

APPENDIX 2

CORE DESCRIPTIONS

CORE DESCRIPTION

Well : WM - 7  
 Core No : 1 Fm : P1 - 60

Interval Cored : 4248' - 4264.3' Cut : 16.3' Recovered : 14.2' % Rec : 87  
 Type and Size Core Head : EH STAR ACC 7<sup>27</sup>/<sub>32</sub>" Desc. by : M. KING Date : 11-5-85

DEPTH	CORE RATE Min/Ft	POROSITY 0 5 10	HYDRO-CARBON SHOWS		Remarks	LITHOLOGY	GRAIN SIZE PROFILE				Descriptive Lithology
			Fluor.	Cut Fluor.			Silt	Fine	Medium	Coarse	
4248		x									SANDSTONE : Clean, homogeneous, pale grey, fine grained, quartzose, siliceous cement; hard. Vertical fracture.
4249											Sub - horizontal fracturing
4250		x									Sub - horizontal fracture Minor fine wavy siltstone laminations Sub - horizontal laminations at 7° to vertical axis Faint cross - laminations at 25° to vertical axis
4251		x									Sub - horizontal fracturing 4251' 5"
4252		x									SANDSTONE : Light grey, fine grained, siliceous cement, bioturbated and churned. Shale laminae (5-10%) have been churned in by organic activity. Occ. lenses and layers of homogeneous sand.
4253											
4254											Increasing shale content and bioturbation with depth.
4255											

Remarks : Weak petroliferous odour emanated from core interval 4248' - 4251' 5"  
 This was not sustained indicating poor porosity and permeability  
 Interval 4248' 3 1/2" - 8 1/2" wrapped, sealed and sent to Core Lab for routine core analysis.  
 4251.5 (core depth) correlates with 4250' (log depth)

# CORE DESCRIPTION

Interval Cored : 4248' - 4264.3' Cut : 16.3' Recovered : 14.2' % Rec : 87  
 Type and Size Core Head : EH STAR ACC 7<sup>27</sup>/<sub>32</sub>" Desc. by : M. KING Date 11-5-85

DEPTH	CORE RATE Min/Ft	POROSITY 0 5 10	HYDRO-CARBON SHOWS		REMARKS	LITHOLOGY	GRAIN SIZE PROFILE				Descriptive Lithology	
			Fluor. Cut	Fluor. Floor			Silt	V. Fine	Fine	Medium		Coarse
4256		x				NO SHOWS						SHALE content increasing
4257												
4258		x				NO SHOWS						SANDSTONE (30%) / SHALE (70%), minor churning, mainly soft sediment deformation. SST: Light grey, fine grained, siliceous cement. SH: Dark grey, finely laminated, silty, mod. soft.
4259												
4260						NO SHOWS						SHALE Dark grey, finely laminated, bedding at 7° to core vertical axis. Occ. lenses and layers of sand.
4261												
4262						NO SHOWS						SILTSTONE: Dark grey, massive appearance, arenaceous, indurated.  SHALE: Dark grey, fissile with minor SST. interlaminations, some soft sediment deformation flame structures. Bedding at 11° to vert axis of core
4263												

Remarks :  
 No shows  
 4257.5' (core depth) correlates with 4256' (log depth).



CORE NO. 1: 4248 TO 4264.3 FEET: CUT 16.3 FEET: RECOVERED 14.2 FEET

INTERVAL: 4248 TO 4251.5 (3.5) FEET

Drill Rates: 47, 73, 123, 88 (mins/ft)

Lithology: Clean, homogeneous, pale grey sandstone. Faint cross-laminations (at 25 degrees to core axis) occur at 4251.5 feet with faint bounding laminations above and below formed at 7 degrees to core vertical axis. Sub-horizontal fracturing occurs at points through-out this interval with occasional vertical fractures. Fine wavy siltstone laminae occur at 4250 feet.

SANDSTONE: clear to pale grey, clean, homogeneous, fine grained, subrounded grains, well sorted, siliceous cement, quartzose, trace glauconite, tight, hard, occasional blocky shale lithics, very tightly cemented at base of interval.

Porosity & Permeability: Porosity is primary intergranular and ranges between poor and fair. Secondary silicification appears to be the process which has reduced porosity. Permeability is poor throughout except where fracturing is evident in the core.

Hydrocarbons: A weak petroliferous odour emanated from this interval of core, however it was not sustained indicating poor porosity and permeability. Blue white fluorescence accompanied by faint white streaming and flood cut occurs in the upper two feet of core grading down to no fluorescence or cut at the base.

CORE NO. 1: 4248 TO 4264.3 FEET: CUT 16.3 FEET: RECOVERED 14.2 FEET

INTERVAL: 4251.5 TO 4257.5 (6) FEET

Drill Rates: Bioturbated and churned sandstone (95%) with shale (5%). Occasional lenses and layers of homogeneous sand are apparent, becoming less frequent with depth. This corresponds with an increase in shale content and more intense bioturbation also with depth. Laminae occur between 5 degrees and 10 degrees to the vertical axis of the core.

SANDSTONE: Pale grey, fine grained, subrounded grains, well sorted, siliceous cement, occasionally intermixed with shale (which forms a matrix), hard, well cemented.

SHALE: Dark grey, argillaceous, probably initially fine laminae, since churned and bioturbated throughout the sandstone by organic activity.

Porosity & Permeability: Poor porosity and very poor permeability.

Hydrocarbons: No shows.

CORE NO. 1: 4248 TO 4264.3 FEET: CUT 16.3 FEET: RECOVERED 14.2 FEET

INTERVAL: 4257.5 TO 4259 (1.5) FEET

Drill Rates: 21, 30 (mins/ft)

Lithology: Sandstone (30%) occurring mainly as lenses, intermixed with dark shale (70%). Minor churning and bioturbation with the dominant disruptive process being soft sediment deformation and some slumping.

SANDSTONE: Quartzite, light grey, fine grained, grains indistinct due to secondary silicification, siliceous cement, occurs as lenses within the silty shale.

SHALE: Dark grey, fissile, silty, moderately soft, non-calcareous.

Porosity &  
Permeability: Tight.

Hydrocarbons: No shows.

CORE NO. 1: 4248 TO 4264.3 FEET: CUT 16.3 FEET: RECOVERED 14.2 FEET

INTERVAL: 4259 TO 4262.2 (3.2) FEET

Drill Rates: 33, 31, 34, 63, 42 (mins/ft)

Lithology: Dominantly shale and siltstone, occasional lenses and thin layers of sandstone. Upper section between 4259 and 4260-5 feet is mainly shale with the odd sandstone lense. It splits easily along bedding planes which are formed between 7 and 10 degrees to the core vertical axis. 4260.5 to 4261.5 feet 100% siltstone, homogeneous, more massive. 4261.5 to 4262.2 feet shale with thin sandstone laminations. Slightly churned, soft sediment deformation and slumping - flame structures. Bedding planes at approximately 11 degrees to vertical axis of core.

SANDSTONE: Quartzite, light grey, fine grained, hard, siliceous cement.

SHALE: Dark grey, fissile, moderately soft, finely bedded, arenaceous in places.

SILTSTONE: Dark grey, sub-blocky to subfissile, arenaceous, indurated, non-calcareous.

Porosity &  
Permeability Tight.

Hydrocarbons: No shows.

# CORE DESCRIPTION

Well: .....  
 Core No: 2 Fm: P1 - 80

Interval Cored: 4264.3' - 4271' Cut: 6.7' Recovered: 6.7' % Rec: 100

Type and Size Core Head: CHRIST MC 201 7<sup>27</sup>/<sub>32</sub> Desc. by: M. KING Date: 12.5.85

DEPTH	CORE RATE Min/Ft	POROSITY 0 5 10	HYDRO-CARBON SHOWS		REMARKS	LITHOLOGY	GRAIN SIZE PROFILE				Descriptive Lithology
			Floor	Cut Floor			Silt	V. Fine	Medium	Coarse	
4264		x				TR WHITE	[Diagram showing grain size profile with silt, v. fine, medium, and coarse fractions]				<p>SANDSTONE: Overall dark grey appearance, clear fine, occ. medium quartz grains with abundant interstitial dead oil, very friable. Orig. porosity reduced due to presence of dead oil.</p> <p>SANDSTONE (95%) SHALE (5%)</p> <p>SST: Pale grey, fine to very fine grained, quartzose, siliceous cement. Dark clay matrix in places where original fine shale laminae have been churned in by organic activity.</p> <p>SH: Dark grey, argillaceous, bioturbated.</p> <p>Core appears peppered with fine vugular porosity with vugs generally around 1mm diam. Poor intergranular porosity. No visible fracturing or interconnection of vugs.</p> <p>Very light petroliferous odour on splitting of core</p>
4265		x									
4266		x			ON SPLITTING	VERY LIGHT PETROLIFEROUS ODOUR ON SPLITTING	[Diagram showing grain size profile with silt, v. fine, medium, and coarse fractions]				<p>End core run No 2.</p>
4267											
4268		x									
4269											
4270		x									
4271					↓						

Remarks: Core pulled after core barrel became jammed.  
 2 core intervals sent to core lab for routine analysis :-  
 4264' 4" - 11"  
 4269' 9 1/2" - 70' 5"  
 4265' (core depth) correlates with 4263' (log depth)

CORE NO. 2: 4264.3 TO 4271 FEET: CUT 6.7 FEET: RECOVERED 6.7 FEET

INTERVAL: 4264.3 TO 4265 (0.7) FEET

Drill Rates: 79 (mins/ft)

Lithology: 100% sandstone, clear quartz grains with interstitial black residual hydrocarbons giving an overall black appearance. No sedimentary structures.

SANDSTONE: Clear sand grains, overall dark grey to black colour due to abundant interstitial dead oil, fine grained, occasionally medium, subangular, well sorted, siliceous cement, very friable.

Porosity & Permeability: Porosity is generally poor, however this is due to residual hydrocarbons taking up the pore spaces. Porosity would have initially been fair to good. Permeability is poor for same reason.

Hydrocarbons: Abundant interstitial dead oil. No initial fluorescence, minor flood cut, bright white yellow residual fluorescence. Light petroliferous odour on splitting of core.

CORE NO. 2: 4264.3 TO 4271 FEET: CUT 6.7 FEET: RECOVERED 6.7 FEET

INTERVAL: 4265 TO 4271 (6) FEET

Drill Rates: 18, 19, 13, 14, 12, 6 (mins/ft)

Lithology: Bioturbated and churned sandstone (95%) with shale (5%). What would have been initially fine shale laminae have been intensively disrupted by organic activity. Odd lenses of homogeneous sandstone still occur throughout. The core appears peppered with vugular porosity with vugs generally around 1 mm diameter. No interconnection of vugs or fracturing is evident.

SANDSTONE: Pale grey, fine to very fine grained, subangular to subrounded, well sorted, siliceous cement, white siliceous matrix, moderately hard, dark clay matrix in places where original fine shale laminae have been churned in.

SHALE: Dark grey, argillaceous, bioturbated into the sandstone.

Porosity & Permeability: Poor intergranular porosity, poor to fair vugular porosity. Very poor permeability.

Hydrocarbons: Light petroliferous odour on splitting of core. No fluorescence or cut.