421123

DIAMOND DRILL LOG

PROSPECT: Burn's Peak Tas. EL 44/88 HOLE No.: BPD 69

Set-up Azimuth: 090° (mag) Decl'n: 50 Final Depth: 420·5

Date Commenced: 2/8/90 Date Finished: 6/9/90

Purpose of Hole: To test extensions of the Brown's Tunnel stratigraphy for base metal mineralisation.

Result: Brown's Tunnel Stratigraphy from 257·0 - 280·4 m. Minor sphalerite 260·5 - 264·8 m & 361·0 - 362·7.

Contractor: Diamond Drillers Tas. (Zeehan) Hole Size: HQ/NQ

Casing (m steel/pvc in hole): 420·5m P.V.C.

Co-ordinates: Local 5600N N 4840 E ____ m RL
AMG 53 84937·2 N 377675·7 E 460·2 m RL

Surveyed by: W.C.M.E.S. (G.Watts, Rosebery) Date: Oct. 1990.

DOWN HOLE SURVEY DATA:

Depth	Azimuth (° mag)	Decl'n	Depth	Azimuth	Decl'n
52	92	48			
100	95	46			
151	96	45			
202	100	44			
253	100	43			
304	102	42			
355	103	41·5			

Survey Instrument: Eastman Camera.

SAMPLING INFORMATION:

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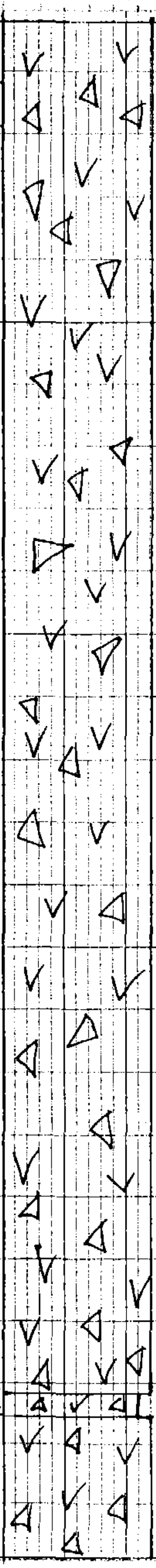
From	To	Element/Isotopes Petrology/etc.	Sample	Method	Lab	Date
94	129	Au	Split Core	FA 1	Classic	Oct. 1990.
196	208	Cu Pb Zn		AAS 1		
254	256	Ag		AAS 2		
266	408					
(2m samples)						

DRILL LOG SUMMARY

From	To	Core Description	Significant Assays
0	89.9	Coarse Rhyolite Breccia	
89.9	92.6	Bedded sandstone + ash.	110-112 0·10g/t Au 116-120 0·12g/t Au
92.6	172.0	Coarse Rhyolite Breccia	128-129 0·34g/t Au
172.0	199.8	Sandstone + siltstone	
199.8	209.5	Peperite - Rhyolite lava	
209.5	257.0	Rhyolite lava	
257.0	280.4	Interbedded shale, coarser sediments + pumiceous tuff. Bedded pyrite ± traces of galena - sphalerite in shales. Tuff highly sericitised.	260-266m; ·066g/t Au 152ppm Cu; 2830ppm Pb; 6733ppm Zn.
280.4	292.9	Highly sericitised acid pumiceous tuff.	
292.9	294.3	Bedded grey shale	

DRILL LOG SUMMARY

From	To	Core Description	Significant Assays	
294·3	304·8	coarse sedimentary breccia.		
304·8	305·8	Bedded grey shale (siliceous) and sandstone.		
305·8	317·9	Strongly sericitised and silicified acid pumiceous tuff.		
317·9	403·3	Variably altered volcaniclastics.	360-362 362-364	1.02% Zn. 9200ppm Zn
403·3	420·5	Quartz feldspar porphyry.		
		End of Hole		

Depth	Graphic log	Structure	Alt.	Rock Description / Petrology Sample
Tricone 3.0 Start coring @ 3.0m				Highly weathered, very broken ground ? Rhyolite lava breccia.
10 13.0		Broken ground		Breccia composed of quartz-feldspar phyric fragments. The alteration of the fragments varies, some are pink, siliceous and angular, others are strongly sericite-altered, foliated and have indistinct boundaries. Clast size varies from 2-10mm. Some clasts are flow-banded. The rock is probably a lava breccia, with fragments having initially the same composition but experiencing different alteration. The other possibility is that it is an epiclastic and that the sericitic fragments were highly vesicular prior to alteration. Some of the quartz in these fragments looks more like vesicle in-filling than phenocrysts.
20		20.0 21.3 Chlorite-q veining	Ser Sil (cb)	The breccia is clast-supported with a fine siliceous matrix identifiable in places.
30		?-? Late-stage brecciation with qtz matrix. 31.7	Sil	Rhyolite Lava Breccia.
40		1-4mm qtz-carb veins, 2/m. Some with specks of galena + sphalerite.	Traces Sp, gn in veins.	
50 55.4 58.4			Ser sil (cb)	This interval is predominantly sericitic fragments. Av. grainsize is smaller. Matrix is f.g. silica.

Scale 1: 250.

HOLE No :- BPD 69

5 cm

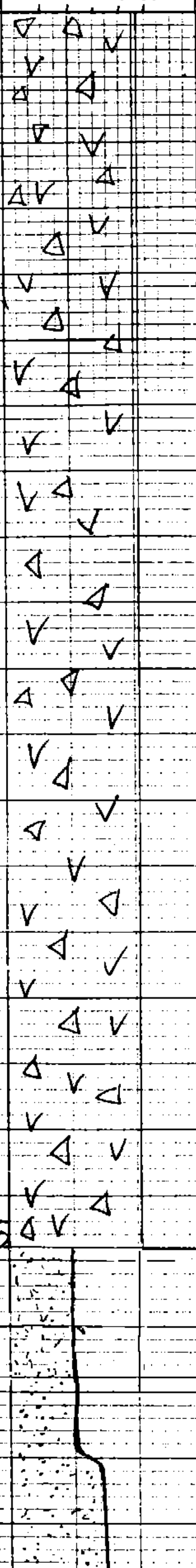
Depth	Grain Size (mm) .06 .5 2 8 32	Structure	Alt.	Cu Pb Zn	Pyrite	Rock Description
			Ser sil (cb)			Pink + green. Rhyolite Lava Breccia.
70						
		78.3 Cb+sil stringers. 79.3 acl 40°. Bkn ground.		Tr. Sp, gn		
80						
k uce to NQ at 89.7		86.5 Zone of late stage 86.1 jig-saw brecciation. 40°		Tr. sp.		
90 89.9 91.1 92.6		Core-bedding 50°.				Upward fining sandstone to ash, bedded sediments. Grey colour.
				94.7		
			Ser sil cb.	Rare sp.		Pink and green Rhyolite Lava Breccia.
100						As above, though clast size is smaller.
					Tr. dis.	Below 152.2 the pink, silicified clasts become rare and the rock consists predominantly of sericite patches / clasts in a fine silica/sericite groundmass.
		Cb+sil veining, intense	Sil Cb Ser			
110						
			Ser sil Cb (chl)			Carbonate alteration is more intense and enhances the altered feldspar phenocrysts. In places these are stretched out along cleavage.
120						

Scale 1:250

HOLE №:- BPD 69.

5 cm

421129

Depth.	Grain Size (mm) ·06 ·5 2 8 32	Structure	Alt.	Cu Pb Zn	Pyrite	Rock Description.
130		129.1 — 5-10mm quartz vein 20°		— Sp in vein	— in vein	Occasional spots of sphalerite between 94.7 + 122.6 may be associated with the carbonate alteration.
			Ser Sil Cb (alt)			
140						
150						
160						
170						
172.0		contact 5° wavy shape.				
		172.8 Bdg 25°	Ser			
		173.6 Bdg 25°	Sil			
		disp. on microfract. @ 8°.	(Cb)			Upward fining sandstone / siltstone
180		174.8 late stage qz-Cb vein 45mm 25°.				Clasts are silica + sericite altered rhyolite and bedded sediments.
		174.8 - 192.4 Fine cb vns.				

Scale 1:250

HOLE No :- BPD 69

5 cm

Depth.	Grain Size (mm) ·06 ·5 2 8 32	Structure	Alt.	Cu Pb Zn	Pyrite	Rock Description.
190		and infills. 4/m all angles.				Matrix fine, grey, siliceous (locally).
		192.4 ?Fault	ser			Overall colour; grey, pink and green.
		193.0 Bkngnd.				
		175.3 Bedding 20°	Ser Sil			196.0 - pyrite ?clast 197.6 - sphalerite ? clast.
200 199.8		Contact 50°	sil ser	Tr Sp		
	√				Tr- 1%	Looks like a zone of mixing between rhyolite lava and sediments. Peperite textures. Sediments are incorporated in the pink, qtz & fsp-phyric lava & give it a fragmental appearance.
	√		Sil			
210 209.5	√		(cb) (chl)			Pink, flow-banded, quartz and feldspar-phyric rhyolite lava. Feldspars highlighted by late carbonate alteration. Chloritic & siliceous bands define flow banding.
	√	Flow banding consistently 35°	-			
230	√					
	√			235.7 Tr Sp in vn.		
240	√					
	√	244.9 245.2	ser	tr sp gn	1%.	245.3 246.8 - Zone of autobrecciation.
250						

5 cm

Depth.	Grain Size (mm) .06 .5 2 8 32	Structure	Alt.	Cu Pb Zn	Pyrite	Rock Description. 421131
257.0			ser (sil) (chl) (cb)			254.2 – 254.3 Breccia, zone of probable autobrecciation.
260		core-bedding angles: 261a – 65° 238.5 – 75° 251.7 – 65°	chl (cb)		3 (bdd)	"Package" of sediment that correspond with the "Browns Tunnel Host Rocks". They consist of bedded dark grey to black shales coarser sediments and highly sericitised pumiceous tuff. The tuff has been identified as such by Geoff Green's petrological work on BPD 62 (sample @ 527.5 BPD 62).
262.2			sil ser	sp gn	10	
			ser	sp gn	5	
269.0 / 270			ser cb sil		1	
275.8						A vesicular andesite with disseminated pyrite mineralisation and fragments of sil. sediments within it occurs below the sediments.
280 / 280.4		Fault contact 35° + cb vng + g. pyrite.	ser chl (sil)	Tr Sp.	5 on flt.	The sediments weakly mineralised, with bedded pyrite + minor sp + gn in veinlets.
283.1		Contact 50° Wavy banding has different orientations. – 30, 28, 5.	ser cb sil		–	Highly sericitised, sheared ? tuff. rare siliceous patches.
290						Acid pumiceous tuff. Wavy banding which changes orientation, possibly due to deformation. Some shale clasts + sil. ? lapilli. Pale green highly sericitised with sil. "nodules".
292.9		core/bdg 30°	chl cb ser		(contact)	Bedded grey shale, strongly alt. on contacts.
294.3 / 300			sil ser (clasts)			Coarse sedimentary breccia. Polymictic. Mostly angular rhyolite + bedded sediment clasts. Fine siliceous matrix.
304.8			chl		2	Bedded sandstone
305.8 / 310		cb-filled fault on contact 70° Cleavage 30° Banding 50°	ser sil	Tr sp, gn	1	Pale green and light grey. Mixture of strongly sericitised tuff and grey shale. Tuff wraps around the shale which pinches + swells on the foliation.

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5 cm

421132

Depth.	Grain Size (mm) .06 .5 2 8 32	Structure	Alt.	Cu Pb Zn	Pyrite	Rock Description.
312.9 313.5			312.9 sil 313.5			Spots of pink sil [illegible] throughout. Some of the shale is pyritic.
317.9			[illegible] ser sil	Tr cp (vein)		[illegible] pink sil alteration replaces sericite sil. Below 313.5, silica is no longer present.
320		Foliation 30° defined by cb + ser.	Chl Sil cb			[illegible] volcaniclastic, with siliceous pink [illegible] clasts + small, wispy, chlorite clasts, pumice. Minute wisps of cb. Some sil. alteration spots. (to 10mm)
326.0		Sharp contact ē qz vng. Fault 45°	pink sil patches chl (ser)		Tr	Pink + green Feldspar-rich volcaniclastic. Numerous dark green, chloritic, flattened clasts. Remnant feldspars (now carbonate) are highly visible within the chloritic patches and in the matrix, which is fine, and sericitic or siliceous.
330		Strong foliation throughout [illegible] 337.2 [illegible]				Apparent change in lithology is probably only a change in alteration.
340			[illegible]	346.5 Zn in sil. bnds.		Siliceous banding, parallel to cleavage from 346.3–346.8. Colour pale green.
350		350.0 ↓ foliation @ 45°	—		1	
			356.6 pink Sil ser (cb)			Pale green finer unit ē siliceous banding which has consistent orientation. There is also wispy layering in sericite fragments which not concordant with the siliceous bands. (to 359.1m)
360		Siliceous layering @ 45° 359.1m				
364.2		m/fault ē 20mm disp. 15° 364.2–370.5 cb-sil vng.	364.2 Chl (sil) (ser) (cb)	Sp, Gn in sil patches	3	Pink - dk green coarser fragments (up to 40mm) made of chlorite ē fspar (now cb) phenos.
370 370.5		Siliceous layering 45°	370.5 Sil ser (cb) 372.5			Pale green, finer unit ē sil. bands.
372.5		372.5 Fault, [illegible] zone.				Pink - dk green coarser

Scale 1: 250

HOLE No:- BPD 67

5 cm

Depth.	Grain Size (mm) ·06 ·5 2 8 32	Structure	Alt.	Cu Pb Zn	Pyrite	Rock Description.
						chlorite fragments.
						The size of the fragments
380						changes throughout, but
						grading indicating facing
			pink sil	Tr Sp, Gn		is not evident.
			chl	in sil		Sphalerite occurs in
			(ser)	zones		siliceous zones throughout,
			(cb)			especially from 360.0 to
390					5	364.2, where it corresponds with
						a zone of pink alteration.
						The siliceous zones are parallel
						to bedding (sil lamping) in places
						but in other places they look to
						be cross-cutting. There is also
400			400.5			an association with carbonate,
			ser (sil)			suggesting min. maybe Devonian
			403.1 (chl)		3	Pink on contact.
403.3			ser			
			Cb			
			(chl)			Quartz feldspar porphyry.
			(sil)			Euhedral quartz + feldspar
410						crystals in a fine, siliceous
						groundmass.
420						END OF HOLE.
420.5						
430						

5 cm