APPENDIX 1

LOG OF DRILL HOLE BY1

0148

HOLE No. BY1

PASMINCO EXPLORATION
DIAMOND DRILL HOLE LOG

LOCATION	WESTERN TASMANIA
PROJECT	MT BLACK EL 12/88
PROSPECT	BASTYAN DAM
DESIGNED BY	J.G. PURVIS
LOGGED BY	J.G. PURVIS
RELOGGED	
COMMENCED	16·1·91
COMPLETED	13·3·91
DRILLED BY	DIAMOND DRILLING TAS
DRILL RIG	LONGYEAR 38

OBJECTIVE

TO TEST:

1. PROSPECTIVE ROSEBERY MINE SEQUENCE IN VICINITY WHERE MASSIVE SULPHIDE CLASTS AND RAFTS OCCUR IN HANGINGWALL EPICLASTICS.
2. POSSIBLE OCCURRENCE OF ROSEBERY HOST ROCKS AROUND ANTICLINAL AXIS IMMEDIATELY ABOVE ROSEBERY FAULT.

RESULT

HOLE INTERSECTED WIDESPREAD MINOR TRACES OF BASEMETAL SULPHIDES IN SHALE HORIZONS AND LIMESTONE BANDS, INTERPRET AS PART OF A MIXED SEQUENCE OF HANGINGWALL EPICLASTICS AND DUNDAS GROUP SEDIMENTS.

SIGNIFICANT INTERSECTIONS (PPM UNLESS SPECIFIED)

From m	To m	Interval m	Pb	Zn	Ag	Au	As	Comments
220·5	234·0	13·5	43	5040	<1	0·025	212	BLACK SHALE
366·0	366·5	0·5	1150	2·14%	5	0·01	1100	LIMESTONE PEBBLE CONGLOMERATE
373·0	375·0	2·0	540	7250	1	0·015	300	CARBONATE-RICH SANDSTONE

SIGNIFICANT CORE LOSS

From m	To m	% Lost
0	4·5	14
543·3	547·75	19

POOR GROUND CONDITION ZONES

From m	To m	Condition
0 22	12·5 33·7	BADLY FRACTURED AND BROKEN IN PLACES
521	558	MODERATELY BROKEN WITH SEVERAL VERY BADLY BROKEN ZONES DUE TO FAULTS, WORST 544·6–548M.

HOLE SIZE

Size	Depth m
HQ	141M
NQ	562·45M

HOLE CONDITIONS AFTER COMPLETION

Collar	CEMENTED, WITH SCREW-ON STEEL CAP.
Steel Casing	NQ STEEL CASING PLACED 0–15M.
PVC Casing	UNSLOTTED, 40MM, PLACED TO BASE.
Ground Water	- / CORE PHOTOGRAPHED AND STORED AT TULLAH COMPOUND.
Wedge	
Drill Pad	REHABILITATED AND PLANTED.

LOCATION/SURVEY DATA (AMG)

Grid	AMG	RMG
Northing m	5 377 974·6	3808·9
Easting m	378 419·9	301·6
DH Survey Type	SINGLE SHOT DOWNHOLE CAMERA	

RL Collar m	160·4 (3289·9 RMG)
Bearing Collar	276°45′
Dip Collar	−60°
Length Hole m	562·45

Depth m	Bearing	Dip	Depth m	Bearing	Dip
30	276°	−58°45′			
57	272°40′	−53°45′			
75	273°10′	−53°			
90	272°40′	−52°45′			
105	272°10′	−52°15′			
120	272°30′	−51°45′			
150	272°10′	−50°15′			
180	272°	−48°30′			
210	272°	−47°30′			
240	271°30′	−47°			
270	271°10′	−46°30′			
299·5	271°40′	−45°15′			
332·5	272°40′	−44°15′			
360	272°40′	−44°30′			
390	272°40′	−44°30′			
420	273°	−44°			
450	273°10′	−44°			
480	273°10′	−44°			
510	273°10′	−43°30′			
540	271°40′	−42°45′			
562	271°10′	−42°30′			

150049

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

HOLE No. BY1

PROJECT BASTYAN DAM, MT BLACK EL 12/88

Graphic Scale 1 :

CORE RECOVERY			DESCRIPTION						CODES			
Interval (m)	Recov.	(%)	From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Graphic Lithology	Struct.	MINERALISATION	LITHO	STRUCT	ALTN	MIN
0 - 1.2	0.75	62											
1.2 - 3.2	1.9	95			**0 - 58.9m: MT BLACK VOLCANICS:**								
3.2 - 4.5	1.2	92											
4.5 - 7.1	2.6	100			**0 - 33.7m: AMYGDALOIDAL DACITIC LAVA**				Minor dissem pyrite.				
7.1 - 9.4	2.3	100			Lithology: Pale fawny-grey at top, pale greenish-grey at depth.	5			locally 1% towards base.				
9.4 - 10.5	1.1	100			Massive, fl gr, fairly uniform.								
10.5 - 12.5	2.0	100			Abund amygdales after vesicles, commonly flattened & drawn out by flowage of lava (65°/LCA). Very abund								
12.5 - 15.6	3.1	100			above 6m & below 15.8m.				Rare dissem leucoxene.				
15.6 - 16.5	0.9	100			Amygdales av 1-4mm, gen calcite, but smallest either qtz or chlor.								
16.5 - 19.4	2.9	100			Lava feld > qtz-phyric, felds av 1-2mm, qtz <1mm, neither abund & gen visible only where amygdales sparse	10							
19.4 - 20.8	1.4	100			or absent (eg: 6-11m).								
20.8 - 22.5	1.7	100			All in fl gr felsic groundmass with minor sericite.								
22.5 - 24.1	1.6	100			Alteration: Weak sericite-chlorite-silica-bleaching.								
24.1 - 25.5	1.4	100			Weakly oxidised, mainly above 12m & none below 30m. Prominent Fe & Mn oxides on fractures & leaching of	15							
25.5 - 27.1	1.6	100			carbonate.								
27.1 - 28.5	1.4	100			Qtz-carb-chlor veins throughout - leached, limonitic & vuggy in ox areas.								
28.5 - 30.0	1.35	90			Structure: Gen fractured & broken, badly in places above 12.5m & below 22m, esp around strong fault 28.5 -								
30.0 - 31.5	1.5	100			29.2m where lava strongly cleaved (70°/LCA) & detextured to fl gr sericite schist with qtz-limonite veins.								
31.5 - 34.5	3.0	100			Basal contact apparently normal bedding, sharp & sl irreg, 68°/LCA.	20							
34.5 - 35.1	0.6	100											
35.1 - 37.1	2.0	100			**Samples:** 84055A @ 21.4m - petrology; 84055B @ 21.5m - W.R. geochem.								
37.1 - 40.2	3.1	100											
40.2 - 43.3	3.1	100											
43.3 - 45.2	1.9	100				25							
45.2 - 46.9	1.7	100											
46.9 - 49.5	2.6	100											
49.5 - 51.1	1.5	94											
51.1 - 54.0	2.9	100											
54.0 - 55.2	1.2	100				30							
55.2 - 56.3	1.1	100											
56.3 - 57.6	1.3	100											
57.6 - 58.5	0.9	100											
58.5 - 60.2	1.6	94											
60.2 - 61.5	1.2	92				35							
61.5 - 64.5	3.0	100			**33.7 - 58.9m: VITRIC TUFFACEOUS SILTSTONE/CLAYSTONE**								
64.5 - 67.5	2.85	95			Lithology: Pale greyish-green with creamy bleached zones.				Minor dissem pyrite, locally to 2%				
67.5 - 70.4	3.05	105			Massive, fine & even-grained (slight coarsening of grainsize with depth). Not hard - lacks silic character.								
70.4 - 71.6	1.2	100			Composed largely of finely-comminuted volcanic glass, apparently deposited sub-aqueously.	40			(eg: 39.5 -42m). Often assoc with				
71.6 - 73.5	1.9	100			Alteration: Rock is sericitic, but genuine alteration is weak: sericite-chlorite-bleaching. Numerous tiny								
73.5 - 76.5	3.0	100			veinlets of chlorite, in places defining zones of net-vein fracturing & brecciation. 550mm qtz vein 150mm				chlorite. Trace cp.				
76.5 - 78.9	2.4	100			below upper contact.								
78.9 - 82.0	3.1	100			Structure: Bedding gen absent or poorly developed - minor irreg interbeds of fine sandy xyl-rich material in								
82.0 - 85.0	3.0	100			uppermost few metres. Good bedding @ 35.5m: 77°/LCA.	45							
85.0 - 86.8	1.8	100			Mod cleaved: 70°/LCA @ 34.5m; 65°/LCA @ 40m; 55°/LCA @ 54m.								
86.8 - 89.7	2.9	100			Mod fractured & broken, badly around faults & adjacent to lower contact.								
89.7 - 91.5	1.8	100			Faults, (all // cleav): 50°/LCA @ 45.7m; 70°/LCA @ 51m & @ 55.25 -56.25m (several); 78°/LCA @								
91.5 - 94.5	3.0	100			58.7m.								
94.5 - 97.5	3.0	100			Inc bleached & broken below 56m -totally bleached & detextured at base.	50							
97.5 - 100.5	3.0	100											
100.5 - 103.5	3.0	100											
103.5 - 106.4	2.9	100											
106.4 - 108.6	2.2	100											
108.6 - 111.7	3.1	100				55							
111.7 - 114.8	3.1	100											
114.8 - 117.9	3.1	100											
117.9 - 121.0	3.1	100				60							

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

HOLE No. BY 1

PROJECT BASTYAN DAM, MT BLACK EL 12/88

Graphic Scale 1 :

CORE RECOVERY			From m	Interval m	DESCRIPTION (incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Graphic Lithology	Struct.	MINERALISATION	CODES LITHO	STRUCT	ALTN	MIN
121.0 - 124.1	3.1	100											
124.1 - 127.2	3.1	100											
127.2 - 130.3	3.1	100											
130.3 - 133.4	3.1	100			**58.9 - 60.5m: MAJOR FAULT ZONE ('UPPER THRUST')**								
133.4 - 136.5	3.1	100			Lithology: Cream. Highly broken & clayey zone of intensely crushed & milled rock, with shattered frags of detextured silif & sericitised unidentifiable volcs.				Minor fi gr dissem pyrite,				
136.5 - 139.5	3.0	100			Structure: Upper & lower margins sharp @ 65°/LCA (// cleavage in rocks above & below). Measureable shearing angles within zone: 65 -70°/LCA.				trace gn & sp.				
139.5 - 140.9	1.4	100											
Change to NQ													
140.9 - 142.5	1.35	84											
142.5 - 145.5	3.0	100											
145.5 - 148.5	3.0	100											
148.5 - 151.5	3.0	100			**60.5 - 507.3m: HANGINGWALL EPICLASTICS:**								
151.5 - 154.5	3.0	100											
154.5 - 157.5	3.0	100			**60.5 - 106.3m: FINE CRYSTAL-LITHIC BRECCIO-CONGLOMERATE**				Minor fine dissem pyrite				
157.5 - 160.5	3.0	100			Lithology: Pale greenish-grey; cream above 71.6m. Hard; v hard at depth.				& trace sp-gn.				
160.5 - 163.5	3.0	100			Uppermost 0.8m fi gr, detextured & highly cleaved, with abrupt lower limit 65°/LCA - could poss be part of unit above fault.								
163.5 - 166.5	3.0	100			Rock charact by abund coarse, fractured qtz xyls & xyl frags, av 2-3mm, max 10mm, coarser & more abund below 75m. Xyl frags angular but larger qtz commonly rounded - these poss eroded qtz amygdales.				Minor sp-gn>cp @ 61.5 -62.5m,				
166.5 - 169.5	3.0	100			Lesser feld xyls, av 1-2mm, in places albitised.				dissem & veinlets, conc in some				
169.5 - 172.5	3.0	100			Polymict lithics to 70mm, av 5-10mm, angular to sub-rounded. Most commonly pink albitised & silif silic				lithics.				
172.5 - 175.5	3.0	100			lavas; also tuff-seds (incl grey shale), qtz-porphyry, intermediate-mafic lavas, & pumice.								
175.5 - 178.5	3.0	100			All in strongly-lineated matrix of sericite & silica, containing visible fine flattened pumice frags in places.								
178.5 - 181.5	2.85	95			Upper 14m of unit finer gr, & sl reworking below fault @ 86m, with matrix fines-depleted, inc in xyl abund &								
181.5 - 182.4	0.85	94			diffuse bands of larger lithics.								
182.4 - 184.5	2.0	95			Alteration: Mod-strong silif, inc with depth. Weak-mod sericite > chlor alt. Patches of weak albitisation &								
184.5 - 187.5	3.0	100			bleaching. Weak carb alt 90 -100m.								
187.5 - 190.5	3.0	100			V common spidery carb and/or chlorite veinlets.								
190.5 - 193.5	3.0	100			Structure: Bedding rarely evident: 60°/LCA @ 75.7m; 50°/LCA @ 90m & 103m. Mod bedding-//								
193.5 - 196.5	3.0	100			cleavage (strongest above 87m): 58°/LCA @ 67m & 78m; 55°/LCA @ 84m; 50°/LCA @ 95m; 45°/LCA @								
196.5 - 199.3	2.8	100			103m.								
199.3 - 202.3	3.0	100			Sl broken above 86.25m & in basal 1m, worst breaking assoc with faults: 55°/LCA @ 69.2m; 75°/LCA @ 86								
202.3 - 204.9	2.6	100			-86.25m (strong); 45°/LCA @ 105.5 -106.2m (strong); all faults same sense as cleavage.								
204.9 - 207.9	3.0	100			Basal contact sharp: 55°/LCA (same sense as cleav).								
207.9 - 210.9	3.0	100											
210.9 - 214.0	3.1	100											
214.0 - 217.1	3.1	100											
217.1 - 220.2	2.95	95											
220.2 - 222.0	1.8	100											
222.0 - 225.0	3.0	100											
225.0 - 228.1	3.1	100											
228.1 - 231.1	3.0	100			**106.3 - 159.85m: RHYOLITE LAVA**				In upper 10 -15m: minor py >gn-sp,				
231.1 - 234.2	3.1	100			Lithology: Bleached creamy to 126.5m, grey-green below this.				gen vein-style, with some assoc				
234.2 - 237.2	3.0	100			Massive, v uniform, fi-med gr granular siliceous rock.								
237.2 - 240.3	3.1	100			Hard (v hard above 126.5m).				dissem.				
240.3 - 241.5	1.2	100			Abund qtz phenos, av 1mm or less (uncommonly to 3mm), & felds, av 1mm (commonly to 2mm). Phenos								
241.5 - 242.2	0.6	86			evenly distributed through silica-sericite groundmass. Qtz xyls are sl resorbed in silif sections.								
242.2 - 243.7	1.2	80			Alteration: Above 126.5m: v strongly silif, bleached, mod sericitised & trace albitisation. Below 126.5m:				Trace leucoxene.				
243.7 - 245.7	1.85	92			weak-mod sericite-chlorite alt, with patchy silif & bleaching.								
245.7 - 248.8	3.05	98			Abund spidery chlorite veinlets in places below 120m. Occ qtz-carb veins.								
248.8 - 251.9	3.1	100			Structure: Gen unbroken. Minor breaking around small faults @ 118m (30°/LCA), 120.55m (40°/LCA),								
251.9 - 254.9	3.0	100			&139.3m (25°/LCA). Weakly cleaved in places.								
254.9 - 255.6	0.7	100			Basal contact sharp, 60°/LCA, sl sheared with qtz veining.								
255.6 - 257.0	1.4	100											
257.0 - 258.3	1.25	96			**Samples:** @ 153.75m: 031301A - Petrology; 031301B - W.R. Geochem.								
258.3 - 261.4	3.1	100											
261.4 - 264.4	3.0	100											
264.4 - 267.5	3.1	100											
267.5 - 270.6	3.1	100											
270.6 - 270.8	0.2	100											

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DIAMOND DRILL CORE LOG

HOLE No. BY1

PROJECT BASTYAN DAM, MT BLACK EL 12/88

Graphic Scale 1:

CORE RECOVERY			From m	Interval m	DESCRIPTION (incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Graphic Lithology	Struct.	MINERALISATION	CODES LITHO	STRUCT	ALTN	MIN
270.8 - 273.6	2.8	100											
273.6 - 276.6	3.0	100											
276.6 - 279.7	3.1	100											
279.7 - 282.8	2.95	95											
282.8 - 284.1	1.2	92											
284.1 - 285.6	1.3	87							Trace sulphides below 120m.				
285.6 - 288.4	2.8	100											
288.4 - 291.4	3.0	100											
291.4 - 292.5	1.1	100											
292.5 - 294.2	1.7	100											
294.2 - 297.3	3.1	100											
297.3 - 298.5	1.2	100											
298.5 - 301.5	2.95	98											
301.5 - 303.8	2.3	100			**159.85 - 163.4m: POSSIBLE VOLCANICLASTIC (LAVA MARGIN?)**								
303.8 - 306.9	3.1	100			Lithology: Grey-green. Hard. Essentially unbroken.								
306.9 - 307.4	0.5	100			Weakly-banded & lineated, variably-textured, feld & qtz-phyric volc similar to lava above. Abund felds, 1-				Minor dissem pyrite & leucoxene.				
307.4 - 309.7	2.3	100			3mm, & qtz 1-2mm. In fl gr sericite > qtz matrix.								
309.7 - 311.8	2.1	100			Irreg bands and diffuse patches of variable grainsize. These bands gen 75 - 80°/LCA (prob 1° layering).								
311.8 - 312.5	0.7	100			Patches & bands of massive pale grey cherty silica, gen small, but large zone 162.45 - 163.3m. Several silic								
312.5 - 315.6	3.1	100			apparent lithics to 5mm.								
315.6 - 318.7	3.1	100			Alteration: Weak-mod sericite-chlorite.								
318.7 - 319.7	1.0	100			Structure: Mod cleaved, strongest at upper & lower contacts.								
319.7 - 322.7	3.0	100			Basal contact sharp, sl irreg, 50°/LCA.								
322.7 - 325.7	3.0	100											
325.7 - 328.7	3.0	100											
328.7 - 331.7	3.0	100											
331.7 - 334.7	3.0	100											
334.7 - 337.7	3.0	100											
337.7 - 340.7	3.0	100											
340.7 - 343.7	3.0	100											
343.7 - 346.7	3.0	100											
346.7 - 349.7	3.0	100			**163.4 - 176.75m: VITRIC TUFFACEOUS CLAYSTONE/SILTSTONE**				Minor persistent sp>py>gn in chlor-				
349.7 - 351.4	1.7	100			Lithology: Creamy-khaki. Hard, but only sl silic.				qtz-carb veinlets in uppermost 2m.				
351.4 - 352.7	1.3	100			Mostly comprises weakly cleaved, massive & uniform, fl gr sericitic rock apparently composed almost								
352.7 - 355.7	3.0	100			entirely of finely-comminuted glass, sub-aqueously deposited & reworked in places.				V minor sulphides elsewhere -				
355.7 - 358.7	3.0	100			Partly-banded variable interval 167.25 -170.4m, includes strongly-cleaved bands with deformed albitised								
358.7 - 361.55	2.85	100			felds to 3mm & minor small qtz xyls, also patches & bands of grey chalcedonic silica (2° silif).				dec with depth.				
361.55- 364.6	3.05	100			Alteration: Weak genuine sericite-chlorite-bleaching alteration. Strong patchy silif in variable zone 167.25 -								
364.6 - 367.6	3.0	100			170.4m, otherwise silif absent.								
367.6 - 370.6	3.0	100			Numerous chlor-qtz-carb veinlets & occ qtz-carb veins.								
370.6 - 373.6	3.0	100			Structure: Rare bedding: 65°/LCA @ 168.5m; 60°/LCA @ 171.3m.								
373.6 - 376.6	3.0	100			Mod fractured & broken 164 -166.5m, otherwise essentially unbroken.								
376.6 - 379.6	3.0	100			Gradational change at base - marked inc in cleavage, deformation & silif.								
379.6 - 382.65	3.05	100											
382.65- 385.65	3.0	100											
385.65- 388.65	3.0	100											
388.65- 391.35	2.7	100											
391.35- 394.4	3.05	100											
394.4 - 397.45	3.05	100											
397.45- 400.5	3.05	100											
400.5 - 403.5	3.0	100											
403.5 - 406.5	3.0	100											
406.5 - 409.5	3.0	100											
409.5 - 412.6	3.1	100											
412.6 - 415.7	3.1	100											
415.7 - 418.7	3.0	100											
418.7 - 421.65	2.95	100											
421.65- 424.7	3.05	100											

PROJECT BASTYAN DAM, MT BLACK EL 12/88

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

HOLE No. BY 1

Graphic Scale 1 :

CORE RECOVERY				DESCRIPTION					CODES			
				From m / Interval m / (incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Graphic Lithology	Struct.	MINERALISATION	LITHO	STRUCT	ALTN	MIN
424.7 - 427.65	2.95	100										
427.65- 430.65	3.0	100										
430.65- 433.65	3.0	100										
433.65- 436.65	3.0	100		**176.75 - 206.5m: DEFORMED & ALTERED FINE VOLCANICLASTICS?**				Trace py-sp-gn.				
436.65- 439.7	3.05	100		Lithology: Variably-textured interval. Poss lithological change @ 191.5m. Grey-green with mottled cream &								
439.7 - 441.4	1.6	94		white colours in places.				Minor dissem leucoxene & assoc				
441.4 - 442.05	0.65	100		V hard. Largely unbroken.				black titaniferous oxides.				
442.05- 443.5	1.45	100		Fi-med gr. Below 191.5m a more granular rock with variable grainsize.								
443.5 - 444.9	1.35	96		1° rock type not readily identifiable due to strong cleavage, deformation & silif, but rock apparently a fine								
444.9 - 448.0	3.1	100		vitric volcaniclastic.								
448.0 - 451.05	3.05	100		Feldspars 1-3mm (often deformed), & v minor qtz xyls, scattered throughout fi gr silica-sericite matrix with								
451.05- 454.1	3.05	100		common 1-5mm pumice frags.								
454.1 - 456.95	2.85	100		Rare indistinct lithic clasts to 25mm - some of feld-phyric lava.								
456.95- 460.0	3.05	100		Alteration: Strong silif (sl patchy), weak-mod sericite-chlorite-carb alt. Local albitisation above 192m.								
460.0 - 463.0	3.0	100		Structure: 181.95 -182.4m: fi gr vitric claystone band, finely bedded 60°/LCA. Cleavage: 65°/LCA @								
463.0 - 466.0	3.0	100		178.5m, 185m, 192m.								
466.0 - 469.0	3.0	100		Weak augen texture developed in places in upper part of unit, esp around strong fault @ 180.7m (25°/LCA -								
469.0 - 472.1	3.1	100		same sense as cleav).								
472.1 - 475.1	3.0	100		Fault 182.4m, approx 70°/LCA (same as cleav). Broken 180.6 -182.5m.								
475.1 - 478.15	3.05	100		Basal contact abrupt but indistinct due to alt, 45°/LCA. Samples: 031302 @ 185.9m, 031303 @ 204.3m (for Petrology).								
478.15- 481.2	3.05	100										
481.2 - 484.25	3.05	100										
484.25- 487.35	3.1	100										
487.35- 490.4	3.05	100		**206.5 - 219.1m: MASSIVE CRYSTAL SANDSTONE**								
490.4 - 493.45	3.05	100		Lithology: Pale greenish-grey. Much less silif, cleaved & deformed than unit above.								
493.45- 496.45	3.0	100		A med gr, granular, qtz & feld xyl-rich rock. Siliceous & hard.				Minor dissem sp-gn>py throughout.				
496.45- 499.5	3.05	100		Massive, unbedded, gen uniform - sl grainsize variations. Evidence of reworking inc with depth with xyls								
499.5 - 502.55	3.05	100		densely packed in places below 212m.				inc with depth & up to 1% in basal 1m.				
502.55- 505.6	3.05	100		Xyls & xyl frags av <1mm, gen abraded. Qtz occ to 6mm & rounded, felds to 3mm.								
505.6 - 508.65	3.0	98		Uncommon lithics 3-5mm, gen fi gr, silic & unident, some felsic lavas.				Minor persistent dissem leucoxene.				
508.65- 511.7	3.05	100		Stringers of carbonaceous material in basal 1m.								
511.7 - 514.7	3.0	100		Alteration: Weak-mod silif (strong in basal 3m), mod sericite >chlorite-carb alt. Occ qtz-carb veins.								
514.7 - 517.7	3.0	100		Structure: Cleavage gen weak, strongest towards contacts. 60°/LCA @ 217m.								
517.7 - 520.7	3.0	100		Basal contact broken by strong fault v approx 30°/LCA (same sense as cleavage & bedding).								
520.7 - 523.7	3.0	100										
523.7 - 524.65	0.8	84		**Samples:** 031304 @ 209.9 -210.45m (W.R. Geochem).								
524.65- 525.55	0.85	94										
525.55- 526.8	1.25	100										
526.8 - 529.7	2.9	100										
529.7 - 532.7	3.0	100										
532.7 - 535.7	3.0	100										
535.7 - 537.9	2.15	98		**219.1 - 247.85m: CALCAREOUS BLACK SHALE**				Above 235m: 2-3% sp>py>gn-aspy.				
537.9 - 539.15	1.25	100		Lithology: Dark grey to black. Mod carbonaceous - minor graphite in places.								
539.15- 539.7	0.5	91		Highly calcareous. Common v thin beds of grey limestone below 236m. Carb also in abund, often highly irreg,				Mainly in carb±qtz sweatouts.				
539.7 - 540.85	1.15	100		sweat-out veins, veinlets and small patches, all ± qtz.								
540.85- 543.3	2.45	100		Alteration: Basal 300mm chloritic.				Locally 3-5% sulphs around 221m &				
543.3 - 544.7	1.25	89		Structure: Several beds (to 150mm) of feld-qtz xyl sst in basal 5m, with up-hole fining in one of these @				233m.				
544.7 - 545.05	0.15	43		245m.				Below 235m: 1-2% py>sp>gn-aspy,				
545.05- 545.4	0.25	71		Fine, fairly-regular bedding evident below 236m. Above this, bedding gen disrupted by mod-strong bedding-//								
545.4 - 546.3	0.65	72		cleavage. Deform strongest near top contact, with brecciation of carb-qtz sweat-outs.				dec with depth. Assoc with carb in				
546.3 - 547.4	1.1	100		Bedding: 70°/LCA @ 231m; 78°/LCA @ 237.5m; 58°/LCA @ 243.1m; 60°/LCA @ 246.35m. Cleavage:								
547.4 - 547.6	0.1	50		68°/LCA @ 223m.				sweatouts & 1st beds.				
547.6 - 547.75	0.1	67		Mod broken above 220.6m & 240.4 -244.5m. Faults @ 240.9m (20°/LCA - same sense as bedding); &								
547.75- 547.95	0.2	100		244.25m (angle unknown).								
547.95- 549.2	1.25	100		Basal contact sharp, sl irreg, bedding 80°/LCA.								
549.2 - 549.5	0.3	100										
549.5 - 552.45	2.95	100		**Samples:** 031305 - 031315, 1.5m intervals between 219.1 - 235.5m (for assay). Results in geochem								
552.45- 555.4	2.9	98		ledger at back of log.								

PROJECT BASTYAN DAM, MT BLACK EL 12/88

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

HOLE No. BY1

Graphic Scale 1 :

CORE RECOVERY				DESCRIPTION						CODES			
				From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Graphic Lithology	Struct.	MINERALISATION	LITHO	STRUCT	ALTN	MIN
555.4 - 556.7	1.3	100												
556.7 - 557.75	1.05	100												
557.75 - 559.5	1.75	100												
559.5 - 562.45	2.95	100												
END OF HOLE.														
						247.85 - 254.2m: CRYSTAL SANDSTONE				Minor fl gr dissem sp-py (locally 1%)				
						Lithology: Pale greyish-green. Med gr. Gen massive. Hard. Unbroken.				Also in qtz veins.				
						Abund densely-packed abraded feld xyl grains av 1-2mm. Much lesser qtz xyl grains av 1mm or less. In subordinate qtz >sericite-chlorite matrix.				Minor fl gr dissem leucoxene				
						Becoming coarser gr with depth. Some diffuse bands of silty material above internally-brecciated zone @ 249.65m.				- more than in units above.				
						Rare angular fl gr silic lithics to 5mm near base of unit.								
						Alteration: Weak-mod sericite-chlorite-silif alt (silif patchy). Rare carb.								
						Structure: Basal contact 65°/LCA - disrupted bedding with evidence of soft-sediment movement, incl some intraformational brecciation in basal 0.1m of sst.								
						254.2 - 260.6m: CALCAREOUS BLACK SHALE				1% py>>sp, trace gn-aspy.				
						Lithology: Dark grey to black, weakly carbonaceous.				Patchy, conc in carb veinlets.				
						Highly calcareous - basically, a carbonaceous limestone. Some silty intervals, & several feld-qtz xyl sst beds to 200mm below 256.5m.								
						V common irreg carb±qtz veinlets.								
						Structure: Finely bedded - gen fairly regular. Bedding: 67°/LCA @ 256.5m. Weak bedding-// cleavage. Sl broken by fracts.								
						Gradational bedding contact at base with thin regular interbeds of grey shale & xyl sst over basal 100mm. 74°/LCA.								
						260.6 - 272.7m: CRYSTAL SANDSTONE				Minor sp>py, locally 1% (eg: basal 1m)				
						Lithology: Pale greyish-green. Med gr. Massive & unbedded. Hard.				Dissem & in tiny carb-qtz veinlets.				
						Abund densely-packed abraded xyls, of feld (av 1-2mm, to 3mm), with lesser qtz xyl grains. In fl gr silica-sericite matrix.				1-2% persistent fine gr dissem leucoxene.				
						Black shale band 60°/LCA @ 266.25 - 266.7m.								
						Even-grained, except for finer-gr sst intervals in uppermost 1m & for 0.8m above black shale band.								
						Alteration: Mod silica-sericite >chlorite alt. Weak-mod carb alt below 268m.								
						Structure: Weak cleavage, stronger in basal 2m. Unbroken.								
						Basal contact a 100mm very strongly cleaved zone, 55°/LCA (same sense as bedding in shale below). - an abrupt lithological change, overprinted by structural movement.								
						272.7 - 281.7m: CALCAREOUS BLACK SHALE				Upper 0.5m: 3% sp>py, minor gn, aspy & tourmaline - in carb-qtz veinlets & dissem. Elsewhere, 2% py & minor gn, aspy, cp & tourm - mainly in veinlets but also dissem.				
						Lithology: Dark grey to black. Gen only weakly carbonaceous.								
						Highly calcareous, with thin beds of limestone. Several beds of sericitic feld>qtz-xyl sst, esp near base, gen < 50mm, to 130mm.								
						Common irreg carb ± qtz veinlets & patches.								
						Structure: Thinly bedded - mildly folded & deformed in places.								
						Bedding: 74°/LCA @ 276.7m; 50°/LCA @ 278.5m; 61°/LCA @ 280.4m.								
						Downhole fining in two xyl sst beds @ 278.5m.								
						Weak-mod bedding-// cleavage. Broken by fract almost //LCA @ 275.85 -276.25m, otherwise unbroken.								
						Basal contact sharp, 70°/LCA - bedding deformed by cleavage.								
						Samples: 031316 @ 272.7 - 273.3m (for assay).								
						281.7 - 283.3m: DISTURBED CONTACT ZONE				V minor py & sp.				
						Lithology: Mottled pale grey & khaki. Probably a reactivated old major fault zone.								
						Complex intermixing of shale from unit above, & detextured-sericitised- silif-carbonatised xyl sst of unit below.								
						Structure: Strongly cleaved. Mod broken - v badly at faults. V strong fault 60°/LCA (// bedding in shale above) @ 281.95 -282.25m. Second fault 60°/LCA @ 283.2 -283.3m.								

PROJECT BASTYAN DAM, MT BLACK EL 12/88

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

0034

HOLE No. BY1

Graphic Scale 1:

CORE RECOVERY				DESCRIPTION							CODES			
From m	Interval m	%	RQD	From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Graphic Lithology	Struct.	MINERALISATION	LITHO	STRUCT	ALTN	MIN
						283.3 - 302.5m: DETEXTURED QUARTZ-SERICITE-CARBONATE ROCK (PROBABLE FELDSPAR-CRYSTAL SANDSTONE)								
						Lithology: Cream, pale grey-green at depth. Massive. V hard. Uniform.				V minor finely dissem py-sp>gn.				
						A fi-med gr rock with granular nature evident below 288m.				1% v finely dissem leucoxene &				
						1° texture almost totally oblit except in basal 5-10m, where unit is largely composed of densely-packed silif feldspar grains, av 1mm, rare qtz xyls & rare poss lithic clasts to 7mm. Indistinct remanent feldspars gen visible even at top of unit where detexturing strongest.				titaniferous oxides.				
						Alteration: Unit detextured by strong silif & mod sericite-carb alt. Trace chlor. Some devel of crystalline 2° carb.								
						Structure: Mod cleaved (65°/LCA @ 294m).								
						Gen unbroken. Occ small broken zones due to shears at low angle to LCA.								
						Basal contact sharp: 5°/LCA - bedding deformed by faulting (see below). Contact first appears in core at 301.2m, - sheared 5°/LCA.								
						Samples: 031317 @ 296.25m (for Petrology).								
						302.5 -317.55m: THINLY BEDDED BLACK SHALE & GREY SILTSTONE								
						Lithology: Black to pale khaki-grey. Essentially unaltered.				3% sp & py (varies 1% to +5%).				
						Above 309.4m predom black mod carbonaceous shale - sl graphitic in places. Below this mainly sl sericitic siltstone.				minor gn-aspy-cp. Sulphides fi gr,				
						Thin interbeds throughout of highly calcareous fi gr qtzose sst - above 309.4m these commonly highly deformed & boudinaged.				mainly in carb veinlets & dissem in deformed calc sst.				
						Minor intervals of massive, med-coarse gr, silif, qtz-feld xyl sandstone.				Occ as thin massive py veinlets.				
						Abund irreg carb±qtz veinlets, esp in black shale intervals.								
						Structure: Bedding gen deformed above 313.5m, with some folding, pull-aparts & off-sets across fracts. Bedding regular at base.				Minor fine detrital leucoxene in sst - some in layers.				
						Bedding: 45°/LCA @ 307.5m; 50°/LCA @ 315.5m. Up-hole fining in sst @ 314m; downhole-fining in sst @ 316.5m (fold nose evident @ 314.5m).								
						Occ broken zones above 313.25m, assoc with faults.								
						Strongest faults: Broken qtz-carb veined zone immediately beneath upper contact @ 302.65 -303m: 20°/LCA (sub-// contact).				303.55 - 304.25m: 5 -7% fi gr light brown sp & minor py-gn, as				
						310.5 -311.3m: Major fault, 10°/LCA - lithified carb-cemented fault breccia suggests fault is old. Bedding beneath fault pulled in // to it.				diffuse stringer-like replacements of matrix in fine xyl sst band.				
						Basal contact sharp - normal bedding plane 60°/LCA.								
						Samples: 031318 - 031327; 0.7 to 2m intervals 302.5 - 317.65m.								
						317.55 - 333.45m: MASSIVE QUARTZO-FELDSPATHIC SANDSTONE								
						Lithology: Greenish-grey. Med gr. V uniform. Hard.				Minor to 1% sp>py, gen dissem,				
						Composed of densely-packed gen-abraded, quartz & feldspar xyl grains, av 1mm or less, occ to 2mm, in v subordinate matrix of chlorite & carbonate.				some in carb veinlets.				
						Unbedded & gen even-grained, but minor variations in grainsize reflect diffuse layering.				5% sp-py, in uppermost 0.1m, &				
						At 323.75 - 324.25m & 331 - 332.6m: grey, partly-calcareous siltstone/shale rip-ups, angular & often irreg, from 5 -60mm. Larger clasts surrounded by 10 -20mm bleached carbonate reaction rim.				patches of 2-3% sp>py in basal 2m.				
						Alteration: Mod-strong carbonitisation, weak chloritisation. Rare patches of silif.								
						Structure: Bedding in 80mm siltstone band @ 320.3m: 64°/LCA.								
						Ditto @ 332.15m: 66°/LCA (25mm band). Unbroken. Uncleaved.				1-2% fi gr dissem leucoxene				
						Basal contact a bedding plane, 68°/LCA. Basal 20mm of sst is sl finer gr.								

0055

HOLE No. BY 1

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

PROJECT BASTYAN DAM, MT BLACK EL 12/88

Graphic Scale 1 :

CORE RECOVERY: From m	Interval m	%	RQD	DESCRIPTION: From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Graphic Lithology	Struct.	MINERALISATION	CODES: LITHO	STRUCT	ALTN	MIN
						333.45 - 335.2m: HIGHLY CALCAREOUS CARBONACEOUS SHALE Lithology: Dark grey - only sl carbonaceous. Carb content dec with depth - in upper half unit contains abund thin beds (< 1mm) of carbonate. Numerous carb veins & veinlets throughout. Structure: Fine & regularly bedded, 70°/LCA. Unbroken. Basal contact sharp - bedding 85°/LCA, with calcite veinlet on it. **Samples:** 031328 @ 333.45 -334.5m (Assay). 031329 @ 333.9m (Petrology).				To 334.5m: Minor to 1% py-sp, trace gn-aspy-cp, dec with depth. Mainly in tiny sulphide veinlets or in carb veinlets.				
						335.2 - 408.15m: VARIABLE SEQUENCE OF CRYSTAL SANDSTONE, QUARTZO-FELDSPATHIC SANDSTONE, CALCAREOUS CARBONACEOUS SILTSTONE/SHALE & MINOR LIMESTONE Lithology: Creamy-fawn or creamy-green, with dk grey & black siltstone/shale bands. Hard. Highly variable, fine to coarse gr, gen carbonate-bearing (both calcareous & dolomitic), sedimentary sequence. To 366m: predom massive sst with minor shale. Below 366m: 50% sst, 50% siltst/shale, thinly interbedded with common soft-sed deformation of siltst/shale beds & numerous rip-ups of same in sst. Siltst/shale >> sst below 400m. Two interbedded sst types: a) Qtzo-feldspathic sst: densely-packed abraded feld & qtz grains (av 1mm), & minor sub-rounded lithics (1-5mm), in v subord carb or chlor matrix. Minor grainsize variations (diffuse bedding). Uncleav. Atypical of sst in Rosebery HW, & poss the reworked equiv of b). b) Xyl sst: strongly-silif (no carb), partly-detextured & weakly-cleaved, feld >qtz xyl sst, (xyls av 1-2mm, qtz occ to 4mm). Xyls packed but gen euhedral, esp feld. Minor angular or subangular lithics av <5mm. Grey limestone 387.5 -390.5m. At 366 -366.5m, 376.1 -377m, & 398.1 -398.7m, diffuse bands of stretched-pebble limestone conglomerate (cream to grey lst clasts typically 30 -50mm long & 10mm wide, in sst matrix). Lst clasts commonly have bleached reaction rims. Alteration: Patchy strong silif (+ weak sericte-chlorite-bleach alt). Silif ubiquitous in the xyl sst. No silif of siltstone/shale bands, & only minor patchy silif of quartzo-feldspathic sst. In places qtzo-feld sst matrix (& some felds) replaced by bright green clayey chlorite (colour due to trace amounts of fuchsite ?). This commonly seen immediately downhole of shale bands, suggesting ponding of alteration fluid. This alteration best developed in uppermost sst interval @ 336.2 - 340m, which is also notable for several % dissem leucoxene. Also seen 371-373m. Numerous veins, veinlets & patches of carb±qtz (both calcite & dolomite). Structure: Gen unbroken. Cleavage gen weak or absent. Bedding: 66°/LCA @ 344m; 80°/LCA @ 355.65m; 66°/LCA @ 366.7m; 75°/LCA @ 375m & 386.4m; 65°/LCA @ 401.5m. Up-hole fining in sst @ 342.5 -343.45m & 348.6 -349m. Down-hole fining in base of sst @ 355.6m. Up-hole facings at 366.7, 367m, 374.45m, 375.1-375.5m & 404.8m (grading, scour & fill features, flame structures). Fold nose 405.65 -406.2m. 344.05 - 344.25m: unbroken lithified major fault breccia 65°/LCA (same sense as bedding), with cement of silica-carbonate containing disoriented frags of cleaved xyl sst (ie: fault post-cleav). Fault 75°/LCA @ 356.95m (sense unknown). Basal contact sharp & unbroken, 60°/LCA (deformed bedding - basal 200m m of unit is highly deformed due to movement along contact zone). **Samples:** 031330 @ 336.9m (Petrology & X-Ray). 031332 @ 383m (Petrology). Assay samples: 031331, 031333 - 031344, (see geochem ledger).				To 366m: trace dissem sp-py. 366 - 366.5m: 3-4% dissem py-sp >gn-aspy-tet, in lst cong 366.5 - 375m: 1-2% py>sp>gn-aspy, dissem & in qtz-carb veins. Trace tourmaline & assoc po. 375 - 376.1m: 3-4% sp>py>aspy-gn, mainly dissem in carb sst bands. 376.1 - 377m: (lst cong) 2-3% py-sp & minor aspy & po (latter in massive clots to 30x10mm with rims of tourm & trace assoc cp). 377 - 387.5m: Minor to 1% py>sp 387.5 - 390.5m: (lst) 1-2% py-sp> aspy-po. Mainly in carb veinlets. 390.5 - 398.1m: Minor py-sp-aspy. 398.1 - 398.7m: (lst breccio-cong) 1-2% sp>py-aspy, dissem. 398.7 - 403.75m: Minor to 1% py-sp>aspy. 403.75 - 405m: 1-2% sp>po-py-aspy, mostly in carb veinlets & patches. 405 - 408.15m: Minor to 1% py-po-sp>aspy. Minor to 2% leucoxene >titanif oxides as fine dissem - sometimes bedded, esp in carbonate-rich qtzo-feld sst.				150056

0056

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

PROJECT BASTYAN DAM, MT BLACK EL 12/88

HOLE No. BY 1

Graphic Scale 1 :

CORE RECOVERY				DESCRIPTION						MINERALISATION	CODES			
From m	Interval m	%	RQD	From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Graphic Lithology	Struct.		LITHO	STRUCT	ALTN	MIN

408.15 - 507.3m: <u>GRANULAR SILICA-SERICITE-CARBONATE ROCK AFTER SILICIFIED & DETEXTURED CRYSTAL-LITHIC SANDSTONE</u>

<u>Lithology:</u> Creamy-grey or fawn. Hard. Massive. Med gr. Uniform. Gen unbroken.
1° texture largely oblit by silif & assoc detexturing, but clear evidence orig rock type is a feld>qtz-xyl sst containing scattered small lithics.
No obvious layering - sl variations in grainsize (eg: upper 5m is finer gr). Alt & detexturing inc below 470m.
Rock composed of abund (gen indistinct) felds & lesser qtz xyls, av 1mm or less, to 2mm max, in subord matrix of silica>sericite>carbonate (dolo). Some of the qtz xyls show signs of abrasion.
Scattered angular or subang (occ subrounded) lithic frags throughout, av <6mm, to 20mm. Tending to become larger & more numerous with depth.
Lithics predom grey silif feld-phyric lava, often pyritic. 15mm clast of amygdaloidal lava @ 486.85m.
Zones with fine pumice frags below 450m.
<u>Alteration:</u> Mod-strongly silif, inc with depth. Mod sericitised & bleached (both stronger approaching fault at base); weakly chloritised in uppermost 20m. Trace albitisation, esp 448 -456m. Rare fuchsite @ 455m - 463m & 482 -483m.
Rock contains much dispersed dolomite (1° or alteration?), & abund irreg carb (calcite & dolomite) veinlets & occ qtz-carb veins.
<u>Structure:</u> Weakly cleaved: 55°/LCA @ 421.5m; 45°/LCA @ 454.5m; 65°/LCA @ 468m, 481.5m & 501.5m.
Major faulted zone 439 -445m (badly broken), with major faults @ 439 -439.7m (45°/LCA?, centered on 300mm crushed zone at top); & @ 444.55 - 444.6m, 55°/LCA.
Occ lithified breccia zones (esp below 480m) - probably old structures.
Basal 5m (unbroken) is highly deformed & retextured fl gr qtz-sericite-carbonate cataclasite. Sharp contact to fault zone proper, 50°/LCA.

Samples: 031345 @ 431.75m (Petrology). 031346 @ 422.75m (W.R. geochem). 031347 @ 477.7m (Petrology). 031348 @ 476.4m (W.R. geochem).

MINERALISATION:
- Trace pyrite - conc in lava lithics.
- Minor to 1% dissem leucoxene.

150057

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

HOLE No. BY1

PROJECT BASTYAN DAM, MT BLACK EL 12/88

Graphic Scale 1:

CORE RECOVERY				DESCRIPTION							CODES			
From m	Interval m	%	RQD	From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Graphic Lithology	Struct.	MINERALISATION	LITHO	STRUCT	ALTN	MIN
						507.3 - 508.55m: ROSEBERY FAULT								
						Lithology: Creamy-grey. Mod broken - badly broken in places above 508m.				1% pyrite, patchy dissem.				
						Centered on 300mm of highly crushed & milled rock 507.4 - 507.7m.								
						Lithologically, a deformed & partly brecciated mixture of silica-sericite rock from the silif detextured unit above, & black or grey sericitic shale & qtzose sst from unit below.				Trace gn>sp.				
						Upper unit rocks dominate above 508m & lower unit lithologies below this.								
						Structure: Shear planes/cleavage/deformed beds, all oriented 65 -75° /LCA, with most 65 -70°/LCA.								
						Basal limit to zone crenulated, approx 65°/LCA.								
						508.55 - 553.6m: HIGHLY DEFORMED BLACK GRAPHITIC SHALE (CHAMBERLAIN SHALE)				Shale variably pyritic, dec with depth				
						Lithology: Black & grey. Highly deformed & cleaved black graphitic shale with abund deformed, pulled-apart & brecciated thin interbeds of carb-cemented qtzose siltstone/fine sst.				Mainly as irreg patches & thin bands				
						Common tiny veinlets of carb & occ veins of qtz-carb.				of ultra-fi gr py, after smeared				
						Structure: Bedding: 60°/LCA @ 528.3m; 55°/LCA @ 542.3m;				& deformed thin beds of massive				
						Below 521m gen mod broken, with badly broken zones @ 524.1 -525.6m; 536.5 -538m; 544.6 -548m (v badly broken).				syngenetic py.				
						Some tight folding & local crenulation of cleavage, esp adjacent to faults. Cleavage (bedding-//): 70°/LCA @ 510.8m & 518m; 75°/LCA @ 539.5m; 60°/LCA @ 551.7m;				508.55 - 526m: 2-3% py, locally				
						Major faults (angle unknown) @ 544.65 - 545.45m, 547.2 - 548.1m, & 549.2 - 549.3m (all part of one major faulted zone).				10 -15%,				
						Numerous smaller faults, shears & fractured zones throughout.				(best zones: 512.5 - 515m: 5% py;				
						Basal contact sharp - deformed bedding (cleavage), 45°/LCA.				516.7 - 518.8m: 5 - 7%py;				
						Samples: (For assay): 031349 @ 512.5 - 513.5m; 031350 @ 513.5 - 515m; 031351 @ 516.7 - 518.8m; 031352 @ 520 - 521m.				519.9 - 522.4m: 3 -5% py).				
										526 - 534m: 1-2% py.				
										Below 534m, minor to 1% py.				

PROJECT BASTYAN DAM, MT BLACK EL 12/88

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

Graphic Scale 1 :

HOLE No. BY 1

CORE RECOVERY				DESCRIPTION							CODES			
From m	Interval m	%	RQD	From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Graphic Lithology	Struct.	MINERALISATION	LITHO	STRUCT	ALTN	MIN
						553.6 - 562.45m: QUARTZOSE SANDSTONE (STITT QUARTZITE)								
						Lithology: Grey. Massive fine qtz sst with numerous highly deformed black shale interbeds. Sst silif & v hard, shale soft.				Trace dissem py.				
						Common carb & qtz veins & veinlets.								
						Structure: Bedding: 52°/LCA @ 555m; 58°/LCA @ 559m; 50°/LCA @ 562.4m.								
						Cleavage weaker than in unit above.								
						Badly broken 556.7 -558m, around major fault @ 557.4m with 150mm of carb-cemented fault breccia, 40°/LCA. Sl broken elsewhere.								
						END OF HOLE								

PASMINCO EXPLORATION
DIAMOND DRILL CORE ASSAY DATA

PROJECT BASTYAN DAM, MT BLACK EL 12/88

HOLE No. BY1

SAMPLE						ASSAYS (ppm unless specified)														COMMENTS
Number	Type	From m	To m	Interval m	Recovered m	Cu	Pb	Zn	Ag	Au	Ba	As								
031305	SPLIT NQ	219·1	220·5	1·4		35	15	2550	<1	0·02	910	280								BLACK SHALE
031306	" "	220·5	222·0	1·5		25	5	3550	<1	0·025	910	230								" "
031307	" "	222·0	223·5	1·5		30	10	4700	<1	0·02	780	230								" "
031308	" "	223·5	225·0	1·5		15	5	1900	<1	0·02	900	200								" "
031309	" "	225·0	226·5	1·5		30	10	6200	<1	0·025	830	190								" "
031310	" "	226·5	228·0	1·5		30	190	5900	<1	0·025	820	220								" "
031311	" "	228·0	229·5	1·5		20	25	2350	<1	0·02	800	260								" "
031312	" "	229·5	231·0	1·5		20	30	5800	1	0·02	810	170								" "
031313	" "	231·0	232·5	1·5		50	95	8700	<1	0·03	810	170								" "
031314	" "	232·5	234·0	1·5		80	15	6250	<1	0·03	800	240								" "
031315	" "	234·0	235·5	1·5		45	10	2000	<1	0·02 / 0·04	820	200								" "
031316	SPLIT NQ	272·7	273·3	0·6		45	190	2050	1	0·025	920	110								BLACK SHALE
031318	SPLIT NQ	302·5	303·55	1·05		45	60	910	1	0·01	780	220								BLACK SHALE
031319	" "	303·55	304·25	0·7		20	30	500	<1	0·025	850	52								SANDSTONE
031320	" "	304·25	305·5	1·25		30	55	1250	<1	0·015	1050	130								BLACK SHALE
031321	" "	305·5	307·0	1·5		45	340	1450	1	0·025	1050	260								" "
031322	" "	307·0	309·0	2·0		50	335	2200	2	0·035	990	240								" "
031323	" "	309·0	311·0	2·0		5	35	175	<1	0·015	700	19								FAULT ZONE
031324	" "	311·0	313·0	2·0		25	105	1450	1	0·01	1400	130								SILTSTONE
031325	" "	313·0	315·0	2·0		60	480	3750	1	0·02	1450	240								" "
031326	" "	315·0	316·5	1·5		55	515	2000	1	0·01	1480	86								" "
031327	" "	316·5	317·65	1·15		55	270	4350	1	0·025	1200	32								" "
031328	SPLIT NQ	333·45	334·5	1·05		55	560	3650	2	0·01	1200	130								CARBONACEOUS LIMESTONE
Laboratory ANALABS, CDDEE				Analytical Method		AAS	AAS	AAS	AAS	F/A	XRF	HYDRIDE								
Job No. 0152; 0153		Date FEB/APRIL 1991		Detection Limit		2	5	2	1	0·008	10	1								

PASMINCO EXPLORATION
DIAMOND DRILL CORE ASSAY DATA

PROJECT BASTYAN DAM, MT BLACK EL 12/88

HOLE No. BY 1

SAMPLE						ASSAYS (ppm unless specified)													COMMENTS
Number	Type	From m	To m	Interval m	Recovered m	Cu	Pb	Zn	Ag	Au	Ba	As							
031331	SPLIT NQ	366.0	366.5	0.5		105	1150	2.14%	5	0.01	600	1180							LIMESTONE CONGLOMERATE
031333	" "	366.5	368.0	1.5		25	170	2050	1	<0.008	1600	86							CARBONATE SANDSTONE
031334	" "	368.0	369.5	1.5		15	50	1250	<1	<0.008	1450	37							" "
031335	" "	369.5	371.0	1.5		10	35	430	<1	<0.008	1100	41							" "
031336	" "	371.0	373.0	2.0		10	30	270	<1	<0.008	960	34							" "
031337	" "	373.0	375.0	2.0		45	540	7250	1	0.015	1500	300							" "
031338	" "	375.0	376.1	1.1		20	230	2050	1	<0.008	1050	160							" "
031339	" "	376.1	377.0	0.9		25	85	775	1	<0.008	610	27							LIMESTONE CONGLOMERATE
031340	" "	377.0	378.5	1.5		10	35	740	<1	<0.008	1400	86							CARBONATE SANDSTONE
031341	SPLIT NQ	387.5	389.0	1.5		45	25	530	1	<0.008	890	75							LIMESTONE
031342	" "	389.0	390.5	1.5		50	250	1900	1	0.025 0.015	960	130							" "
031343	SPLIT NQ	398.1	398.7	0.6		25	40	4900	<1	0.025	440	700							LIMESTONE BRECCIO-CONGLOMERATE
031344	SPLIT NQ	403.75	405.0	1.25		30	90	930	1	0.01	1000	120							CALCAREOUS SILTSTONE/SHALE
031349	SPLIT NQ	512.5	513.5	1.0		20	50	30	3	0.015	740	100							BLACK SHALE WITH 5-7% PYRITE
031350	" "	513.5	515.0	1.5		20	55	20	4	0.01	770	93							" " " " " "
031351	SPLIT NQ	516.7	518.8	2.1		20	50	25	2	0.01	770	87							BLACK SHALE WITH 5-7% PYRITE
031352	SPLIT NQ	520.0	521.0	1.0		20	55	25	2	0.01 0.01	730	70							BLACK SHALE WITH 5-7% PYRITE
Laboratory ANALABS, COOEE				Analytical Method		AAS	AAS	AAS	AAS	F/A	XRF	HYDRIDE							
Job No. 0153; 0155		Date APRIL 1991		Detection Limit		2	5	2	1	0.008	10	1							

PASMINCO EXPLORATION
DIAMOND DRILL CORE ASSAY DATA

PROJECT BASTYAN DAM, MT BLACK EL 12/88

T900

HOLE No. BY1

SAMPLE						ASSAYS (ppm unless specified)																						COMMENTS
Number	Type	From m	To m	Interval m	Recovered m	Cu / Pb	Zn / Ag	V	As	Rb	Sr	Y	Zr	Nb	Ba	Al_2O_3 %	SiO_2 %	TiO_2 %	Fe_2O_3 %	MnO %	CaO %	K_2O %	MgO %	P_2O_5 %	Na_2O %	SO_3 %	
031301B	SPLIT NQ	153·25	153·95	0·7	0·7	2 / <1	53 / <0·1	5	<3	110	150	31	170	11	870	16·42	68·8	0·22	3·05	0·07	0·32	2·98	2·12	0·039	3·01	<0·01	RHYOLITE LAVA IN HW EPICLASTICS
031304	" "	209·9	210·45	0·55	0·55	5 / 18	100 / <0·1	15	<3	100	160	45	280	15	750	13·56	71·0	0·37	2·14	0·12	2·40	2·35	0·93	0·057	3·10	0·11	CRYSTAL SST IN HW EPICLASTICS
031346	NQ CORE	422·65	422·85	0·2	0·2	5 / 4	39 / <0·1	48	7	120	200	45	310	12	890	15·57	63·3	0·65	3·94	0·16	2·43	2·80	1·68	0·126	4·08	0·12	DETEXTURED VOLCANICLASTIC SST ?
031348	" "	476·3	476·55	0·25	0·25	8 / 3	19 / <0·1	52	<3	170	170	42	350	15	980	17·87	63·6	0·74	1·98	0·13	2·01	3·63	1·22	0·143	4·11	0·09	" " " ?
84055B	SPLIT NQ	21·4				9 / 4	106 / <0·1	7	16	140	90	34	280	18	580	13·94	69·7	0·31	3·13	0·25	2·09	3·13	0·76	0·645	2·70	0·07	AMYGDALOIDAL DACITE IN MT BLACK VOL

Laboratory	ANALABS			Analytical Method	AAS	AAS	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	AAS	XRF	
Job No.	0157	Date	22·4·91	Detection Limit	1	1 / 0·1	5	3	5	5	4	5	3	10	0·05	0·1	0·01	0·01	0·01	0·01	0·01	0·01	0·005	0·01	0·01	

13006

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

HOLE No. BY1

PROJECT: BASTYAN DAM, MT BLACK EL 12/88

PETROLOGICAL DESCRIPTIONS

Graphic Scale 1:

84055A BY1, 21.4m.

This sample consists of subhedral phenocrysts of plagioclase (1 - 2 mm) in a fine recrystallised groundmass of quartz and feldspar, with minor Fe oxides and a trace of pyrite. The rock has a pervasive 'dusting' of fine sericite which partially obscures many of the textures, particularly of the groundmass. In addition to the plagioclase phenocryst the rock contains abundant round vesicles (0.5 - 2 mm) which are filled by chlorite, quartz and carbonate. Where present, the carbonate typically occurs in the core of the vesicles.

The thin section is also cut by several narrow veins of carbonate and a relatively thick (8 mm) vein of quartz and carbonate. Nevertheless the principal alteration of the groundmass and plagioclase phenocrysts has involved the pervasive development of sericite which does not exhibit any preferred orientation.

The presence of abundant vesicles and the even distribution of phenocrysts is consistent with the interpretation that the sample represents a lava flow. However, it does not exclude the possibility of a shallow intrusive origin. The predominance of plagioclase phenocrysts, and lack of quartz phenocrysts, together with the relatively silicic groundmass suggests a dacitic composition.

031301A BY1, 153.75m.

This rock consists of abundant anhedral to subhedral quartz phenocrysts many of which are partially resorbed and embayed, and subhedral phenocrysts of feldspar which are largely replaced by fine sericite and patches of carbonate. The groundmass is composed of fine grained quartz, feldspar, sericite and chlorite with minor disseminated Fe oxides.

The fine-grained silicic groundmass contains relict spherulites (~ 0.05 mm diameter) some of which have only been weakly recrystallised.

The alignment of sericite depicts one major cleavage with a weak second cleavage developed approximately 90° to the principal one. There is also some minor patchy development of carbonate in the groundmass and several narrow cross-cutting chlorite-quartz veins.

The general textural features of this rock indicate it was extruded as a lava and quenched forming a glassy groundmass which ultimately devitrified forming spherulites. The presence of delicately resorbed phenocrysts which are often unbroken further supports a relatively non-violent effusive mode of emplacement.

The rhyolitic lava has been subjected to moderate hydrothermal alteration resulting in the development of abundant sericite and chlorite in the groundmass and sericite replacing feldspar phenocrysts. Subsequent deformation has produced at least two distinct cleavages.

031302 BY1, 185.9m

This sample is a clastic rock composed of a variety of relatively fine grained pumice material. The most obvious clasts are elongate tubular pumice fragments about 0.5 2.0 mm long which display variable orientation of flow-aligned tubular vesicles. The original vesicular character has been pseudomorphed by addition of silica, and highlighted by alternating thin parallel layers of sericite and minor chlorite. Some fragments contain sparse subhedral plagioclase phenocrysts (up to 0.5 mm long) which typically exhibit only minor carbonate or sericite alteration.

The matrix between the pumice fragments appears to be dominated by fine recrystallised quartz, feldspar, sericite and minor chlorite. The sericite and chlorite define two principal cleavages which are at a relatively high angle to each other.

Much of the fine-grained quartzo-feldspathic material in the matrix was probably originally fine ash or smaller unwelded pumice fragments.

There are some very fine-grained disseminated Fe oxides in the groundmass and some associated with a late cross-cutting quartz-chlorite-rich vein.

There is a small amount of carbonate throughout the matrix and several late cross-cutting veins of carbonate and quartz with minor chlorite.

The textures of this specimen are most consistent with it being a volcaniclastic which may have been deposited as some sort of pumiceous mass-flow deposit. The pumice was clearly solidified at the time of deposition as indicated by their variable orientation, and there is no evidence of welding in this section.

The rock has experienced weak sericite-chlorite-carbonate alteration and subsequent deformation has resulted in two very weak cleavages. The presence of sparse plagioclase phenocrysts in a dominantly silicic groundmass implies a dacitic composition.

031303 BY1, 204.3m.

This sample is similar to 031302 in that it is composed of abundant tubular pumice fragments. However, the fragments in this sample are generally larger (0.5 - 4.0 mm) and the proportion of silicic matrix appears to be somewhat less.

The strongly flow-banded pumice fragments are composed of very fine-grained recrystallised quartz-rich bands which alternate with chlorite- and sericite-rich layers.

The matrix consists of abundant very fine-grained recrystallised quartz and feldspar with chlorite-rich patches some of which have a 'shard-like' form. The latter probably represent original glassy fragments which have been partly broken up during transport and deposition. However, many have quite open structures and exhibit no evidence of flattening. There are very sparse examples of subhedral plagioclase phenocrysts which have been substantially replaced by sericite. However, sericite alteration throughout the sample is comparatively weak and tends to be concentrated around clast margins.

The matrix contains patchy carbonate alteration with one very large patch within the field of the thin section examined. There are also a number of late cross-cutting veins composed of quartz-chlorite and carbonate. These are sometimes zoned from chlorite at the margin to carbonate and quartz in the interior. There is magnetite, sphene and a trace of pyrite disseminated throughout the matrix.

This rock has very similar components to 031302 and probably has a similar broadly dacitic composition. General textural features also imply a similar mode of origin and deposition — probably some sort of pumiceous mass-flow deposit.

031317 BY1, 296.25m.

This sample is also a clastic rock although the similar textures in many of the clasts and matrix tends to obscure clast boundaries. Clasts are typically rounded and vary from 0.5 to > 6 mm in size, the larger of these being distinguished by the presence of cross-cutting quartz veins which end at the clast margins. Other clasts are distinguished by slightly coarse-grained recrystallised quartz-feldspar-rich assemblages. The matrix is very fine grained and also dominated by quartz and feldspar with variable fine sericite, chlorite and carbonate. Subhedral plagioclase phenocrysts occur in some of the clasts but the quartz phenocrysts are absent suggesting a broadly dacitic composition. The alteration is patchy but locally quite strong resulting in overprinting of the original textures and substantial replacement of the plagioclase phenocrysts by sericite and carbonate. The sericite alteration exhibits a weak cleavage. Patchy carbonate alteration also locally results in virtually complete replacement of the silicic volcanic fragments. Aggregates of pyrite are disseminated throughout the rock but most frequently appear to be associated with the most intense patches of carbonate alteration.

This sample displays clear evidence of a clastic origin and the lithic fragments appear to be mainly of the same broad silicic (dacitic) volcanic composition. The fine silicic matrix may represent a fine ash component associated with the eruption of these silicic volcanics and both these components were probably deposited in some sort of slumping or mass-flow event.

031329 BY1, 333.9m.

The fine scale laminations apparent in handspecimen reflect primary bedding layers which are relatively rich in quartz or carbonate. The relatively quartz-rich layers occur on the scale of 0.1 - 1.0 mm thick and consist of grains of quartz (0.02 mm), relatively coarse-grained carbonate and minor sericite. The carbonate-rich layers consist of the same phases but detrital quartz grains are more widely dispersed. Fine-grained stringer-like aggregates of of pyrite are disseminated throughout the rock. Some pyrite aggregates run parallel to bedding and are restricted to specific layers.

In addition the sample is traversed by relatively late veins (0.2 mm wide) of recrystallised carbonate, quartz, pyrite and hematite. Several anhedral aggregates of hematite exhibit narrow overgrowths of magnetite ? probably reflecting changing fO_2 conditions. The veins are zoned from quartz at the margins to carbonate and magnetite in the interiors. Magnetite stringers appear to extend from these cross-cutting veins out along specific quartz-carbonate-rich layers.

The regular variations in mineralogy between specific bedding layers suggest that the carbonate in this rock is primary and that it represents an impure limestone. Fine detrital quartz and clay minerals (now sericite) were also being deposited at the same time as the carbonate giving rise to the rhythmic banding.

Perhaps during folding, fracturing of the rock provided pathways for fluids which resulted in the remobilisation of carbonate and quartz. Iron also carried by later fluids has reacted with the carbonate host precipitating hematite and pyrite.

150063

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

PROJECT: BASTYAN DAM, MT BLACK EL 12/88

0053

HOLE No. BY 1

Graphic Scale 1 :

PETROLOGICAL DESCRIPTIONS

031330 BY1, 336·9m.

This sample consists of very angular quartz grains, some very fine-grained silicic lithic fragments and abundant chlorite pseudomorphs probably after ferromagnesian phases, set in a fine-grained silicic matrix. The chlorite pseudomorphs have a prismatic form which suggests hornblende (this is the green clayish alteration mineral noted in your letter). There is also a trace of detrital zircon and disseminated Fe oxides. A considerable portion of the matrix has also experienced alteration to sericite with subordinate carbonate.

The section is traversed by several large veins (1.0 mm - 10 mm wide) which are composed almost entirely of coarse-grained quartz and carbonate.

This rock appears to be clastic in origin with a polymodal source contributing angular quartz, rounded fine-grained silicic lithic fragments (these may have been silicic volcanic glass), and also an abundant detrital mafic phase (hornblende ?) which has subsequently been altered to chlorite.The matrix appears to be recrystallised fine silicic material probably after volcanic ash. Following deposition, the rock was subject to hydrothermal alteration which resulted in partial replacement of the matrix and chlorite pseudomorphs by sericite.

031332 BY1, 383m.

In hand specimen this sample includes a fine-grained dark portion (siltstone) which exhibits a sharp contact with a relatively coarse-grained light coloured 'sandy' portion. The fine-grained portion is dominated by fine sericite and chlorite with dispersed fine angular grains of quartz, and minor sphene, Fe oxides and a trace of pyrite. In addition, there is a significant proportion of relatively large (0.1 mm) rhombic porphyroblasts of carbonate (dolomite) scattered throughout this layer.

The relatively coarse-grained material adjacent to the fine calcareous siltstone layer displays some igneous textural features. It is composed of medium-grained (0.5 - 1.5 mm) interlocking tabular crystals of plagioclase with subordinate interstitial quartz. This material has been cross-cut by later veins rich in quartz and carbonate that also contain accessory Fe oxides and ?rutile. The veins appear to have experienced weak thermal metamorphism which has produced some annealing of the carbonate (incipient triple junctions) and to a lesser extent, quartz.

The relatively coarse-grained igneous textured plagioclase has been partly replaced by carbonate associated with vein development., and it is possible that the carbonate in the siltstone layer also originated principally from the vein-related fluids as quartz-carbonate-rich veins also cross-cut that layer.

The thin section examined traverses the contact between a weakly metamorphosed siltstone unit and what appears to be a narrow intrusive porphyrite (andesite?) dyke. Examination of the core indicates that the 'dyke' varies somewhat in width and is transgressive to the apparent bedding/cleavage orientations. The major problem with the interpretation that it represents a dyke is the relatively coarse grain size and apparent lack of a chilled margin against the siltstone. The alternative interpretation is that this layer represents a thin sandy unit rich in plagioclase feldspar. As many of the grain boundaries in the thin section examined are obscured by carbonate alteration, it is conceivable that the interlocking textures observed were within a lithic clast. It should be fairly obvious from an examination of the core either side of this sample as to which of these alternatives seems more reasonable.

The lithological character of 031330 and 031332 are broadly compatible with these samples being part of the Dundas Group. However, my knowledge of the Dundas sediments is not broad enough to provide a definite confirmation.

031345 BY1, 431·75m.

Clastic textures are also difficult to distinguish in this sample due to similar clast and matrix compositions, together with the obscuring effects of quite strong sericite and carbonate alteration. Rounded clasts of recrystallised silicic volcanic material appear to be about 0.5 to 1.5 mm diameter. These appear to be slightly coarser-grained than the matrix and less altered.

Abundant relatively large (0.5 - 3 mm) subhedral plagioclase crystals appear to be scattered throughout the fine-grained silicic groundmass. Some of these may in fact be within silicic clasts but the extensive nature of the alteration makes this impossible to ascertain. The feldspars are extensively sericitised and also partially altered to carbonate, and some (least altered) samples have altered cores with a later unaltered overgrown rim. Although widespread, the sericitic alteration does not define a cleavage. Patchy carbonate alteration occurs throughout the matrix and clasts. Carbonate also appears to be commonly remobilised into later fractures where it is associated with quartz and chlorite. Aggregates of sphene with associated fine needles of ?rutile are distributed throughout the rock together with zircon and Fe oxides.

This sample appears to be a volcaniclastic rock with a dacitic composition. It has some similarities to 031317 but contains a greater proportion of plagioclase phenocrysts. The extensive nature of the sericite (and carbonate) alteration has obscured many of the critical textural features of the rock.

031347 BY1, 477·7m.

This sample is very similar to 031345 but is less altered. It contains the same array of relatively coarse-grained recrystallised silicic and feldspar-bearing clasts in a very fine-grained quartz-feldspar-rich matrix. It also contains abundant subhedral to angular (broken) plagioclase crystals within the matrix. The relative abundance of feldspar crystals is more typical of an epiclastic rock than primary igneous rocks, as they become concentrated in the former due to sorting processes.

All of the feldspar crystals show extensive sericite (and carbonate) alteration, with occasional unaltered overgrowths. In contrast, the fine-grained matrix is only weakly altered in general, although there are several patches of more intense sericite and carbonate alteration. The rock contains no quartz in the form of phenocrysts either in clasts or reworked in the matrix, but fine-grained quartz is abundant and it also occurs in narrow cross-cutting veins.

Throughout the matrix there occur segregations of accessory phases including sphene, zircon, secondary Fe oxides, minor pyrite and a brownish, very fine grained, high relief phase which occurs as stumpy prismatic crystals or bundles of fine acicular crystals. This may be rutile (or possibly cassiterite) but definite identification would require a microprobe analysis.

This sample has similar composition and textures to 031345 and implicitly a similar origin as a submarine mass-flow deposit. Both 031347 and 031345 are similar to the Rosebery footwall rocks in that they represent plagioclase-phyric volcaniclastics rich in lithics, and do not contain any quartz phenocrysts.

APPENDIX 2

SG MEASUREMENTS &
MAGNETIC SUSCEPTIBILITY READINGS
ON BY1 DRILL CORE

0065

S G READINGS

DDH No	DEPTH (m)	DRY weight (gm)	WET weight	Volume (cc)	S G	Comment
BY 1	20.80	1083	—	407	2.66	Wate HQ core
	40.70	559	—	225	2.48	" "
	65.30	935	—	345	2.71	" "
	80.20	880	—	323	2.72	" "
	100.00	1289	—	473	2.73	" "
	114.70	696	—	259	2.69	" "
	139.12	891	—	327	2.72	" "
	164.00	648	—	252	2.57	Wate NQ core
	176.00	617	—	226	2.73	" "
	197.00	518	—	191	2.71	" "
	222.00	676	—	244	2.77	" "
	240.00	786	—	298	2.83	" "
	254.00	694	—	256	2.71	" "
	270.00	892	—	324	2.75	" "
	290.00	674	—	247	2.73	" "
	307.00	664	—	235	2.83	" "
	320.00	817	—	294	2.78	" "
	340.00	553	—	207	2.67	" "
	360.00	607	—	218	2.78	" "
	380.10	538	—	194	2.77	" "
	400.15	461	—	162	2.85	" "
	419.85	722	—	264	2.73	" "
	446.00	432	—	157	2.75	" "
	460.00	502	—	183	2.74	" "
	480.00	896	—	328	2.73	" "
	500.00	417	—	150	2.78	" "
	520.00	509	—	183	2.78	" "
	540.00	777	—	276	2.82	" "
	560.50	899	—	325	2.77	" "
		END OF HOLE				

MAGNETIC SUSCEPTIBILITY READINGS

DDH No	From (M)	To	Reading	Comment
BY 1	1.20		-05	HQ whole core
	3.20		-12	" "
	4.50		-06	" "
	7.10		-07	" "
	9.40		-00	" "
	10.50		-09	" "
	12.50		-08	" "
	15.60		-09	" "
	16.50		-10	" "
	19.40		-08	" "
	20.80		-07	" "
	22.50		-08	" "
	24.20		-13	↓
	25.50		-13	
	27.10		-06	
	28.50		-06	
	30.00		-10	
	34 50		-13	
	31 50		-19	
	35.10		-21	
	37.10		-12	
	40.20		-15	
	43.3		-12	
	45.20		-08	
	H6 90		-12	
	49.50		-08	
	51.10		-08	
	54.00		-09	
	55.20		-16	
	56.30		-11	
	57.60		-12	
	58.50		-06	
	60.50		-06	
	61.50		-11	
	64.50		-08	
	67.50		-01	
	70.40		-10	
	71.60		-09	

MAGNETIC SUSCEPTIBILITY READINGS

DDH No	From	To	Reading	Comment
BY1	73.50		-13	HQ WHOLE CORE
	76.50		-08	
	78.90		-06	↓
	82.00		-11	
	85.00		-20	
	86.80		-15	
	89.70		-10	
	91.50		-11	
	94.50		-07	
	97.50		-10	
	100.50		-11	
	103.50		-11	
	106.40		-07	
	108.60		-03	
	111.70		-04	
	114.80		-03	
	117.90		-03	
	121.00		-09	
	124.10		-06	↓
	127.20		-10	
	130.30		-09	
	133.40		-14	
	136.50		-03	
	139.50		-16	
	141.00		-04	NQ WHOLE CORE
	142.50		-03	↓
	145.50		-10	
	151.50		-07	
	154.50		-07	
	157.50		-06	
	160.50		-08	
	163.50		-06	
	166.50		-09	
	169.50		-08	
	172.50		-04	
	175.50		-10	
	178.50		-07	
	181.75		-08	

MAGNETIC SUSCEPTIBILITY READINGS

DDH No	From	To	Reading	Comment
BY 1	182.40		.02	NQ whole core
	184.5		.01	
	187.5		.07	
	190.5		.05	
	193.5		.10	
	196.5		.06	
	199.30		.02	
	202.3		.06	
	204.9		.10	
	207.9		.11	
	210.9		.04	
	214.0		.09	
	217.1		.06	
	220.2		.17	
	222.0		.14	
	225.0		.21	
	228.1		.16	
	231.1		.18	
	234.2		.17	
	237.2		.16	
	240.3		.15	
	241.10		.18	
	242.3		.14	
	243.7		.16	
	245.7		.14	
	248.8		.17	
	251.9		.11	
	254.9		.23	
	255.6		.20	
	257.5		.19	
	258.3		.22	
	261.4		.12	
	264.4		.15	
	267.5		.12	
	270.6		.14	
	270.8		.12	
	273.6		.12	
	276.6		.15	

MAGNETIC SUSCEPTIBILITY READINGS

DDH No	From	To	Reading	Comment
BY 1	279.7		.16	NQ whole core.
	282.8		.08	
	284.2		.15	
	285.6		.06	
	288.4		.10	
	291.4		.05	
	292.5		.05	
	294.2		.05	
	297.3		.07	
	298.5		.08	
	301.5		.11	
	303.8		.11	
	306.9		.11	
	307.4		.14	
	309.7		.08	
	311.9		.10	
	312.5		.12	
	315.6		.16	
	318.7		.24	
	319.7		.19	
	322.7		.36	
	325.7		.26	
	328.7		.28	
	331.7		.24	
	334.7		.17	
	337.7		.06	
	340.7		.15	
	343.7		.10	
	346.7		.10	
	349.7		.04	
	352.7		.03	
	355.9		.08	
	358.7		.27	
	361.55		.29	
	364.6		.20	
	367.6		.12	
	370.6		.20	
	373.6		.14	