ABERFOYLE **DIAMOND DRILL LOG** **HOLE Nº** G60 Page Nº 1

Feature Bedding, Foliation, Fragment (size & shape), Shearing, Fault, Vein (F, c carbonate, q quartz)

Mineralization Trace 1-5% Common 5-15% Abundant 15-60% Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
·7		Brown to brown-green oxidized E volcs. Weathering does not allow the differentiation of lithology.							
·9									
·7									
1·5	5							5	
·8									
·5									
·6									
·8									
·7	10							10	
·9									
1·5									
1·0	15							15	
·7									
1·0									
·6									
1·2	20							20	
1·0									
1·4	22·8	APPROXIMATE BASE OF WEATHERING Lt. grey green sericitic & carbonate rich lithic tuff & fine agglomerate.							
1·5	25	A grey green rock composed predominantly (80-90%) of vesicular lava fragments. These are gen. irregular and angular (cusps) and often elongate, ranging in size from						25	

Feature Bedding, Foliation, Fragment (size & shape), Shearing, Fault, Vein, F, c carbonate, q quartz

Mineralization Trace 1-5% Common 5-15% Abundant 15-60% Massive >60%

CORE REC'D	DEPTH m	GEOLOGY
1.3		<1mm to >30 cm. (av. ·5-1 cm). Locally fragments may be purple in colour (less altered?) Vesicles are generally filled with siderite or sericite/chlorite and occ. qtz.
HQ / NQ 1.4		The matrix is identical in colour and composition to the fragments - sericite, carbonate chlorite - qtz? It often contains flecks & blebs of carbonate (siderite?) to 1-2cm. which form 3-5% (80g) of the rock.
1.5	30	Numerous thin unoriented often discont. sid. veins.
1.5		A local gen. weak fabric is present defined by the p.o. of inequant fragments and vesicles. This may be primary compaction or a deformation fabric.
2.8	35	
3.0		
3.0	40	
3.0		
3.0	45	
3.0	48.0	From 48-55m fragments within the tuff - mainly the larger sizes - are generally purple in colour. This feature is coincident with an interval of calcite veining. Calcite replaces siderite as the carbonate present.
	50	

VISUAL LOG | TRACE | COMMON | ABUNDANT | MASSIVE

DEPTH m: 30, 35, 40, 45, 50

MINERALIZATION

Feature Bedding, Foliation, Fragment size & shape; Shearing, Fault, Vein; c carbonate, q quartz

Mineralization Trace 1-5%, Common 5-15%, Abundant 15-60%, Massive > 60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
3.0									
3.0		1cm calcite vein 25° to c.A.						53.0	
								53.6	
		3cm bleby calcite vein 10° to c.A.							
	55							55	
.8									
	56.5								
2.4		Lt. grey green sericitic & carbonate rich lithic-tuff. From 56.5 m. the agglomerate component is virtually absent. though rare large fragments and blocks still occur.							
3.0									
	60							60	
		1cm sid vein. 20° to c.A.						60.7	
.6		5cm thin qtz veins. 30° to c.A.						61.2	
2.5									
3.0								64.7	
	65	3cm thin sid veins 25° to c.A.						65	
3.0		1cm sid vein. 45° to c.A.						67.35	
3.0									
.5	70							70	
1.8									
		Fault - broken core					F	72.6	
2.8									
		1cm sid vein 30° to c.A.						74.4	
	75							75	

Feature Bedding, Foliation, Fragment size & shape; Shearing, Fault (F), Vein (c carbonate, q quartz)

Mineralization Trace 1-5%, Common 5-15%, Abundant 15-60%, Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
·5		Lithology - as above - lt. grey green sericitic lithic tuff.							
2·3									
·4		1cm c vein - 30° to c.A.						79·0	
		Fault - broken core	F					79·2	
	80							80	
3·0		3cm qtz vein, - 15° c.A.						81·3	Py1 - in qtz vein 3cm.
	82·9	Lt. grey green sericitic tuff-agglomerate							
3·0		Lithology as above except for 20% by vol. of frag. av. 20 cm. in size.							
	84·8	1cm qtz vein 20° to c.A.						84·5	
	85	Lt. grey green sericitic lithic tuff.						85	
3·0		Description as above.							
3·0									
	90							90	
3·0		Fault - broken core	F					92·4	
		2cm qtz-c. vein 20° to c.A.						94·5	
	95							95	
3·0									
3·0									
		1cm qtz vein 20° to c.A.						99·1	
		1cm qtz vein 40° to c.A.						99·4	
	100							100	

Feature Bedding, Foliation, Fragment size & shape; Shearing, Fault, Vein; c carbonate, q quartz

Mineralization Trace 1-5%, Common 5-15%, Abundant 15-60%, Massive >60%

CORE REC'D	DEPTH m	GEOLOGY
3.0		Lithology - as above.
		1cm sid. vein 60° to c.A.
3.0	104.3	Lt. grey carbonate rich lithic tuff - agglomerate.
	105	Rock contains lt. grey irreg frag. to >10cm. in this interval. Frag + residues are carb. rich. -dol??.
3.0	107.2	Grey green sericitic lithic tuff. (as above)
		Description as for 56.5 - 82.9 m.
3.0	110	
		1cm sid vei.. 45° c.A.
		1cm sid vein - 45° c.A.
3.0		1cm sid vein - 30° to c.A.
2.5	115	
		1cm. q+sid vein - 60° to c.A.
		1cm sid vein - 30° to c.A.
.5	117.7	Fault? - broken core
3.0		Lt. to med. grey sericitic + carbonate rich lithic tuff. - agglomerate.
		The bulk of the interval is composed of grey irregular vesic. wk. fragments. >5cm. in a carbonate rich (siderite?) matrix containing finer lithic material.
	120	The interval is (extensively) veined by carbonate veinlets av. .5cm thick which have a poor p.d. of 45° to c.A.
		The matrix of the rock locally approaches 100% cream c.xtaline siderite?
3.0	122.9	Lt. grey green locally very carbonate rich lithic tuff and rare agglomerate.
		3cm c vein - 45° c.A.
	125	

VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
					101.6	
					105	
					110	
					110.8 / 110.9	
					112.8	
					115	
					116.4 / 116.7	
					117.4	
					120	
					124.6	
					125	

Feature Bedding, Foliation, Fragment size & shape; Shearing, Fault, Vein; c carbonate q quartz

Mineralization Trace 1-5% Common 5-15% Abundant 15-60% Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
3.0		Lithology as above.						126.0	
		1cm c vein 25° to c.A.						126.4	
		2cm sid vein 70° to c.A.							
3.0									
	130							130	
3.0		3cm c.xtal sid vein w. 2cm py-qtz vein on upper side. 60°cA						131.2	
		1cm sid. vein 10° to c.A.						133.5	
3.0	135							135	
3.0									
3.0	140							140	
		1cm q/c. vein 45° to c.A.						142.6	
3.0									
		FAULT - broken core. 70°c.A.						144.4	
	145	1cm sid vein 60° to c.A.						145.0	
		1cm sid vein 45° to c.A.						145.4	
3.0									
	148.0								
NO CORE		148.0 - 154.0 NO CORE - BULL NOSE BIT USED.							
	150							150	

Feature Bedding, Foliation, Fragment size & shape; Shearing, Fault (F), Vein (c carbonate, q quartz)

Mineralization Trace 1-5%, Common 5-15%, Abundant 15-60%, Massive > 60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
NO CORE - BULL NOSE BIT		148.0 – 154.0 NO CORE – BULL NOSE BIT USED							
	154.0								
3.0	155	Lithology – Lt. grey green sericitic lithic tuff as previously. 20cm sid. veinlets av. 40° c.A. 80cm sid. veins to 1cm from 30 to 60° to c. A.						154.4, 154.8, 155, 155.6	
	157.0								
NO CORE - BULL NOSE BIT USED FOR LIFT		157.0 – 167.60 NO CORE – BULL NOSE BIT USED							
	160							160	
	165							165	
2.0		Cream siderittic lithic tuff grading down to lt. grey green sericitic lithic tuff ≈ description as previously.							
	167.6								
NO CORE - BULL NOSE BIT.		167.6 – 173.6 NO CORE – BULL NOSE BIT USED							
	170							170	
	173.6								
1.5									
	175							175	

Feature Bedding, Foliation, Fragment size & shape; Shearing, Fault, Vein; c carbonate, q quartz

Mineralization Trace 1-5%, Common 5-15%, Abundant 15-60%, Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	DEPTH m	MINERALIZATION
.5				175.5	175.5 – 15 cm py 15 at top of 15 cm sid vein. py as f.g. diss. in volc.
2.5		15cm c.xtal sid. w minor py & qtz. in vein w country rock frag 45° to c.A.		176.6	
				177.3	Trace cpy. in siderite lobelo
		Lithology – as above – grey green to cream sericitic to locally very carbonate rich lithic tuff. Also locally pyritic.			Py v. rare.
3.0	180			180	
				181.1	Py 15 f.g. diss & stockwork of veinlets. (assoc. w. sid. vein loc.)
				181.35	Py rare.
				181.7	Py 15 as vein stockwork locally assoc. with sid. in ven. aw. 20° c.A
3.0				182.2	Py rare
				182.7	Py 20 veins 35° to c.A.
				183.0	Py rare
				183.5	Py 30-40 as stockworks of veinlets
				183.7	
	185			185	Py rare
3.0		2cm c.xtal sid. vei 45° to c.A.		186.15	
				186.25	186.25 – 5cm py 15 stockwork assoc. w. sid. alt. of volc.
					Py rare
		Between 187 and 199.6 m numerous carbonate veinlets of at least 2 generations occur 1) Early pink siderite and 2) later white unknown carbonate. Veins of at least the earlier gen. are associated with local intense siderite alteration of the volc.		187.2	Py 5-7 (10) as diss, lobelos & veinlets assoc. w. carbonate.
				187.95	
3.0				189.5	
	190	Zone of extensive veining by white coarse xtaline carbonate. Not siderite.		190	
				191.0	
		1cm c ven. 30° to c.A.		193.2	
3.0					
	195			195	
3.0					
				199.7	Py 10 over 5cm. diss. in volc.
	200			200	

ABERFOYLE

DIAMOND DRILL LOG

HOLE Nº G60

Feature

Bedding
Foliation
Fragment size & shape
Shearing
Fault
Vein
c carbonate
q quartz

Mineralization

Trace 1-5%
Common 5-15%
Abundant 15-60%
Massive > 60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
3.0		Lithology – as above – lt. grey green sericitic and (very) carbonate rich lithic tuff with rare fine agglomerate.						201.2	10 cm py 15 as blebs & diss.
									Py trace.
3.0								203.05	
								203.25	Py 10 blebs, diss & veins assoc w. sid
		10 cm sid, gave 60° c.A						203.8	10cm Ga5, Sp. trace in c.xtall. sid vein
	205	Fault – slickensides 45° c.A.						204.9 205	
3.0									Py rare
								208.05	
3.0								208.2	Py 15 blebs assoc. w 5cm sid vein 40° to c.A.
	210							210	
3.0									Py trace
	215							215	
3.0		2cm. sid vein. 40° to c.A.						215.65	
3.0									
	220							219.6	10cm Py 5 blebs
3.0								220	
	224.6	From 224.6 to 225.1 the tuff is flooded with lt. to dk grey cryptoxtalline silica. mainly affecting the tuff matrix rather than the fragments.							
3.0	225							225	

Feature Bedding, Foliation, Fragment (size & shape), Shearing, Fault, Vein; c carbonate, q quartz

Mineralization Trace 1-5%, Common 5-15%, Abundant 15-60%, Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE / COMMON / ABUNDANT / MASSIVE	DEPTH m	MINERALIZATION
	225.1	Lithology - as above.				
	225.7	Interbedded lt. grey (tuffaceous) mudstone and cream grey (pyritic) fine lithic tuff. - Interbeds of tuff av 10cm and mudstone av. 20-30cm. Tuff contains fine often pyritized frag. in a v.f.g. mudstone? matrix. Well bedded unit So av 45° to c.A. Minor aggl.			225.7	Py 5-10 (25) diss. & blebs & veins & fine pyritic lithic frag. in tuff bands.
3.0	227.2	Black carbonaceous siltstone - gen. massive w. rare med grey siltstone interbeds to 10cm. Minor syn. Py. fragments.			227.2 / 227.8	Py trace +1% as blebs & veinlets. Py 1-2, sf trace in 12cm sid vein.
	228.15	Sulphide-siderite-qtz. rock - py. av. 60% as diss., blebs and network. Py. overprints local. breccia textures. Sid - 30% & qtz 10% as diss. Replaced brecciated carbonate?			228.15 / 228.85	Py 60 as diss. blebs & veinlets
	228.95	Cream grey recrystallized sideritic dolomite - A gen. massive rock w m. grained carb. xtals. Assoc. w. stockwork of (recent) carb. veins.			228.95	Py 3-5 veins.
	230				230	Py rare
3.0	230.2	Interbedded polymictic (sed?) breccia and well bedded to slumped and brecciated pyritic siltstone and dolomite. Dolomite is dominant in the top of the interval and Py. siltstone in the bottom. Characteristic feature of the interval is polymictic breccia bands gen. // to bedding w. frag. from <1mm. to 30cm. av 1cm. Frag. consist. of py. siltstone, dol. & carb. veins?? Bands of breccia from 2cm to 1m. Bulk of the interval is dolomitic (including the breccia) but the basal 2m is mainly pyritic mudstone which is locally extensively slumped and broken. Interval appears to represent quiescent conditions punctuated by periods of upheaval and breccia deposition. Si/So av. 40-45° to c.A.			230.3 / 230.6	Py 10-15 v.f.g. bedded py.
	231.5				232.7 / 233.0	Py ≈1 as v.f.g. py. beds to 1-2cm and py. frag. in sed? breccia.
3.0					234.0	Py 20 v.f.g. bed. py. in py. mudstone 1cm. to 15cm.
						Py rare - dol. bedded - 45° to c.A.
	235				235	Py 20-30 (50) - v.f.g. bedded (slumped & brecciated) py.
	235.65	Lt. grey massive dolomite. A gen. massive interval with no recognisable bedding. Rock is weakly to moderately veined by a stockworks of cream coloured carbonate veinlets. These overprint an earlier generation of veinlets (white). 235.9 - 236.4 - Lt. grey siltstone & py. mudstone band 2cm. // to c.A.			235.65 / 235.9 / 236.4	Py rare. Py 5-10 v.f.g. bedded // to c.A. Py rare
3.0	240	Med grey to dk. grey locally brecciated dolomite. Gen. massive dolomite with patches of brecciation. Intraclast breccia ??			240	
	241.7	Sed. breccia and brecciated py. siltstone & dol. 15cm. top polymictic breccia underlain by sed. def. py. siltstone & brecciated dol. Dol brecciated by c. veining.			241.7 / 241.85	Py 1-2 v.f.g. py. mudstone frag. Py 7-10 - v.f.g. bedded py. (slumped)
3.0	242.6	Med grey dolomite breccia. Med grey massive dolomite fragments av. 5cm; angular, in a dolomite matrix. The matrix is off white in colour. Brecciation appears to be post depositional and assoc. w. carb. veining in part.			242.6	
	244.8					
	245	Cream to lt. grey dolomite - contains angular med grey dol. frag to 10cm as isolated sed. clasts.			245	
3.0	246.3					
		Lt. grey to med grey locally brecciated gen. massive dolomite. Bulk of the interval is composed of a med. grey massive to weakly bedded dolomite which is weakly to extensively veined by a stockwork of dol? veinlets. In addition the rock contains local breccia zones to 30cm composed of frag. to 5cm in a lighter coloured dol. matrix.			248.9 / 249.4	
3.0	250				250	

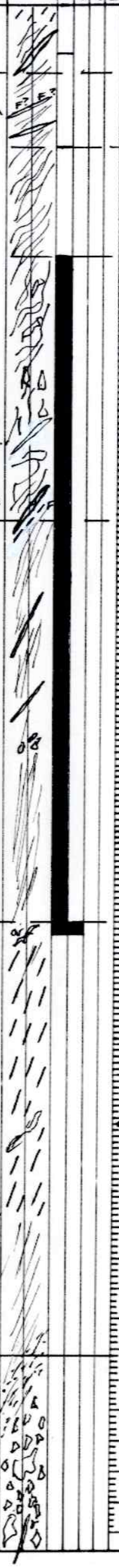
Feature Bedding, Foliation, Fragment (size & shape), Shearing, Fault, Vein (c carbonate, q quartz)

Mineralization Trace 1-5%, Common 5-15%, Abundant 15-60%, Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
3.0		These may be intraclast breccias or due to brecciation assoc. with the veining by carbonate. 248.9 - 249.4 , 258.65 - 258.85 - coarse xtal. sid. rock = recrt. dol? Intra clast breccias are prob. the cause of the brecciation as isolated frag. to 10 cm and poss. much larger are present in otherwise homog. dol. indicating sed. activity							
3.0	255							255	
3.0									
2.0	260							260	
3.0	263.3							263.3	
1.0		Interbedded well laminated grey brown pyritic mudstone & dolomite, grey dolomite & minor f.g. tuff. & sed. breccia A complexly interbedded mixture the above rock types. S_1/S_0 - 30-45° to c.A. pyritic sed. breccia bands to 5 cm. Dolomite is ext. veined by cream carbonate ± to S_1. Veining causes local brecciation of all rock types.							Py 3-5 as v.f.g. bedded py. in thin laminations amongst other rock types. Py 30-40 v.f.g. bedded py. in py. mudstone & py. dol.
2.2	265							265	
	267.1	Dk grey bedded chert - S_0 ~ 30° c.A. f.g. cubic xtals diss.?						266.8 267.1	Py 2-3 v.f.g. bedded.
	267.4	Lt. to med grey brecciated dol. - brecciated by c.veining?							
	267.85	Lt. cream grey carb. rich tuff - grading downwards to carb. altered lithic? tuff. Lower fault contact?						267.85	Py rare
3.0	269.0	Grey silicified dolomite? A highly silicic rock ext. veined by a stockwork of qtz veins. weakly pyritic. Interval grades into unit below.						269.0	Py 1-2 v.f.g. in blebs.
	270							270	
	270.3	Siderite-siliceous-pyritic breccia? - fissure lode? siderite ≈ 65% silica 25% Py to 5% sp, Ga - trace. Coarse xtal. sid. assoc. w. silica. Rare country rock frag. internally but numerous on lower margin - sharp lower contact						270.3 270.8	Py 3-5, Sp 1-2 Ga trace - all as diss. & blebs.
	271.65							271.65	
2.5	273.7	271.65 - 276.1 Black carbonaceous shale - contains sig. amount (≈ 15%) broken & contorted white vein qtz? frag. as well as minor contorted py. bands. - due to proximity to fault zone? S_1 av. 30-40° to c.A. FAULT ZONE - Broken core & pug to 275.3m.							
	275							275	

Feature: Bedding, Foliation, Fragment (size & shape), Shearing, Fault (F), Vein (c carbonate, q quartz)

Mineralization: Trace 1–5%; Common 5–15%; Abundant 15–60%; Massive > 60%



CORE REC'D	DEPTH m	GEOLOGY	DEPTH m	MINERALIZATION
2.5	275.3		275.8	Ga 1-2 cpy trace 5cm sid vein.
	276.1	5cm sid vein 40° C.A.	276.6	
		Lt. grey siltstone – weakly bedded at low angle to c.A. Minor sed. rafting of beds? sid. vein w/ breccia 40 cm rext. dol?? // c.A at contact. 1cm sid vein – 70° c.A.	277.0	
3.0	277.3	Black carbonaceous shale – uniform rock containing minor soln? cavities and def. qtz veins.	277.3	277.3 – Py 2-3 as blebs in rext. dol? //c.A
	279.1	Contorted interbedded black carbonaceous siltstone & lt. grey siltstone		Py 1 v.f.g. diss.
3.0	280	Rock is interbedded on the scale of 1-2 cm's and shows much sed. defm. in form of slumping rafting & brecciation of beds. S varies from // to ⊥ to c.A.	280	
		281.8 – 5cm sid vein 45° c.A.	281.8	Ga & cpy trace in 5cm sid vein.
		283.2 5cm sid. vein 25° c.A	283.2	
2.8	283.4	283.4 Fault – broken core	283.4	
		Lt. grey siltstone Rock is very weakly pyritic. Uniform well laminated rock showing evidence of minor sed. defm.? in form of brecc. of beds?		Py 1-2 v.f.g. diss.
	285	2cm qtz-py vein 20° to c.A.	285.0	
3.0		1cm sid vein. 40° to c.A.	286.4	
		287.1 – dol. fragments to 5cm		
1.5	290.0	2cm qtz. vein & stockwork 5° c.A.	290	Py 5-7 veins
.4	290.4	FAULT ZONE – Broken core & pug.	290.2	
1.5		Interbedded lt. grey to black siltstone & mudstone Well cleaved rock S1 // S0 at low angle, gen 15° to c.A. vein qtz.	293.3	Py trace v.f.g.
1.0	294.8			
3.0	295		295	
	297.1	VT Dk. grey green sericitic fine lithic tuff. Rock begins as layered fine grained tuff and grades into a fine lithic tuff by about 298 m. The layering in the top of the unit is enhanced by the cleavage. The bulk of the rock (95%) is fine lithic	297.1	Py v. rare
3.0	300	1cm py vein 18° c.A.	300.0	

Feature Bedding, Foliation, Fragment (size & shape), Shearing, Fault, Vein (c carbonate, q quartz)

Mineralization Trace 1-5% Common 5-15% Abundant 15-60% Massive > 60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
	301·0	but a small coarser component - vesicular frag. as 3-5cm is present. Fine component as ½-5 and cannot be seen to be vesicular in gen.							
		END OF HOLE AT 301·00 M.							

305 310 315 320 325