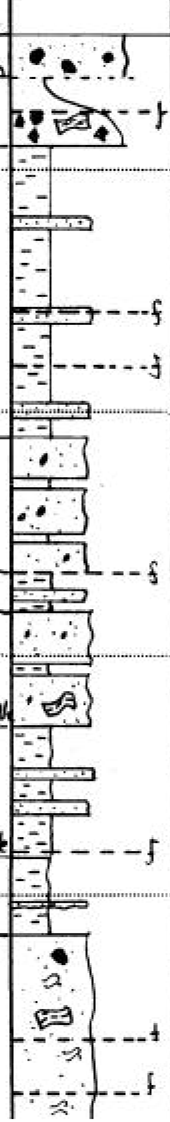
PASMINCO EXPLORATION | **DIAMOND DRILL HOLE LOGGING** | Input

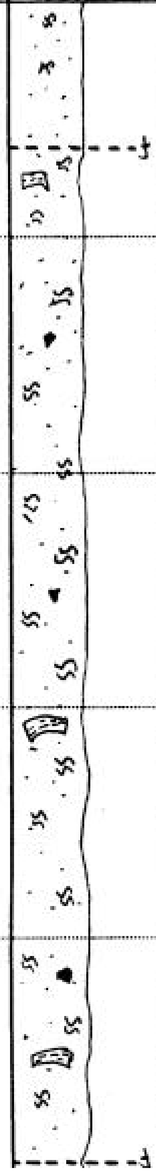
Hole_ID	SFD1	Project	
Hole_Type	DDH	Tenement_No.	
Year	2002	Prospect	
Geologist	AMcN	Date	25/4/02

Depth	Lithology Code	Colour	Comments	Alteration (Up to 3 codes w. intensities (1-3))	Mineralisation (Up to 3 codes with %)	Structure	Veining	Faults		Graphic Log	
		brown-grey	Soil 2.1						2.1 Contact missing		Tyndall Group! Mag. Susc: 0.18 – 5.27
	CPCG	Green-red	fine grained volcaniclastic conglomerate; lithics to 5cm of Quartzite, pink rhyolite, andesite, Quartz crystals 3.0						lost core 3.0 Contact missing		
5	SPBR	grey	Shale matrix breccia – shale to fine sandstone matrix with sub angular clasts to 1cm dia of shale/siltstone + Quartz 4.7 – Phyric lithics				3.3 QzCo (3)	5.9/0.01/40/Pu	lost core 4.7 Abrupt – Conformable		
10	SSSH/ CFSA	grey-black	dominantly grey black siltstone, weakly bedded with common, thin (< 6cm) beds of grey-green volcaniclastic sandstone/siltstone. rare scattered lithics and irregular crystal-rich beds. rare load casts / flame structures suggest up-hole facing		6.0 Sp.Gn (tr) Vn 8.4 Sp Gn Po Gn(tr) 9.5	5.8 So: 30° to Lca 9.0 So: 40° to Lca.	6.5 QzCo (2) 8.1	8.1/0.1/30/Rubble 9.0/0.3/?/broken			5.6 base of Oxidation
	CFSA/ SSSH	green-grey	10.5 Massive volcaniclastic sandstone, fd > Qtz, with minor interbedded shale/siltstone. Weakly micaceous. 13.2		SpGn (tr) Vn + Diss	13.6 So: 45° to Lca.	QzCo (3) + minor Sp, Gn 13.2	13.3/0.1/?/broken	10.5 Abrupt Conformable 13.2 Abrupt – fault		↑ facing uphole. 10.2m load casts in base of sandstone bed.
15	SSSH	grey-black	dominantly shale/siltstone with minor interbedded sst. 14.1						14.1 Abrupt – Conformable		
	CFSA/ SSSH	Grey-green	dominantly volcaniclastic sandstone with minor interbedded shale/siltstone; shale interbeds in sst to 4cm in length 16.6		16.6		QzCo (2)		16.6 Abrupt-Conformable		
20	SSSH/ CFSA	grey-black	dominantly shale/siltstone with common thick beds of grey-green volcaniclastic sandstone (fd > Qtz). 19.4		Gn Sp (<0.5%) Vn + Diss.	18.5 So: 65° to Lca. 19.0 So: 15° to Lca.	19.3 QzCo (3) 20.4	19.2/0.5/30/Sh	19.4 Abrupt-Conformable		
	SSSH/ CFSA	black-green	Shale/siltstone interbedded with thin volcaniclastic and thin, irregular, "quartz-eye" volcaniclastic beds. 20.7	20.7	20.7	20.4 So: 40° to Lca.			20.7 broken		
	CFSA	grn-Or 23.0 Or-grey	Massive. Quartz (to 6-7mm dia) = feldspar-phyric Puniceous matrix; scattered lithics (pink lava and shale in top 3m of unit – Puniceous crystal-rich sandstone below 25.0m matrix is dark green – shale?	Se (2) 23.0 Se (3) Chl (3)	21.5 Sp Gn Cpy (tr) 21.9 Gn Sp (tr) 23.0 23.1		QzCo (1)	25.1/0.1/80/Rh 24.1/0.01/50/Rh	Weakly sheared		



PASMINCO EXPLORATION **DIAMOND DRILL HOLE LOGGING** Input

Hole_ID	SFD1	Project	
Hole_Type		Tenement_No.	
Year		Prospect	
Geologist	AMW	Date	

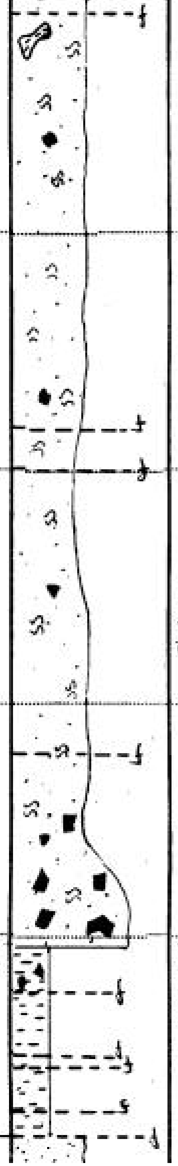
Depth	Lithology Code	Lithology Colour	Comments	Alteration (Up to 3 codes w. intensities (1-3))	Mineralisation (Up to 3 codes with %)	Structure	Veining	Faults		Graphic Log	
26			28.6. 29km black shale clasts to 4cm.		25.7 PyGaSp (tr) diss + vn. 30.6			29.1/04/25/Rh			
30											
35	CFSA	Or-Gy	Massive Quartz (to 7-5mm dia.) + feldspar-phyric pumiceous Mass-flow. Scattered lithics - dominantly shale, minor ?siliceous lava. Matrix f.g. dark ores - black and shales, some more silicified zones.	SeCh (1) Si (2) patches.	37.8 BaSp (tr) vn. 38.6		Q+Ca (2)				
40			40.2m = 10cm dia shale/silt clast.								
45								49.9/0.01/60/sh			
50											

PASMINCO EXPLORATION

DIAMOND DRILL HOLE LOGGING

Input

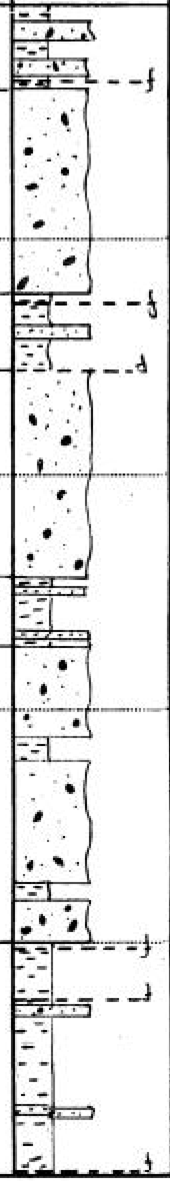
Hole_ID	SFD1	Project	
Hole_Type		Tenement_No.	
Year		Prospect	
Geologist	Angus	Date	27/3/02

Depth	Lithology Code	Lithology Colour	Comments	Alteration (Up to 3 codes w. intensities (1-3))	Mineralisation (Up to 3 codes with %)	Structure	Veining	Faults		Graphic Log	
55				Se Chl (1) Si (2) patches; 54.0	55.0; Gn Se (tr) Vn; 55.7		Qz Cb (2); 56.0	53.3/0.1/?/Rubble; 59.2/0.01/30/Rh Veined; 60.0/0.03/ /Rh (veined)			
60	CFSA	Dk-Grey (Polychromic)	Massive, Quartz-feldspar-phyric Pumiceous (Common Downhole - Pumice to 20 cm thick) Sandstone, grades to breccia below 63.5 - Lithics more common lithics; grey ?limestone, angular to 10 cm dia. Maintains black 'shale' matrix to base of unit	Se Chl (1) Si (2) patches. Mn (1) Vn			Qz Cb (3) Qz Cb Se (1)				Mn alteration in fine c lam fractures in clasts + lithics
65								66.0/0.1/?/Rubble Broken			
70			70.1								
	SSSI/ SKSH	grey	Interbedded grey shale and siltstone with minor and volcaniclastic (@ 70.5 - 70.7 m) Mod. well bedded - disrupted in places by faults / (?) sediment slumps. Minor zones of clastic mtx. breccia 74.4 = SSSI + volc clasts in shale mtx.	70.1		70.1 So = 45° to LCA; 71.5 So = 75° to LCA; 72.5 So = 85° to LCA	70.1; Qz Co (3)	71.3/0.01/80/Pu; 72.4/0.03/60/Rh/Pu; 72.7/0.02/60/Rh; 73.9/0.01/50/Rh; 74.7/0.02/80/Rh (Veined)	70.1 Abrupt-broken; 74.4 Abrupt-fault		Scattered Volc clasts in top 2 m of unit (up to 3 cm dia)
75	CFSA	Grey-Green	Volcaniclastic sandstone								

PASMINCO EXPLORATION | **DIAMOND DRILL HOLE LOGGING** | Input

Hole_ID	SFD 1	Project	
Hole_Type		Tenement_No.	
Year		Prospect	
Geologist	AMN	Date	27/5/02

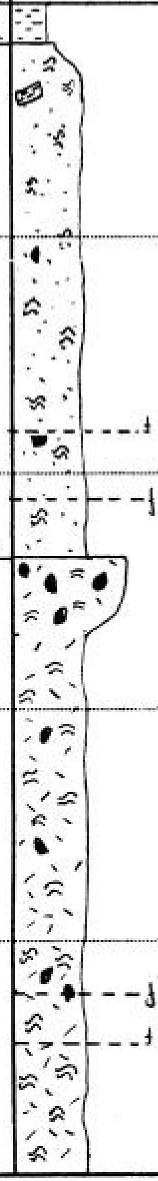
Depth	Lithology Code	Lithology Colour	Comments	Alteration (Up to 3 codes w. intensities (1-3))	Mineralisation (Up to 3 codes with %)	Structure	Veining	Faults		Graphic Log	
	CPSA/ SSSH/ SISS		Interbedded siltstone/shale/polymict lithic-rich volcaniclastic sandstone. 76.9					76.6/0.03/?/Ru rubble	76.9 Abrupt broken		
80	CPSA	Grey-Green	Polymict volcaniclastic sandstone - lithic rich & micaceous		80.9						
	SGSI/ SSSH	grey-black	81.2 Interbedded siltstone/shale with minor volcaniclastic sandstone (@ 81.8, 81.4 m) 82.5			81.8 So=45° to LCA.		81.3/0.03/?/Ru rubble; 82.5/0.05/60/Rh veined	81.2 Abrupt broken; 82.5 Abrupt-fault		
85	CPSA	Grey-Green	Polymict volcaniclastic sandstone; clasts sub-angular to sub-rounded, to 5mm dia. in coarser beds. Clasts include: Qtz + feld xtals, mica, shale, pink-or-yellow volcanic lithics (? rhyolitic lava/ash vol.) 87.2		Cpy (tr) Vn + diss; 85.5		QzCo (3)		87.2 Abrupt conformable		
	SSSI/ SSSH/CPSA	Grey-black	Interbedded black shale, grey siltstone and minor grey-green volcaniclastic sandstone 88.6		88.6 Sp (tr) Vn 89.3	87.7 So=40° to LCA.			88.6 Abrupt conformable		⇑ uphole facing 87.4m - grading; ⇑ uphole facing 88.6m - grading.
90						89.8 So=40° to LCA.					⇑ uphole facing
95	CPSA	Grey-Green	Polymict volcaniclastic sandstone with minor siltstone/shale interbeds @ 91.7, 91.6, 90 m. Sandstone contained: Qtz + feld xtals, pink-yellow volcanic fragments, shale clasts, mica flakes. 95.0 Clasts generally sub-angular to sub-rounded, <2mm dia						95.0 Abrupt Irregular		89.7 - "flames" in base of sandstone unit.
100	SSSI/ SSSH	black-grey	Interbedded siltstone/shale, well laminated with thin green volcaniclastic sandstone beds (@ 96.1m and 97.7m)		95.9; Sp>Cp>Gn (tr) Vn	97.8 So=45° to LCA.; 99.9 So=35° to LCA.		95.1/0.05/65/Ru; 96.4/0.02/30/Rh veined; 100/0.2/?/broken/			



PASMINCO EXPLORATION **DIAMOND DRILL HOLE LOGGING** Input

Hole_ID SS01	Project
Hole_Type	Tenement_No.
Year	Prospect
Geologist AMcG	Date 28/5/9?

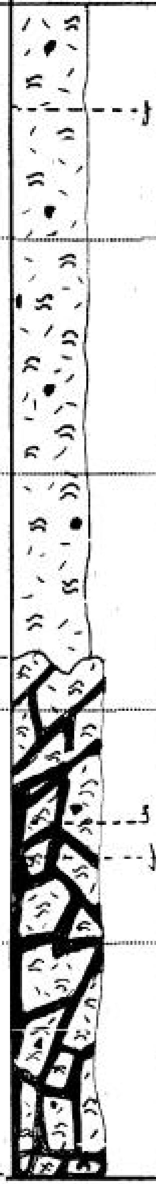
Depth	Lithology Code	Lithology Colour	Comments	Alteration (Up to 3 codes w. intensities (1-3))	Mineralisation (Up to 3 codes with %)	Structure	Veining	Faults		Graphic Log	
	SSST/SHAL	Dk-Grey	Interbedded siltstone/shale		100.2	100.1 30 – 45° to CA			100.6 Gradational over 10cm		In lower low of shale/silt unit are thin clean shard-rich vol. interbeds.
	100.6			100.6	GaSp (0.2%) PyCpy (tr) Vn. 101.5						
105	CPSA	Grey-Orange	Pumiceous, crystal-(Qz+fsp)-rich volcaniclastic sandstone. Qtz xtals to 5-6 mm diam. V. similar to unit from 20.7-30.1 m. rare shale & ?rhyolite lithics. Unit fines dramatically in top 50cm.	SeCh (1) Mn (1) Vn Si (1) Patches	Gn>Sp=Cpy (tr) Vn.		QzCo (1)	109.1/0.2/75/Cl, Pu			
110	111.9			111.9	111.6			110.4/0.01/80/Cl,Rh	111.9; Abrupt - Irreg.		
		Orange-Green		CoSe (2) Mn (1)	GaSp (0.1%) Vn.						
115		114.3 Black-Green		114.3 Mn (3) Vein CoSe (2)	Cpy (tr)		114.3 Mn (3) QzCo (2)				
	CRMF	116.0 Orange-Black	Polymict pumice breccia. Feldspar > Qtz phyric. Upper 1m coarse lithic-rich; clasts to 8cm diam of pink-grey felsic lava. Lower in unit lithics more scattered - generally < 1cm diam, sub-angular, similar composition to upper part of unit. Matrix dominated by sparsely-porphyritic pumice (sericite altered)	116.0 CoSe (1) Pervasive Mn (1) Patches	116.1 GaSp (0.1%) Vn + patches Cpy (tr)		116.0 QzCo (2) Mn (2)				
120								121.0/0.01/40/Ch Veined; 122.0/0.01/65/Ch Veined			
125											



PASMINCO EXPLORATION **DIAMOND DRILL HOLE LOGGING** Input

Hole_ID	SF01	Project	
Hole_Type		Tenement_No.	
Year		Prospect	
Geologist	A McN	Date	30/5/02

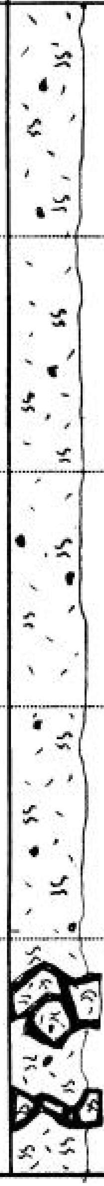
Depth	Lithology Code	Lithology Colour	Comments	Alteration (Up to 3 codes w. intensities (1-3))	Mineralisation (Up to 3 codes with %)	Structure	Veining	Faults		Graphic Log
130				CaSe (2) Mn (2) patches	GaSe (0.1%) Vein + diss		QzCo (2) Mn (2)	129.3/0.01/40/el		
135	CRMF	Orange-black 134.0	Polymict Pumice breccia, feldspar >> Quartz-phyric	134.0	Cpy (tr) 135.0		134.0			
140		Or-brown 137.9 / Black-Or	138.9	CoSe (2) Pervasive Mn (1) pat. 137.9 / CoSe (2) 138.9 Mn/graphite	GaSe (tr) Vn + diss. (tr) 138.9		QzCo (2) Mn (1) 137.9		138.9 Abrupt Irregular	
145	CRBx	Black-orange-green	Polymict Pumice breccia, feldspar >> quartz-phyric (as above) brecciated with a black graphitic-manganiferous matrix; Jigsaw fit angular-subangular clasts from 1-2mm to 12 cm diameter.	CoSe (2) Si (2) patches Mn/Graphite (3)	GaSx (tr) Py (tr) Vn + diss.		QzCo (3)	143.4/0.02/45/el Veined / 143.0/0.01/35/el Veined		
150			150.0	150.0					150.0 Abrupt-Irreg.	



PASMINCO EXPLORATION **DIAMOND DRILL HOLE LOGGING** Input

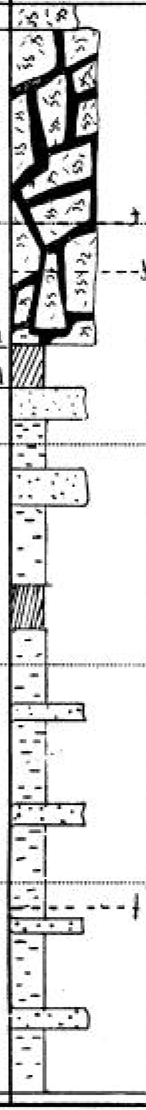
Hole_ID	SFD1	Project	
Hole_Type		Tenement_No.	
Year		Prospect	
Geologist	AMcN	Date	30/5/02

Depth	Lithology Code	Lithology Colour	Comments	Alteration (Up to 3 codes w. intensities (1-3))	Mineralisation (Up to 3 codes with %)	Structure	Veining	Faults		Graphic Log	
155											
160											
165	CRMF	Orange Green	Puriceous Mondlow breccia As per 111.9 - 138.9 Zones of breccia from 168.9 - 175.5 m breccia similar to that from 138.9 - 150.0 m.	CaSe (1) hematite Si (2) patches.	Ga/Py (tr) Vein.		Qtz-ca (2)				
170		168.9		168.9							
175		Orange-black		CaSe (3) hematite Si (2) patches Mn/goethite (1) in bx zones.							



PASMINCO EXPLORATION | **DIAMOND DRILL HOLE LOGGING** | Input

Hole_ID	SFD1	Project	
Hole_Type		Tenement_No.	
Year		Prospect	
Geologist	Anjon	Date	19/5/92

Depth	Lithology Code	Lithology Colour	Comments	Alteration (Up to 3 codes w. intensities (1-3))	Mineralisation (Up to 3 codes with %)	Structure	Veining	Faults		Graphic Log	
	CRMF	Or-bk	Pumiceous Massflow with breccia zones.						175.5 Abrupt		
180	CRbx (175.5)	black-Or-white	brecciated Pumiceous massflow with black smelike/manganiferous matrix. becomes more Dolomitic with depth; more matrix less clasts. (182.8)	175.5 Si(3). SeCo(1) } clasts Cerolite (3) mtx. (182.8)	Gn Sp Py (tr) Vein (182.5)			180.8/0.2/90/Sheared Pug. 181.2/0.02/80/Pug	182.8 Abrupt-faulted		Rackers Fault.
	Fault	black-white	Fault Zone - Post Veined graphitic material	183.7	183.7		QzCo (3)	183.7/0.9/?/Pug rubble	183.7 Abrupt-faulted		
185			183.7		Py (tr) (186.0)	184.4 So= 5° to Lca.		Many small faults/shears.			
190	SSSH/ SSAl/ SCST	Green-grey	Interbedded grey-green siltstone/shale and green micaceous sandstone (no obvious volcaniclastic content) strongly faulted + broken to 185.6m.	Chl (1)				189.3/1.0/?/rubble + missing core			Stitt Quartzite Equivalent.
			siltstone units strongly sheared & chl/graphitic above 195m			190.6 So= 10° to Lca					
195						193.1 So= 50° to Lca.					
						196.2 So= 50° to Lca		195.6/0.01/60/Pu			
200			199.8 = E.O.H.			199.5 So= 40° to Lca.					199.8m End of hole