Greatland Pty Ltd

Drill Hole Cover Sheet

Hole	**FTD031**
Date	Dec-06
Section No	446050mE
Geologist	D. Evans
Tenement No	EL26/2004
Project	Fire Tower
Prospect	Fire Tower

Collar Details

Locational Accuracy	+/- 0.1m		
AMG Zone	AGD66	Grid Name	
AMG Easting	446055	Grid Easting	
AMG Northing	5405091.7	Grid Northing	
AMG Azimuth	30	Grid Azimuth	
AMG RL	643.1	Grid RL	
Inclination	-50		
Total Depth	72.7		

Drilling Company	Boart Longyear		
Rig Type	Onram 1000 (diesel pack)		
Drill Type	diamond	Drill diameter	NQ2
Start Date	12/12/2006	Finish Date	18/12/2006

Reason for Drilling	Infill drilling
Reason for Termination	reached design depth
Summary	0-2.0m: scre and rubble. 2.0-6.8m: quartz-lithic, altered volcanogenic sandstone 6.8-15.2m: snowflake altered,shear-pyritic siltstone to fg. Sandstone. - includes 6.8-8.4m (Rubbly broken zone) 15.2-20.5m: weakly foliated, weakly altered pumiceous lithic volcanogenic sandstone. 20.5-58.35m: variably foliated, weakly altered pumiceous lithic volcanogenic sandstone. 58.35-70.7m: Volcanoclastic siltstone, locally intraformationally slumped/disrupted. 70.7-72.7m: volcanogenic quartzo-feldspathic 'greywacke' 47.55-47.6m sub-massive foliated (low grade) pyrite vein shear-pyrite straddles contact at 15.2m (14-17.5m), kspar-scheelite(?) at 20-25m about contact at 20.5m.
Water level	
Water Flow	
Gear remaining in hole	3m HQ
Downhole surveys — Survey method	Reflex Instrument digital multi-shot (corrected for 14 degree mag deviation)

Depth	Azimuth	Inclination	Depth	Azimuth	Inclination
20.00	33.00	-49.2			
67.00	32.50	-48.2			

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Geological Log

HoleID	FTD031			Logged by	DAE	massive	
Project	Fire Tower	East	Azimuth 030°	Boart Longyear	Drilled By	hatch	pervassive
Prospect	Fire Tower	North	Inclination −50°	NQ2 Diamond	Drill Type	stipple	disseminated
Grid	AGD66	RL	Total Depth 72.7m		Drill Date	swiggle	narrow vein
		Proj.	AMG				

From	To	Colour Weathering	Structure type 1	Structure type 2	Angle° CA	Graphic structure	Log grainsize (0.062 / 1/4 / 1 / 4 / 16)	Description	Alteration: Sil.	Ser.	Py	CO3	W	K-spar	Vein Qtz %	Mineralization Assemblage	Mineralization %, V, S, P
0	1	HW				NIL RECOVERY		0-2.0m: PRE-COLLAR THROUGH SURFICIAL WEATHERED ZONE/SCREE; NO CORE RECOVERY EXCEPT FOR FEW									
1	2	HW						RUBBLY FRAGMENTS POSSIBLY CAVED MATERIAL; COLLAR PIPE INSTALLED AFTER REAMING HOLE WITH HQ -									
2	3	MW						2.0-6.8m: MODERATELY TO WEAKLY WEATHERED, BROKEN, FRACTURED, VEINED, LIGHT FAWN-BROWN TO								TRACE MN OXIDES AGGREGATES	
3	4	SW	FE OXIDE VEINS		75°			CREAM-GREY, ALTERED, POORLY SORTED, COARSE-GRAINED, QUARTZ-PHYRIC ± LITHIC VOLCANOGENIC SANDSTONE;								COMMON FE OXIDES AS FRACTURE INFILLINGS	
4	5	SW						MASSIVE TO LOCALLY MODERATELY FOLIATED; STRONG IN PLACES TEXTURALLY DESTRUCTIVE SERICITE ALTERATION									
5	6	SW	5.7m S1 transposed bedding					OF GROUNDMASS; FEW SUB-ANGULAR BLACK SHALE - SILTSTONE CLASTS TO 5-6MM IN DIAMETER; TRACE								VEINS & SELVEDGES.	
6	7	SW			44°			K-SPAR STRINGERS AND MICROVEINS. BROKEN, FINER GRAINED, SILTY AT DOWNHOLE CONTACT.									
7	8	MW	SHEARING		60°			6.8-8.4m: MODERATELY TO STRONGLY WEATHERED, BROKEN TO COMPLETELY FRAGMENTED, IN PLACES SHEARED, MOTTLED BROWN TO LIGHT GREEN, FINE-GRAINED VOLCANICLASTIC SILTSTONE.								MINOR FE OXIDES STAINING 7.9m TRACE PY. AGGREGATES.	
8	9	SW						8.4-11.1m: WEAKLY WEATHERED TO NEAR FRESH, BROKEN,								8.8m TRACE PY.	
9	10		9.6m SERICITE + CARBONATE BRECCIA VEINS					MICRO-FAULTED, VEINED TO BRECCIATED LIGHT CREAM-GREY TO GREENISH-CREAM SERICITISED, FINE TO VERY								AGGREGATES ± RARE TRACE GALENA BLEBS.	
10	11	SW			55°			FINE-GRAINED VOLCANICLASTIC SILTSTONE; COMMON SERICITE-CARBONATE MATRIXED HYDRAULIC BRECCIA VEINS; GRADATIONAL COLOUR CHANGE/LITHOLOGICAL CONTACT.									
11	12		14.0m K SPAR-QTZ VEIN					11.1-15.2m: FRESH TO VERY WEAKLY WEATHERED, SOLID, VEINED, MICRO-FAULTED, SPECKLED DARKEST GREY-BLACK,								2-5% PY. AS AGGREGATES, VEINS, STRINGERS THROUGHOUT;	
12	13		CRACK SEAL VEIN, DISPLACED BY PY. SHEAR		15-60°			SPOTTED CREAM, MODERATELY ALTERED, FINE TO VERY FINE-GRAINED SILTSTONE; COMMON CARBONATE-SERICITE									
13	14		14.1m FOLIATION/ SHEARING		58°			AS SNOWFLAKE SPOTTING TO TEXTURALLY DESTRUCTIVE ALTERATION; SPARSE K-SPAR AS IRREGULAR VEINS, SOME WITH PY. ± CPY.;								TRACE 0.5-1% CPY.; RARE TRACE GALENA/APY.	
14	15		15.0m PY/FE OXIDES VEINS		0-50			STRONGLY PYRITIC THROUGHOUT, WITH INCREASING VEINS AND PATCHES NEAR DOWN HOLE CONTACT; MOTTLED AT CONTACT								5-10% PY. AS VEINS, PATCHES.	
15	16		15.6m K SPAR VEIN		65°			15.2-20.5m: INITIALLY MODERATELY WEATHERED, BROKEN, TO								1-2% PY. AS VEINS STRINGERS;	
16	17		16.1m WEAK FOLIATION		35°			FRESH, GENERALLY SOLID, VEINED, MICRO-FRACTURED, WEAKLY FOLIATED, MEDIUM CREAM-GREY, GREEN-GREY TO								SPARSE FE OXIDES REPLACING	
17	18		17.45m PY. VEINING		35°			BUFF-CREAM, MODERATELY TO STRONGLY ALTERED MEDIUM TO COARSE-GRAINED, QUARTZ-RICH VOLCANOGENIC SANDSTONE; LOCALLY PUMICEOUS; SEMI-PERVASIVE SERICITIC ALTERATION;								17.3-17.5m COMMON PY. VEINING	BoPo = 18.55m.
18	19	FR						INCREASING PERVASIVE, TEXTURALLY DESTRUCTIVE K-SPAR ALTERATION FROM 18.6M; TRACE TO SPARSE K-SPAR								TRACE PY. ± GALENA APY. CLOTS IN	
19	20	FR						VEINS; SPARSE BROWN FE OXIDES STAINING AFTER PYRITE; TRACE CPY. AGGREGATES; TRACE SCHEELITE GRAINS								K-SPAR ALTERED ZONES. TRACE SCHEELITE	
	21		20.9m K SPAR VEINS		58°			DETECTED; VEINED AT DOWN HOLE CONTACT. 20.5-58.35: FRESH, HARD, GENERALLY SOLID, VEINED,							2%	20.9m K SPAR/	
21	22	FR						MASSIVE TO LOCALLY STRONGLY FOLIATED, LIGHT TO MEDIUM GREEN-GREY TO CREAM-GREY MODERATELY							QTZ/ K SPAR	CARB. VEINS WITH ?GALENA/APY.	
22	23		22.7m HYDRAULIC BRECCIA VEIN		15°			ALTERED, COARSE TO VERY COARSE-GRAINED, PUMICEOUS, LITHIC-RICH VOLCANOGENIC SANDSTONE TO BRECCIA;								TRACE PY/APY IN K SPAR VEINS	
23	24		23.5m FOLIATION/ BEDDING		30°			CONSPICUOUS ALTERED, DEVITRIFIED, PUMICEOUS CLASTS AND POSSIBLE INTERBEDS AND LAMINAE; LOCALLY								FE OXIDES IN QTZ. VEIN	
24	25		24.0m QTZ. FE OXIDE VEIN (2cm)		67°			COMMON, VERY LARGE REWORKED VOLCANIC AND LITHIC CLASTS, UP TO 25-30MM IN DIAMETER; LOCALLY									
25	26		26.0m S1 foliation		37°			STRONG FOLIATION; SEMI-PERVASIVE SERICITE ALTERATION TEXTURALLY DESTRUCTIVE IN PLACES;									
26	27	FR						WEAK, IRREGULAR K-SPAR ALTERATION, MAINLY AS THIN VEINS, WITH AND WITHOUT QTZ, LOCALLY SUSTAINED PY. ± APY,									
27	28	FR						TRACE CPY.; LARGE 20MM SUB-ROUNDED ATOLL-LIKE K-SPAR								28.15M RARE TRACE CPY. SPECKS IN K-SPAR PATCHES.	
28	29		28.95m PY. ALIGNED ALONG WEAK FOLIATION		50°			PATCHES AT 28.15M; TENDING TO FINER-GRAINED, ALTERED SERICITISED VOLCANOGENIC SILTSTONE FROM 29.35M.									
29	30		IRREGULAR FOLIATION		30°											RARE TRACE APY AS SMALL BLEBS.	

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Geological Log

HoleID FTD031 | Project Fire Tower | Prospect Fire Tower | Grid AGD66 | East | North | RL | Proj. AMG

Azimuth 030° | Inclination −50° | Total Depth 72.7m | Boart Longyear | NQ2 Diamond

Logged by DAE | Drilled By | Drill Type | Drill Date

massive | hatch | pervassive | stipple | disseminated | swiggle | narrow vein

From	To	Colour Weathering	Structure type 1	Structure type 2	Angle CA	Graphic structure (0.062 1/4 1 4 16)	Description	Alteration: Sil.	Ser.	Py	CO3	W	K-spar	Vein Qtz %	Mineralization Assemblage	%	V	S
30	31	FR					20.3–58.35m (CONT'D): FRESH, HARD, IRREGULARLY VEINED, MICRO-FRACTURED TO MASSIVE, WEAKLY FOLIATED, ALTERED,											
31	32	32.1–32.2m			30°		MEDIUM CREAM-GREY, IN PLACES MEDIUM TO DARK GREY, COARSE TO VERY COARSE-GRAINED QUARTZ ± LITHIC RICH											
32	33	FE OXIDE VEINS AFTER PY.					PUMICEOUS VOLCANOGENIC SANDSTONE TO BRECCIA; MINOR FINE-GRAINED VOLCANOGENIC SILTSTONE LENSES; WEAK											
33	34	34.3m FOLIATION (WEAK)			40°		SEMI-PERVASIVE, DOMINANTLY SERICITIC ALTERATION;											
34	35						TRACE TO SPARSE KSPAR IN THIN VEINS AND RARE ACOLL-LIKE PATCHES; IRREGULAR, STREAKY, DISCONTINOUS TO RARELY											
35	36	35.2m WEAK STREAKY FOLIATION			46°		THROUGHGOING FOLIATION, LOCALLY DEFINED BY THIN DEVITRIFIED PUMICEOUS PARTINGS; TRACE QTZ. VEINS								RARE TRACES OF FINE PY, AS SPECKS IN KSPAR VEINS			
36	37						AND STRINGERS.											
37	38						37.6–40.45m: PATCHY, DARK GREY TO GREEN-GREY, PERVASIVE SERICITE-SILICA-?CHLORITIC ALTERATION; HARDER,											
39							MORE MASSIVE, COHERENT.											
39	40																	
40	41						41.3–44.5m: TENDING TO LESS OBVIOUSLY FRAGMENTAL											
41	42						TEXTURE, POSSIBLY INCREASE IN ALTERATION INTENSITY, OR MORE ASHY INTERBED, GRADING TO RHYOLITIC TUFF.								42.2m PEGMATIC CARB/KSPAR VEINS.			
42	43	43.25m QTZ + FE OXIDES IN VEIN			70°													
43	44																	
44	45	44.9m WEAK FOLIATION			35°													
45	46																	
46	47	47.55–47.6m PY. VEIN ± ?APY.			15°	py	47.55–47.6m: PY ± APY VEIN								10% PY VEIN			
47	48	48.05–48.15m Puggy clay ?in situ					LITHIC CLASTS, INCLUDING RARE BLACK SHALE-SILTSTONE, UP TO 10–20 MM LONG; RARE REWORKED VOLCANIC (?RHYOLITE) CLASTS.								RARE TRACE PY AS SMALL SPECKS AND CLUSTERS.			
48	49																	
49	50																	
50	51														RARE TRACES PY. AS FINE CLUSTERS.			
51	52	51.8m MOD EXTR STREAKY FOLIATION IN PUMICEOUS BANDS			26°													
52	53						LOCALLY TEXTURALLY DESTRUCTIVE, PERVASIVE SERICITE ALTERATION											
53	54																	
54	55	54.75m FOLIATION (WAVY, IRREGULAR)			30°													
55	56																	
56	57	57.4m FOLIATION PUMICEOUS BAND			23°		TENDING TO FINER, WITH GREEN-CREAM VOLCANOGENIC SILTSTONE INTERBEDS; SERICITIC SILT-GRADE MATRIX WITH DISPERSED SUBHEDRAL QTZ CLASTS UP TO 2MM IN DIAMETER; IRREGULAR STREAKY PUMICEOUS QTZ-RICH BANDS.											
57	58	FR					BROKEN CORE, SHARP IRREGULAR LITHOLOGICAL CONTACT.											
58	59	FR					58.35–60.0m: FRESH, HARD, VEINED, IN PLACES BROKEN, WEAKLY								5% QTZ-CARB. VEINS, NO SULPHIDES NOTED.			
59	60	WEAK DISCONTINUOUS FR FOLIATION			38°		FOLIATED, MODERATELY SERICITISED, MEDIUM CREAM TO CREAM-GREY FINE-GRAINED QUARTZ-RICH, PUMICEOUS VOLCANOGENIC SILTSTONE. BROKEN, BRECCIATED CONTACT.											

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Geological Log

HoleID	FTD031		Logged by	DAE	massive
Project	Fire Tower	East	Drilled By		hatch
Prospect	Fire Tower	North	Drill Type		stipple
Grid	AGD66	RL	Drill Date		swiggle
		Proj. AMG			narrow vein

Azimuth 030° — Boart Longyear
Inclination -50° — NQ2 Diamond
Total Depth 72.7m

From	To	Colour Weathering	Structure type 1	Structure type 2	Angle CA	Graphic structure (0.062 / 1/4 / 1 / 4 / 16)	Log grainsize	Description	Alteration: Sil.	Ser.	Py	CO3	W	K-spar	Vein Qtz %	Mineralization Assemblage	%	V	S	P
								*												
60	61	FR	60.6m SLUMPED BEDDING		30°			60.0 – 64.1m: FRESH, RELATIVELY HARD, BROKEN, IN PLACES FRAGMENTED, MICRO-FAULTED, SLUMPED, DISRUPTED,		·		/								
61	62		60.9m BEDDING		42°			LAMINATED, DARKEST GREY-BLACK AND CREAM, CARBONACEOUS SILTSTONE-SHALE; FINELY LAMINATED, WITH CONTORTED,		·		/							
62	63		63.0m CONTORTED BEDDING		52°			SLUMPED, DISRUPTED BEDDING THROUGHOUT; VERY WEAKLY ALTERED, SERICITISED IN FINE-GRAINED, CREAM, SILTY		·						RARE TRACE PY, 0.5% IN FINE VEINLETS IN SED. BRECCIA			
63	64	FR						LAMINAE; SEDIMENTARY BRECCIA, WITH LARGE RAFTS OF CARBONACEOUS SILTSTONE-SHALE, FROM 63.3m TO SHARP, IRREGULAR BASE.		·										
64	65	FR						64.1 – 67.5m: FRESH, HARD, BROKEN IN PLACES, MASSIVE, MICRO-VEINED TO BEDDED, MEDIUM CREAM-GREY TO GREEN-GREY,		·						RARE TRACE 0.1% PY. AS SMALL BLEBS, CLOTS			
65	66		65.7m BEDDING		30°			FINE-GRAINED, VOLCANICLASTIC SILTSTONE; WEAKLY ALTERED, SERICITIC THROUGHOUT; MINOR VOLCANOGENIC SANDSTONE		·										
66	67	FR	66.25m BEDDING (GRADED)		22°			INTERBEDS, WITH GRADED BEDDING YOUNGING UP-HOLE; PUGGY CLAY ZONE FROM 64.28-64.3m; VEINED, DISRUPTED TO	/	·	/	/							
								BRECCIATED FROM 67.0m TO CONTACT.	/	·	/	/			5%				
67	68	FR	68.4m		0°			67.5 – 70.7m: FRESH, HARD, BROKEN, MICRO-FAULTED, SLUMPED,	/			/		/		RARE TRACES			
68	69		CONTORTED BEDDING					DISRUPTED, DARKEST GREY-BLACK, VERY FINE-GRAINED, CARBONACEOUS SILTSTONE-SHALE; FINELY LAMINATED TO				/		/		0.1-0.3% PY. ± CPY IN			
69	70		69.5m DISRUPTED BEDDING		32°			LOCALLY MASSIVE, WITH MINOR CREAM SILTSTONE LAMINAE IN PLACES; VERY WEAKLY ALTERED THROUGHOUT; RARE BRECCIATED PATCHES				/		/		VEINLETS AND AS BLEBS.			
		FR						WITH SMALL RAFTS OF BLACK SHALE-SILTSTONE; BROKEN AT CONTACT.				/		/						
70	71	FR	71.0m WEAK FOLIATION		43°			70.7 – 72.7m: FRESH, HARD, INITIALLY BROKEN VERY WEAKLY		/		/				TRACE 0-5%			
71	72	FR	72.6m DISRUPTED					FOLIATED, POORLY SORTED, LIGHT CREAM TO GREY-CREAM,		/		/				PY. AS FINE			
		FR	BEDDING		48°			COARSE-GRAINED, QUARTZ-RICH TO QTZ-PHYRIC, LOCALLY		/		/				STRINGERS AND			
								PUMICEOUS, VOLCANOGENIC WACKE.		/		/				AGGREGATES.			
72	73							EOH @ 72.7m CONFIRMED												
73	74																			
74	75																			
75	76																			
76	77							*Core loss 64.3-64.7m, possible												
77	78							shear zone.												
78	79																			
	80																			
80	81																			
81	82																			
82	83																			
83	84																			
84	85																			
85	86																			
86	87																			
87	88																			
88	89																			
89	90																			

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Drill Hole Cover Sheet

Hole	**FTD032**
Date	Jan-07
Section No	443000mE
Geologist	G. McLean
Tenement No	EL26/2004
Project	Fire Tower
Prospect	Fire Tower West

Collar Details

Locational Accuracy	+/- 10m		
AMG Zone	AGD66	Grid Name	
AMG Easting	443008	Grid Easting	
AMG Northing	5406880	Grid Northing	
AMG Azimuth	180	Grid Azimuth	
AMG RL	325	Grid RL	
Inclination	-40		
Total Depth	136.3		

Drilling Company	Boart Longyear		
Rig Type	Onram 1000 (diesel pack)		
Drill Type	diamond	Drill diameter	NQ2
Start Date	9/01/2007	Finish Date	18/01/2007

Reason for Drilling	Testing anomalous gold soil geochemistry
Reason for Termination	Drilling passed hole design depth.
Summary	0-10.3m: chloritic, quartz-lithic conglomeratic 'greywacke' sandstone. 10.3-10.6m: fault crush 10.6-25.2: chloritic, quartz-lithic conglomeratic 'greywacke' sandstone. 25.2-36.5m: hm/kspar dusted quartzofeldspathic sandstone. 36.5-49.0m:siliceous quartz-feldspar-lithic 'greywacke' sandstone. 49.0-69.15m: siliceous, kspar mottled, quartz-feldspar-lithic 'greywacke' sandstone. 69.15-98.3m: kspar mottled, siliceous chloritic volcaniclastic (granodioritic?) sandstone. Lower contact o'printed by alteration. 98.3-120.35m: chlorite-kspar mottled, lithic rhyolitic siliceous volcaniclastic sandstone 120.35-136.3m: weakening mottle altered, rhyolitic tuffaceous sourced volcaniclastic sandstone. hairline scheelite? veinlets straddle lithologic contact (98.3m) from 87-112m. Weak py-cpy-gal sulphides 92-130m.
Water level	300 litre/min. artesian flow - hole plugged successfully on completion
Water Flow	Hole intersected water at 12m, large flows by 90m.
Gear remaining in hole	3m HQ collar, van ruth plug @10m, 2 bags cement back fill, hydrocarbon matt and cardboard wadding
Downhole surveys	Survey method: single shot photographic camera (azimuth corrected for 14 degree mag deviation)

Depth	Azimuth (raw/magnetic)	Azimuth (corrected)	Inclination		
4.00	171.00	185.00	-39		
136.00	168.00	182.00	-36		

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Geological Log

HoleID	FTDO32			Logged by			massive
Project	Fire Tower	East	Azimuth	Boart Longyear	Drilled By		hatch	pervassive
Prospect	Fire Tower	North	Inclination	NQ2 Diamond	Drill Type		stipple	disseminated
Grid	AGD66	RL	Total Depth		Drill Date		swiggle	narrow vein
		Proj. AMG						

From	To	Colour Weathering	Structure type 1	Structure type 2	Angle CA	Graphic structure (0.062 1/4 1 4 16)	Log grainsize	Description	Alteration: Sil.	Ser.	Py	CO3	W	K-spar	Vein Qtz %	Mineralization Assemblage	%	V	S	P
0	1							0-0.7m No recovery												
1	2							0.7-3.8m: Red-grey, moderately weathered quartz pebble, chloritic matrix supported conglomerate. Trace magnetite												
2	3																			
3	4		S_0		50°															
4	5	Boco = 4.5m	S_0		60°			3.8-7.0m: Red-grey, bedded fine grained quartz-lithic sandstone and lesser cgl.												
5	6																			
6	7																			
7	8							7.0-10.3m: Green-grey, quartz-lithic conglomeratic, mediumgrained chloritic 'greywacke' sandstone												
8	9																			
9	10																			
10	11		F		35°			10.3-10.6m: Fault crush at 30-40°CA, rock as below,													
11	12							10.6-25.2m: Green-black, crudely bedded, m.g.-f.g. quartzo-feldspathic, chloritic												
12	13																			
13	14		S_0		50°			"greywacke" sandstone and lesser												
14	15							matrix supported conglomerate (17-20.5m)												
15	16							Abundant Fe-oxide coated joints to												
16	17		S_0		45°			17m depth. Magnetite bearing,												
17	18	Bopo = 18m						Weakly carbonate veined 19-25m.												
18	19																			
19	20							14-24m weak matrix magnetite				}								
20	21											}								
21	22											}								
22	23							conformable contact				}								
23	24							25.2-29.4m: Red-black, poorly bedded,				}								
24	25							fine grained, siliceous, hematite kspar(?)					"							
25	26							alteration flecked, quartzo feldspathic												
26	27							sandstone, with feldspar-(carbonate)		} light hematite dusting						(py)	#r*			
27	28							matrixed hydraulic breccia 29-29.4m												
28	29							Minor sericite patchy alteration			}									
29	30							29.4-36.5m: Green-black, massive,			}					(py)	#r*			
30	31							m.g., quartzo-feldspathic chloritic -			}									
31	32							(sericitic) altered 'greywacke' sandstone			}									
32	33							with abundant feldspar veining			}									

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Geological Log

HoleID: FTD032
Project: Fire Tower
Prospect: Fire Tower
Grid: AGD66
East
North
RL
Proj. AMG
Azimuth
Inclination
Total Depth
Boart Longyear
NQ2 Diamond
Logged by
Drilled By
Drill Type
Drill Date

massive
hatch
pervassive
stipple
disseminated
swiggle
narrow vein

From	To	Colour Weathering	Structure type 1	Structure type 2	Angle CA	Graphic structure	Log grainsize (0.062 1/4 1 4 16)	Description	Alteration: Sil.	Ser.	Py	CO3	W	K-spar	Vein Qtz %	Mineralization: Mineralization Assemblage	%	V	S	P
33	34							Traces of pyrite-chalcopyrite veinlets associated with rare pink Kspar alteration (high angle to CA)				≤				(cpy) (py)	tr	X		
34	35											≤								
35	36											≤			tr					
36	37		So		45°			36.5 – 49.0m Dark grey, massive, medium bimodal (granite?) grained, siliceous matrixed, qtz-feldspar-lithic "greywacke" sandstone. Sparse													
37	38																			
38	39														tr					
39	40							qtz-feldspar veining (crack-seal).								(py)	tr	X		
40	41							No significant alteration.												
41	42							Possible hematite (red) associated with												
42	43							trace sulphide.								(py)	tr	X		
43	44																			
44	45																			
45	46															(cpy) (py)	tr	X		
46	47																			
47	48							conformable contact												
48	49							49.0 – 66.2 m: Green-black, fine –												
49	50							medium grained, siliceous matrixed												
50	51							qtzo-feldspathic sandstone, with												
51	52							weak, patchy, pink kspar(?)												
52	53							mottled alteration												
53	54							53.2 – 53.7m – broken zone with								cpy py		1		
54	55							coarse cubic pyrite disseminations.												
55	56							Trace scheelite veinlets @ 60°CA												
56	57							assoc. with tr. pyrite 59 – 61m.												
57	58							Very sparse veining.												
58	59																			
59	60																			
60	61															(cpy) (py)	tr	X		
61	62							minor quartz-chlorite crack-seal							tr	(cpy)	tr	X		
62	63							veining 61–64m.												
63	64							qtz-specularite crack-seal							tr					
64	65							veins @ 63.6m @ 45°CA												
65	66							weak bleaching and qtz-feldspar matrixed hydraulic breccia 64–65m												

Cut core

Greatland Pty Ltd

Geological Log

HoleID	FTD032			Logged by	[redacted]
Project	Fire Tower	East	Azimuth	Drilled By	Boart Longyear
Prospect	Fire Tower	North	Inclination	Drill Type	NQ2 Diamond
Grid	AGD66	RL	Total Depth	Drill Date	
		Proj.	AMG		

Legend: massive; hatch – pervassive; stipple – disseminated; swiggle – narrow vein

From	To	Description	Alteration	Vein Qtz %	Mineralization Assemblage	%
66	67	66.2 – 69.15m Green-black, slightly mottled (pink)	chlorite			
67	68	altered, siliceous silty f.g. sandstone	chlorite			
68	69	Weakly feldspar veined with only py traces. moderately magnetite matrixed	chlorite			
69	70	69.15 – 87.0m: Green-black, variably	chlorite			
70	71	pink or green 'bleached' mottle – altered	chlorite			
71	72	m.g. quartz (lithic) volcaniclastic				
72	73	siliceous sandstone with				
73	74	patchy hydraulic feldspar veining				
74	75	and rarest trace pyrite. Intermediate-	chlorite			
75	76	felsic origin?	chlorite			
76	77		chlorite			
77	78	Patchy Kspar selvedge alteration	chlorite			
78	79	79-87m overprinted by feldspar				
79	80	spider veins.				
80	81		chlorite			
81	82		chlorite			
82	83		chlorite			
83	84		chlorite		py	tr
84	85	pyrite as matrix to vughy-quartz-		tr	py (0.5)	+
85	86	carbonate druzy veining (84.3-84.35m)				
86	87	gradational contact (alteration)				
87	88	87.0 – 98.35m Green-grey, more				
88	89	variably pink or green mottle altered				
89	90	lithology as above. Locally just				
90	91	chloritic and sericite patchy mottled.				
91	92		chlorite/sericite		(gal)	
92	93	Sparse, thin feldspar veinlets,	chlorite/sericite		(py)	tr
93	94	<1mm thin veinlets @ 45-70°CA	chlorite/sericite			
94	95	containing scheelite as ~8 veins	chlorite/sericite		(gal) (py)	tr x
95	96	87-88m and trace amounts	Hm, sericite			
96	97	95-99m, associated with trace	sericite		(cpy) (py)	tr x
97	98	~~pyrite but not the most intense~~ bleaching.	sericite			
98	99	Contact obscured by alteration	Hm, mix			

overprint: Hm dusted bands near contact.

(Left margin, 79–99 m: cut core)

Greatland Pty Ltd

Geological Log

HoleID FTD032
Project Fire Tower
Prospect Fire Tower
Grid AGD66
East
North
RL
Proj. AMG
Azimuth
Inclination
Total Depth
Boart Longyear NQ2 Diamond
Logged by
Drilled By
Drill Type
Drill Date

massive
pervassive
hatch
disseminated
stipple
narrow vein
swiggle

From	To	Colour Weathering	Structure type 1	Structure type 2	Angle CA	Graphic structure (0.062 1/4 1 4 16)	Log grainsize	Description	Alteration: Sil.	Ser.	Py	CO3	W	K-spar	Vein Qtz %	Mineralization: Mineralization Assemblage	%	V	S	P
99	100							98.3 – 113.1m Pinkish green-grey mottle Kspar-chlorite altered, strongly feldspar spider-veined, juvenile rhyolitic sourced, m.g. moderate sorted quartz-(shale) lithic rhyolitic volcaniclastic, siliceous sandstone. Most veiny at high angle to CA. Trace pyrite associated w scheelite veinlets 105-109m, General deuteric-style weak bleaching alteration oprinted by patchy or vein pink Kspar selvedge to veinlets @ 50-60°CA. Some cpy in late crack-seal qtz-carbonate veins.											
100	101																			
101	102																			
102	103															(cpy) tr				
103	104																			
104	105																			
105	106															cpy py tr				
106	107																			
107	108															(py) tr				
108	109															(cpy) (gal) tr				
109	110								4/4											
110	111								4/4							(gal) (py) tr				
111	112															py tr				
112	113																			
113	114																			
114	115							113.1 – 120.35m Green-grey, mottle bleach altered, sparsely veined silty volcaniclastic sandstone. Patchy Kspar alteration top and bottom only. 4% galena in hydraulic Feldspar matrix brx 120.0-120.2m											
115	116																			
116	117																			
117	118								thin							py cpy tr				
118	119								thin											
119	120															gal 1				
120	121							120.35 – 136.3m: Pinkish-grey-green, mottle altered, variably veined, juvenile rhyolitic tuff sourced m.g. quartz rhyolitic volcaniclastic sandstone. Kspar selvedge alteration weakens down hole to nil below 133m. Sulphides in thin sparse veins (feldspar, carbonate?).										(gal) (py) tr				
121	122																			
122	123																			
123	124																			
124	125																			
125	126																			
126	127															(py) tr				
127	128														1%	(py) tr				
128	129																			
129	130															(cpy) (gal) tr				

Scheelite veins dominantly at → 060/76°NW

Greatland Pty Ltd

Geological Log

FTD032

5 of 5

HoleID		East		Logged by	massive
Project	Fire Tower	North		Drilled By	hatch
Prospect	Fire Tower	RL		Drill Type	pervassive
Grid	AGD66	Proj.	AMG	Drill Date	stipple
Azimuth		Boart Longyear			swiggle
Inclination		NQ2 Diamond			narrow vein
Total Depth					

From	To	Colour Weathering	Structure type 1	Structure type 2	Angle CA	Graphic structure	Log grainsize (0.062 / 1/4 / 1 / 4 / 16)	Description	Alteration: Sil.	Ser.	Py	CO3	W	K-spar	Vein Qtz %	Mineralization: Mineralization Assemblage	%	V	S	P
130	131																			
131	132														1%					
132	133														1%					
133	134																			
134	135							Very uniform mod. sorted tending to greywacke.												
135	136																			
- 136.3m																				
E.O.H.																				