

ATLANTIC-RICHFIELD COMPANY
EMPIRE ABO NO. I-272
EMPIRE ABO FIELD
EDDY COUNTY, NEW MEXICO
MAGNETIC MULTISHOT

DATE OF SURVEY JUNE 19, 1978
VERTICAL SECTION DIRECTION
CLOSURE
MS-6086

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SPERRY-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	RECTANGULAR NORTH/SOUTH	COORDINATES EAST/WEST	VERTICAL SECTION
3500	3498.12	3498.12	1 45	N 1 E	0.25	98.54 N	19.22 W	98.92
3600	3598.07	3598.07	1 45	N 1 E	0.	101.60 N	19.16 W	101.97
3700	3698.02	3698.02	1 45	N 5 E	0.12	104.64 N	19.00 W	105.01
3800	3797.97	3797.97	2 0	N 9 E	0.28	107.89 N	18.60 W	108.25
3900	3897.90	3897.90	2 15	N 80 E	2.48	110.54 N	16.00 W	110.84
4000	3997.82	3997.82	2 15	N 9 E	2.61	113.34 N	13.25 W	113.59
4100	4097.74	4097.74	2 30	N 10 E	0.25	117.42 N	12.57 W	117.66
4200	4197.66	4197.66	2 0	N 9 E	0.50	121.30 N	11.92 W	121.52
4300	4297.59	4297.59	2 15	N 8 E	0.25	124.96 N	11.37 W	125.17
4400	4397.51	4397.51	2 30	N 7 E	0.25	129.07 N	10.83 W	129.27
4500	4497.43	4497.43	2 0	N 9 E	0.51	132.96 N	10.29 W	133.14
4600	4597.37	4597.37	2 0	N 6 E	0.10	136.42 N	9.83 W	136.59
4700	4697.30	4697.30	2 15	N 6 E	0.25	140.11 N	9.44 W	140.27
4800	4797.22	4797.22	2 15	N 7 E	0.04	144.01 N	9.00 W	144.16
4900	4897.14	4897.14	2 30	N 6 E	0.25	148.13 N	8.53 W	148.27
5000	4997.02	4997.02	3 0	N 7 E	0.50	152.89 N	7.99 W	153.03
5100	5096.87	5096.87	3 15	N 8 E	0.26	158.30 N	7.27 W	158.41
5200	5196.69	5196.69	3 45	N 7 E	0.50	164.35 N	6.48 W	164.45
5300	5296.44	5296.44	4 15	N 7 E	0.50	171.27 N	5.63 W	171.35
5400	5396.15	5396.15	4 30	N 9 E	0.29	178.83 N	4.57 W	178.88
5474	5469.95	5469.95	4 0	N 7 E	0.70	184.26 N	3.80 W	184.30

** THE CALCULATIONS ARE BASED ON THE AVERAGE ANGLE METHOD **

HORIZONTAL DISPLACEMENT = 184.30 FEET AT NORTH 1 DEG. 11 MIN. WEST (TRUE)