CRA EXPLORATION PTY. LIMITED

DRILL-HOLE SUMMARY LOG

346053

HOLE NAME: DD952G405 | AMG EAST 364758 NORTH 5349844

PROSPECT: GRIEVES | GRID EAST 60996 NORTH 48349.5

EL: ZEEHAN 4 EL38/89 | RL | DEPTH 279.7m

DATE DRILLED: 2/4/95

LOGGED BY: S.J.TEAR

DRILLING CO.: ALMAC

DRILL TYPE: DIAMOND

DRILL RIG: LY44

LOC DRILL CORE: ZEEHAN

SURVEYS:

DEPTH (m)	AZIM (AMG)	DIP	DEPTH	AZIM (AMG)	DIP
0	–	90°	250	230°	84.5°
50	245°	88.5°			
100	241°	88°			
150	240°	86.5			
200	230°	85.5			

OBJECTIVES OF HOLE:

DRILLHOLE IS PART OF A FAN OF 3 HOLES AIMED AT TESTING THE DOWN PLUNGE OF THE GRIEVES MINERALISATION (LOWER SANDSTONE/LIMESTONE) NORTH OF GRIEVES FAULT.

LITHOGICAL SUMMARY:

FROM	TO	FORM CODE	COMMENTS
0	28.7	Qha	Overburden + Triconed Limestone – no recovery
28.7	56.7	Ogfz	Faulted zone with micrites and laminated micrite unit
56.7	105.7	Ogul	Fine grained grey calcarenites locally argillaceous + bioclastic
105.7	133.4	Ogmu	Laminated micrite units with faulted upper contact
133.4	156.4	Ogul	Clean grey calcarenites +/- argillaceous material ; localised faulted zones.
156.4	201.5	Ogul	Argillaceous bioclastic calcarenites
201.5	231.8	Ogeo	Equigranular bioclastic calcarenite
231.8	252.3	Ogul	Argillaceous bioclastic calcarenites with fault zones dolomitised ? fault upper contact.
252.3	253.1	Ogid	Sideritic unit – altered limestone.
253.1	253.65	Ogdc	Dark grey clay unit
253.65	255.4	Ogfc	Orange/red clays – sandy texture
255.4	279.7	Om	Orange/limonitic clays with oolitic sandstone clasts.

MINERALISATION SUMMARY:

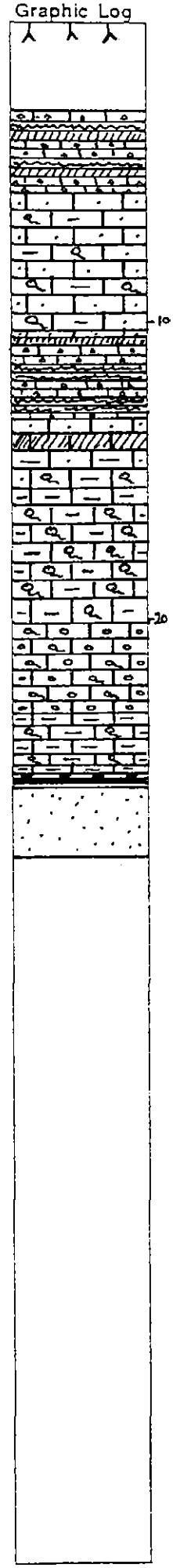
FROM	TO	COMMENTS
232.15	232.9	0.46% Zn (0.29% Pb) hosted by a dolomitised brecciation clay zone with ? oolite fragments at the base of the equigranular unit.
252.01	253.62	1.88% Zn (0.29% Pb) hosted by dark grey sideritic clays Silver = 23.5 ppm.

CONCLUSIONS:

The drillhole failed to intersect significant mineralisation. However stratigraphy for the area was better defined with some proof that the equigranular bioclastic unit ⇒ Oolite unit; and that replacement of the limestone by the Grieves mineralisation is of the Oolite unit and the underlying argillaceous bioclastic limestone.

Bedding @ 50.3m 65° to cA(?) @ 106.9m 45° to cA @ 180.3 60° to c/A(?) @ 253.6m 55° to c/A @ 270m 45° to c/A.

Graphic Log



C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

346054

SHEET No. ..... TENEMENT NAME GRIEVES No. 1 of 14

364757 E

CO-ORDINATES 5349844N AZIMUTH — DRILLERS ALMAC COMMENCED 3/4/95 PLAN – MAP REFERENCE

RL COLLAR ..... INCLINATION 90° DRILL TYPE LF38 COMPLETED 23.4.95 CASING LEFT ..... DPO No(s) .....

DEPTH 279.7. HOLE No. ZG405

DEPTH To(M)	Core Rec. c/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.....) From REC	To REC	(m) REC	(%) Rec
28.7				NO RECOVERY – TRICONED						0	28.7	0	0
										28.7	29.7	0.8	80
30.5	80	4x	Ogul	Grey partly brecciated fine grained calcarenite (microbioclastic in places) minor interbedded med grained calcarenite	Irregular calcite veining (brecciation)					29.7	31.8	2.1	100
										31.8	32.5	0.7	100
										32.5	34.5	1.6	75
										34.5	36.5	1.6	75
										36.5	37.3	0.4	50
37.5	75	3x	Ogm	Lt grey slightly micrite unit; bedded birds eyes.	cleavage 40° L c/A. minor calcite veining.					37.3	38.4	1.1	100
										38.4	39.9	1.2	80
										39.9	41.3	0.7	50
35.70	75	5x	Ogfbc	Weathered + broken core. mixed micritic units with fine grained calcarenite +/- localised argillaceous zones.	minor calcite veining 40° L c/A + 90° L c/A. cleavage locally sub parallel L c/A.					41.3	42.7	0.7	50
										42.7	44.4	1.7	100
										44.4	45.7	1.3	100
										45.7	46.6	0.9	100
										46.6	47.7	1.1	100
36.00	100	5	Ogfz	Black clay with brecciated rock fragments. - fault gouge	Fault 15-20° L c/A.					47.7	50.7	2.4	80
										50.7	52.8	2.1	100
										52.8	53.7	0.9	100
37.60	50	5x	Ogfz	Broken core; brecciated fragment +/- clay zones.						53.7	55.9	2.0	90
										55.9	56.7	0.8	100
										56.7	59.7	3.0	100
38.7	100	2v	Ogfz	Heavily brecciated (biclastic) calcarenite - argillaceous.	Calcite veining + brecciation					59.7	61.7	2.0	100
										61.7	62.5	0.8	100
										62.5	65.7	3.2	100
39.9	90	3x	Ogfz	?weathered zone of broken limestone (?calcarenite). Also first appearance of dark grey ?pyroclastic? clay - smooth shiny resinous material						65.7	67.5	1.8	100
										67.5	70.4	2.9	100
										70.4	71.7	1.3	100
										71.7	74.3	2.6	100
										74.3	75	0.7	100
										75	77.4	1.7	100

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

346055

SHEET No. ..... No. 2 of 14

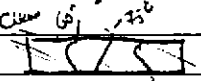
364757 E

TENEMENT NAME Grieves

PLAN – MAP REFERENCE .....

CO-ORDINATES 5349944 N AZIMUTH ..... DRILLERS Almac COMMENCED 3.4.95 DEPTH 279.7 HOLE No. 26405

RL COLLAR ..... INCLINATION 90° DRILL TYPE LY35 COMPLETED 23.4.95 CASING LEFT ..... DPO No(s) .....

DEPTH From (M)	DEPTH To(M)	Core Rec. %	RQD mm	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)
9	42.9	50	0Sx	Ogfz	Broken Core; Grey calcarenite with calcite veining pervasive 402-404.						
9	43.3	70	4x	Ogmm	Weathered zone ie brown clay in micritic limestone						
33	44.4	100	2c	Ogmm	Grey micrite unit with stylolites	cleavage sub parallel to core axis minor calcite vein 70° t c/A.					
4.	44.7	100	3x	Ogfz	DK Brown/Black resinous rock. probable faulted shale.						
7	50.3	90	3x	Ogmm.	micritic unit (with birds eyes) and stylolites; Cavity fill possibly present - palaeokarst.	large vein of calcite crystals @ 45.7. cleavage 48.5m. 30° t c/A calcite veining 45° t c/A + 55° t c/A.					
3	53.4	100	3x	Ogul.	Grey micritic calcarenite interbedded with dark grey argillaceous calcarenite (often interstitial)	Bedding 65° t. c/A approx. calcite vein 75° t c/A. 60° t c/A. 45° t c/A. cleavage 25° t c/A. 					
					Dark brown/Black resinous unit from 50.9 – 51.4 - palaeo cavity or fault?						
34	56.7	100	2x	Ogmm	Birds eye micrite unit/fine grained grey calcarenite	cleavage sub-parallel t c/A. Pyrite seems on broken core faces.					

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. ....

364757 E **346056**

TENEMENT NAME GRIEVES No. 3 OF 14

PLAN – MAP REFERENCE.....

CO-ORDINATES 5349844 N AZIMUTH..... DRILLERS ALMAC COMMENCED 3.4.95 DEPTH 279.7 HOLE No. ZGG05

RL COLLAR..... INCLINATION 90° DRILL TYPE LY38 COMPLETED 23.4.95 CASING LEFT..... DPO No(s).....

DEPTH From (M)	DEPTH To(M)	Core Rec. %	RQD DRTH	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)
7	57.3	100	1	Cgwl	Dk brown/black resinous palaeo-karst clay with seemingly ~~fine~~ coarse Siltstone rhombohedral sands at base.						
3	65.1	100	2X	Cgwl	Grey/light grey fine grained calcarenite (micritic) small sygenetic/early breccia (argillite matrix) @ 62.75m Slightly more argillaceous at base.	Calcite veining locally pyrite seams cleavage 15-30° to c/A.					
1	66.0	100	1	Cgwl	Dark Brown/Black resinous unit with angular frags (sedimentary or breccia (sed)) B	?Bedding 60° to c/A.					
0	66.8	100	2X	Cgfz	Brecciated + Broken core possible fault zone	Fault sub-parallel to c/A.					
8	67.35	100	1	Cgwl	Grey fine grained calcarenite with mixed in argillaceous med grained calcarenite - large soliborg void @ 68.4m. localised bioclast occurrences.	localised calcite veining					
5	71.7	100	2	Cgwl	Grey micritic unit/fine calcarenite with birds eyes.	localised calcite veining.					
7	75	100	3X	Cgwl	Fine grained calcarenite unit with interstitial (locally) med grained dark grey calcarenite	Pyrite seams 72.5-74.3					

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. ....

346057

364757E

TENEMENT NAME GREVES No. 4514

PLAN – MAP REFERENCE ....

CO-ORDINATES 5349944 N AZIMUTH .... DRILLERS ALMAC COMMENCED 3.4.95 DEPTH 279.7 HOLE No. ZG405

RL COLLAR .... INCLINATION 90° DRILL TYPE LY38 COMPLETED 23.4.95 CASING LEFT .... DPO No(s) ....

DEPTH From (M)	DEPTH To(M)	Core Rec. %	RQD mm	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by ....)
					Zones of broken core - possible fault zones locally micritic -	cleavage 25° to c/A.					
5	76.7	100	3x	Ogm4	Grey micrite unit with birds eyes	Minor calcite veining					
7	80.0	100	1	Ogd.	Fine grained grey calcarenite with "stringers" of dark grey med grained calcarenite (almost clast supported) see ZG404 @ 57.5m. Becoming slightly coarse calcarenite towards.	Bedding 40° to c/A.					
0	84.65	100	4x	Ogd.	medium grained grey bioclastic calcarenite (locally oolitic?) Zones of broken core localised areas of increased dark grey med grained argillaceous calcarenite, bioclasts not seen.	localised pyrite seams on broken core fracs usually associated with broken core zones. localised calcite veining (brecciated)					
65	98.9	100	3x	Ogd.	Fine grained clayey grey calcarenite with argillaceous med grained ~~blue~~ dark grey calcarenite - Disrupted bedding locally bioclastic +/- micritic Syn-sedimentary brecciation, rip-up	cleavage 30° to c/A.					

C.R.A. EXPLORATION PTY. LIMITED

346058

DRILL CORE LOG

SHEET No. ..... TENEMENT NAME GRAVES No. 5 of 14

364757 E

CO-ORDINATES 5349844 N AZIMUTH ..... DRILLERS AMK COMMENCED 3.4.95 PLAN – MAP REFERENCE .....

RL COLLAR ..... INCLINATION 90° DRILL TYPE LY38 COMPLETED 23.4.95 DEPTH 279.7 HOLE No. 29405

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

DEPTH From(M)	DEPTH To(M)	Core Rec. %	RQD mm	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by .....)								
																Rec From	Rec To	Rec m	Rec %
																76.7	77.4	0.2	25
7	87.9	88	4x	Ogfz	Broken (reworked (?) Core possible cavity infill, with major calcite veining lt Brown/Brown clays + sands.											77.4	79.2	2.0	90
																79.2	80.7	1.5	100
																80.7	82.7	2.0	100
																82.7	83.3	0.6	100
																83.3	85	1.7	100
																85	86.2	1.2	100
7	93.8	45	3x	Ogvd	Grey med/fine bioclastic calcarenite with dark grey red grained calcarenite Coaly coal @ 88.1m Broken core.	cleavage 40° t c/A minor pyrite seams.										86.2	87.6	1.4	100
																87.6	89.2	1.3	75
																89.2	90.5	1.3	100
																91.8	93.4	0	0
																93.4	94.2	0.8	100
																94.2	95.2	0.9	100
8	95.2	45	5x	Ogfz	Broken core, clay gouges with brecciated limit fragments											95.2	96.1	0.9	100
																96.1	97.0	0.9	100
																97.0	99.7	2.7	100
2	98.3	100	5x	Ogvl	Mixed lt grey fine grained calcarenite + dark grey red grained calcarenite; Bolly broken core. clay gouge 30° t c/A.											99.7	101.7	1.9	90
																101.7	102.7	1.0	100
																102.7	105.7	3.0	100
																105.7	107.2	1.5	100
																107.2	108.7	1.5	100
																108.7	110.5	1.8	100
3	99.9	100	3x	Ogvl	Distinctive micrite with ?Stylolite fill of dark calcarenite interstitial see ZG4004 @	minor pyrite seams 745-756.5										110.5	111.7	1.2	100
															P	113.2	114.2		
																119.2	121.3	1.9	90
																121.3	122.7	1.4	100
9	101.7	90	5x	Ogfz	Bolly broken core with calcite veining - brecciation	minor dolomitisation.										122.7	124.1	1.2	84
																124.1	125.7	1.6	100
																125.7	127.2	1.5	100
7	104.5	100	2c	Ogvl	Grey well cleaved calcarenite with argillite	cleavage 65° t c/A. Penetrative cutting quartz										127.2	128.7	1.5	100
																128.7	130.6	1.9	100

346059

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

SHEET No. ..... No. 6 of 14

364757 E

CO-ORDINATES 5349844 N AZIMUTH ..... DRILLERS Bemac ..... COMMENCED 3.4.95 ..... TENEMENT NAME Groves

PLAN – MAP REFERENCE .....

RL COLLAR ..... INCLINATION 90° ..... DRILL TYPE LY38 ..... COMPLETED 23.4.95 ..... DEPTH 279.7 ..... HOLE No. 36405

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

DEPTH From (M)	DEPTH To (M)	Core Rec. c/c	RQD	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by .....)
						Irregular calcite veining locally abundant.				1	
5	105.7	100	3x	Ogwl	It grey micritic calcarenite with dark grey interstitial calcarenite - stylolitic.						
57	106.0	100	4x	Ogfz	Calcite veining, broken core + fault gouge (with brecciated limst. frags)	Gouge 41° to c/A. - Important?					
0	106.6	100	4x	Ogfz	Fault altered + locally brecciated calcarenite						
6	106.9	100	4x	Ogfz	Brown altered ? laminated micrite ... fine calcarenite underlain by 15cm brown clay fault gouge - CAUTION?						
9	119.2	100	3x	Ogmw	Partly laminated micrite unit / fine calcarenite grey to light grey; with wide wavy stylolitic localised zones of broken core.	Calcite veins 60° to c/A. +30° c/A. localised pyrite seams @ 109.8m localised zones of irregular calcite veining ? cavity fill. Bedding 45° to c/A. cleavage subparallel to c/A @ 118m.		HQ @ 118m			
2	121.9	100	2	Ogmw	Predominantly light grey micrite limst with dark grey (interstitial) argillaceous bands/ss						

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. ....

TENEMENT NAME Grieves No. 7651

364757E **346060**

PLAN – MAP REFERENCE.....

CO-ORDINATES 5349544N AZIMUTH..... DRILLERS Almac COMMENCED 3.4.95 DEPTH 279.7 HOLE No. ZG405

RL COLLAR..... INCLINATION -90 DRILL TYPE GX38 COMPLETED 23.4.95 CASING LEFT..... DPO No(s).....

DEPTH From (M)	DEPTH To(M)	Core Rec. %	RQD DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)
11.9	133.4	100	1	Cgmy	lt grey micritic unit with minor calcite veining						
13.4	136	100	3C	Cgsl	(well cleaved) grey micritic (mudstone); with [illegible] bioclastic	cleavage 20° t c/A. Minor calcite veining 65° t c/A Minor pyrite on bedding planes. Cleavage steepening to 45° t c/A					
60.0	148.8	100	2X	Cgsl	Interbedded grey fine grained calcarenite (micritic) and darker grey med grained calcarenite bearing clay micritic clay beds - more bioturbated intsct - reversing from 142.6m. see ZG404 92-99m.	Minor calcite veining < 1cm 55° t c/A - conjugate pair at 139.8m.					
144.4	144	100	5X	Cgfz	Clay gouge - dark grey/black with calcite veining						
140	146.8	90	4X	Cgfz	Well (strongly) cleaved micritic calcarenite (light grey) - brecciated core - with clay zones	cleavage 60° t. c/A.	346531b	145.4	146.8		
6.8	11.36	100	1	Cgsl	Grey micritic fine grained calcarenite with well developed cleavage. Minor amount of interbedded dark grey med grained calcarenite	cleavage 60° t c/A					

346061

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

SHEET No. ..... TENEMENT NAME Greaves No. 8 of 14

364757E
CO-ORDINATES 5347544N AZIMUTH ..... DRILLERS Atmac COMMENCED 3.4.95 PLAN – MAP REFERENCE .....
RL COLLAR ..... INCLINATION 90° DRILL TYPE LY38 COMPLETED 23.4.95 DEPTH 277.7 HOLE No. ZG405
CASING LEFT ..... DPO No(s) .....

DEPTH From (m)	DEPTH To(M)	Core Rec. %	RQD DMM	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by .....) Rec from	Rec %	Rec m
9.5	151.2	100	3x	Qvt	Zone of localised brecciation within chlorite schist; minor calcite veining - some small scale fine brecciation.	Minor pyrite associated with brecciated zones		149.9	151.2		130.6	131.9	1.3
											131.9	133.2	1.32
											133.2	134.7	0.9
											134.7	136.8	2.14
											136.8	138.2	1.10
.2	152.3	100	35x	Qvfz	Clay gouge - fault zone with some calcite veining			151.2	152.5		138.2	139.3	1.1
											139.3	140.7	1.3
											140.7	142.4	1.58
2.3	155.2	100	1	Qvt	Grey fine grained calcareinite interbanded with dark grey med grained calcareinite. Brown ?karst/cavity zone fav. 153.3-153.4 locally rare pisolite	cleavage 45° L c/A.		152.5	153.7		142.4	144	1.47
											144	144.9	0.8
											144.9	145.5	0.6
											145.5	145.9	0.4
											145.9	146.6	0.47
											146.6	147.8	1.3
											147.8	149.1	1.3
5.2	156.4	100	4x	Qfz	Zone of broken core - brecciated with local clay gouges and calcite veining.			155.2	156.4		149.1	150.3	0.8
											150.3	151.2	1.0
											151.2	152.3	0.7
											152.3	153.7	1.55
6.4	160.4	100	2	Qvt	Argillaceous biotitic calcareinite	cleavage 45° to C/A. localised calcite veining (irregular). siderite nodule at 160m. part of small siderite zone <30cm					153.7	155.2	1.45
											155.2	156.4	1.25
											156.4	157.7	1.3
											157.7	158.7	0.9
											158.7	160.4	1.65
											160.4	161	0.6
											161	161.7	0.3
0.4	163.7	100	4x	Qvfz	Zone brecciated limestone (argillaceous biotitic calcareinite) locally banded broken core, localised clay gouges.	?fault plane 55° L c/A. Calcite veining @ 161.6m - 30° L c/A upper contact.		161	162.4		161.7	162.4	0.4
								162.4	164.7		162.4	163.7	0.45
											163.7	164.7	0.73
											164.7	165.3	0.5
											165.3	167.7	2.2

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

346062

SHEET No. ....

TENEMENT NAME GREVES No. 9614

364757 E

PLAN – MAP REFERENCE ....

CO-ORDINATES 5349844 N AZIMUTH .... DRILLERS ALMAC COMMENCED 3.4.95 DEPTH 279.7 HOLE No. ZG405

RL COLLAR .... INCLINATION 90° DRILL TYPE LY38 COMPLETED 23.4.95 CASING LEFT .... DPO No(s) ....

DEPTH From (M)	DEPTH To (M)	Core Rec. %	RQD DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by....)
	166.6	100	4x	Ogul	Lt grey biodistic calcarenite with argillite zones (rotted) zones of sweathering /lt brown alteration at base of unit. Also bedding more weathered & fractured.	minor calcite veining	5465323	164.7	166.6		
	168.4	100	1	Ogul	Grey med grained biodistic calcarenite - slight nodular appearance with dark grey argillite interfixed. Distinct brown/bioturbation/biodistic features white/lt grey in colour see ZG404 @ 115m.						
4	171.5	100	1	Ogul	Grey med/coarse grained biodistic calcarenite with minor argillite interstitial filling						
5	172.6	100	2x	Ogul.	Brecciated fine grained grey calcarenite + argillite	Breccia planes 45° t c/A Calcite veining increasing downhole. Top contact of unit 45° t c/A.					
6	175.1	100	1	Ogul.	Grey fine grained calcarenite with argillite zones + laminae Calcarenite ~~laminae~~ biodistic locally med/coarse bioclasts.	cleavage 45° t c/A. cleavage @ 174.9 m 60° t c/N.					
1	175.6	100	5x	Ogul.	Argillite unit - bodily broken lt grey black fragments						

C.R.A. EXPLORATION PTY. LIMITED

346063

DRILL CORE LOG

SHEET No. ..... TENEMENT NAME GREVES No. 10 of 14

364757 E

CO-ORDINATES 5349544 N AZIMUTH ..... DRILLERS ALMAC COMMENCED 3·4·95 DEPTH 279·7 HOLE No. 26405

RL COLLAR ..... INCLINATION 90° DRILL TYPE 47 35 COMPLETED 23·4·95 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.....) Rec From	Rec to	Rec m
5·6	180·3	100	2x	Ogd	Fine ground grey biotite calcarenite with argillite interstitial + pinlings. locally calcarenite can biotite + minor micrite.	cleavage 45° t c/A.					161·7	170·7	2·95
											170·7	173·7	3·0
											173·7	176·4	2·6
											176·4	179·5	3·0
											179·5	180·3	0·75
											180·3	182·7	2·3
·3	185·6	100	1	Ogd	Coarser biotite calc arenite large relict ang oxid @ 180·9m occ more dominant argillite band.	Increase in calcite veining - irregular pattern locally - Tension gashes @ 181·4-181·8. 45° t c/A. ? bedding laminae 60° t c/A					182·7	185·7	2·95
											185·7	188·7	2·9
											188·7	191·7	2·9
											191·7	194·7	2·95
											194·7	197·7	2·95
											197·7	200·6	2·9
·6	191·7	100	1	Ogd.	Argillaceous biotite calcarenite - biotite <0·5cm. distinctive - ?reefal/bryozoan ~~type~~ of varying grainsize of biotite in differing bands.	local zones calcite veining 65° t c/A. 30° t c/A.					200·6	203·7	3·0
											203·7	206·7	2·9
											206·7	209·7	3·0
											209·7	212·7	3·0
											212·7	214·9	2·35
					Dark grey weakly calcareous silicious bands occur towards base of unit - non-biotitic.						214·9	217	2·25
											217	218·7	1·85
											218·7	220·9	2·15
											220·9	221·7	0·75
	191·7	100	1	Ogd	Distinctive argillaceous biotite calcarenite ~~~ for 166·4 - 167·4m. Coral debris in a zone of biotitic dark grey calcarenite.		546534	191·87	192·47		221·7	223·3	1·5
											223·3	225·2	1·7
											225·2	226·5	1·25
											226·5	227·7	0·75
											227·7	229·4	1·55
											229·4	230·3	0·9
											230·3	230·7	0·3
					Clay gouge 3rd 195·6 - 195·75m. 196·7 - 196·85m						230·7	231	0·1
											231	232·9	1·8
											232·9	235·4	2·3

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. ....

TENEMENT NAME GREVES No. 14 of 14

364757 E **346064**

PLAN – MAP REFERENCE ....

CO-ORDINATES 5349844 N AZIMUTH .... DRILLERS ALMAC COMMENCED 3·4·95 DEPTH 279·7 HOLE No. ZG405

RL COLLAR .... INCLINATION 90° DRILL TYPE LY38 COMPLETED 23·4·95 CASING LEFT .... DPO No(s) ....

DEPTH m	DEPTH To(M)	Core Rec. %	RQA DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by....)
7	201·4	100	1	Ogvl	Argillaceous bioclastic calcarenite more fine grained grey bioclastic calcarenite - perhaps part of above unit.						
4	201·5	100	1	Ogvm	Massive pyrite band 60° t c/A. - Abund converted to a dk grey / brown clay.		26	201·1	201·5		
5	220·6	100	1	Ogcc	Very distinctive equigranular grey bioclastic calcarenite med/coarse grained. Very uniform. Massively bedded. occ brown clay zones with quartz clasts < 0·5cm.	Brown clay 1cm @ 209·9 45° t c/A.	27	207·97	208·87		
						Brown clay & Pyrite @ 214·3m. 45° t c/A with calcite vein < 2cm. ; calcite veins present	28	214·25	214·8		
						Brown clay at 217·7m 60° t c/A with pyrite					
0·6	222	100	3x	Ogcc	Weathered/altered coarse bioclastic calcarenite with qtz clasts. abundant. Brown clays filling fractures?	? Brown clays after pyrite ? some sub parallel t c/A. some 30° t c/A. two phase calcite vein @ 223·4 calcite veins present.					
-	224·3	100	2	Ogcc	Grey med/coarse calcarenite ?bioclastic with quartz clasts. localised zones of broken core with clay ? faults.	Major brown clay/pyrite zone 224 - 224·2m 30° t c/A.		223·7	224·77		
						Calcite vein 90° t c/A, 60° to c/A	5465329	224·77	225·5		
						Pyrite/brown clay @ 225·7m. 30° t c/A.	30	225·5	226·3		
						Pyrite/brown clay @ 227·4 30° t c/A.	31	226·3	227·7		
							32	227·7	229·2		

346065

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

SHEET No. ..... TENEMENT NAME GRIEVES No. 2514

364757 E
CO-ORDINATES 5349844N AZIMUTH ..... DRILLERS ALMAC COMMENCED 3·4·95 DEPTH 279·7 HOLE No. ZC405

PLAN – MAP REFERENCE .....

RL COLLAR ..... INCLINATION 90° DRILL TYPE LY38 COMPLETED 23·4·95 CASING LEFT ..... DPO No(s) .....

DEPTH From (M)	DEPTH To(M)	Core Rec. %	RQD DAM	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by.....)
229·3	231·0	100	4X	Ogcc	Broken core zones, as before med/coarse calcarenite with clay zones.		33	229·2	231		
								~~232~~	~~232·15~~		
								~~232·15~~	~~232·9~~		
231·0	231·8	100	1	Ogcc	Lt brown grey weakly calcareous unit; locally brecciated; weathered appearance.	cal/dol veining/breccia. dolomitised unit?	34	231	232·15		
								~~232~~			
231·8	232·9	100	5X	Ogfz	Brecciated zone with clays probable fault includes a fine grained 'oolite' unit as seen at Grieves.	dolomitised. ?fault contact 30° c.o/A. poorly defined.	35	232·15	232·9		
232·9	233·9	100	1X	Ogvl	Brecciated argillaceous bioclastic calcarenite	Pyritic clay matrix to rock breccias. Minor cal and dol veining	36	232·9	233·9		
233·9	236·6	100	1S	Ogvl	Argillaceous bioclastic calcarenite, locally sheared shearing ~30° c/A.	Dk brown/black clay pyritic pyritic @ 236·6m	37	233·9	236·		
							37	236	237		
							38	237	238·6		
236·6	241	100	3X	Ogvl	Slightly silted argillaceous dominant bioclastic calcarenite clay zones/fault breccias	Semi massive pyrite veins with brown clays varying angle to c/A. Strong mixing forming to calcarenite. Possible shear related.	40	238·6	239·77		
							5465341	239·77	241·15		
241	244·3	100	2X	Ogvl	Argillaceous bioclastic calcarenite	Pyrite/brown clay zone 60° t/c/A @ 243·85	42	241·15	242·4		

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

346066

SHEET No. ..... No. 13 of 14

364757 E

TENEMENT NAME GRENES

PLAN – MAP REFERENCE

CO-ORDINATES 5379844 N AZIMUTH ..... DRILLERS ALMAK COMMENCED 3.4.95 DEPTH 279.7 HOLE No. ZG405

RL COLLAR ..... INCLINATION 90° DRILL TYPE LY 33 COMPLETED 23.4.95 CASING LEFT ..... DPO No(s) .....

DEPTH From (M)	DEPTH To (M)	Core Rec. %	RQD DATA	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by .....)			
						2cm massive pyrite replacement zone 70° to c/A	43	242.4	244.05		235.4	236.7	1.3	
											236.7	239	2.1	
											239	240.7	1.5	
4.3	246.1	100	45	Qgfz	Zone of brecciation with clay zones - possible pyrite zones.	@245.2 5cm massive pyrite? belly noted 60° to c/A. 20° to c/A contact @245.8	44	244.05	246.1		240.7	242.4	1.9	
											242.4	244.5	1.95	
											244.5	246.1	1.4	
							4				246.1	248.7	2.35	
6.1	250.15	100	1	Qgcl	Argillaceous bioclastic calcarenite - weak bedding	@248m vein noted pyrite zone	45	246.1	248		248.7	250.5	1.95	
							46	248	249.55		250.5	252.3	1.7	
							47	249.55	250.5		252.3	254.1	1.95	
0.15	250.7	100	5x	Qgfz	Broken core - shear zone	Pyritic at 250.55m.	48	250.5	252.3		254.1	255.4	1.26	
											255.4	257.5	2.1	
0.7	252.3	100	2x	Qgcl	Argillaceous bioclastic calcarenite						257.5	259.7	1.2	
											258.7	260.7	2.0	
2.3	253.1	100	1x	Qgcl	Siderite nodular unit	Semimassive pyrite zone at top of unit 3cm thick 45° to c/A. Semi massive pyrite zone at base 50° to c/A < 2cm.	49	252.3	253.01		260.7	262	1.1	
											262	263.7	1.6	
											263.7	266.2	2.5	
											266.2	268.4	1.8	
											268.4	269.7	0.95	
											269.7	272	1.1	
3.1	253.65	100	5	Qgfc	Black clay with pyrite laminae - ?bedding 60° to c/A.	Lower contact 55° to c/A. 10cm transitional zone.	50	253.01	253.62		272	274.1	0.9	
											274.1	275.7	1.3	
											275.7	277	01	
0.5	254	100	5	Qgfc	Orange/red clay - slight sandy texture - clay dominant Possible sandstone clasts @ 255.1m.		51	253.62	255.4		277	277.5	0.45	
											277.5	279.7	0.9	
1.4	260.9	100	5	Qm	Lt brown/orange clay with light grey/white sandstone clasts - massive sst.	Fabric of clay 65 to c/A.	52	255.4	257.5					
							53	257.5	259					
							5465354	259	260.7					

346067

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

SHEET No. .....
TENEMENT NAME Greves No. 1461

364757 E
CO-ORDINATES 5349844N AZIMUTH ..... DRILLERS Almac COMMENCED 3.4.95 DEPTH 279.7 HOLE No. ZG405
PLAN – MAP REFERENCE .....
RL COLLAR ..... INCLINATION 90° DRILL TYPE LY38 COMPLETED 23.4.95 CASING LEFT ..... DPO No(s) .....

DEPTH From (M)	DEPTH To (M)	Core Rec. %	RQD Diam	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by .....)
0.9	263.7	75	5	Om	Laminated/bentonitic bedded clay.	Bedding/fabric 45° to c/a	55	260.7	262		
							56	262	263.7		
							57	263.7	265.1		
3.7	284.9	91	5	Om	Laminated (+/- bentonitic beds) clay with bentonitically altered sandstone beds.						
3.4	270	75	5	Om	Laminated (orange) & light grey/white clays - siltstone with bedded bentonite layers.	Bedding/fabric 45° t.c.a.					
70	270.2	100	4x	Om	Sandstone - broken core.						
70.2	279.7	50	5	Om	Laminated sandy clay bentonitic joint swt. Sandstone 279 - 279.2m.						

[redacted]