

DIRECTIONAL DRILLING REPORT

ALL CALCULATIONS PERFORMED BY ELECTRONIC COMPUTER
USING THE RADIUS OF CURVATURE METHOD

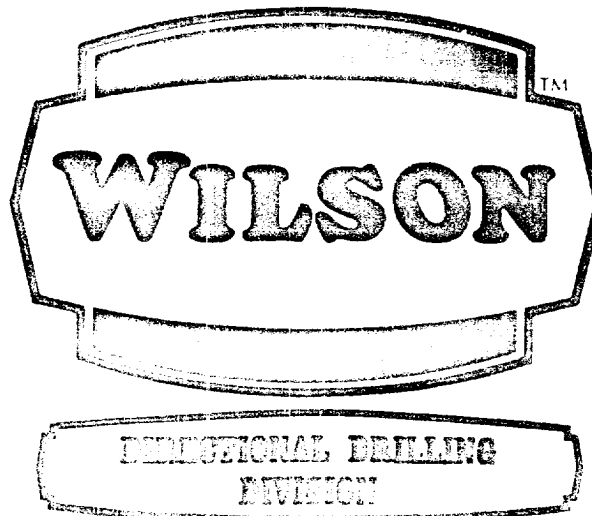
DATE January 9, 1978

COMPANY GULF ENERGY & MINERALS

WELL CENTRAL DRINKARD UNIT 419

LOCATION LEA COUNTY, NEW MEXICO

MAGNETIC DECLINATION 10° EAST



JOB # 55550

GULF ENERGY & DEVELOPMENT
 CENTRAL OPERATIONS DEPARTMENT
 LEA QUALITY CONTROL DIVISION
 JOB NO. 55550
 COORDINATES AT 2037 ARE FROM SPERRY SURVEY MAGNETIC CORRECTION 100FG EAST

PAGE 1
 DATE OF SURVEY 11-18-77 1012-H-77
 VERTICAL SECTION COMPUTED ALONG CLOSURE

WILSON OREHOLE DIRECTIONAL DRILLING

RECORD OF SURVEY

TWO		INCLINATION		CORRECTION		DIP-LEG		RECTANGULAR COORDINATES			
DEPTH	VERTICAL	FEET	DIP	DIP	DIP	SEVERITY	VERTICAL	NORTH	SOUTH	EAST	WEST
2637	2636.02	2	0	0	0	.00	-57.61	42.43		59.02	
2737	2735.75	2	0	0	0	.00	-51.01	64.28		41.98	
2837	2835.40	2	0	0	0	.10	-64.02	66.20		44.29	
2937	2935.05	2	0	0	0	1.00	-65.51	45.74		46.04	
3037	3035.00	3	15	0	25	3.55	-66.24	66.41		47.35	
3137	3135.00	2	30	0	0	7.24	-65.47	45.58		47.03	
3237	3235.07	2	30	0	0	4.50	-60.66	42.12		43.67	
3337	3335.41	0	30	0	0	2.40	-55.70	38.82		40.05	
3437	3435.77	0	30	0	0	.11	-44.49	31.47		31.45	
3537	3535.37	0	30	0	0	.37	-37.68	26.77		26.23	
3637	3635.73	0	30	0	0	.23	-26.18	19.20		17.82	
3737	3735.96	7	30	0	0	1.06	-14.02	10.95		8.65	
3837	3835.97	4	05	0	0	1.20	.11	.95	9.75		1.12
3937	3935.64	0	30	0	0	.29	15.11		20.16		11.63
4037	4035.70	0	15	0	0	.29	29.67				21.84
4137	4135.03	7	30	0	0	.75	43.37		29.99		31.56
4237	4235.47	7	30	0	0	.39	56.42		39.14		40.67
4337	4335.12	7	30	0	0	.00	69.46		48.04		50.21
4437	4434.21	0	0	0	0	.52	82.93		57.15		60.16
4537	4535.23	0	0	0	0	.00	96.82		66.46		70.50
4637	4632.20	0	30	0	0	.50	111.14		76.06		81.17
4737	4731.10	0	30	0	0	.00	125.29		85.95		92.15
4837	4829.97	0	45	0	0	.39	149.84		95.79		103.47
4937	4928.74	0	15	0	0	1.64	156.16		104.70		116.26
5037	5027.41	7	30	0	0	.41	171.92		113.09		130.22

GULF ENERGY & MINERALS
 CENTRAL OPERATIONS DEPT 419
 LFA COUNTY, NEW MEXICO
 JOB NO. 55550
 COORDINATES AT 2637 ARE FROM SPERRY SURVEY MAGNETIC CORRECTION 10DEG EAST

PAGE 2
 DATE OF SURVEY 11-18-77 1012-8-77
 VERTICAL SECTION COMPUTED ALONG CLOSURE

WILSON QUADRANGLE DIRECTIONAL DRILLING
 RECORD OF SURVEY

MEASURED VERTICAL DEPTH	TRUE VERTICAL DEPTH	DECLINATION	DIP	DIRECTION	DIP-LEG SEVERITY DEG/100	VERTICAL SECTION	RECTANGULAR COORDINATES		
							SOUTH	EAST	WEST
4845	4026.00	4	45	S 58 E	.25	186.14	121.95		144.59
4945	4924.54	4	30	S 60 E	.42	204.56	130.56		158.72
5045	5023.22	4	30	S 60 E	.00	220.27	136.81		173.02
5145	5121.06	5	30	S 60 E	.80	236.17	147.07		187.51
5245	5220.54	5	45	S 65 E	1.09	251.24	154.41		201.55
5345	5319.42	5	45	S 65 E	.00	265.49	160.84		215.14
5417	5400.36	7	0	S 67 E	.55	275.82	169.55		225.26
5507	5461.85	7	15	S 45 E	4.91	265.57	170.76		233.68
5541	5513.46	6	45	S 47 E	1.07	291.90	175.17		238.24
5641	5612.05	7	0	S 48 E	.76	302.64	182.67		246.43
5741	5712.54	5	30	S 48 E	.50	312.99	189.38		253.87
5768	5759.11	5	0	S 45 E	1.24	317.70	192.62		257.28
5801	5772.00	5	45	S 24 E	16.55	318.99	193.70		258.02
5901	5871.52	5	0	S 11 E	1.55	326.04	203.40		261.06
5997	5960.99	5	0	S 14 E	.33	336.55	213.20		263.23
6097	6060.55	5	0	S 10 E	1.02	344.66	222.46		265.69
6154	6126.32	4	30	S 12 E	.97	349.31	227.44		266.94
6245	6212.03	5	0	S 14 E	.63	355.24	234.21		268.52
6345	6311.03	5	15	S 12 E	.51	362.66	242.91		270.52
6445	6411.19	5	30	S 10 E	.51	370.67	252.11		272.30
6545	6510.73	5	30	S 8 E	.19	376.47	261.57		273.89
6645	6610.27	5	30	S 2 E	.57	385.86	271.11		274.64
6754	6700.63	5	45	S 2 E	.27	392.44	280.02		274.95

THE CALCULATION PROCEDURES ARE BASED ON THE USE OF THE RADIUS OF CURVATURE METHOD

ALL CALCULATIONS PERFORMED BY A UNIVAC 1100 COMPUTER

HORIZONTAL DISPLACEMENT = 392.44 FEET AT SOUTH 44 DEG. 28 MIN. WEST (TRUE)

LOCATION LEA COUNTY, NEW MEXICO

DATE 1/09/78

PAGE 4 of 6

[illegible]

CLOSURE: Distance 392.44' Direction S 44° 28' W

WILSON SUPERVISOR: David L. Nash

WE CERTIFY THAT THIS IS A TRUE AND CORRECT REPORT OF OUR SURVEY AND THAT IT AFFORDS A TRUE AND CORRECT REPRESENTATION OF OUR FINDINGS AS TO THE NATURE AND CONDITIONS OF THE WELL AT THE TIME THE SURVEY WAS MADE.

BEFORE ME THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED

David L. Nash

David L. Nash

SUBSCRIBED AND SWORN TO BEFORE ME THIS THE 9th DAY
OF January 1978

David Hark

WILSON INDUSTRIES INC.
Directional Drilling Division

NOTARY PUBLIC IN AND FOR HARRIS COUNTY, TEXAS

RUBY ALBRIGHT

Notary Public in and for Harris County, Texas
My Commission Expires June 30, 1978
Bonded By John L. Wertham & Son Insurance

GULF ENERGY AND MINERALS COMPANY
 CDU NO. 419
 DRINKARD
 LEA COUNTY, NEW MEXICO
 MAGNETIC MULTISHOT SURVEY

PAGE 1
 DATE OF SURVEY NOVEMBER 18, 1977
 VERTICAL SECTION DIRECTION
 CLOSURE
 MS-6930

SPERRY-SUN, INC.

MEASURED DEPTH	TRUE VERTICAL DEPTH	SUB SEA TVD	RECORD OF SURVEY										RECTANGULAR NORTH/SOUTH	TOTAL		VERTICAL SECTION
			COURSE		DIRECTION DEG	D06-LEG SEV DEG/100	COORDINATES		EAST/WEST	NORTH/SOUTH	EAST/WEST					
			INCLINATION DEG MIN	ASSUME VERTICAL TO 378 FT.			DEG	DEG								
378	378.00	378.00	0 55	N	11 E	5.39	.00 N	.00 E	.00 E	.00 E	.00 E	.00 E	.00 E	.00 E	.00 E	
395	395.00	395.00	1 5	N	13 E	.55	.13 N	.03 E	.03 E	.03 E	.03 E	.03 E	.03 E	.03 E	.12	
426	425.99	425.99	1 0	N	20 E	.16	.66 N	.14 E	.14 E	.14 E	.14 E	.14 E	.14 E	.14 E	.59	
519	518.98	518.98	1 0	N	21 E	.02	2.28 N	.61 E	.61 E	.61 E	.61 E	.61 E	.61 E	.61 E	2.11	
612	611.96	611.96	1 0	N	16 E	.09	3.80 N	1.13 E	1.13 E	1.13 E	1.13 E	1.13 E	1.13 E	1.13 E	3.63	
705	704.95	704.95	0 50	N	34 E	.36	5.34 N	1.70 E	1.70 E	1.70 E	1.70 E	1.70 E	1.70 E	1.70 E	5.12	
798	797.94	797.94	0 45	N	17 E	.27	6.63 N	2.30 E	2.30 E	2.30 E	2.30 E	2.30 E	2.30 E	2.30 E	6.52	
891	890.93	890.93	0 45	N	37 E	.29	7.82 N	2.86 E	2.86 E	2.86 E	2.86 E	2.86 E	2.86 E	2.86 E	7.75	
984	983.92	983.92	0 50	N	17 E	.31	9.82 N	3.40 E	3.40 E	3.40 E	3.40 E	3.40 E	3.40 E	3.40 E	9.91	
1077	1076.91	1076.91	0 50	N	20 E	.05	10.02 N	3.96 E	3.96 E	3.96 E	3.96 E	3.96 E	3.96 E	3.96 E	10.13	
1170	1169.90	1169.90	0 50	N	11 E	.14	11.31 N	4.33 E	4.33 E	4.33 E	4.33 E	4.33 E	4.33 E	4.33 E	11.37	
1263	1262.89	1262.89	1 0	N	30 E	.37	12.61 N	4.75 E	4.75 E	4.75 E	4.75 E	4.75 E	4.75 E	4.75 E	12.58	
1356	1355.88	1355.88	0 45	N	21 E	.31	13.97 N	5.29 E	5.29 E	5.29 E	5.29 E	5.29 E	5.29 E	5.29 E	13.96	
1449	1448.87	1448.87	1 0	N	34 E	.34	15.24 N	5.91 E	5.91 E	5.91 E	5.91 E	5.91 E	5.91 E	5.91 E	15.32	
1542	1541.86	1541.86	1 15	N	46 E	.37	16.48 N	6.58 E	6.58 E	6.58 E	6.58 E	6.58 E	6.58 E	6.58 E	16.70	
1635	1634.84	1634.84	1 20	N	54 E	.21	17.86 N	7.77 E	7.77 E	7.77 E	7.77 E	7.77 E	7.77 E	7.77 E	18.51	
1728	1727.82	1727.82	1 55	N	52 E	.63	19.20 N	9.37 E	9.37 E	9.37 E	9.37 E	9.37 E	9.37 E	9.37 E	20.58	
1821	1820.78	1820.78	2 5	N	42 E	.42	20.80 N	11.47 E	11.47 E	11.47 E	11.47 E	11.47 E	11.47 E	11.47 E	23.17	
1914	1913.72	1913.72	2 35	N	42 E	.54	23.01 N	13.83 E	13.83 E	13.83 E	13.83 E	13.83 E	13.83 E	13.83 E	26.39	
2007	2006.64	2006.64	2 45	N	52 E	.53	25.92 N	16.36 E	16.36 E	16.36 E	16.36 E	16.36 E	16.36 E	16.36 E	30.17	
2100	2099.54	2099.54	2 40	N	51 E	.10	28.75 N	19.52 E	19.52 E	19.52 E	19.52 E	19.52 E	19.52 E	19.52 E	34.46	
2193	2192.44	2192.44	2 40	N	46 E	.25	31.49 N	22.96 E	22.96 E	22.96 E	22.96 E	22.96 E	22.96 E	22.96 E	38.79	
2286	2285.34	2285.34	2 50	N	57 E	.59	34.35 N	26.20 E	26.20 E	26.20 E	26.20 E	26.20 E	26.20 E	26.20 E	43.08	
2379	2378.23	2378.23	2 30	N	53 E	.41	37.11 N	29.68 E	29.68 E	29.68 E	29.68 E	29.68 E	29.68 E	29.68 E	47.46	
2472	2471.13	2471.13	2 0	N	56 E	.55	39.58 N	33.23 E	33.23 E	33.23 E	33.23 E	33.23 E	33.23 E	33.23 E	51.66	
2565	2564.06	2564.06	2 0	N	55 E	.12	41.71 N	36.20 E	36.20 E	36.20 E	36.20 E	36.20 E	36.20 E	36.20 E	55.22	
2596	2595.04	2595.04	2 0	N	58 E	.26	42.32 N	37.09 E	37.09 E	37.09 E	37.09 E	37.09 E	37.09 E	37.09 E	56.27	
2637	2636.01	2636.01	2 0	N	59 E		43.11 N	38.28 E	38.28 E	38.28 E	38.28 E	38.28 E	38.28 E	38.28 E	57.65	

GULF ENERGY AND MINERALS COMPANY
CDU NO. 419
DRINKARD
LEA COUNTY, NEW MEXICO
MAGNETIC MULTISHOT SURVEY

PAGE 2
DATE OF SURVEY NOVEMBER 18, 1977
VERTICAL SECTION DIRECTION
CLOSURE
MS-6930

SPERRY-SUN, INC.
RECORD OF SURVEY

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

HORIZONTAL DISPLACEMENT = 57.66 FEET AT NORTH 41 DEG. 36 MIN. EAST (TRUE)

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GULF ENERGY AND MINERALS COMPANY
 CDU NO. 413
 DRINKARD
 LEA COUNTY, NEW MEXICO
 MAGNETIC MULTISHOT SURVEY

DATE OF SURVEY NOVEMBER 18, 1977
 VERTICAL SECTION DIRECTION
 MS-693C

PAGE 1

SPERRY-SUN, INC.

MEASURED DEPTH	TRUE VERTICAL DEPTH	SUB SEA TVD	COURSE		INCLINATION DEG MIN	COURSE		DOG-LEG SEV DEG/100	RECTANGULAR NORTH/SOUTH		COORDINATES EAST/WEST		VERTICAL SECTION
			ASSUME	DIRECTION DEG		DIRECTION DEG	TOTAL						
378	378.00	378.00	0 55	N	11	E	5.39	.00 N	.00 E	.00 E	.00 E	.00	.00
395	395.00	395.00	1 5	N	13	E	.55	.13 N	.03 E	.03 E	.12	.12	.12
425	425.99	425.99	1 0	N	20	E	.16	.65 N	.14 E	.14 E	.59	.59	.59
519	518.98	518.98	1 0	N	21	E	.02	2.28 N	.61 E	.61 E	2.11	2.11	2.11
612	611.96	611.96	1 0	N	16	E	.09	3.80 N	1.18 E	1.18 E	3.63	3.63	3.63
705	704.95	704.95	0 50	N	34	E	.36	5.34 N	1.70 E	1.70 E	5.12	5.12	5.12
799	797.94	797.94	0 45	N	17	E	.27	6.58 N	2.30 E	2.30 E	6.52	6.52	6.52
891	890.93	890.93	0 45	N	37	E	.28	7.82 N	3.40 E	3.40 E	7.75	7.75	7.75
984	983.92	983.92	0 50	N	17	E	.31	8.89 N	3.96 E	3.96 E	8.91	8.91	8.91
1077	1076.91	1076.91	0 50	N	20	E	.05	10.02 N	4.39 E	4.39 E	10.13	10.13	10.13
1170	1169.90	1169.90	0 50	N	11	E	.14	11.31 N	4.75 E	4.75 E	11.37	11.37	11.37
1263	1262.89	1262.89	1 0	N	30	E	.37	12.61 N	5.29 E	5.29 E	12.58	12.58	12.58
1356	1355.88	1355.88	0 45	N	21	E	.31	13.97 N	5.91 E	5.91 E	13.96	13.96	13.96
1449	1448.87	1448.87	1 0	N	34	E	.34	15.24 N	6.58 E	6.58 E	15.32	15.32	15.32
1542	1541.86	1541.86	1 15	N	46	E	.37	16.48 N	7.77 E	7.77 E	16.70	16.70	16.70
1635	1634.84	1634.84	1 20	N	54	E	.21	17.86 N	9.37 E	9.37 E	18.51	18.51	18.51
1729	1727.82	1727.82	1 55	N	52	E	.63	19.23 N	11.47 E	11.47 E	20.59	20.59	20.59
1821	1820.78	1820.78	2 5	N	42	E	.42	20.80 N	13.83 E	13.83 E	23.17	23.17	23.17
1914	1913.72	1913.72	2 35	N	42	E	.54	23.01 N	16.36 E	16.36 E	26.39	26.39	26.39
2007	2006.64	2006.64	2 45	N	52	E	.53	25.82 N	19.52 E	19.52 E	30.17	30.17	30.17
2100	2099.54	2099.54	2 40	N	51	E	.10	28.75 N	22.96 E	22.96 E	34.46	34.46	34.46
2193	2192.44	2192.44	2 40	N	46	E	.25	31.49 N	26.20 E	26.20 E	38.79	38.79	38.79
2286	2285.34	2285.34	2 50	N	57	E	.59	34.35 N	29.68 E	29.68 E	43.08	43.08	43.08
2379	2378.23	2378.23	2 30	N	53	E	.41	37.11 N	33.23 E	33.23 E	47.46	47.46	47.46
2472	2471.13	2471.13	2 0	N	56	E	.55	39.58 N	36.20 E	36.20 E	51.66	51.66	51.66
2565	2564.06	2564.06	2 0	N	55	E	.12	41.71 N	37.09 E	37.09 E	55.22	55.22	55.22
2596	2595.04	2595.04	2 0	N	58	E	.26	42.32 N	38.28 E	38.28 E	56.27	56.27	56.27
2537	2536.01	2536.01						43.11 N			57.66	57.66	57.66

1. The first part of the document is a list of names and addresses of the members of the committee. The names are listed in alphabetical order, and the addresses are given in full. The list is as follows:

2. The second part of the document is a list of the names and addresses of the members of the committee who have been elected to the office of the secretary. The names are listed in alphabetical order, and the addresses are given in full. The list is as follows:

3. The third part of the document is a list of the names and addresses of the members of the committee who have been elected to the office of the treasurer. The names are listed in alphabetical order, and the addresses are given in full. The list is as follows:

4. The fourth part of the document is a list of the names and addresses of the members of the committee who have been elected to the office of the clerk. The names are listed in alphabetical order, and the addresses are given in full. The list is as follows:

5. The fifth part of the document is a list of the names and addresses of the members of the committee who have been elected to the office of the auditor. The names are listed in alphabetical order, and the addresses are given in full. The list is as follows:

6. The sixth part of the document is a list of the names and addresses of the members of the committee who have been elected to the office of the assessor. The names are listed in alphabetical order, and the addresses are given in full. The list is as follows:

7. The seventh part of the document is a list of the names and addresses of the members of the committee who have been elected to the office of the collector. The names are listed in alphabetical order, and the addresses are given in full. The list is as follows:

8. The eighth part of the document is a list of the names and addresses of the members of the committee who have been elected to the office of the recorder. The names are listed in alphabetical order, and the addresses are given in full. The list is as follows:

9. The ninth part of the document is a list of the names and addresses of the members of the committee who have been elected to the office of the clerk of the court. The names are listed in alphabetical order, and the addresses are given in full. The list is as follows:

10. The tenth part of the document is a list of the names and addresses of the members of the committee who have been elected to the office of the clerk of the court. The names are listed in alphabetical order, and the addresses are given in full. The list is as follows:

GULF ENERGY AND MINERALS COMPANY
CDU NO. 419
DRINKARD
LEA COUNTY, NEW MEXICO
MAGNETIC MULTIISOT SURVEY

DATE OF SURVEY NOVEMBER 18, 1977
VERTICAL SECTION DIRECTION
FAGE 2
CLOSURE
MS-6930

SPERRY-SUN, INC.
RECORD OF SURVEY

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

HORIZONTAL DISPLACEMENT = 57.66 FEET AT NORTH 41 DEG. 36 MIN. EAST (TRUE)

GULF ENERGY AND MINERALS COMPANY
 CDU NO. 419
 DRINKARD
 LEA COUNTY, NEW MEXICO
 MAGNETIC MULTISHOT SURVEY

DATE OF SURVEY NOVEMBER 18, 1977
 VERTICAL SECTION DIRECTION
 MS-6930

PAGE 1

SPERRY-SUN, INC.

RECORD OF SURVEY		COURSE		DOG-LEG		TOTAL		RECTANGULAR		COORDINATES		VERTICAL	
SECTION		DIRECTION		SEV		NORTH/SOUTH		EAST/WEST		SECTION			
MEASURED	TRUE	SUB	INCLINATION	COURSE	DOG-LEG	RECTANGULAR	COORDINATES	RECTANGULAR	COORDINATES	RECTANGULAR	COORDINATES	RECTANGULAR	COORDINATES
DEPTH	DEPTH	SEA	DEG MIN	DEG	DEG/100	NORTH/SOUTH	EAST/WEST	NORTH/SOUTH	EAST/WEST	NORTH/SOUTH	EAST/WEST	NORTH/SOUTH	EAST/WEST
		TVD	ASSUME	VERTICAL TO 378 FT.									
378	378.00	378.00	0 55	N 11 E	5.39	.00 N	.00 E	.00 N	.00 E	.00 N	.00 E	.00 N	.00 E
395	395.00	395.00	1 5	N 13 E	.55	.13 N	.03 E	.13 N	.03 E	.13 N	.03 E	.13 N	.03 E
426	425.99	425.99	1 0	N 20 E	.16	.66 N	.14 E	.66 N	.14 E	.66 N	.14 E	.66 N	.14 E
519	518.98	518.98	1 0	N 21 E	.02	2.23 N	.61 E	2.23 N	.61 E	2.23 N	.61 E	2.23 N	.61 E
612	611.96	611.96	1 0	N 16 E	.09	3.80 N	1.18 E	3.80 N	1.18 E	3.80 N	1.18 E	3.80 N	1.18 E
705	704.95	704.95	0 50	N 34 E	.36	5.34 N	1.70 E	5.34 N	1.70 E	5.34 N	1.70 E	5.34 N	1.70 E
798	797.94	797.94	0 45	N 17 E	.27	6.68 N	2.30 E	6.68 N	2.30 E	6.68 N	2.30 E	6.68 N	2.30 E
891	890.93	890.93	0 45	N 37 E	.28	7.82 N	2.86 E	7.82 N	2.86 E	7.82 N	2.86 E	7.82 N	2.86 E
984	983.92	983.92	0 50	N 17 E	.31	8.89 N	3.40 E	8.89 N	3.40 E	8.89 N	3.40 E	8.89 N	3.40 E
1077	1076.91	1076.91	0 50	N 20 E	.05	10.02 N	3.96 E	10.02 N	3.96 E	10.02 N	3.96 E	10.02 N	3.96 E
1170	1169.90	1169.90	0 50	N 11 E	.14	11.31 N	4.39 E	11.31 N	4.39 E	11.31 N	4.39 E	11.31 N	4.39 E
1263	1262.89	1262.89	1 0	N 30 E	.37	12.61 N	4.75 E	12.61 N	4.75 E	12.61 N	4.75 E	12.61 N	4.75 E
1356	1355.88	1355.88	0 45	N 21 E	.31	13.97 N	5.29 E	13.97 N	5.29 E	13.97 N	5.29 E	13.97 N	5.29 E
1449	1448.87	1448.87	1 0	N 34 E	.34	15.24 N	5.91 E	15.24 N	5.91 E	15.24 N	5.91 E	15.24 N	5.91 E
1542	1541.86	1541.86	1 15	N 46 E	.37	16.43 N	6.58 E	16.43 N	6.58 E	16.43 N	6.58 E	16.43 N	6.58 E
1635	1634.84	1634.84	1 20	N 54 E	.21	17.86 N	7.77 E	17.86 N	7.77 E	17.86 N	7.77 E	17.86 N	7.77 E
1728	1727.82	1727.82	1 55	N 52 E	.63	19.20 N	9.37 E	19.20 N	9.37 E	19.20 N	9.37 E	19.20 N	9.37 E
1821	1820.78	1820.78	2 5	N 42 E	.42	20.80 N	11.47 E	20.80 N	11.47 E	20.80 N	11.47 E	20.80 N	11.47 E
1914	1913.72	1913.72	2 35	N 42 E	.54	23.01 N	13.83 E	23.01 N	13.83 E	23.01 N	13.83 E	23.01 N	13.83 E
2007	2006.64	2006.64	2 45	N 53 E	.41	25.82 N	16.36 E	25.82 N	16.36 E	25.82 N	16.36 E	25.82 N	16.36 E
2100	2099.54	2099.54	2 40	N 51 E	.10	28.75 N	19.52 E	28.75 N	19.52 E	28.75 N	19.52 E	28.75 N	19.52 E
2193	2192.44	2192.44	2 40	N 46 E	.25	31.49 N	22.96 E	31.49 N	22.96 E	31.49 N	22.96 E	31.49 N	22.96 E
2286	2285.34	2285.34	2 50	N 57 E	.59	34.35 N	26.20 E	34.35 N	26.20 E	34.35 N	26.20 E	34.35 N	26.20 E
2379	2378.23	2378.23	2 30	N 53 E	.41	37.11 N	29.68 E	37.11 N	29.68 E	37.11 N	29.68 E	37.11 N	29.68 E
2472	2471.13	2471.13	2 0	N 56 E	.55	39.58 N	33.23 E	39.58 N	33.23 E	39.58 N	33.23 E	39.58 N	33.23 E
2565	2564.06	2564.06	2 0	N 55 E	.12	41.71 N	36.20 E	41.71 N	36.20 E	41.71 N	36.20 E	41.71 N	36.20 E
2596	2595.04	2595.04	2 0	N 58 E	.26	42.32 N	37.09 E	42.32 N	37.09 E	42.32 N	37.09 E	42.32 N	37.09 E
2637	2636.01	2636.01	2 0	N 58 E		43.11 N	38.28 E	43.11 N	38.28 E	43.11 N	38.28 E	43.11 N	38.28 E

GULF ENERGY AND MINERALS COMPANY
CDU NO. 419
CRINKARD
LEA COUNTY, NEW MEXICO
MAGNETIC MULTISHOT SURVEY

DATE OF SURVEY NOVEMBER 18, 1977
VERTICAL SECTION DIRECTION
FAGE 2
CLOSURE
MS-693D

SPERRY-SUN, INC.
RECORD OF SURVEY

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

HORIZONTAL DISPLACEMENT = 57.66 FEET AT NORTH 41 DEG. 36 MIN. EAST (TRUE)

1. The first part of the document is a list of names and addresses of the members of the committee. The names are listed in alphabetical order, and the addresses are given in full. The list is as follows:

• THE COMMITTEE
ON THE
ECONOMIC SITUATION

2. The second part of the document is a report on the work of the committee during the year 1934. The report is divided into two main sections: a general survey of the economic situation and a detailed analysis of the various factors which have influenced the economy. The general survey shows that the economy has been characterized by a period of relative stability, but that there have been some signs of a decline in the rate of growth. The detailed analysis shows that the main factors which have influenced the economy are the changes in the demand for goods and services, the changes in the cost of production, and the changes in the government's fiscal and monetary policy.

3. The third part of the document is a list of recommendations for the government. The recommendations are based on the findings of the committee's report, and they are designed to help the government to improve the economic situation. The recommendations are as follows:

GULF ENERGY AND MINERALS COMPANY
 CDU NO. 419
 DRINKARD
 LEA COUNTY, NEW MEXICO
 MAGNETIC MULTISHOT SURVEY

PAGE 1
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 MS-693C

SPERRY-SUN, INC.												
RECORD OF SURVEY												
MEASURED DEPTH	TRUE VERTICAL DEPTH	SUB SEA TVD	COURSE		INCLINATION DEG MIN	DIRECTION DEG	DOG-LEG SEV DEG/100	TOTAL		RECTANGULAR NORTH/SOUTH	COORDINATES EAST/WEST	VERTICAL SECTION
			DEG	MIN				RECTANGULAR NORTH/SOUTH	COORDINATES EAST/WEST			
378	378.00	378.00	0	55	N	11	5.39	.00 N	.00 E	.00	.00	.00
395	395.00	395.00	1	5	N	13	.55	.13 N	.03 E	.12	.03	.12
426	425.99	425.99	1	0	N	20	.16	.66 N	.14 E	.59	.14	.59
519	518.98	518.98	1	0	N	21	.02	2.23 N	.61 E	2.11	.61	2.11
612	611.96	611.96	1	0	N	16	.09	3.80 N	1.18 E	3.63	1.18	3.63
705	704.95	704.95	0	50	N	34	.36	5.34 N	1.70 E	5.12	1.70	5.12
798	797.94	797.94	0	45	N	17	.27	6.68 N	2.30 E	6.52	2.30	6.52
891	890.93	890.93	0	45	N	37	.28	7.82 N	2.86 E	7.75	2.86	7.75
984	983.92	983.92	0	50	N	17	.31	8.89 N	3.40 E	8.51	3.40	8.51
1077	1076.91	1076.91	0	50	N	20	.05	10.02 N	3.96 E	10.13	3.96	10.13
1170	1169.90	1169.90	1	15	N	46	.37	11.31 N	4.39 E	11.37	4.39	11.37
1263	1262.89	1262.89	1	20	N	54	.21	12.61 N	4.75 E	12.58	4.75	12.58
1356	1355.88	1355.88	1	55	N	52	.63	13.97 N	5.29 E	13.96	5.29	13.96
1449	1448.87	1448.87	2	5	N	42	.42	15.24 N	5.91 E	15.32	5.91	15.32
1542	1541.86	1541.86	2	35	N	42	.54	16.48 N	6.58 E	16.70	6.58	16.70
1635	1634.84	1634.84	2	45	N	52	.53	17.86 N	7.77 E	18.51	7.77	18.51
1728	1727.82	1727.82	2	40	N	51	.10	19.20 N	9.37 E	20.58	9.37	20.58
1821	1820.78	1820.78	2	40	N	46	.25	20.80 N	11.47 E	23.17	11.47	23.17
1914	1913.72	1913.72	2	50	N	57	.59	23.01 N	13.83 E	26.39	13.83	26.39
2007	2006.64	2006.64	2	30	N	53	.41	25.82 N	16.36 E	30.17	16.36	30.17
2100	2099.54	2099.54	2	45	N	52	.53	28.75 N	19.52 E	34.46	19.52	34.46
2193	2192.44	2192.44	2	40	N	51	.10	31.49 N	22.96 E	38.79	22.96	38.79
2286	2285.34	2285.34	2	40	N	46	.25	34.35 N	26.20 E	43.08	26.20	43.08
2379	2378.23	2378.23	2	50	N	57	.59	37.11 N	29.68 E	47.46	29.68	47.46
2472	2471.13	2471.13	2	30	N	53	.41	39.58 N	33.23 E	51.66	33.23	51.66
2565	2564.06	2564.06	2	0	N	56	.55	41.71 N	36.20 E	55.22	36.20	55.22
2596	2595.04	2595.04	2	0	N	55	.12	42.32 N	37.09 E	56.27	37.09	56.27
2637	2636.01	2636.01	2	0	N	58	.26	43.11 N	38.28 E	57.66	38.28	57.66

[illegible]

GULF ENERGY AND MINERALS COMPANY
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MAGNETIC MULTISHOT SURVEY

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MS-6930

SPERRY-SUN, INC.
RECORD OF SURVEY

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

HORIZONTAL DISPLACEMENT = 57.86 FEET AT NORTH 41 DEG. 36 MIN. EAST (TRUE)

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GULF ENERGY AND MINERALS COMPANY
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DATE OF SURVEY NOVEMBER 18, 1977
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SPERRY-SUN, INC.

MEASURED DEPTH	TRUE VERTICAL DEPTH	SUB SEA TVD	RECORD OF SURVEY					RECTANGULAR NORTH/SOUTH	COORDINATES EAST/WEST	VERTICAL SECTION
			COURSE INCLINATION DEG MIN	COURSE DIRECTION DEG	DOG-LEG SEV DEG/100	TOTAL				
							ASSUME VERTICAL TO 378 FT.			
378	378.00	379.00	0 55	N	11 E	5.39	.00 N	.00 E	.00	
395	395.00	395.00	1 5	N	13 E	.55	.13 N	.03 E	.12	
426	425.93	425.99	1 0	N	20 E	.16	.66 N	.14 E	.59	
519	518.98	518.98	1 0	N	21 E	.02	2.28 N	.61 E	2.11	
612	611.96	611.96	1 0	N	16 E	.09	3.80 N	1.18 E	3.63	
705	704.95	704.95	0 50	N	34 E	.36	5.34 N	1.70 E	5.12	
793	797.94	797.94	0 45	N	17 E	.27	6.63 N	2.30 E	6.52	
891	890.93	890.93	0 45	N	37 E	.28	7.82 N	2.86 E	7.75	
984	983.92	983.92	0 50	N	17 E	.31	8.93 N	3.40 E	8.91	
1077	1076.91	1076.91	0 50	N	20 E	.05	10.02 N	3.96 E	10.13	
1170	1169.90	1169.90	0 50	N	11 E	.14	11.31 N	4.39 E	11.37	
1263	1262.89	1262.89	1 0	N	30 E	.37	12.61 N	4.75 E	12.58	
1356	1355.88	1355.88	0 45	N	21 E	.31	13.97 N	5.29 E	13.96	
1449	1448.87	1448.87	1 0	N	34 E	.34	15.24 N	5.91 E	15.32	
1542	1541.86	1541.86	1 15	N	46 E	.37	16.48 N	6.58 E	16.70	
1635	1634.84	1634.84	1 20	N	54 E	.21	17.86 N	7.77 E	18.51	
1728	1727.82	1727.82	1 55	N	52 E	.63	19.20 N	9.37 E	20.58	
1821	1820.78	1820.78	2 5	N	42 E	.42	20.80 N	11.47 E	23.17	
1914	1913.72	1913.72	2 35	N	42 E	.54	23.01 N	13.83 E	26.39	
2007	2006.64	2006.64	2 40	N	51 E	.10	25.82 N	16.36 E	30.17	
2100	2099.54	2099.54	2 40	N	46 E	.25	28.75 N	19.52 E	34.46	
2193	2192.44	2192.44	2 50	N	53 E	.41	31.49 N	22.96 E	38.79	
2286	2285.34	2285.34	2 0	N	56 E	.55	34.35 N	26.20 E	43.08	
2379	2378.23	2378.23	2 0	N	55 E	.12	37.11 N	29.68 E	47.46	
2472	2471.13	2471.13	2 0	N	58 E	.26	39.58 N	33.23 E	51.66	
2565	2564.06	2564.06	2 0	N	56 E	.55	41.71 N	36.20 E	55.22	
2596	2595.04	2595.04	2 0	N	55 E	.12	42.32 N	37.09 E	56.27	
2637	2636.01	2636.01	2 0	N	58 E	.26	43.11 N	38.28 E	57.66	

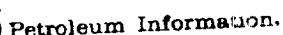
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87													

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SPERRY-SUN, INC.
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** THE CALCULATIONS ARE BASED ON THE MINIMUM RADIUS OF CURVATURE METHOD **
HORIZONTAL DISPLACEMENT = 57.56 FEET AT NORTH 41 DEG. 36 MIN. EAST (TRUE)



13 3/8" at 378' w/400 sx
8 5/8" at 2637' w/700 sx
5 1/2" at 6734' w/1000 sx

[illegible]

IP (Drinkard) Perfs 6501-6618 P 9 BO'D + 200 BW. Pot band on
24 hr test. GOR 7667; gtv 38.8

CONTR MGF #10 DPRS FILE # 3462' GL PD 6700' NT

F.R. 10-31-77
(Drinkard)
(BHL: 1351' FSL, 13' FEL of Sec 29, T21S, 134E)

11-15-77 TD 396'; Rng Csg
11-28-77 Drlg 4215' 1m
12-5-77 Drlg 6036' 1m
12-13-77 TD 6734'; WOC
12-19-77 TD 6734'; Rng Tbg
Ferf (DRKD) 6501-03', 6530-32', 6573-75'
6616-18' w/2 SPF
Acid (6501-6618') 3000 gals

1-3-78 TD 6734'; TOP
Ppd 36 BO + 247 BW in 24 hrs (6501-6618')

1-9-78 TD 6734'; TOP
1-16-78 TD 6734'; TOP
1-20-78 TD 6734'; WOSP
Ppd 9 BO + 200 BW in 24 hrs (6501-6618')

2-3-20 NM

LEA
GULF OIL CORP.

Drinkard
419 Central Drinkard Unit Page #2
Sec 28, T21S, R37E

2-13-78 TD 6734'; Complete
LOG TOPS: Rustler 1170', Base Salt 2402',
Yates 2592', Seven Rivers 2824', Queen 3353',
Grayburg 3629', San Andres 3842', Glorieta
5064', Blinbry 5472', Tubb 6062', Drinkard 6393'
2-13-78 LOG TOPS: DENL, GRL
COMPLETION ISSUED

2-3-20 MDS
IC 30-025-70285-77