

PENNZOIL COMPANY
GACHUPIN 3019-2010 (WELL K)
VERMEJO RANCH COAL BED METHANE PLOT

Geologic Summary
C. Hillenbrand 6/9/89

Raton Formation

Coals:

Shows:

<u>Depth</u>	<u>Thickness</u>	
360'	(2')	Show #1
398'	(2')	452-460; 1 unit
408.5'	(3')	50 units/5 units
463.5'	(1')	in coaly shale section.
499.4'	(1.5')	
503'	(2')	Show #2
674'	(.75')	1216-1230'
723'	(1')	10 units/220 units
1030.5'	(1.5')	in sand.
1040'	(1.25')	
<u>1186.5'</u>	<u>(3.5')</u>	
Total Raton FM Coal		19.5'

The Lower Raton Conglomerate didn't display any show while mud logging although neutron/density crossover is exhibited in the Lower Raton Conglomerate at

1281-1284'	(3')
1303-1304'	(1')
1320-1323'	(3')
1332-1336'	(4')
1340-1344'	(12')
1347-1359'	(12')
1361-1374'	(13')
1375-1378	(3')
1402-1412'	(10')
1414-1418'	<u>(4')</u>
Total feet of crossover is 57'	

Calculated SW for the 57' of crossover ranges between 51-72%; porosities range between 13 to 16%. An RW of 0.58 was used.