

ATLANTIC RICHFIELD COMPANY
 EMPIRE ABD UNIT WELL NO. J-223
 EMPIRE ABO
 EDDY COUNTY, NEW MEXICO
 SYROSCOPIC SURMEL

PAGE 3
 DATE OF SURVEY MAY 13, 1978
 VERTICAL SECTION DIRECTION CLOSURE

SU3-6094

SPEERY-SUN, INC.
 RECORD OF SURVEY

MEASURED DEPTH	TRUE VERTICAL DEPTH	SUB SEA TVD	COURSE INCLINATION DEG MIN	COURSE DIRECTION DEG	DOG-LEG SEV DEG/100	TOTAL RECTANGULAR NORTH/SOUTH	COORDINATES EAST/WEST	VERTICAL SECTION
6000	5992.17	5992.17	6 10	N 12 N	0.58	196.09 N	117.57 W	228.58
6100	6091.62	6091.62	5 50	N 12 W	0.33	206.32 N	119.74 W	238.54
6166	6157.30	6157.30	5 30	N 11 W	0.53	212.70 N	121.04 W	244.73

** THE CALCULATIONS ARE BASED ON THE MINIMUM RADIUS OF CURVATURE METHOD **

HORIZONTAL DISPLACEMENT = 244.73 FEET AT NORTH 29 DEG. 39 MIN. WEST (TRUE)