CRA EXPLORATION PTY. LIMITED

DRILL-HOLE SUMMARY LOG

346069

HOLE NAME: DD95ZG406 AMG EAST 364608 NORTH 8349542

PROSPECT Grieves GRID EAST 61147 NORTH 48048

EL: Zeehan No4 EL38/89 RL DEPTH 183.6 m

DATE DRILLED: 29/4/95 - 11/5/95

LOGGED BY: Sandy Meares

DRILLING CO.: Aimec

DRILL TYPE: Diamond

DRILL RIG:

LOC DRILL CORE: Zeehan

SURVEYS: DEPTH	AZIM (AMG)	DIP	DEPTH	AZIM (AMG)	DIP
60 m	147°	46.5			
120 m	146.5°	47.5			
180 m	146.0°	50			

OBJECTIVES OF HOLE:

Plunge extensions of known lower zone mineralisation south of Grieves Fault beneath zone of deep weathering

LITHOGICAL SUMMARY:

FROM	TO	FORM CODE	COMMENTS
12.0	64.0	Ogul	Undifferentiated limestone
64.0	65.7	Ogul	Bioclastic calcarenite
65.7	76.2	Ogul	Undifferentiated limestone
76.2	76.7	Ogsi?	Calcareous siltstone and non-calcareous claystone
76.7	81.4	Ogul	Undifferentiated limestone
81.4	94.0	Ogmw	Clean "birdseye" micrite, some dolomitisation
94.0	113.2	Ogul	Silty, finely sucrosic, lime mudstone
113.2	117.6	Ogsi?	Calcareous clay and claystone
117.6	123.9	Ogsd/Ogms	Siderite and ?massive sphalerite unit
123.9	170.0	Ogdc/Ogfc	Interbedded black and ferruginous clays
170.0	177.2	Ogst	Mixed argillaceous, coarse clastic unit
177.2	182.9	Ogst?	Quartz sandstones. Basal conglomerate
182.9	183.6	Om	"Glassy" quartzite

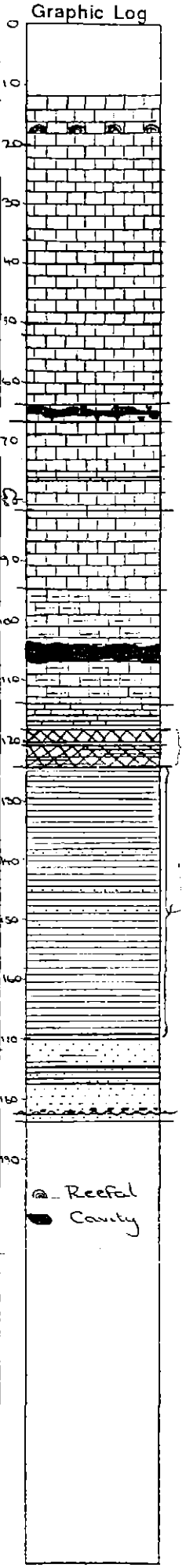
MINERALISATION SUMMARY:

FROM	TO	COMMENTS
117.6	123.9	6.3 m @ 22% Zn in siderite unit. Massive sphalerite from 119.6 to 120.0m.
131.6	166	Spotty mineralisation in alternating ferruginous and black carbonaceous clay unit. Best intersection 2.3m @ 8.2% Pb, 7.8% Zn. Galena recognized, no sphalerite => Zincian clays?

CONCLUSIONS:

Hole has intersected the known mineralised zone at Grieves Prospect. Unfortunately most of the zinc occurs as zincian siderite and zincian clays, with only 0.4m of massive sphalerite from 119.6m.

Graphic Log



61147E 48048N
(Local)

346970

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

SHEET No. 1 of 15
TENEMENT NAME GRIEVES No.
PLAN – MAP REFERENCE

CO-ORDINATES 364608mE 5349542mN AZIMUTH 134° Mag DRILLERS [illegible] COMMENCED 29/4/95 DEPTH 183.6m HOLE No. ZG406
RL COLLAR INCLINATION -45° DRILL TYPE Diamond COMPLETED 11/5/95 CASING LEFT DPO No(s)

DEPTH From (M)	DEPTH To (M)	Core Rec. %	RQD	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by)					From	To	Rec (m)	Rec %
					12-64m: Undifferentiated Limestone														
[illegible]	[illegible]	100	2-4	[illegible]	① Grey and dark grey,		545429	81.1	81.4							12	14	1.3	65
20% [illegible]	very				variably argillaceous,		430	81.4	84.2							14	16	0.3	15
					bioturbated micritic		431	84.2	86.0							16	18	0.45	23
					limestone		432	86.0	88.0							18	19	0.5	50
					② light brownish grey		433	88.0	90.0							19	20.1	0.6	55
					silty lime mudstone,		434	90.0	92.0							20.1	21.8	1.2	71
					[illegible] texture,		435	92.0	94.0							21.8	23.2	0.9	64
					slightly porous and		436	94.0	95.5							23.2	25	0.75	42
					permeable.		437	95.5	96.6							25	25.4	0.3	75
							438	96.6	99.2							25.4	28	1.65	63
[illegible]	16.7	13	3-4		Only 0.5m very		439	99.2	101.6							28	28.7	0.8	114
Very poor					rubbly limestone		440	101.6	104.6							28.7	29.1	0.5	125
[illegible]					recovered		441	107.35	111.0							29.1	29.7	0.05	8
							442	111.0	113.2							29.7	30.7	0.9	90
[illegible]7	18.0	100			Fossiliferous limestone		443	113.2	115.0							30.7	31.1	0.75	63
					Predominantly coral		444	115.0	117.6							31.1	31.8	0.5	71
							445	117.6	119.6							31.8	33	1.05	88
[illegible]	21.5	60	3-4		Very rubbly limestone		446	119.6	120.0							33	33.9	0.6	67
1.4	m core				Common very coarsely		447	120.0	121.0							33.9	34.8	0.8	89
lost					crystalline calcite veining		448	121.0	122.8							34.8	35.4	0.2	33
							449	122.8	123.9							35.4	37	0.7	44
5	[illegible]	75	3-4		Very fine to fine		450	123.9	125.6							37	38	0.55	55
					grained [illegible]		451	125.6	127.6							38	38.8	0.9	113
	[illegible] core				[illegible]		452	127.6	129.6							38.8	40	0.8	67
	lost				places) and light		453	129.6	131.6							40	41.7	1.2	71
					brownish grey silty		454	131.6	132.5							41.7	42	0.25	83
					lime mudstone.		455	132.5	134.0							42	43	0.6	60
					Occ. [illegible]		456	134.0	136.0							43	44.4	1.4	100
					Disturbed bedding		457	136.0	138.1							44.4	46	1.55	97
					Possibly slumped		458	138.1	139.4							46	47.3	1.2	100
					in places		545459	139.4	140.4							47.3	49	1.5	88

346071

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

TENEMENT NAME: GRIEVES | SHEET No. 2 | No. of 15

PLAN – MAP REFERENCE:

364608E

CO-ORDINATES: 5349542 N | AZIMUTH: 134° MAG | DRILLERS: ALMAC | COMMENCED: 29·4·95 | DEPTH: 183·6 | HOLE No. ZG 406

RL COLLAR: | INCLINATION: -45° | DRILL TYPE: LY38 | COMPLETED: 11·5·95 | CASING LEFT: | DPO No(s):

DEPTH From (M)	DEPTH To (M)	Core Rec. %	RQD DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by ....)					From	To	Rec (m)	Rec %
5	23.9	100	3.4		As above but		5465460	140·4	142							49	49·7	0·6	86
					much more fossiliferous		461	142	144							49·7	50·5	0·9	113
					?bits of preserved		462	144	145·6							50·5	51·5	0·9	90
					brachiopod [illegible]		463	145·6	148							51·5	52·7	0·4	57
							464	148	150							52·2	54	1·5	83
.	27·4	46	3.4		Variably ?dolomitic,		465	150	152							54	55	0·7	70
Apparent [illegible]	100				brecciated, calcite		466	152	154							55	56·4	1·3	93
cut [illegible]					veined limestone		467	154	156·8							56·4	57·7	0·9	69
					Rubbly core		468	156·8	160							57·7	58·4	0·6	86
					Common fragments		469	160	162							58·4	59·6	0·9	75
					very coarsely crystalline		470	162	163							59·6	60·1	0·4	80
					calcite		471	164·3	166							60·1	61·5	1·15	82
							472	166	168							61·5	62·4	0·8	89
							473	168	170							62·4	64	1·0	63
							474	170	172·6			Chunky				64	65·7	0·3	18
							475	172·6	175·6							65·7	67	0·73	56
							476	175·6	177·2							67	67·8	0·2	25
							5465477	177·2	179·0							67·8	69	0·8	67
																69	70·2	0·7	58
																70·2	72·1	1·0	53
																72·1	73·1	0·6	65
																73·1	74·4	0·6	46
																74·4	75	0·4	6[illegible]
																75	76	0·6	6[illegible]
																76	76·8	0·6	7[illegible]
																76·8	78·1	0·9	6[illegible]
																78·1	79	0·45	5
																79	80·1	0·8	7[illegible]
																80·1	80·7	0·35	5[illegible]
																80·7	81·7	1·0	9
																81·8	83·4	1·3	8

Local 61150 E, 48050 N

346072

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

SHEET No. 3 No. of 15

TENEMENT NAME Grieves

PLAN – MAP REFERENCE

364609E

CO-ORDINATES 5349542N AZIMUTH 131° mag DRILLERS Almac COMMENCED 29/4/95 DEPTH 183.6m HOLE No. ZG406

RL COLLAR INCLINATION -45° DRILL TYPE Diamond COMPLETED 11/5/95 CASING LEFT DPO No(s)

DEPTH From (m)	To (M)	Core Rec. %	RQD	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by)	From	To	Rec (m)	Rec %
7.4	34.4			Ogu	Light grey and grey,	Coarse, crystalline						83.4	84.2	0.55	69
					micritic limestone.	calcite partially						84.2	85	0.55	69
					Rare "birdseye" calcite	fills fractures						85	85.5	0.6	120
					filled vugs	Traces very fine						85.5	86.7	0.75	68
					Bioclastic, intraform	pyrite generally						86.7	88	1.20	92
					conglomerate at 28.6m	associated with						88	90	1.7	85
					Thin (2cm), bioclastic	fractures and vugs						90	91	0.75	75
					layer overlain by							91	92.7	1.4	82
					5cm, intraformational,							92.7	94	0.4	31
					flat pebble conglomerate							94	95	0.4	40
					at 34.0m							95	97	1.75	88
												97	99.2	1.85	84
4	64.0				Light, grey to dark							99.2	100	0.3	38
					grey variably argillaceous							100	101.6	0.8	50
					micritic limestone							101.6	103	0.8	57
					Disturbed bedding							103	104.3	0.7	54
					suggests possible very						Cavity	104.3	107.4	0.3	10
					minor gravity induced							107.4	108.5	0.5	45
					slumping							108.5	111.1	0.4	15
					34.5-35.4m: Core very	42.8-43.0m: Core very						111.1	112	0.8	89
					broken. Thick vein (5cm)	broken. Recrystallised						112	113	0.65	65
					coarse, crystalline	oolite bed? Minor						113	115	1.05	53
					calcite	pyrite blebs						115	115.9	0.55	61
					35.4-35.8m: Brecciated	45.5-47.3: Core very						115.9	117.7	0.35	19
					dark grey, argillaceous	sheared, broken. Intensely						117.7	118.4	0.6	86
					limestone. Some clay	calcite veined in places.						118.4	119.3	0.1	11
					35.8-41.0m: Common	49-49.3: Occasional bioclastic						119.3	119.9	0.6	100
					calcite filled, cross cutting	beds (large brachiopod fragments)						119.9	121	0.5	45
					hairline fractures and	49.3-52.0: Core very broken						121	122.8	0.9	50
					thick veins	52.4-53.0: Brecciated (Cavity fill?)						122.8	124	0.6	50
												124	127	2.44	81

C.R.A. EXPLORATION PTY. LIMITED

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DRILL CORE LOG

SHEET No. 4

TENEMENT NAME Grieves No. 9 of 15

364008E

CO-ORDINATES 5349542N AZIMUTH 134° MAG DRILLERS Almac COMMENCED 29.4.95 DEPTH 183.6m HOLE No. ZG406

PLAN – MAP REFERENCE

RL COLLAR INCLINATION -45° DRILL TYPE L438 COMPLETED 11.5.95 CASING LEFT DPO No(s)

DEPTH From (M)	DEPTH To (M)	Core Rec. %	RQD DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....) From	To	Rec (cm)	Rec %
					6.4 - 65.7m: Bioclastic Calcarenite									
	65.7	29	4		Light brownish grey, silty (silt sized quartz) coarse grained, bioclastic calcarenite	Cross cutting, thick (≤ 1cm) calcite veins					127	130	2.50	83
			1								130	132.5	2.35	94
											132.5	135.4	2.9	94
											135.4	138.7	2.9	94
											138.7	141.8	2.75	89
					65.7 - 76.2m: Undifferentiated Limestone						141.8	143	0.8	67
65.7	70.8	78	3-4F	Ogul	Light grey, micritic limestone with common, disrupted beds of grey, very fine grained, calcarenite 3cm bed "birdseye micrite" at 69.4m	Sulphides at stylolitic contact with overlying unit					143	145	1.75	88
											145	148	2.4	80
											148	149.4	0.85	61
											149.4	151	1.35	84
											151	153.7	1.9	70
											153.7	156.2	1.25	49
											156.8	158	0.9	75
											158	160	0.95	48
											160	161.3	0.6	46
70.8	71.0	100			Fining upward unit medium grained calcarenite grading to micritic limestone Rounded to elongate calcite filled vugs ("birdseye" micrite)	Bedding to core angle 72° at 71.6m					161.3	161.7	0.10	25
											161.7	163	1.3	100
											163	164.3	-	0
											164.3	164.7	0.45	113
											164.7	166	1.8	138
											166	167.5	0.9	60
											167.5	169	0.55	37
	76.2	65	2-4		Interbedded silty (silt sized quartz), carbonaceous limestone and cleaner, "birdseye micrite" Bioturbated, and thin, fossiliferous beds, in places	Traces pyrite associated with calcite filled vugs					169	171.4	1.9	79
											171.4	172.2	0.55	69
											172.2	173.3	1.1	85
											173.5	175	1.3	87
											175	177	0.9	45
											177	181	3.1	77
											181	183.6	2.2	85

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

SHEET No. 5
TENEMENT NAME Grieves No. E15

3646085E
CO-ORDINATES 5349542N AZIMUTH 134° MAG DRILLERS ALMAC COMMENCED 29.4.95
PLAN – MAP REFERENCE
DEPTH 183.6 HOLE No. ZG406
RL COLLAR INCLINATION -45° DRILL TYPE LY38 COMPLETED 11.5.95
CASING LEFT DPO No(s)

DEPTH From (M)	DEPTH To(M)	Core Rec. %	RQD DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)
					76.2-76.7m Calcareous Siltstone and Claystone						
76.2	76.7	100	3-5	Qgsi	① Fining upward beds and lenses of coarse, calcitic, light greyish brown siltstone to dark grey / black claystone. Sediment structures suggest rapid depos" from turbid flow						
					② Non calcareous, greyish brown claystone						
					76.7-81.4m: Undifferentiated Limestone						
76.7	80.7	80	3-5		Variably silty, grey to dark grey, carbonaceous, micritic limestone with minor very fine grained ?calcarenite	Trace pyrite in cross cutting calcite veins					
80.7	81.4	100	2		① Medium grained, incipiently oolitic calcarenite	? "Fluid injection" breccia. Calcite, minor coarse sphalerite mineralis"					
					② Grey, micritic limestone						
					③ Elongate pisolites, small digitate stromatolites ?? Bioturbation ? Distinctive anyway!!						
					④ Thin, disrupted beds fine grained calcarenite with minor siderite cement	Minor siderite cement.					

346075

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

SHEET No. 5
TENEMENT NAME GRIEVES No. 6 of 15
PLAN – MAP REFERENCE

364608 E
CO-ORDINATES 5349542N AZIMUTH 134° mag DRILLERS ALMAC COMMENCED 29.4.95 DEPTH 1836 HOLE No. 29406
RL COLLAR INCLINATION -45° DRILL TYPE LY38 COMPLETED 11.5.95 CASING LEFT DPO No(s)

DEPTH From (M)	DEPTH To (M)	Core Rec. c/l c	RQD DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)
					31.4 - 94.0m "BIRDSEYE MICRITE" Minor Mineralisation						
31.4	94.0	94	2		Massive, grey, clean micritic limestone becoming increasingly ? dolomitised toward top of unit. Unit is characterised by "birdseye"; calcite filled vugs with occasional ?early stage sphalerite rims. Bioturbated toward base of unit?	Sphalerite rimmed "birdseye" vugs in places. Trace ?siderite in places					
94.0	95.5	100	3-4		94.0 - 96.6m VARIABLY SILTY MICRITIC LIMESTONE Laminated / banded (including cryptalgal laminae) to massive, bioturbated, light grey to black, slightly ? silty, micritic limestone						
95.5	96.6	100	1		As above but cleaner	? Slightly dolomitised					
					96.6 - 113.2m SILTY, FINELY SUCROSIC TEXTURED, LIME MUDSTONE						
96.6	101.6	81	2-5		Silty, finely sucrosic textured, lime mud stone. Strong reaction to acid. Algal structures, bioturbation toward base of unit	97.3-97.7m: Non-calcareous ?sideritic clays. 99.7-100m: Altered to calcareous clay.					

[redacted] **346076** [redacted]A. EX[redacted]RAT[redacted]PTY.[redacted]TED[redacted]

SHEET No. [redacted]

DRILL CORE LOG

TENEMENT NAME Grieves No. of 15

PLAN – MAP REFERENCE

CO-ORDINATES 5349542 N 364608 E AZIMUTH 134° MAG DRILLERS Almac COMMENCED 29.4.95 DEPTH 183.6m HOLE No. ZG 406

RL COLLAR INCLINATION −45° DRILL TYPE LY 38 COMPLETED 11.5.95 CASING LEFT DPO No(s)

DEPTH From (M)	DEPTH To (M)	Core Rec. %	RQ DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by ....)
..1.6	103	57	3	Qgl	Very light brown grey, silty, finely sucrosic lime mudstone, with wispy black, carbonaceous laminae. Very fine porosity, very permeable						
..3	111.0	74	3-4		Light grey to grey, silty, finely sucrosic limestone (lime mudstone) with common black, carbonaceous, disturbed beds and laminae. Fossiliferous (whole brachiopods/echinoids) toward base of unit. Very finely porous and permeable	Trace pyrite in fractures					
..1.0	111.1	100			As above. Siderite cemented						
..1.1	112.3		3-4F		Grey, silty, very finely porous and permeable, finely sucrosic lime mudstone, with thin, disturbed, carbonaceous beds. Minor coarse	111.7m Coarsely crystalline calcite filling fracture. Trace fine dissem pyrite in porous units					

[redacted]A. EX[redacted]RATI[redacted]PTY.[redacted]TED [redacted] SH[redacted]No. [redacted]

TENEMENT NAME GRIEVES No. of 15

346077 DRILL CORE LOG

PLAN – MAP REFERENCE

CO-ORDINATES 364608 E 5349542 N AZIMUTH 134° MAG DRILLERS AUSMAC COMMENCED 29·4·95 DEPTH 183·6m HOLE No. ZG406

RL COLLAR INCLINATION -45° DRILL TYPE LY 38 COMPLETED 11·5·95 CASING LEFT DPO No(s)

DEPTH From (M)	DEPTH To (M)	Core Rec. %	RQ DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by)
					grained to gravelly, bioclastic calcarenite						
2·3	112·9		5		Dark grey, dark brownish grey, greyish black, variably carbonaceous, argillaceous, altered to clay in places						
2·9	113·2		3-4		Grey and greyish black (carbonaceous), silty lime mudstone. Very finely porous and permeable. Disturbed bedding						
					113·2 – 117·6m: CALCAREOUS CLAY AND CLAYSTONE						
3·2	115·0	?55	3-5		As above but less calcite. ?Dolomitised/siderite cemented bands preserved elsewhere altered to clay						
5·0	117·6	?35	5		Light brownish grey to brownish grey calcareous clay, small gravelly pieces preserved as calcareous claystone						

C.R.A. EXPLORATION PTY. LIMITED

346078

DRILL CORE LOG

SH [redacted] No. [redacted]

TENEMENT NAME GRIEVES No. of 75

364608 E

CO-ORDINATES 5349542 N AZIMUTH 134° MAG DRILLERS ALMAC COMMENCED 29.4.95 DEPTH 183.6 HOLE No. ZG406

PLAN – MAP REFERENCE

RL COLLAR INCLINATION -45° DRILL TYPE LY 38 COMPLETED 11.5.95 CASING LEFT DPO No(s)

DEPTH From (M)	DEPTH To (M)	Core Rec. %	RQD DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)
					117.6 - 119.6 SIDERITIC UNIT						
17.6	119.3	?41	3-5		Dark grey to dark brownish grey, non calcareous siderite unit	Siderite alteration					
19.3	119.6	?100	2-3		Greyish brown to brownish grey, fine siderite unit with unusual "spotted" texture suggestive of "bony" flow	Siderite Vuggy					
					119.6 - 120.0 MASSIVE SPHALERITE?						
19.6	120.0	?100	3		Massive sulphide unit colloform to brecciated texture	Predominantly coarse grained sphalerite with radiating fibrous texture. Also deformed bands of very fine sulphide					
					120.0 - 123.9 SIDERITE AND CLAYS						
20.0	123.7	81	3-5		Greyish brown to dark grey siderite unit. Some intervals solid, massive, vuggy, not altered to plastic clays	Siderite Possibly some sphalerite.					
70% core loss from base of interval											
23.7	123.9	100	3-5		Grey to brownish grey siderite and grey clays	Siderite					

[redacted] EX[redacted]RAT[redacted]PTY.[redacted]TED[redacted]

346079 DRILL CORE LOG

SHEET No. [redacted]

TENEMENT NAME Greeves [redacted] No. [redacted]

364608E

CO-ORDINATES 5349542 N AZIMUTH 134° MAG DRILLERS Almac COMMENCED 29.4.95

PLAN – MAP REFERENCE

RL COLLAR INCLINATION 45° DRILL TYPE LY38 COMPLETED 11.5.95

DEPTH 183.6m HOLE No. 29406

CASING LEFT DPO No(s)

DEPTH From (M)	DEPTH To (M)	Core Rec. %	RQD DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)
23.9	125.6	100		5	**BLACK CLAYS** Predominantly grey-ish black to black, pyritic clays	Pyritic bands					
					FERRUGINOUS CLAYS						
5.6	131.6	85		5	Red, reddish orange, orange brown clays, silty in places. Remnant deformed banding visible in places						
90cm Loss		core									
					BLACK CLAYS						
31.6	138.1	100		5	Dark grey to black pyritic clay	Pyrite: Very fine, sparsely disseminated to coarsely crystalline, irregularly banded					
Full recovery											
					FERRUGINOUS SILTY TO SANDY CLAYS						
38.1	139.4	100		5	Red, reddish orange, orange brown, clay with an increasing silt to sand to quartz granule component with depth						
Full recovery											
					BLACK CLAY SEDIMENTARY BRECCIA						
39.4	140.4	100		5	Greyish black to black silty clay Breccia texture (?slump breccia). Clasts lighter grey, argillaceous siltstone						

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

346080

TENEMENT NAME GRIEVES No. 4615

364608 E

CO-ORDINATES 5349542 N AZIMUTH 134° mAG DRILLERS ALMAC COMMENCED 29.4.95 DEPTH 183.6 HOLE No. ZG 406

RL COLLAR ..... INCLINATION -45° DRILL TYPE LY38 COMPLETED 11.5.95 CASING LEFT ..... DPO No(s) .....

PLAN – MAP REFERENCE .....

DEPTH From (M)	DEPTH To(M)	Core Rec. %	RQD DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by .....)
					BLACK CLAYS WITH COARSER CLASTIC INPUT INCREASING WITH DEPTH						
0.4	145.6	81		6	Black clays, argillaceous black siltstones, black sandy (very fine quartz) clays, minor light brownish grey siltstone, granular (very coarse, angular quartz grains to granules) dark grey to greyish black clays. Small intervals ?slump breccia. Overall fining upward sequence (granular quartz @ base of interval)	Coarse, disseminated galena and pyrite in places					
Approx 1m Core loss											
					FERRUGINOUS CLAYS WITH COARSER CLASTIC INPUT						
145.6	148.0	83			Dusky red, mottled light greenish grey and orange sandy (fine grained to granular quartz grains) clay grading to fine grained quartz sandstone with argillaceous matrix. Fining upward sequences. Patchy lithofacies.						
40cm core loss											

[redacted]. EX[redacted]RAT[redacted]PTY.[redacted]TED[redacted]

SHEET No. [redacted]

346081

DRILL CORE LOG

TENEMENT NAME GRIEVES [redacted] No. [redacted]

PLAN – MAP REFERENCE ....

364608 E

CO-ORDINATES 5349542 N AZIMUTH 134° MAG DRILLERS ALMAC COMMENCED 29·4·95 DEPTH 183·6 HOLE No. ZG 406

RL COLLAR .... INCLINATION ~45° DRILL TYPE LY 38 COMPLETED 11·5·95 CASING LEFT .... DPO No(s) ....

DEPTH From (M)	DEPTH To(M)	Core Rec. %	RQ DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by..........)
					FERRUGINOUS, ARGILLACEOUS CLASTICS						
158·0	162·0	66		5	Interbedded silty to		Missing core		0·4		
4·7m					sandy clays and				0·4		
core missing					silty claystones				1·8		
					Irregular lithification				0·3		
					Nodular, black				1·0		
					ironstone 158-159 m				0·5		
									0·3		
					Predominantly				4·7		
					brownish orange						
					colour, reddish						
					towards base of						
					unit						
					GREY TO BLACK CLAYS AND CLAYSTONE						
162·0	170m	65			Predominantly	Very pyritic			1·3		
2·8m					grey to black silty	in places. Very			0·6		
core loss					clays to claystone,	coarsely crystalline pyrite			0·9		
					becoming increasingly				2·8		
					black, carbonaceous						
					with depth. Degree	Bedding - core					
					lithification also	intersection angle					
					increasing with depth	- 75° @ 166·8m					
					Minor light brownish						
					grey and brownish						
					grey silty interbeds						

A. EX RAT TY. TED

346082

DRILL CORE LOG

SHEET No. 14 No. of 15

TENEMENT NAME GRIVES

PLAN – MAP REFERENCE

CO-ORDINATES 5349542N 364608E AZIMUTH 134° MAG DRILLERS ALMAC COMMENCED 29.4.95 DEPTH 183.6 HOLE No. ZG406

RL COLLAR INCLINATION -45° DRILL TYPE LY 38 COMPLETED 11.5.95 CASING LEFT DPO No(s)

170–177.2m: MIXED ARGILLACEOUS, COARSE CLASTIC UNIT

From (M)	To (M)	Core Rec. %	RQ DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by)
170	170.2	100		1	Very coarse grained to granular quartz sandstone c̄ abundant black clay matrix. Matrix supported in places. Quartz grains equant, sub-angular. Sharp contact with overlying and underlying units	 "Flame Structure" at top contact					
170.2	170.35	100		1	Finely bedded to wavy laminated, dark grey, argillaceous, v. very fine sandstone grading to black claystone	Minor pyrite blebs. Approx bedding-core int angle = 82° for interval 170.2–170.35					
170.35	172.6	100			Poorly sorted, fine grained to granular quartz sandstones with abundant black argillaceous matrix. Quartz grains sub-angular to sub-rounded, equant to elongate. Two intervals slightly cleaner, better sorted fine grained quartz sandstone with wavy claystone laminae	Trace pyrite in fractures					

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

SHEET No. ... No. 15

TENEMENT NAME ...

PLAN – MAP REFERENCE ...

364608E

CO-ORDINATES 5349542N AZIMUTH 134° MAG DRILLERS ALMAC COMMENCED 29·4·95 DEPTH 183·6 HOLE No. ZG406

RL COLLAR ... INCLINATION -45° DRILL TYPE LY 38 COMPLETED 11·5·95 CASING LEFT ... DPO No(s) ...

DEPTH From (M)	DEPTH To (M)	Core Rec. %	RQD	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by ...)
172.6	175.4	100		3-5	① Silty, greyish black, carbonaceous clay and claystone ② Fine to medium grained quartz sandstone with black, argillaceous matrix ③ Steel grey, plastic clays ④ Yellowish brown, fine grained argillaceous sandstone and clay (i.e. 173.1m)	Down / Up. Bedding to core angle 82° at 173.2m. Trace coarsely crystalline pyrite					
175.4	175.6	100		4-5	Laminated, light grey to black siltstone						
175.6	177.2	38		5	Light greyish brown silty sandstone grading to silty clays						
(1m core loss 176-177)											
					POROUS AND PERMEABLE, FINE TO MEDIUM GRAINED QUARTZ SANDSTONE						
177.2	180.0	100		3	Very light greyish brown, fine to medium grained quartz sandstone. Very porous and permeable. Some coarser intervals have vugs after weathered out mud clasts. Massive. Planar bedded in places. Trace clays.	Down / Up. 82° @ 177.4m in fine grained quartz sandstone					

[redacted] EXPLORATION PTY LIMITED

DRILL CORE LOG

SHEET No. 15

TENEMENT NAME [redacted] No. [redacted]15

364608E

CO-ORDINATES 5349542N AZIMUTH 134° MAG DRILLERS ALMAC COMMENCED 29.4.95 PLAN – MAP REFERENCE

RL COLLAR INCLINATION -45° DRILL TYPE LY38 COMPLETED 11.5.95 CASING LEFT DPO No(s)

DEPTH From (M) | DEPTH To(M) | Core Rec. % | RQD | Graphic Log | CORE DESCRIPTION | SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization | Sample No. | From (M) | To (M) | Rec (M) | ASSAY VALUES (Analysed by.....)

FINING UPWARD QUARTZ SANDSTONE UNITS

From (M)	To(M)	Core Rec. %	RQD	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES	Sample No.	From (M)	To (M)	Rec (M)
180	182.9	100		2-3 F	Fining upward sequences very coarse grained / gravelly to very fine grained, siliceous quartz sandstone with occasional siltstone laminae					
Full recovery					FU sequences					
					182.9 - 182.6					
					182.6 - 181.3					
					181.3 - 180.8					
					180.8 - 180.0					
					Basal Fu sequence includes clasts of red quartzite					
					QUARTZITE					
182.9	183.6	100		3 F	Very light grey, glassy quartzite					

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