

# PASMINGO EXPLORATION DIAMOND DRILL CORE RECORD

LOCATION		OBJECTIVE										LOCATION/SURVEY DATA (AMG)									
TASMANIA		TO TEST BENEATH MASSIVE BASEMETAL SULPHIDE LENSE OUTCROPPING IN TULLABARDINE CREEK.										Grid		AMG		RL Collar m 205.2					
TULLAH EL 22/90												Northing m		5382718.5		Bearing Collar		091°46'			
MACKINTOSH DAM												Easting m		387003.0		Dip Collar		-50°			
DESIGNED BY J.G. PURVIS												DH Survey Type						SINGLE SHOT EASTMAN CAMERA			
LOGGED BY J.G. PURVIS												Length Hole m						184.3			
RELOGGED		RESULT										Depth m	Bearing	Dip	Depth m	Bearing	Dip				
		0.12 M SEMI-MASSIVE SULPHIDE BAND INTERSECTED SOM DOWN-DIP OF BUTCRDP.										COLLAR		091.75°		-50°					
COMMENCED 1.11.93												30		091.25°		-48.25°					
COMPLETED 10.11.93												60		092°		-47°					
DRILLED BY W. HOW												90		092°		-45°					
DRILL RIG LONGYEAR 38												120		092°		-44.25°					
		150		092°		-43°															
		184.3		091.5°		-42°															
SIGNIFICANT INTERSECTIONS (ppm)																					
From m	To m	Interval m	Cu	Pb	Zn	Ag	Au	As	Comments												
76.08	76.20	0.12	3296	8.75%	745	123	0.50	2150	SEMI-MASSIVE PY-GN SULPHIDES												
103.1	104.1	1.00	75	1.34%	60	20	0.015	4	GALENA IN QTZ-ALBITE VEINS IN DACITE LAVA												
SIGNIFICANT CORE LOSS			POOR GROUND CONDITION ZONES																		
From m	To m	% Lost	From m	To m	Condition																
0	3	57	0	23	BROKEN AT INTERVALS																
			46	46.3	BROKEN BY FRACTURES ALMOST PARALLEL LCA.																
			47	47.6	" " " " " "																
HOLE SIZE		HOLE CONDITIONS AFTER COMPLETION																			
Size	Depth m	Collar	HW-SIZE STEEL PIPE WITH CAP, CEMENTED IN TO 0.7m.																		
HQ	36	Steel Casing	-																		
NQ	184.3	PVC Casing	40MM PVC CASING PLACED TO 140.6m. 96% <sup>m</sup> , WITH SLOTTED SECTION 568-636m. LATER (STANDARDY 1994) PVC RAISED TO																		
		Ground Water																			
		Wedge																			
		Drill Pad																			

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**PASMINCO EXPLORATION  
SUMMARY DIAMOND DRILL CORE LOG**

HOLE No. **MD1**

PROJECT: **TULLAH EL 22/90**

Graphic Scale 1:

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From m	Interval m	Code	Description	Depth	Graphic	From m	Interval m	Code	Description	Depth	Graphic
			<u>MD1 SUMMARY LOG</u>								
	0 - 14.5m:		MAFIC LAVA. Probable dyke								
	14.5 - 29.1m:		UNIDENTIFIABLE VITRIC VOLCANICS. Fi gr. Broken in places.								
	29.1 - 49.7m:		BRECCIO-CONGLOMERATE. Volcanomict. Bedded. 1-3% dissem py.								
	49.7 - 76.1m:		SANDSTONE, BRECCIA, SILTSTONE & SHALE. Volcanomict. 1-3% py.								
	76.1 - 76.2m:		MASSIVE SULPHIDE. Partly banded py-gn with lesser cp & aspy.								
	76.2 - 80.3m:		SANDSTONE. Volcanomict.								
	80.3 - 90.9m:		RHYODACITE LAVA. Qtz-amygdaloidal.								
	90.9 - 97.0m:		DEFORMED VOLCANICLASTIC. V strong shearing fabric. Stretched clasts of lava & sediments to 100mm long.								
	97.0 - 124.0m:		DACITE LAVA. Strong qtz-albite alteration. Highly deformed & augen-textured 107-113m. Gn-py in qtz-alb veins 102-105m.								
	124.0 - 159.7m:		SANDSTONE, SILTSTONE & SHALE. Down-hole fining qtz-feldspathic sediments. Minor py & po.								
	159.7 - 178.6m:		MAFIC DYKES & SEDIMENTS. Complex of fine sst, partly-carbonaceous siltst/shale, and weakly fuchsitic mafic dykes.								
	178.6 - 184.3m:		FINE SANDSTONE. Massive, even-grained. Minor py.								
			END OF HOLE								

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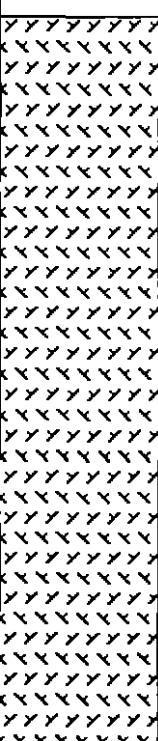

PASMINCO EXPLORATION  
DIAMOND DRILL CORE LOG

HOLE No. MD1

PROJECT: TULLAH : EL 22/90 MACKINTOSH DAM

Vertical Scale 1 : 150

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DESCRIPTION		GRAPHIC			CODES					
From	To	LITHOLOGY & ALTERATION	MINERALISATION	Depth	Lithology	Structures	STRUCTURES	LITH	STR	ALT
0.00	14.50	<p><b>BASIC INTRUSIVE</b> Dark, Green, Fine grained, Massive, Highly Chloritised, Moderately Carbonatised, Even-textured. Non-magnetic. Probable dyke. Partly broken, esp above 6.5m. Irreg cb veinlets. CONTACT: Unassigned, at 65 degrees to LCA. Basal contact abrupt, marked by strong lineation parallel to cleavage.</p>	<p>DISSEMINATED, minor pyrite Locally 1-2% above 9m..</p>	0				1 lb		chl co
				10			FIRST CLEAVAGE, A 55. Weak.		sl	
14.50	29.15	<p><b>UNASSIGNED</b> Pink, Buff, Fine grained, Massive, Vitric, Spherulites, Slightly Sericitised, Slightly Albitised, Unidentified even-textured vitric volcanic. Snowflake devitrification texture. Broken at intervals, esp above 23m. Abund cb(+qz) veinlets, esp in stronger cleavage 22.4-28.8m. Mafic dykes at 15.1-15.6m (52/LCA), &amp; 22-22.35m (60/LCA). Both dykes //cleav. CONTACT: Conformable abrupt, at 86 degrees to B. S1/LCA, parallel to bedding/cleavage in unit below.</p>	<p>DISSEMINATED, minor pyrite Some fracture-filling py..</p>	20				??		ser alb

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PRSMINCO EXPLORATION

HOLE No. MD1

DIAMOND DRILL CORE LOG

PROJECT: TULLAH : EL 22/90 MACKINTOSH DAM

Vertical Scale 1 : 150

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DESCRIPTION		GRAPHIC			CODES					
From	To	LITHOLOGY & ALTERATION	MINERALISATION	Depth	Lithology	Structures	STRUCTURES	LITH	STR	ALT
			5-10% dissem aspy @ 44.55 - 44.65m..							
			DISSEMINATED, 1% pyrite minor sphalerite minor galena minor chalcopryrite Sp-gr-cp in qz-cb veinlets. Best sulphs assoc with black shale..			↑	BEDDING, A SS.		ss	
			DISSEMINATED, minor pyrite trace galena trace chalcopryrite Basemetals in qz-cb veins..			↑	BEDDING, Grading uphole. Scour & fill structures also face uphole.		ss	
							BEDDING, Grading uphole.		ss	
49.70	76.00	SANDSTONE INTERBEDDED WITH BRECCIA INTERBEDDED WITH SILTSTONE INTERBEDDED WITH SHALE Grey, Buff, Medium grained, Fine grained, Bedded, Crystal, Vitric, Pumiceous, Moderately Sericitised, Slightly Silicified, Volcanomict seds, mainly pumiceous feld>>qz xyl-lithic sst & fine bx (bx frags incl felsic lavas). Some vitric partly cherty siltst, & grey/black shale. Stretched lumps of siltst/sh in sst. Alt strongest (incl some carb & bch) in pyritic section below 70.5m. Qz-cb veins. Unit largely unbroken. CONTACT: Unassigned, at 89 degrees to LCA. Abrupt.	DISSEMINATED, 1% pyrite very minor galena very minor chalcopryrite trace arsenopyrite 2-3% py assoc with black shale bands @ 50.5-51m & 55.7-56.2m. Gn & cp increase slightly 65-68m. All sulphides except aspy also occur in veinlets..	50				S sst b bx b silt b sh		ser silt
							BEDDING, A SS.		ss	
							FIRST CLEAVAGE, D 74. 57/LCA. (Cleavage in unit varies from weak to strong, & is strongest in pumiceous sst & bx. All cleav // bedding.			s1
				60						

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PASMINCO 'PLORATION'  
DIAMOND DRILL CORE LOG

HOLE No. MD1

PROJECT: TULLAH : EL 22/90 MACKINTOSH DAM

Vertical Scale 1 : 150

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DESCRIPTION		GRAPHIC			CODES					
From	To	LITHOLOGY & ALTERATION	MINERALISATION	Depth	Lithology	Structures	STRUCTURES	LITH	STR	ALT
			BANDED, 5% pyrite 1% sphalerite 1% galena minor arsenopyrite Sulphs in diffuse bands to 21mm //bedding..	70						
			DISSEMINATED, 1% pyrite minor sphalerite				BEDDING, R 65.		ss	
		<b>BASIC INTRUSIVE 76.0 - 76.08 m</b> Yellow, Green, Medium grained, Highly Fuchsitic, Highly Carbonatised, Strongly altered lineated mafic dyke. CONTACT: Unassigned, at 75 degrees to LCA. Abrupt & // dyke lineation.	DISSEMINATED, trace pyrite (Mafic dyke)..							
		<b>UNASSIGNED 76.08 - 76.2 m</b> Blue, Brown, Medium grained, Moderately Sericitised, Moderately Silicified, Semi-massive sulphides in pumiceous feld-xyl sst. CONTACT: Conformable abrupt, at 65 degrees to LCA. //sulphide banding.	MASSIVE, abundant pyrite abundant galena 1% chalcopyrite 1% arsenopyrite Semi-massive (<+50%) banded sulphides. Some cp-gn veins at high angle to sulph banding..				R 65. Banding in semi-massive sulphides // bedding).			
78.28	80.18		DISSEMINATED, 2% pyrite 1% galena in veins.				FIRST CLEAVAGE, D B3, SS/LCA //bedding). Upper 1.3m of unit strongly cleav with zones of shearing.	5 sst	sl	ser co
		<b>SANDSTONE 76.2 - 80.3 m</b> Grey, Buff, Medium grained, Massive, Lithic, Vitric, Crystal, Moderately Sericitised, Slightly Carbonatised, Volcaniclastic sst. Lithic & feld>qz grains in sericitised vitric matrix. Minor coarser feld-xyl sst & grey silicified (baked?) shale. CONTACT: Gradational, at 55 degrees to LCA. Strongly lineated mixed zone of baked shale slivers, sst & lava material extends to 82m.	DISSEMINATED, 1% pyrite minor galena in veins.				BEDDING, R 61.		ss	
80.30	90.90		DISSEMINATED, very minor pyrite disseminated, some also on fractures..	80				L Un-d		sil ser
		<b>RHYODORCITE</b> Grey, Medium grained, Porphyritic, Massive, Feldspar phyric, Quartz phyric, Vitric, Moderately Silicified, Moderately Sericitised, Lava is qz-amygdaoidal. Felds albitised. Cb-qz veins. Weak cleavage. Mod fracturing 86-90m. 45mm mafic								

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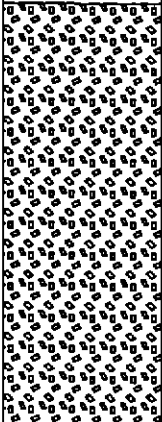
PASMINCO EXPLORATION  
DIAMOND DRILL CORE LOG

HOLE No. MD1

PROJECT: TULLAH : EL 22/90 MACKINTOSH DAM

Vertical Scale 1 : 150

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DESCRIPTION		GRAPHIC			CODES					
From	To	LITHOLOGY & ALTERATION	MINERALISATION	Depth	Lithology	Structures	STRUCTURES	LITH	STR	ALT
		Sericitised, Lava is qz-amygdaloidal. Felds albitised. Cb-qz veins. Weak cleavage. Mod fracturing 86-90m. 45mm mafic dyke @ 90.5m (75/LCA, opp sense to cleav), with abund microfracturing of lava on dyke margins. CONTACT: Unassigned, at 75 degrees to LCA. Abrupt.		90						
90.90	97.00	ACID VOLCANICLASTIC Pink, Grey, Medium grained, Foliated, Cleaved, Feldspar phytic, Vitric, Stylolites, Moderately Sericitised, Moderately Albitised, Largely unidentifiable, prob pumiceous, volc with v strong shearing/cleav fabric & wispy texture. Scattered fractured felsic lava clasts to 100mm x 30mm, & shale clast @ 93.4m, indicates rock is clastic. Sparsely qz-phyric. Strong sil-alb alt in basal half of unit. CONTACT: Gradational, Position sl arbitrary.	DISSEMINATED, minor pyrite				FIRST CLEAVAGE, A 62. Strong.	V Va	sl	ser alb
							FAULT, A 65, Shear. // cleavage.		fit	
							FIRST CLEAVAGE, A 50. Strong.		sl	
							FAULT, A 75, Brittle. // cleavage.		fit	
97.00	124.00	DACITE Pink, Grey, Medium grained, Massive, Cleaved, Feldspar phytic, Highly Albitised, Highly Silicified, Mod sericitised. Felds evenly distrib in bland granular rock. Strong tectonic deformation 105-113m (augen texture & broken silif felds), deformation assoc with strongest sil-alb alt. Qz veins to 150mm, most abund 102-108m. Mafic dyke 99-99.3m, fuc alt, cleaved & oriented // cleav. CONTACT: Unassigned, at 65 degrees to LCA. Abrupt, // cleav, exact nature unclear. Basal 1m of unit is finer gr & vitric.	DISSEMINATED, very minor pyrite	100			FIRST CLEAVAGE, D 75. 68/LCA.	L Ld	sl	alb sil
			VEIN, 2% galena in veins, minor pyrite in veins. Coarsely xylite sulphs in qz-alb veins..							

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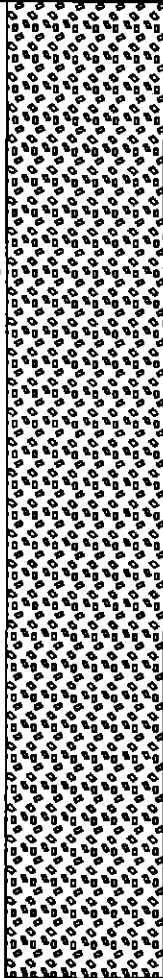
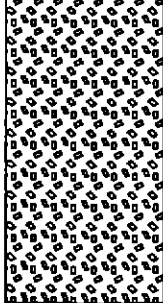
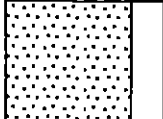
PRSMINCO EXPLORATION  
DIAMOND DRILL CORE LOG

HOLE No. MD1

PROJECT: TULLAH : EL 22/90 MACKINTOSH DAM

Vertical Scale 1 : 150

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DESCRIPTION		GRAPHIC			CODES					
From	To	LITHOLOGY & ALTERATION	MINERALISATION	Depth	Lithology	Structures	STRUCTURES	LITH	STR	ALT
			DISSEMINATED. very minor pyrite disseminated, trace galena in veins.	110			FIRST CLEAVAGE, R 55. Strong. V strongly deformed zone 105-113m with augen texture & broken feldspars. Elsewhere in unit cleavage mod-strong.		sl	
			DISSEMINATED. minor pyrite minor pyrrhotite Sulphides increasing to 1% towards base, with trace sp..	120			FIRST CLEAVAGE, R 57.		sl	
124.00	146.70	SANDSTONE Grey, Green, Medium grained, Massive, Feldspar phyrlic, Quartz phyrlic, Slightly Chloritised, Slightly Sericitised, Med gr qz-feld xyl sst, grading at approx 134m to fine qtzo-feldspathic sst & fining downhole. Unbedded &	DISSEMINATED. 1% pyrite Some py stringers. Trace sp-cp-gr in qz veins..					S sst		chl ser

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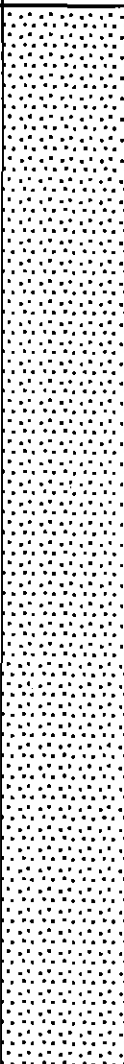
PASMINCO EXPLORATION  
DIAMOND DRILL CORE LOG

HOLE No. MD1

PROJECT: TULLAH : EL 22/90 MACKINTOSH DAM

Vertical Scale 1 : 150

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DESCRIPTION			GRAPHIC			CODES					
From	To	LITHOLOGY & ALTERATION	MINERALISATION	Depth	Lithology	Structures	STRUCTURES	LITH	STR	ALT	
		qz-feld xyl sst, grading at approx 134m to fine Qtzo-feldspathic sst & fining downhole. Unbedded & even-grained. Unaltered below 143m. Numerous irreg cb veinlets. CONTACT: Unassigned, Marked by sheared irreg 150mm mafic dyke in brecciated zone.		130							
			DISSEMINATED. 1% pyrrhotite Lesser py. Some po in qz veins..	140			FIRST CLEAVAGE, A 60. Weak. Cleavage becoming weaker with depth.		sl		
							BEDDING, A 52. (// the weak cleav).		ss		
146.70	159.70	SILTSTONE GRADING TO BLACK SHALE	DISSEMINATED. 1% pyrite					S slt		ser	

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PASMINCO EXPLORATION  
DIAMOND DRILL CORE LOG

HOLE No. MD1

PROJECT: TULLAH : EL 22/90 MACKINTOSH DAM

Vertical Scale 1 : 150

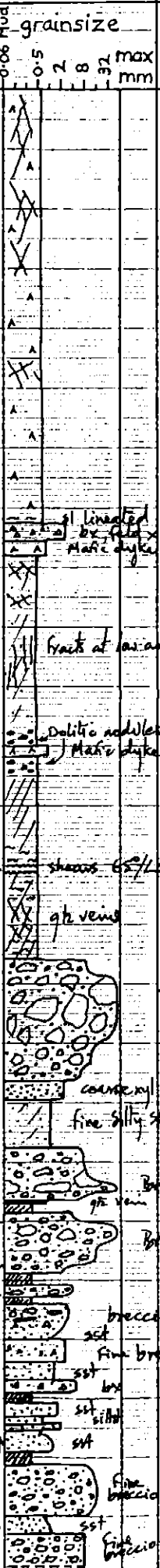
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DESCRIPTION		GRAPHIC			CODES					
From	To	LITHOLOGY & ALTERATION	MINERALISATION	Depth	Lithology	Structures	STRUCTURES	LITH	STR	ALT
146.70	159.70	SILTSTONE GRADING TO BLACK SHALE Grey, Black, Fine grained, Bedded, Vitric, Quartz phytic, Slightly Sericitised, Slightly Chloritised, Shale sl carbonaceous. Minor local sil alt. Abund irreg cb-qz-ser-chl veinlets. Weakly cleaved co-chl alt intermediate dyke(?) @ 149.4-150.2m, oriented // bedding, with 2-3% po. CONTACT: Conformable abrupt, at 70 degrees to LCA. Disrupted by qz veining.	DISSEMINATED. 1% pyrite disseminated, 1% pyrrhotite disseminated, minor sphalerite as stringers, Sulphs also commonly in stringers & in cb veinlets..	150				S slt > bsh		ser chl
							BEDDING, D 81. 60/LCA. Weak bedding-// cleav throughout unit.		ss	
							BEDDING, A 67.		ss	
159.70	164.40	SANDSTONE CONTAINING INCLUSIONS OF BASIC INTRUSIVE Grey, Green, Fine grained, Massive, Feldspar phytic, Quartz phytic, Vitric, Moderately Chloritised, Slightly Sericitised, Sst is finely pumiceous in places, & fines gradually downhole. In upper 1.5m sst contains thin irreg bands & dismembered clots of mafic dyke(?) material. CONTACT: Conformable abrupt, at 57 degrees to LCA.	DISSEMINATED, minor pyrite Minor sp-gr-cp-py in qz-cb veins in uppermost 2m..	160			BEDDING, A 65. Weak // cleavage.	S sst u lb	ss	chl ser
164.40	166.00	BASIC INTRUSIVE Green, Medium grained, Amygdales, Highly Carbonatised, Moderately Fuchsitic, Slightly chloritised. Common cb veinlets. CONTACT: Conformable abrupt, at 60 degrees to LCA. S1 irreg.	DISSEMINATED, trace pyrite					l lb		co fuc
166.00	168.95	SILTSTONE MIXED WITH BLACK SHALE Grey, Black, Fine grained, Vitric, Slightly Sericitised, S1 carbonaceous. Strongly cleaved & deformed. Abund cb veinlets. CONTACT: Faulted, at 70 degrees to LCA. Revealed fault zone //	DISSEMINATED. 1% pyrite Some py also in stringers..				FAULT, A 70. // bedding/cleav. Sheared mafic dyke in fault. BEDDING, A 65.	S slt x bsh	flt	ser

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DIAMOND DRILL LOG		project: TULLAH EL 22/90		hole no. MD 1	
		Location MACKINTOSH DAM		page 12 of 19	
		coords		RL	AZ
m	structure	log	grainsize 0.000 0.005 0.02 0.05 0.25 max mm	Samples TS results	description
				INCL	Scale
				Logged by J.G. PURNIS	
				date NOVEMBER 1993	
0					
2					
4					
6					MAFIC
8					VOLCANIC
10					
12					
14					
16					
18					
20					
22					UNIDENTIFIED
24					VITRIC
26					VOLCANIC
28					
30					
32					SEDIMENTARY
34					BRECCIO-CONGLOMERATE,
36					LESSER VOLCANICLASTIC
38					SANDSTONE,
40					SILTSTONE
42					SHALE
44					
46					
48					
50					



fract  
shadows

black shale

black shale

black sh

black shale

of lined  
by  
Mafic dykes

fract at low angle to LCA

Dolitic nodules  
Mafic dykes

shadows  
qtz veins

Breccio-conglomerate

coarse sst  
fine silty sst

Breccio-cong

Breccio-cong

breccia  
fine breccia

sst

sst

fine breccio-cong

fine breccio-cong

MAFIC  
VOLCANIC

UNIDENTIFIED  
VITRIC  
VOLCANIC

SEDIMENTARY  
BRECCIO-CONGLOMERATE,  
LESSER VOLCANICLASTIC  
SANDSTONE,  
SILTSTONE  
SHALE

**DIAMOND DRILL LOG** project: **TULLAH EL 22/90** hole no. **MD 1**  
 Location **MACKINTOSH DAM** page 13 of 19  
 coords

m	structure	Log	grainsize 0.08 0.5 2 5 max mm	Samples TS results	RL	AZ	INCL	Scale
					description			
50		W sh	ssst					
52		Mack shale	xyl/ssf					
54			siltst/siltst (same shale)					
56			Fine breccia Black shale					
58			xyl sst with finest clasts					
60			Fine Breccia with xyl sst matrix					
62								
64			fine sst					
66			shale/siltstone					
68			Fine sst/ siltstone					
70			Fine sst siltstone					
72			Xyl sst (sp, py)					
74			Cherty shale with py bands + some sp.					
76			Altered xyl sst (bleached, ser, carb) with lump of grey shale + dissemin py					
78			Siltstone/shale Lined + massive sulphide (py-gn) Lined + veined (qtz-carb-gn) silty section Fine Volcaniclastic sst					
80			Strongly lined clots of laked shale					
82			qtz amygdaloes					
84			Rhyodacite Lava					
86								
88								
90			microfractures 45mm Mafic Dyke 75°/LCA					
92								
94			Volcaniclastic with strong shearing/cleavage + wispy texture.					
96			Fault 75°/LCA					
98								
100			Mafic dyke (fuc)					

**INTERBEDDED  
SANDSTONE,  
FINE BRECCIA,  
SILTSTONE  
&  
SHALE**

**SANDSTONE**

**RHYODACITE**

**VOLCANICLASTIC**

**DACITE  
LAVA**

# DIAMOND DRILL LOG

project: **TULLAH EL 22/90**  
 location: **MACKINTOSH DAM**  
 coords

hole no. **MD1**  
 page **14** of **19**

m	structure	Log	grainsize 0.06 0.5 2 ∞ max mm	Samples TS results	RL	AZ	INCL	Scale
					description			
100				Mod cleaved				
102								
104			92-alb-gn veins					
106								
108								
110			92-alb veins	Highly deformed zone with argen texture				
112								
114								
116				Mod cleaved				
118								
120								
122								
124			vitric					
126			qtz grain rich					
128			Feld qtz xyl sst					
130								
132								
134								
136				fine feldspathic sandstone				
138								
140								
142								
144								
146			v fine sst					
148			150mm mafic dyke siltstone/shale					
150				Intermediate Dyke (chl-cb alt ± 2-3% po)				

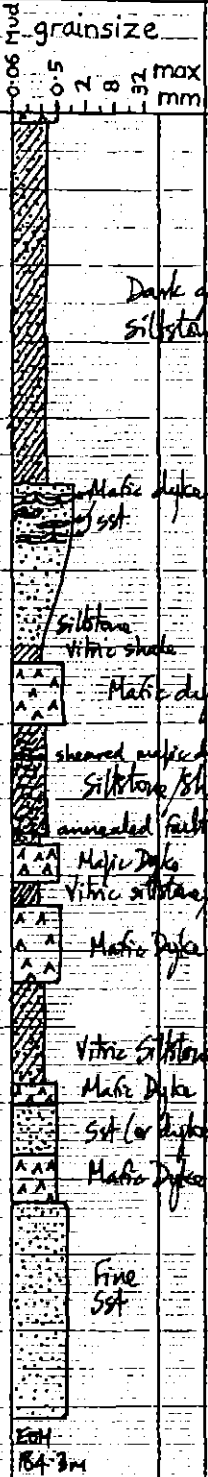
DACITE

LAVA

SANDSTONE

**DIAMOND DRILL LOG** project: **TULLAH EL 22/90** note no: **MD1**  
 Location: **MACKINTOSH DAM** page 15 of 19  
 coords

m	structure	Log	grainsize mm	Samples TS results	RL	AZ	INCL	Scale
					description			
150								
152								
154								
156								
158								
160								
162								
164								
166								
168								
170								
172								
174								
176								
178								
180								
182								
184								



**SILTSTONE / SHALE**

**SANDSTONE WITH INCLUSIONS OF MAFIC DYKE MATERIAL**

**MAFIC DYKE**

**DEFORMED + LEANED ZONE IN SILTSTONE / SHALE**

**MAFIC DYKES IN SEDIMENTS**

**SANDSTONE**

Deformed & cleaved

mafic dyke material

siltstone vitric shale

mafic dyke (vic)

sheared mafic dyke in fault siltstone/shale (st carbonaceous)

annealed fault to LCA

mafic dyke

vitric siltstone/shale

mafic dyke

vitric siltstone/shale

mafic dyke

sst (or dyke?)

mafic dyke

fine sst

EOM 184.3m