

# Greatland Pty Ltd

## Drill Hole Cover Sheet

Hole **FTD033**

Section No **443175mE**  
 Tenement No **EL26/2004**  
 Project **Fire Tower**  
 Prospect **Fire Tower West**

Date **Jan-07**  
 Geologist **D. Evans**

### Collar Details

Locational Accuracy **+/- 10m**  
 AMG Zone **AGD66**  
 AMG Easting **443176**  
 AMG Northing **5406802**  
 AMG Azimuth **150**  
 AMG RL

Grid Name  
 Grid Easting  
 Grid Northing  
 Grid Azimuth  
 Grid RL

Inclination **-40**  
 Total Depth **133.2m**

Drilling Company **Boart Longyear**  
 Rig Type **Onram 1000 (diesel pack)**  
 Drill Type **diamond**  
 Start Date **19/01/2007**  
 Drill diameter **NQ2**  
 Finish Date **2/02/2007**

Reason for Drilling **Exploration drilling to test gold soil geochemical anomalism at Firetower West.  
 Azimuth chosen to intercept potential NE striking veins**

Reason for Termination **reached design depth**

Summary **0-34.45m: quartz-phyric porphyritic rhyolite (or tuff). 34.45-34.75m: quartz vein/fault zone  
 34.75-59.9m: quartz-phyric porphyritic rhyolite (or tuff).  
 59.9-70.4m: quartz volcanogenic silty sandstone. 70.4-74.3m: siltstone.  
 74.3-85.2m:siliceous ('meta-quartzite') rhyolitic sandstone. 85.2-90.5m:coarse quartz-lithic volcanogenic sandston  
 90.5-128.5m: siliceous ('meta-quartzite') rhyolitic silty sandstone.  
 128.5-129.3m: fault pug and crush zone.  
 129.3- 133.2m: quartz crystal porphyritic rhyolitic tuff or sandstone.  
 No core orientations measured. Widespread trace fine grained discoloration due to disseminated galena assoc. with pyrite.**

Water level

Water Flow **5-10 liter/min artesian flows. Hole successfully plugged at completion.**

Gear remaining in hole **3m HQ, van ruth plug @ 12m, 2 bags cement back fill**

Downhole surveys Survey method **digital camera (corrected for 14 degree mag deviation)**

Depth	Azimuth (raw/magnetic)	Azimuth (corrected)	Inclination
20.00	140	154.00	-40.6
130.00	141.6	155.60	-36.8

HoleID		FTD 033		Geological Log				Logged by		DAE		massive								
Project	Fire Tower	East	Azimuth	Boart Longyear		Drilled By	hatch	pervasive												
Prospect	Fire Tower	North	Inclination	NQ2 Diamond		Drill Type	stipple	disseminated												
Grid	AGD66	RL	Total Depth			Drill Date	swiggle	narrow vein												
		Proj.	AMG			Alteration				Mineralization										
From	To	Colour Weath ering	Structu re type 1	Structu re type 2	Angle CA	Graphic structure	Log grainsiz	Description	Sil	Ser	Py	CO3	W	K-spar	Vein Qtz %	Mineralization Assemblage	%	V	S	P
0	1	HW	1m PLAIN ROUGH JOINTS		50°	VCL		0-9.8m: VERY STRONGLY WEATHERED LEACHED, SOFT BROKEN, COLOUR-MOTTLED BROWN-PINK, CREAM AND BUFF WEAKLY FERRUGINOUS CLAY, WITH REMNANT QUARTZ-PHYRIC PORPHYRIC TEXTURES; WEATHERED ROCK PROFILE, AFTER RHYOLITE.								SPARSE BROWN FE OXIDES COATING JOINT PLANES AND UNDUATING FRACTURES.				
1	2	HW				VCL														
2	3	MW				VCL														
3	4	MW				VCL		VARIABLY CLAY ALTERED WITH MEDIUM ORANGE TO BUFF-BROWN CLAY COMPLETELY REPLACING IN PATCHES.												
4	5	HW				VCL														
5	6	HW				VCL		MAJOR CORE LOSS ZONES THROUGHOUT (EG												
6	7	HW				VCL		4.2-5.7m REPRESENTING BY 13 CM OF CORE); CORE DIAMETER REDUCED BY DRILLING ACTION IN PLACES.												
7	8	HW				VCL														
8	9	HW				VCL														
9	10	HW				VCL		BOCO = 9.8m; BROKEN, WITH CORE LOSS; CONTACT DIFFUSE.												
10	11	MW				VCL		9.8-14.7m: STRONGLY TO MODERATELY WEATHERED, LEACHED, RELATIVELY SOFT BROKEN, CREAM, MEDIUM BROWN TO YELLOW-BROWN AND BUFF CLAYEY, FINE TO COARSE-GRAINED, QUARTZ-PHYRIC, PORPHYRIC RHYOLITE; IN SITU WEATHERED ROCK. FERRUGINOUS CLAY PARTIALLY REPLACING; SPARSE 1-2% NATIVE COPPER AS SMALL								MINOR FE OXIDES ± Mn OXIDES COATING JOINTS AND IN VEINS.				
11	12	MW				VCL														
12	13	HW				VCL														
13	14	MW	13.4m 1-2mm PY. VEIN 30°			VCL		1MM CRYSTAL GROWTHS ON FE OXIDES COATING FRACTURE PLANES. INCREASING BROKEN CORE FROM 14-3M. BROKEN TO VERY BROKEN; POOR CORE RECOVERY								SPARSE PY. 0.5-1% IN TAN VEINS SPARSE NATIVE COPPER IN FRACTURES				
14	15	MW	TOTALLY FRAGMENTED CORE.			VCL		14.7-16.2m: MODERATELY WEATHERED SOFT, VERY BROKEN TO FRAGMENTED, MOTTLED BROWN TO LIGHT GREEN, QUARTZ-PHYRIC RHYOLITE OR RHYOLITIC TUFF. VERY BROKEN, POSSIBLY CAVED MATERIAL; BOCO = 16.2m.								MINOR BROWN FE OXIDES COATING FRAGMENTS.				
15	16	MW				VCL														
16	17	SW				VCL		16.2-34.45: WEAKLY WEATHERED, BECOMING FRESH, BROKEN HARD TO VERY HARD, MEDIUM GREY-GREEN, DULL GREEN, LOCALLY BUFF TO PINKISH-BROWN, MEDIUM TO COARSE-GRAINED, QUARTZ-PHYRIC, PORPHYRIC RHYOLITE; VERY WEAKLY ALTERED, WITH GREEN SELICITE ± CHLUSITE ALTERATION OF ULTRA FINE-GRAINED GROUNDMASS; IRREGULAR K-SPAR RICH ZONES; POSSIBLY PRIMARY COMPOSITIONAL; MINOR CARBONATE ± SELICITE AS FINE VEINLETS.								SPARSE 0.5-1% PY. AS DISCONTINUOUS STRINGERS/VEINLETS.				
17	18	SW				VCL														
18	19	SW	13.9-15m HYDRAULIC BRECCIA VEIN 50°			VCL														
19	20	FR				VCL														
20	21	FR				VCL														
21	22	FR				VCL		CORE LOSS IN FRAGMENTED ZONES FROM 21.0-21.3m AND FROM 22.4-23.3m; DRILLER REPORTED HOLE MAKING WATER IN FINE SAND/GRAVEL ZONE FROM 22.4m.								SPARSE 0.5-1% PY. ± TRACE CPZ. AS CLUSTERS, STRINGERS THROUGHOUT.				
22	23	SW	22.4m HOLE MAKING WATER FINE SAND/GRAVEL INTERSECTED.			VCL														
23	24	FR				VCL														
24	25	FR				VCL		IRREGULAR PATCHES OF BUFF-RED TO BROWN, FINE GRAINED K-SPAR SOME POSSIBLY ALTERATION FLOODING WITH ASSOCIATED SCATTERED CLUSTERS OF PY ± CPZ.								25.75m SPARSE CPZ IN HYDRAULIC BRECCIA VEIN.				
25	26	FR	25.07-25.2m DUCTILE SHEAR (BROKEN GRAINS) 70°			VCL														
26	27	FR				VCL														
27	28	FR	28.58m 5mm QZ2. VEIN + CARE 50°			VCL		SPARSE DARK GREY QZ2-PHYRIC PORPHYRIC RHYOLITE PATCHES IN K-SPAR RICH RHYOLITE GROUNDMASS.												
28	29	FR				VCL														
29	30	FR	29.75m PY ± APY CAP VEIN 38°			VCL		29.75m 1cm IRREGULAR VEIN, CARBONATE/QZ2. WITH SPARSE PY. ± APY ± ? RARE CPZ.								1% VEIN				



Geological Log										Logged by DAE		massive								
HoleID	Project	Fire Tower	East	Azimuth	Boat Longyear	Drilled By	hatch	pervasive												
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Grid	AGD66	RL	Total Depth	Total Depth		Drill Date	swiggle	narrow vein												
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From	To	Colour Weath ering	Structu re type 1	Structu re type 2	Angle CA	Graphic structure	Log grainsize	Description	Sil	Ser	Py	CO3	W	K-spar	Vein Qtz %	Mineralization Assemblage	%	V	S	P
60	61							59.9-67.3m: RELATIVELY FRESH, COMPLETELY FRAGMENTED, VERY BROKEN, SHARPLY MICRO-FRACTURED, VEINED, ALTERED, MOTTLED CREAM-GREY, GREEN TO PINK COARSE-GRAINED QUARTZ-PHYRIC VOLCANOGENIC SANDSTONE; NO BEDDING STRUCTURES PRESERVED;								SPARSE 2-3% PY, ± GALENA				
61	62							MODERATE SERICITE-CARBONATE MOTTLING AND LESSELVEIN-LIKE ALTERATION; IRREGULAR PATCHY MODERATE K-SPIN ALTERATION, LOCALY SEMI-PERVASIVE.								AS IRREGULAR AGGREGATES, ALSO AS VEINS AND MICROVEINS, USUALLY WITH QRTZ ± SERICITE				
62	63	63.0m CARBONATE - SERICITE BRECCIA VEIN/SHEAR			55°			65.1m GREY RUGGY CLAY, POSSIBLY FAULT.												
63	64							MINDY QUARTZ-SERICITE VEINS AND MICROVEINS, GENERALLY WITHIN MORE INTENSE K-SPIN ALTERED PATCHES WITH SPARSE PY, ± TRACE CPY, AGGREGATES; TRACE GALENA.												
64	65	64.4m QUARTZ - SERICITE - PY. MICROVEINS			55°			67.3-70.4m: FRESH HARD TO VERY HARD, LOCALY BROKEN TO FRAGMENTED, GREEN-GREY TO PINK-BUFF AND BROWN, MEDIUM TO COARSE-GRAINED, IMMATURE VOLCANOGENIC QUARTZ-FELDSPATHIC SANDSTONE; MASSIVE, NO BEDDING STRUCTURE PRESERVED. LOCALY K-SPIN SHARP IRREGULAR CONTACT. FLOODED.								SPARSE 1-2% PY, ± GALENA IN THIN FRACTURES				
65	66							70.4-74.3m: FRESH HARD TO VERY HARD, FRACTURED, VEINED TO MASSIVE, MEDIUM BUFF-TAN-BROWN FINE-GRAINED IMMATURE VOLCANOGENIC (RHYOLITE-DERIVED) SILTSTONE; QUARTZ-FELDSPATHIC WITH PERVASIVE K-SPIN (?ALTERATION FLOODING) THROUGHOUT.								SPARSE 1% PY, ± TRACE CPY, IN THIN DISCONTINUOUS VEINLETS AND AS BLEBS.				
66	67							SPARSE WHITE CARBONATE IN THIN DISCONTINUOUS VEINLETS. RARE SLUMPED BEDDING LAMINAE. SHARP PLATY CONTACT AT 58° TO CORE AXIS.												
67	68							74.3-75.55m: FRESH, HARD TO VERY HARD, FRACTURED, VEINED, LOCALY MASSIVE, MEDIUM GREEN, GREEN-GREY, MOTTLED BUFF COARSE TO VERY COARSE-GRAINED, IMMATURE QUARTZ ± CRYSTAL RICH VOLCANOGENIC SANDSTONE TO RHYOLITIC TUFFACEOUS SANDSTONE.								py	tr			
68	69	69.4m CARB. + QRTZ SPRINGING			25°			75.55-75.95m Broken zone (minor fault?) LITHOLOGY AS BELOW								py	tr			
69	70							75.55-85.2m: FRESH, DULL GREY-GREEN, WEAKLY VEINED, SILICEOUS, MEDIUM GRAINED, QUARTZ CRYSTAL RHYOLITIC TUFFACEOUS SANDSTONE WITH RARE SILTSTONE & QUARTZ GRANULES. LOCALY APPEARS AS A META-QUARTZITE WITH PINK MOTTLE ALTERATION, (± SERICITE). NIL SULPHIDE.												
70	71							(± SERICITE). NIL SULPHIDE. DEUTERIC SERICITE-CARBONATE ALTERATION.												
71	72	71.95m PY. VEINLETS IN FRACTURES			35°			LOCALLY PRESERVED GHOSTED BEDDING LAMINATIONS.								tr py @ 82.5m				
72	73																			
73	74	POORLY BEDDED TO MASSIVE.																		
74	75																			
75	76																			
76	77																			
77	78	78.8m																		
78	79	? BEDDING FROM SILTY LAMINAE			33°															
79	80																			
80	81																			
81	82																			
82	83																			
83	84	85.0m QRTZ-FELDSPATHIC VEIN 3mm THICK			35°															
84	85							CONFORMABLE CONTACT												
85	86																			
86	87	86.15m THIN QRTZ-CARBONATE ± PY. VEIN WITH SOD PARADOX			27°															
87	88																			
88	89																			
89	90																			

IMMATURE (RHYOLITE-DERIVED) VOLCANOGENIC SEDS.



