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EL45/92
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**Third Annual Report  
For The Period Ending 15 March 1996  
EL 45/92 Mount Dundas, Tasmania**

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ANNUAL REPORT 1996 - MT DUNDAS  
EL 45/92 - TEAR S J

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CRAE Report No. 21807

## Abstract

Exploration continued on EL 45/92 Mt Dundas for carbonate hosted base metal deposits within the Gordon Limestone, West Tasmania.

Work undertaken in the period 16/3/95 to 15/3/96 consisted of bedrock sampling (wacker and aircore; 277 holes totalling 1867m and 99 holes totalling 2208m respectively), a sub-regional detailed helimag survey (2400 line km) and diamond drilling (4 holes totalling 1379m).

Diamond drill testing of surface geochemical targets at Blackjacks and Sunny Corner failed to intersect economic base metal mineralisation. However, some sub-economic grades of mineralisation were recorded at Sunny Corner - 0.9m @ 10% Zn. In the Blackjacks - Mariposa - Sunny Corner area siderite and dolomite alteration were encountered indicating the presence of a major hydrothermal alteration system.

At Blackjacks prospect, a unique dolomite breccia occurs in DD95 DB110. This rock type is significant, particularly with reference to the Silvermines and Lisheen base metal deposits of Ireland, where breccia is the host for ore.

Infill and reconnaissance wacker bedrock sampling extended the scope of anomalous geochemistry in the northern third of the licence. The structurally complex King Billy area in the south of the licence has elevated zinc and lead values making it a prospective area.

A detailed helimag survey was flown on the basis that mineral related siderite alteration is slightly magnetic, and therefore weak magnetic anomalies may signify major siderite alteration and mineral zones. In order to maintain perpendicularity of flight lines to the limestone, variable flight path orientations were needed. This has resulted in complex data processing and hence final results are not available at time of writing.

The conclusion of the 1995 programme is that major hydrothermal alteration and anomalous base metal geochemistry is associated with the Blackjacks - Mariposa - Sunny Corner area (including Westerway). Significantly anomalous surface geochemistry and structural complexity characterise the King Billy area, which has potential open to the east.

The recommendations for 1996 include diamond drilling at Blackjacks and Sunny Corner, and Mariposa. Wacker bedrock sampling is recommended for the King Billy, Westerway and Tom Creek areas. The Tom Creek area is cut off in the south by the major Little Henty Fault and is relatively untested. Priority focus is on the lower sandstone/limestone contact and the conceptual target beneath the Siltstone Unit in the middle of the limestone sequence.

It is also recommended that a basin analysis study be undertaken in an attempt to recognise basin forming structures which would have had a role in orebody formation.

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 \$480,871.00, whilst the total for the licence to 31/3/96 was \$830,231.00.

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TV 936	EL 45/92 Mount Dundas - Blackjack Prospect Geology And Drill Hole Location Plan	1:2,500
Tv 1011	EL 45/92 Mt Dundas, Zeehan Carbonate, Blackjacks Prospect, DD95DB110 section 609990	1:1,000
Tv 1010	EL 45/92 Mt Dundas, Zeehan Carbonate, Blackjacks Prospect, DD95DS97 Section	1:1,000
Tv 716	EL 45/92 Mt Dundas, Sunny Corner Prospect Geology and Drillhole Location Plan	1:2,500
Tv 1009	EL 45/92 Mt Dundas, Zeehan Carbonate, Sunny Corner Prospect, DD95DS97 section	1:1,000
Tv 1012	EL 45/92 Mt Dundas, Zeehan Carbonate, Sunny Corner Prospect, DD95DS98 section	1:1,000
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## Appendices

Appendix I	The Gordon Limestone Lithostratigraphy
Appendix II	Exploration by CRAE Prior to 16/3/95
Appendix III	Blackjacks Wacker Bedrock Sampling Results
Appendix IV	Blackjacks Diamond Drill Logs
Appendix V	Sunny Corner Wacker Bedrock Sampling Results
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Appendix VII	Amber Creek Wacker Bedrock Sampling Results
Appendix VIII	King Billy Wacker Bedrock Sampling Results
Appendix IX	King Billy Aircore Results including EOH Samples
Appendix X	Leatherwood Aircore Results including EOH Samples
Appendix XI	South Mariposa Wacker Bedrock Sampling Results
Appendix XII	Westerway Wacker Sampling Results__

## 1. Conclusions and Recommendations

EL 45/92 contains several limestone prospects with highly anomalous zinc/lead surface geochemistry ie. Blackjacks, Mariposa, Westerway, and Sunny Corner. The area also exhibits major zones of dolomite and siderite alteration. Structurally, the geology is quite complex with the presence of major thrust faulting. Limestone thicknesses are also quite variable as well as their degree of argillaceous content relative to elsewhere in the Zeehan area. This indicates proximity to major carbonate basin - forming structures which are important for accessing Zn/Pb mineralising fluids into carbonate host rocks.

Apart from some infill and reconnaissance wacker sampling, diamond drilling is the best exploration method to locate Zn/Pb carbonate hosted orebodies. To date sub-economic grades have been found in drillcore associated with major siderite and dolomite alteration.

The areas which are considered the most prospective are Blackjacks, Mariposa, King Billy and Sunny Corner, not necessarily in that order.

Blind mineralisation may exist beneath the overthrust Cambrian sequences at Blackjacks and Mariposa.

The following work is recommended.

- Diamond drilling of the Blackjacks area
- Diamond drilling of the Mariposa area in particular,
  - a) testing down dip mineralisation encountered in DM211 and
  - b) testing the limestone host potential in the south of the area
- Diamond drilling of the Sunny Corner area targeting on both conceptual and geochemical/alteration targets
- Diamond drilling of the geochemical/geological targets in the King Billy area
- Infill wacker bedrock sampling between Mariposa and Blackjacks
- Infill wacker bedrock sampling of the Westerway area
- Reconnaissance wacker bedrock sampling over the Tom Creek area
- Basin analysis study for the Zeehan area.

## 2. Introduction

Mount Dundas, EL 45/92, was granted to CRA Exploration Pty Ltd on 16 April 1993 and covers an area of 70 km<sup>2</sup> east of Zeehan, West Tasmania (Tv 1070). CRAE has a statutory obligation to spend \$35,000.

CRAE is exploring EL 45/92 for stratabound Zn-Pb deposits within the Ordovician Gordon Limestone. Analogies with Irish carbonate hosted base metal deposits are being used to assist exploration.

Four target areas were selected for detailed work in 1995 :- Blackjacks, Sunny Corner, Leatherwood and King Billy. This detailed work consisted of diamond drilling, a helimag survey and bedrock sampling (wacker and aircore drilling). In addition reconnaissance work comprising of wacker bedrock sampling was initiated at Westerway and South Mariposa.

This report details all exploration activities conducted during the third year of tenure, 16 March 1995 - 16 March 1996.

For regional geology and mineralisation see Parkinson 1994.

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

### 3. Previous CRAE Work

See appendix II.

### 4. Exploration Activities for the Period 16/3/95 to 15/3/96

The following two tables summarise field work undertaken in the past year.

#### Diamond Drillhole Summary

DDH	Prospect	East	North	Elev (m)	Tdepth (m)	Azim (AMG)	Dip	Date Drilled
DD95DB110	Blackjacks	366520	5360757	197.5	505	090	50	20/1/95
DD95DB111	Blackjacks	366311	5361431	195	289	089	45	2/3/95
DD95DS97	Sunny Corner	366328	5357810	190	239.3	108	47	27/3/95
DD95DS98	Sunny Corner	365725	5357671	203	345.7	045	45	4/5/95

Sampling of the drillcore was done using a diamond saw and splitting the core in half. These samples were sent to Analabs, Townsville, for analysis by ICP-OES (GI201) for Ag, Al, As, Ba, Ca, Cu, Fe, K, Mg, Mn, Pb, Zn. For samples which contained greater than 0.5% zinc sulphur assays were performed by Leco furnace (OM613).

#### Wacker Sampling Summary

Prospect	No. of Samples	Depth		Zinc		Lead	
		Range (m)	Average (m)	Max (ppm)	Mean (ppm)	max (ppm)	Mean (ppm)
King Billy	74	1.5-35	9.1	3050	172	1590	58
Amber Creek	49	0-24	7.2	730	53	2120	73
Sunny Corner	91	0-19.7	4.9	6700	420	16700	618
S Mariposa	26	0.2-8.1	2.5	4420	420	2260	199
Westerway	15	1.1-12.5	5	8860	1564	3210	479
Blackjacks	22	1.5-25	11.6	2790	817	1920	227

Wacker samples were logged and then analysed by Analabs, Townsville by ICP-OES (GI201) for Ag, Al, As, Ba, Ca, Cu, Fe, K, Mg, Mn, Pb, Zn.

#### 4.1 Blackjacks Prospect

The Blackjacks prospect is bisected by the Zeehan Highway 4 km E of Zeehan and 2 km N of Mariposa. The prospect lies on the eastern margin of the Zeehan carbonate basin of the Gordon Limestone. Vegetation, organic clays and minor gravels obscure the limestone, which forms a valley between a prominent ridge of Crotty Quartzite in the west and an undulating surface of Moina Sandstone and Dundas Group siltstones to the east. Blackjacks is the northern strike continuation of Mariposa and is defined as the Gordon Limestone north of the Dundas River to the junction of the Zeehan and Murchison Highways.

The Moina Sandstone at Blackjacks is sandy to silty, and may be quite chloritic towards the base. A maximum thickness of 300m is suggested. Below the sandstone, is typical Owen Conglomerate, a monomict quartzite cobble conglomerate passing downwards into a haematitic polymict conglomerate.

At Blackjacks the Gordon Limestone varies from about 250m thick in the S to 450m thick in the N. The sequence generally appears to dip steeply to the west.

Conformably overlying the limestone is the Silurian Crotty Quartzite, which forms a prominent strike ridge. Dips are moderate to steep to the west.

Gravels sourced from the Moina and Owen Conglomerate may be locally up to 5m thick. In-situ weathering has further degraded the limestone to a black decalcified clay which is variable in depth but may locally reach 30m.

Interpreted geology based on diamond and aircore drilling along with bedrock wacker sampling, open-file Amoco data, and recent CRAE mapping is shown as plan Tv 936.

##### 4.1.1 Wacker Bedrock Sampling

A reconnaissance traverse of 18 sites was undertaken along the Zeehan Highway south of the previous Blackjacks grid. Results show that anomalous zinc and lead values are associated with black clays and that the Moina Sandstone/Gordon Limestone contact is located further uphill to the east than previously thought. (Appendix III).

##### 4.1.2 Diamond Drilling (Appendix IV)

DD95DB110	50° to 090° AMG	TD 505m	Drillrig: Longyear 38 Diamond Drilling of Tasmania
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Significant results (Tv 1011):-

- 350m of Gordon Limestone stratigraphy; the hole may represent a complete Gordon Limestone sequence
- a major siderite alteration zone at the lower contact (circa 30m) with minor elevated zinc values: 0.39% Zn over 2.9m
- a major siderite alteration zone at the upper contact with elevated zinc values: 0.83% Zn over 2.7m
- a > 30m thick dolomite breccia associated with the Siltstone Unit of the Gordon Limestone (Ogsi). Elevated zinc values up to 0.3% Zn over 3.6m.

The most important feature is the dolomite breccia which can be related to the black matrix breccias associated with the Irish Carbonate hosted base metal deposits of Silvermines and Lisheen.

DD95DB111 45° to 089° AMG TD 289m Drillrig: Longyear 38  
Diamond Drilling of Tasmania

Significant results (Tv 1010):-

- a major thickness of siderite alteration of the lower contact (circa 50m) with weak zinc values,
- sphalerite and calcite breccia zone: 0.3m @ 4.46% Zn, 1.89% Pb from 75m
- considerable stratigraphic variation at the lower limestone contact with DD95DB110, indicating an original sedimentary position proximal to the basin margin.

#### 4.2 Sunny Corner - Bannockburn Prospect

Sunny Corner - Bannockburn prospect lies across the Dundas River 5 km SE of Zeehan and is accessible via the old Mariposa tramway from the Murchison Highway. The prospect is within a structurally complex block of Gordon Limestone. Vegetation, organic clays and minor alluvial gravels obscure the limestone, which forms a valley surrounded by ridges of Crotty Quartzite and Moina Sandstone.

Selection of the Sunny Corner - Bannockburn area for initial work was based on highly anomalous geochemistry in costeans.

Two diamond drillholes, DD95DS97 and DD95DS98, were completed along with a helimag survey and bedrock (wacker) sampling.

500m of Gordon Limestone is underlain by a major thickness of Moina Sandstone (circa 500m) which may indicate development of a localised early Ordovician basin. The Crotty Quartzite/Limestone contact is possibly faulted. The Devonian Bell Shale is thrust over the northern margin of the limestone. Major zones of hydrothermal alteration occur in the area, both sideritic and dolomitic. The alteration is concomittant with the high zinc surface and downhole geochemical values.

Interpreted geology based on diamond drilling aircore drilling and bedrock sampling is shown as plan Tv 716.

##### 4.2.1 Wacker Bedrock Sampling

The Sunny Corner - Bannockburn area has full geochemical coverage. The results confirm the anomalous nature of the area and have allowed construction of a more detailed geological map and assisted drill target identification. (Appendix V).

## 4.2.2 Diamond Drilling (Appendix VI)

DD95DS97    47° to 108° AMG    TD 239.3m    Drillrig: Longyear 38  
(Helicopter Supported)  
Diamond Drilling of Tasmania

Significant results (Tv 1009):-

- a rock sequence passing from Silurian Crotty Quartzite to Ordovician Moina Sandstone
- a heavily faulted and abridged Gordon Limestone sequence
- extensive dolomitisation - possibly ferroan dolomite - including broad, intense breccia zones.
- major zones of siderite alteration
- zones of poor recovery towards the last third of the Gordon Limestone
- a best intercept of 1.4m @ 1.02% Zn and 6.13% Pb in dolomite from 182.6m.

DD95DS98    45° to 045° AMG    TD 345.7m    Drillrig: Loneyear 38  
(Helicopter Supported)  
Diamond Drilling of Tasmania

Significant results (Tv 1012):-

- an upper contact test with 75m of Crotty Quartzite followed by 270m of Gordon Limestone
- high grade zinc intercepts of coarse grained sphalerite grading 0.92m @ 10% Zn from 310.8m and 0.82m @ 6.2% Zn from 313m; both intercepts associated with the Siltstone Unit of the Gordon Limestone
- a style of mineralisation believed to be shear/vein types
- major clay/surficial alteration of the Gordon Limestone associated with the upper contact. Elevated zinc and lead values up to 2.85m @ 0.52% Zn (Pb 0.12% from 75.15m) are associated with dark grey ?sheared non calcareous ?Gordon Group sediments.

The diamond drilling at Sunny Corner, particularly DD95DS97 has demonstrated that major hydrothermal alteration has occurred in the area. This alteration is associated with highly anomalous base metal values. Structural complexities overprint the area including evidence of major post-depositional faulting.

## 4.3 Amber Creek

The Amber Creek area lies approximately 11 km south south east of Zeehan. The majority of the area lies to the south and south west on EL 34/88. The area was explored as part of the Gordon Limestone semi-regional testing programme for base metal mineralisation.

The area lies to the east of the Professor Range area and is characterised by a open folded conformable Silurian and Ordovician sequence. However, from the recently published 1:50,000 Zeehan geological map it appears that the Moina Sandstone and Owen Conglomerate are absent from this area. This indicates either a pinchout of the Lower Ordovician clastic sequence or that the older Cambrian clastic sediments have been thrust over the Ordovician sequence.

#### 4.3.1 Wacker Bedrock Sampling (Appendix VII)

Wacker sampling statistics are summarised in the table at the beginning of this chapter. Logging of the samples in combination with the geochemical assays have enabled the production of a more detailed geological map. (Plan Tv 998)

From the wacker chip logging a relatively uncomplicated Gordon Limestone sequence emerges. There is a suggestion of more than one siltstone horizon. Cross faulting as inferred from air photos appears to have caused minimal lithological offset. Minor siderite alteration is associated with the lower limestone/sandstone contact.

The geochemical results indicate weak but consistently elevated zinc values associated with the lower contact.

#### 4.4 King Billy Prospect

The King Billy area lies east of Amber Creek approximately 12 km south east of Zeehan. About 40% of the area lies on EL 34/88. The area was explored as part of a semi-regional programme aimed at testing the Gordon Limestone for base metal mineralisation.

Work undertaken on the area consisted of bedrock sampling - both wacker and aircore drilling.

##### 4.4.1 Geology

The geological setting of the King Billy area on the 1:50,000 published map appears as a gently folded Siluro-Ordovician sequence juxtaposed with Cambrian clastic sediments. There is no reference to Moina Sandstone or Owen Conglomerate. CRAE mapping indicates that the Moina Sandstone exists only in the Amber Creek area and immediately south of the limestone, suggesting either a major unconformity or a thrust fault exists between the Cambrian sediments and the Gordon Limestone.

Sandstone occurs in the heart of King Billy prospect. An occurrence of ferruginous clays nearby suggests that it maybe Moina Sandstone. This sandstone inlier maybe a result of a synclinal fold hinge plunging gently to the north or it maybe thrust - related. It is unlikely to be Quarternary gravels as wacker depths to bedrock reach up to 14m in places. (Plan Tv 998).

Major dolomite zones occur in the west of the area proximal to NNW striking faults in a position where the limestone sequence appears to dramatically thin out.

##### 4.4.2 Wacker Bedrock Sampling

Three zinc anomalies, occur in the east of the grid. The orientation of these anomalies is approximately east-west with the linear length >400m and they remain open to the east. The anomalies appear to be underlain by the lower sandstone/limestone contact and associated with the Moina Sandstone inlier. Anomalous lead values are partially coincident with the anomalous zinc, the best correlation is associated with the southern most anomaly on EL 34/88. (Appendix VIII)

#### 4.4.3 Aircore Sampling

Ninety nine holes (2208m) were drilled with the average hole depth being 22m. Drilling was done using an adapted Universal 250 drill rig, Muskeg mounted, with a Bombardier track mounted support vehicle. Samples were collected every 3m using a cyclone and collected in biodegradable polyweave bags. Each sample consisted of a "snatch" sample and was analysed by Analabs, Burnie. for Ag, Cu, Fe, Mn, Pb, Zn by AA. (Appendix IX)

Results show minor base metal intersections:-

AC95ZK4	6m	@	0.28%	Zn	0.77%	Pb
AC95ZK46	6m	@	1.3%	Zn	0.2%	Pb
AC95ZK22	3m	@	1.67%	Zn	<0.1%	Pb
AC95ZK39	3m	@	2.64%	Zn	1.3%	Pb

Part of the aircore drilling programme includes allowing the rig to produce a bottom-of-hole rock chip sample. This consists of at least 100g of material of which a small sample was retained for logging. The remainder of the sample was sent to Analabs, Townsville and analysed by ICP-OES (GI201) for Ag, Al, As, Ba, Ca, Cu, Fe, K, Mg, Mn, Pb and Zn. The maximum zinc value is 3070 ppm (mean 176 ppm) and the maximum lead value is 227 ppm (mean 22 ppm).

Considerable complexity was encountered when trying to produce a geological map. Lithological interpretation between sample lines is difficult.

#### 4.5 Leatherwood

This prospect lies due north of King Billy. It represents a wide thickness of Gordon Limestone although this maybe an apparent thickness due to open folding and shallow dips. The limestone valley strikes NNW for approximately 3 km. The areas lies within a synclinal fold hinge with a presumed shallow dip to the NNW. (Plan Tv 998)

##### 4.5.1 Aircore Drilling

A total of 53 holes on two traverses were completed with a depth range of 1-35m, the average being 8.6m. Additional holes were tried but due to very shallow unweathered bedrock and/or fluvial gravels no samples were taken. (Appendix X)

Values were relatively low with the best values:-

AC95DL7	3m	@	0.15%	Zn
AC95DL8	6m	@	0.1%	Zn
AC95DL53	2m	@	0.1%	Zn

Minor siderite alteration may be inferred in DL53 only.

End-of-hole sampling showed that several holes failed to penetrate the fluvial material. Generally a reasonably coherent match up between the two traverses was achieved. However zinc and lead results were disappointingly low with a peak of 792 ppm Zn and 306 ppm Pb associated with AC95DL38. It is worth pointing out that these values are an order of magnitude greater than the means of 78 ppm and 16 ppm respectively.

#### 4.6 South Mariposa

##### 4.6.1 Wacker Bedrock Sampling

As part of a conceptual test, an area south of Mariposa was gridded but only partially wackered. The concept was an inference of an Ordovician clastic pinch out in the area signifying a basin margin. A large flat area was marked out for testing but this ceased when the underlying lithologies were found to be Dundas Group sediments. As a result only 26 samples were collected. Reviewing of the chip sample data suggests that the Dundas Group is thrust over the Gordon Limestone. (Appendix XI)

#### 4.7 Westerway

##### 4.7.1 Wacker Bedrock Sampling

The above prospect lies 6 km SE of Zeehan and is bisected by the Zeehan Highway. A small outcrop of weathered limestone occurs in conjunction with a valley striking approximately north-south. A single, across strike traverse was completed along the Zeehan Highway. Considerably elevated zinc and lead values were encountered associated with the lower contact and the middle zone of the Gordon Limestone. A sample of non-calcareous black clay (weathered limestone) yielded a zinc value of 0.88%. Further wacker work is required. (Appendix XII)

### 5. Discussion

The overall image of the Gordon Limestone geology of EL 45/92 is one of considerable complexity. In some instances major contacts appear conformable, in others the same contact appears faulted - usually as a thrust.

The geochemical signature of Mariposa, Blackjacks and Sunny Corner is one of major zinc and lead enhancement - a geochemical 'hot spot'. These areas stand out in the regional picture. Stratigraphic columns for the area appears to indicate major syn- and/or post-depositional faulting. Increased amounts of argillaceous material in the limestones probably reflect proximity to higher energy depositional environments possibly sub-basin margins.

#### 5.1 Blackjacks

Reinterpretation of available geological data has shown thickness variations in the Gordon Limestone are probably related to synsedimentary faults. However DD95DB110 appears to show that the thinner limestone sequence seen at surface is a result of an east dipping thrust fault.

Significant alteration phases of both dolomite and siderite are present in the area. In fact the width of the siderite alteration at the lower limestone/sandstone contact is the greatest relevant to all the other carbonate prospects in the Zeehan area. Some of this alteration is believed to be of the underlying Moina Sandstone sequence (DD95DB111).

The dolomite breccia in DD95DB110 is highly significant. It closely resembles some of the black and white matrix breccias seen intimately associated with the Irish carbonate hosted zinc deposits. Even more encouraging is the occurrence of elevated zinc and lead values with this breccia. Its stratigraphic position is also considered favourable as it sits immediately below the Siltstone Unit - the cap rock to a potential replacive mineralising system.

The roadside wacker bedrock sampling to the south of Blackjacks has confirmed and enhanced the elevated zinc/lead geochemistry of this area. Thus prompting the need for further work south of DD95DB110.

## 5.2 Sunny Corner

Diamond drillhole DD95DS97 showed very major dolomitic and/or sideritic alteration having been imposed on a much thinner than usual Gordon Limestone sequence. The inference is that major faulting is present in the area. Elevated zinc/lead values are associated with this alteration. The central NW-SE fault shown in the northwest of the area may be the major fault and may extend further south than indicated on the geological map. DD95DS97 is located on the downthrow side of this fault which is considered favourable for Irish-type deposits.

Diamond drillhole DD95DS98 contained a much less altered limestone sequence and consequently was less mineralised which does not tally with the surface geochemistry. However alteration and mineralisation did occur towards the base of the hole, including small massive sphalerite zones (?veins). Again the stratigraphic position of the mineral appeared to be immediately below the Siltstone Unit.

The drilling at Sunny Corner is considered to be very encouraging both in terms of mineral present and the amount of dolomitisation and siderite alteration.

## 5.3 King Billy

The wacker and aircore sampling have confirmed the King Billy area to be structurally complex. Several zinc/lead geochemical targets have resulted from this work and warrant diamond drilltests.

If the sandstone occurrence in the middle of the Gordon Limestone is in fact Crotty Quartzite then the main zinc wacker anomaly would be approximately in the sub-Siltstone Unit position. If it is Moina Sandstone then it would appear to be related to the lower limestone/sandstone contact.

Panning of some of the aircore samples has revealed fine grained galena, sphalerite and pyrite. Pyrite is an unusual associate for zinc mineralisation in the Gordon Limestone around Zeehan and as there appears to be little siderite in the area may represent an area of mineralisation in the limestone which is not sulphur-poor. Alternatively it may be due to secondary surficial processes precipitating pyrite in acid, peaty soils.

## 5.4 Amber Creek

The basal sandstone/limestone contact is anomalous in zinc and lead (+/- siderite) which appears to be a regional phenomena and thus is not an immediate orebody locator. However, major structures identified in the helimag data appear to run into the Amber Creek area. As the type of deposit being sought is a stratabound orebody located by a structural control then this area may still be considered prospective. Lack of high geochemical values may not mean that there is no orebody in the area.

### 5.5 Leatherwood

Nothing much can be said in favour of this area. There appears to be very weak anomalous geochemistry and the initial helimag results offer no additional guidelines. Therefore there is little to be enthused about in the area and no further work is suggested, particularly at its SE end.

However at its north-west end which passes into the Tom Creek Prospect area a major fault transects the Gordon Limestone in an EW direction. Surface geochemical testing of this area is recommended before dismissal of the area's potential

### 5.6 South Mariposa/Mariposa

As a result of the wacker sampling the area underlain by Gordon Limestone is now much smaller than previously thought and has been incorporated into the Mariposa prospect.

Reinterpretation of all geological data for the Mariposa area has shown that the width of the Gordon Limestone thins in the north of the area. This is believed to be due to a combination of faults, one of which may have been a reactivated synsedimentary structure. The eastern margin (lower sandstone/limestone contact) is now believed to be a faulted contact - an east dipping thrust fault, and that alteration of the limestone is fault related.

The sideritic-related Zn/Pb mineralisation associated with the upper sandstone/limestone contact, as drilled by North Broken Hill and Amoco, is not as it may have been presented. In fact the mineral sits beneath a major dolomitised zone - the Upper Dolomite Unit - some way down from the upper contact. There is also some suggestion that the mineral is stratabound related to the Siltstone Unit, however other geological features suggest that it is fault related.

### 5.7 Westerway Creek

Limited reconnaissance wacker sampling has shown this area to be significantly anomalous in zinc and lead, particularly associated with black clays (rotted limestone). Further surface work is required before a drilling assessment can be made.

## 6. Environment and Rehabilitation

The past two years has seen a substantial amount of exploration work completed in relatively small areas. More than 570 aircore holes and 9 diamond holes have been drilled at Mariposa, Blackjacks, Sunny Corner, King Billy and Leatherwood prospects.

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

- Diamond drilling at Blackjacks
- Diamond drilling at Sunny Corner (Helicopter supported). Temporary repairs were made to the old Mariposa Tramway for vehicular access
- Aircore drilling of Leatherwood and King Billy - U250 track-mounted traversing across button grass plains
- Line cutting at King Billy
- Line cutting at Amber Creek

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

The aircore rig was chosen to minimise impact on the button grass. Most tracks will recover and disappear in one or two seasons, evidenced by the difficulty in locating drill sites from the early 1994 program. Some softer areas will take longer to naturally recover, however no lasting impact is expected.

Most drill cuttings from the aircore program were bagged to enable the samples to be easily returned to the holes or removed from site. This was completed by mid 1995. Bags used are photo-degradable, and will rapidly break down at the disposal sites.

Diamond drill sites were positioned where possible in areas of previous disturbance. Sumps were dug to contain water return, and oil-absorbent products were positioned where needed. Sumps were filled and drill sites ripped on completion of the programs.

## 7. References

- |                 |      |  |
|-----------------|------|--|
| Parkinson, R.G. | 1994 | Mount Dundas EL 45/92, Tasmania. Report on Exploration for the First Year of Tenure, 16/4/93 to 15/3/94. CRAE Report No. 19675.  |
| Parkinson, R.G. | 1995 | Mount Dundas EL 45/92, Tasmania. Report on Exploration for the Second Year of Tenure, 16/4/94 to 15/3/95. CRAE Report No. 20789. |

## 8. Location

Queenstown	SK 55-5	1:250 000
Pieman	7914	1:100,000
Zeehan	7914-S	1:50,000

## 9. Keywords

Tasmania, Ordovician, Carbonate-hosted, Gordon Limestone, Diamond Drilling, Aircore Drilling, Bedrock Geochemistry, Zinc, Lead, Silver, Helimag, Syn-sedimentary.

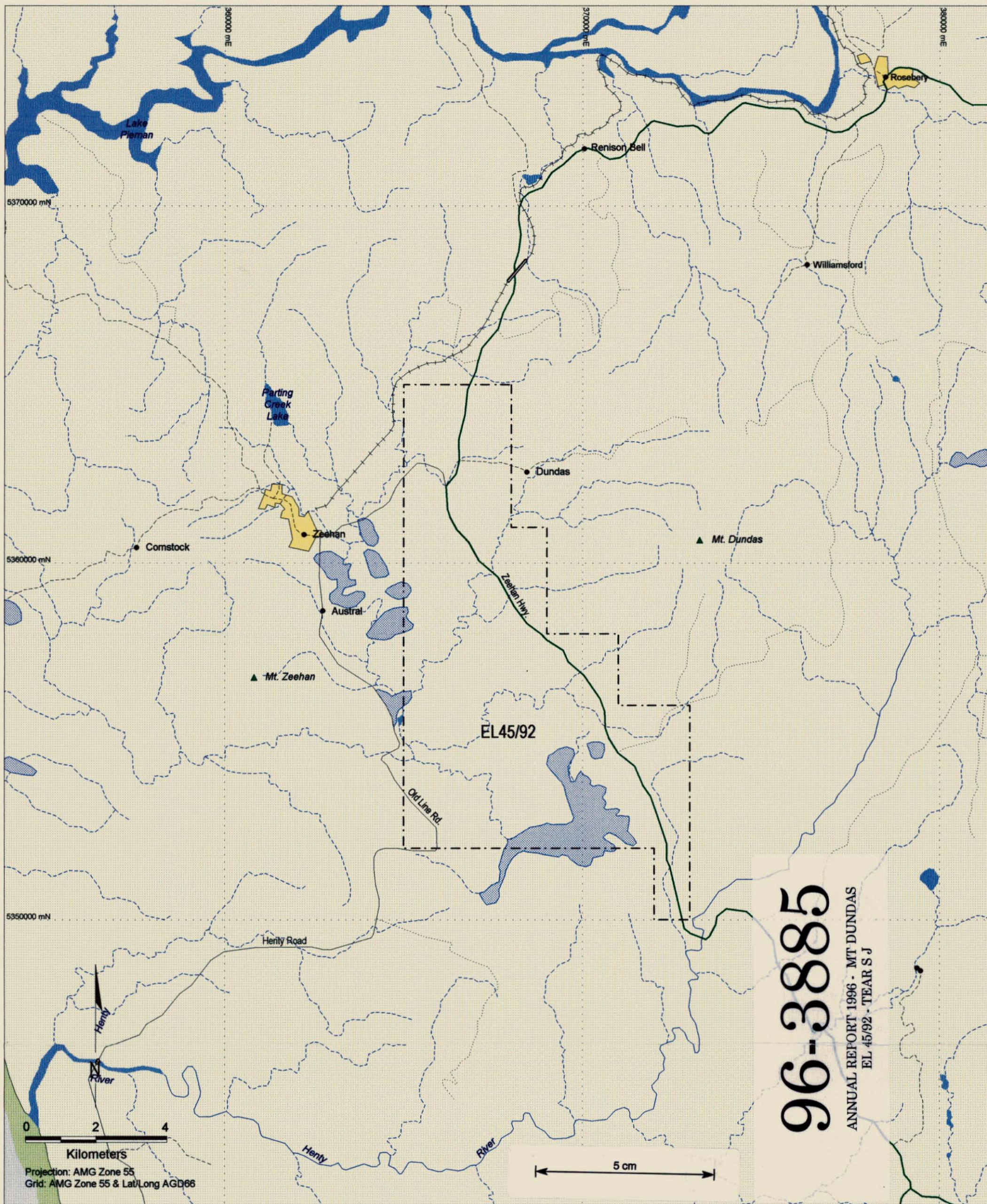
## 10. DPO Register

**CRA Exploration Pty Limited  
DPO Register**

**EL 45/92 Mount Dundas**

DPO Number	LAB Batch Number	Lab Name	Lab Location	Office Date	Geologist	Tenement Number	Tenement Name	Sample Type	Number of Samples	250,000 Map Sheet	100,000 Map Sheet
77682	10756	Analabs	Zeehan	1/3/95	S Tear	45/92	Mt Dundas	Half DD NQ/HQ	99	SK55-05	7914
77683	10800	Analabs	Zeehan	23/3/95	S Tear	45/92	Mt Dundas	Half Core	74	SK55-05	7914
77693	10928	Analabs	Zeehan	15/5/95	S Tear	45/92	Mt Dundas	Half Core	103	SK55-05	7914
77378	11027	Analabs	Zeehan	21/6/95	S Tear	45/92	Mt Dundas	Half Core	110	SK55-05	7914
77687	10852	Analabs	Zeehan	12/4/95	S Tear	45/92	Mt Dundas	Aircore	500	SK55-05	7914
77688	10857	Analabs	Zeehan	18/4/95	S Tear	45/92	Mt Dundas	Aircore	500	SK55-05	7914
77689	10884	Analabs	Zeehan	27/4/95	S Tear	45/92	Mt Dundas	Aircore	121	SK55-05	7914
77679	10659	Analabs	Zeehan	18/1/95	R Parkinson	45/92	Mt Dundas	Rock	67	SK55-05	7914
77680	10694	Analabs	Zeehan	3/2/95	S Tear	45/92	Mt Dundas	Rock	145	SK55-05	7914
77681	10706	Analabs	Zeehan	10/2/95	S Tear	45/92	Mt Dundas	Rock	61	SK55-05	7914
77686	10847	Analabs	Zeehan	12/4/95	S Tear	45/92	Mt Dundas	Rock	173	SK55-05	7914
77700	10987	Analabs	Zeehan	2/6/95	S Tear	45/92	Mt Dundas	Rock	85	SK55-05	7914
77376	11001	Analabs	Zeehan	9/6/95	S Tear	45/92	Mt Dundas	Rock	76	SK55-05	7914
77381	11025	Analabs	Zeehan	21/6/95	S Tear	45/92	Mt Dundas	Rock	39	SK55-05	7914

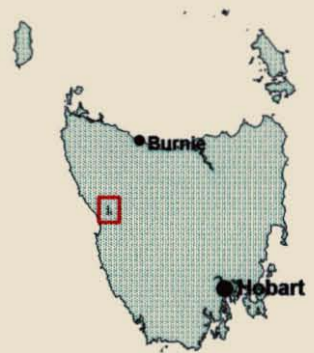
696013



**96-3885**  
 ANNUAL REPORT 1996 - MT DUNDAS  
 EL 45/92 - TEAR S J

0 2 4  
 Kilometers  
 Projection: AMG Zone 55  
 Grid: AMG Zone 55 & Lat/Long AGD66

5 cm



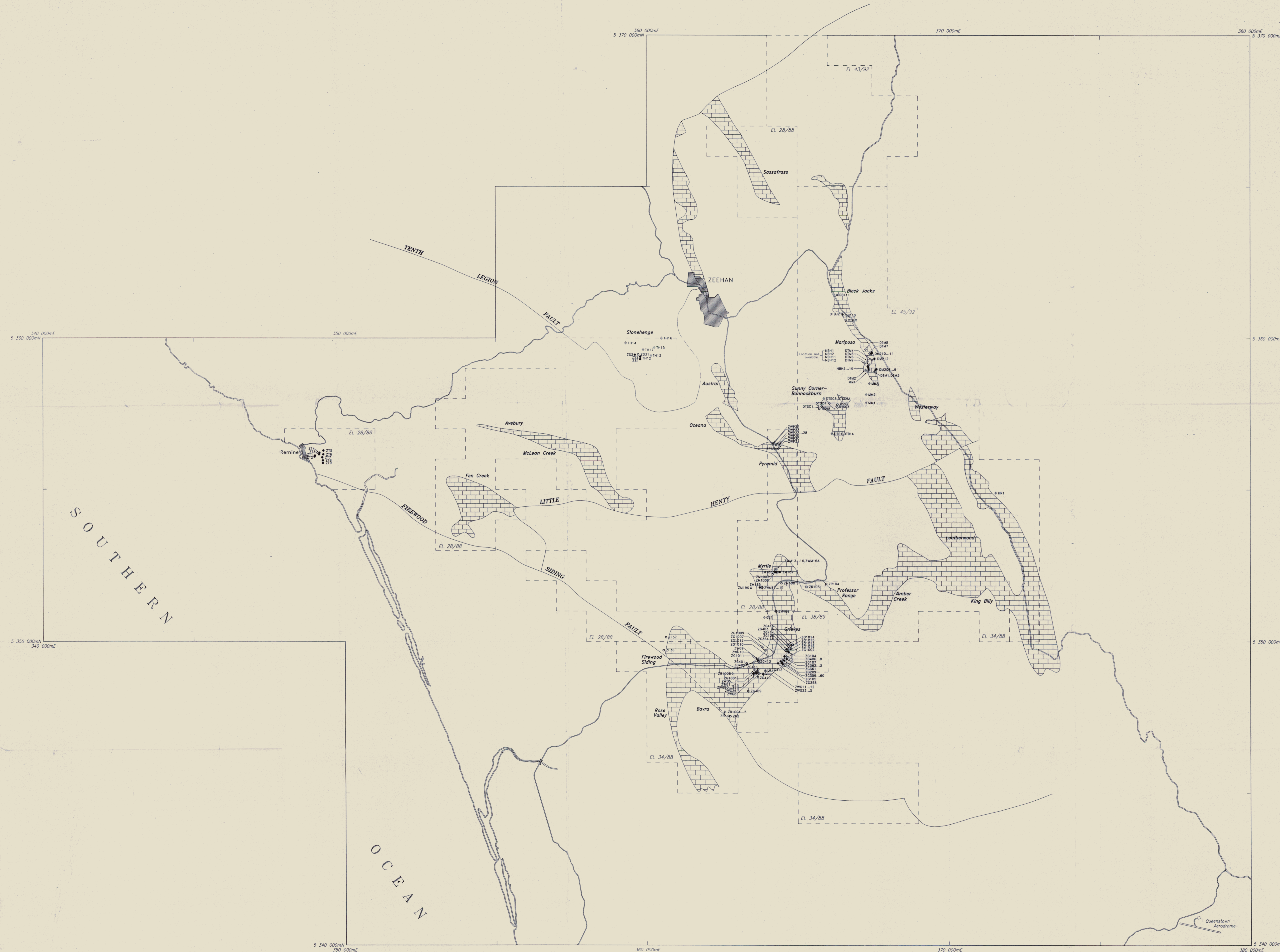
Location Diagram

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

CRA EXPLORATION PTY. LIMITED	
EL45/93 Mount Dundas	
<b>Location Plan</b>	
696019	
Author: Simon Tear	Reference: SW Tasmania SK55-22
Drawn: Tony Sargeant	File Name: Tv1070.wor
Date: June 1996	Report No: 21807
Scale: 1:100,000	Plan No: Tv1070



- ZG401 Diamond Drillhole - CRAE 1995
- ZG101 Diamond Drillhole - CRAE Pre 1995
- ◇ ZWG411 Diamond Drillhole - Other
- Major Faults
- - - CRAE Tenement Boundaries
- ▨ Ordovician Gordon Limestone (usually covered by peat and gravels)

**96-3885**  
 ANNUAL REPORT 1996 - MT DUNDAS  
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0 1 2 3 4 kilometres

5 cm

North

CRA EXPLORATION PTY. LIMITED

**ZEEHAN PROJECT**  
 Target Plan  
 696C20

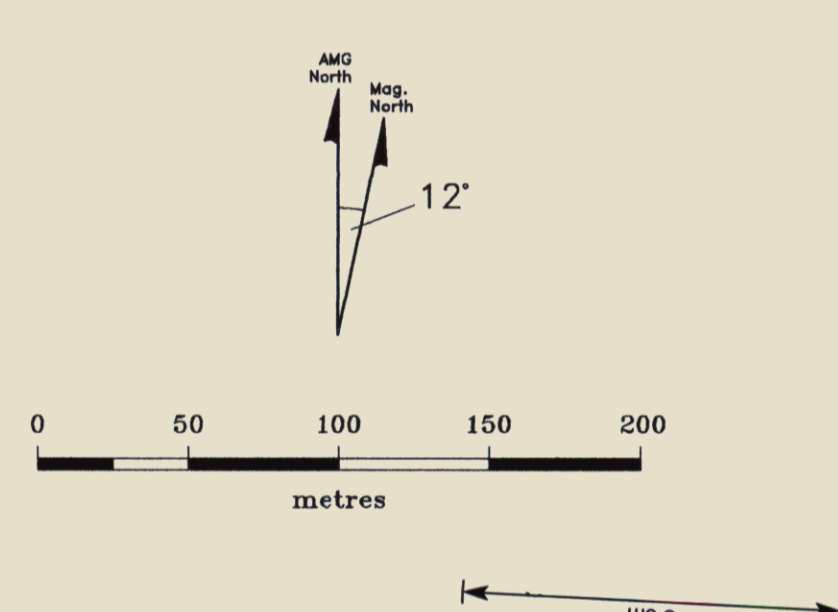
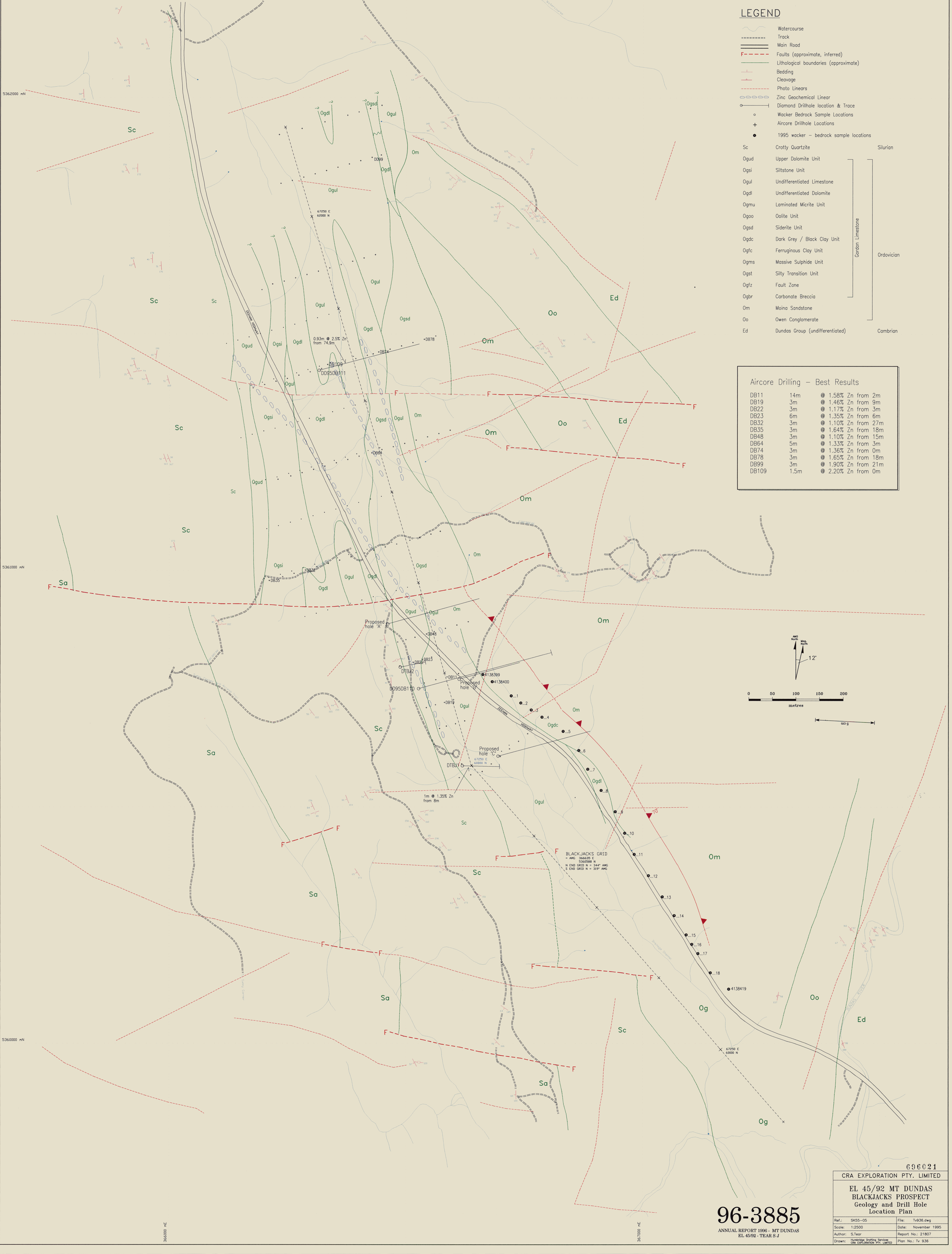
Ref.: SK55 - 5	File: Tv1022.dwg
Scale: 1 : 50000	Date: November 1995
Author: Simon Tear	Report No.: 21807
Drawn: T. Sargeant	Plan No.: Tv 1022

**LEGEND**

- Watercourse
  - Track
  - Main Road
  - Faults (approximate, inferred)
  - Lithological boundaries (approximate)
  - Bedding
  - Cleavage
  - Photo Linears
  - Zinc Geochemical Linear
  - Diamond Drillhole location & Trace
  - Wacker Bedrock Sample Locations
  - Aircore Drillhole Locations
  - 1995 wacker - bedrock sample locations
- 
- Sc Crotty Quartzite
  - Ogud Upper Dolomite Unit
  - Ogsi Siltstone Unit
  - Ogul Undifferentiated Limestone
  - Ogdl Undifferentiated Dolomite
  - Ogru Laminated Micrite Unit
  - Ogou Oolite Unit
  - Ogud Siderite Unit
  - Ogdc Dark Grey / Black Clay Unit
  - Ogfc Ferruginous Clay Unit
  - Ogrms Massive Sulphide Unit
  - Ogst Silty Transition Unit
  - Ogz Fault Zone
  - Ogbr Carbonate Breccia
  - Om Main Sandstone
  - Oo Owen Conglomerate
  - Ed Dundas Group (undifferentiated)
- 
- Silurian
  - Ordoevician
  - Cambrian

**Aircore Drilling - Best Results**

DB11	14m	@ 1.58% Zn from 2m
DB19	3m	@ 1.46% Zn from 9m
DB22	3m	@ 1.17% Zn from 3m
DB23	6m	@ 1.35% Zn from 6m
DB32	3m	@ 1.10% Zn from 27m
DB35	3m	@ 1.64% Zn from 18m
DB48	3m	@ 1.10% Zn from 15m
DB64	5m	@ 1.33% Zn from 3m
DB74	3m	@ 1.36% Zn from 0m
DB78	3m	@ 1.65% Zn from 18m
DB99	3m	@ 1.90% Zn from 21m
DB109	1.5m	@ 2.20% Zn from 0m



BLACKJACKS GRID  
 = AMG 366420 E  
 336028 N  
 N END GRID N = 244° AMG  
 S END GRID N = 215° AMG

1m @ 1.35% Zn  
 from 8m

696021

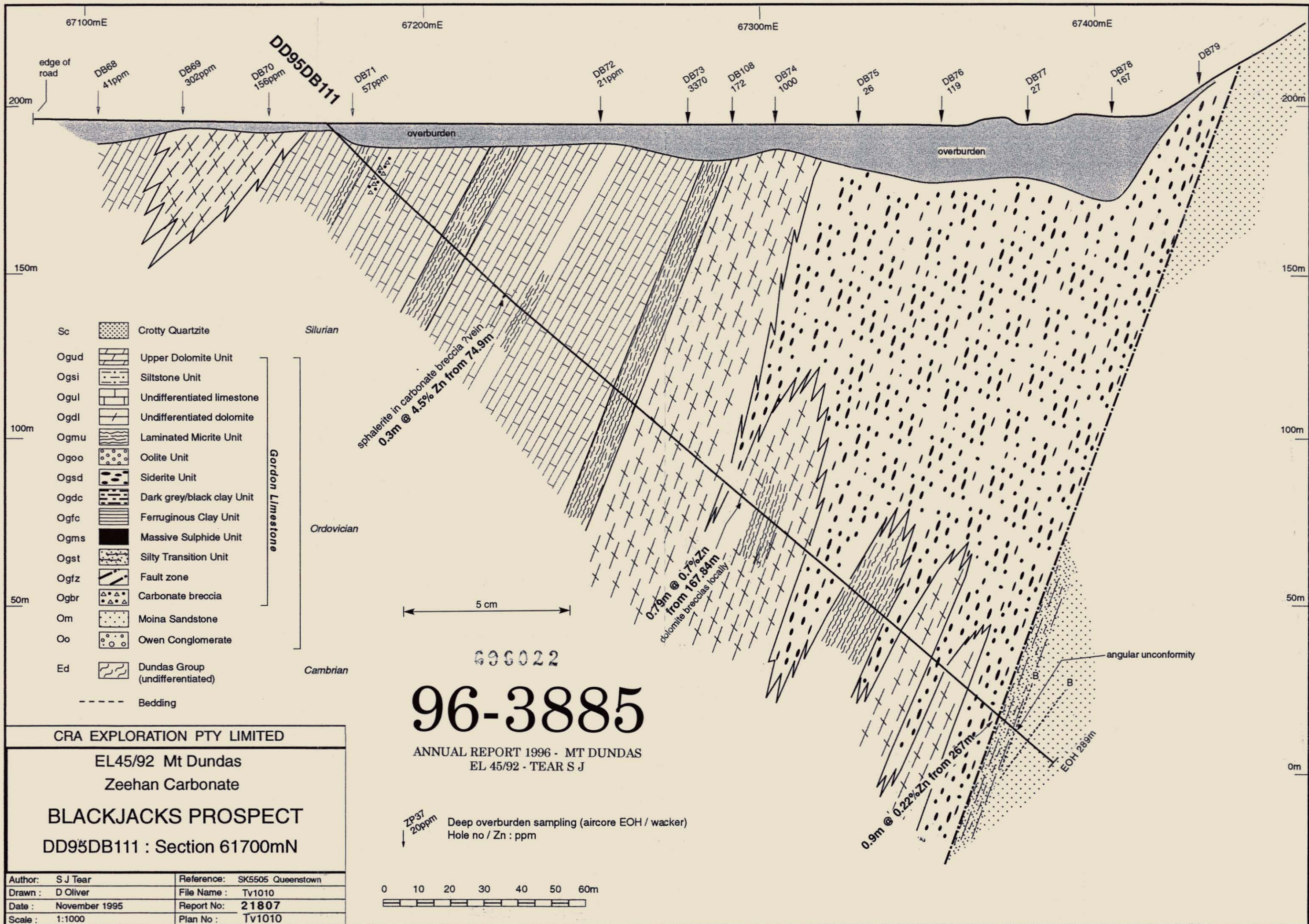
CRA EXPLORATION PTY. LIMITED

EL 45/92 MT DUNDAS  
 BLACKJACKS PROSPECT  
 Geology and Drill Hole  
 Location Plan

**96-3885**

ANNUAL REPORT 1996 - MT DUNDAS  
 EL 45/92 - TEAR S J

Ref.: SK55-05 File: Tv936.dwg  
 Scale: 1:2500 Date: November 1995  
 Author: S.Tear Report No.: 21807  
 Drawn: Humphrey Drilling Services Plan No.: Tv 936



67100mE

67200mE

67300mE

67400mE

edge of road

DB68  
41ppm

DB69  
302ppm

DB70  
156ppm

DD95DB111

DB71  
57ppm

DB72  
21ppm

DB73  
3370

DB108  
172

DB74  
1000

DB75  
26

DB76  
119

DB77  
27

DB78  
167

DB79

overburden

overburden

150m

150m

- 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
- Ogfh Fault zone
- Ogbr Carbonate breccia
- Om Moina Sandstone
- Oo Owen Conglomerate
- Ed Dundas Group (undifferentiated)

Silurian

Ordovician

Cambrian

Gordon Limestone

sphalerite in carbonate breccia vein  
0.3m @ 4.5% Zn from 74.9m

0.79m @ 0.7% Zn  
from 167.84m  
dolomite breccias locally

0.9m @ 0.22% Zn from 267m

EOH 289m

angular unconformity

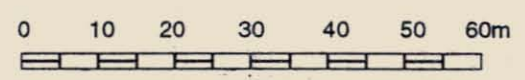
5 cm

696022

**96-3885**

ANNUAL REPORT 1996 - MT DUNDAS  
EL 45/92 - TEAR S J

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



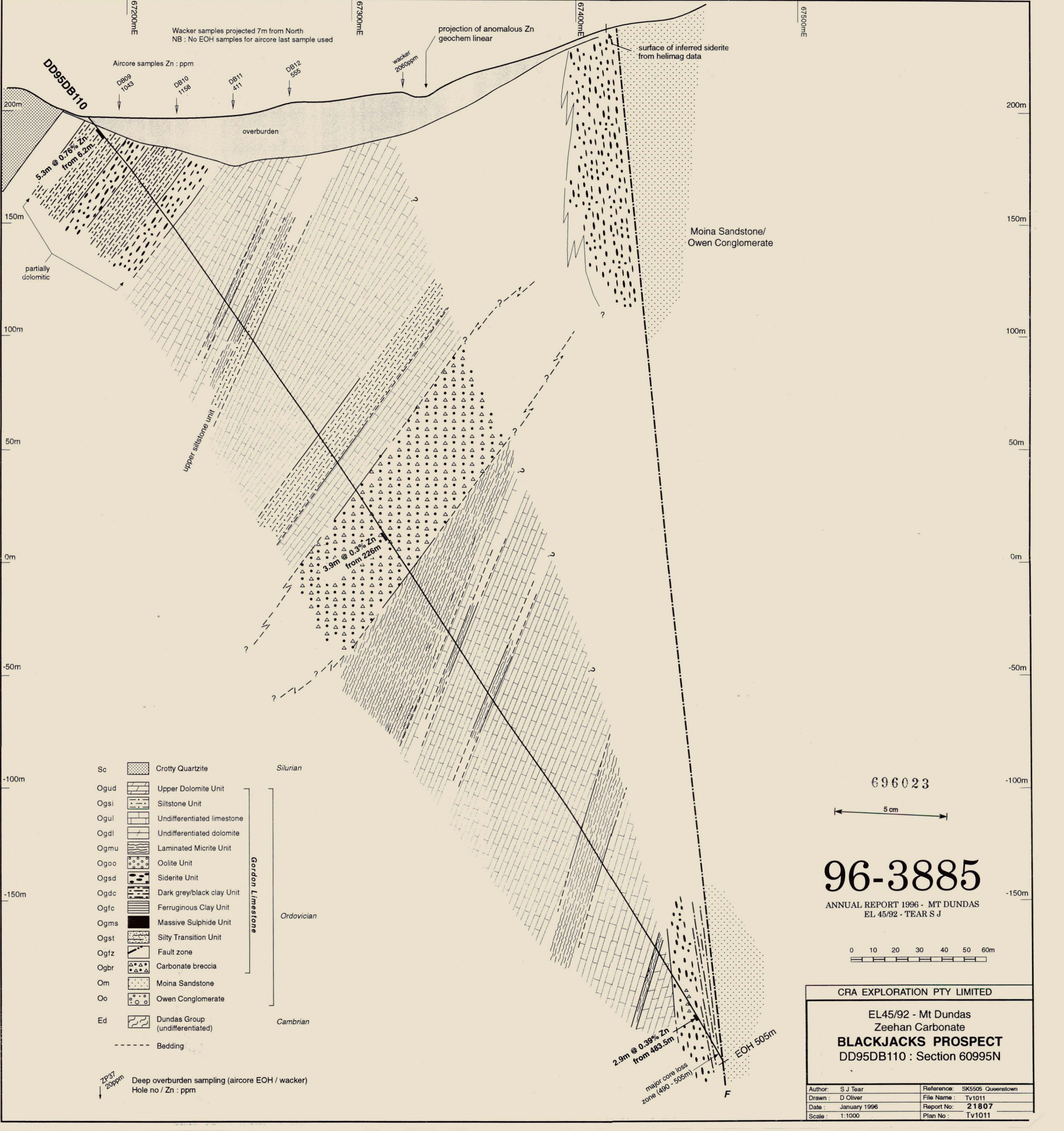
CRA EXPLORATION PTY LIMITED

EL45/92 Mt Dundas  
Zeehan Carbonate

**BLACKJACKS PROSPECT**

DD95DB111 : Section 61700mN

Author: S J Tear	Reference: SK5505 Queenstown
Drawn: D Oliver	File Name: Tv1010
Date: November 1995	Report No: 21807
Scale: 1:1000	Plan No: Tv1010



- |       |  |                                 |                  |
|-------|--|---------------------------------|------------------|
| 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           | Ordovician       |
| Ogftz |  | 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

67500mE

67400mE

67300mE

67200mE

Author: S J Tear	Reference: SK5505 Queenstown
Drawn: D Oliver	File Name: Tv1011
Date: January 1996	Report No: 21807
Scale: 1:1000	Plan No: Tv1011

CRA EXPLORATION PTY LIMITED

EL45/92 - Mt Dundas  
 Zeehan Carbonate  
**BLACKJACKS PROSPECT**  
 DD95DB110 : Section 60995N

96-3885

ANNUAL REPORT 1996 - MT DUNDAS  
 EL 45/92 - TEAR S J

0 10 20 30 40 50 60m

696023

5 cm

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 consistency in lithologies at its base. The question of faulted contacts is brought to mind and 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 gouge). This is possibly matched in DD95DS98 but there are considerable thickness variations, as would be expected in the depositional environment.

## 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 calcisiltite with bands of bioclastic calcarenite and nodular calcisiltite. Locally it is unreactive to dilute hydrochloric acid. It generally occurs at the base of the top third of the stratigraphic column and has an average thickness of 15m.

There are transitional upper and lower sequences 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, often Ogdl units 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 individual laminated units have an upper thickness limit of generally <3m except in specific circumstances eg 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 the Grieves Prospect as a dolomitised equigranular calcarenite unit - thought to be an oolite. It is believed that the 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, possibly representing a sand bar.

## 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 it. 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**

**Exploration by CRAE Prior to 16/3/95**

Year 1

(Parkinson 1994) Reviews of Amoco-CSR open-file data highlighted the Mariposa and Sunny Corner areas as having anomalous surface geochemistry. At Mariposa prospect, costeans returned best results of 14m @ 3.0% Zn from the historically exploited upper zone, and 8m @ 6.2% Zn and 395 ppm Ag from the lower zone contact with the Dundas Group. Costeans at Sunny Corner produced up to 22m at 3.9% Zn, including 6m at 9.7% Zn and 74 ppm Ag. Percent levels of Zn were also detected in costeans at Blackjacks and Bannockburn.

Limited drilling by Amoco-CSR failed to locate economic mineralisation, although sub-percent levels of Pb and Zn were common over wide areas, indicating substantial alteration systems.

Aircore drilling by CRAE during 1993-94 at Mariposa returned significant intersections from the lower zone contact with the Dundas Group including:-

59450N	DM70	10m	@	4.1% Zn	2.5% Pb	19 ppm Ag
59400N	DM13	6m	@	4.1% Zn	1.5% Pb	16 ppm Ag
59350N	DM97	8m	@	5.0% Zn	2.9% Pb	60 ppm Ag
59300N	DM102	8m	@	18.5% Zn	16.9% Pb	231 ppm Ag
59250N	DM118	8m	@	4.6% Zn	6.5% Pb	95 ppm Ag
59150N	DM150	6m	@	3.5% Zn	2.5% Pb	88 ppm Ag
58850N	DM199	8m	@	4.6% Zn	3.2% Pb	185 ppm Ag

Mineralisation appears to be subvertical and narrow, the widths above being apparent thicknesses.

Year 2

(Parkinson 1995) Diamond drilling at Mariposa consisted of five holes totalling 554m and tested the lower sandstone/limestone contact (DM208-DM212) intersections include:-

58850N	DM209	7.7m	@	2.1% Zn	<0.1% Pb	<5 ppm Ag
59400N	DM210	5.4m	@	1.4% Zn	1.7% Pb	25 ppm Ag
59400N	DM211	1.8m	@	9.8% Zn	6.5% Pb	107 ppm Ag
59200N	DM212	0.7m	@	3.8% Zn	5.4% Pb	45 ppm Ag

Additional work comprised of mapping, petrological studies and resampling of EZ diamond drillholes.

Aircore drilling by CRAE during 1994 at Sunny Corner-Bannockburn returned significant intersections from the Upper Zone contact with Crotty Quartzite including:

DS37	6m	@	3.2% Zn	1.8% Pb	23 ppm Ag
DS38	15m	@	3.6% Zn	2.2% Pb	18 ppm Ag
DS53	3m	@	5.4% Zn	4.8% Pb	23 ppm Ag
DS68	12m	@	1.3% Zn	6.7% Pb	27 ppm Ag

Aircore drilling by CRAE during 1994 at Blackjacks (109 holes) identified substantial thicknesses of siderite alteration up to 50m wide at the Lower Zone contact with underlying clastics. Zinc intercepts were highly anomalous, but generally sub-percent. Better results included:

DB11	14m	@	1.4% Zn	
DB35	3m	@	1.6% Zn	
DB78	3m	@	1.6% Zn	
DB99	3m	@	1.9% Zn	
DB109	1.5m	@	2.2% Zn	(ended in mineralisation)

Regional reconnaissance and data capture work was completed.

**Appendix III**

**Blackjacks Wacker Bedrock Sampling Results**

Blackjacks Bedrock Wacker Sampling 1095

Sample No	AMGE	AMGN	DPO no	Sample Type	Prospect	EL No.	Local E	Local N	Depth	Bedrock?	MRTLIn	FieldID	Texture	Al/Min	Colour	Comments	Ag	Al	As	Ba	Ca	Cu	Fe	K	Mg	Mn	Pb	Zn
4138399	365660	5360780	77681	WACKER	BLACKJACKS	EL4592	n/a	n/a	5.4	N	Qia	Cg	G		G	No reaction with Hcl	1.3	1.59	6	94	-0.05	135	0.62	0.88	0.2	35	107	119
4138400	365660	5360785	77681	WACKER	BLACKJACKS	EL4592	n/a	n/a	8.2	Y	Ogdc	Ccy	DGN		DGN	No reaction with Hcl	0.6	6.53	31	374	0.05	36	2.53	3.44	0.77	46	503	2060
4138401	366720	5360735	77681	WACKER	BLACKJACKS	EL4592	n/a	n/a	12.2	Y	Ogdc	Ccy	DGN		DGN	No reaction with Hcl	0.5	6.34	14	375	-0.05	16	1.6	3.53	0.78	28	129	814
4138402	366740	5360720	77681	WACKER	BLACKJACKS	EL4592	n/a	n/a	23.8	Y	Ogdc	Ccy	G		G	No reaction with Hcl	-0.5	8.26	10	534	-0.05	16	2.07	4.55	1.07	74	22	753
4138403	366762	5360705	77681	WACKER	BLACKJACKS	EL4592	n/a	n/a	10.8	Y	Ogdc	Ccy	G		G	No reaction with Hcl	-0.5	7.47	6	495	-0.05	19	1.83	4.37	0.76	50	66	550
4138404	366785	5360690	77681	WACKER	BLACKJACKS	EL4592	n/a	n/a	11.4	Y	Ogdc	Ccy	DG		DG	No reaction with Hcl	-0.5	6.95	37	307	0.05	23	3.64	3.48	0.67	41	240	995
4138405	366830	5360660	77681	WACKER	BLACKJACKS	EL4592	n/a	n/a	12.7	Y	Ogdc	Ccy	G		G	No reaction with Hcl	-0.5	7.2	19	355	-0.05	22	1.58	3.53	0.92	22	1920	891
4138406	366855	5360620	77681	WACKER	BLACKJACKS	EL4592	n/a	n/a	16	Y	Ogul	Sls	G		G		-0.5	1.7	-5	75	29.85	9	0.76	0.88	0.62	83	41	359
4138407	366860	5360680	77681	WACKER	BLACKJACKS	EL4592	n/a	n/a	1.8	Y	Ogdt	Sdt	B		B		-0.5	9.01	115	255	0.08	39	2.24	2.69	0.66	15	97	2790
4138408	366910	5360635	77681	WACKER	BLACKJACKS	EL4592	n/a	n/a	14.8	Y	Ogdt	Sdt	G		G	No reaction with Hcl	-0.5	7	93	228	-0.05	25	2.63	2.71	0.59	18	67	1740
4138409	366940	5360490	77681	WACKER	BLACKJACKS	EL4592	n/a	n/a	13.5	Y	Ogdc	Ccy	DGN		DGN	No reaction with Hcl	-0.5	8.66	18	346	-0.06	34	1.95	4.34	0.95	23	69	353
4138410	366980	5360445	77681	WACKER	BLACKJACKS	EL4592	n/a	n/a	25	Y	Ogul	Sls	G		G		1.3	1.01	-5	45	28.51	11	1.66	0.53	2.05	1200	327	2180
4138411	366980	5360400	77681	WACKER	BLACKJACKS	EL4592	n/a	n/a	10.5	Y	Ogul	Sls	G		G		0.8	1.99	6	96	29.66	22	1.72	1.07	1.03	660	298	1320
4138412	367010	5360355	77681	WACKER	BLACKJACKS	EL4592	n/a	n/a	11.7	Y	Ogul	Sls	LG		LG	Micritic	-0.5	2.43	-5	113	15.45	9	1.71	1.32	4.06	181	-10	56
4138413	367040	5360310	77681	WACKER	BLACKJACKS	EL4592	n/a	n/a	16.9	Y	Ogul	Sls	G		G		-0.5	1.09	-5	49	26.64	5	1.13	0.58	3.8	362	54	375
4138414	367065	5360270	77681	WACKER	BLACKJACKS	EL4592	n/a	n/a	24.8	Y	Ogul	Sls	G		G	Micritic	0.7	2.66	-5	99	19.36	13	2.06	1.44	5.48	306	129	228
4138415	367090	5360230	77681	WACKER	BLACKJACKS	EL4592	n/a	n/a	1.5	Y	Ogul	Sls	DG		DG		-0.5	2.52	-5	109	28.63	20	0.61	1.4	0.47	333	14	99
4138416	367102	5360210	77681	WACKER	BLACKJACKS	EL4592	n/a	n/a	9.2	Y	Ogul	Sls	Py		G	Fine calcarenite with dissem pyrite	-0.5	1.25	-5	64	25.66	33	2.33	0.7	1.27	736	21	151
4138417	367115	5360190	77681	WACKER	BLACKJACKS	EL4592	n/a	n/a	1.5	Y	Ogul	Sls	G		G		0.6	1.48	-5	74	29.98	26	0.69	0.85	1.02	155	13	35
4138418	367140	5360150	77681	WACKER	BLACKJACKS	EL4592	n/a	n/a	9.2	Y	Ogul	Sls	Vc		LG		2	1.16	-5	47	31.91	15	1.8	0.65	0.59	1330	23	255
4138419	367180	5360115	77681	WACKER	BLACKJACKS	EL4592	n/a	n/a	10.8	Y	Ogul	Sls	G		G	Micritic	-0.5	3.71	-5	144	18.52	120	1.37	1.76	0.72	202	347	570
4138420	367220	5360080	77681	WACKER	BLACKJACKS	EL4592	n/a	n/a	5	Y	Ogul	Sls	LG		LG	Micritic	3.8	2.19	-5	88	28.86	17	2.06	1.2	1.09	1340	523	1290

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**Appendix IV**

**Blackjacks Drill Logs**

GRA EXPLORATION PTY. LIMITED  
 DRILL-HOLE SUMMARY LOG

HOLE NAME: DD95DB110      AMG EAST 366520    NORTH 5360758  
 PROSPECT: BLACKJACKS      GRID EAST 67183    NORTH 60995  
 EL: MT. DUNDAS      EL 45/92    RL      DEPTH 505m.

DATE DRILLED: 20/1/95  
 LOGGED BY: S.J. TEAR  
 DRILLING CO.: Diamond Drilling Tas.  
 DRILL TYPE: DIAMOND  
 DRILL RIG: LY38  
 LOC DRILL CORE: ZEEHAN

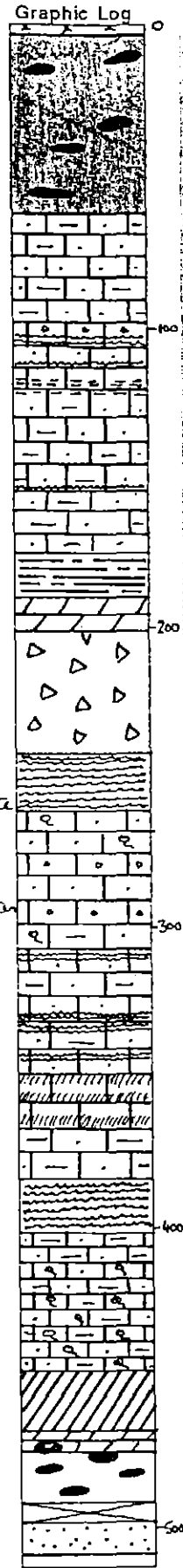
SURVEYS:					
DEPTH (M)	AZIM (AMG)	DIP	DEPTH	AZIM (AMG)	DIP
0	078°	50°	300	081.5°	56.5°
50	080°	53°	350	082°	55°
106	080°	55°	408	079°	58°
150	081°	55.5°	450	080°	58.5°
202	081°	56°	501	077°	60°
250	080°	57°			

OBJECTIVES OF HOLE:  
 Stratigraphic drill test of the Carbon Limestone on the Blackjacks prospect.

LITHOLOGICAL SUMMARY:			
FROM	TO	FORM CODE	COMMENTS
0	3.0	Oha	Overburden; no recovery
3.0	62.5	Ogdc	Dark grey clays with limestone, dolomite + siderite locally
62.5	175.4	Ogul	Interbedded grey fine grained calcarenite + argillaceous calcarenite with laminated micrite units; localised fault zones
175.4	191.0	Ogsi	Siltstone Unit.
191.0	202.0	Ogul	Intermixed grey fine grained calcarenite and argillaceous calcarenite
202.0	243.4	Ogbr	Dolomitic Breccia - partly calcareous
243.4	262.5	Ogmu	Laminated micrite unit with other bioclastic calcarenites
262.5	385.1	Ogul	Intermixed grey fine grained calcarenites + argillaceous calcarenite with laminated micrite units and small fault zones
385.1	403.0	Ogmu	Laminated micrite unit
403.0	449.9	Ogul	Intermixed fine grained calcarenite and argillaceous calcarenite
449.9	469.0	Ogfs	Faulted zone with dolomitic + sideritic limestones
469.0	493.0	Ogss	Siderite unit with dark grey clays at base; dolomitic at top
493.0	499.4	Cavities	Major Core loss.
499.4	505.0	Om	Moina Sandstone; major core loss.

MINERALISATION SUMMARY:		
FROM	TO	COMMENTS
6.2	11.5	0.76% Zn as sphalerite in dark grey clays - with elevated zinc values
226	229.6	0.3% Zn in dolomitic breccia - breccia contains elevated zinc values
483.5	486.4	0.39% Zn in Siderite unit - siderite unit with elevated zinc values

CONCLUSIONS:  
 Bedding @ 62.5m 70° to c/a @ 120m 60° to c/a @ 250m 55° to c/a @ 328m 50° to c/a @ 421m 60° to c/a  
 Drillhole intersected a large siderite unit at top and bottom of hole - as large as anywhere else in Zeehan Carbonate; Dolomitic breccias not seen elsewhere - similar to Irish Carbonate breccias.



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

SHEET No. 1

TENEMENT NAME Black Jack No. of 18

PLAN - MAP REFERENCE.....

CO-ORDINATES 366520 E AZIMUTH..... DRILLERS D. T. A. S. COMMENCED 20.1.95 DEPTH 505 m HOLE No. DB 110

RL COLLAR 5360757 N INCLINATION 50° DRILL TYPE LY 38 COMPLETED 28.2.95 CASING LEFT..... DPO No(s).....

DEPTH		Core Rec.	RQ	Graphite Log	CORE DESCRIPTION	SPECIAL FEATURES Weathering, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)			
From (M)	To (M)										From	To	Ratio	%
0	3.0	0	-	OB	Overburden - no recovery						0	3	0	0
3.0	5.5	30	SS	OgDC	Dark grey/black, graphitic clay poorly developed remnant fabric		4141101	6.2			3	5.5	0.74	30
5.5	5.85	100	S	OgDC	Black clay	Localized pyritic mineralization					5.5	8.5	2.2	73
5.85	6.00	100	S	OgUL	Light grey clay						8.5	11.5	0.8	37
6.00	8.2	60	4S	OgUL	Brown <del>massive</del> gossimerous well broken core	Possibly dolomitic	02	6.2	8.8		11.5	14.5	1.0	33
8.2	17.5	32	5X	OgUL	Dark grey/black clay; no remnant fabric; occ calcareous	locally dolomitised eg 11.2m	03	8.8	11.5		14.5	17.5	0.65	22
17.5	20.5	40	5X	OgDC	Calcareous shale/black clay fabric 75° to e/n.		04	11.5	14.5		17.5	20.5	1.2	40
20.5	23.0	40	5X	OgDC	less consolidated black clay		05	17.5	17.5		20.5	23.5	1.2	40
23.0	24.0	70	3X	OgSD	Zone of siderite/black clay	Siderite bands up to 15cm thick	06	23.5	26.5		23.5	26.5	1.6	73
24.0	30.5	55	S	OgDC	Black clay		07	26.5	29.5		26.5	29.5	1.6	53
30.5	38.5	30	5X	OgDC	Black clay - localized zones of silt fragments.	Dolomitisation of silt fragments	08	29.5	32.5		29.5	32.5	1.0	33
38.5	46.2	0	-	CAV	Cavity - no recovery		09	32.5	35.5		32.5	35.5	0.5	16
											35.5	38.5	0	0
											38.5	46.2	0	0
											46.2	49.1	0.3	10
											49.1	50.1	0.75	75
											50.1	53.5	0.2	6
											53.3	51.5	1.0	31
											56.5	59.5	1.0	30
											59.5	62.5	0.4	13
											62.5	64.0	1.1	73
											64.0	65.5	1.5	100
											65.5	68.3	2.8	100
											68.3	68.7	0.8	100
											69.1	71.5	1.4	100
											71.5	74.2	2.5	100
											74.2	75.8	1.6	100
											75.8	76.8	1.0	100
											76.8	77.1	1.3	57
											77.1	80.5	1.4	100

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

SHEET No. 2 of 18

TENEMENT NAME BLACK JACK No. ....

PLAN - MAP REFERENCE .....

CO-ORDINATES 366520E AZIMUTH..... DRILLERS DOTAS COMMENCED 20.11.95 DEPTH 505m HOLE No. DB110

RL COLLAR 5360759N INCLINATION 50° DRILL TYPE LY38 COMPLETED 28.2.95 CASING LEFT..... DPO No(s).....

DEPTH		Core Rec.	R.Q.	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)				
From (M)	To (M)										From	To	radw	%	
46.2	49.1	10	4X	OgUL	Broken core - dolomitised limestone	Dolomitic veining associated with dolomitised rock.	4141113	46.2	49.1			80.5	82.1	6.6	100
												82.1	83.5	0.8	57
												83.5	84.7	0.6	50
49.1	62.5	25	5X	OgUL	Black/dk grey clay with small scale fragments of limestone	localised dolomitisation	14	49.1	53.3			84.7	86.2	1.5	100
							15	53.3	56.5			86.2	87.8	1.6	100
							16	56.5	59.5			87.8	89.4	1.6	100
62.5	67.0	90	3V	OgUL	Interbedded light grey micritic and dark grey locally laminated calcareous argillite. Bedding 70° to c/A; localised disrupted bedding		17	59.5	62.5			89.4	90.7	1.3	100
							18	62.5	65.5			90.7	91.9	1.2	100
							19	65.5	68.3			91.9	94.0	1.6	80
												94.0	95.1	0.55	50
67.0	72.5	85	4S	OgUL	Fractured + broken micrite + argillite with cleavage sub-parallel to c/A; localised clay zones		4141120	68.3	72.5			95.1	96.7	1.6	100
												96.7	98.2	1.5	100
												98.2	99.7	1.5	100
												99.7	102.8	3.1	100
72.5	73.5	100	2	OgUL	Interbedded med/fine grained calcarenite (locally bioturbated) and med grained argillaceous calcarenite. bioturbation							102.8	104.2	1.0	70
												104.2	106.0	1.8	100
												106.0	108.0	1.6	80
												108.0	110.0	1.5	75
												110.0	114.7	4.7	100
												114.7	117.2	2.5	100
73.5	74.2	100	2	OgUL	Fine grained massive bedded calcarenite unit							117.2	120.3	3.1	100
												120.3	121.7	1.4	100
												121.7	122.9	1.2	100
74.2	75.8	100	1	OgUL	Interbedded light grey fine grained calcarenite and dark grey med grained black argillite - bedding 70° to c/A. Top zone fractured							122.9	126.0	3.1	100
												126.0	129.1	3.1	100
												129.1	132.2	3.1	100
												132.2	135.3	3.1	100
												135.3	136.8	1.5	100
75.8	79.2	70	4S	OgUL	Sheared limestone or above with a cleavage 10° to c/A. Broken core.							136.8	137.9	1.1	100
												137.9	144.8	2.9	100
												144.8	144.1	2.3	100

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

SHEET No. 57/78

TENEMENT NAME BLACK JACK No. ....  
PLAN - MAP REFERENCE .....

CO-ORDINATES 366520E AZIMUTH..... DRILLERS DDTAS COMMENCED 20.1.95 DEPTH 50.5m HOLE No. DB110  
RL COLLAR 5360759N INCLINATION 50° DRILL TYPE LY 38 COMPLETED 28.2.95 CASING LEFT..... DPO No(s).....

DEPTH		Core Rec %	RA DATA	Graphical Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)												
From (M)	To (M)																						
104.2	105.8	100	2	Ogul	Dk grey fine grained calcarenite with brecciated micrite transitioned top	calldol veining - irregular partial dolomitisation.																	
105.8	107.4	100	2	Ogul	Lt grey micrite unit with med grained argillaceous calcarenite zones	calldol veining 15° to c/a, 70° to c/a conjugate pair localised brecciation @ 106.39m.																	
107.4	108.0	50	4x	Ogul	Broken core - limestone																		
108.0	110.3	100	3x	Ogul	Grey micrite and dark grey med. grained argillaceous calcarenite - broken core; localised biacetic bands.																		
110.3	112.3	100	1	Ogul	Dark grey argillaceous calcarenite and fine grained grey calcarenite	zones of calldol veining at 111.5 and 112.2m; Partial dolomitisation.																	
112.3	113.8	100	2	Ogul	Lt grey micrite unit; localised distinct laminations - minor beds eyes.	<del>20°</del> Cleavage 30° to c/a. Bedding ~ 80° to c/a; variable calldol vein orientations.																	
113.8	114.7	100	2	Ogul	Grey fine grained calcarenite with dark grey med grained argillaceous calcarenite	Partially dolomitised; <del>calldol</del> <del>veining</del> cal veining orthogonal set 90° to c/a + 0° to c/a. Minor blob of iron-rich sphalerite in calcite cavity @ 114.35m.																	

696039

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

SHEET No. 07  
TENEMENT NAME BLACK JACK No. 18  
PLAN - MAP REFERENCE.....

CO-ORDINATES 366520E AZIMUTH..... DRILLERS DDTAS COMMENCED 20.1.95 DEPTH 505 m HOLE No. DB110  
RL COLLAR 5360759A INCLINATION 50° DRILL TYPE LY 38 COMPLETED 28.2.95 CASING LEFT..... DPO No(s).....

DEPTH		Core Rec <u>DATA</u>	RQ	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)										
From (M)	To (M)																				
114.7	119.2	100	2V	OgFz	Grey fine grained calcarenite and dark grey med grained argillaceous calcarenite; major veining zone	partially dolomitized fault zone: cal + cal dol veining and brecciation - irregular + multiphase	414, 125	114.7	117.2												
119.2	119.35	100	3	OgFz	Steered lost with clay gouges and brecciation	Upper contact ?90° to c/a. Lower " ?90° to c/a.															
119.35	120.0	100	4X	OgFz	Broken core; weakly calcareous dark grey siltstone and clay gouges		27	119.7	122.0												
120.0	122.0	100	3	OgSi	Dark grey argillaceous siltstone. Locally weakly calcareous; Uniform rock in places, localised coarser bioclastic beds < 1m @ 121.73m and 121.95m.	Bedding 60° to c/a.															
122.0	123.6	100	2	OgSi	Transitional zone becoming more calcareous siltstone grading into a fine grained grey calcarenite with localised bioclasts. Pass out at 123.3m																
123.6	134.90	100	1C	OgUu	Med fine grained nodular grey calcarenite (locally bioclastic) with infill matrix of dark grey med grained argillaceous calcarenite. ?oolite at basal 20cm.	cleavage locally developed sub-parallel to c/a pass minor fault at 129.1m associated with calcite veining sub parallel to c/a	28	126.0	129.0												

696040

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

SHEET No. 7 of 18

TENEMENT NAME BLACK JACK No. 18

PLAN - MAP REFERENCE .....

CO-ORDINATES 36520E AZIMUTH..... DRILLERS DDTAS COMMENCED 20175 DEPTH 505m HOLE No. DB110

RL COLLAR 5360757N INCLINATION 50° DRILL TYPE LY38 COMPLETED 28295 CASING LEFT..... DPO No(s).....

DEPTH		Core Rec.	RR DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analyzed by.....)													
From (M)	To (M)																							
134.9	136.38	100	2C	Ogyl	Lt grey fine grained calcarenite interlaminated with darker siltite	Bedding 75° E c/A; cleavage 30° E c/A. Calcite veining 135.9 - 136.3m. conjugate pair 45° E c/A and 20° E c/A.																		
136.38	136.8	100	4X	Ogfc	clay gouge and brecciated part.	Fault 45° E c/A																		
136.8	137.4	100	2X	Ogyl	Dk grey argillaceous fine grained calcarenite with localized biotite zones.	fault gouge at 137.25 30° E c/A.																		
137.4	138.9	100	2	Ogyl	Lt grey ? altered med grained calcarenite	Calcite (+ dolomite) veining 10° E c/A + 90° E c/A.																		
138.9	139.6	100	2	Ogyl	Grey fine grained calcarenite with zones of darker med grained calcarenite (argillaceous)	local zones of ? syn-sedimentary brecciation																		
139.6	140.5	100	3C	Ogyl	Argillaceous ? bioturbated fine grained calcarenite	faulted upper contact 50° E c/A. bedding or cleavage 45° E c/A.																		
140.5	142.25	100	2X	Ogyl	Dk grey fine grained calcarenite locally dark grey siltite																			
142.25	143.8	100	2	Ogyl	Grey fine grained calcarenite with biotitic zones and dark grey med grained calcarenite	Irregular bedding contacts.																		
143.8	144.1		3X	Ogfc	Brecciated zone with clay gouges.																			

696041

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

SHEET No. 7

TENEMENT NAME BLACK JACK No. 18

PLAN - MAP REFERENCE.....

CO-ORDINATES 36520E AZIMUTH..... DRILLERS DDTAF COMMENCED 20175

DEPTH 505 m HOLE No. DB110

RL COLLAR 5360757N INCLINATION 50° DRILL TYPE LY38 COMPLETED 28295

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

DEPTH		Core Rec.	RR DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)												
From (M)	To (M)																						
134.9	136.38	100	2C	Ogul	lt grey fine grained calcarenite inter-laminated with darker nodules	Bedding 75° E c/A; cleavage 30° E c/A. Calcite veining 135.9 - 136.3m conjugate pair 45° E c/A and 20° E c/A.																	
136.38	136.8	100	4X	Og/z	clay gouge and brecciated lith.	Fault 45° E c/A.																	
136.8	137.4	100	2X	Ogul	dk grey argillaceous fine grained calcarenite with localized biotite zones.	fault gouge at 137.25 30° E c/A.																	
137.4	138.9	100	2	Ogul	lt grey ? altered med grained calcarenite	Calcite (+dolerite) veining 10° E c/A + 90° E c/A.																	
138.9	139.6	100	2	Ogul	Grey fine grained calcarenite with zones of darker med grained calcarenite (argillaceous)	local zones of ? syn-sedimentary brecciation																	
139.6	140.5	100	3C	Ogul	Argillaceous ? bioturbated fine grained calcarenite	faulted upper contact 50° E c/A. bedding or cleavage 45° E c/A.																	
140.5	142.25	100	2X	Ogul	dk grey fine grained calcarenite locally dark grey micrite																		
142.25	143.8	100	2	Ogul	Grey fine grained calcarenite with bioclastic zones and dark grey med grained calcarenite	Irregular bedding contacts.																	
143.8	144.1		3X	Og/z	Brecciated zone with clay gouges.																		

696042

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

SHEET No. 88 of 98

TENEMENT NAME BLACK JACK No. ....

PLAN - MAP REFERENCE .....

CO-ORDINATES 366820 E AZIMUTH ..... DRILLERS DDTAS COMMENCED 20195 DEPTH 505 m HOLE No. D1310

RL COLLAR 5360759N INCLINATION 50° DRILL TYPE LY 39 COMPLETED 28.2.95 CASING LEFT ..... DPO No(s) .....

DEPTH		Core Rec. %	ROK DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by .....			
From (M)	To (M)													
144.1	154.4	100	1	OgUl	Fine grained grey calcarenite locally micritic. With zones of bioclastic med grained calcarenite, with dark grey med grained argillaceous calcarenite.	Bedding more nodular after 151m. Minor calldal veing parallel to core axis. 153.1 Dissep py in calldal vein.					144.1	147.2	3.1	100
											147.2	150.3	3.1	100
											150.3	153.1	3.1	100
											153.1	155.3	2.2	100
											155.3	158.3	3.2	100
											158.3	159.8	1.3	100
154.4	154.6	100	3V	Ogfe	Possible fault zone - black argillitic limestone with calldal veining	Vein 70° to c/a.					159.8	162.9	3.1	100
											162.9	164.7	1.8	100
											164.7	168.0	3.42	75
											168.0	169.0	0.9	90
154.6	155.65	100	3	OgUl	light grey micrite with bioclasts, grading down into a black grey laminated unit, localised bird eyes. 8cm micrite at base.	Bedding 70° to c/a.					169.0	172.0	3.0	100
											172.0	175.0	1.8	60
											175.0	176.2	1.2	100
											176.2	178	1.2	100
											178	181	3.0	100
155.65	158.0	100	1	OgUl	Interbedded grey micritic (mt) and calcareous siltstone - locally well-bedded.	Bedding - 70°; Partial dolomitisation. Minor calcarenite (dal veing) sub parallel to c/a.					181	182.3	1.3	100
											182.3	184	1.7	100
											184	187	3.0	100
											187	190	3.0	100
158.0	158.15	100	1	OgUl	Black argillites with distinctive bioclasts. < 1cm.						190	193	3.0	100
											193	196	1.0	33
											196	197.2	0.6	33
158.15	159.1	100	3x	OgUl	Interbedded grey micrite + calc siltstone (argillaceous)	Partial dolomitisation					197.2	198.2	1.0	50
											198.2	202	2.0	
											202	203.8	1.0	
159.1	159.2	100	S	Ogfe	Clay gouge - angle unknown.						203.8	205.1	0.3	
											205.1	206.7	1.0	
159.2	166.25	100	18x		Fine grained grey calcarenite with dark grey argillaceous calcarenite locally broken core. Bioclastation locally bioclastic	cleavage. 15° to c/a. Irregular bedding. Partially dolomitised. 160.45 brown Mineral (?SIDERITE)					206.7	207.4	0.6	
											207.4	209.5	1.4	
											209.5	211.0	1.4	
											211.0	217.7	1.7	100

696043

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

SHEET No. 7 of 18

TENEMENT NAME BLACK JACK No. ....

PLAN - MAP REFERENCE.....

CO-ORDINATES 366 S 20 E AZIMUTH..... DRILLERS D.D.T.A.S. COMMENCED 20 1 95 DEPTH 505 m HOLE No. DB 110

RL COLLAR 5360757N INCLINATION 50° DRILL TYPE L.Y. 38 COMPLETED 28 2 95 CASING LEFT..... DPO No(s).....

DEPTH		Core Rec.	RQ	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath. Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)											
From (M)	To (M)																					
166.25	168.8	50	3X	OgFz	Mixed zone of brecciated limestone locally veined with clay gouges; upper contacts 40° to 130° lower contacts 10° to 15° dip.	Partially dolomitised - decalcified in places, cal/dol veining irregular									2127	214	1.0					
															214	215.5	1.0					
															215.5	216.6	0.7					
															216.6	218.4	1.8	100				
															218.4	220	1.6	100				
168.8	171.3	100	1	OgU	Grey fine grained calcarenite locally micritic (?) with stromatolites & biolherd u - also with argillaceous and calcarenite; biolherd u nodules									220	223	3.0	100					
															223	226	3.0	100				
															226	227.2	1.0					
															227.2	228.1	0.6					
171.3	179.8	RD	4X	OgFz	Decalcified limestone with broken cones and clay gouges - brecciated in places	partial dolomitisation								228.1	229.6	0.9						
															229.6	230.7	0.8					
															230.7	231.5	0.8	100				
															231.5	232.2	0.5					
179.8	183.8	100	3X	OgFz	Dark grey/black argillaceous calcarenite with localised fine grained grey calcarenite.	Partial/oxalimic dolomitisation								232.2	233.0	1.0						
															233.0	234.2	0.6					
															234.2	235.8	2.6	100				
															235.8	238.0	1.0					
															238.0	239.9	0.6					
															239.9	240.4	1.0					
															240.4	240.9	0.9					
183.8	186	100	4X	OgFz	Brecciated / faulted dolomitised limestone with clay gouges - broken cones	occ pyrite seams partial dolomitisation	414 1129	183.8	185.7					240.9	241.4	3.2	100					
															241.4	243.6	2.7					
															243.6	246.7	3.1	100				
															246.7	249.8	2.7					
															249.8	250.9	3.1	100				
186	189	100	1	OgSi	Dark grey/black calcarenite with grey fine grained calcarenite	Calcarenite - possibly calcarenous.								250.9	252.9	3.1	100					
															252.9	256.0	3.1	100				
															256.0	258.7	2.7	100				
															258.7	261.5	2.2	100				
189	193.5	100	2	OgU	Grey fine grained calcarenite (micritic) occ biolherd.	Minor scale calcite veining + localised rock matrix brecciation (196.9)								261.5	262.6	3.1	100					
															262.6	263.7	3.1	100				
															263.7	270.8	3.1	100				
193.5	198.0		4X	OgFz	Broken cone + cone lens; Decalcified limestone	Calcite veining								270.8	272	1.0	100					
															272	273.8	1.0					
															273.8	276.8	2.5					
198.0	199.8	100	2	OgU	Grey/dark grey calcarenite	Partial dolomitisation								276.8	278.4	1.6	100					

696044

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

SHEET No. 106/18

TENEMENT NAME BLACK JACK  
PLAN - MAP REFERENCE

CO-ORDINATES 366 520 E AZIMUTH ..... DRILLERS DDTAS COMMENCED 20 1 95 DEPTH 505 m HOLE No. DB 110  
RL COLLAR 5360 757 N INCLINATION 50° DRILL TYPE LY 38 COMPLETED 28 2 95 CASING LEFT ..... DPO No(s) .....

DEPTH		Core Rec. %	RQ DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analyzed by.....)			
From (M)	To (M)													
199.5	209.5	60	4X	Ogfz	Broken core / brecciated - clay gouges.	Calcite veining partial dolomitization of limestone	41411 30	193.6	198.2			2784	282.8	3.5
							31	199.5	202.0			2824	283.4	0.3
							32	202	205.1			2834	284.8	0.4
209.5	211.0	100	2X	Ogfz	Breccia zone containing a distinct lt grey burrowed calcarenite.	Dolomitized inst.	33	205.1	207.4			2838	285.9	0.5
							34	207.4	209.5			2859	287.2	1.3 100
							35	209.5	210.7			2872	288.5	1.1 100
							36	210.7	216.3			2883	291.3	3.0 100
211.0	217		3X	Ogfz	Broken core / brecciated including Rock matrix breccias, clay gouges + calcite veining.		37	216.3	217.0			2913	294.4	3.1 100
												2944	297.6	3.2 100
												2976	300.2	3.3 100
												3009	303.9	3.0 100
217.0	226.0	100	1	Ogbr	Dolomitic - white matrix breccia in place. Calcite cement in fill - Rock matrix breccia towards base	Minor pyrite pellets.	38	217.0	220.0			3059	305.5	3.0 100
							39	220.0	223.0			3055	307	1.5 100
							41411 40	223.0	226.0			307	307.5	1.5 100
												3075	310	1.5 100
												310	312.3	2.3 100
												3123	315.4	3.1 100
226.0	232.6		5X	Ogfz	Clay gouges / broken core / calc bre	Pyrite fragments 1x1x2cm at 227.1.	41	226	229.6			3154	319.0	3.2 100
												319	320.6	1.2 75
232.6	236.4	100	2X	Ogbr	Dolomitic rock matrix breccia (minor calcite veining)		42	229.6	232.6			3206	322.0	1.0 70
							43	232.6	235.0			3220	324.8	1.6 55
							44	235.0	238.0			3249	328.0	2.0 60
236.4	241.0		5	Ogfz	Clay gouges / broken dolomitic inst.		45	238.0	241.0			328	329.5	0.5 33
							46	241.0	243.84			3295	330.1	0.6 100
241.0	244.6	100	2	Ogbr	Dolomitic rock matrix breccia.	localised zones undolomitised						330	332	1.1 100
												332	334	2.0 100
244.6	247.9	100	1	Ogul.	Mixed unit of fine grained grey calcarenite and dark grey argillaceous calcarenite / calcisiltite. Occ bioclastic calcarenite band.	see						334	334	2.4 100
												334	335.5	3.1 100
												335	241.6	2.1 100
												3416	343	0.7 50
												343	346	3.0 100
247.9	262.5	100	2	Ogmu	Laminated micrite with laminae	Boulding 55° to c/a.	47	249.8	262.8			346	348	1.0

696045

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

SHEET No. ....  
TENEMENT NAME BLACK JACK No. 11618

CO-ORDINATES 366520E AZIMUTH ..... DRILLERS DDTAS COMMENCED 20195  
RL COLLAR 5360799N INCLINATION 50° DRILL TYPE LY 38 COMPLETED 28275 PLAN - MAP REFERENCE .....  
DEPTH 505m HOLE No. DB110 CASING LEFT ..... DPO No(s) .....

DEPTH		Core Rec. %	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by .....										
From (M)	To (M)																			
				localised bioclastic bands 256.5-257m	Bedding 60° 259m 50° to c/a.	4141148	260.4	263.33												
262.5	263.33	100	1	Ogmu Grey coarsely bioclastic calcarenites becoming finer grained d/beds.	" " 254m 60° to c/a.															
263.33	268.5	100	2	Ogwl Mixed unit of grey fine grained calcarenites + dark grey calcarenites localised bioclastic calcarenite zones.	Dol/calc vein 80° to c/a 264.2.															
268.5	272.3	100	2	Ogmu Light grey micritic with white bioclasts passing through calcite Dol vein, gourse at 268.8m into laminated micritic unit.	cleavage 35° to c/a. Dolomitisation around fault. Fault? 60° to c/a. Bedding 50° to c/a.															
272.30	274.0	100	5	Ogfc Clay gouges/broken core		49	272.3	273.95												
274.0	276.0	100	1	Ogwl Mixed grey fine calcarenites and argillaceous (calc) siltite																
276.0	277.4	50	4x	Ogfc Broken core/clay gouges. Calc/Dol veining.																
277.4	278.6	100	2	Ogmu Grey micritic unit	cleavage 30° to c/a.															
278.6	282.7	75	1	Ogwl Mixed grey fine grained calcarenites and dark grey argillaceous calcarenites																
282.7	285.9		5	Ogfc Broken core/clay gouges/core loss	Possible dolomitisation															
285.9	287.2		4f	Ogmu Dark grey equigranular dolomitised fine grained calcarenites/micrites																

696046

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

SHEET No. ....  
TENEMENT NAME BLACK JACK No. 17 of 18

PLAN - MAP REFERENCE .....

CO-ORDINATES 366520E AZIMUTH..... DRILLERS DD JAS COMMENCED 20175 DEPTH 505m HOLE No. DB110  
RL COLLAR 5360759N INCLINATION 50° DRILL TYPE LY 38 COMPLETED 28295 CASING LEFT..... DPO No(s).....

DEPTH		Core Rec.	Graphical Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)											
From (M)	To (M)																				
287.2	289.1	100	3x	sgmu.	Partial recast(?) developed micrite with calcisiltite - some degree of lamination - not a true microlaminated micrite unit.	Bedding 60° to c/A.															
287.1	294.7	100	1	sgul	Mixed unit of fine grey calcarenite and dark grey calcisiltite.	Minor blocks of pyrite - localized.															
294.7	303.9	100	1	sgul	as above but with bedded coarsely bioclastic calcarenite bands, argillaceous bioclastic limestone.	Bedding 50° Bedding parallel pyrite dissemination ② 301.7 + 302.7 in Well-bedded argillite.															
303.9	311.4	100	1	sgul	Argillaceous calcarenite lens of bioclastic content. Localized bioturbation, becoming more micritic with a developed chrome.	Bedding 60° to c/A. ② 309m small amount of replacement pyrite at micrite contacts with argillite.	4141150	308.6	309.6												
311.4	316.0	100	3	sgmu.	Fine grained lt grey calcarenite - mic locally showing laminations.	See Column 30° Bedding 55° c. 5.7m Bedding parallel fault gouge 2cm @															
316.0	327.3	70	3x	sgul	Fine grained grey calcarenite/micrite with argillite bands; with bioclastic calcarenite zones - local core loss. Broken core 319.7-320.4	Fine grained calcarenite micritic with argillite and calc bioclastic calcarenite bands local core loss. Broken core 319.7-320.4															
327.3	328	100	3x	sgmu	laminated micrite unit	Bedding, 50° to c/A.															
328	329.5	33	5	sgfz	Fault zone/cavity black clay/sand.		4141151	328	329.5												

696047

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

SHEET No. ....  
TENEMENT NAME BLACK JACK No. 13.18

CO-ORDINATES 366520 E AZIMUTH ..... DRILLERS DD TAS COMMENCED 20.1.95 DEPTH 505 m HOLE No. DB 110  
RL COLLAR 5360759 N INCLINATION 50° DRILL TYPE LY 38 COMPLETED 28.2.95 CASING LEFT ..... DPO No(s) .....

DEPTH		Core Rec.	RQ	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)			
From (M)	To (M)													
329.5	330.1	100	2	Ogul	Fine grained grey calcarenite/nicrite with argillite beddings						348	349	0.5	50
											349	350	0.5	33
											350	351	0.4	25
											351	352	0.7	48
330.1	330.2	100	5x	Ogfe	Fault gouge						353.5	355	1.0	87
											355.0	358	1.5	50
330.2	331.6	100	1	Ogul	Distinctive argillaceous calcarenite with well bedded red grain calcarenite beds.	Bedding 50° to c/A.					358.0	361	1.5	75
											361.0	362.5	0.6	40
											362.5	364	0.3	20
											364	367	2.6	97
331.6	333.6	100	3	Ogmu	laminated nicrite unit.						367	369.4	0.7	50
											369.4	370.0	0.6	40
333.6	340	100	2	Ogul	Distinctive argillaceous calcarenite and well bedded calcarenite (red/hi) grained, locally micritic and decalcified.						370.0	371.5	1.0	66
											371.5	373	1.0	66
											373	374.3	0.7	55
											374.3	377.2	1.5	82
											377.2	379.0	0.9	50
341.0	343	50	4x	Ogfe	Fault zone with coll/dl veining clay gouges.	Upr 50° to c/A.					379	382.0	2.7	90
											382.0	385.0	3.0	100
											385.0	387.5	2.7	90
343.0	346	100	1	Ogmu	Laminated nicrite unit	clear zone 25° to c/A Bedding 55° to c/A.					387.5	390.6	3.1	100
											390.6	392.4	1.2	66
346.0	351.8	51	4x	Ogfe	Broken core/core loss/clay zones/limestone	Dolomitised in parts	4141153	349	350.5		392.4	395.4	3.0	100
											395.4	397.7	1.6	50
											397.7	399.5	0.4	25
351.8	355.0	66	5	Ogfe	Black clay with lost frags core loss/clay gouges	? Partial dolomitisation.	55 351.8	352	355.0		399.5	402	0.2	8
											402	403	0.5	50
											403	406	3.0	100
355.0	364.0	50	4x	Ogfe	Broken limestone core + core loss occ clays - rocks fault altered	Minor localized dolomitisation.	4141156	355	358		406	408.5	2.5	100
											408.5	411.6	2.5	85
											411.6	414.7	2.0	66
364.0	366.3	100	1	Ogul	Fine grained calcarenite (nicrite)						414.7	417.0	2.1	95

696048

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

SHEET No. ....

TENEMENT NAME BLACK JACK No. 14 of 18

CO-ORDINATES 366520E AZIMUTH ..... DRILLERS DDT 195 COMMENCED 20.9.95 DEPTH 905 m HOLE No. D13 110  
RL COLLAR 5360759N INCLINATION 50° DRILL TYPE LY 3.8 COMPLETED 28.2.95 CASING LEFT ..... DPO No(s) .....

DEPTH		Core Rec % DATA	RB	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)			
From (M)	To (M)													
366.3	368.4	56	5	Ogul	Grey calcareous clay and fine grained calcarenite with argillite. possible cavity.						417.6	419	1.4	100
											419	421	2.0	100
											421	428	3.0	100
											424	428	1.3	100
368.4	372.7	55	2C	Ogul	Fine grained calcarenite (micritic) with argillite disruption towards base.						425.3	427.9	2.6	100
											427.9			
372.7	374.6	60	5X	Ogfa	Clay gouge / cleaved / broken core / core loss limestone core locally unbroken - ? laminated micrite		4141158	372.7	374.3					
							59	376	379.6					
374.6	380.1	100	1	Ogul	Carbonate breccia - ? synsedimentary		60	379.6	380.6					
380.1	381.7	100	1	Ogul	med grained biocalitic calcarenite with distinct clayey / black argillite bands. Clay gouge at 380.6 ? bedding parallel	Dol / cal filled cavity with crystals. large blocks of quartz from 380.4-380.6 associated with calcarenite / argillite content. ? S. lentic @ 380.4								
381.7	385.1	100	1	Ogdl	Argillaceous biocalitic calcarenite with burrows - distinct argillite beds 50° to c.l.a.	Extensive dolomitisation Bedding parallel clay gouge @ 381.85m.								
385.1	387.3	90	1	Ogmu	Fine grained calcarenite (locally biocalitic) passing into a laminated micrite unit	Bedding 50° c.l.a. Extensive dolomitisation								
387.3	389.9	100	2	Ogmu	med fine grained locally biocalitic grey calcarenite with disturbed bedding; locally argillite derived (bedded argillite in place)									

696049

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

SHEET No. 150 of 18  
No.

TENEMENT NAME BLACKJACK  
PLAN - MAP REFERENCE.....

CO-ORDINATES 366520E AZIMUTH..... DRILLERS DDTAS COMMENCED 20 1 95 DEPTH 505m HOLE No. DB110  
RL COLLAR 5360759N INCLINATION 50° DRILL TYPE LY38 COMPLETED 29 2 95 CASING LEFT..... DPO No(s).....

DEPTH		Core Rec	RO	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)												
From (M)	To (M)																						
381.9	315.1	85	2	Ogmu	Distinctive laminated micrite, <del>and argillite</del> and bioclastic calcarenite with minor decalcification weathered? rotted base - poss bedding parallel slip.	Bedding 55° to c/A.																	
375.1	403	36	4x	Ogmu	Mixed argillaceous (bioclastic) calcarenites with laminated zones																		
403	408.25	100	1	Ogul	Fine grained grey calcarenite with an argillite calcarenite dominant with calcarenite locally coarsening to med grained bioclastic units.																		
408.25	409.25	100	2	Ogul	Fine grained calcarenite with possibly laminated micrite unit.	cleaning 35° to c/A.																	
409.25	411.6	100	1	Ogul	Fine grained calcarenite locally bioturbated, with minor argillite decreasing downhole.	100% Calcite vein @ 411.55 60° to c/A - start of fault zone.																	
411.6	412.3	100	5x	Ogfe	Dolomitised fault zone with clay gouge. Poss 55° to c/A.																		
412.3	421.4	99	2	Ogul	Interbedded fine grained grey calcarenite and argillaceous calcarenite. Becoming more disrupted bedding downhole.	thin < 2mm Calcite veins at contacts between argillite + calcarenite Bedding 60° to c/A.																	
421.4	422.4	100	1	Ogco	Med grained bioclastic calcarenite	Bedding + Stylolites 60° to c/A.																	

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

SHEET No. 11 of 18

TENEMENT NAME BLACK JACK No. 11 of 18  
PLAN - MAP REFERENCE

CO-ORDINATES 366520E AZIMUTH..... DRILLERS DDTAS COMMENCED 20 1 95 DEPTH 505 m HOLE No. PB110  
RL COLLAR 536759N INCLINATION 50° DRILL TYPE LY 38 COMPLETED 28 2 95 CASING LEFT..... DPO No(s).....

DEPTH		Core Rec.	RG DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)			
From (M)	To (M)										Fe	To	Re	Re
422.4	423.0	100	1	Ogco	less uniform bioclastic calcarenite with more argillite. possibly micritic at base.						4278	432	2.1	100
											430	433	1.8	60
											433	436	2.0	66
											436	437.8	1.8	100
423.0	424.0	100	2	Ogcl	Interbedded argillaceous calcarenite and fine grained calcarenite.	col'dol veining at base.					437.8	439.1	1.0	75
											439.1	442	1.9	65
424	424.05	100	5	Ogfc	Clay gouge. 45° to c/A						442	444	2.0	90
											444	446.8	2.3	45
											446.8	448.5	1.4	66
424.05	432.9	100	2	Ogcl	Fine grained grey locally bioclastic calcarenite/micritic. Bioclastic with minor argillite. locally rolled zone.	Calcite/dol veining 10-15° to c/A. Beddy 50° to c/A.					448.5	450.9	1.0	50
											450.9	451.5	0.2	33
											451.5	454	1.8	75
											454	456	1.4	62
											456	458.4	1.0	33
432.4	433.0	100	5	Ogfc	clay gouge -	Sub parallel to bedding					458.4	459.7	0.9	81
											459.7	461.0	0.7	55
433.0	447.3		3	Ogcl	Mixed sequence of limestones. Some partially recrystallised. Argillaceous laminae present. Localised zones of bioclastic. eg 433.5-434. Occasional brecciated zone with clay gouges.						461.0	463.0	0.5	25
											463.0	466.0	1.5	50
											466.0	469.0	1.0	33
											469.0	472.4	4.5	87
											472.4	477.8	2.1	58
											477.8	481.0	0.8	25
447.3	447.5	100	1	Ogcl	Bioclastic band at base of st. unit. followed by a thin argillaceous micritic band.						481.0	483.5	0.5	20
											483.5	486.4	2.0	68
											486.4	489.8	2.4	100
											489.8	493.0	1.2	40
											493.0	499.0	0.6	10
447.5	447.9	100	1x	Ogcl	Top 5cm sub-spherical calcite band underlain by well-laminated fine grained calcarenite	Beddy 50° to c/A.					499.0	501.3	0.6	25
											501.3	503.1	0.1	
											503.1	505	0.3	
							414 1161	448.9	451.5					
							451.5	454						

696051



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

SHEET No. ....

TENEMENT NAME BLACK JACK No. 18 of 18

PLAN - MAP REFERENCE.....

CO-ORDINATES 366520E AZIMUTH..... DRILLERS DDTAS COMMENCED 20.1.95 DEPTH 505m HOLE No. DB110

RL COLLAR 5360759N INCLINATION 50° DRILL TYPE LY 38 COMPLETED 28.2.95 CASING LEFT..... DPO No(s).....

DEPTH		Core Rec	RQ DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)														
From (M)	To (M)																								
486.4	490.6	80	3	Og sd	Dark Grey / brown sandstones detrital? calcareous	Sideritic locally - zones of semi-massive pyrite	75	486.4	487.9																
							76	487.9	490.6																
490.6	491.0	100	5	Ogdc	Dark grey/black clay	? Bedding 50° to c/A	77	490.6	493.0																
							78	493.0	499.4																
491.0	499.4	116	5	Ogdc	Light grey clay Major core loss.	Remnant bedding 50° to c/A																			
499.4	505.0	10	SX	Om	Light grey white conglomeratic quartzite Poor recovery Alteration rims & clasts.	minor cavity fill pyrite	44+117A	499.4	505.0																

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		77682 Ag	Al	As	Ba	Ca	Cu	Fe	K	Hg	Mn	Pb	Zn	S		
8110	3	6.2	4141101	-5	8.76	94	414	-05	39	6.52	3.5	.66	40	399	2010	
8110	6.2	8.8	4141102	-5	12.6	227	209	.19	24	5.27	1.71	.34	70	151	7060	5.88
8110	8.8	11.5	4141103	-5	5.37	59	269	8.61	20	5.35	2.13	4.24	1420	303	8320	3.04
8110	11.5	14.5	4141104	-5	3.53	47	213	10.3	27	8.72	1.65	5.4	2680	1020	2250	
8110	14.5	17.5	4141105	-5	4.47	45	254	12.6	16	4.31	2.58	2.3	1070	323	794	
8110	17.5	20.5	4141106	-5	2.88	39	165	18.5	10	4.55	1.57	2.37	1220	96	402	
8110	20.5	23.5	4141107	-5	3.64	45	208	6.44	13	13.2	1.95	2.99	3880	260	2650	
8110	23.5	26.5	4141108	-5	3.12	49	181	6.2	11	17.5	1.68	3	5160	40	591	
8110	26.5	29.5	4141109	-5	4.42	39	264	6.53	10	9.32	2.37	3.27	2630	32	220	
8110	29.5	32.5	4141110	-5	5.44	63	291	8.32	19	4.21	2.84	4.23	1010	105	596	
8110	32.5	35.5	4141111	N/L	N/L	N/L	N/L	N/L	N/L	N/L	N/L	N/L	N/L	N/L	N/L	
8110	35.5	38.5	4141112	-5	4.56	37	265	8.23	13	7.91	2.44	4.1	2200	67	1870	
8110	46.2	49.1	4141113	-5	2.46	18	135	13.3	13	8.24	1.32	6.16	2630	127	1120	
8110	49.1	53.3	4141114	-5	3.43	37	191	10.6	13	9.73	1.83	5.2	2890	76	2780	
8110	53.3	56.5	4141115	-5	1.42	18	80	14.6	9	12.6	.77	5.76	4230	220	4580	
8110	56.5	59.5	4141116	-5	1.67	108	96	13.5	-5	15	.9	4.24	3200	62	2320	
8110	59.5	62.5	4141117	-5	1.6	65	100	10.5	-5	19.4	.88	4.09	5470	34	3720	
8110	62.5	65.5	4141118	-5	1.89	12	105	20.8	5	4.74	1.06	3.42	2020	26	144	
8110	65.5	68.3	4141119	-5	2.42	28	140	24.6	7	1.36	1.37	2.51	385	52	143	
8110	68.3	72.5	4141120	-5	2.39	-5	145	21.9	8	2.84	1.36	2.73	845	22	66	
8110	79.5	82.4	4141121	-5	.52	7	35	30.7	-5	.75	.32	1.83	336	92	365	
8110	87.8	90.7	4141122	1.2	1.22	8	80	28.1	-5	2.84	.65	3.46	3490	101	1590	
8110	90.7	95.3	4141123	.9	.76	6	56	31	-5	1.14	.43	4.04	2130	51	258	
8110	102.12	104.2	4141124	1	1.23	-5	75	31.3	-5	.58	.71	.92	271	16	71	
8110	114.7	117.2	4141125	.9	.93	14	58	28.8	-5	1.43	.51	4.09	3500	31	661	
8110	117.2	119.7	4141126	-5	1.68	11	101	25.8	-5	1.84	.91	3.62	1700	48	751	
8110	119.7	122	4141127	-5	3.59	20	224	16.6	9	2.43	2.02	4.79	632	29	71	
8110	126	129	4141128	.6	1.48	9	105	29.6	-5	.86	.86	.82	232	23	55	
8110	165.8	185.7	4141129	-5	3.55	9	268	20.7	-5	1.76	1.88	2.7	453	16	31	
8110	193.6	199.5	4141130	-5	.98	10	186	29.3	-5	.99	.55	3.48	504	37	553	
8110	199.5	202	4141131	.9	1	-5	173	31.5	-5	.64	.59	1.96	310	17	19	
8110	202	205.1	4141132	1.8	2.19	19	403	20.4	16	1.18	1.22	6.65	593	344	157	
8110	205.1	207.4	4141133	.7	1.62	-5	266	23.4	-5	.85	.92	4.43	636	89	130	
8110	207.4	209.5	4141134	.7	1.51	8	305	24.2	-5	.88	.85	5.3	733	153	661	
8110	209.5	210.7	4141135	-5	.39	12	72	30.5	-5	.8	.25	3.87	633	98	68	
8110	210.7	216.3	4141136	-5	1.22	19	207	22.5	-5	1.12	.7	6.68	883	130	161	
8110	216.3	217	4141137	-5	2.23	46	380	18	9	2.71	1.25	7.04	1660	252	225	
8110	217	220	4141138	-5	1.55	-5	312	23.9	6	1.13	.88	5.58	1290	179	222	
8110	220	223	4141139	1.1	1.52	8	367	24.6	9	1.45	.86	5.11	1510	189	213	
8110	223	226	4141140	.6	1.54	-5	437	21.3	13	1.35	.72	7.99	2090	381	1370	
8110	226	229.6	4141141	1.2	2.07	-5	518	17.6	12	1.5	1.08	8.56	2260	823	2990	
8110	229.6	232.6	4141142	.8	.22	-5	90	20.9	9	1.19	.12	11.6	1210	124	365	
8110	232.6	235	4141143	-5	1.18	12	359	20.3	13	1.11	.64	9.05	1240	683	832	
8110	235	238	4141144	-5	2.09	-5	548	18.4	11	3.09	1.14	7.04	2050	646	1240	
8110	238	241	4141145	1	2.09	5	511	22.6	6	1.37	1.06	5.34	1670	515	930	
8110	241	243.4	4141146	-5	2.42	13	512	17.9	13	1.84	1.29	5.87	1200	114	486	
8110	249.8	252.8	4141147	-5	2.81	25	404	21.8	-5	1.14	1.55	1.88	424	15	23	
8110	260.4	263.33	4141148	-5	1.15	8	94	31	-5	.69	.6	1.11	292	22	16	
8110	272.3	273.95	4141149	-5	6.07	22	320	9.09	14	3.06	2.99	2.56	983	406	1970	
8110	308.7	309.6	4141150	.8	1.93	7	103	27.9	8	1	1.09	1.27	165	-10	-5	
8110	328	329.5	4141151	-5	2.75	9	144	21.7	15	2.4	1.55	3.3	741	14	63	
8110	341	343	4141152	-5	1.5	-5	78	29.2	-5	2.05	.83	.97	1070	20	55	
8110	348	350.5	4141153	-5	1.46	20	93	18.2	6	11.2	.82	2.51	7020	18	20	
8110	350.5	351.8	4141154	-5	1.67	24	92	13.2	5	9.31	.91	6.15	5300	-10	55	
8110	351.8	355	4141155	-5	2.07	17	109	17.3	6	7.37	1.12	4.38	3930	-10	40	
8110	355	358	4141156	-5	1.7	8	87	18.8	-5	1.71	.92	3.25	320	-10	6	
8110	358	361	4141157	-5	2.2	9	113	15.4	11	4.08	1.2	4.09	1980	-10	10	
8110	372.7	374.3	4141158	-5	1.85	16	102	28.4	-5	1.35	1.04	1.52	452	-10	13	
8110	376	379.6	4141159	-5	2.11	16	108	26.7	8	1.57	1.18	1.71	502	29	204	
8110	379.6	381	4141160	.8	1.19	-5	71	29.6	7	1.72	.66	2.24	537	-10	-5	
8110	448.9	451.5	4141161	-5	2.36	23	118	16.8	-5	4.21	1.33	4.77	1970	17	65	
8110	451.5	454	4141162	1	1.81	-5	82	23.8	18	1.17	1.02	2.68	356	124	271	
8110	454	456	4141163	-5	.82	14	45	21.9	6	4.45	.44	2.61	2130	49	307	
8110	456	458.9	4141164	-5	2.17	8	109	17	9	3.92	1.21	4.8	1550	46	291	
8110	458.9	461	4141165	-5	3.21	26	148	10.9	15	9.95	1.81	5.28	5610	31	1030	
8110	461	463	4141166	-5	1.99	18	98	13.1	7	11.9	1.03	6.35	7230	85	861	
8110	463	466	4141167	-5	1.42	14	74	17.4	10	6.09	.78	8.8	3230	11	96	
8110	466	469	4141168	-5	1.99	26	99	14.5	10	9.09	1.13	7.23	4690	10	148	
8110	469	472	4141169	-5	1.82	27	95	11.4	9	15.4	1.02	5.63	6630	21	432	
8110	472	474.2	4141170	-5	2.48	32	120	8.3	13	17.6	1.35	3.86	9220	103	1740	
8110	474.2	477.8	4141171	-5	2.9	62	140	3.55	22	23.3	1.61	1.67	10100	135	794	
8110	477.8	478.7	4141172	-5	2.99	41	148	1.36	27	27	1.55	.5	10200	42	358	
8110	478.7	483.5	4141173	-5	2.62	42	138	.68	12	28.6	1.43	.35	14500	37	654	
8110	483.5	486.4	4141174	-5	2.93	43	145	.81	15	29.3	1.48	.38	28100	261	3940	
8110	486.4	487.9	4141175	-5	1.72	34	114	.93	7	34.5	.86	.3	25700	244	1580	
8110	487.9	490.6	4141176	-5	1.42	42	111	1.07	7	37.3	.74	.3	28200	49	1960	
8110	490.6	493	4141177	-5	4.12	63	217	.82	11	31.5	2.19	.5	21200	31	1950	
8110	493	499.4	4141178	1.9	12.4	38	485	.09	85	6	5.36	.82	717	1330	2640	
8110	499.4	505	4141179	-5	4.15	9	185	-.05	12	1.07	1.96	.21	179	15	51	

CRA EXPLORATION PTY. LIMITED  
DRILL-HOLE SUMMARY LOG

HOLE NAME: DD95DB111      AMG    EAST 366311    NORTH 5361431  
PROSPECT: BLACKJACKS      GRD    EAST 67171    NORTH 61700  
EL: MT. DUNDAS      EL45/92    RL      DEPTH 289m.

DATE DRILLED: 2/3/95

LOGGED BY: S.J. TEAR

DRILLING CO.: DIAMOND DRILLING TAI.

DRILL TYPE: DIAMOND

DRILL RIG: L738

LOC DRILL CORE: 2 SECTION

SURVEYS:					
DEPTH (m)	AZIM (AMG)	DIP	DEPTH	AZIM (AMG)	DIP
0	077°	45°	289	076°	41°
52	079.5°	43.5°			
100	080°	41.0°			
151	077°	40.5°			
205	077°	40°			
253	076°	41°			

## OBJECTIVES OF HOLE:

Drill test the basal sandstone contact of the Gordon Limestone in particular the extensive siderite zone. Also testing air-core end-of-hole sample with 3% Spine or sphalerite.

## LITHOLOGICAL SUMMARY:

FROM	TO	FORM CODE	COMMENTS
0	3.0	Qha	Overburden; no recovery
3.0	164.8	Ogul	Argillaceous calcarenites with laminated micrite units and minor fault zones; occ siderite
164.8	191.5	Ogdl	Partially dolomitised argillaceous calcarenite + fine grained micritic calcarenite
191.5	196.06	Ogsd	Siderite unit with zones of hematitically altered limestone/calcarenite.
196.06	224.2	Ogdl	Partially dolomitised recrystallised calcarenite - possibly fault altered with hematitically altered zones; also inc laminated units; +/- locally siderite.
224.2	245.4	Ogsd	Siderite unit with clay zones + hematite alteration - dolomitic
245.4	253.7	Ogdl	Partially dolomitic limestone - locally extensive
253.7	268.5	Ogsd	Siderite unit with dolomite + dark grey clays + fault zones
268.5	273.85	Ogst	Silty Transition unit - mixed dolomitic siltstones + sandstones
273.85	282.7	Om	Mixed quartzites (siltstones)
282.7	289.0	Om	Fine grained fawn coloured quartzite - banded appearance +/- siltstones

## MINERALISATION SUMMARY:

FROM	TO	COMMENTS
74.9	75.2	4.5% Zn as sphalerite hosted by a limestone breccia proximal to a calcite vein.
167.84	168.63	0.7% Zn as disseminated sphalerite associated with hematitised, dolomitic limestone.
267	267.9	0.22% Zn sideritic clay gouge with dolomite fragments.

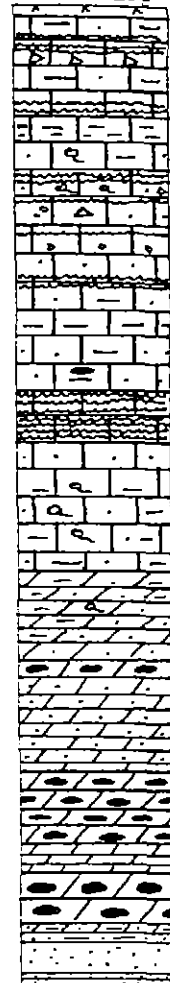
## CONCLUSIONS:

Bedding @ 17m 80° to c/a @ 84m 65° to c/a @ 145m 75° to c/a @ 192m 60° to c/a @ 219m 80° to c/a @ 272m 75° to c/a @ 282m 90° to c/a.

Drillhole intersected a major sideritic zone in association with extensive partial dolomitisation. Zinc grades in siderite are low.

Contact between Gordon Limestone and Moira Sandstone may be a thrust see DD95DB110.

## Graphic Log



240

300

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

SHEET No. 1 of 18

TENEMENT NAME BLACK JACK No. 10918  
PLAN - MAP REFERENCE.....

CO-ORDINATES 366311E AZIMUTH..... DRILLERS DDTAS COMMENCED 2.3.95 DEPTH 289m HOLE No. DB1101  
RL COLLAR 5361431N INCLINATION 45° DRILL TYPE LY38 COMPLETED 15.3.95 CASING LEFT..... DPO No(s).....

DEPTH		Core Rec. %	RQ DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)						
From (M)	To (M)																
0	3.0	0	0	OB	Overburden - NO recovery												
3.0	5.5	75	3	Ogul.	Dark grey/black partially rotted limestone												
5.5	12.85	100	1	Ogul.	Grey fine grained calcarenite with dark grey argillaceous mud grain calcarenite in bands - locally bioclastic. minor bioturbation	Occ calcite vein 0.5 - 3cm. 90° E. c/a, 80° E. c/a, 40° E. c/a. Cleavage 50° E. c/a. Bedding 80° E. c/a.											
12.85	14.3	100	1	Ogmu	Fine grained grey calcarenite well laminated - laminae becoming more argillaceous at base.	Calcite veining parallel to cleavage 35° E. c/a. St. surge ? Coriol @ 11.5-11.7m											
14.3	16.3	100	1	Ogul.	Mixed unit of varying limestone including ? synsedimentary breccias.	Calcite ? frag in situ.											
16.3	17.0	100	1	Ogmu	Laminated fine grained grey calcarenite + dark grey argillite	Bedding 80° E. c/a.											
17.0	19.81	100	1	Ogul.	Interbedded fine grained grey calcarenite - micritic and darker fine grained calcillite (argillaceous) coarsening upwards bands. Also 3 bands $\leq 15cm$ of coarsely bioclastic calcarenite	Bedding 75° E. c/a.											

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

SHEET No. 2 of 18

TENEMENT NAME BLACK JACK No. 2 of 18

CO-ORDINATES 366311E AZIMUTH            DRILLERS DDTAS COMMENCED 2.3.95  
 RL COLLAR 5361431N INCLINATION 45° DRILL TYPE LY 38 COMPLETED 15.3.95  
 PLAN - MAP REFERENCE            DEPTH 289m HOLE No. DB111  
 CASING LEFT            DPO No(s)           

DEPTH		Core Rec. %	RQ DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)												
From (M)	To (M)																						
19.1	20.50	100	1	Ogul	?Tectonic breccia; Dark grey argillaceous limestone with locally sub-angular to rounded fragments.	Minor pyrite in matrix. no cleavage. Minor calcite veining.																	
20.50	24.00	<del>100</del> 3X	3X	Ogul	Fault zone - badly broken core with calcite veining.	Calcite veins 20° to c/A. ← seen enclaves series. Irregular veining - con. calcite by breccia zones. Vug fill/vein < 10cm 65° to c/A. later than 20° veins. cleavage 45° to c/A.	144180	20.9	22.16														
24.00	28.15	100	1	Ogul	Mixed sequence of micritic grey fine grained calcarenites with argillaceous calcisiltites. Disrupted bedding; localised zones of birds eyes.	Bedding 80° to c/A.		28															
28.75	29.70	100	4X	Ogul	12cm Calcite vein to c/A. followed by broken core and clay gouges.																		
28.70	30.1	100	1	Ogul	Laminated micrite with bioturbated; locally bioclastic. Argillite laminae - algal mats. Gradational base.	Bedding 80° to c/A.																	
30.1	31.0	100	1	Ogul	Argillaceous calcisiltite with 3cm calcite vein	Vein 30° to c/A.																	

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

SHEET No. 3 of 18

TENEMENT NAME Black Jack No. 37

PLAN - MAP REFERENCE

CO-ORDINATES 366311E AZIMUTH DRILLERS DDTAS COMMENCED 2.3.95 DEPTH 289 - HOLE No. DB111

RL COLLAR 5361431N INCLINATION 45° DRILL TYPE LY33 COMPLETED 15.3.95 CASING LEFT DPO No(s)

DEPTH		Core Rec. %	RC DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)									
From (M)	To (M)																			
31.0	31.6	100	2	Ogwl	Zone of broken core and clay gouges.															
31.6	36.5	100	1	Ogwl.	Fine grained grey locally bioclastic calcarenite with argillite zones? Syn sed brecciation - argillite - matrix	Calcite veins @ 32.5 on echelon 20° to c/A < 3cm After 36.5m increase in calcite veining 1) ? cleavage parallel breccia														
36.5	48.00	100	1	Ogwl	Fine grained grey calcarenite minor argillite no brecciation localised zones of broken core. Calcite breccia zone @ 41.3-44.6	Vain 30° E c/A. cut by 2) 2 sets 70° E c/A. 3) small scale tension gashes.  Calcite vein at 39m. 3cm subparallel to c/A. Up to 25° E c/A. Minor gashes in vein @ 41m.														
48.00	51.6	100	1	Ogwl	Laminated micrite and Occ calcite vein < 5cm ss° to c/A.	Bedding 70° E c/A cleavage 55° to c/A.														
51.6	56.2	100	1	Ogwl.	light grey fine grained grey bioclastic calcarenite with minor cm scale argillite lenses passing into a mixed sequence of calcarenites + calcisiltites	localised syn sed breccia + bioclastic zones eg 53.9m														
56.2	57.5	100	2x	Ogwl	Grey/brown laminated micrite lens - partially sheared.	Calcite vein at top 60° to c/A Bedding 70° E c/A. Lenses 2.5 to 6 c/A.														

696058

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

SHEET No. 4 of 18

TENEMENT NAME BARK JACK No. ....

PLAN - MAP REFERENCE .....

CO-ORDINATES 366311 E AZIMUTH..... DRILLERS DD TAS COMMENCED 2.3.95 DEPTH 289 m HOLE No. DB111

RL COLLAR 5361431 N INCLINATION 45° DRILL TYPE LY 38 COMPLETED 15.3.95 CASING LEFT..... DPO No(s).....

DEPTH		Core Rec.	RCR DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)								
From (M)	To (M)																		
57.5	62.8	996	1	Qul.	Grey fine grained calcarenite with micaceous zones. Local bird's eye micrite. Soft sediment deformation.	Calcite vein 2cm @ 58.8 3° E c/A. Calcite vng in fill 15cm. @ 57.5m.													
62.9	67.3	100	3C	Qul.	Well closed (amended in plot) unit with fine calcarenite/micrite with minor argillite.	Calcite vein 1) 1cm 75° E c/A @ 65.8m 2) 3cm 60° E c/A @ 66.2m.	Argillite zone. 64-66.7												
67.3	67.3	100	4X	Qul.	Broken core possible fault zone.	Calcite veining.													
67.3	70.3	100	2	Qul.	Dark grey fine grained calcarenite with micaceous bands.														
70.3	73.2	100	1	Qul.	Grey fine grained calcarenite locally micritic with bird's eye. Becoming coarser downhole. Stylitic noddy contacts 55° E c/A. Localised cleavage 10° E c/A.	Calcite vein @ 71.2 4cm 30° E c/A. " " @ 71.9 1cm 60° E c/A. Possible oolitic in places.													
73.2	74.9	100	2	Qul.	Mixed fine grained grey calcarenite and micaceous calc-siltite. Broken core.	Calcite veining offset by cleavage (30° to c/A). Veining locally irregular.		73.26	74.9										
74.9	75.95	100	1	Qul.	Carbonate breccia zone. Breccia cross cut by later calcite veins.	Dissim blebs of sphalerite (<2cm) + minor galena. Possible sphalerite clots in breccia. Up to 3% siltstone 1% galena, locally. Calcite later veining 60-45° E c/A.		74.9	75.20	75.20	75.93								

696059

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

SHEET No. 5 of 18

TENEMENT NAME BLACKJACK No. 50718  
PLAN - MAP REFERENCE

CO-ORDINATES 366311E AZIMUTH DRILLERS DDTAS COMMENCED 2.3.95 DEPTH 289m HOLE No. DB111  
RL COLLAR 5361431N INCLINATION 45° DRILL TYPE LY38 COMPLETED 15.3.95 CASING LEFT DPO No(s)

DEPTH		Core Rec. %	RQ	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)				
From (M)	To (M)														
75.85	77.20	100	1	Ogyl	Brecciated fine grained calcarenite (+ calcisilite) matrix calcarenite coarsening downhole.	Brecciation due to calcite veining; vein outcrop 45° c/A. (or 90° c/A) Manganese staining of some veins.	86	75.80	76.67			87.0	91.00	4.0	100
							87	76.67	77.70			91.0	94.0	2.0	66
												94.0	97.0	1.0	33
												97.0	100.0	3.0	100
77.2	78.6	100	1	Ogyl	red grained calcarenite with calcite veining, locally coarsely bioclastic.							100.0	103.0	3.0	100
												103.0	105.6	2.6	100
												105.6	108.4	1.6	60
												108.4	109.4	1.0	100
												109.4	111.0	1.0	66
78.6	84.75	100	1	Ogyl	Laminated micrite + red grained calcarenite unit.	Bedding 60° c/A						111.1	114.4	3.2	95
												114.4	118.0	3.0	80
												118.0	119.9	1.9	100
84.75	83.0	100	1	Ogyl	Disrupted unit of fine grey calcarenite with argillite and dark calcarenite.	localised calcite brecciation 82.6 - 82.8						119.9	125.0	3.7	66
												125.0	127.0	1.3	66
												127.0	130.0	2.5	80
												130.0	132.8	0.2	7
83.0	83.7	100	1	Ogyl	Laminated micrite + calcarenite unit.	Bedding 65° to c/A.						132.8	134.0	0.4	33
												134.0	136.0	0.8	40
												136.0	138.6	2.0	70
83.7	90.5	100	1	Ogyl	Fine grained grey calcarenite and dark grey argillaceous calcarenite - bioturbated locally more argillaceous + recrystallised + bioclastic zones.	Solitary calcite veins <1cm. ~ 30° to c/A. Bedding 60° to c/A.						138.6	142.0	3.2	95
												142.0	143.8	1.8	100
												143.8	145.4	1.6	100
												145.4	148.0	2.6	100
												148.0	151.0	3.0	100
90.5	92.15	100	1	Ogyl	Recrystallised limestone unit - Argillaceous unit?							151.0	154.0	3.0	100
												154.0	157.0	3.0	100
92.15	97.00	30	4x	Ogyl	Cracks? fault zones.							157.0	160.0	2.7	90
												160.0	163.0	0.5	17
97.00	97.5	100	1	Ogyl	Argillaceous (recrystallised) dominant fine calcarenite unit. Unseen bedding contacts							163.0	166.0	3.0	100
												166.0	169.0	3.0	100
												169.0	172.0	3.0	100

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

SHEET No. ....  
TENEMENT NAME BLACK JACK No. 60918

CO-ORDINATES 366311E AZIMUTH ..... DRILLERS DDTAS COMMENCED 2.3.95 DEPTH 289m HOLE No. DB111  
RL COLLAR 5361431N INCLINATION +5° DRILL TYPE LY38 COMPLETED 15.3.95 CASING LEFT ..... DPO No(s) .....

DEPTH		Core Rec	RQ	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)												
From (M)	To (M)																						
97.5	104.5	100	1	Ogul	Fine grained grey calcarenite (micrite) with minor dark mud grain calcarenite from 102.7 - 103.5 coarse bioclastic bands.	Subtan Calcite vein $\approx$ 1cm $55^\circ$ c/A $60^\circ$ E c/A; Sub parallel to c/A. cleavage $45^\circ$ to c/A. bedding $70^\circ$ E c/A. 100.6 Calcite breccia vein with minor pyrite inclusions.																	
104.3	104.85	100	2	Ogul	Calcite vein with minor pyrite manganese carbonate.	Upper contact $45^\circ$ E c/A. Minor pyrite at contact		104.3	104.85														
104.85	105.7	100	3c	Ogul	fine grained calcarenite - altered.																		
105.7	106.8	100	3	Ogul	Siderite unit.			105.7	107.5														
105.8	107.5	12	5	Ogul	Clay gouge - CAVITY.																		
107.5	116.2	85	3x	Ogul	fine grained calcarenite with argillite; localised bioclast bands, bedding disturbed. Minor calcite veins. regular stringers $60^\circ$ E c/A occ. Pyrite carbonate - manganese.	Bedding $65^\circ$ . Calcite veins 1cm $70^\circ$ E c/A. " " 3cm $45^\circ$ E c/A. Conjugate pair 114.1 $30^\circ$ & $60^\circ$ E c/A.																	
116.2	117.3	100	3	Ogul	Laminated (micrite) fine grained calcarenite unit with calcite veining	Bedding $70^\circ$ to c/A. some calcite sub-parallel to bedding. (note gas parallel to c/A at 116.85)																	
117.3	118.9	90	3x	Ogul	Argillaceous bioclastic calcarenite unit.																		
118.9	124.9	70	3x	Ogul	Laminated micrite unit with relatively abundant argillite laminae, becomes much more argillite dominant at base.	Bedding $70^\circ$ to c/A cleavage $35^\circ$ to c/A																	

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

SHEET No. ....  
No. 7 of 18

TENEMENT NAME BLACK JACK

PLAN - MAP REFERENCE .....

CO-ORDINATES 366311E AZIMUTH..... DRILLERS DDTAS COMMENCED 2.3.95 DEPTH 289m HOLE No. DB111  
RL COLLAR 5361431N INCLINATION 45° DRILL TYPE LY 38 COMPLETED 15.3.95 CASING LEFT..... DPO No(s).....

DEPTH		Core Rec %	RO DDTM	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by .....														
From (M)	To (M)																								
124.7	126.35	50	#4x	Ogul	Brachioid argillaceous limestone	calcite brecciation	91	124.8	126.5																
126.35	127.4	90	3x	Ogul	Argillaceous calcarenite with broken core.		92	126.5	127.4																
127.4	129.8	50	5x	Ogul	Calcite veining associated with a leached gritty calcarenite. Irregular veining	? lower calcite 65° to c/a.	93	127.4	129.0																
129.8	129.4	100	2	Ogul	Argillaceous limestone with large solitary corals + bioclastic bands																				
129.4	130.0	100	1	Ogul	Leached gritty ? micrite birds eyes + calcite veining		94	129.0	130.0																
130.0	134.0	12	5	Ogul	Cavities + calcite veining		95	130.0	134.0																
134.0	138.6	75	5x	Ogul	Clay gouge - fault zone. broken core - calcite veining (rotted) Heavily altered dark grey lsst.	Siderite @ 136m.	96	134.0	136.3																
							97	136.3	138.0																
							4141198.	138.0	138.6																
138.6	139.8	100	3c	Ogul	Well cleaved fine grained altered calcarenite with cleavage parallel calcite vein 5cm	cleavage 60° to c/a. ? Bedding 80° to c/a.																			
139.8	142.0	100	2	Ogul	Argillaceous bioclastic calcarenite minor calcite veining	bedding 75° to c/a. calcite vein 30° to c/a.																			

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

SHEET No. ....

TENEMENT NAME BUCKJACK No. 8 of 18

CO-ORDINATES 366311E AZIMUTH ..... DRILLERS DDTAS COMMENCED 2.3.95 PLAN - MAP REFERENCE ..... DEPTH 289 m HOLE No. D13111

RL COLLAR 53614311N INCLINATION 45° DRILL TYPE LY 38 COMPLETED 15.3.95 CASING LEFT ..... DPO No(s) .....

DEPTH		Core Rec	RQ DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by .....											
From (M)	To (M)																					
142.0	143.0	100	1	Ognd.	Distinctive argillaceous calcite + fine grained calcarenite? spines bioclasts in argillite																	
143.0	143.8	100	1	Ognd.	Fine grained calcarenite with argillite (minor lamination @ 143.6m)																	
143.8	152.75	100	2	Ognd.	As before with Cratered calcite vein brecciation. Occ bioclasts, locally red grain calcarenite; 3cm laminated argillite @ 152.45.	Veins sub parallel to core Axis. 1cm vein 45° to c/A. Bedding 75° to c/A.																
152.75	154.7	100	1	Ognd.	Fine grained calcarenite/micrite unit. subjected to calcite vein related alteration; calcite breccia veins	Veins are calc (dol) with small red minerals (hematite) small scale red zones occur in places cut by later white veining. Calcite veins 85° to c/A. + variable angles.	4141199.	153.45	154.65													
154.7	157.8	100	1	Ognd.	Fine grained grey calcarenite with minor argillite partings	some calcite veining? on section 70% c/A.																
157.8	158.15	100	1	Ognd.	Dole grey argillaceous calcarenite band - ? marker horizon.																	
158.15	160.0	100	1	Ognd.	Grey fine grained calcarenite with argillite																	
160.0	162.60	10	5	Ognd.	Fault zone or sandy-clay	Siderite black present																

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

TENEMENT NAME BLACK JACK No. 9 of 18

SHEET No. ....

CO-ORDINATES 366311 E AZIMUTH ..... DRILLERS DDTAS COMMENCED 2.3.95 DEPTH 289 m HOLE No. DB111  
RL COLLAR 5361431 N INCLINATION 45° DRILL TYPE LY38 COMPLETED 15.3.95 CASING LEFT ..... DPO No(s) .....

DEPTH		Core Rec	RQ	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Vining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by .....			
From (M)	To (M)													
162.6	164.8	890	2	Ogdl.	Fine grained grey calcarenite with ariflute; localised bioclastic (coarse) beds; locally laminated	Bedding 70° to c/a.					1724	1737	1.7	100
											1737	1762	2.5	100
											1762	178.0	1.8	100
											1790	181.0	2.0	100
164.8	168.2	100	1	Ogdl.	light grey fine grained calcarenite (with ariflute) with calcite (thick) veining + alteration - red alteration (some brick red colour) cut by a later veins.	Calcite veins - irregular cont'd. (5° to c/a over cross cut by 70° to c/a) Partial dolomitisation.	414	200	165.05	166.4	1810	184.0	1.35	40
							201	166.4	167.84		184.0	187.0	3.0	100
							202	167.84	168.63		187.0	189.7	1.7	100
											1997	191.5	0.6	33
											1915	193.0	0.1	7
											1930	196.6	0.8	50
168.2	169.5	100	1	Ogdl.	Fine grained grey calcarenite with ariflute grading into a more micritic unit.	Partially dolomitised breccia zone 168.2-168.45 - minor sphalerite.					1946	195.8	0.6	50
											1958	197.8	2.0	100
											1978	199	0.4	66
											199	201.8	2.8	100
169.5	171.8	100	1	Ogdl.	Weakly laminated micritic unit with ariflute passing down into a fine grained (ft) grey calcarenite with stylolites - ? alteration partially dolomitised red alteration very local associated with dol breccia.	Partially dolomitised breccia zones @ 170.5 - 170.8 m. Discon @ 171.15 - 171.30 m. with disseminated sphalerite - fine grained calc/dol vein 35° to c/a.	203	169.5	170.43		201.8	205	3.2	100
							414	1204	170.43	171.46	205	207.2	1.4	70
											2072	209.2	1.9	90
											2092	211	1.9	100
											211	214	3.0	100
											214	217	3.0	100
											217	220	3.0	100
											220	223	3.0	100
171.8	174.9	100	1	Ogdl.	Fine grained grey calcarenite (micritic) with darker fine grained ariflute calcarenite						223	226	1.8	60
											226	228.7	1.3	50
											228.7	230.6	1.0	50
											230.6	231.9	1.3	100
174.9	176.0	100	2	Ogdl.	Breccia zone - calc/dol veining of dark grey calcarenite Different to above Ogdl no red alteration						231.9	235.0	1.0	33
											235.0	238.0	3.0	100
											238	241.8	3.0	100
											241	244	2.0	66
											244	245.4	0.9	56

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

SHEET No. ....

TENEMENT NAME BLACK JACK No. 11 of 18

PLAN - MAP REFERENCE .....

CO-ORDINATES 366311 E AZIMUTH ..... DRILLERS DDTAS COMMENCED 2.3.95 DEPTH 289m HOLE No. DB111

RL COLLAR 5361431 N INCLINATION 45° DRILL TYPE LY 38 COMPLETED 15.3.95 CASING LEFT ..... DPO No(s) .....

DEPTH		Core Rec. %	RCQ	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by .....										
From (M)	To (M)																				
191.5	193	7	SX	Ogsl	Mixed red + dk grey limestone occ more intense brick red alteration - Core l.s.		414126 207	191.5 193.0	193 194.04												
193	194	20	SX	Ogsl	Reddened limestone + light brown? dolomite calc. l.s.																
194	196.70	75	2x	Ogsl	Siderite unit with black clay fault gouges (real frags included). Replacement of fin calcarenite + argillite.		208 209	194.04 194.71	194.71 196.06												
196.1	197.1	100	2	Ogdl	Partially resistant to dil HCl limestone unit - sideritic or dolomitic alteration minor irregular calcite veining.		210	196.06	197.15												
197.1	199.0	50	SX	Ogdl	Clay gouge - angular fragments - ? Dolomite or siderite.		211	197.15	199.0												
199.0	199.9	100	1	Ogdl	fine grained recrystallised calcarenite - Minor pyrite veinlets + with argillite + Cal/dol veining + clay infl. localised zones sideritic (and/or dolomitic).		414127 202	199.0	201.99												
199.9	200.8	100	5	Ogdl	Clay gouge - fault zone with calcite/dolomite breccia veining		414128	199.9	201.95												
<del>200.8</del> 200.8	201.8	100	5	Ogdl	Grey clay - rotund micrite +/- fault clay gouge.																
201.8	202.1	100	1	Ogdl	fault strand limestone/calcarenite.																

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

SHEET No. ....

TENEMENT NAME BLACK JACK No. 12 of 18

PLAN - MAP REFERENCE .....

CO-ORDINATES 366311 E AZIMUTH ..... DRILLERS D.D.T.A.S COMMENCED 2.3.75 DEPTH 289m HOLE No. DB 111

RL COLLAR 5361431A INCLINATION 45° DRILL TYPE LY38 COMPLETED 15.3.75 CASING LEFT ..... DPO No(s) .....

DEPTH		Core Rec. %	RQ	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by .....														
From (M)	To (M)																								
202.1	2026	100	1	Ogd.	Reddened partly calc. on laminated limestone with red (B. bed) veining - calcareous	hitching 65° E c/A.	4141214	201.95	203.3																
202.6	203.3	100	2	Ogd.	Breccia zone - partly dolomitised with red + Brick red alteration	Calcite vein 60° E c/A.	215	203.3	205.																
204.3	2050	100	2	Ogd.	Dark grey altered partly dolomitised (locally) epigenetic limestone																				
205.0	207.2	70	3	Ogd.	Brecciated zone with sideritic cherts + red alteration locally	Cal/dol veining + vug infill - fault related	216	205	207.2																
207.2	207.5	90	3	Ogd.	Dark grey altered limestone local siderite alteration @ 207.8.		217	207.2	209.5																
209.5	210.4	100	1	Ogd.	Light grey laminated micrite with stylolitic - locally pyritic eg 209.9m.	Bedding 75° E c/A. cal/dol vein zone 60° E c/A.	218	209.5	210.4																
210.4	212.8	100	2	Ogd.	Fine grained altered grey calcarenite (micritic + argillite) localised sideritic alteration 210.8m. Vein breccia in ? pyritic argillite at 210.9m. Reddened zones @ 211.8 Sem. 212.35 Sem underlain on argillite breccia																				
212.4	213.7			Ogd.	Light grey micrite with ultra bios eyes - stylolitic large coral (solitary) @ 213.3m.																				

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

SHEET No. 165/18

TENEMENT NAME BLACK JACK No. 165/18

CO-ORDINATES 366311 E AZIMUTH

DRILLERS DDTAS COMMENCED 2.3.95

PLAN - MAP REFERENCE

RL COLLAR S361431N INCLINATION 45°

DRILL TYPE LY 38 COMPLETED 15.3.95

DEPTH 289.11 HOLE No. DS111

CASING LEFT DPO No(s)

DEPTH		Core Rec. %	RQ DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)												
From (M)	To (M)																						
260.0	261.7	60	4X	Ogsl	Dark grey dolomite. Basal 25cm consists of pink dolomitised limestone.		9141242	260	261.7														
261.7	267.0	60	2X	Ogsl	Siderite with localised zones of dark clay gouges, dolomite + pink altered dolomitised limestone.	Breccia zone @ 265m. Pink zone related to gouges	293	261.7	264.0														
							294	264.0	266.0														
							4141245	266.0	267.0														
267.0	267.9	50	5	Ogsl	Brecciated Clay gouge with brecciated dolomite fragments		246	267.0	267.9														
267.9	268.5	100	3X	Ogsl	Brecciated dolomite fragments with clay gouges.	Possible localised siderite alteration Clay gouge at base 70° E c/A.	297	267.9	268.8														
268.5	268.8	100	1	Ogsl	Dolomite/quartzitic dolomite																		
268.8	271.1	100	1	Ogsl	med/fine grained quartz siltstone with localised redkened zones	Possible sideritic alteration @ 270.0 - 270.3 @ 270.7 - 270.9	248	268.8	271.1														
271.1	272.6	100	2	Ogsl	Quartz/carbonate fine grained conglomerate with dolomitisation;	Minor dolomite veins with calcite & galena. Veins 25° E c/A + 85° E c/A. Bedding - 75° E c/A.	249	271.1	272.6														
272.6	273.5	100	2	Ogsl	Coarser gtz clasts in fine grained conglomerate	?alteration rims to clasts. @ 272.7m. localised black mineral? Magnetite or Amphibole.	4141250	272.6	273.5														

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

SHEET No. ....

TENEMENT NAME **BLACK JACK** No. **17 of 19**

CO-ORDINATES **366311 E** AZIMUTH.....

DRILLERS **DDTAS**

COMMENCED **2.3.95**

PLAN - MAP REFERENCE.....

DEPTH **289 m**

HOLE No. **DB 111**

RL COLLAR **5361431 N** INCLINATION **45°**

DRILL TYPE **LY 38**

COMPLETED **15.3.95**

CASING LEFT.....

DPO No(s).....

DEPTH		Core Rec.	RO DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Vainng, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)										
From (M)	To (M)																				
273.5	273.8	100	1	Opt.	Abundant brecciation of quartz / siliceous conglomerate	Irregular network of dol veinng minor pyrite															
273.8	275.3	100	1	OM	Med grained light brown / red quartz arenite with occ larger clasts - Retort sandy top 6 cm; with dark mineral. Occ finer grained band.																
275.3	276.1	100	3X	OM	Dark red / brown fine grained quartz siltstone with fine grained quartz arenite bands	Bedding 85° E c/A.															
276.1	278.9	100	1	OM	med grain dark red / brown quartz arenite with locally coarser + finer beds. Can be conglomeratic.																
278.9	282.0	100	1	OM	light grey / fawn fine grained quartz arenite with locally coarser arenite bands.	Bedding 90° E c/A.															
282.0	282.7	100	1	OM	Quartz-carbonate veinng zone on top of a shale / conglomerate boundary.		414 1251	282.0	282.7												
282.7	286.6	100	1	OM	fine grain lt grey / fawn quartz arenite - Banded appearance - Disturbed bedding																

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

SHEET No. 18618

TENEMENT NAME BLACK JACK No. 18618

CO-ORDINATES 366311E AZIMUTH..... DRILLERS DDTAS COMMENCED 2.3.95 DEPTH 289 m HOLE No. DB11  
 RL COLLAR 5361431N INCLINATION 45° DRILL TYPE LX 38 COMPLETED 15.3.95 CASING LEFT..... DPO No(s).....

DEPTH		Core Rec. <u>RQ</u>	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)											
From (M)	To (M)																				
				localised <del>concrete</del> quartz clast brackets some minor ? Euhedral brecciation																	
286.6	289	100	1	0m. Fine grained grey/green siltstone with fine grained quartz oolite bands (brown) with lead casts.	concrete 60" c.c. dia Bedding 85" c.c. dia	4141252	287.7	289													

696073

				Ag	Al	As	Ba	Ca	Cu	Fe	K	Mg	Mn	Pb	Zn
DB111	20.9	22.16	4141180	4	1.28	-5	61	50.1	5	.93	.58	2.07	552	383	1220
DB111	22.16	23.36	4141181	3.9	.67	-5	73	29.8	-5	1.86	.23	3.24	778	254	962
DB111	23.36	24.04	4141182	4.4	.9	-5	58	29.6	-5	1.13	.43	3.1	399	143	639
DB111	73.36	74.9	4141183	2.6	1.23	-5	76	32.2	5	1.25	.63	1.97	1750	409	1510
DB111	74.9	75.2	4141184	5.4	.5	-5	21	27.6	17	1.43	.13	2.55	6960	1890	44600
DB111	75.2	75.83	4141185	5.6	.42	-5	12	31.8	17	.76	-.05	1.7	4800	1810	15800
DB111	75.83	76.67	4141186	3	.33	-5	24	34.1	-5	.54	.07	1.37	3620	430	2580
DB111	76.67	77.7	4141187	2	.26	-5	27	36.3	-5	.34	.1	.66	984	212	828
DB111	104.2	104.85	4141188	2.1	.16	-5	15	36.5	-5	.2	.05	.43	1850	177	512
DB111	104.85	105.7	4141189	1.4	1.58	-5	136	30.9	9	.98	.77	1.56	529	79	170
DB111	105.7	107.5	4141190	1	1.83	35	122	17.1	6	15.5	.96	1.13	3490	39	253
DB111	124.8	126.5	4141191	1.1	1.66	20	154	21.8	-5	4.79	.76	5.23	2970	57	702
DB111	126.5	127.4	4141192	1	3.15	12	297	20.1	7	1.78	1.61	4.46	604	32	205
DB111	127.4	129	4141193	.7	.44	-5	36	35.5	-5	.46	.2	1.26	1230	68	116
DB111	129	130	4141194	.8	.57	5	42	32.2	-5	1.01	.28	2.47	370	27	168
DB111	130	134	4141195	-.01	2.33	16	86	25.4	12	1.83	1.06	1.98	770	44	175
DB111	134	136.3	4141196	-.01	2.47	-5	92	16.7	9	7.41	1.16	5.7	2180	41	93
DB111	136.3	138	4141197	-.01	2.03	-5	82	23.4	6	2.02	1.07	4.88	651	51	104
DB111	138	138.6	4141198	-.01	.78	-5	26	34.1	-5	.7	.33	2.04	1150	125	261
DB111	153.45	154.65	4141199	.6	.81	6	26	34.3	-5	.44	.37	.72	649	42	54
DB111	165.08	166.4	4141200	-.01	.7	-5	19	27.4	-5	1.64	.26	1.78	916	36	106
DB111	166.4	167.84	4141201	1.2	.74	-5	25	34	-5	.54	.35	.98	1040	89	253
DB111	167.84	168.63	4141202	3.2	1.68	-5	55	28	-5	1.65	.77	3.81	2440	869	7220
DB111	169.5	170.43	4141203	.8	.93	8	22	31.4	6	.98	.34	1.87	990	216	1040
DB111	170.43	171.46	4141204	.8	1.44	-5	35	27.2	-5	1.71	.46	4.5	1800	334	5360
DB111	184.5	187	4141205	-.01	1.68	22	60	21.3	14	3.37	.87	5.29	1120	72	322
DB111	191.5	193	4141206	.9	1.75	24	61	16.1	6	10.6	.81	6.47	2980	61	547
DB111	193	194.04	4141207	-.01	2.32	24	75	13.8	-5	15.1	1.04	5.66	4580	83	868
DB111	194.04	194.71	4141208	.6	2.17	15	71	9.96	5	21.8	1	4.31	6810	153	579
DB111	194.71	196.06	4141209	-.01	2.34	28	77	13.3	9	14	1.06	6.33	4240	148	488
DB111	196.06	197.15	4141210	-.01	2.02	27	64	18.6	9	7.64	.94	6.78	2530	88	352
DB111	197.15	199	4141211	.7	2.13	26	69	19.9	14	5.05	1	8.18	1820	98	334
DB111	199	199.9	4141212	.7	1.82	35	47	22.3	8	6.5	.67	6.46	2250	63	232
DB111	199.9	201.95	4141213	.5	1.78	10	63	25.1	6	5.75	.95	3.61	1940	56	112
DB111	201.95	203.3	4141214	-.01	1.66	27	55	20.9	9	6.88	.76	7.06	3000	61	448
DB111	203.3	205	4141215	1	1.49	9	45	21.2	10	2.95	.69	8.23	1430	62	386
DB111	205	207.2	4141216	1.5	2.18	-5	69	21.3	11	3.96	1.05	7.71	2000	105	1940
DB111	207.2	209.5	4141217	-.01	1.25	18	43	23.5	6	4.64	.65	4.65	1550	26	90
DB111	209.5	210.4	4141218	-.01	.61	-5	20	31.4	-5	2.52	.33	1.59	1070	10	20
DB111	220	221.5	4141219	.9	1.55	-5	52	26.7	12	2.34	.77	3.41	995	394	103
DB111	221.5	223	4141220	-.01	.6	8	21	26.2	-5	3.89	.32	4.49	1910	-10	23
DB111	223	224.2	4141221	.9	1.32	20	49	21.6	14	2.72	.68	5.11	952	30	64
DB111	224.2	226.4	4141222	.5	1.88	29	66	15.8	8	11.3	.86	6.42	3680	56	185
DB111	226.4	228.7	4141223	-.01	1.2	13	43	17.3	7	11.1	.45	8.13	3970	102	177
DB111	228.7	230.6	4141224	-.01	.69	-5	20	23.4	-5	8.75	.32	4.51	3240	105	266
DB111	230.6	232.4	4141225	.8	1.75	6	59	21.9	5	4.88	.9	5.97	3080	137	1850
DB111	232.4	235	4141226	.5	2.48	9	85	17	7	7.14	1.25	7.3	3570	58	670
DB111	235	237.4	4141227	-.01	.6	-5	11	21.4	28	5.63	.17	7.81	3500	98	950
DB111	237.4	239.4	4141228	.7	2.25	-5	79	19.7	6	4.16	1.21	5.94	1660	65	183
DB111	239.4	240.6	4141229	-.01	1.14	22	29	20.4	40	6.95	.43	7.14	3510	102	922
DB111	240.6	242.2	4141230	-.01	1.65	6	59	17.4	-5	11.9	.82	5.55	4650	104	271
DB111	242.2	243.8	4141231	-.01	1.17	35	49	7.59	-5	27.7	.56	3.1	8970	45	194
DB111	243.8	245.4	4141232	-.01	1.04	10	53	5.47	18	15	.54	2.04	4940	76	110
DB111	245.4	247	4141233	-.01	2.99	11	101	17.3	7	5.6	1.53	7.65	2190	58	358
DB111	247	248	4141234	1	1.98	7	63	17.8	7	4.7	.98	9.02	2470	328	661
DB111	248	249.2	4141235	1.3	1.51	20	49	18.7	6	1.6	.86	10.4	801	165	369
DB111	249.2	251.9	4141236	-.01	1.08	27	37	18.4	6	5.64	.55	10	2300	40	263
DB111	251.9	252.7	4141237	.9	1.35	9	42	19.3	5	1.61	.72	10.9	871	33	163
DB111	252.7	253.7	4141238	.7	1.57	-5	48	19.7	6	1.87	.78	11	982	51	167
DB111	253.7	255	4141239	-.01	1.04	34	46	11.7	7	19.4	.54	6.08	6280	50	221
DB111	255	258	4141240	.8	2.79	38	121	7.61	6	19.9	1.59	3.82	6520	60	312
DB111	258	260	4141241	-.01	.3	12	116	11.9	10	11.3	1.71	6.24	3840	106	319
DB111	260	261.7	4141242	.6	3.07	-5	118	15.3	8	5.09	1.82	8.23	2160	30	188
DB111	261.7	264	4141243	.5	2.77	26	108	7.43	15	19.3	1.53	3.64	6590	127	368
DB111	264	266	4141244	-.01	2.09	32	81	8.14	5	23.2	1.09	3.92	7970	170	793
DB111	266	267	4141245	-.01	1.94	37	79	5.48	6	30.7	1.04	2.51	10900	119	399
DB111	267	267.9	4141246	1.8	3.79	50	132	10.2	26	11.2	2.08	5.01	4310	551	2180
DB111	267.9	268.8	4141247	-.01	2.71	10	93	14.9	13	5.61	1.34	7.64	3360	104	1080
DB111	268.8	271.1	4141248	-.01	1.53	12	59	9.84	-5	11.8	.81	4.99	4820	80	216
DB111	271.1	272.6	4141249	-.01	1.24	37	42	12.7	12	3.58	.71	6.43	2450	203	2150
DB111	272.6	273.85	4141250	-.01	1.9	40	70	9.46	40	4.49	1.04	4.38	2130	60	1390
DB111	282	282.9	4141251	-.01	4.84	11	176	1.18	120	6.22	2.3	1.02	911	153	712
DB111	287.7	289	4141252	-.01	7.09	17	371	1.34	53	4.98	4.56	1.23	1040	14	61

**Appendix V**

**Sunny Corner Wacker Bedrock Sampling Results**

SUNNY CORNER WACKER

Sample No	AMGE	AMGN	DPO No	Sample Type	Prospect	EL No	Local E	Local N	Depth	Bedrock	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments
5466434	366585	5357845	77376	WACKER	SUNNY CORNER	EL45/92	66150	57900	5	Y	Ogdc	Ccy			DG	Stratabound clays
5466435	366560	5357845	77376	WACKER	SUNNY CORNER	EL45/92	66125	57900	5	Y	Ogdl	Sdl			G	Decomposed dolomite
5466436	366535	5357845	77376	WACKER	SUNNY CORNER	EL45/92	66100	57900	3.5	Y	Ogdl	Sdl			G	Decomposed dolomite
5466437	366510	5357845	77376	WACKER	SUNNY CORNER	EL45/92	66075	57900	3.2	Y?	Ogdl?	SdlCcy			G	Clays, after dolomite?
5466438	366485	5357845	77376	WACKER	SUNNY CORNER	EL45/92	66050	57900	15.7	Y?	Ogdl	SdlCcy	Ds	PyGa	DGN	Clays after dol, 5% Py, 2% Ga.
5466439	366460	5357845	77376	WACKER	SUNNY CORNER	EL45/92	66025	57900	1.5	Y?	Sc	Sss			WG	Sst, may be partly gravel
5466440	366435	5357845	77376	WACKER	SUNNY CORNER	EL45/92	66000	57900	1.5	Y	Sc	Sss			LG	
5466441	366410	5357845	77376	WACKER	SUNNY CORNER	EL45/92	65975	57900	2.3	Y	Sc	Sss			WG	
5466442	366385	5357845	77376	WACKER	SUNNY CORNER	EL45/92	65950	57900	6.2	Y	Sc	Sss			WG	
5466443	366360	5357845	77376	WACKER	SUNNY CORNER	EL45/92	65925	57900	1.5	Y	Sc	Sss			WG	
5466444	366335	5357845	77376	WACKER	SUNNY CORNER	EL45/92	65900	57900	3.2	Y	Sc	Sss			WG	
5466445	366310	5357845	77376	WACKER	SUNNY CORNER	EL45/92	65875	57900	3	Y	Sc	Sss			WG	
5466446	366285	5357845	77376	WACKER	SUNNY CORNER	EL45/92	65850	57900	2.6	Y	Sc	Sss			WG	
5466447	366260	5357845	77376	WACKER	SUNNY CORNER	EL45/92	65825	57900	6.6	Y	Sc	Sss			Y	
5466448	366235	5357845	77376	WACKER	SUNNY CORNER	EL45/92	65800	57900	5	Y	Sc	Ssi			LB	
5466449	366210	5357845	77376	WACKER	SUNNY CORNER	EL45/92	65775	57900	1	Y	Sc	Ssi			B	
5466450	366185	5357845	77376	WACKER	SUNNY CORNER	EL45/92	65750	57900	0.5	Y	Sc	Sss			W	
5466451	366160	5357845	77376	WACKER	SUNNY CORNER	EL45/92	65725	57900	0.5	Y	Sc	Sss			W	
5466452	366135	5357845	77376	WACKER	SUNNY CORNER	EL45/92	65700	57900	1.5	N		Ccy			LB	
5466453	366110	5357845	77376	WACKER	SUNNY CORNER	EL45/92	65675	57900	1.2	Y	Sc	Sss			LG	
5466454	366085	5357845	77376	WACKER	SUNNY CORNER	EL45/92	65650	57900	1.5	Y	Sc	Sss			W	
5466455	366060	5357845	77376	WACKER	SUNNY CORNER	EL45/92	65625	57900	1.7	Y	Sc	Sss			W	
5466456	366035	5357845	77376	WACKER	SUNNY CORNER	EL45/92	65600	57900	4.6	Y	Sc	Sss			DB	
5466457	366035	5357645	77376	WACKER	SUNNY CORNER	EL45/92	65600	57700	3.3	Y	Sc	Ssi			W	
5466458	366060	5357645	77376	WACKER	SUNNY CORNER	EL45/92	65625	57700	4	Y	Sc	Sss			W	
5466459	366085	5357645	77376	WACKER	SUNNY CORNER	EL45/92	65650	57700	7.6	Y	Sc	Sss			W	
5466460	366110	5357645	77376	WACKER	SUNNY CORNER	EL45/92	65675	57700	1.5	Y	Sc	Sss			W	
5466461	366135	5357645	77376	WACKER	SUNNY CORNER	EL45/92	65700	57700	2.4	Y	Sc	Sss			LG	
5466462	366160	5357645	77376	WACKER	SUNNY CORNER	EL45/92	65725	57700	2.5	N	Q?	CcyCg			B	
5466463	366185	5357645	77376	WACKER	SUNNY CORNER	EL45/92	65750	57700	9	Y	Ogud	Sdl	We		DG	
5466464	366210	5357645	77376	WACKER	SUNNY CORNER	EL45/92	65775	57700	4	Y	Ogud	Sdl	WeSi?		DG	
5466465	366235	5357645	77376	WACKER	SUNNY CORNER	EL45/92	65800	57700	13	Y	Ogud	Sdl	We		DG	
5466466	366260	5357645	77376	WACKER	SUNNY CORNER	EL45/92	65825	57700	2	Y	Ogud	Sdl	We		DG	
5466467	366285	5357645	77376	WACKER	SUNNY CORNER	EL45/92	65850	57700	3	Y	Ogud	Sdl	We		DG	
5466468	366310	5357645	77376	WACKER	SUNNY CORNER	EL45/92	65875	57700	3	Y	Ogud	Sdl	We		DG	
5466469	366335	5357645	77376	WACKER	SUNNY CORNER	EL45/92	65900	57700	5	Y	Ogud	Sdl	We		DG	
5466470	366360	5357645	77376	WACKER	SUNNY CORNER	EL45/92	65925	57700	6.2	Y?	Ogcy	Ccy			G	
5466471	366385	5357645	77376	WACKER	SUNNY CORNER	EL45/92	65950	57700	6.8	Y?	Ogcy	Ccy			G	
5466472	366410	5357645	77376	WACKER	SUNNY CORNER	EL45/92	65975	57700	8.8							No sample.
5466473	366435	5357645	77376	WACKER	SUNNY CORNER	EL45/92	66000	57700	3.3	Y	Ogud	Sdl	We		G	
5466474	366460	5357645	77376	WACKER	SUNNY CORNER	EL45/92	66025	57700	6.8	Y?	Ogul	SlsCcy			G	Clay after Lst?

696076

## SUNNY CORNER WACKER

Sample No	AMGE	AMGN	DPO No	Sample Type	Prospect	EL No	Local E	Local N	Depth	Bedrock	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments
5466475	366485	5357645	77376	WACKER	SUNNY CORNER	EL45/92	66050	57700	4.6	Y?	Ogul	SlsCcy			G	Clay after Lst?
5466476	366510	5357645	77376	WACKER	SUNNY CORNER	EL45/92	66075	57700	3.5	Y?	Ogul	SlsCcy			G	Clay after Lst?
5466477	366535	5357645	77376	WACKER	SUNNY CORNER	EL45/92	66100	57700	13							
5466478	366560	5357645	77376	WACKER	SUNNY CORNER	EL45/92	66125	57700	0	Y	Om	Sss			W	
5466479	366535	5357445	77376	WACKER	SUNNY CORNER	EL45/92	66100	57500	5.6	Y?	Ogdc	Ccy			DGN	Stratabound clays?
5466480	366510	5357445	77376	WACKER	SUNNY CORNER	EL45/92	66075	57500	7	Y?	Ogul	SlsCcy			G	Clay after Lst?
5466481	366485	5357445	77376	WACKER	SUNNY CORNER	EL45/92	66050	57500	1.5	Y?	Ogul	SlsCcy			G	Clay after Lst?
5466482	366460	5357445	77376	WACKER	SUNNY CORNER	EL45/92	66025	57500	4	Y?	Ogul	SlsCcy			G	Clay after Lst?
5466483	366435	5357445	77376	WACKER	SUNNY CORNER	EL45/92	66000	57500	10.2	Y?	Ogul	SlsCcy			G	Clay after Lst?
5466484	366410	5357445	77376	WACKER	SUNNY CORNER	EL45/92	65975	57500	3.6	Y?	Ogul	SlsCcy			DG	Clay after Lst?
5466485	366385	5357445	77376	WACKER	SUNNY CORNER	EL45/92	65950	57500	2.8	Y	Ogul	SlsCcy			DG	Clay after Lst?
4144234	366510	5357245	77381	WACKER	SUNNY CORNER	EL45/92	66075	57300	2	Y	Om	Sss	sand	He	WR	
4144235	366485	5357245	77381	WACKER	SUNNY CORNER	EL45/92	66050	57300	3.5	Y	Ogdc	Ccy	clay		DBN	
4144236	366460	5357245	77381	WACKER	SUNNY CORNER	EL45/92	66025	57300	8.5	Y	Ogdc	Ccy	clay		DBN	
4144237	366435	5357245	77381	WACKER	SUNNY CORNER	EL45/92	66000	57300	6.5	Y	Ogdc	Ccy	clay		DB	
4144238	366410	5357245	77381	WACKER	SUNNY CORNER	EL45/92	65975	57300	17.5	Y	Ogdc	Ccy	clay		DG	
4144239	366385	5357245	77381	WACKER	SUNNY CORNER	EL45/92	65950	57300	5.2	Y	Ogul	Sls	Sandy clay		G	Fine grained calcarenite
4144240	366360	5357245	77381	WACKER	SUNNY CORNER	EL45/92	65925	57300	2.3	Y	Ogsi	Sls	Gritty clay		DGN	Weakly calcareous calcsiltite with cherts
4144241	366335	5357245	77381	WACKER	SUNNY CORNER	EL45/92	65900	57300	3.2	Y	Ogul	Sls	Gritty clay		DGN	Strongly calcareous - wet sample
4144242	366310	5357245	77381	WACKER	SUNNY CORNER	EL45/92	65875	57300	12.6	Y	Ogul	Sls	Gritty clay		N	Strongly calcareous - wet sample
4144243	366285	5357245	77381	WACKER	SUNNY CORNER	EL45/92	65850	57300	11.4	Y	Ogul	Sls	Gritty clay		N	Strongly calcareous - wet sample
4144244	366260	5357245	77381	WACKER	SUNNY CORNER	EL45/92	65825	57300	10.4	Y	Ogdc	Sdl	Gritty clay	DI	DGN	Dk grey ?calcsiltite
4144245	366235	5357245	77381	WACKER	SUNNY CORNER	EL45/92	65800	57300	8.2	Y	Ogdl	Sdl	Gritty clay	DI	DGN	Dolomite or siderite
4144246	366210	5357245	77381	WACKER	SUNNY CORNER	EL45/92	65775	57300	11.2	Y	Ogdl	Sdl	Gritty clay	DI	DGNG	Crystalline ?dolomitised calcsiltite
4144247	366185	5357245	77381	WACKER	SUNNY CORNER	EL45/92	65750	57300	11.2	Y	Ogdl	Sdl	Gritty clay	DI	DGN	Crystalline ?dolomitised calcsiltite
4144248	366160	5357245	77381	WACKER	SUNNY CORNER	EL45/92	65725	57300	10.5	Y	Ogdl	Sls	Gritty clay		DGG	Weakly calcareous
4144249	366135	5357245	77381	WACKER	SUNNY CORNER	EL45/92	65700	57300	2.5	Y	Qha	Ccg	sandy		BO	Rounded quartzite frags
4144250	366110	5357245	77381	WACKER	SUNNY CORNER	EL45/92	65675	57300	2.2	Y	Sc	Sss	sandy	He	LGW	
4144251	366085	5357245	77381	WACKER	SUNNY CORNER	EL45/92	65650	57300	6.3	Y	Sc	Sss	sandy		LG	Silicic quartzite
4144252	366060	5357245	77381	WACKER	SUNNY CORNER	EL45/92	65625	57300	3	Y	Sc	Sss	sand		G	Non-calcareous
4144253	366035	5357245	77381	WACKER	SUNNY CORNER	EL45/92	65600	57300	7	Y	Sc	Sss	sand		G	Friable sandstone
4144254	366560	5357445	77381	WACKER	SUNNY CORNER	EL45/92	66125	57500	5.6	Y	Om	Sss	sand		LGBR	
4144255	366535	5357645	77381	WACKER	SUNNY CORNER	EL45/92	66100	57700	19.7	Y	Ogdc	Ccy	clay		DGN	
4144256	366600	5357845	77381	WACKER	SUNNY CORNER	EL45/92	66165	57900	2.2	Y	Om	Sss	sand		LG	Silicic quartzite
4144257	366610	5357845	77381	WACKER	SUNNY CORNER	EL45/92	66175	57900	0	Y	Om	Sss	rock	He	LGWR	Hemalilically altered sandstone
5466486	366360	5357445	77381	WACKER	SUNNY CORNER	EL45/92	65925	57500	2.3	Y	Ogdl	Sdl	sand	DI	LG	Locally calcareous
5466487	366335	5357445	77381	WACKER	SUNNY CORNER	EL45/92	65900	57500	2.5	Y	Ogdl	Ccy	Sandy clay		G	Non-calcareous
5466488	366310	5357445	77381	WACKER	SUNNY CORNER	EL45/92	65875	57500	3	N	Qha	Ccg	Sandy clay		GB	Mica schists frags
5466489	366285	5357445	77381	WACKER	SUNNY CORNER	EL45/92	65850	57500	6	Y	Ogdc	Ccy	clay		G	Weakly calcareous
5466490	366260	5357445	77381	WACKER	SUNNY CORNER	EL45/92	65825	57500	4	Y		Os	Sandy clay		G	Non-calcareous - crystalline sst
5466491	366235	5357445	77381	WACKER	SUNNY CORNER	EL45/92	65800	57500	3.8	Y		Ccg	Sandy clay		GOB	Non-calcareous - crystalline sst

606077

SUNNY CORNER WACKER

Sample No	AMGE	AMGN	DPO No	Sample Type	Prospect	EL No	Local E	Local N	Depth	Bedrock	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments
5466492	366210	5357445	77381	WACKER	SUNNY CORNER	EL45/92	65775	57500	2.8	Y	Qha	Os	sandy		B	Peaty sand
5466493	366185	5357445	77381	WACKER	SUNNY CORNER	EL45/92	65750	57500	8.3	Y	OgdI	Sdl	Sandy clay	DI	G	Weakly calcareous
5466494	366160	5357445	77381	WACKER	SUNNY CORNER	EL45/92	65725	57500	4.5	Y	OgdI	Sdl	Sandy clay		G	Various rounded frags
5466495	366135	5357445	77381	WACKER	SUNNY CORNER	EL45/92	65700	57500	2.8	Y	Qha	Ccg	Sandy clay		LGB	Friable
5466496	366110	5357445	77381	WACKER	SUNNY CORNER	EL45/92	65675	57500	1.5	Y	Sc	Sss	sand		W	Micaceous
5466497	366085	5357445	77381	WACKER	SUNNY CORNER	EL45/92	65650	57500	2	Y	Sc	Sss	sand		W	
5466498	366060	5357445	77381	WACKER	SUNNY CORNER	EL45/92	65625	57500	1.5	Y	Sc	Sss	sand		W	
5466499	366035	5357445	77381	WACKER	SUNNY CORNER	EL45/92	65600	57500	1	Y	Sc	Sss	sand		W	
5466500	366535	5357245	77381	WACKER	SUNNY CORNER	EL45/92	66100	57300	1.4	Y	Om	Sss	sand		W	

606015

## SUNNY CORNER WACKER

Sample No.	Ag	Al	As	Ba	Ca	Cu	Fe	K	Mg	Mn	Pb	Zn
5466434	3.8	4	28	234	0.44	24	30.6	1.78	0.3	12300	1060	852
5466435	1.2	3.92	15	228	0.58	12	29.1	1.87	0.32	12600	1550	276
5466436	1.1	1.7	-5	105	13.1	17	10.2	0.63	7.67	4570	200	278
5466437	1.9	1.84	12	102	13.3	8	3.75	0.86	7.84	1340	455	583
5466438	13.2	2.63	79	190	2.67	80	4.49	1.12	0.11	18	16700	3100
5466439	-0.5	4.61	20	353	-0.05	5	1.07	1.83	0.66	64	48	29
5466440	2	1.7	-5	111	-0.05	-5	0.18	0.76	0.07	-10	14	7
5466441	-0.5	0.94	6	77	0.05	7	0.21	0.29	0.03	19	13	6
5466442	-0.5	0.07	-5	11	-0.05	-5	0.13	-0.05	0.01	-10	-10	5
5466443	-0.5	0.04	-5	8	-0.05	-5	0.18	-0.05	0.01	10	-10	7
5466444	-0.5	0.07	-5	9	-0.05	-5	0.18	-0.05	0.02	15	-10	47
5466445	-0.5	0.05	-5	9	-0.05	6	0.17	-0.05	0.01	-10	-10	14
5466446	-0.5	0.05	-5	9	-0.05	6	0.14	-0.05	0.01	11	-10	19
5466447	-0.5	1.65	-5	176	-0.05	-5	0.62	0.79	0.04	12	1500	16
5466448	-0.5	3.28	6	318	-0.05	-5	0.19	1.47	0.12	-10	1870	6
5466449	-0.5	1.58	-5	107	-0.05	-5	0.17	0.71	0.07	-10	211	5
5466450	-0.5	0.08	-5	11	-0.05	-5	0.11	0.05	0.01	-10	14	-5
5466451	-0.5	0.07	-5	10	-0.05	-5	0.12	-0.05	0.01	-10	-10	8
5466452	-0.5	3.23	-5	176	-0.05	-5	0.37	1.34	0.18	10	49	-5
5466453	-0.5	0.11	-5	13	-0.05	-5	0.11	-0.05	0.01	-10	-10	-5
5466454	-0.5	0.33	-5	30	-0.05	-5	0.11	0.16	0.02	-10	-10	-5
5466455	-0.5	0.05	-5	8	-0.05	-5	0.09	-0.05	0.01	-10	-10	-5
5466456	1.2	1.56	15	95	-0.05	8	0.59	0.66	0.09	-10	2480	47
5466457	-0.5	5.95	23	396	-0.05	-5	0.86	2.66	0.34	14	65	10
5466458	0.6	1.95	8	127	-0.05	-5	0.26	0.92	0.12	-10	63	6
5466459	0.7	2.47	8	131	-0.05	-5	0.26	1.13	0.17	14	49	6
5466460	-0.5	0.06	-5	9	-0.05	-5	0.1	-0.05	0.01	-10	-10	-5
5466461	-0.5	0.26	-5	21	-0.05	-5	0.12	0.1	0.02	-10	-10	-5
5466462	6.4	3.03	7	160	0.1	17	0.65	0.73	0.33	49	298	45
5466463	-0.5	1.72	-5	91	15.8	19	1.21	0.8	9.46	414	491	337
5466464	-0.5	0.37	-5	33	20.1	-5	1.89	0.18	11.6	1700	67	415
5466465	1.1	1.61	31	108	11.5	7	2.12	0.7	6.92	374	1700	2600
5466466	2.1	2.81	11	150	15.2	7	2.16	1.35	8.41	954	3400	163
5466467	-0.5	0.51	-5	38	19.7	-5	2.19	0.22	11.1	2080	224	707
5466468	1.2	1.76	-5	93	15.4	14	2.3	0.83	9.03	1200	395	1230
5466469	-0.5	0.8	10	37	18.5	6	1.62	0.36	10.8	1330	146	623
5466470	2.6	7.23	41	361	5.18	32	1.72	3.2	3.34	447	629	499
5466471	-0.5	3.21	12	168	11.9	5	7.72	1.62	7.17	4310	146	834
5466472												
5466473	-0.5	2.05	11	111	14.4	17	1.99	0.98	8.73	1100	539	700
5466474	-0.5	3.6	-5	177	17.1	-5	3.98	1.96	1.98	1410	49	46

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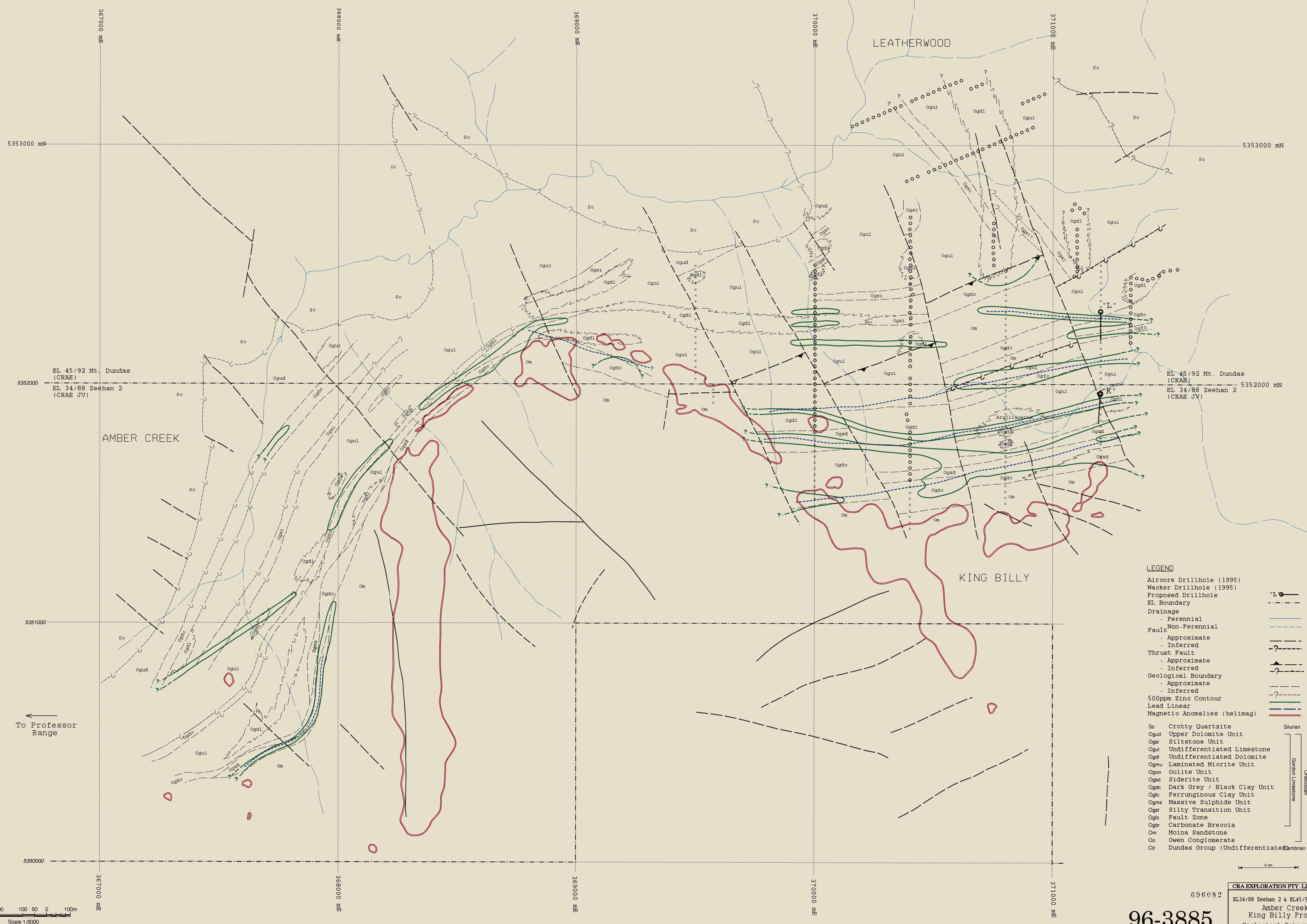
## SUNNY CORNER WACKER

Sample No	Ag	Al	As	Ba	Ca	Cu	Fe	K	Mg	Mn	Pb	Zn
5466475	-0.5	2.79	6	134	20.2	-5	2.44	1.48	3.36	705	22	100
5466476	-0.5	1.55	-5	68	23.4	-5	3.24	0.82	2.66	1000	52	66
5466477												
5466478	0.9	2.65	-5	157	-0.05	-5	0.29	1.24	0.17	13	32	7
5466479	-0.5	7.92	58	331	0.07	23	3.21	3.63	0.67	23	296	866
5466480	-0.5	3.42	-5	137	18.1	7	1.28	1.52	1.14	125	41	733
5466481	-0.5	1.89	-5	84	26.5	-5	0.63	0.92	1.09	129	29	57
5466482	-0.5	1.21	-5	53	23.5	-5	0.68	0.63	1.99	185	57	62
5466483	-0.5	0.84	-5	44	30.4	-5	0.74	0.43	2.12	168	48	186
5466484	-0.5	0.77	-5	45	28.2	-5	0.64	0.4	3.7	162	14	6
5466485	-0.5	0.36	-5	43	19	18	2.01	0.17	1.1	1140	149	593
4144234	-0.5	-0.01	-5	-5	-0.05	7	0.22	-0.05	-0.01	13	-10	6
4144235	-0.5	4.84	5	193	-0.05	28	0.94	2.19	0.3	15	478	104
4144236	-0.5	1.1	9	343	-0.05	60	0.57	3.45	0.7	12	69	14
4144237	-0.5	7.93	-5	398	0.08	27	2	3.19	0.57	59	63	51
4144238	-0.5	7.58	19	391	0.41	36	3.49	3.03	0.66	52	33	103
4144239	-0.5	1.65	-5	80	27	-5	0.93	0.91	3.81	150	16	-5
4144240	-0.5	2.92	-5	153	9.98	-5	1.15	1.52	4.35	162	27	36
4144241	-0.5	1.65	-5	80	26.8	-5	0.8	0.81	2.4	130	35	46
4144242	1.2	0.85	-5	41	24.8	-5	0.72	0.56	6.76	160	750	1640
4144243	-0.5	2.66	-5	154	18.8	-5	1.02	1.44	5.24	121	21	6
4144244	-0.5	3.68	-5	206	13.8	-5	3.53	1.91	6.7	1200	14	10
4144245	-0.5	2.81	21	136	17.7	10	1.96	1.18	9.11	451	143	428
4144246	0.7	2.13	-5	115	18.7	11	1.07	0.96	9.3	591	929	498
4144247	-0.5	1.88	-5	86	17.4	-5	1.2	0.98	9.06	173	42	270
4144248	-0.5	3.13	6	125	15.7	5	1.37	1.52	7.59	219	35	154
4144249	-0.5	5	-5	312	0.24	18	3.05	1.65	0.72	158	72	102
4144250	2.1	2.88	-5	171	-0.05	10	0.33	1.19	0.16	16	605	54
4144251	2.2	3.39	7	314	-0.05	48	0.49	1.45	0.19	18	7790	1660
4144252	4	1.64	-5	111	-0.05	129	0.5	0.78	0.1	19	58	33
4144253	-0.5	3.49	-5	217	-0.05	16	0.74	1.5	0.17	17	148	308
4144254	-0.5	3.46	-5	200	-0.05	5	0.42	1.62	0.13	20	12	9
4144255	-0.5	5.36	-5	255	2.53	18	12.1	2.66	1.5	7130	756	629
4144256	3	0.61	-5	46	-0.05	24	0.54	0.27	0.03	68	23	23
4144257	-0.5	1.35	-5	87	0.08	-5	0.34	0.71	0.06	12	11	7
5466486	-0.5	3.03	11	155	13.3	14	4.08	1.06	7.22	8220	139	223
5466487	-0.5	4.41	20	264	0.91	12	17.8	2.03	0.52	7680	128	306
5466488	-0.5	4.85	-5	229	4.07	18	4.09	1.37	2.67	277	69	188
5466489	0.6	1.32	-5	59	19.4	14	1.14	0.67	10.1	563	1000	208
5466490	-0.5	3.34	19	178	13.7	34	1.91	1.35	7.57	1090	692	364
5466491	1.1	4.61	21	243	2.43	24	3.39	1.65	1.71	289	402	1860

SUNNY CORNER WACKER

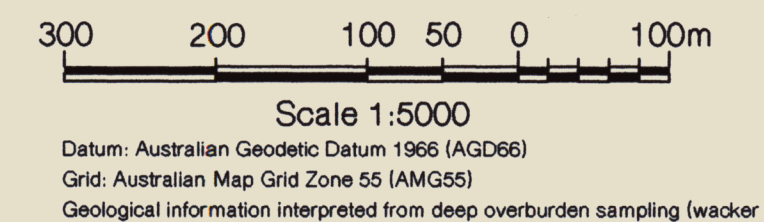
Sample No	Ag	Al	As	Ba	Ca	Cu	Fe	K	Mg	Mn	Pb	Zn
5466492	0.6	3.38	13	207	0.39	19	2.71	1.05	0.49	600	161	176
5466493	-0.5	3.77	9	253	9.24	8	10.4	1.75	4.59	5450	627	6700
5466494	-0.5	0.59	-5	35	20.4	10	1.48	0.35	10.8	1090	596	1960
5466495	-0.5	5.22	9	288	0.09	21	2.9	1.47	0.78	188	3940	2980
5466496	-0.5	-0.01	-5	-5	-0.05	-5	0.14	-0.05	0.01	11	14	13
5466497	-0.5	5.18	11	296	-0.05	-5	0.58	2.29	0.28	14	55	21
5466498	-0.5	2.51	-5	166	-0.05	-5	0.33	1.17	0.14	11	20	8
5466499	-0.5	1.75	-5	110	-0.05	-5	0.32	0.84	0.1	-10	22	9
5466500	-0.5	-0.01	-5	6	-0.05	6	0.18	-0.05	-0.01	14	-10	10

006081



- 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
  - Ogd1 Upper Dolomite Unit
  - Ogsi Siltstone Unit
  - Ogul Undifferentiated Limestone
  - Ogd1 Undifferentiated Dolomite
  - Ogm Laminated Micrite Unit
  - Ogo Oolite Unit
  - Ogsd Siderite Unit
  - Ogc Dark Grey / Black Clay Unit
  - Ogs Ferruginous Clay Unit
  - Ogfz Massive Sulphide Unit
  - Ogs Silty Transition Unit
  - Ogfz Fault Zone
  - Ogb Carbonate Breccia
  - Om Moina Sandstone
  - Oo Owen Conglomerate
  - Cd Dundas Group (Undifferentiated)
- Silurian  
Gordon Limestone  
Ordovician



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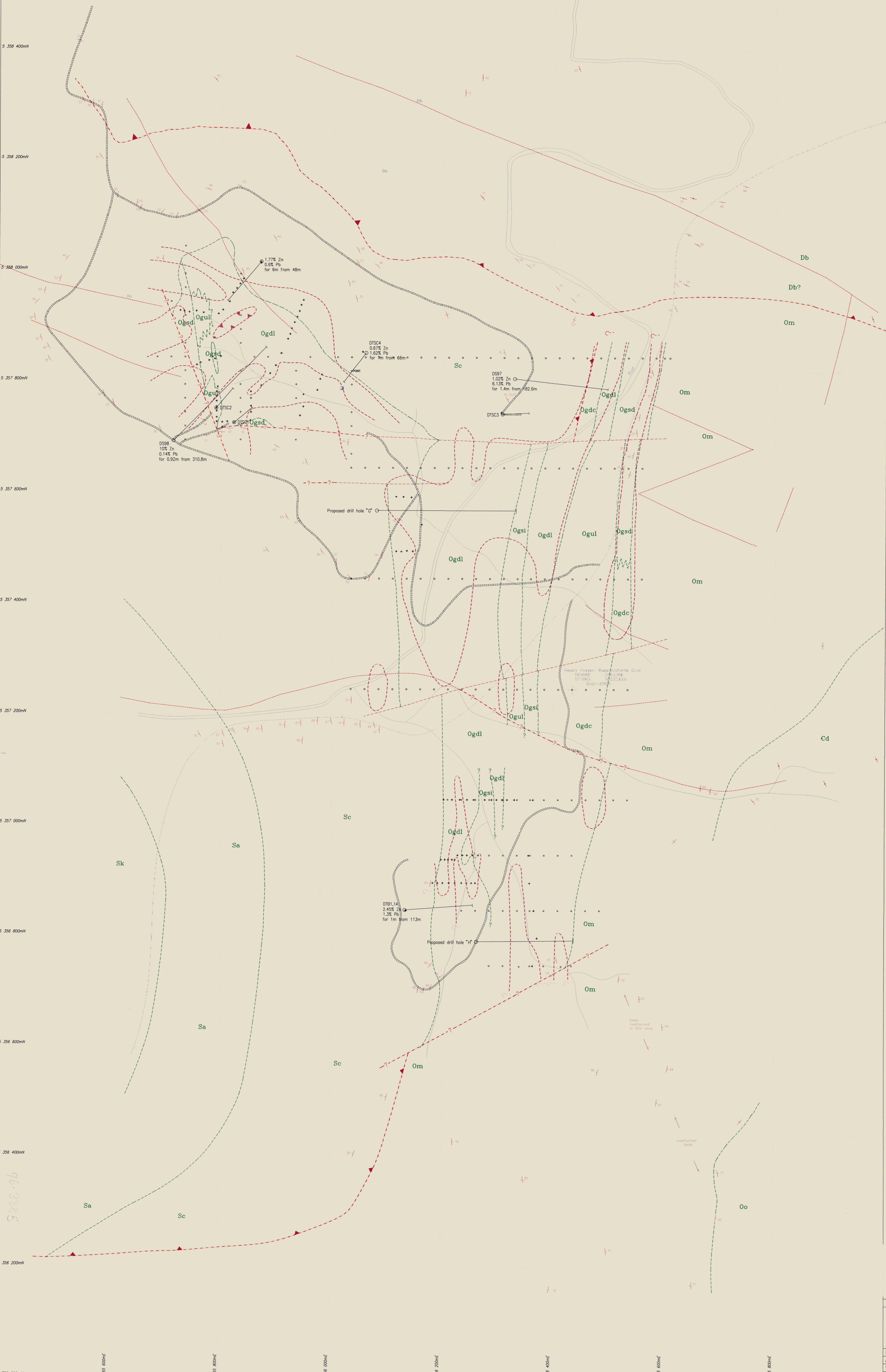
**96-3885**

ANNUAL REPORT 1996 - MT DUNDAS  
EL 4592 - TEAR S J

**CRA EXPLORATION PTY. LIMITED**

EL34/88 Zeehan 2 & EL45/92 Mt. Dundas  
Amber Creek &  
King Billy Prospects  
Geological Interpretation

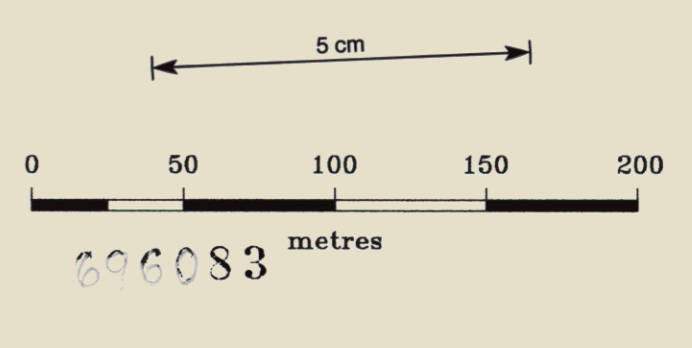
Author: Simon Fear Mapsheet Ref: 885-20  
Drawn: Tony Saragani File Name: 7v398.dwg  
Date: November 1997 Report No: 2187  
Scale: 1:5000 Plan No: 7v398



96-3885

NOTE :  
Mapping by Amoco (TCR 85-2457)  
MRT (Zeihan 1 : 50,000 sheet)  
CRAE (photointerpretation, wacker  
& air-core drilling)

- LEGEND**
- - - - - Creeks
  - ===== Tracks
  - Tramway
  - - - - - Possible fault
  - - - - - Thrust fault
  - - - - - Dip of bedding / foliation
  - - - - - Lithological boundary (approx.)
  - - - - - Air Photo Linears
  - o Diamond drill hole and trace
  - o Diamond drill hole and trace (proposed 1996)
  - o Aircore Drillhole
  - o Deep bedrock sample site (wacker)
  - o Significant Zn/Pb anomaly (>1000ppm Zn + Pb)
- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>Sk Keel Quartzite</li> <li>Sa Amber Slate</li> <li>Sc Cratty Quartzite</li> <li>Ogds Upper Dolomite Unit</li> <li>Ogdl Silstone Unit</li> <li>Ogul Undifferentiated Limestone</li> <li>Ogdl Undifferentiated Dolomite</li> <li>Ogmu Laminated Micrite Unit</li> <li>Ogou Colite Unit</li> <li>Ogds Siderite Unit</li> <li>Ogdc Dark Grey / Black Clay Unit</li> <li>Ogfc Ferruginous Clay Unit</li> <li>Ogms Massive Sulphide Unit</li> <li>Ogft Silty Transition Unit</li> <li>Ogfr Fault Zone</li> <li>Ogbr Carbonate Breccia</li> <li>Om Moina Sandstone</li> <li>Oo Owen Conglomerate</li> <li>Cd Dundas Group (undifferentiated)</li> </ul> | <ul style="list-style-type: none"> <li>Silurian</li> <li>Ordovician</li> <li>Carbon Limestone</li> <li>Cambrian</li> </ul> |
|---|--|



**96-3885**  
ANNUAL REPORT 1996 - MT DUNDAS  
EL 45/92 - TEAR S J

CRA EXPLORATION PTY LIMITED			
EL 45/92 MT DUNDAS			
Sunny Corner Prospect			
Geology and Drillhole			
Location Plan			
Ref.	SK55-5	Drawn	Hurstbridge Drafting
Author	S.Tear	Report	21807
Scale	1 : 2500	Plan No	IV 716
Date	14-11-95		

**Appendix VI**

**Sunny Corner Diamond Drill Logs**

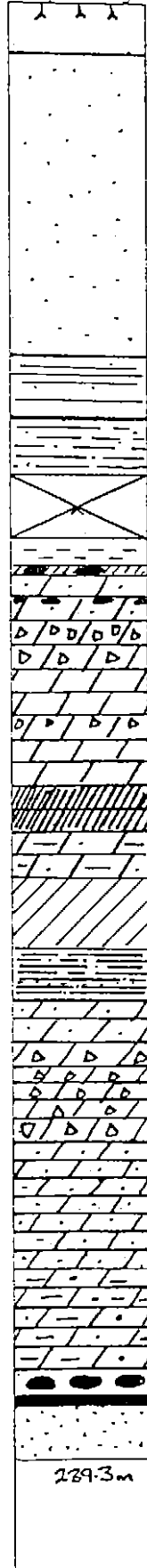
CRA EXPLORATION PTY. LIMITED  
 DRILL-HOLE SUMMARY LOG

HOLE NAME: DD95 D897 AMG EAST 366328 NORTH 5357810  
 PROSPECT SUNNY CORNER GRID EAST 65893 NORTH 57865  
 EL: MT DUNDAS EL45/92 RL DEPTH 239.3

DATE DRILLED: 27/3/95  
 LOGGED BY: S.J. TEAR  
 DRILLING CO.: DDTAS  
 DRILL TYPE: DIAMONDS  
 DRILL RIG: L738  
 LOC DRILL CORE: ZEEHAN

SURVEYS:					
DEPTH	AZIM (AMG)	DIP	DEPTH	AZIM (AMG)	DIP
0	96°	47°	238m	100°	53.5
53m	95.5°	47.5°			
103m	97°	52.0			
157m	97°	53.5°			
214m	94°	55.5°			

Graphic Log



OBJECTIVES OF HOLE:  
 To test full stratigraphy at Sunny Corner adjacent to suspected Ordovician syn-sedimentary fault. Also testing % lead Pb-Zn in clays in old workings at 'Upper Zone'.

LITHOLOGICAL SUMMARY:			
FROM	TO	FORM CODE	COMMENTS
0	8.0	Qha	Overburden; no recovery
8.0	57.6	Sc	White med grained sandstone; Crotty Quartzite
57.6	68.0	Sc	Mixed laminated + massive sandstones; Crotty Quartzite
68.0	92.3	Sc	Mixed sandstones, siltstones + shales; with clay units
92.3	94.0	Ogsd	Siderite Unit.
94.0	131.5	Ogud	Dolomite and clay zones; including dolomite breccia
131.5	138.9	Ogfb	Fault Zone
138.9	147.4	Ogud	Argillaceous dolomite
147.4	155.5	Ogfb	Fault zone / dark clays with breccia fragments.
155.5	163.2	Ogsi	Dolomitised argillaceous calcillite - ? Siltstone Unit
163.2	170.3	Ogdl	Dolomite - ? calcillite
170.3	186.5	Ogbr	Brecciated dolomite - veinny + clays
186.5	225.2	Ogdl	Dolomite with dark clays / fault zones.
225.2	227.1	Ogsd	Siderite and Clay zones.
227.1	230.2	Ogdc	Dark grey clay unit
230.2	239.3	Om	Moina Sandstone

MINERALISATION SUMMARY:		
FROM	TO	COMMENTS
89.5	91.8	0.71% Zn (0.44% Pb) in Dark grey clay; Pyrite Galena dissemin.
133	134	0.27% Zn (0.17% Pb) in Partially dolomitised calcillite + clays
182.6	184	1% Zn (6.13% Pb) in Dark grey clay gouge with reddened hematite zones within a 30m elevated zinc zone.

CONCLUSIONS:  
 DRILLHOLE ENCOUNTERED MAJOR ALTERATION namely DOLOMITISATION. THIS IS ACCOMPANIED BY MAJOR STRATIGRAPHIC THINNING PROBABLY DUE TO FAULTING. MAJOR BRECCIATION IS PRESENT WHICH IS ASSOCIATED WITH ELEVATED IRON + ARSENIC + MANGANESE VALUES.  
 BEDDING @ 19m 70° to c/a @ 114m 60° to c/a @ 1140m 45° to c/a @ 235m 75° to c/a.

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

SHEET No. 1 of 9

TENEMENT NAME Sunny Corner No. ....

PLAN - MAP REFERENCE.....

CO-ORDINATES 366328 E AZIMUTH 084° mag. DRILLERS Diana Dawing COMMENCED 27/3/95 DEPTH 239.3 HOLE No. D597  
RL COLLAR 5357810 N INCLINATION 47° DRILL TYPE LY38 COMPLETED 28/4/95 CASING LEFT..... DPO No(s) 77693

DEPTH		Core Rec. 1/2	RQ DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)			
From (M)	To (M)										REC FROM	REC TO	REC (M)	REC %
0	8	0			Overburden						8	11.5	2	57
8	19.5				Sc White gritty sandstone with diffuse zones of hematite alteration	Hematite alteration Bedding 70° E c/a.					11.5	14.5	1.5	50
											14.5	17.5	1	33
											17.5	20.5	2.7	90
											20.5	23.5	1.6	53
											23.5	26.5	2.6	87
19.5	23.2				Sc Gritty sandstone	limonite alteration					26.5	29.0	1.1	44
											29.0	32.5	1.4	40
23.2	25.0				Sc Gritty sandstone; weakly banded locally conglomeratic; with clay gouges	minor qtz veining 30° E c/a					32.5	35.5	1.5	50
											35.5	38.4	1.7	59
											38.4	41.5	3.1	100
											41.5	44.4	0.7	24
25.0	28.8				Sc White gritty sandstone with pink hematite zones	Hematite alteration					44.4	47.6	1.5	47
											47.6	50.3	2.2	81
											50.3	53.5	3.2	100
28.8	32.5				Sc Yellow gritty sandstone with shearing						53.5	56.3	2.8	100
											56.3	59.9	2.2	85
											59.9	61.8	2.9	100
32.5	35.5				Sc Clay gouge						61.8	65.3		
35.5	38.0				Sc Fine grained waxy quartzite base 30cm a clay gouge	limonite alteration								
38.0	45.2				Sc Fine grained slightly varved	Bedding 85°-90° E c/a.								
45.2	51				Sc weathered zone - sand + clay possibly fault zone.									
51	57.6				Sc med grained grey qtz sandstone minor quartz veining.	Bedding 75° E c/a.								

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

SHEET No. 2

TENEMENT NAME SUNNY CORNER No. 29

CO-ORDINATES 366328E AZIMUTH 084° MAG DRILLERS DD TAS COMMENCED 27.3.95 DEPTH 239.3m HOLE No. DS97  
RL COLLAR 5357810N INCLINATION 47° DRILL TYPE LY 38 COMPLETED 28.4.95 CASING LEFT ..... DPO No(s) .....

PLAN - MAP REFERENCE .....

DEPTH		Core Rec. DATA	RG	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)			
From (M)	To (M)										Sec (Feet)	Sec (To)	Rec (M)	Sec %
57.6	60.3			Sc	Laminated quartz siltstones and sandstones with shale laminae	Bedding 70° E c/A Sandstones locally pyritic 1-5% pyrite -> dissems + blebs.					65.3	68.4	2.4	77
											68.4	71.3	1.9	66
											71.3	72.6	0.6	55
											72.6	73.7	0.45	41
60.3	62.8			Sc	Laminated sandstone - sheared top with bioturbation.						73.7	74.5	0.3	100
											74.5	77.5	0.3	10
											77.5	80.5	0.1	3
62.8	63.0			Sc	Fault zone - clay gouge.						80.5	82.5	0.1	3
											82.5	84.7	0.1	8
63.0	65.3			Sc	Massive quartz arenite; siliceous in places.						84.7	85.7	0.4	40
											85.7	87.9	0.35	16
											87.9	89.5	0.6	38
65.3	65.6	78		Sc	Sandstone with rounded pyrite blebs or clots up to 5cm or a fine conglomerate		5465501	65.3	66.9		89.5	91.8	0.9	39
											91.8	92.5	0.56	90
											92.5	94	0.7	45
											94	94.7	0.5	71
65.6	68.0	78		Sc	Massive quartz arenite with pyritic fine conglomeratic zones 10cm thick and 68.7m.	Bedding 70° E c/A.					94.7	95.5	0.24	69
											95.5	97.5	1.04	92
											97.5	99.4	0.86	45
											99.4	101.6	0.67	30
68.0	77.50	20		Sc	Mixed sequence of sandstone, siltstone and shales; locally bioturbated or laminated. Sandstone dominant. Minor fine grained conglomerate bands.						101.6	103	1.3	93
											103	106	2.25	96
											106	108.6	2.3	88
											108.6	110.1	0.9	60
											110.1	111.5	1.0	69
											111.5	112.7	0.85	71
											112.7	114.3	0.87	54
77.50	83.50	3	5X	Sc	Blocky broken core; core loss. Fragments of sandstone.						114.3	116.2	1.5	79
							5465506	80.5	83.5		116.2	117.7	1.0	70
											117.7	119.7	0.6	40
											119.7	120.6	0.55	39

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

SHEET No. 3  
TENEMENT NAME SUNNY CORNER No. 259

CO-ORDINATES 366328 E AZIMUTH 084 MAC DRILLERS DDTAS COMMENCED 27.3.95 DEPTH 239.3m HOLE No. DS17  
RL COLLAR 5357810N INCLINATION 47° DRILL TYPE LY38 COMPLETED 28.4.95 CASING LEFT ..... DPO No(s) .....

DEPTH		Core Rec. %	RQ DM	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)														
From (M)	To (M)																								
83.5	84.7	8	5X	Ogud	Dolomite fragments - Boddy broken core.		5465507	83.5	84.7																
84.7	85.7	40	5	Ogdc	Dark grey clay zone	Pyrite in clay.	8	84.7	85.7																
85.7	87.90	35	5X	Ogud	Dolomite (+/- quartzite fragments)	Minor galena and pyrite.	9	85.7	87.9																
87.9	91.5	38	5	Ogdc	Clay gouge? - DK grey/grey clay	Disseminations of pyrite and galena	3465510 11	87.9 89.5	89.5 91.8																
91.5	92.30	80	5X	Ogfc	v. Broken core; Argillaceous shaly unit, well broken almost a clay	with colloidal veining	12	91.8	92.3																
92.3	92.65	100		Ogsl	Siderite alteration of limestone		13	92.3	94.0																
92.65	94.00	45		Ogsl	Brecciated limestone possibly siderite, <del>was</del>	with colloidal veining with acc galena blocks or veins																			
94.00	94.50	70	5	Ogud	Clay zone with brecciated dolomite fragments	Possible siderite alteration	14	94.0	94.6																
94.5	102.3	54		Ogud	Brecciated limestone with minor clay zones - dolomitised	Siderite altn; galena blocks in colloidal veins eg 95.5m	5465515	94.6	95.5																

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

SHEET No. 5  
of 9

TENEMENT NAME SUNNY CORNER No. 29  
PLAN - MAP REFERENCE.....

CO-ORDINATES 366328E AZIMUTH 084 MAG DRILLERS DD TAS COMMENCED 27.3.95 DEPTH 239.3m HOLE No. DS97  
RL COLLAR 5357810N INCLINATION 47° DRILL TYPE LY 38 COMPLETED 28.4.95 CASING LEFT..... DPO No(s).....

DEPTH		Core Rec. %	RC DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)										
From (M)	To (M)										REC (FM)	REC (TV)	REC (SM)	REC (%)							
126.6	130.0	16	5X	Qnd	Extensively dolomitised limestone with calc/dol veining and brecciation. Badly broken core / core loss.	+/- Sidinks?	5465537	127.0	129.5												
							37	129.5	130.6					120.6	122.4	124	124	.45	.45	.25	
														124	125.2			.1	.1	.9	
														125.2	127			.7	.7	.39	
														127	128.5			.1	.1	.6	
														128.5	129.5			.1	.1	.10	
130.0	131.5	4H		Qnd	Dark grey clay zone with brecciated limestone/dolomite fragments.		31	130.6	131.5					129.5	130			.15	.15	.30	
														130	130.6			.28	.28	.48	
														130.6	131.5			.35	.35	.40	
														131.5	133			1.2	1.2	.80	
131.5	137.9	4B	5X	Qcfs	Partially dolomitised and fractured fine grained calcarenite and clay - rotted core - fault zone. Badly broken core.		54655 40	131.5	133.0					133	134.2			.7	.7	.58	
							41	133.0	134.0					134.2	137			.35	.35	.13	
							42	134.0	137.0					137	138			.3	.3	.30	
							43	137.0	139.0					138	139			.35	.35	.35	
														139	140.5			1.1	1.1	.79	
														140.5	141.2			.7	.7	1.00	
138.9	141.0	90		Qnd	Med fine grained slightly argillaceous calcarenite; weakly dolomitised; broken core.	bedding 45° to c/a.	44	139	140.5					141.2	142.1			.7	.7	.70	
														142.1	143.4			.6	.6	.55	
														143.4	144			.4	.4	.66	
														144	145			.4	.4	.40	
														145	146.6			1.0	1.0	.63	
141.0	142.1	70		Qnd	Dark grey limestone - argillaceous and partially fault altered with accompanying clays.		45	140.5	141.2					146.6	148			.8	.8	.56	
							46	141.2	142.1					148	149.6			.75	.75	.58	
														149.6	151			.6	.6	.43	
														151	151.7			.5	.5	.71	
142.1	142.7	70		Qnd	Calc/dol veining/brecciation - fault zone with clays		47	142.1	143.25					151.7	153			.4	.4	.31	
														153	154.3			.45	.45	.58	
														154.3	157.2			.4	.4	.44	
142.7	145.0	50		Qnd	Broken core - rotted rock (unweathered) mainly clays (sandy) with argillaceous	Bedding 45° to c/a.	48	143.25	144					157.2	157			1.5	1.5	.83	
							49	144	145					157	159.9			2.7	2.7	.93	
							5465550	145	146.6					159.9	163			2.5	2.5	.81	

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

SHEET No. 6

TENEMENT NAME Sunny corner No. 29

CO-ORDINATES 366328E AZIMUTH 084 MAG DRILLERS DDTAS COMMENCED 27.3.95 PLAN - MAP REFERENCE.....  
DEPTH 239.3m HOLE No. DS97

RL COLLAR 5357810N INCLINATION 47° DRILL TYPE LY3S COMPLETED 29.4.95 CASING LEFT..... DPO No(s).....

DEPTH		Core Rec. %	RQ DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)												
From (M)	To (M)																						
145.0	147.4	60		Ogd	Siliceous unit; mainly dark grey gritty clays and silt (dolomite) limestones; mainly calcarenites +/- argillaceous material.	Foliate 45° to 1A.	5465551	146.6	148														
147.4	155.5	48		Ogfz	Dark grey clays with brecciated rock fragments - fault zone. &	locally non-calcareous otherwise weakly calcareous - dolomitized.	52	148	149.6														
							53	149.6	151.0														
							54	151.0	153.0														
							55	153.0	154.3														
155.5	160.7	87		Ogsi	Dark grey bi-turbated argillaceous calcisiltite with disrupted bedding. Compact core completely dolomitized; locally recrystallised and locally brecciated.	Minor dolomite vein zones - irregular veining	56	154.3	155.4														
							57	155.4	157.0														
							58	157	158.5														
							59	158.5	159.9														
							5465560	159.9	161.4														
160.7	163.2	80		Ossi	Med grained dark grey equigranular non calcareous carbonate rock, possibly a dolomitized calcisiltite or the Silstone Unit.		61	161.4	163.0														
							62	163.0	164.3														
							AB																
163.2	168.3	75		Osd1	Grey to light grey veined carbonate - highly altered dolomitized with	localised zones of major veining + brecciation (dolomite veins)	63	164.3	165.85														
							64	165.85	166.9														
							65	166.9	168.0														
168.3	168.35	100		Ogis1	Clay gouge 60° to c/a.		66	168.0	169.5														
168.35	170.3	55			Dark grey dolomitised calcisiltite with clay veins	localised veining - dolomite	67	169.5	171.4														

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

SHEET No. 7

TENEMENT NAME Sunny Corner No. 99

PLAN - MAP REFERENCE

CO-ORDINATES 366328E AZIMUTH 084° MAG DRILLERS DDTAS COMMENCED 27.3.95 DEPTH 239.3 HOLE No. DS97  
RL COLLAR 5357810N INCLINATION 47° DRILL TYPE LY38 COMPLETED 28.4.95 CASING LEFT DPO No(s)

DEPTH		Core Rec. %	RR DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)				
From (M)	To (M)										SEC (From)	SEC (To)	REC (M)	REC (%)	
170.3	175.9	50	SX	Ogbr	Major zone of dolomitic veining and brecciation. It grey carbonate - U. altered locally brecciated; broken core	Minor galena in dolomite veins	5465568	171.4	173.1			163	164.3	.9	69
							69	173.1	174.5			164.3	167.2	2.1	72
							70	174.5	175.9			167.2	168.3	.9	81
												168.3	169.5	.8	66
												169.5	171.4	.9	47
												171.4	173.1	1.3	66
175.9	179.3	69		Ogbr	Major zone of veining and brecciation - dolomitic	brecciated zones of reddened carbonate - hematite staining	71	175.9	176.8			173.1	174.5	.7	50
						Galena in veining.	72	176.8	177.8			174.5	175.9	.6	43
						Reddened hematitic almost Jasper-like zones	73	177.8	179.4			175.9	176.8	.6	66
179.3	186.5	9		Ogbr	Clay gouge with angular carbonate fragments		74	179.4	180.5			176.8	179.7	2.1	72
							75	180.5	182.2			179.7	181	.6	46
186.5	190.0	10		Ogdl	Dolomitic limestone - badly broken core.		76	182.2	184			181	182	.4	40
							77	184	185.5			182	184	.3	21
							78	185.5	188.5			184	185.5	.25	16
190.0	191.3	42		Ogdl	Dark grey ? dolomitic sand		79	188.5	190.0			185.5	186.5	0	0
							5465580	190.0	191.3			186.5	186.9	.1	25
191.3	202	1		Ogdl	Dark grey dolomitic limestone - badly broken core with abundant core loss.	Possible sideritic alteration	81	191.3	199			186.9	188.5	.1	7
												188.5	189.2	.1	14
												189.2	190	.05	6
												190	191.3	.55	42
202	206.1	7		Ogdl	Dk grey dolomite + clay zone - Dark brown areas	Possible pyrite; pyritic at base end.	82	202	205			191.3	192.9	.05	3
							83	205	206.1			192.9	195.9	.05	2
												195.9	199	.05	1
206.1	208	53		Ogdl	lt grey / grey / white dolomite poor recovery	? Veining: Galena (fine grained) and pyrite present.	84	206.1	208			199	202	0	0
												202	205	.15	5
												205	206.1	.12	10
												206.1	208	.1	53
208	209	35		Ogdl	Dk grey dolomitic limestone with black clay.	Possible sideritic alteration.	85	208	209.7			202	205	.35	35
												205	206.1	.3	43
												206.1	207.7	.7	58

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

SHEET No. 2  
TENEMENT NAME Sunny Corner No. 2  
PLAN - MAP REFERENCE

CO-ORDINATES 366329E AZIMUTH 084° MAG DRILLERS DDTAS COMMENCED 27.3.95 DEPTH 239.3m HOLE No. D597  
RL COLLAR 4535780M INCLINATION 47° DRILL TYPE LY 38 COMPLETED 28.4.95 CASING LEFT DPO No(s)

DEPTH From (M)	To (M)	Core Rec. %	RQ DTM	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)			
											Agc Fe43	Agc TO	Agc (14)	Agc %6
209.0	212.1	48			Agd! De grey extensively dolomitised calc. blocks; clay breccia zones 10cm @ 210.7m.	+/- siderite	5465586	209.7	210.9		210.5	212.1	55	46
							84	210.9	212.1		212.1	213.6	1.2	80
											213.6	214.5	5	55
											214.5	215.3	3	38
212.1	213.3	60			Agd! Black clay zone		88	212.1	213.1		215.3	217	85	50
							87	213.1	213.6		217	218.2	9	59
212.3	213.6	100			Agd! White dolomitc breccia vein						218.2	219.5	1	8
											219.5	220	85	70
213.6	214.5	55			Agd! Black clay zone		5465590	213.6	215.3		220	221	2	20
											221	223	75	38
214.5	215.3	38			Agd! Brecciated dolomitc limestone		91	215.3	217.0		223	223.8	35	44
							92	217.0	218.2		223.8	225.2	4	29
215.3	218.2	54			Agd! Black clay zone with brecciated dolomite fragments	dolomitc veining					225.2	226	56	70
											226	229	2.8	93
											229	230.2	65	55
218.2	223.0	34			Agd! Dolomitc limestone - possible silstone (argillaceous)	see siderite dolomitc veining	93	218.2	220		230.2	231.5	74	57
							94	220	221		231.5	232	4	80
							95	221	223		232	232.6	3	50
223.0	225.2	37			Agd! Black clay with dolomitc breccia fragments		96	223	225.2		232.6	233.6	65	65
											233.6	234.5	8	88
											234.5	235	25	50
											235	235.8	1.6	89
225.2	226.3	60			Agd! Black and grey clay zone	possible siderite alteration Dolomitc veins 70% c/a.	97	225.2	226.0		235.8	237.5	45	64
											237.5	238.4	5	55
											238.4	239.1	4	57
226.3	229.0	93			Agd! Uniform looking black/dark grey clay		98	226.0	227.1		239.1	239.2	1	100
							99	227.1	229.0					
229.0	232.6	67			Om Med coarse grained quartzite cross bedded bedding 50° to 60° c/a	localised zones of pyrite blocks	5465600	229	230.2					
							1	230.2	231.5					
							2	231.5	232.6					

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

SHEET No. 9  
No. 99

TENEMENT NAME Sunny corner  
PLAN - MAP REFERENCE .....  
DEPTH 239.3 HOLE No. DS17  
CASING LEFT ..... DPO No(s) .....

CO-ORDINATES 366328E AZIMUTH 084° MAG DRILLERS DD TMS COMMENCED 27.3.95  
RL COLLAR 5357810N INCLINATION 47° DRILL TYPE LY 38 COMPLETED 28.4.95

DEPTH		Core Rec. %	RQ DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by .....													
From (M)	To (M)																							
2326	2333	65		Om	Dark grey medium grained quartzite			38246																
2333	2365	79		Om	Lt grey (pink) <del>to</del> sandstone / quartzite; bedding 70° to 80° S. S. of N. E. dip. Locally fine disseminated pyrite and pyrite blebs usually in sandstones. Interspersed silts (Buff/green)	Hamatebr. alt.																		
2365	2313	59		Om	Grey quartzite with locally fine conglomerates		5465603	236.8	238.4															
					END OF HOLE	239.3 m.																		

696094

			77693	Ag	Al	As	Ba	Ca	Co	Fe	K	Mg	Mn	Pb	Zn	
DS97	65.3	72.3	5465501	-3	1.94	10	189	-1.05	8	1.5	1.97	1	17	143	103	
DS97	72.6	75.7	5465502	-3	1.95	-5	190	-1.05	-5	1.54	1.96	11	34	133	172	
DS97	73.7	74.5	5465503	-3	1.57	-5	141	-1.05	8	1.59	1.76	1.07	13	112	153	
DS97	74.5	77.5	5465504	-3	1.47	-5	132	-1.13	10	1.55	1.7	1.12	31	130	64	
DS97	77.5	80.5	5465505	2.5	4.15	19	233	-1.05	22	1.84	1.94	1.13	25	591	723	
DS97	80.5	83.5	5465506	.5	.91	7	71	1.06	11	1.51	1.44	1.04	43	73	131	
DS97	83.5	84.7	5465507	2	3.12	19	195	1.11	15	5.29	1.54	1.22	1540	414	953	
DS97	84.7	85.7	5465508	8	7.52	66	434	.1	48	3.12	3.69	1.41	53	2470	3600	
DS97	85.7	87.9	5465509	1.7	2.43	10	164	1.05	17	1.63	1.17	1.12	18	557	790	
DS97	87.9	89.5	5465510	6.9	6.81	57	351	-1.05	49	2.66	3.3	1.42	26	5000	3490	
DS97	89.5	91.8	5465511	6.2	9.25	60	412	.1	46	3.05	4.38	1.57	99	4350	7050	3
DS97	91.8	92.3	5465512	8.1	9.18	34	411	.2	39	3.7	5.07	1.63	581	3490	5300	2.34
DS97	92.3	94	5465513	.5	1.83	26	104	4.16	-5	25.7	.94	2.24	10700	137	572	
DS97	94	94.6	5465514	2	3.45	19	174	10.5	19	8.54	1.74	6.06	3150	618	1790	
DS97	94.6	95.5	5465515	2	1.51	31	74	16.2	6	4.59	1.77	9.38	1910	354	553	
DS97	95.5	97.5	5465516	.6	2.92	29	155	12.9	8	7.73	1.5	7.32	3100	225	352	
DS97	97.5	99.4	5465517	1.8	1.92	21	125	13.2	3	11.5	1.01	7.43	4800	419	429	
DS97	99.4	101.6	5465518	1.6	2.29	14	126	17	9	2.71	1.18	9.49	1160	199	211	
DS97	101.6	103	5465519	1.1	.77	9	55	20.6	-5	2.27	.4	11.5	1650	140	184	
DS97	103	104.5	5465520	.6	.4	-5	24	20.9	-5	1.74	.17	11.8	1270	56	453	
DS97	104.5	106	5465521	4.8	1.35	15	24	21.2	85	1.98	1.15	11.6	1260	279	128	
DS97	106	107.2	5465522	-3	.52	18	40	19.9	-5	2.94	.28	10.8	1840	37	75	
DS97	107.2	108.8	5465523	.5	.5	11	39	18.9	-5	4.18	.23	10.3	2440	149	110	
DS97	108.8	110.1	5465524	.9	1	21	74	19.8	-5	1.88	.52	11	1060	439	329	
DS97	110.1	111.5	5465525	.7	.79	17	52	19.4	-5	1.17	.4	11.1	777	213	223	
DS97	111.5	112.7	5465526	1.3	.51	-5	33	20.7	-5	1.24	.24	11.8	867	39	110	
DS97	112.7	113.7	5465527	.8	.48	12	35	21.4	6	1.33	.24	12.4	893	93	124	
DS97	113.7	115.2	5465528	.5	.17	8	28	21.1	-5	1.43	.1	12	1070	148	105	
DS97	115.2	116.8	5465529	-3	.22	-5	18	20.8	-5	1.33	.12	11.8	928	72	69	
DS97	116.8	117.8	5465530	1.3	.78	9	59	19.7	-5	3.3	.41	10.3	2180	307	750	
DS97	117.8	119.7	5465531	.7	.58	19	38	18.6	5	4.14	.31	6.62	3000	256	352	
DS97	119.7	120.6	5465532	-3	.93	16	66	19	15	4.61	.49	8.84	3260	133	251	
DS97	120.6	122.4	5465533	-3	3.27	30	178	12.6	6	5.91	1.69	6.75	3000	77	141	
DS97	122.4	124	5465534	.7	3.26	29	202	11.5	5	8.16	1.71	6.03	3940	30	53	
DS97	124	125.2	5465535	-3	1.66	25	79	15.3	6	5.1	.34	8.58	2500	56	69	
DS97	125.2	127	5465536	-3	1.55	19	68	15.7	7	4.52	.82	7.64	2250	34	36	
DS97	127	129.5	5465537	.6	1.92	6	93	16.2	5	5.52	.97	6.68	2870	65	72	
DS97	129.5	130.6	5465538	.5	1.33	29	75	15.4	-5	9.08	.69	5.19	4730	61	35	
DS97	130.6	131.5	5465539	.9	1.93	29	91	16.3	9	2.2	1.01	8.82	751	371	123	
DS97	131.5	133	5465540	.7	2.23	26	117	12	10	5.15	1.16	6.31	2330	769	374	
DS97	133	134	5465541	2.2	3.02	22	147	11.8	12	4.55	1.84	5.59	2260	1730	2690	
DS97	134	137	5465542	7.5	2.12	-5	121	15.6	1390	2.55	1.08	6.31	1170	126	1550	
DS97	137	139	5465543	.5	1.47	25	86	16.2	38	5.26	.78	9.15	2470	149	401	
DS97	139	140.5	5465544	.7	3.11	15	167	14.7	8	2.36	1.62	7.55	771	50	117	
DS97	140.5	141.2	5465545	.8	3.67	17	183	12.3	11	2.9	1.63	6.33	1020	128	174	
DS97	141.2	142.1	5465546	1.7	3.48	12	166	13.1	11	4.22	1.73	5.9	2020	347	309	
DS97	142.1	143.25	5465547	1.2	1.23	-5	36	17.2	-5	2.25	.64	9.37	1600	122	196	
DS97	143.25	144	5465548	-3	4.36	10	229	9.45	6	6.94	2.18	4.87	3260	70	123	
DS97	144	145	5465549	-3	3.11	16	160	12.2	15	6.33	1.57	6.39	2890	110	298	
DS97	145	146.6	5465550	.9	3.77	25	210	7.54	16	9.69	1.88	3.89	4530	114	248	
DS97	146.6	148	5465551	.6	3.49	29	188	10.4	7	9.18	1.75	5.4	4550	614	555	
DS97	148	149.6	5465552	1.3	4.34	10	235	10.3	8	5.88	2.15	5.34	2590	137	268	
DS97	149.6	151	5465553	2	3.6	18	188	12.7	10	4.33	1.81	6.61	2100	221	427	
DS97	151	153	5465554	.9	3.1	12	152	13.6	7	6.36	1.51	6.91	3320	289	402	
DS97	153	154.3	5465555	.8	2.93	15	160	11.9	5	9.37	1.47	6	4780	61	116	
DS97	154.3	155.4	5465556	1	3.86	15	203	11.8	8	4.79	1.92	6.03	2280	100	183	
DS97	155.4	157	5465557	1.4	3.5	20	185	13.7	8	4.55	1.72	6.95	2450	91	203	
DS97	157	158.5	5465558	2.5	3.02	15	154	14.7	7	3.49	1.49	7.36	2100	307	568	
DS97	158.5	159.9	5465559	1.7	2.72	19	139	13.5	7	3.75	1.31	6.62	2280	150	324	
DS97	159.9	161.4	5465560	1.8	2.78	15	143	15.4	-5	3.58	1.36	7.51	2230	215	298	
DS97	161.4	163	5465561	1.1	4.12	25	226	12	6	3	2.02	5.96	1570	146	457	
DS97	163	164.3	5465562	1.6	2.95	-5	134	15.8	-5	4.36	.1	7.29	2680	125	307	
DS97	164.3	165.85	5465563	.5	1.61	8	85	19.1	6	3.39	.78	9.35	2150	94	199	
DS97	165.85	166.9	5465564	-3	.74	-5	61	18.3	-5	3.32	.36	9.68	2290	65	163	
DS97	166.9	168	5465565	1.1	.38	11	31	19.5	-5	5.28	.2	9.77	2540	90	167	
DS97	168	169.5	5465566	1.5	2.69	7	155	16.2	-5	3.55	1.31	8.17	2220	293	410	
DS97	169.5	171.4	5465567	2.5	1.47	11	95	17.9	-5	4.72	.72	8.62	3170	133	320	
DS97	171.4	173.1	5465568	1.6	.61	24	47	19.3	-5	5.36	.51	8.95	4040	320	364	
DS97	173.1	174.5	5465569	1.3	.33	43	36	19.4	-5	4.57	.35	9.08	3450	1940	394	

DS97	173.1	174.5	5465569	1.5	.82	43	46	19.4	-3	4.97	.25	9.02	3490	1940	394	
DS97	174.5	175.9	5465570	2.4	.63	11	49	19.8	-5	5	.52	9.11	3560	1810	661	
DS97	175.9	176.8	5465571	1.2	.36	17	146	20.7	11	4.56	.17	9.73	4870	1270	1050	
DS97	176.8	177.8	5465572	5.9	.99	17	120	18.9	20	4.86	.48	9.2	4480	4860	1170	
DS97	177.8	179.4	5465573	2.9	.45	-3	334	20.4	14	4.6	.22	9.84	5910	4160	1750	
DS97	179.4	180.5	5465574	8.5	1.79	55	218	18.2	34	4.41	.77	8.76	4430	7360	2270	
DS97	180.5	182.2	5465575	4.7	1.18	207	105	19.7	13	5.45	.54	8.91	6710	1610	1950	
DS97	182.6	184	5465576	21.7	.75	57	272	18.4	182	5.79	.53	7.75	8420	61300	10200	2.55
DS97	184	186.5	5465577	31.3	7.06	35	442	12.2	115	3.35	3.19	5.83	3770	7940	5170	X
DS97	186.5	188.5	5465578	7.9	5.06	15	343	14.3	34	3.17	2.49	6.94	3340	1820	2140	
DS97	188.5	190	5465579	4.5	4.59	20	313	15.9	12	3.29	2.26	7.8	3710	1060	1650	
DS97	190	191.3	5465580	3.7	1.45	5	98	19	30	2.46	.7	10.3	1840	2040	5200	X
DS97	191.3	199	5465581	4.6	2.63	8	173	15.8	44	2.39	1.31	8.11	2080	1100	1060	
DS97	202	205	5465582	1.4	2.33	12	153	14	6	8.31	1.15	7.26	4500	269	986	
DS97	205	206.1	5465583	7.6	1.99	53	222	14.6	29	6.71	.97	7.72	2530	1410	1890	
DS97	206.1	208	5465584	13.7	.72	40	149	18.2	181	7.75	.35	8.65	3280	5550	1670	
DS97	208	209.7	5465585	2	2.44	36	171	11.4	-5	5.49	1.23	5.76	2760	234	574	
DS97	209.7	210.9	5465586	.6	1.68	7	102	17.3	-5	3.41	.85	9.16	1490	100	123	
DS97	210.9	212.1	5465587	-1.5	1.76	-5	95	18.4	7	1.97	.91	9.68	684	210	192	
DS97	212.1	213.1	5465588	-1.5	3.28	30	151	12.5	20	4.39	1.65	6.36	2040	205	188	
DS97	213.1	213.6	5465589	.7	.69	10	27	17.6	-5	3.96	.31	8.21	3250	43	66	
DS97	213.6	215.3	5465590	1.1	2.57	20	110	15.8	9	3.36	1.35	7.63	1450	205	157	
DS97	215.3	217	5465591	1	1.43	12	55	18.4	11	3.04	.61	8.74	1040	182	419	
DS97	217	218.2	5465592	.7	.66	25	26	18.7	7	4.01	.34	8.94	1700	166	318	
DS97	218.2	220	5465593	.8	1.61	19	62	17.8	5	3.33	.34	8.18	1650	55	198	
DS97	220	221	5465594	1.4	2.11	31	77	16.9	6	3.25	1.11	7.96	1460	84	366	
DS97	221	223	5465595	1.3	1.2	8	42	18.7	12	1.81	.64	9.33	734	132	240	
DS97	223	225.2	5465596	2.3	3.01	37	111	15.1	41	3.47	1.57	7.24	1160	455	331	
DS97	225.2	226	5465597	.7	4.04	22	176	3.38	13	14.2	2.12	1.65	5900	153	510	
DS97	226	227.1	5465598	1.4	5.32	63	209	.56	31	14.3	2.82	.5	4080	349	1500	
DS97	227.1	229	5465599	2.4	6.13	31	293	.14	27	1.93	3.17	.42	76	250	1160	
DS97	229	230.2	5465600	3.5	3.41	19	180	.31	28	1.33	1.72	.34	76	147	631	
DS97	230.2	231.5	5465601	-1.5	1.54	-5	80	-1.05	11	.97	.8	.1	91	54	147	
DS97	231.5	232.6	5465602	-1.5	1.37	-5	70	-1.05	7	.9	.71	.09	35	21	64	
DS97	236.8	238.4	5465603	-1.5	2.07	-5	112	-1.05	9	.52	1.04	.11	23	53	157	

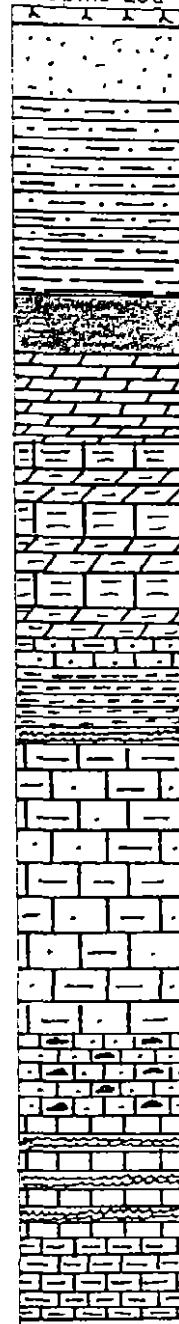
DRILL-HOLE SUMMARY LOG

HOLE NAME: DD95DS98      AMG EAST 365725 NORTH 5357671  
 PROSPECT: SUNNY CORNER      GRID EAST 65290 NORTH 57726  
 EL: MT. DUNDAS      EL45/92      RL      DEPTH 345.7m

DATE DRILLED: 4/5/95  
 LOGGED BY: S.J. TEAR  
 DRILLING CO.: DIAMOND DRILLING TAS.  
 DRILL TYPE: DIAMOND  
 DRILL RIG: LY38  
 LOC DRILL CORE: ZEEHAN

SURVEYS:					
DEPTH	AZIM (AMG)	DIP	DEPTH	AZIM (AMG)	DIP
0	45°	45°	300m	46.5°	48°
50m	46°	47.5°			
104m	46°	48°			
149m	47°	49.5°			
198m	45°	51.5°			
250m	47°	50.5°			

Graphic Log



OBJECTIVES OF HOLE:  
 DIAMOND DRILL TEST OF UPPER SANDSTONE / LIMESTONE CONTACT - BEST  
 AIR-CORE RESULT 15m @ 3.6% Zn. DEPENDING ON LIMESTONE THICKNESS  
 WILL TEST LOWER SANDSTONE / LIMESTONE CONTACT

LITHOLOGICAL SUMMARY:

FROM	TO	FORM CODE	COMMENTS
0	4.5	Qpa	Overburden; no recovery
4.5	24.0	Sc	Massive med grained sandstone - Crotty Quartzite
24.0	61.1	Sc	Mixed quartzites and silts + shales - Crotty Quartzite
61.1	75.15	Sc	Dark grey ?sheared quartzites and clays - Crotty Quartzite
75.15	90.7	Ogdc	Dark grey clay unit
90.7	114.7	Ogul	Upper Dolomite Unit with clay zones
114.7	166.0	Ogul	Rotted argillaceous limestone with zones of core loss / clays
166.0	173.7	Ogul	Argillaceous calcarenites
173.7	189.5	Ogsi	Siltstone Unit.
189.5	193.5	Ogmu	Laminated micrite unit
193.5	269.8	Ogul	Argillaceous bioclastic calcarenites with minor fault zones
269.8	286.5	Ogul	V: distinctive bioturbated fine grained argillaceous calcarenite with ?stromatolites; micrite nodules + bioclasts. Dolomitic
286.5	323.7	Ogul	Micritic calcarenites with laminated units + cavities + faults
323.7	345.7	Ogul	Faulted zone of argillaceous calcarenites and clays

345.7m

MINERALISATION SUMMARY:

FROM	TO	COMMENTS
310.8	311.72	10% Zn as sphalerite ?vein related; iron-rich sphalerite
313	313.92	6.2% " " " " " "
67.8	69.5	0.56% Zn as sphalerite; shear related crotty quartzite - ?shale
75.15	76.5	0.57% Zn as sphalerite; dark grey clay ?quartzite or limestone?
314.5	316	0.55% Pb as galena blebs (<1cm) in limestone.

CONCLUSIONS:

Sphalerite mineralisation found at surface and in air-core drilling is represented as a 32m wide anomalous zone of <sup>weak</sup> zinc mineralisation across the ?sheared Upper Sandstone (limestone contact).

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

TENEMENT NAME SUNNY CORNER SHEET No. 1 of 14  
No. 14

CO-ORDINATES 365725 E AZIMUTH..... DRILLERS DDTAS COMMENCED 3.5.95  
RL COLLAR 5357671 N INCLINATION 45° DRILL TYPE L738 DDM COMPLETED 6.6.95  
PLAN - MAP REFERENCE..... DEPTH 345.7m HOLE No. DS98  
CASING LEFT..... DPO No(s).....

DEPTH		Core Rec %	RQ DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)								
From (M)	To (M)										Rec (g)	Rec (t)	Rec (in)	Rec (%)					
0	4.5	0		Qha	Overburden no recovery														
4.5	17.0	20	3	Sc	Grey weathered med grained quartzite with locally coarse bands, with pinkered zones	bedding 37° to c/a													
17.0	24.0	90	3x	Sc	Med fine grained quartzite - less weathered + more siliceous than dense unit; lt grey, locally med. grained + locally greenish tinge.	② 21.3 bedding 65° to c/a													
24.0	29.2	90	1	Sc	Grey/green bi-turbated med/fine grained quartzite; localized coarser grained bands, possible x-bedding.	② 26.5 bedding 40° to c/a, minor qtz veining 35° to c/a.	546564	24.0	25.4										
29.2	29.3	100	5	Sc	Clay gouge - fault 60° to c/a														
29.3	37.8	70	3	Sc	Sheared grey/green fine grained quartzite possibly with clay gouges, bi-turbated	lt. minor quartz veining clay gouge 10cm @ 37.7 90° to c/a @ 37.1 90° to c/a (15cm) @ 37.7 10cm 80° to c/a.													
39.8	41.5	55	4c	Sc	Grey fine grained quartzite with laminated bedding	Bedding 75° to c/a / 85° to c/a slightly folded.													
41.5	43.1	90	5x	Sc	Grey quartzite brecciated with clay zones.	Fracturing sets parallel to c/a	546564	41.5	43.1										

DRIPPED CORE MAX 3.7m  
DROPPED CORE MAX 4.7m

696098

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

SHEET No. 2

TENEMENT NAME SUNNY CORNER No. 27/4

CO-ORDINATES 365725 E AZIMUTH..... DRILLERS DDTAS COMMENCED 3.5.95

PLAN - MAP REFERENCE.....

RL COLLAR 5357671N INCLINATION 45° DRILL TYPE LY38 COMPLETED 6.6.95

DEPTH 345.7 HOLE No. D398

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

DEPTH		Core Rec. %	QA DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)						
From (M)	To (M)																
47.5	45.7	95	2	Sc	Grey/green bioturbated bearing less so; reasonably well laminated siltstone + fine sandstones - clay gouge at base	Bedding 75° to c/a slightly faded. clay gouge 70° to c/a ? Bedding parallel.											
45.7	47.6	100	3x	Sc	Brown/grey fine grained quartzite; broken core.												
47.6	56.5	80	5x	Sc	Bolky broken + faulted light grey/green laminated quartzite; many clay gouges - locally siliceous Gouges possibly bedding parallel.	Bedding 75° to c/a.	5465606	47.6	49.7								
							5465607	49.7	51.6								
							5465608	51.6	53.5								
							5465609	53.5	55.3								
							5465610	55.3	58.5								
56.5	56.7	100	1	Sc	Dk grey/black ? mudstone non-calcareous. Bedding disturbed.	Bedding 45° to c/a	5465611	56.5	58.5								
56.7	58.5	100	5x	Sc	lt grey wuggy quartzite heavily altered	Bedding 25° to c/a.											
58.5	61.1	75	1b	Sc	Brecciated quartzite - fault zone; quartzite fragments in brown clay		12	58.5	60.80								
							13	60.8	62.5								
61.1	62.3	50	4x	Sc	Dole grey/grey quartzite												
62.3	65.2	95	5x	Sc	Brecciated quartzite in clay matrix; dk grey quartzite; dole grey clay possibly shale beds - alternately	Disconcord units.	14	62.3	63.7								
							15	63.7	65.2								

660969



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

SHEET No. 4

TENEMENT NAME SEAWAY CORNER No. 579

PLAN - MAP REFERENCE

CO-ORDINATES 365725E AZIMUTH..... DRILLERS ODTAS COMMENCED 3.5.95 DEPTH 345.7 HOLE No. D398  
RL COLLAR 5357671N INCLINATION 45° DRILL TYPE LX 38 COMPLETED 6.6.95 CASING LEFT..... DPO No(s).....

DEPTH		Core Rec %	RQ DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)				
From (M)	To (M)										Fe (%)	Pb (%)	Zn (%)	Cu (%)	
90.7	92.5	90	5x	Ogud	Dark grey dolomitised limestone - broken angular core with minor clay zones		27	90.0	89.5			58.2	61.1	1.7	74
							28	89.5	90.7			21.1	62.5	0.7	50
							29	90.7	92.5			62.5	63.7	1.0	83
							5465630	92.5	93.7			65.7	65.2	1.5	100
92.5	97.4	7	5x	Ogud	Broken, angular dark grey dolomite - major core loss - (note clay on surfaces of core can react to acid).		31	93.7	95.5			65.2	67.0	0.9	50
												67.0	68.5	1.0	66
												68.5	70.0	1.5	100
												70.0	71.5	0.9	60
												71.5	72.5	0.3	30
												72.5	74.5	0.5	25
97.4	102.1	95	5	Ogud	Dark grey/black clay ore with dark grey dolomitic fragments. (angular)		32	97.4	98.5			74.5	75.3	0.6	75
							33	98.5	100.3			75.3	76.5	0.4	33
							34	100.3	102.1			76.5	77.5	0.2	20
												77.5	78.0	0.1	20
												78.0	81.6	0	0
102.1	106.4	100	5x	Ogud	Angular dolomite fragments with black clay zones. Brecciated appearance.	minor calcite veining	35	102.1	104.5			81.6	82.1	0.5	100
							36	104.5	106.4			82.1	83.5	0.9	64
												83.5	84.1	0	0
												84.1	85.3	0.2	66
106.4	107.5	100	5	Ogud	Black feathered clay		37	106.4	107.5			85.3	86.5	0.4	33
												86.5	88.0	1.5	100
107.5	114.7	60	5x	Ogud	Dark grey/black angular limestone fragments in black clay	Sideritic top 2cm. and sideritic in places	38	107.5	109.8			88.0	90.7	2.7	100
							39	109.8	111.4			90.7	91.6	0.3	33
							5165640	111.4	114.7			91.6	92.5	0.7	63
114.7	121.0	75	5	Ogud	Dark grey/black rotted limestone with zones of black/dark grey clays - clay generally predominant		41	114.7	116.5			92.5	93.7	0.2	10
							42	116.5	118.1			93.7	95.5	0.3	16
							43	118.1	119.5			95.5	97.4	0	0
							44	119.5	121.0			97.4	98.5	1.1	100
												98.5	100.3	1.5	86
121.0	123.5	100	2	Ogud	Rotted limestone - possibly argillaceous - minor clay zones	Calcite vein subparallel to c.l.	45	121.0	122.4			100.3	101.5	1.2	100
							46	122.4	124.0			101.5	103.1	1.6	100

696101

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

SHEET No. 4

TENEMENT NAME SUNNY CORNER No. 5719

PLAN - MAP REFERENCE

CO-ORDINATES 365725E AZIMUTH..... DRILLERS ODTAS COMMENCED 3.5.95 DEPTH 345.7 HOLE No. D398  
RL COLLAR 535767N INCLINATION 45° DRILL TYPE LX 38 COMPLETED 6.6.95 CASING LEFT..... DPO No(s).....

DEPTH		Core Rec %	RQ DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)				
From (M)	To (M)										Fe (%)	Pb (%)	Zn (%)	Cu (%)	
90.7	92.5	90	5x	Ogud	Dark grey dolomitised limestone - broken angular core with minor clay zones		27	90.0	89.5			58.2	61.1	1.7	74
							28	89.5	90.7			61.1	62.5	0.7	50
							29	90.7	92.5			62.5	63.7	1.0	83
							5465630	92.5	93.7			63.7	65.2	1.5	100
92.5	97.4	7	5x	Ogud	Broken, angular dark grey dolomite - major core loss - (probe clay on surfaces of core can react to acid).		31	93.7	95.5			65.2	67.0	0.9	50
												67.0	68.5	1.0	66
												68.5	70.0	1.5	100
												70.0	71.5	0.9	60
												71.5	72.5	0.3	30
												72.5	74.5	0.5	25
97.4	102.1	95	5	Ogud	Dark grey/black clay ore with dark grey dolomitic fragments. (angular)		32	97.4	98.5			74.5	75.3	0.6	75
							33	98.5	100.3			75.3	76.5	0.4	33
							34	100.3	102.1			76.5	77.5	0.2	20
												77.5	78.0	0.1	20
												78.0	81.6	0	0
102.1	106.4	100	5x	Ogud	Angular dolomite fragments with black clay zones. Brecciated appearance.	minor calcite veining	35	102.1	104.5			81.6	82.1	0.5	100
							36	104.5	106.4			82.1	83.5	0.9	64
												83.5	84.1	0	0
												84.1	85.3	0.8	66
106.4	107.5	100	5	Ogud	Black featureless clay		37	106.4	107.5			85.3	86.5	0.4	53
												86.5	88.0	1.5	100
107.5	114.7	60	5x	Ogud	Dark grey/black angular limestone fragments in black clay	Sideritic top 20cm. and sideritic in places	38	107.5	109.8			88.0	90.7	2.7	100
							39	109.8	111.4			90.7	91.6	0.8	33
							5465640	111.4	114.7			91.6	92.5	0.7	63
114.7	121.0	75	5	Ogud	Dark grey/black rotted limestone with cores of black/dark grey clay - clay generally predominant		41	114.7	116.5			92.5	93.7	0.8	10
							42	116.5	118.1			93.7	95.5	0.3	16
							43	118.1	119.5			95.5	97.4	0	0
							44	119.5	121.0			97.4	98.5	1.1	100
												98.5	100.3	1.5	86
121.0	123.5	100	2	Ogud	Rotted limestone - possibly argillaceous - minor clay zones	calcite vein subparallel to c/a.	45	121.0	122.4			100.3	101.5	1.2	100
							46	122.4	124.0			101.5	103.1	1.6	100

696102

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

SHEET No. 5  
of 14

TENEMENT NAME SUNNYCORN No. 914  
PLAN - MAP REFERENCE.....

CO-ORDINATES 365725E AZIMUTH..... DRILLERS DDTA COMMENCED 3.5.95 DEPTH 345.7 HOLE No. DS98  
RL COLLAR 5357671N INCLINATION 45° DRILL TYPE LY38 COMPLETED 6.6.95 CASING LEFT..... DPO No(s).....

DEPTH		Core Rec. %	RC	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)				
From (M)	To (M)										Rec (Front)	Rec (CU)	Rec (M)	Rec (L)	
					localized bioclastic	Bedding 85° to c/a.	47	124	125.5			103.3	101.5	1.4	100
					Bedding highlighted by	minor calcite stringer	48	125.5	127.1			104.5	106.1	1.6	100
					argillite bands.	veins - locally orthoquartz	49	127.1	128.5			106.1	107.5	1.4	100
						some conjugate pair.						107.5	109.8	1.7	74
												109.8	111.4	1.6	100
128.5	131.2	100	4X	Ogul	Mixed rotted limestone and	Minor calcite veining	5465650	128.5	130.2			111.4	113.5	0.07	5
					dark grey clays - limestone		51	130.2	131.50			113.5	114.7	0.6	50
					argillaceous in places.		52	131.5	133.6			114.7	116.5	1.5	124
							53	133.6	135.0			116.5	118.1	1.6	100
134.2	132.34	100	1	Ogul	15cm coarse bioclastic band		54	135	137.6			118.1	119.5	1.0	70
					underlain by fine grained		55	137.6	147.9			119.5	121.0	1.0	66
					grey bioclastic calcarenite							121.0	122.4	1.0	70
					with 4cm bands of dark							122.4	124.0	1.6	100
					grey black argillaceous							124.0	125.5	1.5	100
					limestone							125.5	127.1	1.6	100
												127.1	128.5	1.4	100
132.34	133.2	100	2X	Ogul	Dark grey rotted limestone	? minor calcite veining	5469101	147.9	150.6			128.5	130.1	1.6	100
					with major dark grey clay							130.1	131.5	1.4	100
					zones.							131.5	133.1	1.6	100
												133.1	134.5	1.4	100
133.2	133.63	100	1	Ogul	Unrotted grey fine grained							134.5	136	0.45	90
					calcarenite with minor argillite							136	136	0.3	30
					zones; locally bioclastic.							136	137.5	0.2	13
												137.5	147.9	10	78
133.63	148.0	100	5X	Ogul	Dark grey clay with dark	? minor calcite veining	5469101	147.9	150.6			147.9	150.6	0.8	56
					grey rotted limestone fragments							150.6	151.3	0.5	70
					(angular) fragments.							151.3	152.7	0.3	33
												152.7	153.3	0.7	63
												153.3	154.4	0.3	27
												154.4	155.2	0.6	75
148.0	149.0	100	1	Ogul	Grey fine grained calcarenite							155.2	156.0	0.6	75
					with argillaceous interstitial										
					calcarenite										

Dropped core

696103

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

SHEET No. 67  
TENEMENT NAME Sunny Corner No. 67  
PLAN - MAP REFERENCE

CO-ORDINATES 365725E AZIMUTH DRILLERS DDTAS COMMENCED 3.5.95 DEPTH 345.7 HOLE No. DS98  
RL COLLAR 5357671N INCLINATION 45° DRILL TYPE L38 COMPLETED 6.6.95 CASING LEFT DPO No(s)

DEPTH		Core Rec. %	R-Q	Graphid Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by)											
From (M)	To (M)										DATA											
149.9	160.0	50	SX	Ogul	Major core loss: Dark grey clay with dark grey rotted angular limestone fragments.		5465902	150.6	152.2													
								3	152.2	154.4												
								4	154.4	156.0												
								5	156.0	158.0												
160.0	161.5	53	S	Ogic	Dark grey block clay with dark grey altered limestone fragments.			6	158.0	160.0												
								2	160.0	161.5												
161.5	166	40	SX	Ogul	Broken core; Dk grey rotted limestone with irregular zones of black/dk grey clay.			8	161.5	163.5												
								7	163.5	166.5												
166	167.9	100	1	Ogul	Mixed grey fine grained bioclastic calcarenite and dark grey argillaceous (?bioclastic) calcarenite.		5465910	166.5	167.9													
167.9	173.7	72	4X	Ogul	Broken core; Angular dark grey rotted limestone; localized dark grey/black clay.	Minor siderite alteration Bedding post c/a		11	167.9	169.9												
								12	169.9	171.9												
								13	171.9	173.7												
173.7	176.0	83	1	Ogic	Dark grey argillaceous calcarenite/calcarenite; weakly reactive to dil HCl. Minor grey fine grained calcarenite.			10	173.7	176.0												
176.0	189.5	100	1	Ogic	Clay pug overlying dark grey/grey calcarenite with minor grey mud grained calcarenite.		5465915	179	181.0													

696104

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

SHEET No. ....

TENEMENT NAME SUNNY CORNER No. 7074

PLAN - MAP REFERENCE .....

CO-ORDINATES 365725 E AZIMUTH ..... DRILLERS DDTAS COMMENCED 3.5.95 DEPTH 345.7 HOLE No. DS9R

RL COLLAR 5357671 N INCLINATION 45 DRILL TYPE LY38 COMPLETED 6.6.95 CASING LEFT ..... DPO No(s) .....

DEPTH		Core Rec %	RQ DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)				
From (M)	To (M)										Fe (Iron)	P2O5 (P)	Al2O3 (Al)	SiO2 (Si)	
189.5	190.3	100	1	Ogmu	Grey clay with broken coarse possibly laminated micritic int.							156	157.1	1.1	100
												157.1	158	0.7	77
												158	160	1.0	50
												160	161.5	0.8	55
190.3	193.5	88	3	Ogmu	Grey clay with grey calcarenite (med fine grained) micritic, laminated units	Bedding 80° E. c/A. cleavage 45° E. c/A	5465916	191.5	193.0			161.5	163.5	0.3	40
							17	193.0	195.0			163.5	164.3	0.5	37
												164.3	165.7	0.6	42
												165.7	167	0.7	55
193.5	193.6	100	5	Ogkz	clay gouge ? fault zone							167	168.3	1.3	100
												168.3	169.9	0.7	45
193.6	195.5	100	3x	Ogpl	Dark grey / grey micritic fine calcarenite, minor dark grey clays - broken core	Sub-parallel flat. c/A fabric						169.9	171.9	2.0	100
												171.9	172.8	0.9	100
												172.8	173.7	0.3	77
												173.7	174.4	0.5	70
												174.4	176.0	1.6	100
195.5	201.1	100	1	Ogpl	Grey med fine grained calcarenite with disrupted bedding / pyroclastic brecciation, locally argillaceous, locally biotactic grey calcarenite, nodular looking.		18	195.0	196.6			176.0	178.1	2.1	100
												178.1	179.5	1.4	100
												179.5	182.5	3.0	100
												182.5	185.5	3.0	100
												185.5	188.5	3.0	100
												188.5	191.5	3.0	100
												191.5	194.8	2.4	95
201.1	204.3	100	1	Ogpl	lt grey micritic band (5cm) followed by grey biotactic fine grained calcarenite with minor interstitial argillaceous zones, possible bird's eyes.	cleavage 30° E. c/A.	19	201.0	202.7			194.8	196.1	2.5	100
												196.1	197.7	3.1	100
												197.7	202.7	3.0	100
												202.7	205.9	3.2	100
												205.9	208.3	3.1	100
												208.3	211.7	2.9	100
204.3	207.1	100	1	Og	Inter-laminated argillite and grey fine calcarenite, more argillaceous at base.	Bedding 70° E. c/A.	5465920	204.15	206.0			211.7	215.5	7.8	100
												215.5	218.3	2.8	100
												218.3	219.6	1.3	100

696102

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

SHEET NO. 8 of 14

TENEMENT NAME SUNSHY CORNER No. 8

PLAN - MAP REFERENCE.....

CO-ORDINATES 365725E AZIMUTH..... DRILLERS DD.TAS COMMENCED 3.5.95 DEPTH 345.7 HOLE No. DS98

RL COLLAR 5357671N INCLINATION 4.5° DRILL TYPE LX38 COMPLETED 6.6.95 CASING LEFT..... DPO No(s).....

DEPTH		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.....)				
From (M)	To (M)														
207.1	209	100	1	Ogul	Grey, med. grained calcarenite with possible cross-bedding										
209	213.2	100	1	Ogul	Argillaceous biotitic calcarenite with bands of argillite with stick breccia v. distinctive; grey calcarenite can be fine grained almost nodular in appearance.	Bedding 70° to c/A. Minor calcite stringer zones 45° to c/A.									
213.2	213.4	100	5X	Ogfb	Clay hostil breccia / fault gouge	80° to c/A.	5465921	213	213.5						
213.4	213.9	100	1	Ogul	Grey/dark grey argillaceous calcarenite - uniform looking.										
213.9	217.7	100	1	Ogul	Argillaceous biotitic calcarenite, bands of argillite with conchoidal(?) v. distinctive			217.5	217.55						
217.7	221.1	82	4X	Ogfb	Zone of broken core; mostly fine grained calcarenite almost micritic; with calc. clay gouge.		23	217.55	219.6						
							24	219.6	221.1						
							25	221.1	222.8						
221.1	222.8	100	2F	Ogul	zone of fractured core; grey calcarenite with argillaceous calcarenite zones	Abundant calcite stringers for 0.7m below the fault. Cleavage 45° to c/A (? fracture planes).									
222.8	232	100	1	Ogul	Grey/dark grey argillaceous calcarenite (uniform)	Bedding 45° to c/A. cleavage 20° to c/A.	26	229	231						

minor calcite veining 45° to c/A; cleavage 45° to c/A. Bedding 65° to c/A.

696106

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

SHEET NO. ....  
TENEMENT NAME SUNNY CORNER No. 9/14  
PLAN - MAP REFERENCE .....  
DEPTH 345.7 HOLE No. DS98  
CASING LEFT ..... DPO No(s) .....

CO-ORDINATES 365725 E AZIMUTH .....  
DRILLERS DDTAS COMMENCED 3.5.95  
RL COLLAR 5357671N INCLINATION 45°  
DRILL TYPE LY38 COMPLETED 6.6.95

DEPTH		Core Rec %	RA/DAM	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)				
From (M)	To (M)										REC (g/t)	REC (T/G)	REC (A)	REC (T)	
					Becoming more argillaceous downhole.							219.6	221.1	1.3	90
												221.1	222.8	1.7	100
												222.8	224.3	1.5	100
232	233.8	30	100	Opfr	Calcite vein zone with clay gouges in dark grey/black altered argillaceous calcilitide, well sheared	Veins up to 3cm thick. 30 + 10" to c/A. Clay gouge 233.3cm 80" to c/A; calcite veins to + 35" to c/A. Some veins cleavage parallel, others cross cut cleavage (45° to c/A).	5465927	231	233			224.3	226.7	2.4	100
												226.7	231.6	4.9	100
												231.6	233.5	1.9	100
												233.5	236.6	3.1	100
												236.6	237.6	1.0	100
												237.6	239.5	1.9	100
												239.5	242.6	3.1	100
												242.6	245	2.4	100
233	246.0	100	100	Opal	Dark grey micritic - looking calcilitide; possibly fault altered; slight waxy brecciated appearance. Sheared looking; Broken core.	Irregular calcite veinling thin < 0.2cm. Massive pyrite replacement at 233cm - 5cm slug of pyrite. Fault/fracture foliate sub-parallel to c/A.	28	233	235			245	248.5	3.5	100
												248.5	249.6	1.1	100
												249.6	252.7	3.1	100
												252.7	255.8	3.1	100
												255.8	257.6	1.3	100
												257.6	258.8	1.2	100
												258.8	261.3	2.5	100
												261.3	264.4	3.1	100
												264.4	270.4	6.0	100
												270.4	273.5	3.1	100
												273.5	276.7	3.2	100
												276.7	279.3	3.1	100
246.0	249.65	100	1	Opal	Intensely varied (calcite) grey/light grey ? fault altered limestone	? weak pervasive dolomitisation. Irregular stringer vein system > 3cm veins @ 247.5 30° E c/A @ 247.8 30° E c/A @ 249.2 45° E c/A Breccia vein @ 249.6 - 249.65 75° E c/A.	5465935	247.5	249.7			247.5	249.7	251.7	

696107



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

TENEMENT NAME Sunny Corner No. 11 of 14 SHE 11

CO-ORDINATES 365725E AZIMUTH ..... DRILLERS DD TAS COMMENCED 3.5.95 DEPTH 345.7 HOLE No. D593  
RL COLLAR 5357671N INCLINATION 45° DRILL TYPE LY 38 COMPLETED 6.6.95 CASING LEFT ..... DPO No(s) .....

DEPTH		Core Rec. %	RQ DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath. Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by .....)										
From (M)	To (M)																				
276.7	279.8	100	1	Ogwl	Very distinctive irregular bedded lt grey fine grained calcarenite and grey argillaceous med grained calcarenite.	Bedding/fabric 60° E c/A.	5465933	276.7	278.9												
279.8	280.0	100	5	Ogflz	Dark grey clay gouge with lower contact parallel to bedding.																
280.0	283.5	90	4c	Ogwl	As before gouge.	Clearance parallel to bedding 50° E c/A.															
283.5	284.2	64	5X	Ogwl	Zone of intense calcite veining subparallel to core axis some core loss.																
284.2	286.5	100	1	Ogwl	As before - distinctive irregular bedding, grey fine grained calcarenite and grey argillaceous med grained calcarenite. Gradual increase in bioclasts and argillite material.																
286.5	299	100	1	Ogwl	Fine grained grey bioclastic calcarenite with lesser amounts of argillite material and a slight nodular texture.	① 288.6m bedding 60° E c/A mass calcite cavity-filled and stringers 288.3-291.1 calcite stringers zone cut by later clearance 75° E c/A.	57	291.0	290.5												

696109

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

SHEET No.

TENEMENT NAME SUNNY CORNER No. 12 of 11

CO-ORDINATES 365725 E AZIMUTH ..... DRILLERS DD TAS COMMENCED 3.5.95 DEPTH 345.7 HOLE No. D398  
RL COLLAR 535767 N INCLINATION 45° DRILL TYPE LY 38 COMPLETED 6.6.95 CASING LEFT ..... DPO No(s) .....

PLAN - MAP REFERENCE .....

DEPTH		Core Rec. %	RQ DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by .....			
From (M)	To (M)										Fe (%)	Fe (ppm)	Fe (ppm)	Fe (ppm)
						Unusual textures @ 291.6m.					277.8	283	3.0	94
						localised zones of calcite					283	284.9	1.6	84
						stringer veining + mass					284.9	286.5	1.6	100
						major veining 35-45° E c/a					286.5	289	2.5	100
											289	292	3.0	100
											292	294	2.0	100
297	304.8	100	1	Agal	Lt grey/grey micritic fine grained calcarenite with significant red grained dark grey argillaceous calcarenite becoming much more micritic and less argillaceous downwards.	cleavage 45° E c/a					294	297.1	3.1	100
											297.1	300.2	3.1	100
											300.2	303.3	3.1	100
							2165940	300.2	301.8		303.3	306.4	3.1	100
											306.4	309.5	3.1	100
											309.5	310.1	0.6	100
											310.1	310.8	0	0
											310.8	312.2	1.2	86
302.8	307.5	100	1	Agal	Grey fine grained calcarenite with irregularly interbedded with dark grey argillaceous calcarenite/calcarenite grey calcarenites locally bioclastic/micritic.	Minor amounts of calcite stringers 90° E c/a, 70° E c/a	41	303.8	310.1		312.2	313	0.7	88
											313	314.5	1.5	100
											314.5	316	1.5	100
											316	317.1	1.1	100
											317.1	319	1.3	68
											319	319.7	0.45	64
											319.7	321.1	1.1	79
307.5	30.1	100	3	Agal	Well bedded/laminated dk grey argillite and fine grained grey calcarenite - slightly rathol	Bedding 60° E c/a. cleavage parallel to bedding					321.1	322.4	1.0	77
											322.4	323.5	0.9	82
											323.5	325.2	1.6	70
											325.2	327	0.68	50
											327	328.4	0.9	64
310.1	310.8	0	0	Agal	Cavity						328.4	329.4		
											329.4	330.4	0.6	60
310.8	311.4	75	4X	Agal	Dk grey clay and limestone calcite breccia veins	Locally massive ophelinite - hornblende - with colloform banding	42	310.8	311.72		330.4	330.7	0.05	10
											330.7	332.5	1.6	100
											332.5	333.9	1.6	100

696110

## DRILL CORE LOG

TENEMENT NAME Sunny Corner No. 15 of 1

PLAN - MAP REFERENCE

CO-ORDINATES 365725E AZIMUTH DRILLERS ~~THADTAS~~ COMMENCED 3.5.95 DEPTH 345.7 HOLE No. D598

RL COLLAR 5357671N INCLINATION 45° DRILL TYPE LY 39 COMPLETED 6.6.95 CASING LEFT DPO No(s)

DEPTH		Core Rec %	RQ DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weather, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)												
From (M)	To (M)																						
311.4	312.2	90	1	Agul	Grey/dark grey bioclastic calcarenite, slightly rotted - possible laminated with at base.		5165943	311.72	313.0														
312.2	313.15	73	3	Agul	Slightly rotted dark grey / grey locally bioclastic calcarenite; light brown clay sand at top contact.																		
313.15	313.7	100	1	Agul	limestone as before	Calcs/dol vein related sphalerite mineralization; locally massive sphalerite (honey blebs) with fine grained matrix galena (scrap).	44	313	313.82														
						Vein <sup>ing</sup> bedding parallel at 60° to c/a.																	
						Colloform banding with the sphalerite.																	
313.71	315.4	100	1	Agul	Slightly rotted argillaceous calcarenite with localised argillite interbeds.	Banding 5° to c/a.	41	313.82	314.5														
						Minor calcite veins and vug with.	46	314.5	316.0														
						Galena blebs < 1cm size @ 315.25 - 315.4m.																	

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

SHEET No. 14

TENEMENT NAME Sunny Corner No. 14

PLAN - MAP REFERENCE

CO-ORDINATES 365725E AZIMUTH

DRILLERS DD TFS

COMMENCED 3.5.95

DEPTH 345.7

HOLE No. D318

RL COLLAR 5357671N INCLINATION 45°

DRILL TYPE LY 38

COMPLETED 6.6.95

CASING LEFT

DPO No(s)

DEPTH		Core Flec. %	RQ DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weather, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by)				
From (M)	To (M)										Rec (mm)	Rec (%)	Rec (m)	Rec (%)	
315.4	323.7	72	4X	Og	Partially rotted calcarenite with argillaceous material; occ. dk grey clay zones locally laminated units	Minor - calcite veining Bedding 60° to c/A ? partial dolomitisation ? small sideritic zones	5465947	316	317.1			335.7	335.7	1.6	100
							48	317.1	319.0			335.7	337	1.5	100
							49	319.0	321.1			337	337.5	1.3	86
							50	321.1	323.5			338.5	337.7	1.2	100
												337.7	341.2	1.5	100
												341.2	343	0.45	25
323.7	328.75	60	5x	Og/z	Faulted zone of brecciated limestones and clay gouges	Minor irregular calcite veining	51	323.5	325.8			343	341.5	1.5	100
							52	325.8	327.0			344.5	345.7	0.75	50
							53	327.0	329.4						
328.75	330.7	50	4F	Og/z	Well cleaved fault altered fine grained ? argillaceous calcarenite - rotted core.	cleavage (? bedding parallel) 60° to c/A.	54	329.4	330.9						
330.9	341.5	76	2	Og/z	Grey med. grained calcarenite with small-scale (cm) micrite nodules and v. minor argillaceous calcarenite interstitial fill + wisps.	Fabric / bedding 60° to c/A.	55	330.9	333.0						
							56	332.7	341.2						
341.5	343.3	53	5x	Og/z	Fault zone / cavity - major core loss + badly broken core. Dark grey clays		57	341.2	343.3						
343.3	344.3	100	2	Og/z	Micritic fine grained calcarenite with ore budnets.		58	343.3	345.7						
344.3	345.7	70	3x	Og/z	Mixed zone of clays and micritic calcarenite	Fault gouge 20° to c/A. Irregular calcite veining	5465958								
END OF HOLE 345.7m.															

		77378	Ag	Al	As	Ba	Ca	Cd	Co	Cu	Fe	K	Mg	Mn	Nb	Zn	
DS98	24	25.4	5465604	1.0	4.67	-5	219	-0.05	-5	1.08	2.05	1.23	17	33	12		
DS98	41.5	43.1	5465605	1.5	4.04	-5	185	-0.05	-5	1.39	1.73	1.2	18	30	20		
DS98	47.6	49.7	5465606	2.7	4.42	-5	213	-.05	16	1.07	1.38	1.22	14	21	13		
DS98	49.7	51.6	5465607	1.0	7.36	-5	414	-0.05	-5	1.6	3.28	1.35	33	33	16		
DS98	51.6	53.5	5465608	1.6	6.22	-5	331	-0.05	-5	1.51	2.71	1.5	17	30	10		
DS98	53.5	55.3	5465609	1.5	6.36	-5	323	-0.05	-5	1.51	2.81	1.32	16	40	12		
DS98	55.2	56.5	5465610	1.2	4.77	-5	248	-0.05	15	1.32	2.28	1.37	17	47	15		
DS98	56.5	58.5	5465611	1.3	4.41	-5	215	-0.05	35	1.41	2.11	1.25	16	376	64		
DS98	58.5	60.8	5465612	1.7	1.59	15	210	-0.05	14	1.55	2.13	1.21	18	844	558		
DS98	60.8	62.5	5465613	1.5	2.99	5	123	-0.05	15	1.74	1.02	1.15	24	1110	912		
DS98	62.5	63.7	5465614	1.5	3.53	-5	171	-0.05	16	1.7	1.7	1.21	42	1150	1290		
DS98	63.7	65.2	5465615	1.9	4.11	9	228	-.07	31	1.02	2.55	1.34	33	2350	2170		
DS98	65.2	67.3	5465616	1.1	1.87	19	79	-0.05	15	1.84	1.32	1.11	31	2450	1360		
DS98	67.3	69.5	5465617	4	5.33	30	382	-0.05	35	1.35	3.19	1.43	29	2450	5620	1.59	
DS98	69.5	71.5	5465618	1.3	2.01	7	58	-0.05	10	1.49	1.35	1.12	23	1000	1240		
DS98	71.5	72.5	5465619	2.8	4.3	31	263	-0.05	31	3.33	2.25	1.32	27	1590	2800		
DS98	72.5	75.15	5465620	1.6	1.62	8	50	-0.05	10	1.46	1.66	1.09	19	812	735		
DS98	75.15	76.5	5465621	1.9	3.03	10	181	-0.05	25	1.34	1.73	1.26	25	1960	5660	1.19	
DS98	76.5	78	5465622	1	5.99	57	354	-0.05	27	3.87	3.52	1.59	34	760	4770		
DS98	81.6	83.5	5465623	-5	7.18	21	383	6.02	16	3.44	3.15	3.24	650	80	923		
DS98	83.5	85.3	5465624	5	4.88	21	351	1.44	39	1.35	2.77	1.73	24	370	5700	1.58	
DS98	85.3	86.5	5465625	-5	5.18	15	473	1.41	25	2.88	4.44	1.99	37	431	2240		
DS98	86.5	88	5465626	-5	6.38	26	432	1.09	23	2.7	4.23	1.79	51	123	1320		
DS98	88	89.5	5465627	-5	6.31	16	406	1.12	19	2.35	4.23	1.75	45	63	560		
DS98	89.5	90.7	5465628	-5	5.33	31	337	3.1	13	2.78	2.57	4.88	224	320	2530		
DS98	90.7	92.5	5465629	-5	1.45	-5	55	13.8	-5	1.33	1.7	10.5	179	27	308		
DS98	92.5	93.7	5465630	-5	3.58	29	187	13.8	6	1.37	1.58	7.79	113	66	666		
DS98	93.7	95.5	5465631	-5	2.79	-5	38	18.1	12	1.42	1.24	10.1	204	36	475		
DS98	97.4	98.5	5465632	-5	3.09	24	303	2.91	16	2.53	3.37	2.13	247	584	3210		
DS98	98.5	100.2	5465633	-5	4.75	25	192	3.97	12	1.37	2.05	4.96	153	338	2480		
DS98	100.2	102.1	5465634	3.5	4.59	-5	147	10.8	17	1.27	2.06	5.95	151	1040	1300		
DS98	102.1	104.5	5465635	-5	4.07	5	145	13	7	1.5	1.85	7.15	174	408	504		
DS98	104.5	106.4	5465636	-5	5.12	17	132	10.5	9	2.91	3.42	5.71	553	329	1450		
DS98	106.4	107.5	5465637	1.3	3.3	31	227	5.76	16	3.71	3.56	5.46	722	431	2700		
DS98	107.5	109.8	5465638	-5	2.24	31	36	12.2	5	12.9	1.87	6.52	5850	112	557		
DS98	109.8	111.4	5465639	-5	1.84	6	36	13.7	-5	5.78	1.42	10.3	3310	31	321		
DS98	111.4	114.7	5465640	-5	2.7	-5	190	17.3	-5	4.39	1.39	6.61	1813	16	337		
DS98	114.7	116.5	5465641	-5	2.4	-5	102	25.3	-5	2.33	1.13	2.22	531	15	43		
DS98	116.5	118.1	5465642	-5	2.48	-5	109	25.1	6	1.51	1.27	2.52	401	10	42		
DS98	118.1	119.5	5465643	-5	3.15	-5	225	13.3	7	1.5	2.55	4.43	134	15	29		
DS98	119.5	121	5465644	-5	2.47	3	160	22.3	-5	1.73	1.74	2.45	133	11	27		
DS98	121	122.4	5465645	-5	2.37	-5	126	20.5	5	1.51	1.51	3.01	214	17	11		
DS98	122.4	124	5465646	-5	3.2	-5	184	23.1	-5	1.13	1.32	2.13	138	15	167		
DS98	124	125.5	5465647	-5	1.71	-5	31	32.7	-5	1.5	1.39	1.24	145	23	7		
DS98	125.5	127.1	5465648	-5	1.55	-5	40	33.7	12	1.39	1.35	1.33	13	27	29		
DS98	127.1	128.5	5465649	-5	1.71	-5	27	33.2	-5	1.42	1.4	1.34	33	23	14		
DS98	128.5	130.2	5465650	-5	1.37	-5	41	26	-5	1.75	1.66	2.05	143	17	7		
DS98	130.2	131.5	5465651	-5	1.4	-5	44	27.3	7	1.77	1.65	2.39	132	15	42		
DS98	131.5	133.6	5465652	2.5	1.46	-5	73	30.3	-5	1.74	1.71	2.26	154	36	13		
DS98	133.6	135	5465653	-5	1.57	-5	44	25.2	-5	1.77	1.74	2.44	119	16	19		
DS98	135	137.6	5465654	-5	1.5	-5	54	25.3	-5	1.36	1.75	2.27	115	50	157		
DS98	137.5	147.9	5465655	-5	1.07	-5	43	30.3	-5	1.72	1.6	3.31	157	15	33		
DS98	147.9	150.6	5465901	-5	1.77	-5	33	31.8	-5	1.51	1.33	2.48	132	15	-5		
DS98	150.6	152.2	5465902	-5	3.01	-5	112	16.4	-5	1.56	1.54	4.59	236	16	37		
DS98	152.2	154.4	5465903	-5	3.85	-5	153	16.2	7	1.39	1.9	3.47	310	16	25		
DS98	154.4	156	5465904	-5	4.1	-5	161	13.9	5	1.55	2.07	4.32	263	13	24		
DS98	156	158	5465905	-5	4.54	-5	195	11	-5	2.1	2.33	4.38	279	18	50		
DS98	158	160	5465906	-5	4.58	-5	205	11.2	-5	1.33	2.16	5.03	252	13	23		
DS98	160	161.5	5465907	-5	1.74	-5	101	22.2	-5	1.08	1.57	5.72	121	20	27		
DS98	161.5	163.5	5465908	-5	2.53	-5	129	17.2	-5	1.15	1.15	6.32	156	19	25		
DS98	163.5	166.5	5465909	-5	1.98	-5	138	17.4	-5	1.24	1	8.39	167	72	122		
DS98	166.5	167.9	5465910	-5	1.26	-5	62	25	-5	1.11	1.71	3.99	319	12	31		
DS98	167.9	169.9	5465911	-5	2.53	-5	124	16.4	-5	1.1	1.24	7.73	143	25	117		
DS98	169.9	171.3	5465912	-5	1.84	-5	65	25.3	-5	1.75	1.35	6.24	125	26	111		
DS98	171.3	173.7	5465913	-5	1.74	13	74	25.6	-5	1.53	1.55	4.44	346	17	32		
DS98	173.7	176	5465914	-5	4.37	-5	252	12.6	-5	1.36	2.33	5.13	257	15	126		

DS98	173	181	5465915	-5	5.45	-5	313	3.08	6	2.34	2.51	3.03	347	13	20	
DS98	184.5	192	5465916	-5	1.67	-5	96	29.4	-5	.57	.72	1.09	99	15	15	
DS98	193	195	5465917	-5	1.19	-5	65	32.6	-5	.62	.64	1.4	115	21	22	
DS98	195	196.6	5465918	-5	1.69	-5	53	29.2	-5	.75	.49	2.34	137	13	-5	
DS98	201	202.7	5465919	-5	1.25	-5	75	28.2	-5	.64	.53	.97	123	15	9	
DS98	204.15	206	5465920	-5	3.05	-5	142	21.1	-5	1.2	1.36	2.31	220	14	15	
DS98	213	215.5	5465921	-5	3.05	-5	150	21.9	-5	1.48	1.64	2.95	227	20	35	
DS98	215.5	217.55	5465922	-5	2.75	-5	143	25.2	-5	1.17	1.27	2.64	234	65	134	
DS98	217.55	219.6	5465923	-5	3.35	-5	174	21.2	-5	1.39	1.31	1.97	403	135	264	
DS98	219.5	221.1	5465924	-5	3.3	-5	184	20.8	-5	1.53	1.54	2.4	723	347	546	
DS98	221.1	222.8	5465925	-5	3.07	-5	225	21.5	-5	1.67	1.6	2.41	956	252	879	
DS98	229	231	5465926	-5	5.42	-5	294	17	-5	2.3	2.74	3.03	510	95	294	
DS98	231	233	5465927	-5	6.37	-5	344	13	3	2.03	3.12	1.08	513	59	173	
DS98	233	235	5465928	-5	4.32	-5	237	15.5	-5	2.12	2.25	2.62	381	50	155	
DS98	235	236.5	5465929	-5	3	-5	183	19.2	-5	2.23	1.53	1.69	274	57	135	
DS98	236.5	238	5465930	-5	3.05	6	166	24.7	-5	1.08	1.38	1.15	209	18	19	
DS98	240.8	242.6	5465931	-5	3.32	6	192	21.7	-5	1.5	1.69	1.47	296	16	22	
DS98	242.6	245.5	5465932	-5	4.46	-5	254	19.4	5	1.67	2.31	2.25	330	31	49	
DS98	245.5	247.5	5465933	1	1.7	-5	122	31	-5	.86	.3	1.34	457	140	613	
DS98	247.5	249.7	5465934	-5	.49	-5	73	35.5	-5	.56	.32	.93	763	157	773	
DS98	249.7	251.7	5465935	-5	.15	-5	32	33.8	-5	.45	.15	2.37	199	46	115	
DS98	251.3	253.4	5465936	-5	2.1	-5	98	25.3	-5	.81	1.13	2.07	136	17	-5	
DS98	257.5	259.67	5465937	-5	.29	13	25	32.1	-5	.39	.17	2.1	106	16	13	
DS98	276.7	278.9	5465938	-5	1.05	-5	62	28.2	-5	.69	.61	2.81	199	23	37	
DS98	289	290.5	5465939	-5	.83	-5	32	28.3	-5	.52	.32	3.75	151	19	13	
DS98	300.2	301.2	5465940	-5	.94	-5	49	23.4	-5	.43	.55	2.41	154	19	5	
DS98	302.8	310.1	5465941	-5	.49	-5	32	22.3	-5	.42	.32	1.1	139	16	37	
DS98	310.8	311.72	5465942	8	.75	12	39	21.1	65	1.72	.44	3.22	4840	1430	100000	4.75
DS98	311.72	313	5465943	-5	1.05	13	59	24.3	-5	1.14	.53	4.12	553	145	349	
DS98	313	313.82	5465944	1	.82	-5	50	25	21	1.42	.34	3.81	2860	1070	62000	2.55
DS98	313.82	314.5	5465945	.9	.55	22	54	23.2	-5	.5	.43	2.33	231	140	514	
DS98	314.5	316	5465946	2.5	.93	7	50	21.2	-5	1.19	.55	5.21	465	5450	162	
DS98	316	317.1	5465947	1.2	.27	-5	53	20.9	-5	1.55	.48	5.71	677	1870	328	
DS98	317.1	319	5465948	-5	.72	23	55	22	-5	1.02	.39	5.71	524	99	63	
DS98	319	321.1	5465949	-5	.58	9	49	19.1	-5	1.53	.49	6.37	673	31	30	
DS98	321.1	323.5	5465950	-5	1.13	-5	58	21	-5	.76	.59	5.79	208	37	35	
DS98	323.5	325.8	5465951	-5	.38	14	51	19.3	-5	1.34	.43	7.17	592	31	31	
DS98	325.8	327	5465952	-5	1.05	31	45	20.7	-5	1.19	.5	5.27	498	33	75	
DS98	327	329.4	5465953	-5	2.22	11	88	20.8	5	2.45	1.13	3.33	300	37	68	
DS98	329.4	330.9	5465954	-5	3.03	12	122	20.2	8	1.42	1.53	3.34	291	82	150	
DS98	330.9	333	5465955	-5	1.29	-5	54	29.5	5	.91	.52	1.31	343	39	44	
DS98	339.7	341.2	5465956	.7	.59	7	42	27.4	-5	.92	.52	3.07	355	30	22	
DS98	341.2	343.3	5465957	-5	.95	14	41	25.5	-5	1.15	.55	4.55	431	55	58	
DS98	343.3	345.7	5465958	-5	.95	-5	44	25.3	-5	1.38	.5	2.36	622	95	34	

Appendix VII

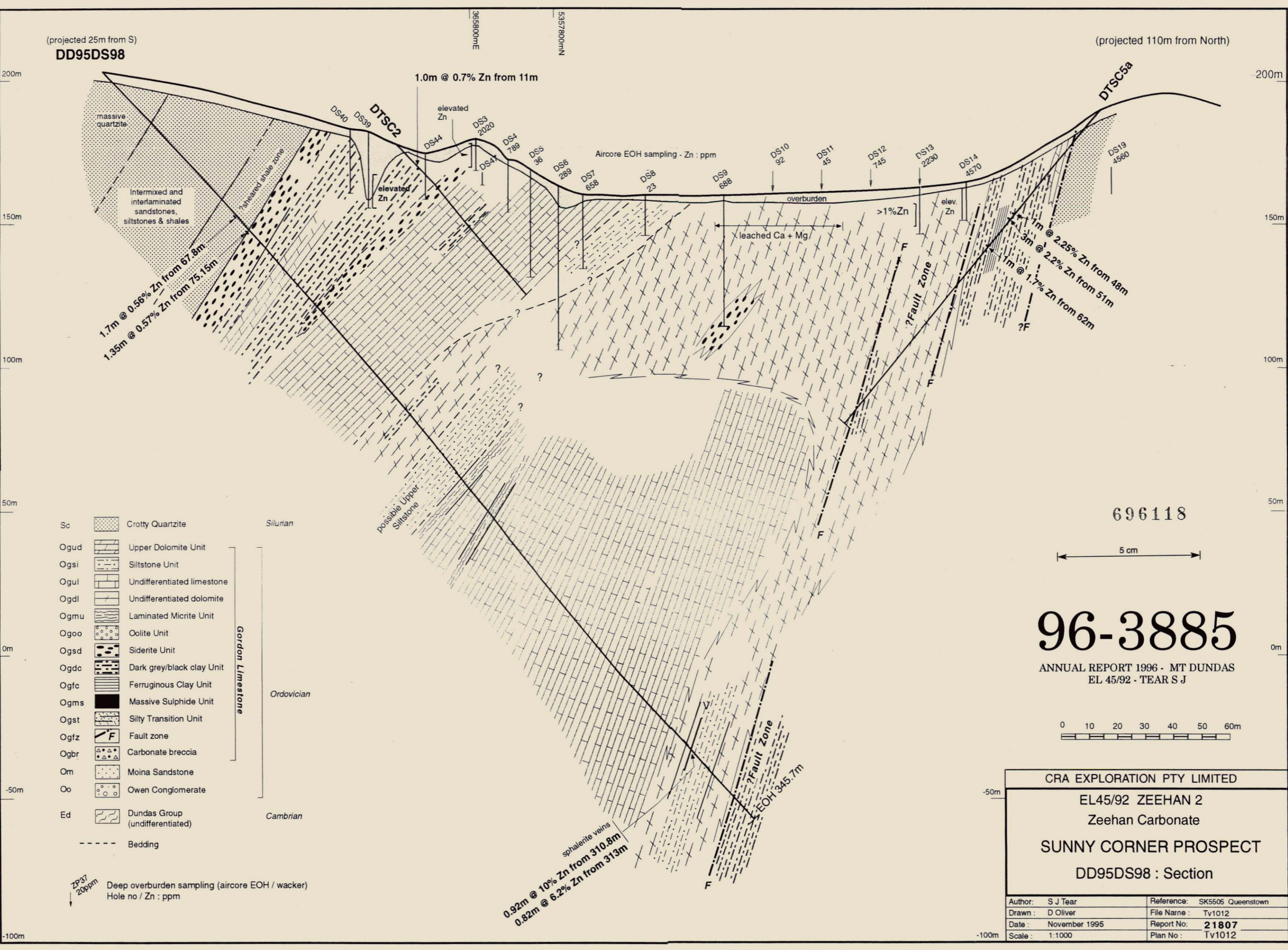
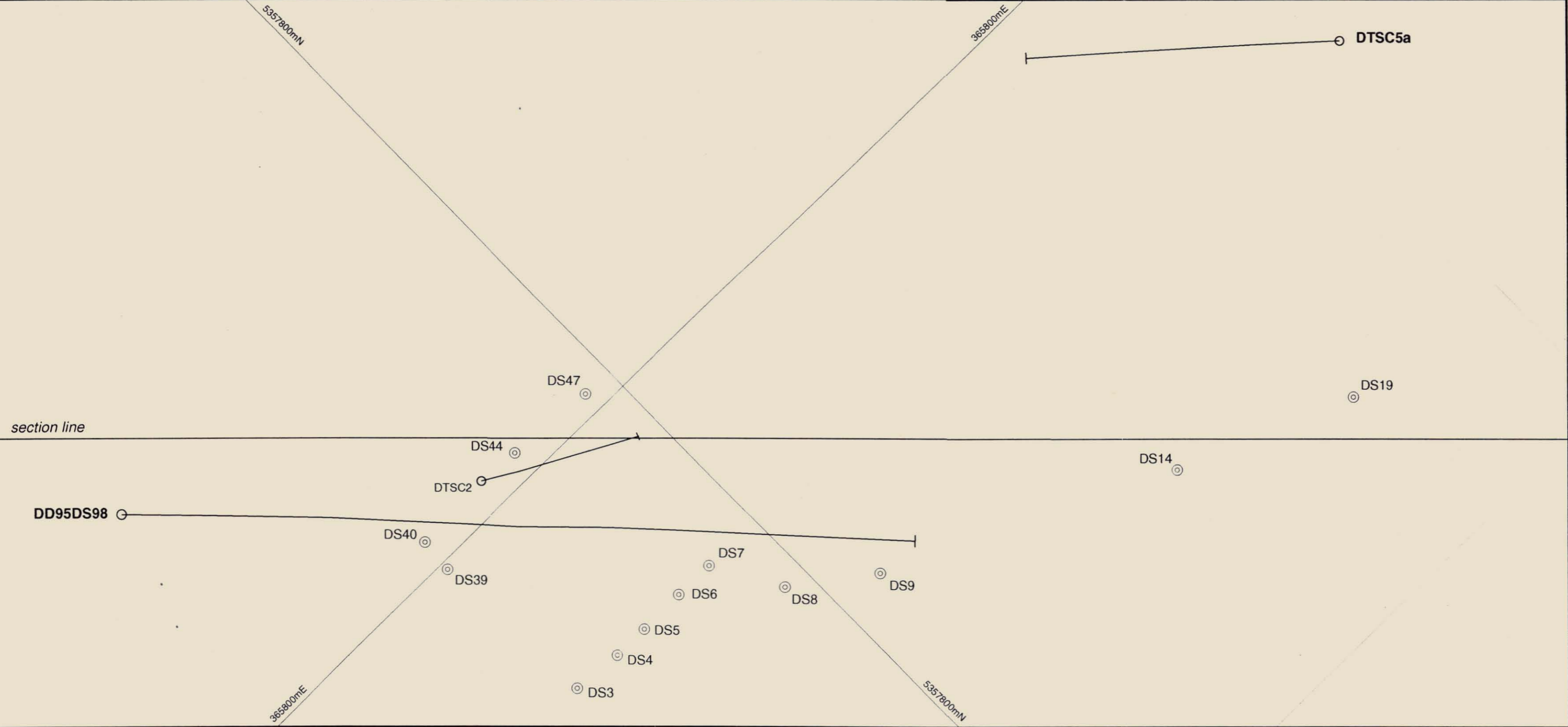
Amber Creek Wacker Bedrock Sampling Results

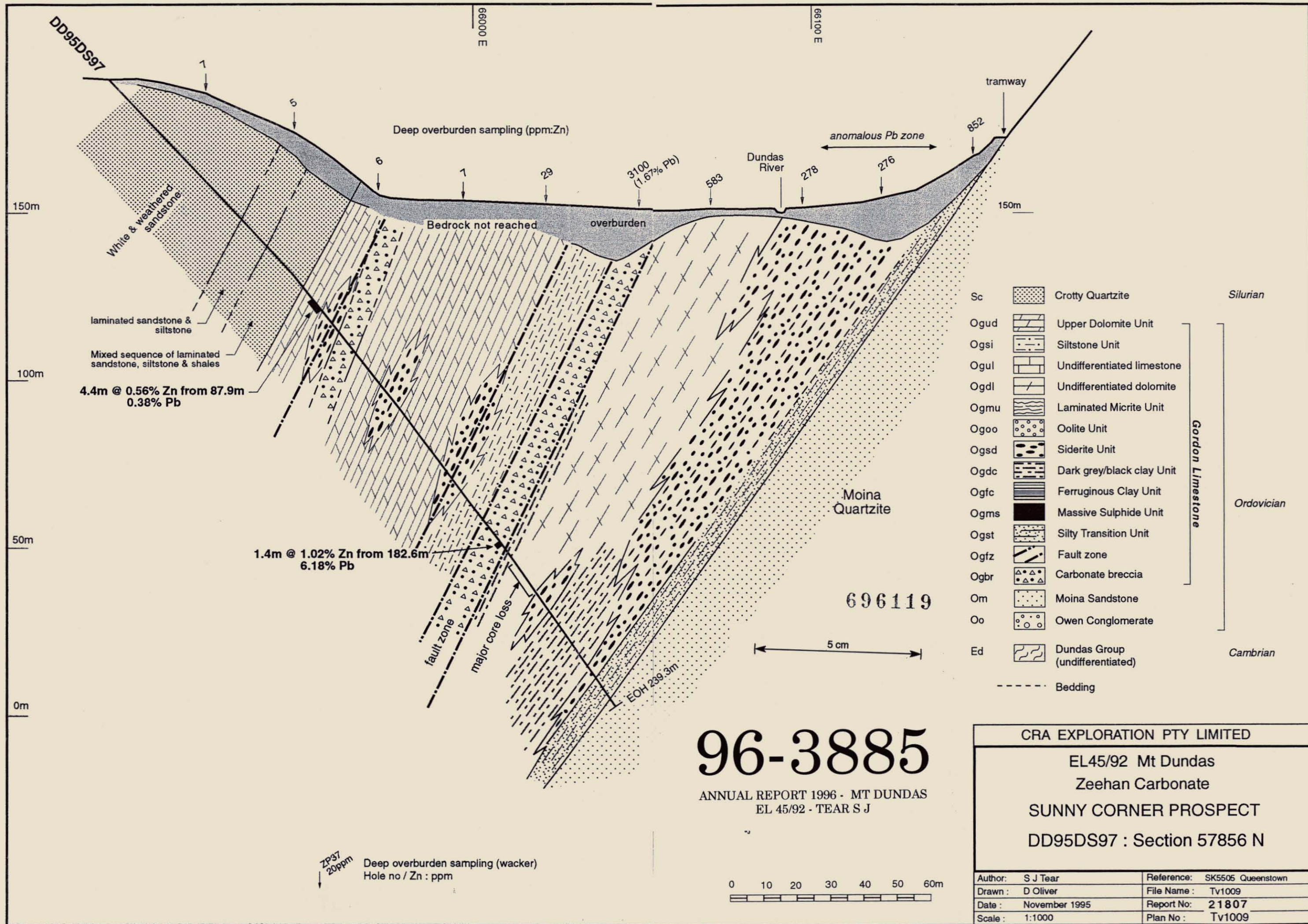
AMBER CREEK WACKER EL 45/92

Sample No	AMGE	AMGN	DPO NO	Sample Type	Prospect	EL No	Local E	Local N	Depth	Bedrock	MRTLith	FieldID	Texture	AltMin	Colour	Comments
4138274	368037	5352008	77680	WACKER	AMBER CREEK	EL45/92	67075	52150	6.8 Y		Ogul	Sls			G	
4138275	368016	5352022	77680	WACKER	AMBER CREEK	EL45/92	67050	52150	2.1 N?		Ogul				GB	Clayey sand, no reaction to HCl
4138276	367995	5352036	77680	WACKER	AMBER CREEK	EL45/92	67025	52150	20.1 Y		Ogdl	Sdl			DG	Sandy clay, no reaction to HCl
4138277	367974	5352049	77680	WACKER	AMBER CREEK	EL45/92	67000	52150	19.5 N?		Ogul				DG	Clayey sand, no reaction to HCl
4138278	367953	5352063	77680	WACKER	AMBER CREEK	EL45/92	66975	52150	12.1 Y		Ogul	Sls	Vc		G	
4138279	367932	5352076	77680	WACKER	AMBER CREEK	EL45/92	66950	52150	11.8 Y		Ogul	Sls	Vc		G	
4138280	367911	5352090	77680	WACKER	AMBER CREEK	EL45/92	66925	52150	9 Y		Ogul	Sls			G	Micritic
4138281	367890	5352104	77680	WACKER	AMBER CREEK	EL45/92	66900	52150	5.8 Y		Ogul	Sls			G	
4138282	367869	5352117	77680	WACKER	AMBER CREEK	EL45/92	65875	52150	2 Y		Ogul	Sls			G	Dark grey calcisiltite

AMBER CREEK WACKER EL 45/92

Sample No	Ag	Al	As	Ba	Ca	Cu	Fe	K	Mg	Mn	Pb	Zn
4138274	-0.5	1.66	-5	73	30.44	-5	0.94	0.91	1.46	217	22	27
4138275	-0.5	6.92	41	504	0.06	26	1.26	4	0.61	16	35	114
4138276	-0.5	5.14	58	328	0.2	13	2.03	2.56	0.45	26	23	287
4138277	-0.5	6.49	34	448	0.08	12	1.88	3.44	0.55	30	27	69
4138278	-0.5	1.63	-5	84	25.34	-5	0.64	0.92	4.21	89	10	15
4138279	-0.5	2.97	-5	159	24.7	-5	1.07	1.53	1.51	173	15	35
4138280	-0.5	1.8	-5	69	27	-5	0.76	0.84	3.5	113	19	54
4138281	-0.5	4.44	1	254	15.51	6	1.39	2.42	4.12	119	20	13
4138282	-0.5	1.53	-5	67	20.3	-5	0.78	0.82	7.38	87	-10	10





# 96-3885

ANNUAL REPORT 1996 - MT DUNDAS  
EL 45/92 - TEAR S J

CRA EXPLORATION PTY LIMITED	
EL45/92 Mt Dundas Zeehan Carbonate	
SUNNY CORNER PROSPECT	
DD95DS97 : Section 57856 N	
Author: S J Tear	Reference: SK5505 Queenstown
Drawn: D Oliver	File Name: Tv1009
Date: November 1995	Report No: 21807
Scale: 1:1000	Plan No: Tv1009

Appendix VIII

King Billy Wacker Bedrock Sampling Results

## KING BILLY WACKER EL45/92

Sample No	AMGE	AMGN	DPO No	Sample Type	Prospect	EL No	Local E	Local N	Depth	Bedrock	MRTLith	FieldID	Texture	AltMin	Colour	Comments
4138168	370400	5352275	77679	WACKER	KING BILLY	EL45/92	70400	2275	12.5 N	Og	Ccy				LG	
4138169	370400	5352300	77679	WACKER	KING BILLY	EL45/92	70400	2300	18 N	Og	Ccy				LG	
4138170	370400	5352325	77679	WACKER	KING BILLY	EL45/92	70400	2325	14.5 N	Og	Ccy				G	
4138171	370400	5352350	77679	WACKER	KING BILLY	EL45/92	70400	2350	9 N	Og	Ccy				G	
4138172	370400	5352375	77679	WACKER	KING BILLY	EL45/92	70400	2375	20.2 N	Og	Ccy				G	
4138173	370400	5352400	77679	WACKER	KING BILLY	EL45/92	70400	2400	29.8 N	Og	Ccy					NO SAMPLE
4138174	370400	5352425	77679	WACKER	KING BILLY	EL45/92	70400	2425	26.5 N	Og	Ccy					NO SAMPLE
4138175	370400	5352250	77679	WACKER	KING BILLY	EL45/92	70400	2250	22 N	Og	Ccy				G	
4138176	370400	5352200	77679	WACKER	KING BILLY	EL45/92	70400	2200	11.5 N	Og	Ccy				G	
4138177	370400	5352150	77679	WACKER	KING BILLY	EL45/92	70400	2150	11 N	Og	Ccy	Ds	Py		DG	Py 0%
4138178	370400	5352175	77679	WACKER	KING BILLY	EL45/92	70400	2175	12.8 N	Og	Ccy				G	
4138199	369200	5352200	77679	WACKER	KING BILLY	EL45/92	69200	2200	1.5 Y	Ogul	Sls				DG	
4138200	369200	5352175	77679	WACKER	KING BILLY	EL45/92	69200	2175	6 Y	Ogul	Sls				DG	
4138201	369200	5352150	77679	WACKER	KING BILLY	EL45/92	69200	2150	13.2 Y	Ogul	Sls	Vc			G	
4138202	369165	5352150	77679	WACKER	KING BILLY	EL45/92	69165	2150	12.4 ?	Oglc?	Ccy				AGYB	Stratabound clay?
4138203	369165	5352125	77679	WACKER	KING BILLY	EL45/92	69165	2125	3.6 Y	Om	Sss				LBK	Micaceous sst
4138204	369165	5352100	77679	WACKER	KING BILLY	EL45/92	69165	2100	5.7 N?	Og	Ccy				B+G	
4138205	369200	5352225	77679	WACKER	KING BILLY	EL45/92	69200	2225	2.8 Y	Ogul	Sls				G	
4138206	369200	5352250	77679	WACKER	KING BILLY	EL45/92	69200	2250	2 Y	Ogul	Sls				LG	Reacts with HCl
4138207	369200	5352275	77679	WACKER	KING BILLY	EL45/92	69200	2275	6.8 ?	Ogul	CcySls				DG	Reacts with HCl
4138208	369200	5352300	77679	WACKER	KING BILLY	EL45/92	69200	2300	5 Y	Ogul	Sls	We			G	Reacts with HCl
4138209	369200	5352325	77679	WACKER	KING BILLY	EL45/92	69200	2325	2 Y	Ogul	Sls	We			G	Reacts with HCl
4138210	369200	5352350	77679	WACKER	KING BILLY	EL45/92	69200	2350	2.5 N	Ogdc	Ccy				DG	Reacts with HCl
4138211	369200	5352375	77679	WACKER	KING BILLY	EL45/92	69200	2375	1.8 Y	Ogul	Sls	We			G	Reacts with HCl
4138212	369200	5352400	77679	WACKER	KING BILLY	EL45/92	69200	2400	1.5 Y	Ogul	Sls	We			DG	Reacts with HCl
4138213	369200	5352425	77679	WACKER	KING BILLY	EL45/92	69200	2425	1.5 Y	Ogul	Sls	We			G	Reacts with HCl
4138214	369200	5352450	77679	WACKER	KING BILLY	EL45/92	69200	2450	2.8 Y	Ogul	Sls	We			G	Reacts with HCl
4138215	369200	5352475	77679	WACKER	KING BILLY	EL45/92	69200	2475	14.8 N	Ogdc	Ccy				DG	Reacts with HCl
4138216	369200	5352500	77679	WACKER	KING BILLY	EL45/92	69200	2500	6.5 N	Og	Ccy				G	Reacts with HCl
4138217	369200	5352525	77679	WACKER	KING BILLY	EL45/92	69200	2525	2.5 ?	Ogul	CcySls	We			G	Reacts with HCl
4138221	369575	5352000	77679	WACKER	KING BILLY	EL45/92	69575	2000	35 N	Og	Ccy				G	
4138222	369540	5352025	77679	WACKER	KING BILLY	EL45/92	69540	2025	21.6 Y	Ogul	Sls				G	
4138223	369500	5352025	77679	WACKER	KING BILLY	EL45/92	69500	2025	18.5 Y	Ogul	Sls				G	Calcarenite
4138224	369500	5352050	77679	WACKER	KING BILLY	EL45/92	69500	2050	35 ?	Ogdc	Ccy				DG	Carbonaceous clay. No reaction with HCl.
4138225	369500	5352300	77679	WACKER	KING BILLY	EL45/92	69500	2300	1.5 Y	Ogul	Sls				G	Lime mudstone
4138226	369500	5352325	77679	WACKER	KING BILLY	EL45/92	69500	2325	2.5 Y	Ogul	Sls				G	
4138227	369500	5352350	77679	WACKER	KING BILLY	EL45/92	69500	2350	6.5 Y	Ogul	Sls				LG	
4138228	369500	5352375	77679	WACKER	KING BILLY	EL45/92	69500	2375	3 N	Ogdc	Ccy				DG	Clay
4138229	369500	5352400	77679	WACKER	KING BILLY	EL45/92	69500	2400	3 Y	Ogul	Sls				LG	
4138230	369500	5352425	77679	WACKER	KING BILLY	EL45/92	69500	2425	3 Y	Ogul	Sls				LG	
4138231	369500	5352450	77679	WACKER	KING BILLY	EL45/92	69500	2450	2.5 Y	Ogul	Sls				G	
4138232	369500	5352475	77679	WACKER	KING BILLY	EL45/92	69500	2475	2.5 Y	Ogul	Sls				LG	
4138233	369500	5352500	77679	WACKER	KING BILLY	EL45/92	69500	2500	15 N	Ogdc	Ccy				DG	Clay. No reaction with HCl.
4138234	369500	5352275	77679	WACKER	KING BILLY	EL45/92	69500	2275	1.5 Y	Ogul	Sls				G	
4138235	369500	5352250	77679	WACKER	KING BILLY	EL45/92	69500	2250	7 Y	Ogul	Sls				DG	Carbonaceous lime mud
4138236	369500	5352225	77679	WACKER	KING BILLY	EL45/92	69500	2225	2.5 Y	Ogul	Sls	Vc	Cc		LG	
4138237	369500	5352200	77680	WACKER	KING BILLY	EL45/92	69500	2200	2 Y	Ogul	Sls				G	

## KING BILLY WACKER EL45/92

Sample No	AMGE	AMGN	DPO No	Sample Type	Prospect	EL No	Local E	Local N	Depth	Bedrock	MRTLith	FieldID	Texture	AltMin	Colour	Comments
4138238	369500	5352175	77680	WACKER	KING BILLY	EL45/92	69500	2175	4 Y	Ogul	Sls				G	Med grained calcarenite; weakly calcareous
4138239	369500	5352150	77680	WACKER	KING BILLY	EL45/92	69500	2150	9 Y	Ogul	Sls				G	Med/fine grained calcarenite
4138240	369500	5352125	77680	WACKER	KING BILLY	EL45/92	69500	2125	3.5 Y	Ogul	Sls				G	
4138241	369500	5352100	77680	WACKER	KING BILLY	EL45/92	69500	2100	6 Y	Ogul	Sls				DG	
4138242	369500	5352075	77680	WACKER	KING BILLY	EL45/92	69500	2075	13 Y	Ogul	Sls				G	
4138243	368750	5352075	77680	WACKER	KING BILLY	EL45/92	68750	2075	1.5 Y	Ogul	Sls				LBW	V. weakly calcareous; shaley
4138244	368750	5352100	77680	WACKER	KING BILLY	EL45/92	68750	2100	2.5 Y	Sc	Sss				LGW	Shaley sand
4138245	368750	5352125	77680	WACKER	KING BILLY	EL45/92	68750	2125	2 Y	Sc	Sss				LGW	Shaley sand
4138246	368750	5352150	77680	WACKER	KING BILLY	EL45/92	68750	2150	1.5 Y	Sc	Scg				GLGW	Probable quartz clasts
4138247	368850	5352150	77680	WACKER	KING BILLY	EL45/92	68850	2150	6 Y	Sc	Sss				LGWV	Chloritic sandstone
4138248	368850	5352175	77680	WACKER	KING BILLY	EL45/92	68850	2175	6 Y	Ogul	Sls				LG	Weakly calcareous
4138249	368850	5352200	77680	WACKER	KING BILLY	EL45/92	68850	2200	20.2 Y	Ogul	Sls				G	
4138250	368850	5352225	77680	WACKER	KING BILLY	EL45/92	68850	2225	15.8 Y	Ogul	Sls	Vc			G	
4138251	368850	5352250	77680	WACKER	KING BILLY	EL45/92	68850	2250	20.5 Y	Ogdl	Sdl				DGN	Graphitic; no reaction to HCl
4138252	368850	5352275	77680	WACKER	KING BILLY	EL45/92	68850	2275	15 N?	Ogdl	Sdl				B	No reaction to HCl
4138253	368850	5352300	77680	WACKER	KING BILLY	EL45/92	68850	2300	22 Y	Ogul	Sls				G	
4138254	368850	5352325	77680	WACKER	KING BILLY	EL45/92	68850	2325	16.3 Y	Ogul	Sls				G	Poss. micrite with argillite
4138255	368850	5352350	77680	WACKER	KING BILLY	EL45/92	68850	2350	13 Y	Ogul	Sls				G	Poss. micrite with dark calcarenite
4138256	368850	5352375	77680	WACKER	KING BILLY	EL45/92	68850	2375	1.5 Y	Ogul	Sls				G	Dark grey line grained calcarenite (calcsiltite) fragments
4138257	368850	5352400	77680	WACKER	KING BILLY	EL45/92	68850	2400	1.5 Y	Ogul	Sls				G	Dark grey line grained calcarenite (calcsiltite) fragments
4138258	368850	5352425	77680	WACKER	KING BILLY	EL45/92	68850	2425	5.8 Y	Ogul	Sls	Vc			G	
4138259	368850	5352450	77680	WACKER	KING BILLY	EL45/92	68850	2450	7 Y	Ogul	Sls				G	
4138260	368850	5352475	77680	WACKER	KING BILLY	EL45/92	68850	2475	1.5 Y	Ogul	Sls	Vc			G	
4138261	368850	5352500	77680	WACKER	KING BILLY	EL45/92	68850	2500	16.4 Y	Ogul	Sls				G	Dark grey calcsiltite frags.
4138262	368560	5352040	77680	WACKER	KING BILLY	EL45/92		11.8 N		Ogul					DG	Clay; no reaction to HCl
4138263	368583	5352030	77680	WACKER	KING BILLY	EL45/92		6 N?		Ogul					BDG	Sandy clay with no reaction to HCl
4138264	368606	5352020	77680	WACKER	KING BILLY	EL45/92		2 N		Ogul					B	Gravel; no reaction to HCl
4138436	370800	5352450	77700	WACKER	KING BILLY	EL45/92	70800	2450	11.5 Y	Ogdc	Ccy	clay			N	Black non-calcareous clay
4138437	370800	5352425	77700	WACKER	KING BILLY	EL45/92	70800	2425	8.8 Y	Ogdc	Ccy	clay		Py	N	Non-calcareous; minor pyrite dissem.
4138438	370800	5352400	77700	WACKER	KING BILLY	EL45/92	70800	2400	2.5 Y	Ogdc	Ccy	clay			LBG	Limonitic ?clast in calcareous clay
4138439	370800	5352375	77700	WACKER	KING BILLY	EL45/92	70800	2375	2.5 Y	Om	Ccy	clay			LGW	Sandstone
4138440	370800	5352350	77700	WACKER	KING BILLY	EL45/92	70800	2350	2 Y	Ogdc	Ccy	clay			CB	Limonitic clay nodules in grey calcareous clay
4138441	370800	5352325	77700	WACKER	KING BILLY	EL45/92	70800	2325	11.8 Y	Om	Ccy	clay			LBG	Non-calcareous ?sandstone; ?bedrock
4138442	370800	5352300	77700	WACKER	KING BILLY	EL45/92	70800	2300	14.8 N	Om	Ccy	clay			G	?bedrock; non-calcareous clay
4138443	370800	5352275	77700	WACKER	KING BILLY	EL45/92	70800	2275	13.6 Y	Om	Ccy	clay			LBW	
4138444	370800	5352250	77700	WACKER	KING BILLY	EL45/92	70800	2250	9.4 Y	Ogdc	Ccy	clay			N	Non-calcareous
4138445	370800	5352225	77700	WACKER	KING BILLY	EL45/92	70800	2225	3.8 Y	Om	Ccy	clay			LGW	Non-calcareous
4138446	370800	5352200	77700	WACKER	KING BILLY	EL45/92	70800	2200	13.3 Y	Om	Ccy	clay			GLGW	Non-calcareous
4138447	370800	5352175	77700	WACKER	KING BILLY	EL45/92	70800	2175	14.1 Y	Ogdc	Ccy	clay			G	Non-calcareous
4138448	370800	5352150	77700	WACKER	KING BILLY	EL45/92	70800	2150	14.5 Y	Ogdc	Ccy	clay			G	Non-calcareous with qtz frags.
4138449	370800	5352125	77700	WACKER	KING BILLY	EL45/92	70800	2125	14.3 Y	Ogdc	Ccy	clay			G	Non-calcareous
4138450	370800	5352100	77700	WACKER	KING BILLY	EL45/92	70800	2100	14.2 Y	Om	Sss	Sandy clay			LGW	Non-calcareous
4138451	370800	5352075	77700	WACKER	KING BILLY	EL45/92	70800	2075	12.5 Y	Om	Ccy	clay			LGW	Non-calcareous
4138452	370800	5352050	77700	WACKER	KING BILLY	EL45/92	70800	2050	16.5 Y	Ogul	Sls	Sandy clay	we		DG	Rotted limestone
4138453	370800	5352025	77700	WACKER	KING BILLY	EL45/92	70800	2025	12.5 Y	Ogdc	Ccy	clay			DGN	Non-calcareous
4138454	370800	5352000	77700	WACKER	KING BILLY	EL45/92	70800	2000	12.5 Y	Ogfc	Ccy	Sandy clay			OB	Non-calcareous - heavily limonitic
4138475	371200	5352500	77700	WACKER	KING BILLY	EL45/92	71200	2500	18.8 Y	Ogul	Sls	Sandy clay	Vc		LGGDG	

KING BILLY WACKER EL45/92

Sample No	AMGE	AMGN	DPO No	Sample Type	Prospect	EL No	Local E	Local N	Depth	Bedrock	MRTLith	FieldID	Texture	AltMin	Colour	Comments
4138476	371200	5352475	77700	WACKER	KING BILLY	EL45/92	71200	2475	10. Y		Ogul	Sls	Sandy clay	Vc	LGDG	?Micritic
4138477	371200	5352450	77700	WACKER	KING BILLY	EL45/92	71200	2450	5.8 Y		Ogul	Sls	Sandy clay		LGDG	Micritic argillite
4138478	371200	5352425	77700	WACKER	KING BILLY	EL45/92	71200	2425	19.3 Y		Ogul	Sls	Sandy clay		LG	?Micritic
4138479	371200	5352400	77700	WACKER	KING BILLY	EL45/92	71200	2400	11.6 Y		Ogdc	Ccy	clay		B	?Bedrock
4138480	371200	5352375	77700	WACKER	KING BILLY	EL45/92	71200	2375	14.5 Y		Ogdc	Ccy	clay		DGLB	?Bedrock
4138481	371200	5352350	77700	WACKER	KING BILLY	EL45/92	71200	2350	10 Y		Ogul	Ccy	clay	Vc	DGN	Micritic argillite
4138482	371200	5352325	77700	WACKER	KING BILLY	EL45/92	71200	2325	16.5 Y		Ogdc	Ccy	clay sand		N	
4138483	371200	5352300	77700	WACKER	KING BILLY	EL45/92	71200	2300	14.5 Y		Ogul	Sls	Sandy clay	Vc	LGDG	Micritic
4138484	371200	5352275	77700	WACKER	KING BILLY	EL45/92	71200	2275	16.5 Y		Ogdc	Ccy	clay		N	
4138485	371200	5352250	77700	WACKER	KING BILLY	EL45/92	71200	2250	20 Y		Ogdc	Ccy	clay		LGWDGN	Non-calcareous
4138486	371200	5352225	77700	WACKER	KING BILLY	EL45/92	71200	2225	12.1 Y		Ogdc	Ccy	clay		DGN	Non-calcareous
4138487	371200	5352200	77700	WACKER	KING BILLY	EL45/92	71200	2200	8 Y		Ogfc	Ccy	clay		OB	
4138488	371200	5352175	77700	WACKER	KING BILLY	EL45/92	71200	2175	8 Y		Ogul	Sls	Sandy clay		DBG	Fine grained calcarenite frags
4138489	371200	5352150	77700	WACKER	KING BILLY	EL45/92	71200	2150	0.5 Y		Ogul	Sls	rock sand		G	?Dolomitised birds eye micrite
4138490	371200	5352125	77700	WACKER	KING BILLY	EL45/92	71200	2125	11.6 Y		Ogul	Sls	Sandy clay		GDG	?Dolomitised lt grey fine calcarenite/micrite
4138491	371200	5352100	77700	WACKER	KING BILLY	EL45/92	71200	2100	7 Y		Ogul	Ccy	clay		BO	
4138492	371200	5352075	77700	WACKER	KING BILLY	EL45/92	71200	2075	3.5 Y		Ogul	Ccy	clay		LGBO	
4138493	371200	5352050	77700	WACKER	KING BILLY	EL45/92	71200	2050	0.5 Y		Ogul	Sls	Sandy clay		DBG	Orange clay overlying limestone
4138494	371200	5352025	77700	WACKER	KING BILLY	EL45/92	71200	2025	2.1 Y		Ogul	Sls	Sandy clay		LG	Fine grained lt grey calcarenite/micrite
4138495	371200	5352000	77700	WACKER	KING BILLY	EL45/92	71200	2000	3.1 Y		Ogul	Sls	Sandy clay		LG	Fine grained lt grey calcarenite/micrite

KING BILLY WACKER EL45/92

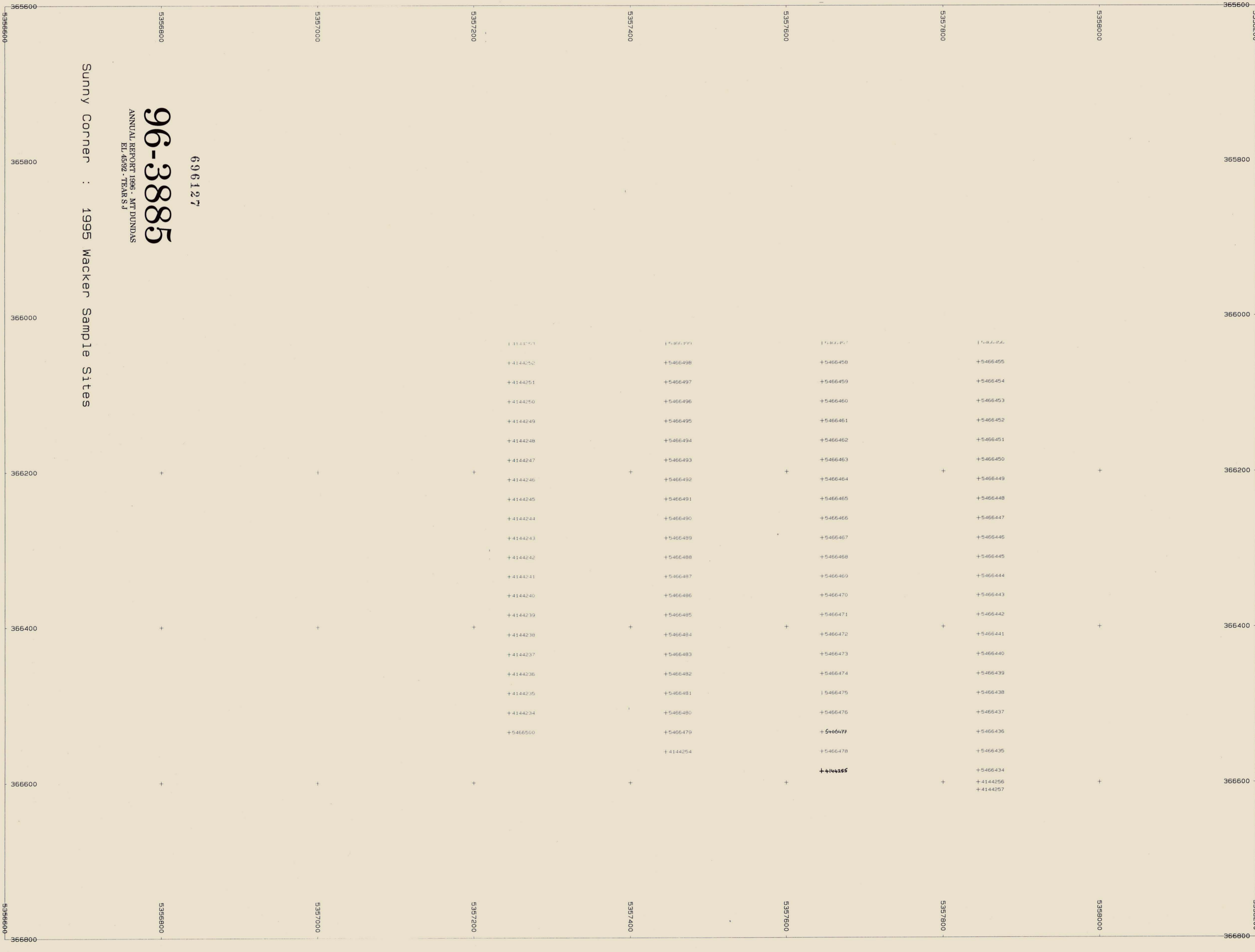
Sample No	Ag	Al	As	Ba	Ca	Cu	Fe	K	Mg	Mn	Pb	Zn
4138168	-0.5	6.82	13	241	0.08	18	0.6	3.5	0.73	14	33	249
4138169	-0.5	5.2	8	231	13.42	23	1.18	3.17	2.26	89	24	39
4138170	-0.5	3.08	-5	85	20.57	13	1.12	1.48	1.9	82	22	27
4138171	-0.5	9.14	45	215	0.11	27	2.64	3.29	0.89	51	32	192
4138172	-0.5	8.43	30	217	0.13	25	1.72	3.31	0.87	35	35	113
4138173												
4138174												
4138175	-0.5	6.6	18	283	3.67	13	1.2	3.89	0.98	33	24	160
4138176	-0.5	8.65	23	374	-0.05	18	2.39	4.51	1.16	24	27	81
4138177	-0.5	7.15	58	232	-0.05	20	4.94	2.93	0.72	32	59	294
4138178	-0.5	7.52	34	317	-0.05	21	3.8	3.89	0.89	31	40	658
4138199	-0.5	1.36	10	70	19.48	30	4.52	0.73	5.24	339	66	77
4138200	-0.5	1.79	11	62	26.02	6	1.01	0.99	2.6	161	27	23
4138201	-0.5	0.71	-5	32	28.91	-5	0.94	0.37	2.12	201	32	58
4138202	-0.5	4.18	20	194	2.24	17	1.27	1.56	0.38	53	262	837
4138203	-0.5	4.63	20	152	-0.05	21	0.62	2.16	0.2	11	23	18
4138204	-0.5	5.08	168	223	-0.05	71	1.49	2.21	0.3	20	444	633
4138205	-0.5	1.87	-5	82	25.39	8	0.93	1.07	1.76	141	16	14
4138206	-0.5	2.34	-5	107	25.54	9	0.91	1.32	1.23	128	14	13
4138207	-0.5	2.82	-5	128	22.6	17	1.29	1.48	1.09	106	19	67
4138208	-0.5	2.45	-5	112	21.41	-5	1.94	1.31	2.7	302	12	11
4138209	-0.5	2.55	18	90	19.31	7	1.64	1.37	4.52	265	29	29
4138210	-0.5	1.92	14	80	21.54	5	1.13	0.99	2.02	148	26	63
4138211	-0.5	0.99	-5	44	17.09	6	1.08	0.45	1.12	108	21	23
4138212	-0.5	1.82	-5	56	30.39	7	0.69	0.99	0.31	131	27	77
4138213	-0.5	2.21	-5	101	22.67	-5	1.9	1.22	1.75	231	20	20
4138214	-0.5	0.88	9	29	20.59	-5	1.38	0.4	3.15	705	19	52
4138215	-0.5	1.25	-5	57	31.56	-5	0.81	0.68	0.95	101	20	29
4138216	-0.5	0.78	-5	31	29.18	-5	0.85	0.43	2.96	182	26	94
4138217	-0.5	4.11	10	215	15.36	-5	1.48	2.15	1.28	194	22	74
4138221	-0.5	9.04	38	322	0.06	21	2.01	4.31	0.98	19	57	215
4138222	-0.5	0.47	-5	25	31.36	-5	0.8	0.26	1.92	247	41	168
4138223	-0.5	0.85	-5	26	33.97	-5	0.81	0.37	0.45	292	62	255
4138224	-0.5	8.2	59	316	0.1	32	2.44	4	0.86	26	54	247
4138225	-0.5	1.95	-5	67	13.17	-5	1.61	0.92	5.36	196	27	26
4138226	-0.5	3.5	-5	150	20.44	9	1.06	1.88	1.08	132	38	99
4138227	-0.5	1.49	-5	67	28.41	-5	0.89	0.86	0.76	204	16	19
4138228	-0.5	3.13	-5	121	18.21	5	2.1	1.73	3.08	311	16	22
4138229	-0.5	1.4	-5	53	27.89	-5	0.53	0.77	0.5	116	16	18
4138230	-0.5	2.73	9	93	23.56	8	1.06	1.52	1.48	158	22	53
4138231	-0.5	1.07	-5	44	26.52	-5	0.7	0.54	3.92	147	18	21
4138232	-0.5	0.62	-5	23	32.98	-5	0.34	0.28	0.4	68	15	25
4138233	-0.5	5.05	39	245	0.12	20	2.12	2.23	0.44	50	50	80
4138234	-0.5	2.53	-5	103	20.75	16	1.6	1.36	2.73	172	17	31
4138235	-0.5	4.2	9	199	14.94	-5	1.93	2.45	4.4	194	16	19
4138236	-0.5	3.05	-5	138	18.14	10	1.28	1.71	0.9	190	10	15
4138237	-0.5	1.62	-5	70	23.14	-5	0.85	0.94	0.89	96	-10	21

KING BILLY WACKER EL45/92

Sample No	Ag	Al	As	Ba	Ca	Cu	Fe	K	Mg	Mn	Pb	Zn
4138238	-0.5	1.01	-5	40	29.45	-5	0.7	0.51	1.71	123	21	20
4138239	-0.5	2.46	-5	66	23.05	8	1.83	0.79	2.05	252	56	269
4138240	-0.5	0.75	-5	31	31.94	-5	0.8	0.41	2.81	186	12	126
4138241	-0.5	0.76	18	27	34.62	-5	1	0.42	0.29	72	40	200
4138242	-0.5	1.78	-5	70	29.57	-5	1.25	1.05	1.29	325	13	22
4138243	-0.5	9.03	22	239	0.09	-5	1	3.19	0.35	19	16	22
4138244	-0.5	9.69	13	462	0.07	9	1.47	4.11	0.56	28	20	30
4138245	-0.5	9.68	-5	329	-0.05	-5	1.12	4.77	0.53	22	15	30
4138246	-0.5	0.7	-5	13	-0.05	-5	1.08	0.19	0.2	117	-10	713
4138247	-0.5	7.59	-5	268	-0.05	7	4.29	3.21	1.26	150	12	85
4138248	-0.5	3.34	-5	117	-0.05	6	0.37	1.58	0.25	14	18	47
4138249	-0.5	2.52	13	78	18.97	8	1.9	1.4	5.12	555	54	180
4138250	-0.5	2.22	-5	77	22.32	5	1.2	1.22	2.19	233	16	28
4138251	0.6	7.33	149	245	0.07	34	4.9	3.56	0.65	31	1590	3050
4138252	1.1	3.84	21	146	5.08	14	1.4	1.63	1.3	68	155	278
4138253	-0.5	1.71	-5	71	23.48	-5	1.63	0.93	2.71	376	13	23
4138254	-0.5	1.84	-5	72	22.48	-5	1.23	0.93	2.26	234	-10	37
4138255	-0.5	3.06	-5	95	22.11	9	3.09	1.37	2.26	791	30	37
4138256	-0.5	3.3	-5	148	13.38	-5	2.32	1.81	3.09	268	13	12
4138257	-0.5	1.84	-5	80	23.58	7	1.89	0.97	1.46	259	14	108
4138258	-0.5	3.72	-5	160	23.77	12	1.79	1.42	1.59	385	18	213
4138259	-0.5	1.15	-5	61	27.56	-5	0.8	0.53	0.44	99	18	15
4138260	-0.5	2.49	-5	106	21.01	-5	1.86	1.08	1.71	251	13	21
4138261	-0.5	3.1	22	102	18.93	10	1.67	1.42	2.12	202	30	189
4138262	-0.5	6.36	79	166	0.11	25	4.64	2.2	0.41	19	83	739
4138263	-0.5	5.9	207	181	0.12	25	4.77	2.24	0.47	39	52	497
4138264	1	1.02	13	75	-0.05	-5	0.21	0.39	0.06	12	18	13
4138436	-0.5	6.46	65	545	0.08	32	2.78	4.85	0.68	20	77	520
4138437	-0.5	8.56	37	457	0.11	39	1.43	4.19	0.75	24	1360	897
4138438	-0.5	4.7	5	293	16.6	11	2.44	2.19	1.72	107	39	94
4138439	-0.5	3.67	-5	165	14	-5	0.46	1.57	0.35	128	36	31
4138440	-0.5	6.95	25	342	6.72	16	1.54	2.95	1.24	59	65	127
4138441	-0.5	5.86	22	415	0.26	32	0.56	3.54	0.57	17	833	335
4138442	-0.5	6.87	36	599	0.18	19	2	4.07	0.61	24	53	1800
4138443	-0.5	8.66	31	472	0.06	40	1.63	3.59	0.67	23	161	31
4138444	-0.5	8.91	17	512	-0.05	25	3.43	4.68	0.89	23	87	45
4138445	-0.5	8.1	27	565	-0.05	-5	0.65	3.98	0.6	13	-10	15
4138446	-0.5	8.41	-5	516	0.05	-5	0.59	3.91	0.63	16	32	21
4138447	-0.5	6.72	31	666	-0.05	11	1.51	4.69	0.67	30	36	24
4138448	-0.5	7.76	40	515	0.05	17	2.27	3.96	0.74	27	81	427
4138449	-0.5	6.58	32	566	-0.05	11	1.94	3.86	0.6	27	96	105
4138450	-0.5	6.4	24	415	-0.05	-5	0.36	3.2	0.44	11	-10	11
4138451	-0.5	7.01	18	418	-0.05	13	1.08	4.02	0.66	11	120	17
4138452	-0.5	2.48	-5	113	26.5	8	3.15	1.28	2.31	286	31	867
4138453	-0.5	7.8	109	369	0.52	27	3.23	3.6	0.79	42	133	1000
4138454	-0.5	8.34	41	234	0.06	30	3.33	2.62	0.4	-10	139	521
4138475	-0.5	1.96	-5	63	25.1	6	2.83	0.94	2	153	63	158

KING BILLY WACKER EL45/92

Sample No	Ag	Al	As	Ba	Ca	Cu	Fe	K	Mg	Mn	Pb	Zn
4138476	-0.5	0.52	-5	33	35.5	-5	0.48	0.21	0.65	393	113	86
4138477	-0.5	2.25	-5	136	25.1	5	1.25	1.29	3.59	130	35	94
4138478	-0.5	1.85	-5	63	28.8	6	0.53	1.06	0.59	130	21	17
4138479	-0.5	6.27	-5	169	0.08	6	0.35	3.15	0.83	18	43	16
4138480	-0.5	8.96	29	191	0.07	37	1.03	3.51	0.89	25	61	80
4138481	-0.5	1.64	-5	79	29.5	6	0.64	0.86	0.93	61	40	52
4138482	-0.5	7.03	32	315	0.22	19	1.89	3.83	0.82	30	64	159
4138483	-0.5	1.05	-5	48	30.7	-5	0.69	0.57	2.13	112	24	23
4138484	-0.5	8.83	54	412	0.97	25	2.35	4.33	1.2	47	199	553
4138485	-0.5	9.85	-5	430	0.1	13	0.86	4.99	1.04	27	187	111
4138486	-0.5	9.24	119	280	0.18	23	3.19	3.81	0.9	46	60	1690
4138487	-0.5	9.71	42	361	1.52	39	6.38	4.45	1.53	2480	114	271
4138488	-0.5	3.51	-5	142	22.4	8	2.44	1.96	0.89	347	28	30
4138489	-0.5	2.23	-5	91	27.6	6	0.95	1.22	1.09	142	27	178
4138490	-0.5	3.44	-5	139	18.7	11	1.04	1.74	0.56	299	265	345
4138491	-0.5	6.14	16	316	3.49	23	4.68	3.03	0.7	346	548	1090
4138492	-0.5	3.15	-5	136	23.7	9	1.26	1.56	0.71	144	194	197
4138493	-0.5	4.21	18	150	17	12	1.52	1.81	3	79	44	27
4138494	-0.5	1.6	-5	83	29.1	-5	0.78	0.82	0.54	243	69	80
4138495	-0.5	0.99	-5	35	30.6	-5	0.67	0.45	0.52	187	276	139



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**96-3885**

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BL 45/92 - TEAR S J

Sunny Corner : 1995 Wacker Sample Sites

535600 5357000 5357200 5357400 5357600 5357800 5358000

365600 365800 366000 366200 366400 366600 366800

535600 5357000 5357200 5357400 5357600 5357800 5358000

535600	+	4144257	5357000	+	4144256	5357200	+	4144255	5357400	+	4144254	5357600	+	4144253	5357800	+	4144252	5358000
365800		4144252			4144251			4144250			4144249			4144248			4144247	
366000		4144246			4144245			4144244			4144243			4144242			4144241	
366200		4144240			4144239			4144238			4144237			4144236			4144235	
366400		4144234			4144233			4144232			4144231			4144230			4144229	
366600		4144227			4144226			4144225			4144224			4144223			4144222	
366800		4144220			4144219			4144218			4144217			4144216			4144215	

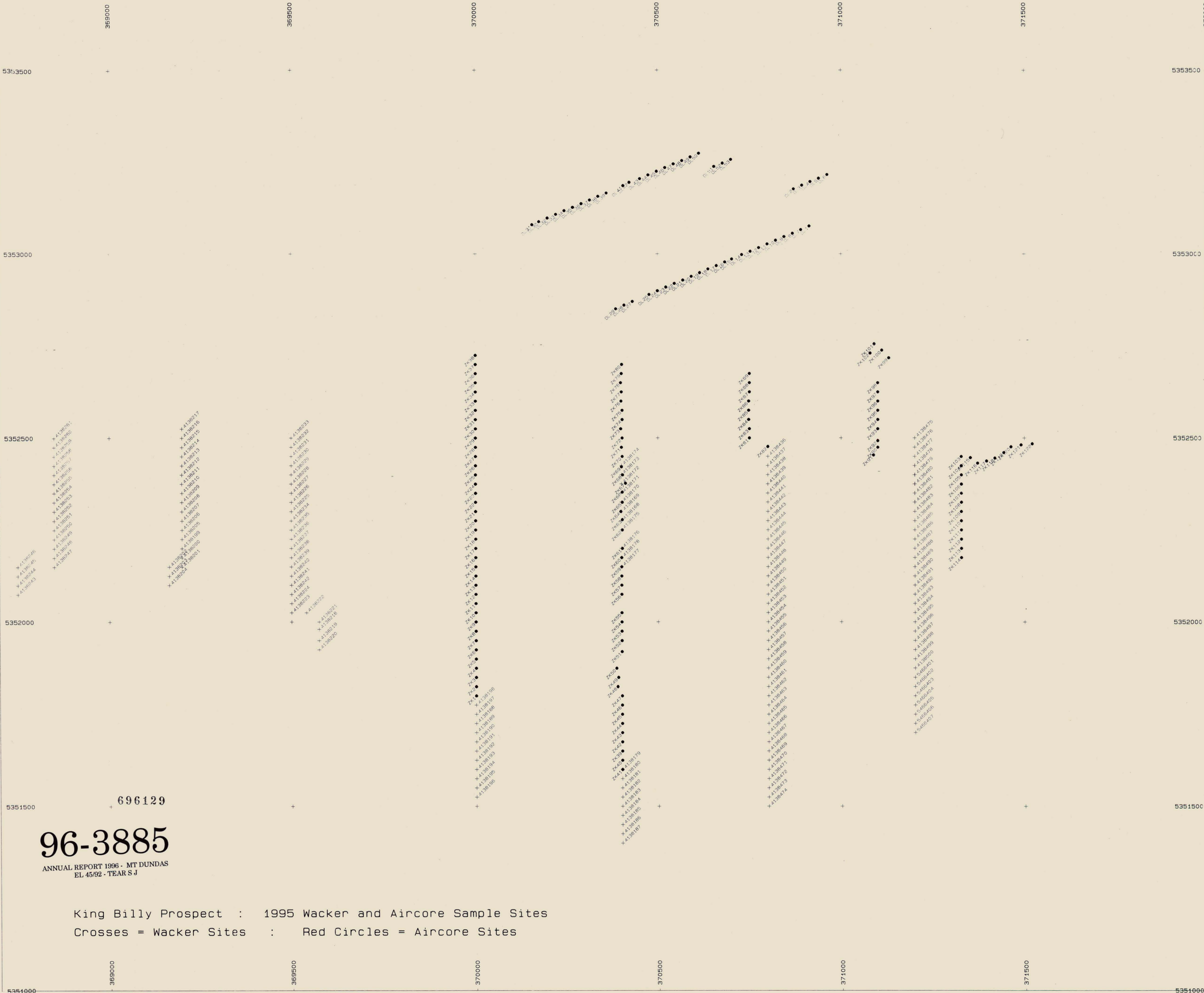
Amber Creek Prospect : 1995 Wacker Sample Sites



96-3885

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EL 45/92 - TEAR S J

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696129

# 96-3885

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EL 45/92 - TEAR S J

King Billy Prospect : 1995 Wacker and Aircore Sample Sites  
Crosses = Wacker Sites : Red Circles = Aircore Sites

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**Appendix IX**

**King Billy Aircore Results including EOH Samples**

KING BILLY DOWN HOLE EL 45/92

EL No	Prospect	Hole No	From	To	Sample No	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag	Cu	Fe	Mn	Pb	Zn
45/92	KING BILLY	ZK9	0	3	4142888	Oha	Ccy			LBDG	Gritty	-1	12	0.29	16	24	4
45/92	KING BILLY	ZK9	3	6	4142889	Oha	Ccy			LGB	Gritty	-1	40	2.86	24	42	155
45/92	KING BILLY	ZK9	6	9	4142890	Ogdc	CcySls	Py		DGLB	Gritty	-1	24	2.94	25	29	59
45/92	KING BILLY	ZK9	9	12	4142891	Ogdc	CcySls	PyVd		DG	Gritty	-1	25	2.45	25	30	131
45/92	KING BILLY	ZK9	12	15	4142892	Ogdc	CcySls	Py		DG	Gritty	-1	29	3.19	25	36	173
45/92	KING BILLY	ZK9	15	18	4142893	Ogdc	CcySls	Py		DG	Gritty	-1	32	4.17	27	55	142
45/92	KING BILLY	ZK9	18	21	4142894	Ogdc	CcySls	Vd		LGDG	Gritty	1	26	3.39	43	77	217
45/92	KING BILLY	ZK9	22.5	23	4142895	Ogul	Sls			DG	Gritty Sand	-1	20	2.73	186	42	214
45/92	KING BILLY	ZK9	21	23	4142896	Ogul	Sls	Py		DG	Gritty Clay Wet	-1	19	3	176	45	180
45/92	KING BILLY	ZK10	0	3	4142897	Ogdc	Ccy			DGN	Gritty	-1	32	0.99	19	30	54
45/92	KING BILLY	ZK10	3	6	4142898	Ogdc	CcySls	Di		DG	Gritty	-1	20	2.6	31	28	127
45/92	KING BILLY	ZK10	6	9	4142899	Ogdc	CcySls			LBDG	Gritty	-1	28	1.8	23	70	192
45/92	KING BILLY	ZK10	9	12	4142900	Ogdc	CgCcySls			DGLB	Gravelly Clay	-1	28	1.82	25	58	145
45/92	KING BILLY	ZK10	12	15	4142901	Ogdc	CgCcySls			DG	Gravelly Clay	-1	22	2.3	25	39	142
45/92	KING BILLY	ZK10	15	18	4142902	Ogdc	CgCcySls			DG	Gravelly Clay	-1	20	5.4	26	35	149
45/92	KING BILLY	ZK10	18	21	4142903	Ogul	CcySls			DG	Gravelly Clay	-1	22	4.84	30	18	100
45/92	KING BILLY	ZK10	21	22	4142904	Ogul	Sls			DG	Grit	-1	21	1.55	59	24	233
45/92	KING BILLY	ZK11	0	3	4142905	Ogdc	CcySls			LBDBG	Gritty	-1	14	0.6	29	20	19
45/92	KING BILLY	ZK11	3	6	4142906	Ogdc	CcySls	Vd		DGLB	Gritty	-1	24	1.37	19	77	880
45/92	KING BILLY	ZK11	6	9	4142907	Ogul	Sls	Py		DG	Water	-1	20	3.33	21	36	169
45/92	KING BILLY	ZK11	9	12	4142908	Ogul	CcySls			DG		-1	18	2.41	20	34	213
45/92	KING BILLY	ZK11	12	15	4142909	Ogdc	CcySls			DG	Gritty	-1	17	1.94	16	36	167
45/92	KING BILLY	ZK11	15	18	4142910	Ogul	CsSls			GLB	Sandy	-1	21	1.86	18	34	140
45/92	KING BILLY	ZK11	18	21	4142911	Ogul	CcySls	VcDi		GLB	Sucrosic	-1	17	1.86	19	30	97
45/92	KING BILLY	ZK11	21	24	4142912	Ogdc	CcySls	Py		LBG	Gritty	-1	21	1.03	16	70	148
45/92	KING BILLY	ZK11	24	27	4142913	Ogdc	CcySlsCg			LBG	Gravelly	-1	20	1.23	28	65	138
45/92	KING BILLY	ZK11	27	30	4142914	Ogul	Sls	Vc		LBG	Sucrosic	-1	18	2.2	20	94	421
45/92	KING BILLY	ZK11	30	33	4142915	Ogul	Sls	Vc		G	Water	-1	19	2.42	24	188	855
45/92	KING BILLY	ZK11	33	34	4142916	Ogul	Sls			LGG	Sucrosic	-1	17	1.68	82	76	429
45/92	KING BILLY	ZK12	0	3	4142917	Oha	Cg			DB	Gravel	-1	8	0.36	22	8	11
45/92	KING BILLY	ZK12	3	6	4142918	Oha	CgCcy			LBG	Gravelly	-1	41	1.22	23	376	75
45/92	KING BILLY	ZK12	6	9	4142919	Ogdc	CcySls			GB	Gritty	2	158	1.16	20	471	252
45/92	KING BILLY	ZK12	9	12	4142920	Ogdc	CcySls	Di		GLB	Slightly Gritty Gravelly	1	73	0.77	18	359	92
45/92	KING BILLY	ZK12	12	15	4142921	Ogul	CcySls			G	Gritty	-1	47	2.12	26	332	796
45/92	KING BILLY	ZK13	0	3	4142922	Ogdc	CcySls			LBG	Soft Sticky	-1	27	1.61	24	66	147
45/92	KING BILLY	ZK13	3	6	4142923	Ogdc	CcySls			GLB	Sticky Gritty	-1	25	2.31	24	49	168
45/92	KING BILLY	ZK13	6	9	4142924	Ogdc	CcySlsCg			G	Gritty Gravelly	-1	22	2.33	26	37	151
45/92	KING BILLY	ZK13	9	12	4142925	Ogdc	CcySls	Di		G	Gravelly Clay	-1	24	2.37	30	39	156
45/92	KING BILLY	ZK13	12	15	4142926	Ogdc	CcySls			G	Gritty	-1	23	2.36	33	37	95
45/92	KING BILLY	ZK13	15	18	4142927	Ogdc	CcySls			G	Gritty	-1	25	2.5	35	37	117
45/92	KING BILLY	ZK13	18	21	4142928	Ogul	Sls	Vc		LGG	BedRock Wet Sample	-1	22	2.32	34	32	74
45/92	KING BILLY	ZK14	0	3	4142929	Oha	CcyCg			LVGLB	Gravelly Clay	-1	17	1.29	111	24	33
45/92	KING BILLY	ZK14	3	6	4142930	Oha	CcyCg			LVGLB	Gravelly Clay	-1	17	1.31	117	27	52
45/92	KING BILLY	ZK14	6	9	4142931	Ogdc	CcySls	Di		DG	Gravelly	-1	27	2.1	97	89	716
45/92	KING BILLY	ZK14	9	12	4142932	Ogdc	CcySls	Di		G	Gravelly Clay	-1	28	2.91	69	51	301
45/92	KING BILLY	ZK14	12	15	4142933	Ogdc	CcySls	VqDi		G	Gravelly	-1	32	3.09	58	54	244
45/92	KING BILLY	ZK14	15	18	4142934	Ogdc	CcySls			GLB	Gravelly Sticky	-1	25	2.99	43	41	179
45/92	KING BILLY	ZK14	18	21	4142935	Ogdc	CcySls			G	R.F.s	-1	24	2.42	62	35	105
45/92	KING BILLY	ZK14	21	24	4142936	Ogul	Sls			G	Water Siltstone	-1	21	2.15	37	23	66
45/92	KING BILLY	ZK14	24	27	4142937	Ogul	Sls			DG	Siltstone After SLs	-1	21	2.2	39	26	63
45/92	KING BILLY	ZK14	27	30	4142938	Ogdc	CcySls			G	Gravelly	-1	19	2.34	42	45	74

KING BILLY DOWN HOLE EL 45/92

EL No	Prospect	Hole No	From	To	Sample No	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag	Cu	Fe	Mn	Pb	Zn
45/92	KING BILLY	ZK14	30	33	4142939	Ogdc	CcySlS		Vq	G	Gravelly	-1	22	2.48	108	41	94
45/92	KING BILLY	ZK14	33	34	4142940	Ogul	CcySlS			G	Gravelly Clay	-1	18	2.22	156	35	56
45/92	KING BILLY	ZK15	0	3	4142941	Oha	CgCcy			LVGLBDB	Gritty Clay Gravel	-1	12	1.02	47	24	30
45/92	KING BILLY	ZK15	3	6	4142942	Oha	CgCcy			LVGGLB	Gravelly Clay	-1	18	0.64	34	27	26
45/92	KING BILLY	ZK15	6	9	4142943	Ogdc	CcySlS		Vg	DG	Gritty	-1	28	3.24	42	50	207
45/92	KING BILLY	ZK15	9	12	4142944	Ogdc	CcySlS		Py	DG	Gravelly	-1	20	2.71	40	85	345
45/92	KING BILLY	ZK15	12	15	4142945	Ogdc	CcySlS			DG	Gritty	-1	22	3.06	41	46	153
45/92	KING BILLY	ZK15	15	18	4142946	Ogdc	CcySlS			DG	Gritty Gravelly	-1	22	2.91	39	55	201
45/92	KING BILLY	ZK15	18	21	4142947	Ogdc	CcySlS		Vq	DG	Gritty	-1	23	3.04	36	46	426
45/92	KING BILLY	ZK15	21	24	4142948	Ogdc	CcySlS			DG	Gravelly	-1	26	2.68	42	41	213
45/92	KING BILLY	ZK15	24	27	4142949	Ogul	SlS			DG		-1	21	2.45	77	39	174
45/92	KING BILLY	ZK15	27	29	4142950	Ogul	SlS		Vq	G	Fossiliferous	-1	19	2.38	70	35	311
45/92	KING BILLY	ZK16	0	3	4142951	Oha	CcyCg			LVGOB		-1	11	1.04	22	13	24
45/92	KING BILLY	ZK16	3	6	4142952	Ogdc	CcySlS			DG	Gravelly	-1	11	1.04	22	55	35
45/92	KING BILLY	ZK16	6	9	4142953	Ogdc	Ccy			DG	Sticky	-1	27	2.71	40	76	91
45/92	KING BILLY	ZK16	9	12	4142954							-1	22	2.57	43	59	125
45/92	KING BILLY	ZK16	12	15	4142955							-1	22	2.59	46	42	176
45/92	KING BILLY	ZK16	15	18	4142956				Py		Pyrite	-1	20	2.65	66	41	196
45/92	KING BILLY	ZK17	0	3	4142957							-1	9	0.6	28	27	42
45/92	KING BILLY	ZK17	3	6	4142958							-1	14	1.8	27	106	504
45/92	KING BILLY	ZK17	6	9	4142959							-1	21	2.74	32	51	1092
45/92	KING BILLY	ZK17	9	12	4142960							-1	22	3.53	41	42	659
45/92	KING BILLY	ZK17	12	15	4142961							-1	20	2.19	30	83	277
45/92	KING BILLY	ZK18	0	3	4142962							-1	15	1.5	21	18	14
45/92	KING BILLY	ZK18	3	6	4142963							-1	44	1.54	28	76	51
45/92	KING BILLY	ZK18	6	9	4142964							-1	75	1.83	30	99	29
45/92	KING BILLY	ZK18	9	12	4142965							-1	37	1.39	24	54	32
45/92	KING BILLY	ZK18	12	15	4142966							-1	23	1.95	28	36	202
45/92	KING BILLY	ZK18	15	18	4142967							-1	25	2.93	30	38	184
45/92	KING BILLY	ZK18	18	21	4142968							-1	20	2.6	50	40	155
45/92	KING BILLY	ZK18	21	24	4142969							-1	10	1.24	179	28	53
45/92	KING BILLY	ZK18	24	26	4142970							-1	10	1.62	352	26	57
45/92	KING BILLY	ZK19	0	3	4142971							-1	10	0.73	35	25	24
45/92	KING BILLY	ZK19	3	6	4142972							-1	17	0.66	38	24	27
45/92	KING BILLY	ZK19	6	9	4142973							-1	15	1.66	33	34	29
45/92	KING BILLY	ZK19	9	12	4142974							-1	23	2.69	39	30	70
45/92	KING BILLY	ZK19	12	15	4142975							-1	25	2.01	36	26	240
45/92	KING BILLY	ZK19	15	18	4142976							-1	23	1.8	27	28	247
45/92	KING BILLY	ZK19	18	21	4142977							-1	19	1.34	30	22	468
45/92	KING BILLY	ZK19	21	24	4142978							-1	18	1.44	26	19	420
45/92	KING BILLY	ZK19	24	27	4142979							-1	22	2.23	36	26	513
45/92	KING BILLY	ZK19	27	28	4142980							-1	19	3.26	138	45	1927
45/92	KING BILLY	ZK20	6	9	4142981							-1	24	0.67	34	24	52
45/92	KING BILLY	ZK20	9	12	4142982							-1	24	1.08	34	37	64
45/92	KING BILLY	ZK20	12	15	4142983							-1	27	1.01	25	95	401
45/92	KING BILLY	ZK20	15	16	4142984							-1	26	1.45	81	94	810
45/92	KING BILLY	ZK21	0	3	4142985							-1	22	1.16	45	72	227
45/92	KING BILLY	ZK21	3	6	4142986							-1	31	1.4	35	119	510
45/92	KING BILLY	ZK21	6	9	4142987							-1	29	1.78	37	108	886
45/92	KING BILLY	ZK21	9	12	4142988							-1	24	1.07	54	75	4441
45/92	KING BILLY	ZK21	12	15	4142989							-1	19	1.29	107	55	530

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KING BILLY DOWN HOLE EL 45/92

EL No	Prospect	Hole No	From	To	Sample No	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag	Cu	Fe	Mn	Pb	Zn
45/92	KING BILLY	ZK21	15	18	4142990							-1	23	1.91	292	72	255
45/92	KING BILLY	ZK21	18	19	4142991							-1	18	1.3	198	62	867
45/92	KING BILLY	ZK22	0	3	4142992							-1	26	1.48	37	34	26
45/92	KING BILLY	ZK22	3	6	4142993							-1	30	1.57	45	28	306
45/92	KING BILLY	ZK22	6	9	4142994							-1	33	1.22	44	29	66
45/92	KING BILLY	ZK22	9	12	4142995							-1	30	1.28	36	26	117
45/92	KING BILLY	ZK22	12	15	4142996							-1	39	1.27	40	57	16700
45/92	KING BILLY	ZK22	15	18	4142997							-1	34	1.22	79	103	1532
45/92	KING BILLY	ZK22	18	21	4142998							-1	31	1.5	52	75	2129
45/92	KING BILLY	ZK22	21	24	4142999							-1	26	1.23	118	42	363
45/92	KING BILLY	ZK22	24	27	4143000							-1	17	0.99	199	29	75
45/92	KING BILLY	ZK22	27	30	4143001							-1	17	0.63	214	34	36
45/92	KING BILLY	ZK23	0	3	4143002							-1	44	0.92	26	114	39
45/92	KING BILLY	ZK23	3	6	4143003							-1	35	1.75	31	66	282
45/92	KING BILLY	ZK23	6	9	4143004							-1	32	1.28	30	50	426
45/92	KING BILLY	ZK23	9	12	4143005							-1	35	1.08	35	42	524
45/92	KING BILLY	ZK23	12	15	4143006							-1	37	1.11	33	71	529
45/92	KING BILLY	ZK23	15	18	4143007							-1	38	1.17	31	65	444
45/92	KING BILLY	ZK23	18	21	4143008							-1	36	1.38	28	53	375
45/92	KING BILLY	ZK23	21	24	4143009							-1	39	1.11	35	96	863
45/92	KING BILLY	ZK23	24	27	4143010							-1	38	1.74	41	63	1368
45/92	KING BILLY	ZK23	27	28	4143011						No E.O.H. Sample N Silt R.F.s	-1	40	1.33	42	65	698
45/92	KING BILLY	ZK24	0	3	4143012							-1	29	1.31	27	26	200
45/92	KING BILLY	ZK24	3	6	4143013							-1	40	1.74	37	96	63
45/92	KING BILLY	ZK24	6	9	4143014							-1	37	1.32	50	45	84
45/92	KING BILLY	ZK24	9	12	4143015							-1	42	1.32	42	32	75
45/92	KING BILLY	ZK24	12	15	4143016						Cavity Small Sample	-1	42	0.97	37	36	46
45/92	KING BILLY	ZK24	15	18	4143017						Cavity Small Sample	-1	37	0.85	39	28	73
45/92	KING BILLY	ZK25	18	20	4143018						Cavity E.O.H.	-1	34	1.22	54	32	77
45/92	KING BILLY	ZK25	0	3	4143019							-1	35	2.48	25	20	40
45/92	KING BILLY	ZK25	3	6	4143020							-1	32	1.71	19	16	22
45/92	KING BILLY	ZK25	6	9	4143021							-1	37	1.84	30	31	203
45/92	KING BILLY	ZK25	9	12	4143022							-1	36	1.59	41	31	85
45/92	KING BILLY	ZK25	12	15	4143023							-1	36	1.54	37	30	148
45/92	KING BILLY	ZK25	15	18	4143024							-1	39	1.46	31	75	2456
45/92	KING BILLY	ZK25	18	21	4143025							-1	39	1.69	35	42	971
45/92	KING BILLY	ZK25	21	24	4143026							-1	41	1.58	39	156	1795
45/92	KING BILLY	ZK25	24	27	4143027							-1	25	1.08	117	31	71
45/92	KING BILLY	ZK25	27	30	4143028							-1	27	2.07	192	36	102
45/92	KING BILLY	ZK25	30	33	4143029							-1	25	1.14	149	30	77
45/92	KING BILLY	ZK26	0	3	4143030							-1	6	0.58	14	33	17
45/92	KING BILLY	ZK26	3	6	4143031							-1	6	0.4	10	65	12
45/92	KING BILLY	ZK26	6	9	4143032							-1	12	0.52	15	32	18
45/92	KING BILLY	ZK26	9	12	4143033							-1	20	0.97	14	25	17
45/92	KING BILLY	ZK26	12	15	4143034							-1	18	1	14	15	28
45/92	KING BILLY	ZK26	15	18	4143035							-1	39	1.42	22	31	186
45/92	KING BILLY	ZK26	18	21	4143036							-1	24	1.79	40	24	633
45/92	KING BILLY	ZK26	21	24	4143037							-1	22	1.8	42	24	1871
45/92	KING BILLY	ZK26	24	26	4143038							-1	20	1.89	69	19	315
45/92	KING BILLY	ZK27	0	3	4143039							-1	18	2.35	14	39	13
45/92	KING BILLY	ZK27	3	6	4143040							-1	16	0.97	11	53	14

KING BILLY DOWN HOLE EL 45/92

EL No	Prospect	Hole No	From	To	Sample No	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag	Cu	Fe	Mn	Pb	Zn
45/92	KING BILLY	ZK27	6	9	4143041							-1	13	0.55	11	28	17
45/92	KING BILLY	ZK27	9	12	4143042							-1	11	0.51	11	22	22
45/92	KING BILLY	ZK27	12	15	4143043							-1	23	0.75	15	18	22
45/92	KING BILLY	ZK27	15	17	4143044						E.O.H	-1	27	1.04	25	20	65
45/92	KING BILLY	ZK28	0	3	4143045							-1	10	0.47	14	43	18
45/92	KING BILLY	ZK28	3	6	4143046							-1	12	0.37	14	65	19
45/92	KING BILLY	ZK28	6	9	4143047							-1	16	0.55	15	27	30
45/92	KING BILLY	ZK28	9	12	4143048							-1	18	0.69	14	39	21
45/92	KING BILLY	ZK28	12	15	4143049							-1	15	0.57	12	34	17
45/92	KING BILLY	ZK28	15	18	4143050							-1	24	0.77	18	23	44
45/92	KING BILLY	ZK28	18	21	4143051							-1	18	1.98	51	14	216
45/92	KING BILLY	ZK28	21	22	4143052						E.O.H.	-1	23	1.87	49	21	177
45/92	KING BILLY	ZK29	0	3	4143053							-1	21	0.49	17	32	28
45/92	KING BILLY	ZK29	3	6	4143054							-1	51	1.19	20	26	35
45/92	KING BILLY	ZK29	6	9	4143055							-1	30	1.3	31	36	823
45/92	KING BILLY	ZK29	9	12	4143056							-1	25	1.28	34	31	489
45/92	KING BILLY	ZK29	12	15	4143057							-1	24	1.29	36	33	515
45/92	KING BILLY	ZK29	15	18	4143058							-1	22	1.37	81	34	326
45/92	KING BILLY	ZK29	18	21	4143059							-1	20	2.75	220	18	200
45/92	KING BILLY	ZK29	21	24	4143060							-1	19	1.83	91	21	416
45/92	KING BILLY	ZK29	24	27	4143061							-1	14	1.76	54	20	516
45/92	KING BILLY	ZK29	27	30	4143062							-1	19	2.15	66	20	111
45/92	KING BILLY	ZK29	30	33	4143063							-1	19	2.05	52	24	127
45/92	KING BILLY	ZK29	33	34	4143064						Wet E.O.H.	-1	17	1.95	50	21	652
45/92	KING BILLY	ZK30	3	6	4143065							-1	32	1	25	31	110
45/92	KING BILLY	ZK30	6	9	4143066							-1	33	1.28	23	701	812
45/92	KING BILLY	ZK30	9	12	4143067							-1	28	1.54	39	242	1293
45/92	KING BILLY	ZK30	12	15	4143068							-1	27	1.67	87	98	875
45/92	KING BILLY	ZK30	15	18	4143069							-1	11	1.44	161	46	329
45/92	KING BILLY	ZK30	18	21	4143070						Wet	-1	10	1.74	164	53	256
45/92	KING BILLY	ZK30	21	24	4143071						Wet	-1	7	1.36	163	35	81
45/92	KING BILLY	ZK30	24	27	4143072						Wet	-1	12	2.24	253	24	182
45/92	KING BILLY	ZK30	27	30	4143073						Wet	-1	16	2.43	200	32	438
45/92	KING BILLY	ZK30	30	33	4143074						Wet	-1	16	1.34	39	25	84
45/92	KING BILLY	ZK30	33	36	4143075						Wet	-1	16	1.57	29	14	77
45/92	KING BILLY	ZK30	36	39	4143076						Wet E.O.H.	-1	15	1.4	33	18	142
45/92	KING BILLY	ZK31	0	3	4143077	Ogdc	CcySls			B	Gritty	-1	21	0.53	30	367	31
45/92	KING BILLY	ZK31	3	6	4143078	Ogdc	CcySls			DGN	Gritty	-1	24	1.74	36	4980	255
45/92	KING BILLY	ZK31	6	9	4143079	Ogdc	Ccy			DGN	Gritty	2	30	1.43	32	6207	370
45/92	KING BILLY	ZK31	9	12	4143080	Ogdc	CcySls			DGN	Gritty	2	21	3.08	362	3471	1092
45/92	KING BILLY	ZK31	12	15	4143081	Ogul	Sls			DG	Gritty	1	14	2.34	490	985	753
45/92	KING BILLY	ZK31	15	18	4143082	Ogul	CcySls			DG	Gritty	1	12	2.15	412	2004	490
45/92	KING BILLY	ZK31	18	21	4143083	Ogul	CcySls			DG	Gritty	-1	11	1.74	331	947	847
45/92	KING BILLY	ZK31	21	24	4143084	Ogul	Sls			DG	Gritty Wet	1	10	1.45	213	411	742
45/92	KING BILLY	ZK32	0	3	4143085	Ogdc	Ccy			LBLG	Gritty	-1	9	0.69	57	196	82
45/92	KING BILLY	ZK32	3	6	4143086	Ogdc	Ccy			NLG	Gritty	-1	21	1.84	106	1057	221
45/92	KING BILLY	ZK32	6	9	4143087	Ogdc	CcySls			DGN	Gritty	-1	26	1.81	52	631	239
45/92	KING BILLY	ZK32	9	12	4143088	Ogul	Sls			DG	Grit Wet	-1	22	1.72	69	707	821
45/92	KING BILLY	ZK32	12	15	4143089	Ogul	Sls			DG	Grit Wet	1	19	1.32	39	135	1616
45/92	KING BILLY	ZK32	15	18	4143090	Ogul	Sls			DG	Grit Wet	-1	19	1.26	78	136	2032
45/92	KING BILLY	ZK32	18	21	4143091	Ogul	Sls			DG	Grit Wet	-1	17	1.32	132	187	1219

KING BILLY DOWN HOLE EL 45/92

EL No	Prospect	Hole No	From	To	Sample No	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag	Cu	Fe	Mn	Pb	Zn
45/92	KING BILLY	ZK32	21	24	4143092	Ogul	Sls			DG	Grit Wet	-1	4	0.69	129	31	58
45/92	KING BILLY	ZK33	0	3	4143093	Ogdc	Ccy			DGBW	Gritty	-1	14	1.23	35	31	84
45/92	KING BILLY	ZK33	3	6	4143094	Ogdc	Ccy			BDG	Gritty	-1	20	1.2	37	31	151
45/92	KING BILLY	ZK33	6	9	4143095	Ogdc	Ccy			DG	Gritty	-1	22	1.21	47	55	280
45/92	KING BILLY	ZK33	9	12	4143096	Ogdc	Ccy			DG	Gritty	-1	24	1.47	38	54	264
45/92	KING BILLY	ZK33	12	15	4143097	Ogul	Sls			DG	Grit Wet	-1	22	1.28	40	207	318
45/92	KING BILLY	ZK33	15	18	4143098	Ogul	Sls			DG	Grit	-1	20	1.34	40	679	312
45/92	KING BILLY	ZK33	18	21	4143099	Ogul	Sls			DG	Grit Wet	-1	18	1.79	42	155	163
45/92	KING BILLY	ZK33	21	25	4143100	Ogul	Sls			DG	Grit Wet	-1	15	0.93	55	170	1729
45/92	KING BILLY	ZK34	0	3	4143101	Oha	CgCcy			B	Grit	-1	12	0.47	22	12	9
45/92	KING BILLY	ZK34	3	6	4143102	Oha	Ccy			DB	Gritty	-1	7	0.44	26	26	17
45/92	KING BILLY	ZK34	6	9	4143103	Ogul	CcySls			DG	Gritty Wet	-1	18	1.13	33	40	92
45/92	KING BILLY	ZK34	9	12	4143104	Ogul	CcySls			DG	Gritty Wet	-1	24	1.06	49	95	301
45/92	KING BILLY	ZK34	12	15	4143105	Ogul	CcySls			DG	Gritty Wet	-1	21	1.1	46	131	230
45/92	KING BILLY	ZK34	15	18	4143106	Ogdc	CcySls			DG	Gritty	-1	25	1.58	42	104	164
45/92	KING BILLY	ZK34	18	20	4143107	Ogul	Sls			DG	Gritty Wet	-1	18	1.43	102	37	351
45/92	KING BILLY	ZK35	0	3	4143108	Oha	CcyCg			B	Gritty	-1	9	0.26	17	11	13
45/92	KING BILLY	ZK35	3	6	4143109	Oha	CcyCg			B	Gritty Wet	-1	6	0.43	22	17	11
45/92	KING BILLY	ZK35	6	9	4143110	Ogul	CcySls			DG	Gritty Wet	-1	7	0.62	21	25	29
45/92	KING BILLY	ZK35	9	12	4143111	Ogdc	CcySls			DG	Gritty	-1	11	1.01	36	39	45
45/92	KING BILLY	ZK35	12	14	4143112	Ogul	Sls			DG	Gritty	-1	11	1.34	69	42	63
45/92	KING BILLY	ZK36	0	3	4143113	Oha	CcyCg			BDG	Grit Y	-1	12	0.81	29	60	59
45/92	KING BILLY	ZK36	3	6	4143114	Oha	CcyCg			DG	Gritty Wet	-1	19	1.2	35	88	178
45/92	KING BILLY	ZK36	6	9	4143115	Oha	CcyCg			DGB	Gritty Wet	-1	16	1.45	34	54	100
45/92	KING BILLY	ZK36	9	11	4143116	Ogul	Sls			DG	Gritty Wet	-1	13	1.28	61	55	165
45/92	KING BILLY	ZK37	0	3.5	4143117	Ogul	CcySls			B	Gritty	-1	8	0.55	34	27	25
45/92	KING BILLY	ZK38	0	3	4143118	Ogul	CcySls			DGB	Gritty Wet	-1	9	0.78	40	31	53
45/92	KING BILLY	ZK38	3	5.5	4143119	Ogul	CcySls			DG	Gritty Wet	-1	9	0.97	82	33	39
45/92	KING BILLY	ZK55	0	3		Oha	Cg										
45/92	KING BILLY	ZK55	3	6	4143498	Ogdc	Ccy			G		-1	15	1.56	83	239	461
45/92	KING BILLY	ZK55	6	9	4143499	Ogdc	Ccy			N		2	29	0.4	18	841	42
45/92	KING BILLY	ZK55	9	12	4143500	Ogdc	Ccy			N		-1	40	0.37	18	465	53
45/92	KING BILLY	ZK55	12	15	4143501	Ogdc	Ccy			N		-1	34	0.92	49	1767	220
45/92	KING BILLY	ZK55	15	18	4143502	Ogul	Sls		Vc Py	DG		-1	14	2.88	143	736	663
45/92	KING BILLY	ZK56	0	1	4143503	Oha	Cg										
45/92	KING BILLY	ZK56	1	3	4143503	Ogdc	Ccy			N		-1	28	1.08	22	122	33
45/92	KING BILLY	ZK56	3	6	4143504	Ogdc	Ccy			N		-1	26	2.5	29	95	116
45/92	KING BILLY	ZK56	6	9	4143505	Ogdc	Ccy			N		-1	24	2.4	36	99	674
45/92	KING BILLY	ZK56	9	12	4143506	Ogdc	Ccy			N		-1	25	2.67	36	76	389
45/92	KING BILLY	ZK56	12	15	4143507	Ogul	Sls		Vc Py	N		-1	20	3.08	59	91	394
45/92	KING BILLY	ZK57	0	3		Oha	Cg										
45/92	KING BILLY	ZK57	3	6	4143508	Ogdc	Ccy Sls			LG		-1	27	1.37	22	44	51
45/92	KING BILLY	ZK57	6	9	4143509	Ogdc	Ccy Sls			DG		-1	18	1.29	23	37	61
45/92	KING BILLY	ZK57	9	12	4143510	Ogdc	Ccy			DG		-1	23	1.95	26	29	70
45/92	KING BILLY	ZK57	12	15	4143511	Ogdc	Ccy			DG		-1	24	2.88	28	40	290
45/92	KING BILLY	ZK57	15	18	4143512	Ogdc	Ccy			DG		-1	26	2.76	27	50	300
45/92	KING BILLY	ZK57	18	21	4143513	Ogdc	Ccy			DG		-1	26	2.87	30	42	160
45/92	KING BILLY	ZK57	21	24	4143514	Ogdc	Ccy	Ds	Py	N		-1	24	3.24	33	34	180
45/92	KING BILLY	ZK57	24	27	4143515	Ogdc	Ccy Sls			DG		-1	21	2.44	51	28	79
45/92	KING BILLY	ZK57	27	30	4143516	Ogdc	Ccy Sls			DG		-1	19	2.73	244	33	91
45/92	KING BILLY	ZK57	30	33	4143517	Ogdc	Ccy Sls			DG		-1	24	2.69	39	45	126

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KING BILLY DOWN HOLE EL 45/92

EL No	Prospect	Hole No	From	To	Sample No	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag	Cu	Fe	Mn	Pb	Zn
45/92	KING BILLY	ZK57	33	34	4143518	Ogul	Sls		Vc	DG		-1	13	2.17	116	55	632
45/92	KING BILLY	ZK58	0	3	4143519	Ogdc	Ccy			DG		-1	20	2.31	33	64	239
45/92	KING BILLY	ZK58	3	6	4143520	Ogdc	Ccy			DG		-1	22	3.08	34	110	514
45/92	KING BILLY	ZK58	6	9	4143521	Ogdc	Ccy			DG		-1	24	3.22	33	189	920
45/92	KING BILLY	ZK58	9	12	4143522	Ogdc	Ccy			DG		-1	22	3.09	32	85	539
45/92	KING BILLY	ZK58	12	15	4143523	Ogdc	Ccy Sls			N	Oolitic Sls.	-1	20	3.07	29	68	343
45/92	KING BILLY	ZK58	15	18	4143524	Ogdc	Ccy Sls			DG		-1	17	2.48	21	26	110
45/92	KING BILLY	ZK58	18	21	4143525	Ogdc	Ccy Sls			DG		-1	23	2.27	22	72	184
45/92	KING BILLY	ZK58	21	24	4143526	Ogdc	Ccy Sls			DG		-1	26	2.8	25	51	80
45/92	KING BILLY	ZK58	24	27	4143527	Ogdc	Ccy Sls		Fi	DG		-1	23	1.86	27	24	69
45/92	KING BILLY	ZK58	27	30	4143528	Ogdc	Ccy Sls		Fi	DG		-1	28	2.62	29	27	77
45/92	KING BILLY	ZK58	30	32	4143529	Ogul	Sls			DG		-1	26	2.68	59	32	81
45/92	KING BILLY	ZK59	0	3	4143530	Ogdc	Ccy			N		-1	27	3.55	21	25	33
45/92	KING BILLY	ZK59	3	6	4143531	Ogdc	Ccy			N		-1	24	3.28	32	86	347
45/92	KING BILLY	ZK59	6	9	4143532	Ogdc	Ccy			N		-1	22	3.32	30	80	717
45/92	KING BILLY	ZK59	9	12	4143533	Ogdc	Ccy			N		-1	26	2.82	32	47	471
45/92	KING BILLY	ZK59	12	15	4143534	Ogdc	Ccy Sls			N		-1	25	3.16	34	40	258
45/92	KING BILLY	ZK59	15	18	4143535	Ogdc	Ccy Sls			N		-1	24	2.99	33	42	343
45/92	KING BILLY	ZK59	18	21	4143536	Ogdc	Ccy Sls		Py	N		-1	21	1.86	29	20	71
45/92	KING BILLY	ZK59	21	24	4143537	Ogdc	Ccy Sls		Py	N		-1	19	1.6	22	29	99
45/92	KING BILLY	ZK59	24	27	4143538	Ogdc	Ccy Sls			DG		-1	22	2.08	23	35	131
45/92	KING BILLY	ZK59	27	30	4143539	Ogdc	Ccy Sls			DG		-1	26	2.78	41	93	331
45/92	KING BILLY	ZK59	30	33	4143540	Ogdc	Ccy Sls			DG		-1	17	1.61	98	31	74
45/92	KING BILLY	ZK59	33	34	4143541	Ogdc	Ccy Sls			DG		-1	13	1.53	141	23	35
45/92	KING BILLY	ZK60	0	3	4143542	Ogdc	Ccy Sls			DG		-1	23	1.5	27	21	32
45/92	KING BILLY	ZK60	3	6	4143543	Ogul	Sls		Py	DG		-1	25	3.22	33	71	628
45/92	KING BILLY	ZK60	6	9	4143544	Ogul	Sls		Py	DG		-1	21	2.07	26	42	320
45/92	KING BILLY	ZK60	9	12	4143545	Ogul	Sls		Py	DG		-1	18	1.72	22	31	234
45/92	KING BILLY	ZK60	12	15	4143546	Ogdc	Ccy Sls			DG		-1	16	1.27	25	33	93
45/92	KING BILLY	ZK60	15	18	4143547	Ogdc	Ccy Sls			DG		-1	17	1.49	28	33	94
45/92	KING BILLY	ZK60	18	21	4143548	Ogdc	Ccy Sls		Vc Py	DG		-1	14	2.18	20	30	947
45/92	KING BILLY	ZK60	21	24	4143549	Ogdc	Ccy Sls		Vc Py	DG		-1	15	1.58	18	30	158
45/92	KING BILLY	ZK60	24	27	4143550	Ogdc	Ccy Sls		Vc Py	DG		-1	17	1.97	20	34	194
45/92	KING BILLY	ZK60	27	30	4143551	Ogdc	Ccy Sls			DG		-1	26	1.68	24	37	132
45/92	KING BILLY	ZK60	30	33	4143552	Ogdc	Ccy Sls			DG		-1	23	2.06	56	41	105
45/92	KING BILLY	ZK60	33	34	4143553	Ogul	Sls			DG		-1	19	2.22	100	35	96
45/92	KING BILLY	ZK61	0	3	4143554	Ogdc	Ccy			DG		-1	22	1.86	24	37	150
45/92	KING BILLY	ZK61	3	6	4143555	Ogdc	Ccy Sls		Vc	LG	Oolitic Sls.	-1	19	1.54	24	25	263
45/92	KING BILLY	ZK61	6	9	4143556	Ogdc	Ccy Sls		Py Vc	LG		-1	16	1.78	17	14	207
45/92	KING BILLY	ZK61	9	12	4143557	Ogdc	Ccy Sls		Py Vc	LG		-1	16	1.56	20	16	89
45/92	KING BILLY	ZK61	12	15	4143558	Ogdc	Ccy Sls		Py Vc	LG		-1	16	1.13	20	18	287
45/92	KING BILLY	ZK61	15	18	4143559	Ogdc	Ccy Sls		Vc	LG		-1	21	1.37	24	24	214
45/92	KING BILLY	ZK61	18	21	4143560	Ogdc	Ccy Sls		Vc	LG		-1	27	2.63	26	44	169
45/92	KING BILLY	ZK61	21	24	4143561	Ogdc	Ccy Sls		Py	DG		-1	29	6.4	37	53	497
45/92	KING BILLY	ZK61	24	27	4143562	Ogdc	Ccy Sls		Py	DG		-1	25	6.4	26	45	888
45/92	KING BILLY	ZK61	27	31	4143563	Ogdc	Ccy Sls		Py	LG		-1	17	1.46	103	27	79
45/92	KING BILLY	ZK62	0	3		Qha	Cg										
45/92	KING BILLY	ZK62	3	6	4143564	Ogdc	Ccy			W		-1	5	0.52	18	7	12
45/92	KING BILLY	ZK62	6	9	4143565	?	Ccy Sch			W		-1	8	0.59	18	6	15
45/92	KING BILLY	ZK62	9	12	4143566	Ogdc	Ccy Sls		Vq	LG		-1	19	0.63	15	23	26
45/92	KING BILLY	ZK62	12	15	4143567	Ogdc	Ccy Sls	Fi	Py	G		-1	21	0.92	19	28	103

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## KING BILLY DOWN HOLE EL 45/92

EL No	Prospect	Hole No	From	To	Sample No	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag	Cu	Fe	Mn	Pb	Zn
45/92	KING BILLY	ZK62	15	18	4143568	Ogdc	Ccy Sls	Fi	Py	G		-1	26	2.12	25	36	300
45/92	KING BILLY	ZK62	18	20	4143569	Ogdc	Ccy Sls		Vc Py	DG		-1	19	1.89	118	19	712
45/92	KING BILLY	ZK63	0	6		Oha	Cg										
45/92	KING BILLY	ZK63	6	9	4143570	Og?	Ccy			WB		-1	19	0.97	17	10	13
45/92	KING BILLY	ZK63	9	12	4143571	Og?	Ccy Sss		We Vq	W		-1	19	0.88	15	20	40
45/92	KING BILLY	ZK63	12	15	4143572	Ogdc	Ccy Sss		We	W		-1	25	1.51	14	56	747
45/92	KING BILLY	ZK63	15	18	4143573	Ogdc	Ccy Sss		We	W		-1	30	1.38	20	75	915
45/92	KING BILLY	ZK63	18	21	4143574	Ogdc	Ccy Sss		We	W		-1	29	1.18	17	81	882
45/92	KING BILLY	ZK63	21	24	4143575	Og?	Ccy Sls?		Py Vc	LG		-1	34	2.79	22	47	2956
45/92	KING BILLY	ZK63	24	27	4143576	Ogdc	Ccy Sls		Py Vc	LG		-1	20	2.4	113	30	1782
45/92	KING BILLY	ZK64	0	6		Oha	Cg										
45/92	KING BILLY	ZK64	6	9	4143577	Oha	Cg			W		-1	15	0.76	17	40	21
45/92	KING BILLY	ZK64	9	12	4143578	Oha	Cg			W		-1	16	0.58	14	28	20
45/92	KING BILLY	ZK64	12	15	4143579	Oha	Cg			W		-1	30	1.51	18	11	183
45/92	KING BILLY	ZK64	15	17	4143580	Og?	Sss Sls?		Py	G		-1	10	0.64	62	11	66
45/92	KING BILLY	ZK65	0	3		Oha	Cg										
45/92	KING BILLY	ZK65	3	6	4143581	Oha	Ccy		Vq	LG	Cornb Vq.	-1	81	0.4	24	27	16
45/92	KING BILLY	ZK65	6	9	4143582	Ogdc	Ccy Sls		Py	N	Fossiliferous Sls.	-1	33	1.77	29	70	265
45/92	KING BILLY	ZK65	9	12	4143583	Ogdc	Ccy Sls		Vq	N		-1	29	2.07	30	40	222
45/92	KING BILLY	ZK65	12	15	4143584	Ogdc	Sls		Vc Py	N		-1	20	6.8	31	23	1372
45/92	KING BILLY	ZK65	15	18	4143585	Ogdc	Ccy Sls Mph Sch		Vq	N	Og Contact?	-1	22	3.56	30	31	491
45/92	KING BILLY	ZK65	18	21	4143586	Ogul	Sls		Vc Vq	N		-1	19	1.37	25	23	140
45/92	KING BILLY	ZK65	21	24	4143587	Ogul	Sls Sss			N		-1	18	1.63	52	14	352
45/92	KING BILLY	ZK65	24	27	4143588	Ogul	Sls		Vq	N		-1	13	1.15	54	12	239
45/92	KING BILLY	ZK65	27	30	4143589	Ogul	Sls			N		-1	21	0.92	64	12	70
45/92	KING BILLY	ZK66	0	4		Oha	Cg										
45/92	KING BILLY	ZK66	4	6	4143590	Ogdc	Ccy Sls		We	N		-1	38	2.36	25	48	29
45/92	KING BILLY	ZK66	6	9	4143591	Ogdc	Ccy			N		-1	25	2.63	27	27	218
45/92	KING BILLY	ZK66	9	12	4143592	Ogdc	Ccy			N		-1	26	2.66	32	26	124
45/92	KING BILLY	ZK66	12	14	4143593	Ogdc	Ccy Sls		Vq Py	N		-1	25	2.78	47	25	96
45/92	KING BILLY	ZK67	0	12		Oha	Cg										
45/92	KING BILLY	ZK67	12	15	4143594	Ogdc	Ccy Sls			LB		-1	49	1.14	40	40	81
45/92	KING BILLY	ZK67	15	18	4143595	Ogdc	Ccy Sls		Sd	LB		-1	40	1.66	30	33	169
45/92	KING BILLY	ZK67	18	21	4143596	Ogdc	Ccy Sls		Sd	LB		-1	32	2.53	27	42	113
45/92	KING BILLY	ZK67	21	23	4143597	Ogdc	Ccy Sls		Vc	DG		-1	34	2.21	28	41	99
45/92	KING BILLY	ZK68	0	12		Oha	Cg										
45/92	KING BILLY	ZK68	12	15	4143598	Ogdc	Ccy Sls			N		-1	40	1.78	63	34	73
45/92	KING BILLY	ZK68	15	18	4143599	Ogdc	Ccy Sls			N		-1	39	2.39	69	34	85
45/92	KING BILLY	ZK68	18	21	4143600	Ogdc	Ccy Sls		Sd	N		-1	31	2.38	39	32	93
45/92	KING BILLY	ZK68	21	24	4143601	Ogdc	Ccy Sls		Sd	N		-1	30	2.49	38	32	91
45/92	KING BILLY	ZK68	24	27	4143602	Ogdc	Ccy Sls			N	Poor recovery.	-1	30	2.46	44	32	81
45/92	KING BILLY	ZK68	27	29	4143603	Ogul	Sls		Sd	N		-1	42	2.15	48	35	84
45/92	KING BILLY	ZK69	0	20		Oha	Cg										
45/92	KING BILLY	ZK69	19.5	21	4143604	Ogdc	Ccy Scg			DG	Rounded quartz & Sss clasts.	-1	32	1.38	33	32	64
45/92	KING BILLY	ZK69	21	24	4143605	Ogdc	Ccy Scg			DG	Rounded quartz & Sss clasts.	-1	34	1.38	36	29	78
45/92	KING BILLY	ZK69	24	27	4143606	Ogdc	Ccy Sls			N	Rounded quartz & Sss clasts.	-1	29	2.16	35	28	59
45/92	KING BILLY	ZK69	27	30	4143607	Ogdc	Ccy Sls			N	Rounded quartz & Sss clasts.	-1	39	1.49	28	27	69
45/92	KING BILLY	ZK69	30	33	4143608	Ogdc	Ccy Sls			N	Poor recovery.	-1	20	2.33	20	16	42
45/92	KING BILLY	ZK69	33	36	4143609	Ogdc	Ccy Sls			N	Rounded quartz clasts.	-1	20	2.69	46	24	69
45/92	KING BILLY	ZK69	36	39	4143610	Ogul	Sls		Vq	DG	Rounded quartz clasts.	-1	19	2.52	49	24	59
45/92	KING BILLY	ZK70	0	3		Oha	Ccy										

KING BILLY DOWN HOLE EL 45/92

EL No	Prospect	Hole No	From	To	Sample No	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag	Cu	Fe	Mn	Pb	Zn
45/92	KING BILLY	ZK70	3	6	4143611	Ogdc	Ccy			DG		-1	36	1.75	38	28	101
45/92	KING BILLY	ZK70	6	9	4143612	Ogdc	Ccy			DG		-1	23	2.34	37	56	264
45/92	KING BILLY	ZK70	9	12	4143613	Ogdc	Ccy Sls			DG		-1	22	2.32	35	42	92
45/92	KING BILLY	ZK70	12	15	4143614	Ogdc	Ccy Sls			DG		-1	20	3.05	27	31	105
45/92	KING BILLY	ZK70	15	18	4143615	Ogdc	Ccy Sls			DG		-1	24	2.78	29	46	213
45/92	KING BILLY	ZK70	18	21	4143616	Ogdc	Ccy Sls			DG		-1	28	3.33	32	96	652
45/92	KING BILLY	ZK70	21	24	4143617	Ogdc	Ccy Sls Scg	Py		DG	Rounded quartz clasts.	-1	27	2.87	41	74	799
45/92	KING BILLY	ZK70	24	27	4143618	Ogdc	Ccy Sls Scg	Py		DG	Rounded quartz clasts.	-1	26	2.59	47	65	1072
45/92	KING BILLY	ZK70	27	30	4143619	Ogdc	Ccy Sls Scg	Py		DG	Rounded quartz clasts.	-1	26	2.44	56	74	1173
45/92	KING BILLY	ZK70	30	33	4143620	Ogdc	Ccy Sls Scg	Py Vq		DG	Rounded quartz clasts.	-1	25	2.73	46	91	816
45/92	KING BILLY	ZK71	0	2.5		Qha	Cg										
45/92	KING BILLY	ZK71	2.5	6	4143621	Ogdc	Ccy Sls			DG		-1	19	2.42	29	22	59
45/92	KING BILLY	ZK71	6	9	4143622	Ogdc	Ccy Sls			DG		-1	17	1.81	28	22	53
45/92	KING BILLY	ZK71	9	12	4143623	Ogdc	Ccy Sls			DG		-1	21	1.28	29	19	64
45/92	KING BILLY	ZK71	12	15	4143624	Ogdc	Ccy Sls			DG		-1	21	1.44	39	16	194
45/92	KING BILLY	ZK71	15	18	4143625	Ogdc	Ccy Sls	Py		DG		-1	21	1.42	42	16	327
45/92	KING BILLY	ZK71	18	21	4143626	Ogdc	Ccy Sls	Py		DG		-1	20	2.25	33	20	144
45/92	KING BILLY	ZK71	21	24	4143627	Ogdc	Ccy Sls			DG		-1	23	3.03	38	19	123
45/92	KING BILLY	ZK71	24	27	4143628	Ogul	Sls			DG		-1	20	2.17	47	24	231
45/92	KING BILLY	ZK71	27	30	4143629	Ogdc	Ccy Sls	Vq Py		DG		-1	20	2.35	42	30	610
45/92	KING BILLY	ZK71	30	33	4143630	Ogdc	Ccy Sls	Vc		DG		-1	24	2.08	49	75	391
45/92	KING BILLY	ZK71	33	36	4143631	Ogdc	Ccy Sls	Vc		DG		-1	21	1.88	88	55	227
45/92	KING BILLY	ZK71	36	38	4143632	Ogdc	Ccy Sls			DG		-1	20	1.69	120	48	286
45/92	KING BILLY	ZK72	0	11		Qha Og	Cy Cg Ccy										
45/92	KING BILLY	ZK72	11	15	4143633	Ogdc	Ccy Sls			DG		-1	29	0.56	13	116	31
45/92	KING BILLY	ZK72	15	18	4143634	Ogdc	Ccy Sls			DG		-1	29	0.85	19	50	262
45/92	KING BILLY	ZK72	18	21	4143635	Ogdc	Ccy Sls			DG		-1	26	1.05	24	57	605
45/92	KING BILLY	ZK72	21	24	4143636	Ogdc	Ccy Sls	Py		DG		-1	26	1.65	37	45	433
45/92	KING BILLY	ZK72	24	27	4143637	Ogdc	Ccy Sls			DG		-1	25	1.89	39	37	208
45/92	KING BILLY	ZK72	27	30	4143638	Ogdc	Ccy Sls	Vc		DG		-1	23	2.44	71	45	152
45/92	KING BILLY	ZK73	0	3	4143639	Ogdc	Ccy			MWLG		-1	14	0.92	68	30	67
45/92	KING BILLY	ZK73	3	6	4143640	Ogdc	Ccy			G		-1	25	0.86	40	51	135
45/92	KING BILLY	ZK73	6	9	4143641	Ogdc	Ccy Sls			LG		-1	41	0.61	27	41	78
45/92	KING BILLY	ZK73	9	12	4143642	Ogdc	Ccy Sls			LG		-1	23	0.66	26	22	97
45/92	KING BILLY	ZK73	12	15	4143643	Ogdc	Ccy Sls			LG		-1	25	0.86	37	41	81
45/92	KING BILLY	ZK73	15	18	4143644	Ogdc	Ccy Sls			LG		-1	31	1.15	57	38	90
45/92	KING BILLY	ZK73	18	21	4143645	Ogdc	Ccy Sls			LG		-1	33	1.56	60	36	136
45/92	KING BILLY	ZK73	21	24	4143646	Ogdc	Ccy Sls			LG		-1	23	2.11	130	33	96
45/92	KING BILLY	ZK73	24	27	4143647	Ogdc	Ccy Sls	Vc		DG		-1	16	1.72	214	51	177
45/92	KING BILLY	ZK74	0	9		Qha	Cg										
45/92	KING BILLY	ZK74	9	12	4143648	Ogdc	Ccy Sls	We		LG		-1	22	0.77	39	43	47
45/92	KING BILLY	ZK74	12	15	4143649	Ogdc	Ccy Sls			NW		-1	22	0.97	46	50	174
45/92	KING BILLY	ZK74	15	16	4143650	Ogdc	Ccy Sls	Vc		LG		-1	22	0.79	36	41	136
45/92	KING BILLY	ZK75	0	3	4143651	Ogdc	Ccy Sss	We		B		-1	7	0.5	23	24	11
45/92	KING BILLY	ZK75	3	5	4143652	Ogdc	Ccy Sss			B		-1	27	1.2	21	82	131
45/92	KING BILLY	ZK75	5	6	4143652	Ogdc	Ccy			N							
45/92	KING BILLY	ZK75	6	9	4143653	Ogdc	Ccy Sls	Sd		DG		-1	35	2.54	27	169	805
45/92	KING BILLY	ZK75	9	12	4143654	Ogdc	Ccy	Py		DG		-1	27	2.64	30	110	651
45/92	KING BILLY	ZK75	12	16	4143655	Ogdc	Ccy Sls	Vc		DG		-1	22	2.14	55	96	624
45/92	KING BILLY	ZK76	0	3	4143656	Qha	Ccy			WDG		-1	15	0.92	55	35	158
45/92	KING BILLY	ZK76	3	6	4143657	Ogdc	Ccy Sls			DG		-1	33	2.05	46	154	222

696138

KING BILLY DOWN HOLE EL 45/92

EL No	Prospect	Hole No	From	To	Sample No	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag	Cu	Fe	Mn	Pb	Zn
45/92	KING BILLY	ZK76	6	9	4143658	Ogdc	Ccy Sls		Py Vc	DG		-1	28	2.58	45	121	598
45/92	KING BILLY	ZK76	9	12	4143659	Ogdc	Ccy		Vc	DG		-1	20	1.79	54	82	453
45/92	KING BILLY	ZK77	0	3		Qha	Ccy										
45/92	KING BILLY	ZK77	3	6	4143660	Ogul	Sls		Py	DG		-1	19	2.77	383	112	270
45/92	KING BILLY	ZK77	6	8	4143661	Ogdc	Ccy		Vc	DG		-1	22	1.55	186	148	345
45/92	KING BILLY	ZK78	0	9		Qha	Cg										
45/92	KING BILLY	ZK78	9	11	4143662	Ogul	Sls		Vc	DG		-1	27	0.81	43	56	104
45/92	KING BILLY	ZK79	0	6		Qha	Cg										
45/92	KING BILLY	ZK79	6	9	4143663	Ogdc	Ccy Sls			DG		-1	100	2.25	24	100	406
45/92	KING BILLY	ZK79	9	11	4143664	Ogul	Sls			DG		-1	34	2.34	44	50	201
45/92	KING BILLY	ZK80	0	9		Qha	Cg										
45/92	KING BILLY	ZK80	9	12	4143665	Ogdc	Ccy Sls			DG		-1	29	1.22	24	37	294
45/92	KING BILLY	ZK80	12	15	4143666	Ogdc	Ccy Sls			DG		-1	30	1.7	24	50	376
45/92	KING BILLY	ZK80	15	18	4143667	Ogdc	Ccy Sls			DG		-1	30	2.03	37	45	245
45/92	KING BILLY	ZK80	18	19	4143668	Ogul	Sls		Vc	DG		-1	20	1.05	77	36	245
45/92	KING BILLY	ZK81	0	3	4143669	Qha	Ccy					-1	8	0.35	16	23	12
45/92	KING BILLY	ZK81	3	6	4143670	Og Qha	Ccy Sls			WN		-1	7	0.5	15	20	17
45/92	KING BILLY	ZK81	6	9	4143671	Ogdc	Ccy Sls			N		-1	39	2.66	26	79	788
45/92	KING BILLY	ZK81	9	12	4143672	Ogdc	Ccy Sls			N		-1	28	2.54	29	125	570
45/92	KING BILLY	ZK81	12	15	4143673	Ogdc	Ccy Sls			N		-1	28	3	33	83	412
45/92	KING BILLY	ZK81	15	16	4143674	Ogul	Sls		Vc	N		-1	31	2.52	34	94	466
45/92	KING BILLY	ZK82	0	6		Qha	Cg										
45/92	KING BILLY	ZK82	6	9	4143675	Ogdc	Ccy Sls		Vc	LG		-1	34	1.39	18	292	441
45/92	KING BILLY	ZK82	9	12	4143676	Ogdc	Ccy Sls		Vc	LG		-1	38	2.21	29	2622	1023
45/92	KING BILLY	ZK82	12	15	4143677	Ogdc	Ccy Sls		Vc	LG		-1	23	1.09	19	812	424
45/92	KING BILLY	ZK82	15	17	4143678	Ogdc	Ccy Sls		Vc	LG		-1	27	1.39	83	714	627
45/92	KING BILLY	ZK83	0	3		Qha	Cg										
45/92	KING BILLY	ZK83	3	6	4143679	Ogdc	Ccy Sls		We	W		-1	45	0.53	18	97	101
45/92	KING BILLY	ZK83	6	9	4143680	Ogdc	Ccy			G		-1	32	2.44	24	90	153
45/92	KING BILLY	ZK83	9	12	4143681	Ogdc	Ccy Sls			N		-1	28	3.2	32	80	302
45/92	KING BILLY	ZK83	12	15	4143682	Ogdc	Ccy Sls		Vc	N		-1	27	2.75	39	74	273
45/92	KING BILLY	ZK84	0	6		Qha	Ccy										
45/92	KING BILLY	ZK84	6	9	4143683	Ogdc	Ccy Sls			N		-1	32	2.4	35	52	175
45/92	KING BILLY	ZK84	9	12	4143684	Ogdc	Ccy Sls			N		-1	28	2.45	57	111	137
45/92	KING BILLY	ZK84	12	16	4143685	Ogdc	Ccy Sls		Py	N		-1	22	2.49	138	35	76
45/92	KING BILLY	ZK85	0	3		Qha	Ccy Sls										
45/92	KING BILLY	ZK85	3	6	4143686	Ogdc	Ccy			N		-1	58	1.16	24	124	124
45/92	KING BILLY	ZK85	6	9	4143687	Ogdc	Ccy			N		-1	40	1.6	22	169	179
45/92	KING BILLY	ZK85	9	13	4143688	Ogdc	Ccy Sls		Vc Vq	N		-1	30	1.68	46	119	128
45/92	KING BILLY	ZK86	0	6		Qha	Cg										
45/92	KING BILLY	ZK86	6	8.5	4143689	Ogul	Sls		Vc	DG		-1	15	1.45	73	21	91
45/92	KING BILLY	ZK87	0	3	4143690	Ogul	Sls		Vc	DG		-1	13	0.77	21	19	26
45/92	KING BILLY	ZK87	3	5.5	4143691	Ogul	Sls		Vc	DG		-1	14	1	52	21	44
45/92	KING BILLY	ZK88	0	3		Qha	Cg										
45/92	KING BILLY	ZK88	3	6	4143692	Ogdc	Ccy Sls			N		-1	14	1.01	30	31	70
45/92	KING BILLY	ZK88	6	9	4143693	Ogdc	Ccy Sls			N		-1	20	1.37	29	29	105
45/92	KING BILLY	ZK88	9	12	4143694	Ogdc	Ccy Sls			DG		-1	14	1.39	96	29	45
45/92	KING BILLY	ZK88	12	13	4143695	Ogul	Sls		Vc	DG		-1	11	1.71	164	20	15
45/92	KING BILLY	ZK89	0	3		Qha	Cg										
45/92	KING BILLY	ZK89	3	6	4143696	Ogdc	Ccy Sls		Vc	DG		-1	20	2.34	28	24	153
45/92	KING BILLY	ZK89	6	9	4143697	Ogdc	Ccy Sls			GB		-1	17	1.55	39	21	60

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KING BILLY DOWN HOLE EL 45/92

EL No	Prospect	Hole No	From	To	Sample No	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag	Cu	Fe	Mn	Pb	Zn
45/92	KING BILLY	ZK89	9	12	4143698	Ogdc	Ccy Sls			GB		-1	22	1.89	59	23	46
45/92	KING BILLY	ZK89	12	15	4143699	Ogul	Sls			DG		-1	21	2.07	42	32	102
45/92	KING BILLY	ZK90	0	3	4143700	Og?	Ccy			W		-1	10	0.79	20	15	12
45/92	KING BILLY	ZK90	3	6	4143701	Ogdc	Ccy			W		-1	20	0.96	18	13	19
45/92	KING BILLY	ZK90	6	9	4143702	Ogdc	Ccy			N		-1	22	2.26	20	55	294
45/92	KING BILLY	ZK90	9	12	4143703	Ogdc	Ccy Sls			N		-1	19	1.77	20	61	219
45/92	KING BILLY	ZK90	12	15	4143704	Ogdc	Ccy Sls			N		-1	21	1.65	20	50	156
45/92	KING BILLY	ZK90	15	18	4143705	Ogdc	Ccy			N		-1	27	1.12	16	39	82
45/92	KING BILLY	ZK90	18	21	4143706	Ogdc	Ccy		Py	DG		-1	37	0.92	15	31	55
45/92	KING BILLY	ZK90	21	24	4143707	Ogul	Sls			N		-1	29	1.54	21	58	54
45/92	KING BILLY	ZK90	24	27	4143708	Ogdc	Ccy Sls			N		-1	23	2.09	23	49	101
45/92	KING BILLY	ZK90	27	30	4143709	Ogdc	Ccy Sls			N		-1	20	2.07	25	53	119
45/92	KING BILLY	ZK90	30	33	4143710	Ogdc	Ccy Sls			N		-1	18	2.23	24	46	52
45/92	KING BILLY	ZK90	33	36	4143711	Ogdc	Ccy Sls			NW		-1	21	1.01	18	33	40
45/92	KING BILLY	ZK90	36	39	4143712	Ogdc	Ccy Ssh			W		-1	42	0.57	16	27	25
45/92	KING BILLY	ZK90	39	42	4143713	Ogdc	Ccy Ssh			W		-1	41	0.59	20	50	21
45/92	KING BILLY	ZK90	42	45	4143714	Ogdc	Ssh Scg		Vq	W	Rounded chert & Ssh clasts.	-1	45	0.52	19	81	58
45/92	KING BILLY	ZK90	45	48	4143715	Ogul	Sls/Ssh?	Fi	Py Vq	NW		-1	31	0.78	19	66	40
45/92	KING BILLY	ZK90	48	51	4143716	Ogul	Sls/Ssh?	Fi	Py Vq	NW		-1	24	1.42	20	53	69
45/92	KING BILLY	ZK90	51	54	4143717	Ogdc	Ccy Ssh/Sls	Fi Ds	Py Vq	DG		-1	21	1.7	24	47	107
45/92	KING BILLY	ZK90	54	57	4143718	Ogdc	Ccy Ssl/Sls	Ds	Py	N		-1	19	1.44	27	33	84
45/92	KING BILLY	ZK90	57	60	4143719	Ogdc	Ccy Ssh	Ds Fi	Py	N		-1	20	1.48	29	33	127
45/92	KING BILLY	ZK90	60	63	4143720	Ogul	Sls/Ssh?			LG	Hole Not ended in Irish Rock.	-1	21	1.34	29	33	114
45/92	KING BILLY	ZK91	0	3	4143721	Qha	Ccy			W	Clay.	-1	60	0.65	17	12	13
45/92	KING BILLY	ZK91	3	6	4143722	Qha	Ccy			W	R.F.s.	-1	6	0.49	14	12	8
45/92	KING BILLY	ZK91	6	9	4143723	Ogdc	CcySls			WDG	Gritty Clay	-1	21	0.82	29	81	72
45/92	KING BILLY	ZK91	9	12	4143724	Ogdc	CcySls			WDG	Gritty Clay	-1	16	0.95	15	27	41
45/92	KING BILLY	ZK91	12	15	4143725	Ogdc	CcySls			DG	Gritty Clay	-1	16	1	17	25	176
45/92	KING BILLY	ZK91	15	18	4143726	Ogdc	CcySls			DG	Clay With Rock Chips	-1	16	1.24	19	24	116
45/92	KING BILLY	ZK91	18	21	4143727	Ogdc	CcySls			DG	Rock Chips	-1	15	0.89	18	24	96
45/92	KING BILLY	ZK91	21	24	4143728	Ogdc	CcySls			DG	Gritty	-1	22	1.12	19	29	100
45/92	KING BILLY	ZK91	24	27	4143729	Ogdc	CcySls			DG	Clay With Rock Chips	-1	22	1.18	37	31	85
45/92	KING BILLY	ZK91	27	30	4143730	Ogdc	CcySls			DG	Clay With Rock Chips	-1	17	1.36	53	38	106
45/92	KING BILLY	ZK92	0	3	4143731	Qha	Ccy			LB	Gritty	-1	24	1.5	19	15	11
45/92	KING BILLY	ZK92	3	6	4143732	Qha	Ccy			LB	Gritty	-1	35	1.82	15	17	9
45/92	KING BILLY	ZK92	6	9	4143733	Ogdc	CcySls			N	Clay and Rock Chips	-1	23	1.53	22	52	33
45/92	KING BILLY	ZK92	9	12	4143734	Ogdc	Ccy			N	Gritty	-1	20	1.64	24	33	54
45/92	KING BILLY	ZK92	12	15	4143735	Ogdc	Ccy			LBLGG	Clay	-1	20	1.24	20	31	34
45/92	KING BILLY	ZK92	15	18	4143736	Ogdc	CcySls			N	Clay With Rock Chips	-1	20	2.02	27	41	40
45/92	KING BILLY	ZK92	18	21	4143737	Ogdc	CcySls			LBN	Clay With Rock Chips	-1	19	2.22	28	36	440
45/92	KING BILLY	ZK92	21	24	4143738	Ogdc	CcySls			N	Clay With Rock Chips	-1	20	2.21	30	30	228
45/92	KING BILLY	ZK92	24	27	4143739	Ogdc	CcySls			N	Clay With Rock Chips	-1	21	2.18	31	29	219
45/92	KING BILLY	ZK92	27	30	4143740	Ogul	Sls			N	Rock Chips	-1	20	1.75	34	29	381
45/92	KING BILLY	ZK92	30	33	4143741	Ogul	Sls			N	Rock Chips	-1	13	1.05	24	35	359
45/92	KING BILLY	ZK92	33	36	4143742	Ogul	Sls			N	Rock Chips	-1	15	1.37	29	32	501
45/92	KING BILLY	ZK92	36	39	4143743	Ogul	SlsCcy			G	Clay and Rock Chips	-1	22	1.57	27	33	2753
45/92	KING BILLY	ZK92	39	42	4143744	Ogul	Sls			G	Rock Chips	-1	15	1.42	24	27	474
45/92	KING BILLY	ZK92	42	45	4143745	Ogul	Sls			G	Rock Chips	-1	11	1.62	24	35	80
45/92	KING BILLY	ZK92	45	48	4143746	Ogul	Sls			G	Rock Chips	-1	18	1.62	28	31	127
45/92	KING BILLY	ZK92	48	51	4143747	Ogul	Sls			G	Rock Chips	-1	20	2.55	32	27	50
45/92	KING BILLY	ZK92	51	54	4143748	Ogul	Sls			G	Rock Chips	-1	14	2.31	84	22	79

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KING BILLY DOWN HOLE EL 45/92

EL No	Prospect	Hole No	From	To	Sample No	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag	Cu	Fe	Mn	Pb	Zn
45/92	KING BILLY	ZK93	0	3	4143749	Qha	Cg	LBW			Clay With Rock Chips	-1	24	0.99	29	32	50
45/92	KING BILLY	ZK93	3	6	4143750	Qha	Cg	LBN			Clay With Rock Chips	-1	28	2.2	45	49	494
45/92	KING BILLY	ZK93	6	9	4143751	Qha	Cg	LBN			Clay With Rock Chips	-1	24	4.16	28	116	239
45/92	KING BILLY	ZK93	9	12	4143752	Ogul	CcySls	N			Clay With Rock Chips	-1	30	2.21	51	59	473
45/92	KING BILLY	ZK93	12	15	4143753	Ogul	CcySls	LGNLB			Clay With Rock Chips	-1	28	3.18	33	113	338
45/92	KING BILLY	ZK93	15	18	4143754	Ogdc	CcySls	N			Clay With Rock Chips	-1	20	3.59	27	133	388
45/92	KING BILLY	ZK93	18	21	4143755	Ogdc	CcySls	N			Clay With Rock Chips	-1	19	4.62	28	299	411
45/92	KING BILLY	ZK93	21	23	4143756	Ogul	CcySls		Py		Clay With Rock Chips	-1	19	2.77	57	107	717
45/92	KING BILLY	ZK94	0	3	4143757	Qha	Cg	B			Clay With Rock Chips	-1	10	0.52	22	13	12
45/92	KING BILLY	ZK94	3	6	4143758	Ogdc	CcySls	G			Clay With Rock Chips	-1	88	1.74	21	289	212
45/92	KING BILLY	ZK94	6	9	4143759	Ogdc	Ccy	N			Gritty	-1	80	2.17	26	304	612
45/92	KING BILLY	ZK94	9	12	4143760	Ogdc	CcySls	G			Clay With Rock Chips	-1	51	2.01	28	190	576
45/92	KING BILLY	ZK94	12	15	4143761	Ogdc	CcySls	DG			Gritty	-1	37	2.12	45	142	546
45/92	KING BILLY	ZK94	15	18	4143762	Ogdc	CcySls	NDG			Clay With Rock Chips	-1	13	1.72	168	74	159
45/92	KING BILLY	ZK95	0	3	4143763	Qha	Cg	B			Clay With Rock Chips	-1	22	0.75	41	52	29
45/92	KING BILLY	ZK95	3	6	4143764	Ogdc	CcySls	NB			Clay With Rock Chips	-1	40	1.86	32	62	478
45/92	KING BILLY	ZK95	6	9	4143765	Ogdc	CcySls	NB			Clay With Rock Chips	-1	37	2.83	34	61	300
45/92	KING BILLY	ZK95	9	12	4143766	Ogul	Sls	N			Rock Chips	-1	27	1.87	36	55	110
45/92	KING BILLY	ZK95	15	18	4143767	Ogul	Sls	N			Clay With Rock Chips. 12 TO 1	-1	24	2.44	92	50	111
45/92	KING BILLY	ZK96	0	3	4143768	Ogdc	CcySls	N			Clay With Rock Chips	-1	17	1.63	38	33	74
45/92	KING BILLY	ZK96	3	6	4143769	Ogdc	Ccy	N			Clay	-1	18	1.92	32	43	90
45/92	KING BILLY	ZK96	6	8	4143770	Ogdc	CcySls	N			Clay With Rock Chips	-1	20	1.89	35	46	159
45/92	KING BILLY	ZK97	0	3	4143771	Ogdc	CcySls	B			Clay With Rock Chips	-1	7	0.52	21	19	21
45/92	KING BILLY	ZK97	3	6	4143772	Ogdc	CcySls	N			Clay With Rock Chips	-1	42	1.29	23	63	386
45/92	KING BILLY	ZK97	6	9	4143773	Ogdc	CcySls	NB			Rock Chips	-1	27	2.92	26	47	801
45/92	KING BILLY	ZK97	9	12	4143774	Ogdc	CcySls	NG			Clay With Rock Chips	-1	31	2.6	27	54	671
45/92	KING BILLY	ZK97	12	15	4143775	Ogul	Sls	N			Gritty	-1	25	2.52	52	46	374
45/92	KING BILLY	ZK98	0	3	4143776	Ogdc	CcySls	DBN			Clay With Rock Chips	-1	16	0.75	22	19	18
45/92	KING BILLY	ZK98	3	6	4143777	Ogdc	CcySls	DG			Clay With Rock Chips	-1	21	1.76	24	48	50
45/92	KING BILLY	ZK98	6	9	4143778	Ogdc	Ccy	G			Gritty	-1	18	0.85	23	23	21
45/92	KING BILLY	ZK98	9	12	4143779	Ogdc	CcySls	LGDG			Gritty	-1	30	1.61	32	40	67
45/92	KING BILLY	ZK98	12	15	4143780	Ogdc	CcySls	DG			Clay With Rock Chips	-1	24	2.06	34	64	155
45/92	KING BILLY	ZK98	15	18	4143781	Ogdc	Ccy	N			Gritty	-1	20	2.04	34	65	145
45/92	KING BILLY	ZK98	18	19	4143782	Ogul	Sls	N			Gritty	-1	20	1.94	34	58	109
45/92	KING BILLY	ZK99	0	3	4143783	Ogul	Sls	DG			Clay With Rock Chips	-1	9	0.56	86	29	48
45/92	KING BILLY	ZK100	0	2.5							No Sample						
45/92	KING BILLY	ZK101	0	3	4143784	Qha	Ccy	B			Clay With Rock Chips	-1	7	0.51	39	20	24
45/92	KING BILLY	ZK101	3	6	4143785	Qha	CgCcy	BN			Gritty	-1	7	0.44	34	19	32
45/92	KING BILLY	ZK101	6	9	4143786	Qha	CcyCg	DVDB			Gritty	-1	14	1.03	47	34	80
45/92	KING BILLY	ZK101	9	11	4143787	Qha	CcyCg	DVDB			Gritty	-1	13	1.18	66	33	70
45/92	KING BILLY	ZK102	0	3	4143788	Ogdc	SlsCcy	DG			Gritty	-1	9	0.62	29	24	33
45/92	KING BILLY	ZK102	3	6	4143789	Ogdc	SlsCcy	DG			Gritty	2	16	2.05	34	91	196
45/92	KING BILLY	ZK102	6	9	4143790	Ogdc	SlsCcy	N			Gritty	-1	18	3.6	35	66	479
45/92	KING BILLY	ZK102	9	12	4143791	Ogdc	SlsCcy	N			Gritty	-1	17	3.5	34	54	451
45/92	KING BILLY	ZK102	12	14	4143792	Ogdc	SlsCcy	N			Gritty	-1	18	3.46	37	49	334
45/92	KING BILLY	ZK103	0	3	4143941	Ogdc	Ccy	LBBN				-1	67	0.56	13	18	11
45/92	KING BILLY	ZK103	3	6	4143942	Ogdc	Ccy	NB				-1	69	2.21	22	61	38
45/92	KING BILLY	ZK103	6	9	4143943	Ogdc	Ccy	N				-1	97	2.19	24	78	62
45/92	KING BILLY	ZK103	9	12	4143944	Ogdc	Ccy	N				-1	40	3.07	25	116	284
45/92	KING BILLY	ZK103	12	15	4143945	Ogdc	Ccy	N				-1	35	3.87	30	70	270
45/92	KING BILLY	ZK103	15	18	4143946	Ogdc	CcySls	NLB			R.F.s.	-1	33	3.23	27	71	214

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## KING BILLY DOWN HOLE EL 45/92

EL No	Prospect	Hole No	From	To	Sample No	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag	Cu	Fe	Mn	Pb	Zn
45/92	KING BILLY	ZK103	18	20	4143947	Ogdc	CcySls			N	R.F.s. E.O.H.	-1	26	4.09	156	41	61
45/92	KING BILLY	ZK104	0	3	4143948	Ogdc	Ccy			LBDB		-1	9	0.46	23	13	14
45/92	KING BILLY	ZK104	3	6	4143949	Ogdc	Ccy			BN		-1	36	1.42	21	76	35
45/92	KING BILLY	ZK104	6	9	4143950	Ogdc	Ccy			NB		-1	35	2.12	27	75	80
45/92	KING BILLY	ZK104	9	12	4143951	Ogdc	CcySls			G	Gritty	-1	35	1.97	25	81	141
45/92	KING BILLY	ZK104	12	15	4143952	Ogdc	Ccy			N		-1	31	1.97	28	64	139
45/92	KING BILLY	ZK104	15	18	4143953	Ogdc	CcySls			DG	Gritty	-1	28	2.7	29	49	98
45/92	KING BILLY	ZK104	18	21	4143954	Ogul	Sls		Py	NG	R.F.s.	-1	22	2.31	205	32	70
45/92	KING BILLY	ZK104	21	22	4143955	Ogu I	Sls			NG	R.F.s. E.O.H.	-1	25	3.06	142	41	253
45/92	KING BILLY	ZK105	0	3	4143956	Ogdc	Ccy			LBDB		-1	9	0.35	17	20	12
45/92	KING BILLY	ZK105	3	6	4143957	Ogdc	Ccy			BG		-1	38	0.45	12	47	14
45/92	KING BILLY	ZK105	6	9	4143958	Ogdc	Ccy			N		-1	38	0.82	11	45	76
45/92	KING BILLY	ZK105	9	12	4143959	Ogdc	Ccy			N		-1	33	1.18	17	38	104
45/92	KING BILLY	ZK105	12	15	4143960	Ogdc	Ccy			DG		-1	30	1.73	24	34	162
45/92	KING BILLY	ZK105	15	18	4143961	Ogdc	Ccy			DG		-1	29	2.05	36	26	120
45/92	KING BILLY	ZK105	18	21	4143962	Ogdc	CcySls			G	Gritty	-1	27	1.9	29	24	142
45/92	KING BILLY	ZK105	21	24	4143963	Ogul	Sls			G	R.F.s.	-1	30	2.43	28	25	115
45/92	KING BILLY	ZK105	24	27	4143964	Ogul	Sls			G	R.F.s.	-1	30	2.49	29	23	291
45/92	KING BILLY	ZK105	27	30	4143965	Ogul	Sls			G	R.F.s.	-1	36	2.91	29	27	145
45/92	KING BILLY	ZK105	30	33	4143966	Ogul	Sls			G	R.F.s.	-1	30	2.66	34	25	103
45/92	KING BILLY	ZK105	33	36	4143967	Ogul	Sls		Py	NG	R.F.s. E.O.H.	-1	15	1.7	148	19	55
45/92	KING BILLY	ZK106	0	3	4143968	Ogdc	Ccy			DB		-1	6	0.36	20	7	13
45/92	KING BILLY	ZK106	3	6	4143969	Ogdc	Ccy			DB		-1	34	0.46	19	21	35
45/92	KING BILLY	ZK106	6	9	4143970	Ogdc	CcySls			LBGN	R.F.s.	-1	42	0.69	15	31	121
45/92	KING BILLY	ZK106	9	12	4143971	Ogdc	Ccy			G		-1	35	0.9	15	29	170
45/92	KING BILLY	ZK106	12	15	4143972	Ogdc	Ccy			G		-1	33	0.58	15	40	82
45/92	KING BILLY	ZK106	15	18	4143973	Ogdc	CcySls			LGN	R.F.s.	-1	31	0.7	22	62	87
45/92	KING BILLY	ZK106	18	21	4143974	Ogdc	CcySls			G	Gritty	-1	22	1.38	22	30	90
45/92	KING BILLY	ZK106	21	24	4143975	Ogdc	CcySls			LGDG	Gritty	-1	24	1.25	62	34	130
45/92	KING BILLY	ZK106	24	27	4143976	Ogul	Sls			DG	R.F.s. E.O.H.	-1	17	1.91	142	21	74
45/92	KING BILLY	ZK107	0	3	4143977	Ogdc	Ccy			LB		-1	15	0.67	25	27	28
45/92	KING BILLY	ZK107	3	6	4143978	Ogdc	Ccy			NLBG		-1	66	1.97	18	33	47
45/92	KING BILLY	ZK107	6	9	4143979	Ogdc	CcySls			N	Gritty	-1	33	2.51	22	28	93
45/92	KING BILLY	ZK107	9	12	4143980	Ogdc	CcySls			N	Gritty	-1	37	2.31	29	31	187
45/92	KING BILLY	ZK107	12	15	4143981	Ogdc	CcySls			N	Gritty	-1	33	1.75	23	30	241
45/92	KING BILLY	ZK107	15	18	4143982	Ogdc	CcySls			N	Gritty	-1	31	1.25	17	28	470
45/92	KING BILLY	ZK107	18	21	4143983	Ogdc	CcySls			N	Gritty	-1	26	1.19	18	32	416
45/92	KING BILLY	ZK107	21	24	4143984	Ogdc	CcySls			N	Gritty E.O.H.	-1	24	4.34	353	29	287
45/92	KING BILLY	ZK108	0	3	4143985	Ogdc	Ccy			LB		-1	7	0.77	52	12	39
45/92	KING BILLY	ZK108	3	6	4143986	Ogdc	Ccy			LBB		-1	8	0.65	35	9	28
45/92	KING BILLY	ZK108	6	9	4143987	Ogdc	Ccy			LB		-1	10	0.53	22	12	21
45/92	KING BILLY	ZK108	9	12	4143988	Ogdc	CcySls			BN	R.F.s.	-1	12	0.53	21	14	26
45/92	KING BILLY	ZK108	12	15	4143989	Ogdc	CcySls			N		-1	151	1.08	32	161	210
45/92	KING BILLY	ZK108	15	18	4143990	Ogdc	Ccy			N		-1	58	2.37	36	83	276
45/92	KING BILLY	ZK108	18	21	4143991	Ogdc	Ccy			N		-1	32	1.75	35	50	336
45/92	KING BILLY	ZK108	21	24	4143992	Ogdc	Ccy			N	Gritty	-1	24	1.52	79	36	115
45/92	KING BILLY	ZK108	24	27	4143993	Ogdc	CcySls			N	Gritty R.F.s.	-1	25	2.09	83	36	104
45/92	KING BILLY	ZK108	27	29	4143994	Ogdc	CcySls			N	Gritty R.F.s. E.O.H.	-1	29	1.94	66	39	226
45/92	KING BILLY	ZK109	0	3	4143995	Ogdc	Ccy			BLB		-1	10	0.75	27	16	41
45/92	KING BILLY	ZK109	3	6	4143996	Ogdc	CcySls			BLB	Gritty	-1	15	0.74	25	18	27
45/92	KING BILLY	ZK109	6	9	4143997	Ogdc	CcySls			BLB	Gritty	-1	29	0.55	24	23	23

KING BILLY DOWN HOLE EL 45/92

EL No	Prospect	Hole No	From	To	Sample No	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag	Cu	Fe	Mn	Pb	Zn
45/92	KING BILLY	ZK109	9	12	4143998	Ogdc	Ccy			LBBN		-1	45	1.8	18	56	116
45/92	KING BILLY	ZK109	12	15	4143999	Ogdc	Ccy			N		-1	34	2.21	29	50	381
45/92	KING BILLY	ZK109	15	18	4144000	Ogdc	Ccy			DG		-1	33	1.59	19	64	143
45/92	KING BILLY	ZK109	18	21	4144001	Ogdc	Ccy			DG		-1	38	1.98	19	61	430
45/92	KING BILLY	ZK109	21	24	4144002	Ogdc	CcySlS			G	Gritty	-1	24	2.02	23	42	332
45/92	KING BILLY	ZK109	24	26	4144003	Ogul	SlS			N	R.F.s. E.O.H.	-1	21	7.9	52	27	225
45/92	KING BILLY	ZK110	0	3	4144004	Ogdc	CcySlS			B	Gritty	-1	5	0.33	18	6	11
45/92	KING BILLY	ZK110	3	6	4144005	Ogdc	Ccy			B		-1	9	0.32	14	15	13
45/92	KING BILLY	ZK110	6	9	4144006	Ogdc	Ccy			WB		-1	10	0.41	11	19	12
45/92	KING BILLY	ZK110	9	12	4144007	Ogdc	Ccy			LG		-1	7	0.33	7	17	13
45/92	KING BILLY	ZK110	12	15	4144008	Ogdc	Ccy			W		-1	7	0.37	8	23	10
45/92	KING BILLY	ZK110	15	18	4144009	Ogdc	Ccy			LBW		-1	8	0.5	9	14	14
45/92	KING BILLY	ZK110	18	21	4144010	Ogdc	Ccy			LBW		-1	7	0.42	10	50	8
45/92	KING BILLY	ZK110	21	24	4144011	Ogdc	Ccy			LBW		-1	6	0.38	9	55	11
45/92	KING BILLY	ZK110	24	27	4144012	Ogdc	Ccy			LBBN		-1	51	1.27	14	110	81
45/92	KING BILLY	ZK110	27	30	4144013	Ogdc	Ccy			NLB		-1	28	1.68	16	90	334
45/92	KING BILLY	ZK110	30	33	4144014	Ogdc	CcySlS			N	R.F.s	-1	24	1.61	22	56	209
45/92	KING BILLY	ZK110	33	36	4144015	Ogdc	CcySlS			N	R.F.s	-1	22	2.23	27	40	97
45/92	KING BILLY	ZK110	36	39	4144016	Ogdc	CcySlS			N	R.F.s	-1	23	2.85	30	36	127
45/92	KING BILLY	ZK110	39	40	4144017	Ogul	SlS			N	R.F.s. E.O.H.	-1	18	2.8	54	70	173
45/92	KING BILLY	ZK111	0	3	4144018	Ogdc	CcySlS			EG	R.F.s	-1	11	0.62	24	9	20
45/92	KING BILLY	ZK111	3	6	4144019	Ogdc	Ccy			WLB		-1	9	0.37	8	7	10
45/92	KING BILLY	ZK111	6	9	4144020	Ogdc	Ccy			LG		-1	6	0.35	8	11	8
45/92	KING BILLY	ZK111	9	12	4144021	Ogdc	Ccy			LGB		-1	12	0.84	19	25	25
45/92	KING BILLY	ZK111	12	15	4144022	Ogdc	Ccy			WBN		-1	16	0.74	15	128	25
45/92	KING BILLY	ZK111	15	18	4144023	Ogdc	Ccy			LGG		-1	19	0.52	8	28	12
45/92	KING BILLY	ZK111	18	21	4144024	Ogul	SlS			GN	R.F.s	-1	20	0.51	9	27	17
45/92	KING BILLY	ZK111	21	24	4144025	Ogdc	Ccy			NG		-1	63	0.89	16	65	95
45/92	KING BILLY	ZK111	24	25	4144026	Ogdc	Ccy			N	R.F.s. E.O.H.	-1	30	1.57	46	43	130
45/92	KING BILLY	ZK112	0	3	4144027	Ogdc	Ccy			BLB		-1	13	0.77	32	18	41
45/92	KING BILLY	ZK112	3	6	4144028	Ogdc	Ccy			LB		-1	12	0.58	17	15	17
45/92	KING BILLY	ZK112	6	9	4144029	Ogdc	Ccy			LG		-1	9	0.39	8	15	10
45/92	KING BILLY	ZK112	9	12	4144030	Ogdc	Ccy			LG		-1	7	0.41	10	21	11
45/92	KING BILLY	ZK112	12	15	4144031	Ogdc	Ccy			LBBGDG		-1	30	1.53	32	29	37
45/92	KING BILLY	ZK112	15	18	4144032	Ogdc	Ccy			LGN		-1	31	1.63	24	126	953
45/92	KING BILLY	ZK112	18	21	4144033	Ogdc	Ccy			LBCN		-1	69	2.15	19	66	870
45/92	KING BILLY	ZK112	21	23	4144034	Ogdc	CcySlS			DRB	R.F.s. E.O.H.	-1	31	2.86	24	118	834
45/92	KING BILLY	ZK113	0	3	4144035	Ogfc	Ccy			LBB		-1	24	2.25	55	74	461
45/92	KING BILLY	ZK113	3	6	4144036	Ogfc	Ccy			LGB		-1	20	0.98	31	48	141
45/92	KING BILLY	ZK113	6	9	4144037	Ogfc	Ccy			LG		-1	7	0.47	11	8	39
45/92	KING BILLY	ZK113	9	12	4144038	Ogfc	Ccy			LGLB		-1	6	0.78	11	7	40
45/92	KING BILLY	ZK113	12	15	4144039	Ogfc	Ccy			LGLB		-1	11	0.91	8	31	26
45/92	KING BILLY	ZK113	15	18	4144040	Ogfc	Ccy			WOB		-1	15	1.5	26	48	69
45/92	KING BILLY	ZK113	18	21	4144041	Ogfc	Ccy			LGO		-1	22	1.79	35	52	111
45/92	KING BILLY	ZK113	21	24	4144042	Ogfc	Ccy			LGO		-1	17	1.59	27	61	128
45/92	KING BILLY	ZK113	24	27	4144043	Ogfc	Ccy			O	R.F.s	-1	19	3.06	48	41	302
45/92	KING BILLY	ZK113	27	30	4144044	Ogfc	Ccy			O		-1	40	4.35	69	27	282
45/92	KING BILLY	ZK113	30	33	4144045	Ogfc	Ccy			DG		-1	34	2.11	24	78	643
45/92	KING BILLY	ZK113	33	36	4144046	Ogfc	Ccy			ON	Cavity?	-1	27	2.72	40	42	303
45/92	KING BILLY	ZK113	36	39	4144047	Ogfc	Ccy			N	R.F. Cavity?	-1	32	2.75	43	50	254
45/92	KING BILLY	ZK113	39	42	4144048	Ogdc	CcySlS			NG	R.F.s. E.O.H.	-1	25	2.31	47	51	351

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KING BILLY DOWN HOLE EL 45/92

EL No	Prospect	Hole No	From	To	Sample No	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag	Cu	Fe	Mn	Pb	Zn
45/92	KING BILLY	ZK114	0	3	4144049	Ogfc	Ccy			LBB		-1	19	0.92	19	23	22
45/92	KING BILLY	ZK114	3	6	4144050	Ogfc	Ccy			OB		-1	23	1.45	17	15	23
45/92	KING BILLY	ZK114	6	9	4144051	Ogfc	Ccy			OB	Sandy	-1	27	2.09	12	23	33
45/92	KING BILLY	ZK114	9	12	4144052	Ogfc	Ccy			LB	Sandy	-1	30	1.8	12	17	32
45/92	KING BILLY	ZK114	12	15	4144053	Ogfc	Ccy			OLBW	Sandy	-1	21	1.79	28	18	61
45/92	KING BILLY	ZK114	15	18	4144054	Ogfc	Ccy			NBLB	Sandy	-1	50	1.68	41	94	85
45/92	KING BILLY	ZK114	18	20	4144055	Ogfc	Ccy			B		-1	43	2.03	31	406	792
45/92	KING BILLY	ZK114	20	21	4144056	Ogul	Sls			N	Gritty E.O.H.	-1	52	1.91	33	313	729
45/92	KING BILLY	ZK115	0	3	4144057	Cha	Ccy			GDBG	Gritty	-1	15	0.79	17	118	223
45/92	KING BILLY	ZK115	3	6	4144058	Cha	Ccy			LGG	Gritty Various R.F.s.	-1	9	0.51	12	62	84
45/92	KING BILLY	ZK115	6	9	4144059	Cha	Ccy			BLGG	Ssh R.F.s. No Reaction TO Hcl	-1	8	0.53	13	50	121
45/92	KING BILLY	ZK115	9	12	4144060	Ogul	Ccy Sls		Sls	DGG	Gritty	-1	9	0.6	17	51	106
45/92	KING BILLY	ZK115	12	15	4144061	Ogul	Ccy Sls		Sls	DG	Gritty	-1	43	1.36	18	62	191
45/92	KING BILLY	ZK115	15	18	4144062	Ogul	Ccy Sls		Sls	DG	Gritty	-1	27	2.7	28	53	205
45/92	KING BILLY	ZK115	18	21	4144063	Ogul	Ccy Sls		Sls	DG	Gritty	-1	21	2.89	51	40	192
45/92	KING BILLY	ZK115	21	24	4144064	Ogul	Ccy Sls		Sls Vc	G	Gritty Sandy	-1	9	1.08	110	17	46
45/92	KING BILLY	ZK115	24	27	4144065	Ogul	Ccy Sls		Sls	DG	Gritty	-1	9	1.03	106	14	37
45/92	KING BILLY	ZK115	27	30	4144066	Ogul	Ccy Sls		Sls	DG	Gritty E.O.H.	-1	8	1.19	113	16	20
45/92	KING BILLY	ZK116	0	3	4144067	Cha	Ccy			DB		-1	12	0.39	13	10	15
45/92	KING BILLY	ZK116	3	6	4144068	Cha	Ccy			LBG		-1	6	0.37	9	8	18
45/92	KING BILLY	ZK116	6	9	4144069	Cha	Ccy			LBG		-1	53	0.82	21	48	38
45/92	KING BILLY	ZK116	9	12	4144070	Ogdc	Ccy Sls			G	Gritty R.F.s.	-1	47	0.89	16	49	36
45/92	KING BILLY	ZK116	12	15	4144071	Ogdc	Ccy Sls			DGN	Gritty	-1	24	2.15	23	36	147
45/92	KING BILLY	ZK116	15	18	4144072	Ogdc	Ccy Sls			N	R.F.s.	-1	25	2.73	28	51	221
45/92	KING BILLY	ZK116	18	21	4144073	Ogdc	Ccy Sls			N	R.F.s.	-1	27	3.02	107	42	124
45/92	KING BILLY	ZK116	21	24	4144074	Ogdc	Ccy Sls			N	Gritty R.F.s. E.O.H.	-1	15	1.7	172	20	95
45/92	KING BILLY	ZK117	0	3	4144075	Ogdc	Ccy			BGG		-1	13	1.06	88	13	39
45/92	KING BILLY	ZK117	3	6	4144076	Ogdc	Ccy Sls			GN	Gritty R.F.s.	-1	33	1.58	42	80	115
45/92	KING BILLY	ZK117	6	9	4144077	Ogdc	Ccy Sls			GN	Gritty R.F.s.	-1	23	2.1	30	60	230
45/92	KING BILLY	ZK117	9	12	4144078	Ogdc	Ccy Sls			GN	Gritty R.F.s.	-1	18	3	27	44	276
45/92	KING BILLY	ZK117	12	15	4144079	Ogdc	Ccy Sls			GN	Gritty R.F.s.	-1	24	2.99	29	51	246
45/92	KING BILLY	ZK117	15	18	4144080	Ogdc	Ccy Sls			DG	Gritty	-1	22	2.67	31	41	168
45/92	KING BILLY	ZK117	18	21	4144081	Ogdc	Ccy Sls			DG	Gritty	-1	20	2.66	28	32	201
45/92	KING BILLY	ZK117	21	23	4144082	Ogdc	Ccy Sls			DGN	Gritty E.O.H.	-1	20	2.23	38	23	181
45/92	KING BILLY	ZK118	0	3	4144083	Cha	Ccy			LG	Sandy	-1	9	0.52	9	-3	36
45/92	KING BILLY	ZK118	3	6	4144084	Cha	Ccy			LVW	Sandy	-1	9	0.53	9	-3	13
45/92	KING BILLY	ZK118	6	9	4144085	Ogdc	Ccy			LVLBDV	Sandy	-1	24	0.62	9	39	22
45/92	KING BILLY	ZK118	9	12	4144086	Ogdc	Ccy			DGN	Sandy	-1	23	2.2	15	201	400
45/92	KING BILLY	ZK118	12	15	4144087	Ogdc	Ccy			DGN	Sandy	-1	17	2.92	15	122	324
45/92	KING BILLY	ZK118	15	18	4144088	Ogul	Ccy Sls		Sls Vc	DGN	Sandy E.O.H.	-1	16	2.19	54	134	473
45/92	KING BILLY	ZK119	0	3	4144089	Cha	Ccy Cg			BGG	Gritty	-1	11	0.58	30	31	46
45/92	KING BILLY	ZK119	3	6	4144090	Sc	Cs			LG	Sandy	-1	10	0.85	29	41	56
45/92	KING BILLY	ZK119	6	9	4144091	Sc	Cs			LGG	Sandy	-1	18	0.95	19	42	33
45/92	KING BILLY	ZK119	9	12	4144092	Sc	Cs			LBV	Sandy	-1	20	1.66	21	19	27
45/92	KING BILLY	ZK119	12	15	4144093	Sc	Cs			LBV	Rounded R.F.s.	-1	17	1.35	19	35	33
45/92	KING BILLY	ZK119	15	18	4144094	Sc	Cs			LBV	R.F.s	-1	13	1.2	18	34	22
45/92	KING BILLY	ZK119	18	21	4144095	Sc	Cs			LBV	Sandy Ssh R.F.s.	-1	10	0.88	17	31	19
45/92	KING BILLY	ZK119	21	24	4144096	Sc	Cs			LB	Sandy Ssh R.F.s.	-1	18	1.32	19	22	28
45/92	KING BILLY	ZK119	24	27	4144097	Ogdc	Ccy Sls			LVB	Sandy Ssh Contact	-1	22	0.96	22	18	59
45/92	KING BILLY	ZK119	27	30	4144098	Ogdc	Ccy Sls			DGLG	Sandy	-1	22	1.28	34	22	77
45/92	KING BILLY	ZK119	30	33	4144099	Ogdc	Ccy Sls		Vc	DGN	Gritty	-1	22	1.64	36	31	105

696144

KING BILLY DOWN HOLE EL 45/92

EL No	Prospect	Hole No	From	To	Sample No	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag	Cu	Fe	Mn	Pb	Zn
45/92	KING BILLY	ZK119	33	35	4144100	Ogul	Sis		Vc	DGN	R.F.s. E.O.H.	-1	16	2.65	106	25	163
45/92	KING BILLY	ZK120	0	3	4144201	Qha	Cs			B	Gritty	-1	5	0.35	11	7	10
45/92	KING BILLY	ZK120	3	6	4144202	Sc	Cs			B	Sandy	-1	7	0.4	15	7	7
45/92	KING BILLY	ZK120	6	9	4144203	Sc	Cs			BVN	Sandy	-1	26	0.45	14	16	11
45/92	KING BILLY	ZK120	9	12	4144204	Ogdc	CcySis			DGNB	Gritty	-1	22	1.43	21	39	27
45/92	KING BILLY	ZK120	12	15	4144205	Ogul	CcySis			DG	Gritty	-1	28	0.67	15	47	102
45/92	KING BILLY	ZK120	15	18	4144206	Ogul	CcySis			N	Gritty	-1	19	2.2	25	95	575
45/92	KING BILLY	ZK120	18	20	4144207	Ogul	Sis			N	Gritty E.O.H.	-1	9	1.77	35	47	238
45/92	KING BILLY	ZK121	0	3	4144208	Qha	Cs			B	Sandy	-1	6	0.6	25	4	10
45/92	KING BILLY	ZK121	3	6	4144209	Sc	Cs			DB	Sandy	-1	6	0.37	10	16	9
45/92	KING BILLY	ZK121	6	9	4144210	Sc	Cs			DB	Sandy	-1	9	0.51	18	13	9
45/92	KING BILLY	ZK121	9	12	4144211	Sc	CcyCs			DB	Sandy	-1	7	0.3	11	9	8
45/92	KING BILLY	ZK121	12	15	4144212	Sc	Cg			B	Gritty	-1	16	1.04	21	39	84
45/92	KING BILLY	ZK121	15	18	4144213	Ogdc	CcySis			DG	Gritty	-1	22	2.31	23	108	147
45/92	KING BILLY	ZK121	18	21	4144214	Ogul	CcySis			DV	Gritty	-1	20	2.69	29	104	162
45/92	KING BILLY	ZK121	21	24	4144215	Ogul	CcySis			DG	Gritty	-1	18	2.5	45	66	122
45/92	KING BILLY	ZK121	24	25	4144216	Ogul	CcySis			DG	Gritty E.O.H.	-1	25	3.85	56	57	206
45/92	KING BILLY	ZK122	0	3	4144117	Qha	Cs			DB	Sandy	-1	-2	0.3	9	-3	19
45/92	KING BILLY	ZK122	3	6	4144118	Sc	Cs			LB	Sandy	-1	-2	0.39	15	6	8
45/92	KING BILLY	ZK122	6	9	4144119	Sc	Cs			LBLG	Sandy	-1	-2	0.18	5	-3	6
45/92	KING BILLY	ZK122	9	12	4144120	Sc	Cs			DBB	Sandy	-1	3	0.32	10	16	8
45/92	KING BILLY	ZK122	12	16	4144121	Ogul	CcySis			DGDB	Gritty E.O.H.	-1	8	1.17	17	23	49

KING BILLY AIR-CORE EL 45/92

Sample No	AMGE	AMGN	DPO No	Sample Type	Prospect	EL No	Local E	Local N	Depth	Hole No	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments
5465109	370000	5352000	77686	AIR-CORE	KING BILLY	EL45/92	70000	2000	22.8	ZK9	Ogul	Sls			G	Calcarenite with argillite partings
5465110	370000	5352025	77686	AIR-CORE	KING BILLY	EL45/92	70000	2025	22.3	ZK10	Ogul	Sls	Lm		DG	Laminated argillaceous calcarenite
5465111	370000	5352050	77686	AIR-CORE	KING BILLY	EL45/92	70000	2050	34.4	ZK11	Ogul	Sls			DG	Calcsiltite
5465112	370000	5352075	77686	AIR-CORE	KING BILLY	EL45/92	70000	2075	15	ZK12	Ogul	Sls			DG	Calcsiltite
5465113	370000	5352100	77686	AIR-CORE	KING BILLY	EL45/92	70000	2100	20.5	ZK13	Ogul	Sls			LGDG	Bioclastic, stylonitic calcarenites
5465114	370000	5352125	77686	AIR-CORE	KING BILLY	EL45/92	70000	2125	34	ZK14	Ogul	Sls	Fr		G	Fine calcarenite with ?chlorite partings
5465115	370000	5352150	77686	AIR-CORE	KING BILLY	EL45/92	70000	2150	28.5	ZK15	Ogul	Sls			DG	Bioclastic calcarenite
5465116	370000	5352175	77686	AIR-CORE	KING BILLY	EL45/92	70000	2175	18	ZK16	Ogul	Sls	Vc	Py	DG	Argillaceous calcsiltite
5465117	370000	5352200	77686	AIR-CORE	KING BILLY	EL45/92	70000	2200	15	ZK17	Ogul	Sls			DGGLG	Argill. calcsiltite & bioclastic calcarenite
5465118	370000	5352225	77686	AIR-CORE	KING BILLY	EL45/92	70000	2225	25.5	ZK18	Ogul	Sls			DG	Med. argillaceous calcarenite
5465119	370000	5352250	77686	AIR-CORE	KING BILLY	EL45/92	70000	2250	28.5	ZK19	Ogul	Sls			DGN	Med non-calcareous calcsiltite
5465120	370000	5352275	77686	AIR-CORE	KING BILLY	EL45/92	70000	2275	16	ZK20	Ogul	Sls			DGN	Fine classiltite
5465121	370000	5352300	77686	AIR-CORE	KING BILLY	EL45/92	70000	2300	18.5	ZK21	Ogul	Sls	Vc		DG	Med. argillaceous calcsiltite
5465122	370000	5352325	77686	AIR-CORE	KING BILLY	EL45/92	70000	2325	28.7	ZK22	Ogul	Sls	Lm		LG	Micrite
5465123	370000	5352350	77686	AIR-CORE	KING BILLY	EL45/92	70000	2350	27.5	ZK23	Ogul	Sls		Py	DGN	Non-calcareous carbonate
5465124	370000	5352375	77686	AIR-CORE	KING BILLY	EL45/92	70000	2375	19.5	ZK24	Ogul	Sls	We	Py	N	V. argillaceous non-calc ?calcsiltite
5465125	370000	5352400	77686	AIR-CORE	KING BILLY	EL45/92	70000	2400	32.5	ZK25	Ogul	Sls			G	Bioclastic micritic calcarenite
5465126	370000	5352425	77686	AIR-CORE	KING BILLY	EL45/92	70000	2425	26	ZK26	Ogul	Sdl			DGN	non-calcareous granular ?carbonate
5465127	370000	5352450	77686	AIR-CORE	KING BILLY	EL45/92	70000	2450	16.5	ZK27	Ogul	Sls			DG	Argillaceous calcsiltite
5465128	370000	5352475	77686	AIR-CORE	KING BILLY	EL45/92	70000	2475	21.5	ZK28	Ogul	Sls			DG	Non-calc. argill. granular calcarenite
5465129	370000	5352500	77686	AIR-CORE	KING BILLY	EL45/92	70000	2500	33.5	ZK29	Ogul	Sls			DG	Non-calc. argill. granular calcarenite
5465130	370000	5352525	77686	AIR-CORE	KING BILLY	EL45/92	70000	2525	39	ZK30	Ogul	Sls	Lm		DGLG	Argill. calcarenite bedding 20c; Non-calc
5465131	370000	5352550	77686	AIR-CORE	KING BILLY	EL45/92	70000	2550	23.5	ZK31	Ogul	Sls	Vc		LG	Micritic calcarenite with thin veining.
5465132	370000	5352575	77686	AIR-CORE	KING BILLY	EL45/92	70000	2575	23.5	ZK32	Ogul	Sls	Vc		DGLG	Mixed calcarenites
5465133	370000	5352600	77686	AIR-CORE	KING BILLY	EL45/92	70000	2600	24.5	ZK33	Ogul	Sls	Vc		DGG	Argillaceous fine calcarenite
5465134	370000	5352625	77686	AIR-CORE	KING BILLY	EL45/92	70000	2625	19.5	ZK34	Ogul	Sls		Py	DGN	Argillaceous calcarenite; granular
5465135	370000	5352650	77686	AIR-CORE	KING BILLY	EL45/92	70000	2650	14	ZK35	Ogul	Sls			G	Granular calcarenite
5465136	370000	5352675	77686	AIR-CORE	KING BILLY	EL45/92	70000	2675	11	ZK36	Ogul	Sls	Vc		DG	Fine argillaceous calcsiltite
5465137	370000	5352700	77686	AIR-CORE	KING BILLY	EL45/92	70000	2700	3.5	ZK37	Ogul	Sls	Vc		DG	Med argillaceous calcarenite; thin veining
5465138	370000	5352725	77686	AIR-CORE	KING BILLY	EL45/92	70000	2725	5.5	ZK38	Ogul	Sls		Py	DG	Fine argillaceous calcsiltite
5465155	370400	5352025	77686	AIR-CORE	KING BILLY	EL45/92	70400	2025	18	ZK55	Ogul	Sls	Vc		DGLG	Med calcarenite with lighter calcarenite
5465156	370400	5352075	77686	AIR-CORE	KING BILLY	EL45/92	70400	2075	14.5	ZK56	Ogul	Sls	We		DG	Rotted argillaceous non-calc calcarenite
5465157	370400	5352100	77686	AIR-CORE	KING BILLY	EL45/92	70400	2100	34	ZK57	Ogul	Sls	Vc		DG	Argillaceous calcarenite
5465158	370400	5352125	77686	AIR-CORE	KING BILLY	EL45/92	70400	2125	31.5	ZK58	Ogul	Sls			LGDG	Mixed calcarenites
5465159	370400	5352150	77686	AIR-CORE	KING BILLY	EL45/92	70400	2150	33	ZK59	Ogul	Sls			DG	Argillaceous calcsiltite
5465160	370400	5352175	77686	AIR-CORE	KING BILLY	EL45/92	70400	2175	34	ZK60	Ogul	Sls			DGN	Argillaceous calcsiltite
5465161	370402	5352200	77686	AIR-CORE	KING BILLY	EL45/92	70402	2200	30.5	ZK61	Ogul	Sls			LGDG	Intermixed calcarenites
5465162	370402	5352250	77686	AIR-CORE	KING BILLY	EL45/92	70402	2250	20	ZK62	Ogul	Sls			LG	Micrite
5465163	370402	5352278	77686	AIR-CORE	KING BILLY	EL45/92	70402	2278	27	ZK63	Ogul	Sls			DGLG	Bioclastic calcsiltite & mic. calcarenite
5465164	370398	5352300	77686	AIR-CORE	KING BILLY	EL45/92	70398	2300	17	ZK64	Ogul	Sls			LG	Med grained calcarenite - ?dolomitised
5465165	370402	5352325	77686	AIR-CORE	KING BILLY	EL45/92	70402	2325	29.5	ZK65	Ogul	Sls			LG	Micritic calcarenite with chert band
5465166	370402	5352353	77686	AIR-CORE	KING BILLY	EL45/92	70402	2353	14	ZK66	Ogul	Sdl		Py	DG	Argillaceous non-calcareous calcarenite
5465167	370411	5352377	77686	AIR-CORE	KING BILLY	EL45/92	70411	2377	23	ZK67	Ogul	Sls			LG	Micrite with stylolites
5465168	370403	5352400	77686	AIR-CORE	KING BILLY	EL45/92	70403	2400	28.5	ZK68	Ogul	Sls	We		G	Non-calc ?gossanous rock

## KING BILLY AIR-CORE EL 45/92

Sample No	AMGE	AMGN	DPO No	Sample Type	Prospect	EL No	Local E	Local N	Depth	Hole No	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments
5465169	370400	5352422	77686	AIR-CORE	KING BILLY	EL45/92	70400	2422	39	ZK69	Ogul	Sls	Vc		LGDG	Intermixed calcarenites
5465170	370402	5352450	77686	AIR-CORE	KING BILLY	EL45/92	70402	2450	33	ZK70	Ogul	Sls			LG	Birds eyes micrite
5465171	370400	5352475	77686	AIR-CORE	KING BILLY	EL45/92	70400	2475	38	ZK71	Ogul	Sls		Py	DGN	Calcsiltite
5465172	370402	5352500	77686	AIR-CORE	KING BILLY	EL45/92	70402	2500	30	ZK72	Ogul	Sls			LGDG	Intermixed calcarenites
5465173	370398	5352525	77686	AIR-CORE	KING BILLY	EL45/92	70398	2525	26.5	ZK73	Ogul	Sls			LGDG	Intermixed calcarenites
5465174	370402	5352550	77686	AIR-CORE	KING BILLY	EL45/92	70402	2550	15.5	ZK74	Ogul	Sls	Vc		LGDG	Intermixed calcarenites
5465175	370402	5352575	77686	AIR-CORE	KING BILLY	EL45/92	70402	2575	15.5	ZK75	Ogul	Sls	Vc		LG	Micrite with abundant veining
5465176	370399	5352600	77686	AIR-CORE	KING BILLY	EL45/92	70399	2601	12	ZK76	Ogul	Sls	Vc		DG	Argillaceous calcsiltite
5465177	370400	5352625	77686	AIR-CORE	KING BILLY	EL45/92	70400	2626	8	ZK77	Ogul	Sls			LG	Micritic calcarenite
5465178	370398	5352650	77686	AIR-CORE	KING BILLY	EL45/92	70398	2650	10.5	ZK78	Ogul	Sls	Fi		DGN	Non-calcareous ?calcarenite/calcsiltite
5465179	370400	5352675	77686	AIR-CORE	KING BILLY	EL45/92	70400	2675	11	ZK79	Ogul	Sls			LGDG	intermixed calcarenites
5465180	370401	5352700	77686	AIR-CORE	KING BILLY	EL45/92	70401	2703	19	ZK80	Ogul	Sls	Lm		LGGDG	Laminated micrite
5465181	370750	5352500	77686	AIR-CORE	KING BILLY	EL45/92	70750	2500	16	ZK81	Ogul	Sls	We		DG	Micritic calcarenite
5465182	370800	5352477	77686	AIR-CORE	KING BILLY	EL45/92	70800	2477	16.5	ZK82	Ogul	Sls	Vc		LG	Micritic calcarenite
5465183	370750	5352525	77686	AIR-CORE	KING BILLY	EL45/92	70750	2525	15	ZK83	Ogul	Sls			G	Calcsiltite
5465184	370748	5352550	77686	AIR-CORE	KING BILLY	EL45/92	70748	2550	15.5	ZK84	Ogul	Sls			G	Micritic calcarenite
5465185	370748	5352575	77686	AIR-CORE	KING BILLY	EL45/92	70748	2575	12.5	ZK85	Ogul	Sls		PyDi	DG	Slickensided calcsiltite
5465186	370748	5352600	77686	AIR-CORE	KING BILLY	EL45/92	70748	2600	8.5	ZK86	Ogul	Sls			DGNLG	Dark calcsiltite & micritic calcarenite
5465187	370750	5352625	77686	AIR-CORE	KING BILLY	EL45/92	70750	2625	5.5	ZK87	Ogul	Sls	Lm		G	Fine grained calcarenite
5465188	370750	5352650	77686	AIR-CORE	KING BILLY	EL45/92	70750	2650	13	ZK88	Ogul	Sls	Vc		LG	Micritic calcarenite
5465189	370750	5352675	77686	AIR-CORE	KING BILLY	EL45/92	70750	2675	14.8	ZK89	Ogul	Sls			LGDG	Mixed calcarenite and calcsiltite
5465190	371100	5352475	77686	AIR-CORE	KING BILLY	EL45/92	71100	2475	63	ZK90	Ogul	Sls			DG	Argillaceous calcsiltite weakly calcareous
5465191	371088	5352454	77686	AIR-CORE	KING BILLY	EL45/92	71088	2454	28	ZK91	Ogul	Sls			LGDG	Mixed calcarenite and calcsiltite; weak calc.
5465192	371100	5352493	77686	AIR-CORE	KING BILLY	EL45/92	71100	2493	53.5	ZK92	Ogul	Sls	Vc		LGDG	Fault breccia in mixed calcarenites
5465193	371100	5352525	77686	AIR-CORE	KING BILLY	EL45/92	71100	2525	22.5	ZK93	Ogul	Sls	We		DGN	Weakly calcareous argill. calcarenite
5465194	371100	5352550	77686	AIR-CORE	KING BILLY	EL45/92	71100	2550	17.5	ZK94	Ogul	Sls	Vc		LGDG	Mixed calcarenites
5465195	371100	5352575	77686	AIR-CORE	KING BILLY	EL45/92	71100	2575	18	ZK95	Ogul	Sls	WeVc		DG	Calcarenite
5465196	371100	5352600	77686	AIR-CORE	KING BILLY	EL45/92	71100	2600	8	ZK96	Ogul	Sls	We		DGN	Weakly calcareous calcarenite
5465197	371100	5352625	77686	AIR-CORE	KING BILLY	EL45/92	71100	2625	15	ZK97	Ogul	Sls			DG	Calcarenite
5465198	371100	5352650	77686	AIR-CORE	KING BILLY	EL45/92	71100	2650	19	ZK98	Ogul	Sls	Vc		DG	Micrite
5465199	371130	5352718	77686	AIR-CORE	KING BILLY	EL45/92	71130	2718	3	ZK99	Ogul	Sls	Vc		LG	Micritic calcarenite
5465200	371111	5352739	77686	AIR-CORE	KING BILLY	EL45/92	71111	2739	2.5	ZK100	Ogul	Sls	WeVc		DGN	Rotted limestone
5465201	371090	5352756	77686	AIR-CORE	KING BILLY	EL45/92	71090	2756	11	ZK101	Ogul	Sls			DGN	Calcarenite
5465202	371079	5352731	77686	AIR-CORE	KING BILLY	EL45/92	71079	2731	14	ZK102	Ogul	Sls	We		DGN	Calcarenite
5465203	371325	5352450	77686	AIR-CORE	KING BILLY	EL45/92	71325	2450	20	ZK103	Ogul	Sls			LGDG	Micritic calcarenite and argillaceous calcsiltite
5465204	371325	5352425	77686	AIR-CORE	KING BILLY	EL45/92	71325	2425	22	ZK104	Ogul	Sls	Vc		LGDG	Micritic calcarenite and argillaceous calcsiltite
5465205	371325	5352400	77686	AIR-CORE	KING BILLY	EL45/92	71325	2400	36	ZK105	Ogul	Sls	Vc		LGDG	Micritic calcarenite and argillaceous calcsiltite
5465206	371325	5352375	77686	AIR-CORE	KING BILLY	EL45/92	71325	2375	27	ZK106	Ogul	Sls	Vc		LGDG	Micritic calcarenite and argillaceous calcsiltite
5465207	371325	5352350	77686	AIR-CORE	KING BILLY	EL45/92	71325	2345	23.5	ZK107	Ogul	Sls	Vc		LGW	Extensive veining
5465208	371325	5352325	77686	AIR-CORE	KING BILLY	EL45/92	71325	2325	29	ZK108	Ogul	Sls			LG	Micritic calcarenite
5465209	371325	5352300	77686	AIR-CORE	KING BILLY	EL45/92	71325	2300	26	ZK109	Ogul	Sls	Vc	Py	G	Vuggy non-calcareous carbonate
5465210	371325	5352275	77686	AIR-CORE	KING BILLY	EL45/92	71325	2275	40	ZK110	Ogul	Sls	Vc	Py	G	Vuggy non-calcareous carbonate
5465211	371325	5352250	77686	AIR-CORE	KING BILLY	EL45/92	71325	2250	25	ZK111	Ogul	Sls			Lg	Micritic calcarenite
5465212	371325	5352225	77686	AIR-CORE	KING BILLY	EL45/92	71325	2225	23	ZK112	Ogul	Sls	Vc		R	Red limestone

696147

KING BILLY AIR-CORE EL 45/92

Sample No.	AMGE	AMGN	DPO No.	Sample Type	Prospect	EL No	Local E	Local N	Depth	Hole No	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments
5465213	371325	5352200	77686	AIR-CORE	KING BILLY	EL45/92	71325	2200	40	ZK113	Ogul	Sls			LG	Micritic calcarenite
5465214	371325	5352175	77686	AIR-CORE	KING BILLY	EL45/92	71325	2175	20.5	ZK114	Ogul	Sls			DGLG	Mic. calcarenite & argill calcsiltite
5465215	371350	5352447	77686	AIR-CORE	KING BILLY	EL45/92	71350	2447	30	ZK115	Ogul	Sls	Vc		LG	Micritic calcarenite
5465216	371370	5352432	77686	AIR-CORE	KING BILLY	EL45/92	71370	2432	24	ZK116	Ogul	Sls			LGDG	Mic. calcarenite & argill calcsiltite
5465217	371395	5352438	77686	AIR-CORE	KING BILLY	EL45/92	71395	2438	23	ZK117	Ogul	Sls	Fi		LG	Laminated calcsiltite
5465218	371418	5352446	77686	AIR-CORE	KING BILLY	EL45/92	71418	2446	18	ZK118	Ogul	Sls	Vc		LG	Micritic calcarenite
5465219	371443	5352461	77686	AIR-CORE	KING BILLY	EL45/92	71443	2461	34.5	ZK119	Ogul	Sls	Fi		LGDG	Sheared calcsiltite with calcarenite
5465220	371463	5352477	77686	AIR-CORE	KING BILLY	EL45/92	71463	2477	19.5	ZK120	Ogul	Sls			LGDG	Micrite with birds eyes
5465221	371491	5352482	77686	AIR-CORE	KING BILLY	EL45/92	71491	2482	25	ZK121	Ogul	Sls	Vc		LGDG	Mixed calcarenites; slickensides
5465222	371522	5352485	77686	AIR-CORE	KING BILLY	EL45/92	71522	2485	15.5	ZK122	Ogul	Sls			DGN	Calcsiltite/calcarenite

KING BILLY AIR-CORE EL 45/92

Sample No	Ag	Al	As	Ba	Ca	Cu	Fe	K	Mg	Mn	Pb	Zn
5465109	-0.5	1.85	-5	75	23.2	5	1.57	1.01	4.23	280	13	72
5465110	1.4	1.27	-5	62	29.4	-5	0.77	0.7	2.2	169	12	19
5465111	-0.5	1.51	-5	59	22.1	6	1.26	0.82	5.45	189	23	61
5465112	0.8	1.27	-5	62	29.3	13	1.15	0.63	2.69	142	28	57
5465113	-0.5	2.8	-5	126	22.7	7	1.86	1.5	3.19	169	13	78
5465114	-0.5	1.61	-5	75	27.9	-5	0.83	0.89	1.92	192	-10	19
5465115	-0.5	4.14	-5	225	4.57	15	1.52	1.7	1.25	107	20	35
5465116	-0.5	5.73	-5	254	12.2	21	3.33	2.99	1.58	92	32	809
5465117	-0.5	5.78	-5	192	12.2	16	3.09	2.5	0.78	41	21	213
5465118	-0.5	1.19	-5	40	30.9	7	1.05	0.6	1.43	624	22	72
5465119	-0.5	5.83	-5	140	13	17	3.33	2.21	4.62	157	31	3070
5465120	-0.5	2.57	-5	91	18.1	13	1.78	1.41	6.63	134	32	62
5465121	1.6	0.7	-5	24	31.1	8	0.66	0.35	0.69	130	14	968
5465122	-0.5	0.62	-5	27	35	-5	0.25	0.34	0.37	101	10	24
5465123	-0.5	6.03	12	356	0.31	68	11.8	3.85	0.93	33	39	70
5465124	-0.5	2.63	-5	111	25.2	6	0.92	1.38	1.57	84	13	32
5465125	0.7	0.57	-5	26	33.4	5	0.61	0.31	1.76	113	11	26
5465126	-0.5	7.06	-5	464	6.7	11	1.75	4	1.29	78	18	277
5465127	-0.5	5.07	-5	292	12.8	8	1.65	2.61	2.95	95	13	29
5465128	-0.5	4.01	-5	238	15.4	12	1.9	2.08	3.78	197	12	39
5465129	-0.5	6.7	9	424	1.65	17	2.44	3.53	1.66	79	29	368
5465130	-0.5	8.48	-5	593	0.21	17	1.7	4.15	0.86	37	19	43
5465131	0.9	1.05	-5	62	28.8	-5	1.05	0.53	4.65	190	51	150
5465132	0.9	1.62	-5	82	26.1	10	0.96	0.87	4.7	140	13	57
5465133	-0.5	1.58	-5	69	22.4	7	1.32	0.87	7.34	139	21	68
5465134	-0.5	6.47	-5	347	6.09	15	2.31	3.41	2.1	113	22	244
5465135	-0.5	1.88	-5	89	21.1	-5	1.06	0.97	3.75	99	16	33
5465136	1.8	1.11	-5	42	31.8	8	0.43	0.52	0.87	70	14	65
5465137	0.5	2.04	-5	85	24.8	6	0.8	1.1	2.36	76	66	37
5465138	-0.5	3.7	-5	139	18.7	11	1.6	1.67	5.48	125	19	60
5465155	-0.5	1.16	-5	50	22.1	-5	3.51	0.67	4.97	165	105	245
5465156	-0.5	4.98	28	113	11.3	5	4.04	1.58	3.03	68	14	159
5465157	-0.5	1.17	-5	48	27.1	-5	1.07	0.65	4.89	157	38	38
5465158	-0.5	1.59	-5	61	31.5	-5	0.8	0.9	1.58	96	12	325
5465159	-0.5	2.46	-5	92	17.3	6	2.31	1.37	6.97	295	16	24
5465160	-0.5	2.81	-5	113	19.7	5	1.39	1.56	4.06	152	14	28
5465161	-0.5	3.62	-5	151	16.6	8	1.41	2.02	3.95	159	16	24
5465162	0.7	2.16	-5	90	24.5	6	2.06	1.15	2.45	152	11	381
5465163	-0.5	3.18	-5	143	17.3	6	1.82	1.8	4.87	178	15	53
5465164	-0.5	5.61	14	237	9.18	8	0.85	3.12	1.6	56	15	111
5465165	-0.5	1.99	-5	108	1.43	7	0.39	1.16	0.53	15	-10	86
5465166	-0.5	6.52	25	135	8.83	11	4.51	2.13	1.6	42	18	70
5465167	-0.5	2.59	-5	89	31.9	6	0.45	1.39	0.54	46	17	48
5465168	-0.5	8.17	37	242	0.4	15	1.97	3.69	0.82	13	27	113

## KING BILLY AIR-CORE EL 45/92

Sample No	Ag	Al	As	Ba	Ca	Cu	Fe	K	Mg	Mn	Pb	Zn
5465169	0.7	0.67	-5	34	35.7	-5	0.4	0.37	0.67	61	13	32
5465170	0.6	4.58	-5	179	21.5	15	3.92	2.2	0.67	55	30	66
5465171	-0.5	3.98	-5	209	19.5	8	1.66	2.1	2.77	128	14	67
5465172	-0.5	2.17	-5	132	25.3	-5	1.45	1.12	3.14	167	21	110
5465173	-0.5	1.33	-5	69	27.7	-5	0.95	0.7	3.76	159	15	47
5465174	-0.5	4.54	-5	217	15.5	8	0.94	2.13	2.7	80	24	207
5465175	0.7	1.37	-5	58	34.9	9	0.35	0.76	0.37	64	14	46
5465176	1.3	1.58	-5	61	29.2	-5	0.67	0.85	1.63	60	18	73
5465177	-0.5	2.63	-5	110	23.3	-5	0.98	1.5	1.9	238	20	53
5465178	-0.5	5.23	-5	229	7.61	19	0.95	2.99	1.18	48	14	44
5465179	-0.5	6.74	7	255	7.95	24	2.26	3.84	1.81	81	27	97
5465180	-0.5	6.54	19	273	9.05	26	2.01	3.73	1.59	77	29	131
5465181	-0.5	3.14	-5	187	15.9	8	2.33	1.67	7.23	201	26	49
5465182	-0.5	2.84	-5	211	19.5	8	1.32	1.33	3.41	213	227	175
5465183	-0.5	1.74	-5	105	22.8	10	1.48	0.95	5.66	118	21	42
5465184	-0.5	2.75	-5	84	17.3	10	2.27	1.3	6.6	214	14	42
5465185	-0.5	3.04	-5	143	16.5	12	1.7	1.67	7.62	165	14	53
5465186	1.1	1.5	-5	96	27.5	-5	1.32	0.75	6.15	157	15	24
5465187	-0.5	6.89	12	369	4.99	9	1.7	3.67	2.34	69	31	870
5465188	0.8	2.18	-5	116	23.4	-5	1.59	1.22	5.21	156	-10	28
5465189	-0.5	6.12	-5	385	4.2	13	1.84	3.56	2.54	81	12	1060
5465190	-0.5	8.02	9	650	0.28	12	1.38	4.53	1.01	19	21	55
5465191	-0.5	5.05	23	344	4.75	-5	1.72	2.94	2.4	131	13	34
5465192	-0.5	5.82	12	431	9.23	6	2.16	3.41	4.01	152	14	28
5465193	-0.5	3.68	-5	304	12.7	6	1.85	2.02	1	101	47	2670
5465194	-0.5	1.6	-5	303	20.3	8	1.46	0.94	3.68	316	15	38
5465195	-0.5	1.87	-5	138	22.9	10	1.69	1.08	3.95	259	15	33
5465196	-0.5	5.17	9	218	12.6	7	1.66	2.73	3.57	61	18	101
5465197	-0.5	2.69	41	169	15.8	-5	3.13	1.51	6.27	178	13	91
5465198	-0.5	2.82	22	266	21.6	7	3.99	1.58	1.79	156	26	42
5465199	0.5	0.31	-5	37	35.8	-5	0.27	0.17	0.41	74	-10	60
5465200	-0.5	1.13	6	79	8.33	10	0.53	0.63	0.8	41	-10	30
5465201	0.7	1.81	-5	84	24.2	-5	1.15	1.05	4.81	119	11	25
5465202	-0.5	3.22	-5	193	20.6	8	2.03	1.85	5.98	196	23	35
5465203	-0.5	4.11	-5	208	21.4	16	3.1	2.3	1.07	171	27	58
5465204	-0.5	5.59	12	197	11.3	16	3.22	2.51	3.51	157	26	92
5465205	-0.5	2.75	-5	100	18.7	6	1.87	1.6	5.64	188	-10	24
5465206	-0.5	4.51	-5	182	18.7	12	1.73	2.74	2.91	163	16	37
5465207	-0.5	1.39	-5	87	30.3	-5	1.83	0.83	1.09	260	-10	58
5465208	-0.5	7.01	19	303	12.2	24	2.8	2.97	1.32	153	36	291
5465209	-0.5	3.66	58	190	7.58	11	14.8	1.96	1.95	84	17	230
5465210	-0.5	3.56	31	163	9.69	16	3.85	1.95	0.53	104	78	112
5465211	-0.5	0.74	-5	37	33.8	-5	0.38	0.44	0.58	85	14	27
5465212	-0.5	2.57	-5	108	28.3	8	2.18	1.21	0.41	218	44	179

KING BILLY AIR-CORE EL 45/92

Sample No	Ag	Al	As	Ba	Ca	Cu	Fe	K	Mg	Mn	Pb	Zn
5465213	-0.5	2.62	-5	124	23.5	-5	0.9	1.58	2.49	145	20	69
5465214	-0.5	1.48	-5	72	28.5	-5	0.7	0.91	1.69	128	15	129
5465215	-0.5	1.87	-5	69	24.8	-5	1.36	1.08	3.98	150	-10	24
5465216	-0.5	1.71	-5	67	25.9	-5	1.32	1.01	4.6	213	14	26
5465217	0.7	4.98	-5	285	11.5	13	1.41	3.04	3.8	122	-10	25
5465218	-0.5	0.74	-5	52	36.1	6	0.35	0.44	0.52	129	21	99
5465219	-0.5	6.81	18	441	8.12	10	2.71	3.78	2.76	157	20	79
5465220	-0.5	5.69	10	265	7.53	18	1.63	3.08	1.32	38	24	158
5465221	-0.5	4.05	-5	209	19.3	8	1.37	2.36	1.76	91	25	40
5465222	-0.5	3.69	-5	154	16	11	1.37	2.36	5.85	86	22	94

**Appendix X**

**Leatherwood Aircore Results including EOH Samples**

## LEATHERWOOD DOWN HOLE

EL No	Prospect	Hole No	From	To	Sample No	MRTLith	FieldID	Colour	Comments	Ag	Cu	Fe	Mn	Pb	Zn
45/92	LEATHERWOOD	DL1	0	3	4143793	Qha	Cg	BW	Clay With Rock Chips	-1	7	1.31	25	15	62
45/92	LEATHERWOOD	DL1	3	6	4143794	Ogdc	CcySls	NB	Gritty	-1	6	1.26	42	22	107
45/92	LEATHERWOOD	DL1	6	9	4143795	Ogdc	CcySls	NDG	Clay With Rock Chips	-1	11	2.2	142	26	240
45/92	LEATHERWOOD	DL1	9	12	4143796	Ogdc	CcySls	NDG	Gritty	-1	14	2.5	136	34	211
45/92	LEATHERWOOD	DL1	12	15	4143797	Ogdc	CcySls	G	Gritty	-1	10	2.63	532	25	74
45/92	LEATHERWOOD	DL1	15	18	4143798	Ogul	Sls	NG	Rock Chips	-1	13	1.52	332	60	126
45/92	LEATHERWOOD	DL2	0	3	4143799	Qha	Cg	GW	Rock Chips and Clay	-1	14	0.7	27	33	39
45/92	LEATHERWOOD	DL2	3	6	4143800	Ogdc	CcySls	GW	Rock Chips and Clay	-1	15	0.59	21	36	37
45/92	LEATHERWOOD	DL2	6	9	4143801	Ogdc	Ccy			-1	28	0.79	26	56	111
45/92	LEATHERWOOD	DL2	9	12	4143802	Ogdc	Ccy			-1	26	0.88	47	86	418
45/92	LEATHERWOOD	DL2	12	14	4143803	Ogdc	Ccy			-1	25	1.2	83	91	511
45/92	LEATHERWOOD	DL3	0	3	4143804	Ogdc	CcySls	G	Gritty	-1	23	1.2	88	47	250
45/92	LEATHERWOOD	DL3	3	6	4143805	Ogdc	CcySls	B	Gritty R.F.s.	-1	23	1.17	70	45	185
45/92	LEATHERWOOD	DL3	6	7	4143806	Ogdc	CcySls	DG	Gritty R.F.s.	-1	18	2.05	125	61	223
45/92	LEATHERWOOD	DL4	0	3	4143807	Ogul	Sls	N	R.F.s. E.O.H.	-1	16	0.86	177	31	58
45/92	LEATHERWOOD	DL6	0	3	4143808	Qha	Cg	BG	Gritty	-1	8	0.81	122	32	43
45/92	LEATHERWOOD	DL6	3	4.5	4143809	Qha	Cg	B	Gritty R.F.s. E.O.H.	-1	6	0.66	70	26	43
45/92	LEATHERWOOD	DL7	0	3	4143810	Ogdc	Ccy	B		-1	5	0.78	88	24	83
45/92	LEATHERWOOD	DL7	3	6	4143811	Ogdc	CcySls	DBN	R.F.s.	-1	6	1	74	30	119
45/92	LEATHERWOOD	DL7	6	9	4143812	Ogdc	CcySls	DG	Gritty	-1	8	1.84	54	31	456
45/92	LEATHERWOOD	DL7	9	12	4143813	Ogdc	CcySls	DG	Gritty	-1	15	1.68	61	33	1033
45/92	LEATHERWOOD	DL7	12	14	4143814	Ogdc	CcySls	DG	Gritty E.O.H.	-1	13	2.21	88	40	850
45/92	LEATHERWOOD	DL8	0	3	4143815	Qha	CgCcy	N	Gritty	-1	13	2.63	31	125	205
45/92	LEATHERWOOD	DL8	3	6	4143816	Ogdc	CcySls	N	Gritty	-1	23	3.22	37	210	1014
45/92	LEATHERWOOD	DL8	6	9	4143817	Ogdc	CcySls	N	Gritty	-1	24	2.83	32	230	1178
45/92	LEATHERWOOD	DL8	9	10	4143818	Ogdc	SlsCcy	N	Gritty R.F.s. E.O.H.	-1	16	3.1	792	87	402
45/92	LEATHERWOOD	DL9	0	3	4143819	Ogdc	CcySls	DG	Gritty	-1	23	1.83	57	43	138
45/92	LEATHERWOOD	DL9	3	6	4143820	Ogdc	Ccy	N		-1	23	2.51	67	38	211
45/92	LEATHERWOOD	DL9	6	9	4143821	Ogdc	Ccy	N		-1	51	1.24	42	60	175
45/92	LEATHERWOOD	DL9	9	12	4143822	Ogdc	Ccy	G		-1	48	1.85	31	76	115
45/92	LEATHERWOOD	DL9	12	15	4143823	Ogdc	CcySls	NG	R.F.s. E.O.H.	-1	39	2.62	42	87	202
45/92	LEATHERWOOD	DL10	0	3	4143824	Ogdc	CcySls	N	Gritty	-1	24	2.09	42	58	188
45/92	LEATHERWOOD	DL10	3	5	4143825	Ogdc	CcySls	N	Gritty E.O.H.	-1	19	3.68	33	41	241
45/92	LEATHERWOOD	DL11	0	3	4143826	Ogdc	CcySls	N	R.F.s.	-1	17	4.47	33	90	389
45/92	LEATHERWOOD	DL11	3	6	4143827	Ogdc	CcySls	N	R.F.s.	-1	18	3.93	37	72	354
45/92	LEATHERWOOD	DL11	6	9	4143828	Ogdc	CcySls	DG	Gritty	-1	20	3.33	37	73	316
45/92	LEATHERWOOD	DL11	9	12	4143829	Ogdc	CcySls	DG	Gritty	-1	18	3.82	44	65	264
45/92	LEATHERWOOD	DL11	12	15	4143830	Ogdc	CcySls	N	R.F.s.	-1	20	3.41	46	57	226
45/92	LEATHERWOOD	DL11	15	18	4143831	Ogdc	CcySls	N	R.F.s. E.O.H.	-1	21	3.07	55	60	210
45/92	LEATHERWOOD	DL12	0	3	4143832	Ogdc	CcySls	NB	R.F.s.	-1	12	1.4	25	45	76
45/92	LEATHERWOOD	DL12	3	6	4143833	Ogdc	CcySls	B	Gritty	-1	21	2.36	28	72	513
45/92	LEATHERWOOD	DL12	6	9	4143834	Ogdc	CcySls	DG	Gritty	-1	21	2.6	32	65	548
45/92	LEATHERWOOD	DL12	9	11	4143835	Ogul	Sls	N	R.F.s. E.O.H.	-1	13	2.58	121	55	382
45/92	LEATHERWOOD	DL13	0	3	4143836	Qha	CgCcy	DB	R.F.s.	-1	35	2.06	32	320	255
45/92	LEATHERWOOD	DL13	6	9	4143837	Ogdc	CcySls	G	Gritty	-1	30	2.04	33	155	441
45/92	LEATHERWOOD	DL13	9	12	4143838	Ogdc	CcySls	G	Gritty E.O.H.	-1	21	2.13	352	109	356
45/92	LEATHERWOOD	DL14	0	3	4143839	Ogdc	CcySls	N	R.F.s.	-1	16	1.65	65	30	65
45/92	LEATHERWOOD	DL14	3	6	4143840	Ogdc	CcySls	N	R.F.s.	-1	16	2.36	47	39	391
45/92	LEATHERWOOD	DL14	6	9	4143841	Ogdc	Ccy	N		-1	22	2.22	56	42	401
45/92	LEATHERWOOD	DL14	9	12	4143842	Ogdc	Ccy	N		-1	22	2.89	55	44	210

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## LEATHERWOOD DOWN HOLE

EL No	Prospect	Hole No	From	To	Sample No	MRTLith	FieldID	Colour	Comments	Ag	Cu	Fe	Mn	Pb	Zn
45/92	LEATHERWOOD	DL14	12	15	4143843	Ogdc	Ccy	N		-1	21	2.75	58	51	233
45/92	LEATHERWOOD	DL14	15	18	4143844	Ogdc	CcySls	N	Gritty	-1	20	2.53	44	48	278
45/92	LEATHERWOOD	DL14	18	19	4143845	Ogdc	CcySls	N	Gritty E.O.H.	-1	18	2.32	48	37	295
45/92	LEATHERWOOD	DL15	0	3	4143846	Ogdc	Ccy	NB		-1	15	1.55	40	32	98
45/92	LEATHERWOOD	DL15	3	6	4143847	Ogdc	Ccy	N		-1	23	2.29	41	80	491
45/92	LEATHERWOOD	DL15	6	8	4143848	Ogdc	CcySls	N	Gritty E.O.H.	-1	24	2.67	40	86	487
45/92	LEATHERWOOD	DL16	0	3	4143849	Ogdc	CcySls	N	Gritty	-1	24	2.28	44	64	438
45/92	LEATHERWOOD	DL16	3	6	4143850	Ogdc	CcySls	N	Gritty	-1	24	3.07	42	128	419
45/92	LEATHERWOOD	DL16	6	9	4143851	Ogdc	CcySls	N	Gritty	-1	22	3.27	41	278	504
45/92	LEATHERWOOD	DL16	9	12	4143852	Ogdc	CcySls	N	Gritty	-1	20	2.89	46	676	610
45/92	LEATHERWOOD	DL16	12	13	4143853	Ogdc	CcySls	N	Gritty E.O.H.	-1	22	2.9	52	471	404
45/92	LEATHERWOOD	DL17	0	3	4143854	Ogdc	Ccy	N		-1	18	2.01	43	146	188
45/92	LEATHERWOOD	DL17	3	6	4143855	Ogdc	CcySls	N	Gritty	-1	17	2.39	40	169	219
45/92	LEATHERWOOD	DL17	6	7.5	4143856	Ogdc	CcySls	N	Gritty E.O.H.	-1	23	2.45	45	214	339
45/92	LEATHERWOOD	DL18	0	2	4143857	Ogdc	CcySls	N	Gritty Hard Rock E.O.H.	-1	22	2.29	48	130	178
45/92	LEATHERWOOD	DL19	0	3	4143858	Qha	CgCcy	B		-1	15	1.14	32	74	62
45/92	LEATHERWOOD	DL19	3	6	4143859	Qha	Cg	DB	R.F.s.	-1	20	1.21	33	129	297
45/92	LEATHERWOOD	DL19	6	8	4143860	Ogdc	SlsCcy	NB	Gritty E.O.H.	-1	17	1.63	46	128	348
45/92	LEATHERWOOD	DL20	0	3	4143861	Qha	CgCcy	NBW	R.F.s.	-1	9	0.84	30	36	44
45/92	LEATHERWOOD	DL20	3	6	4143862	Ogdc	CcySls	N	R.F.s.	-1	39	1.13	35	53	105
45/92	LEATHERWOOD	DL20	6	9	4143863	Ogdc	CcySls	N	Gritty	-1	28	1.86	39	66	201
45/92	LEATHERWOOD	DL20	9	12	4143864	Ogul	Sls	DG	R.F.s.	-1	21	1.96	136	52	136
45/92	LEATHERWOOD	DL20	12	15	4143865	Ogul	Sls	N	R.F.s.	-1	19	2.2	108	29	140
45/92	LEATHERWOOD	DL22	0	3	4143866	Qha	Cg	B	Roots&Gravel	-1	16	1.19	54	72	87
45/92	LEATHERWOOD	DL23	0	3	4143867	Qha	CcyCg	B	Gritty	-1	26	0.87	38	35	60
45/92	LEATHERWOOD	DL23	3	6	4143868	Ogdc	CcySls	DGDB	Gritty	-1	28	1.1	26	46	92
45/92	LEATHERWOOD	DL23	6	9	4143869	Ogdc	CcySls	G	Gritty	-1	26	1.27	26	48	120
45/92	LEATHERWOOD	DL23	9	12	4143870	Ogdc	CcySls	G	Gritty	-1	44	1.17	20	84	381
45/92	LEATHERWOOD	DL23	12	15	4143871	Ogdc	CcySls	G	Gritty	-1	33	1.43	43	87	424
45/92	LEATHERWOOD	DL23	15	18	4143872	Ogul	Sls	N	R.F.s.	-1	13	1.58	94	47	406
45/92	LEATHERWOOD	DL23	18	20	4143873	Ogul	Sls	N	R.F.s E.O.H.	-1	19	2.42	102	61	689
45/92	LEATHERWOOD	DL25	0	1.5	4143874				E.O.H.	-1	11	0.83	89	23	76
45/92	LEATHERWOOD	DL28	0	3	4143875	Ogdc	CcySls	N	Gritty	-1	11	1.4	121	46	238
45/92	LEATHERWOOD	DL28	3	6	4143876	Ogul	Sls	N	R.F.s.	-1	12	1.49	145	31	171
45/92	LEATHERWOOD	DL28	6	7.5	4143877	Ogul	Sls	N	Gritty R.F.s. E.O.H.	-1	16	1.78	145	36	225
45/92	LEATHERWOOD	DL30	0	3	4143878	Qha	CcyCg	B	Gritty	-1	8	0.9	113	17	72
45/92	LEATHERWOOD	DL30	3	6	4143879	Qha	CcyCg	B	Gritty	-1	9	0.88	86	19	71
45/92	LEATHERWOOD	DL30	6	9	4143880	Ogdc	CcySls	B	R.F.s.	-1	10	1.48	110	22	56
45/92	LEATHERWOOD	DL30	9	12	4143881	Ogul	Sls	NB	R.F.s.	-1	23	3.05	40	15	71
45/92	LEATHERWOOD	DL30	9	12	4143882	Ogul	Sls	NB	R.F.s.	-1	17	2.58	21	17	60
45/92	LEATHERWOOD	DL30	12	15	4143883	Ogul	Sls	NB	R.F.s.	-1	20	2.16	23	18	45
45/92	LEATHERWOOD	DL30	15	18	4143884	Ogul	Sls	NB	R.F.s.	-1	12	2.38	17	14	31
45/92	LEATHERWOOD	DL30	18	21	4143885	Ogul	Sls	NB	R.F.s.	-1	11	1.83	19	7	27
45/92	LEATHERWOOD	DL30	21	24	4143886	Ogul	Sls	NB	R.F.s.	-1	22	1.38	25	17	26
45/92	LEATHERWOOD	DL30	24	27	4143887	Ogul	Sls	NB	R.F.s.	-1	22	1.45	59	16	22
45/92	LEATHERWOOD	DL30	27	30	4143888	Ogul	Sls	NB	R.F.s E.O.H.	-1	21	1.77	63	19	25
45/92	LEATHERWOOD	DL32	0	3	4143889	Qha	CcyCg	GW	R.F.s.	-1	10	0.65	19	20	14
45/92	LEATHERWOOD	DL32	3	6	4143890	Qha	Ccy	GW		-1	37	1.02	18	59	34
45/92	LEATHERWOOD	DL32	6	9	4143891	Ogdc	Ccy	G		-1	39	1.28	19	126	70
45/92	LEATHERWOOD	DL32	9	12	4143892	Ogdc	CcySls	G	Gritty R.F.s.	-1	28	1.34	14	44	82

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## LEATHERWOOD DOWN HOLE

EL No	Prospect	Hole No	From	To	Sample No	MRTLith	FieldID	Colour	Comments	Ag	Cu	Fe	Mn	Pb	Zn
45/92	LEATHERWOOD	DL32	12	15	4143893	Ogdc	CcySls	G	Gritty R.F.s.	-1	20	1.5	19	21	100
45/92	LEATHERWOOD	DL32	15	18	4143894	Ogdc	CcySls	DG	Gritty R.F.s.	-1	19	1.76	93	25	80
45/92	LEATHERWOOD	DL32	18	19	4143895	Ogdc	CcySls		Gritty R.F.s. E.O.H.	-1	14	1.64	110	33	69
45/92	LEATHERWOOD	DL33	0	3	4143896	Ogdc	CcySls	N	Gritty R.F.s.	-1	20	0.96	64	45	29
45/92	LEATHERWOOD	DL33	3	6	4143897	Ogdc	CcySls	N	Gritty R.F.s.	-1	19	1.27	60	43	41
45/92	LEATHERWOOD	DL33	6	9	4143898	Ogdc	Ccy	G		-1	19	1.29	40	32	57
45/92	LEATHERWOOD	DL33	9	12	4143899	Ogdc	CcySls	G	Gritty	-1	18	1.5	55	32	74
45/92	LEATHERWOOD	DL33	12	15	4143900	Ogdc	CcySls		Gritty E.O.H.	-1	17	2.27	30	24	45
45/92	LEATHERWOOD	DL34	0	2	4143901	Ogdc	CcySls	N	R.F.s. E.O.H.	-1	11	1.06	33	20	48
45/92	LEATHERWOOD	DL35	0	2	4143902	Ogdc	CcySls	DB	Gritty E.O.H.	-1	9	0.69	31	16	30
45/92	LEATHERWOOD	DL36	0	3	4143903	Qha	CcyCg	DB	R.F.s.	-1	10	0.63	21	17	70
45/92	LEATHERWOOD	DL36	3	6	4143904	Ogdc	CcySls	DB	Gritty	-1	17	2.37	25	34	73
45/92	LEATHERWOOD	DL36	6	9	4143905	Ogdc	CcySls	DB	Gritty	-1	19	3.15	28	47	93
45/92	LEATHERWOOD	DL36	9	12	4143906	Ogdc	CcySls	DB	Gritty E.O.H.	-1	17	2.41	29	41	68
45/92	LEATHERWOOD	DL37	0	3	4143907	Ogdc	CcySls	DB	Gritty	-1	8	0.87	27	22	24
45/92	LEATHERWOOD	DL37	3	6	4143908	Ogdc	CcySls	DB	Gritty	-1	10	1.98	41	55	80
45/92	LEATHERWOOD	DL37	6	9	4143909	Ogdc	CcySls	DB	Gritty	-1	17	1.48	64	106	241
45/92	LEATHERWOOD	DL37	9	12	4143910	Ogdc	CcySls	DB	Gritty R.F.s. E.O.H.	-1	17	2.01	69	94	224
45/92	LEATHERWOOD	DL38	0	3	4143911	Ogdc	CcySls	B	Gritty	-1	16	1.08	50	68	145
45/92	LEATHERWOOD	DL38	3	6	4143912	Ogdc	CcySls	NB	Gritty NR.F.s.	-1	20	1.57	59	66	195
45/92	LEATHERWOOD	DL38	6	9	4143913	Ogdc	CcySls	NB	Gritty NR.F.s.	-1	28	1.74	36	58	365
45/92	LEATHERWOOD	DL38	9	12	4143914	Ogul	Sls	NB	Gritty NR.F.s.	-1	20	2.64	30	43	451
45/92	LEATHERWOOD	DL38	12	15	4143915	Ogdc	CcySls	NB	Gritty NR.F.s.	-1	21	2.31	41	62	603
45/92	LEATHERWOOD	DL38	15	17	4143916	Ogdc	CcySls	NB	Gritty NR.F.s. E.O.H.	-1	22	8.2	41	108	545
45/92	LEATHERWOOD	DL39	0	3	4143917	Qha	ccy	LB		-1	6	0.88	12	25	19
45/92	LEATHERWOOD	DL39	3	6	4143918	Qha	Ccy	LB		-1	3	0.77	13	13	16
45/92	LEATHERWOOD	DL39	6	9	4143919	Ogdc	CcySls	GN	NR.F.s.	-1	49	0.88	11	167	130
45/92	LEATHERWOOD	DL39	9	12	4143920	Ogul	Sls	DGN	R.F.s.	-1	82	1.69	17	297	541
45/92	LEATHERWOOD	DL39	12	15	4143921	Ogul	Sls	DGN	R.F.s.	-1	14	1.55	41	21	173
45/92	LEATHERWOOD	DL39	15	16	4143922	Ogul	Sls	DGN	R.F.s. E.O.H.	-1	14	1.8	148	11	137
45/92	LEATHERWOOD	DL43	0	1.5	4143923	Ogdc	Ccy	G	E.O.H.	-1	10	0.61	46	18	30
45/92	LEATHERWOOD	DL45	0	3	4143924	Qha	CcyCg	DB	Gritty E.O.H.	-1	7	0.59	45	11	38
45/92	LEATHERWOOD	DL47	0	1	4143925	Ogdc	CcySls	DB	Gritty E.O.H.	-1	7	0.77	84	12	18
45/92	LEATHERWOOD	DL50	0	1.5	4143926	Ogdc	CcySls	N	Gritty E.O.H.	-1	10	1.1	80	13	19
45/92	LEATHERWOOD	DL51	0	1.5	4143927	Ogdc	CcySls	NDB	Gritty E.O.H.	-1	9	1.06	101	15	15
45/92	LEATHERWOOD	DL52	0	3	4143928	Qha	CcyCg	B	Roots&Gravel E.O.H.	-1	10	1.85	51	20	74
45/92	LEATHERWOOD	DL53	0	3	4143929	Qha	CcyCg	DG	Gritty Roots&Gravel	-1	8	1.02	74	18	32
45/92	LEATHERWOOD	DL53	3	6	4143930	Ogdc	CcySls	DB	Gritty	-1	8	0.86	53	13	33
45/92	LEATHERWOOD	DL53	6	9	4143931	Ogdc	CcySls	DB	Gritty	-1	13	1.16	66	19	42
45/92	LEATHERWOOD	DL53	9	12	4143932	Ogdc	CcySls	DB	Gritty	-1	10	0.76	43	13	29
45/92	LEATHERWOOD	DL53	12	15	4143933	Ogdc	CcySls	N	Gritty R.F.s.	-1	14	2.85	57	23	145
45/92	LEATHERWOOD	DL53	15	18	4143934	Ogdc	CcySls	DG	Gritty	-1	18	4.05	34	36	76
45/92	LEATHERWOOD	DL53	18	21	4143935	Ogdc	CcySls	DG	Gritty	-1	16	4.12	33	37	42
45/92	LEATHERWOOD	DL53	21	24	4143936	Ogdc	CcySls	DG	Gritty	-1	23	4.42	30	38	43
45/92	LEATHERWOOD	DL53	24	27	4143937	Ogdc	CcySls	NDG	Gritty	-1	17	4.04	31	38	62
45/92	LEATHERWOOD	DL53	27	30	4143938	Ogdc	CcySls	DG	Gritty	-1	16	3.77	30	41	101
45/92	LEATHERWOOD	DL53	30	33	4143939	Ogdc	CcySls	NDG	R.F.s.	-1	23	2.44	47	31	82
45/92	LEATHERWOOD	DL53	33	35	4143940	Ogul	Sls	N	R.F.s. E.O.H.	-1	18	2.16	57	21	1125

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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.

Aircore 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 occurring within karstic structures formed by Ordovician weathering before deposition of the Crotty Quartzite. This setting is analogous to Bleiberg or Cracow-Silesia.

*Stratabound 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 demonstrated 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 possibly 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.

## LEATHERWOOD AIR-CORE END OF HOLE

Sample No	AMGE	AMGN	DPO No	Sample Type	Prospect	EL No	Local E	Local N	Depth	Hole No	MRTLith	FieldID	Texture	AltMin	Colour	Comments
5465223	370914	5353076	77686	AIR-CORE	LEATHERWOOD	EL45/92	70850	53000	18	DL1	Ogul	Sls	Vc		LG	Micritic fine calcarenite
5465224	370871	5353177	77686	AIR-CORE	LEATHERWOOD	EL45/92	70850	53110	14	DL2	Ogul	Sls	Vc		LG	Micritic fine calcarenite
5465225	370894	5353187	77686	AIR-CORE	LEATHERWOOD	EL45/92	70875	53110	7	DL3	Ogul	Sls			GLG	Micritic fine calcarenite
5465226	370917	5353197	77686	AIR-CORE	LEATHERWOOD	EL45/92	70900	53110	3	DL4	Ogul	Sls	We		DGLG	Argillaceous rotted Lmst.
5465227	370940	5353206	77686	AIR-CORE	LEATHERWOOD	EL45/92	70925	53110	2	DL5	Ogul	Sls	Vc		LG	Micritic fine calcarenite
5465228	370963	5353216	77686	AIR-CORE	LEATHERWOOD	EL45/92	70950	53110	4.5	DL6	Ogul	Sls			LG	?Bioclastic fine calcarenite
5465229	370891	5353066	77686	AIR-CORE	LEATHERWOOD	EL45/92	70825	53000	14	DL7	Ogul	Sls	Vc		GDG	Argillaceous calcarenite
5465230	370868	5353056	77686	AIR-CORE	LEATHERWOOD	EL45/92	70800	53000	10	DL8	Ogul	Sls			DG	Argillaceous calcarenite
5465231	370845	5353047	77686	AIR-CORE	LEATHERWOOD	EL45/92	70775	53000	15	DL9	Ogul	Sls			DGN	Vuggy ?limestone
5465232	370822	5353037	77686	AIR-CORE	LEATHERWOOD	EL45/92	70750	53000	5	DL10	Ogul	Sls			DG	Vuggy argillaceous lmst.
5465233	370799	5353027	77686	AIR-CORE	LEATHERWOOD	EL45/92	70725	53000	18	DL11	Ogul	Sls	Vc		LGGDG	Mixed limestones
5465234	370776	5353017	77686	AIR-CORE	LEATHERWOOD	EL45/92	70700	53000	11	DL12	Ogul	Sls		Gp	DGN	Argillaceous lmst; Gp planes
5465235	370753	5353007	77686	AIR-CORE	LEATHERWOOD	EL45/92	70675	53000	12	DL13	Ogul	Sls			G	Med/fine calcarenite
5465236	370730	5352998	77686	AIR-CORE	LEATHERWOOD	EL45/92	70650	53000	19	DL14	Ogul	Sls			DGLG	Argill. and mic. calcarenites
5465237	370703	5352986	77686	AIR-CORE	LEATHERWOOD	EL45/92	70620	53000	8	DL15	Ogul	Sls	We	Gp	N	Argillaceous, non calcareous
5465238	370684	5352978	77686	AIR-CORE	LEATHERWOOD	EL45/92	70600	53000	13	DL16	Ogul	Sls			G	Bioclastic Calcarenite
5465239	370661	5352968	77686	AIR-CORE	LEATHERWOOD	EL45/92	70575	53000	7.5	DL17	Ogul	Sls			G	Calcarenite
5465240	370638	5352959	77686	AIR-CORE	LEATHERWOOD	EL45/92	70550	53000	2	DL18	Om	Sss			GW	Quartz sandstone
5465241	370615	5352949	77686	AIR-CORE	LEATHERWOOD	EL45/92	70525	53000	8	DL19	Ogul	Sls		Gp	NDG	Argillaceous calcillite
5465242	370592	5352939	77686	AIR-CORE	LEATHERWOOD	EL45/92	70500	53000	15	DL20	Ogul	Sls	Fi		DGLG	Mixed arg. calcill. & mic. calcarenite
5465243	370569	5352929	77686	AIR-CORE	LEATHERWOOD	EL45/92	70475	53000	1.5	DL21	Ogul	Sls	WeVq	Py	WDG	Rotted calcarenite (?concrete)
5465244	370546	5352920	77686	AIR-CORE	LEATHERWOOD	EL45/92	70450	53000	4	DL22	Ogul	Sls	We		GBDG	Mixed calcarenite & argill. calcillite
5465245	370523	5352910	77686	AIR-CORE	LEATHERWOOD	EL45/92	70425	53000	19.5	DL23	Ogul	Sls	Vc		GW	Intensely veined
5465246	370500	5352900	77686	AIR-CORE	LEATHERWOOD	EL45/92	70400	53000	1.5	DL24	Ogul	Sls			DG	Calcillite
5465247	370477	5352890	77686	AIR-CORE	LEATHERWOOD	EL45/92	70375	53000	1.5	DL25	Ogul	Sls	Vc		WG	Calcillite
	370454	5352880	77686	AIR-CORE	LEATHERWOOD	EL45/92	70350	53000	0	DL26	Ogul	Sls				No Sample
5465248	370431	5352871	77686	AIR-CORE	LEATHERWOOD	EL45/92	70325	53000	1	DL27	Ogul	Sls			DG	Micritic calcarenite
5465249	370408	5352861	77686	AIR-CORE	LEATHERWOOD	EL45/92	70300	53000	7.5	DL28	Ogul	Sls	Vc		W	Calcite vein
5465250	370385	5352851	77686	AIR-CORE	LEATHERWOOD	EL45/92	70275	53000	3	DL29	Ogul	Sls	VcVq		WLGGDG	Mixed variety of fragments
5465251	370176	5353088	77686	AIR-CORE	LEATHERWOOD	EL45/92	70175	53300	30	DL30	Ogul	Sls	We		N	Rotted non calcareous calcillite
5465252	370157	5353080	77686	AIR-CORE	LEATHERWOOD	EL45/92	70155	53300	2	DL31	Ogul	Sls			G	Fine grained calcarenite
5465253	370199	5353098	77686	AIR-CORE	LEATHERWOOD	EL45/92	70200	53300	19	DL32	Ogul	Sls	Vc		WLG	Veined calcarenite
5465254	370222	5353108	77686	AIR-CORE	LEATHERWOOD	EL45/92	70225	53300	15	DL33	Ogul	Sls	Vc		GLG	Micritic calcarenite
5465255	370245	5353118	77686	AIR-CORE	LEATHERWOOD	EL45/92	70250	53300	2	DL34	Ogul	Sls	We		DG	Poss. micritic calcarenite
5465256	370266	5353127	77686	AIR-CORE	LEATHERWOOD	EL45/92	70275	53300	2	DL35	Ogul	Sls	Fi		DG	Calcillite; weakly calcareous
5465257	370291	5353137	77686	AIR-CORE	LEATHERWOOD	EL45/92	70300	53300	13	DL36	Ogul	Sls	Vc		DGG	Bioclastic calcarenite; vein 25 to C/A
5465258	370314	5353147	77686	AIR-CORE	LEATHERWOOD	EL45/92	70325	53300	11.5	DL37	Ogul	Sls	Fi		LG	Calcarenite
5465259	370337	5353157	77686	AIR-CORE	LEATHERWOOD	EL45/92	70350	53300	17	DL38	Ogul	Sls		Py	DG	Calcillite with abundant dissem. Py.
5465260	370360	5353166	77686	AIR-CORE	LEATHERWOOD	EL45/92	70375	53300	16	DL39	Ogul	Sls	Vc		DG	Fine grained calcarenite
	370383	5353176	77686	AIR-CORE	LEATHERWOOD	EL45/92	70400	53300	1.5	DL40	Ogul	Sls				No Sample
5466261	370406	5353186	77686	AIR-CORE	LEATHERWOOD	EL45/92	70425	53300	2	DL41	Ogul	Sls			DGLG	Mixed calcarenites
5466262	370423	5353195	77686	AIR-CORE	LEATHERWOOD	EL45/92	70450	53300		DL42					DG	Calcarenite
5466263	370452	5353205	77686	AIR-CORE	LEATHERWOOD	EL45/92	70475	53300	1.5	DL43	Ogul	Sls	We		GDG	Calcillite and calcarenite
5466264	370475	5353215	77686	AIR-CORE	LEATHERWOOD	EL45/92	70500	53300	1	DL44	Ogul	Sls				Mixed up sample - a bad one

## LEATHERWOOD AIR-CORE END OF HOLE

Sample No	AMGE	AMGN	DPO No	Sample Type	Prospect	EL No	Local E	Local N	Depth	Hole No	MRTLith	FieldID	Texture	AltMin	Colour	Comments
5466265	370498	5353225	77686	AIR-CORE	LEATHERWOOD	EL45/92	70525	53300	3	DL45	Ogul	Sls			DG	Calcarenite
5466266	370521	5353235	77686	AIR-CORE	LEATHERWOOD	EL45/92	70550	53300	1.5	DL46	Ogul	Sls		M	DG	Micaceous argill. calcisiltite
5466267	370544	5353245	77686	AIR-CORE	LEATHERWOOD	EL45/92	70575	53300	1	DL47	Ogul	Sls	Fi		DG	Fine calcarenite with argill. partings
5466268	370567	5353254	77686	AIR-CORE	LEATHERWOOD	EL45/92	70600	53300	1.5	DL48	Ogul	Sls	Fi	Py	G	Argillaceous, sheared calcarenite
5466269	370590	5353264	77686	AIR-CORE	LEATHERWOOD	EL45/92	70625	53300	1.5	DL49	Ogul	Sls	WeVc		DGW	Argill. non calcareous calcarenite
5466270	370613	5353274	77686	AIR-CORE	LEATHERWOOD	EL45/92	70650	53300	1.5	DL50	Ogul	Sls			DG	Argillaceous calcisiltite
5466271	370655	5353238	77686	AIR-CORE	LEATHERWOOD	EL45/92	70675	53250	1.5	DL51	Ogul	Sls	Vc		G	Micritic fine calcarenite; tension veins
5466272	370678	5353247	77686	AIR-CORE	LEATHERWOOD	EL45/92	70700	53250	4	DL52	Ogul	Sls	Vc		DGN	Bioclastic fine argill. calcarenite
5466273	370701	5353257	77686	AIR-CORE	LEATHERWOOD	EL45/92	70725	53250	35	DL53	Ogul	Sls	We		N	Argillaceous calcarenite

LEATHERWOOD AIR-CORE END OF HOLE

Sample No	Ag	Al	As	Ba	Ca	Cu	Fe	K	Mg	Mn	Pb	Zn
5465223	-0.5	1.19	42	82	29.3	-5	5.06	0.7	1.87	1030	34	60
5465224	0.8	2.19	-5	124	28.9	15	2.21	1.21	0.51	313	21	215
5465225	0.5	3.97	-5	259	19.1	-5	1.59	2.38	0.66	138	25	99
5465226	-0.5	2.05	-5	128	26.3	6	0.88	1.19	0.49	291	24	58
5465227	-0.5	1.6	-5	104	19	-5	0.75	0.91	0.57	172	13	36
5465228	0.5	2.01	-5	125	31.2	9	1.35	1.16	0.61	363	18	172
5465229	-0.5	4.49	-5	260	17.2	8	1.83	2.52	2.96	163	18	155
5465230	-0.5	2.75	-5	149	25.6	-5	1.65	1.63	1.61	559	16	41
5465231	-0.5	1.33	-5	76	19.7	-5	0.51	0.78	1.38	57	16	25
5465232	-0.5	4.97	23	215	11.1	11	3.97	2.47	3.25	65	33	180
5465233	-0.5	2.22	-5	101	19.8	-5	1.49	1.24	6.71	98	-10	9
5465234	-0.5	2.95	12	83	17.2	7	2.56	0.92	8.95	150	10	219
5465235	-0.5	2.2	-5	232	21.4	7	1.98	1.21	7.32	348	-10	40
5465236	-0.5	5.32	-5	192	13.5	11	1.7	2.63	2.89	73	11	90
5465237	-0.5	7.32	-5	220	8.7	14	2.14	3.59	2.87	51	42	163
5465238	-0.5	2.17	-5	75	16.9	5	1.2	1.28	5.89	88	161	36
5465239	-0.5	3.61	-5	109	14.6	10	5.5	2	3.16	57	53	74
5465240	-0.5	3.76	8	170	0.2	30	0.87	2.11	0.55	14	14	80
5465241	-0.5	3.5	-5	202	14.1	6	1.28	1.8	5.76	157	37	189
5465242	-0.5	8.25	20	659	10.6	12	1.8	4.7	1.43	96	12	90
5465243	-0.5	4.96	6	368	5.66	13	1.26	2.77	0.87	41	-10	46
5465244	-0.5	7.05	-5	271	3.64	12	0.82	3.96	2.41	38	17	43
5465245	-0.5	2.88	-5	67	17.4	-5	1.94	1.53	6.31	158	21	58
5465246	-0.5	1.08	-5	13	9.74	7	0.77	0.64	3.48	65	-10	60
5465247	-0.5	2.05	-5	60	10.9	17	0.87	1.28	2.63	71	74	27
5465248	-0.5	0.26	-5	-10	4.83	29	0.94	0.09	0.09	28	-10	36
5465249	-0.5	0.63	-5	-10	36.8	8	0.49	0.33	0.27	146	-10	49
5465250	-0.5	0.59	-5	26	32.3	9	0.61	0.32	0.56	174	17	57
5465251	-0.5	5.62	-5	301	2.65	16	1.19	3.2	1.2	33	17	12
5465252	-0.5	2.62	-5	167	21.8	10	1.29	1.57	3.96	158	-10	8
5465253	-0.5	1.1	-5	63	32.9	7	0.9	0.58	0.61	157	12	32
5465254	-0.5	1.47	-5	50	23.4	-5	0.91	0.84	1.8	124	-10	19
5465255	0.5	1.5	-5	21	25.1	18	0.54	0.58	1.5	71	-10	9
5465256	-0.5	5.43	-5	175	12.2	7	0.49	3.29	0.97	32	-10	9
5465257	-0.5	1.51	-5	38	21.1	6	0.77	0.89	2.96	62	-10	13
5465258	-0.5	1.98	-5	37	16.5	8	1	1.12	2.02	55	-10	22
5465259	-0.5	6.89	6	416	5.23	21	15.2	4.01	1.03	41	306	792
5465260	-0.5	4.07	-5	260	9.46	5	1.65	2.28	2.52	166	-10	72
5466261	0.6	1.25	-5	113	33	6	0.94	0.73	3.57	227	16	18
5466262	-0.5	1.29	-5	88	32.2	7	0.42	0.73	0.85	74	-10	11
5466263	-0.5	5.5	-5	390	19	17	0.81	3.25	1.29	63	15	26
5466264	-0.5	1.64	-5	63	6.75	8	0.72	0.97	2.9	59	-10	7

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## LEATHERWOOD AIR-CORE END OF HOLE

Sample No.	Ag	Al	As	Ba	Ca	Cu	Fe	K	Mg	Mn	Pb	Zn
5466265	1.2	1.23	-5	43	27.6	5	0.73	0.71	2.12	71	-10	7
5466266	-0.5	1.38	-5	66	11.6	29	0.85	0.79	4.03	76	-10	14
5466267	-0.5	2.25	-5	120	24.5	10	0.73	1.27	1.51	193	-10	16
5466268	-0.5	1.41	-5	61	23.1	17	0.88	0.8	5.07	99	-10	19
5466269	-0.5	2.56	-5	177	21.5	5	1.05	1.65	5.12	95	-10	10
5466270	-0.5	3.36	-5	196	19.4	6	1.64	1.95	3.53	178	-10	12
5466271	-0.5	1.56	-5	55	27.9	16	1.07	0.91	3.8	233	-10	17
5466272	-0.5	2.72	-5	475	20.4	7	2.3	1.54	5.39	417	-10	18
5466273	-0.5	6.15	-5	403	5.01	11	1.89	3.37	1.33	71	16	418

Appendix XI

South Mariposa Wacker Bedrock Sampling Results

MARIPOSA WACKER

Sample No	AMGE	AMGN	DPO No	Sample Type	Prospect	EL No	Local E	Local N	Depth	Bedrock	MRTLith	FieldID	Texture	Colour	Comments
5466408	367633	5358707	77376	WACKER	MARIPOSA	EL45/92	67250	58600	3	Y	Ed	Ssh		LGV	
5466409	367657	5358715	77376	WACKER	MARIPOSA	EL45/92	67275	58600	1.5	Y	Ed	Ssh		GV	
5466410	367680	5358723	77376	WACKER	MARIPOSA	EL45/92	67300	58600	0.5	Y	Ed	Ssh		GV	
5466411	367704	5358731	77376	WACKER	MARIPOSA	EL45/92	67325	58600	1	Y	Ed	Ssh	Fe	YGV	
5466412	367728	5358739	77376	WACKER	MARIPOSA	EL45/92	67350	58600	1	Y	Ed	Ssh		LY	
5466413	367751	5358748	77376	WACKER	MARIPOSA	EL45/92	67375	58600	5.3	Y	Ed	Ss		P	
5466414	367775	5358756	77376	WACKER	MARIPOSA	EL45/92	67400	58600	5	Y	Ed	Sss		P	
5466415	367799	5358764	77376	WACKER	MARIPOSA	EL45/92	67425	58600	2.3	Y	Ed	Ssh		GV	
5466416	367609	5358699	77376	WACKER	MARIPOSA	EL45/92	67225	58600	1	Y?	Orn?	Sss			May be gravels.
5466417	367586	5358691	77376	WACKER	MARIPOSA	EL45/92	67200	58600	6.6	Y	Ogcy	Ccy	Fe	MWYB	Stratabound clays
5466418	367562	5358682	77376	WACKER	MARIPOSA	EL45/92	67175	58600	6	Y	Ogul	Sls		DG	Dolomitic?
5466419	367539	5358674	77376	WACKER	MARIPOSA	EL45/92	67150	58600	8	Y	Ogul	Sls		DG	
5466420	367515	5358666	77376	WACKER	MARIPOSA	EL45/92	67125	58600	2.5	Y	Ogdl	Sdl	Fe	QG	May be dolomitic or sideritic
5466421	367491	5358658	77376	WACKER	MARIPOSA	EL45/92	67100	58600	2.3	Y	Sc	Sss		W	
5466422	367722	5358526	77376	WACKER	MARIPOSA	EL45/92	67275	58400	1	Y	Ed	Ssh		G	
5466423	367698	5358518	77376	WACKER	MARIPOSA	EL45/92	67250	58400	1	Y	Ed	Ssh		GV	
5466424	367675	5358510	77376	WACKER	MARIPOSA	EL45/92	67225	58400	3.3	Y	Ed	Ssh		LGV	
5466425	367651	5358502	77376	WACKER	MARIPOSA	EL45/92	67200	58400	0.8	Y	Ed	Ssh		LGV	
5466426	367627	5358493	77376	WACKER	MARIPOSA	EL45/92	67175	58400	2.7	Y	Sc	Sss		LB	
5466427	367604	5358485	77376	WACKER	MARIPOSA	EL45/92	67150	58400	2.2	Y	Sc	Sss		LKG	
5466428	367580	5358477	77376	WACKER	MARIPOSA	EL45/92	67125	58400	2.8	Y	Sc	Sss		LGW	
5466429	367763	5358329	77376	WACKER	MARIPOSA	EL45/92	67250	58200	0.8	Y	Ed	Ssh		GV	
5466430	367740	5358321	77376	WACKER	MARIPOSA	EL45/92	67225	58200	1	Y	Ed	Ssh		GV	
5466431	367716	5358312	77376	WACKER	MARIPOSA	EL45/92	67200	58200	1.2	Y	Ed	Ssh		GV	
5466432	367692	5358304	77376	WACKER	MARIPOSA	EL45/92	67175	58200	0.2	Y	Ed	Ssh		GV	
5466433	367669	5358296	77376	WACKER	MARIPOSA	EL45/92	67150	58200	1	Y	Ed	Ssh		LGV	

MARIPOSA WACKER

Sample No	Ag	Al	As	Ba	Ca	Cu	Fe	K	Mg	Mn	Pb	Zn
5466408	-0.5	5.64	-5	278	-0.05	40	3.32	2.24	0.61	224	14	374
5466409	-0.5	9.64	18	351	0.06	27	5.22	3.42	1.74	183	13	124
5466410	-0.5	9.82	-5	388	-0.05	18	5.27	3.71	1.62	171	22	115
5466411	-0.5	9.38	-5	351	-0.05	36	5.48	3.32	1.34	138	12	102
5466412	-0.5	9.76	-5	403	-0.05	22	2.58	3.73	0.71	55	15	35
5466413	-0.5	9.03	16	198	-0.05	55	7.2	2.39	0.3	46	103	68
5466414	-0.5	7.87	-5	141	-0.05	19	8.61	1.38	1.19	145	35	265
5466415	-0.5	9.24	19	280	-0.05	35	6	3	2.05	264	44	139
5466416	-0.5	4.64	6	482	-0.05	12	1.65	1.81	0.5	91	23	39
5466417	0.9	2.76	44	133	0.08	101	33.4	1.47	0.14	9170	2260	2430
5466418	-0.5	0.54	14	63	8.33	10	20.6	0.26	4.07	23000	910	4420
5466419	-0.5	0.75	559	60	21.1	13	4.01	0.37	6.69	3350	604	154
5466420	5	2.71	25	196	11.3	16	1.93	1	6.49	722	621	1710
5466421	-0.5	0.26	-5	14	0.05	7	0.18	-0.05	0.02	35	-10	7
5466422	-0.5	7.06	30	277	-0.05	52	4.17	2.51	1.1	118	24	116
5466423	0.6	8.63	-5	366	0.11	39	4.74	3.39	1.51	116	12	173
5466424	-0.5	10.8	-5	898	-0.05	10	1.12	5.01	0.53	23	18	19
5466425	-0.5	6.44	22	227	-0.05	27	4.7	2.21	1.31	110	34	93
5466426	-0.5	1.21	-5	86	-0.05	12	0.25	0.53	0.06	14	12	9
5466427	-0.5	0.24	14	17	-0.05	-5	0.41	-0.05	0.01	15	-10	19
5466428	-0.5	0.2	-5	11	-0.05	8	0.22	-0.05	0.01	22	-10	14
5466429	-0.5	9.79	-5	315	-0.05	71	5.08	3.2	1.83	226	23	123
5466430	-0.5	10.1	7	329	-0.05	32	5.17	3.38	1.76	178	27	127
5466431	-0.5	9.25	13	299	0.05	25	4.17	3.28	1.44	153	31	112
5466432	0.7	8.69	6	229	-0.05	42	4.63	3.02	1.43	147	56	114
5466433	-0.5	10.5	19	336	-0.05	14	1.2	4.55	0.44	44	293	21

Appendix XII

Westerway Wacker Bedrock Sampling Results

WESTERWAY WACKER

Sample No	AMGE	AMGN	DPO No	Sample Type	Prospect	EL No	LocalE	Local N	Depth	Bedrock	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments
4138423	368859	5358014	77700	WACKER	WESTERWAY CREEK	EL45/92		50	6.5	Y	Ogul	Sls	Sandy clay		DGWN	Weathered argillaceous calcarenite
4138424	368844	5358034	77700	WACKER	WESTERWAY CREEK	EL45/92		75	3.5	Y	Ogul	Sls	Sandy clay		DGB	Weathered limestone +/- qtz frags.
4138425	368830	5358055	77700	WACKER	WESTERWAY CREEK	EL45/92		100	3.5	Y	Ogul	Sls	clay		DGN	Black and lt grey clay
4138426	368816	5358075	77700	WACKER	WESTERWAY CREEK	EL45/92		125	5.5	Y	Ogul	Sls	Sandy clay		DGN	
4138427	368801	5358095	77700	WACKER	WESTERWAY CREEK	EL45/92		150	6.5	Y	Ogul	Sls	Sandy clay	Vc	GLG	
4138428	368779	5358106	77700	WACKER	WESTERWAY CREEK	EL45/92		175	6.5	Y	Ogul	Sls	Sandy clay	Vc	GLG	Well veined
4138429	368756	5358117	77700	WACKER	WESTERWAY CREEK	EL45/92		200	4	Y	Ogdc	Ccy	clay		DGNB	Non-calcareous
4138430	368733	5358127	77700	WACKER	WESTERWAY CREEK	EL45/92		225	3	Y	Ogul	Sls	Sandy clay		DGG	Fine grained calcarenite/calcsiltite
4138431	368711	5358138	77700	WACKER	WESTERWAY CREEK	EL45/92		250	3.6	Y	Ogul	Sls	Sandy clay	Vc	G	Mixed calcarenite (+/- argillite)
4138432	368688	5358148	77700	WACKER	WESTERWAY CREEK	EL45/92		275	1.1	Y	Ogul	Sls	Sandy clay	Vc	G	Granular calcarenite
4138433	368665	5358159	77700	WACKER	WESTERWAY CREEK	EL45/92		300	2	Y	Ogdl	Sdl	Sandy clay	Vd	G	Fine to med grained dolomitised calcarenite
4138434	368643	5358169	77700	WACKER	WESTERWAY CREEK	EL45/92		325	9	Y	Ogdc	Ccy	clay		G	Non-calcareous
4138435	368620	5358180	77700	WACKER	WESTERWAY CREEK	EL45/92		350	1.5	Y	Ed	Ssh	sand		GV	Bedrock not reached

WESTERWAY WACKER

Sample No	Ag	Al	As	Ba	Ca	Cu	Fe	K	Mg	Mn	Pb	Zn
4138423	-0.5	0.42	-5	27	34	-5	0.75	0.23	2.46	321	31	107
4138424	-0.5	3.52	59	214	6.72	17	1.36	1.58	2.19	87	449	1850
4138425	-0.5	6.83	31	300	8.78	44	0.83	2.88	0.57	54	367	227
4138426	-0.5	2.4	-5	102	24.1	17	1.23	1.2	2.39	251	389	1630
4138427	-0.5	2.26	5	137	20.7	18	1.09	0.93	2.64	282	64	183
4138428	-0.5	1.98	-5	126	31.4	10	0.92	0.91	0.66	377	53	358
4138429	-0.5	8.44	157	433	0.21	109	4.2	4.57	0.74	29	3210	8860
4138430	-0.5	1.83	-5	117	18.9	6	3.15	0.69	2.99	2750	272	622
4138431	-0.5	2.58	-5	216	29.5	10	3.91	1.05	0.49	1380	142	472
4138432	-0.5	1.89	-5	76	11.8	22	1.34	0.87	0.64	280	332	852
4138433	-0.5	1.34	-5	56	17.9	-5	1.57	0.69	9.53	552	72	853
4138434	-0.5	7.7	97	221	2.86	40	10.8	3.08	1.57	385	938	6120
4138435	-0.5	7.24	20	147	0.07	57	6.68	1.47	2.13	146	-10	133

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Appendix XIII

Zinc Mineralisation of 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, gained 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 Orogeny. 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. Basin-bounding syn-sedimentary faults in the Zeehan area are WNW-trending, and include the Firewood Siding Fault on the SW side, and Professor Range and Balstrup Faults on the NE side.

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.

*Stratabound 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 zone 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. It could be possible that the complex clay mineralogy is a supergene weathering process acting on an original sphalerite-pyrite mineralised black shale. The siderite may be capping the sulphide systems, preserved in its primary form due to its low porosity and permeability.