

# Woodco Logging Services, Inc.

**Complete Hydrocarbons  
Well Logging &  
Well Consultants  
3502 Cass Drive  
Carlsbad, NM 88220  
(505) 887-2469**

Company : ELK OIL COMPANY  
Well : MILLER STATE # 1  
County & State : CHAVES, NEW MEXICO  
Legal : SEC:2, TW: 8 so. RG:27 E.  
Survey : 1200'FSL & 1980'FWL  
Spud Date : 1/18/2003  
Elevation : G.L. 3929 K.B. 3943  
Loggers : JIM WOOD Jr.  
Dates Logged : 1/19/2003 To 1/21/2003  
Depths Logged : 600 To 2904

30-005-63538



## Abbreviations

<b>CG - Conn Gas</b>	<b>NB - New Bit</b>
<b>CO - Circ Out</b>	<b>NCB- New Core Bit</b>
<b>TG - Trip Gas</b>	<b>DCB- Diamond Core Bit</b>
<b>CS - Casing Seat</b>	<b>DS - Directional Survey</b>
<b>NR - No Returns</b>	<b>DC - Depth Correction</b>
<b>XO - Change Out</b>	<b>MD - Measured Depth</b>
<b>TIH - Trip In Hole</b>	<b>TOH - Trip Out Hole</b>
<b>HIP - Hole In Pipe</b>	<b>TVD - True Vertical Depth</b>
<b>BHA - Bottom Hole Assembly</b>	
<b>DST - Drill Stem Test</b>	

## Lithology Symbols

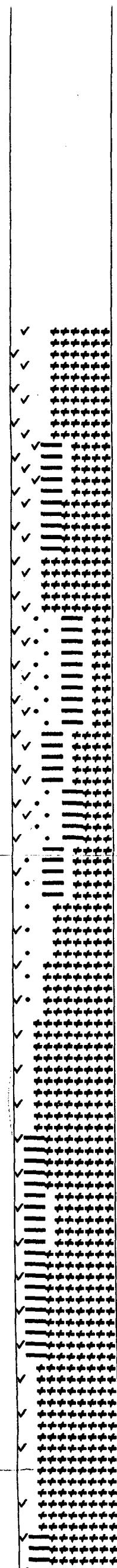
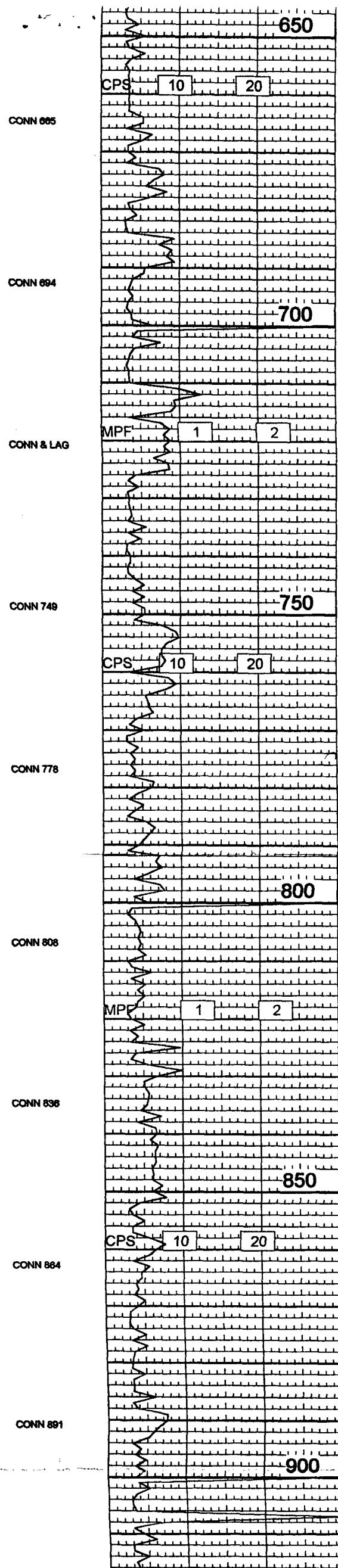
• • • Sand	[REDACTED]	Coal
<u>     </u> Limestone	▲▲▲▲	Chert
<u>     </u> Dolomite	[REDACTED]	Shale
✓✓✓✓✓ Anhydrite	◆◆◆◆	Salt
t- t- t- Silt	△△△	Granite Wash

## Gas Chromatograph Lines

The graph displays the percentage of total gas components over time. The y-axis represents the percentage from 0% to 100%, and the x-axis represents years from 1990 to 2005. The data series show the following trends:

Gas Component	1990 (%)	1995 (%)	2000 (%)	2005 (%)
Total Gas	100	100	100	100
Methane	~75	~78	~80	~82
Ethane	~15	~12	~10	~8
Propane	~5	~3	~2	~1
Isobutane	~2	~1	~0.5	~0.5
Butane	~3	~2	~1	~1

Mech Data	Drilling Rate Gamma Ray	Poro 25 -0%	Graphic Lithology	Flo 0 - 100	Cut PFG	Hydrocarbon Gases 1% C1 = 100 units	Sample Descriptions
NBM2 7 7/8 HTC HR 53							585' SET 8 5/8" CSG. BEGAN ONE MAN LOGGING 600' AT 6:05 PM 1/18/03
WOB 25 RPM 110 SPM 102 PP 1575							EQUIP CHECK ..... NO SAMPLES-SCREEN ON FLOW LINE
CONN 636							10.0, 29, N/C, 10.0 NO SAMPLES-SCREEN ON FLOW LINE
						Units... 30 60	



NO SAMPLES-SCREEN ON  
FLOW LINE

		900				
CONN 921	MPR	1 2				SALT
						SH:ORNG,BLKY,SFT,WXY,
CONN 949		950				SALT
	CPS	10 20			Units 30 60	SALT
DEV 1/2*						ANHY:FRSTD,WHT,FN XLN,
CONN 979						
						SS:RD,ORNG,FRSTD,V/FN GN,S/R-S/A,FR SRTD,UNCO TRS CONSL,TITE,ARGIL,
CONN 1008		1000				
	MPF	1 2				SS:FRSTD,CLR,LT GRY-GRY V/FN GN,S/ANG-ANG,TRS S/RND,FR SRTD,PRED UN- CONSL,SILIC,SME LSLY CO CONSL-CONSL,SILIC,40% DK BRN-BRN STN,ABUN FLT GNS,FR ODOR,80% GLD FLR SLW,FR,SOLID YEL WET CUT,
						SS:RD,GRY,FRSTD,V/FN GN,S/ANG-S/RND,FR SRTD, CONSL,TITE,SHLY,
CONN 1038						SH:ORNG,RD,BLKY,SFT-FR, PRED WXY,AREN IP,
1/20/03		1050			Units 30 60	SS:RD,ORNG,FRSTD,V/FN GN,S/ANG,UNCONSL,SME GR FRSTD,CONSL,TITE,
WOB 30/40	CPS	10 20				10.0,29,N/C,10.0
RPM 110						
SPM 102						SALT
PP 1700						
CONN 1089						ANHY:WHT,FRSTD,FN-MIC XLN.
CONN 1100		1100				SH:RD,ORNG,BLKY,FRM-HRD PRED SNDY,SME ERTHY,TRS SFT WXY,
	MPF	1 2				
						SS:RD,FRSTD,CLR,V/FN GN S/ANG-S/RND,FR SRTD, UNCONSL-LSLY CONSL,ARGI CMNTD,
CONN 1132						SH:RD-ORNG,BLKY,SFT, PRED WXY,SME FRM SNDY,
						SS:RD,ORNG,FRSTD,CLR IP V/GN GN,S/ANG-ANG,S/RND IP,PR SRTD,PRED UNCONSL ARGIL,SME SCAT CONSL TITE ARGIL,
		1150			Units 30 60	
	CPS	K 10 20				
CONN 1163						SS:RD,MORNG,FRSTD,V/FN GN,S/ANG-S/RND,FR SRTD,