DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

Hole_ID	MS10	Project	
Hole_Type	DIAMOND	Tenement_No	
Year	1999	Prospect	BEATRICE
Geologist	KPD	Date	1st October 1999

Depth	Lithology Code	Lithology Colour	Cu	Pb	Zn	Graphic Log	Comments	Alteration	Mineralisation
0									
		597					0.0 – 21.2m. Weakly pyritic, black shale. Minor carbonate veining. The shale is badly broken per 0.0 – 12.8m.		
5		598							
		599							
10									
		901							
		902							
15									
		903					* black shale geochemistry sample. Sa 013		
20		904							

645199

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

Hole_ID	MS10	Project	
Hole_Type		Tenement_No	
Year		Prospect	
Geologist	KPD	Date	13th October 1998

Depth	Lithology Code	Lithology Colour	Cu	Pb	Zn	Graphic Log	Comments	Alteration	Mineralisation
20						0.1 1 mm 4 16			
		905					21.2 – 71.5m. Quartz feldspar porphyry mottled pink green. * Very sharp contact with overlying black shale. Quartz crystals 3-4mm and Pink tabular feldspars 2-3mm. * From 65m → 71.5m the porphyry becomes increasingly brecciated toward the fault.	Grap/shale contact 026 Wk K-Spar Chl.	
25									
30									
35									
40									

645200

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

Hole_ID	MS10	Project	
Hole_Type		Tenement_No	
Year		Prospect	
Geologist	KPD	Date	1st October 1990

Depth	Lithology Code	Lithology Colour	Cu	Pb	Zn	Graphic Log	Comments	Alteration	Mineralisation
40						a·f f mm 2 4 16			
								Weak K-Spar	
45									
								Chl	
50									
55									
							– 56.1m sized down to NQ,		
60									

645201

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

Hole_ID	MS10	Project	
Hole_Type	DIAMOND	Tenement_No	
Year	1999	Prospect	Beatrice
Geologist	KPD	Date	2/10/99

Depth	Lithology Code	Lithology Colour	Cu	Pb	Zn	Graphic Log	Comments	Alteration	Mineralisation
60						0 1 1 mm 2 4 10			
65									
70							65 - 71.5m qtz feldspar porphyry breccia, clasts from 2mm - 20mm are subrounded matrix is dark chlorite.		
75							71.5 - 98.2m. Strongly broken, quartz carbonate veined black shale, Major 20cm pug zone 71.5 - 71.7m. The entire interval has 1-5cm pug zones. Major quartz carbonate veins at 83.8 - 88.4, 96.6 - 97.9m. Itat Creek Fault	qtz, cb	
80								sil	

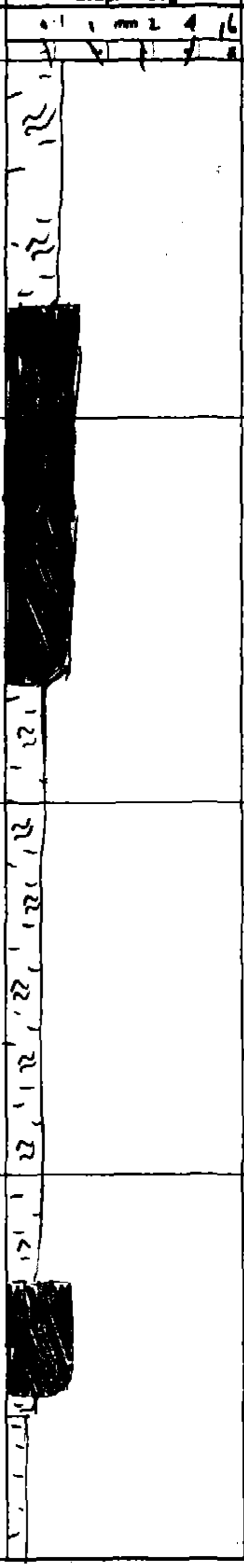
645202

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

Hole_ID	MS10	Project	Queenstown
Hole_Type	DIAMOND	Tenement_No	6/98
Year	1999	Prospect	BEATRICE
Geologist	KPD	Date	2/10/99

Depth	Lithology Code	Lithology Colour	Cu	Pb	Zn	Graphic Log	Comments	Alteration	Mineralisation
80									
85								qtz carb vein	
90								So/012	
95								qtz carb	
100							98.2 – 256.1m Black Shale.		



645203

6/33

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

Hole_ID	MS10	Project	Queenstown
Hole_Type	DIAMOND	Tenement_No	EL 6/98
Year	1999	Prospect	BEATRICE
Geologist	KPD	Date	2/10/99

Depth	Lithology Code	Lithology Colour	Cu	Pb	Zn	Graphic Log	Comments	Alteration	Mineralisation
100						0.1 1 mm 2 4 16			
							This black shale unit is unmineralised, has as thin white carbonate interbeds, (This may help with correlations). Minor thin calcite veins. From 98.2 – 113.2 the unit is still broken with ruggy sheared zones.	So/011	
105									
								So/019	
110									
115							* black shale geochemistry sample.		
								So/024	
120									

645204

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

Hole_ID	MS10	Project	Queenstown
Hole_Type	DIAMOND	Tenement_No	6/98
Year	1999	Prospect	BEATRICE
Geologist	KPD	Date	2nd October 1999

Depth	Lithology Code	Colour	Cu	Pb	Zn	Graphic Log (0.1, 1 mm 2, 4, 16)	Comments	Alteration	Mineralisation
120									
								So / 028	
125									
							* Sandy bed grades uphole	So / 018	
								Sericite / 2mm CG / veinlets 028	
130									
								So / 020	
135								So / 024	
140									

645205

8/33

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

Hole_ID	MS10	Project	Queenstown
Hole_Type	DIAMOND	Tenement No	EL 6/98
Year	1999	Prospect	BEATRICE
Geologist	KPD	Date	2/10/99

Depth	Lithology Code	Lithology Colour	Cu	Pb	Zn	Graphic Log	Comments	Alteration	Mineralisation
140									
								So/042	
145									
								So/049	
150									
								So/018	
155									
								So/028	
160									

645206

9/33

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

Hole_ID	MS10	Project	Queenstown
Hole_Type	DIAMOND	Tenement_No	B/98
Year	1999	Prospect	BEATRICE
Geologist	KPD	Date	2/10/99

Depth	Lithology Code	Lithology Colour	Cu	Pb	Zn	Graphic Log	Comments	Alteration	Mineralisation
160						mm 2 4 16			
								So / 029	
165									
170								So / 036	
175							171.6 – 183.4m broken core associated with a shear/ fault zone 179.5 – 192.4m		
180									

645207

10/33

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

Hole_ID	MS10	Project	Queenstown
Hole_Type	DIAMOND	Tenement_No	EL 6/98
Year	1999.	Prospect	BEATRICE
Geologist	KPD	Date	2nd October 1999

Depth	Lithology Code	Lithology Colour	Cu	Pb	Zn	Graphic Log	Comments	Alteration	Mineralisation
180						0.5 1 mm 2 4 16			
185									
								So/02A	
190									
195								So/03A	
200								So/009	

645208

11/33

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

Hole_ID	MS10	Project	Queenstown
Hole_Type	DIAMOND	Tenement_No	EL 6/98
Year	1999	Prospect	BEATRICE
Geologist	KRD	Date	2/10/99

Depth	Lithology Code	Lithology Colour	Cu	Pb	Zn	Graphic Log	Comments	Alteration	Mineralisation
200									
205									
210									
215									
220									

Sc / 34

Sc / 016

Sc / 032

020 / Rig Clean

Sc / 018

645209

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

Hole_ID	MS10	Project	Queenstown
Hole_Type	DIAMOND	Tenement_No	6/58
Year	1999	Prospect	BEATRICE
Geologist	KPD	Date	2/10/99

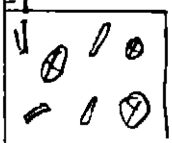
Depth	Lithology Code	Lithology Colour	Cu	Pb	Zn	Graphic Log (<1 1 mm 2 4)	Comments	Alteration	Mineralisation
220									
								S0/032	
225									
								S0/033	
230									
235							233.7 – 235.3, coarse black shale monomict breccia, angular blocky clasts to 30mm		
								S0/032	
240									

645210

PASMINCO EXPLORATION

DIAMOND DRILL HOLE LOG

Hole_ID	MS10	Project	Quilalar
Hole_Type	DIAMOND	Tenement_No	6/98
Year	1999	Prospect	BEATRICE
Geologist	KPD	Date	2/10/99

Depth	Lithology Code	Lithology Colour	Cu	Pb	Zn	Graphic Log (0.1, 1 mm, 2, 4, 8)	Comments	Alteration	Mineralisation
240									
								So 044	
245									
								So 048	
250									
							* black shale geochemistry samples.		
								So 054	
255									
							256.1m – 257.8m quartz feldspar porphyry, irregular but sharp contacts unusual texture in pink silica	Si	
							257.8 – 263.6m Black shale, carbonate-pyrite nodules at contacts with the porphyry.		
260									

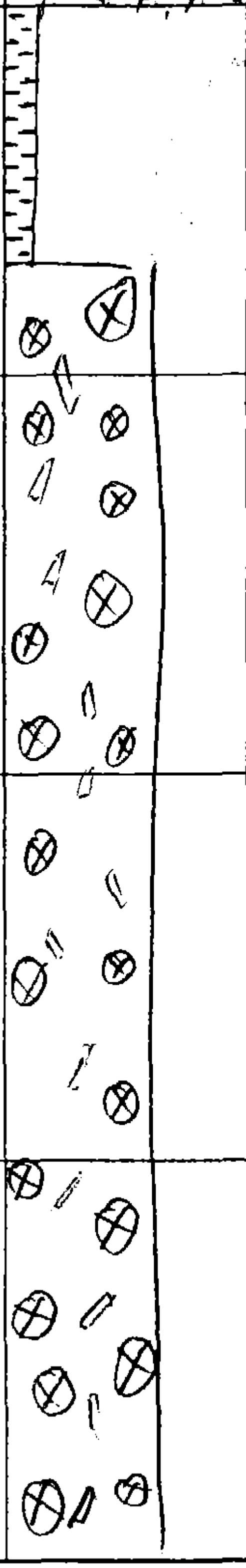
645211

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

Hole_ID	MS10	Project	Quarantine
Hole_Type	DIAMOND	Tenement_No	6/98
Year	1999	Prospect	BEATRICE
Geologist	KPD	Date	2/10/99

Depth	Lithology Code	Lithology Colour	Cu	Pb	Zn	Graphic Log	Comments	Alteration	Mineralisation
260									
		595					263.6–311.6 mega quartz (± 1cm) Feldspar porphyry.		
265		596					Pink from 263.6–290.5		
270								K-Spar	
275									
280									



645212

15/33

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

Hole_ID	MS10	Project	Queensland
Hole_Type	DIAMOND	Tenement_No	6/98
Year	1999	Prospect	BEATRICE
Geologist	KJD	Date	3/10/99.

Depth	Lithology Code	Lithology Colour	Cu	Pb	Zn	Graphic Log (0.1 1 mm 4 16)	Comments	Alteration	Mineralisation
280								K-Spar	
285									
290									
295							290.5 - light green - unaltered.		
300									

645213

16/33

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

Hole_ID	MS10	Project	Quodnoton
Hole_Type	DIAMOND	Tenement_No	6/98
Year	1999	Prospect	BEATRICE
Geologist	KPD	Date	3/10/99

Depth	Lithology Code	Lithology Colour	Cu	Pb	Zn	Graphic Log (0 1 2 mm 4 8)	Comments	Alteration	Mineralisation
300			331						
305									
310		593					The bottom 50cm of the Porphyry contains abundant dissaminated Sphalerite		
		594					-311.2 - 349.8m Well bedded weakly pyritic blackshale; carbonate nodules.	Ser	Sp
315									
320								8-10° fault	

645214

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

Hole_ID	MSD	Project	
Hole_Type		Tenement_No	
Year		Prospect	
Geologist		Date	

Depth	Lithology Code	Lithology Colour	Cu	Pb	Zn	Graphic Log (.1 1 mm 2 4 16)	Comments	Alteration	Mineralisation
320									
								So / 027	
325									
								So / 022	
								So / 045	
330							weak Syn sedimentary breccia		
								So / 027	qtz-carb
335									
							* black shale geochemistry sample.		
								So / 044	
340									

Core orientated from 320.4 – 330m. Note earlier measured orientations are wrong.

320.4m	fault	82 → 010°	322.4m	So	34° → 020°	328.5m	So 56° → 250°
320.6m	So	66 → 200°	322.6m	1mm ch	37° → 064	328m	So 40° → 200°
320.6m	1mm ch	22° → 196°	323.6m	So	56° → 340°		
321.5m	So	58° → 320°	325.2m	So	54° → 340°		
321.6m	10mm ch/qtz (granular)	50° → 032	326.2m	crenulated So	58° → 325°		
324.8m	So	54° → 340°	327.0m	So	54° → 317°		

645215

18125

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

Hole_ID	MS10	Project	Queenstown
Hole_Type	DIAMOND	Tenement No	3/98
Year	1999	Prospect	BEATRICE
Geologist	KPD	Date	6th Sept 1999.

Depth	Lithology Code	Lithology Colour	Sample #	Cu	Pb	Zn	Graphic Log	Comments	Alteration	Mineralisation
340							Qal 1 mm 2 4 16			
									S- / 038	
345										
								347 - 349.8 - Fault Zone.		
350			348					349.8 - 373.7m. (2-5%) Pyrrhotite>Pyrite black shale with carbonate nodules common particularly at the top of the unit. Pyrrhotite and Pyrite occurs as 2-3mm blebs concentrated within the cleavage. Pyrrhotite is the dominant sulfide.	S1 / 028	py (1%)
			350/352				py. Q carbonate			
			633						So / 032	calcite
355							calcite/py			py/po
			634							
			635				cb py 14cm		028 / So/S1	calcite
			636							
360										

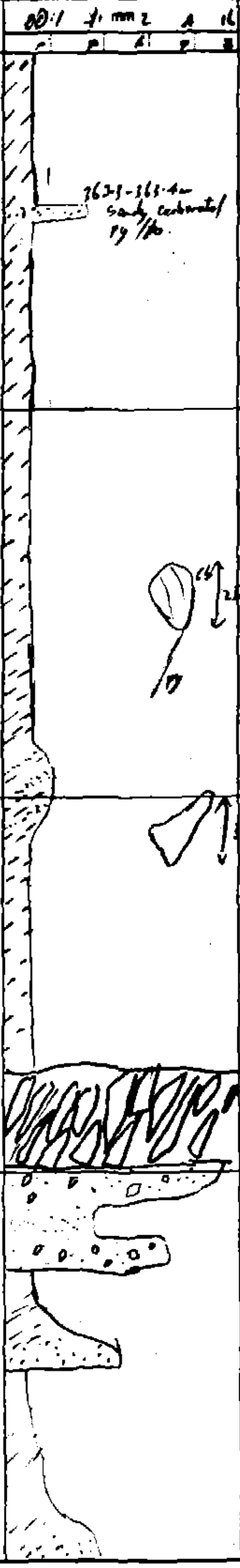
645216

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

Hole_ID	MS10	Project	
Hole_Type		Tenement_No	
Year	1999	Prospect	
Geologist	KPD	Date	6/9/99.

Depth	Lithology Code	Colour	Cu	Pb	Zn	Graphic Log	Comments	Alteration	Mineralisation
360		330637						50 / 27	Po
		638				363.3–363.4m sandy carbonate / py/Po.	363.8m 3-5mm sandy carbonate interbeds plus slabs (to 20mm × 5mm) and balls? of grey carbonate.		Po
365		639						50 / 26	
		641				20mm, 10		50/81 / 18	
		642					From 369 – 373.7m minor pyrrhotite, predominantly pyrite.		
370		643				30mm			
		644 / 373.7							
		645					– 373.7 – 374.8m. major zone of faulting with fracture planes subparallel to the core axis.	Carbonate	
375		374.8 / 646 / 376.3					374.8 – 376.3 – crystal lithic sandstone grit. Quartz crystals, limestone lithics.		
		647					376.3 – 386.0m. – Uphole facing graded mass flow unit. Basal Granule (to 10mm × 2mm laths) lithic (yellow - rhyolite?) clasts with irregular borders in a fine grey feldspathic matrix, grading uphole into poor - well bedded light grey ashy siltstone.		
380		648						34 / 50	



645217

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

Hole_ID	MS10	Project	
Hole_Type		Tenement_No	
Year	1999	Prospect	
Geologist	KMP	Date	6/9/99

Depth	Lithology Code	Lithology Colour	Cu	Pb	Zn	Graphic Log	Comments	Alteration	Mineralisation
380									
		649						Sa 33	
		650							
385		651							
		652					386.0 - 394.6m As at 376.3 - 386.0m but more lithic rich at base.		
390		653							
		654							
		655							
395							394.6 - 402.1m Similar to the coarser parts of the above unit with dark green lithics and pale yellow clasts in a grey silty matrix, major distinction is that this unit contains patches to 15mm of light orange sphalerite which appears to be replacing a particular clast type. Towards the base of the unit is silicified.	Si	Patches to 15mm but typically 1-2mm of sphalerite.
		656							
		657							
400		658							

645213

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

Hole_ID	MS10	Project	
Hole_Type		Tenement_No	
Year		Prospect	
Geologist		Date	6/9/99

Depth	Lithology Code	Lithology Colour	Cu	Pb	Zn	Graphic Log	Comments	Alteration	Mineralisation
400						0.1 / 1 mm 2 4 16			
		330659				pumice			Spk
		661				lithic volcanic,	402.1 – 407.0m Variably brecciated pale grey carbonate. Non brecciated parts contain dark green wispy foamy clasts. Superficially this unit has no obvious sphalerite.		
405		662							
		663					407.0 – 416.2m minor sphalerite. Interbedded pale green, locally foamy rich (and lithic foamy has abundant quartz crystal) volcaniclastics and light-dark grey sphalerite rich (3-5%) silicified epidote? lithic (2-5mm) grit.	Si	Spk
		664							Spk
		665							Spk
410		666						409.2 Si	Spk
		667					Sphalerite is probably a clast replacement. From 412 – 413.7m this unit contains carbonate clasts some of which contain pyrite and sphalerite (partial replacement?).	410.2 410.6 Si 410.9	Spk
		668						412	
		669						Si	Spk
		670							
415		671						413.7	
		672					416.2 – 425.9m blue grey siliceous (silicified) ashy volcanic → lithic breccia/conglomerate. Clasts are angular to subrounded to 30mm and include limestone, feldspar crystal rich foamy, and pale white volcanic clasts. This unit contains abundant blebs and clasts of sphalerite disseminated	Contact 410	
		673							417.2 Spk
		674							Spk
		675							418.6 Spk
420		676							Spk

Spk limestone.

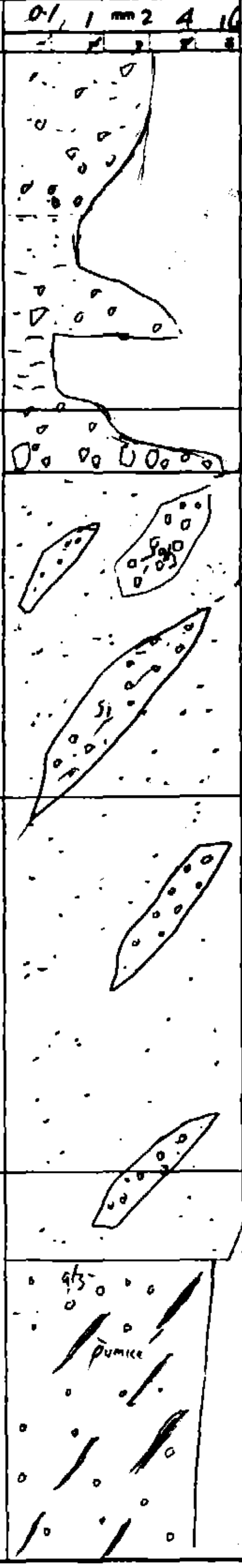
645219

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

Hole_ID	MS10	Project	Queenstown
Hole_Type	DIAMOND	Tenement_No	6/98
Year	1999	Prospect	BEATRICE
Geologist	KPD.	Date	9/9/99

Depth	Lithology Code	Colour	Cu	Pb	Zn	Graphic Log	Comments	Alteration	Mineralisation
420		677 678 422.5 679 681					throughout the coarser parts of the unit. The size of sphalerite clasts is similar to the clast size suggesting the sphalerite is replacing a particular clast type. The obvious first choice is replacement of the limestone however many limestone clasts are totally unaltered and are surrounded by sphalerite. So what is the sphalerite replacing?	Si (012) So contact	Sph 422.5m minor Sph
425		682 683					425.9 – 436.2m. Light green to cream volcanic with elongate patches to 10cm x 4cm of yellow-green wispy sericite with abundant quartz crystals. These are interpreted as large pumice clasts, ⇒ Pumice Conglomerate. Matrix consists of ·5mm white clasts ⇒ Feldspar?, and minor 1-2mm quartz crystals.	contact (025)	Sph Sph
430		684 685					Sphalerite occurs disseminated throughout the unit and is of a similar size to the matrix clasts. * AT 427.4m, A zone of dark schistosed sphalerite rich material similar to 416.2-425.9m cross cuts a pumice clast ⇒ schistosation event is post diagenesis		~0.5% – 1% Sph
435		686 436.? 687 688					436.2-453.6m. light green to cream volcanic ⇒ quartz crystal, pumiceous, minor lithic breccia. Abundant subrounded quartz crystals 1-2mm, green sericitic quartz crystal pumice clasts elongate parallel to cleavage (to 10mm) and minor pale white lithic clasts (to 15mm) in a feldspar crystal rich matrix.		
440									

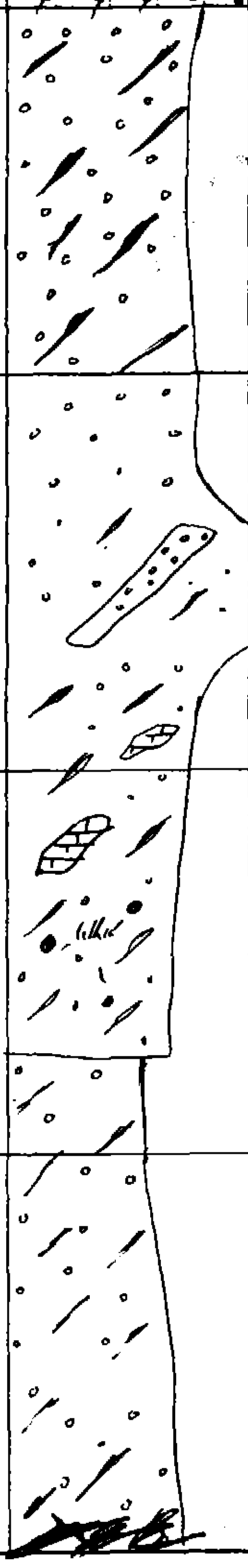


645220

PASMINCO EXPLORATION

DIAMOND DRILL HOLE LOG

Hole ID	MS10	Project	Queenstown
Hole Type	Diamond	Tenement No	EL 6/98
Year	1999	Prospect	BEATRICE
Geologist	KPD	Date	9/9/1999

Depth	Lithology Code	Colour	Cu	Pb	Zn	Graphic Log (0.1, 1, mm 2, 4, 16)	Comments	Alteration	Mineralisation
440		689					Sphalerite occurs as 2-3mm disseminat[ion] throughout the unit at 0.3-0.5% Spl.		↑
		690							0.5% Sph
		691							
445		692							
		693					— quartz phyric mega pumice.		
		694					From 448m patches of carbonate alteration to 20mm×5mm become common, lithic clasts also become more com[mon].		
450		695							↓
		450.6 / 696 / 451.9					450.6 – 450.8, 451.4 and 451.9 – 452.3m the unit is cut by late stage carbonate-quartz dark sphalerite veins.	cb	cb, qtz, sph 030; 057 5mm cb, qtz, sph; (057) cb qtz, sph.
		697							
		452.6m / 698					— 453.6 – 464.9m light green sericite altered quartz crystal, pumice, rare lithic volcanic.	↓	
455		699							
		331 / 501					from 457.7 (040 LCA) thin S_1 // zones / vein of wispy sphalerite/galena approximately 1% Sph+ga.		2-3mm
		502							Sph
		503							
		504					459.3m – 460.1m dark brown sphalerite and galena veined, carbonate altered volcanic (5% Zn, 2% Pb)		Sph.
		505	459.1						Sph-ga.

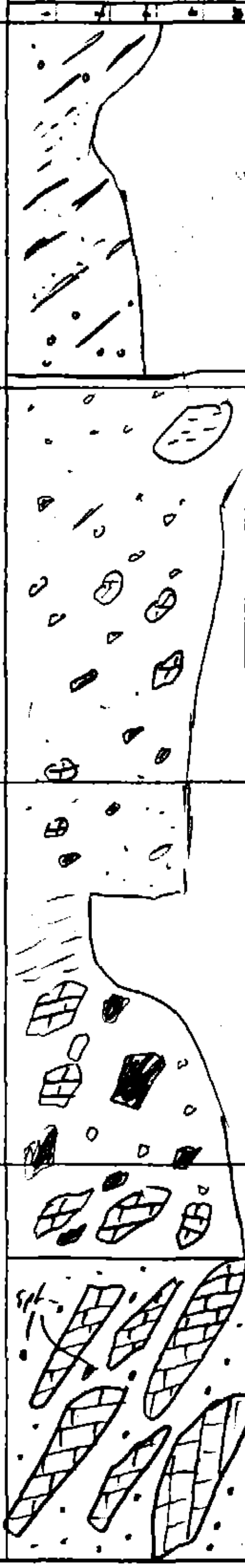
645221

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

Hole_ID	MS10	Project	
Hole_Type		Tenement_No	
Year		Prospect	
Geologist		Date	

Depth	Lithology Code	Lithology Colour	Cu	Pb	Zn	Graphic Log	Comments	Alteration	Mineralisation
460		460.1				·1 1 mm 2 4 16			
		506							
		507							
		508							
		509							
465		510					464.9 - 476.3m		
		511					lithic conglomerate grading up hole to a lithic grit. Clasts are: limestone 40% chert 30%, quartz crystals 30%, minor pumice; limestone clasts are most dominant at basal contact ⇒ rip up clasts of underlying unit. Large black shale clast to 15cm near top of the unit		
		512							
		513							
		514							Sph.
		515							
470		516					Irregular clots and wisps of sphalerite throughout the unit but particularly in the coarse basal part		
		517							
		518							
		519							Sph
475		521							
		522					476.3 - 483.6m		
		523					Limestone breccia. Elongate angular slabs of off white limestone to 4cm in a light-dark green sphalerite rich, silicified - carbonate matrix.		
		524							sph 3%
		525						Sil/Cb	
480		526							

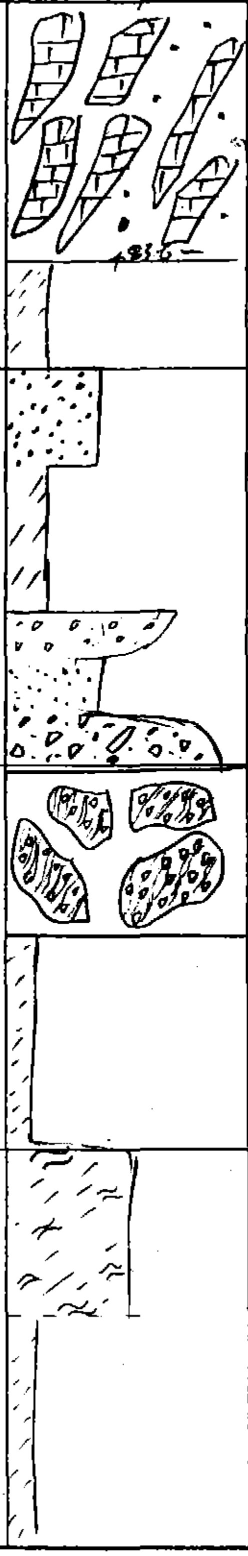


645222

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

Hole_ID	MS10	Project	
Hole_Type		Tenement_No	
Year		Prospect	
Geologist		Date	



Depth	Lithology Code	Lithology Colour	Cu	Pb	Zn	Graphic Log	Comments	Alteration	Mineralisation
480		527							
		528							
		529					483.6 – 488.0m. pale grey to light brown fine grained ashy volcanic with minor feldspar crystal Sandstone? interbeds.		2-3mm sphalerite discontinuous veinlets.
485		530						25° / 50	
		531							
		532							Sph
		533					488.0 – 490.1m. dark grey – green lithic (volcanic clasts, black shale + limestone) breccia, disseminated sphalerite.		
490		534							Sph
		535					490.1 – 492.3m light green grey volcanic with clasts to 10cm of 3-4mm spotty quartz crystals (30%) in wispy dark green sericite. These are interpreted to be pumice clasts → pumice breccia		
		536					492.3 – 505.2m. Pale green to grey ashy volcanic, major fault from 494.9 – 497.2m. Only minor sphalerite in this unit.	90 / 50	
495		537						Ser	
		538							
		539					499m sphalerite filled fractures over 10cm		Sph
500		541							

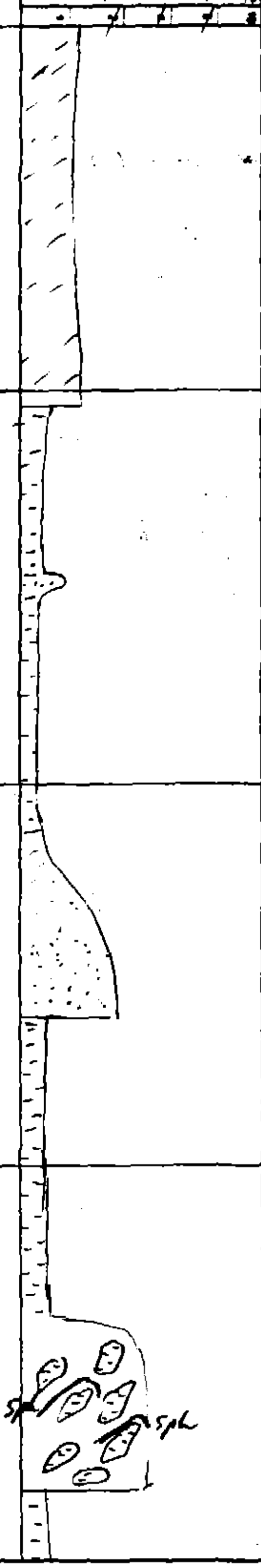
645223

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

Hole_ID	MS10	Project	
Hole_Type		Tenement_No	
Year		Prospect	
Geologist		Date	

Depth	Lithology Code	Lithology Colour	Cu	Pb	Zn	Graphic Log (0 1 1 mm 2 4 16)	Comments	Alteration	Mineralisation
500									
		542							
		543							
505		544							
		545					505.2 – 519.2m bluey black chlorite altered ashy volcanic or semi massive poorly bedded black shale; Minor feldspathic sandstone interbeds.	wk	Aspy.
		546						Ch?	Py 028 / sph py, cb 10mm
		547							
510		548							1, 1 Po spotting.
		549							
		550					518 – 521.4m orientated core 518m So 57° → 310° 518.6m 20mm qtz/cb, 67° → 143° 518.7m 2mm Sph/cb, 62 → 175° 518.8m " " , 86 → 200°	basal contact / 030 So / 034	
515		551					519.1m contact 60° → 320° 519.8m So 54° → 300° 521m So 47° → 300°		
		552							10mm Sph. Cb, ga / 017
		553					✱ 517 – 519.2m the unit is brecciated and contains abundant 2-3% sphalerite ± cb ± ga veinlets.	So / 035 Strong chl.	
		554							67 → 143°
520		555							



645224

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

Hole_ID	MS10'	Project	
Hole_Type		Tenement_No	
Year		Prospect	
Geologist		Date	

Depth	Lithology Code	Lithology Colour	Cu	Pb	Zn	Graphic Log (0.1 1 mm 4 16)	Comments	Alteration	Mineralisation
520									
		555					519.2 – 529.7m gradational contact from black shale → light green grey sphalerite poor ashy volcanic. Badly fractured in places.	So /017	
525									
								So (022) /	
530							529.7 – 533.1m poorly bedded coarse silt - fine sandy volcanic		
		537 V						So /032	
		556					533.1 – 536.0m pyritic carbonate sphalerite veinlet chloritic black shale/ashy volcanic.		
535		557						Chl	ch/sph
		558							
						ORIENTATED SEE ← FOR DETAILS	basal fault at 010 → VCA, Sph 11b fault 536.0 – 548.4m		
							light grey ashy volcanic, well bedded from 536.0 – 541m and massive 541 – 548.4m. unmineralised.		
540									

536.4 – 538.3m oriented core,

536.9m	So	68° → 320°
537.2m	So	70° → 320°
537.4m	So	70° → 316°
537.6m	So	64° → 300°
537.5m	2nd Cb	84° → 253°
537.8m	1st Cb	36° → 120°
537.9m	So	61° → 320°

drillog

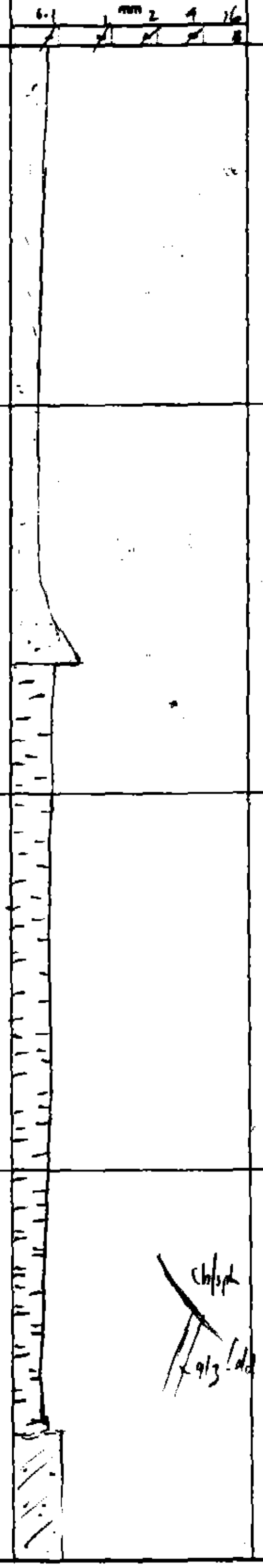
645225

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

Hole_ID	MS10	Project	Queenstown
Hole_Type	DIAMOND	Tenement_No	3/98
Year	1999	Prospect	BEATRICE
Geologist	KPD	Date	30th Sept 1999

Depth	Lithology Code	Lithology Colour	Cu	Pb	Zn	Graphic Log	Comments	Alteration	Mineralisation
540									
545									
550							545.4 – 558.4m Well bedded pyritic black shale,		
								So/61	
555								So/047	
							qtz/fld sweated vein clearly crosscut by 2-3mm Cb/sph veinlet		
560							558.4 – 559.9m brown-green well bedded ashy volcanic	So/036	



Core orientated from 553.8 – 561.2m. Orientation marks at 554.1 and 560.4m are very good and ± 5°.

AMN also So // → (554.6m)

553.8m	25mm py shear	69° → 258°
554.2m	So // pyr veinlet	59° → 250
554.5m	So	50° → 292°
554.6m	py, cb, sph	40° → 304°
554.8m	1mm Cb	64 → 005°
554.9m	1cm py/cb/sph	48 → 290
555.3m	5py/cb	44-265°
555.6m	So	36-300°
556.5m	So	50 → 275°
557.0m	So	62 → 256°
556.9m	1mm cb	53 → 83°
557.2m	So	70° → 256°
557.6	qtz/fld	73 → 105°
557.6m	So	62° → 262°
558.3m	So	73 → 266°
559.4m	So	63 → 286°
561m	qtz/fld	53 → 302°
561m	So	59° → 292°

645226

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

Hole_ID	MS10	Project	
Hole_Type	Diamond	Tenement_No	
Year	1999	Prospect	BEATRICE
Geologist	KPD	Date	1st October 1999

Depth	Lithology Code	Lithology Colour	Cu	Pb	Zn	Graphic Log (0.1 / 1 mm 2 / 4 / 16)	Comments	Alteration	Mineralisation
560		559					559.9m – 583.2m pyrrhotite/pyrite grey-black shales with minor ashy volcanics,		
		561					561.8–562.0m porphyry fault	Flt contact 077	
		561	561.8				562.0–562.6m milky qtz vein with abundant galena and sphalerite		ga/sph
		562	563.9				562.6–563.8m Stockwork of quartz, carbonate-sphalerite veins		/sph
565		563							
							565.7–570.2m ashy volcanic		
570									
575									
								So/047	
								055/So	
								So/034	
580									

564.4 – 566.9m orientated
564.5m 1mm Calcite 45° → 014°
564.7m S_1? 77° → 254°
564.8m 1mm calcite 49° → 101°
564.9m 1mm calcite 34 → 035°
566m 3mm carbonate/qtz. 53 → 338°

578.4 – 578.9m orientated,
578.6 S_0 037 → 090°,
578.7 S_0 032 → 094°

drillog

645227

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

Hole_ID	MS10	Project	
Hole_Type	DIAMOND	Tenement_No	
Year	1999.	Prospect	BEATRICE
Geologist	KRD	Date	1st October 1999

Depth	Lithology Code	Lithology Colour	Cu	Pb	Zn	Graphic Log	Comments	Alteration	Mineralisation
580						01 1 mm 2 4 16			
		564							
			582						582.5 diss Sph. 583.2
		565	583.2				583.2 – 589.0m green-grey silicified massive ashy volcanic.		
		566					584.7 – 584.8m CA // 3mm galena vein and 2-3mm sphalerite spots.		
585			584.8						
		567						Si	
			587						
		568							
							589.0 – 596.4m Well bedded black (589–593.2) and grey (593.2 – 596.4m) shale, the black shale section is strongly pyritic/pyrrhotitic, abundant pyrrhotite developed at contact. Only minor sphalerite		
590		569							
		570						So/048	Py/Po
		571							
		572							593.7 Sph 595.8
595		573						So/018	
		574						Sporadic Cb/Py	Po
							596.4 – 624.7m. Green grey siliceous ashy volcanic.		
		575						So/037	Po
							3mm Sph 5mm	So/037	5mm Sph veinlet.
600		576							

645228

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

Hole_ID	MS10	Project	
Hole_Type	DIAMOND	Tenement_No	
Year	1999	Prospect	BEATRICE
Geologist	KPD	Date	01/10/99

Depth	Lithology Code	Lithology Colour	Cu	Pb	Zn	Graphic Log (0.1 1 mm L 4 16)	Comments	Alteration	Mineralisation
600									
605							607.1 -	010/50	
		577					607.1 - 607.4 — stockwork of carbonate / sphalerite		ob/spk
610									
615								50/037	
620								50/030	

645229

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

Hole_ID	MS10	Project	
Hole_Type	DIAMOND	Tenement_No	
Year	1999	Prospect	BEATRICE
Geologist	KDD	Date	1st October 1999

Depth	Lithology Code	Lithology Colour	Cu	Pb	Zn	Graphic Log	Comments	Alteration	Mineralisation
620						0.1 1 mm 2 4			
		578 (620.7)					- 620.7 – 622.5m stockwork of predominantly brown sphalerite with subordinate calcite - dark sphalerite and galena ~ 7-10% sphalerite.		620.7m sph 622.5
		579 (621.5)							
		581							
		622.5						So/27	
		582							
625		583					624.7 – 635.0m.		
		584					Interbedded fine ashy volcanic and mottled felsic volcanic. Disseminated sphalerite from 624.7 – 628.3m,	patchy K.	sph.
		585							
		586					Patchy K-feldspar alteration		
		587					Intermixed ashy volcanic/ CVC.		
630									
		588							
		589							
		590							
635									
		591					635.0 – 556.4m. Pink + green mottled illite and K-feldspar altered feldspar phyric volcanic = CVC	Ch	
		592						K.	
640									

645230

DIAMOND DRILL HOLE LOG

PASMINCO EXPLORATION

Hole_ID	MS10	Project	
Hole_Type	DIAMOND	Tenement_No	
Year	1999	Prospect	BEATRICE
Geologist	KPD	Date	1st October 1999

Depth	Lithology Code	Lithology Colour	Cu	Pb	Zn	Graphic Log (0 1 mm 2 4)	Comments	Alteration	Mineralisation
640									
								K/	
645								CL	
650									
655									
							656.4m (EOH)		

645231