

INTERVAL: 4753 - 4771 FEET

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LOGGING GEOLOGIST: D. HORNER

THIS INTERVAL IS CHARACTERIZED BY A SANDSTONE: CLEAR TO VERY LIGHT GREY, LOOSE TO FRIABLE, MEDIUM TO COARSE GRAINED, DOMINANTLY COARSE, SUBANGULAR TO RARELY SUBROUNDED, WELL SORTED, QUARTZ GRAINS WITH MINOR LITHIC FRAGMENTS, RARE FOSSIL FRAGMENTS, TRACE TO 5% BLACK VITREOUS TO EARTHY LAMINATED COALLY MATERIAL, MINOR ARGILLACEOUS MATRIX, WEAK SILICEOUS AND PYRITE CEMENTS, GOOD VISABLE POROSITY AND PERMEABILITY. THIS UNIT IS OVERLAIN BY 380 FEET OF MEDIUM TO DARK GREY ARGILLACEOUS AND CARBONACEOUS SILTSTONE, WITH A MINOR COAL BEAM AT 4732 TO 4733 FEET AND THIN CARBONATE RICH LAYERS BETWEEN 4706 AND 4711 FEET. THIS SILTSTONE HAD NO NATURAL FLUORESCENCE OR CUT, BUT THE COAL GAVE A VERY WEAK PALE YELLOW GREEN CRUSH CUT FLUORESCENCE.

THE SHOW INTERVAL SANDSTONE HAD NO NATURAL FLUORESCENCE, CUT COLOUR OR CUT FLUORESCENCE, HOWEVER THE COALLY MATERIAL CONTAINED WITHIN THE SANDSTONE GAVE A VERY WEAK PALE YELLOW GREEN CRUSH CUT FLUORESCENCE. NO OIL STAINING WAS OBSERVED. NO HYDROCARBON ODOUR WAS NOTED OVER THE DRILLING MUD RETURNS, WITH NO FREE OIL PRESENT IN EITHER THE DRILLING MUD OR A CUTTINGS/WATER MIX.

ON PENETRATION OF THE UNIT, THE GAS ROSE FROM A BACKGROUND OF 6 UNITS OF TOTAL GAS (TRACE OF PETROLEUM VAPOURS) TO A MAXIMUM OF 73 UNITS OF TOTAL GAS WITH ONLY A TRACE OF PETROLEUM VAPOURS. GAS LEVELS DROPPED SLIGHTLY THROUGH THE INTERVAL TO 67 UNITS AT THE BASE. NO HYDROGEN SULPHIDE OR NON-COMBUSTIBLE GAS WAS DETECTED. A BLENDER ANALYSIS ON THE CUTTINGS GAVE 4 UNITS OF TOTAL GAS AND A TRACE OF PETROLEUM VAPOURS - PROBABLY FROM THE COALLY MATERIAL WITHIN THE SAND. A BLENDER ANALYSIS ON THE DRILLING MUD GAVE 5 UNITS OF TOTAL GAS WITH NO DETECTABLE PETROLEUM VAPOURS. BIT CONDITION WAS ESTIMATED AT FAIR TO GOOD, GIVING AN INCREASE IN DRILL RATE FROM 17 - 30 FEET PER HOUR IN THE SILTSTONE TO 60 - 75 FEET PER HOUR IN THE SANDSTONE, WITH A SHARP TRANSITION.

CHROMATOGRAPH GAS ANALYSIS

	SILTSTONE BACKGROUND		MAXIMUM SHOW READINGS	
C1	1700PPM	94.71%	17,700PPM	97.31%
C2	60PPM	3.34%	430PPM	2.36%
C3	25PPM	1.39%	50PPM	0.27%
1C4	6PPM	0.33%	6PPM	0.03%
NC4	4PPM	0.22%	4PPM	0.02%
C5	NIL		NIL	
H2S	NIL		NIL	
CO2	NIL		NIL	

DEPT. NAT. RES & ENV



PE906808

MUD PROPERTIES FOR GAS LIBERATION FROM THE DRILLING FLUID WERE GOOD.

BOTH CONNECTION GAS AND KELLY - CUT GASES OF 3 - 7 UNITS HAD BEEN OBSERVED FOR 600 FEET PRIOR TO THE SHOW INTERVAL. THIS WOULD INDICATE A MUD UNDERBALANCE, WHICH WOULD RESULT IN VERY HIGH GAS READINGS IF A GAS SAND WAS PENETRATED.

SUMMARY

THIS UNIT APPEARS TO HAVE EXCELLENT FLOW PROPERTIES. ALTHOUGH THE GAS LEVELS REACHED 73 UNITS, THIS IS CONSIDERED INSUFFICIENT TO SUGGEST SUFFICIENT GAS SATURATION FOR HYDROCARBON PRODUCTION, IF A MUD UNDERBALANCE SITUATION IS PRESENT.

BASED ON THE ABOVE EVIDENCE A HIGH WATER/GAS RATIO IN THE FORMATION WOULD BE INDICATED.