

sperry-sun



J. A. Fouché
President

FIELD: Bell Lake
LEASE: Bell Lake Unit
WELL : No. 18

November 17, 1976

Continental Oil Company
P.O. Box 460
Hobbs, NM 88240

Attention: Jim Glover

Dear Mr. Glover:

The enclosed film and five folders contains the results of our Magnetic Gyroscopic survey job no. S03-6612, Bell Lake Unit lease, well no. 18, Bell Lake field, in Lea County, New Mexico on November 16, 1976. This survey was from surface to a depth of 12,460 feet.

One of these folder contains the original of the field data sheets, and computation sheets, also included is a signed certification.

The operator on this survey was Mike Jackson.
It has been a pleasure to perform this survey for you.

Very truly yours,

SPERRY-SUN, INC.



Tom Hamlin
District Manager

TH/jp
enclosures

SPERRY-SUN INC.													
RECORD OF SURVEY													
MEASURED DEPTH	TRUE VERTICAL DEPTH	SUB SEA TVD	COURSE		INCLINATION DEG MIN	COURSE		DIRECTION	SEV DEG/100	RECTANGULAR NORTH/SOUTH		COORDINATES EAST/WEST	VERTICAL SECTION
			DEG MIN	ORIGIN AT SURFACE		DEG MIN	DEG/100			DEG N	DEG E		
200	199.99	199.99	C 35	N 79 5 W			.29			.19 N	1.00 W		-1.99
400	399.98	399.98	C 35	N 42 37 W			.18			1.13 N	2.69 W		-2.62
600	599.98	599.98	C 30	N 43 7 W			.04			2.52 N	3.97 W		-3.87
800	799.96	799.96	C 55	N 69 44 W			.26			3.71 N	6.07 W		-5.85
1000	999.93	999.93	C 55	N 81 16 W			.09			4.51 N		9.15 W	-6.88
1200	1199.91	1199.91	C 45	N 31 59 W			.04			5.00 N		12.40 W	-12.19
1400	1399.88	1399.88	C 45	N 74 11 W			.14			5.60 N		15.40 W	-15.11
1600	1599.85	1599.85	C 20	N 61 46 W			.31			7.05 N		18.70 W	-13.33
1800	1799.81	1799.81	C 55	N 73 26 W			.24			8.61 N		22.34 W	-21.82
2000	1999.79	1999.79	C 35	N 66 1 W			.17			9.48 N		24.81 W	-24.23
2200	2199.78	2199.78	C 35	N 72 36 W			.03			10.20 N		26.71 W	-26.09
2400	2399.77	2399.77	C 20	N 79 15 W			.13			10.61 N		28.25 W	-27.61
2600	2599.77	2599.77	C 20	S 86 10 W			.04			10.68 N		29.40 W	-28.75
2800	2799.76	2799.76	C 25	S 52 22 W			.12			10.20 N		30.56 W	-29.94
3000	2999.76	2999.76	C 5	S 47 13 E			.22			9.65 N		31.03 W	-30.43
3200	3199.76	3199.76	C 10	N 28 48 W			.12			9.81 N		31.06 W	-30.40
3400	3399.76	3399.76	C 15	S 87 23 E			.18			10.05 N		30.77 W	-30.19
3600	3599.75	3599.75	C 40	N 68 0 E			.23			10.46 N		29.25 W	-28.62
3800	3799.73	3799.73	C 0	S 86 33 E			.25			10.79 N		26.43 W	-25.78
4000	3999.68	3999.68	C 125	S 61 5 E			.34			9.49 N		22.53 W	-21.95
4200	4199.63	4199.63	C 15	S 62 27 E			.08			7.29 N		18.43 W	-17.99
4400	4399.58	4399.58	C 15	S 53 58 E			.02			5.32 N		14.52 W	-14.21
4600	4599.51	4599.51	C 45	S 59 9 E			.26			2.80 N		3.95 W	-9.72
4800	4799.36	4799.36	C 35	S 61 24 E			.42			.93 S		3.37 W	-3.42
5000	4999.17	4999.17	C 25	S 64 41 E			.11			4.89 S		4.40 E	4.11
5200	5199.03	5199.03	C 50	S 61 55 E			.30			8.20 S		11.03 E	10.59
5400	5398.92	5398.92	C 0	S 51 13 E			.20			11.89 S		16.57 E	15.89
5600	5598.81	5598.81	C 50	S 47 29 E			.10			16.24 S		21.65 E	20.70
5800	5798.73	5798.73	C 20	S 42 51 E			.26			20.10 S		25.59 E	24.42

CONTINENTAL IL COMPANY
 BELL LAKE UNIT NO. 18
 BELL LAKE FIELD
 LEA COUNTY, NEW MEXICO
 GYROSCOPIC DIRECTIONAL SURVEY

DATE OF SURVEY NOVEMBER 16, 1978
 VERTICAL SECTION DIRECTION
 CLOSURE
 JOB NUMBER SU3-6612

SPERRY-SUN INC.
 RECORD OF SURVEY

MEASURED DEPTH	VERTICAL DEPTH	SUB SEA TWD	COURSE INCLINATION DEG MIN	COURSE DIRECTION DEC MIN	DEC-LEG SEV DEC/100	RECTANGULAR NORTH/SOUTH	COORDINATES EAST/WEST	VERTICAL SECTION
6000	5998.65	5398.66	1 35	S 33 57 E	.17	24.10 S	28.72 E	27.31
6200	6198.60	6198.60	1 10	S 41 11 E	.23	27.93 S	31.60 E	29.97
6400	6398.55	6398.55	1 10	S 36 25 E	.05	31.10 S	34.15 E	32.34
6600	6598.53	6598.53	0 50	S 29 39 E	.18	34.00 S	36.08 E	34.10
6800	6798.51	6798.51	1 0	S 47 45 E	.17	36.44 S	38.09 E	35.97
7000	6998.48	6998.48	0 55	S 24 0 E	.20	39.07 S	40.03 E	37.76
7200	7198.45	7198.45	1 5	S 32 7 E	.11	42.13 S	41.69 E	39.24
7400	7398.41	7398.41	1 0	S 19 30 E	.12	45.38 S	43.28 E	40.84
7600	7598.35	7598.35	1 50	S 19 53 E	.42	50.03 S	44.95 E	42.05
7800	7798.27	7798.27	1 20	S 22 9 E	.25	55.20 S	46.91 E	43.72
8000	7998.23	7998.23	1 0	S 57 24 E	.39	58.29 S	49.26 E	45.89
8200	8198.21	8198.21	0 20	S 30 40 E	.36	59.73 S	51.03 E	47.57
8400	8398.21	8398.21	0 15	S 51 47 E	.07	60.50 S	51.67 E	49.17
8600	8598.20	8598.20	0 30	S 52 2 E	.13	61.31 S	52.70 E	49.15
8800	8798.19	8798.19	0 45	S 33 9 E	.10	62.94 S	54.10 E	50.46
9000	8998.18	8998.18	0 5	S 10 36 W	.35	64.18 S	54.79 E	51.08
9200	9198.17	9198.17	0 40	S 69 8 W	.31	64.74 S	53.68 E	49.93
9400	9398.09	9398.09	2 15	N 76 56 W	.87	64.27 S	48.77 E	45.00
9600	9597.95	9597.95	2 5	N 88 E W	.22	61.91 S	41.62 E	38.05
9800	9797.85	9797.85	1 25	S 63 47 W	.80	61.53 S	36.08 E	32.54
10000	9997.80	9997.80	1 10	S 22 42 W	.47	64.50 S	33.07 E	29.37
10200	10197.74	10197.74	1 40	S 13 22 E	.50	60.20 S	32.96 E	29.00
10400	10397.62	10397.62	2 10	S 57 16 E	.75	74.08 S	36.01 E	32.57
10600	10597.48	10597.48	2 5	S 70 37 E	.25	77.33 S	43.42 E	38.98
10800	10797.38	10797.38	1 40	N 87 44 E	.41	78.42 S	49.76 E	45.25
11000	10997.15	10997.15	3 50	N 45 44 E	1.41	73.64 S	57.45 E	53.20
11200	11196.56	11196.56	4 55	N 43 44 E	.55	62.78 S	68.16 E	64.51
11400	11395.67	11395.67	5 50	N 41 43 E	.47	42.00 S	80.85 E	77.95
11600	11594.54	11594.54	6 20	N 45 40 E	.33	33.70 S	95.50 E	93.45
11800	11793.46	11793.46	5 35	N 47 36 E	.39	19.43 S	110.50 E	109.30

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 BELL LAKE UNIT NO. 18
 BELL LAKE FIELD
 LEA COUNTY, NEW MEXICO
 GYROSCOPIC DIRECTIONAL SURVEY

PAGE 3
 DATE OF SURVEY NOVEMBER 16, 1976
 VERTICAL SECTION DIRECTION CLOSURE
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SPERRY-SUN INC.

RECORD OF SURVEY

MEASURED DEPTH	TRUE VERTICAL DEPTH	SUB SEA TVD	COURSE INCLINATION DEG MIN	COURSE		DOG-LEG SEV	RECTANGULAR		TOTAL	COORDINATES		VERTICAL SECTION
				DIRECTION DEG MIN	DIRECTION DEG MIN		NORTH/SOUTH	EAST/WEST				
12000	11992.63	11992.63	4 50	N 53 39 E		.46	7.88 S	124.55 E				123.90
12200	12191.93	12191.93	4 45	N 63 51 E		.43	.77 N	138.77 E				128.59
12400	12391.25	12391.25	4 40	N 69 47 E		.25	7.23 N	153.84 E				154.00
12460	12451.05	12451.05	4 45	N 68 49 E		.19	8.97 N	158.44 E				153.70

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

HORIZONTAL DISPLACEMENT = 158.70 FEET AT NORTH 85 DEG. 46 MIN. EAST (TRUE)

STATE OF Texas
COUNTY/~~PARISH~~ OF Ector

I/We, Mike Jackson

_____ in the employ of the Directional Surveying Department of
Sperry Sun Well Surveying Company, did on the 16th day of November 1976
and the _____ day of _____ 19____
and the _____ day of _____ 19____
and the _____ day of _____ 19____

respectively conduct or supervise the taking of a Multi-shot/~~Single Shot~~ Directional survey by method in-
dicated:

from a depth of -0- feet to 12,460 feet by Gyroscopic/~~Magnetic~~/Oriented Survey
depth of _____ feet to _____ feet by Gyroscopic/Magnetic/Oriented Survey
depth of _____ feet to _____ feet by Gyroscopic/Magnetic/Oriented Survey
depth of _____ feet to _____ feet by Gyroscopic/Magnetic/Oriented Survey
with records of inclination and direction of inclination being taken at approximately every 200 feet.

This survey was conducted at the request of Continental Oil Company

for their Bell Lake Unit lease Well No. 18

_____ Survey _____ Lea _____ County/~~Parish~~,

State of New Mexico in the Bell Lake Field.

I/We certify that this is a true and correct report of such survey and that it affords a true and correct repre-
sentation of our findings as to the nature and conditions of the well at the time the survey was/surveys were
made.

Michael W. Jackson

STATE OF _____
COUNTY/~~PARISH~~ OF _____

Before me the undersigned authority/authorities, on this day personally appeared _____

known to me to be the person/persons whose name is/names are subscribed to this instrument. who after being
by me duly sworn on oath, states that he has/they have knowledge of all the facts stated above and that the same
is a true and correct statement of the facts therein recited.

Subscribed and sworn to before me this the _____ day of _____ 19____

Notary Public in and for _____