

AMT / SCIENTIFIC DRILLING
 MIDLAND, TEXAS

JOB NUMBER: 132-N-884-093

DATE: 08/01/84

INRUN SURVEY

BY

THE RADIUS OF CURVATURE

MEAS. DEPTH	VERT. DEPTH	VERT. SECT.	COURSE DEV.	INC D M	BEARING D M	COORDINATES LATITUDE DEPARTURE	D-LEG PLR 100
60.00	60.00	.00	.04	0-5	N 5-5 W	.04 N .00 E	.14
120.00	120.00	-.02	.13	0-10	N 9-24 W	.17 N .02 W	.14
180.00	180.00	-.05	.22	0-15	N 4-16 W	.39 N .05 W	.14
240.00	240.00	-.08	.26	0-15	N 11-8 W	.65 N .08 W	.05
300.00	300.00	-.07	.17	0-5	N 16-1 E	.82 N .07 W	.30
360.00	360.00	-.02	.09	0-5	S 11-9 W	.81 N .02 W	.28
420.00	420.00	-.02	.09	0-5	S 6-43 E	.72 N .02 W	.04
480.00	480.00	.04	.17	0-15	S 36-33 E	.56 N .04 E	.30
540.00	540.00	.25	.30	0-20	S 52-23 E	.35 N .25 E	.19
600.00	600.00	.47	.30	0-15	S 38-12 E	.13 N .47 E	.18
660.00	660.00	.55	.30	0-20	S 6-59 W	.16 S .55 E	.39
720.00	720.00	.59	.35	0-20	S 19-30 E	.50 S .59 E	.26
780.00	779.99	.75	.39	0-25	S 28-40 E	.86 S .75 E	.17
840.00	839.99	.91	.35	0-15	S 25-29 E	1.17 S .91 E	.28
900.00	899.99	1.02	.26	0-15	S 26-18 E	1.40 S 1.02 E	.01

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MEAS. DEPTH	VERT. DEPTH	VERT. SECT.	COURSE DEV.	INC D M	BEARING D N	COORDINATES		D-LEG PER 100
						LATITUDE	DEPARTURE	
960.00	959.99	1.17	.39	0-30 S	18-25 E	1.77 S	1.17 E	.42
1020.00	1019.99	1.20	.66	0-45 S	13-46 W	2.41 S	1.20 E	.70
1080.00	1079.98	1.08	.61	0-25 S	8-57 W	3.01 S	1.08 E	.56
1140.00	1139.98	.82	.48	0-30 S	58-8 W	3.40 S	.82 E	.65
1200.00	1199.98	.37	.52	0-30 S	60-19 W	3.66 S	.37 E	.03
1260.00	1259.98	.03	.44	0-20 S	44-29 W	3.93 S	.03 E	.34
1320.00	1319.98	-.26	.35	0-20 S	68-40 W	4.12 S	.26 W	.23
1380.00	1379.98	-.73	.48	0-35 N	86-11 W	4.19 S	.73 W	.53
1440.00	1439.97	-1.33	.61	0-35 S	73-56 W	4.26 S	1.33 W	.34
1500.00	1499.97	-1.74	.52	0-25 S	30-3 W	4.57 S	1.74 W	.67
1560.00	1559.96	-2.43	1.00	1-30 S	58-10 W	5.29 S	2.43 W	1.92
1620.00	1619.95	-3.35	1.00	0-25 S	76-17 W	5.67 S	3.35 W	1.85
1680.00	1679.95	-3.86	.52	0-35 S	80-24 W	5.78 S	3.86 W	.28
1740.00	1739.95	-4.38	.52	0-25 S	77-31 W	5.88 S	4.38 W	.28
1800.00	1799.94	-4.85	.48	0-30 S	81-38 W	5.97 S	4.85 W	.15

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MEAS. DEPTH	VERT. DEPTH	VERT. SECT.	COURSE DEV.	INC D N	BEARING D M	COORDINATE LATITUDE DEPARTURE	D-LEG PER 100
1860.00	1859.94	-5.30	.48	0-25 S	62-13 W	6.11 S	.29
1920.00	1919.94	-5.64	.44	0-25 S	40-20 W	6.38 S	.26
1980.00	1979.94	-5.79	.35	0-15 S	12-27 W	6.69 S	.38
2040.00	2039.94	-5.71	.26	0-15 S	51-26 E	6.93 S	.44
2100.00	2099.94	-5.54	.26	0-15 S	27-19 E	7.13 S	.17
2160.00	2159.94	-5.29	.44	0-35 S	44-12 E	7.48 S	.59
2220.00	2219.93	-4.86	.57	0-30 S	54- S E	7.85 S	.21
2280.00	2279.93	-4.40	.57	0-35 S	53-58 E	8.19 S	.14
2340.00	2339.93	-3.94	.61	0-35 S	42-51 E	8.59 S	.19
2400.00	2399.93	-3.54	.61	0-35 S	39-45 E	9.05 S	.05
2460.00	2459.92	-3.25	.61	0-35 S	16-37 E	9.59 S	.39
2520.00	2519.92	-3.06	.57	0-30 S	22-30 E	10.13 S	.17
2580.00	2579.92	-2.90	.52	0-30 S	13-23 E	10.62 S	.13
2640.00	2639.91	-2.74	.52	0-30 S	21-17 E	11.12 S	.11
2700.00	2699.91	-2.64	.52	0-30 S	2- 9 E	11.63 S	.28

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MEAS. DEPTH	VERT. DEPTH	VERT. SECT.	COURSE DEV.	INC D M	BEARING D N	COORDINATE'S LATITUDE DEPARTURE	D-LEG PER 100
2760.00	2759.91	-2.47	.52	0-30 S	35-35 E	12.12 S 2.47 W	.48
2820.00	2819.91	-2.16	.39	0-15 S	69-28 E	12.36 S 2.16 W	.54
2880.00	2879.91	-2.21	.26	0-15 N	77-21 W	12.52 S 2.21 W	.83
2940.00	2939.91	-2.20	.22	0-10 S	54-14 E	12.67 S 2.28 W	.68
3000.00	2999.91	-2.19	.13	0-5 N	7-7 W	12.62 S 2.19 W	.39
3060.00	3059.91	-2.30	.17	0-15 N	79-0 W	12.50 S 2.30 W	.40
3120.00	3119.91	-2.68	.39	0-30 S	57-7 W	12.57 S 2.68 W	.61
3180.00	3179.90	-3.05	.48	0-25 S	46-14 W	12.87 S 3.05 W	.20
3240.00	3239.90	-3.46	.48	0-30 S	74-36 W	13.10 S 3.46 W	.40
3300.00	3299.90	-3.94	.52	0-30 S	58-47 W	13.30 S 3.94 W	.23
3360.00	3359.90	-4.47	.57	0-35 S	75-57 W	13.52 S 4.47 W	.30
3420.00	3419.89	-5.01	.57	0-30 S	65-8 W	13.71 S 5.00 W	.22
3480.00	3479.89	-5.51	.57	0-35 S	60-19 W	13.97 S 5.51 W	.16
3540.00	3539.89	-6.04	.61	0-35 S	57-30 W	14.29 S 6.03 W	.05
3600.00	3599.88	-6.65	.74	0-50 S	55-41 W	14.70 S 6.65 W	.42

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MLAS. DEPTH	VERT. DEPTH	VERT. SECT.	COURSE DEV.	INC D M	BLARING D M	COORDINATES LATITUDE DEPARTURE	D-LEG PIR 100
3660.00	3659.88	-7.34	.83	0-45	S 56-34 W	15.16 S 7.34 W	.14
3720.00	3719.87	-8.13	.92	1- 0	S 61-45 W	15.63 S 8.12 W	.44
3780.00	3779.86	-9.04	1.09	1- 5	S 52-56 W	16.21 S 9.04 W	.30
3840.00	3839.84	-10.25	1.35	1-30	S 75- 7 W	16.80 S 10.25 W	1.07
3900.00	3899.82	-11.79	1.61	1-35	S 70-18 W	17.28 S 11.79 W	.26
3960.00	3959.80	-13.53	1.79	1-50	S 85-28 W	17.66 S 13.53 W	.86
4020.00	4019.76	-15.52	2.01	2- 0	S 78-39 W	17.93 S 15.52 W	.47
4080.00	4079.73	-17.59	2.09	2- 0	S 82-50 W	18.27 S 17.58 W	.24
4140.00	4139.69	-19.67	2.09	2- 0	S 84- 1 W	18.51 S 19.66 W	.07
4200.00	4199.65	-21.80	2.14	2- 5	S 87-11 W	18.67 S 21.79 W	.23
4260.00	4259.61	-23.97	2.18	2- 5	S 83-22 W	18.85 S 23.97 W	.23
4320.00	4319.57	-26.11	2.14	2- 0	N 86-27 W	18.91 S 26.10 W	.62
4380.00	4379.53	-28.29	2.18	2-10	N 86-17 W	18.77 S 28.28 W	.28
4440.00	4439.49	-30.46	2.18	2- 0	N 85- 6 W	18.61 S 30.46 W	.29
4500.00	4499.46	-32.55	2.09	2- 0	N 84-55 W	18.42 S 32.54 W	.01

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MEAS. DEPTH	VERT. DEPTH	VERT. SECT.	COURSE DEV.	INC D N	BEARING D N	COORDINATES LATITUDE DEPARTURE	D-LEG PER 100
4560.00	4559.42	-34.64	2.09	2- 0	N 89- 1 W	18.31 S 34.63 W	.24
4620.00	4619.38	-36.72	2.09	2- 0	N 79-51 W	18.11 S 36.71 W	.53
4680.00	4679.35	-38.77	2.09	2- 0	N 76-40 W	17.68 S 38.76 W	.19
4740.00	4739.31	-40.78	2.07	2- 0	N 71-30 W	17.11 S 40.78 W	.30
4800.00	4799.28	-42.66	2.01	1-50	N 67-19 W	16.40 S 42.65 W	.36
4860.00	4859.25	-44.41	2.01	2- 0	N 54- 9 W	15.42 S 44.40 W	.78
4920.00	4919.21	-46.10	2.09	2- 0	N 53-58 W	14.19 S 46.09 W	.01
4980.00	4979.17	-47.82	2.18	2-10	N 49-46 W	12.84 S 47.81 W	.38
5040.00	5039.12	-49.59	2.31	2-15	N 50-31 W	11.36 S 49.58 W	.15
5100.00	5099.08	-51.31	2.40	2-20	N 41-17 W	9.69 S 51.31 W	.63
5160.00	5159.02	-52.87	2.53	2-30	N 35- 3 W	7.71 S 52.87 W	.52
5220.00	5218.96	-54.38	2.70	2-40	N 32-49 W	5.46 S 54.38 W	.32
5280.00	5278.89	-55.96	2.88	2-50	N 33-35 W	3.05 S 55.95 W	.28
5340.00	5330.82	-57.73	3.01	2-55	N 38-20 W	.62 S 57.72 W	.42
5400.00	5398.73	-59.69	3.18	3-10	N 38- 6 W	1.89 N 59.69 W	.42

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5460.00	5458.62	-61.94	3.62	3-45	N 38-54 W	4.72 N 61.94 W	.98
5520.00	5518.49	-64.46	4.05	4-0	N 37-40 W	7.90 N 64.46 W	.44
5580.00	5578.31	-67.21	4.58	4-45	N 36-13 W	11.56 N 67.20 W	1.26
5640.00	5638.12	-69.78	4.84	4-30	N 27-58 W	15.66 N 69.77 W	1.18
5700.00	5697.93	-71.87	4.71	4-30	N 24-44 W	19.87 N 71.86 W	.42
5760.00	5757.74	-73.42	4.75	4-35	N 13-29 W	24.36 N 73.41 W	1.49
5820.00	5817.54	-74.35	4.97	4-55	N 8-15 W	29.23 N 74.35 W	.91
5880.00	5877.30	-75.16	5.32	5-15	N 9-9 W	34.49 N 75.15 W	.57
5940.00	5937.04	-75.90	5.62	5-30	N 6-2 W	40.06 N 75.89 W	.64
6000.00	5996.76	-76.60	5.75	5-30	N 7-56 W	45.77 N 76.59 W	.30
6060.00	6056.49	-77.63	5.70	5-25	N 12-49 W	51.38 N 77.62 W	.79
6120.00	6116.23	-78.94	5.53	5-10	N 14-41 W	56.75 N 78.94 W	.51
6180.00	6176.00	-80.19	5.32	5-0	N 12-34 W	61.92 N 80.19 W	.42
6240.00	6235.78	-81.35	5.14	4-50	N 13-27 W	66.93 N 81.35 W	.31
6300.00	6295.56	-82.39	5.06	4-50	N 10-19 W	71.87 N 82.39 W	.44

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MEAS. DEPTH	VERT. DEPTH	VERT. SECT.	COURSE DEV.	INC D M	BEARING D N	COORDINATES LATITUDE DEPARTURE	D-LEG PER 100
6360.00	6355.37	-83.31	4.79	4-20	N 11-43 W	76.58 N 83.30 W	.85
6420.00	6415.21	-84.19	4.36	4- 0	N 11-36 W	80.85 N 84.18 W	.56
6480.00	6475.06	-85.00	4.27	4-10	N 10-29 W	85.04 N 85.00 W	.31
6540.00	6534.90	-85.86	4.40	4-15	N 12- 0 W	89.36 N 85.86 W	.23
6635.00	6629.69	-86.89	6.21	3-15	N 7- 0 W	95.49 N 86.88 W	1.11
6730.00	6724.55	-87.74	5.18	3- 0	N 12- 0 W	100.60 N 87.74 W	.39
6825.00	6819.49	-88.69	3.32	1- 0	S 71- 0 E	102.41 N 88.69 W	3.81
6920.00	6914.28	-81.21	5.80	6- 0	S 33- 0 E	98.90 N 81.20 W	5.52
7015.00	7008.74	-75.54	10.14	6-15	S 35- 0 E	90.50 N 75.54 W	.35
7110.00	7103.13	-69.15	10.75	6-45	S 38- 0 E	81.86 N 69.14 W	.64
7205.00	7197.40	-61.89	11.78	7-30	S 30- 0 E	72.57 N 61.89 W	.79
7300.00	7291.55	-53.88	12.60	7-45	S 41- 0 E	62.85 N 53.87 W	.49
7395.00	7385.63	-45.12	13.22	8-15	S 42- 0 E	52.94 N 45.11 W	.55
7490.00	7479.55	-35.68	14.25	9- 0	S 41- 0 E	42.27 N 35.67 W	.81
7585.00	7573.48	-25.70	14.25	8-15	S 48- 0 E	32.12 N 25.69 W	1.36

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MEAS. DEPTH	VLRT. DEPTH	VERT. SECT.	COURSE DEV.	INC D M	BEARING		COORDINATES		D-LEG PER 100	
					D	M	LATITUDE	DEPARTURE		
7680.00	7667.53	-15.13	13.43	8-	0	S 56-	0	E 23.86 N	15.12 W	1.22
7775.00	7761.81	-8.29	11.58	6-	0	S 18-	0	E 14.78 N	8.28 W	5.18
7870.00	7856.62	-10.93	5.38	0-30	S	87-	0	W 10.94 N	10.92 W	6.47
7965.00	7951.62	-11.64	.83	0-30	N	34-	0	W 11.29 N	11.63 W	.52
8060.00	8046.62	-12.09	.62	0-15	N	61-	0	W 11.71 N	12.08 W	.32
8155.00	8141.62	-12.14	.41	0-15	N	45-	0	E 12.06 N	12.13 W	.42
8250.00	8236.62	-12.27	.41	0-15	S	90-	0	W 12.36 N	12.26 W	.49
8345.00	8331.62	-12.59	.41	0-15	N	23-	0	W 12.58 N	12.58 W	.29
8440.00	8426.62	-12.78	.41	0-15	N	30-	0	W 12.95 N	12.77 W	.03
8535.00	8521.61	-12.61	.62	0-30	N	65-	0	E 13.48 N	12.60 W	.61
8630.00	8616.61	-12.17	.62	0-15	S	1-	0	E 13.20 N	12.16 W	.68
8725.00	8711.61	-12.51	.83	0-45	S	52-	0	W 12.48 N	12.50 W	.67
8820.00	8806.60	-13.57	1.45	1-	0	S 42-	0	W 11.49 N	13.56 W	.51
8915.00	8901.58	-14.77	1.66	1-	0	S 51-	0	W 10.35 N	14.76 W	.17
9010.00	8996.57	-16.05	1.66	1-	0	S 50-	0	W 9.30 N	16.04 W	.02

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9105.00	9091.55	-17.29	1.66	1- 0 S 58-	0 W	8.32 N 17.38 W	.15
9200.00	9186.54	-18.81	1.66	1- 0 S 60-	0 W	7.47 N 18.80 W	.04
9295.00	9281.53	-20.24	1.66	1- 0 S 59-	0 W	6.63 N 20.23 W	.02
9390.00	9376.51	-21.90	1.86	1-15 S 67-	0 W	5.78 N 21.89 W	.31
9485.00	9471.49	-23.55	1.86	1- 0 S 57-	0 W	4.91 N 23.54 W	.33
9580.00	9566.47	-25.22	1.86	1-15 S 71-	0 W	4.09 N 25.21 W	.39
9675.00	9661.46	-27.02	1.86	1- 0 S 80-	0 W	3.63 N 27.01 W	.32
9770.00	9756.44	-28.87	1.86	1-15 N 81-	0 W	3.61 N 28.86 W	.47
9865.00	9851.41	-31.33	2.49	1-45 S 71-	0 W	3.40 N 31.32 W	.92
9960.00	9946.34	-34.64	3.52	2-30 S 69-	0 W	2.19 N 34.63 W	.79
10055.00	10041.27	-37.95	3.52	1-45 S 71-	0 W	.99 N 37.94 W	.79
10150.00	10136.23	-40.47	2.69	1-30 S 68-	0 W	.04 N 40.46 W	.28
10245.00	10231.21	-42.50	2.23	1-15 S 58-	0 W	.99 S 42.49 W	.36
10340.00	10326.18	-44.28	2.07	1-15 S 60-	0 W	2.06 S 44.27 W	.05
10435.00	10421.16	-46.05	2.07	1-15 S 58-	0 W	3.13 S 46.04 W	.05

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10530.00	10516.14	-47.52	1.86	1- 0 S	46- 0 W	4.27 S 47.51 W	.36
10625.00	10611.13	-48.61	1.45	0-45 S	51- 0 W	5.23 S 48.59 W	.27
10720.00	10706.12	-49.18	1.24	0-45 S	5- 0 W	6.30 S 49.16 W	.62
10815.00	10801.11	-49.13	1.66	1-15 S	8- 0 E	7.95 S 49.12 W	.57
10910.00	10896.08	-48.83	2.07	1-15 S	9- 0 E	10.00 S 48.81 W	.02
11005.00	10991.07	-49.10	1.86	1- 0 S	26- 0 W	11.82 S 49.08 W	.76
11100.00	11086.05	-50.19	1.86	1-15 S	46- 0 W	13.32 S 50.17 W	.49
11195.00	11181.03	-51.61	1.86	1- 0 S	54- 0 W	14.52 S 51.60 W	.31
11290.00	11276.02	-52.52	1.24	0-30 N	1- 0 W	14.06 S 52.51 W	1.42
11385.00	11371.00	-51.66	2.07	2- 0 N	52- 0 E	12.26 S 51.65 W	1.84
11480.00	11465.92	-48.67	3.94	2-45 N	47- 0 E	9.70 S 48.65 W	.82
11575.00	11560.82	-45.41	4.35	2-30 N	50- 0 E	6.82 S 45.40 W	.30
11670.00	11655.73	-42.41	3.94	2-15 N	49- 0 E	4.27 S 42.40 W	.27
11765.00	11750.65	-39.47	3.94	2-30 N	48- 0 E	1.66 S 39.45 W	.27
11860.00	11845.56	-36.62	4.14	2-30 N	39- 0 E	1.35 N 36.60 W	.41