A 04457 (a)

QUE RIVER MINING PTY. LTD.

DRILL HOLE RECORD

Location D ZONE Co ordinates N 9101·86 E 5630·07 R.L. 689·95

Commenced 10-4-85 Completed 29-4-85 % Recovery Bearing 274·5°

Objective TO TEST ATTRACTIVE STRATIGRAPHY BENEATH DA2. Core size HQ to 134·2 NQ to 683·7 Dip −67·75° HOLE No. DA4

SURVEY DATA

DEPTH	DIP	BEARING (G)	INSTRUMENT TYPE
0	-67·75	274·5	THEODOLITE
27	-68·5	273	EASTMAN
51	-67·5	275·5	" "
81	-68	275	" "
115	-67	276	" "
162	-65·5	278	" "
193	-65·5	281	" "
231	-65	281·5	" "
316	-64	283	" "
361	-63·5	285	" "
404	-62·75	286	" "
434	-62·5	286	" "
485	-61·25	289	" "
560	-59	291	" "
605	-58	292	" "
650	-56·5	295	" "
683	-56	295·5	" "
675	-56·1	297·8	9188·2 53407 88·6
683·7			9190·5 53364 81·4

GRAPH DERIVED DATA

DEPTH	DIP	BEARING (G)
0	-67·75	274·5
25	-68·4	275·0
50	-68·3	275·7
75	-68·0	276·5
100	-67·5	277·4
125	-66·5	278·4
150	-65·7	280·0
175	-65·5	281·7
200	-65·4	282·9
225	-65·1	283·3
250	-64·8	283·6
275	-64·4	284·0
300	-64·2	284·5
325	-64	285·4
350	-63·6	286·4
375	-63·2	287·0
400	-62·7	287·6
425	-62·6	288·4
450	-62·2	289·2
475	-61·6	290·0
500	-60·7	290·8
525	-59·9	291·6
550	-59·2	292·5
575	-58·7	293·3
600	-58·1	294·3
625	-57·3	295·5
650	-56·5	296·7

CALCULATED CO ORDINATES

NORTHING	EASTING	R.L.
9101·9	5630·1	690·0
9102·6	5620·8	666·8
9103·5	5611·6	643·5
9104·5	5602·3	620·3
9105·6	5592·9	597·2
9107·0	5583·3	574·2
9108·6	5573·3	551·3
9110·5	5563·1	528·5
9112·8	5553·0	505·8
9115·1	5542·8	483·1
9117·6	5532·5	460·5
9120·1	5522·1	437·9
9122·8	5511·6	415·3
9125·6	5501·0	392·9
9128·7	5490·4	370·4
9131·9	5479·7	348·1
9135·3	5468·8	325·8
9138·8	5457·9	303·6
9142·5	5446·9	281·4
9146·5	5435·8	259·4
9150·7	5424·5	237·5
9155·2	5413·0	215·8
9159·9	5401·3	194·2
9164·9	5389·4	172·8
9170·2	5377·4	151·4
9175·9	5365·3	130·4
9181·9	5353·0	109·4

REMARKS

NO DRILLING PROBLEMS

NO CASING LOST

7 M HW LEFT TO PROTECT TOP OF HOLE.

QUE RIVER MINING PTY. LTD.

DIAMOND DRILL LOG

HOLE No. DA4 Page No. 1 of 28

LOGGED BY S.R.

DATE 17-4-85

MINERALIZATION

TRACE 1-5%
COMMON 5-15%
ABUNDANT 15-60%
MASSIVE >60%

A 04457 (b)

CORE REC'D	DEPTH m	GEOLOGY	MINERALIZATION
0.0		NO CORE - HW CASING REAMED	
HW / HQ	4.0		
1.0		weathered as below. - ox	ox. 3-5
	5		
0.0			
1.3	7.0	BASE OF WEATHERING	
1.3		Lt. gy. grn. mod. to stg. Sericite - carbonate - fuchsite altered c,g. to Lapilli volcanoclastic. Interval of c.g. to lapilli fragmental of inferred A composition: Average frag. size is .5-1 cm but up to 5cm. Carbonate alteration increases below 9.5m to (intense) as does fuchsite as spotting after fsp? Carbonate infills vesicles, as irregular patches and as matrix to frags.	Ser 2-3 pv. Carb. 2-5 patchy & pv. fu. 1-3 spotty chlorite 1 flecks
1.5	10		
1.4			
1.3			
2.3	14.5	Fault - 25° c.A. - pug > broken ground.	
	15		
	15.5		
1.4		gy. grn. Andesitic + (Daitic) Lapilli Volcanoclastic / ser 3, chlor 3, silica 1. Volcanoclastic rock composed of 50-90% irregular A. lapilli frags + minor rounded Daitic lapilli sized frags in an A matrix ∴ ⇒ an epiclastic. Daitic frags and patchy silica alteration becoming more common toward the base of the interval.	ser 3 pv. Chlor 3 pv. + flecks silica 1 as local patches. py rare on fractures and as blebs.
1.5			
1.4	20		
1.4			
1.4			
1.5	25		

QUE RIVER MINING PTY. LTD.

DIAMOND DRILL LOG

HOLE No. DA4 Page No. 2 of 28

LOGGED BY .....

DATE .....

MINERALIZATION

TRACE 1-5%
COMMON 5-15%
ABUNDANT 15-60%
MASSIVE >60%

A 04457 (b)

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
		As above - Andesitic lapilli volcanoclastic							
0.6	26.7	5cm q/c vein 70° c.A.						26.7	
		FAULT ZONE - Pug & Broken core. 20cm q/c vein 80° c.A							
	27.1	Lt. gy to cream. Dacite Breccia Dacite frags gen. lapilli sized but up to lge. blocks in v. fine grained ser-py matrix. Local textures ⇒ matrix stockworking ∅. others indicate volcanoclastic or flow breccia. Larger frags are pink Dacite internally where alteration from matrix has not penetrated.						27.1	Ser 3 pv. Py 1-3% dissem. & patches. Fu 1 spotty. Carbonate 1-2 patches & veins Chlorite (2-3) spotted, pv. & on fractures.
1.5									
1.3									
	30	Minor streaky pumiceous lapilli sized frags. Chlorite may occur in the pyritic matrix.						30	
1.5									
1.4									
1.5									
	35							35	
1.4									
1.5									
2.9									
	40							40	
								40.9	Py 5-10 stringers, patches & dissem.
3.0									
								42.8	
	45							45	
3.0									
3.0									
	50							50	

QUE RIVER MINING PTY. LTD.

DIAMOND DRILL LOG

HOLE No. DA4 Page No. 3 of 28

LOGGED BY .....

DATE .....

MINERALIZATION

TRACE 1-5%
COMMON 5-15%
ABUNDANT 15-60%
MASSIVE >60%

A 04457 (b)

CORE REC'D	DEPTH m	GEOLOGY	MINERALIZATION
		Lithology - as above - Dacite Breccia.	Py 1-2 dissem.
1.9			
	55		
3.0			
1.0			
3.0	60		
2.2			
2.2	65		
	67.9	FAULT ZONE Pug, q veing & shearing 80° to c.A. 20cm q/c 80°.	q/c
MISSING CORE BLOCK → 4.2	68.5	Lt. gy. grn carb. - ser - chlor - (Fu) altered Dacite & (Andesitic) Lapilli epiclastic.	Carbonate 3 pv. & patches.
	70	Two main lithologies within this unit.	sericite 2-3 pv.
		① Pink irregular lapilli sized Dacitic frags in siliceous grey matrix. - volcanoclastic	chlorite 1-2 patches & flecks
		② Cy. grn rounded carbonate - ser-chlor alt. lapilli sized Dacite & (Andesite?) clasts - epiclastic	Fu 1 flecks
2.9			Silica (3) patches between frags.
3.0	75		

QUE RIVER MINING PTY. LTD.

DIAMOND DRILL LOG

HOLE No. DA4 Page No. 4 of 28

LOGGED BY .....

DATE .....

MINERALIZATION

TRACE 1-5%
COMMON 5-15%
ABUNDANT 15-60%
MASSIVE >60%

A 04457 (b)

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
3.0		Lithology - as above - Altered lapilli epiclastic							
0.3	79.6							79.6	
2.7	80	Pink massive (flow banded) Dacite Gen. a massive pk. dacite unit w. local flow banding 45° to c.A. at base of unit.						80	Ser. 2 flecks after fd. Fu 1-2 flecks. Carbonate 1-2 veins & patches. chlor. 1 coating joints & <<1mm veinlets.
3.0	85							85	
3.0									
3.0	90							90	
3.0									
3.0	95							95	
3.0									
	100							100	

QUE RIVER MINING PTY. LTD.

DIAMOND DRILL LOG

HOLE No. DA4 Page No. 5 of 28

LOGGED BY .....

DATE .....

MINERALIZATION

TRACE 1-5%
COMMON 5-15%
ABUNDANT 15-60%
MASSIVE >60%

A 04457 (b)

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
3.0	103.5	Lithology - as above - Pk massive Dacite Flowbanding →						101 103.5	
0.9		Pink Dacite Breccia <1 - >5cm Dacite frags in gy. Dacitic matrix. Probable flow top breccia. 2cm q/vein 80° c.A. 2cm q/vein 65° c.A.							Py 1-2 dissem.
2.0	105 105.5 105.75	FAULT - 2cm pug 20cm q/c vein 65° c.A.						104.9 105 105.1	
3.0		Pink to cream massive Dacite Massive Dacite w. common <1cm carbonate veins (stockwork). Minor Lt. gy. gra. lapilli sized sericitised volc. frags incorporated into lava. Rare <20cm bands of Dacite Brx.							Ser 2-3 - pv & flecks after fdspar. chlor. 1 - coating fractures. Fu 1 - spotted. Carbonate - 1-2. vens & patches.
3.0	110							110	
3.0									
3.0	115							115	
2.9		oxidation on fractures below this point. →							
1.3									
1.0	119.6 120	FAULT ZONE Broken core & sandy gouge. - chlorite on fracture surfaces.						120	
0.8									
0.4			q/c						
0.25		25cm q/c vein 50° c.A.						123	
2.0	123.6 125	20cm q/c vein 60° c.A.	arc					123.6 124.2 125	

QUE RIVER MINING PTY. LTD.

DIAMOND DRILL LOG

HOLE No. DA4 Page No. 6 of 28

LOGGED BY .....

DATE .....

MINERALIZATION

TRACE 1-5%
COMMON 5-15%
ABUNDANT 15-60%
MASSIVE >60%

A 04457 (b)

CORE REC'D	DEPTH m	GEOLOGY	MINERALIZATION
		Lithology - as above - Pk. to cm. massive Dacite.	
2.0	127.3		
		Pink to cream Dacite Breccia	chlorite 1-2 on fractures & inter frag. material
3.0		Start of interval is pink sericitised Dacite breccia w. more	Ser 3 pv.
	130		
1.3			
1.5			
0.7			
HQ	134.2		
NQ	135		
3.3			
	138.4	FAULT 30 cm pug & broken core ?° to c.A.	
	138.7		
3.4	140		
		chlorite alteration becoming prominent below this level. →	
	142.3		chlorite 3 pv. Ser 1-2 pv. Carbonate 1-2 veis & patches. Silica (1-2) patches.
6.5	145		
	146.1		
		Lt. gry. grn. (Flow banded) Dacite chlorite altered gen. massive Dacite. Wk. cleavage developed ≃ 45° c.A. Local flow banding interpreted at ≃ 70° c.A. throughout interval but gen at base.	chlorite 3 pv. Carb 3 p.v. & (vens)
	150		

VISUAL LOG: TRACE | COMMON | ABUNDANT | MASSIVE

QUE RIVER MINING PTY. LTD.

DIAMOND DRILL LOG

HOLE No. DA4 Page No. 7 of 28

LOGGED BY .....

DATE .....

MINERALIZATION

TRACE 1-5%
COMMON 5-15%
ABUNDANT 15-60%
MASSIVE >60%

A 04457 (b)

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
4.1		Lithology - as above - Gy. grn Dacite.							
		Flow banding? →	10°						
	153.3							153.3	
5.0		Gy. grn. chlorite - carbonate altered Andesite Lava. Gy. grn massive volc. Dominant feature is abundant spotting by carbonate. 155 2cm carb. vein 10° c.A.							Carbonate 3 pv. & spotting & vein chlor. 2-3 pv. Fu 1. Local spots.
	155							155	
1.3									
		3cm carb. vein 15° c.A.						159	
	160							160	
4.0									
	163.1								
		Grey green chlorite - carbonate altered Andesitic Breccia. Top of interval exhibits patchy to banded siliceous alteration ∠ 35° to c.A. Bulk of interval is Dk. gy. grn. chlor | carb alt. Au frags. 1mm to >5cm av. 1-2cm. in lighter gy. grn more carbonate alt. matrix. Rock often has texture of tectonic or hydraulic fracture breccia ie little rotn. of frags.							Patchy pink to gy. siliceous + fd? + carb. alt. to 171m. Sil. 2 patchy Carb 3 pv. & veinlets fd? 1 patchy chlor 3 pv.
4.0	165							165	
	170							170	
6.5								171	chlor 3-4 pv. carb 3-4 pv. & veinlets. Fu 1 spots.
	175							175	

QUE RIVER MINING PTY. LTD.

DIAMOND DRILL LOG

HOLE No. DA4 Page No. 8 of 28

LOGGED BY .....

DATE .....

MINERALIZATION

TRACE 1-5%
COMMON 5-15%
ABUNDANT 15-60%
MASSIVE > 60%

A 04457 (b)

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
3.6		Lithology - as above - Gy grn. chlor - carb. altered An. breccia.							As above
6.0	180							180	
	185							185	
2.5	186.1	Gy. c.g. polymict epiclastic - massive grn. c.g. (lapilli size) polymict rock.							Py 1-2 dissem. Ser 2 patches. carb. 2 vns & patches.
		188 - Fault. pug ?° c.A.						187.3	2cm c. vein 80° c.A.
								188	60 cm q/c. vein ?° c.A.
								188.6	
		Lower boundary 60° to c.A.						189.3	2cm c. vein 45° c.A.
4.0	189.7 / 190	Grey green chlorite - carbonate altered finely vesicular Andesite lava.						190	Chloride 3 pv. Carb 3 pv & veinlets Fu 1-2 spots.
2.6		Gy. grn massive lava & rare brx. Finely vesicular w. chlor & carb. filling vesicles.							
	195							195	
6.0		P.o. to vesicles ≈60° to c.A. →							
	198.1	Dk. gy. grn. chlorite - carbonate altered Andesitic breccia							Chlor 3-4 pv. carb 3-4 pv & veinlets Py 1-2% dissem.
	200	As for interval to 186.1 m.						200	

QUE RIVER MINING PTY. LTD.

DIAMOND DRILL LOG

HOLE No. DA4 Page No. 9 of 28

LOGGED BY .....

DATE .....

MINERALIZATION

TRACE 1-5%
COMMON 5-15%
ABUNDANT 15-60%
MASSIVE >60%

A 04457 (b)

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
								200.7	Py 1-2 dissem
								201.5	Py 5 dissem & aggreg. Py 1-2 dissem.
6.3	202.8	Lt. gy. grn. Andesitic Lava. Massive Lava.							Ser 2-3 pv. & patches. chlor 2 flecks. Carbonate 2 flecks & veinlets.
	205							205	
								205.6	1cm c. vein 50° c.A.
6.0	208.9	Gy. grn. Andesitic Breccia Highly altered breccia. Distinct patches of gy. v.f.g. ser./silica? completely obliterating primary texture.							chlor. 3 pv. Carb. 3 pv & patches. Ser (5) patches. Py (5%) dissem.
	210							210	
		212.6 → Unit becomes (polymict) epiclastic below this depth. Flow banded D frags to 5cm.						212	Py 3-5% dissem. Qtz rare.
5.5	215							215	
	215.4	Gy. grn. f.g. Andesitic Epiclastic well bedded 40° to c.A. Grading ⇒ younging uphole ie to E. Contacts above & below cut bedding at steep angle: boulder??						215.4	
	217.4	2cm c. vein 40° to c.A.						217.5	1cm py 60 vein
		Gy. grn. Andesitic Lapilli volcanoclastic Highly altered Andesitic lapilli sized fragmental w. common rounded An frags ⇒ reworking.							Ser. 3 patches. chlor 2-3 pv. & flecks. carb 3 pv. & flecks.
6.4	220							220	
	225	224.8 1cm pug - Fault 50° c.A.						225	

QUE RIVER MINING PTY. LTD.

DIAMOND DRILL LOG

HOLE No. DA4 Page No. 10 of 28

LOGGED BY .....

DATE .....

MINERALIZATION

TRACE 1-5%
COMMON 5-15%
ABUNDANT 15-60%
MASSIVE >60%

A 04457 (b)

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE / COMMON / ABUNDANT / MASSIVE	DEPTH m	MINERALIZATION
1.9		Lithology - as above. - Cy. grn. An lap. epiclastic.				
5.3		Unit becomes more polymict & frags more rounded toward base of interval.				
	230				230	
	232.4				232.4	
6.1		Cy. grn. Andesitic lapilli fragmental. Matrix & frag. alteration identical giving rock a homogeneous appearance. - occasionally masking frag. outlines. Frags. range to 3-4cm but average 1-2cm.; are gen. irreg. in shape but some are subrounded ⇒ reworking of unit. Possible leucoxene flecks after magnetite dissem.				Chlor - 3 py & flecks. Ser - 2 pv. Carb - 3 pv.
	235				235	
5.6						
	240				240	
1.6						
	245				245	
3.6						
1.1						
	249.6				249.6	2cm c. vein 35° c.A.
	250				250	

QUE RIVER MINING PTY. LTD.

DIAMOND DRILL LOG

HOLE No. DA4

LOGGED BY .....

DATE .....

MINERALIZATION

TRACE 1-5%
COMMON 5-15%
ABUNDANT 15-60%
MASSIVE >60%

A 04457 (b)

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
4.0	253.8	Lithology - as above - gy.grn. An. Lapilli fragmental.							
0.5	255	FAULT ZONE Broken core & pug. Minor fract. ⇒ 60° to c.A.						255	
0.6									
0.5									
0.5									
0.5									
0.4									
1.3	260							260	
	261.0							260.75 261.0	25cm q/c. vein 70° to c.A.
2.0		FAULT - pug 50° c.A.						262.0	
6.2	265							265	
6.0	270							270	
	275	5cm c. vein 20° c.A.						274.2 275	

QUE RIVER MINING PTY. LTD.

DIAMOND DRILL LOG

HOLE No. DA4 Page No. 12 of 28

LOGGED BY .....

DATE .....

MINERALIZATION

TRACE 1-5%
COMMON 5-15%
ABUNDANT 15-60%
MASSIVE >60%

A 04457 (b)

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
3.3		Lithology - as above - Gy. gra. Andesitic Lapilli fragmental.							
5.7	280							280	
3.7	285							285	
6.5	290							290	
	292.4	Gy. Andesitic Lava - block?							
	292.7	FAULT - Broken core ? ° c.A.	F					293	Chlor 4 pv. Carbonate 3 pv. & flecks.
		Dk. green Andesitic Lapilli Fragmental & Andesitic Breccia.							
6.5	295	Rock becomes darker in colour w. increase in chlorite content. Carbonate alteration also more intense. Together primary textures are often obscured. Bulk of unit appears to be lapilli size fragmental; however lger. masses of An lava indicate an Andesitic breccia component.						295	
	300							300	

QUE RIVER MINING PTY. LTD.

DIAMOND DRILL LOG

HOLE No. DA4 Page No. 13 of 28

LOGGED BY .....

DATE .....

MINERALIZATION

TRACE 1-5%
COMMON 5-15%
ABUNDANT 15-60%
MASSIVE > 60%

A 04457 (b)

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
		Lithology – as above – DK green chlor.– carb altered An lapilli frag & An brx.							
4.6	305							305	
7.9	310							310	
3.5	315							315	
			C					318.5	10 cm c vein 30° c.A.
6.0	320							320	
								320.4	Pk. silica – 5 pv. & veinlets. Carbonate – 2 pv. Fu – 1 flecks. Py – rare dissem. Faspar – 2 xtal.
								321.4	
4.7	325	FAULT – broken core? c.A.	F					324.2	
								325	

QUE RIVER MINING PTY. LTD.

DIAMOND DRILL LOG

HOLE No. DA4 Page No. 14 of 28

LOGGED BY .....

DATE .....

MINERALIZATION

TRACE 1-5%
COMMON 5-15%
ABUNDANT 15-60%
MASSIVE >60%

A 04457 (b)

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
		Lithology – As above – chlorite carbonate altered Andesitic lapilli fragmental & minor An breccia.							
		Bedded An epiclastic – f.g.						328	
2.3								328.6	
	330							330	
		FAULT – Pug 15° c.A.						330.7	3cm c.vein 30° c.A.
2.3								330.8	
								331.2	Silica 5 – pv.
	332.1	FAULT – Broken core & c.veins ?0 c.A.						332	
		Brown to gy. grn. Andesitic Lava (vesiculat)							Chlor – 3 pv. & flecks
		Dark massive fdspar phyric Andesitic Lava.							Silica – 3-4 pv.
									Carbonate – 2 flecks & veinlets
6.1	335							335	
	337.0	Dk. grn. Andesitic Lapilli fragmental							chlor 4 pv.
	337.7	Brown to gy. grn. Feldspar phyric Andesitic Lava.							chlor. (3) pv.
		Massive silicified Lava – prominent (carbonated) fd. phenos. to 5-10%.							silica 4-5 pv.
5.6	340							340	carb 2 flecks
	341.9	Gy. grn. Andesitic Lapilli epiclastic							chlor 3 pv.
		Lapilli sized fragmental w. some rounded frags ⇒ reworked.							
	345							345	
6.0									
	347.6	Gy. grn (brecciated) feldspar phyric Andesitic Lava. or highly altered Lapilli fragmental.							
	350							350	

QUE RIVER MINING PTY. LTD.

DIAMOND DRILL LOG

HOLE No. DA4 Page No. 15 of 28

LOGGED BY .....

DATE .....

MINERALIZATION

TRACE 1-5%
COMMON 5-15%
ABUNDANT 15-60%
MASSIVE >60%

A 04457 (b)

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
6.0	355	Broad interval of generally massive feldspar phyric Lava. Minor intervals <<1m of brecciation? producing a psuedo Lapilli fragmental texture.						352.7	Chlor 3-4 pv. Carb. 2 veinlets & patches. Silica (4) patches. 2cm q vein 65° c.A.
6.0	360							359.3 359.4 360.1 360 360.3	3cm q/chlor Cu tr. vein 60° c.A. 4cm q/chlor vein 65° c.A. 5cm q/chlor vein 80° c.A. 4cm q/chlor/Cu trace vein 50° c.A.
6.0	365							365	
2.4	368.3	Gy. grn. (feldspar phyric) Andesitic Lava. massive Lava.							Chlor - 2 pv. Ser - 2 pv.
2.3	370 370.2	~~Fault zone~~ Dk. gy. to gy. grn. feldspar phyric brecciated An Lava or Andesitic Lapilli fragmental. Lithology as for 347.6 to 368.3m.						370	Chlor 3-4 pv. Carb 2 veinlets & patches & pv.
1.4		FAULT ZONE Broad zone of broken core & pug. Individual fractures ⇒ shallow angle to c.A. ≈ 15-25°.							
1.6	375							375	

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DIAMOND DRILL LOG

HOLE No. DA4 Page No. 16 of 28

LOGGED BY .....

DATE .....

MINERALIZATION

TRACE 1-5%
COMMON 5-15%
ABUNDANT 15-60%
MASSIVE >60%

A 04457 (b)

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
1.5	380	Lithology - as above. FAULT ZONE - as above.						380	
0.3									
0.5									
0.5									
1.9									
0.6									
0.1 →									
2.0	385	20cm c. vein 15° c.A.						384.9 385	
2.0	386.3								
1.7		3cm c. vein 10° c.A.						387.8	
4.2	390							390	
6.0	395							395	
	400							400	

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DIAMOND DRILL LOG

HOLE No. DA5 Page No. 17 of 28

LOGGED BY .....

DATE .....

MINERALIZATION

TRACE 1-5%
COMMON 5-15%
ABUNDANT 15-60%
MASSIVE >60%

A 04457 (b)

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
	401.5	FAULT ZONE Broken core 35°? to c.A.							
6.0	402.5	Lithology – as above – Dk. gy. grn feldspar phyric An lapilli fragmental or brecciated An lava.							
	405							405	
4.6									
	410							410	
3.0	412	FAULT Pug on fracture 0-15° c.A.							
	412.6								
	415							415	
5.1									
	420							420	
6.0									
	424	Gy. grn. Andesitic Lava.							chlor 3 pv.
	425	Massive Lava – fdspar phyric?						425	ser 3 pv carb 2 pv & flecks. & veinlets.

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DIAMOND DRILL LOG

HOLE No. DA4 Page No. 18 of 28

LOGGED BY .....

DATE .....

MINERALIZATION

TRACE 1-5%
COMMON 5-15%
ABUNDANT 15-60%
MASSIVE >60%

A 04457 (b)

CORE REC'D	DEPTH m	GEOLOGY
1.4	425.8	Lithology – as above – An Lava.
	426	FAULT ZONE Broken core & pug. ?° c.A.
	426.6	Dk. gy. grn. Feldspar phyric Andesitic Lava and Lapilli fragmental (or brecciated An lava)
5.4		FAULT – 40° c.A. – pug.
	430	Broad interval in which massive lava grades in and out of lapilli fragmental which at least in part may constitute a brecciated An lava w. alteration occurring along the fractures ??
2.7		Prominent feature is pink siliceous An frags, gen. rounded 3-5 cm., within a much darker chloritic rock. These may be exotic clasts or remnant kernals of less altered An lava.
	435	
2.8		2cm q/c vein 50° c.A.
3.3		FAULT – pug 70° c.A.
	440	
4.5		1cm c. vein. 50° c.A.
	445	1cm c vein 45° c.A. Fault – q. veining ?° c.A.
3.4		
	450	

VISUAL LOG: TRACE / COMMON / ABUNDANT / MASSIVE

DEPTH m	MINERALIZATION
	Chlorite 3-4 pv.
	Ser 2 pv.
	Carb 2 pv. & flecks & veins
328.3	
430	
435	
436.5	
439.8	
440	
444.6	
445	
445.2	
450	

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DIAMOND DRILL LOG

HOLE No. DA4 Page No. 19 of 28

LOGGED BY .....

DATE .....

MINERALIZATION

TRACE 1-5%
COMMON 5-15%
ABUNDANT 15-60%
MASSIVE >60%

A 04457 (b)

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE / COMMON / ABUNDANT / MASSIVE	DEPTH m	MINERALIZATION
1.8		Lithology - as above - Dk. gy. grn. An Lava and lapilli Frag. Rock dominantly apparent lapilli fragmental			450.9	
					451.2	Silica 4 veng carb 1 veng ser 3 ver.
5.8	455				455	
		2cm q/c vei 45° to c.A.	q/c		456.1	
1 →		3cm q/ser vei 50° to c.A.	q/ser		456.75	
1.0						
3.0	460	2cm q/ser vein · 35° c.A.	q/ser		459.9	
		2cm c ver 70° c.A.	c		460	
					460.7	
6.1	463.5				463.5	
		Gy. green feldspar phyric Andesitic Lava. Generally massive Andesitic Lava with only minor associated breccia or lapilli fragmental. Thin carbonate veinlets a common associate. Faulted contact w. unit below.				Chlor 3 pv. Ser 2 pv Carb 2 pv & flecks & veinlets.
	465		q/c		465	
			c		465.3	1 cm q/c vei 80° c.A.
					465.5	2cm q/c vei 80° c.A.
1.9					466.6	2cm c ver 55° c.A. Carbonate veinlets common this unit. 1mm to 1cm. all angles.
		FAULT - Pug ?° to c.A.	FV			
1.9	469.7				469.7	
	470	Lt. gy. green to (cream) sericite - carbonate - chlorite ± pyrite altered volcanic. Interval of strongly altered volc. Sericite and carbonate are the dominant products - carbonate especially prominent as flecks, streaks and patches. Chlorite and pyrite occur locally.			470	Chlor - 3 pv Ser - 3 pv Carb - 2 pv.
					470.9	Py 10 vei, silica 90 ver. 30° c.A.
3.4					471.1	Ser - 4 pv. carb - 4 pv, flecks (veis) Chlor - 1-2 flecks. py rare dissem.
	475				475	

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DIAMOND DRILL LOG

HOLE No. DA4 Page No. 20 of 28

LOGGED BY .....

DATE .....

MINERALIZATION

TRACE 1-5%
COMMON 5-15%
ABUNDANT 15-60%
MASSIVE >60%

A 04457 (b)

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
6.5	480	Alteration locally obscures primary textures giving the rock a homogeneous appearance. Where visible primary textures are lapilli fragmental. Clasts are often flattened in the cleavage. Cleavage is more prominent in this unit due to the increased sericite content. Si is ≈ 30-45° to c.A.						480	
6.2	485							485	
6.25	487.3	Lt. gy. massive sericite - carbonate altered lava. Altered massive lava - composition?						487.3	Py 3-5% veins & (dissem) gn. assoc. w. silica. Veins irreg 1-2mm. no. p.o. 487.3 on carb content decreases to 2 flecks & pv.
	490							490	
								490.4	Py 5-10% veis (stockwork) & dissem.; assoc w. silica
								492.15	
								493.0	5cm c. vein 25° to c.A.
								493.9	5cm c vein 35° to c.A.
3.4	495							495	
5.0	500							500	

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DIAMOND DRILL LOG

HOLE No. DA4 Page No. 21 of 28

LOGGED BY .....

DATE .....

MINERALIZATION

TRACE 1-5%
COMMON 5-15%
ABUNDANT 15-60%
MASSIVE >60%

A 04457 (b)

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
	500.9							500.9	
6.2		Gy. grn. carbonate - chlorite - sericite altered lapilli volcanoclastic to breccia Unit contrasts with the interval below due to greener colour - more chlorite. Fragments generally evident angular to subrounded fine lapilli to breccia Intensity of alteration ⇒ composition unknown.						501.9 502.9 504.4	chlorite 4 pv & flecks. carbonate 4 pv & flecks & veins ser 2 pv. 1cm q/c vein 90° c.A. 501.9 - 2cm py 30 vein. 1 cm c. vein 40° c.A.
	505							505	
	509.3							509.4	3cm c. vein 35° c.A.
5.5	509.7 510	Lt. gy. sericite - carbonate altered Lava & Lava breccia? Gen an altered lava rock with associated breccia. Alteration obscures composition						510	
2.7	515	FAULT - Pug ?° to c.A.						515	515.6 515.7 10 cm q/c vein 70° c.A.
	518.3							518.3	2cm q/c vein 65° c.A.
6.5	520	Lt. gy. sericite - carbonate - silica ± chlorite ± pyrite altered fine to coarse lapilli volcanoclastic Broad interval of strongly altered lapilli volcanoclastic. Fragments are fine to coarse lapilli and gen altered to lt. gy. grn. sericite. Interfragment material is cream carbonate & silica ± local dk. green chlorite patches. Silica forms a matrix whilst carbonate tends to occur as flecks and patches.						520	carb - 4 flecks & patches. ser - 4 pv. sil - 3 pv & interfrag. py < 1% disem f.g.
4.4	525							525	

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DIAMOND DRILL LOG

HOLE No. DA4 Page No. 22 of 28

LOGGED BY .....

DATE .....

MINERALIZATION

TRACE 1-5%
COMMON 5-15%
ABUNDANT 15-60%
MASSIVE >60%

A 04457 (b)

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE / COMMON / ABUNDANT / MASSIVE	DEPTH m	MINERALIZATION
4.4		Lithology - as above.				
	529.4	FAULT ZONE Broken core ? ° to c.A.				
6.0	529.5					
	530	cleavage & frags. aligned // ≈50° to c.A.			530	
	535	local strong linear fabric defied by p.o. of carbonate pods. 50° from c.A. Rock does not have a strong cleavage but shows a p.o. of elongate frags; gen 40-50° to c.A. Lineation mentioned above plunges in this plane.			535	
6.5						
	540				540	
5.5						
1.8	545	FAULT - 10cm healed brx - 60° c.A.			544.8 545	
	546.0				546	
6.2		Lt. gy. grn. sericite - carbonate - silica ± py ± chlorite altered lava? and minor associated med. lapilli volcaniclastic. This interval has common banded intervals of massive altered lava inferred as flow banded dacite and minor associated fragmental. - intensely altered.				Py content increases to 2-3% overall (5-10%) as dissem & aggreg. Sas - 4 pv. Carb 3 patches Silica 3 pv. Chlor 1-2 Vens & patches.
	550				549.7 550	Py 5-7% dissem & aggreg.

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DIAMOND DRILL LOG

HOLE No. DA4 Page No. 23 of 28

LOGGED BY .....

DATE .....

MINERALIZATION

TRACE 1-5%
COMMON 5-15%
ABUNDANT 15-60%
MASSIVE >60%

A 04457 (b)

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	DEPTH m	MINERALIZATION
		Lithology - as above.			Py 5-7% dissem.
		banding 40° to c.A.			
	552.0			552.0	
		Lt.gy. grn. sericite - silica - carbonate ± py altered fie to med lapilli volcanoclastic.		552.5	ser 4 pv. silica 3 pv carb 3 flecks.
4.0		Definite fragmental textures.			
		Intense alteration.			
	555			555	Py 2-3% dissem & aggreg.
	557.4			557.4	
		Lt.gy. grn. ser - carb - silica - py altered lava. probable Dacite			ser 4 pv. carb 3 flecks. sil 2 pv. py 2-3% (5) dissem.
	558.4			558.4	
5.0					ser 4 pv. carb 4 flecks silica 2 pv. Py 3-5 (10) dissem.
	560			560	
		Lt.gy. sericite - carbonate - silica - py altered fie to med. lapilli volcanoclastic			
		Alteration identical but rock has definite fragmental character.			
6.3					
	565			565	
	565.7			565.7	
		Lt.gy. grn. to dk.gy. sericite - silica - carb. - chlorite - py altered volcanic - Dacite?			ser 3 pv. Carb 3-4 pv. & flecks silica (4) pv. chlor 2 patches.
		Intensity of alteration obscures primary textures in general but both flow banding in dacite lava and lapilli volcanic textures are locally preserved.		566.6	
3.5		A well defined fabric exists // to S1 defined by banding / layering of alteration products possibly reflecting flow banding or cleavage @ 35-40° to c.A.			
	570			570	Py rare dissem & aggreg.
		Flow banded Dacite! - banding 60° c.A.		571.5	
3.0		Most of the interval is infered to be dacitic lava w. minor associated volcanoclastic.			
	575			575	

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DIAMOND DRILL LOG

HOLE No. DA4 Page No. 24 of 28

LOGGED BY .....

DATE .....

MINERALIZATION

TRACE 1-5%
COMMON 5-15%
ABUNDANT 15-60%
MASSIVE >60%

A 04457 (D)

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
4.0		Silica alteration is locally intense in this interval; chlorite content increases toward the base and sericite becomes darker grey giving the rock a darker colour as the Dacite below is approached.							
3.0	580							580	
			C					581.1	5cm c vein 30° c.A.
4.8		colour change to dk. gy. - chlor content increases as does py content.						582.7	
			C					583.3	2cm c. vein 40° c.A.
									chlor 3 pv & patches.
									Py 3-5 (10) dissem & aggreg.
	585							585	4cm c. vein 5-10° c.A.
1.9									
			C					587.2	1cm c. vein 5° c.A.
	587.9	FAULT ZONE? Broken core w. pug on some fractures ⇒ 0-10° to c.A.	C					588.0	2cm c vein 5° c.A.
0.7									
1.0	590							590	
0.7	590.7	Cream massive Dacite							Ser 3 pv & flecks after fd?
3.1		Massive sericitised dacite unit. Unit shows <1mm veinlets of chlorite w <1cm halo into dacite.							chlor 1 - <1mm veinlets (forming wk stockwk).
									carb 1 flecks.
	595							595	
								595.9	
6.0									chlorite 4 pv.
									carb 2 flecks.
								596.4	
								597.3	
								597.6	30cm q/c vein 40° c.A.
								599.5	2cm q/c vein 10° c.A.
	600							600	

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DIAMOND DRILL LOG

HOLE No. DA4 Page No. 25 of 28

LOGGED BY .....

DATE .....

MINERALIZATION

TRACE 1-5%
COMMON 5-15%
ABUNDANT 15-60%
MASSIVE >60%

A 04457 (b)

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
1.0		Lithology – as above – cream massive Dacite.	q/c					601.2	10 cm q/(c) vein 40° c.A.
			q/c					601.9	4 cm q/c vein 45° c.A.
			q/c					602.1	12 cm q/c vein 45° c.A.
			q/c					602.6	10 cm q/c vein 50° c.A.
6.3	605		q/c					604.7	2 cm q/c vein 50° c.A.
			q/c					605	
			q/c					605.3	3 cm q/c vein 50° c.A.
3.0	609.7		q/c					609	2 cm q/c vein 70° c.A.
	610	Cy to dk green chlorite – carbonate – ser ± pyrite altered volcanic. Intense alteration obscures primary textures but local lapilli fragmental textures are clear and hinted at for much of the interval. Frags where evident are gen chloritic and apparently chlorite is early whilst carbonate overprints everything and appears to be late in the alteration sequence. Rock gen. has a fabric defined by p.o. of sericite & aggreg which is ∥ to SI and gen. 40-50° to c.A.						610	chlorite 4 pv & flecks ser 3 pv carbonate 3 pv. & patches. pyrite 1-2 (5) % as disem & aggreg. silica (2) pv.
6.4	615							613.9	1 cm c vein 40° c.A.
5.0	620							615	
								620	
	625							625	

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DIAMOND DRILL LOG

HOLE No. DA4 Page No. 26 of 28

LOGGED BY .....

DATE .....

MINERALIZATION

TRACE 1-5%
COMMON 5-15%
ABUNDANT 15-60%
MASSIVE >60%

A 04457 (b)

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
5.5	627.3	Lithology - as above.						627.3	chlor 4 pv.
0.5		FAULT ZONE Broken core & local pug. Probable fracturing assoc. w. competance contrasts							
0.4	628.5							628.5	
0.7		Cream massive Dacite						628.8	Ser 3 pv. 3cm q/c vein 50° c.A
		Massive Dacite Lava.						629.2	Carb 1 veins 5cm q/c vein 50° c.A
	630	Mics thin (<1cm) c. veinlets overprinting more prominent q ± c veins.						629.5	5cm q/c vein 45° c.A
4.1								629.8	20cm q/c vein 50° c.A
								630	5cm q/c vein 60° c.A
								630.2	
	633.3							633.3	
2.3		Gy. grn. chlorite - carbonate altered fine to med lapilli volcanoclastic. Lapilli fragmental of unknown composition - Andesite? Fault - pug 35° c.A.	F						chlor 3 pv. carb 2 pv, patches & veinlets.
	635							635.1	
								635.635	
	635.9							635.7	
2.1		Gy. massive to banded Lava. Lava rock of unknown composition local banding may ⇒ flow banding & hornfels dacite.							carbonate 3 pv & veinlets ser 2 pv. cpy tr. patches.
								637.5	chlor 2 flecks.
3.2									
	640							640	
	640.8								
3.6		Gy. fine to coarse lapilli volcanoclastic Interval of fragmental character although the nature of alteration suggests locally a brecciated lava w. alteration along fractures producing apparent frag. textures. Fault - pug 30° to c.A. Inter composition as andesitic.	F						chlor 2 pv. & flecks. ser 2 pv carb 2 pv & veinlets.
								644.5	
	645							645	
1.8								645.6	1cm q/c vein 50° c.A.
								645.8	2cm q/c vein 45° c.A.
								646.1	4cm q/c vein 55° c.A.
0.7								646.9	2cm q/c vein 35° c.A.
								647.4	2cm q/c vein 50° c.A.
1.9								647.6	15cm q/c vein 50° c.A.
								648.1	2cm q/c vein. 50° c.A.
	648.9								
	650							650	

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DIAMOND DRILL LOG

HOLE No. DA4 Page No. 27 of 28

LOGGED BY .....

DATE .....

MINERALIZATION

TRACE 1-5%
COMMON 5-15%
ABUNDANT 15-60%
MASSIVE >60%

A 04457 (b)

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
3.0	655	Gy. chlor. altered lava ± minor associated fine to med lapilli volcanoclastic — Dacitic? Bulk of interval is massive altered lava. Local flow banding indicates a dacitic composition.						655	chlor 3 pv. & patches. carb 2 flecks. ser 2 pv.
1.6									
4.0	660							660	
6.0	661.5	Gy. grn. chlorite - carbonate altered lapilli volcanoclastic? Intensity of alteration obscures primary texture. Apparent ghosted lapilli => fragmental although could be brecciated lava.							chlor 3 pv carb 3 pv & spotting ser 3 pv.
	664.5								
6.3	665	Gy. grn. chlorite - carbonate altered lava. Gen. a massive gy. lava. Si in massive lava defined by ser ≈ 40° to c.A.						665 665.8 666.1	10cm q/c vei 50° c.A. 4cm q/c vei 45° c.A. chlor 3 pv. carb (3) spotting ser 3 pv.
	668.9								
5.3	670	Gy. grn chlorite - carbonate ± ser. altered fine to med lapilli volcanoclastic Unit overall has a fragmental texture. As previously this may be related to alteration rather than a primary textures. Frag. fine to med. lapilli size.						670	chlor 2-3 pv. & flecks. carb 2 pv. & flecks ser (3) pv.
	675							675	

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DIAMOND DRILL LOG

HOLE No. DA4 Page No. 28 of 28

LOGGED BY .....

DATE .....

MINERALIZATION

TRACE 1-5%
COMMON 5-15%
ABUNDANT 15-60%
MASSIVE >60%

A 04457 (b)

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
	675.4	FAULT ZONE Broken core & pug. 30° to c.A.							
0.2	676.9							676.9	chlorite 4 pv. carb 2 pv & flecks ser 3 pv. Py 1-2 (5) % diss & aggreg.
2.3									
	680							680	
2.9									
	682.2	Cream to gy. massive Lava. - Dacite?						682.2	ser 2 pv chlor (3) pv.
1.6		2cm q/c vein 60° c.A.						683.3	
	683.7	END OF HOLE						683.7	
	685							685	
	690							690	
	695							695	
	700							700	