

OCD Case No. 15322

KEY ENERGY Exhibit #13

LONQUIST & CO. LLC PETROLEUM ENGINEERS ENERGY ADVISORS		Modified Simandoux VSH<.4,PHIE>.09	
API WELL NO. 30015325600000	CLIENT		
	COMPANY	CIMAREX ENERGY CO. OF COLORADO	
	WELL	GULF FEDERAL COM 4	
	FIELD	CARLSBAD, MORROW, SOUTH	
	COUNTY	EDDY	STATE
LOCATION: TWP: 23 S - Range: 27 E - Sec. 6 660 FNL & 660 FWL		OTHER COMPUTATIONS	
PERMANENT DATUM GR ELEV. 0 LOG MEASURED FROM KB 3276 ABOVE PERM DATUM DRILLING MEASURED FROM KB		ELEV K.B. 3276 D.F. 0 G.I. 0	
DATE	27 - NOV - 2003		
RUN NO.	ONE		
DEPTH - DRILLER	12000		
DEPTH - LOGGER	11986		
BOTTOM LOGGED INTERVAL	11984		
TOP LOGGED INTERVAL	3205		
CASING - DRILLER	3205		
CASING - LOGGER	3205		
BIT SIZE	8.75		
TYPE FLUID IN HOLE	Salt Gel		
CASING SIZE	CASING WEIGHT	9.625	
DENSITY	VISCOSITY	9.9	43
PH	FLUID LOSS	9	8.2
SOURCE OF SAMPLE	Mud Pits		
R _{sh} @ MEASURED TEMP.	0.057 @ 56	@	@
R _{sh} @ MEASURED TEMP.	0.051 @ 56	@	@
R _{sh} @ MEASURED TEMP.	0.072 @ 56	@	@
SOURCE: R _{sh} R _{sh}	Meas Meas		
R _{sh} @ BHT	0.023 @ 172	@	@
CIRCULATION STOP DATE	27 - NOV - 2015		
MAX REC. TEMP	172		
Company	LOCATION	388	HBDM
RECORDED BY	C. Mercado		
WITNESSED BY	Mr. Keel		

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COMPUTATION		LOGS USED: INDUCTION/DENSITY/NEUTRON/GR		PROGRAM: PRIZM
CENTER: OGEC-HOUSTON		LOG ANALYST: BRIAN DAVIS		DATE:
REFERENCE NUMBER: 11				

COMPUTATION PARAMETERS								
ZONES	DEPTH INTERVAL		a	m	N	PHIECOFF	RhoM	VSHCOFF
	FROM	TO						
<Start>	3200.0	5182.0	1.0	2.0	2.0	0.09	2.65	0.4
Top LS	5182.0	5335.5	1.0	2.0	2.0	0.09	2.65	0.4
Bone Spring	5335.5	5400.0	1.0	2.0	2.0	0.09	2.65	0.4

Correlation	Depth	Resistivity	Porosity	Computed Por	Pay	Saturation	Lithology	Track8
GR(GRR)	MD	ResD(DEEP)	PHIN(NPHI)	PHIE		Core_So(N/A)	Vclay(N/A)	K_coates
0 GAP1 150		0.2 OHMM 20000.3	V/V 00.3	0	Gross	10	10.200	20
Rwa	TENS(TENSR)	ResS(SHALLOW)	PHID	PHIA	Net	Core_Sw(N/A)	Vshl2(N/A)	
0.000 0.510000 LBS 30000.2		OHMM 20000.3	00.3	0	Pay	1	00.000 1.000	
DRHO(CORR)		DFCL	DFCL			SwMS	HC	
-0.75 G/C3 0.250		-20 00	20			Core_GrnDn(N/A)	Water	
CALI(CALID)		Mudcake	Wahsout				Shale	
8 IN 18			Gas Effect				Sand	













