



0-8.6 surface rubble, mine waste, core loss

8.6-40.6 Sandstone dominant silt-sand turbiditic sets with anticlinal folds causing multiple facing reversals

40.6-59.6 Siltstone dominant interval with graded quartz xtal sandstone-siltstone. Abundant soft sed. slumping & flames

59.6-97 Rhythmically interlaminated siltstone & sandstone interbedding on cm scale

97-131.5 Domain of sandstone dominant, uphole facing volcanoclastic sandstone-siltstone turbidites as at 8.6m

131.5-136.5 Increasingly broken ground. Interbedded siltstone & sandstone

136.5-141.8 Fault zone: disrupted black shales & pug

141.8-159.5 Coarse feldspathic crystal sandstone with distinctive cream carbonate veining + aspy-py min.

159.5-162.4 Black siltstone

162.4-162.8 Feldspathic coarse xtal sandstone with galena veining

162.8-178.9 Interlaminated fine grey sandstone & black siltstone

178.9-182.6 Carbonate altered volcanoclastic sandstone & coarse, graded volcanoclastic conglom-siltstone & minor sphtl.

182.6-197.7 Murchison Volcanics - quartz xtal rich volcanoclastic sandstone and siltstone

197.7-203.2 Rhyolite

203.2-212.5 Qtz xtal rich volcanoclastic sandstone

Hole No.		Collar Location		Graphical Drill Hole Log		Logged by		Massive												
MUD01						MB														
Project : EL 34-2010		East :		Azimuth : 122 degrees (MGA94)		Drilled by		EDrill												
Prospect : Murchison Mine		North :		Declination : 45 degrees		Drill type		LF70												
Grid : MGA94		RL :		Total Depth :		Drill Date		Narrow vein												
		Proj.		MGA94 co-ords																
		0.002 1/4 1 4 16 64 mm																		
From	To	Colour/Weathering	Structure type 1	Structure type 2	Angle CA	Graphic structure	Log grain size	Description	Alteration	Mineralization										
									Silica	Sericite	Albite	Carbonate	Chlorite	Hematite	Vein Qtz %	Mineralisation Assemblage	%	Veining	Disseminations	Per. vein
0	1							0-1.4m surficial rubble, old mine waste												
1	2																			
2	3							1.4-8.6 m - heavy core loss												
3	4							zone grey black siltstone +												
4	5							concrete from collar												
5	6							8.6-8.9 - orange-brown strongly												
6	7							oxidised siltstone. Possible fault.												
7	8																			
8	9							8.9-21.7 - oxidised zone.												
9	10																			
10	11																			
11	12																			
12	13							13.5m 5cm pug - possible antedinal												
13	14							fault.												
14	15																			
15	16							ragged oxide patches in ? micaceous												
16	17							qz-fsp vld sst												
17	18																			
18	19							facing reversals occur at disruptions &												
19	20							qz-cb veining												
20	21							21.7-40.4m.												
21	22							Variable facing turbiditic												
22	23							graded volcanoclastic grey qz-rich												
23	24							vld sandstone & black siltstone intervals												
24	25																			
25	26							facing reversals @ ~5cm qz-cb-												
26	27							chlorite veins												
27	28																			
28	29							sandstones are strongly foliated												
29	30							qz xtal rich + sandy + flecked with												
								black shale fragments. trace dissem												

fig. 94.

Hole No.		Collar Location		Graphical Drill Hole Log		Logged by		Massive											
MUD01						MB													
Project : EL 34-2010		East :		Azimuth : 122 degrees (MGA94)		Drilled by		Pervasive											
Prospect : Murchison Mine		North :		Declination : 45 degrees		Drill type		Disseminated											
Grid : MGA94		RL :		Total Depth :		Drill Date		Narrow vein											
		Proj.		MGA94 co-ords															
				0.0 0.2 1 4 16 64 mm															
From	To	Colour/Weathering	Structure type 1	Structure type 2	Angle CA	Graphic structure	Log grain size	Description	Silica	Sericite	Albite	Calcite	Chlorite	Hematite	Vein Qtz %	Mineralisation Assemblage	g	Pyrite	Pervasive
30	31					facing			/		/								
31	32																		
32	33																		
33	34	45° bedding		50-55		claystone		no significant mineralisation	/		/							trace to trace	
34	35																	disseminated	
35	36								/		/							py, po	
36	37																		
37	38																		
38	39	60° facing				F		flame structures	/		/								
39	40	bedding				F													
40	41							40.4-40.6 purpy sheet zone	/		/								
41	42							40.85-40.9 " " "	/		/								
42	43							40.6-59.6											
43	44							zone of disrupted, black siltstone	/		/								
44	45							dominated, bedded grey volcaniclastic											
45	46							qz xrd rich sandstone & black											
46	47	60° bedding						siltstone	/		/								
47	48																		
48	49							abundant soft sediment slumping	/		/								
49	50							& flame injection structures										no significant	
50	51																		
51	52							moderate qz/carbonate veining										min.	
52	53							increased intensity 52-55 m	/		/								
53	54								/		/								
54	55							no significant mineralisation	/		/								
55	56								/		/								
56	57							trace py on joints	/		/								
57	58								/		/								
58	59								/		/								
59	60								/		/								

Hole No. MUD01
Project: EL 34-2010
Prospect: Murchison Mine
Grid: MGA94

East:
North:
RL:
Proj.

Collar Location

MGA94 co-ords

0.062 1/4 1 4 16 64 mm

Graphical Drill Hole Log

Azimuth: 122 degrees (MGA94)
Declination: 45 degrees
Total Depth:

Logged by
Drilled by
Drill type
Drill Date

MB
EDrill
LF70

Massive
Pervasive
Disseminated
Narrow vein



From	To	Colour/ Weathering	Structure type 1	Structure type 2	Angle CA	Graphic structure	Log grain size	Description	Alteration						Mineralization			
									Silica	Sericite	Albite	Carbonate	Chlorite	Hematite	Vein Qtz %	Mineralisation Assemblage	Vein type	Mineralization Pervasive
60	61							59.6 - 97m				/						
61	62											/						
62	63							cm scale interbedded laminated				/						
63	64							black siltstone & pale cream to				/						
64	65							dark grey fine sandstones.				/						
65	66											/						
66	67							weak to moderate mm carb				/						
67	68							veining throughout				/						
68	69											/						
69	70											/						
70	71							no significant mineralisation				/						
71	72							trace pyrite, pyrrhotite associated				/						
72	73							with Qtz-cb veining				/						
73	74											/						
74	75							generally weakly carbonate altered				/						
75	76							non-silicified (scratches easily)				/						
76	77											/						
77	78											/						
78	79											/						
79	80											/						
80	81											/						
81	82											/						
82	83											/						
83	84											/						
84	85											/						
85	86											/						
86	87											/						
87	88											/						
88	89							minor 5cm fault zone				/						
89	90											/						

60°
bedding
facing 1

60°
bedding

55°
bedding

F₂

F

trace
f.g fl
po
discern
vein
inter

Hole No. MUD01
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Grid : MGA94

East :
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Collar Location

MGA94 co-ords

0.062 1/4 1 4 16 64 mm

Graphical Drill Hole Log

Azimuth : 122 degrees (MGA94)
Declination : 45 degrees
Total Depth :

Logged by
Drilled by
Drill type
Drill Date

MB
EDrill
LF70

Massive
Pervasive
Disseminated
Narrow vein



From	To	Colour/ Weathering	Structure type 1	Structure type 2	Angle CA	Graphic structure	Log grain size	Description	Alteration						Mineralization			
									Silica	Sericite	Albite	Carbonate	Chlorite	Hematite	Vein Qtz %	Mineralization Assemblage	%	Veining Disseminated Pervasive
90	91							90.4 m silicified ? volc tuffite clasts & dark qz eyes & fsp phenocrysts - strong qz cb 97-131.5	/		/							
91	92																	
92	93							domain of sandstone dominant				/						
93	94							uphole facing turbiditic grey				/						
94	95							volcaniclastic sandstone & dark				/						
95	96							grey siltstones.				/						
96	97											/						
97	98							sandstones composed of lenticular				/						
98	99							qz and black chole frags in fine				/						
99	100							granular weakly carb altered matrix				/						
100	101							101.7 Cased HQ → NQ				/						
101	102											/						
102	103											/						
103	104							facing markers are abundant:				/						
104	105							coarse bases, fine uphole &				/						
105	106							repeated				/						
106	107											/						
107	108							weak to moderate carb veining				/						
108	109							throughout, dominantly bedding				/						
109	110							parallel, though minor x-cutting				/						
110	111											/						
111	112							trace euhedral fg py in sandy bases				/						
112	113							trace po-cpy in carb vein @ 111m				/						
113	114											/						
114	115							Overall no significant mineralisation				/						
115	116							Overall weak carbonate alteration				/						
116	117											/						
117	118											/						
118	119											/						
119	120											/						

Hole No.		Collar Location		Graphical Drill Hole Log		Logged by		MB		Massive									
MUD01																			
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Prospect : Murchison Mine		North :		Declination : 45 degrees		Drill type		LF70		Disseminated									
Grid : MGA94		Proj.		Total Depth :		Drill Date				Narrow vein									
		MGA94 co-ords																	
		0.002 1/4 1 4 16 64 mm																	
From	To	Colour/Weathering	Structure type 1	Structure type 2	Angle CA	Graphic structure	Log grain size	Description	Silica	Sericite	Albite	Carbonate	Chlorite	Hematite	Vain Qtz %	Mineralisation Assemblage	* Vain	Disseminated	Pervasive
120	121											/							
121	122							graded units on 50cm intervals				/							
122	123																		
123	124											/							
124	125					facing		constant weak-mad 10-5cm carb/93-carb veining				/				no significant min.			
125	126											/							
126	127											/							
127	128							131.5- 136.5											
128	129							increasingly broken ground with puggy shears				/							
129	130							interbedded dk grey siltstones & grey sandstones				/							
130	131							broken ground				/							
131	132											/							
132	133							minor pug faults 1-2 cm.				/							
133	134											/							
134	135											/							
135	136							136.5-137 - fault				/							
136	137							strongly sheared + puggy				/							
137	138							137-139.6 : black shale				/							
138	139							139.6- 140.4				/							
139	140							strongly sheared, contorted carbonaceous black shale - fault zone				/							
140	141	SAMPLES						140.4-141.8 black shales 3-4% f.g. py.				/							
141	142							141.8				/							
142	143							142.8- 159.5 dishchize				/							
143	144							pale grey strongly carb veined				/							
144	145							coarse asp-gtz eye xia sandstone				/							
145	146							with vein related, assay-py mine bleached coarse.				/							
146	147											/							
147	148							feldspars dominant 1-3mm, strongly sericitised + siderite altered				/							
148	149							generally only trace f.g. py, shal, gn.				/							
149	150											/							

153.4-153.5 10 cm asp - cb vein
40% 1-3mm coarse asp.

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Prospect: Murchison Mine		RL:		Declination: 45 degrees		Drill type LF70		Disseminated											
Grid: MGA94		Proj. MGA94 co-ords		Total Depth:		Drill Date		Narrow vein											
		0.062 1/4 1 4 16 64 mm																	
From	To	Colour/Weathering	Structure type 1	Structure type 2	Angle CA	Graphic structure	Log grain size	Description	Silica	Sericite	Albite	Carbonate	Chlorite	Hematite	Vein Qtz %	Mineralisation Assemblage	Veining	Dissemination	Pervasive
150	151																		
151	152							contains foliation 11 wisps & lenses								Trace			
152	153							of entrained black shales mm-several								fig py			
153	154							cm.								Trace			
154	155							*note mineralisation is associated											
155	156							with distinctive cream carbonate											
156	157							phase.								py. fg.			
157	158							-black shale flaggs (cm) kinkular								~1% in base			
158	159																		
159	160							159.5-162.4											
160	161							black siltstone.											
161	162							pug fault.											
162	163							162.4-162.8 zone of xtal sandstone								162.5-162.8			
163	164							with strong galena veining ~7% gn								~7% gn			
164	165							+ minor aspy, cov. sphalerite											
165	166							Mineralised between two faults.											
166	167							162.8-169.1 178.89											
167	168							Dominantly interbedded fine sandstone											
168	169							black siltstones with med. mm-ch											
169	170							tension gash & bed 11 carb veins.											
170	171							170-170.3 pug fault zone								170-			
171	172															1% fabric			
172	173							173-173.2 pug fault								controlled			
173	174															fine py / H ₂ N			
174	175																		
175	176							176.4-176.6 pug fault zone.											
176	177																		
177	178							177.6-177.9 disrupted bedding, strongly											
178	179							sheared.											
179	180							py. cov.								2% coarse (ch)			

photos: 39m - flame structure
43.9m - 44.5 cleavage
43.9 convolute bedding

Murchison Volcanics?
178.9m: pale green-cream carb alt
volcanoclastic sandstone
179.1: coarse graded volcanoclastic
conglom-siltstone. black shale flaggs
in carb alt? porphyroclastic matrix. st. foliation
12% brown sphalerite in clets & veins in
fractured, carb veined coarse base.

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		0.002 1/4 1 4 16 64 mm															
From	To	Colour/ Weathering	Structure type 1	Structure type 2	Angle CA	Graphic structure	Log grain size	Description	Silica	Sericite	Albite	Carbonate	Chlorite	Hematite	Vein Qtz %	Mineralisation Assemblage	Veining Dissemination Pervasive
180	181							*interfingered contact between Foxell seq & Murchison Volcanics									
181	182	conformable															
182	183	interfingered contact						182.6 - 194.35 Murchison Volcanics									
183	184	65° bedding + foliation						cream-green-grey quartz xtal rich medium grained volcaniclastic sandstone.	/		/					generally trace fg	
184	185																
185	186																
186	187							qs xtls to 2mm in fine wispy sericitised matrix	/		/						
187	188							moderately foliated, weakly bedded.									
188	189																
189	190	65° foliation															
190	191							no significant min. (trace py)	/		/						
191	192							minor weak carbonate veining									
192	193																
193	194	sharp contact 65° NE						194.35 - 197.7 m	/		/					minor py accumulation @ base	
194	195							pale grey volcaniclastic siltstone with minor sandy lenses				/				no significant min	
195	196																
196	197																
197	198	sharp contact 65° NE						197.7 - 203.2	/		/						
198	199							coarse quartz phenocryst rich hyalite	/		/						
199	200							grey-green-orange calcification	/		/					trace carb	
200	201															1mm euhedral py disseminated in veins	
201	202	70° fol.															
202	203	weak carb + gr.						203.2 - 212.5	/		/						
203	204							pale grey-green, moderately foliated qtz xtal rich volcaniclastic sandstone, as at 182.6m			/					trace gr. in carb veins	
204	205																
205	206	fault 65° NE															
206	207							weak white carb veining +			/						
207	208							* weak cream carb veining with associated trace garnet (siderite?)			/						
208	209																
209	210																

212.5 EOH