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DRILL HOLE RECORD

Location Que River | Property Mineral Lease 2m/75 | District Tasmania Australia | Bearing (M) 97° 58' | Hole No QR97

Commenced 28·7·76 | Completed 28·8·76 | % Recovery 98 | Grid bearing (M) 8° 45' | Date 2·9·76

Objective To test beneath F.Q system 7700N, 250 RL. | Core size HQ to 63·0, NQ to 342·0m BQ to 781·4m E.O.H. | Logged C.H. Voorloo

Co-ordinates 7616·3N 4751·8E | Dip 65° 10' | Alt./R.L. 687·49

SURVEY DATA				GRAPH DERIVED DATA			CALCULATED CO-ORDINATES			REMARKS
DEPTH	DIP	BEARING(M)	INSTRUMENT TYPE	DEPTH	DIP	BEARING(M)	NORTHING	EASTING	ALTITUDE	
0	65°	097	THEODOLITE and BRUNTON	0	65·25	98·0	7616·30	4751·80	687·49	
0	65° 10'	097° 58	SURVEYORS PICK UP	25	66·5	99·0	7626·59	4762·02	664·67	Hole commenced by reaming casing off QR95 at 63·5m.
31	67	102	NEW EASTMAN	50	67·0	99·0	7636·30	4771·87	641·71	
61	67	102	" "	75	67·0	97·0	7646·43	4781·65	618·67	
78	67	102	" "	100	67·0	97·0	7656·73	4791·42	595·65	
100	67	103·5	" "	125	67·0	98·0	7666·94	4801·18	572·67	
116	67	104	" "	150	66·5	98·0	7677·07	4811·05	549·70	
141	66·5	104	" "	175	66·0	98·0	7687·20	4821·12	526·83	
184	66	104	" "	200	65·5	98·5	7697·29	4831·38	504·02	
217	64·75	105·5	" "	225	64·5	99·5	7707·25	4841·95	481·36	
235	64	106	" "	250	64·0	99·5	7717·10	4852·81	458·85	
235	64	106	OLD EASTMAN	275	64·0	98·0	7727·10	4863·77	436·38	
266	64	104·5	" "	300	64·0	96·0	7737·44	4874·72	413·91	
301	64	102	" "	325	64·0	95·0	7748·01	4885·66	391·44	
330	64	101	" "	350	62·5	97·0	7758·59	4896·90	369·12	
360	62	102	" "	375	61·5	99·5	7768·69	4908·63	347·04	
387	61	105·5	" "	400	60·0	99·5	7778·43	4920·34	325·23	
428	57	106·5	" "	425	57·5	100·0	7788·30	4932·81	303·86	
458	52	107	" "	450	53·5	102·0	7797·74	4947·95	283·27	
488	46·75	109	" "	475	49·5	103·0	7806·71	4962·47	263·72	
513	37	112	" "	500	44·25	104·0	7815·29	4980·45	245·49	
543	27·5	113	" "	525	34·5	106·0	7823·17	4999·61	229·69	
571	24·5	115·5	" "	550	26·5	107·5	7830·17	5020·59	217·03	
595	24·0	~~N/R~~	" "	575	24·0	107·0	7836·74	5043·18	206·37	
604	20	115	" "	600	20·75	109·0	7842·32	5065·92	196·96	
620	17	N/R	" "	625	17·5	109·0	7847·12	5087·16	188·67	
662	14·25	N/R	" "	650	15·0	109·0	7853·85	5112·27	181·63	

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DRILL HOLE RECORD

Location ..... Property ..... District ..... Bearing (M) ..... Hole No QA97

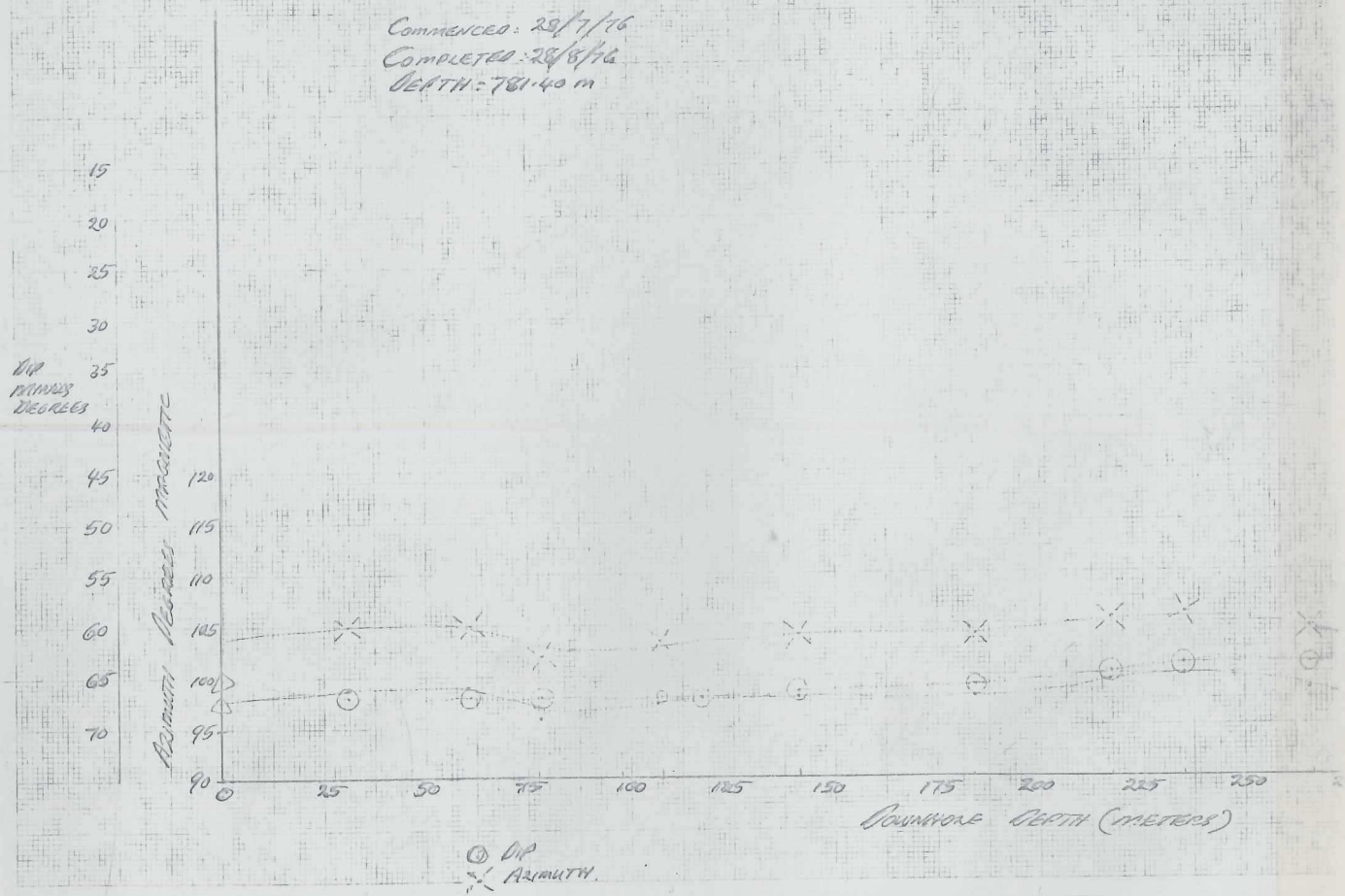
Commenced ..... Completed ..... % Recovery ..... Grid bearing (M) ..... Date

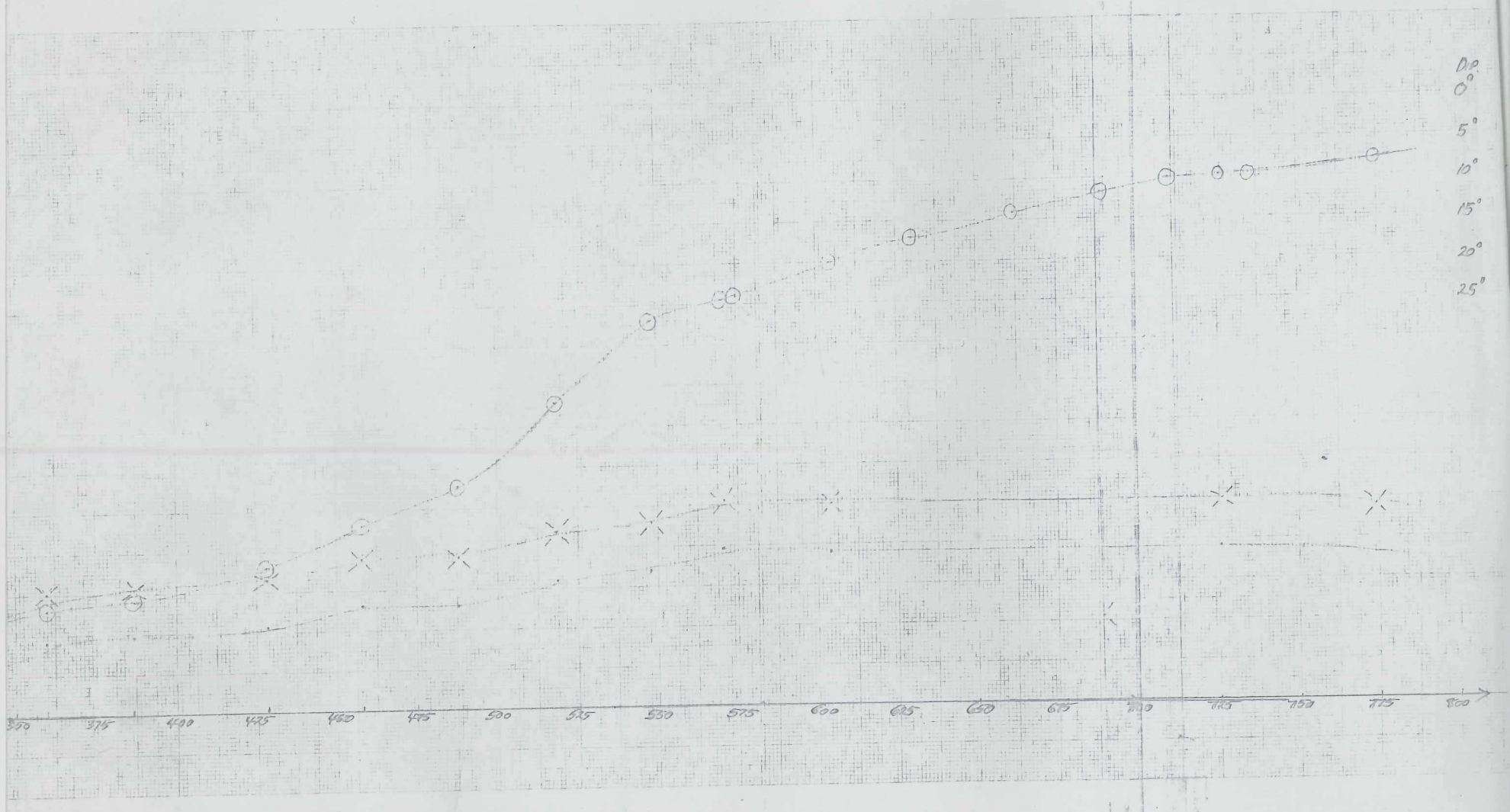
Objective ..... Core size ..... Logged

Co-ordinates ..... Dip ..... Alt./R.L.

SURVEY DATA				GRAPH DERIVED DATA			CALCULATED CO-ORDINATES			REMARKS
DEPTH	DIP	BEARING(M)	INSTRUMENT TYPE	DEPTH	DIP	BEARING(M)	NORTHING	EASTING	ALTITUDE	
687	11.75	N/R	OLD EASTMAN	675	13.0	109.0	7667.54	5136.63	175.63	
716	10.0	N/R	" "	700	11.0	109.0	7663.19	5160.69	170.43	
726	9.75	115	" "	725	9.75	109.0	7660.31	5184.89	165.93	
735	9.5	N/R	" "	750	9.25	109.5	7656.53	5209.17	161.80	
774	8	114	" "	775	8.0	109.0	7652.45	5233.55	155.06	
				781.4	7.5	109.0	7651.43	5239.31	157.19	

QR 97 EASTMAN SINGLE SHOT DOWNHOLE CAMERA SURVEYS




Dp
0°
5°
10°
15°
20°
25°
350
375
400
425
450
475
500
525
550
575
600
625
650
675
700
725
750
775
800

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DIAMOND DRILL LOG

Hole No QR97 Page No 1

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
	55								
	60	This hole has been drilled from QR95 collar, running // QR95 at 68.5m. Refer QR95 for Geology above 68.5m.							
	63								
0.6	68.5	AP>DTL Green-buff carbonated locally chloritized feldspar quartz crystal lithic tuff - agglomerate Fragments are irregular in outline - elongated in direction of foliation 25-30° to C.A. range from 0.5mm to 6cm. They consist predominately of feldspar-porphyry lava, usually chloritized and green in colour							Pyrite <1% as discrete dissemination of very fine subhedral to euhedral crystals
3.2	70								
3.1	75								

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DIAMOND DRILL LOG

Hole Nº PR97 Page Nº 2

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
3.1		other fragments of buff coloured feldspar porphyry lava are generally less angular and larger in size. Feldspar crystals are represented by aggregates of carbonate and sericite/chlorite up to 3mm.							Pyrite <1% as above
3.0	80	80.0 m Fracture sub parallel to C.A.							
		The matrix is "granular" sugary in texture due to recrystallized quartz.							
2.6									
3.1	85	DTL Green-buff carbonated locally chloritic lithic tuff agglomerate. locally tuff-lava. Lithic fragments to 5 cm are often "shredded" in appearance reflecting local shearing.							
3.1		They are composed of feldspar porphyry lava.							
3.0	90	feldspar phenocrysts are characteristically altered to pale green, green sericite, chlorite. 87.8 – 93.0 white carbonate replaces feldspar. Below 89.8 m the rock appears to be tuff-lava – lava breccia. lithic fragments are not common.							
3.1	95	Below 93.3 green sericite/chlorite alteration of feldspar is once again conspicuous.							
3.1	100	99.6 m Fracture at 30° to C.A. locally ironstained.							

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DIAMOND DRILL LOG

Hole No QR 97 Page No 3

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
3.1	102.0	DTL as above			Pyrite <1% as above
3.1	105	Below 102 m the rock is generally pink in colour. Carbonated locally sericitized feldspar porphyry lava. Locally pale green colour sericite alteration is increased. Feldspar phenocrysts are altered to pale green – green, sericite chlorite - up to 3 mm.			
3.1			C		
3.1	110	The groundmass is fine grained quartz - feldspathic.			
1.5					
3.1	115		C		
3.1					
3.1	120		C		
			C		
		Below 122 m green alteration of feldspar is no longer common while carbonate and pale grey green sericite replace feldspar phenocrysts			
	125				

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DIAMOND DRILL LOG

Hole No PR97 Page No 4

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
		Pink DTL as above.							Pyrite < 1% as above
3.1		The rock is competent, massive largely unbroken.	c						
3.1	130								
3.1		132.2. Fractures sub parallel to core axis are locally ironstained.							
3.05	135								
3.1	140		c						
3.1			q/c						
3.1	145		c						
3.1			c						
3.1	150								

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DIAMOND DRILL LOG

Hole No QR97 Page No 5

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
		DTL as above.							Pyrite <1% as above
3.1		Mesaeu Peak - buff. feldspar porphyry tuff - lava. Small fragments to 1 cm have been noted.	c						
3.1	155	Feldspar to 4 mm is commonly replaced by carbonate or sericite.							
3.0		Below 156.0 m the rock is no longer Peak in colour - Now buff							
2.8	160	160.0 — 161.8 Brecciated - fragments cemented with carbonate - coloured red - brown - possibly hematite.							
3.1	165								
3.05									
3.1	170		c						
3.1		Below 172.0 m. Feldspar is commonly replaced by green - sericite/chlorite							
		Foliation 60° to core axis.	c						
	175	Occasional fragments to 20 cm have been noted							

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DIAMOND DRILL LOG

Hole No QR 97 Page No 6

Feature : Bedding, Foliation, Fragment - size & shape 0%; 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
2.9	180	DTL as above. Feldspar porphyry lava, locally lava breccia. Fragments are commonly flow banded.							Py < 1% as above.
3.0									
3.0	185								
3.0		187.0 – 189.3. Breccia zone heavily carbonated – locally pale green to buff in colour.							
3.0	190								
3.0	190.4	contact 50° C.A. 152.3 = QR 95 Buff to green – locally mauve. Carbonated locally chloritized Lithic tuff agglomerate. Lithic fragments are sub-rounded up to 20 cm generally 2 – 3 cm They are composed of feldspar porphyry lava (DTL) – occasionally flow banded. The matrix is fine grained and siliceous, weakly chloritized							
3.0	195								
3.0									
	200	Foliation 40° C.A							

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DIAMOND DRILL LOG

Hole No DR97 Page No 1

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		OTL. Lithic tuff agglomerate as above. Similar to the OTL agglomerate in DR8.							Pyrite <1% as above.
3.0	205								
3.0		Below 207.0 m the rock becomes slightly "greener" in colour due to increased chlorite alteration							
3.0	210	Crude fragment alignment 25° C.A.							
	212.3	GRADATIONAL CONTACT							
3.0		AP Green Carbonated locally chloritized feldspar porphyry lava breccia. Aggregates of white carbonate common represent altered feldspar phenocrysts in both fragments and groundmass.							
3.0	215	Fragments are irregular in outline up to 6cm.							
3.0		Foliation 35° C.A.							
	220	No 6 The rock correlates with a recessive lava in DR 95.							
3.0									
3.0	225								

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DIAMOND DRILL LOG

Hole No QR97 Page No 8

Feature : Bedding, Foliation, Fragment - size & shape 0%, 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
		AP as above							Pyrite < 1% as above
	226.4	CONTACT 25° CA							
2.7		Green carbonated locally chloritized feldspar crystal lithic tuff/agglomerate							
		Lithic fragments to 6cm are irregular in outline consisting of green chloritic feldspar porphyry lava with white aggregates of carbonate after feldspar.							
2.3	230								
3.1		The matrix is grey-green in colour and siliceous.							
3.1	235								
0.5									
3.0	240								
	240.4	GRADATIONAL CONTACT.							
3.0		Green-grey carbonated locally chloritic locally vesicular feldspar porphyry lava.							
		White aggregates of carbonate - elongate in outline are thought to represent filled vesicles							
3.0	245	Smaller aggregates of carbonate and sericite/chlorite to 3mm replace feldspar phenocrysts							
		The groundmass is fine grained quartzo-feldspathic.							
3.0		Minor carbonate veinlets are common to 5mm							
	249.2	Green carbonated locally chloritized							
	250	249.2 - 251.6 My is quartz carbonate veins							

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DIAMOND DRILL LOG

Hole No QR 97 Page No 9

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
		AP or above			Pyrite <1% as above.
2.0		Feldspar crystal lithic tuff agglomerate or lava breccia.			
		Green chloritic fragments to 6cm are irregular in outline and are composed of feldspar crystal (or porphyry) tuff.			
3.1	255				
		255.5 – 260.8. Broken core some fug. Fault and fractures sub parallel to core axis.			
3.1		The groundmass is of similar composition and texture as the fragments			
2.2	260	Below 260.8 mm carbonate veinlets to 5mm are common.			
1.6					
3.0					
	265				
3.0					
	269.5				
		DTL > AP Green – Pink carbonated locally chloritized feldspar crystal tuff – lava. Feldspar crystals are commonly replaced by carbonate in aggregate to 3mm. – occasionally pink color altered. The groundmass is fine grained quartz – feldspathic. Flow layering 50° to core axis has been noted.			
3.0	270				
3.0					
	274.4				
	275	AP Green carbonated feldspar, hornblende			

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DIAMOND DRILL LOG

Hole No DR97 Page No 10

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		crystal lithic tuff agglomerate. Feldspar crystals are represented by aggregates of white carbonate to 3 mm. Hornblende by smaller elongated aggregates of chlorite. Lithic fragments to 6 cm are composed of feldspar crystal tuff or lava similar in composition to the matrix. Carbonate alteration is common in part giving the rock a mottled appearance. Minor epidote has been noted as aggregates and associated with quartz carbonate veins.							Pyrite < 1% or above.
3.0	280								
3.0									
3.0	285								
2.7		287.3 – 290.7 m Chlorite alteration is common. 288.0 – 290.7 m Fault at 0 – 5° to C.A.	BROKEN CORE						
3.0	290								
3.1	293.4	CONTACT 25° C.A. DT & AP Green - buff carbonated and silicified (local chlorite) vesicular feldspar - porphyry lava.							
0.5	295	Feldspar crystals are not abundant, generally calcined or outlined to 3 mm replaced by carbonate and sericite.						295.0	Pyrite < 1% or above trace Sphalerite and Galena recrystallized in Vesicles.
2.4		Vesicles are local - sub rounded up to 5 mm in diameter commonly filled with silica, carbonate and occasionally Galena and Sphalerite						296.3	Pyrite < 1% or above.
3.0	300								

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DIAMOND DRILL LOG

Hole No QR 97 Page No 11

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		Vesicular lava as above.			Pyrite < 1% as above.
3.0	305	304 – 305.8. Chloritic alteration has been noted.			
3.0					
3.0	310	311.4 m. Coating of Hematite on Calcite in vein.			Below 310 m. Epidote is commonly associated with quartz / carbonate veins. Locally hematite.
3.0		Below 312 m Feldspar crystals become more conspicuous. - 20% by volume.			
	313.8				
3.0	315	Green - buff carbonated locally silicified and chloritized. Feldspar - porphyry lava. Feldspar to 4 mm, subhedral to euhedral is commonly replaced by carbonate / sericite, chlorite. The ground mass is fine grained and quartz - feldspathic.			
3.0					
3.0	320				
3.0					
3.0	325				

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DIAMOND DRILL LOG

Hole No DP 97 Page No 12

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
		DTL-AP as above							Pyrite < 1% as above
3.0		325.0 - 340.5 the rock is locally recrystallized - as above.							
3.0	330	328.4 - 334.5 m. quartz carbonate veins with associated epidote, chlorite and hematite have been noted.							
3.0		Feldspar is commonly replaced with sericite - chlorite.							
3.0	335								
3.0									
3.0	340								
1.49									
NQ	341.89.								
BQ									
3.0									
	345								
	345.9	ERADATIONAL CONTACT							
4.5		AP Green carbonated locally chloritized feldspar, hornblende - porphyritic lava breccia. Similar to above (Lava) Feldspar crystals are commonly replaced by white carbonate, to aggregates to 3mm.							
	350								

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DIAMOND DRILL LOG

Hole No QR97 Page No 13

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
5.0		Small aggregates of chlorite occasionally enclosed in outline are thought to replace hornblende. Fragments are irregular in outline - and are of similar composition and texture as the groundmass. Fragment outlines are often obscure.							Pyrite <1% as above.
4.5	355								
4.4	360	Below 362m. The rock is generally porphyritic lava.							
3.8	365								
3.8									
2.3	369.8 / 370	Chlorite alteration zone Dark green Fairly chloritized.							
1.5									
	373.6	Green carbonated feldspar, hornblende porphyritic lava as above.							
	375								

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DIAMOND DRILL LOG

Hole No QR 97 Page No 14

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
4.5		As above.							Pyrite < 1% as above.
1.6	379.7								
2.1	380	Chlorite alteration zone to 382.8 m. Green carbonated locally sheared feldspar porphyry lava breccia. White aggregates of carbonate to 3 mm replace feldspar in both fragments and matrix. Fragments to 5 cm are irregular in outline of similar composition and texture as the groundmass.	C						
3.6	385								
	386.4	Chlorite alteration zone. Dark green chlorite is very common.	Ch						
4.5	388.6								
4.9	390	Below the chlorite alteration zone the rock is pale green carbonated locally chloritic feldspar crystal lava breccia. similar to above. Locally carbonate alteration has altered the rock very pale green in colour.	C C C						
4.1	395	Locally lithic tuff-agglomerate.							
	400								

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DIAMOND DRILL LOG

Hole No QR 97 Page No 15

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
4.5		AP. as above. Fragments are commonly 2.0-3.0 cm occasionally 5 cm.							Pyrite < 1% as above.
4.5	405								
4.5		Occasional fractures at 30° to C.A. have been noted.							
4.5	410								
4.5	415								
4.9	420								
	425								

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DIAMOND DRILL LOG

Hole No 0997 Page No 16

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
4.9		A.P. as above.							Pyrite <1% as above
5.0	430								
3.1	435								
4.4		435.6. 15cm Bleached due to carbonate alteration.							
4.6	440								
1.6	445								
4.4									
	450								

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DIAMOND DRILL LOG

Hole NO. DR 97 Page N° 17

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
		AP as above.							Pyrite < 1% as above.
4.6		Locally the rock has a mottled appearance due to carbonate alteration.							
	455								
2.0									
4.1									
	460								
4.9									
	465								
2.2									
	470								
4.5		Below 471.3 m the rock becomes darker green in colour due to increased chlorite.							
4.2									
	475								

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DIAMOND DRILL LOG

Hole NO 82-97 Page N° 18

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
		AP as above. Green due to chlorite alteration.							Pyrite <1% as above
3.8	480								
0.15									
4.8	483.4	Fault zone. Pug, 80% sheared and broken core, 55° to C.A. Carbonate alteration and veining is common. The rock is pale green in colour.							
	485								
3.1									
	489.1	FAULT CONTACT							
		P.P. Grey-buff carbonated feldspar crystal lithic tuff agglomerate. Feldspar crystals are small <3mm generally replaced by sericite and carbonate. Fragments are generally obscured by carbonate. Below 493m the rock is buff in colour, "bleached" due to carbonate alteration.						489.1	Pyrite 2%-3% as disseminations and aggregates.
4.9	490								
	493							493	Pyrite 3%-5% locally 10% as disseminations, aggregates and irregular veins.
	495								
	495.8	Fine lithic tuff grading to coarse tuff and tuff agglomerate by 497.4m Grey carbonated locally sericitized. Crude fragment alignment - bedding? at 60° C.A. Below 497.4m Shear - foliation 50°-60° to core axis						495.2	Pyrite 3%-5% as above.
4.1									
	500								

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DIAMOND DRILL LOG

Hole No 9R97 Page No 19

Feature : Bedding, Foliation, Fragment - size & shape 0%; 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
		PyPl as above Lithic tuff agglomerate.							Pyrite 3%-5% as above.
4.4	501.0	Grey carbonated and sericitized coarse lithic tuff							
		Fragments are irregular in outline up to 3 cm. Consisting of feldspar porphyry lava, grey tuff, sericitized trachyte and occasionally pyrite. Matrix is fine grained and "salty." Crude fragment alignment 45° to core axis.							
4.5	505								
	508.0	Grey carbonated and sericitized lithic tuff agglomerate as above.							
4.5	510	Fragments generally to 3 cm and occasionally to 6 cm.							
		512.3. Carbonate cemented breccia.							
4.5	515								
4.5	520								
4.4	522.7	PyPl > DTL Grey tuff carbonated locally sericitized feldspar crystal tuff or lava, locally fragmented.						522.7	Pyrite 3% locally 5% as above.
	525								

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DIAMOND DRILL LOG

Hole No DR97 Page No 20

Feature : Bedding, Foliation, Fragment - size & shape 0%, 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
4.9	530	Feldspar aggregates are represented by pale green sericite to 3mm. The groundmass is fine grained buff in colour quartzo-feldspathic. Minor fragmental bands are generally of mixed fragment types. Occasional sub-rounded to elongate aggregates of white carbonate to 5mm may be amygdules.							Pyrite 3% locally 5% as above.
4.9	535								
4.9	540	538.0m Bedding - flow layering? 30°-50° C.A. parallel to foliation.							
4.9	545								
4.4	550	The rock appears to be an intermediate flow crystal (feldspar) tuff - with minor coarser bands of lithic tuff. Below 549.0m the rock remains carbonated locally sericitized feldspar-crystal lithic tuff. However							

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DIAMOND DRILL LOG

Hole No DR97 Page No 21

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
2.0		the matrix is paler in colour now light grey to buff.		551.2 m	Pyrite 3% locally 5% as above.
2.5		552.0 m Bedding 50° to C.A.			Pyrite 5% locally 20% Rar Sph, Gn. as dissemination, aggregates and irregular veins.
3.8	555	554.7m. Bedding 50° to C.A.		556.9	Pyrite 3% locally 5% as above.
3.6	560				
4.9	565			565.6	Pyrite 5% locally 10% as dissemination, aggregates and irregular veins. Rar Sph, Gn.
4.9	570	Below 568m. The rock is grey in colour - crystal lithic tuff to coarse lithic tuff. Sericite is more common and the rock is weakly sheared at 70° to C.A.	C C	569.3	Pyrite 3% locally 5% as above.
4.9	575		F F		

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DIAMOND DRILL LOG

Hole No QR 97 Page No 22

Feature : Bedding, Foliation, Fragment - size & shape 0%, 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
		PyPl as above							Pyrite 3% locally 5% as above.
1.2	576.7							576.7	
4.9	580	Grey sericitized and carbonated lithic tuff / coarse lithic tuff locally feldspar crystal lithic tuff. Lithic fragments are angular to subrounded in matrix generally < 2 cm. Fleg consist of grey altered tuff, sericitized trachyte? recrystallized chert and buff coloured feldspar crystal tuff or lava. Elongated in direction of foliation at 55° C.A. Feldspar crystals are represented by aggregates of pale green sericite to 3mm. The matrix is light grey and siliceous locally blue grey. Here are areas of buff to grey coloured feldspar crystal tuff. weakly sericitized and sheared at 50° to C.A.							Pyrite 5% locally 7% as disseminations, aggregates and irregular veins of fine subhedral to euhedral crystals.
3.1	585								
4.9	590								
4.9	592.4	Fault Zone Pug. Sheared and broken core. 65° to C.A.						592.4	5cm Sph 5% Gn 3% Py 10% as disseminations and aggregates
	593.8	Sericite alteration is common near the fault zone.							
	595								
5.0	595.9	Grey carbonated and sericitized feldspar crystal lithic tuff agglomerate. Similar to the rock above 595.9m. Fragments vary from 0.5mm to 5cm The rock is light grey due to carbonate alteration.						595.9	Pyrite 3% - 5% as above.
	600								

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DIAMOND DRILL LOG

Hole No QR 97 Page No 23

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
		Grey carbonated feldspar crystal lithic tuff - agglomerate as above							Pyrite 3% - 5% as above.
								601.1	5 cm Band massive sulphide Pyrite 20% Sphalerite 30% Galena 10%.
4.7	602.7	Py Pi > 0.7%. Grey - green carbonated locally sericitised feldspar crystal tuff - lava						602.7	Pyrite 3% locally 5% as above.
								603.4	603.4 - 603.8 m. Disseminated Sph 5% Cpy 3% Py 5%
	605	Feldspar crystals are abundant, represented by aggregates of green sericite to 3 mm occasionally 4 mm.						603.8	Below 603.8 m Pyrite 3% locally 5% as above.
4.5		Occasional subrounded to elongate aggregates of carbonate to 5 mm may be amygdules.						607.7	5 cm Pyrite 30% Rare Sph, Gn. carbonate cemented breccia
		605.6 - 610.2 m Minor carbonate veins to 2 cm are common.	C						
	610	The groundmass is fine grained quartz - feldspathic.	C						
4.5			C					611.5	3 cm Pyrite 30%
			C					612.1	15 cm Pyrite 20% Sph 5-7% Gn 3-5% as disseminations and aggregates possibly remobilized material - carbonate gangue
		Below 614 m. The rock is uniform feldspar crystal tuff - lava. Aggregates of sericite to 4 mm often euhedral in outline are conspicuous (Feldspar) in a grey - green carbonate - sericite rich quartz - feldspathic groundmass.						613.85	
2.2	615								613.85 10 cm Band 60° CA. Pyrite 30% Cpy 10% Sph. 5% - 10% Gn 5%.
4.8								619.1	5 cm band. Py 10% Sph 10-15% Gn 5.
	620							620.0	10 cm Py 10% Sph 5-10% Gn 3-5% in carbonate gangue.
1.5								620.75	15 cm Py 10% Sph. 5-10% Gn 3-5% as above
1.9		622.8 - 624.35 Massive white quartz - carbonate vein. 30° to C.A.	C						
2.7	625		F						

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DIAMOND DRILL LOG

Hole No QR97 Page No 24

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
		PyP, > DTL as above.							Pyrite 3% - 5% as above
5.0	630.0							630.0	20 cm Pyrite 15%.
		Grey-buff carbonated and sericitized feldspar crystal lithic tuff agglomerate.							Pyrite 3% - 5% as above.
		Feldspar crystals are not abundant, represented by aggregates of pale green sericite to 3 mm. Occasionally euhedral in outline.							
4.0	635	Lithic fragments are irregular to angular in outline to 5 cm, they consist of buff feldspar crystal tuff-lava and sericitized trachyte. Carbonate alteration has partly obscured fragment outlines.							
5.0	640	Minor chlorite alteration has been noted.							
		The matrix is fine grained, grey (blue) and "ashy".							
5.0		Fragment alignment, foliation at 60° to CA.							
	645	Occasional irregular masses (to 5 cm) of grey silica may represent deformed chert horizons?							
4.9		There is a crude grading exhibited in this sequence, at 644.5 m a tuff band has been noted. Bedded approximately 60° CA.							
	650	Below 647 m minor chloritization of fragments							

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DIAMOND DRILL LOG

Hole No PR97 Page No 25

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
		has been noted	BROKEN CORE		Pyrite 3% - 5% as above.
4.5		653 - 653.6 m. Chlorite alteration zone.		653.0	Pyrite 10% locally 20%
		654.7 - 657.4 Sev massive white quartz - carbonate veins. 30° to CA. Cutting foliation at right angles.		653.6	
	655	Foliation - crude fragment alignment 60° C.A.			
4.5		Below 653.6 m the rock is generally blue grey in colour with fragments clearly outlined by dark grey sericite - pyrite.			
	660				
1.2					
1.9					
		663.7 - 665.7 m Intense carbonate alteration, irregular stringers and aggregates of carbonate are common. Fragment outlines are partly obscured.		664.3	Aggregate of Cpy to 2cm has been noted.
4.5	665				
	670				
4.5					
	673.6	FAULT CONTACT		673.6	Pyrite 3% locally 5% as above.
3.2		Grey - buff carbonated locally sericitized feldspar crystal lithic tuff agglomerate			
	675				

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DIAMOND DRILL LOG

Hole No QR97 Page No 26

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
		locally lava breccia?	BROKEN CORE		Pyrite 3% locally 5% or above
1.2		Fragments are irregular to subrounded buff coloured feldspar porphyry lava. From 0.5cm to 5cm possibly 50cm.			
	680	The matrix is fine grained siliceous and "sooty".			
4.6					
	685	Foliation 60° C.A.		685	Pyrite 3% as disseminations and aggregates.
4.8		Grey-buff feldspar porphyry vesicular tuff-lava. (Carbonated, locally sericitized)			
		Aggregates of pale green sericite, white carbonate to 3mm often euhedral in outline are considered to replace feldspar phenocrysts. These sericite aggregates are often replaced by pyrite.			
	690	Irregular to oval - elongated aggregates of white carbonate are interpreted as amygdules.			
4.1					
		This unit includes some fragmented units - possibly lava breccia.			
	695	Aggregates of green illite-hydromuscovite to 3mm have been noted.			
4.7					
		Foliation - alignment of amygdules at 60° C.A.			
5.0	700				

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DIAMOND DRILL LOG

Hole No QR 97 Page No 27

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
		PyPr - vesicular feldspar porphyry lava as above							Pyrite 3% as above
4.9	705								
		707.6 - 711.0 m The rock is commonly fractured:- pyrite "healed".						707.6	Pyrite 5% as disseminations and aggregate filling fractures.
4.9	710								
								711.0	Pyrite 3% as above
4.0	715		BROKEN CORE						
1.8			BROKEN CORE						
4.2	720								
		723.75. Minor fault 60° to core axis.							
	725								

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DIAMOND DRILL LOG

Hole No OR97 Page No 28

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
4.9		Grey - buff carbonated locally sericitized feldspar porphyry - vesicular tuff - lava - as above.		726.7 727.0	Pyrite 3% as above Pyrite 10% as an irregular vein
	727.6				
3.0	729	Fault Zone Sheared and disrupted Mineral pyg.			Py 3% as above.
	730	The core is locally sheared and disrupted down to 734.8 m. locally lava breccia.			
2.7					
2.4	735			734.8	10 cm Py 15% Sph 10 Gn 5.
	735.5			735.5	3 cm Py 10% Sph 3% Gn 1-2%.
2.5		Green - grey locally buff chloritized, carbonated feldspar crystal, lithic tuff / tuff agglomerate.		736.1	30 cm Vein. Pyrite 30% Sph 10%-15%, Gn 3%-5% in a chloritic gangue.
2.6	740	The rock is locally chloritic. Feldspar crystals are represented by aggregates of carbonate, albite? and locally sericite/chlorite.			734.8 - 748.0. Pyrite 5% Trace Sph, Gn. 734.8 - 748.0 m Mineral veins of disseminated pyrite, sphalerite and galena and minor chloritic alteration zones.
0.2		Lithic fragments are irregular in outline where not obscured by alteration. They appear to consist of feldspar porphyry lava, occasionally vesicular.			
3.1	745	They are commonly green in colour due to chlorite alteration.		743.	5 cm Py 10% in a chlorite gangue.
3.1		The matrix is fine grained quartz - feldspathic.		748.0	Pyrite 3% as dissemination, aggregate and irregular veins.
3.0	750	Below 748.0 m the rock is locally			

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DIAMOND DRILL LOG

Hole No QR 97 Page No 29

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
		Chloritic - grey green in colour						751.3	Pyrite 3% as above 5 cm Py 10 Sph 5, Gn 3 Cpy 2-3. with carbonate vein.
3.0									
	755								
3.0									
3.0									
	760								
3.0									
3.0	765								
		Crude foliation or fragment alignment 70° to core axis.							
3.0									
		Below 769.3m the rock is locally chloritic. Minor chlorite alteration zones to 30 cm have been noted.							
	770								
3.0									
								773.0	4 cm Py 10% Sph 5% Gn 3% with carbonate vein.
3.0	774.0								
	775	Buff locally grey green feldspar porphyry lava locally lava							

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DIAMOND DRILL LOG

Hole No QR 97 Page No 30

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
3.0		breccia. Feldspar phenocrysts to 3mm are represented by aggregates of pale green feldspar, often euhedral in shape.							Pyrite 3% as above.
3.0	780	The groundmass is fine grained quartzo-feldspathic.							
	781.4	E.O.H.							