale

DRILL HOLES



042075

Scale 1:500



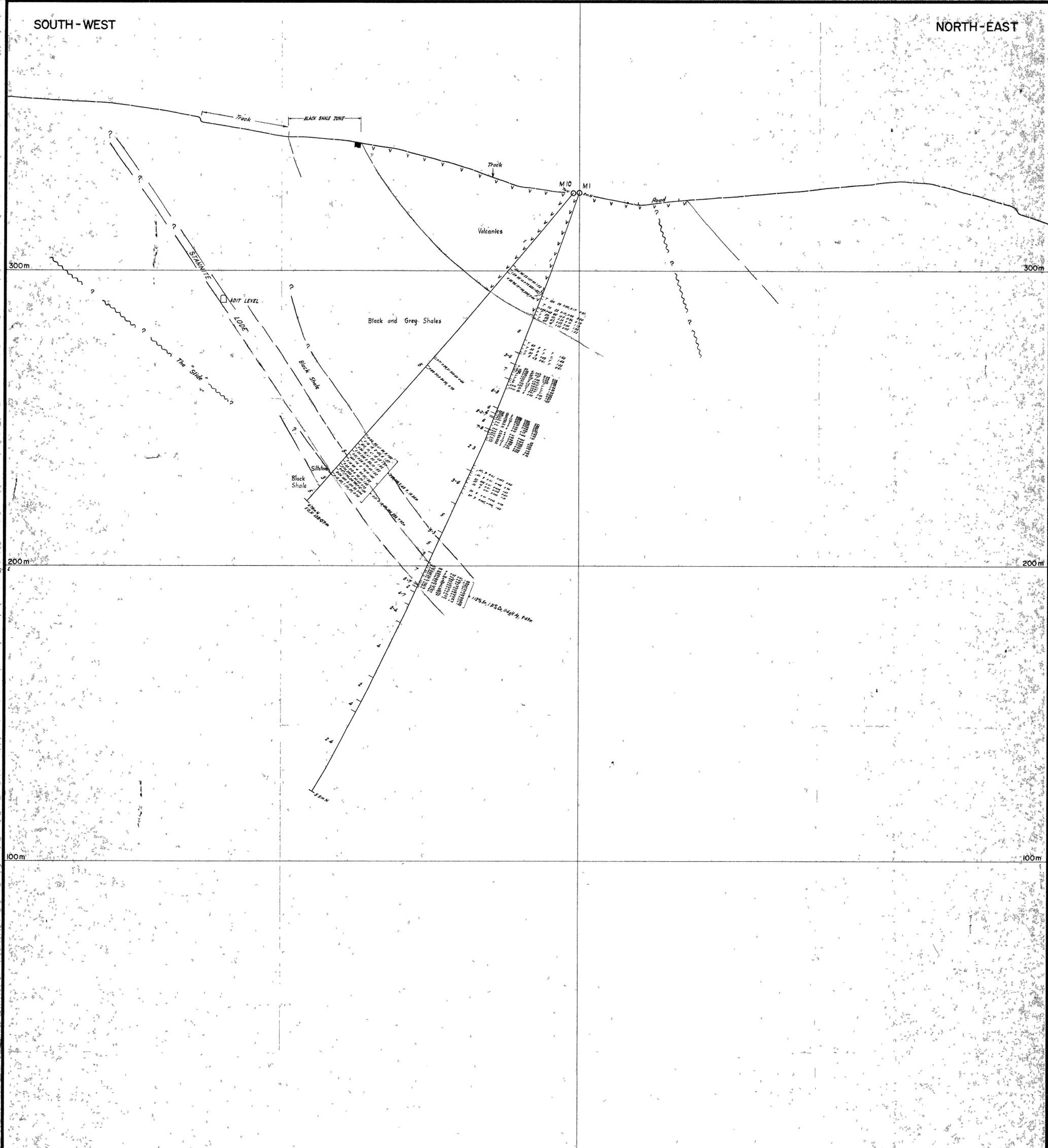
CRA EXPLORATION PTY. LIMITED

OONAH TIN PROSPECT
 ZEEHAN - TASMANIA
CROSS SECTION 5020N.

geologist V Roberts scale 1:500 report no 10221
 drawn T G D S date Feb 1990 plan no TV 79

SOUTH - WEST

NORTH - EAST

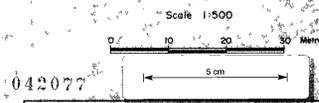
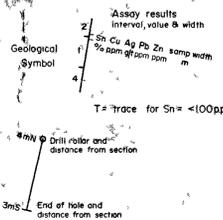


LEGEND

GEOLOGY SYMBOLS

- 1 Basic pyroclastics and/or lavas
- 2 Quartz arenite, micaceous sandstone or quartzite
- 3 Siltstone
- 4 Shale
- 5 Slate
- 6 Mudstone
- 7 "Lode" - mineralised interval or quartz veining
- 8 Breccia
- 2/1, 4/1 tuffaceous sandstone or shale

DRILL HOLES



042077

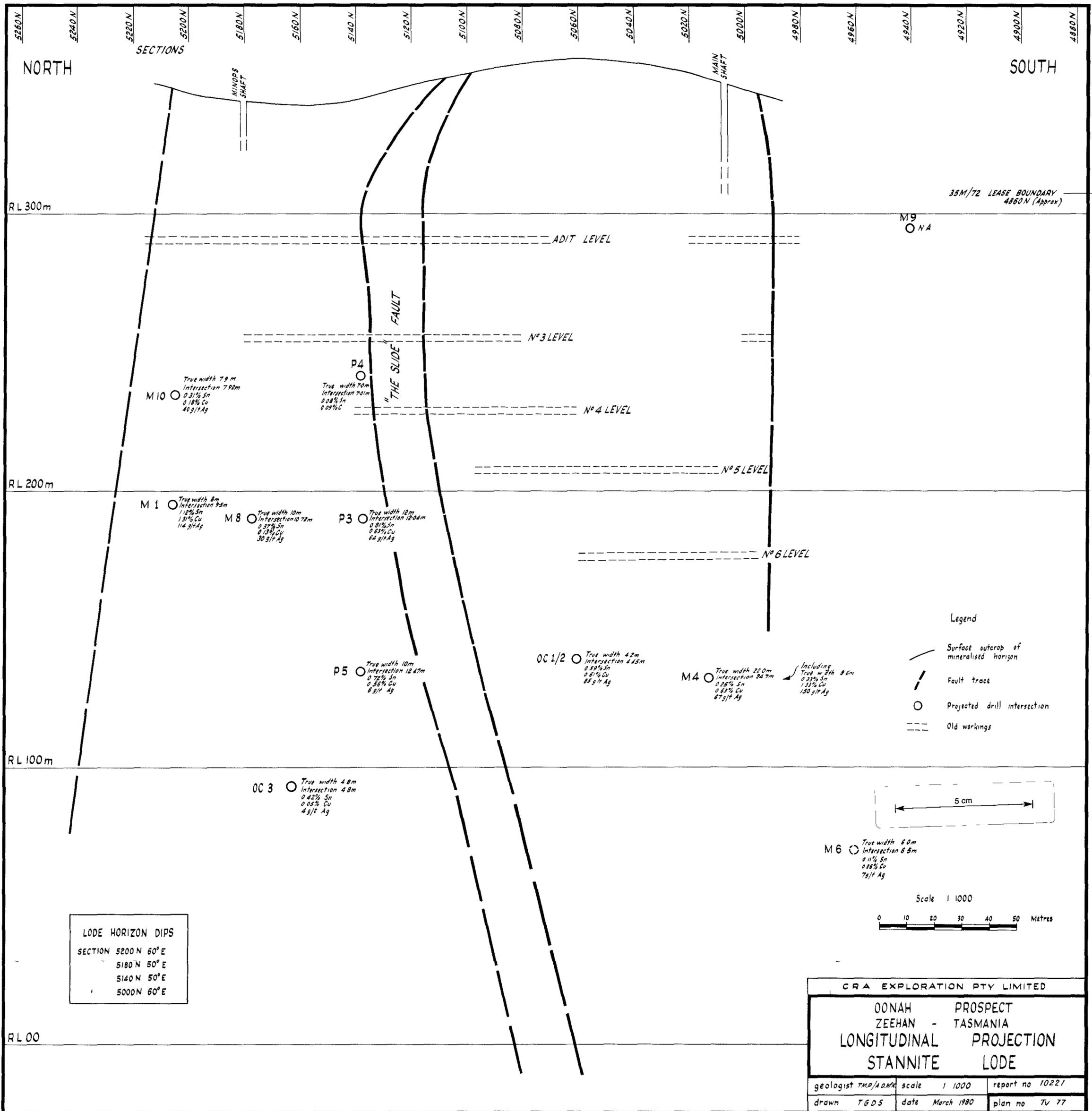
CRA EXPLORATION PTY LIMITED

OONAH TIN PROSPECT

ZEEHAN - TASMANIA

CROSS SECTION 5200N.

geologist V Roberts	scale 1 500	report no. 10221
drawn T G D S	date Feb 1980	plan no. 7v.82



LODE HORIZON DIPS	
SECTION	5200 N 60° E
	5180 N 50° E
	5140 N 50° E
	5000 N 60° E

CRA EXPLORATION PTY LIMITED		
OONAH PROSPECT ZEEHAN - TASMANIA		
LONGITUDINAL PROJECTION STANNITE LODE		
geologist	TMP/AMK	scale 1 1000
drawn	TGDS	report no 10221
	date March 1980	plan no TV 77