

HOLE NO. : FTD4  
SECTION : 2460.00 EAST


PLUTONIC OPERATIONS LIMITED  
GOWRIE PARK

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Northing : 4890.00  
Easting : 2460.00  
Grid : FIRE TOWER  
Direction : GRID N  
Inclination : -45.0  
Elevation : 9931.00  
Azimuth : 360.0  
Mag Azimuth : 341.5 344.0 344.0; OM=12.5T OR 18.5G

DIAMOND DRILL RECORD

Drill Type : LY38  
Core Size : HQ NQ  
Contractor : LONGYEAR

Property : FIRE TOWER  
State : Tasmania  
GMR : GOG 4440  
E.L. No. : GOWRIE PARK  
Project No. : 706  
Date Started : 30/11/1992  
Date Completed: 9/12/1992  
Logged by : G. MacDONALD  
Relogged by :  
Date Logged : 10/12/92  
Interpreted : G. MacDONALD  
Initialled : 

Length (m) : 153.00  
Precol. (m) : 3.50 m  
BOCO : <3.50 m  
TFR : 9.50 m  
Water Table : N/A

Dip Tests Method: EASTMAN

Depth	Az	Dip
75.0	2.5	-41.2
150.0	2.5	-41.1

From (m)	To (m)	Description	Sample No.	From (m)	To (m)	Width (m)	Au (ppm)
.00	3.50	PRECOLLAR					
3.50	24.65	VOLCANICLASTIC VOLCANICLASTIC, SERICITISED.	S00339	3.50	6.00	2.50	.34
3.50	9.50	Moderately oxidised quartz lithic volcaniclastic. The rock contains quartz haematite veins, oxidised and leached, at 30 degrees to the core axis. Veins contain much manganese staining. Rock contains minor pyrite veins.	S00340	6.00	7.00	1.00	.09
			S00341	7.00	8.00	1.00	.03
			S00342	8.00	9.00	1.00	.05
			S00343	9.00	10.00	1.00	.09
			S00344	10.00	11.00	1.00	.06
			S00345	11.00	12.00	1.00	.01
9.50	24.65	Silica sericite carbonate altered, beige green, occasionally grey green and weakly chloritic altered volcaniclastic consisting of quartz and lithics in a tuffaceous matrix. Rock contains minor pyrite throughout with pyrite rich zones associated with silicification from 10.00 to 10.30 and from 11.80 to 11.90 both at 30 degrees to the core axis and consisting of approximately 1.0% pyrite. Rock contains occasional cross-cutting carbonate veins at low angles to the core axis. The rock is quartz and lithic rich throughout. From 9.50 to 15.70 the rock is beige green, from 15.70 to 20.50 it is grey green and from 20.50 to 24.65 the rock is beige green. Rock also contains two cross-cutting carbonate pyrite veins at 50 to 70 degrees to the core axis from 23.30 to 23.50. The lower contact with the underlying siltstone is sharp.	S00346	12.00	13.00	1.00	.02
			S00347	13.00	14.00	1.00	.01
			S00348	14.00	15.00	1.00	.03
			S00349	15.00	16.00	1.00	.13
			S00350	16.20	17.00	.80	.47
			S00351	17.00	18.00	1.00	.02
			S00352	18.00	19.00	1.00	.01
			S00353	19.00	20.00	1.00	.04
			S00354	20.00	21.00	1.00	.11
			S00355	21.00	22.00	1.00	.08
			S00356	22.00	23.00	1.00	.04
			S00357	23.00	24.00	1.00	.59
			S00358	24.00	25.00	1.00	.53
24.65	35.50	PELITE SILTSTONES, BEDDED AND DARK GREY.	S00359	25.00	26.00	1.00	.16
24.65	28.15	Interbedded beige green and lesser dark grey siltstones. Bedding is disturbed. Rock is silica sericite and carbonate altered. Bedding where more coherent is at 45 to 70 degrees to the core axis. Rock contains occasional minor disseminated pyrite and pyrite carbonate veins.	S00360	26.00	27.00	1.00	.22
			S00361	27.00	28.00	1.00	.10
			S00362	28.00	29.00	1.00	.11
			S00363	29.00	30.00	1.00	.10
			S00364	30.00	31.00	1.00	.04
			S00365	31.00	32.00	1.00	.19
28.15	31.90	Beige green more massive siltstone with very	S00366	32.00	33.00	1.00	.12

From (m)	To (m)	Description	Sample No.	From (m)	To (m)	Width (m)	$\mu$ (ppm)
		occasional very disturbed bedding. Rock is silica sericite carbonate altered throughout.	S00367	33.00	34.00	1.00	.05
		The upper contact is silicified with 20% pyrite over 30 mm in a silicified zone at 30 degrees to the core axis. The rock contains minor disseminated pyrite except for fine irregular pyrite veins associated with carbonate at 28.60 and 30.20. The rock has a gradational lower contact with the underlying dark grey siltstone with the rock becoming more dark grey downhole.	S00368	34.00	35.00	1.00	.30
			S00369	35.00	36.00	1.00	.07
31.90	35.50	Dark grey siltstone with bedding from 32.00 to 32.30 at 25 degrees to the core axis, otherwise massive but disturbed. The rock contains a 10 mm carbonate vein parallel to the core axis from 32.20 to 33.20 with 2% pyrite in clots. Elsewhere the rock contains minor disseminated pyrite. From 33.40 to 34.80 the rock is weakly bedded parallel to the core axis. The lower contact is gradational.					
35.50	63.70	<b>VOLCANICLASTIC</b>					
		<b>VOLCANICLASTIC, SERICITISED.</b>	S00370	36.00	37.00	1.00	.13
		Generally a beige green silica sericite carbonate altered quartz lithic volcaniclastic with some interbedded patches of dark grey siltstone.	S00371	37.00	38.00	1.00	.08
			S00372	38.00	39.00	1.00	.16
			S00373	39.00	40.00	1.00	.05
35.50	37.00	Beige green volcaniclastic with approximately 2% pyrite from 35.50 to 35.80 in a quartz carbonate vein parallel to the core axis. Else the rock contains very minor disseminated pyrite.	S00374	40.00	41.00	1.00	.02
			S00375	41.00	42.00	1.00	.09
			S00376	42.00	43.00	1.00	.05
			S00377	43.00	44.00	1.00	.06
			S00378	44.00	45.00	1.00	2.00
37.00	38.40	Dark grey siltstone with intermixed fragments of volcaniclastic. Rock contains approximately 2% pyrite as disseminated clots and also probably 0.5% arsenopyrite.	S00379	45.00	46.00	1.00	1.31
			S00380	46.00	47.00	1.00	.30
			S00381	47.00	48.00	1.00	.16
			S00382	48.00	49.00	1.00	1.64
38.40	63.70	Beige green quartz lithic volcaniclastic silica sericite and carbonate altered. The rock contains numerous black siltstone filled fractures and contains minor disseminated pyrite. At 45.90 a 10 mm pyrite carbonate vein is cross-cutting at 15 degrees to the core axis. Below 44.30 the volcaniclastic becomes finer grained. The rock contains very occasional fine pyrite veins irregularly oriented and generally associated with carbonate alteration. From 44.00 to 54.00 the rock is not sulphidic as suggested by assays, however it is somewhat more carbonate altered. The rock is massive throughout with only carbonate veining and very minor pyrite as noted. The lower contact with the underlying black siltstone is sharp, unshaped and at 70 degrees to the core axis.	S00383	49.00	50.00	1.00	1.17
			S00384	50.00	51.00	1.00	1.26
			S00385	51.00	52.00	1.00	.31
			S00386	52.00	53.00	1.00	.84
			S00387	53.00	54.00	1.00	3.53
			S00388	54.00	55.00	1.00	.08
			S00389	55.00	56.00	1.00	.17
			S00390	56.00	57.00	1.00	.34
			S00391	57.00	58.00	1.00	.17
			S00392	58.00	59.00	1.00	.38
			S00393	59.00	60.00	1.00	.27
			S00394	60.00	61.00	1.00	.03
			S00395	61.00	62.00	1.00	<.01
			S00396	62.00	63.00	1.00	.02
			S00397	63.00	64.00	1.00	.02
63.70	66.20	<b>PELITE</b>					
		<b>SILTSTONE, DARK GREY AND BEIGE, DISTURBED BEDDING.</b>	S00398	64.00	65.00	1.00	.01
		Bedded but disturbed interbedded dark grey, predominantly,	S00399	65.00	66.00	1.00	<.01

From (m)	To (m)	Description	Sample No.	From (m)	To (m)	Width (m)	Au (ppm)
		and beige green siltstone. Bedding is generally parallel to the core axis though the lower contact is at 60 degrees to the core axis. The rock contains fine to 2 mm thick pyrite chalcopyrite veins cross-cutting at 80 to 90 degrees to the core axis every 20 to 40 mm. At 64.90 is a sharp contact at 70 degrees to the core axis below which the rock is predominantly beige green.	S00400	66.00	67.00	1.00	.01
66.20	77.30	PELITE / VOLCANICLASTIC SILTSTONE/FINE GRAINED VOLCANICLASTIC SERICITISED. Silica sericite, strongly carbonate altered fine grained volcaniclastic or siltstone. The rock is massive with numerous irregularly cross-cutting carbonate veins constituting 20% of the rock. Below 74.10 the rock is more massive and featureless with a sharp contact with a more bedded rock at 80 degrees to the core axis at 75.30 below which the rock is bedded parallel to the core axis. From 66.20 to 74.10 the rock is strongly carbonate altered as noted. From 69.00 to 70.80 the rock contains approximately 4% sulphide throughout associated with diffuse carbonate alteration. The sulphides are equally pyrite and chalcopyrite. From 72.60 to 72.90 the rock is in broken core and may be a minor shear zone. The contact between this rock and the underlying siltstone is sharp but irregular due to soft sediment deformation.	S00401	67.00	68.00	1.00	.03
			S00402	68.00	69.00	1.00	.03
			S00403	69.00	70.00	1.00	1.93
			S00404	70.00	71.00	1.00	1.58
			S00405	71.00	72.00	1.00	.07
			S00406	72.00	73.00	1.00	.06
			S00407	73.00	74.00	1.00	.02
			S00408	74.00	75.00	1.00	.06
			S00409	75.00	76.00	1.00	.02
			S00410	76.00	77.00	1.00	<.01
			S00411	77.00	78.00	1.00	.02
77.30	81.20	PELITE BLACK SILTSTONE. Fine grained black siltstone. Rock is soft sediment deformed throughout with patches of medium grained to coarse grained quartz lithic volcaniclastic intermixed irregularly. The rock contains 2% pyrite throughout as irregular cross-cutting veins associated with carbonate and in disseminations.	S00412	78.00	79.00	1.00	.01
			S00413	79.00	80.00	1.00	<.01
			S00414	80.00	81.00	1.00	<.01
			S00415	81.00	82.00	1.00	<.01
81.20	83.10	VOLCANICLASTIC QUARTZ LITHIC VOLCANICLASTIC, SERICITISED. Beige green, silica sericite and carbonate altered medium grained quartz and lithic volcaniclastic with 1% disseminated pyrite throughout. Lower contact is sharp and at 60 degrees to the core axis.	S00416	82.00	83.00	1.00	.01
			S00417	83.00	84.00	1.00	.76
83.10	87.60	PELITE SILTSTONE, SERICITISED AND DARK GREY. Siltstone. The rock is silica, sericite and carbonate altered to 85.30 becoming darker grey below 85.30. Bedding is generally at low angles to the core axis and is soft sediment deformed. Rock contains 2% pyrite throughout associated with preferential sericite and carbonate alteration of some beds. From 86.90 to 87.00 the rock contains 5% pyrite and 2% galena associated with cross-cutting carbonate veining.	S00418	84.00	85.00	1.00	<.01
			S00419	85.00	86.00	1.00	<.01
			S00420	86.00	87.00	1.00	.04
			S00421	87.00	88.00	1.00	.11
87.60	100.05	VOLCANICLASTIC QUARTZ LITHIC VOLCANICLASTIC, SERICITISED. Beige green, silica sericite and carbonate altered volcaniclastic consisting of medium grained quartz and	S00422	88.00	89.00	1.00	<.01
			S00423	89.00	90.00	1.00	.21
			S00424	90.00	91.00	1.00	.04

From (m)	To (m)	Description	Sample No.	From (m)	To (m)	Width (m)	Au (ppm)	
		lithics, predominantly black siltstone fragments and occasional rafts of siltstone to 100mm thick. The rock contains minor disseminated pyrite except for irregular cross-cutting veins at 89.60, 94.05 and 99.30. From 94.40 to 95.60 the rock contains a black siltstone on one side of the core with carbonate brecciation and minor galena on the other.	S00425	91.00	92.00	1.00	<.01	
	S00426		92.00	93.00	1.00	<.01		
	S00427		93.00	94.00	1.00	<.01		
	S00428		94.00	95.00	1.00	.79		
	S00429		95.00	96.00	1.00	.58		
	S00430		96.00	97.00	1.00	.04		
	S00431		97.00	98.00	1.00	.02		
	S00432		98.00	99.00	1.00	.09		
	S00433		99.00	100.00	1.00	.31		
	S00434		100.00	101.00	1.00	.01		
100.05	104.75		VOLCANICLASTIC / PELITE					
			INTERMIXED VOLCANICLASTIC AND BLACK SILTSTONE.	S00435	101.00	102.00	1.00	.06
			Irregularly interbedded volcanoclastic and black siltstone due to soft sediment deformation. Siltstone component increases downhole. Rock contains 1% pyrite in the volcanoclastic with 2% to 4% in the siltstone as cross-cutting veins and disseminations associated with carbonate.	S00436	102.00	103.00	1.00	.09
				S00437	103.00	104.00	1.00	.17
			S00438	104.00	105.00	1.00	.09	
104.75	107.75	VOLCANICLASTIC						
		QUARTZ LITHIC VOLCANICLASTIC, SERICITISED.	S00439	105.00	106.00	1.00	.04	
		Beige green quartz lithic volcanoclastic with lithics predominantly black siltstone. Rock is silica sericite and carbonate altered with 1% pyrite throughout in veins and disseminations. The lower contact is sharp.	S00440	106.00	107.00	1.00	.04	
			S00441	107.00	108.00	1.00	.02	
107.75	110.70	PELITE						
		BLACK SILTSTONE.	S00442	108.00	109.00	1.00	.01	
		Black siltstone. Rock is fine grained and massive with approximately 4% pyrite throughout in irregularly cross-cutting carbonate veins associated with carbonate and in disseminations.	S00443	109.00	110.00	1.00	.02	
			S00444	110.00	111.00	1.00	.01	
110.70	131.70	VOLCANICLASTIC						
		QUARTZ LITHIC VOLCANICLASTIC, SERICITISED.	S00445	111.00	112.00	1.00	.08	
		Beige green, quartz, sericitized feldspar, lithic volcanoclastic. Lithics consist of fine grained beige green and black siltstones and occasional fiamme. The rock contains minor pyrite throughout as disseminations and occasional coarse grained clots except for 123.60 to 123.70 with 2% pyrite in irregular fractures. Lithics are common throughout with fiamme more common downhole. The rock is moderately foliated at 50 to 60 degrees to the core axis, becoming lesser downhole.	S00446	112.00	113.00	1.00	.01	
			S00447	113.00	114.00	1.00	.01	
			S00448	114.00	115.00	1.00	.03	
			S00449	115.00	116.00	1.00	.01	
			S00450	116.00	117.00	1.00	<.01	
			S00451	117.00	118.00	1.00	<.01	
			S00452	118.00	119.00	1.00	.01	
			S00453	119.00	120.00	1.00	.09	
			S00454	120.00	121.00	1.00	.01	
			S00455	121.00	122.00	1.00	<.01	
			S00456	122.00	123.00	1.00	.01	
			S00457	123.00	124.00	1.00	<.01	
			S00458	124.00	125.00	1.00	.01	
			S00459	125.00	126.00	1.00	.07	
			S00460	126.00	127.00	1.00	.06	
			S00461	127.00	128.00	1.00	.17	
			S00462	128.00	129.00	1.00	<.01	
			S00463	129.00	130.00	1.00	<.01	
			S00464	130.00	131.00	1.00	<.01	
			S00465	131.00	132.00	1.00	<.01	

From (m)	To (m)	Description	Sample No.	From (m)	To (m)	Width (m)	Au (ppm)
131.70	138.10	VOLCANICLASTIC					
		QUARTZ LITHIC VOLCANICLASTIC, PALE GREY.	S00466	132.00	133.00	1.00	<.01
		Rock as for 110.70 to 131.70 except that it is generally pale grey and unaltered. Rock is moderately sericitized initially becoming less so downhole. The rock is strongly foliated at 45 degrees to the core axis and contains fiamme like fragments. Rock contains medium grained quartz and sericitized feldspars throughout. The rock contains negligible sulphides.	S00467	133.00	134.00	1.00	<.01
			S00468	134.00	135.00	1.00	<.01
			S00469	135.00	136.00	1.00	<.01
			S00470	136.00	137.00	1.00	<.01
			S00471	137.00	138.00	1.00	<.01
			S00472	138.00	139.00	1.00	<.01
138.10	142.15	VOLCANICLASTIC					
		QUARTZ LITHIC VOLCANICLASTIC, SERICITISED.	S00473	139.00	140.00	1.00	<.01
		Rock as for above but now is moderately silica sericite and carbonate altered throughout. The rock contains 1% pyrite associated with pink silicification from 138.70 to 138.80 and 10% chalcopyrite and pyrite from 140.90 to 141.00 and 141.30 to 141.60. Elsewhere the rock contains minor pyrite.	S00474	140.00	141.00	1.00	1.83
			S00475	141.00	142.00	1.00	5.15
			S00476	142.00	143.00	1.00	1.12
142.15	147.90	PELITE					
		INTERBEDDED SILTSTONE, SERICITISED.	S00477	143.00	144.00	1.00	<.01
		Predominantly beige green siltstone with lesser dark grey interbedded siltstone. The rock is bedded at 30 to 45 degrees to the core axis to 146.50 below which the rock is more massive. The rock contains minor pyrite except for two, concordant to bedding, 10mm thick, pyrite, minor chalcopyrite veins from 144.20 to 144.40. Most of the rock is in broken core.	S00478	144.00	145.00	1.00	1.40
			S00479	145.00	146.00	1.00	.02
			S00480	146.00	147.00	1.00	<.01
			S00481	147.00	148.00	1.00	<.01
147.90	151.00	PSAMMITE					
		SANDSTONE, CHLORITIC, HANGINGWALL.	S00482	148.00	149.00	1.00	<.01
		Grey green, massive, weak to moderately chloritic sandstone in broken core. Rock contains very minor disseminated pyrite.	S00483	149.00	150.00	1.00	<.01
			S00484	150.00	151.00	1.00	<.01
151.00	153.00	VOLCANICLASTIC / PSAMMITE					
		VOLCANICLASTIC SANDSTONE, HANGINGWALL.	S00485	151.00	152.00	1.00	<.01
		Grey, weakly foliated at 45 degrees to the core axis, quartz feldspar lithic sandstone / volcaniclastic, weakly chloritic. The rock contains very minor disseminated pyrite. Rock is lithic rich with lithics consisting of siltstones and occasional fiamme, quartz and sericitized feldspars.	S00486	152.00	153.00	1.00	<.01
153.00		E.O.H.					