PENNZOIL COMPANY Castle Rock 3117-141G (Well S) Vermejo Rauch Coal Bed Methane Pilot

Geologic Summary C. Hillenbrand 10/25/89

Raton Formation

No coal present

Show # 1 @ 556-66' 4 units/75 units In sand.

Show # 2 @ 570-82' 6 units/ 70 units in sand.

Show # 3 @ 586-92' 6 units/ 28 units in sand.

Show # 1 @ 594-99' 12 units/ 75 units in sand.

Show # 5 @ 600-40' 56 units/ 84 units in sand.

Show # 6 @ 665-90' spotty yell flour in sand.

Show # 7 @ 710-14 8 units/ 84 units in sand.

Vermejo Formation

Coals:

Depth	Thickness
718	4"
893.5	21
906.5	1.5'
936. 25	2.51
979	21
995	10'

Total Vermejo Fm Coal 22'

Show # 8 718-22 56 units/156 units in coal.

Show # 9 790-824 3 units/19 units in sand.

Show # 10 848-50' 10 units/96 units in coal.

Show # 11 881-83' 8 units/30 units in coal.

Show # 12 894-96' 15 units/144 units in coal.

Show #13 906-08' 30 units/126 units in coal.

Show # 14 936-39' 22 units/135 units in coal.