

CORE DESCRIPTIONS

MT. WINTER NO. 2, 2A



PANCONTINENTAL PETROLEUM LIMITED

CORE DESCRIPTION FORM

Basin... AMADEUS OP178 Well SP154 GEZI HT. WINTER#2 Location... S E

Core N°... 2 Date... 16/11/85 Depth 137.64 - 141.62

m Cut... 3.98m m Recovery... 3.86m m %... 97%

Bit Type / Size DIAMOND CORE Formation LOWER STARWAY Described by... C. HIGGINS
HMLC (HQ EDWIN) SANDSTONE

DRILLING RATE	LITHOLOGY	SEDIMENTARY STRUCTURES	FACIES	CONTACTS	ROCK TYPE	COLOUR	GRAIN SIZE	SORTING	CEMENTS	FOSSILS	POROSITY	SHOWS	COMMENTS
137.64	CONCRETE CORING.												CORE DIP - SUR HORIZONTAL.
138.00		BIOTURBATED THROUGHOUT.											SANDSTONE: PALE - V. PALE GREY, OCC WHITE, V. FINE - OCC COARSE GRAINED - GENERALLY FINER TOWARDS BASE. AS INDICATED DIAGRAMMATICALLY. OCC BIMODAL, INTER LAMINATED AND INTER BIOTURBATED W/ - MED - DARK GREY SILTSTONE, ABUND BURROWING, TRACE PYRITE DISSEMINATIONS, OCC V. FINE BLACK SHALE (CLASTIC) FRAGMENTS IN COARSER MATERIAL -> Lingula? SLI TR DOLOMITE CEMENT THROUGHOUT. NO SHOWS.
139.00		OCC SIMPG BURROWS.											
140.00		COARSING UPWARDS CYCLE											
141.00		SIMPLE BURROWS											
142.00	NO RECOVERY												



PANCONTINENTAL PETROLEUM LIMITED

CORE DESCRIPTION FORM

Basin..... *Amadeus* Well..... *Mt Winter 2a* Location..... S..... E.....
 Core N°..... *2 (Page 2)* Date..... *4.12.85* Depth..... *99.9-102.25m*
 m Cut..... *2.35m* m Recovery..... *2.35m* m %..... *100%*
 Bit Type / Size Formation Described by..... *C.R. Marsden*

METRES	DRILLING RATE	LITHOLOGY	SEDIMENTARY STRUCTURES	FACIES	CONTACTS	ROCK TYPE	COLOUR	GRAIN SIZE	SORTING	CEMENTS	FOSSILS	POROSITY	SHOWS	COMMENTS
102.0				<i>Marine</i>	<i>horizontal</i>	<i>shale</i>	<i>dk grey</i>	<i>vt</i>			<i>Nil</i>	<i>Nil</i>	<i>Nil</i>	<i>Shale: dark grey to blue grey, fissile, non calcareous.</i>
102.50														
2														
3														
4														
5														



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CORE DESCRIPTION FORM

Basin Amadeus Well Mt Winter 2a Location S E
 Core N° 3 Date 4.12.85 Depth 102.25 - 106.75 m.
 m Cut 4.50 m m Recovery 4.22 m % 94 %
 Bit Type/Size 4" Rusbit Formation middle Stairway Described by G.R. Marsden

METRES	DRILLING RATE	LITHOLOGY	SEDIMENTARY STRUCTURES	FACIES	CONTACTS	ROCK TYPE	COLOUR	GRAIN SIZE	SORTING	CEMENTS	FOSSILS	POROSITY	SHOWS	COMMENTS
102.0														
102.5			Sub vertical fracture.											Shale: dark gy - blue br fissile, massive mod hd, non calc.
103.0			graded bedding	shallow to middle marine	horizontal.	shale with lesser sandstone	dark grey to light grey, vr cream.							thin sand, vf gr, sl calc phosphatic - 102.65 - 102.78 m. Sandstone, vf gr, cream, lt gy, tight, slight calc.
103.5			abundant vertical and horizontal burrows											Interlaminated and highly bioturbated sst + shale 102.97 - 103.24 metres
104.0														Shale, with rare sandstone laminae and occasional thin sandy phosphatic beds. Phosphate at 103.26 m 103.52 m 103.65 - 68 m
104.5														Shale with rare sandstone occasional burrows
														Phosphatic band with major bivalve remains 104.24 - 104.30 m



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CORE DESCRIPTION FORM

Basin..... *Amadeus* Well..... *Mt Winter 2a* Location..... *S* *E*
 Core N°..... *3 (Page 2)* Date..... *4.12.85* Depth..... *102.25 - 106.75m*
 m Cut..... *4.50* m Recovery..... *4.22* m %..... *94%*
 Bit Type/Size..... *4" Ausbit* Formation..... *middle Stairway* Described by..... *G.R. Marsden*

04.5
105
105.5
106
106.5
107

STRES

DRILLING RATE	LITHOLOGY	SEDIMENTARY STRUCTURES	FACIES	CONTACTS	ROCK TYPE	COLOUR	GRAIN SIZE	SORTING	CEMENTS	FOSSILS	POROSITY	SHOWS	COMMENTS
													Shale: blue grey to very dark grey.
			shallow to middle marine	horizontal	shale with minor sandstone	dark grey, light grey	very fine	poor	slight calcareous	occasional bioturbation	Nil	Nil	Sandstone: cream, light grey, very fine grained, slightly to moderately calcareous. frequently bioturbated - generally very thinly bedded, commonly irregular.
													Phosphatic band 106.35m
		no recovery.											



PANCONTINENTAL PETROLEUM LIMITED

CORE DESCRIPTION FORM

Basin Amadeus Well Mt Winter 2a Location S E
 Core N° 4 Date 5.12.85 Depth 106.75 - 111.15m.
 m Cut 4.4m m Recovery 4.40m m % 100%
 Bit Type / Size 4" Ausbit Formation middle Stairway Described by G.R. Marsden

DRILLING RATE	LITHOLOGY	SEDIMENTARY STRUCTURES	FACIES	CONTACTS	ROCK TYPE	COLOUR	GRAIN SIZE	SORTING	CEMENTS	FOSSILS	POROSITY	SHOWS	COMMENTS
065													Shale: dark grey, fissile, moderately hard, non calcareous
07		⊙		occasionally wavy	sandstone	light grey							thinly interbedded and bioturbated sandstone, light grey, calcareous, tight.
107.5		⊙	Marine horizontal, shale with minor			dark grey	very fine	poor	slight calcareous in sst.	occasional	Nil	Nil	Sandy phosphatic band with bivalve remains at 107.58 - 107.60m. Thin sand, tight at 107.89m.
108													
108.5													Thin sand laminae, tight
09													



PANCONTINENTAL PETROLEUM LIMITED

CORE DESCRIPTION FORM

Basin..... Amadeus Well..... Mt Winter 2a Location..... S..... E
 Core N°..... 4 (Page 2) Date..... 5.12.85 Depth..... 106.75 - 111.15 m
 m Cut..... 4.40 m Recovery..... 4.40 m m %..... 100 %
 Bit Type / Size..... 4" Ausbit Formation..... middle Stairway Described by..... G.R. Marsden

METRES	DRILLING RATE	LITHOLOGY	SEDIMENTARY STRUCTURES	FACIES	CONTACTS	ROCK TYPE	COLOUR	GRAIN SIZE	SORTING	CEMENTS	FOSSILS	POROSITY	SHOWS	COMMENTS
109														Sandstone: cream, f grained, tight, weakly calcareous.
			⊙											Phosphatic band 109.26 - 109.29 metres.
109.5			⊙											Shale: dark grey, fissile non calcareous.
														Sandstone: light grey, tight, bioturbated.
														Phosphatic bands 109.70 - 109.73 109.77 - 109.80
110				marine horizontal		shale with lesser sandstone	dark grey, light grey, cream	very fine to fine	Poor	siliceous, slight calcareous	minor bioturbation	Nil	Nil	Thin sand interbeds, light grey, tight.
110.5														
111														
111.5														



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CORE DESCRIPTION FORM

Basin Amadeus Well Mt Winter 2a Location S E
 Core N° 5 Date 6.5.12.85 Depth 111.15 - 115.65m
 m Cut 4.50m m Recovery 3.95m m % 88%
 Bit Type / Size 4" Ausbit Formation middle Stairway Described by G.R. Marsden

METRES	DRILLING RATE	LITHOLOGY	SEDIMENTARY STRUCTURES	FACIES	CONTACTS	ROCK TYPE	COLOUR	GRAIN SIZE	SORTING	CEMENTS	FOSSILS	POROSITY	SHOWS	COMMENTS
111.0														
111.5														Shale: blue grey, dark grey, fissile, occasionally massive, non calcareous very rarely silty in part.
112.0			⊙	marine	horizontal, occasionally irregular	sandstone.	dark grey, light grey	very fine	poor	calcareous in part				Sandstone, light grey, phosphatic IP, bioturbated 111.85 - 111.90m
112.5			⊙			shale.				variably bioturbated				Thin sandstone, tight. Irregular sandstone lensoid pattern, highly bioturbated.
113.0														Phosphatic bands 112.72m 112.77m.
113.5			⊙											Phosphatic band 113.03 - 113.06m Phosphate band 113.32m



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CORE DESCRIPTION FORM

Basin..... *Amadeus* Well..... *Mt Winter 2a* Location..... *S* *E*
 Core N°..... *5 (Page 2)* Date..... *5.12.85* Depth..... *111.15 - 115.65m*
 m Cut..... *4.50* m Recovery..... *3.95* m %..... *88%*
 Bit Type / Size *4" Ausbit* Formation..... *middle Stairway* Described by..... *G.R. Marsden*

METRES	DRILLING RATE	LITHOLOGY	SEDIMENTARY STRUCTURES	FACIES	CONTACTS	ROCK TYPE	COLOUR	GRAIN SIZE	SORTING	CEMENTS	FOSSILS	POROSITY	SHOWS	COMMENTS
113.5														Shale: dark grey, as previous.
114			⊙	marine	horizontal	minor sandstone	grey, light grey	very fine	poor	slight calcareous	bioturbated in part	Nil	Nil	Sandy phosphatic band
114.5			⊙			shale	dark grey							Phosphatic band. - slightly bioturbated.
115														no recovery.
115.5														



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CORE DESCRIPTION FORM

Basin Amadeus Well Mt Winter 2a Location S E
 Core N° 6 Date 6.12.85 Depth 115.65 - 119.2m
 m Cut 3.55 m Recovery 3.55 m % 100%
 Bit Type / Size 4" Ausbit Formation middle Stairway Described by C.R. Marsden

15.5
16
16.5
17
17.5
118

METRES

DRILLING RATE	LITHOLOGY	SEDIMENTARY STRUCTURES	FACIES	CONTACTS	ROCK TYPE	COLOUR	GRAIN SIZE	SORTING	CEMENTS	FOSSILS	POROSITY	SHOWS	COMMENTS
		~											Shale with lesser sandstone Shale: med-dark grey, sub fissile, non calc Sandstone: lt grey, fine to very fine grained, commonly calcareous, frequently finely laminated - frequently bioturbated
		~	shallow marine										
		~	marine to commonly wavy sandstone										Thin laminated sandstone band.
		~	shale dark grey, light to medium grey										
		~											Sandstone: light to medium grey, fine grained with "dark grey shaly clasts" rip up clasts highly bioturbated
		~											Shale tending to siltstone with depth - loosing fissility.



PANCONTINENTAL PETROLEUM LIMITED

CORE DESCRIPTION FORM

Basin Amadeus Well Mt Winter 2a Location S E
 Core N° 6 (Page 2) Date 6.12.85 Depth 115.65 - 119.2 m
 m Cut 3.55 m Recovery 3.55 m % 100%
 Bit Type / Size 4" Ausbit Formation middle Stairway Described by G.R. Marsden

DRILLING RATE	LITHOLOGY	SEDIMENTARY STRUCTURES	FACIES	CONTACTS	ROCK TYPE	COLOUR	GRAIN SIZE	SORTING	CEMENTS	FOSSILS	POROSITY	SHOWS	COMMENTS
118		∩ ∩ rip-up clasts											Sandstone: as previous highly bioturbated and interbedded with siltstone
118.5		∩	marine	horizontal, also irregular	siltstone and sandstone	medium grey	very fine	poor	calcareous	frequent bioturbation in sst.	Nil to very poor	Nil	Siltstone: medium to dark grey, sub fissile, occ grading to shale.
119													
119.5													



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CORE DESCRIPTION FORM

Basin Amadeus Well Mt Winter 2a Location S E
 Core N° 7 Date 6.12.85 Depth 119.2 - 123.7 m
 m Cut 4.5 m m Recovery 4.42 m m % 98%
 Bit Type/Size 4" Ausbit Formation middle Stairway Described by G.R. Marsden

DRILLING RATE	LITHOLOGY	SEDIMENTARY STRUCTURES	FACIES	CONTACTS	ROCK TYPE	COLOUR	GRAIN SIZE	SORTING	CEMENTS	FOSSILS	POROSITY	SHOWS	COMMENTS
													Shale: med-dk grey, fissile to subfissile, frequently micaceous.
													Thin irregular sandstone bands, minor phosphorite.
			marine	horizontal	minor sandstone	dark grey	light grey	very fine	poor	slight calcareous	minor	bioturbation	
					shale								Graded bedding Shale → sandstone → sandst. with phosphorite. Sandstone is tight, fine grained, slightly to moderately calcareous.
		graded bedding ↑											
													Sandstone, bioturbated in part.



PANCONTINENTAL PETROLEUM LIMITED

CORE DESCRIPTION FORM

Basin Amadeus Well Mt Winter 2a Location S E
 Core N° 7 (Page 2) Date 6.12.85 Depth 119.2 - 123.7m
 m Cut 4.50m m Recovery 4.42m m % 98%
 Bit Type / Size 4" Ausbit Formation middle stair-way Described by G.R. Marsden

DRILLING RATE	LITHOLOGY	SEDIMENTARY STRUCTURES	FACIES	CONTACTS	ROCK TYPE	COLOUR	GRAIN SIZE	SORTING	CEMENTS	FOSSILS	POROSITY	SHOWS	COMMENTS
121.5		∪ ∪											Minor irregular sandstone bodies within the shale. occasional bioturbation
122		∪ ∪ vertical burrow 5cm long			often diffuse sandstone	light grey		poor					Shale: med-dark grey, micaceous in part, sub fissile to fissile, non calcareous
122.5		∪ fault plane?	marine	horizontal	shale, lesser sandstone	med-dark grey	very fine	slightly calcareous in sat.	slight calcareous	occasional bioturbation	Nil	Nil	fault plane 5mm thick, zone of crushed shale and soft argillaceous material, rare pyrite crystals.
123		∪ fault planes			shale	med-dark grey							slickensided planes phosphorite and sandstone common between the fault planes.
123.5		no recovery.											
24													



PANCONTINENTAL PETROLEUM LIMITED

CORE DESCRIPTION FORM

Basin Amadeus Well Mt Winter 2a Location S E
 Core No. 8 Date 7.12.85 Depth 123.7-128.2 m
 m Cut 4.50 m m Recovery 4.50 m m % 100%
 Bit Type / Size 4" Ausbit Formation middle Stairway Described by C.R. Marsden

DRILLING RATE	LITHOLOGY	SEDIMENTARY STRUCTURES	FACIES	CONTACTS	ROCK TYPE	COLOUR	GRAIN SIZE	SORTING	CEMENTS	FOSSILS	SHOWS	COMMENTS
123.5												Phosphorite band fossil debris (bivalves)
124												Phosphorite band irregular sandstone bodies, slightly phosphatic, with fossil debris.
124.5												Calcite infilling "vugh" - possible infilled moldic porosity.
125												Sandstone bioturbated.
125.5												Extremely fossiliferous, straight nautiloid 3cm across bivalve fragments. Crystalline calcite infilling fracture.
126												



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CORE DESCRIPTION FORM

Basin Amadeus Well Mt Winter 20 Location S E
 Core No. 8 (Page 2) Date 7.12.85 Depth 123.70 - 128.20 m
 m Cut 4.50 m m Recovery 4.50 m m % 100 %
 Bit Type / Size 4" Ausbit Formation middle Stairway Described by C.R. Marsden

METRES	DRILLING RATE	LITHOLOGY	SEDIMENTARY STRUCTURES	FACIES	CONTACTS	ROCK TYPE	COLOUR	GRAIN SIZE	SORTING	CEMENTS	FOSSILS	POROSITY	SHOWS	COMMENTS
126														Shale: medium to dark grey, sub fissile, non calcareous, slightly micromicaceous
26.5														Irregular sandy bands
127				Marine	horizontal	lessor sandstone	medium to dark grey, light grey	very fine	poor	calcareous	occasional bioturbation	Nil	Nil	Abundant phosphorite banding, large grains (up to 5mm across)
127.5			Wavy bedding			shale	medium to dark grey, light grey							Sandstone band, very fine grained, light grey calcareous.
128														Phosphorite common
28.5														



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CORE DESCRIPTION FORM

Basin Amadeus Well Mt Winter 2a Location S E
 Core N° 9 Date 7.12.85 Depth 128.2 - 131.2 m
 m Cut 3.00m m Recovery 3.00m m % 100%
 Bit Type/Size 4" Ausbit Formation middle Stairway Described by C.R. Marsden

DEPTH (m)	DRILLING RATE	LITHOLOGY	SEDIMENTARY STRUCTURES	FACIES	CONTACTS	ROCK TYPE	COLOUR	GRAIN SIZE	SORTING	CEMENTS	FOSSILS	POROSITY	SHOWS	COMMENTS
128.0														
128.5														Shale : med gy. as previous Phosphonite band 128.44 - 128.48 m
129.0			graded bedding	marine - shallow marine	- sub horizontal	variable amounts of shale	medium to dark grey			to moderate calcareous				irregular sand bodies
129.5				marine - shallow	highly irregular	sandstone with	light grey to cream,	very fine to fine	poor	slight	abundant	poor	Nil.	Sandstone band, light grey very fine to fine grained, mod calc cement.
130.0														increasing amount of sand tight, mod calc cement.
130.5														Sandstone : heavily bioturbated many shaly irregular fragments, interbedded.



PANCONTINENTAL PETROLEUM LIMITED

CORE DESCRIPTION FORM

Basin..... Amadeus Well..... Mt Winter 2a Location..... S..... E.....
 Core N°..... 10 Date..... 8.12.85 Depth..... 131.2 - 135.7 m
 m Cut..... 4.50 m m Recovery..... 4.45 m m %..... 99%
 Bit Type / Size..... 4" Ausbit Formation..... middle / lower Described by..... C.R. Marsden
Stairway Sandstone

DRILLING RATE	LITHOLOGY	SEDIMENTARY STRUCTURES	FACIES	CONTACTS	ROCK TYPE	COLOUR	GRAIN SIZE	SORTING	CEMENTS	FOSSILS	POROSITY	SHOWS	COMMENTS
131													
131.5		2 2 2			shale								Interbedded and highly bioturbated shale and sandstone: as previous.
		2 2 2			Sandstone and shale								Sandstone: light grey to cream, very fine to fine grained, highly bioturbated.
132		2 2 2	Shallow marine		Interbedded Sandstone and shale	medium to light grey, cream to fine		poor	siliceous	abundant	Nil to Nil	Nil	Phosphorite band.
		2 2 2											
132.5		2 2 2											
		2 2 2											
133				diffuse									Sandstone: massive, quartzose, common kaolinitic cement, predom. well cemented.
			Shoreface.		Sandstone	Cream, medium grey fine to coarse		poor to moderate	siliceous	Nil	Poor to rarely fair	Nil	-frequent dark grey bituminous flakey coating, no fluorescence, no odour
133.5													



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CORE DESCRIPTION FORM

Basin Amadeus Well Mt Winter 2a Location S E
 Core N° 10 (Page 2) Date 8.12.85 Depth 131.2 - 135.7m
 m Cut 4.50m m Recovery 4.45m m % 99%
 Bit Type / Size 4" Ausbit Formation Lower Stairway Described by C.R. Marsden

DRILLING RATE	LITHOLOGY	SEDIMENTARY STRUCTURES	FACIES	CONTACTS	ROCK TYPE	COLOUR	GRAIN SIZE	SORTING	CEMENTS	FOSSILS	POROSITY	SHOWS	COMMENTS
133.5													friable zone
134			shallow marine	: shoreface.	rarely discernable	cream, light grey	pred coarse - very coarse	moderate to poor	siliceous kaolinitic	trace bioturbation	fair to poor	Nil	Sandstone. light grey to cream, fine to coarse and occ. v. coarse grained. non calc, commonly kaolinitic massive, occ feldspathic
134.5													friable zone
135		5					fine						minor bioturbation.
135.5													friable zone.
136		no recovery.											

