E & B Natural Resources Management Corp.

..... DIRECTIONAL DRILLING COMPANY

..... ENERGY CORP. DIST. CARSON

WELL# 51 LEASE WILMINGTON 7/5/83

ELEV. 62' K.B. RADIUS OF CURVATURE

SURVEY BY EASTMAN

TYPE SINGLE SHOT LAMB. COORD. N 4 039 630 E 4 205 421

MAG. DEC. 14 DEGREES WELL COURSE - S 65 47' E

	MEASURED DEPTH	DRIFT ANGLE	DRIFT DIRECTION	VERTICAL DEPTH	SECTION	LATITUDE FEET	DEPARTURE FEET	DOG LEG/100
	2740	58 00	S 67 00 E	2304.45	1074.59	438.91 S	980.87 E	0.00
	2863	58 00	S 67 00 E	2369.63	1178.88	479.67 S	1076.89 E	0.00
	3015	57 45	S 66 30 E	2450.45	1307.58	530.48 S	1195.16 E	.32
	3170	57 15	S 66 00 E	2533.74	1438.30	583.13 S	1314.81 E	.42
	3325	57 15	S 65 30 E	2617.59	1568.66	636.67 S	1433.67 E	.27
	3458	56 15	S 65 30 E	2690.51	1679.88	682.79 S	1534.88 E	.75
	3581	55 15	S 65 30 E	2759.73	1781.56	724.95 S	1627.40 E	.81
	3736	54 45	S 66 30 E	2848.64	1908.52	776.59 S	1743.39 E	.62
	3858	53 00	S 65 30 E	2920.56	2007.06	816.67 S	1833.41 E	1.58
	3979	50 45	S 66 00 E	2995.26	2102.24	855.76 S	1920.19 E	1.89
	4102	47 45	S 66 30 E	3075.54	2195.40	893.28 S	2005.47 E	2.46
	4225	46 00	S 66 00 E	3159.62	2285.17	929.43 S	2087.64 E	1.45
	4348	46 00	S 66 30 E	3245.06	2373.65	965.06 S	2168.63 E	.29
	4475	45 30	S 67 00 E	3333.68	2464.60	1000.97 S	2252.21 E	.48
	4582	46 00	S 67 00 E	3408.34	2541.23	1030.92 S	2322.76 E	.47
Projected	4607	46 00	S 67 00 E	3425.71	2559.21	1037.95 S	2339.31 E	.01

THE DOGLEG SEVERITY IS IN DEGREES PER ONE HUNDRED FEET.
THE VERTICAL SECTION WAS COMPUTED ALONG S 65 47' E
BASED UPON RADIUS OF CURVATURE TYPE CALCULATIONS.

THE BOTTOM HOLE DISPLACEMENT IS 2559.24 FEET IN THE DIRECTION OF S 66 04' E.
BOTTOM HOLE DISPLACEMENT IS RELATIVE TO WELL HEAD.
VERTICAL SECTION IS RELATIVE TO WELL HEAD.