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Drill Hole Cover Sheet

Hole	**FTD029**
Date	Nov-06
Section No	445925mE
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	445932.7	Grid Easting	
AMG Northing	5405052.5	Grid Northing	
AMG Azimuth	0	Grid Azimuth	
AMG RL	587.4	Grid RL	
Inclination	-30		
Total Depth	74.2		

Drilling Company	Boart Longyear		
Rig Type	Onram 1000 (diesel pack)		
Drill Type	diamond	Drill diameter	NQ2
Start Date	23/11/2006	Finish Date	29/11/2006

Reason for Drilling	Infill drilling, in area of difficult access , check hole on FTD004
Reason for Termination	Reached design depth.
Summary	0-4m: scree. 4.0-23.0m:coarse grained volcanogenic "greywacke" sandstone 23.0-28.9m: slumped black siltstone 28.9-57.55m: volcanogenic sandstone 57.5-59m: siltstone correlates to 63.6-66.4m in FTD004 59-64.6m: weak altered fg. Sandstone 64.6-66.7m: large siltstone raft(slump)-correlates to 75.3-77.3m in FTD004? 66.7-74.2m: Weakly foliated quartz-pumiceous vol'genic sandstone
Water level	Weak artesian flow January 2007 (~2 l/min) -subsequently ceased.
Water Flow	
Gear remaining in hole	4.5m HQ collar casing, HQ casing shoe
Downhole surveys	Survey method: Reflex Instrument digital multi-shot (corrected for 14 degree mag deviation)

Depth	Azimuth	Inclination	Depth	Azimuth	Inclination
20.00	1.20	-29			
69.00	2.60	-28.7			

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Geological Log

HoleID: FTD 029 | Project: Fire Tower | Prospect: Fire Tower | Grid: AGD66 | East | North | RL | Proj. AMG
Azimuth 0° | Inclination −30° | Total Depth | Boart Longyear | NQ2 Diamond
Logged by DAE | Drilled By BLY | 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
0	1	HW						0-4m: SCREE – NO CORE RECOVERED; COLLAR PIPE CEMENTED IN, AFTER REAMING OUT NQ												
1	2							PRE-COLLAR; CEMENTED DRILLED OUT WITH NQWL;												
2	3							HOLE WASHED OUT AT BOTTOM OF COLLAR PIPE												
3	4	HW	BOCO=4.0m					IN CAVING, LOOSELY CONSOLIDATED GROUND.												
4	5	HW						4.0-8.8m: STRONGLY WEATHERED, OXIDISED, LEACHED,									COMMON FE OXIDES				
5	6	HW						BROKEN, IN PLACES COMPLETELY FRAGMENTED, VEINED,									THROUGHOUT				
6	7	HW	6.85m SHEARING		50°			DARK TO VERY DARK BROWN, MOTTLED CREAM-GREY,									IN FRACTURES,				
7	8	MW						ALTERED, SERICITISED, FINE TO MEDIUM-GRAINED, QTZ-RICH VOLCANOGENIC SANDSTONE; SHEARED, BRECCIATED									VEINS AND SELVEDGES;				
8	9	HW						IN PLACES; COMMON TO ABUNDANT BROWN FE OXIDES PARTIALLY TO COMPLETELY REPLACING; MINOR BLACK MN/FE OXIDES.							/	PARTIALLY REPLACING.				
9	10	SW						BROKEN GROUND; GRADATIONAL WEATHERING DECREASE.												
10	11	SW						8.8-13.9m: WEAKLY WEATHERED TO FRESH, HARD,									TRACE PY.				
11	12	(FR)						GENERALLY SOLID, MASSIVE TO LOCALLY VEINED, MEDIUM									AS SPECKS,				
12	13	(FR)						CREAM-GREY, MODERATELY ALTERED, DEVITRIFIED,									BLEBS, THIN				
13	14	(FR)						COARSE-GRAINED QUARTZ-PHYRIC CRYSTAL-RICH									VEINLETS				
14	15	FR						VOLCANOGENIC SANDSTONE; FEW SCATTERED BLACK									0.1-0.3%;				
15	16	FR	CARB/KSPAR VEINLETS		65°			SILTSTONE CLASTS SUB-ANGULAR, UP TO 15MM LONG;									RARE ?APY				
16	17	FR						COMMON QTZ EYES IN ALTERED CRYSTAL RICH GROUNDMASS;									+CPY.				
		FR						MASSIVE, WITH NO OBVIOUS PREFERRED ORIENTATION; MINOR									SPARSE FE				
17	18	FR						KSPAR ALTERATION IN VEINS AND IRREGULAR PATCHES;									OXIDES COATING				
18	19		19.0m WEAK FOLIATION		40°			GRADATIONAL ALTERATION (+? LITHOLOGICAL) CONTACT.									JOINT PLANES.				
19	20		19.2m CARB/KSPAR VEIN		65°			13.9-17.2m: FRESH TO VERY WEAKLY WEATHERED, HARD,			CHLORITE/SERICITE						RARE TRACE PY. AS FINE				
20	21	FR						MICRO-FRACTURED VEINED DARK GREY, LOCALLY CREAM-GREY,									SPECKS;				
21	22	SW						COARSE-GRAINED, QUARTZ-PHYRIC, VOLCANOGENIC SST.;									RARE CPY.				
22	23	SW	22.65m FE OXIDES VEIN		35°			COMMON CLOSE-PACKED, SUB-ANGULAR QTZ. EYES IN									BLEBS.				
23	24	MW	SHEARING		40°			DARK ?CHLORITE-SERICITE ALTERED GROUNDMASS; SPARSE													
24	25	SW	23.9m BEDDING		75°			THIN VEINLETS OF CARBONATE/KSPAR.													
25	26	SW	25.2m BEDDING		0°			DOWN HOLE CONTACT NOT RECOVERED; END OF SOLID CORE.													
26	27	FR	26.85m BEDDING		35°			17.2-17.4m: PROBABLE FAULT; BROKEN, FRAGMENTED CORE.													
27	28	SW	27.9m FE OXIDES VEIN		27°			17.4-23.0m: FRESH TO VERY WEATHERED, HARD MASSIVE,									19.02m TRACE CPY. BLEBS				
28	29	(FR)						LOCALLY VEINED, MEDIUM CREAM-GREY TO GREENISH-CREAM,													
29	30	FR	30.2-30.35m					MODERATELY ALTERED, DEVITRIFIED, COARSE-GRAINED,													
30	31		Thin carb veins		26°			QTZ-PHYRIC CRYSTAL-RICH, VOLCANOGENIC SST; TENDING													
31	32							TO FINE-GRAINED ALTERED, CREAM SILTSTONE IN LENSES;													
32	33	FR						COMMON SUB-ANGULAR TO SUB-ROUNDED QTZ. EYES IN													
								ALTERED, SERICITISED CRYSTAL RICH GROUNDMASS; RARE,													
								WEAK FOLIATION; SPARSE CARBONATE-KSPAR ± QTZ. VEINS													
								AND VEINLETS; SPARSE FINE K-SPAR PERVASIVE IN PATCHES.									FE OXIDES + QTZ. VEINS				
								QTZ. + FE OXIDES VEINING FROM 22.65M; BECOMING BROKEN.													
								23.0-23.85m: MODERATELY TO STRONGLY OXIDISED, DECOMPOSED,									COMMON FE OXIDES VEINS & REPLACING				
								SHEARED, CARBONACEOUS SILTSTONE SHALE + MINOR VOLC. SST; ?FAULT.													
								23.85-28.9m: WEAKLY TO MODERATELY OXIDISED, HARD,													
								MICRO-FRACTURED, SLUMPED, DISRUPTED, DARK GREY-BLACK AND									24.9-25.3m				
								MEDIUM CREAM-GREY, WEAKLY ALTERED, VERY FINE-GRAINED									5% PY, in thin				
								CARBONACEOUS AND VOLCANICLASTIC SILTSTONE; DISTURBED,									stringers, veinlets				
								DISRUPTED, FAULTED BEDDING THROUGHOUT; WEAK TO MODERATE									with FE oxide				
								SERICITE ALTERATION, DEVITRIFICATION OF RELATIVELY									selvedges.				
								COARSER GRAINED INTERBEDS AND LENSES; LOCALLY SEMI-													
								PERVASIVE SNOWFLAKE SPOTTED; RARE K SPAR AS IRREGULAR													
								VEIN-LIKE ALTERATION.													
								SHEARED AT DOWNHOLE CONTACT; SHEARING AT 50° DEGREES TO CA													
								28.9-38.85M: FRESH, MICRO-FRACTURED, VEINED TO MASSIVE,									30.1-30.35m				
								MOTTLED CREAM-GREY BECOMING VERY DARK GREY-BLACK,									0.3-0.5% PY ±				
								MODERATELY ALTERED, COARSE TO VERY COARSE-GRAINED,									APY + ? SPHAL.				
								QUARTZ-RICH AND LOCALLY QUARTZ-PHYRIC, VOLCANOGENIC									IN VEINLETS AND				
								SANDSTONE; COMMON SERICITE ALTERATION AS SNOWFLAKE									SPECKS.				
								SPOTTING, VEINLET INFILL AND AS IRREGULAR SELVEDGES													
								AROUND VEINS AND FRACTURES; TRACE K SPAR AS PATCHY													
								ALTERATION.													

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Geological Log

HoleID FTD029 | Project Fire Tower | Prospect Fire Tower | Grid AGD66 | East | North | RL | Proj. AMG

Azimuth 0° | Inclination −30° | Total Depth | 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	P
33	34	FR					28.9–38.85m (CONTD): MODERATELY ALTERED, VERY DARK GREY-BLACK, COARSE-GRAINED, QUARTZ-PHYRIC,	CHL+SER+QTZ ALTN											
34	35		34.4m Calc. Veins		0-5°		LOCALLY LITHIC, VOLCANOGENIC SANDSTONE; COMMON MASSIVE, SEMI-PERVASIVE, CHLORITE(?)-QUARTZ-													
35	36						SERICITE ALTERATION OF GROUNDMASS; SUB-ANGULAR TO SUB-ROUNDED QUARTZ EYES AND POSSIBLE OVERGROWTHS;									35.6m Trace apy/cpy, clots.				
36	37		37.45-37.6m				RARE REWORKED LARGE ALTERED LITHIC CLASTS, INCLUDING									Rare trace cpy | ?sphal, blebs and clusters.				
37	38		Sl foliation (clasts + alt. contacts)		38°		VOLCANICS; SPARSE VEIN-LIKE AND PATCHY KSPAR ALTERATION; COMMON SERICITE AS SNOWFLAKE AND VEINLET ALTERATION.							1%					
38	39	FR					TRACE APY | ?GALENA, SPECKS NEAR CONTACT; SOME CLOTS. SHARP PLANAR CONTACT AT 57° TO CORE AXIS.												
39	40	FR					38-85 – 57.55m: FRESH, HARD TO VERY HARD, LOCALLY VEINED, MASSIVE TO VERY WEAKLY FOLIATED, LIGHT TO									39.3m FE OXIDE VEIN SELVEDGES				
40	41		40.9m QTZ|KSPAR GASH VEINS		25°		MEDIUM GREENISH-CREAM, GREY-CREAM, IN PLACES BROWN-PINK, PERVASIVELY ALTERED, FINE-GRAINED, QUARTZ-RICH							0.5%					
41	42						IMMATURE VOLCANOGENIC SANDSTONE TO SILTSTONE; TENDING TO FINE DOWN HOLE; SPARSE VERY FINE-GRAINED													
42	43						LAMINATED, DISRUPTED SILTSTONE LENSES AND INTERBEDS; DOMINANTLY QUARTZ-RICH, LOCALLY QTZ-PHYRIC,													
43	44		43.45m 1cm QTZ VEIN/STRINGER		60°		WITH <1–2mm QTZ. CLASTS AND EYES IN SERICITE TEXTURALLY DESTRUCTIVE ALTERED GROUNDMASS, POSSIBLY													
44	45						AFTER DEVITRIFIED VERY FINE-GRAINED CRYSTAL-RICH									44.45m SPARSE Py(APy)|?GALENA MICROVEINS				
45	46						MATRIX; VERY RARE, LARGER LITHIC CLASTS; LOCALLY													
46	47		46.23m KSPAR VEIN		75°		COMMON VEIN-LIKE TO PERVASIVE TEXTURALLY DESTRUCTIVE KSPAR ALTERATION FREQUENTLY WITH THIN, DISCONTINOUS													
47	48						HYDRAULIC BRECCIA VEINS AND TRACES OF Py ± APy ?CPy; SERICITE ALTERATION AS SNOWFLAKE SPOTTING,													
48	49		48.4m 15mm HYDRAULIC BRECCIA VEIN		70°		VEIN AND MICROVEIN FLOODING TO PERVASIVE REPLACEMENT, VERY FINE-GRAINED, DISRUPTED, MICROFAULTED LAMINATED													
49	50						GREY-GREEN TO CREAM-GREY SILTSTONE FROM 44.6– 45.8m AND AS IRREGULAR THIN LENSES.													
50	51						TRACE QTZ-KSPAR-CARBONATE STRINGERS.									50.9m KSPAR ± Py VEIN				
51	52						MINOR CARBONATE-?KSPAR MICROVEINS.									51.5-52.6m 0.5% Py. AS STRINGERS/ AGGREGATES.				
52	53																		
53	54															53.75m 1-2% Py. VEIN				
54	55															54.6m TRACE Py|APy. IN KSPAR VEIN				
55	56		56.67m QTZ|KSPAR VEINS		30°		MARKED INCREASE IN INTENSITY OF VEINING (THIN KSPAR+CARB ± QTZ VEINS AND MICROVEINS) FROM 56.5m.													
56	57		56.95m Py. VEIN		85° 90°		SCHEELITE IN K SPAR VEIN-LIKE ZONES FROM 56-56m INCREASING IN FREQUENCY WITH Py ± APy., FROM 56.95m									56.95m 3-5cm THICK Py. APy + SCHEELITE VEIN				
57	58						TO DOWNHOLE CONTACT; POSSIBLE SPHALERITE IN VEINLETS.									1-2cm Py. VEIN				
		FR CONTACT			50°		SHARP IRREGULAR CONTACT; LITHOLOGICAL WITH VEIN OVERPRINT.													
58	59	FR					57.55–66.0m: FRESH, HARD, DISRUPTED, VEINED TENDING TO									57.55-58.3m 5-10% Py. + 1% APy + GALENA + SCHEELITE IN VEINS.				
59	60						MASSIVE, ALTERED, LIGHT TO MEDIUM GREEN-GREY, CREAM-GREY, LOCALLY BLACK-GREY, FINE TO VERY FINE-GRAINED,													
60	61						POORLY SORTED, DEVITRIFIED, CRYSTAL-RICH, VOLCANICLASTIC SANDSTONE TO SILTSTONE; INTERMIXED UNIT, WITH FINER													
61	62						GRAINED SILTSTONE LENSES AND LAMINAE IRREGULARLY INTERCALATED; POSSIBLY A RHYOLITIC TO DACITIC TUFF;										RARE TRACE			
62	63		62.43m KSPAR/QTZ CRACK SEAL VEINS		42°		BLACK SILTSTONE-SHALE AT START OF INTERVAL, WITH DISTURBED, DISRUPTED TO BRECCIATED AND VEINED									Py. AS FINE SPECKS				
63	64		64.5m KSPAR QTZ VEIN		30°		PATCHES CONTAINING Py. + GALENA|APy + SCHEELITE; GENERALLY MASSIVE, NO OBVIOUS PREFERRED ORIENTATION. BEDDING IN													
64	65		64.7 DISRUPTED BEDDING		0°		SILTSTONE-SHALE LENSES SLUMPED, DISRUPTED; PERVASIVE													
65	66	FR CONTACT			5-10°		TEXTURALLY DESTRUCTIVE SERICITE ALTERATION THROUGHOUT. SHARP IRREGULAR (BEDDED) LITHOLOGICAL CONTACT.									65.37m TRACK SCHEELITE IN BRECCIA VEIN				

65.65m YOUNGING FROM SCOUR AND GRADED BEDDING YOUNGING TO NW (SEE ORIENTATION NOTES)

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Geological Log

HoleID	FCD029			Logged by	DAE		massive
Project	Fire Tower	East		Azimuth 0°	Boart Longyear	Drilled By		hatch	pervassive
Prospect	Fire Tower	North		Inclination −30°	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
66	67	FR	BCA AT 66.0M (SLUMPED)		0 to 5°			66.0 – 68.85m : FRESH, HARD, VEINED, MICRO-FAULTED, IN PLACES MASSIVE, BLACK-GREY LAMINATED CARBONACEOUS AND VOLCANICLASTIC SILTSTONE, INTERMIXED WITH LENSES OF GREENISH-CREAM, WEAKLY FOLIATED, ALTERED, MEDIUM TO COARSE-GRAINED, PUMICEOUS, VOLCANOGENIC SANDSTONE; FEW ANGULAR BLACK SHALE-SILTSTONE RIP UP CLASTS.							67.05M TRACE CP?, BLEBS.				
67	68		67.3m FOLIATION		57°											68.3 – 68.8m SPARSE PY, + AP, + GALENA VEINLETS.				
68	69	FR																		
69	70	FR						68.85 – 70.0M : RELATIVELY HARD BROKEN, WEAKLY FOLIATED, MEDIUM CREAM, COARSE-GRAINED QTZ PHYRIC, PUMICEOUS VOLCANOGENIC SANDSTONE.								TRACE 0.2-0.5% PY. STRINGERS				
70	71							70.0 – 70.6m : CORE LOSS/CAVITY – DRILLER RECORDED POSSIBLE CAVE ZONE.												
71	72	FR						70.6 – 74.2m : FRESH, HARD, VERY BROKEN TO FRAGMENTED, WEAKLY FOLIATED, MEDIUM CREAM-GREY, GREENISH-CREAM, COARSE-GRAINED, QUARTZ-PHYRIC, CRYSTAL/LITHIC-RICH, PUMICEOUS VOLCANOGENIC SANDSTONE; IMMATURE, POLYMICTIC, COMMON ALTERED, DEVITRIFIED PUMICEOUS CLASTS AND QTZ. EYES IN ALTERED, CRYSTAL-RICH GROUNDMASS; WEAKLY TO MODERATELY ALTERED; SERICITE ± V. SPARK ALTERATION.												
72	73		72.75m PY/AP1 STRINGER (FOLIATION PARALLEL)		43°											72.75 – 74.2m SPARSE 0.5-1% PY./AP. VEINLETS, STRINGERS.				
73	74	FR																		
								EOH @ 74.2m CONFIRMED.												

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

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Drill Hole Cover Sheet

Hole	**FTD030**
Date	Dec-06
Section No	445975mE
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	445973.1	Grid Easting	
AMG Northing	5405069.7	Grid Northing	
AMG Azimuth	30	Grid Azimuth	
AMG RL	611.4	Grid RL	

Inclination	-40
Total Depth	92.5

Drilling Company	Boart Longyear		
Rig Type	Onram 1000 (diesel pack)		
Drill Type	diamond	Drill diameter	NQ2
Start Date	30/11/2006	Finish Date	11/12/2006

Reason for Drilling	Infill drilling, in area of difficult access , infill beneath GP-90-08
Reason for Termination	reached design depth
Summary	0-2.8m: scree. 2.8-14.35m: cg vol'genic sandstone 14.35-30.75m:fg sandstone to 20.1m then disrupted, slumped siltstone 30.75-62.2m: altered quartz (lithic) sandstone 62.2-66.8m:Diffuse but anomalously oxidised (sulphide veined) sandstone 66.8-85.1m: weakly foliated quartz lithic sandstone 85.1-92.5m: quartz lithic (sub'greywacke) vol'genic sandstone May not have reached the Main Zone target. intercept anomalously(62.2-66.8m) oxidised cf. correlative in FTD002 @ <10m above and FTD013 >30m above - both being sulphidic. pyrite as ~5% replacive aggregates and fracture fill 33.5-33.85m
Water level	
Water Flow	
Gear remaining in hole	nil, cement cracked, casing pipe pulled out.
Downhole surveys — Survey method	Reflex Instrument digital multi-shot (corrected for 14 degree mag deviation)

Depth	Azimuth	Inclination	Depth	Azimuth	Inclination
20.00	30.00	-41.1			
90.00	30.70	-40.8			

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Geological Log

HoleID	FTD030			Logged by		massive	
Project	Fire Tower	East		Azimuth 030° MMG	Boart Longyear	Drilled By	hatch	pervassive
Prospect	Fire Tower	North		Inclination -40°	NQ2 Diamond	Drill Type	stipple	disseminated
Grid	AGD66	RL		Total Depth 92.5m		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	HW						0-2.8m: SCREE; POORLY CONSOLIDATED SURFICIAL HORIZON; NO CORE RECOVERED; DRILLED WITH NQ2 REAMED WITH HQ FOR INSTALLATION OF COLLAR PIPE; NEW FRAGMENTS OF UNCONSOLIDATED RUBBLE.											
1	2																			
2	3	HW	BOCO=2.8m																	
3	4	SW	3.4m FE OXIDES	VEINS	30°			2.8-7.9m: STRONGLY WEATHERED TO RELATIVELY FRESH, INITIALLY BROKEN, VEINED TO MASSIVE, ALTERED,								BROWN FE OXIDE IN FRACTURES AND SELVEDGES TO				
4	5	(FR)	4.65m QTZ					MEDIUM CREAM, CREAM-GREY, COARSE TO VERY COARSE-GRAINED QTZ-PHYRIC, LITHIC-RICH								3.5m;				
5	6	(FR)	CARBONATE VEINING		20°			VOLCANOGENIC SANDSTONE TO CONGLOMERATE;								TRACE 0.5% PY, AS CLOTS				
6	7	(FR)						MODERATELY SERICITISED IN PLACES PERVASIVELY WITH TEXTURAL DESTRUCTION; INCREASING SUB-ROUNDED								AND FINE DISSEMINATIONS,				
7	8	(FR)						LITHIC FRAGMENTS UP TO 10MM IN DIAMETER, INCLUDING REWORKED VOLCANIC CLASTS; GRADATIONAL CONTACT.								RARE TRACE CPY.				
8	9	(FR)	9.1m WEAK BEDDING		20°			7.9-14.35m: VERY WEAKLY WEATHERED TO FRESH, HARD BROKEN BECOMING SOLID, MASSIVE TO IRREGULARLY								TRACE PY, ?APY ± CPY AS FINE				
	10	(FR)						VEINED, MEDIUM CREAM TO CREAM-GREY, COARSE-GRAINED								CLOTS AND AGGREGATES,				
10	11	(FR)	10.67m VUGHY QTZ VEIN		42°			QUARTZ ± LITHIC RICH VOLCANOGENIC SANDSTONE; POORLY BEDDED THROUGHOUT GRADUALLY FINING DOWN								GENERALLY IN K SPAR VEINS,				
11	12	FR						HOLE, GRADING TO VOLCANICLASTIC SILTSTONE; MODERATELY SERICITISED, SEMI-PERVASIVELY WITH								RARE TRACE GALENA.				
12	13	FR	13.65m 3CM THICK HYDRAULIC BRECCIA		80°			PATCHES OF TEXTURAL DESTRUCTION; SPARSE K SPAR AS IRREGULAR VEINS AND STRINGERS; MINOR DISRUPTED TO BRECCIATED GREY SILTSTONE PATCHES.												
13	14	FR						POSSIBLY FAULTED CONTACT; QTZ-CARBONATE-BRECCIA VEINING FROM 14.0M								3-5% PY. ± APY IN BRECCIA ZONE.				
14	15	FR						14.35-16.05m: FRESH, HARD, BROKEN, VEINED, MICRO-FRACTURED, CREAM AND DARKEST GREY-BLACK SILTSTONE-SHALE; STRONG SNOWFLAKE SPOTTING/VEIN ALTERATION.								3-5% PY. + APY/GALENA ± CPY. MICROVEINS				
15	16	(FR)	SHARP IRREGULAR BASE																	
16	17	FR	16.7m K SPAR VEINS		65°			16.05-20.25m: FRESH, VERY HARD SOLID, VEINED, MICRO-FRACTURED, ALTERED, MEDIUM CREAM, CREAM-GREEN, LOCALLY GREY-BLACK, FINE-GRAINED,								IRREGULAR VEIN OF FINE PY. AT START.				
17	18	FR																		
18	19	FR	18.15m SHEETED K SPAR/ CARBONATE VEINLETS		70°			QUARTZ-PHYRIC VOLCANOGENIC SANDSTONE TO SILTSTONE; PERVASIVE, TEXTURALLY DESTRUCTIVE SERICITE ALTERATION; LOCALLY COMMON K-SPAR ALTERATION IN VEIN-FORM TO SEMI-PERVASIVE; BLACK-GREY SHALE FROM 19.85-20.05M; BRECCIATED AT DOWNHOLE CONTACT.								1-2% PY. AS FINE CLOTS AGGREGATES, RARE TRACE CPY.				
19	20	FR																		
20	21		2CM THICK HYDRAULIC BRECCIA VEINS		47°			20.25-27.8m: FRESH, HARD TO VERY HARD, SOLID, MICRO-FAULTED, DISRUPTED, SLUMPED, WEAKLY ALTERED, MEDIUM CREAM, GREEN-CREAM, LOCALLY DARK GREY, VERY FINE-GRAINED, BLEACHED, SILICEOUS SILTSTONE; MINOR GREY-BLACK CARBONACEOUS SILTSTONE-SHALE LAMINAE;								20.25-20.7m 10% PY. VEINS + SEMI MASSIVE AGG'S ASSOCIATED WITH K SPAR RODDING.				
21	22																			
22	23		23.4m 3-5cm HYDRAULIC BRECCIA		35°															
23	24																			
24	25							SLUMPED, DISRUPTED, MICRO-FAULTED BEDDING LAMINATIONS; WEAK TO MODERATE CARBONATE-SERICITE ALTERATION, SEMI-PERVASIVE SNOWFLAKE SPOTTING; INITIALLY MODERATELY K SPAR ALTERED,								SPARSE 0.5-1% PY. AS THIN VEINS, VERY FINE-GRAINED AGGREGATES.				
25	26		25.2m SLUMPED BEDDING		20°															
26	27		27.65m SLUMPED BEDDING		30°			PERVASIVE IN PLACES TO 22.5M; SPARSE THIN K SPAR+CARBONATE VEINLETS; THICKER K SPAR+CARBONATE VEIN FROM 25.05-25.2M ALONG CORE AXIS; SPARSE HYDRAULIC BRECCIA VEINS. SHARP, IRREGULAR CONTACT.								RARE TRACES OF CPY AS BLEBS				
27	28																			
28	29		27.86-27.9M CARB.+K SPAR BRECCIA VEIN.		55°			27.8-30.75m: FRESH, HARD, MICRO-FRACTURED, SLUMPED, DISRUPTED, WEAKLY ALTERED, DARK GREY TO BLACK-GREY, VERY FINE-GRAINED, CARBONACEOUS SILTSTONE-SHALE. VEINED, SHARP PLANAR CONTACT								SPARSE 0.5-1% PY. ± FINE ?APY. STRINGERS.				
29	30																			

BoPo = 15.6m

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Geological Log

HoleID: FTD 030 | Project: Fire Tower | Prospect: Fire Tower | Grid: AGD66 | East | North | RL | Proj. AMG

Azimuth 030° TMG | Inclination -40° | Total Depth 92.5m | Boart Longyear NQ2 Diamond

Logged by | Drilled By | Drill Type | Drill Date

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

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					SNOWFLAKE SPOTTING AND VEIN ALTERATION, WITH SERICITE + CARBONATE SEMI-PERVASIVE THROUGHOUT.											
31	32	FR	LOST WATER RETURN 31.8m.				30.75-62.2m: FRESH, VERY HARD, MASSIVE, LOCALLY MICRO-FRACTURED, VEINED, MODERATELY ALTERED, MEDIUM CREAM, CREAM-GREY, MOTTLED BUFF-ORANGE, MEDIUM TO VERY COARSE-GRAINED, QUARTZ-PHYRIC, IN PLACES LITHIC-RICH,								5-10% PY, IN IRREGULAR VEIN 30.85-31.0M.			
32	33		PY, VN, AT 30.85m		0-5°													
33	34		33.4m QTZ.				VOLCANOGENIC SANDSTONE TO CONGLOMERATE; PERVASIVE, SNOW FLAKE SPOTTED TO TEXTURALLY DESTRUCTIVE SERICITE ±								33.5-33.85M 5-10% PY, IN REPLACIVE AGGREGATES/ VEINI.			
34	35		K SPAR VEIN		30°		K SPAR + CARBONATE ALTERATION; MINOR K SPAR ALTERATION AS VEINS AND SELVEDGES; MASSIVE, INDISTINCTLY BEDDED,											
35	36						GENERALLY NO FOLIATION; ABUNDANT SERICITISED, DEVITRIFIED FINE-GRAINED GROUNDMASS; SCATTERED LITHIC CLASTS,											
36	37						DOMINANTLY BLACK SILTSTONE-SHALE, FROM APPROXIMATELY 37.4M; SUB-ROUNDED CLASTS RANGING UP TO 16MM IN								36.45-36.65m 20-30% PY. IN REPLACIVE AGGREGATES.			
37	38						DIAMETER.											
39	39																	
39	40																	
40	41		40.5m 3-5mm PY. VEIN		15-30°		THIN, 4CM DUCTILE SHEAR FROM 39.95M, CHLORITE-SERICITE-								40.5m Thin py. vein.			
41	42						QUARTZ CLAST INFILLING, WITH SPARSE PY. AS THIN VEINLETS								Sparse py. veinlets +			
42	43						RARE, VERY DISPERSED LITHIC CLASTS ONLY; BECOMING								stringers 0.3-0.5%.			
43	44						MAINLY QTZ.-PHYRIC LOCALLY QUARTZ-FELDSPATHIC,											
44	45						WITH TEXTURALLY DESTRUCTIVE SERICITE ± K SPAR + CARBONATE ALTERATION.											
45	46														Trace-sparse py. veinlets +			
46	47		47.0m 3-5mm				46.7-46.8M K SPAR VEIN FLOODING + MASSIVE								stringers.			
47	48		K SPAR + CARB. VEINI		47°		ALTERATION.											
48	49						SPARSE TO MINOR CARBONATE + K SPAR AS THIN VEINLETS.											
49	50		50.2-50.3m HYDRAULIC BRECCIA VEIN		45°										SPARSE PY ± CPY, BLEBS IN BRECCIA VEIN. (WITH SCHEELITE)			
50	51																	
51	52																	
52	53		53.5m				INCREASE IN ABUNDANCE OF ROUNDED TO SUB-ROUNDED											
53	54		WEAK IRREGULAR FOLIATION		35°		LITHIC CLASTS (UP TO 5-6MM IN DIAMETER), MAINLY BLACK SILTSTONE-SHALE.											
54	55						SPARSE CARBONATE + KSPAR MICROVEINS + VEINI.								54.4M FE OXIDES IN VEIN SELVEDGE			
55	56																	
56	57						56.4-56.65M THIN, VUGHY K SPAR + QTZ. VEINING PARALLEL TO CORE AXIS.								Trace py ± cpy stringers.			
57	58		57.75m WEAK STREAKY FOLIATION		45°		SPARSE IRREGULAR STREAKY PUMICEOUS WISPS, POSSIBLY											
58	59						FLATTENED CLASTS OR LAMINAE; WEAK, DISCONTINUOUS FOLIATION; BECOMING INCREASINGLY ALTERED.								TRACE CPY.			
59	60	FR					INCREASING K SPAR FLOODING; TEXTURALLY DESTRUCTIVE.								AS SMALL BLEBS + APY.			

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Geological Log

HoleID	FTD030			Logged by		massive	
Project	Fire Tower	East		Azimuth 030° MAG	Boart Longyear	Drilled By	hatch	pervassive
Prospect	Fire Tower	North		Inclination −40°	NQ2 Diamond	Drill Type	stipple	disseminated
Grid	AGD66	RL		Total Depth 92.5m		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
60	61	FR						STRONGLY ALTERED, SERICITISED, KSPAR + CARBONATE ALTERED, VEINED, WEAKLY FOLIATED, QUARTZ-RICH ± LITHIC		x		/		/		TRACE PY. ± APY, CPY ± ? GALENA				
61	62	FR	2-5mm KSPAR + CARB. VEINS		34°			MEDIUM TO COARSE-GRAINED VOLCANOGENIC SANDSTONE. SHARP IRREGULAR CONTACT; FE OXIDE VEIN SELVEDGE CONTACT.				/		/		DISSEMINATIONS, 0.5-1% SULPHIDES				
62	63	SW	62.5m FE OXIDE VEIN		20°			62.2-66.8m: OXIDISED, HARD, TO 0 CHROUS SOFT, STRONGLY FERRUGINOUS, FRACTURED, VEINED, VUGHY,				/		X		COMMON ORANGE-BROWN FE OXIDES IN FRACTURES, VEINS AND SELVEDGES, OCHREOUS IN PLACES. TRACE PY. IN VEINS.				
63	64	SW				Fe		MOTTLED LIGHT GREY, ORANGE-BROWN AND DARK RED-BROWN, ALTERED, QUARTZ-PHYRIC, COARSE-GRAINED			$			X						
64	65	MW						VOLCANOGENIC SANDSTONE; STRONG VEIN OVERPRINT			$									
65	66	MW	65.0m FE OXIDE VEINS		50°	Fe		WITH COMMON FE OXIDES INFILLING FRACTURES, VEINS AND VEIN SELVEDGES; REMNANT TEXTURALLY DESTRUCTIVE			$									
66	67	MW						KSPAR ALTERATION IN FRESHER ZONES. DIFFUSE ALTERATION CONTACT ZONE; LIMIT OF OXIDATION.			$									
67	68	FR						66.8-85.1m: FRESH, HARD TO VERY HARD, MASSIVE, LOCALLY VEINED, WEAKLY FOLIATED, MEDIUM CREAM, GREY-CREAM				/		/		SPARSE FE OXIDES IN VEINS				
68	69		69.1m KSPAR + QTZ. CRACK SEAL VEINS		35°			TO DARK GREY, MEDIUM TO COARSE-GRAINED, DEVITRIFIED QUARTZ-PHYRIC ± LITHIC VOLCANOGENIC SANDSTONE;				/		/		68.24m PY. GALENA SPHALERITE SCHEELITE VEIN (AT 46° TO CA)				
69	70							SCATTERED SUBHEDRAL QTZ. EYES AND FEW BLACK				/		/						
70	71		70.7m WEAK STREAKY FOLIATION		30°			SILTSTONE-SHALE CLASTS IN ABUNDANT, DEVITRIFIED, CRYSTAL-RICH, SERICITISED GROUNDMASS; GENERALLY MASSIVE, WITH WEAK TO MODERATE FOLIATION IRREGULARLY PRESERVED,				/		/						
71	72							TENDING TO INCREASE IN FREQUENCY DOWN HOLE; RARE				/		/		RARE TRACE				
72	73							PUMICEOUS CLASTS AND STREAKY, DISCONTINUOUS LAMINAE.				/		/		PY. ± APY + CPY.				
73	74							SPARSE CREAM K-SPAR + CARBONATE ± QTZ. MICROVEINS, VEINS AND STRINGERS.				/		/		VEINLETS AND STRINGERS,				
74	75							74.3-76.2m MODERATELY STRONG, TEXTURALLY DESTRUCTIVE, PERVASIVE SERICITE + CHLORITE ALTERATION;				/		/		SCHEELITE DETECTED AS				
75	76							DARK GREY, MASSIVE TO FINELY VEINED, LOCALLY QTZ PHYRIC VOLCANOGENIC SANDSTONE; PATCHY SNOWFLAKE SPOTTING				/		/		GRAINS IN TEN OF THESE VEINLETS.				
76	77		77.25m KSPAR + CARB VEIN		35°			WITH CARB + KSPAR + SERICITE.				/		/						
77	78		77.85m MODERATELY STRONG FOLIATION		43°							/		/						
78	79											/		/						
79	80		79.8m IRREGULAR		30°							/		/						
80	81		STREAKY FOLIATION									/		/		RARE TRACE. PY ± APY, IN SMALL CLOTS				
81	82							81.75-81.83m PUGGY CLAY FAULT.				/		/						
82	83							82.65m 4-6mm DIAMETER SUB-ROUNDED CLASTS OF PINK				/		/		ASSOCIATED WITH KSPAR FLOODING; TRACE GALENA				
83	84		83.65m WEAK FOLIATION		35°			QTZ-PHYRIC RHYOLITE, PATCHY TEXTURALLY DESTRUCTIVE KSPAR ALTERATION.				/		/						
84	85	FR						INCREASING VEINED AND ALTERED - SERICITE + CARBONATE + ? CHLORITE. DIFFUSE MICROVEINED LITHOLOGICAL CONTACT.				/		/						
85	86	FR	86.75m K-SPAR VEIN ALTERATION 87.6m		40°			85.1-92.5m: FRESH, HARD TO VERY HARD, BROKEN, VEINED, LOCALLY WEAKLY FOLIATED, LIGHT TO MEDIUM GREY,				/		/		RARE TRACE PY. AS BLEBS ASSOCIATED WITH K SPAR FLOODING, ± APY + CPY.				
86	87							CREAM-GREY TO BUFF, ALTERED, COARSE-GRAINED, QUARTZ-FELDSPAR PHYRIC VOLCANOGENIC				/		/						
87	88		WEAK STREAKY FOLIATION		20°			SANDSTONE TO WACKE; PERVASIVELY SERICITISED				/		/						
88	89							FINE-GRAINED GROUNDMASS, WITH PATCHY TEXTURALLY DESTRUCTIVE K SPAR ALTERATION; FEW SCATTERED,				/		/						
89	90	FR						SUB-ROUNDED BLACK SILTSTONE - SHALE CLASTS TO 2MM IN DIAMETER, IRREGULAR STREAKY DISCONTINUOS FOLIATION.				/		/		TRACE PY. VEINLETS IN FRACTURES IN K SPAR ZONES.				

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Geological Log

HoleID FTD030 | Project Fire Tower | Prospect Fire Tower | Grid AGD66 | East | North | RL | Proj. AMG

Azimuth 030° AMG | Inclination -- 40° | Total Depth 92.5m | 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 (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
90	91	90.3-90.7m FR BRECCIA.						FRESH, HARD TO VERY HARD, MODERATELY FOLIATED, ALTERED, MEDIUM CREAM TO BUFF-CREAM, COARSE-GRAINED, QUARTZO-FELDSPATHIC LOCALLY LITHIC VOLCANOGENIC SANDSTONE TO WACKE; PERVASIVELY SERICITIC AND TEXTURALLY DESTRUCTIVE K SPAR ALTERATION THROUGHOUT.								RARE TRACE 0.1-0.3% PY, AS SMALL CLOTS; RARE CPY.				
91	92	91.3m FR FOLIATION (?BEDDING!!)			43°															
								EOH CONFIRMED @ 92.5m.												