CRA EXPLORATION PTY. LIMITED
ACN 000 057 125

Seventh Annual Report For The Period Ending 9/11/95 EL 34/88 Zeehan No. 2, Tasmania

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Licence Holder: CRA Exploration Pty. Limited

Submitted to: Chief Geologist, Vic/Tas

Copies to: Industry Safety and Mines
CRAE - Preston (x2)
CRAE - ETIG
Allegiance Mining NL

Submitted by: J Lochross (for SJ Tear)

Accepted by:

CRAE Report No. 21151

Abstract

Exploration for carbonate hosted base metal deposits within the Gordon Limestone West Tasmania has continued on EL 34/88 (Zeehan 2). Work undertaken in the 12 month period to 9/11/95 consisted of bedrock sampling (wacker and aircore; 205 holes totalling 1772m and 23 holes totalling 782m respectively), a detailed helimag survey (2400 line km) and diamond drilling (5 holes totalling 1057m). The prospect areas investigated include Firewood Siding, Professor Range, Baura, Amber Creek and King Billy. Some of these prospect areas overlap with EL 28/88 (Zeehan 1) and EL 45/92 (Mt. Dundas) and are also reported in CRAE Report No. 21102 and 21807 respectively.

Re-interpretation of all data was completed with the production of new geological maps. Key features of the new maps include drillhole interpretations and increased geological complexity.

Diamond drilling failed to intersect significant mineralisation at either the lower sandstone/limestone contact (Baura) or the upper sandstone/limestone contact (Professor Range, Firewood Siding). Minor zinc mineralisation is associated with the upper contact. Major zones of dolomitisation are also found with this upper contact and are believed to be fault related. At Baura the basal Gordon Limestone is flat dipping with locally intense siderite alteration (minor elevated zinc values).

Apart from aircore drilling of the King Billy area (overlap with EL 45/92 Mt Dundas) which produced a peak of 2.64% Zn, 1.3% Pb over 3m in AC95ZK39, no base metal intersections comparable to those encountered from other prospects in the Zeehan area were found. End-of-hole aircore sampling produced indifferent results.

Wacker drilling to bedrock at King Billy and Amber Creek showed the King Billy area to more anomalous (zinc values up to 1.35%) and structurally complex. Here, the lower sandstone/limestone contact is regionally enhanced with respect to zinc and lead, with or without siderite alteration. Major dolomite alteration zones occur in the King Billy area.

A detailed helimag survey was flown over the Gordon Limestone, the aim being to locate zones of major siderite alteration, which may be associated with development of massive sulphide. In order to maintain the flight lines perpendicular to strike a variable orientation of flight path was required. This resulted in complex and time consuming data processing. Final results are not available at time of writing.

Conclusions from the 1995 programme are:

- King Billy area is considered prospective requiring diamond drilling of alteration and/or geochemical anomalies.
- Further diamond drilling at Firewood Siding needs to go deeper, still testing the upper sandstone/limestone contact but more importantly testing beneath the Siltstone Unit.
- Professor Range remains untested by drilling at its SE end.

Recommendations for 1996 are:

- Infill the wacker sampling at King Billy - fine tune targets for diamond drilling.
- Processing of the helimag data should continue and incorporate the results into the prospect geology maps to identify potential targets.

It is also recommended that:

- A basin analysis study is undertaken which will attempt to recognise basin forming stuctures which may have had an influence on orebody genesis.

Environmental rehabilitation consisted of ripping compacted ground around drillsites and removal of rubbish and cuttings. Care has been taken to avoid unnecessary damage to vegetation etc.

Expenditure for the 12 month period was $332,313. Total for this licence to 9/11/95 is $656,861.

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Plans

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Tv 1022	Zeehan Project Target Plan	1:50,000
Tv 711	EL 34/88 Zeehan 2 Firewood Siding Prospect Drill Hole Location Plan	1:2,500
Tv 995	EL 34/88 Zeehan 2 Zeehan Carbonate Firewood Siding Prospect, DD95ZF36: Section 60230E	1:1,000
Tv 713	EL 34/88 Zeehan 2 Professor Range Prospect, Geology and Drilling	1:2,500
Tv 993	EL 34/88 Zeehan 2 Zeehan Carbonate Professor Range Prospect DD95ZR103: Section 51947N	1:1,000
Tv 997	EL 34/88 Zeehan 2 Zeehan Carbonate Professor Range Prospect DD95ZR104: Section 51456N	1:1,000
Tv 1023	EL 34/88 Zeehan 2 Baura and Grieves South Prospect Geology and Drill Hole Location Plan	1:5,000
Tv 994	EL 34/88 Zeehan 2 Zeehan Carbonate Baura Prospect DD95ZB1 and DD95ZB2: Section 62400E	1:500
Tv 998	EL 34/88 Zeehan 2 & EL 45/92 Mt Dundas Amber Creek and King Billy Prospects Geological Interpretation	1:5,000

Appendices

1. Conclusion and Recommendations

Five carbonate-hosted Zn-Pb targets were selected for work during 1995: Firewood Siding, Professor Range, Baura, King Billy and Amber Creek. Activities included diamond drilling, aircore drilling, wacker geochemical sampling and detailed helimag surveying.

No significant base metal intercepts were encountered in drilling at Firewood Siding, Professor Range and Baura. However, important geological information was gained:

Professor Range

- The Crotty Quartzite/Gordon Limestone contact is believed to be a faulted contact.
- Bedding appears to be subvertical with the very real possibility of folding having increased the Gordon Limestone thickness.
- Older Ordovician sediments have been thrusted from the SW over basal contact of the Gordon Limestone.
- Small scale sphalerite replacement mineralisation occurred in DD95ZR104. Testing beneath the Siltstone Unit at Professor Range indicated little potential for substantial base metal mineralisation.
- Minor elevated zinc assays were recorded at the Crotty Quartzite/Gordon Limestone contact; sometimes in the sheared zone at the base of the Crotty Quartzite.

Firewood Siding

- Dolomitisation is associated with faulting, particularly in proximity to the NW-SE Firewood Siding Fault.
- DD95ZF36 stopped short of testing beneath the Siltstone Unit (Ogsi) and may have inadequately tested the down dip potential based on surface geochemistry.
- Minor elevated zinc assays were recorded at the Crotty Quartzite/Gordon Limestone contact; sometimes in the sheared zone at the base of the Crotty Quartzite.

Baura

- A more definitive measure of the Silty Transition Unit was cored and included substantial siderite alteration.
- Bedding is horizontal indicating <50m depth to the underlying Moina Sandstone.

Wacker bedrock sampling at Professor Range, Amber Creek and King Billy (+ some aircore drilling) has confirmed the existence of a regionally zinc-rich zone at the base of the Gordon Limestone, locally accompanied by dolomitisation and siderite alteration. At King Billy bedrock sampling has highlighted the structural complexity of the area with a Moina Sandstone inlier occurring within presupposed Gordon Limestone. Geochemically, King Billy has an average higher lead value in bedrock than Professor Range and Amber Creek and is considered more prospective. Zinc (+lead) geochemical anomalies, up to 1.35% Zn at King Billy, are open to the east.

Recommendation:

1. Infill wacker bedrock sampling of the King Billy area and closing off bedrock geochemical anomalies to the east.
2. Diamond drill testing of geochemical/geological targets at the King Billy prospect.

3. At Firewood Siding - a diamond drillhole is recommended to test sulphide potential below the Siltstone Unit.
4. At Professor Range - diamond drill testing for sulphide potential at the upper sandstone/ limestone contact at the SE end of the area.

2. Introduction

Zeehan 2, EL 34/88 covers 34 km^2 located near Zeehan on the Tasmanian W coast (plan Tv 1025). EL 34/88 was granted to "His Grace, The Most Noble, The Duke of Avram" on 9th December 1988, and transferred to Major Mining Ltd on the 23rd November 1989. CRA Exploration Pty. Limited entered into a joint venture agreement with Major to explore EL 34/88, commencing on 23rd April 1991. Major Mining Ltd divested its interest in the joint venture to Allegiance Mining NL, with the exploration tenements transferred to CRAE (90%) and Allegiance (10%) as tenants in common on 22nd January 1994.

In line with statutory requirements EL 34/88 was reduced from 68 km^2 to 34 km^2 on 9/12/93, at the end of the fifth year of tenure.

During the period under review, the seventh year of tenure, CRAE has a statutory obligation to spend a minimum of $34,000 in exploration. This report details all exploration activities conducted within EL 34/88 by CRAE during 1995.

CRAE's principal focus in the Zeehan area is zinc mineralisation within the Ordovician Gordon Limestone, which is considered to be prospective for Irish-style carbonate-hosted Zn-Pb deposits.

Prospect targets which have undergone exploration include Firewood Siding, Baura, Professor Range, Amber Creek and King Billy (Plan Tv 1022).

A description of the regional geology and prospect setting is given in Parkinson (1993, 1994, 1995). A new Zeehan 1:50,000 geological map has been published recently which highlights the importance of thrust tectonics in the Zeehan area.

Sub-divisions of the Gordon Limestone have been made on a lithologic/lithostratigraphic basis for utilisation in drillhole logging. An explanation of the formation codes is made in Appendix I.

3. Review of Previous Work

See Appendix II.

4. Exploration Completed in the 12 Month Period Ending 9/11/95

Diamond Drilling Summary

DDH	Prospect	East	North	Elev	T Depth (m)	Azim (AMG)	Dip	Date Drilled	Details Appendix
DD95ZB1	Baura	362700	5347556	150	55.1	104	60	1/5/95	VII
DD95ZB2	Baura	362759	5347564	150	49.9	106	60	4/5/95	VII
DD95ZF36	Firewood Siding	360558	5349716	185	218	95	45	27/3/95	III
DD95ZR103	Professor Range	365296	5351810	205	248	213	50	3/7/95	IV
DD95ZR104	Professor Range	365944	5351907	225	274	213	50	24/7/95	V
				Total	1057m				

Sampling of the drillcore was by splitting the core using a diamond saw with Analabs of Townsville providing the analyses. Analysis was by ICP-OES (GI201) for Ag, Al, As, Ba, Ca, Cu, Fe, K, Mg, Mn, Pb and Zn. Sulphur assays were undertaken by LECO furnace (OM613) for zinc concentrations greater than 0.5%.

Wacker Sampling Summary

Prospect	No. of Samples	Depth		Zinc		Lead	
		Range (m)	Average (m)	Max. (ppm)	Mean (ppm)	Max. (ppm)	Mean (ppm)
Professor Range	18	1.5-27	10.1	5800	535	1630	173
Amber Creek	132	1-36	8.5	2450	139	235	17
King Billy	55	1-25	8.5	13500	751	9750	532

Wacker sampling is a bedrock sampling technique through mostly deep overburden which involves the use of a jack hammer, drill rods and a 'flow-through' sampling bit. The equipment is portable with an average of 70-90m drilled per day. Samples were assayed at Analabs, Townsville by ICP-OES (GI201) for Ag, Al, As, Ba, Ca, Cu, Fe, K, Mg, Mn, Pb and Zn.

4.1 Firewood Siding

The Firewood Siding prospect is 12 km SSW of Zeehan on the Zeehan-Strahan Highway. The geology has been described by Parkinson (1993). (Plan Tv 711)

As a result of the aircore drilling it was decided to diamond drill test potential for massive sulphide at the upper sandstone/ limestone contact in two places. DD95ZF36 was sited close to the north side of the Firewood Siding Fault whilst DD95ZF37 was located 400m along strike to the north. The latter hole is on EL 28/88 and is reported in CRAE Report No. 21102.

DD95ZF36 45° to 094° AMG TD 218m Drill Rig Longyear 38
(Diamond Drilling of Tasmania P/L)

This drillhole, collared in Crotty Quartzite, passed into the Upper Dolomite Unit of the Gordon Limestone at 39m (plan Tv 995). There appeared to be silica alteration at the base of the quartzite. The Upper Dolomite Unit terminated at 181.7m but contained a distinct dedolomitised zone of dark grey clays, locally calcareous, from 85m to 112m. The sedimentary origin of this altered unit is unknown as it is accompanied by considerable core loss and brecciated core and thus may constitute a fault. Elevated zinc values occur at the Limestone's upper contact, 3m x 0.28% Zn from 85m. The hole terminated at 218m in the Siltstone Unit - a dark grey argillaceous calcsiltite, locally non-calcareous. Elevated zinc values were also recorded from the base of the Crotty Quartzite 2.3m x 0.28% Zn from 36.7m. Drill logs and results are included in Appendix III.

Weathering persists to depths of 90m. Broken core and poor recovery were encountered in several instances and required several episodes of cementing to secure the hole.

4.2 Professor Range

The Professor Range Prospect is 10 km SSE of Zeehan, extending SE from the Zeehan-Strahan Road. Work completed comprised two lines of wacker sampling at the SE end and two diamond drillholes DD95ZR103 and DD95ZR104. A reinterpretation of all available geological data was made and a revamped geological map was produced (plan Tv 713).

DD95ZR103 50° to 212° AMG TD 248m Drill Rig Universal 650
(Diamond Drilling of Tasmania P/L)

This diamond drillhole aimed to test potential for sulphide mineralisation at the contact between the Gordon Limestone and the underlying Owen Conglomerate. Drilling failed to intersect the contact or any siderite alteration (plan Tv 993). The hole intersected dark grey clays which are interpreted to be the result of weathering of the Siltstone Unit and its transition zones (43.5 to 51.8m). The remainder of the hole comprised of undifferentiated slightly argillaceous bioclastic calcarenites. Thin veining, locally intense and well developed cleavage indicate proximity to a fault structure(s) whilst one core orientation suggested steeply dipping beds to the NE (>80°).

Assay results showed a maximum zinc value of 1.4m x 898 ppm Zn from 67.4m, in limestone below the Siltstone Unit.

DD95ZR104 50° to 212° AMG TD 274m Drill Rig Universal 650
(Diamond Drilling of Tas P/L)

This diamond drillhole tested potential mineralisation at the upper sandstone/limestone contact. The hole was open-holed to 21m and then collared in massive Crotty Quartzite. From 43.8m to 132.8m several units of interlaminated shale and siltstone occurred within the sandstone (plan Tv 997). From 132.8m to 152.5m the geology is dominated by very fissile black shale and siltstone with only the occasional sandstone. Ambiguity remains as to whether this unit represents a fault zone. The Upper Dolomite Unit with dark grey clay and breccia occur from 152.5 - 172m. The remaining 102m consists of dolomitised bioclastic (+/- argillaceous) calcarenites of the Upper Dolomite Unit/undifferentiated dolomite (Ogdl).

Zinc mineralisation occurs as fine disseminated blebs of sphalerite within a limestone breccia, best grade 0.3m x 0.8% Zn from 217.8m (Pb 0.23%). Other minor zones of brecciation also contain sphalerite eg 1m x 0.1% Zn from 251.75m.

Drill logs and results are shown in Appendix IV & V.

Two lines of bedrock sampling (wacker) were completed at the SE end of Professor Range. Elevated zinc and lead values occur at the upper sandstone/limestone contact with a peak zinc value of 5800 ppm (Pb 655 ppm). Results of the sampling can be found in Appendix VI.

4.3 Baura

The Baura Prospect is 13 km S of Zeehan, 2 km SW of the Grieves Prospect. The Firewood Siding Fault crosscuts the lower limestone/sandstone contact within the area. Elevated zinc values associated with siderite alteration were encountered in previously reported CRAE's wacker sampling and this anomaly was consequently tested by diamond drilling (ZB1 and ZB2). A reinterpreted geology map has been produced (plan Tv 1023).

DD95ZB1	60° to 104° AMG	TD 55.1m	Drill Rig Universal 250 (Diamond Drilling of Tasmania P/L)

This hole was collared in non-calcareous, sideritic siltstone and sandstone. Bedding angle measurements indicated that either the beds were horizontal or that there was major discordant faulting in the area. The hole passed through the Silty Transition Unit (25.5 - 39.95m) into the underlying Moina Sandstone. Zinc values of 0.37% were associated with a 2m siderite dark grey clay from 25.5m.

DD95ZB2	60° to 096°	TD 49.9m	Drill Rig Universal 250 (Diamond Drilling of Tasmania P/L)

To confirm bedding orientation, DD95ZB2 was moved nearer to the proposed contact position of the lower sandstone/limestone contact. The outcome was that DD95ZB2 replicated DD95ZB1 thus confirming that the bedding is horizontal. Zinc values associated with the anomalous horizons in DD95ZB1 were lower (833 ppm Zn).

Drill logs and results are shown in Appendix VII.

4.4 Amber Creek

Amber Creek is 2km east of Professor Range. The area is divided by the EL 34/88 - 45/92 boundary with the majority of it in EL 34/88. A series of wacker sample lines transect the Gordon Limestone from the Crotty Quartzite to the underlying Moina Sandstone. An interpretive geology map based on wacker sample logging and geochemical assays was produced (Plan Tv 998).

Results show that the lower sandstone/limestone contact contain anomalous concentrations of base metals and siderite. Implied small zones of siderite alteration also occur at this contact in association with dark grey non-calcareous clays and a dolomitised oolite unit. Relative to other prospects the absolute geochemical values are lower, although the peak values are an order of magnitude higher than background for the prospect.

Results of the sampling are shown in Appendix VIII.

4.5 King Billy

King Billy is 3 km east of Amber Creek, in the eastward continuation of the Gordon Limestone from Professor Range. King Billy is divided by the EL 34/88 - 45/92 boundary. For reporting circumstances the wacker sampling has been split up between the two licences.

Geological logging of samples identified the area to be more structurally complex than previously thought. An inlier of Moina Sandstone occurs in the centre of the prospect, possibly indicating thrust - related tectonics. An interpretive geology map based on the aircore and wacker sampling was produced (Plan Tv 998).

Bedrock assay results show significantly elevated zinc (and lead) values associated with the lower sandstone/limestone contact, up to 6700 ppm Zn (Pb 3750 ppm). The anomalies appear linear, probably due to the sampling patterns. A broad elevated zinc halo occurs around the main stratigraphically lowest anomaly, east of 370500E. Siderite alteration is associated with this anomaly. Major dolomitisation occurs west of 370500E, and may indicate a fault position. Sample descriptions and results are included in Appendix IX.

A significant zinc/lead geochemical linear anomaly occurs approximately 250m north of the lower sandstone/limestone contact within the Gordon limestone. A peak value of 13500 ppm Zn is recorded with Pb at 2140 ppm.

Both linear anomalies have thresholds >1000 ppm zinc and remain open to the east.

Twenty three reverse circulation air-core drillholes totalling 782m were completed in the King Billy area using a converted universal 250 drill rig from Diamond Drilling of Tasmania. The fully operational rig has a total weight of eight-tonnes, with a ground pressure less than 4 psi. Air-core drilling relies on compressed air to return drill cuttings to the surface. No water (except natural groundwater) or muds are circulated and all cuttings are collected via a cyclone into bags. Cuttings are collected over 3m intervals, with a 1-2 kg sample "snatched" by hand for analysis. Samples were assayed at Analabs by AAS (aqua regia-perchlonic acid digest) for Ag, Cu, Pb, Zn, Fe, Mn.

Hole locations are shown on plan Tv 998. Drill logs and assays are shown in Appendix X.

A total of 23 holes exhibit a depth range of 13.5 to 49.3m with an average depth of 34.1m. The samples are part of a grid that extends northwards onto EL 45/92 where the majority of the drilling took place.

Best recorded values are:

Aircore Hole			Depth	Comments
AC95ZK4	1.94% Pb	0.24% Zn	9-12m	Iron enriched (not siderite)
AC95ZK22	1.67% Zn	(<0.1% Pb)	12-15m	
AC95ZK39	2.64% Zn	1.3% Pb	9-12m	Iron depletion
AC95ZK46	1.3% Zn	0.2% Pb	39-45m	Possible siderite alteration

Bottom-of-hole sampling consisted of collecting a chip rock sample (approx 50g) from the base of the hole. Each sample was geologically described and subjected to multi-element analysis. Samples were assayed at Analabs, Townsville by ICP-OES (aqua-regia-perchloric-hydrofluoric acid digest) for Ag, Al, As, Ba, Ca, Cu, Fe, K, Mg, Mn, Pb, Zn. Assays are presented in Appendix XI.

Zinc and lead assays for the bottom-of-hole sampling were relatively low with a maximum zinc value of 850 ppm (Pb 1290 ppm) and a maximum lead value of 4840 ppm (Zn 559 ppm). The mean values for zinc and lead are 177 ppm and 306 ppm, respectively. Relative to other areas, the King Billy prospect contains higher concentrations of lead.

Major dolomitisation exists (high Fe/Mn) in the south west of the sampled area. This is believed to be fault-related dolomitisation - the structure being a dextral NNW striking feature. Stratigraphic match up of samples has proven to be very difficult, possibly reflecting the structural complexity of the area.

4.6 Helimag Survey

A helimag survey was flown over the Gordon Limestone of the Zeehan area. Line spacing was approximately 60m with an average flight height of 30m and sampling intervals were approximately every 3-4m. A feature of the survey was that the flight lines were aimed at being perpendicular to the strike of the limestone. Processing of the data is complex and time consuming. At the time of writing, final results are still awaited.

5. Discussion of Results

5.1 Firewood Siding

Diamond drilling at Firewood Siding has highlighted the following points:-

1) Both DD95ZF36 and DD95ZF37 terminated in the Siltstone Unit. Construction of the cross sections for the drillholes appears to show that the surface geochemistry has not been fully explained. Drilling to the micrite unit below the Siltstone Unit is recommended.

2) Dolomitisation of the upper part of the Gordon Limestone is substaintially greater in DD95ZF36 reflecting perhaps its proximity to the Firewood Siding Fault - a pathway for hydrothermal dolomitising fluids.

3) Minor elevated zinc and lead values are associated with the Crotty Quartzite/Gordon Limestone contact.

4) The question as to whether the Crotty/Gordon contact is conformable or faulted is unanswered. Evidence such as broken core, dolomitisation, silicification etc indicates that it is probably faulted, either strike or dip slip.

5.2 Professor Range

Wacker sampling and diamond drilling at Professor Range has shown that:-

1) The Owen Conglomerate is thrusted over the Gordon Limestone with the thrust dipping NE. The estimated depth to the lower sandstone/limestone contact from the end of DD95ZR103 is put at a further 200m.

2) The top 30% of the Gordon Limestone is geochemically anomalous in base metals. No conclusive evidence from drilling has explained this.

3) The Crotty Quartzite/Gordon Limestone contact is faulted. There is extensive dolomitisation associated with it (DD95ZR104) and minor zinc/lead mineralisation.

5.3 Baura

Limited drilling at Baura has shown that:-

1) The outcropping Gordon Limestone basal beds are flat dipping in the southern part of the area indicating that the potential target of sulphides at lower sandstone/ limestone is more shallow than previously thought.

2) From the reinterpreted mapping it is evident that the lower sandstone/limestone contact is regionally anomalous in zinc, lead and iron. Untested drill targets remain, related to the Siltstone Unit package.

5.4 Amber Creek

The wacker sampling at Amber Creek has shown that:-

1) The lower sandstone/limestone contact is anomalous in zinc, lead and iron. The absolute concentrations are lower than other areas, thus downgrading the Amber Creek area.

5.5 King Billy

Wacker and aircore results at King Billy have shown that:-

1) The lower sandstone/limestone contact is significantly anomalous in zinc, lead and iron. The zinc and lead values are relatively high compared with other areas eg. Amber Creek.

2) Significant areas of siderite and dolomite alteration occur, believed to be related to faulting.

3) Zinc-bedrock anomalies are open at the east end of the grid. The strongest anomaly is near the Siltstone Unit.

4) The area is structurally complex vis-a-vis the sandstone inlier in the centre of the area.

6. Environment and Rehabilitation

A number of activities conducted during 1995 have impacted on the environment. These include:

- diamond drilling at Firewood Siding (Helicopter support)
- diamond drilling and wacker sampling at Professor Range
- diamond drilling at Baura
- Line cutting, aircore drilling and wacker sampling at King Billy
- Line cutting and wacker sampling at Amber Creek.

Rehabilitation of disturbance included:

- filling in of aircore holes
- removing excess aircore cuttings form sites
- renovation and clearance of diamond drill sites - including infilling of sumps etc.

All exploration work is discussed on site with Department of Industry Safety and Mines personnel prior to it being undertaken. Their advice allows for environmental impact of the proposed work to be kept to a minimum.

Drill sites and grid lines will naturally revegetate. No permanent new access tracks were created. Where possible, low-impact technologies were employed in exploration.

One problem area may be Firewood Siding where previous exploration work damaged boggy, very soft ground. The soupy nature of the surface there means that little can be done to repair damage apart from allowing the swamp to naturally level and revegetate. The ground is too sloppy to effectively re-seed. Erosion is not a problem.

The Firewood Siding diamond drillhole required helicopter support and several trees needed to be felled. Clearance of the drill site for the helicopter was kept to a minimum. This open space is not obviously visible from ground level including from the Strahan-Zeehan Road.

7. References

Kratochvil, M.	1991	EL 34/88 Henty, Tasmania. Statutory Progress Report for the Period Ending 9th November 1991. CRAE Report No. 17635.
Parkinson, R.G.	1992	Zeehan No. 2 EL 34/88. Report on Exploration for the Fourth Year of Tenure, 9/11/91 to 9/10/92. CRAE Report No. 18359.
Parkinson, R.G.	1993	Zeehan No. 2 EL 34/88. Report on Exploration for the Fifth Year of Tenure, 9/10/92 to 9/11/93. CRAE Report No. 19285.
Parkinson, R.G.	1994	Zeehan No. 2 EL 34/88. Report on Exploration for the Sixth Year of Tenure 9/11/93 to 9/11/94. CRAE Report No. 20458.

8. Location

Queenstown	SK55-5	1:250,000
Pieman	7914	1:100,000
Zeehan	7914-S	1:50,000

9. Keywords

Tasmania, Ordovician, Gordon Limestone, Wacker Sampling, Diamond drilling, Aircore drilling, Zinc, Helimag Survey.

10. DPO Register

CRA Exploration Pty Limited

DPO Register

EL 34/88 Zeehan 2

DPO Number	LAB Batch Number	LAB	DPO Location	Office Date	Geologist	Tenement Name	Sample Type	Number of Samples	250,000 Map Sheet	100,000 Map Sheet
77679	10659	Analabs	Zeehan	18/1/95	S Tear	King Billy	Rock	67	SK55-5	7914
77680	10694	Analabs	Zeehan	33298	S Tear	Amber Creek	Rock	145	SK55-5	7914
77681	10706	Analabs	Zeehan	33512	S Tear	Professor Range	Rock	61	SK55-5	7914
77700	10987	Analabs	Zeehan	33274	S Tear	King Billy	Rock	85	SK55-5	7914
77691	10911	Analabs	Zeehan	33362	S Tear	Baura	Half DD HQ/NQ	45	SK55-5	7914
77694	10983	Analabs	Zeehan	15/5/95	S Tear	Firewood Siding	Half DD HQ/NQ	69	SK55-5	7914
77391	11150	Analabs	Zeehan	33549	S Tear	Professor Range	Half DD HQ/NQ	118	SK55-5	7914
77387	11098	Analabs	Zeehan	19/7/95	S Tear	Professor Range	Half DD HQ/NQ	46	SK55-5	7914
77686	10847	Analabs	Zeehan	12/4/95	S Tear	King Billy	Rock	173	SK55-5	7914
77687	10852	Analabs	Zeehan	12/4/95	S Tear	King Billy	Aircore	500	SK55-5	7914
77688	10857	Analabs	Zeehan	18/4/95	S Tear	King Billy	Aircore	500	SK55-5	7914
77689	10884	Analabs	Zeehan	27/4/95	S Tear	King Billy	Aircore	121	SK55-5	7914

145.3°
350000 mE
145.4°
370000 mE
145.5°
Dundas
Zeehan
Mt. Agnew
Comstock
Mt. Dundas
5360000 mN
-41.9°
Zeehan Hwy.
Austral
Mt. Zeehan
Old Line Rd.
EL34/88
5350000 mN
Henty Road
-42°
EL34/88
Henty River
EL34/88
Henty River
Foreshore Flats
Henty Dunes
Queenstown Airport
5340000 mN
Southern Ocean
-42.1°
Highway
Lynchford
Lyell
5 cm
N
0 2 4
Kilometers
Projection: AMG Zone 55
Grid: AMG Zone 55 & Lat/Long AGD66
Strahan
Strahan Airport
Regatta Point

96-3886

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EL 34/88 - TEAR S J

Burnie
Hobart

Location Diagram

SK55-20 NW-Tas
Conical Rocks 7814
Pieman 7914
Sophia 8014
Cape Sorell 7913
Franklin 8013
SK55-22 SW-Tas

Mapsheet Reference

Legend

- Town
- Mountain
- EL Boundary
- Perennial Drainage
- Non-Perennial Drainage
- Highway
- Secondary Road
- Minor Road
- Track
- Railway
- Lake
- Swamp
- Urban

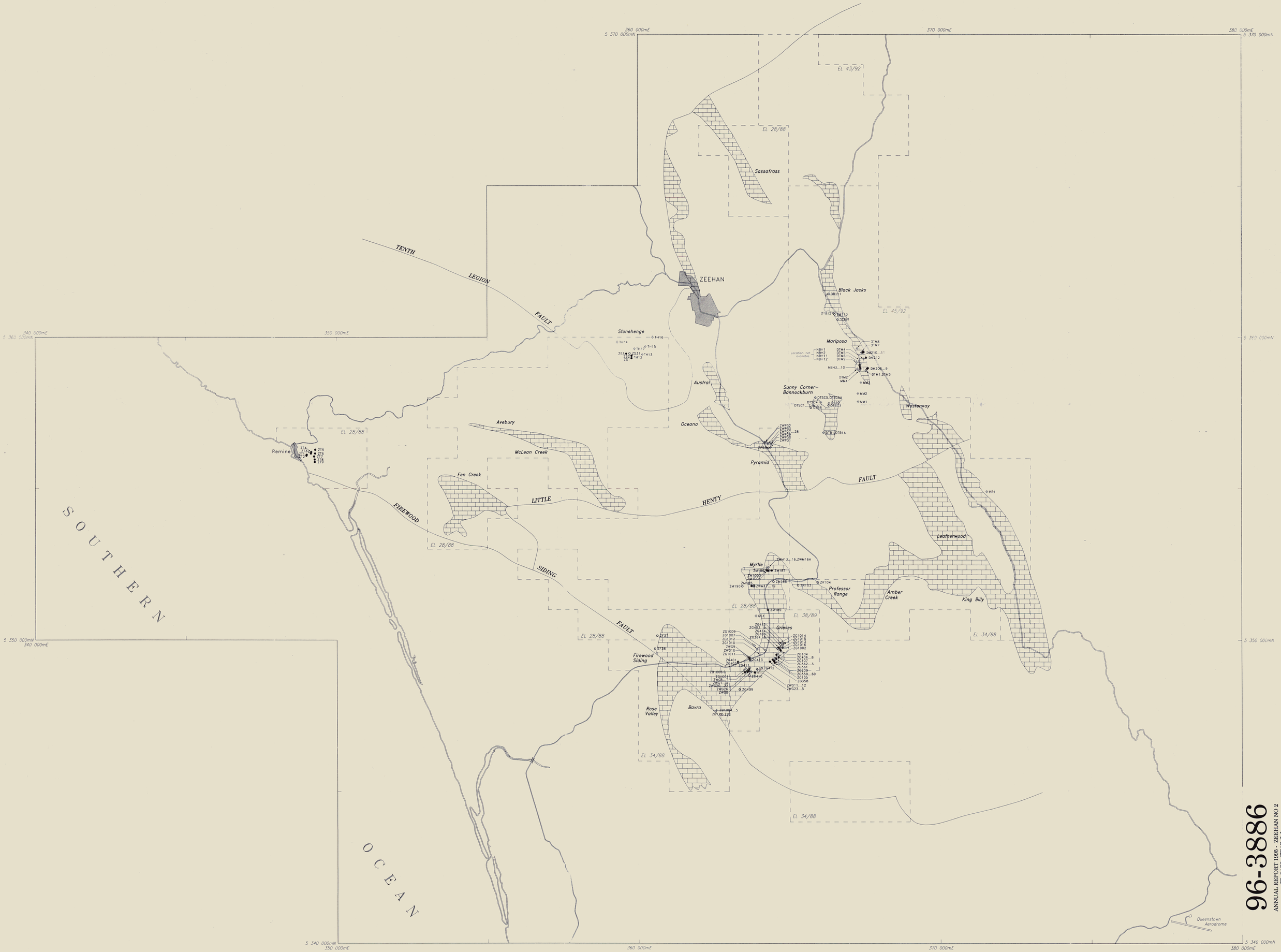
695018

CRA EXPLORATION PTY. LIMITED

EL34/88 Zeehan 2

Location Plan

Author: Simon Tear	Reference: SW Tasmania SK55-22
Drawn: Tony Sargeant	File Name: Tv1025.wor
Date: December 1995	Report No: 21151
Scale: 1:100,000	Plan No: Tv1025



96-3886

ANNUAL REPORT 1995 - ZEEHAN NO 2
EL 34/88 - TEAR S.J

CRA EXPLORATION PTY. LIMITED

ZEEHAN PROJECT
Target Plan

Ref.: SK55 – 5	File: Tv1022.dwg
Scale: 1 : 50000	Date: November 1995
Author: Simon Tear	Report No.: **21151**
Drawn: T. Sargeant	Plan No.: Tv 1022

44200mN

44300mN

44400mN

DD95ZF36

not sampled

Deep overburden samples (wacker) - Zn : ppm

10 53 658 1403 37 17 14500 60 69 1590 272 1335 336 2435 545

Aircore EOH
Zn : ppm

ZF1 37 ZF2 17 ZF3 -5 ZF4 60 ZF5 65

150m

overburden

fault

150m

2.3m @ 0.28% Zn

1.5m @ 0.27% Zn

3.0m @ 0.28% Zn

>1% Zn

100m

100m

possible upper siltstone unit

50m

50m

EOH 218m

fault

0m

5 cm

Sc		Crotty Quartzite	*Silurian*
Ogud		Upper Dolomite Unit	*Gordon Limestone*
Ogsi		Siltstone Unit	
Ogul		Undifferentiated limestone	
Ogdl		Undifferentiated dolomite	
Ogmu		Laminated Micrite Unit	
Ogoo		Oolite Unit	
Ogsd		Siderite Unit	
Ogdc		Dark grey/black clay Unit	
Ogfc		Ferruginous Clay Unit	
Ogms		Massive Sulphide Unit	
Ogst		Silty Transition Unit	
Ogfz		Fault zone	
Ogbr		Carbonate breccia	
Om		Moina Sandstone	*Ordovician*
Oo		Owen Conglomerate	
Ed		Dundas Group (undifferentiated)	*Cambrian*

Bedding

ZP37 20ppm — Deep overburden sampling (aircore EOH / wacker)
Hole no / Zn : ppm

0 10 20 30 40 50 60m

CRA EXPLORATION PTY LIMITED

EL34/88 ZEEHAN 2

Zeehan Carbonate

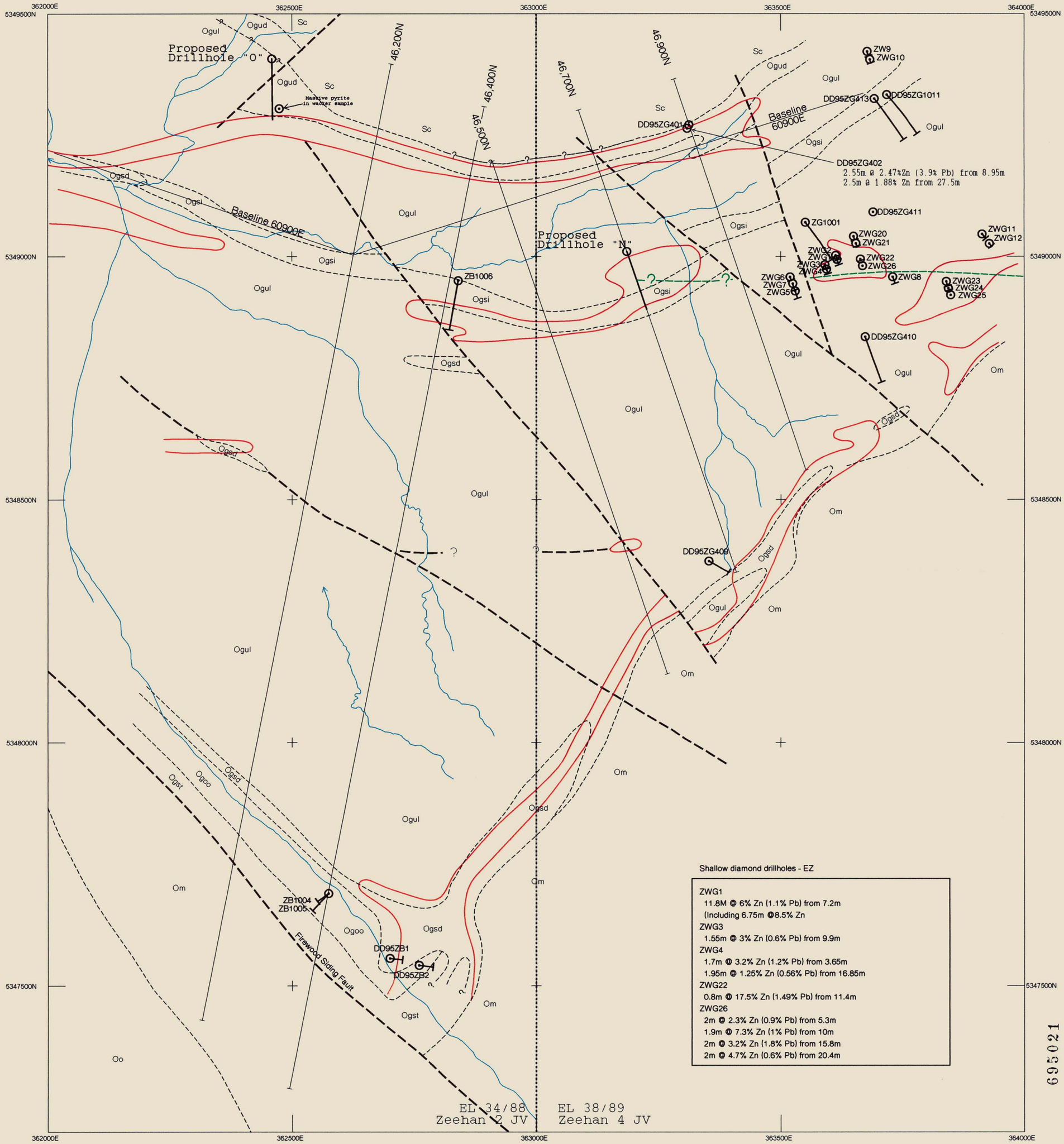
FIREWOOD SIDING PROSPECT

DD95ZF36 : Section 60230E

Author:	S J Tear	Reference:	SK5505 Queenstown
Drawn :	D Oliver	File Name :	Tv995.eps
Date :	October 1995	Report No:	21151
Scale :	1:1000	Plan No :	Tv995

96-3886

ANNUAL REPORT 1995 - ZEEHAN NO 2
EL 34/88 - TEAR S J



Sc	Crotty Quartzite	SILURIAN
Ogud	Upper Dolomite Unit	GORDON LIMESTONE
Ogsi	Siltstone Unit	GORDON LIMESTONE
Ogul	Undifferentiated Limestone	GORDON LIMESTONE
Ogdl	Undifferentiated Dolomite	GORDON LIMESTONE
Ogmu	Laminated Micrite Unit	GORDON LIMESTONE
Ogoo	Oolite Unit	GORDON LIMESTONE
Ogsd	Siderite Unit	GORDON LIMESTONE
Ogdc	Dark Grey / Black Clay Unit	GORDON LIMESTONE
Ogfc	Ferruginous Clay Unit	GORDON LIMESTONE
Ogms	Massive Sulphide Unit	GORDON LIMESTONE
Ogst	Silty Transition Unit	GORDON LIMESTONE
Ogfz	Fault Zone	GORDON LIMESTONE
Ogbr	Carbonate Breccia	GORDON LIMESTONE
Om	Moina Sandstone	ORDOVICIAN
Oo	Owen Conglomerate	ORDOVICIAN
Cd	Dundas Group (undifferentiated)	CAMBRIAN

- *Diamond drill hole*
- *Proposed diamond drill hole (1996)*
- *Geological boundary - inferred*
- *Fault - inferred*
- *Inferred vertical mineralised structure*
- *Significant Zn/Pb anomaly (>1000ppm Zn & Pb)*
- *EZ Grid Line*

Note: Streams added from EZ Map
Possibly Inaccurate

Shallow diamond drillholes - EZ

ZWG1
11.8M @ 6% Zn (1.1% Pb) from 7.2m
(Including 6.75m @8.5% Zn
ZWG3
1.55m @ 3% Zn (0.6% Pb) from 9.9m
ZWG4
1.7m @ 3.2% Zn (1.2% Pb) from 3.65m
1.95m @ 1.25% Zn (0.56% Pb) from 16.85m
ZWG22
0.8m @ 17.5% Zn (1.49% Pb) from 11.4m
ZWG26
2m @ 2.3% Zn (0.9% Pb) from 5.3m
1.9m @ 7.3% Zn (1% Pb) from 10m
2m @ 3.2% Zn (1.8% Pb) from 15.8m
2m @ 4.7% Zn (0.6% Pb) from 20.4m

AMG NORTH MAG NORTH 12

Scale 1 : 5,000
0 100 200 300 400 metres
5 cm

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695021

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EL 34/88 Zeehan 2

Baura & Grieves South Prospects

Geology & Drillhole Location Plan

January 1996

Ref.: SK55-05	Scale: 1:5000
Author: Simon Tear	Report No.: 21151
Drawn: Exploration Graphics & Tony Sargeant	Plan No.: Tv1023

695022

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ANNUAL REPORT 1995 - ZEEHAN NO 2
EL 34/88 - TEAR S J

5 cm

0 10 20 30 40 50 60m

250m
200m
150m
100m
50m
0m

65200mE
65100mE
65000mE

Deep overburden sampling (aircore EOH)
projected 54m from SE. - Zn : ppm

road

ZR95 1579
ZR96
ZR97 166
ZR98 171
DD95ZR103
ZR99 50
ZR100 50
ZR101 7
ZR102 229

Crotty Quartzite
Siderite
6m @ 1.65% Zn
overburden
Possible Siderite alteration (>10% Fe)
Alteration clay
? fault zone
? Fault gouge / alteration clays ?
Zone of calcite veining
siltstone transition
Zone of calcite veining (locally intense)
F
F
Fold hinge in core
EOH 248m

Sc		Crotty Quartzite	*Silurian*
Ogud		Upper Dolomite Unit	*Gordon Limestone* / *Ordovician*
Ogsi		Siltstone Unit	
Ogul		Undifferentiated limestone	
Ogdl		Undifferentiated dolomite	
Ogmu		Laminated Micrite Unit	
Ogoo		Oolite Unit	
Ogsd		Siderite Unit	
Ogdc		Dark grey/black clay Unit	
Ogfc		Ferruginous Clay Unit	
Ogms		Massive Sulphide Unit	
Ogst		Silty Transition Unit	
Ogfz		Fault zone	
Ogbr		Carbonate breccia	
Om		Moina Sandstone	*Ordovician*
Oo		Owen Conglomerate	
Ed		Dundas Group (undifferentiated)	*Cambrian*

Bedding

ZP37 20ppm — Deep overburden sampling (aircore EOH / wacker) hole no / Zn : ppm

CRA EXPLORATION PTY LIMITED

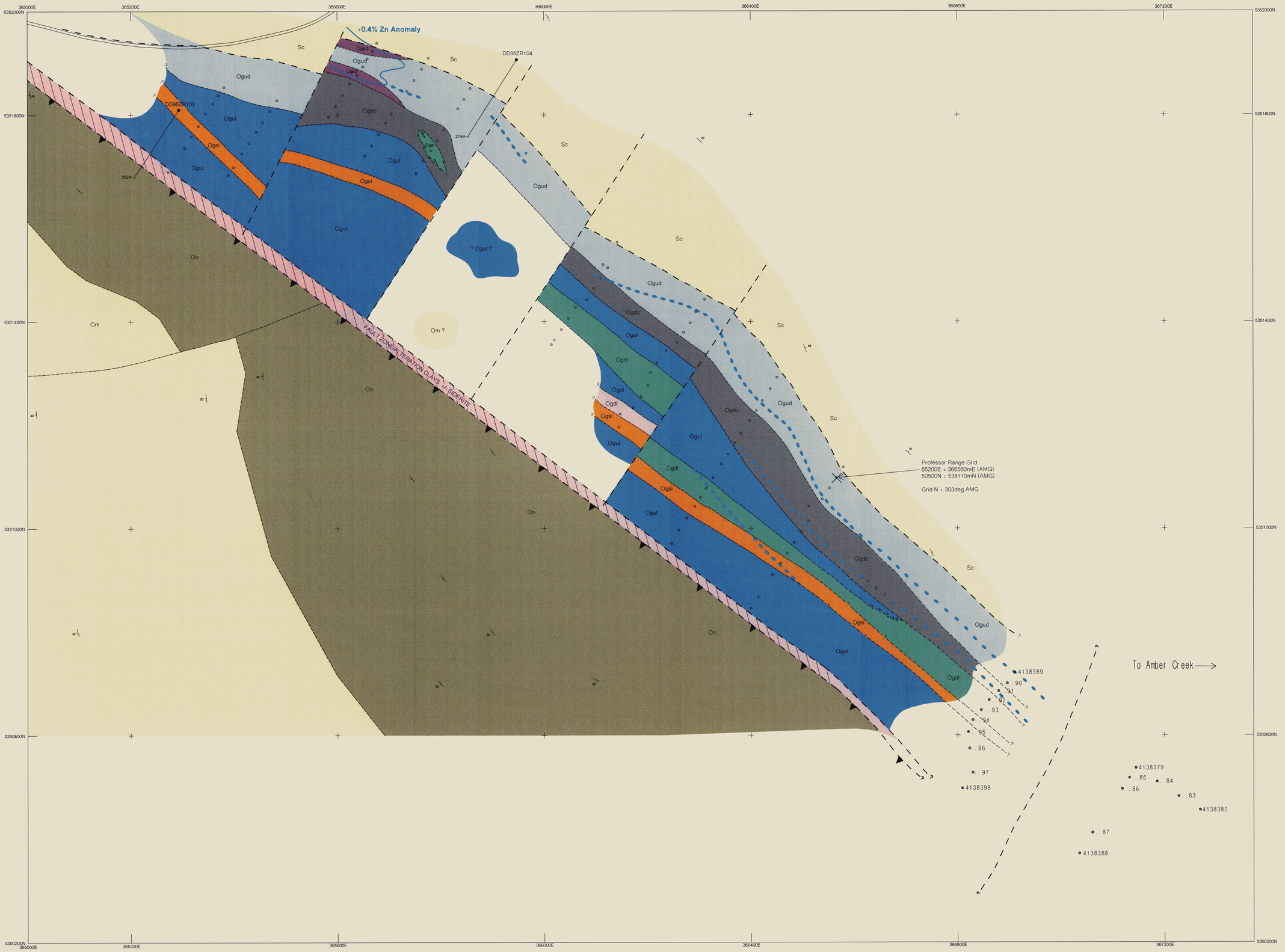
EL34/88 ZEEHAN 2

Zeehan Carbonate

PROFESSOR RANGE PROSPECT

DD95ZR103 : Section 51947N

Author:	S J Tear	Reference:	SK5505 Queenstown
Drawn :	D Oliver	File Name :	Tv993.eps
Date :	October 1995	Report No:	**21151**
Scale :	1:1000	Plan No :	Tv993



96-3886

ANNUAL REPORT 1995 - ZEEHAN NO 2
EL 34/88 TAS 95

CRA EXPLORATION PTY. LIMITED

EL 34/88 Zeehan 2

Professor Range Prospect

Geology & Drilling

Author : Simon J. Teer	Ref : SK95-06
Drawn : Exploration Graphics & Tony Sargeant	File Name : Tv713.dgn
Date : March 1996	Report No : 21151
Scale : 1:2,500	Plan No : Tv713

695023

65542E 65500E 65400E 65300E

DD95ZR104

5 cm

225m

Air core traverse projected 43m from north west

river

ZR58 544 | ZR59 41 | ZR60 75 | ZR61 64 | ZR62 64 | ZR63 24 | ZR64 275 | ZR65 n/a

Aircore holes EOH
Zn : ppm

200m

White sandstone

overburden

minor siderite

gravels

gravels

150m

Interlaminated sandstones and siltstones

Sideritic alteration

100m

Black shales and siltstones

fault

fault

Dark grey/black clay Unit

50m

Sphalerite in a carbonate ?breccia
0.89%Zn for 0.3m from 217.8m

EOH 274m

0m

Sc		Crotty Quartzite	Silurian
Ogud		Upper Dolomite Unit	Gordon Limestone
Ogsi		Siltstone Unit	
Ogul		Undifferentiated limestone	
Ogdl		Undifferentiated dolomite	
Ogmu		Laminated Micrite Unit	
Ogoo		Oolite Unit	
Ogsd		Siderite Unit	
Ogdc		Dark grey/black clay Unit	
Ogfc		Ferruginous Clay Unit	
Ogms		Massive Sulphide Unit	
Ogst		Silty Transition Unit	
Ogfz		Fault zone	
Ogbr		Carbonate breccia	
Om		Moina Sandstone	Ordovician
Oo		Owen Conglomerate	
Ed		Dundas Group (undifferentiated)	Cambrian
		Bedding	
ZP37 20ppm		Deep overburden aircore / wacker EOH sampling.(hole no / Zn : ppm)	

695024

0 10 20 30 40 50 60m

96-3886

ANNUAL REPORT 1995 - ZEEHAN NO 2
EL 34/88 - TEAR S J

CRA EXPLORATION PTY LIMITED

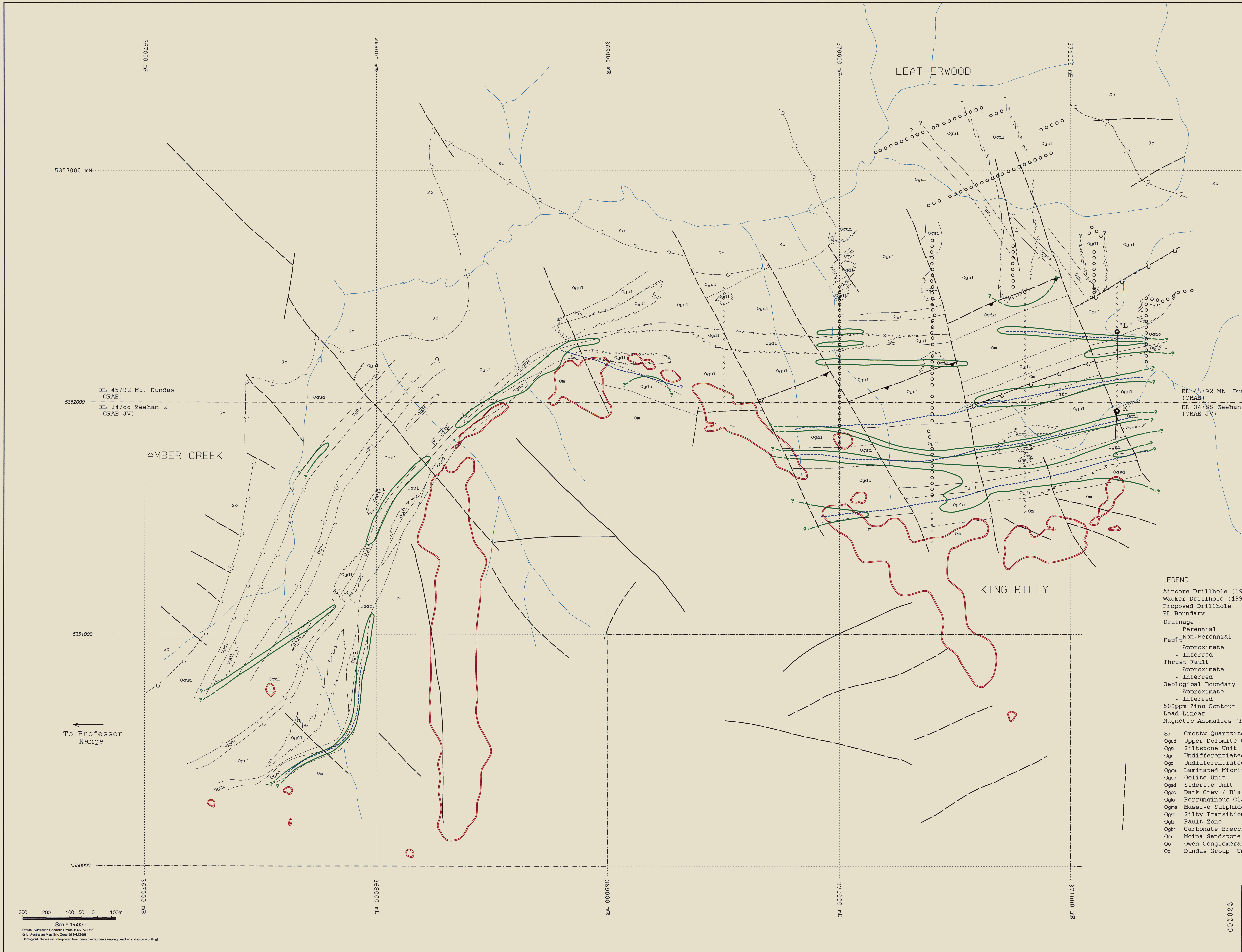
EL34/88 ZEEHAN 2

Zeehan Carbonate

PROFESSOR RANGE PROSPECT

DD95ZR104 : Section 51456N

Author:	S J Tear	Reference:	SK5505 Queenstown
Drawn :	D Oliver	File Name :	Tv997.eps
Date :	October 1995	Report No:	21151
Scale :	1:1000	Plan No :	Tv997



LEATHERWOOD
AMBER CREEK
KING BILLY
To Professor Range
EL 45/92 Mt. Dundas (CRAE)
EL 34/88 Zeehan 2 (CRAE JV)
367000 mE
368000 mE
369000 mE
370000 mE
371000 mE
5353000 mN
5352000 mN
5351000
5350000
"L"
"K"
Argillaceous
LEGEND
Aircore Drillhole (1995)
Wacker Drillhole (1995)
Proposed Drillhole
EL Boundary
Drainage
- Perennial
- Non-Perennial
Fault
- Approximate
- Inferred
Thrust Fault
- Approximate
- Inferred
Geological Boundary
- Approximate
- Inferred
500ppm Zinc Contour
Lead Linear
Magnetic Anomalies (helimag)
Sc Crotty Quartzite
Ogud Upper Dolomite Unit
Ogsi Siltstone Unit
Ogul Undifferentiated Limestone
Ogdl Undifferentiated Dolomite
Ogmu Laminated Micrite Unit
Ogoo Oolite Unit
Ogsd Siderite Unit
Ogdc Dark Grey / Black Clay Unit
Ogfc Ferruginous Clay Unit
Ogms Massive Sulphide Unit
Ogst Silty Transition Unit
Ogfz Fault Zone
Ogbr Carbonate Breccia
Om Moina Sandstone
Oo Owen Conglomerate
Cd Dundas Group (Undifferentiated)
Silurian
Gordon Limestone
Ordovician
Cambrian
5 cm
300 200 100 50 0 100m
Scale 1:5000
Datum: Australian Geodetic Datum 1966 (AGD66)
Grid: Australian Map Grid Zone 55 (AMG55)
Geological information interpreted from deep overburden sampling (wacker and aircore drilling)

96-3886

ANNUAL REPORT 1995 - ZEEHAN NO 2
EL 34/88 - TEAR S J

G95025

CRA EXPLORATION PTY. LIMITED

EL34/88 Zeehan 2 & EL45/92 Mt. Dundas

Amber Creek & King Billy Prospects

Geological Interpretation

Author: Simon Tear	Mapsheet Ref: SK55-20
Drawn: Tony Sargeant	File Name: Tv998.dwg
Date: November 1995	Report No: 21151
Scale: 1:5000	Plan No: Tv998

Appendix I

The Gordon Limestone Lithostratigraphy

Zeehan Carbonate Project

In the Zeehan sub-basin the Gordon Limestone has a thickness of 500m (DDH ZB1007). Drilling by CRAE has subdivided this formation into lithologic and lithostratigraphic units. These subdivisions have been utilised in the drillhole logging and are displayed below.

Drill Hole Logging Formation / Lithology Codes

Sc	=	Crotty Quartzite	**SILURIAN**
Ogud	=	Upper Dolomite	
Ogsi	=	Siltstone Unit	
Ogul	=	Undifferentiated limestone	
Ogdl	=	Undifferentiated dolomite	
Ogmu	=	Laminated Micrite Unit	
Ogoo	=	Oolite Unit	**ORDOVICIAN**
Ogsd	=	Siderite Unit	**GORDON LIMESTONE**
Ogdc	=	Dark Grey / Black Clay Unit	
Ogfc	=	Ferruginous Clay Unit	
Ogms	=	Massive Sulphide Unit	
Ogst	=	Silty Transition Unit	
Om	=	Moina Sandstone	
Oo	=	Owen Conglomerate	
Ed	=	Dundas Group (undifferentiated)	**CAMBRIAN**

An explanation for the sub-divisions is given below.

1) The Crotty Quartzite

This formation is a sequence of deltaic quartzites of Silurian age. However in drillcore there appears to be no consistancy in lithologies at its base which is perhaps to be expected. The question of a faulted contact is brought to mind and thus the unit has not been subdivided. In DD95ZM190 the sequence passes from white massively bedded sandstone into interbedded/interlaminated sands, shales and silts before finally passing into dark shales (fissile) and clays (possible fault gauge). This is possibly matched in DD95DS98 but there are considerable thickness variations.

2) The Upper Dolomite Unit (Ogud)

This is a dolomitised limestone unit that always occurs beneath the Crotty Quartzite contact. Its thickness is variable, up to 100m in DD95ZR104 and down to 25m in DD95ZM190. It is possible that the dolomitisation is fault related, the fault being the Crotty Quartzite/Gordon Limestone Contact.

3) The Siltstone Unit (Ogsi)

This is an argillaceous calcsiltite with bands of bioclastic calcarenite and nodular calcsiltite. Locally it is unreactive to dilute HCL. It generally occurs at the base of the top third of the stratigraphic column and has an average thickness of 15m.

There is a transitional upper and lower sequence to the main Siltstone Unit.

4) Undifferentiated Limestone (Ogul)

This is a bucket term to fit all limestones that do not separate out into any distinctive lithology subdivision

5) Undifferentiated Dolomite (Ogdl)

Localised zones of dolomitised limestone occur within various parts of the stratigraphic column. Unless it is part of the Upper Dolomite, it is referred to as undifferentiated dolomite. The dolomitisation is attributable to faults and/or due to mineralisation as Ogdl units often have elevated base metal values.

6) Laminated Micrite Unit (Ogmu)

This is a distinctive lithofacies comprising of banded and stylolitic fine grained calcarenites and micrites. Sometimes the laminae consist of argillaceous material. The units have an upper thickness limit of generally <3m except in specific circumstances (DD95ZP63). Birds eye micrite units are often associated with the laminated zones. The unit is not a marker horizon but occurs with sufficiently regularity in drillcore as to be able to assist stratigraphic correlations.

7) Oolite Unit (Ogoo)

This unit occurs in outcrop at Grieves Prospect as a dolomitised equigranular calcarenite unit - believed to be an oolite. It is believed that this well sorted, clean, medium grained bioclastic calcarenite unit, locally oolitic, is really part of a package of well sorted calcarenites seen towards the base of the limestone sequence.

8) Siderite Unit (Ogsd)

The Siderite Unit is an alteration facies imposed on and replacing limestone (?dolomitised) at the base of the Gordon Limestone. It is regarded as being part of the alteration associated with the replacement Zn/Pb mineralisation.

Siderite alteration also occurs at Grieves in the middle of the limestone sequence.

Siderite is also present at the upper sandstone/limestone contact at Blackjacks (DD95DB110) and Myrtle (DD95ZM190).

9) Dark Grey/Black Clay Unit (Ogdc)

These clays are encountered at surface and in drill core above 300m vertical depth. They generally are to be found at the base of the limestone, although they can occur at the top contact (DD95DB110). Dark clays can also be found in the top of drillholes where surficial weathering of the limestones has produced a black pug - depths of 45 vertical metres have been recorded (DD95ZR103). The exact nature of the clays at the basal part of the limestone is unclear. They always underlie the Oolite Unit, often can be intermixed with siderite zones of the Siderite Unit and can be part of the underlying Silty Transition Unit. Whether they are products of deep surface weathering, paleaeo-weathering, fault zones or mineral-related alteration remains to be resolved.

10) Ferruginous Clay Unit.

These are light grey, orange, yellow, brown and red coloured clays, often banded. They generally occur beneath the Dark Clay Unit, although at Grieves they can be intermixed with the Dark Clays. In some instances they are sericitic, in others they can be sandy (fine grained quartz grains). They are heavily limonitic and their exact nature is unsure. It is possible that the clays are part of the Silty Transition Unit or even the underlying Moina Sandstone. Alternatively they could be weathering products of mineralisation associated with the dark clay unit.

11) Silty Transition Unit

This is the basal unit of the Gordon Limestone. It comprises of a series of partly dolomitised limestones and fine grained arenaceous units with black siltstones. It appears to have a well defined thickness of between 12-16m and in some instances overlies the Moina Sandstone conformably. Mineralisation would appear to lie immediately above the top contact of the Silty Transition Unit.

12) Moina Sandstone

This sandstone formation is characterised by a silicic quartzite with localised conglomerate bands, often becoming a pink silicic quartzite.

Appendix II

Summary of Previous Exploration

Competitor and CRAE

Exploration by Major Mining Ltd / CRAE Prior to 9/11/94

Year 1 & 2

Activities by Major Mining prior to CRAE's involvement are detailed in the relevant statutory reports. Field activities included a gradient array IP survey covering a small part of the Firewood Siding area.

Year 3

Exploration by CRAE on EL 34/88 prior to 9/11/91 focussed on a compilation and review of existing open-file data (Kratochvil, 1991). Emphasis was placed on identifying areas of limestone not explored in detail by Amoco-EZ. CRAE's initial exploration strategy aimed to test two underexplored blocks of Ordovician limestone, the Fen Creek and McLean Creek areas. This approach was abandoned when it was realised there were more prospective targets with considerably easier access in the Badger River Valley.

Year 4

CRAE's exploration strategy in 1992 aimed to test for primary carbonate mineralisation in Gordon Limestone where the unit was cut by the Firewood Siding Fault (Parkinson, 1992). Incomplete Amoco-EZ bedrock sampling returned up to 1.45% Zn in this area. The Firewood Siding Fault may have been a conduit for metal-rich fluids passing into the limestone, and as such the areas of the fault/limestone contact is a prime focus for exploration.

Bedrock wacker sampling, dipole-dipole IP surveys, ground magnetometer traverses and reinterpretation of existing gravity data were completed. Line 9600E, between 5225N and 5400N showed over 0.1% Zn, up to 0.47% Pb and 0.32% Zn. Amoco-EZ produced 1.45% Zn from sampling in this vicinity. IP surveys identified several anomalies but it is unclear how they relate to known structure and stratigraphy. A circular gravity feature remains unexplained.

Year 5

CRAE continued to test for primary carbonate mineralisation in Gordon Limestone in the Firewood Siding area (Parkinson, 1993). Bedrock wacker sampling returned significantly elevated Zn-Pb up to 1.39% Zn and 1.09% Pb at or near the Gordon Limestone - Crotty Quartzite contact on the N side of the Firewood Siding Fault over a distance of 800m. Arsenic and Fe values were also enhanced coincident with the high Zn-Pb, suggesting a geochemical alteration halo may be developed around underlying mineralisation.

Wacker sample depths were commonly over 10m, and locally over 20m, suggesting thick development of potentially mineralised decomposed carbonate.

At the end of year 5, EL 34/88 was reduced from 68 km^2 to 34 km^2.

Year 6

Aircore drilling and end-of-hole sampling was completed at Firewood Siding. A total of 35 holes were drilled.

At Professor Range 102 aircore drillholes totalling 1578m were drilled. End-of-hole samples were collected and geochemically interpreted.

At Baura 30 wacker samples on a 200m x 25 grid were taken, mainly across the Moina Sandstone/Gordon Limestone contact.

Appendix III

Firewood Siding DD95ZF36 - Drill Logs

695033

CRA EXPLORATION PTY. LIMITED

DRILL-HOLE SUMMARY LOG

HOLE NAME: DD95 ZF36 AMG EAST 560558·4 NORTH 5349716·7

PROSPECT FIREWOOD STRING GRID EAST 60203 NORTH 44187

EL: ZEEHAN 2 EL 34/88 RL DEPTH 218·0 m

DATE DRILLED: APRIL 1995

LOGGED BY: SJTear

DRILLING CO.: DD TAS

DRILL TYPE: DIAMOND

DRILL RIG: LY38

LOC DRILL CORE: ZEEHAN

SURVEYS: DEPTH	AZIM (AMG)	DIP	DEPTH	AZIM (AMG)	DIP
0	082°	-45°	218	–	-49
50	087	-47·5			
100	084·5	-50			
150	084	-50			
200	081·5	-49			

OBJECTIVES OF HOLE:

To test Upper Zone secondary dolomite beneath area where air-core traverses intersected extensive Zn anomalism in decomposed dolomite up to 2% Zn.

LITHOGICAL SUMMARY:

FROM	TO	FORM CODE	COMMENTS
0	13	Qha	Overburden; no recovery
13	39	Sc	Med grained sandstone with sandy clay zones +/- limonite +silicic alteration Crotty Quartzite
39	58·1	Ogud	Mixed limestone/dolomite and sandstone with sandy clay zones
58·1	85·0	Ogud	Dolomitised calcarenites +/- matrix breccias +/- clay zones
85·0	94·0	Ogdc	Dark grey clay zone
94·0	100·9	Ogud	Dolomite - ?argillaceous calcarenites minor bioclasts
100·9	134·4	Ogud	Dolomitised argillaceous bioclastic calcilutite - faulted base
134·4	163·3	Ogud	Dolomitised argillaceous calcarenite - vuggy; bioclastic, burrowed
163·3	172·7	Ogud	Partially dolomitised grey calcarenite with synsed brecciation
172·7	181·7	Ogud	Dolomitised calcilutite
181·7	211	Ogul	Fine grained calcarenite; bioclastic
211	218	Ogsi	Transitional Siltstone Unit.

MINERALISATION SUMMARY:

FROM	TO	COMMENTS	
36·7	39	0·28% Zn	Light brown sandy clay with limonitic staining immediately overlying dolomite.
85	88	0·28% Zn	Dark grey clays +/- siderite in dolomite.
44·6	46·1	0·27% Zn	Light brown sandy clay with limonite.

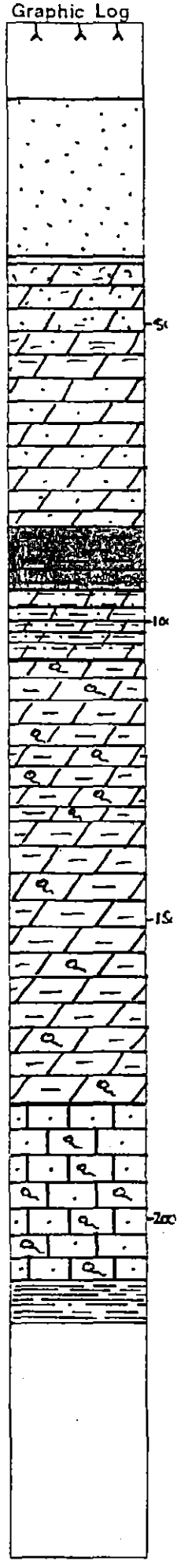
CONCLUSIONS:

Mineralisation occurs at Upper sandstone/limestone contact possibly within the sandstone - ?shear related mineralisation.

Projection of anomalous surface values shows potential existing at deeper depths approx 250-270m d/hole.

Bedding @ 95m 55° to c/A @ 123m 60° to c/A @ 198m 60° to c/A.

Graphic Log



C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 1 of 7

TENEMENT NAME Firewood Siding No.

PLAN – MAP REFERENCE

CO-ORDINATES 360558E AZIMUTH 071 mag. 083 AMG DRILLERS Diamond Drilling COMMENCED 29/3/95 DEPTH 218.m HOLE No. ZF36

RL COLLAR 5349716N INCLINATION 45° DRILL TYPE L438 COMPLETED 1/5/95 CASING LEFT DPO No(s) 77694

DEPTH From (M)	DEPTH To(M)	Core Rec. %	RQD DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)	Rec from	Rec (to)	Rec (m)	Rec %
0	13	0		Qha	Overburden.							0	13	0	0
												13	14.6	1.3	81
13	14.6	81		Sc	Fine grained light grey quartz arenite – massive bedding.							14.6	17.6	2.7	90
												17.6	20.6	2.8	92
												20.6	23.6	3.0	100
14.6	18.0	90		Sc	Brown weathered, brecciated sandstone.							23.6	26.6	2.35	78
												26.6	29.0	1.1	46
												29.0	31.0	.8	40
18.0	24.0	95		Sc	Sandy clay ? fault gouge or heavily weathered.							31.0	32.6	1	63
												32.6	35.2	2	77
												35.2	38.1	2.3	79
24.0	25.4	70	5	Sc	Limonitic clay / mudstone.		5465701	24.18	25.42			38.1	38.6	.5	100
												38.6	41.6	2.5	83
25.4	30.8	60		Sc	Silicified quartzite – mylonite look to some of the rocks; ductile faulting		5465702	25.42	26.6			41.6	44.6	1.5	50
							5465703	26.6	29.0			44.6	47.6	2.3	77
												47.6	50.6	2.2	73
												50.6	53.3	2.4	88
30.8	36.2	70	5	Sc	light grey / white sandy clay possibly faulted	@ 35.2 qtz vein breccia						53.3	55.3	1.7	85
												55.3	56.6	1.1	85
												56.6	59.6	2.5	83
36.2	39.0	75	5	Sc	light brown sandy clay with some limonitic staining		5465704	35.2	36.7			59.6	62.6	2.4	80
							5465705	36.7	38.1			62.6	65.6	2.3	77
							5465706	38.1	39.0			65.6	68.6	1.8	60
39.0	44.60	66		Qgud	mixed limestone and qtzite unit; with orange brown sandy clays; badly broken core; possible silicification		5465707	39.0	41.6.			68.6	71.6	2.2	74
							5465708	41.6	44.6.			71.6	74.6	2.2	74
												74.6	75	.25	63
												75	76	.04	40
												76	79	1.15	38
44.60	47.99	77		Qgfc	Orange/brown sandy clay.		5465709	44.6	46.1			79	82	1.3	43
							5465710	46.1	47.6.			82	85	1.66	55
												85	88	3	100

6950334

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

SHEET No. 2

TENEMENT NAME Firewood Siding No. 87

PLAN – MAP REFERENCE

CO-ORDINATES 360558 E AZIMUTH 071° MAG DRILLERS DOTAS COMMENCED 29.3.95 DEPTH 218 m HOLE No. ZF36

RL COLLAR 5347916N INCLINATION 45° DRILL TYPE LY38 COMPLETED 1.5.95 CASING LEFT DPO No(s)

DEPTH From (M)	DEPTH To(M)	Core Rec. %	RQD DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)
47.99	58.1	85		Qgud	Brecciated dolomitised limst. possible syngenetic brecciation with orange sandy clay; broken core; localised bioclastic unit @ 51.75m.		11	47.6	49.4		
							12	49.4	50.6		
							13	50.6	52.0		
							14	52.0	53.3		
							15	53.3	55.3		
							16	55.3	56.6		
58.1	65.6	79		Qgud	Partially dolomitised brecciated limestone - ?synsed brecciation minor clay.		17	56.6	58.1		
							18	58.1	59.6		
							19	59.6	61.1		
							S465720	61.1	62.6		
65.6	74.0	67		Qgud	Brecciated grey dolomitised limestone - possible syngenetic brecciation; locally bioclastic and argillaceous. Rock matrix breccias	Minor pyrite as cavity infill - often along stylolites eg 68.4m	21	62.6	64.1		
							22	64.1	65.6		
							23	65.6	67.1		
							24	67.1	68.6		
							25	68.6	70.1		
							26	70.1	71.6		
74.0	84.0	50		Qgud	DK grey uniform extensively dolomitised limestone; badly broken core; possible wash out of clays.	Possible siderite alteration minor pyrite as blebs and seams	27	71.6	73.1		
							28	73.1	74.6		
							29	74.6	76.0		
							S465730	76.0	79.0		
							31	79.0	82.0		
84.0	89.0	100		Qgud	Dominantly dark grey clays Zones with minor pieces of dolomitised limestone	Possible siderite.	32	82.0	85.00		
							33	85.0	86.5		
							34	86.5	88.0		
							35	88.0	89.5		
89.0	92.6	90		Qdc	Mixed grey/dk grey clay and dolomitised rock fragments.		36	89.5	91.0		
							37	91.0	92.0		
							38	92.0	93.0		
92.6	93.2	52		Qgbc	lt brown/grey granular non calcareous rock - para volta?		39	93.0	94.0		

695035

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 3

TENEMENT NAME Fleetwood Spring No. of 7

PLAN – MAP REFERENCE

CO-ORDINATES 360558E AZIMUTH 071° MAG DRILLERS DDTAS COMMENCED 29.3.95 DEPTH 218m HOLE No. ZF36

RL COLLAR 5349716N INCLINATION 45° DRILL TYPE LY38 COMPLETED 1.5.95 CASING LEFT DPO No(s)

DEPTH From (M)	DEPTH To(M)	Core Rec. %	RQD DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)
93.2	93.35	100	5	Qgud	lt grey/lt brown clay.		#465740	94.0	96.6		
93.35	94.6	50	5x	Qgud	Dark grey dolomitised limestone (extensive & partial dolomitisation); badly broken core with clay zones.						
94.6	98.5	75		Qgud	Dk grey argillaceous partially dolomitised calcsiltite with localised zones of more micritic units; localised argillite with fine grained bioclasts.	Bedding 55° to c/A. & 70° to c/A Occ minor calcite veining i) Sub parallel & c/A. ii) 70° & c/A. Pyrite blebs + diseams in argillite zones.	41	96.6	98.5		
98.5	98.6	100		Qgud	Fault zone. clays + vein + rfs.						
98.6	100.5	54		Qgud	Bioclastic argillaceous fine grained calcarenite; grey & dark grey; locally micritic; signs of syn-sedimentary slumping	Bedding 60° to c/A. Minor calcite veining Small blebs of pyrite sectional in core usually with veining @ 100m fine diseam of pyrite associated with small breccia?	42 43	98.5 99.8	99.8 102.8		
100.5	100.9	100	5	Qgud	fault zone - clays and fine grained sand.						
60.9	105.0	81		Qgud.	Dk grey argillaceous bioclastic calcsiltite; large solitary coral @ 103.4m	Cleavage 35° & c/A. Minor pyrite in calcite filled tension gashes.	44	102.8	104.2		

69536

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 4

TENEMENT NAME Firewood Siding No. of 7

PLAN – MAP REFERENCE

CO-ORDINATES 360558E AZIMUTH 071 MAG DRILLERS DD TAS COMMENCED 29.3.95 DEPTH 218m HOLE No. ZF36

RL COLLAR 5349716N INCLINATION 45° DRILL TYPE LY38 COMPLETED 1.5.95 CASING LEFT DPO No(s)

DEPTH From (M)	DEPTH To (M)	Core Rec %	RQD DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....) Rec (From)	Rec (To)	Rec (m)	Rec (%)
105.0	107.0	78	SX	Sed.	Limestone sand - ?cavity or fault zone.		54657 45	104.2	105.4		93	90.8	2.8	100
							46	105.4	107.4		90.8	93	1.5	68
							47	107.4	109.0		93	94	.45	45
107.0	123.0	65		Sed	Dark grey argillaceous calcisiltite locally non-calcareous - ?Possible siltstone unit. Bioturbated with limestone sand (?cavities); locally brecciated; badly broken core + core loss.	Locally pyritic eg 109.3m.	48	109.0	111.0		94	96.6	1.5	58
							49	111.0	112.0		96.6	98.5	1.8	95
							54657 50	112.0	115.0		98.5	99.5	.75	75
							51	115.0	118.0		99.5	102.8	1.1	33
							52	118.0	[illegible]		100.8	105.4	1.8	69
									122.4		105.4	106	.55	92
											106	109	1.6	53
					Small argillite band @ 112m.	Bedding 60° to c/A.	53	122.4	[illegible]		109	112	1.52	50
					Core cavity/vuggy from 112m siderite?	possible cleavage 35° to c/A			126.6		112	115	.7	23
						@117.4 brown circular siderite nodules associated with possible synsedimentary brecciation					115	118	.5	17
											118	120.8	1.9	68
											120.8	122.4	1.27	79
											122.4	124	1.4	88
											124	126.4	1.3	54
123.0	126.4	60		Sed	Possible synsedimentary breccias - bioturbated ground: dark grey argillaceous weakly calcareous calcisiltite.	Minor blebs of pyrite; some quartz veining; ore cavity lined with pyrite.					126.4	128.9	1.6	64
											128.9	130	.6	55
											130	132.1	2.1	100
											132.1	133	.7	78
									131.2		133	136	2.7	90
126.4	132.5	80		Sed	Grey/dark grey argillaceous calcisiltite weakly calcareous very uniform looking rock.	Thin quartz veinlets 70° to c/A localised zones of internal brecciation.	54	126.5	[illegible]		136	139	2.5	83
							55	131.2	[illegible]		139	142	2.9	96
									135		142	144.5	2.5	100
											144.5	147.5	1.0	33
132.5	133.0	78		Sed	?Weathered zone; brown matrix to grey limestone probably calcisiltite; localised fault breccia.						147.5	148.9	.8	62
											148.9	151	1.1	52
											151	153.6	.56	22
											153.6	156.2	.7	27
											156.2	158.9	1.7	74

69037

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 5

TENEMENT NAME FIREWOOD SIDING No. 5 of 7

PLAN – MAP REFERENCE

CO-ORDINATES 360558E AZIMUTH 071° MAG DRILLERS DDTM5 COMMENCED 29.3.95 DEPTH 218m HOLE No. 2F36

RL COLLAR 5349716N INCLINATION 45° DRILL TYPE ~~RC~~ LY38 COMPLETED 1.5.95 CASING LEFT DPO No(s)

DEPTH From (M)	DEPTH To (M)	Core Rec. %	RQD DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)
133.0	133.9	100		Ogwd	Dark grey fine grained calcarenite / calcisiltite ; slightly argillaceous with argillite partings.						
1339	1344	95		Ogwd	fault gouge / breccia.						
1344	144.5	95			Grey / lt grey with brown staining - ?weathered argillite. - fine grained calcarenite (cordly micritic + partially dolomitised (decreasing downhole).	Occ. quartz veining 70° to c/A. Rare quartz breccia @ 141.5m. Qtz veining and brecciation increasing from 142m onwards	5465756 57 58	135 139 143.0	139 143 147.5		
144.5	156.2	31	5X	Ogwd	Dark grey, slightly vuggy limestone - bioclastic calcisiltite, bioturbated ; becoming more vuggy + silicic looking downhole - badly broken core. extensively dolomitised.	possible faulted upper contact Minor pyrite in vugs bad recovery 151-156.2m.	59 5465760	147.5 151	151 153.6.		
156.2	158.5	74		Ogwd	Dk grey extensively dolomitised limestone ; partially broken core.	Blebs and diseam of pyrite (minor)	61	153.6	158.5		
158.5	163.3	14	5X	Ogwd	Bad recovery / broken core. Vuggy dolomite ; poss. fault zone.	Lower contact 30° to c/A. (of fault)	62	158.5	163.0		
163.3	169.0	88		Ogwd	Grey partially dolomitised ?rudaceous limestone + calcarenite localised syngenetic brecciation increasing downhole ;	Cal/dol veining (irregular) 45° to cA veining with brown calcareous material ; indeterminate bedding minor calcite veining after 166m.	63 64	163 166	166 169		

6950338

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 6

TENEMENT NAME Firewood Siding No. 077

PLAN – MAP REFERENCE

CO-ORDINATES 360558 E AZIMUTH 071° MAG DRILLERS DDTAS COMMENCED 29.3.95 DEPTH 218 m HOLE No. ZF36

RL COLLAR 5349716 N INCLINATION 45° DRILL TYPE LY 38 COMPLETED 1.5.95 CASING LEFT DPO No(s)

Depth From (M)	Depth To (M)	Core Rec. %	RQ Data	Graphic Log	Core Description	Special Features (Weath, Alteration, Fracturing, Veining, Mineralization)	Sample No.	From (M)	To (M)	Rec (M)	Assay: Rec (From)	Rec (To)	Rec (m)	Rec (%)
~~[illegible]~~						interesting pyrite replacement					158.5	160	.15	10
						mineralisation @ 167.4m.					160	163	.5	17
											163	166	2.7	90
169	172.7	57		Ogcd	Grey synsedimentary brecciated	Minor pyrite blebs	~~[illegible]~~	~~169~~	~~[illegible]~~		166	169	2.6	87
					partially dolomitized						169	172	1.7	57
					calcarenite - locally extensive						172	174.2	1.65	66
					dolomitised. Broken core						174.2	177.2	2.4	80
					possible fault zone sub-						177.2	178	.5	63
					parallel to c/A. Vuggy						178	181	1.9	63
							565765	169	174.2		181	184	2.5	83
172.7	174.5	66		Ogcd	Broken core - dolomitised		~~66~~	~~[illegible]~~	~~[illegible]~~		184	187	2.9	97
					?calcarenite/calcilutite with						187	190	2.45	98
					dark grey clay zones.						190	196	6.0	100
											196	199	2.9	98.
174.5	178.6	72		Ogcd	Grey vuggy dolomitised coarsely		66	174.2	177.2		199	202	2.7	90
					?bioclastic calcarenite.		~~[illegible]~~	~~[illegible]~~	~~[illegible]~~		202	205	3.0	100
											205	208	1.6	55
178.6	181.7	63		Ogcd	Dark grey dolomitised calcilutite		67	177.2 ~~[illegible]~~	181.7		208	211	0.3	10
											211	214	1.2	40
181.7	198.4	90	1	Ogcd	Mixed grey micritic fine	Bedding 60° (~~[illegible]~~) to c/A.	68	181.7	184.0 ~~[illegible]~~		214	217	2.1	70
					calcarenite + dark grey		~~[illegible]~~	~~[illegible]~~	~~[illegible]~~		217	218	0.85	85
					argillaceous material; locally		69 ~~[illegible]~~	184.0	~~[illegible]~~ 187.0					
					bioclastic; often discrete									
					argillaceous bands <1.5cm thick									
					occ synsed brecciation of									
					micritic material									
198.4	199.9	95	4X	Ogcd	Weathered micrite and argillite	Vein sub-parallel to c/A.								
					with calcite veining; broken									
					core.									

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C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 7 of 7

TENEMENT NAME Firewood Gang No.

PLAN – MAP REFERENCE

CO-ORDINATES 360558E AZIMUTH 071° MAG DRILLERS DD TAS COMMENCED 29.3.95 DEPTH 218m HOLE No. ZF36

RL COLLAR 5349716N INCLINATION 45° DRILL TYPE LY 38 COMPLETED 1.5.95 CASING LEFT DPO No(s)

DEPTH From (M)	DEPTH To(M)	Core Rec. %	RQD	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)
199.9	208	100	1	Ogd	Lt grey fine grained calcarenite with dark grey med grained argillaceous calcarenite in -	poss bedding 50° to c/a. minor calcite veining 35° to c/a some veining sub-parallel to core. increase in veining downhole.					
208	211	10	3	Ogd	Cavity with major core Lg/v/vuggy limestone.						
211	216	50	5x	Ogsi	Broken core; weathered limestone - leached appearance possible minor dolomitisation black clays. Dk grey /black limestone in place. ? siltstone unit.						
216	217.9	85	1	Ogsi	(Grey) dark grey argillaceous calcisiltite/calcarenite. disrupted bedding.	minor calcite infill + veins.					
217.9	218.0	50	5	Ogsi	Broken core/clay gouge?						

695040

			77694	Ag	Al	As	Ba	Ca	Cu	Fe	K	Mg	Mn	Pb	Zn
ZF36	24.18	25.42	5465701	-.5	6.89	35	510	.08	15	8.36	3.63	.65	26	72	105
ZF36	25.42	26.6	5465702	-.5	2.33	11	305	.09	10	1.71	1.13	.23	61	31	36
ZF36	26.6	35.2	5465703	-.5	1.65	11	234	.09	10	.51	.75	.15	37	40	19
ZF36	35.2	36.7	5465704	-.5	6.82	75	341	-.05	62	1.21	3.19	.65	34	419	264
ZF36	36.7	38.1	5465705	-.5	8.1	295	462	.08	126	5.3	3.76	.77	1560	668	2220
ZF36	38.1	39	5465706	-.5	7.56	233	446	1.27	133	10.2	3.67	1.28	3950	311	3560
ZF36	39	41.6	5465707	.7	1.05	21	50	20.8	10	1.07	.55	11.2	565	34	705
ZF36	41.6	44.6	5465708	-.5	.97	7	47	21.2	9	1.26	.51	11.1	419	31	876
ZF36	44.6	46.1	5465709	-.5	2.13	40	162	17.4	13	4.17	1.1	9.39	2720	112	2740
ZF36	46.1	47.6	5465710	-.5	1.05	-5	44	20.4	8	2.2	.54	10.8	495	55	1080
ZF36	47.6	49.4	5465711	-.5	1.44	28	64	19.9	7	2.23	.77	10.7	397	73	780
ZF36	49.4	50.6	5465712	1	1.05	22	52	19.6	6	1.84	.54	10.6	657	75	904
ZF36	50.6	52	5465713	1	.45	9	23	21.6	-5	1.51	.23	11.7	366	47	606
ZF36	52	53.3	5465714	1.3	.98	15	37	21.1	15	2.25	.5	11.3	312	93	789
ZF36	53.3	55.3	5465715	.7	1.16	35	47	19.9	5	3.95	.61	10.6	415	85	1380
ZF36	55.3	56.6	5465716	-.5	1.05	35	39	19.9	-5	2.33	.54	10.9	594	50	943
ZF36	56.6	58.1	5465717	1.9	.67	48	29	20.9	-5	1.58	.35	11.6	831	37	691
ZF36	58.1	59.6	5465718	.7	.16	11	8	22.3	-5	.99	.08	12.4	649	27	334
ZF36	59.6	61.1	5465719	-.5	.22	9	7	21.2	12	.76	.11	11.7	573	27	287
ZF36	61.1	62.6	5465720	1.3	.75	34	27	20.4	7	1.24	.38	10.9	869	60	402
ZF36	62.6	64.1	5465721	-.5	.81	16	30	19.8	7	1	.43	10.7	618	89	319
ZF36	64.1	65.6	5465722	-.5	1.63	8	65	19.4	7	1.57	.88	10.5	524	78	478
ZF36	65.6	67.1	5465723	-.5	.62	-5	25	22.5	-5	.45	.34	11.8	245	21	199
ZF36	67.1	68.6	5465724	.6	.67	13	23	21.6	-5	1.16	.33	11.4	224	67	189
ZF36	68.6	70.1	5465725	-.5	.51	39	18	20.7	5	1.49	.27	11.4	280	64	224
ZF36	70.1	71.6	5465726	-.5	.9	-5	29	21.2	6	.63	.46	11.5	269	31	122
ZF36	71.6	73.1	5465727	-.5	.63	29	21	22.1	6	.61	.33	11.8	228	36	105
ZF36	73.1	74.6	5465728	-.5	.59	-5	21	23	-5	1.01	.29	12.1	300	34	140
ZF36	74.6	76	5465729	-.5	1.97	17	86	20.3	9	1.24	1.05	10.1	429	26	384
ZF36	76	79	5465730	-.5	2.41	8	114	18.6	5	1.54	1.29	9.03	441	-10	145
ZF36	79	82	5465731	-.5	1.72	15	78	20.5	-5	1.22	.92	8.93	285	13	123
ZF36	82	85	5465732	-.5	2.02	-5	99	24.5	-5	1.45	1.1	5.32	329	-10	110
ZF36	85	86.5	5465733	-.5	8.54	69	513	.29	29	4.24	4.28	.82	49	1540	3060
ZF36	86.5	88	5465734	-.5	7.74	62	456	3.1	24	4.19	3.7	1.6	266	1060	2590
ZF36	88	89.5	5465735	-.5	7.76	51	479	.84	23	3.14	3.91	.95	83	140	1260
ZF36	89.5	91	5465736	-.5	7.57	10	492	.29	19	.87	3.92	.78	24	248	1460
ZF36	91	92	5465737	-.5	7.21	36	469	.69	20	5.21	3.77	.84	1080	46	621
ZF36	92	93	5465738	-.5	7.15	16	423	4.84	16	1.14	3.4	1.53	117	90	653
ZF36	93	94	5465739	1.6	7	-5	436	6.65	959	1.16	3.69	.75	101	43	1290
ZF36	94	96.6	5465740	1.2	3.26	11	193	19.6	65	1.73	1.8	3.97	354	37	237
ZF36	96.6	98.5	5465741	-.5	1.23	-5	66	32.7	-5	.72	.68	1.39	289	18	114
ZF36	98.5	99.8	5465742	.6	1.9	15	88	30	12	1.02	1.04	2.46	252	19	80
ZF36	99.8	102.8	5465743	-.5	1.74	8	92	32.6	9	.81	.97	.54	209	21	97
ZF36	102.8	104.2	5465744	.5	1.51	-5	77	33.8	-5	1.07	.84	.42	209	19	52
ZF36	104.2	105.4	5465745	.7	3.7	21	182	19.5	19	1.51	2.01	1.42	146	31	341
ZF36	105.4	107.4	5465746	-.5	5.85	39	310	8.69	34	2.6	2.98	2.4	195	86	931
ZF36	107.4	109	5465747	13.9	5.09	18	273	10.9	69	1.88	2.76	4.68	257	34	391
ZF36	109	111	5465748	22.5	4	16	203	16.1	89	1.66	2.2	3.62	216	42	336
ZF36	111	112	5465749	.7	1.63	-5	73	27	11	.93	.94	2.34	241	23	75
ZF36	112	115	5465750	-.5	2.37	21	93	16	12	1.63	1.32	8.08	414	61	164
ZF36	115	118	5465751	-.5	1.65	-5	66	18.5	7	1.27	.95	9.98	416	38	229
ZF36	118	122.4	5465752	.9	2.21	33	79	16.6	6	1.25	1.22	9.25	327	70	198
ZF36	122.4	126.5	5465753	-.5	1.63	14	61	17.4	5	1.29	.89	9.52	391	66	249
ZF36	126.5	131.2	5465754	-.5	1.74	14	62	18.5	17	1.32	.94	10.1	414	41	137
ZF36	131.2	135	5465755	.8	1.41	7	49	18.6	-5	.96	.78	10.7	420	225	583
ZF36	135	139	5465756	-.5	1.54	-5	56	19.7	7	.55	.85	11.4	398	130	619
ZF36	139	143	5465757	.9	.66	5	31	20.5	-5	.76	.38	11.5	458	77	339
ZF36	143	147.5	5465758	1.2	.51	9	28	20.9	9	.68	.3	11.9	380	250	799
ZF36	147.5	151	5465759	-.5	.12	-5	7	21.8	-5	.47	.1	12.2	263	105	591
ZF36	151	153.6	5465760	.5	.5	-5	24	20.6	-5	.77	.29	11.7	402	98	598
ZF36	153.6	158.5	5465761	.5	1.03	-5	52	19.2	6	1	.56	11	406	217	437
ZF36	158.5	163	5465762	.8	1.35	9	63	19.4	-5	1.27	.73	10.4	556	510	1250
ZF36	163	166	5465763	.9	1.33	10	65	19.5	5	1.47	.72	10.5	471	237	865
ZF36	166	169	5465764	.9	.54	22	30	20.4	6	.91	.31	11.5	370	192	527
ZF36	169	174.2	5465765	-.5	1.33	24	65	19.2	14	1.34	.68	10.6	427	72	142
ZF36	174.2	177.2	5465766	1.3	.32	8	14	21.7	5	.83	.17	12.5	450	257	681
ZF36	177.2	181.7	5465767	-.5	.5	-5	19	21.4	-5	.7	.26	11.9	385	168	453
ZF36	181.7	184	5465768	1.6	.63	9	24	32	-5	.67	.34	2.82	341	369	922
ZF36	184	187	5465769	-.5	.38	-5	18	35	-5	.36	.23	1.46	159	111	294

Appendix IV

Professor Range DD95ZR103 - Drill Logs

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CRA EXPLORATION PTY. LIMITED

DRILL-HOLE SUMMARY LOG

HOLE NAME: DD95ZR103 | AMG | EAST 365296 | NORTH 5351810

PROSPECT: PROFESSOR RANGE | GRID | EAST 65107 | NORTH 51947

EL: ZEEHAN 2 | EL 24/88 | RL | DEPTH 248.0m.

DATE DRILLED: 3/7/95

LOGGED BY: S.J.TEAR

DRILLING CO.: DD. TAS. LTD

DRILL TYPE: DIAMOND

DRILL RIG: U650

LOC DRILL CORE: ZEEHAN

SURVEYS:

DEPTH	AZIM (AMG)	DIP	DEPTH	AZIM (AMG)	DIP
0	212°	50°			
150m	214°	49.5°			
200m	216°	49°			
248m	217°	49°			

OBJECTIVES OF HOLE:

DIAMOND DRILLHOLE TEST OF POTENTIAL SIDERITE ALTERATION AT LOWER SANDSTONE/LIMESTONE CONTACT. PROXIMAL TO MAJOR PROFESSOR RANGE STRUCTURE - ? SYN-SEDIMENTARY BASIN BOUNDING FAULT

LITHOGICAL SUMMARY:

FROM	TO	FORM CODE	COMMENTS
0	10	Qha.	Overburden - no recovery
10	43.5	Ogdc	Dark grey clay unit - probably surficial weathering
43.5	51.8	Ogs:	Siltstone Unit
51.8	151.0	Ogul	Undifferentiated Limestones - argillaceous and bioclastic
151.0	161.0	Ogmu	Laminated micrite Unit - basal oncolites
161.0	248.0	Ogul	Undifferentiated Limestones - argillaceous and bioclastic.

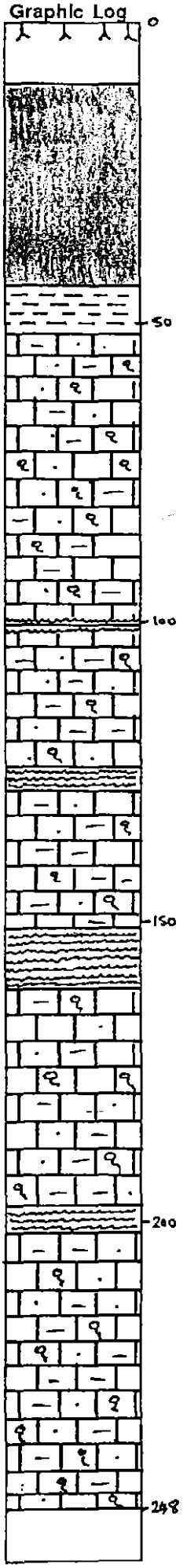
MINERALISATION SUMMARY:

FROM	TO	COMMENTS
67.4	68.8	MAX. ZINC VALUE OF 898 ppm

CONCLUSIONS:

Hole contained unmineralised limestones with well developed cleavage fabric - proximal to major fault. Core orientation @ 236.7 indicates sub-vertical bedding. Major fault (Professor Range Fault) is likely to be a reverse fault. Note folded limestone beds were seen at base of hole (reasonably tight folding).

Graphic Log



C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 1

TENEMENT NAME Professor Range No. 058

365296 E

CO-ORDINATES 5351810N AZIMUTH 200° mag DRILLERS DD TAS COMMENCED 3/7/95

PLAN – MAP REFERENCE

DEPTH 248 m HOLE No. ZR103

RL COLLAR INCLINATION 45° DRILL TYPE U650 COMPLETED 17-7-95 CASING LEFT DPO No(s)

DEPTH From (M)	DEPTH To(M)	Core Rec %	RQD DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)	Rec (From)	Rec (To)	Rec (m)	Rec %
0	10	-	-	Qha	Overburden and weathered clays							0	10	0	0
												10·0	10·5	0·3	60
												10·5	12·0	1·5	100
10	10·5	60	5	Ogdc	Black clay		5466236	10	10·5			12·0	13·5	0·75	50
							38					13·5	15·0	0·3	20
10·5	12·3	100	5	Ogdc	Brown/grey clay		39	10·5	12·3			15·0	15·5	0·25	50
												15·5	16·5	0·5	50
12·3	18·0	63	5	Ogdc	Dark brown clay							16·5	18·0	1·2	80
							38	12·3	15·0			18·0	19·5	0·4	26
18·0	27·0	47	5	Ogdc	Grey/light grey clay possibly weathered micrite/calcarenite rock fragments non-calcareous.		39	15·0	18·0			19·5	21·0	0·3	20
							40	18·0	21·0			21·0	22·5	0·15	10
							41	21·0	24·0			22·5	24·0	0·6	40
							42	24·0	27·0			24·0	25·5	0·9	60
27·0	30·3	43	5	Ogdc	Dark grey rotted ?limestone /clay ?argillaceous unit.	!	43	27·0	30·3			25·5	27·0	0·75	50
												27·0	28·5	0·3	20
												28·5	30·0	1·0	66
30·3	31·5	66	5	Ogdc	Light grey clay - weathered micrite/calcarenite (sandy) non-calcareous.		44	30·3	31·5			30·0	31·5	1·0	66
												31·5	33·0	1·2	80
												33·0	34·5	1·0	66
												34·5	36·0	1·2	80
31·5	34·2	73	5	Ogdc	Dark grey/black clay non-calcareous.		45	31·5	34·2			36·0	37·5	0·5	33
												37·5	39·0	1·2	80
												39·0	40·5	0·5	33
34·2	37·6	56	5	Ogdc	Light grey/cream clay non-calcareous.		46	34·2	37·6			40·5	41·7	0·6	50
												41·7	42·5	0·7	90
												42·5	43·5	0·8	80
37·6	40·6	56	5	Ogdc	Grey clay grading into dark grey clay to black clay - basal black clay contains non ~~argillac~~ calcareous fragments.		47	37·6	40·6			43·5	45·0	0·3	20
												45·0	46·5	0·75	50
												46·5	48·1	1·6	100
												48·1	49·5	1·4	100
												49·5	51·0	1·5	100

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C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 3 of 6

TENEMENT NAME PROFESSOR RANGE No. .....

PLAN – MAP REFERENCE .....

365296E

CO-ORDINATES 5351810N AZIMUTH 200° MAG DRILLERS DD TAS COMMENCED 3.7.95 DEPTH 248m HOLE No. ZR103

RL COLLAR ..... INCLINATION 45° DRILL TYPE LM 650 COMPLETED 17.7.95 CASING LEFT ..... DPO No(s) .....

DEPTH From (M)	DEPTH To (M)	Core Rec. %	RQD DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)
40.6	45.6	47	5x	Ogsi	Dark grey clay with rotted limestone (?) rock fragments Possible siltstone unit.		5466248	40.6	42.5		
							49	42.5	45.6		
45.6	48.1	95	3c	Ogsi	Dark grey well cleaved mixed argillaceous calcarenite and non calcareous argillaceous siltstone; occ with coarse bioclasts inc stick bryozoa	cleavage ? bedding parallel 45° t c/A.	50	45.6	48.1		
48.1	58.05	95	2c	Ogul	Locally v coarsely bioclastic grey calcarenite with micritic bands <1cm and argillaceous calcilutite (occ non calcareous) beds <50cm. Some evidence of syn sed brecciation	Bedding 45° t c/A. Cleavage 45° t c/A	51	48.1	50.1		
							52	55.5	57.0		
58.05	61.6	100	3c	Ogul	Argillaceous calcilutite unit. weakly calcareous. with broken w.c at base.		53	58.8	60.7		
61.6	64.25	100	3c	Ogul	Bioclastic calcarenite with interstitial and intermixed argillaceous calcilutite material.						
64.25	73.7	100	2	Ogul	Grey / dark grey fine grained calcarenite; locally med grained bioclasts. Minor argillite as stylocumulates. Calcite breccia vein with sphalerite clasts 60° t c/A with minor pyrite blebs.	Calcite veining irregular with rare blebs <1cm of sphalerite Vein angles. 45° t c/A 30° t c/A. 60° t c/A.	54	64.25	65.85		
							55	65.85	67.4		
							56	67.4	68.9		
							57	68.9	70.64		

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C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 3 of 8

TENEMENT NAME PROFESSOR RANGE No. .....

365296 E

PLAN – MAP REFERENCE .....

CO-ORDINATES 5351810 N AZIMUTH 200° MAG DRILLERS DDTAS COMMENCED 3·7·95 DEPTH 248m HOLE No. ZR105

RL COLLAR ..... INCLINATION 45° DRILL TYPE U 650 COMPLETED 17·7·95 CASING LEFT ..... DPO No(s) .....

DEPTH From (M)	DEPTH To(M)	Core Rec. %	RQD DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by .....) Rec (from)	Rec (to)	Rec (m)	Rec (%)
73·7	78·8	100	1	Ogwl	Grey fine grained calcarenite locally micritic with distinct irregular content argillaceous beds – shly bioclastics.	locally cleaved 45° to c/A.	5466258	74·6	76·1		51·0	52·5	1·5	100
											52·5	54·0	1·5	100
											54·0	55·5	1·5	100
											55·5	57·0	1·5	100
											57·0	58·05	1·05	100
78·8	87·0	100	1	Ogwl	Grey fine grained calcarenite with one large solitary bioclast and minor interbedded argillaceous calcisiltite	no significant cleavage.	59	85·0	87·0		58·05	58·8	0·6	80
											58·8	59·5	0·7	100
											59·5	60·7	1·2	100
											60·7	61·5	0·7	90
											61·5	62·75	1·25	100
87·0	88·8	100	3f	Ogwl	lt brown/grey ?weathered fine grained calcarenite as above; possible cavities + ~~coarse~~ end of weathered zone @ 88·3.	Calcite veining some irregular 5cm thick; 1cm thick 35° to c/A. fracture planes 45° to c/A & wall	60	87·0	88·8		62·75	63·6	0·7	84
											63·6	64·25	0·5	75
											64·25	65·85	1·6	100
											65·85	67·2	1·35	100
											67·2	68·0	0·8	100
											68·0	69·0	0·8	88
88·8	91·3	100	1	Ogwl	Argillaceous bioclastic calcarenite; med grained bioclastic calcarenite with dark grey argillaceous calcarenite intermixed; becoming coarser bioclasts + more intermixed at base.	Minor calcite veining <0·3cm thick veins.					69·0	70·0	1·0	100
											70·0	71·5	1·5	100
											71·5	73·0	1·5	100
											73·0	74·6	1·6	100
											74·6	76·1	1·5	100
											76·1	76·5	0·4	100
											76·5	77·6	1·1	100
											HQ/NQ 77·6	81·0	3·4	100
91·3	95·0	55	1	Ogwl	Grey v. fine grained calcarenite locally micritic with fenestral texture; cavities and weathered core.	1 1cm calcite vein 45° to c/A.					81·0	84·0	3·0	100
											84·0	87·0	3·0	100
											87·0	90·0	3·0	100
											90·0	93·0	3·0	100
											93·0	96·0	1·5	50
96·0	99·5	100	1	Og	lt grey well cleaved micritic (birdseyes) calcarenite	Cleavage 45° to c/A.	61	95·0	97·1		96·0	99·0	3·0	100
							62	97·1	99·0		99·0	101·75	2·75	100

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C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 4 : 8

TENEMENT NAME PROFESSOR RANGE No. .....

PLAN – MAP REFERENCE .....

CO-ORDINATES 365296E 5351810N AZIMUTH 200° MAG DRILLERS DDTAS COMMENCED 3.7.95 DEPTH 248 m HOLE No. ZR103

RL COLLAR ..... INCLINATION 45° DRILL TYPE 4650 COMPLETED 17.7.95 CASING LEFT ..... DPO No(s) .....

DEPTH From (M)	DEPTH To(M)	Core Rec. %	RQD DI???	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)
					Core is locally weathered	Minor calcite veining					
99.5	101.0	100	2c	Ogmu	Grey v. fine grained calcarenite with argillite (regular) laminae calcarenite > 1.2cm bands with birds eye micrites.	Laminae 45° to c/A. cleavage 45° to c/A.					
101.0	105.8	100	1	Ogcl	Med/fine grained grey calcarenite locally bioclastic (+ quite coarse) with gastropods. Minor localised zones of more argillaceous material.	5cm calcite vein @ 103.3m 60° to c/A. Irregular, + stringer-like calcite veining	466263	102.8	104.8		
105.8	112.95	100	1	Ogcl	Light grey fine grained calcarenite micritic in places, with birds eyes. Almost laminated in places, or more coarsely bioclastic bed.	2cm clay clear @ 107.6 45° to c/A with calcite veining + cleavage @ 60° to c/A. Some calcite veining parallel to c/A.	64	105.8	107.9		
112.95	117.3	100	1	Ogcl	Grey v. fine grained calcarenite with v. minor argillite + bioclastic bands (? transitional from above).	Locally thicke calcite veining with irregular contacts Calcite vein zone. 115–115.7m veins, 60° to c/A. with some argillite material/sheering					
117.3	125.2	100	1	Ogcl	Grey/dark grey fine grained calcarenite with zones of interstitial argillite + stylocumulates Possible burrowed zones – Possible fenestrate texture at base. Distinct fossiliferous top to unit	Calcite stringer veins Calcite breccia vein 45° to c/A from 121.5–121.8. Bedding contact at base 55° to c/A.	65	119.3	122.35		

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C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. (5)

TENEMENT NAME PROFESSOR RANGE No. OF 8

PLAN – MAP REFERENCE

CO-ORDINATES 365296 E 5351810 N AZIMUTH 200° MAG DRILLERS DDTAS COMMENCED 3.7.95 DEPTH 248 m HOLE No. ZR103

RL COLLAR INCLINATION 45° DRILL TYPE 4.650 COMPLETED 17.7.95 CASING LEFT DPO No(s)

DEPTH From (M)	DEPTH To(M)	Core Rec. %	RQD DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)	REC (from)	REC (To)	REC (m)	REC (%)
125.2	127.8	100	1	Ogul Mu	light grey fine calcarenite locally micritic - locally bioclastic (fine to coarse grained bioclasts) laminations are present at top of unit	Laminations 45° to c/A. Calcite veining up to 3cm thick.	546266	126	128.3			101.75	104.8	3.05	100
												104.8	107.9	3.1	100
												107.9	110.0	2.1	100
												110.0	113.1	3.1	100
												113.1	116.0	2.9	100
												116.0	119.3	3.0	90
127.8	134.3	100	1	Ogul	Fine/medium grained grey calcarenite with interstitial argillite zones ± possibly stylocumulates; burrowed units; possible minor equigranular bioclastic units	Minor thin calcite veins.						119.3	122.35	3.05	100
												122.35	125.35	3.0	100
												125.35	128.35	3.0	100
												128.35	131.45	3.1	100
												131.45	134.3	2.85	100
												134.3	137.4	3.1	100
												137.4	140.45	3.05	100
134.3	136.2	100	1	Ogul	Equigranular calcarenite unit with veining; localised syntectonic breccia of limestone rock ± calcite veining @ 134.8m	Major calcite veining zone. 2 phase calcite veining						140.45	143.5	3.05	100
												143.5	146.6	3.1	100
												146.6	149.7	3.1	100
												149.7	152.0	2.3	100
												152.0	154.0	2.0	100
136.2	147.2	100	1	Ogul	Fine/med grained grey/dark grey locally bioclastic calcarenite, with interstitial argillite/argillaceous calcarenite; with burrowed zones and locally coarser bioclastic bands of calcarenite. bioturbation becoming slight coarser downhole.	Occ calcite vein 30° to c/A. 80° to c/A (shear parallel) 45° to c/A	67	139.55	141.55			154.0	155.2	1.2	100
												155.2	158.2	3.0	100
												158.2	161.0	2.8	100
												161.0	164.0	3.0	100
												164.0	166.5	2.5	100
												166.5	167.5	0.7	70
												167.5	167.75	0.2	80
	151.0											167.75	168.7	0.47	50
147.2	148.7	100	1	Ogul	V. fine grained grey calcarenite locally micritic with distinct irregular argillite bands – stylocumulates. loss of argillite bands at base 1.5m.	Minor division blebs of pyrite within argillites or at it's contact						168.7	169.1	0.24	80
												169.1	169.35	0.25	100
												169.35	170.4	1.05	100
												170.4	172.2	1.8	100
												172.2	173.1	0.9	100

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

SHEET No. 6 of 8

TENEMENT NAME PROFESSOR RANGE No.

365296 E

PLAN – MAP REFERENCE

CO-ORDINATES 7751810 N AZIMUTH 200° MAG DRILLERS DD TAS COMMENCED 3.7.95 DEPTH 248 m HOLE No. ZR103

RL COLLAR INCLINATION 45° DRILL TYPE LI650 COMPLETED 17.7.95 CASING LEFT DPO No(s)

DEPTH From (M)	DEPTH To(M)	Core Rec. %	RQD DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)
151.0	161.0	100	2c	Ogwc	Well cleaved dark grey v fine grained calcarenite with locally v. coarse bioclasts, local zones of laminations interbedded with bioclastic calcarenite beds; well bedded. Bed 40cm a much coarser bioclastic calcarenite - oncolites	Bedding / cleavage parallel shear with calcite veining @ 151.5 for 15cm. 60° to c/A. Laminations 60 → 50° to c/A Bed unit with calcite veining sub parallel to c/A.	5466268	155.2	158.2		
161.0	165.9	100	2f	Ogwl	Fine grained grey/dark grey calcarenite locally micritic; locally bioclastic - sometimes coarsely so.	Well sheared unit with calcite veining + stringer veining	69	164	165.9		
165.9	169.9	63	5x	Ogfz	Sheared and broken core including core loss and clay zones; blocks argillite at base of shear zone - calcareous	Irregular cross cutting calcite veining Angle of cleavage 65-70° to c/A. at basal contact.	70 71	165.9 167.75	167.75 169.9		
169.9	176.3	100	4c	Ogwl	Med/fine grained grey/dark grey calcarenite with minor argillite beds; occ small bioclastic band <5cm. Well cleaved	cleavage 55° to c/A.	72	169.9	172.2		
176.3	178.7	100	6x	Ogfz	Med grained grey calcarenite locally sand - coarsely bioclastic locally sheared.	Zone of more intense calcite veining 50° to c/A. some calcite breccia veins, some shearing 35° to c/A.	73	176.3	178.6		
178.7	182.7	100	4c	Ogwl	med/fine grained grey/dk grey calcarenite with minor argillite bands.	Cleavage 35° to c/A. bedding parallel.					

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C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 7

TENEMENT NAME Professor Range No. ORS

PLAN – MAP REFERENCE

CO-ORDINATES 365296E 5351810N AZIMUTH 200° MAG DRILLERS DD TAS COMMENCED 3-7-95 DEPTH 248 m HOLE No. ZR103

RL COLLAR INCLINATION 45° DRILL TYPE LM 650 COMPLETED 17-7-95 CASING LEFT DPO No(s)

DEPTH From (M)	DEPTH To(M)	Core Rec. %	RQD DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....) Rec (From)	Rec (To)	Rec (m)	Rec (%)
						note variable bedding @					173·1	173·4	0·5	100
						180·35 – parallel to c/A.					173·4	175·1	1·5	100
						@ 181 45° to c/A.					175·1	176	0·9	100
											176	179·1	3·1	100
182·7	183·8	100	3v	Ogwl	Grey altered calcarenite	Zone of calcite veining irregular + up to 5cm thick					179·1	180·35	1·25	100
											180·35	181·9	1·55	100
											181·9	183	1·1	100
183·8	188·7	91	3c	Ogwl	Dark grey fine grained (? altered) calcarenite/micrite with thin argillite beds/bands Possible fault zone.	Bedding 25° to c/A. Calcite veining and shearing; cleavage 45° to c/A. Bedding @ 188m 45° to c/A.	5466274	184·75	187·1		183	184·25	1·25	100
											184·25	184·75	0·5	100
											184·75	185·6	0·75	100
											185·6	186·5	0·45	50
											186·5	187·1	0·6	100
188·7	192·4	100	2c	Ogwl	Grey fine/v fine grained calcarenite/micrite - with birds eyes - possibly laminated locally	Bedding - parallel to Cleavage @ 20° to c/A, 45° to c/A Calcite veining locally Bedding @ 192·4 45° to c/A.	75	189·85	192·0		187·1	188·7	1·6	100
											188·7	189·85	1·15	100
											189·85	192·0	2·15	100
											192·0	194·1	2·10	100
											194·1	196·75	2·65	100
192·4	198·7	100	2c	Ogwl	Grey/dark grey fine/v fine grained calcarenite; with minor argillite bands; Coarse bioclastic band @ 193·95	Well cleaved locally; bedding 45° to c/A. Calcite veined zone 195·7 – 196·1 m. Otherwise major calcite stringer veining locally					196·75	199·0	2·25	100
											199·0	201·0	1·6	80
											201·0	202·75	1·75	100
											202·75	205·4	2·65	100
											205·4	206·25	0·85	100
											206·25	207·6	1·35	100
198·7	200·3	100	2c	Ogwl	Almost a laminated micrite unit	Bedding 45° to c/A.					207·6	208·1	0·3	60
											208·1	208·8	0·7	100
200·3	207·5	100	3c	Ogwl	Mixed unit of fine grained grey/dark grey calcarenite with minor argillite bands/beds <2cm thick. Included are bioclastic bands and zones of burrowing; Almost micritic in places	Well cleaved often parallel to bedding Minor calcite veining except @ 205·2 – 205·3m. 45° to c/A.	76	202·75	205·4		208·8	210·7	1·9	100
											210·7	211·7	1·0	100
											211·7	213·75	2·05	100
											213·75	214·9	1·15	100
											214·9	216·75	1·85	100
											216·75	217·65	0·9	100

69505O

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 8

TENEMENT NAME Professor Range No. 05 8

PLAN – MAP REFERENCE

CO-ORDINATES 365296E 5351810N AZIMUTH 200° MAG DRILLERS DD TAS COMMENCED 3.7.95 DEPTH 248m HOLE No. ZR103

RL COLLAR INCLINATION 45° DRILL TYPE Y650 COMPLETED 17.7.95 CASING LEFT DPO No(s)

DEPTH From (M)	DEPTH To(M)	Core Rec. %	RQD DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....) Rec (from)	Rec (To)	Rec (m)	Rec (%)
207.5	226.4	90	3c	Ogul	Sheared gouge parallel to bedding at top of unit. Dark grey uniform looking v. fine grained calcarenite/micrite -? fault altered. Minor argillite beds/bands. Rare bioclast band. Locally well broken core.	45° to c/A sheer. Well cleaved 50° to c/A. Calcite vein 209.1-209.45 parallel to cleavage. locally v. well cleaved zone with 65° to c/A. Calcite vein 213.3-213.55. Calcite veining zone + alteration from 222.3-225.5.	77	214.9	216.75						214.65	218.2	0.55	100
															218.2	219.2	1.0	100
															219.2	220.15	0.95	100
															220.15	221.25	1.1	100
															221.25	223.9	0.85	100
															222.1	223.9	1.8	100
															223.9	225.0	1.0	90
															225.0	225.9	0.6	67
															225.9	226.4	0.25	50
															226.4	227.1	0.7	100
															227.1	227.65	0.55	100
226.4	242.5		2c	Ogul	Grey fine grained calcarenite with occ bioclastic bands minor argillite beds/bands lighter grey associated with more calcite veins	Well cleaved locally with irregular stringer calcite veining Bedding 45° to c/A	78	231.0	233.6						227.65	228.7	0.9	84
															228.7	231.0	2.7	100
															231.0	233.6	2.6	100
															233.6	236.7	3.1	100
							79	240.6	242.5						236.7	239.25	2.55	100
															239.25	240.6	1.35	100
					Orientated Core Sample	@ 236.7 indicates vertical bedding									240.6	243.0	2.4	100
									245.15						243.0	245.15	2.05	88
242.5	248.0		3c	Ogul	as before with increased calcite veining / stringer zones	Well cleaved, locally sheared appearance.	80	242.5	248.0						245.15	248.0	2.85	100
							5466281	245.15	248.0									

248m END OF HOLE

69505

			77387	Ag	Al	As	Ba	Ca	Cu	Fe	K	Mg	Mn	Pb	Zn
ZR103	10	10.5	5466236	-.5	7.94	7	423	-.05	31	.6	3.54	.64	18	35	45
ZR103	10.5	12.3	5466237	-.5	9.85	-5	597	-.05	10	.37	4.58	.8	13	30	33
ZR103	12.3	15	5466238	-.5	7.8	85	511	-.05	44	1.81	3.56	.46	18	243	128
ZR103	15	18	5466239	-.5	8.37	183	474	.05	16	4.77	3.44	.5	27	41	183
ZR103	18	21	5466240	-.5	7.26	8	542	-.05	11	.45	3.73	.44	12	23	31
ZR103	21	24	5466241	-.5	8.54	-5	576	-.05	21	.39	3.74	.44	14	13	43
ZR103	24	27	5466242	-.5	7.8	-5	507	-.05	32	.35	3.36	.4	12	19	40
ZR103	27	30.3	5466243	-.5	9.18	-5	536	.18	54	.36	3.42	.45	15	37	48
ZR103	30.3	31.5	5466244	-.5	11.1	16	695	.13	43	.38	4.41	.6	13	33	91
ZR103	31.5	34.2	5466245	-.5	7.85	93	524	.1	20	2.16	3.37	.43	25	22	161
ZR103	34.2	37.6	5466246	-.5	9.32	-5	631	.06	80	.4	3.95	.46	14	15	41
ZR103	37.6	40.6	5466247	-.5	9.6	19	626	.25	32	1.51	4.1	.5	29	24	154
ZR103	40.6	42.5	5466248	-.5	8.51	24	573	.75	15	1.57	3.74	.56	77	13	41
ZR103	42.5	45.6	5466249	-.5	8.19	40	521	2.72	8	1.94	3.62	1.31	141	-10	32
ZR103	45.6	48.1	5466250	-.5	7.19	18	447	7.06	6	1.91	3.2	1.91	219	-10	19
ZR103	48.1	50.1	5466251	.7	2.17	-5	127	27.2	6	1.16	1	1	242	11	7
ZR103	55.5	57	5466252	.6	2.3	-5	141	27.1	-5	.9	1.11	1.23	204	-10	5
ZR103	58.8	60.7	5466253	-.5	5.78	8	362	11.9	7	1.89	2.69	2.85	247	-10	18
ZR103	64.25	65.85	5466254	1.5	.43	-5	26	35	-5	.8	.2	1.1	236	20	52
ZR103	65.85	67.4	5466255	1	.35	-5	22	32.2	-5	.51	.16	2.17	163	-10	60
ZR103	67.4	68.8	5466256	.5	.5	24	30	33.5	-5	.82	.22	1.57	203	15	898
ZR103	68.8	70.4	5466257	1	.7	-5	48	33	-5	.42	.34	1.78	85	-10	-5
ZR103	74.6	76.1	5466258	.9	1.57	-5	83	28.4	-5	.78	.77	3.4	122	-10	5
ZR103	85	87	5466259	-.5	1.12	-5	58	28	-5	.82	.55	3.1	164	-10	8
ZR103	87	88.8	5466260	1.1	1.29	-5	65	30.7	-5	.61	.64	.34	232	-10	24
ZR103	95	97.1	5466261	.6	1.39	-5	72	32.5	-5	.47	.71	.4	125	-10	8
ZR103	97.1	99	5466262	.7	.54	-5	31	35.7	-5	.14	.28	.28	97	-10	-5
ZR103	102.8	104.8	5466263	1.1	.32	-5	16	36.6	-5	.25	.15	.54	66	-10	33
ZR103	105.8	107.9	5466264	1	1.29	-5	62	32.5	-5	.5	.64	.46	145	-10	-5
ZR103	119.3	122.35	5466265	.6	.6	-5	28	32.9	-5	.44	.3	1.23	94	-10	-5
ZR103	126	128.3	5466266	.6	.49	-5	26	33.2	-5	.3	.24	.79	66	-10	-5
ZR103	139.55	141.55	5466267	.9	1.78	-5	105	28.6	-5	.81	.84	1.9	177	-10	-5
ZR103	155.2	158.2	5466268	.5	1.5	-5	77	29.1	-5	.66	.67	1.08	135	-10	-5
ZR103	164	165.9	5466269	1.2	.72	-5	46	28.9	-5	.78	.3	.88	154	-10	-5
ZR103	165.9	167.75	5466270	1	.77	-5	51	29.7	-5	.81	.32	.73	164	-10	-5
ZR103	167.75	169.9	5466271	.9	.71	-5	38	32.6	-5	.42	.26	.28	114	-10	9
ZR103	169.9	172.2	5466272	1.1	1.61	-5	85	25.5	-5	1.19	.65	1.16	215	-10	-5
ZR103	176.3	178.6	5466273	1.3	.57	-5	35	32.4	-5	.61	.23	1.13	99	-10	33
ZR103	184.75	187.1	5466274	1.1	.93	-5	54	32.6	-5	.47	.4	1.05	93	-10	-5
ZR103	189.85	192	5466275	.8	.76	-5	43	31.3	-5	.44	.31	1.21	88	-10	-5
ZR103	202.75	205.4	5466276	.7	.8	-5	43	31.4	-5	.64	.33	1.36	122	-10	16
ZR103	214.9	216.75	5466277	1.1	1.12	98	65	28.6	-5	.71	.48	1.46	122	-10	-5
ZR103	231	233.6	5466278	1.3	.46	-5	27	31.5	-5	.45	.2	1.22	93	-10	-5
ZR103	240.6	242.5	5466279	1.6	.9	-5	47	28.1	-5	1.05	.35	1.28	197	-10	17
ZR103	242.5	245.15	5466280	1.2	.95	96	44	28.5	-5	1.57	.35	1.38	329	-10	-5
ZR103	245.15	248	5466281	1.9	1.25	16	56	29.5	-5	.89	.5	.95	184	-10	-5

Appendix V

Professor Range DD95ZR104 - Drill Logs

695054

CRA EXPLORATION PTY. LIMITED

DRILL-HOLE SUMMARY LOG

HOLE NAME: DD95ZR104 | AMG EAST 365944 NORTH 5351907

PROSPECT : PROFESSOR RANGE | GRID EAST 65542 NORTH 51456

EL: ZEEHAN 2 EL 34/88 | RL | DEPTH 274.0m

DATE DRILLED: 19/7/95

LOGGED BY: S.J. TEAR

DRILLING CO.: DD. TAS. LTD.

DRILL TYPE: DIAMOND

DRILL RIG: U650

LOC DRILL CORE: ZEEHAN

SURVEYS:

DEPTH	AZIM (AMG)	DIP	DEPTH	AZIM (AMG)	DIP
0	213°	50°			
175m	209.5°	52.5°			
251m	212°	52°			

OBJECTIVES OF HOLE:

DIAMOND DRILL TEST OF ZINC-RICH UPPER SANDSTONE/LIMESTONE CONTACT - ELEVATED ZINC VALUES FROM AIRCORE DRILLING

LITHOGICAL SUMMARY:

FROM	TO	FORM CODE	COMMENTS
0	21	Qha	Overburden + triconed Crotty Quartzite.
21	43.8	Sc	Med/Coarse grained Crotty Quartzite
43.8	132.8	Sc	Interlaminated Sands + silts - Crotty Quartzite
132.8	152.5	Sc	Interlaminated black shales and siltstones - Crotty Quartzite with occ. sandstones
152.5	172.0	Ogud	Upper Dolomite unit with breccia zones and dark grey clay zones.
172.0	274.0	Ogud	?Upper Dolomite Unit

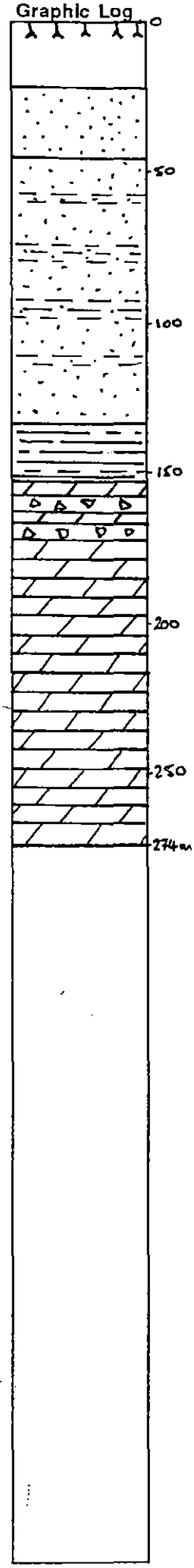
MINERALISATION SUMMARY:

FROM	TO	COMMENTS
217.8	218.1	0.8% Zn as sphalerite associated with Kebs disseminated (Pb 0.23%) in a fracture zone.
251.75	252.75	0.1% Zn as sphalerite associated with a 2cm diss. Sph and galena zone in a carbonate ?breccia /replacement zone.

CONCLUSIONS:

Bedding @ 34m 65° to c/A @ 93.5m 65° to c/A @ 220.9 65° to c/A ?; Variable between 60+70°. Drillhole passed through the Upper Sandstone/Limestone contact. A fissile shale unit believed to be a major shear zone exists at the contact. Dolomitisation is associated with this shear zone. The shear zone dips subvertically.

Graphic Log



C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 1

TENEMENT NAME Professor Range No. EL 9

PLAN – MAP REFERENCE

365944E

CO-ORDINATES 5351907N AZIMUTH 50° DRILLERS DD TAS. LTD. COMMENCED 19/7/95 DEPTH 274 M HOLE No. ZR104

RL COLLAR INCLINATION DRILL TYPE U650 COMPLETED 10/8/95 CASING LEFT DPO No(s)

DEPTH From (M)	DEPTH To (M)	Core Rec. %	RQD DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....) Rec (From)	Rec (To)	Rec (m)	Rec %
0	21	–	–	–	Overburden + weathered sandstone – Tricored to 21m.		5465274	21	22.5		21	22.5	1.5	100
											22.5	24.0	0.9	60
											24.0	25.5	0.5	33
21.0	31.0	60	4	Sc	White med. grained sandstone; locally rotten with associated core loss.						25.5	27.0	1.0	67
											27.0	28.5	0.5	33
											28.5	29.6	0.8	72
											29.6	31.0	0.7	50
31.0	32.0	60	5	Sc	Brown sandstone with fine grained conglomerate material						31.0	32.0	0.6	60
											32.0	33.5	1.35	90
											33.5	34.5	0.9	90
32.0	34.0	90	3c	Sc	Dark grey fine grained sandstone with siltstone laminae; slight vuggy appearance due to bioclasts eroded out.	Bedding 65° to c/A. cleavage/joint 45° to c/A.	75	32	33.5		34.5	36.0	1.5	100
											36.0	37.5	0.9	67
											37.5	39.0	1.5	100
											39.0	40.5	1.2	80
											40.5	42.0	1.5	100
											42.0	43.5	1.0	67
34.0	37.0	80	3	Sc	Med grained conglomeratic sandstone – weathered; locally with finer grained siltstone units						43.5	45.0	1.05	100
											45.0	46.5	1.5	100
											46.5	48.0	1.5	100
											48.0	49.5	1.5	100
											49.5	51.0	1.5	100
37.0	39.0	100	4	Sc	Fine grained sandstone and interbedded sand and siltstones	Bedding 70° to c/A ?pos. sideritic alteration.	76	37.5	39.0		51.0	52.5	1.5	100
											52.5	54.0	1.5	100
											54.0	55.5	1.5	100
39.0	43.8	75	5	Sc	Rotted brown coloured med/coarse grained sandstone.						55.5	57.0	1.5	100
											57.0	58.5	1.5	100
											58.5	60.0	1.5	100
43.8	66.2	100	1	Sc	Med grained grey massively bedded sandstone	Bedding 70° to c/A. 2mm pyrite bed/vein @ 51.7m.	77	48	49.5		60.0	61.5	1.5	100
					Shale/siltstone inter-laminated unit 58.5 - 58.85m.		78	63.0	64.5		61.5	63.0	1.5	100
					Locally fine grained conglomerates and locally bioturbated and burrowed.						63.0	64.5	1.5	100
											64.5	66.0	1.5	100
											66.0	67.5	1.5	100

6550 E

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

SHEET No. 2 of 9

TENEMENT NAME Professor Range No. 09

PLAN – MAP REFERENCE

CO-ORDINATES 3659446 5351907 AZIMUTH 50 DRILLERS DDTAS COMMENCED 19.7.95 DEPTH 274 m HOLE No. ZR104

RL COLLAR INCLINATION DRILL TYPE U650 COMPLETED CASING LEFT DPO No(s)

DEPTH From (M)	DEPTH To (M)	Core Rec. %	RQD DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)
66·2	70·5	100	2b	Sc	Med grained grey sandstone with dark grey shaly/silty laminae; locally bioturbated	Bedding 70° to c/A.					
70·5	74·6	100	2	Sc	med/coarse grained grey/brown sandstone. Massively bedded with conglomeratic (fine grained zones)						
74·6	76·5	100	2b	Sc	Dark grey inter-bedded fine sandstone and siltstone laminae and beds; bioturbated locally.	Bedding 60° L c/A.	79	75	76·5		
76·5	79·9	100	1	Sc	med/coarse grained grey/brown sandstone (porous-looking) fining downhole. massively bedded. scattered coarse qtz + lithic frag clasts. from 78m onwards to 79.4m:						
79·9	80·1	100	2	Sc	Small conglomeratic horizon 10cm followed by fining grained sandstone + siltstone - localised bioclasts						
80·1	81·0	0	–	Sc	Core loss						
81·0	82·3	025	5	Sc	Friable sand - probably well grained poorly cemented sandstone		80	81·0	82·5		

ASSAY VALUES (Analysed by.....)								
					Rec (From)	Rec (To)	Rec (%)	Rec (%)
					67·5	69·0	1·5	100
					69·0	70·5	1·5	100
					70·5	72·0	1·5	100
					72·0	73·5	1·5	100
					73·5	75·0	1·5	100
					75·0	76·5	1·5	100
					76·5	78·0	1·5	100
					78·0	79·5	1·5	100
					79·5	81·0	0·75	50
					81·0	82·5	0·6	40
					82·5	84·0	1·5	100
					84·0	85·5	1·5	100
					85·5	87·0	1·5	100
					87·0	88·5	1·5	100
					88·5	90·0	1·5	100
					90·0	91·5	1·5	100
					91·5	93·0	1·5	100
					93·0	94·5	1·5	100
					94·5	95·8	1·3	100
					95·8	97·0	1·0	83
					97·0	98·5	1·5	100
					98·5	99·5	1·0	100
					99·5	100·5	0·9	90
					100·5	102·0	1·5	100
					102·0	102·8	0·8	100
					102·8	103·5	0·7	100
					103·5	105·0	1·5	100
					105·0	106·5	1·5	100
					106·5	108·0	1·3	86
					108·0	109·5	1·5	100
					109·5	110·5	0·9	90
					110·5	112·0	1·5	100

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 3

TENEMENT NAME Professor RANGE No. 29

365944E

CO-ORDINATES 5351907N AZIMUTH 50° DRILLERS DDTAS COMMENCED 19.7.95 DEPTH 274 HOLE No. ZR104

PLAN – MAP REFERENCE

RL COLLAR INCLINATION ° DRILL TYPE 465 COMPLETED CASING LEFT DPO No(s)

DEPTH From (M)	DEPTH To(M)	Core Rec. %	RQD DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by)
82.3	82.70	100	3	Sc	med/coarse grained poorly cemented sandstone; cross-bedding						
82.7	87.0	100	2	Sc	med/fine grained bioturbated grey sst., locally well laminated.	Bedding 70° to c/A	5465281	85.5	87.0		
87.0	92.2	100	1b	Sc	Fine grained sandstone with zones of laminated shale/siltstone; locally well bioturbated	Bedding 65° to c/A.	9382	91.5	93.0		
92.2	93.2	100	3	Sc	Zone of ?tectonic disturbance locally soft clay and brecciated.						
93.2	93.5	100	3	Sc	Quartz vein – bedding parallel	70° to c/A.					
93.5	102.3	95	2b	Sc	Interlaminated and interbedded lt grey med. grained sandstone with dark grey/black siltstone and shale – distinctive unit. small scale lenticular beds ~ closer bedding; micro-slumping and bioturbation	Bedding 65° to c/A.	83	97.0	98.5		
102.3	104.6	100	2f	Sc	Med/fine grained grey/light grey sandstone becoming coarser downhole – poorly cemented in parts; large bioclasts locally	Qtz veins 60° to c/A + it. conjugate pair.	84	103	106.6		
104.6	106.6	100	3b	Sc	Fine grained dark grey siltstone passing down into coarser sandstone and finally poorly sorted conglomerate for basal 50cm – fining upwards	Bedding 40° to c/A becoming 70° to c/A.					

69507

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 4 of 9

TENEMENT NAME PROFESSOR RANGE No.

365944E

CO-ORDINATES 5351907N AZIMUTH 50° DRILLERS DDTMS COMMENCED 19.7.95

PLAN – MAP REFERENCE

DEPTH 274m HOLE No. ZR104

RL COLLAR INCLINATION ° DRILL TYPE 4650 COMPLETED

CASING LEFT DPO No(s)

DEPTH From (M)	DEPTH To(M)	Core Rec. %	RQD	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)
106.6	109.7	93	2b	Sc	Fining upward sequences as before/above.						
					ie 106.6 – 107						
					107 – 107.9						
					107.9 – 109.7						
109.7	114.6	96 100	3f	Sc	Rotted ?sandstone ; 1 cm pyritic shale followed by DkGy grey rotted sandstone.	Contact 65° to c/A. Minor blebs of pyrite	85	109.7	112.0		
							86	112.0	113.5		
							87	113.5	115.5		
114.6	115.5	67	4x	Sc	Brecciated dark grey sandstone – fault related		88	115.5	117.2		
					Minor clays + vuggy appearance.		89	117.2	118.5		
							90	118.5	120.0		
							91	120.0	121.5		
115.5	121.5	65	5x	Sc	Rotted + ?brecciated sandstone dark grey with dark grey clays.	Fabric 60° L c/A. strong blue tinge ?galena to clays.					
121.5	123.25	45	4x	Sc	Fault breccia zone.	Poss contact 40° L c/A (Lower)	92	121.5	122.5		
							93	122.5	124.25		
123.25	127.0	90	3b	Sc	Grey dark grey ? rotted med/fine grained well laminated sandstones + siltstones. Locally brecciated ; becoming more massive dk grey sandstone d/hole.	Bedding 70° to c/A. Minor pyrite bands parallel to bedding.	94	124.25	125.5		
							95	125.5	127.0		
127.0	131.75	83	3f	Sc	Dark grey fine grained sandstone	Minor pyrite bands parallel to bedding. Bedding 60° to c/A. possible minor ~~albite~~ sericite alteration.	96	127.0	128.1		
							97	128.1	130.4		
							98	130.4	131.75		

69558

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 5

TENEMENT NAME Professor Range No. 69

365944E

CO-ORDINATES 5351907N AZIMUTH 50° DRILLERS DDTAS COMMENCED 19·7·95 DEPTH 274m HOLE No. ZR104

PLAN – MAP REFERENCE

RL COLLAR INCLINATION DRILL TYPE U650 COMPLETED CASING LEFT DPO No(s)

DEPTH From (M)	DEPTH To(M)	Core Rec. %	RQD %	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....) REC (mm)	REC (%)	REC (m)	REC (%)
131·75	132·8	80	28×	Sc	Mixed patchily ? rotted sandstone with breccia/clay zones crone cutting stratigraphy		99	131·75	132·8		1120	113·5	1·5	100
											113·5	114·6	1·0	90
											114·6	115·5	0·6	67
											115·5	117·2	1·7	100
132·8	141·3	100	1×	Sc	Black ? rotted siltstone/sandstone with shale/clay zones, ; vuggy appearance. Sheared surfaces. One light grey sandstone bands.	One blob (<1cm) of pyrite. More! ?blue clay veining can be seen with pyrite (? galena) ie 138·5 – 141·0m.	546530c	132·8	135·0		1172	119·5	1·3	100
							546850	135·0	136·5		118·5	120·0	0·6	40
							2	136·5	138·0		120·0	121·5	0·3	20
							3	138·0	139·5		121·5	122·5	0·6	40
							4	139·5	141·3		122·5	123·25	0·75	50
											123·25	124·25	0·7	70
141·3	141·5	100	5×	Sc	Sheared zone.	60° t c/A ? bedding parallel.					124·25	125·50	1·25	88
											125·5	127·0	1·5	100
141·5	142·9	100	3f	Sc	Dark grey/black siltstone locally broken core.		5	141·3	142·9		127·0	128·1	1·1	100
											128·1	129·0	0·9	100
											129·0	130·4	1·4	100
142·9	148·6	88	4f	Sc	Interbedded grey + dark grey med + fine grained sandstone locally broken core due to shearing	Bedding 65° t c/A. Shearing sub parallel t c/A	6	142·9	145·5		130·4	131·75	1·1	80
							7	145·5	148·6		131·75	133·5	1·5	84
											133·5	135·0	1·5	100
											135·0	136·5	1·5	100
											136·5	138·0	1·5	100
148·6	150·9	78	5×	Sc	Fine grained grey sandstone /siltstone. Broken core with clay zones.	clay gouge 15° t c/A.	8	148·6	150·9		138·0	139·5	1·5	100
											139·5	141·0	1·5	100
											141·0	142·5	1·5	100
											142·5	144·0	1·5	100
150·9	152·5	25	5	Sc	Dk grey clay – wet + sloppy.		9	150·9	152·5		144·0	145·5	1·5	100
											145·5	146·75	1·25	100
152·5	156·9	90	1	Qgud	Grey non-calcareous & altered limestone; Mixed micritic and calcarenite; locally bioclastic and argillaceous. Argillite mainly as interstitial fill.	?Dolomite (or siderite) alteration	510	152·5	154·5		146·75	147·5	0·5	67
							11	154·5	156·9		147·5	148·5	6·8	90
											148·5	149·9	1·0	70
											149·9	150·7	0·7	87
											150·7	152·5	6·45	25

69059

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 6

TENEMENT NAME PROFESSOR RANGE No. 0F9

365744E

CO-ORDINATES 5351907N AZIMUTH 50° DRILLERS DDTAS COMMENCED 19.7.95 PLAN – MAP REFERENCE

RL COLLAR INCLINATION DRILL TYPE 4650 COMPLETED DEPTH 274 HOLE No. ZR104

CASING LEFT DPO No(s)

DEPTH From (M)	DEPTH To (M)	Core Rec. %	RQD DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....) Rec (From)	Rec (To)	Rec (m)	Rec (%)
156.9	160.5	67	5	Qgdd	Dark grey/black clay - shear zone.	? possible sideritic alteration	5468512	156.9	159.0		152.5	153.5	0.6	60
							13	159.0	160.5		153.5	154.5	1.0	100
											154.5	156.0	1.5	100
160.5	165.3	100	2	Qgd	Dark grey dolomite - fault altered	? possible sideritic alteration	14	160.5	162.0		156.0	157.5	1.5	100
						shear plane 15° to c/A	15	162.0	163.5		157.5	159.0	0.45	30
							16	163.5	1653		159.0	160.5	1.20	80
165.3	168.0	100	5	Qgfz	Shear zone - brecciated dolomite clasts in dark grey clays	minor dissemination of pyrite	17	165.3	166.5		160.5	162.0	1.50	100
						shear fabric 65-70° to c/A.	18	166.5	169.0		162.0	163.5	1.5	100
						locally more abundant	19	167.0	168.0		163.5	165.0	1.5	100
											165.0	166.5	1.5	100
168.0	171.0	73	4	Qgd	Faulted dolomite	weakly calcareous + minor veining	20	168.0	169.7		166.5	169.0	1.5	100
							21	169.7	171.0		168.0	169.7	0.3	20
171.0	172.0	70	5	Qgfz	Fault zone/breccia.						169.7	171.0	1.0	77
							22	171.0	172.0		171.0	172.0	0.7	70
172.0	173.8	88	3	Qgd	Well dolomitised fine grained calcarenite with minor argillaceous zones + interstitial fill - Syn sed breccia @ 173.4m.	Small dol breccia vein 65° c/A					172.0	173.5	1.5	100
						5cm wide with ? sphalerite	23	172.0	173.5		173.5	175.0	1.2	80
						and minor pyrite. @ 173.7m.	24	173.5	174.0		175.0	176.5	1.5	100
						Bedding 65° to c/A. Different angle to vein.	25	174.0	175.5		176.5	177.8	1.3	100
											177.8	179.4	1.6	100
											179.4	181.0	1.6	100.
173.8	177.0	91	3	Qgd	Dolomitised clean calcarenite possibly a micrite (laminated unit) - well bedded in places	Bedding 65° to c/A.	26	175	177.0		181.0	182.5	1.5	100
											182.5	184.0	1.5	100
											184.0	185.6	1.6	100
											185.6	187.2	1.6	100
177.0	178.2	100	2	Qgd	Coarsely bioclastic dolomitised calcarenite	Laminated pyrite zone at base (0.5cm)	27	177.0	177.2		187.2	188.7	1.5	100
											188.7	190.3	1.6	100
											190.3	191.8	1.5	100
178.2	187.2	100	3	Qgd	Dolomitised fine grained calcarenite ?bioclasts small + fine grained.	Occ minor dissem of pyrite blebs	28	178.2	179.4		191.8	193.4	1.6	100
						Occ vugs	29	179.4	181.0		193.4	194.9	1.5	100
							30	181.0	182.5		194.9	195.6	0.7	100
							31	182.5	184.0		195.6	196.5	0.9	100

695060

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 7 of 9

TENEMENT NAME PROFESSOR RANGE No.

PLAN – MAP REFERENCE

CO-ORDINATES 365944 E 5351907 N AZIMUTH 50° DRILLERS DD TAS COMMENCED 19.7.95 DEPTH 274 m HOLE No. ZR104

RL COLLAR INCLINATION DRILL TYPE U650 COMPLETED CASING LEFT DPO No(s)

DEPTH From (M)	DEPTH To(M)	Core Rec. %	RQD %	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....) Rec (from)	Rec (to)	Rec (m)	Rec %
187.2	201.0	100	2	Qgwd	?more bioturbated/nodular unit – dolomitised with increase in amounts of argillite.	occ dolomite vein. Possible minor pyrite and sphalerite in veins	5468532	184.0	185.6					
							33	185.6	187.2		186.5	198.0	1.5	100
							34	187.2	188.7		198.0	199.5	1.5	100
							35	188.7	190.3		199.5	201.0	1.5	100
							36	190.3	191.8		201.0	202.5	1.5	100
201.0	210.0	100	2	Qgwd	Zone of more fine scale veining/brecciation in fine grained dolomitised calcarenite.	Bedding 204.5m 70° to c/A minor blebs of sphalerite @ 201.4 – 201.6m.	37	191.8	193.4		202.5	204.0	1.5	100
							38	193.4	194.9		204.0	205.5	1.5	100
							39	194.9	196.5		205.5	207.0	1.5	100
							40	196.5	198.0		207.0	208.5	1.5	100
							41	198.0	199.5		208.5	210.0	1.5	100
210.0	214.0	100	2	Qgwd	Zone of increased dolomite veining 50° to c/A; dolomitised calcarenite		42	199.5	201.0		210.0	211.5	1.5	100
							43	201.0	202.5		211.5	213.0	1.5	100
							44	202.5	204.0		213.0	214.5	1.5	100
							45	204.0	205.5		214.5	216.0	1.5	100
											216.0	217.5	1.5	100
214	217.8	100	2	Qgwd	Almost a breccia – fine scale dolomite veining + fracturing ?stockwork	Minor diffuse sphalerite associated mainly with veining V. minor pyrite	46	205.5	207.0		217.5	218.6	1.1	100
							47	207.0	208.5		218.6	219.3	0.5	55
							48	208.5	210.0		219.3	220.5	1.2	100
							49	210.0	211.5		220.5	222.0	1.5	100
217.8	218.1	100	5	Qgwd	Fractured + veining zone	Blebs of sphalerite	50	211.5	213.0		222.0	223.5	1.5	100
							51	213.0	214.5		223.5	225.0	1.5	100
218.1	220.9	90	3	Qgwd	Alteration/fractured zone localised calcite/dolomite vein brecciation	Minor veinlets of pyrite light grey cal/dol alteration patches.	52	214.5	216.0		225.0	226.5	1.5	100
							53	216.0	217.8		226.5	228.0	1.5	100
						Note no sphalerite	54	217.8	218.1		228.0	229.5	1.2	80
							55	218.1	219.3		229.5	231	1.5	100
220.9	225.2	100	2	Qgwd	Med/fine grained dark grey dolomitised calcarenite with argillaceous bands (beds? or stylocumulates); extensively dolomitised	65° to c/A ?bedding. Minor calcite dominant cal/dol veining	56	219.3	220.5		231	232.5	1.5	100
							57	220.5	222.0		234.0	234.0	1.5	100
							58	222.0	223.5		234	235.5	1.5	100
							59	223.5	225.0		235.5	237.0	1.5	100
							60	225.0	226.5		237.0	238.5	1.5	100
							61	226.5	228.0		238.5	240.0	1.5	100
							62	228.0	229.5		240.0	241.5	1.5	100

69501

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 8 of 9

TENEMENT NAME PROFESSOR RANGE No.

365944 E

CO-ORDINATES 5351907 N AZIMUTH 50° DRILLERS DDTAS COMMENCED 19.7.95 DEPTH 274 HOLE No. ZR104

RL COLLAR INCLINATION DRILL TYPE 4650 COMPLETED CASING LEFT DPO No(s)

DEPTH From (M)	DEPTH To (M)	Core Rec %	RQD	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by) Rec (from)	Rec (to)	Rec (m)	Rec (%)
225.2	231	100	3	Qgud	Dolomitised fine grained micritic calcarenite ?with bird's eyes and or biodasts some argillaceous material locally well fractured and broken core ?fault zone.	Significant increase in small scale veining becoming locally stockwork - calcite veining; small amount of semi massive pyrite at 226.4 m.	64 5468	229.5	231.0			241.5	243.0	1.5	100
							65	231.0	232.5			243.0	244.5	1.5	100
							66	232.5	234.0			244.5	246.0	1.5	100
							67 68	234.0	235.5			246.0	247.5	1.5	100
							69	235.5	237.0			247.5	249.0	1.5	100
							69	237.0	238.5			249.0	250.5	1.5	100
							70	238.5	240.0			250.5	252.0	1.5	100
231.0	235.5	100	1	Qgud	Dark grey fine grained partially dolomitised ?argillaceous calcarenite ?siltstone transition? localised zones of lighter grey material; occ thin rubbly beds eg 235.55 locally extensively dolomitised	Thin calcite veinlets abundant						252.0	253.5	1.5	100
												253.5	255.0	1.5	100
												255.0	256.5	1.5	100
												256.5	258.0	1.5	100
												258.0	259.5	1.5	100
												259.5	260.8	1.3	100
												260.8	261.6	0.7	58
												261.6	262.5	0.8	72
												262.5	264.0	1.5	100
235.5	244.6	100	1	Qgud	Dolomitised mixed argillaceous calcarenite; ?minor ?zoned brecciation	Thin calcite stringer veins.	71	240.0	241.5			264.0	265.1	1.1	100
							72	241.5	243.0			265.1	266.7	1.6	100
							73	243.0	244.5			266.7	268.2	1.5	100
								244.5				268.2	269.8	1.6	100
244.5	245.1	100	1	Qgud Qfg	Shear zone - brecciated dolomite Shear 45° to c/A; abundant calcite/dolomite veining	minor scattered blebs + stringers of sphalerite. Graphitic surfaces.	74	244.5	245.1			269.8	271.4	1.6	100
												271.4	272.5	1.1	100
												272.5	274.0	1.5	100
245.1	250.25	100	2	Qgud	Dolomitised dark grey ?argillaceous calcarenite; small scale carbonate breccia zones.	minor scattered pyrite blebs.	75	245.1	246.0						
						calcdol stringer veining	76	246.0	247.5						
						Rare sphalerite blebs.	77	247.5	249.						
						Laminated pyrite zone @ 249.8m 2cm with minor sphalerite (+?galena)	78	249	250.25						

69506

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 9

TENEMENT NAME PROFESSOR RANGE No. of 9

356944 E

PLAN – MAP REFERENCE

CO-ORDINATES 5351907 N AZIMUTH 50° DRILLERS DDTAS COMMENCED 19.7.95 DEPTH 274 m HOLE No. ZR 104

RL COLLAR INCLINATION DRILL TYPE U650 COMPLETED CASING LEFT DPO No(s)

DEPTH From (M)	DEPTH To(M)	Core Rec.	RQD DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)
250.25	250.5	100	4	Oqud	Sheared dolomite zone	Disseminated blebs of pyrite with occ disseminated blebs of sphalerite.	546879	250.25	250.5		
250.5	255	100	2	Oqud	Dark grey dolomitised calcarenite minor argillite	@ 257.85 2cm Disseminated sphalerite and galena zone ?in carbonate ?breccia also @ 252.5m	80	250.5	251.875		
							81	251.75	252.75		
							82	252.75	255.0		
255	257.6	100	2	Oqud	Zone of calcite stringer veining lighter grey hydrothermic dolomitised calcarenite zones of vein brecciation		83	255.0	257.6		
257.6	~~259.8~~ 259.5	100	1	Oqud	Dark grey dolomitised calcarenite uniform-looking Broken core - ?faulted from 259.8m.	Minor pyrite blebs.	84	257.6	259.8		
259.8	262.5	80	4	Oqud	Brecciated dolomitised calcarenite broken core locally.	Minor cal/dol veining	85	259.8	261.6		
							86	261.6	264.0		
262.5	274.0	100	2	Oqud	Grey dolomitised fine grained calcarenite with bioclast zones ~~and~~ Occ stylocumulates Zones of localised brecciation -?fault related	Zones of veining including stringer veins; cal/dol veins Occ cleavage developed rare sphalerite blebs Irregular <1cm cal/dol veining	87	264.0	266.7		
							88	266.7	268.2		
							89	268.2	269.8		
							90	269.8	271.4		
							91	271.4	274.0		
					END OF HOLE	274.0m.					

69563

			77391	Ag	Al	As	Ba	Ca	Cu	Fe	K	Mg	Mn	Pb	Zn	S
ZR104	21	22.5	5465274	-0.5	0.14	5	10	-0.1	7	0.37	-0.05	0.02	13	12	15	
ZR104	32	33.5	5465275	-0.5	5.36	-5	306	-0.1	-5	0.88	2.59	0.31	-10	-10	21	
ZR104	37.5	39	5465276	-0.5	4.58	8	226	-0.1	21	1.3	2.16	0.26	-10	18	42	
ZR104	48	49.5	5465277	-0.5	2.02	7	169	-0.1	7	0.62	0.92	0.09	16	-10	19	
ZR104	63	64.5	5465278	-0.5	1.8	-5	150	0.11	-5	0.69	0.82	0.09	17	-10	22	
ZR104	75	76.5	5465279	-0.5	4.78	8	350	0.28	-5	0.91	2.33	0.27	19	-10	45	
ZR104	81	82.5	5465280	0.5	3.53	-5	237	0.63	8	1.28	1.55	0.17	17	-10	59	
ZR104	85.5	87	5465281	-0.5	3.41	7	223	0.08	36	0.61	1.77	0.18	21	10	26	
ZR104	91.5	93	5465282	-0.5	5.6	-5	321	0.19	28	0.71	2.3	0.25	-10	16	89	
ZR104	97	98.5	5465283	-0.5	7.35	13	554	0.22	18	2.11	3.47	0.56	214	15	68	
ZR104	105	106.6	5465284	-0.5	5.54	8	411	0.36	13	0.98	2.55	0.32	11	17	37	
ZR104	109.7	112	5465285	-0.5	5.86	48	386	0.11	20	1.97	2.65	0.4	18	35	50	
ZR104	112	113.5	5465286	-0.5	6.51	11	428	-0.1	17	1.5	2.94	0.43	17	87	107	
ZR104	113.5	115.5	5465287	-0.5	6.61	53	432	0.13	21	2.59	3.17	0.46	15	255	399	
ZR104	115.5	117.2	5465288	-0.5	7.96	44	487	0.45	21	2.43	3.93	0.57	-10	71	274	
ZR104	117.2	118.5	5465289	-0.5	7.96	58	509	0.9	29	2.49	4.11	0.63	-10	53	275	
ZR104	118.5	120	5465290	-0.5	4.5	58	279	1.84	17	2	2.23	0.35	-10	61	165	
ZR104	120	121.5	5465291	-0.5	2.29	72	115	4.55	22	2.22	1.05	0.16	11	238	191	
ZR104	121.5	122.5	5465292	-0.5	3.17	37	174	1.03	18	2.12	1.44	0.29	-10	28	61	
ZR104	122.5	124.25	5465293	1	3.01	13	173	0.24	8	0.84	1.36	0.24	-10	15	47	
ZR104	124.25	125.5	5465294	-0.5	3.72	13	223	0.17	11	0.76	1.69	0.27	-10	33	39	
ZR104	125.5	127	5465295	-0.5	4.62	22	293	0.17	10	0.89	2.09	0.32	10	17	27	
ZR104	127	128.1	5465296	0.5	7.98	15	560	0.44	25	1.38	4.09	0.72	34	25	38	
ZR104	128.1	130.4	5465297	-0.5	7.81	19	534	2.36	13	2.77	3.93	1.43	308	18	37	
ZR104	130.4	131.75	5465298	-0.5	8.95	14	615	3.02	15	2.63	4.49	1.75	231	-10	24	
ZR104	131.75	132.8	5465299	-0.5	5.55	72	312	2.97	8	2.84	2.68	1.7	451	49	260	
ZR104	132.8	135	5465300	-0.5	5.47	40	295	0.71	11	7.6	2.67	0.63	1610	45	125	
ZR104	135	136.5	5468501	0.7	4.85	22	264	0.44	10	7.54	2.39	0.44	1710	31	82	
ZR104	136.5	138	5468502	-0.5	6.01	34	324	0.51	13	9.1	3.08	0.57	2000	34	49	
ZR104	138	139.5	5468503	-0.5	5.71	22	317	0.52	16	8.89	3.02	0.56	1890	31	40	
ZR104	139.5	141.3	5468504	-0.5	4.91	32	236	0.7	15	6.03	2.45	0.56	1240	37	190	
ZR104	141.3	142.9	5468505	-0.5	4.48	42	195	0.66	20	2.35	2.08	0.62	259	74	206	
ZR104	142.9	145.5	5468506	-0.5	2.13	10	95	0.08	9	0.75	1.01	0.15	20	34	178	
ZR104	145.5	148.6	5468507	-0.5	1.04	-5	43	0.06	6	0.62	0.49	0.08	19	11	169	
ZR104	148.6	150.9	5468508	-0.5	5.84	22	317	0.12	17	1.66	2.77	0.42	22	53	234	

ZR104	150.9	152.5	5468509	-0.5	5.39	22	259	2.21	12	2.11	2.57	1.56	74	38	316	
ZR104	152.5	154.5	5468510	-0.5	3.36	24	141	9.8	-5	2.48	1.66	5.65	428	29	54	
ZR104	154.5	156.9	5468511	-0.5	3.27	18	137	9.79	-5	2.44	1.56	5.58	470	21	54	
ZR104	156.9	159	5468512	-0.5	5.38	41	207	3.61	8	3.74	2.59	2.4	664	56	317	
ZR104	159	160.5	5468513	-0.5	7.31	43	383	0.45	17	3.44	3.93	0.75	152	52	259	
ZR104	160.5	162	5468514	-0.5	8.35	46	521	0.39	22	2.05	4.56	0.82	35	15	45	
ZR104	162	163.5	5468515	-0.5	7.99	20	482	3.44	19	3.24	4.06	2.21	492	10	38	
ZR104	163.5	165.3	5468516	-0.5	6.95	7	400	2.35	15	3.93	3.5	1.56	718	18	71	
ZR104	165.3	166.5	5468517	-0.5	7.22	19	391	0.49	17	3.93	3.63	0.66	536	26	381	
ZR104	166.5	167	5468518	0.7	6.05	21	414	0.17	24	3.71	4.06	0.54	299	30	130	
ZR104	167	168	5468519	0.6	4.89	100	309	0.51	29	5.87	3.37	0.58	55	194	383	
ZR104	168	169.7	5468520	0.8	1.18	15	56	15.4	-5	1.08	0.53	8.29	303	30	116	
ZR104	169.7	171	5468521	1.2	1.42	-5	56	15.6	-5	1.27	0.55	8.42	290	564	208	
ZR104	171	172	5468522	-0.5	2.37	26	104	6.58	-5	1.63	0.85	3.59	166	90	56	
ZR104	172	173.5	5468523	-0.5	2.69	14	138	11.2	-5	1.66	1.13	5.94	251	23	65	
ZR104	173.5	174	5468524	1	2.31	26	96	4.35	-5	1.43	0.69	2.38	140	56	71	
ZR104	174	175.5	5468525	-0.5	1.42	-5	99	13.5	11	0.9	0.55	7.13	235	15	9	
ZR104	175.5	177	5468526	-0.5	1.08	-5	75	10.7	-5	0.96	0.36	5.75	221	22	28	
ZR104	177	178.2	5468527	2	1.2	6	70	18.9	21	0.99	0.51	10.2	261	446	145	
ZR104	178.2	179.4	5468528	-0.5	1.52	11	68	19.1	21	1.16	0.67	10.3	278	20	55	
ZR104	179.4	181	5468529	-0.5	1.08	-5	48	20.7	8	0.76	0.49	10.3	243	12	8	
ZR104	181	182.5	5468530	-0.5	1.16	-5	57	19.2	8	1.09	0.53	10	301	15	10	
ZR104	182.5	184	5468531	0.8	1.02	-5	51	20.5	13	1.02	0.47	10.9	241	16	101	
ZR104	184	185.6	5468532	-0.5	1.36	12	58	19.2	-5	1.05	0.63	9.92	235	17	19	
ZR104	185.6	187.2	5468533	-0.5	1.37	9	59	21.2	-5	0.93	0.64	11.2	248	13	99	
ZR104	187.2	188.7	5468534	-0.5	1.26	19	43	21.8	6	1.13	0.57	11.4	240	28	-5	
ZR104	188.7	190.3	5468535	-0.5	1.63	9	55	20.3	-5	1.14	0.71	10.6	257	20	-5	
ZR104	190.3	191.8	5468536	-0.5	1.28	-5	49	21.7	-5	0.95	0.57	10.9	234	16	103	
ZR104	191.8	193.4	5468537	-0.5	1.52	12	85	20.5	41	1.09	0.69	10.6	233	19	15	
ZR104	193.4	194.9	5468538	-0.5	2.24	-5	103	19	-5	1.18	1.03	9.77	231	13	-5	
ZR104	194.9	196.5	5468539	-0.5	1.79	17	84	20.7	-5	1.11	0.85	10.6	266	-10	-5	
ZR104	196.5	198	5468540	-0.5	1.54	12	63	21	-5	1.24	0.73	10.9	271	17	5	
ZR104	198	199.5	5468541	-0.5	2.41	-5	88	21	-5	1.44	1.09	10.6	355	19	43	
ZR104	199.5	201	5468542	-0.5	1.82	-5	70	21.2	-5	1.22	0.83	10.9	352	13	9	
ZR104	201	202.5	5468543	-0.5	1.81	12	71	20.9	-5	1.35	0.81	10.4	327	22	18	
ZR104	202.5	204	5468544	-0.5	1.41	9	61	19.7	-5	0.88	0.63	9.56	196	15	14	

ZR104	204	205.5	5468545	-0.5	1.16	10	64	19	-5	0.89	0.54	9.66	219	10	-5	
ZR104	205.5	207	5468546	-0.5	0.98	-5	60	19.9	-5	0.97	0.44	10.1	189	62	174	
ZR104	207	208.5	5468547	-0.5	0.68	-5	44	21.2	-5	0.65	0.32	11.2	159	51	296	
ZR104	208.5	210	5468548	-0.5	0.72	10	56	22.1	-5	0.99	0.34	11.9	297	90	338	
ZR104	210	211.5	5468549	-0.5	0.71	-5	58	20.5	-5	0.76	0.32	10.5	303	131	789	
ZR104	211.5	213	5468550	-0.5	0.91	15	72	19	-5	0.8	0.39	9.68	245	420	289	
ZR104	213	214.5	5468551	-0.5	0.87	8	52	19.5	-5	0.88	0.38	10.4	374	176	267	
ZR104	214.5	216	5468552	1.1	0.97	10	64	20.9	-5	0.86	0.4	10.8	266	176	667	
ZR104	216	217.8	5468553	1.5	0.74	-5	48	20.2	-5	1.23	0.29	10.3	573	624	1640	
ZR104	217.8	218.1	5468555	4.6	0.81	18	44	19.7	-5	1.75	0.22	10.7	1310	2380	8200	-0.09
ZR104	218.1	219.3	5468556	0.5	0.36	-5	24	21	-5	0.49	0.15	11	219	160	269	
ZR104	219.3	220.5	5468557	-0.5	0.96	10	47	20.4	-5	0.77	0.39	10.1	153	27	58	
ZR104	220.5	222	5468558	-0.5	0.71	6	38	23.2	-5	0.74	0.29	10.9	194	234	142	
ZR104	222	223.5	5468559	4.2	1.06	-5	56	21.8	-5	0.86	0.43	9.53	183	892	349	
ZR104	223.5	225	5468560	5.3	0.95	15	53	20.2	-5	0.73	0.39	8.67	165	1650	202	
ZR104	225	226.5	5468561	2.8	0.56	-5	33	21.1	-5	0.88	0.22	9.74	168	548	253	
ZR104	226.5	228	5468562	3.9	0.31	7	16	23.6	10	0.64	0.09	10.4	210	1720	542	
ZR104	228	229.5	5468563	1.6	0.52	6	22	25	10	0.81	0.18	9.67	251	276	807	
ZR104	229.5	231	5468564	-0.5	0.53	13	24	26.2	7	0.55	0.2	10.5	180	33	150	
ZR104	231	232.5	5468565	1.2	0.92	34	44	23.3	5	0.68	0.42	10.3	189	145	235	
ZR104	232.5	234	5468566	0.9	0.92	-5	48	23.2	-5	0.68	0.42	9.55	168	36	87	
ZR104	234	235.5	5468567	-0.5	1.09	29	57	22.6	-5	0.81	0.5	9.27	181	144	489	
ZR104	235.5	237	5468568	0.7	0.25	-5	13	25.6	8	0.38	0.11	12.2	194	14	133	
ZR104	237	238.5	5468569	1.1	0.21	15	10	25.6	5	0.43	0.09	12.1	207	-10	28	
ZR104	238.5	240	5468570	-0.5	0.33	-5	17	23.1	7	0.48	0.13	10.6	176	44	110	
ZR104	240	241.5	5468571	0.9	1.37	13	73	22.9	8	0.76	0.65	9.91	173	161	716	
ZR104	241.5	243	5468572	0.7	1.36	-5	69	21.7	9	0.78	0.65	9.81	226	55	230	
ZR104	243	244.5	5468573	-0.5	1.06	16	77	23.3	8	0.82	0.51	10.2	239	114	522	
ZR104	244.5	245.1	5468574	1.9	1.02	17	69	28.5	10	1.16	0.43	9.05	334	431	892	
ZR104	245.1	246	5468575	-0.5	0.25	-5	18	23.2	-5	0.45	0.1	10.5	188	31	57	
ZR104	246	247.5	5468576	-0.5	0.6	-5	43	21.2	5	0.64	0.27	9.93	184	29	148	
ZR104	247.5	249	5468577	-0.5	0.9	16	56	19.5	-5	0.64	0.43	8.95	163	55	160	
ZR104	249	250.25	5468578	1.6	0.9	12	58	22	15	0.85	0.41	10.2	211	325	688	
ZR104	250.25	250.5	5468579	2.5	0.95	21	76	20.6	7	1.26	0.43	8.37	232	464	743	
ZR104	250.5	251.75	5468580	0.7	0.81	24	56	21.4	9	0.74	0.36	9.37	237	315	855	
ZR104	251.75	252.75	5468581	2.7	1.07	9	66	21.6	12	0.76	0.51	9.62	235	563	1010	

ZR104	252.75	255	5468582	-0.5	1.24	6	90	24.1	12	0.67	0.61	10.9	203	11	35	
ZR104	255	257.6	5468583	1.7	0.85	16	71	22.3	29	0.72	0.39	10.1	204	456	226	
ZR104	257.6	259.8	5468584	-0.5	1.59	24	140	18.7	9	0.83	0.79	9.05	200	59	76	
ZR104	259.8	261.6	5468585	1.3	0.97	8	80	20.4	-5	0.56	0.47	8.93	202	177	265	
ZR104	261.6	264	5468586	-0.5	1.85	-5	188	17.9	5	1.02	0.88	8.41	215	201	286	
ZR104	264	266.7	5468587	-0.5	2.08	18	214	18.8	10	0.95	1.04	9.4	192	21	60	
ZR104	266.7	268.2	5468588	-0.5	0.66	27	68	22.4	28	0.54	0.31	9	176	-10	24	
ZR104	268.2	269.8	5468589	-0.5	0.82	6	76	21.1	30	0.48	0.4	9.71	137	15	48	
ZR104	269.8	272.2	5468590	-0.5	0.81	14	70	22	28	0.44	0.4	10.2	139	-10	32	
ZR104	272.2	274	5468591	-0.5	1	-5	79	24.4	47	0.57	0.49	9.34	184	14	39	

Appendix VI

Professor Range Wacker Samplings Logs and Results

Sample No	AMG East	Amg North	DPO No	Sample Type	Prospect	Licence	Local E	Local N	Depth	Bedrock	MRT Lith	Field ID	Texture	Alt/Min	Colour	Comments
4138379	367149	5350538	77681	WACKER	PROFESSOR RANGE	EL34/88	65050	49700	5.8	Y	Ogul	Sls			LG	
4138382	367275	5350457	77681	WACKER	PROFESSOR RANGE	EL34/88	65050	49550	5.7	Y	Ogul	SlsCcy	We		DG	Carbonaceous lst + clay
4138383	367233	5350484	77681	WACKER	PROFESSOR RANGE	EL34/88	65050	49600	16	Y	Ogul	Sls	Vc		G	
4138384	367191	5350511	77681	WACKER	PROFESSOR RANGE	EL34/88	65050	49650	2.8	Y	Ogul	Sls			G+DG	Carbonaceous lst
4138385	367136	5350518	77681	WACKER	PROFESSOR RANGE	EL34/88	65025	49700	5.2	N	Ogdc	Ccy			DG	Carbonaceous clay. No reaction with HCl.
4138386	367122	5350497	77681	WACKER	PROFESSOR RANGE	EL34/88	65000	49700	5.2	Y	Ogul	Sls			LG	
4138387	367068	5350413	77681	WACKER	PROFESSOR RANGE	EL34/88	64900	49700	4.5	N	Oha	Cg			LBK	
4138388	367040	5350371	77681	WACKER	PROFESSOR RANGE	EL34/88	64850	49700	2.8	N	Oha	Cg			B	
4138389	366911	5350723	77681	WACKER	PROFESSOR RANGE	EL34/88	65075	50000	14	Y	Ogud	Sdl	We		DG	
4138390	366898	5350702	77681	WACKER	PROFESSOR RANGE	EL34/88	65050	50000	3.4	Y	Ogud	Sdl	We		DG	
4138391	366880	5350685	77681	WACKER	PROFESSOR RANGE	EL34/88	65026	50006	12.8	Y?	Ogdc	Ccy	Ds	Sp	N	Carbonaceous clay with trace sp.
4138392	366861	5350669	77681	WACKER	PROFESSOR RANGE	EL34/88	65002	50013	5.9	Y	Ogud	Sdl	Ma		G	
4138393	366846	5350648	77681	WACKER	PROFESSOR RANGE	EL34/88	64977	50014	27	N	Oha	CgCcy			DG	Contamination only?
4138394	366831	5350629	77681	WACKER	PROFESSOR RANGE	EL34/88	64953	50016	19	Y	Ogsi	Ssl	We		W	
4138395	366822	5350606	77681	WACKER	PROFESSOR RANGE	EL34/88	64928	50011	14.5	Y	Ogul	Sls			MWG	
4138396	366824	5350574	77681	WACKER	PROFESSOR RANGE	EL34/88	64903	49992	1.5	N	Oha	Cg			LB	
4138397	366832	5350527	77681	WACKER	PROFESSOR RANGE	EL34/88	64867	44960	6.3	Y?	Ogdc	Ccy	Ds	SpPy	DGN	Carbonaceous clay with trace sp-py.
4138398	366810	5350497	77681	WACKER	PROFESSOR RANGE	EL34/88	64830	49962	27	Y	Ogul	Sls	Fe		MYG	Fe stained. Yellow ccy up hole - near Fault?

Sample No	AMG East	Amg North	Ag	Al	As	Ba	Ca	Cu	Fe	K	Mg	Mn	Pb	Zn
4138379	367149	5350536	1.8	1.96	-5	87	29.72	10	0.8	1.07	0.83	149	23	18
4138382	367275	5350457	1.1	6.73	-5	293	10.77	22	0.88	3.29	0.66	67	23	65
4138383	367233	5350484	1	1.49	-5	68	27.39	-5	0.62	0.77	0.77	95	-10	18
4138384	367191	5350511	-0.5	2.84	-5	140	18.13	7	1.9	1.52	4.37	204	-10	9
4138385	367136	5350518	-0.5	8.93	10	461	0.78	33	2.71	4.11	0.74	31	51	103
4138386	367122	5350497	2.2	1.94	-5	76	25.09	5	0.78	0.94	2.33	71	20	44
4138387	367068	5350413	-0.5	1.29	-5	59	-0.05	5	0.42	0.51	0.06	30	-10	-5
4138388	367040	5350371	0.5	0.91	-5	40	-0.05	-5	0.24	0.33	0.04	11	-10	5
4138389	366911	5350723	1.4	3.83	27	270	0.33	16	1.49	1.51	0.59	31	1630	2550
4138390	366898	5350702	1	2.06	14	176	15.66	7	1.27	1.08	8.86	212	307	280
4138391	366880	5350685	0.5	7.09	100	426	1.23	37	6.6	2.92	0.65	44	655	5800
4138392	366861	5350669	1.5	0.43	-5	31	20.3	-5	0.46	0.18	12.31	170	166	192
4138393	366846	5350648	-0.5	6.37	23	208	0.05	32	1.04	2.53	0.36	32	205	249
4138394	366831	5350629	0.8	8.9	10	508	0.05	10	0.37	3.91	0.49	14	39	9
4138395	366822	5350606	-0.5	4.1	11	272	18	10	1.55	2.02	1.44	106	15	101
4138396	366824	5350574	0.9	1.2	7	53	-0.05	7	0.34	0.49	0.06	11	-10	7
4138397	366832	5350527	0.9	7.19	30	312	-0.05	31	3.84	3.6	0.55	34	33	126
4138398	366810	5350497	1.5	2.06	7	85	23.15	6	4.17	1.07	0.83	2120	-10	32

Appendix VII

Baura DD95ZB1 and DD95ZB2 - Drill Logs

695072

CRA EXPLORATION PTY. LIMITED

DRILL-HOLE SUMMARY LOG

HOLE NAME: DD95ZB1 AMG EAST 362700 NORTH 5347556

PROSPECT: BAURA GRID EAST 62400 NORTH 46551

EL: ZEEHAN 2 EL34/88 RL DEPTH 55.1

DATE DRILLED: 18/4/95

LOGGED BY: S.J. TEAR

DRILLING CO.: DIAMOND DRILLING TAS.

DRILL TYPE: DIAMOND

DRILL RIG: U250

LOC DRILL CORE: ZEEHAN

SURVEYS: DEPTH	AZIM (AMG)	DIP	DEPTH	AZIM (AMG)	DIP
0	092°	60°			

OBJECTIVES OF HOLE:

DRILL TEST ZINC-RICH SIDERITE ALTERATION IN BEDROCK SAMPLES AT LOWER SANDSTONE/LIMESTONE CONTACT ADJACENT TO SYN-SEDIMENTARY FAULT

LITHOGICAL SUMMARY:

FROM	TO	FORM CODE	COMMENTS
0	7.5	Qha	Overburden
7.5	10.5	Ogdc	Dark grey clay Unit
10.5	25.5	Ogsd	Siderite Unit
25.5	29.8	Ogdc	Dark grey clay unit
29.8	39.95	Ogst	Silty Transition Unit
39.95	55.1	Om	Moina Sandstone

MINERALISATION SUMMARY:

FROM	TO	COMMENTS
15.5	27.5	0.37% Zn associated with pyrite blebs in a dark grey / black ?rotted limestone immediately overlying a black amorphous siltstone

CONCLUSIONS:

Drillhole encountered horizontal bedding (see DD95ZB2); Anomalous Zinc values are associated with weathered clays.

Graphic Log

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 1 of 3

TENEMENT NAME BAURA No.

362700E

CO-ORDINATES 5347556N AZIMUTH 092° DRILLERS DD TAS COMMENCED 18.4.95 DEPTH 55.1 HOLE No. ZB1

PLAN – MAP REFERENCE

RL COLLAR INCLINATION 60° DRILL TYPE U250 COMPLETED 21.4.95 CASING LEFT NONE DPO No(s)

DEPTH From (M)	DEPTH To(M)	Core Rec. %	RQD DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)
0	2.6	50	5x	Qha	Overburden - including peat and pink/white gravels. mainly Quen Conglomerate and Mairs Sandstone.						0 2.3 1.15 50 2.3 4.5 1.1 50 4.5 7.5 2.15 70 7.5 10.5 2.7 90 10.5 12.0 1.0 66 12.0 13.5 0.75 50 13.5 15.2 1.4 84 15.2 16.5 1.1 82
2.6	7.5	60	5	Qha	Light grey clay with variable rock fragments < 1cm in size						
7.5	10.5	90	5	Ogdc	DK grey/black/brown clay with a remnant fabric.		5465358	7.5	10.5		16.5 18.0 1.3 86 18.0 19.5 0.9 60 19.5 21.0 1.0 66
10.5	13.5	58	5	Ogsd	More competent clay/rock with localised zones of siderite eg 10.7m. DK grey/brown		5465357 5465360	10.5 12.0	12.0 13.5		21.0 22.5 0.75 50 22.5 24.0 1.1 70 24.0 25.5 1.2 80 25.5 27.0 1.2 80
13.5	14.0	84	5	Ogsd	Brown weathered limestone (vuggy+porous)	Minor pyrite blebs bedding 75° to c/A.	5465361	13.5	15.2		27.0 28.5 1.5 100 28.5 30.0 1.5 100 30.0 31.5 1.2 80
14.0	15.2	84	5	Ogsd	DK grey/black clay with rotted lmst fragments	Zones of dissem. blebs of pyrite.					31.5 33.0 1.5 100 33.0 34.5 1.5 100 34.5 36.0 1.5 100
15.2	16.5	82	5	Ogsd	It grey/brown weathered limestone - non calcareous; with clay zones.	Bedding 70° to c/A.	5465362	15.2	16.5		36.0 37.1 0.4 36 37.1 38.5 1.5 100 38.5 39.4 0.9 100 39.4 40.5 1.1 100
16.5	21.3	75	5	Ogsd	DK grey/brown clay with siderite	Bedding 70° to c/A.	5465363 5465364 5465365 5465366 5465367	16.5 18.0 19.5 20.7 21.3	18.0 19.5 20.7 21.3 23.0		40.5 42.0 1.5 100 42.0 42.8 0.8 100 42.8 43.3 0.4 80 43.3 44.1 0.7 100 44.1 45.1 1.0 100
21.3	21.4	100	5	Ogfc	Grey clay - possible fault zone/gouge.						45.1 46.5 0.8 56

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. ..... No. 2 of 4

TENEMENT NAME BAURA

PLAN – MAP REFERENCE .....

362700E

CO-ORDINATES 5347556N AZIMUTH 092° DRILLERS DDTAS COMMENCED 18.4.95 DEPTH 55.1m HOLE No. BZ51

RL COLLAR ..... INCLINATION 60° DRILL TYPE 4250 COMPLETED 21.4.95 CASING LEFT NONE DPO No(s) .....

DEPTH From (M)	DEPTH To(M)	Core Rec %	RQD DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by .....)
21.4	22.85	50	5	Ogdc	Dk grey/black non-calcareous fissile clay/?limestone	Variable bedding 75° to c/A 30° to c/A.					46.5 48.0 1.2 80
											48.0 49.5 1.5 100
											49.5 51.0 1.5 100
22.85	23.15	80	5	Ogsd	Vuggy siderite						51.0 52.5 1.5 100
											52.5 54.0 1.50 100
23.15	25.5	70	5	Ogsd	Dark grey/brown clay with vuggy siderite.		5465368	23.0	24.3		54 55.1 0 0
							5465369	24.3	25.5		
25.5	27.5	80	5	Ogdc	Dark grey clay (blackish) - rotted limestone? broken core	Blebs of pyrite	5465370	25.5	27.5		
27.5	29.8	100	4X	Ogdc	Dk grey/black non calcareous uniform - looking rotted siltstone ?limestone. ??dolomite		5465371	27.5	28.75		
							5465372	28.75	30.0		
29.8	30.0	100	3	Ogst	Siderite.						
30.0	32.1	90	3X	Ogst	Medium to coarse grained qtz clastic unit; clasts <0.5cm. Non-calcareous graded bedding in places	Pyrite replacement bands <3cm thick generally in coarser units at top + bottom of lithology bedding 65° to c/A. Cross cutting quartz veins with pyrite 30° to c/A. V. minor pink/red mineral.	5465373	30.0	31.5		
							5465374	31.5	33		
32.1	34.5	100	3	Ogst	Dk grey/grey weathered non-calcareous qtz sandstones (fine grained) and dblack shales well bedded; with minor clay zones	Pyrite in clay zones.	5465375	33	34.5		

69504

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. ..... No. 3 of 4

TENEMENT NAME BAURA

362700E

CO-ORDINATES 5347556N AZIMUTH 092° DRILLERS DDTFIS COMMENCED 18.4.95 DEPTH 55.1 m HOLE No. ZB1

PLAN – MAP REFERENCE .....

RL COLLAR ..... INCLINATION 60° DRILL TYPE 4250 COMPLETED 21.4.95 CASING LEFT NONE DPO No(s) .....

DEPTH From (M)	DEPTH To (M)	Core Rec. %	RQD	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by .....)
34.5	35.4	100	5	Ogst	Rotted ~~Limestone~~ Sandstone with siderite horizons.		5465376	34.5	36		
35.4	36	100	5	Ogst	Dark grey rotted black shale and qtz sandstone - locally sheared. Fault gouge at lower contact.	Bedding 45° to c/A. Localised blebs of pyrite.					
36	37.85	68	4x	Ogst	Med grained qtz sandstone and black shale inter-bedded/inter laminated - possible siderite alteration	Bedding 60° to c/A.	5465377	36	37.85		
37.85	39.95	100	3	Ogst	Well laminated qtz sandstone and black shale; sandstone often lensoid. A 10cm coarse sandstone band at 39.3m.	Sandstone band with pyrite.	5465378 5465379	37.85 39.1	39.1 40.35		
39.95	40.4	100	84	Om	Km gouge followed by grey fine grained sandstone.	Gouge bedding parallel @ 65°6 c/A					
40.4	43.0	96	3	Om	Rounded qtz clasts in qtz conglomerate ≤1cm well rounded shale or limestone clasts. Coarse 8cm unit a base - fining upwards.	Minor galena and chalcopyrite blebs; pyrite locally forms matrix of conglomerate. V. minor dark red sphalerite in qtz veins it brown ?hematite alteration; also localised zone of hematite alteration. Bedding at base 60°6 c/A.	5465380 5465381	40.35 41.35	41.35 43.0.		

695075

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. ..... of 4

TENEMENT NAME BAURA No. 4 of 4

PLAN – MAP REFERENCE .....

362700E

CO-ORDINATES 5347556N AZIMUTH 092° DRILLERS DDTAS COMMENCED 18.4.95 DEPTH 55.1m HOLE No. ZB1

RL COLLAR ..... INCLINATION 60° DRILL TYPE U250 COMPLETED 21.4.95 CASING LEFT NONE DPO No(s) .....

DEPTH From (M)	DEPTH To(M)	Core Rec %	RQD DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)
43	51.7	87	3x	OM	White silicic quartzite; fractured	@ 48m bedding 70° to c/A. @ 51m " 65° to c/A.					
51.7	55.1	60	3x	OM	Red silicic crystalline quartzite - fractured in places	Bedding 60° to c/A. faulted upper contact 45° to c/A.					

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695077

				Ag	Al	As	Ba	Ca	Cu	Fe	K	Mg	Mn	Pb	Zn
ZB1	7.5	10.5	5465358	-.5	3.16	100	276	.68	24	2.96	3.74	.43	70	970	2350
ZB1	10.5	12	5465359	-.5	5.69	54	194	3.71	14	26.4	1.42	.31	9330	1140	1860
ZB1	12	13.5	5465360	-.5	4.91	21	176	2.08	16	22.3	1.93	.4	8850	457	1090
ZB1	13.5	15.2	5465361	-.5	4.85	87	144	1.82	10	20.4	1.54	.35	8300	286	579
ZB1	15.2	16.5	5465362	-.5	4.62	-5	120	1.63	7	26.9	1.22	.26	11500	35	195
ZB1	16.5	18	5465363	-.5	4.16	-5	121	1.62	7	24.6	1.18	.26	10400	33	266
ZB1	18	19.5	5465364	-.5	4.14	-5	164	1.46	21	21.3	1.81	.35	8020	71	461
ZB1	19.5	20.7	5465365	-.5	5.2	25	162	1.65	8	26.3	1.32	.31	9620	50	355
ZB1	20.7	21.3	5465366	-.5	2.71	-5	92	1.86	10	34.7	.55	.19	10300	17	126
ZB1	21.3	23	5465367	-.5	5.35	17	195	.44	13	8.03	2.04	.26	2210	58	300
ZB1	23	24.3	5465368	-.5	4.83	-5	150	1.63	6	27.3	1.36	.28	9370	19	200
ZB1	24.3	25.5	5465369	-.5	5.34	41	234	1.02	14	13.5	2.63	.38	3920	69	933
ZB1	25.5	27.5	5465370	-.5	4.34	38	266	.17	17	3.71	3.13	.4	389	136	3680
ZB1	27.5	28.75	5465371	-.5	2.71	33	295	.06	19	1.73	3.33	.42	42	37	393
ZB1	28.75	30	5465372	-.5	3.35	11	271	.17	13	7.73	3.45	.41	3040	23	348
ZB1	30	31.5	5465373	-.5	2.96	51	114	.06	17	2.51	1.27	.15	59	54	542
ZB1	31.5	33	5465374	-.5	3.35	21	157	.12	23	2.52	1.93	.26	511	33	274
ZB1	33	34.5	5465375	-.5	5.88	24	282	.15	18	4.1	3.67	.52	1090	32	160
ZB1	34.5	36	5465376	-.5	5.39	31	200	.36	16	11.9	2.78	.52	4800	30	214
ZB1	36	37.85	5465377	-.5	4.81	31	107	.43	13	21.8	1.35	.28	11700	24	267
ZB1	37.85	39.1	5465378	-.5	5.2	38	191	.28	29	5.98	2.67	.51	2270	47	230
ZB1	39.1	40.35	5465379	-.5	4.46	33	136	.3	56	4.75	1.9	.39	1780	339	572
ZB1	40.35	41.35	5465380	-.5	2.08	28	64	1.21	16	3.59	.54	.18	1380	70	234
ZB1	41.35	43	5465381	-.5	2.36	36	78	1.09	22	1.45	.78	.11	80	88	101
ZB2	3.2	3.5	5465382	-.5	.49	-5	22	23.9	9	3.7	.11	11.6	1580	43	338
ZB2	3.5	7.5	5465383	-.5	5.43	7	99	18	9	7.3	1.27	7.84	2630	90	533
ZB2	7.5	9	5465384	-.5	5.28	27	126	7.46	11	24.7	1.31	2.22	9100	264	700
ZB2	9	10.5	5465385	-.5	.32	-5	9	23.4	-5	3.06	.08	11.7	1220	119	135
ZB2	10.5	12	5465386	-.5	4.57	307	213	5.85	12	15.4	2.94	2.16	2440	316	401
ZB2	12	13.5	5465387	-.5	1.74	-5	89	6.81	-5	31.6	.47	1.53	15000	678	402
ZB2	13.5	14.6	5465388	-.5	6.57	8	156	8.11	10	18.9	1.66	3.07	8380	1780	486
ZB2	14.6	16.5	5465389	-.5	4.27	-5	114	6.82	-5	22.1	1.1	2.31	8930	117	143
ZB2	16.5	18.1	5465390	-.5	2.7	-5	95	7.4	-5	27.3	.66	2.25	11900	312	354
ZB2	18.1	19.5	5465391	-.5	2.64	-5	120	3.83	6	33.1	.7	.47	14200	293	215
ZB2	19.5	21	5465392	-.5	4.19	-5	107	6.92	-5	18	1.06	2.39	6080	44	162
ZB2	21	22.5	5465393	-.5	4.31	-5	113	7.28	-5	18.3	1.11	2.62	6110	38	216
ZB2	22.5	24	5465394	-.5	6.08	11	151	6.93	8	19.8	1.64	2.32	6750	22	171
ZB2	24	25.5	5465395	-.5	5.6	14	172	2.48	8	28.5	1.52	.71	9360	517	832
ZB2	25.5	27	5465396	-.5	2.58	19	265	.14	17	1.64	3.29	.38	76	84	339
ZB2	27	28.2	5465397	-.5	4.06	36	366	.09	13	2.26	4.44	.48	44	51	833
ZB2	28.2	29.7	5465398	-.5	1.69	37	87	.11	17	1.71	.78	.1	44	97	584
ZB2	29.7	31.3	5465399	-.5	4.03	35	236	.18	22	4.44	2.91	.49	869	53	421
ZB2	31.3	33.1	5465400	-.5	2.88	21	145	.34	22	7.68	2.07	.52	2600	46	432
ZB2	33.1	34.5	5465401	-.5	2.38	16	102	.18	37	2.96	1.3	.25	913	100	339
ZB2	43.5	44.8	5465402	-.5	.36	-5	23	-.05	5	.39	.16	.02	33	16	8

CRA EXPLORATION PTY. LIMITED

695078

DRILL-HOLE SUMMARY LOG

HOLE NAME: DD95ZB2 | AMG | EAST 362759 | NORTH 5347544

PROSPECT: BAURA | GRID | EAST 62400 | NORTH 46611

EL: ZEEHAN 2 | EL 34/88 | RL | DEPTH 49.9m

DATE DRILLED: 26/4/95

LOGGED BY: S.J. TEAR

DRILLING CO.: DIAMOND DRILLING TAS.

DRILL TYPE: DIAMOND

DRILL RIG: U250

LOC DRILL CORE: ZEEHAN

SURVEYS: DEPTH (m)	AZIM (AMG)	DIP	DEPTH	AZIM (AMG)	DIP
0	096°	60°			
49	094°	60°			

OBJECTIVES OF HOLE:

To confirm horizontal bedding in DD95ZB1 - moved closer to infered lower sandstone/limestone contact.

LITHOGICAL SUMMARY:

FROM	TO	FORM CODE	COMMENTS
0	3.2	Qha	Overburden
3.2	10.5	Ogpo	Dolomitised oolite unit
10.5	25.5	Ogsd	Siderite Unit
25.5	37.6	Ogst	Silty Transition Unit
37.6	49.9	Om	Moina Quartzite

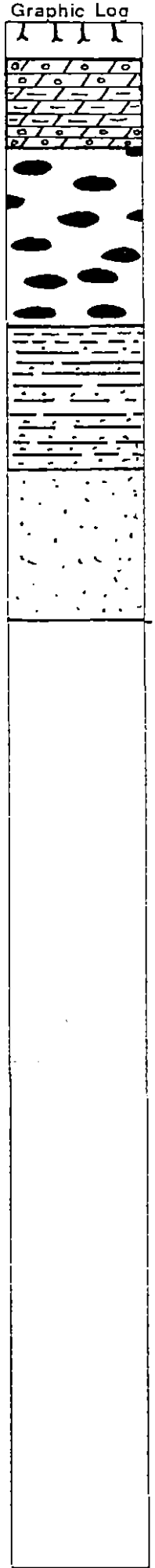
MINERALISATION SUMMARY:

FROM	TO	COMMENTS
27	28.2	833 ppm Zinc in Black uniform looking siltstone

CONCLUSIONS:

Drillhole confirmed horizontal bedding; no significant zinc values

Graphic Log



362759E
5347544N

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

SHEET No. 1 of 3

TENEMENT NAME BAURA No.

PLAN – MAP REFERENCE

CO-ORDINATES (62400E 46611N) AZIMUTH 096° mag DRILLERS DD TAS COMMENCED 26/4/95 DEPTH 49.9 HOLE No. ZB2

RL COLLAR INCLINATION 60° DRILL TYPE U250 COMPLETED 28/4/95 CASING LEFT NONE DPO No(s)

DEPTH From (M)	DEPTH To(M)	Core Rec. %	RQD DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)
0	3.2	33	5x	Qha	Overburden						
3.2	3.5	100	2	Qgdo	Dolomitised brown/grey crystalline oolite.		5465382	3.2	3.5		
3.5	9.0	7	5x	Qgd	Dk grey/black weak limestone	?Dolomitised.	5465383	3.5	6.0		
							5465384	7.65	9.0		
9.0	10.5	60	5x	Qgdo	Light grey/brown dolomitised oolite unit		5465385	9.0	10.5		
10.5	12.0	10	5	Qgdc	D.Grey/black pyritic clay Bad recovery		5465386	10.5	12.0		
12.0	13.5	20	1	Qgsd	Weathered dolomitic limestone	Abundant siderite.	5465387	12.0	13.5		
13.5	16.5	38	5	Qgsd	Black pyritic clay with weathered bedrock = bad recovery		5465388	13.5	14.6		
							5465389	14.6	16.5		
16.5	22.8	70	5	Qgdc Qgsd	Interbedded well weathered sandy and silty - clays		5465390	16.5	18.1		
							5465391	18.1	19.5		
							5465392	19.5	21.0		
22.8	25.87	90	3c	Qgsd	Weathered fissile siltstones and shales (+/- occ sandstone) - weathering in clays	Bedding 70° to c/A. Siderite zones	5465393	21.0	22.5		
							5465394	22.5	24.0		
							5465395	24.0	25.5		
25.87	28.2	100	3c	Qgdc	Black uniform siltstone	Bedding 65° to c/A.	5465396	25.5	27.0		
							5465397	27.0	28.2		
28.2	29.7	100	3c	Qgst	Med/coarse grained sandstone locally a fine grained carbonate Vugs.		5465398	28.2	29.7		

ASSAY VALUES REC From	RQD To	REC M	RQD %
3.5	6.0	2.5	8
6.0	7.5	1.5	0
7.5	9.0	1.5	13
9.0	10.5	1.5	60
10.5	12.0	1.5	10
12.0	13.5	1.5	20
13.5	14.6	1.1	27
14.6	16.5	1.9	50
16.5	18.1	1.6	50
18.1	19.5	1.4	100
19.5	21.0	1.5	66
21.0	22.5	1.5	40
22.5	24.0	1.5	100
24.0	25.5	1.5	80
25.5	27.0	1.5	100
27.0	28.5	1.5	100
28.5	29.7	1.2	100
29.7	31.3	1.6	100
31.3	32.9	1.6	100
32.9	34.5	1.6	100
34.5	36.0	1.5	100
36.0	37.5	1.5	100
37.5	38.6	1.1	36
38.6	39.9	1.3	60
39.9	40.5	0.6	100
40.5	42.0	1.5	100
42.0	43.5	1.5	100
43.5	44.8	1.3	100
44.8	46.3	1.5	100
46.3	47.1	0.8	100
47.1	49.9	2.8	100

6069

362759E
5347544N

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

SHEET No. ..... No. 2 of 3

TENEMENT NAME BAURA

PLAN – MAP REFERENCE .....

CO-ORDINATES (62400E) AZIMUTH 096° MAG DRILLERS DDTAS COMMENCED 26.4.95 DEPTH 49.9 HOLE No. ZB2

RL COLLAR ..... INCLINATION 60° DRILL TYPE U250 COMPLETED 28.4.95 CASING LEFT ..... DPO No(s) .....

DEPTH From (M)	DEPTH To (M)	Core Rec %	RQD DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by .....)
29.7	32.81	100	1	Ogst	Interbedded sandstone and shales + siltstones; coarsening upwards, occ coarse sandstone band.	Bedding 65° to c/A. Sideritic zones	5465399	29.7	31.3		
							5465400	31.3	33.1		
32.81	32.7	100	1	Ogst	White/grey sandstone	possible sideritic.	5465401	33.1	34.5		
32.7	33.0	100	1	Ogst	Fine grained ~~dark~~ grey quartzite + dark grey black mudstone						
~~33.0~~	~~33.1~~	~~100~~									
33.0	33.1	100	5	Ogst	Possible fault gouge.	Bedding parallel 70° to c/A.					
33.1	33.9	100	1	Ogst	Dark grey fine grained quartzite.						
33.9	34.65	100	1	Ogst	Interlaminated sands + silts unit.						
34.65	37.0	100	1	Ogst	Med grained lt grey quartzite with ~~x~~ mud laminae + cusps.	Gahna in qtz vein @ 34.72m					
37.0	37.3	100	1	Ogst	White/grey silicified/glassy quartzite.						
37.3	37.6	100	2x	Ogst	Fault zone in quartzite	Fault gouge 10° to c/A.					
37.6	39.0	50	3x	OM	Conglomeratic looking quartzite band 20cm conglomerate - well rotated.						

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 3

TENEMENT NAME BAURA No. of 3

362759E

CO-ORDINATES 5347544N AZIMUTH 096° MAG DRILLERS DD TAS COMMENCED 26·4·95 PLAN – MAP REFERENCE

RL COLLAR INCLINATION 60° DRILL TYPE U250 COMPLETED 28·4·95 DEPTH 49.9 m HOLE No. ZB2

CASING LEFT DPO No(s)

DEPTH From (M)	DEPTH To(M)	Core Rec. %	RQD, DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)
39.0	45.5	100	2	OM	White silicic/glassy quartzite breccia/vein zone @ 45.2m	Galena in qtz veinlet @ 40.3m. Veining 30° to c/A.					
45.5	49.9	100	1	OM	White silicic quartzite with zones of pink ?alteration /pink quartzite Sericitic shale band at 49.8m (<5cm)	Fault @ 49m cleavage 45° to c/A.					

69581

Appendix VIII

Amber Creek Wacker Sampling Logs and Results

Sample No	AMGE	AMGN	DPO NO	Sample Type	Prospect	EL No	Local E	Local N	Depth	Bedrock	MRTLith	FieldID	Texture	AltMin	Colour	Comments
4137945	367924	5351605	77680	WACKER	AMBER CREEK	EL34/88	67200	51750	9	Y	Ogul	Sls	Vc		G	
4137946	367903	5351618	77680	WACKER	AMBER CREEK	EL34/88	67175	51750	3	Y	Ogul	Sls	Vc		G	
4137947	367882	5351632	77680	WACKER	AMBER CREEK	EL34/88	67150	51750	2	Y	Ogdl	Sls		DlSd?	G	
4137948	367861	5351646	77680	WACKER	AMBER CREEK	EL34/88	67125	51750	2	Y	Ogul	Sls	Vc		G	
4137949	367840	5351659	77680	WACKER	AMBER CREEK	EL34/88	67100	51750	2	Y	Ogul	Sls			G	Micritic
4137986	367819	5351673	77680	WACKER	AMBER CREEK	EL34/88	67075	51750	3.5	Y	Ogul	Sls	Bl		G	Micritic
4137987	367798	5351686	77680	WACKER	AMBER CREEK	EL34/88	67050	51750	4	Y	Ogul	Sls	Vc		G	
4137988	367812	5351707	77680	WACKER	AMBER CREEK	EL34/88	67050	51775	6.8	Y	Ogul	Sls			G	
4137989	367791	5351721	77680	WACKER	AMBER CREEK	EL34/88	67025	51775	16.5	Y	Ogul	Sls	Vc		DG	
4137990	367770	5351735	77680	WACKER	AMBER CREEK	EL34/88	67000	51775	29.8	N						No sample
4137991	367749	5351748	77680	WACKER	AMBER CREEK	EL34/88	66975	51775	36	Y	Ogdl	Sdl			DG	No reaction with HCL
4137992	367728	5351762	77680	WACKER	AMBER CREEK	EL34/88	66950	51775	30	Y	Ogdl	Sdl			DG	No reaction with HCL
4137993	367707	5351775	77680	WACKER	AMBER CREEK	EL34/88	66925	51775	3.8	Y	Ogul	Sls			G	Fine grained calcarenite
4137994	367796	5351270	77680	WACKER	AMBER CREEK	EL34/88	67275	51400	3.2	Y	Ogul	Sls			G	Micritic
4137995	367775	5351284	77680	WACKER	AMBER CREEK	EL34/88	67250	51400	4	Y	Ogul	Sls			G	Micritic
4137996	367755	5351298	77680	WACKER	AMBER CREEK	EL34/88	67225	51400	17	Y	Sc	Sss			LBW	Micritic
4137997	367734	5351311	77680	WACKER	AMBER CREEK	EL34/88	67200	51400	17	Y	Ogul	Sls			G	Bad sample
4137998	367713	5351325	77680	WACKER	AMBER CREEK	EL34/88	67175	51400	2.5	Y	Ogul	Sls			G	Micritic
4137999	367692	5351338	77680	WACKER	AMBER CREEK	EL34/88	67150	51400	1	Y	Ogul	Sls			G	Fine grained calcarenite
4138000	367817	5351257	77680	WACKER	AMBER CREEK	EL34/88	67300	51400	5	Y	Ogul	Sls			G	Micritic?
4138265	368226	5351886	77680	WACKER	AMBER CREEK	EL34/88	67300	52150	2.5	Y	Ogul	Sls			LG	
4138266	368205	5351899	77680	WACKER	AMBER CREEK	EL34/88	67275	52150	3.5	Y	Ogul	Sls			G	Micritic
4138267	368184	5351913	77680	WACKER	AMBER CREEK	EL34/88	67250	52150	2.8	Y	Ogul	Sls			G	Dark grey weakly calcareous calcsilite (?dolomitised)
4138268	368163	5351927	77680	WACKER	AMBER CREEK	EL34/88	67225	52150	34	N	Ogul				DG	Sandy clay; weakly reacts with HCl
4138269	368142	5351940	77680	WACKER	AMBER CREEK	EL34/88	67200	52150	17	Y	Ogul	Sls	Vc	Py	GW	Minor crystals of yellow pyrite
4138270	368121	5351954	77680	WACKER	AMBER CREEK	EL34/88	67175	52150	2.5	Y	Ogul	Sls			G	Micritic
4138271	368100	5351967	77680	WACKER	AMBER CREEK	EL34/88	67150	52150	2	N?	Ogul				DGG	Sandy clay; no reaction to HCl
4138272	368079	5351981	77680	WACKER	AMBER CREEK	EL34/88	67125	52150	2.5	N	Ogul				DG	Sandy clay; no reaction to HCl
4138273	368058	5351995	77680	WACKER	AMBER CREEK	EL34/88	67100	52150	1.8	Y	Ogul	Sls			G	
4138283	368247	5351872	77680	WACKER	AMBER CREEK	EL34/88	67325	52150	3	Y	Ogul	Sls			G	Micrite and argillite
4138284	368268	5351859	77680	WACKER	AMBER CREEK	EL34/88	67350	52150	32	Y	Ogul	Sls			G	Micrite
4138285	368289	5351845	77680	WACKER	AMBER CREEK	EL34/88	67375	52150	10.8	N?	Ogul				DGN	Sandy clay; no reaction to HCl
4138286	368310	5351831	77680	WACKER	AMBER CREEK	EL34/88	67400	52150	5	Y	Ogul	Sls			GB	?micritic
4138287	368331	5351818	77680	WACKER	AMBER CREEK	EL34/88	67425	52150	11.6	Y	Sc	Sss	Bl		LBB	No reaction to HCl
4138288	368352	5351804	77680	WACKER	AMBER CREEK	EL34/88	67450	52150	4.5	N?	Sc				B	No reaction to HCl
4138289	368373	5351790	77680	WACKER	AMBER CREEK	EL34/88	67475	52150	2	Y	Sc	Sss			BK	No reaction to HCl
4138290	368008	5351550	77680	WACKER	AMBER CREEK	EL34/88	67300	51750	19	Y	Ogul	Sls	Vc		G	
4138291	368029	5351537	77680	WACKER	AMBER CREEK	EL34/88	67325	51750	11.2	Y	Ogul	Sls			G	Argillite with med grained calcarenite
4138292	368050	5351523	77680	WACKER	AMBER CREEK	EL34/88	67350	51750	5.9	Y	Ogul	Sls			G	Poss. micritic
4138293	368071	5351509	77680	WACKER	AMBER CREEK	EL34/88	67375	51750	8.7	Y	Ogul	Sls			G	Micrite and argillite
4138294	368092	5351496	77680	WACKER	AMBER CREEK	EL34/88	67400	51750	10.2	Y	Ogul	Sls	Vc		G	
4138295	368113	5351482	77680	WACKER	AMBER CREEK	EL34/88	67425	51750	12.8	Y	Ogul	Sls	Vc		LG	??oolite
4138296	368134	5351469	77680	WACKER	AMBER CREEK	EL34/88	67450	51750	16	N?	Sc	Sss			LGW	No reaction to HCl
4138297	368155	5351455	77680	WACKER	AMBER CREEK	EL34/88	67475	51750	2	Y	Sc	Sss			KLB	No reaction to HCl
4138298	367987	5351564	77680	WACKER	AMBER CREEK	EL34/88	67275	51750	17	Y	Ogul	Sls			DG	Calcsiltite
4138299	367966	5351578	77680	WACKER	AMBER CREEK	EL34/88	67250	51750	19	Y	Ogul	Sls			LG	?micritic

Sample No	AMGE	AMGN	DPO NO	Sample Type	Prospect	EL No	Local E	Local N	Depth	Bedrock	MRTLith	FieldID	Texture	AltMin	Colour	Comments
4138300	367945	5351591	77680	WACKER	AMBER CREEK	EL34/88	67225	51750	2	Y	Ogul	Sls			G	Micrite with argillite bands
4138301	367838	5351243	77680	WACKER	AMBER CREEK	EL34/88	67325	51400	7.5	Y	Ogul	Sls			G	
4138302	367859	5351230	77680	WACKER	AMBER CREEK	EL34/88	67350	51400	5	Y	Ogul	Sls			G	
4138303	367880	5351216	77680	WACKER	AMBER CREEK	EL34/88	67375	51400	7.5	Y	Ogul	Sls			DG	Sandy clay
4138304	367901	5351202	77680	WACKER	AMBER CREEK	EL34/88	67400	51400	19	Y	Ogul	Sls			G	
4138305	367922	5351189	77680	WACKER	AMBER CREEK	EL34/88	67425	51400	6	Y	Ogul	Sls			G	Grey micrite with ?cleavage
4138306	367943	5351175	77680	WACKER	AMBER CREEK	EL34/88	67450	51400	10.8	Y	Ogul	Sls			N	Clay/sand; no reaction with HCl
4138307	367964	5351161	77680	WACKER	AMBER CREEK	EL34/88	67475	51400	9	N	Ogul				BG	Ssg gravel; no reaction to HCl
4138308	367985	5351148	77680	WACKER	AMBER CREEK	EL34/88	67500	51400	12	Y	Ogul	Sls		Py	DGN	Clay sand; no reaction to HCl
4138309	368006	5351134	77680	WACKER	AMBER CREEK	EL34/88	67525	51400	6.7	Y	Om	Sss			LBW	No reaction to HCl
4138310	368027	5351121	77680	WACKER	AMBER CREEK	EL34/88	67550	51400	3	Y	Om	Sss			LBW	No reaction to HCl
4138311	367633	5351019	77680	WACKER	AMBER CREEK	EL34/88	67275	51100	1.5	Y	Ogul	Sls			DG	
4138312	367654	5351005	77680	WACKER	AMBER CREEK	EL34/88	67300	51100	1.5	Y	Ogul	Sls	Vc		G	
4138313	367654	5351005	77680	WACKER	AMBER CREEK	EL34/88	67300	51100	1.5	Y	Ogul	Sls			G	Dolomitic clasts
4138314	367675	5350992	77680	WACKER	AMBER CREEK	EL34/88	67325	51100	2	Y	Ogul	Sls			G	
4138315	367696	5350978	77680	WACKER	AMBER CREEK	EL34/88	67350	51100	1.5	Y	Ogul	Sls			G	Poss. micrite
4138316	367717	5350964	77680	WACKER	AMBER CREEK	EL34/88	67375	51100	1.5	Y	Ogul	Sls			G	Dark grey calcsiltite frags.
4138317	367738	5350951	77680	WACKER	AMBER CREEK	EL34/88	67400	51100	1.5	Y	Ogul	Sls	Vc		LG	?micritic
4138318	367759	5350937	77680	WACKER	AMBER CREEK	EL34/88	67425	51100		Y	Ogul	Sls			G	Dark micrite fragments
4138319	367780	5350923	77680	WACKER	AMBER CREEK	EL34/88	67450	51100	2.2	Y	Ogul	Sls	Vc		G	Micrite; dolomite vein
4138320	367801	5350910	77680	WACKER	AMBER CREEK	EL34/88	67475	51100	3	Y	Ogul	Sls			LG	
4138321	367822	5350896	77680	WACKER	AMBER CREEK	EL34/88	67500	51100	2.5	Y	Ogul	Sls	Vc		G	
4138322	367843	5350883	77680	WACKER	AMBER CREEK	EL34/88	67525	51100	2	Y	Ogul	Sls			G	Med/fine grained calcarenite fragments
4138323	367864	5350869	77680	WACKER	AMBER CREEK	EL34/88	67550	51100	14	Y	Ogul	Sls	Vc		G	
4138324	367885	5350855	77680	WACKER	AMBER CREEK	EL34/88	67575	51100	5.8	Y	Ogul	Sls			G	Poss. ?oolite
4138325	367906	5350842	77680	WACKER	AMBER CREEK	EL34/88	67600	51100	14.8	Y	Ogul	Sls			LG	
4138326	367927	5350828	77680	WACKER	AMBER CREEK	EL34/88	67625	51100	13	N?	Ogul				N	Black clay; no reaction to HCl
4138327	367948	5350815	77680	WACKER	AMBER CREEK	EL34/88	67650	51100	3	Y	Om	Sss			B	No reaction to HCl
4138328	367658	5350645	77680	WACKER	AMBER CREEK	EL34/88	67500	50800	4.8	Y	Ogul	Sls			DG	
4138329	367679	5350631	77680	WACKER	AMBER CREEK	EL34/88	67525	50800	3.5	Y	Ogul	Sls			DG	
4138330	367700	5350617	77680	WACKER	AMBER CREEK	EL34/88	67550	50800	2.5	Y	Ogul	Sls			LG	
4138331	367721	5350604	77680	WACKER	AMBER CREEK	EL34/88	67575	50800	1.5	Y	Ogul	Sls			G	Poss micrite
4138332	367742	5350590	77680	WACKER	AMBER CREEK	EL34/88	67600	50800	5.8	Y	Ogul	Sls			G	Micritic
4138333	367763	5350577	77680	WACKER	AMBER CREEK	EL34/88	67625	50800	3.5	Y	Ogul	Sls			LG	
4138334	367784	5350563	77680	WACKER	AMBER CREEK	EL34/88	67650	50800	17.8	Y	Ogul	Sls			DG	Micritic
4138335	367805	5350549	77680	WACKER	AMBER CREEK	EL34/88	67675	50800	13.8	Y	Ogul	Sls			G	Laminated micrite and argillite
4138336	367826	5350536	77680	WACKER	AMBER CREEK	EL34/88	67700	50800	28	Y	Ogdc	Ccy			DGN	No reaction to HCl
4138337	367847	5350522	77680	WACKER	AMBER CREEK	EL34/88	67725	50800	8.5	Y	Om	Sss			G	No reaction to HCl
4138338	367868	5350508	77680	WACKER	AMBER CREEK	EL34/88	67750	50800	3.5	Y	Om	Sss			LBW	No reaction to HCl
4138339	367889	5350495	77680	WACKER	AMBER CREEK	EL34/88	67775	50800	1.5	Y	Om	Sss			B	No reaction to HCl
4138340	367637	5350658	77680	WACKER	AMBER CREEK	EL34/88	67475	50800	1.5	Y	Ogul	Sls			G	
4138341	367616	5350672	77680	WACKER	AMBER CREEK	EL34/88	67450	50800	4.5	Y	Ogul	Sls			G	?bioclastic argillaceous calcsiltite
4138342	367595	5350685	77680	WACKER	AMBER CREEK	EL34/88	67425	50800	3	Y	Ogul	Sls	Vc		LG	
4138343	367574	5350699	77680	WACKER	AMBER CREEK	EL34/88	67400	50800	7.8	Y	Ogul	Sls			G	Micritic
4138344	367554	5350713	77680	WACKER	AMBER CREEK	EL34/88	67375	50800	13.8	Y	Ogul	Sls			LG	Micritic
4138345	367533	5350726	77680	WACKER	AMBER CREEK	EL34/88	67350	50800	2.5	Y	Ogul	Sls			G	

Sample No	AMGE	AMGN	DPO NO	Sample Type	Prospect	EL No	Local E	Local N	Depth	Bedrock	MRTLith	FieldID	Texture	AltMin	Colour	Comments
4138346	367512	5350740	77680	WACKER	AMBER CREEK	EL34/88	67325	50800	2	Y	Ogul	Sls			G	Calcsiltite
4138347	367491	5350754	77680	WACKER	AMBER CREEK	EL34/88	67300	50800	8.5	Y	Ogul	Sls			DGN	
4138348	367470	5350767	77680	WACKER	AMBER CREEK	EL34/88	67275	50800	4	Y	Ogul	Sls			LG	
4138349	367449	5350781	77680	WACKER	AMBER CREEK	EL34/88	67250	50800	8	Y	Ogul	Sls			DG	
4138350	367428	5350794	77680	WACKER	AMBER CREEK	EL34/88	67225	50800	5.5	Y	Ogul	Sls			N	
4138351	367407	5350808	77680	WACKER	AMBER CREEK	EL34/88	67200	50800	15.5	Y	Ogul	Sls			DG	Micrite and calcsiltite
4138352	367386	5350822	77680	WACKER	AMBER CREEK	EL34/88	67175	50800	5.8	Y	Ogul	Sls			G	Micrite
4138353	367365	5350835	77680	WACKER	AMBER CREEK	EL34/88	67150	50800	13	Y	Ogul	Sls	Vc		LG	
4138354	367344	5350849	77680	WACKER	AMBER CREEK	EL34/88	67125	50800	12.8	Y	Ogul	Sls			DG	
4138355	367323	5350862	77680	WACKER	AMBER CREEK	EL34/88	67100	50800	17.8	Y	Ogdl	Sdl			DG	No reaction to HCl
4138356	367302	5350876	77680	WACKER	AMBER CREEK	EL34/88	67075	50800	29	Y	Ogul	Sls			DG	No reaction to HCl
4138357	367281	5350890	77680	WACKER	AMBER CREEK	EL34/88	67050	50800	17	Y	Ogul	Sls			G	
4138358	367260	5350903	77680	WACKER	AMBER CREEK	EL34/88	67025	50800	12	Y	Ogul	Sls			DG	
4138359	367239	5350917	77680	WACKER	AMBER CREEK	EL34/88	67000	50800	10.5	Y	Ogdl	Sdl			DG	No reaction to HCl
4138360	367382	5350586	77680	WACKER	AMBER CREEK	EL34/88	67300	50600	2.5	Y	Ogul	Sls			G	
4138361	367403	5350572	77680	WACKER	AMBER CREEK	EL34/88	67325	50600	6.2	Y	Ogul	Sls			G	
4138362	367424	5350559	77681	WACKER	AMBER CREEK	EL34/88	67350	50600	13.8	Y?	Ogud?	Sdl			DG	No reaction with HCl
4138363	367445	5350545	77681	WACKER	AMBER CREEK	EL34/88	67375	50600	12.8	Y	Ogul	Sls	Vc		LG	Micritic; calcite veining
4138364	367466	5350531	77681	WACKER	AMBER CREEK	EL34/88	67400	50600	15	Y	Ogul	Sls			G	
4138365	367487	5350518	77681	WACKER	AMBER CREEK	EL34/88	67425	50600	14	Y	Ogul	Sls			LG	Micritic
4138366	367507	5350504	77681	WACKER	AMBER CREEK	EL34/88	67450	50600	17.5	Y	Ogul	Sls			LG	Micritic
4138367	367528	5350490	77681	WACKER	AMBER CREEK	EL34/88	67475	50600	13	Y	Ogul	Sls			G	Micritic
4138368	367549	5350477	77681	WACKER	AMBER CREEK	EL34/88	67500	50600	8	Y	Ogul	Sls			LBW	?Micaeous
4138369	367570	5350463	77681	WACKER	AMBER CREEK	EL34/88	67525	50600	10.5	Y	Ogul	Sls	Vc		G	Calcite veining
4138370	367591	5350450	77681	WACKER	AMBER CREEK	EL34/88	67550	50600	16	Y	Ogul	Sls		He	LBW	Red banding in sample
4138371	367612	5350436	77681	WACKER	AMBER CREEK	EL34/88	67575	50600	13	Y	Ogud	Sdl	Al?	DlSd	DG	Dolomitised and weakly sideritic?
4138372	367633	5350422	77681	WACKER	AMBER CREEK	EL34/88	67600	50600	12.5	Y	Ogud	Sdl	Al?	DlSd?	LGY	Dolomitised and possibly weakly sideritic?
4138373	367654	5350409	77681	WACKER	AMBER CREEK	EL34/88	67625	50600	7.5	Y	Ed?	Ssh	We		LGW	Siltstst or shale. Ed or Om?
4138374	367675	5350395	77681	WACKER	AMBER CREEK	EL34/88	67650	50600	1.8	Y	Ed?	SshSss	lb		LGW	Ed or Om?
4138375	367357	5350364	77681	WACKER	AMBER CREEK	EL34/88	67400	50400	7.5	N	Ogdc	Ccy			DG	No reaction with HCl.
4138376	367378	5350350	77681	WACKER	AMBER CREEK	EL34/88	67425	50400	6	N?	OhaOg	CsCcy			DB+LG	clay and gravel.
4138377	367399	5350336	77681	WACKER	AMBER CREEK	EL34/88	67450	50400	3	Y?	Oo?	Scg			LG	Gritty sst. Uncertain if bedrock.
4138378	367420	5350323	77681	WACKER	AMBER CREEK	EL34/88	67475	50400	1.3	Y?	Oo?	Sss			LKB	Sst. Uncertain if bedrock.
4138379	367336	5350377	77681	WACKER	AMBER CREEK	EL34/88	67375	50400	5							No sample.
4138380	367315	5350391	77681	WACKER	AMBER CREEK	EL34/88	67350	50400	1.5	N	Oha	Cg			W	
4138381	367273	5350418	77681	WACKER	AMBER CREEK	EL34/88	67300	50400	2.5	N	Oha	Cg			LG	

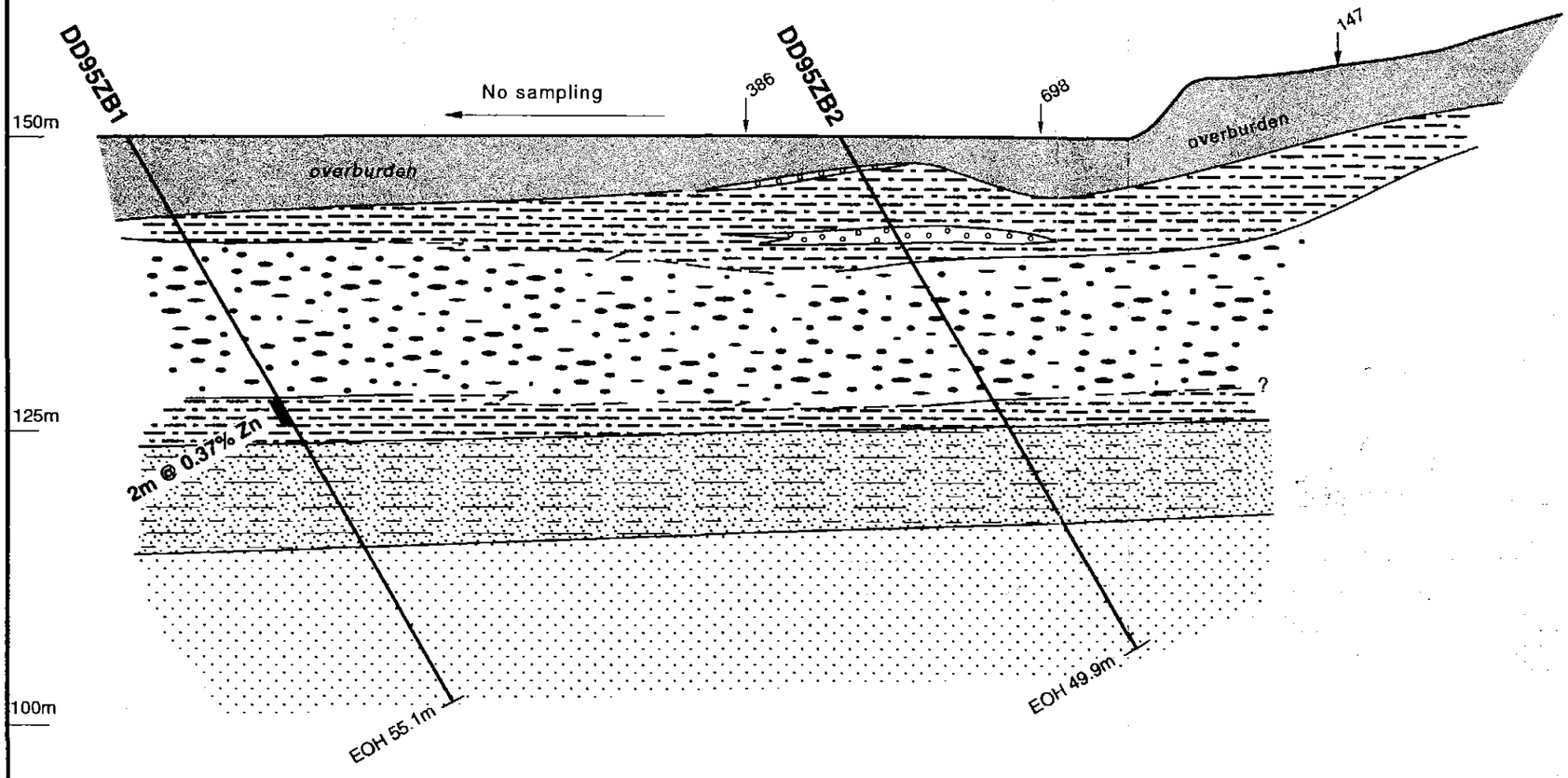
Sample No	Ag	Al	As	Ba	Ca	Cu	Fe	K	Mg	Mn	Pb	Zn
4137945	-0.5	1.41	-5	61	29.25	-5	0.97	0.57	0.79	214	-10	16
4137946	-0.5	0.92	-5	32	33.46	-5	0.61	0.44	0.67	128	14	27
4137947	-0.5	2.29	-5	95	21.78	-5	5.97	1.09	1.32	335	-10	51
4137948	-0.5	2.03	-5	65	24.83	6	2.62	0.75	1.71	278	14	15
4137949	-0.5	3.37	-5	187	16.68	7	1.18	1.82	2.42	139	-10	15
4137986	0.8	1.28	-5	55	33.28	-5	0.28	0.68	0.32	83	13	74
4137987	-0.5	0.52	-5	19	32.86	-5	0.34	0.22	2.06	55	15	31
4137988	-0.5	0.68	-5	27	32.84	-5	0.76	0.33	1.32	64	27	71
4137989	-0.5	1.01	-5	42	33.27	-5	0.46	0.48	0.6	53	-10	25
4137990												
4137991	-0.5	6.84	21	446	0.55	12	1.29	3.45	0.41	23	29	54
4137992	-0.5	8.63	23	520	0.36	13	1.52	4.19	0.54	27	52	647
4137993	-0.5	2.17	-5	111	21.27	5	1.16	1.24	5.86	226	-10	19
4137994	-0.5	2.41	-5	107	22.98	6	1.28	1.22	1.96	112	-10	14
4137995	-0.5	1.36	-5	54	26.87	-5	1.07	0.71	2.98	126	12	14
4137996	-0.5	2.16	12	81	24.2	8	1.69	1.11	3.33	157	17	13
4137997	0.6	5.1	10	207	0.1	8	0.7	2.32	0.38	28	17	37
4137998	-0.5	0.63	-5	23	35.22	-5	0.42	0.33	0.42	50	16	24
4137999	-0.5	2.42	-5	113	23.48	7	1.15	1.29	1.61	187	40	278
4138000	-0.5	3.03	-5	141	21.87	5	1.01	1.58	1.42	130	12	24
4138265	-0.5	1.38	-5	62	22.22	-5	1.07	0.67	1.57	137	18	34
4138266	-0.5	3.25	-5	144	22.43	8	0.88	1.71	1.41	153	18	16
4138267	-0.5	3.65	73	147	18.56	11	1.53	1.65	2.07	95	21	112
4138268	-0.5	5.95	1630	274	0.98	20	3.91	2.67	0.48	57	27	98
4138269	-0.5	0.99	26	56	30.52	-5	0.46	0.54	0.72	108	20	14
4138270	-0.5	0.95	-5	39	32.25	-5	0.5	0.52	1.07	119	24	31
4138271	-0.5	7.52	21	240	1.14	9	0.33	3.12	0.71	13	31	23
4138272	-0.5	4.57	23	217	6.83	-5	0.47	2.18	1.45	36	16	15
4138273	-0.5	0.86	-5	34	25.94	-5	0.22	0.36	0.48	38	18	21
4138283	-0.5	3.16	35	158	21.81	7	2.33	1.58	1.25	247	17	15
4138284	-0.5	2.93	10	100	16.01	-5	1.41	1.27	3.23	212	27	61
4138285	-0.5	6.55	77	202	1.96	16	2.35	2.6	1.35	97	67	431
4138286	-0.5	1.26	-5	50	29.21	-5	0.97	0.66	0.33	430	20	42
4138287	-0.5	4	18	174	1.17	-5	26.71	2.08	0.37	11900	18	138
4138288	-0.5	3.1	40	116	0.05	499	1.48	1.13	0.15	47	12	101
4138289	-0.5	5.39	-5	228	-0.05	13	0.65	1.53	0.36	24	20	34
4138290	-0.5	1.68	73	71	28.8	-5	0.8	0.91	1.47	132	15	18
4138291	-0.5	7.14	87	223	11.55	16	2.8	3.47	4.66	452	97	1780
4138292	-0.5	0.99	8	37	32.64	5	0.72	0.48	0.93	203	17	15
4138293	-0.5	1.98	13	81	27.92	7	0.67	1	0.37	303	57	314
4138294	-0.5	2.28	107	57	14.45	7	1.93	0.92	3.31	252	34	226
4138295	-0.5	0.16	-5	-5	32.42	-5	0.33	0.06	0.74	172	15	29
4138296	-0.5	8.1	22	287	0.07	91	0.75	3.62	0.69	26	83	43
4138297	-0.5	2.16	11	76	0.08	6	0.88	0.99	0.29	106	15	512
4138298	-0.5	2.39	66	106	20.6	-5	1.28	1.12	4.43	191	17	12
4138299	-0.5	1.99	-5	90	29.76	6	0.64	0.98	0.38	215	13	13

Sample No	Ag	Al	As	Ba	Ca	Cu	Fe	K	Mg	Mn	Pb	Zn
4138300	-0.5	1.26	-5	64	28.14	-5	1.02	0.66	1.07	134	13	10
4138301	-0.5	1.99	-5	91	24.08	5	1.1	0.96	2.59	172	15	17
4138302	-0.5	2.11	-5	98	23.81	-5	1.29	1.03	2.96	174	14	19
4138303	-0.5	6.21	93	229	6.17	14	2.25	2.89	2	120	78	327
4138304	-0.5	4.29	93	132	10.26	13	2.1	1.97	3.04	141	45	284
4138305	-0.5	3.89	34	148	17.95	6	0.97	1.74	1.27	145	-10	21
4138306	-0.5	5.41	100	188	0.1	14	2.02	2.8	0.28	16	39	77
4138307	-0.5	0.32	6	12	-0.05	8	0.31	0.08	0.02	22	-10	9
4138308	-0.5	8.12	160	334	0.08	26	4.06	4.61	0.89	290	60	466
4138309	-0.5	5.16	7	212	-0.05	16	0.64	2.13	0.26	-10	19	18
4138310	-0.5	9.98	-5	1200	0.06	7	1.5	5.15	0.55	17	20	39
4138311	-0.5	1.53	-5	84	32.09	5	0.49	0.85	0.37	101	-10	36
4138312	-0.5	1.89	10	111	25.43	-5	2.95	0.93	2.04	244	-10	8
4138313	0.7	1.8	-5	104	26.7	-5	0.41	1	0.75	75	-10	19
4138314	-0.5	2.21	-5	112	20.82	6	1.74	1.17	4.27	157	-10	14
4138315	0.6	2.19	-5	117	29.26	5	0.87	1.15	0.6	141	12	43
4138316	-0.5	3.79	-5	181	16.78	6	1.22	1.96	1.74	132	-10	11
4138317	0.7	1.44	-5	81	30.17	-5	0.46	0.76	0.64	95	-10	16
4138318	-0.5	1.78	-5	87	27.79	-5	1.59	0.94	1.93	146	-10	33
4138319	-0.5	1.13	-5	46	26.24	-5	0.63	0.49	0.98	88	-10	12
4138320	-0.5	0.48	-5	22	34.6	-5	0.23	0.24	0.71	55	-10	8
4138321	-0.5	0.95	11	36	27.17	-5	1.08	0.43	3.85	318	16	24
4138322	-0.5	2.34	-5	83	21.56	-5	2.57	1.2	2.78	245	-10	35
4138323	0.7	1.72	-5	69	27.69	-5	1.63	0.97	2.11	403	-10	43
4138324	0.6	0.16	-5	11	36.09	-5	0.45	0.08	0.85	171	17	78
4138325	-0.5	0.2	-5	11	37.76	-5	0.35	0.1	0.42	175	-10	832
4138326	-0.5	6.62	261	277	0.54	44	14.57	3.41	0.6	2470	235	2450
4138327	-0.5	4.01	-5	215	0.2	-5	0.3	2.31	0.45	-10	-10	13
4138328	-0.5	3.27	12	116	20.83	8	0.98	1.62	2.68	132	32	385
4138329	-0.5	2.07	-5	75	25.65	-5	0.8	1.06	3.02	148	-10	65
4138330	1	1.25	-5	42	29.61	-5	0.38	0.6	1.01	90	-10	18
4138331	-0.5	2.49	-5	86	24.36	5	1.02	1.22	3.75	173	-10	13
4138332	-0.5	0.67	-5	27	34.8	-5	0.54	0.29	0.51	130	13	29
4138333	-0.5	0.91	9	38	33.37	-5	0.65	0.32	0.38	53	-10	30
4138334	-0.5	1.65	-5	66	26.35	-5	0.67	0.72	2.19	120	-10	7
4138335	-0.5	1.68	-5	66	28.85	-5	1.17	0.74	1.36	137	-10	44
4138336	-0.5	7.66	43	337	0.42	51	1.69	3.94	0.52	32	174	483
4138337	-0.5	6.18	108	292	0.1	13	3.58	3.07	0.54	19	70	694
4138338	-0.5	6.16	-5	295	-0.05	22	1.11	2.81	0.31	16	20	207
4138339	-0.5	8.97	-5	515	-0.05	25	5.83	3.8	1.2	90	17	84
4138340	0.5	0.92	-5	42	32.55	-5	0.34	0.53	0.67	82	-10	15
4138341	-0.5	1.09	-5	47	29.47	-5	0.7	0.59	1.41	108	-10	12
4138342	-0.5	1.64	-5	63	29.2	6	0.76	0.86	0.67	87	-10	309
4138343	-0.5	3.84	-5	162	20.43	8	1.66	2.06	2.65	195	11	24
4138344	-0.5	1.85	-5	85	27.89	6	0.53	1	0.65	110	-10	22
4138345	-0.5	2.81	-5	139	21.88	10	1.96	1.54	2.09	123	10	8

Sample No	Ag	Al	As	Ba	Ca	Cu	Fe	K	Mg	Mn	Pb	Zn
4138346	-0.5	1.54	-5	70	26.09	5	0.79	0.79	2.22	105	-10	18
4138347	-0.5	2.46	58	125	22.89	7	2.7	1.21	1.39	85	11	304
4138348	-0.5	2.6	-5	151	27.79	7	0.61	1.46	0.7	95	-10	12
4138349	-0.5	2.79	-5	153	20.33	7	1.47	1.4	1.74	136	13	19
4138350	-0.5	4.43	16	207	13.35	8	2.14	2.1	3.78	161	10	12
4138351	-0.5	2.89	-5	149	15.54	-5	2.03	1.39	3.64	176	22	43
4138352	-0.5	1.72	14	76	27.06	5	1.24	0.74	0.69	45	75	625
4138353	0.9	0.15	-5	15	38.25	-5	0.14	0.06	0.18	77	-10	11
4138354	-0.5	3.36	10	168	14.65	7	2.7	1.37	5.57	194	28	300
4138355	-0.5	7.11	-5	482	1.18	14	1.76	3.43	0.76	56	29	163
4138356	-0.5	9.11	31	679	0.25	14	1.54	4.66	0.57	36	48	115
4138357	1	1.02	-5	47	28.57	-5	0.58	0.48	2.82	105	14	49
4138358	-0.5	2.06	15	97	19.98	-5	1.15	1.1	6.14	142	14	22
4138359	-0.5	1.42	15	136	18.93	-5	1.91	0.59	9.69	263	-10	597
4138360	-0.5	2.29	-5	93	21.72	7	0.91	1.18	2.14	129	-10	12
4138361	-0.5	1.51	-5	72	26.09	-5	1.04	0.79	2.72	136	-10	14
4138362	0.8	7.39	78	315	1.21	43	5.12	3.88	0.56	35	83	443
4138363	1.3	2	7	64	25.47	-5	0.98	1.02	2.95	136	12	63
4138364	1.5	0.73	-5	30	29.89	-5	0.59	0.4	2.06	116	-10	8
4138365	0.7	1.43	-5	56	30.66	-5	0.36	0.69	0.58	83	-10	12
4138366	1.8	0.55	-5	26	36.62	-5	0.29	0.25	0.4	72	-10	13
4138367	1.3	2.57	-5	92	25.2	10	1.04	1.07	2.11	107	13	14
4138368	0.8	0.41	-5	20	38.37	6	0.22	0.15	0.22	90	-10	29
4138369	1.4	0.99	-5	34	29.53	-5	1.04	0.52	5.59	490	-10	33
4138370	0.8	2.83	-5	83	30.69	14	1.5	1.24	0.67	515	18	86
4138371	0.7	0.73	18	39	1.67	-5	37.9	0.37	0.1	15000	-10	20
4138372	0.5	4.55	-5	177	0.76	35	25.49	2.01	0.26	2000	141	1270
4138373	-0.5	10.28	10	352	-0.05	30	1.55	5.18	0.5	31	24	322
4138374	-0.5	9.2	17	375	-0.05	70	1.09	4.37	0.42	25	13	66
4138375	-0.5	6.29	7	230	0.06	21	2.27	2.37	0.44	32	27	153
4138376	0.9	2.92	7	150	0.06	12	1.32	1.33	0.2	18	16	11
4138377	0.8	0.09	-5	8	-0.05	8	0.34	-0.05	0.01	13	-10	-5
4138378	0.9	1.26	-5	51	-0.05	9	0.4	0.48	0.05	13	-10	5
4138379												
4138380	1	0.08	-5	6	-0.05	6	0.38	-0.05	0.01	13	-10	-5
4138381	-0.5	1.47	-5	60	-0.05	7	0.47	0.63	0.06	15	-10	9

46550mN 46600mN 46650mN

Deep overburden sampling (wacker) - projected 25m from N
Zn : ppm



Sc	Crotty Quartzite	*Silurian*	
Ogud	Upper Dolomite Unit	*Gordon Limestone*	*Ordovician*
Ogsi	Siltstone Unit		
Ogul	Undifferentiated limestone		
Ogdl	Undifferentiated dolomite		
Ogmu	Laminated Micrite Unit		
Ogoo	Oolite Unit		
Ogsd	Siderite Unit		
Ogdc	Dark grey/black clay Unit		
Ogfc	Ferruginous Clay Unit		
Ogms	Massive Sulphide Unit		
Ogst	Silty Transition Unit		
Ogfz	Fault zone		
Ogbr	Carbonate breccia		
Om	Moina Sandstone		
Oo	Owen Conglomerate		
Ed	Dundas Group (undifferentiated)	*Cambrian*	
	Bedding		

ZP37 20ppm — Deep overburden sampling (aircore EOH / wacker)
Hole no / Zn : ppm

5 cm

0 5 10 15 20 25 30m

96-3886

ANNUAL REPORT 1995 - ZEEHAN NO 2
EL 34/88 - TEAR S J

CRA EXPLORATION PTY LIMITED

EL34/88 ZEEHAN 2

Zeehan Carbonate

BAURA PROSPECT

DD95ZB1 & DD95ZB2 : Section 62400E

Author:	S J Tear	Reference:	SK5505 Queenstown
Drawn :	D Oliver	File Name :	Tv994.eps
Date :	October 1995	Report No:	**21151**
Scale :	1:500	Plan No :	Tv994

Amber Creek Prospect : 1995 Wacker Sample Sites

96-3886

ANNUAL REPORT 1995 - ZEEHAN NO 2
EL 34/88 - TEAR S J

060960

Appendix IX

King Billy Wacker Sampling Logs and Results

KING BILLY WACKER EL 34/88

Sample No	AMGE	AMGN	DPO No	Sample Type	Prospect	EL No	Local E	Local N	Depth	Bedrock	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments
4138179	370400	5351600	77679	WACKER	KING BILLY	EL34/88	70400	1600	11.2	N	Og	Ccy			G	
4138180	370400	5351575	77679	WACKER	KING BILLY	EL34/88	70400	1575	10.8	N	Og	Ccy			G	
4138181	370400	5351550	77679	WACKER	KING BILLY	EL34/88	70400	1550	19	?	Og	Ccy			B	Contains Rdd qtz grit
4138182	370400	5351525	77679	WACKER	KING BILLY	EL34/88	70400	1525	19	?	Og	Ccy			B	Contains Rdd qtz grit
4138183	370400	5351500	77679	WACKER	KING BILLY	EL34/88	70400	1500	12	N	Og	Ccy			AYBW	
4138184	370400	5351475	77679	WACKER	KING BILLY	EL34/88	70400	1475	10	N	Og	Ccy			LB	
4138185	370400	5351450	77679	WACKER	KING BILLY	EL34/88	70400	1450	7	Y	Om	Sss	We		W	
4138186	370400	5351425	77679	WACKER	KING BILLY	EL34/88	70400	1425	2	Y	Om?	Ssh	We		W	
4138187	370400	5351400	77679	WACKER	KING BILLY	EL34/88	70400	1400	2	Y	Om?	Ssl			LYG	
4138188	370000	5351725	77679	WACKER	KING BILLY	EL34/88	70000	1725	11	?	Og	CcySls	We		DB	
4138189	370000	5351700	77679	WACKER	KING BILLY	EL34/88	70000	1700	8	?	Ogul	Sls	We		YB	
4138190	370000	5351675	77679	WACKER	KING BILLY	EL34/88	70000	1675	7	N	Og	Ccy			BG	
4138191	370000	5351650	77679	WACKER	KING BILLY	EL34/88	70000	1650	4	N?	Om?	Sss	We		LKB	Sst gravels?
4138192	370000	5351625	77679	WACKER	KING BILLY	EL34/88	70000	1625	12	N	Og	Ccy			G	
4138193	370000	5351600	77679	WACKER	KING BILLY	EL34/88	70000	1600	9.2	N	Og	Ccy			G	
4138194	370000	5351575	77679	WACKER	KING BILLY	EL34/88	70000	1575	7	?	Ogul	Sls	We		BG	
4138195	370000	5351550	77679	WACKER	KING BILLY	EL34/88	70000	1550	8	?	OgOm	CcySss			G+W	Og-Om contact?
4138196	370000	5351525	77679	WACKER	KING BILLY	EL34/88	70000	1525	6.5	N	Ogdc	Ccy			DG	195 and 196 mixed up?
4138197	370000	5351750	77679	WACKER	KING BILLY	EL34/88	70000	1750	18.4	N	Ogdc	Ccy			DG	
4138198	370000	5351775	77679	WACKER	KING BILLY	EL34/88	70000	1775	25	N	Ogdc	Ccy			DG	
4138455	370800	5351975	77700	WACKER	KING BILLY	EL34/88	70800	1975	11	Y	Ogfc	Ccy	Sandy clay		OB	Non-calcareous - heavily limonitic
4138456	370800	5351950	77700	WACKER	KING BILLY	EL34/88	70800	1950	11.8	Y	Ogul	Sls	clay		DGGLG	Strongly calcareous
4138457	370800	5351925	77700	WACKER	KING BILLY	EL34/88	70800	1925	16.1	Y	Ogul	Sls	Sandy clay		DGG	Strongly calcareous
4138458	370800	5351900	77700	WACKER	KING BILLY	EL34/88	70800	1900	13	Y	Ogul	Sls	Sandy clay		G	
4138459	370800	5351875	77700	WACKER	KING BILLY	EL34/88	70800	1875	13	Y	Ogdc	Ccy	Sandy clay		N	Non-calcareous
4138460	370800	5351850	77700	WACKER	KING BILLY	EL34/88	70800	1850	1	Y	Om	Sss	Sandy clay		NW	?Bedrock; black clay on friable sst.
4138461	370800	5351825	77700	WACKER	KING BILLY	EL34/88	70800	1825	7.1	Y	Om	Ccy	clay		LGOB	Heavily limonitc
4138462	370800	5351800	77700	WACKER	KING BILLY	EL34/88	70800	1800	5.5	Y	Ogul	Sls	clay		LGG	
4138463	370800	5351775	77700	WACKER	KING BILLY	EL34/88	70800	1775	0							No sample
4138464	370800	5351750	77700	WACKER	KING BILLY	EL34/88	70800	1750	10.5	Y	Ogul	Sls	clay		LGG	
4138465	370800	5351725	77700	WACKER	KING BILLY	EL34/88	70800	1725	9	Y	ogul	Sls	Sandy clay		LG	Minor limonitic alteration
4138466	370800	5351700	77700	WACKER	KING BILLY	EL34/88	70800	1700	9	Y	Ogdc	Ccy	clay		NB	
4138467	370800	5351675	77700	WACKER	KING BILLY	EL34/88	70800	1675	5	Y	Ogdc	Ccy	clay		NDG	
4138468	370800	5351650	77700	WACKER	KING BILLY	EL34/88	70800	1650	6.5	Y	Ogdc	Ccy	clay		NDGNDG	
4138469	370800	5351625	77700	WACKER	KING BILLY	EL34/88	70800	1625	5	Y	Ogdc	Ccy	clay		NDG	
4138470	370800	5351600	77700	WACKER	KING BILLY	EL34/88	70800	1600	6	Y	Ogdc	Ccy	clay		NDG	
4138471	370800	5351575	77700	WACKER	KING BILLY	EL34/88	70800	1575	3	Y	Om	Sss	sand		BLG	Non-calcareous
4138472	370800	5351550	77700	WACKER	KING BILLY	EL34/88	70800	1550	3	Y	Om	Sss	sand	Qz	LGW	Non-calcareous with qtz frags
4138473	370800	5351525	77700	WACKER	KING BILLY	EL34/88	70800	1525	8	Y	Om	Sss	sand		B	Non-calcareous
4138474	370800	5351500	77700	WACKER	KING BILLY	EL34/88	70800	1500	2.5	Y	Ogdc	Ccy	clay		N	Non-calcareous
5466405	371200	5351750	77700	WACKER	KING BILLY	EL34/88	71200	1750	2.6	Y	Ogdc	Ccy	Sandy clay		DBDG	
5466406	371200	5351725	77700	WACKER	KING BILLY	EL34/88	71200	1725	5.6	Y	Ogdc	Ccy	clay		DBN	
5466407	371200	5351700	77700	WACKER	KING BILLY	EL34/88	71200	1700	10.1	Y	Ogdc	Ccy	clay		DBN	

KING BILLY WACKER EL 34/88

Sample No	Ag	Al	As	Ba	Ca	Cu	Fe	K	Mg	Mn	Pb	Zn
4138179	-0.5	5.84	74	136	-0.05	26	9.35	3.31	0.63	14	118	491
4138180	-0.5	8.55	33	370	-0.05	13	2.73	4.91	1.11	13	190	332
4138181	-0.5	4.64	32	174	-0.05	16	3.5	1.79	0.4	31	149	410
4138182	-0.5	5.11	25	158	6.64	14	2.88	1.56	2.25	646	93	207
4138183	-0.5	10.25	61	518	0.05	29	3.57	5.66	1.23	183	54	302
4138184	-0.5	7.42	32	447	-0.05	33	0.93	4.53	0.94	16	84	181
4138185	-0.5	3.2	12	198	-0.05	-5	1	1.61	0.27	49	19	122
4138186	-0.5	9.3	13	403	-0.05	10	1.3	3.75	0.73	43	22	25
4138187	-0.5	7.84	15	296	-0.05	102	2.85	2.81	0.56	55	25	54
4138188	-0.5	7.73	90	405	-0.05	19	3.97	3.27	0.68	32	82	408
4138189	-0.5	8.04	43	220	-0.05	20	1.18	2.18	0.33	15	53	274
4138190	-0.5	6.83	65	177	0.11	16	4.11	2.13	0.41	13	74	185
4138191	-0.5	1.2	9	75	-0.05	-5	0.36	0.52	0.08	14	-10	38
4138192	-0.5	8.02	29	367	-0.05	23	1.81	4.08	0.72	28	43	50
4138193	-0.5	7.56	82	235	-0.05	20	3.06	3.37	0.56	35	95	394
4138194	-0.5	5.18	90	146	-0.05	21	6.95	2.69	0.42	36	70	143
4138195	-0.5	3.98	139	124	-0.05	19	3.86	1.65	0.27	22	301	329
4138196	-0.5	9.26	178	295	-0.05	52	3.77	3.55	0.51	39	311	1490
4138197	1.4	7.94	61	327	0.07	40	4.68	3.59	0.7	32	9750	6700
4138198	-0.5	6.64	162	316	-0.05	38	4.9	3.24	0.66	30	247	1030
4138455	-0.5	6.6	8	252	10.6	21	4.25	3.45	1.28	946	33	216
4138456	-0.5	1.24	-5	57	29.1	-5	1.18	0.68	2.78	153	14	58
4138457	-0.5	3.14	-5	132	20.4	6	1.22	1.64	2.27	140	47	90
4138458	-0.5	1.14	-5	57	32.9	-5	0.77	0.61	1.82	143	24	69
4138459	-0.5	7.96	60	138	0.06	8	0.55	2.05	0.27	-10	68	59
4138460	-0.5	10.2	8	95	-0.05	18	0.79	1.47	0.21	-10	113	97
4138461	-0.5	8.37	28	242	0.08	27	4.38	3.06	0.74	124	677	665
4138462	-0.5	0.79	-5	33	26.1	-5	1.05	0.28	3.76	163	20	40
4138463												
4138464	-0.5	0.79	-5	41	26.6	-5	1.01	0.45	3.54	159	26	96
4138465	-0.5	1.65	-5	68	32.5	-5	0.66	0.85	0.66	80	24	60
4138466	-0.5	9.06	161	118	0.11	11	5.24	1.68	0.34	13	642	529
4138467	-0.5	6.43	32	304	-0.05	368	3.98	3.76	0.77	21	1510	976
4138468	1.6	6.25	22	260	0.05	22	1.83	3.11	0.64	28	6600	2370
4138469	-0.5	8.72	17	387	0.06	23	3.73	4.49	0.96	29	167	222
4138470	-0.5	6.14	17	227	0.05	46	2.96	3.17	0.66	26	54	277
4138471	-0.5	1.86	-5	84	-0.05	-5	0.28	0.69	0.11	13	21	10
4138472	-0.5	1.95	-5	67	-0.05	6	0.28	0.57	0.1	12	17	10
4138473	-0.5	3.94	-5	280	-0.05	25	0.42	1.32	0.19	16	166	75
4138474	-0.5	6.94	20	263	-0.05	16	2.75	3.32	0.69	35	62	351
5466405	-0.5	4.42	49	189	0.05	16	2.92	2.26	0.48	21	602	625
5466406	-0.5	5.42	68	208	-0.05	30	9.74	2.82	0.69	18	503	835
5466407	-0.5	6.04	95	239	0.09	65	4.94	2.58	0.54	167	1890	2290

360 000mE
5 351 000mN
361 000mE
362 000mE
5350 000mN
5349 000mN

Sa
Sk
Sc
Ogul
Ogsi
Ogbr
Pug
Plf
Plg
Om

F
F
F

DD95ZF37
DD95ZF36

Ogdl
Ogdc
Ogud
Ogul
Ogmu
Ogsd
Ogfc

Firewood Siding Fault
River
Badger
>10% Fe

EL28/88 CRAE JV
EL34/88 CRAE JV

Proposed Drillhole "S"

AMG North
Mag. North
Grid Magnetic Convergence 11.8°

0 100 200 300 400
metres

5 cm

9885-96

96-3886
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EL 34/88 - TEAFS J

LEGEND

- Wacker Bedrock Sample <0.1% Zn
- Wacker Bedrock Sample >0.1% Zn
- Aircore Drillhole
- EL boundary
- Borehole and Trace
- Fault
- Lithological Boundary (Inferred)
- Significant Iron Enhancements
- Zinc anomaly > 1000ppm (Zn + Pb)
- Gravity anomaly
- Drainage

Pug,Plf,Plg	Permian Cover		
Sk	Keel Quartzite	Silurian	
Sa	Amber Slate	Silurian	
Sc	Crotty Quartzite	Silurian	
Ogud	Upper Dolomite Unit	Gordon Limestone	Ordovician
Ogsi	Siltstone Unit	Gordon Limestone	Ordovician
Ogul	Undifferentiated Limestone	Gordon Limestone	Ordovician
Ogdl	Undifferentiated Dolomite	Gordon Limestone	Ordovician
Ogmu	Laminated Micrite Unit	Gordon Limestone	Ordovician
Ogoo	Oolite Unit	Gordon Limestone	Ordovician
Ogsd	Siderite Unit	Gordon Limestone	Ordovician
Ogdc	Dark Grey / Black Clay Unit	Gordon Limestone	Ordovician
Ogfc	Ferruginous Clay Unit	Gordon Limestone	Ordovician
Ogms	Massive Sulphide Unit	Gordon Limestone	Ordovician
Ogst	Silty Transition Unit	Gordon Limestone	Ordovician
Ogfz	Fault Zone	Gordon Limestone	Ordovician
Ogbr	Carbonate Breccia – silicified	Gordon Limestone	Ordovician
Om	Moina Sandstone		Ordovician
Oo	Owen Conglomerate		Ordovician
€d	Dundas Group (undifferentiated)		Cambrian

CRA EXPLORATION PTY. LIMITED

ZEEHAN No.2 EL 34/88

Firewood Siding Prospect

DRILLHOLE LOCATION PLAN

695094

Ref.: SJ55-5, 7914, 3634	File: Tv711.dwg
Scale: 1 : 2,500	Date: October 1994
Author: Rob Parkinson	Report No.: 21151
Drawn: R. Travierso/T. Sargeant	Plan No.: Tv 711

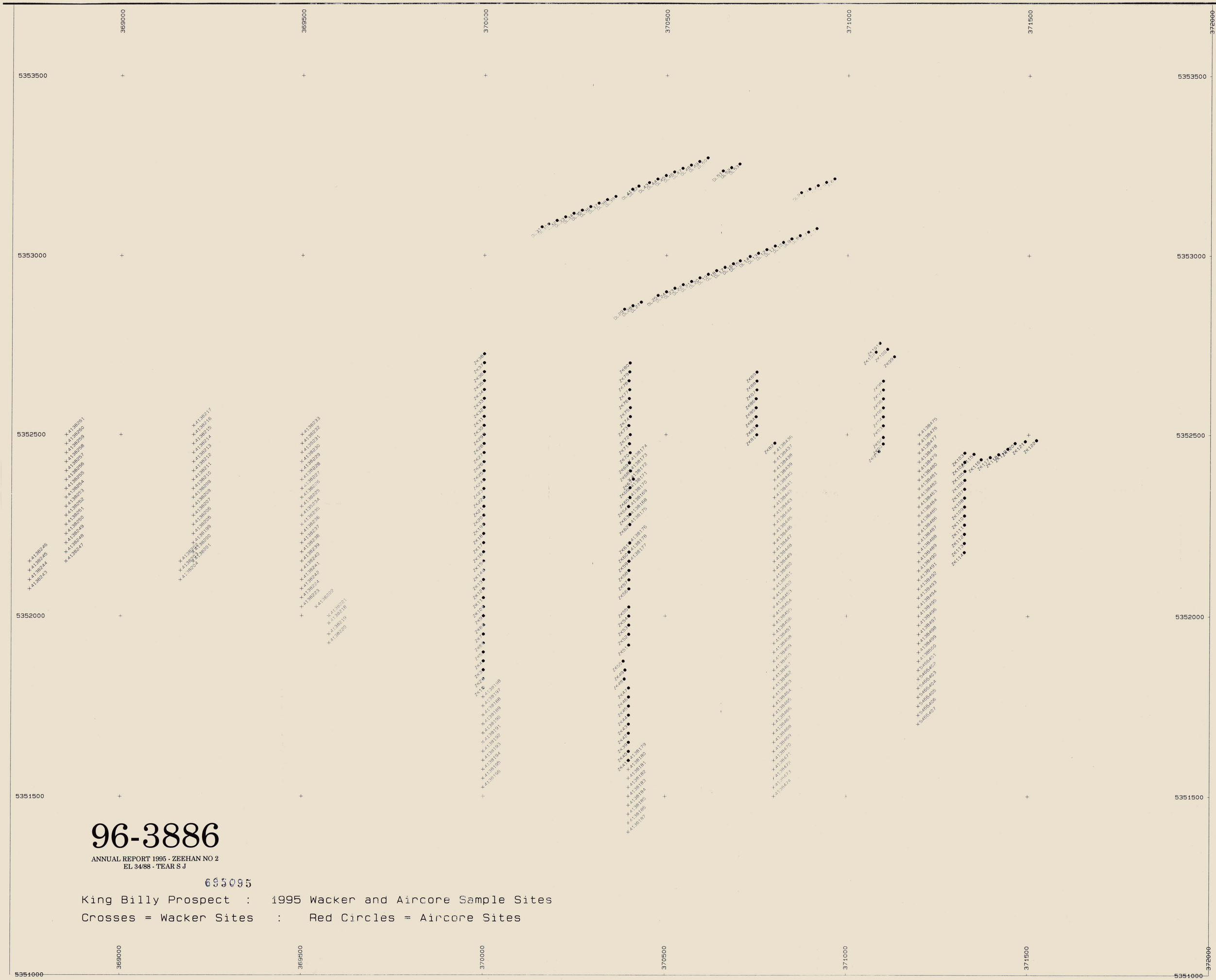
96-3886

ANNUAL REPORT 1995 - ZEEHAN NO 2
EL 34/88 - TEAR S J

695095

King Billy Prospect : 1995 Wacker and Aircore Sample Sites

Crosses = Wacker Sites : Red Circles = Aircore Sites



Appendix X

King Billy Aircore Sampling Results

EL No	Prospect	Hole No	From	To	Sampno	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag	Cu	Fe	Mn	Pb	Zn
34/88	KING BILLY	ZK1	0	3	4142801	Qha	Cg			B	Gritty	-1	20	1.91	227	30	57
34/88	KING BILLY	ZK1	3	6	4142802	Qha	Cg			B	Gritty	-1	30	1.81	171	28	48
34/88	KING BILLY	ZK1	6	9	4142803	Qha	Cg			B	Gritty	-1	34	1.64	172	36	55
34/88	KING BILLY	ZK1	9	12	4142804	Ogdc	Ccy			NDGB	Mud	-1	82	1.04	74	841	216
34/88	KING BILLY	ZK1	12	15	4142805	Ogdc	Ccy			DGN	Mud	-1	57	1.75	67	1464	268
34/88	KING BILLY	ZK1	15	18	4142806	Ogdc	Ccy			DGN	MudClay	1	44	1.62	28	1684	664
34/88	KING BILLY	ZK1	18	21	4142807	Ogdc	CcySls			DGN	Gritty	-1	28	2.19	32	502	249
34/88	KING BILLY	ZK1	21	24	4142808	Ogdc	CcySls		Sd	DGNB	Gritty	-1	26	2.79	35	454	308
34/88	KING BILLY	ZK1	24	27	4142809	Ogul	CcySls		Vc	DGN	Gritty	-1	22	1.62	80	486	222
34/88	KING BILLY	ZK1	27	30	4142810	Ogul	CcySls			G	Sandy Clay	-1	9	1.15	123	118	76
34/88	KING BILLY	ZK1	30	31	4142811	Ogul	CcyCsSls		Vc	DG	Gritty	-1	7	1.16	149	73	59
34/88	KING BILLY	ZK1	31	31	4142812	Ogul	Sls				Sample Not taken						
34/88	KING BILLY	ZK2	0	3	4142813	Qha	CsCcyCg			B	Gritty	-1	5	0.35	18	39	13
34/88	KING BILLY	ZK2	3	6	4142814	Qha	CsCg			B	Gritty Sand	-1	37	0.44	14	126	31
34/88	KING BILLY	ZK2	6	9	4142815	Ogdc	CcySls			DGN	Gritty	-1	60	2.95	30	168	697
34/88	KING BILLY	ZK2	9	12	4142816	Ogdc	CcySls			DGN	Gritty	-1	33	2.94	35	85	300
34/88	KING BILLY	ZK2	12	15	4142817	Ogdc	CcySls		Py	DGN	Gritty	-1	26	3.89	33	89	319
34/88	KING BILLY	ZK2	15	18	4142818	Ogdc	CcySls		Sd	DGNDB	Gritty	-1	58	3.64	25	189	387
34/88	KING BILLY	ZK2	18	21	4142819	Ogul	CcySls			DGN	Gritty	-1	32	3.13	27	115	354
34/88	KING BILLY	ZK2	21	24	4142820	Ogul	CcySls		Vc	DGN	Gritty	-1	19	2.59	109	69	190
34/88	KING BILLY	ZK3	0	3	4142821	Qha	CsCg			DB	Gritty	-1	12	0.59	21	23	26
34/88	KING BILLY	ZK3	3	6	4142822	Qha	CcySls			DB	Gritty Wet	-1	39	2.01	27	164	76
34/88	KING BILLY	ZK3	6	9	4142823	Ogul	CcySls			DGDB	Gritty Wet	-1	34	2.57	26	87	213
34/88	KING BILLY	ZK3	9	12	4142824	Ogdc	CcySls			DGN	Gritty	-1	26	4.06	42	62	217
34/88	KING BILLY	ZK3	12	15	4142825	Ogul	CcySls	Fi		DGN	Gritty Wet	-1	22	6	27	47	197
34/88	KING BILLY	ZK3	15	18	4142826	Ogul	CcySls	Fi		DGN	Gritty	-1	26	3.73	35	51	171
34/88	KING BILLY	ZK3	18	21	4142827	Ogul	CcySls	Fi		DGN	Gritty	-1	23	3.78	31	67	172
34/88	KING BILLY	ZK3	21	24	4142828	Ogul	CcySls			DGN	Gritty	-1	23	3.6	44	49	208
34/88	KING BILLY	ZK3	24	27	4142829	Ogul	CcySls		Py	DGN	Gritty; Pyrite : coarse cubic	-1	22	3.09	61	53	270
34/88	KING BILLY	ZK3	27	30	4142830	Ogul	CcySls		Py	DGN	Gritty Wet	-1	21	2.94	130	93	225
34/88	KING BILLY	ZK3	30	33	4142831	Ogul	CcySls		Vc	DGN	Gritty Wet	-1	13	1.59	305	44	49
34/88	KING BILLY	ZK3	33	36	4142832	Ogdc	Sls			DGN	Gritty Sand	-1	11	1.74	237	36	177
34/88	KING BILLY	ZK4	0	3	4142833	Qha	CsCcy			W	Gritty	-1	8	0.4	22	12	12
34/88	KING BILLY	ZK4	3	6	4142834	Ogdc	CcySls			WDG	Gritty	-1	20	0.97	18	327	315
34/88	KING BILLY	ZK4	6	9	4142835	Ogdc	CcySls	Fi		DG	Gritty	-1	28	3.67	24	1359	1478
34/88	KING BILLY	ZK4	9	12	4142836	Ogdc	CcySls		GaVc	DGN	Gritty	9	29	3.35	33	19400	2360
34/88	KING BILLY	ZK4	12	15	4142837	Ogdc	CcySls		Py	DGN	Gritty	3	33	1.1	19	4453	238
34/88	KING BILLY	ZK4	15	18	4142838	Ogdc	CcySls		PyDi	DGN	Gritty	3	41	2.64	29	5637	1647
34/88	KING BILLY	ZK4	18	21	4142839	Ogdc	Ccy			DG	Gritty	2	31	3.02	38	2332	1531
34/88	KING BILLY	ZK4	21	24	4142840	Ogdc	CcySls		Py	DGGN	Gritty	3	21	3.64	32	7554	3153
34/88	KING BILLY	ZK4	24	27	4142841	Ogdc	CcySls		Py	DGN	Gritty ; Pyrite abundant	3	21	2.64	31	7814	2507
34/88	KING BILLY	ZK4	27	28	4142842	Ogdc	CcySts		Py	DGG	Gritty; Pyrite Fine and brecciated	3	22	2.54	35	6796	1799
34/88	KING BILLY	ZK5	0	3	4142843	Qha	CcyCs			WB	Gritty Sand Clay	-1	4	0.49	18	50	20
34/88	KING BILLY	ZK5	3	6	4142844	Ogdc	CcySls			BWDG	Gritty	-1	53	1.32	23	206	35
34/88	KING BILLY	ZK5	6	9	4142845	Ogdc	CcySls			BWDG	Gritty	-1	29	1.53	21	99	60
34/88	KING BILLY	ZK5	9	12	4142846	Ogdc	CcySls	Fi		DGB	Gritty	-1	34	2.09	28	79	81
34/88	KING BILLY	ZK5	12	15	4142847	Ogdc	CcySls		Di	DGN	Gritty	-1	29	1.93	26	52	115
34/88	KING BILLY	ZK5	15	18	4142848	Ogdc	CcySls	Fi	Di	DG	Gritty	-1	27	1.68	21	40	128
34/88	KING BILLY	ZK5	18	21	4142849	Ogdl	Sdl		Py	DGN	Gritty Clay Wet Gritty	-1	21	1.33	24	25	236

EL No	Prospect	Hole No	From	To	Sampno	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag	Cu	Fe	Mn	Pb	Zn
34/88	KING BILLY	ZK5	21	24	4142850	Ogdl	Sdl		Py	DGN	Gritty Wet	-1	21	1.89	21	55	101
34/88	KING BILLY	ZK5	24	27	4142851	Ogul	CcySlsSdl			DGN	Gritty	-1	17	1.99	96	47	153
34/88	KING BILLY	ZK5	27	30	4142852	Ogul	SlsSdl		Sp	DGN	Gritty Wet	-1	16	2.05	105	58	199
34/88	KING BILLY	ZK5	30	31	4142853	Ogul	SlsSdl			DGN	Gritty Wet	-1	17	2.9	102	31	134
34/88	KING BILLY	ZK6	3	6	4142854	Ogdc	CcySls			DGDB	Gritty	-1	25	1.45	20	36	93
34/88	KING BILLY	ZK6	6	9	4142855	Ogdc	CcySls			DGN	Gritty	-1	23	2.2	17	36	148
34/88	KING BILLY	ZK6	9	12	4142856	Ogdc	CcySls		Di	DGN	Gritty	-1	24	2.7	21	37	293
34/88	KING BILLY	ZK6	12	15	4142857	Ogdc	CcySls		PyDi	DGN	Gritty	-1	24	2.5	27	35	90
34/88	KING BILLY	ZK6	15	18	4142858	Ogdc	CcySls		Di	DG	Gritty	-1	25	2.55	27	37	160
34/88	KING BILLY	ZK6	18	21	4142859	Ogul	CcySls		Vc	DG	Gritty	-1	25	1.53	19	62	85
34/88	KING BILLY	ZK6	21	24	4142860	Ogul	CcySls			DGN	Gritty	1	26	2.33	28	50	97
34/88	KING BILLY	ZK7	3	6	4142861	Ogdc	CcySls		Di	DG	Gritty	-1	44	1.57	25	75	69
34/88	KING BILLY	ZK7	6	9	4142862	Ogdc	CcySls		Di	DGB	Gritty	-1	61	1.53	27	126	90
34/88	KING BILLY	ZK7	9	12	4142863	Ogdc	CgCcySls			DGN	Gritty	-1	60	1.8	20	144	196
34/88	KING BILLY	ZK7	12	15	4142864	Ogdc	CcySls		Di	DGN	Gritty	-1	33	2.41	19	71	245
34/88	KING BILLY	ZK7	15	18	4142865	Ogdl	SdlSls			DG	Gritty Wet	-1	25	2.29	27	39	66
34/88	KING BILLY	ZK7	18	21	4142866	Ogdl	SdlSls		Py	DGB	Gritty Wet	-1	23	2.12	19	30	57
34/88	KING BILLY	ZK7	21	24	4142867	Ogdl	SdlSls		Py	DG	Gritty Wet	-1	24	2.34	23	138	292
34/88	KING BILLY	ZK7	24	27	4142868	Ogdc	CcySls	Fi	Py	DGN	Gritty	1	25	2.31	27	100	359
34/88	KING BILLY	ZK7	27	30	4142869	Ogdl	SdlSls			DG	Gritty	1	28	2.26	27	69	412
34/88	KING BILLY	ZK7	30	33	4142870	Ogdl	SdlSls		Vd	DGW	Gritty Sand Wet	-1	29	0.57	13	47	113
34/88	KING BILLY	ZK7	33	36	4142871	Ogdl	Sdl		Vd	LG	Gritty	-1	22	0.42	9	21	80
34/88	KING BILLY	ZK7	36	38	4142872	Ogul	Sls		Py	DG	Gritty Wet	-1	16	1.24	117	25	24
34/88	KING BILLY	ZK8	0	3	4142873	Qha	Ccy			B	Gritty	-1	11	1.24	144	19	21
34/88	KING BILLY	ZK8	3	6	4142874	Qha	CcyCg			BGLG	Gritty	-1	30	0.98	88	19	29
34/88	KING BILLY	ZK8	6	9	4142875	Qha	CcyCg			B	Sand	-1	35	0.91	57	40	75
34/88	KING BILLY	ZK8	9	12	4142876	Ogdc	Ccy			DGN	Gritty	-1	30	3.08	28	36	910
34/88	KING BILLY	ZK8	12	15	4142877	Ogdc	Ccy			DG	Gritty	1	27	2.45	29	20	150
34/88	KING BILLY	ZK8	15	18	4142878	Ogdc	CcySls		Di	DG	Gritty; Poss argill. Siltstone	-1	30	2.41	26	32	257
34/88	KING BILLY	ZK8	18	21	4142879	Ogdc	CcySls		Di	DG	Gritty	-1	25	2.23	23	30	106
34/88	KING BILLY	ZK8	21	24	4142880	Ogdc	Ccy			DG	Gritty	-1	24	2.22	24	32	198
34/88	KING BILLY	ZK8	24	27	4142881	Ogdc	CcySls		Py	DG	Gritty	-1	22	1.85	16	26	184
34/88	KING BILLY	ZK8	27	30	4142882	Ogdc	CcySls		Py	DG	Gritty	-1	21	2.32	21	35	230
34/88	KING BILLY	ZK8	30	33	4142883	Ogdc	CcySls		Py	DG	Gritty	-1	20	2.28	22	26	88
34/88	KING BILLY	ZK8	33	36	4142884	Ogdc	CcySls			DG	Gritty	-1	20	2.48	25	24	39
34/88	KING BILLY	ZK8	36	39	4142885	Ogul	Sls			G	Gritty	-1	18	2.07	101	28	271
34/88	KING BILLY	ZK8	39	42	4142886	Ogul	Sls			DG	Gritty	-1	11	1.38	140	26	69
34/88	KING BILLY	ZK8	42	43	4142887	Ogul	Sls			DG	Gritty	-1	11	1.45	133	26	65
34/88	KING BILLY	ZK39	0	3	4143120	Qha	CgCcy			BW	Grit	-1	6	0.43	28	18	11
34/88	KING BILLY	ZK39	3	6	4143121	Qha	Ccy			DGB	Gritty	-1	44	1.46	26	204	86
34/88	KING BILLY	ZK39	6	9	4143122	Qha	Cs			DGB	Sand	-1	34	1.59	28	124	435
34/88	KING BILLY	ZK39	9	12	4143123	Qha	CcyCs			DGB	Sandy Clay	2	43	0.57	110	13000	26400
34/88	KING BILLY	ZK39	12	15	4143124	Qha	CcyCs			DGB	Sandy Clay	-1	39	1.04	32	515	2091
34/88	KING BILLY	ZK39	15	18	4143125	Ogdc	Ccy			DG	Gritty	-1	27	0.75	34	290	3253
34/88	KING BILLY	ZK39	18	21	4143126	Ogdc	Ccy			DG	Gritty	-1	21	1.18	29	362	2556
34/88	KING BILLY	ZK39	21	24	4143127	Ogdc	CcySls		Py	DG	Gritty	-1	20	1.3	22	296	1227
34/88	KING BILLY	ZK39	24	27	4143128	Ogdc	CcySls			DGN	Gritty	-1	21	0.91	28	310	1577
34/88	KING BILLY	ZK39	27	30	4143129	Ogdc	Ccy				Gritty	-1	28	1.23	143	479	644
34/88	KING BILLY	ZK39	30	33	4143130							-1	10	1.61	269	61	73

EL No	Prospect	Hole No	From	To	Sampno	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag	Cu	Fe	Mn	Pb	Zn
34/88	KING BILLY	ZK39	33	36	4143131	Ogul	Sls				Small F.R.s.	-1	11	1.46	354	54	84
34/88	KING BILLY	ZK39	36	39	4143132	Ogul	Sls				E.O.H.Wet	-1	8	1.68	528	46	61
34/88	KING BILLY	ZK40	0	3	4143133							-1	7	0.39	24	21	31
34/88	KING BILLY	ZK40	3	6	4143134							-1	105	0.69	17	326	98
34/88	KING BILLY	ZK40	6	9	4143135							-1	71	1.19	25	680	1475
34/88	KING BILLY	ZK40	9	12	4143136							-1	33	0.78	19	1008	1796
34/88	KING BILLY	ZK40	12	15	4143137						Small Sample Cavity	-1	27	0.83	203	260	1309
34/88	KING BILLY	ZK40	15	18	4143138						Small Sample Cavity	-1	13	1.45	524	90	245
34/88	KING BILLY	ZK40	18	21	4143139						Wet	-1	25	1.08	34	45	435
34/88	KING BILLY	ZK40	21	24	4143140						Wet	-1	22	1.61	117	60	339
34/88	KING BILLY	ZK40	24	27	4143141						Wet	-1	10	1.44	341	40	79
34/88	KING BILLY	ZK40	27	30	4143142						Wet SOME Clay and R.F.s.	-1	8	1.3	255	37	60
34/88	KING BILLY	ZK40	30	33	4143143						E.O.H. Wet	-1	10	1.48	358	35	74
34/88	KING BILLY	ZK41	0	3	4143144							-1	44	0.94	46	343	342
34/88	KING BILLY	ZK41	3	6	4143145							-1	20	1.46	26	174	381
34/88	KING BILLY	ZK41	6	9	4143146							-1	29	0.49	29	111	326
34/88	KING BILLY	ZK41	9	12	4143147							-1	28	0.85	34	210	539
34/88	KING BILLY	ZK41	12	15	4143148							-1	29	1.04	33	134	355
34/88	KING BILLY	ZK41	15	18	4143149							-1	23	1.18	23	64	238
34/88	KING BILLY	ZK41	18	21	4143150						E.O.H. Fine Grain Sand	-1	19	1	133	64	161
34/88	KING BILLY	ZK42	0	3	4143151							-1	7	0.81	39	11	26
34/88	KING BILLY	ZK42	3	6	4143152							-1	6	0.77	42	16	29
34/88	KING BILLY	ZK42	6	9	4143153							-1	20	1.6	38	189	208
34/88	KING BILLY	ZK42	9	12	4143154							-1	35	1.5	31	312	407
34/88	KING BILLY	ZK42	12	15	4143155							-1	25	1.43	33	701	690
34/88	KING BILLY	ZK42	15	18	4143156							-1	21	1.07	29	178	307
34/88	KING BILLY	ZK42	18	21	4143157							-1	31	1.37	28	406	391
34/88	KING BILLY	ZK42	21	24	4143158							-1	32	1.49	29	1632	468
34/88	KING BILLY	ZK42	24	27	4143159							-1	27	1.06	21	1814	665
34/88	KING BILLY	ZK42	27	30	4143160							-1	21	0.97	20	154	214
34/88	KING BILLY	ZK42	30	33	4143161							-1	23	1.14	31	122	756
34/88	KING BILLY	ZK42	33	36	4143162							-1	23	0.96	25	303	844
34/88	KING BILLY	ZK42	36	39	4143163						Wet Small Sample	-1	20	1.18	22	160	366
34/88	KING BILLY	ZK42	39	42	4143164						Wet Small Sample	-1	15	1.2	196	82	310
34/88	KING BILLY	ZK42	42	45	4143165						Wet E.O.H.	-1	10	1.5	324	60	374
34/88	KING BILLY	ZK43	0	3	4143166							-1	5	0.35	26	10	16
34/88	KING BILLY	ZK43	3	6	4143167							-1	6	0.34	110	15	12
34/88	KING BILLY	ZK43	6	9	4143168							-1	48	1.31	20	707	454
34/88	KING BILLY	ZK43	9	12	4143169							-1	25	1.86	30	1169	1017
34/88	KING BILLY	ZK43	12	15	4143170							-1	15	4.96	19	651	1464
34/88	KING BILLY	ZK43	15	18	4143171							-1	19	3.31	18	135	601
34/88	KING BILLY	ZK43	18	21	4143172							-1	22	4.25	26	95	309
34/88	KING BILLY	ZK43	21	24	4143173							-1	28	3.83	33	64	287
34/88	KING BILLY	ZK43	24	27	4143174							-1	24	4.11	23	295	1372
34/88	KING BILLY	ZK43	27	30	4143175							-1	24	3.9	20	1945	2643
34/88	KING BILLY	ZK43	30	33	4143176							-1	20	4.01	20	848	2294
34/88	KING BILLY	ZK43	33	34	4143177						Small Amount Of R.F.s.	-1	18	2.98	26	347	788
34/88	KING BILLY	ZK44	3	6	4143178							-1	7	0.45	11	28	35
34/88	KING BILLY	ZK44	6	9	4143179							-1	25	1.25	14	94	432

EL No	Prospect	Hole No	From	To	Sampno	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag	Cu	Fe	Mn	Pb	Zn
34/88	KING BILLY	ZK44	9	12	4143180							-1	22	1.64	18	80	695
34/88	KING BILLY	ZK44	12	15	4143181							-1	25	2.74	26	57	458
34/88	KING BILLY	ZK44	15	18	4143182							-1	22	2.16	26	50	378
34/88	KING BILLY	ZK44	18	21	4143183							-1	24	2.36	31	58	380
34/88	KING BILLY	ZK44	21	24	4143184							-1	24	2.36	29	69	361
34/88	KING BILLY	ZK44	24	27	4143185							-1	28	2.59	26	489	666
34/88	KING BILLY	ZK44	27	30	4143186							-1	16	2.77	20	163	636
34/88	KING BILLY	ZK44	30	33	4143187							-1	19	4.01	18	77	252
34/88	KING BILLY	ZK44	33	36	4143188							-1	21	2.25	19	61	150
34/88	KING BILLY	ZK44	36	39	4143189							-1	23	3.22	29	86	122
34/88	KING BILLY	ZK44	39	42	4143190	Ogdc	Ccy Sls	Ds	Vc Py W	N	Laminated Sls.	-1	21	4.09	87	773	1100
34/88	KING BILLY	ZK44	42	45	4143191	Ogdc	Ccy Sls		Vc Py W	N		-1	16	2.16	164	2216	1046
34/88	KING BILLY	ZK44	45	48	4143192	Ogul	Sls		Vc Py	G		-1	11	1.48	222	1996	793
34/88	KING BILLY	ZK45	0	3	4143193	Qha	Ccy			W		-1	2	0.43	12	20	11
34/88	KING BILLY	ZK45	3	6	4143194	Ogdc	Ccy		Sd?	NW		-1	35	1.16	11	258	162
34/88	KING BILLY	ZK45	6	9	4143195	Ogdc	Ccy			N		-1	123	2.55	23	971	1400
34/88	KING BILLY	ZK45	9	12	4143196	Ogdc	Ccy		Py	N		1	86	2.56	25	1049	1265
34/88	KING BILLY	ZK45	12	15	4143197	Ogdc	Ccy Sls	Fi	Py	N		1	32	2.25	32	585	2841
34/88	KING BILLY	ZK45	15	18	4143198	Ogdc	Ccy Sls	Fi	Py	N		1	29	2.28	33	384	1827
34/88	KING BILLY	ZK45	18	21	4143199	Ogdc	Ccy Sls			N		-1	26	2.1	30	325	1717
34/88	KING BILLY	ZK45	21	24	4143200	Ogdc	Ccy			N		-1	33	3.03	40	152	1258
34/88	KING BILLY	ZK45	24	27	4143401	Ogdc	Ccy		Vc	N		-1	29	3.64	30	196	1167
34/88	KING BILLY	ZK45	27	30	4143402	Ogdc	Ccy		Vc	N		-1	28	3.63	30	151	954
34/88	KING BILLY	ZK45	30	33	4143403	Ogdc	Ccy		Vc	N		-1	29	3.34	22	119	590
34/88	KING BILLY	ZK45	33	36	4143404	Ogdc	Ccy Sls	Ds	Py	DG		-1	28	3.05	22	138	445
34/88	KING BILLY	ZK45	36	39	4143405	Ogdc	Ccy		Py	N		-1	30	3.94	25	489	492
34/88	KING BILLY	ZK45	39	42	4143406	Ogdc	Ccy		Py	DG	Rounded quartz pebbles.	-1	19	4.09	18	215	294
34/88	KING BILLY	ZK45	42	45	4143407	Ogdc	Ccy		Py	DG	Rounded quartz pebbles.	-1	22	5	22	267	476
34/88	KING BILLY	ZK45	45	48	4143408	Ogdc	Ccy Sls		Py Vc	N		-1	22	3.1	61	165	343
34/88	KING BILLY	ZK45	48	49	4143409	Ogdc	Ccy Sls		Py Vc	N		-1	18	2.42	109	121	300
34/88	KING BILLY	ZK46	0	5		Qha	Cg										
34/88	KING BILLY	ZK46	5	6	4143410	Ogdc	Ccy			DG		-1	49	0.56	16	87	37
34/88	KING BILLY	ZK46	6	9	4143411	Ogdc	Ccy			DG		-1	50	0.92	11	523	254
34/88	KING BILLY	ZK46	9	12	4143412	Ogdc	Ccy Sls		?Sd	DG		-1	39	2.27	16	675	1460
34/88	KING BILLY	ZK46	12	15	4143413	Ogdc	Ccy Sls		?Sd	DG		-1	22	1.99	16	168	1955
34/88	KING BILLY	ZK46	15	18	4143414	Ogdc	Ccy Sls			DG		-1	30	2.32	17	870	2246
34/88	KING BILLY	ZK46	18	21	4143415	Ogdc	Ccy Sls		Vc Py Sc	DG		-1	32	3.05	17	1954	2616
34/88	KING BILLY	ZK46	21	24	4143416	Ogdc	Ccy Sls		Py	DG		-1	24	5.3	20	1146	1305
34/88	KING BILLY	ZK46	24	27	4143417	Ogdc	Ccy Sls		Py	DG		3	20	9.7	21	13000	3879
34/88	KING BILLY	ZK46	27	30	4143418	Ogdc	Ccy Sls		Py	DG		1	28	4.04	33	2294	1185
34/88	KING BILLY	ZK46	30	33	4143419	Ogdc	Ccy			DG		-1	27	3.93	31	772	751
34/88	KING BILLY	ZK46	33	36	4143420	Ogdc	Ccy			DG		-1	28	4.13	27	524	939
34/88	KING BILLY	ZK46	36	39	4143421	Ogdc	Ccy			DG		-1	25	4.13	26	688	1371
34/88	KING BILLY	ZK46	39	42	4143422	Ogdc	Ccy Sls		Sd	DG		-1	32	4.93	26	2235	14600
34/88	KING BILLY	ZK46	42	45	4143423	Ogdc	Ccy Sls		Py	DG		1	31	5.1	28	1876	11300
34/88	KING BILLY	ZK46	45	48	4143424	Ogul	Sls		Vc	DG		-1	22	3.11	164	1074	4384
34/88	KING BILLY	ZK47	0	9		Qha	Cg										
34/88	KING BILLY	ZK47	9	12	4143425	Ogdc	Ccy			N		-1	23	2.26	20	334	940
34/88	KING BILLY	ZK47	12	15	4143426	Ogdc	Ccy			N		-1	24	2.72	16	226	930

EL No	Prospect	Hole No	From	To	Sampno	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag	Cu	Fe	Mn	Pb	Zn
34/88	KING BILLY	ZK47	15	18	4143427	Ogdc	Ccy			N		-1	23	2.9	28	152	758
34/88	KING BILLY	ZK47	18	21	4143428	Ogdc	Ccy	Ds	Py	N		-1	24	3.06	29	172	769
34/88	KING BILLY	ZK47	21	24	4143429	Ogdc	Ccy Sls		Vq	N		-1	17	2.89	28	134	508
34/88	KING BILLY	ZK47	24	27	4143430	Ogdc	Ccy Sls	Fi		N		-1	18	3.04	27	157	612
34/88	KING BILLY	ZK47	27	30	4143431	Ogdc	Ccy		Py	N		1	29	4.33	31	3589	3629
34/88	KING BILLY	ZK47	30	33	4143432	Ogdc	Ccy Sls			N		2	24	3.62	27	6197	2628
34/88	KING BILLY	ZK47	33	36	4143433	Ogdc	Ccy Sls			N		1	24	3.59	34	2805	1376
34/88	KING BILLY	ZK47	36	39	4143434	Ogdc	Ccy			N		-1	16	2.31	76	569	552
34/88	KING BILLY	ZK47	39	42	4143435	Ogul	Sls			G	Fossiliferous Sls.	-1	11	1.89	118	369	383
34/88	KING BILLY	ZK47	42	45	4143436	Ogul	Sls			G	Fossiliferous Sls.	-1	11	2.11	117	351	667
34/88	KING BILLY	ZK47	45	46	4143437	Ogdc	Ccy Sls		Vc	G		-1	10	2.56	117	219	452
34/88	KING BILLY	ZK48	0	4		Qha	Cg										
34/88	KING BILLY	ZK48	4	6	4143438	Ogdc	Ccy			N		-1	17	2.03	27	105	425
34/88	KING BILLY	ZK48	6	9	4143439	Ogdc	Ccy	Ds	Py	N		-1	27	3	28	77	303
34/88	KING BILLY	ZK48	9	12	4143440	Ogdc	Ccy	Ds	Py	N		-1	24	5.2	23	129	875
34/88	KING BILLY	ZK48	12	15	4143441	Ogdc	Ccy	Ds	Py	N		-1	24	4.23	28	103	424
34/88	KING BILLY	ZK48	15	18	4143442	Ogdc	Ccy	Ds	Py	N		-1	32	6.1	34	184	1203
34/88	KING BILLY	ZK48	18	21	4143443	Ogdc	Ccy	Ds	Py	N		-1	30	3.85	30	147	850
34/88	KING BILLY	ZK48	21	24	4143444	Ogdc	Ccy Sls			DG		-1	16	2.44	78	87	255
34/88	KING BILLY	ZK48	24	27	4143445	Ogdc	Ccy Sls			DG		-1	12	1.85	113	65	101
34/88	KING BILLY	ZK48	27	30	4143446	Ogdc	Ccy Sls			DG		-1	16	2.75	107	78	253
34/88	KING BILLY	ZK48	30	33	4143447	Ogdc	Ccy Sls		Vc	AG		-1	16	2.22	93	77	369
34/88	KING BILLY	ZK49	0	4		Qha	Cg										
34/88	KING BILLY	ZK49	4	6	4143448	Ogdc	Ccy			N		-1	26	4.35	26	66	60
34/88	KING BILLY	ZK49	6	9	4143449	Ogdc	Ccy			N		-1	24	3.71	25	55	150
34/88	KING BILLY	ZK49	9	12	4143450	Ogdc	Ccy			N		-1	25	6	20	41	145
34/88	KING BILLY	ZK49	12	15	4143451	Ogdc	Ccy			N		-1	25	3.88	21	46	100
34/88	KING BILLY	ZK49	15	18	4143452	Ogdc	Ccy Sls			N		-1	32	4.02	17	30	73
34/88	KING BILLY	ZK49	18	21	4143453	Ogdc	Ccy Sls			N		-1	26	4.11	23	39	80
34/88	KING BILLY	ZK49	21	23	4143454	Ogdc	Ccy Sls		Py Vc	DG	Fossiliferous and oolitic Sls.	-1	23	3.66	36	33	65
34/88	KING BILLY	ZK50	0	1	4143455	Qha	Cg										
34/88	KING BILLY	ZK50	1	3	4143455	Ogdc	Ccy			N		-1	22	2.02	13	49	45
34/88	KING BILLY	ZK50	3	6	4143456	Ogdc	Ccy			N		-1	23	3.18	29	46	109
34/88	KING BILLY	ZK50	6	9	4143457	Ogdc	Ccy		Py	N		-1	23	3.72	32	48	134
34/88	KING BILLY	ZK50	9	12	4143458	Ogdc	Ccy	Ds		N		-1	24	3.18	26	80	308
34/88	KING BILLY	ZK50	12	15	4143459	Ogdc	Ccy Sls			N		-1	21	3.83	25	87	327
34/88	KING BILLY	ZK50	15	18	4143460	Ogdc	Ccy Sls			DG		-1	23	3.21	27	64	335
34/88	KING BILLY	ZK50	18	21	4143461	Ogdc	Ccy Sls		Py	N		-1	26	3.01	38	41	205
34/88	KING BILLY	ZK50	21	24	4143462	Ogdc	Ccy Sls		Py	N		-1	20	2.35	113	31	124
34/88	KING BILLY	ZK50	24	27	4143463	Ogdc	Ccy Sls		Py	N		-1	22	2.5	73	49	162
34/88	KING BILLY	ZK50	27	29	4143464	Ogdc	Ccy Sls		Py	N		-1	13	2.15	156	28	42
34/88	KING BILLY	ZK51	0	1.2	4143465	Qha	Cg										
34/88	KING BILLY	ZK51	1.2	3	4143465	Ogdc	Ccy			N		-1	30	1.66	19	2526	939
34/88	KING BILLY	ZK51	3	6	4143466	Ogdc	Ccy			DG		-1	19	2.09	13	187	727
34/88	KING BILLY	ZK51	6	9	4143467	Ogdc	Ccy			DG		-1	22	2.16	12	383	622
34/88	KING BILLY	ZK51	9	12	4143468	Ogdc	Ccy			DG		-1	23	2.26	15	122	669
34/88	KING BILLY	ZK51	12	15	4143469	Ogdc	Ccy			N		-1	25	2.67	18	84	339
34/88	KING BILLY	ZK51	15	18	4143470	Ogdc	Ccy			N		-1	26	3.44	18	202	631
34/88	KING BILLY	ZK51	18	21	4143471	Ogdc	Ccy			N		-1	32	4.02	16	170	778

EL No	Prospect	Hole No	From	To	Sampno	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag	Cu	Fe	Mn	Pb	Zn
34/88	KING BILLY	ZK51	21	24	4143472	Ogdc	Ccy			N		-1	30	3.1	49	107	570
34/88	KING BILLY	ZK51	24	27	4143473	Ogdc	Ccy			N		-1	20	2.53	99	98	392
34/88	KING BILLY	ZK51	27	30	4143474	Ogdc	Ccy			N	Oolitic Sls.	-1	16	2.14	123	85	261
34/88	KING BILLY	ZK51	30	33	4143475	Ogdc	Ccy			N		-1	13	1.64	213	79	281
34/88	KING BILLY	ZK51	33	36	4143476	Ogdc	Ccy			N		-1	12	1.54	194	97	281
34/88	KING BILLY	ZK51	36	39	4143477	Ogdc	Ccy Sls		He	N	Hematite stained Sls.	-1	12	1.19	186	71	191
34/88	KING BILLY	ZK51	39	42	4143478	Ogdc	Ccy Sls		He	N	Hematite stained Sls.	-1	10	0.88	197	69	190
34/88	KING BILLY	ZK51	42	45	4143479	Ogul	Sls Ssh		Vc	DG	R Ssh.	-1	14	1.01	181	47	115
34/88	KING BILLY	ZK52	0	6	4143480	Ogdc	Ccy			O	derived from Ssh.	-1	21	2.07	14	150	30
34/88	KING BILLY	ZK52	6	9	4143481	Ogdc	Ccy			O	derived from Ssh.	-1	37	3.35	10	298	78
34/88	KING BILLY	ZK52	9	12	4143482	Ogul	Sls Ssh		Vc	O		-1	34	3.6	128	1683	919
34/88	KING BILLY	ZK52	12	14	4143483	Ogul	Sls Ssh		Vc	O	Plus V pebbly Sss.	-1	20	1.88	217	539	321
34/88	KING BILLY	ZK53	0	1.5	4143484	Qha	Cg										
34/88	KING BILLY	ZK53	1.5	3	4143484	Ogdc	Ccy			N		-1	36	1.02	120	299	163
34/88	KING BILLY	ZK53	3	6	4143485	Ogdc	Ccy			N		-1	27	2.9	53	455	387
34/88	KING BILLY	ZK53	6	9	4143486	Ogdc	Ccy			N		-1	24	2.28	47	256	213
34/88	KING BILLY	ZK53	9	12	4143487	Ogdc	Ccy			N		-1	25	2.38	20	198	403
34/88	KING BILLY	ZK53	12	15	4143488	Ogdc	Ccy Sls			N		-1	27	2.71	25	220	738
34/88	KING BILLY	ZK53	15	18	4143489	Ogdc	Ccy Sls Ss	Bx	Vq	DG	Slickensides.	-1	25	2.28	134	436	520
34/88	KING BILLY	ZK53	18	21	4143490	Ogul	Sls Ssh		Vc	G		-1	18	1.63	218	216	236
34/88	KING BILLY	ZK53	21	24	4143491	Ogdc	Ccy Sls	Bx	Py Vc	G	Py Vc cement Sls Bx.	-1	12	1.11	215	136	198
34/88	KING BILLY	ZK53	24	26	4143492	Ogul	Sls Ssh		Vc	G		-1	13	1.18	217	140	174
34/88	KING BILLY	ZK54	0	3	4143493	Ogdc	Ccy			O		-1	18	1.39	12	42	48
34/88	KING BILLY	ZK54	3	6	4143494	Ogdc	Ccy			Odgc		2	73	3.25	9	625	366
34/88	KING BILLY	ZK54	6	9	4143495	Ogdc	Ccy			N		2	38	3.09	27	2028	1167
34/88	KING BILLY	ZK54	9	12	4143496	Ogdc	Ccy			N		-1	27	2.47	26	1063	1367
34/88	KING BILLY	ZK54	12	13	4143497	Ogul	Sls		Vc	O		-1	24	2.49	39	484	997

Appendix XI

King Billy End-of-hole Sample Results

KING BILLY AIR-CORE EL 34/88

Sample No	AMGE	AMGN	DPO No	Sample Type	Prospect	EL No	Local E	Local N	Depth	Bedrock	Hole No	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments
5465101	370000	5351800	77686	AIR-CORE	KING BILLY	EL34/88	70000	1800	31		ZK1	Ogul	Sls	We	Py	GDG	Mic. calcarenite argill. calcarenite
5465102	370000	5351825	77686	AIR-CORE	KING BILLY	EL34/88	70000	1825	24		ZK2	Ogul	Sls	Vc		GDG	Calcarenite
5465103	370000	5351850	77686	AIR-CORE	KING BILLY	EL34/88	70000	1850	36		ZK3	Ogul	Sls			DGLG	Mixed calcarenites
5465104	370000	5351875	77686	AIR-CORE	KING BILLY	EL34/88	70000	1875	28		ZK4	Ogul	Sls	Vc		G	Micritic fine calcarenite with argillite
5465105	370000	5351900	77686	AIR-CORE	KING BILLY	EL34/88	70000	1900	31		ZK5	Ogul	Sls	Vc		G	Micritic fine calcarenite with argillite
5465106	370000	5351925	77686	AIR-CORE	KING BILLY	EL34/88	70000	1925	23.6		ZK6	Ogul	Sls			DG	Med grained calcarenite
5465107	370000	5351950	77686	AIR-CORE	KING BILLY	EL34/88	70000	1950	38		ZK7	Ogul	Sls	Vc	Py	DG	Argillaceous calcarenite
5465108	370000	5351975	77686	AIR-CORE	KING BILLY	EL34/88	70000	1975	43		ZK8	Ogul	Sls	We		LG	Calcarenite
5465139	370400	5351650	77686	AIR-CORE	KING BILLY	EL34/88	70400	1650	39		ZK39	Ogul	Sls	Vc		LG	Fine micritic calcarenite
5465140	370400	5351625	77686	AIR-CORE	KING BILLY	EL34/88	70400	1625	31		ZK40	Ogul	Sls	Vc		DGG	Med calcarenite
5465141	370400	5351600	77686	AIR-CORE	KING BILLY	EL34/88	70400	1600	21		ZK41	Ogul	Sls			G	Granular calcarenite
5465142	370400	5351675	77686	AIR-CORE	KING BILLY	EL34/88	70400	1675	44		ZK42	Ogul	Sls			GDG	Mixed bioclastic calcarenites
5465143	370400	5351700	77686	AIR-CORE	KING BILLY	EL34/88	70400	1700	34		ZK43	Ogul	Sls			DG	Argillaceous calcsiltite
5465144	370400	5351725	77686	AIR-CORE	KING BILLY	EL34/88	70400	1725	48		ZK44	Ogul	Sls	Vc		GLG	Micritic fine calcarenite
5465145	370400	5351750	77686	AIR-CORE	KING BILLY	EL34/88	70400	1750	49.3		ZK45	Ogul	Sls			DGG	Argillaceous calcsiltite
5465146	370400	5351775	77686	AIR-CORE	KING BILLY	EL34/88	70400	1775	48		ZK46	Ogul	Sls			DGG	Argillaceous calcsiltite
5465147	370400	5351800	77686	AIR-CORE	KING BILLY	EL34/88	70400	1800	46		ZK47	Ogul	Sls			DGG	Argillaceous calcsiltite
5465148	370488	5351825	77686	AIR-CORE	KING BILLY	EL34/88	70488	1825	33		ZK48	Ogul	Sls			DGLG	Mixed fine & med grained calcarenites
5465149	370390	5351850	77686	AIR-CORE	KING BILLY	EL34/88	70390	1850	23		ZK49	Ogul	Sls			DGLG	Mixed fine & med grained calcarenites
5465150	370385	5351875	77686	AIR-CORE	KING BILLY	EL34/88	70385	1875	29		ZK50	Ogul	Sls			DGN	Argillaeous calcsiltite
5465151	370400	5351920	77686	AIR-CORE	KING BILLY	EL34/88	70400	1920	45		ZK51	Ogul	Sls			LGDG	Mixed micrite and calcarenite
5465152	370400	5351950	77686	AIR-CORE	KING BILLY	EL34/88	70400	1950	13.5		ZK52	Oo	Scg		He	R	?conglomerate non-calcareous
5465153	370400	5351975	77686	AIR-CORE	KING BILLY	EL34/88	70400	1975	25.8		ZK53	Ogul	Sls		He	R	Calcareous
5465154	370400	5352000	77686	AIR-CORE	KING BILLY	EL34/88	70400	2000	13		ZK54	Ogul	Sls			DGLG	Med calcarenite with lighter calcarenite

Sample No	Ag	Al	As	Ba	Ca	Cu	Fe	K	Mg	Mn	Pb	Zn
5465101	-0.5	0.89	-5	40	26.5	-5	0.73	0.46	5.75	139	14	35
5465102	-0.5	1.04	-5	44	25.4	5	0.86	0.5	1.88	170	21	49
5465103	-0.5	1.37	-5	55	22.7	7	1.36	0.7	8.62	264	15	54
5465104	1	7.35	136	355	2.53	24	5.02	3.3	0.7	49	4840	559
5465105	-0.5	4.61	-5	217	14.1	7	3.77	2.46	2.93	169	16	57
5465106	-0.5	2.26	-5	94	21.7	-5	1.36	1.21	4.28	178	16	31
5465107	-0.5	1.52	-5	63	26.2	-5	1.15	0.85	3.68	194	17	31
5465108	-0.5	2.92	-5	131	17.7	7	2.19	1.62	6.2	286	14	354
5465139	-0.5	0.84	-5	34	30.2	7	1.35	0.42	4.17	621	18	50
5465140	0.7	1.87	-5	70	22.7	9	1.29	0.94	7.8	352	28	67
5465141	0.9	2.69	-5	72	29.5	11	2.21	1.13	1.12	208	42	151
5465142	-0.5	1.27	-5	50	19	6	1.52	0.62	9.76	410	23	91
5465143	1.2	2.3	-5	99	28.2	6	1.64	1.14	1.49	135	49	116
5465144	1.5	5.02	-5	203	18	9	2.03	2.38	4.42	364	1290	826
5465145	2.2	1.63	-5	76	15.9	9	11	0.83	5.44	153	28	114
5465146	0.5	3.04	-5	126	17.3	14	2.41	1.49	6.97	352	218	850
5465147	0.8	1.84	-5	90	23.3	6	1.83	0.95	5.84	259	27	77
5465148	1.3	1.58	-5	67	24.7	14	1.51	0.81	5.77	246	21	63
5465149	0.7	2.19	5	104	19.5	13	2.4	1.19	5.24	192	16	37
5465150	1	2.32	-5	95	19.1	8	1.94	1.24	7.67	199	-10	30
5465151	-0.5	3.71	-5	148	14.5	6	1.64	1.99	3.95	264	32	91
5465152	-0.5	3.66	-5	125	22.3	13	0.66	1.72	0.39	193	208	137
5465153	-0.5	3.38	-5	118	20.6	11	1.95	1.58	0.6	186	89	198
5465154	-0.5	1.72	-5	71	25.4	-5	1.2	0.95	4.66	161	23	152

Appendix XII

Zinc mineralisation in the Gordon Limestone

Zinc Mineralisation in the Gordon Limestone

CRAE's exploration and research activities directed at locating carbonate-hosted Zn-Pb mineralisation within Gordon Limestone at Zeehan have led to a number of mineralisation styles being recognised. The following discussion is a synthesis of CRAE's current level of knowledge, grained from work throughout the Zeehan area.

CRAE's exploration activities in the Zeehan area have indicated that Zn-Pb mineralisation within the Gordon Limestone may be pre-Devonian in age, and therefore unrelated to the Tabberabberan Oregeny. On this basis, it is possible that carbonate-hosted Zn-Pb mineralisation may be more widespread than that presently under evaluation at Zeehan.

The Gordon Limestone originally occupied a large area, deposited at the close of a major period of tectonic activity that produced the metal-rich Mount Read Volcanics. During and immediately before carbonate deposition the tectonic regime was still unstable, evidenced by rapid changes in stratigraphic thickness of Ordovician strata. Hydrothermal systems may have continued to emit metals into this system, focussed by basement irregularities and syn-sedimentary faults.

The present Gordon Limestone exposure is a vestige of Devonian deformation. Ordovician mineralisation may have a distribution totally independent of the well-documented Devonian systems.

Five targets are recognised for the carbonate-hosted Zn mineralisation in Gordon Limestone at Zeehan, subdivided by the stratigraphic interval in which they are hosted (Figure):-

- stratabound at the lower limestone-sandstone contact
- stratabound at the upper limestone-quartzite contact
- stratabound within a sub-unit in the middle of the limestone sequence
- structurally controlled discordant mineralisation
- surficial "clay-hosted" accumulations developed above primary mineralisation.

Stratabround at the lower limestone-sandstone contact
Mineralisation at Grieves and Mariposa falls into this category. Alteration located at Blackjacks, Pyramid and Professor Range may also belong to this deposit type.

This position is characterised by carbonaceous and/or ferruginous clays resting on the Moina Sandstone, in turn overlain by a massive siderite zone. The siderite zones passes stratigraphically upward either gradationally or abruptly into unaltered and unmineralised limestone. The clay layer may be up to 50m thick and the siderite zone up to 25m thick. Both may contain Zn mineralisation up to several percent. The clay and siderite zone are laterally quite uniform and it may be that the mineralisation is actually stratiform.

Mineralisation of this style has an alteration halo that is both visually and geochemically distinct. This halo, characterised by vuggy, broken or massive recrystallised Fe-carbonate and Fe-rich clays, may extend laterally hundreds of metres beyond the main Zn mineralisation, and thus present a considerably larger target than the mineralised core. Lateral alteration geochemistry is reflected by Fe-Mn-As-Zn. Stratigraphy above the mineralised core is a weaker halo of elevated Zn ($\pm$ As).

Ore mineralogy, based on work at Grieves, is complex with a mixture of zincian siderite and minor sphalerite in the siderite zone, and a Zn-clay with minor to moderate amounts of sphalerite in the siderite zone, and a Zn-clay with minor to moderate amounts of sphalerite in the clay zone. It is not known whether this is a regional characteristic of this position.

The stratiform character, replacive style of alteration/mineralisation, intense Fe-Mn alteration, and reasonably predicatable geometry suggest similarities to Navan or Reocin.

Stratabound at the upper limestone-quartzite contact
Low-grade but widely anomalous zones from Firewood Siding, Grieves, Professor Range, Sunny Corner, and Mariposa are examples of this type.

Upper zone mineralisation occurs near the contact between the limestone and overlying Crotty Quartzite. Mineralisation is not closely bound to the upper quartzite contact, but may "wander" up to 100m stratigraphically below the contact.

Mineralisation appears characterised by widespread but low-level Zn in the 0.1% to 2% Zn range. None of the prospects tested has revealed a higher-grade core, although given the limited drilling it is entirely possible high-grade cores may exist. Limited mineralogy suggests all Zn to be as sphalerite.

Air-core drilling shows the mineralised zones to be comprised of clays and decomposed carbonate. Rare fresher material is usually a granular recrystallised dolomite, and can be ferroan. Intense siderite alteration is absent. A detailed geochemical study of the alteration has not been completed.

The upper zone style may be occuring within karstic structures formed by Ordovician weathering before deposition of the Crotty Quartzite. This setting is analogous to Bleiberg or Cracow-Silesia.

Stratabround in a middle sub-unit of the limestone sequence
Currently two occurrences fall into this grouping, Grieves middle zone, and Oceana. Apart from their stratigraphic concurrence, these two deposits may not share many other similarities.

The mineralised middle sub-unit is equidistant from the upper and lower contacts, although facies variations may affect the location at other prospects. Mineralisation is breccia hosted, and in the case of Grieves has a linear aspect. For Grieves there is very little indication of proximity to mineralisation as there is virtually no alteration outside the breccia zone itself.

Mineralogy at Grieves is a mixture of zincian siderite and sphalerite. Oceana is dominated by galena with subordinate (?) sphalerite. There is also intense siderite alteration at Oceana, presumably containing Zn?

Zinc grades at both prospects are high, locally forming massive sulphide.

There has been insufficient work completed at Grieves middle zone to suggest any controlling mechanisms.

Structurally controlled discordant mineralisation
Most mineralisation in the Zeehan area is structurally controlled. Mineralisation at the historic Mariposa mine, and at Myrtle belong to this type. Possibly some of the mineralisation at Oceana is also structurally controlled.

Structurally controlled mineralisation may occur at any stratigraphic level. It appears to be late-stage filling of brittle fractures. Alteration of wall-rocks is absent, and the gangue to mineralisation may be pure calcite. Mineralisation within the structures is patchily distributed. Ore minerals are coarse-grained sulphides.

Devonian deformation is the likely cause of the fracturing and mineralisation. Potential deposit size is small, although the presence of discordant mineralisation may indicate a nearby stratabound source. Late-stage structurally controlled deposits *per se* are not currently considered a valid CRAE target.

Surficial "clay-hosted" accumulations developed above primary mineralisation
Surficial Zn accumulations within decomposed carbonate was CRAE's original target for

carbonate exploration in Zeehan. All currently tested prospects were selected due to the presence of known surficial mineralisation.

It has now been conclusively domonstrated that the surficial mineralisation occupies the surface trace of underlying stratabound mineralisation. Geometry of the surficial deposits are therefore dependent on the shape and extent of this underlying mineralisation. Depth extent of the Zn-rich clays and decomposed carbonates averages 10m to 20m, but have been reported to be over 100m at Oceana.

A thin layer of decomposed carbonate exists over large areas of limestone, but this layer only thickens and becomes substantially Zn-rich as "basement" mineralisation is approached. Areas of +0.1% Zn in the clay layer are regionally extensive, indicating substantial dispersions from the primary zone. Clay thickness and Zn grade may be useful vectors toward primary zones. Geochemically inert peat and gravels up to 5m thick obscure the clays and limestone over virtually the entire trace of the Gordon Limestone.

Zinc ore mineralogy is dominantly to exclusively sphalerite.

Because of their restriction to the surface zone, the potential size of the surficial deposit is somewhat limited. They are probably unlikely to be a CRA target in themselves. Their main attraction is their usefulness as an indicator of the underlying primary mineralisation. If a large primary deposit suitable to CRAE's requirements can be identified, then the surficial deposits would possible be an easy way to generate short-term cash-flow whilst the major deposit was being developed.

Zinc-rich clay deposits overlying primary carbonate mineralisation have been described at Tynagh and Silvermines.