

HOLE No. MM2

## PASMINCO EXPLORATION DIAMOND DRILL CORE RECORD

LOCATION		OBJECTIVE						LOCATION/SURVEY DATA (AMG)											
LOCATION	TASMANIA	TO TEST STRONG OFF-HOLE EM ANOMALY DETECTED IN DOWNHOLE SURVEY OF HOLE MM1a.						Grid		AMG		RL Collar m 177.47							
PROJECT	TULLAH EL 22/90							Northing m		5376492.09		Bearing Collar		090°					
PROSPECT	TULLAH FLAT							Easting m		385071.09		Dip Collar		-70°					
DESIGNED BY	J.G. PURVIS							<b>RESULT</b>  NO OBVIOUS SOURCE FOR EM ANOMALY INTERSECTED, APART FROM ZONES OF BLACK SHALE WITH UP TO 5-7% PYRROTITE AND PYRITE.						DH Survey Type		SINGLE SHOT EASTMAN CAMERA		Length Hole m 332.0m	
LOGGED BY	J.G. PURVIS													Depth m		Bearing		Dip	
RELOGGED		COLLAR		090°		-70°													
COMMENCED	25.11.93	30		092.25°		-66.5°													
COMPLETED	20.12.93	58		090.5°		-64.25°													
DRILLED BY	W. HOW	89		089.5°		-57°													
DRILL RIG	LONGYEAR 38	119		088°		-56°													
<b>SIGNIFICANT INTERSECTIONS</b>																			
From m	To m	Interval m	Pb	Zn	Ag	Au	Comments												
264.5	264.8	0.3	490	3.86%	3	0.013	Fractured zone in Black Shale E py + sp veinlets.												
311.5	312.75	1.25	261	2098	<1	0.013	Black Shale ± 3-5% po>py, 1% sp in veinlets												
<b>SIGNIFICANT CORE LOSS</b>			<b>POOR GROUND CONDITION ZONES</b>																
From m	To m	% Lost	From m	To m	Condition														
24	32	16	51.4	56.0	BADLY BROKEN DUE TO FAULT //LCA														
51.3	55.6	42	99	109	BADLY BROKEN DUE TO MAJOR FAULT														
96.9	110	27	121.7	126	BADLY BROKEN DUE TO SEVERAL FAULTS														
<b>HOLE SIZE</b>			<b>HOLE CONDITIONS AFTER COMPLETION</b>																
Size	Depth m	Collar	HW STEMPIPE WITH CAP (HW CASINGS REMOVED)																
HW	6	Steel Casing	HQ CASING LEFT TO 24.6m.																
HQ	24.6	PVC Casing	40mm UNSLOTTED PVC CASING PLACED TO BASE.																
NQ	332.0	Ground Water																	
		Wedge																	
		Drill Pad																	

803122



# PASMINGO EXPLORATION DIAMOND DRILL CORE LOG

HOLE No. **MM2**

PROJECT: TULLAH EL 22/90

Graphic Scale 1: 480

Page 3 of 14

CORE RECOVERY				DESCRIPTION				CODES								
From m	Interval m	%	ROD	From m	Interval m	( Incl. LITHOLOGY, STRUCTURE & ALTERATION )	Depth (m)	Graphic Lithology	Struct.	MINERALISATION	LITHO	STRUCT	ALTN	MIN		
				0 - 24.0m:		<b>FLUVIOGLACIAL GRAVELS</b> No recovery.	24		Tricon	<b>FLUVIOGLACIAL GRAVELS</b>						
				24.0 - 51.4m:		<b>FINE QUARTZOSE SANDSTONE</b> <b>Lithology:</b> Grey. Massive. FI-med gr. Interbedded siltstone/shale above 32m & below 46m. Sst is qtzose>feldspathic, with minor mica & carbonaceous material, all in calcareous cement. Rare small deformed slivers of black shale. <b>Alteration:</b> Trace sericite-chlorite alteration. Feldspars mildly carbonatised. <b>Veining:</b> Common qtz-carb veins & carb veinlets (Fe/Mn calcite). <b>Structure:</b> Sst gen massive with poorly-developed bedforms. Mod-strong bedding// slaty cleavage. Broken in places, due to scattered shears & fractured zones (often assoc with veining). 26.5m: Uphole fining sst bed, 50%LCA. 28-29.5m: Small-scale folding & warping of bedding, & qtz-carb veins. 32m: Downhole fining sst bed. 36.3-36.6m: Brittle fault 25%LCA (// cleav). 44m: Bedding 30%LCA (dips 88° to 235°AMG). 47.7m: Bedding 33%LCA (fines & faces downhole). 49.2-51.4m: Small-scale folding & warping of bedding, & qtz-carb veins. Basal contact faulted & broken up, poss 20%LCA. <b>Mineralization:</b> Minor to 1% py, dissem, best above 33m. Trace gn-sp in qtz-carb veins.	32		60%LCA	<b>FINE QUARTZOSE SANDSTONE</b>						
				51.4 - 126.0m:		<b>BLACK SHALE</b> <b>Lithology:</b> Increasingly carbonaceous with depth. Graphitic on cleavage esp in faults. Weakly calcareous in places. Above 66m Interbeds of calcareous siltst/fine sst & shale itself has silty component. <b>Alteration:</b> Essentially unaltered - minor sericite & chlorite in the carb veinlets in upper 10-15m of unit, & in & around faulted zones. <b>Veining:</b> Qtz-carb veins to 500mm, & abund carb (±qtz) veinlets (Fe/Mn calcite), both gen //cleav. Some disrupted by post-vein cleav movement.	52		35%LCA	<b>BLACK SHALE</b>						
							56									
							60									
							64									
							68									
							72									
							76									
							80									
							84									
							88									
							92									
							96									
							100									
							104									
							108									
							112									
							116									

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# PASMINGO EXPLORATION DIAMOND DRILL CORE LOG

HOLE No. **MM2**

PROJECT: TULLAH EL 22/90

Graphic Scale 1: 400

Page 4 of 14

CORE RECOVERY				DESCRIPTION							CODES					
From m	Interval m	%	ROD	From m	Interval m	( Incl. LITHOLOGY, STRUCTURE & ALTERATION )							LITHO	STRUCT	ALTN	MIN
						<p><b>Structure:</b> Strong bedding// slaty S1 cleavage. S2 cleavage visible in places. Minor tight fold axes evident, esp around some veined &amp;/or faulted zones. Fissile &amp; broken (badly above 56m, 89-94m, 99-109m, &amp; below 121.7m). 51.4-55.6m: Brittle fault (//LCA?), marked by So/S1 // LCA. 55.85m: Bedding, fining uphole, 41°LCA (dips 78° to 255° AMG). 60-70m: Zone of v strong cleav, several tight folds, some kinking of cleav. 69.5m: Bedding 55°LCA. 70.2m: Brittle fault (150mm pug) 35°LCA (//cleav) @ 70.2m. 73.4m: Fold axis. 77m: Bedding &amp; S1 68°LCA, S2 50°LCA (same sense as So/S1). 84m: S1 55°LCA. 98.35-107.5m: MAJOR FAULT (brittle with graphitic vein-qtz cataclasite). 113m: So 3°LCA (dip 59° to 057° AMG), S1 20°LCA (dip 80° to 032° AMG) 113-117m: Broad F2 (?) fold axis centered 115.25m - So &amp; S1 at low angle or // to LCA. 117.4-119.4m: Strong fault, with graphitic vein-qtz cataclasite, 60°LCA (//cleav). 121.8-122.6m: Brittle fault (only 150mm recovered). 125-125.6m: Several small brittle faults, 65°LCA (// So/S1 @ 55°LCA). Basal contact sharp, conformable, 60°LCA. <b>Mineralization:</b> 51.4-69.5m: 3% py, locally +5%, as dissem (commonly streaked out along cleavage) &amp; stringers. Py common in carb veinlets along with minor persistent sp-gn. 69.5-92.5m: 1-2% py (decreasing with depth), dissem &amp; stringers, trace sp-gn in carb veinlets. 92.5-98m: 2-3% py, dissem &amp; stringers. Minor sp-gn in carb veinlets. 98-101.3m: 3-5% py, dissem &amp; stringers, trace sp-gn in carb veinlets. 101.3-126m: 2-3% py, dissem &amp; stringers, best sulphides 117.5-120m assoc with faulted zone.</p> <p><b>126.0 - 228.35m: VOLCANICLASTIC SANDSTONE</b> Downhole-fining depositional unit, ranging from fine breccia at base (to 129m), to xyl-lithic coarse sst/grit (129-143m), fine sst (below 166m), to sericitic siltstone/shale with minor sst intercalations (below 193m). <b>Lithology:</b> Pale grey. Massive. Largely unbroken.</p>										
						<p>Depth (m) 120, 124, 128, 132, 136, 140, 144, 148, 152, 156, 160, 164, 168, 172, 176, 180, 184, 188, 192, 196, 200, 204, 208, 212</p> <p>Graphic Lithology: Fault of graphitic vein-qtz cataclasite, shaly fault, shale, sst, Finer sst, sst, Fine sst, Fine sst, qtz veins sericitic siltstone, qtz veins sericitic siltstone/shale, Fine sst qtz-cata veins in fault siltst</p> <p>Struct: 50°LCA, 40°LCA, 60°LCA, sst, Finer sst, sst, Fine sst, Fine sst, sst/LCA</p> <p>MINERALISATION: BLACK, SHALE, Fine breccia with ripped-up black shale clasts + bands, coarse sst/grit with small black shale frags, VOLCANICLASTIC, SANDSTONE</p>										

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# PASMINGO EXPLORATION DIAMOND DRILL CORE LOG

HOLE No. **MM2**

PROJECT: TULLAH EL 22/90

Graphic Scale 1: 400

Page 6 of 14

CORE RECOVERY				DESCRIPTION					CODES									
From m	Interval m	%	RCD	From m	Interval m	( Incl. LITHOLOGY, STRUCTURE & ALTERATION )	Depth (m)	Graphic Lithology	Struct.	MINERALISATION	LITHO	STRUCT	ALT	MIN				
						Moderate bedding-// slaty cleavage. Broken above 238.5m, assoc with several large brittle faults as follows: 230-230.7m: highly fractured & broken (0.4m lost core). 233.55-234m: 70%LCA, contorted & brecciated (but unbroken) black shale. 235.4-235.85m: puggy shears in shale, 75%LCA. 237.5-238m: Major Fault 70%LCA (// cleav), pug & cataclasite. Basal contact abrupt & conformable 80%LCA. <b>Mineralization:</b> 228.35-233m: 1% dissem & veinlet py>sp. 233-240m: 2% dissem & veinlet py. Trace sp & po in qtz-carb veinlets. 240-246m: 3-4% po>>py, dissem & veinlets, both aligned in cleav. 246-249m: 2% po>py, as above. Trace cp @ 247.7m. 249-250.2m: 5-7% po>>py, mostly dissem. 250.2-255m: 1-2% po>py. Trace sp. 255-256m: 5-7% po>>py, mostly dissem. Trace cp. 256-256.7m: 1-2% po>py. 256.7-257.5m: 5-7% po>>py. Trace cp. 257.5-260m: Minor to 2% po-py (varies - best in black shale sections). 260-263m: 3% po-py, dissem & veinlets. Minor sp in qtz-carb veinlets. 20mm ankerite-qtz-aspy vein @ 262.85m, 75%LCA (// bedding/cleav). 263-264.5m: 1% po-py (varies - to 3% in black shale bands). Trace sp. 264.5-264.8m: Highly fractured zone in black shale with veinlets of qtz-ankerite & 40mm irreg vein of coarse xylite sp>py @ 264.55m. Elsewhere 2-3% dissem & veinlet py, minor sp.	312	fine silty po-py sp veinlets	65°/LLA	BLACK SHALE								
						264.8 - 297.95m: <b>QUARTZO-FELDSPATHIC SANDSTONE</b> <b>Lithology:</b> Pale grey. Massive. Uniform. Single unbedded downhole-fining depositional unit. Composed of abund abraded xyls or angular xyl frags, of qtz>feld. Xyl grains 2-3mm max at base & 1mm max at top of unit. Feld common in places below 287.5m. Minor stretched sed lithics (incl black shale), to 20mm at base. All in matrix containing sericitised volc glass, incl fine pumice frags. <b>Alteration:</b> Mod pervasive carb alt to 290m. Weak sericitisation. Trace silica-chlorite alt in places.	316	fine silty po-py sp veinlets		CARBONATISED SHALE, & SILTSTONE/SANDSTONE								
							320	fine silty po-py sp veinlets										
							324	fine silty po-py sp veinlets										
							328	fine silty po-py sp veinlets										
							332	fine silty po-py sp veinlets										

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# PASMINGO EXPLORATION DIAMOND DRILL CORE LOG

HOLE No. **MM2**

PROJECT: *TULLAH EL 22/90*

Graphic Scale 1:

Page 7 of 14

CORE RECOVERY				DESCRIPTION							CODES									
From m	Interval m	%	RQD	From m	Interval m	( Incl. LITHOLOGY, STRUCTURE & ALTERATION )	Depth	Graphic Lithology	Struct.	MINERALISATION	LITHO	STRUCT	ALTR	MIN						
						<p><b>Veining:</b> Minor qtz-carb(±chlor) veining.  <b>Structure:</b> Unbroken. Weak-moderately cleaved.  <b>Cleavage:</b> 75°LCA @ 280m; 67°LCA @ 294m;                      Basal (stratigraphic top) contact abrupt &amp; conformable 76°LCA.  <b>Mineralization:</b> V minor dissem py. po. Trace sp (incl veinlets of sp 286.5-287.5m).</p>														
						<p><b>297.95 - 310.7m: BLACK SHALE</b>  <b>Lithology:</b> Predom black carbonaceous shale (sl graphitic on cleavage).                      Minor interbeds of grey calcareous siltstone &amp; fine feldspathic sst.  <b>Alteration:</b> Patchy, locally strong, carbonatisation (in places shale sl bleached by this alt).  <b>Veining:</b> Abund calcite veinlets throughout.  <b>Structure:</b> Slightly broken.                      Moderate bedding-// slaty cleavage (74°LCA @ 299m, dips 57° to 264°AMG).                      Bedding: 66°LCA @ 308.7m.                      Brittle fault with 100mm pyritic pug, 65°LCA (// bedding) @ 308.3m.                      Basal contact abrupt (sl irreg), conformable, 75°LCA.  <b>Mineralization:</b> 3-4% po&gt;py, trace cp. Dissem &amp; stringers (both along cleav), &amp; in carb veinlets.</p>														
						<p><b>310.7 - 332.0m: CARBONATISED SHALE &amp; SILTSTONE/SANDSTONE</b>  <b>Lithology:</b> Dark grey. Essentially unbroken.                      Interbedded grey to black calcareous partly carbonaceous shale, &amp; calcareous v fine sst/siltstone in graded beds av 100-200mm (to 1m max) all fining downhole.                      Sst/siltstone composed of tiny (&lt;1mm) grains of qtz, feld &amp; lithics (incl black shale frags).                      Feld &amp; lithics stretched by cleavage deformation.                      Shale to 315.5m, predom sst/siltst below this.  <b>Alteration:</b> 90% of sequence (all sed types) affected by very strong but sl patchy carbonatisation. In places this alt sl bleaches the shale.  <b>Veining:</b> Thin spidery calcite veinlets throughout (not abund).  <b>Structure:</b> Gen regularly bedded: 67°LCA @ 317m; 72°LCA @ 326m.                      Moderate bedding-// cleavage (weaker than in units above).</p>														

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