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DRILL HOLE RECORD

Location Que River
Property Mineral Lease 2M/75
District Tasmania
Commenced 16/2/76
Completed 11/3/76
Objective
Core size NQ to 141, BQ to 328.5m
% Recovery 99%
Alt./R.L. 697.7
Co-ordinate 7605.77N 5072.55E
Bearing (M) 97°34'
Grid bearing (M) 8°45'
Hole N° QR 88D
Date 4/4/76
Logged CHY, EHS
Dip 60°43'

SURVEY DATA			
DEPTH	DIP	BEARING(M)	INSTRUMENT TYPE
0	60°43'	97°34'	Theodolite
26	62	103.5	Eastman
47	61.75	101	Single Shot
71	62	104	Camera
101	62	104	"
125	62	N/R	"
143	62	102.5	"
173	62	102	"
197	58.5	104.5	"
230	55	105.5	"
263	50	105	"
284	47	108	"
317	40.5	109	"
328	37	109	"

GRAPH DERIVED DATA						REMARKS
DEPTH	DIP	BEARING(M)	NORTHING	EASTING	ALTITUDE	
0	61.0	97.5	7650.77	5072.55	697.70	
25	62.0	99.0	7650.88	5084.48	675.73	
50	62.0	98.5	7650.88	5096.21	653.66	
75	62.0	99.3	7650.85	5107.95	631.58	
100	62.0	99.5	7650.71	5119.69	609.51	167.0-171.38m. Massive pyrite with minor sphalerite
125	62.0	98.5	7650.66	5131.42	587.44	
150	62.0	97.5	7650.82	5143.16	565.36	
175	61.5	97.5	7651.07	5154.99	543.34	201.78-202.6m. Massive pyrite with associated base metal mineralization.
200	58.0	99.8	7651.08	5167.57	521.75	
229	55.5	100.5	7650.74	5181.27	500.85	
250	52.5	100.5	7650.30	5195.96	480.63	
275	48.0	102.0	7649.59	5211.91	461.43	224.92-226.32m. Semi-massive pyrite with minor sphalerite.
300.9	44.0	104.5	7648.21	5229.21	443.45	
328.6	37.0	104.5	7646.04	5250.81	424.92	

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DIAMOND DRILL LOG

Hole N° QR88D Page N° 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
	0	NO CORE							
	5								
	10								
	12.0								
0.4		DTL. Carb., buff-grey lithic feldspar crystal tuff agglomerate.	F						Pyrite 2-3% as disseminations aggregates and irregular veins.
0.6		The rock is a fragmental dacitic tuff lava.	F						
	15								
3.0		Lithic fragments from 0.5cm to 6cm are irregular to rounded in outline consisting of pale green sericite, after phenocrysts in a buff coloured quartzo-feldspathic groundmass.							
3.0		The matrix is grey fine grained siliceous and pyritised.							
	20								
3.0		20.0 - 28.0m. The rock is carbonate rich, veins are irregular to 1cm.	F						
		Aggregates of white carbonate may represent feldspar or filled vesicles (within fragments).							
3.0			F						
	25		c						

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DIAMOND DRILL LOG

Hole No QR88D Page No 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	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
	25.2								
	25.5	Fault Zone - pug, sheared and broken core							Pyrite 2-3% as above.
2.0		DTL as above.							
1.7	29.3							29.3	Pyrite 3-5% as disseminations, aggregates, irregular veins of fine subeuhedral crystals.
2.3	30	PyPi. Grey sericitised locally carbonated lithic tuff agglomerate. The rock is fragmental, although essentially similar to the DTL above. Lithic fragments are irregular to subrounded consisting of DTL and occasionally grey tuff/chert? The matrix is grey, sericite, pyrite rich. The rock is sheared 40° C.A.							
3.0	35								
3.0	40								
1.3									
1.8								42.3	Pyrite 10% locally 20% as disseminations and aggregates.
1.2	44.3	Fault zone. Pug, 80% sheared and broken core.							
0.8	45							45.3	Pyrite 10% as above.
0.3	46.7							46.0	Pyrite 40% locally 60% as disseminations, aggregates and irregular veins. Sphalerite as fragments and stringers 1-3%, galena 1% barite 3%
2.8	49	Fault zone. Pug, sheared and broken							
	50							49.7	Pyrite 3-5% as above

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DIAMOND DRILL LOG

Hole N° QR88D Page N° 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
3.0	53.0	Fault zone as above. 50.8 - 51.2. The rock is partly re-cemented with carbonate. Sheared 40° C.A.			Pyrite 3-5% as above.
3.0	54.7	Fragments of buff coloured DTL to 6cm have been noted. GRADATIONAL CONTACT		54.7	
3.-	55	DTL. Grey-buff carbonated, locally sericitised lithic tuff agglomerate (locally fdxt-lava breccia) Lithic fragments are feldspar crystal tuff-lava. Feldspar crystals represented by aggregates of pale green sericite in a buff coloured quartzo-feldspathic matrix. Fragments are irregular to subrounded in outline up to 10 cm.	BROKEN CORE		Pyrite 2-3% as disseminations and aggregates of fine subhedral to euhedral crystals.
3.0	60				
3.0	65	The matrix is fine grained, grey and siliceous, partly pyritised.			
2.3		There are occasional bands of grey lithic tuff - generally about shear zones, thus tectonic breccia?			
2.5		Aggregates of green illite-hydromuscovite have been noted.			
1.2	70				
1.0	71				
2.0					
	75				

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DIAMOND DRILL LOG

Hole N° QR88D 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	DEPTH m	MINERALIZATION
3.0		DTL as above.			Pyrite 2-3% as above.
3.0	80				
3.0		Below 83.0m the rock is fragmental in appearance. Brecciated DTL? or Lithic tuff agglomerate.		84.8	10cm Py 10% as irregular vein associated with carbonate.
		PyPi. Grey-buff carbonated locally sericitised lithic tuff agglomerate. Lithic fragments are irregular to sub-rounded in outline, commonly Fdx t-lava fragments of grey recrystallised chert and pyrite have been noted. This rock has some DTL character.		87.0	Pyrite 3-5% as disseminations, aggregates and irregular veins.
	90				
3.0	91	DTL as above 87.0m. Grey-buff carbonated locally sericitised feldspar crystall tuff-lava (locally lava breccia).		91	Pyrite 2-3% as disseminations and aggregates.
3.0	93.8	Fault zone. Pug, sheared and broken core			
	94.7 95				
3.0		Alteration along irregular fractures has turned the rock grey in colour, giving the appearance of Leisegong banding. Jointing 45° to C.A.			
3.0	100				

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DIAMOND DRILL LOG

Hole No QR88D 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.						100.5	Pyrite 2-3% as above. Pyrite 5% locally 10%
3.0		100.5 0 102.2m. Minor fragmental band — or breccia? PyP1?						102.2	Pyrite 2-3% as above.
3.0	105								
3.0									
	110	109.3m. 10cm carbonate cemented breccia zone.							
3.0									
3.0	115	113.4-114.3. Grey breccia zone, appears to be PyP1 type about fault at 113.7m.	BROKEN CORE					113.7	10cm pyrite 10% generally as fragments. Pyrite 1-2% as disseminations.
3.0									
3.0	120								
3.0		123.9 - 125.4m. Coarse lithic tuff band, mixed fragment types.							
	125								

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DIAMOND DRILL LOG

Hole N° QR88D 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	DEPTH m	MINERALIZATION
3.0		DTL as above.		Pyrite 1-2% as above.
3.0	128.3	Fault zone. Pug, breccia, sheared and broken core. 30° to C.A.		
	130		130	
	131	PyPi. Fault contact. Grey sericitised locally carbonated and Fault zone. Pug, sheared at broken core sub-parallel to C.A.		Pyrite 30-40% locally 50% as disseminations, bands aggregates and irregular veins. Rare sphalerite, galena and chalcopyrite.
3.0	132.9	silicified feldspar crystal tuff lava. Heavily pyritised.		
	134.6		134.6	Pyrite 3-5% as disseminations, aggregates and irregular veins.
3.0	135	DTL Buff-grey carbonated locally sericitised feldspar crystal tuff-lava. Locally brecciated.		
		PyPi. Silicified locally sericitised and carbonated blue-grey lithic tuff.	136.8	Pyrite 5-7% as disseminations, aggregates and irregular veins.
3.0		Lithic fragments are grey in colour, sericitised trachyte?-feldspar crystal tuff lava and occasionally chert.	138.3	Pyrite 50% over 30 cm.
1.0	140	The matrix is fine grained grey and siliceous.		
BQ N/C				
1.0				
3.0				Pyrite 5-7%, veinlets, disseminated grains etc.
	145		145.70	Massive py vein 60% 5cms.
3.0		Silicified, sericitised, carbonated, blue-grey lithic tuff, with occasional light grey deformed chert bands. Foliation commonly sub-parallel to core axis.	148.20	Massive recryst pyrite 85% sphalerite near 148.20 av. 10½
	149.62	Shearing parallels core axis	149.17	Pyrite 5-7%
	150	FAULT ZONE	149.43	Pyrite 50% Tr Fe rich sp
			150.03	

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DIAMOND DRILL LOG

Hole N° QR88D Page N° 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
2.96		Short intervals of competent core (10cm) alternate with puggy and rubbly zones. Pug zones vary from 50° to parallel to core axis.			Pyrite 5%, occasional bands of semi-massive pyrite.
		Irregular (remobilised) carbonate veining is present throughout.			
2.80					
	155			155.15	Partly leached massive pyrite (90%) sphalerite is patchy ?5%.
3.00	157.10			157.10	Pyrite 2%
		Lithic tuff, continues, texture largely obliterated by alteration - silicification and sericitisation.		157.70	Massive pyrite, cubes to 1mm, sericite matrix. Py, 85%
				158.86	Pyrite 2-5%
3.00		Note Py cubes to 3mm		160.00	Pyrite 85% sericite-carbonate 9%
	160			160.36	Pyrite 5%, some splashes of sphalerite
				161.90	Pyrite 90%
3.05		Sheared		162.22	Pyrite 10-25% as distorted veins or bands, at 35° to core axis.
	163.54	FAULT ZONE.			
3.10	165	Short intervals of competent core, alternate with pug zones, and zones of subangular rock chips (to 1 cm) in a soft sericitic matrix. Cleavage varies, all angles to core axis.		167.0	Pyrite 60-70% sphalerite 7%, massive bands, sub-parallel to core axis, blackish brown colour.
		Disrupted white carbonate veins occur throughout.			
2.80				169.0	Pyrite 10-15%, trace black sphalerite.
	170	Note zone of intense Mn Oz development near 171m.			
2.70				171	Pyrite trace to 5% disseminated grain, pyrite rich fragments.
2.90	175				

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DIAMOND DRILL LOG

Hole N° QR88D Page N° 8

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
3.00	180	Fine to medium grained lithic tuff. Blue-grey to black sheared fragments occur in a light-grey sericite-carbonate rich matrix with occasional carbonate veins. Cleavage is 25 to 30° to core axis.			
3.00					
2.90	184	Indefinite contact,			
	185	Sheared tuff-agglomerate, blue-grey to black fragments in a light grey sericite-carbonate rich matrix. Cleavage is 25-35° to core axis.			
3.00					
3.00	190				
	191.77				
1.45	192.47	FAULT ZONE. Cleaved and puggy core.		192.47	Pyrite 5-7%
		Sheared tuff-agglomerate continues			
4.50	195				
				197.55	Pyrite 75%, some patches only 5%
2.70		Sheared; carbonate veins			
	199.70	Fault zone - 20cm pug		199.00	Trace pyrite
	200			199.70	Pyrite 60%, variable to 25%

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DIAMOND DRILL LOG

Hole N° QR88D 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
3.10		Rock is altered (white and yellow carbonate, silica, and sericite), tuff agglomerate or agglomerate, texture is not clear. There are many randomly (?) oriented quartz and carbonate veins, the former of a diffuse nature, commonly with fringing pyrite.		201.93	201.93-202.18 Massive pyrite-sphalerite galena, all 15%. 202.18-202.40, massive pyrite 80% 202.40-202.55, massive pyrite and sphalerite-galena. (Sph 50%, gn 10%) 202.55-202.90, pyrite 65-75%. 202.90 onwards - Pyrite 15% as occasional bands, (veins, with and without carbonate) often at 35° to core axis. Some bands contain sphalerite-galena, trace only on average. Sulphide veins are commonly sub-parallel to core axis.
3.00	205			202.55	
3.05				202.90	
3.00	210				
3.00		Texture not clear, but rock contains numerous sericitised feldspar phenocrysts. A fragmental texture is present locally.			
2.95	215				
2.95	220				
2.90	221.65	FAULT ZONE. Rubbly core, some pug zones, competent core is strongly cleaved at 30° to core axis.			
	225				

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DIAMOND DRILL LOG

Hole No QR88D Page No 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	DEPTH m	MINERALIZATION
2.70	227	Carbonate veined, sericite tuff-agglomerate-agglomerate continues, Texture obscured by alteration and shearing.	TRACE COMMON ABUNDANT MASSIVE	225.10	10cm pyrite 95%
				225.96	
				226.26	Pyrite 50%, sph. 40%
2.95					Pyrite averages 5-7% locally massive with sphalerite and galena.
	230				
2.90					
				232.28	
					Pyrite 40%, sphalerite 5-7% galena trace
				233.20	
3.00					Pyrite 5% with occasional veins rich in sphalerite at 30° to core axis.
	235				
				236.20	Pyrite-sphalerite-chalcopyrite-carbonate vein with sphalerite-pyrite in adjacent lithic tuff.
3.10					238.00. Pyrite-sphalerite-chalcopyrite vein 10cms.
	239.91				
2.60	240	FAULT ZONE, rubbly. Altered blue-grey to greenish-black tuff-agglomerate continues.			
3.05					
	245				
3.00				246.50	Pyrite averages 5% with numerous, narrow (sub 5cm bands) containing sphalerite and trace galena. Sphalerite is trace only
3.00	250				

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DIAMOND DRILL LOG

Hole N° QR88D Page N° 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
									on average.
		Tuff-agglomerate continues, sporadically veined by quartz and carbonate at 35° to core axis most commonly.							
2.95									
	255								
3.00									
3.00									
	260								
2.97									
3.00									
	265								
									5 cm rich in pyrite-sphalerite-galena.
3.00									
									3cm rich in pyrite-sphalerite-galena.
	270								
3.00									
									Continues as above pyrite 5%, veins of pyrite-sphalerite-galena periodically, at 35° to parallel to the core axis.
3.00									
	275								

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DIAMOND DRILL LOG

Hole N° QR88D Page N° 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
3.00									Pyrite 5%. Veins pyrite-sphalerite-galena at 30° to core axis.
3.00	280								
3.05									
	285								
2.96		Uniformly dark grey, andesitic, pyritised tuff-agglomerate continues.							
3.07									
	290							290	Pyrite 5% locally 10-15%, rarely massive.
3.00									
2.98	295								
3.10		Cleavage is 35-40° to core axis.							
	300								

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DIAMOND DRILL LOG

Hole N° QR88D Page N° 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
3.09		Dark grey cleaved tuff-agglomerate, erratic carbonate veining throughout. Some pale cream to white, porphyritic fragments occur but most are dark grey.							Pyrite 5%, locally 10-15%, occasional veins with sphalerite and galena.
2.95	305								
3.05									
3.00	310								
3.05									
2.94	315								
1.00									
2.90	320								
2.00									
	323.72	PyP1						323.72	Pyrite trace only
		Carbonated vesicular feldspar-porphyry lava. (sericitised) Cleavage at 50° to core axis. Note traces of green white hydromuscovite. PyP1							
	324.78 325							324.78	

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DIAMOND DRILL LOG

Hole N° QR88D Page N° 14.

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
2.70		Dark grey sheared, sericitic agglomerate? cleavage is 45° to core axis.							Pyrite 5-7%, with traces of chalcopyrite in quartz veins, also sphalerite associated with some short (5cm) massive pyrite intervals.
0.15	328.5	END OF HOLE							
	330								