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DRILL HOLE RECORD

Location QUE RIVER AREA Property MackintoshEL2/70 District Tasmania, Australia Alt./R.L. 697.71 Hole No QR31

Commenced 12/4/75 Completed 20/4/75 Core size HQ to 256.40m E.O.H. Co-ordinate 7650.09N 5075.16E Date 21/4/75

Objective Tests of O/P lens and Q lens on intermediate lines. % Recovery 91 Bearing (M) 98° Grid bearing (M) 8.68 Logged EHS Dip 50

SURVEY DATA				GRAPH DERIVED DATA						REMARKS
DEPTH	DIP	BEARING(M)	INSTRUMENT TYPE	DEPTH	DIP	BEARING(M)	NORTHING	EASTING	ALTITUDE	
0	50	98		0	48	101.5	7650.09	5075.16	697.71	Rig settled during collaring of
20	49	101.5	Eastman	50	50	101	7648.62	5107.92	659.98	hole?
50	50	101	single	100	50	100.5	7647.46	5140.04	621.68	
79	50	101	shot	150	48.5	100.5	7646.42	5172.66	583.80	
112	50	100	camera	173	48	100.5	7645.93	5187.97	566.64	Upper limit of base metal mineral-
151	48.5	100.5	"	190	48	100.5	7645.57	5199.34	554.01	isation.
189	48	100.5	"	212	47	99.5	7645.23	5214.20	537.79	Bottom of first sulphide "ore zone"
224	46	99	"	223	46.5	99.5	7645.12	5221.73	529.78	Top of second mineralised zone.
256	43	99.5	"	256.40	43	99.5	7644.78	5245.44	506.27	E.O.H.

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DIAMOND DRILL LOG

Hole N° QR31 Page N° 1

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
0.85	0	Weathered feldspar crystal tuff partly bleached, sheared, broken	BROKEN CORE					0	Pyrite up to 5% ave. locally 10% as fine permeating veinlets.
	5							5	
	7.50								
0.90	7.90	Bleached feldspar qtz.crys. tuff Mid grey, locally fawn tuff-agglomerate to autobreccia, inter-preted as tuff lava. Fragments fawn with grey colouration along	BROKEN CORE						
0.65									
	10	fractures and within the finer						10	
0.15		matrix of agglomeritic zones.							
1.35		Feldspar crystals to 3mm obvious as white 'clay' above c. 15m; where fresher, these altered (sericitised) feldspars are pale green.							
2.80		Weak (?) carbonate alteration, with fine veinlets is present throughout. Secondary quartz aggregates occur locally. Cleavage is 35° to c.a.							
	15	Very broken above 16m, probably faulted.						15	
3.00			C, Q, F, F, F						
3.00									
	20							20	
	21.00								
	21.30	Fine grey siliceous tuff							
3.10		Fawn-grey (dacitic) feldspathic agglomerate/autobreccia, sericit-and carbonated. Irregular carbon-ate veins intense around 24.50m Some carbonate aggregates present Core is broken into short (10cm) lengths. Heavily faulted below	F, C, Q						
1.40		25.90m							
	25							25	

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DIAMOND DRILL LOG

Hole N° QR31 Page N° 2

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	DEPTH m	MINERALIZATION
	25.90				
1.70		Major FAULT ZONE: rubble, short lengths of brecciated core, patchy carbonate veining in feldspathic tuff agglomerate.	BROKEN CORE		Pyrite in fault zone is disseminated throughout. Euhedral crystals to 2mm.
0.70	30				
1.60					
	35				
1.80					
1.00					
	40				
1.00					
0.65			VERY BROKEN CORE		
	45				
2.70					
	49.4				
	50				

TRACE COMMON ABUNDANT MASSIVE

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DIAMOND DRILL LOG

Hole N° QR31 Page N° 3

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
3.05	52.1	Where core is solid, below 42m, colour is uniformly light grey, texture is fine, with zones, possibly individual 'flows', rich	BROKEN CORE						
	52.4	FAULT ZONE							
3.00		in feldspar, phenos to 3mm. Macrotexture is breccia/agglomerate, foliated (flow banded?) 10-30° to c.a. - Dacitic feldspar crystal tuff lava.							
	55	Carbonate veining is erratic and of random orientation.							
3.00									
3.00	60								
3.05									
	65								
2.95									
3.00									
	70								
3.00									
3.00									
	75								

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DIAMOND DRILL LOG

Hole N° QR31 Page N° 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
3.00	80	Rock colour tends to pinkish-green in part						81.0	Py occurs as veins, coloform aggregates with carbonate etc.
3.00		Sericitisation is intense in pyritic zones, carbonate occurs as fine yellow permeations and also as white veinlets.						84.10	Py is typically <5% with occasional veins and stringers of 50% sulphide, usually less than 1cm thick, randomly oriented, irregular - diffuse in form.
3.00	85								
3.00									
3.00	90	Very fine grained disrupted grey chert is associated with sulphide enrichment.						89.60	
3.00									
3.00	95								
	97.6	FAULT ZONE within which the tuff-lava is brecciated. Some fragments appear pyroclastic, and a joint origin of the fabric is probable.							

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DIAMOND DRILL LOG

Hole Nº QR 31 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	DEPTH m	MINERALIZATION
	100.4				
3.00					
3.00 (?)	~~105~~		BROKEN		
2.30					
	108.5	FAULT ZONE, with much disrupted and broken carbonate veining.		108.90	Irregular veinlets and aggregates of fine pyrite in ruptured, sheared rock
0.20					
	110			110.35	of fault zone.
3.00					
	112.65		BROKEN CORE		
2.90					
	~~115~~				
2.30		FAULT ZONE. Multiple shears at oblique angles, all low angle to core axis, typically 30°. Carbonate veining is intense, also 30° to c.a. Small (2cm) fragments are probably fault breccia, but may (119m) be sheared slump breccia.			
2.40				119.20	Massive Py vein i
	120			119.60	sheared host.
	120.15	DTL(?) PyP Tuff-agglomerate, sheared and sericitised throughout with carbonate veining. Fragments are mid to dark grey in a light grey matrix, probably originally rich in feldspar. Fragments have a (sheared) trachyte texture with numerous sericitised feldspar phenocrysts. Fragments are sub-angular to amoeboid, typically		~~120~~.15	General aspect of Py unit, is more pyriti Typically 3-5%, ofte to 7% with fragments of sulphide rock, veins and stringers, and disseminated euhedral crystals.
1.20					
2.20					
2.95	125				

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DIAMOND DRILL LOG

Hole Nº QR31 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
		up to 5cm in long axis. Foliation (shearing) is 45° to c.a. Between 126.7 and 128.5m - medium grained lithic tuff.	F						
3.70	128.10								
	128.60	Med. gr. feld. crys. lithic tuff							
	130	Coarse lithic feldspar crys.tuff locally tuff-agglomerate, with random fragments v. rich in sulphide (Py). Frags. are subangular, elongate. Colour is grey to blue-grey, with carbonate and sericite alteration throughout, and irregular, richly chloritic bands.							
3.00								132.0	
	133.0								
	133.6	Med. gr.feld.crys.fine lith.tuff							
2.83	135	Coarse lithic tuff/tuff agglomerate; fragments up to 5cm, carbonate, sericite and pyrite rich; colour from pale green, light grey to black in a grey feldspathic matrix. Some pyritic fragments.						134.80	136m and below, Py rich rock fragments common.
3.05									
	139.6								
	140	Med. to fine gr. feld. crys. tuff,							
	140.4	rare lithic frags to 3cms.						140.4	
3.00		Coarse lithic tuff to tuff agglomerate as previously.							
	142.65								
		Chloritic, cleaved for 1m above fault zone.						142.60	Chloritic band with Py.
								143.10	Py c.20% marginal to and within siliceous veins, disseminated.
2.90	144.10	— — — — — — — — — —	F						
	145	FAULT ZONE, pug, carbonated chips of sulphide bearing lithic tuff.							
	145.20	chloritic between faults, sil.							
	146	ptygmatic veins, also carb.veining						146.00	
	146.40	FAULT ZONE. puggy, chips lith.tuff	F						
3.00		chloritic	c						
		148m to 150.50m intense quartz carbonate veining parallel to cleavage at 30° to c.a.	c						
	150							149.70	95%Py

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DIAMOND DRILL LOG

Hole Nº QR31 Page Nº 7

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
2.90		Below 150m the lithic tuff.tuff agglomerate texture is obscure due to the siliceous cherty matrix. Fragments are subangular to lath-like and vary from pink, through grey to green (chloritic)	BROKEN CORE	152.10	Py 50-60% finely dissem. euhedral crystals in a chlor-
3.11				153.40	itic matrix.
	155	Below 155m, the host rock, between richly pyritic or chloritic zones is very siliceous, a cherty matrix surrounds lithic fragments Carbonate veining in siliceous tuff host.		155.0 155.50	Py 75%
2.83				156.4	Py 50%, siliceous lithic tuff host; veins and aggregate of sulphide.
2.85				158.65	
	160				Py approx. 15-20% often as veins sub-parallel to the c.a.
2.95				162.20	
				163.50 163.80	Py 95%, chloritic matrix.
					Py 10%, trace gn.
3.05	165	5cms pug zone	F	165.0	
		Massive richly chloritic black schist, with coloform like carbonate alteration and carbonate filling tension cracks.			Py 40-50% as clots, veinlets, disseminations banded in part parallel to foliation, traces of gn and sp towards bottom of unit
2.94					
	168.70				
	170				
2.94					
	170.90	Sulphide dominant, where sulphide 50% host matrix seen to be cleaved sericite-chlorite.	F F F	170.90	Py 40-60%, massive bands and disseminations parallel to the foliation.
3.00				173.10 173.60	Gn 40% Sph 25% Py 15% Foliated 10cm - Sph 60%, Gn 10% Trace Cpy
					Pyrite 75%
				174.50	Sph 40%, Gn 40% Py 15%
	175				

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DIAMOND DRILL LOG

Hole No QR31 Page No 8

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
3.00					175.30	Tr. cpy. Massive bands sph, dissem. Py 75% in chlorite - sericite sheared matrix. Possibly disrupted beds.
					177.33	
					177.75	Py 35-40% in siliceous matrix
						Py 75% in massive bands of fine subhedral pyrite alternating with sheared sericite - chlorite zones.
	179.30				179.30	
3.00		Silicified or cherty coarse lithic tuff, with ramifying Py veins and clots.				Py 25%, Gn ave. 2% in scattered clots.
	180					
	180.33				180.33	Py 30% as massive clots, veins, colloform aggregates (around silica) of v fine cryptocrystalli material, (?remobilis beds).
		Gradational contact over 10cm to massive breccia sulphide ore. Large (10cm) blocks of sulphide, bedding streaked out, are set in a matrix of carbonate, silica and sericite, with crystals of remobilised galena, sphalerite and pyrite. Rare lithic fragments are apparent, some talc(?) alteration locally.				Gn averages 35%, locally 60-70% in block of breccia ore, bedde with sph, also recrys tallised to c. 1mm crystals. Sph 10% (locally 50% in blocks and disrupted bands, also veins Cpy, occurs as rare splashes.
3.03						
	185	Silica occurs as cavity filling, with coloform pyrite.				
2.99						
3.00						
	190					
	190.95				190.95	
3.05		Sheared talc-sericite alteration to a siliceous carbonated lithic tuff, (dacitic)				Py 10% ave., one vein parallel to c.a massive Py.
	194.10				194.0	
		Lithic tuff of siliceous feldspathic volcanic (?dacite or trachyte)				Py 15% as veinlets and stringers, Gn 5%, Sph 2%
3.04	195				194.90	Py 10% as veinlets and clots.
	196.40					
	196.80	Fine med. feldspathic tuff			196.85	
1.18		Sulphide dominated agglomerate of pale greenish grey sericitic subangular frags up to 5cm diam. with spotting of carbonate/sericite(?) after feldspar.				Py 15%, Gn 3-5%, Sph 3-5 All occur as diffuse, irregul to massive veins and veinlets often cross cutting lithic fragments. Also as sub-angular clots
1.75						
	200					

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DIAMOND DRILL LOG

Hole N° QR31 Page N° 9

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
2.90		The matrix is variably sericitic to siliceous (dark grey green to light grey-blue) with fine sulphide. 200.1 to 200.75m Agglomerate, greenish/white vesicular fragments			200.00	Gn crystals range up to 1mm.
					200.55	Py 10%, Gn 1%
3.06						Py 10%, Gn 5%, Sph 5% as veins, clots and stringers, locally richer than elsewhere but mineralised throughout.
	205	Carbonate occurs with silica as coarse irregular veins. Quartz, alone, is typically as narrow (<1cm) veins at right angles to the cleavage/rock foliation which is 30° to the c.a. The quartz veins appear to predate the cleavage, having a strained appearance and containing galena in "tension gashes" parallel to the cleavage - i.e. perpendicular to the veins.				
3.00						
2.92					209.60	
	210					Py 20%, Gn 15%, Sph 10-15%(?). Fine diffu
					210.94	bands at 30° to c
						Py 5%, Gn plus Sph 3-5% combined.
3.07	212.85	PyP / FT			212.78	
		Transition zone to next unit. Coarse siliceous grey lithic tuff with plastically deformed clasts				Trace Py, rare galen in quartz-carbonate veins.
	214.90	of ser. fine feld.(?) tuff-lava(?)				
3.01	215	Fine, greenish fawn, sericitic, carbonate rich quartz-crystal tuff (possibly ashflow). Cleavage (and bedding) is 35° to core axis A 40cm zone in the centre of the unit is of coarse siliceous lithic tuff.				
2.91						
	220					
		FT			220.60	
		PyP FAULT ZONE Sericitised, carbonate rich lithic tuff-agglomerate, blue grey in colour, with carbonate veining, locally sheared and richer in sericite-chlorite. Fragments are elongate due to shearing at 30-40° to c.a., typically light greenish grey with green sericite flecking.				Py < 5%, Tr Gn and Sph except where indicated: Py 15%, Gn 10%, Sph 5%.
2.98					223.63	
						Disrupted bands (?) and fragments of sulphide. Py 10% Gn 7% Sph 7%
2.95	225				225.0	

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DIAMOND DRILL LOG

Hole N° QR31 Page N° 10

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
									Py 5%, Gn 7%, Sph 2% as veinlets & clots.
								226.05	Py 20%, Gn 7%, Sph 5-7% in a sericitic sheared matrix. Fine nature of sulphides occurring in small clots makes estimatio difficult.
2.87								229.53	Py 15% ave. locally massive. Gn and Sph both 3-5% patchily richer as veinlets, and bands parallel to the foliation.
	230								
3.03									
								233.42	Py 5-7%, Gn 1%, Sph 1% (?) also manganese oxides within some fragments and in cleaved areas as a mottled, dendritic mass, finely mixed in part with Gn dust. Locally richer in bas metals: (3% Sph, 3%(? Gn).
2.80									
	235								
3.17									
1.35									
	240		F					240.15	Sph 10%, Gn 7%, Py20%
1.76								240.65	Py, Gn and Sph
								241.4	throughout as irre
								241.9	splashes and bands parallel to the foliation, 35-40° to c.
3.05								243.0	Background is 2-5% Py, ½-1% Gn-Sph com
								244.15	massive patches a indic. up to 30% of
1.49	245							244.75	both Gn and Sph.
1.40		10cm pug in fault.	F						25-30% Py, Gn 1% as clots and veinlets paralleling the foliation, locally ove intervals of up to metre, it could ave 3%. Sph occurs as rare massive aggregates.
3.0?									
	250								

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DIAMOND DRILL LOG

Hole N° QR31 Page N° 11

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
2.95									
3.02	255							254.20	Transition boundary over 50cms. Pyrite 3-5%, Tr Gn-Sph in carbonate veins.
	256.40	E.O.H.							

HOLE No QR 31 DATE 2/6/75

SAMPLE No	FROM (M)	TO (M)	IW (cm)	REMARKS	INITIAL ANALYSIS: %Cu AAS	%Cu XRF	%Pb AAS	%Pb XRF	%Zn AAS	%Zn XRF	%Fe TIT	ppm Ag AAS	ppb Au AAS	ppm Au FIRE	CHECK LAB: AMDEL INT.	%Cu XRF	%Pb XRF	%Zn XRF
159631	170.60	172.58	198		0.02		0.74			1.55		12	150					
159632	172.58	174.50	192		0.28			4.47		6.69		75	>500	1.3				
159633	174.50	177.00	250		0.54			9.65		16.0		165	>500	3.5				
159634	177.00	178.40	140		0.03		0.39			0.33		20	310					
159635	178.40	180.35	195		0.10			2.48		3.85		47	>500	2.7				
159636	180.35	182.34	199		0.64			14.9		25.1		200	>500	5.5				
159637	182.34	184.40	206		0.44			10.9		17.5		160	>500	6.0				
159638	184.40	186.52	212		0.37			15.5		25.2		190	>500	4.5				
159639	186.52	188.21	169		0.66			7.84		13.6		145	>500	5.0				
159640	188.21	190.90	269		0.50			7.33		13.8		140	>500	4.0				
159641	190.90	192.50	160		0.10		0.78			1.45		24	280					
159642	192.50	194.40	190		0.10			1.15		2.05		26	250					
159643	194.40	196.33	193		0.09			1.67		2.67		42	420					
159644	196.33	199.10	277		0.24			3.56		5.94		105	>500	1.0				
159645	199.10	201.85	275		0.16			2.53		4.01		31	320					
159646	201.85	204.60	275		0.36			4.23		6.47		70	460					
159647	204.60	206.73	213		0.20			2.29		3.12		39	260					
159348	206.73	209.60	287		0.27			2.30		4.12		58	340					
159649	209.60	210.97	137		0.66			6.50		15.5		110	>500	2.0				
159650	210.97	212.76	179		0.28		0.84			1.60		66	310					
159423	212.76	213.77	101		0.05		0.55			0.93		9	45					
	172.58	177.0	442		0.43			7.40		11.96		125.9		2.5				
	178.40	190.90	1250		0.45			9.82		16.56		147.5		4.6				
	196.33	210.97	1464		0.29			3.34		5.80		66.2	0.6	P NTH	East*0.11		3.05	6.00
	172.58	190.90	1832		0.41			8.52		14.21		132.6	3.2	P Nth		0.38	8.45	14.4

*0.11 result checked by CEPL Individually 0.22
Composite 0.25

HOLE No QR 31 DATE _____

SAMPLE No	FROM (M)	TO (M)	IW (cm)	REMARKS	INITIAL ANALYSIS: %Cu AAS	%Cu XRF	%Pb AAS	%Pb XRF	%Zn AAS	%Zn XRF	%Fe TIT	ppm Ag AAS	ppb Au AAS	ppm Au FIRE	CHECK LAB: AMDEL INT.	%Cu XRF	%Pb XRF	%Zn XRF
	220.25	234.41	1416		0.25		3.89		6.30			48.4		1.4		0.25	3.65	5.85
	Includes																	
	226.05	231.79	574		0.37		5.62		9.45			65.0		2.3				
	238.46	242.19	373		0.13		2.99		4.35			32.1		1.0		0.13	2.75	4.15
	Includes																	
	238.46	240.39	193		0.12		3.91		5.58			38.7		1.7				

HOLE No OR 31 DATE 25/4/75

SAMPLE No	FROM (M)	TO (M)	IW (cm)	REMARKS	INITIAL ANALYSIS: %Cu AAS	%Cu XRF	%Pb AAS	%Pb XRF	%Zn AAS	%Zn XRF	%Fe TIT	ppm Ag AAS	ppb Au AAS	ppm Au FIRE	CHECK LAB: INT	%Cu	%Pb	%Zn
156597	219.40	220.25	85	Datum block 217.4	<0.01			0.28		0.35		2	< 20					
156598	220.25	220.95	72	Block 220.4 ties in	0.25			3.79		4.60		51	>500	1.0				
156599	220.97	221.66	69		0.07			2.23		2.86		17	360					
156600	221.66	222.64	98		0.16			2.33		3.17		34	>500	1.0				
156601	222.64	223.66	102	Block 223.4 ties in	0.06			0.94		1.53		9	240					
156602	223.66	225.04	138		0.32			4.93		9.33		56	>500	1.3				
156603	225.04	225.71	67		0.17			2.00		3.97		34	>500	1.3				
156604	225.71	226.05	34		0.06			1.86		1.62		15	70					
156605	226.05	227.23	118	Block 226.4 ties in	0.46			6.17		10.5		92	>500	2.0				
156606	227.23	227.85	62		0.34			6.47		12.2		74	>500	3.0				
156607	227.85	229.50	165	Block 229.4 ties in	0.42			6.30		10.7		59	>500	4.0				
156608	229.50	230.48	98		0.45			5.25		8.49		63	>500	1.3				
156609	230.48	231.45	97		0.14			3.90		5.23		38	>500	1.0				
156610	231.45	231.79	34		0.30			4.83		9.59		67	>500	2.0				
156611	231.79	233.40	161	Block 232.4 ties in	0.18			2.89		3.64		45	>500	1.0				
156612	233.40	234.41	101		0.10			1.86		3.04		43	400					
156613	234.41	235.41	100		0.05			1.50		2.14		31	500	0.3				
156614	235.41	236.43	102		<0.01			0.71		0.90		7	>500	1.0				
156615	236.43	237.43	100		0.03			0.63		0.86		13	>500	0.5				
156616	237.43	238.46	103	Block 238.4 Meas 238.35	<0.01			0.42		0.21		4	>500	1.0				
156617	238.46	238.86	40		0.06			2.38		3.48		27	>500	1.3				
156618	238.86	239.86	100	Block 240 Meas.239.7	0.05			2.91		3.65		21	>500	2.3				
156619	239.86	240.39	53		0.31			6.95		10.8		81	>500	0.7				
156620	240.39	241.35	96	Block 241.4 Mea.241.33	0.02			0.85		1.53		12	300					
156621	241.35	242.19	84		0.26			3.32		4.73		40	200					
156622	242.19	243.40	121		0.09			1.42		2.28		12	250					
156623	243.40	244.75	135	Block 244.4 ties in	0.03			0.61		1.09		9	380					
156624	244.75	246.40	165	Block 245.9 ties in	0.39			2.08		3.95		27	350					
156625	246.40	247.30	90	Block 247.4 Mea.247.3	0.03			0.30		0.21		9	240					
156626	247.30	248.43	113		0.15			1.72		1.31		34	>500	1.0				
156627	248.43	250.33	190		0.16			2.83		2.35		38	>500	0.7				
156628	250.33	251.43	110	Block 250.4 ties in	0.10			1.85		1.33		29	370					
156629	251.43	252.95	152		0.04			1.09		1.16		17	300					
156630	252.95	253.96	101	Block 253.4 ties in	0.02			0.82		0.90		15	400					
	220.25	234.41	1416		0.25		3.89		6.30			48.4		1.4				

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DRILL HOLE RECORD

Location Que River Area | Property ML 3M/75 | District Tasmania | Alt./R.L. | Hole No QR31 extension

Commenced 14/6/76 | Completed 1/7/76 | Core size NQ to 479.1 , EOH. | Co-ordinate | Date 10/7/76

Objective | % Recovery 98. (comm. 256.4m) | Bearing (M) | Grid bearing (M) 8°45' | Logged C.H. Young | Dip

SURVEY DATA			
DEPTH	DIP	BEARING(M)	INSTRUMENT TYPE
286	40	105.5	Eastman
316	38.5	105	Single Shot
345	37	106	Camera
381	35.5	106.5	"
411	32	108	"
442	29	110	"
475	26.5	111	"

GRAPH DERIVED DATA						REMARKS
DEPTH	DIP	BEARING(M)	NORTHING	EASTING	ALTITUDE	
256.4	43.0	99.5	7644.78	5245.44	506.27	256.4-362.3m. Pyritic fragmentals
275.0	41.5	97.0	7644.90	5258.20	493.77	PyP_1, includes from 323.2 - 330.3m
300.0	39.5	100.0	7644.98	5278.20	477.53	minor veins and stringers of
325.0	38.0	100.5	7644.47	5297.69	461.88	disseminated base metals, trace overall,
350.0	37.0	101.5	7643.69	5317.51	446.67	possible S lens position.
375.0	35.5	102.0	7642.63	5337.64	431.88	
400.0	33.5	103.0	7641.28	5358.20	417.73	418.3 - 442.5 - Weakly pyritic lava
425	30.5	104.0	7639.52	5379.32	404.48	and lava breccia PyP
450	28.5	105.5	7637.25	5400.95	392.17	442.5 - 465.0 - Weakly pyritic fragmentals
475	26.5	106.0	7634.55	5422.96	380.63	PyP_1.
479.1	26.0	106.0	7634.08	5426.60	378.82	465 - 479.1 - Pyritic fragmentals PyP_1

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DIAMOND DRILL LOG

Hole N° QR31 ext Page N° 1

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	DEPTH m	MINERALIZATION
	255				
H NQ	256.4	Commence QR 31 extension		256.4	
2.8		PyP_1 Blue-grey, sericitised carbonate rich lithic tuff-agglomerate, as QR31.			Pyrite 3-5%, trace Gn, Sph in carbonate veins. (257.5m, 5cm sph 5 gn 3) in irregular vein.
3.1				259.3	Pyrite 10% as irregular veins and aggregates, trace sph, gn.
2.6		262.3m - 264.0m. Sericite alteration zone. The rock is completely sericitised, fragment outlines are obscure. Foliation 50° to core axis.	F F F	261.4	Pyrite 5% locally 30% as irregular veins and aggregates.
3.0	265			267	Pyrite 3% as disseminations and aggregates.
3.2		Below 268.5m silica alteration is dominant.			
3.1	270	Pale blue grey siliceous lithic tuff-agglomerate. Fragments are commonly darker than the matrix - porphyritic lava? with feldspar phenocrysts replaced by carbonate and sericite - fragments are generally sub-rounded, up to 6cm.			
	275				

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DIAMOND DRILL LOG

Hole N° QR31 ext. Page N° 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	MINERALIZATION
2.8		PyP_1 as above. The matrix is commonly light grey in colour and siliceous.	Pyrite 3% as above.
3.0	280		
3.0			282.4 15cm pyrite to 40%.
			283.25 10cm pyrite 40%
1.1			284.4 10cm pyrite 50% Tr sph, gn, as on irregular vein.
	285		
1.4			
2.1			
1.2		289 - 294.2. White to pale pink coloured quartz veins up to 10cm are common.	288.55 Pyrite 7% locally 15% as disseminations, irregular veins and aggregates. Rare aggregates of sphalerite and galena.
1.2			
1.2			
1.8			
	295		
3.1			
3.1			
	300		

VISUAL LOG: TRACE | COMMON | ABUNDANT | MASSIVE

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DIAMOND DRILL LOG

Hole Nº QR31 ext 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
1.5		300.2m, end silica alteration zone. Below 300.2m the rock is carbonated and silicious.		300.2	Pyrite 5% as disseminations and irregular aggregates. Rare sphalerite and galena.
3.0		Blue grey carbonate (silica) feldspar crystal lithic tuff agglomerate. Foliation approx. 40° C.A. Fragments are smaller than above 300.2m. Feldspar crystals are interpreted from aggregates of carbonate and sericite often with euhedral outlines.		305	Pyrite 40%, trace Gn,
				305.25	Sph. Irregular vein.
3.0		Lithic fragments are irregular to sub-rounded in outline - feldspar porphyry lava - occasional pyrite fragments have been noted.			Pyrite 5% rare sph, gn, as above.
1.1					
3.0	310				
3.05			BROKEN CORE		
	315				
3.1					
0.6		318.6 - 320m - sericite alteration is common.			
3.0	320			319.3	15cm pyrite 40% trace sph, gn as irregular vein.
2.8		323.3 - 324.3m - sericite alteration is common.		323.3	Pyrite 5% locally 10%, sphalerite 3%, galena 2-3% as irregular stringers.
2.8					Pyrite 5% as above tr Sph Gn
	325				

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DIAMOND DRILL LOG

Hole N° QR31 ext Page N° 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	DEPTH m	MINERALIZATION
3.1		Feldspar crystal lithic tuff agglomerate as above.		Pyrite 5% trace sph, gn as above.
3.1			327.2	Pyrite 10% sph 1% to < 1% as disseminations and irregular veins associated with minor carbonate veining.
	330		330.3	
3.1				Pyrite 5% rare sph, gn as disseminations and aggregates.
3.1	335			
			337.8	
3.1				20cm py 30%, sph 10, gn 8% as a stringer.
	340			
3.1				
	345			
3.1			347.5	Pyrite 305% as disseminations and aggregates.
	350			

VISUAL LOG: TRACE | COMMON | ABUNDANT | MASSIVE

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DIAMOND DRILL LOG

Hole N° QR31 ext. Page N° 5.

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	MINERALIZATION
3.1		Grey carbonated feldspar crystal lithic tuff agglomerate as above.	Pyrite 3-5% as above.
3.1			
	355		
3.1			
3.0	360		
		Below 362.3m fragments are often green in colour due to weak chlorite alteration.	
3.0			
	365	Fragments with carbonate-silica filled vesicles to 4mm have been noted.	
3.0		366.0m 40cm of barren-sericitised vesicular lava - DTL considered to be a "boulder".	
3.0	369.0	Fault zone. 80% sheared and broken core.	
	370		
	371.2		
2.4		Below the fault zone - feldspar crystals are not obvious within the matrix.	
3.1		Grey-green carbonated weakly chloritic lithic tuff-agglomerate.	
	375		

VISUAL LOG: TRACE / COMMON / ABUNDANT / MASSIVE; BROKEN CORE; F

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DIAMOND DRILL LOG

Hole N° QR31 ext. Page N° 6

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	380	Lithic tuff agglomerate as above.		330.1	Pyrite 3-5%as above.
3.1	380.1	Grey-green carbonate weakly chloritic coarse lithic tuff similar to the lithic tuff-agglomerate above.			Pyrite 3% as disseminations and aggregates.
1.8	385				
	386	Grey-green carbonated weakly chloritised lithic tuff-agglomerate - as above.			
3.1	390	Minor chlorite has been noted on fracture planes.			
3.1	395	Below 396.0m the matrix is light grey-green in colour, fragments green and chloritic.			
3.1	400				

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DIAMOND DRILL LOG

Hole No QR31 ext. Page No 7.

Feature : Bedding, Foliation, Fragment - size & shape (D%), 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	DEPTH m	MINERALIZATION
3.1		Grey-green carbonated weakly chloritised lithic tuff-agglomerate.			Pyrite 3% as above.
3.1	405	Fragments are occasionally vesicular-carbonate-silica filled up to 4mm.	F		
2.5					
3.0	410		F		
2.9					
3.0	415 415.4	Fault Zone. 80% sheared and broken core. Some pug.			
	417				
3.05	418.3	PyP_1 PyP_2 Grey-green carbonated, locally sericitised feldspar-porphyry lava-breccia.	C		
3.0	420	Feldspar phenocrysts to 4mm are represented by aggregates of pale green sericite. Fragments are irregular to sub-rounded in outline up to 6cm, porphyritic lava with a pale grey siliceous groundmass.			
1.5					
	425				

TRACE | COMMON | ABUNDANT | MASSIVE

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DIAMOND DRILL LOG

Hole No QR31 ext. 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	DEPTH m	MINERALIZATION
3.0		The matrix or groundmass is of similar composition and texture as the fragments.			Pyrite 3% as above.
3.0	430		c	429.1 429.5	Pyrite 20% as irregular vein sub-parallel to core axis. Pyrite 3% as above.
3.0	431.5	The rock is similar to above, however, now less brecciated. Grey-green carbonated locally sericitised porphyritic lava. (Similar to many DTL types)	c	431.5	Pyrite 3-5% as disseminations, aggregates and irregular veins of fine subhedral to euhedral crystals.
2.9	435		c		
3.1	440		c		
3.0	4425 PyP1	Grey-green carbonated locally sericitised lithic tuff-agglomerate. Lithic fragments are generally irregular in outline up to 6cm. They consist of pale green sericitised trachyte?. Grey feldspar porphyry lava and occasionally chert. The matrix is light grey in colour, fine grained and siliceous. There is a foliation and possibly bedding at 40° to core axis.			
3.0	445				
3.0	450				

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DIAMOND DRILL LOG

Hole N° QR31 ext Page N° 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
		Below 451.0m the rock is light grey to grey in colour.			Pyrite 3-5% as above.
2.9		As above.			
	455				
3.0					
3.0					
	460	Below 460.0m. Occasional pyrite fragments have been noted. Foliation, fragment alignment 40° C.A.			
3.0		463.0 - 473.5m. Siliceous alteration zone. Numerous quartz veins.			
3.0	465	Light grey siliceous feldspar porphyry lava breccia. Feldspar phenocrysts are represented by aggregates of pale green sericite and more often white carbonate. The rock is "fragmented". Fragments up to 6cm have been noted. The groundmass is light grey and siliceous, of similar colour and texture as the fragments.		465	Pyrite 2-3% as disseminations, aggregates and irregular veins.
3.0				467.2 467.5	Pyrite 15% as irregular vein at 20° to C.A.
	470				
3.0					
3.0					
	475				

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DIAMOND DRILL LOG

Hole N° QR31 ext Page N° 10

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
									Pyrite 2-3% as above.
3.0		PyP_1 as above.							
0.6	479.1	END OF HOLE							
	480								