

Scientific Drilling
Midland, Texas

Keeper Survey
for

Browning

Job Number : 32K0997424
Well Number : Byers No.1
Site Location : Lea County, New Mexico
Latitude : 32.897
Survey Date(s) : 20-SEP-1997
S.D.C. personnel : Jeff Cossey
Calculation Method : Minimum Curvature
Survey Depth Zero : Floor+5'
Proposed Direction : 180.00
Depth Unit : Feet

Comments :

30-025-33407
Surface
C-29-16s-39e
995/N & 1932/W
BHL
F-29-16s-39e
1662/N & 1932/W

Outrun Survey
Browning

Well number : Byers No.1

Date : 20-SEP-1997

Measured Depth	Vertical Depth	Vent. Section	Inc Deg	Azimuth Deg	Coordinates		D-leg /100ft
					Latitude	Departure	
0.0	0.00	0.0	0.00	0.00	0.00	0.00	0.00
100.0	100.00	0.0	0.33	266.23	-0.02	-0.29	0.33
200.0	200.00	0.1	0.26	263.85	-0.06	-0.80	0.07
300.0	300.00	0.1	0.12	280.56	-0.07	-1.13	0.15
400.0	400.00	0.0	0.07	290.40	-0.03	-1.29	0.05
500.0	500.00	0.1	0.12	234.91	-0.06	-1.43	0.09
600.0	600.00	0.3	0.25	201.53	-0.32	-1.59	0.17
700.0	700.00	0.6	0.12	180.74	-0.63	-1.68	0.14
800.0	800.00	0.8	0.15	220.54	-0.84	-1.76	0.10
900.0	900.00	1.1	0.20	202.96	-1.10	-1.92	0.07
1000.0	999.99	1.5	0.25	159.59	-1.47	-1.91	0.17
1100.0	1099.99	1.8	0.23	117.18	-1.76	-1.66	0.17
1200.0	1199.99	2.0	0.28	138.36	-2.04	-1.32	0.11
1300.0	1299.99	2.5	0.38	140.82	-2.48	-0.94	0.10
1400.0	1399.99	3.0	0.41	128.59	-2.96	-0.46	0.09
1500.0	1499.99	3.2	0.43	100.16	-3.25	0.20	0.21
1600.0	1599.98	3.1	0.43	57.86	-3.12	0.88	0.31
1700.0	1699.98	2.7	0.37	55.71	-2.73	1.47	0.06
1800.0	1799.98	2.4	0.35	57.90	-2.39	2.00	0.03
1900.0	1899.99	2.2	0.21	86.29	-2.21	2.44	0.19
2000.0	1999.99	2.2	0.25	85.07	-2.18	2.83	0.04
2100.0	2099.97	2.1	0.20	62.92	-2.08	3.20	0.10
2200.0	2199.97	1.9	0.26	74.15	-1.94	3.57	0.07
2300.0	2299.97	1.8	0.30	76.18	-1.82	4.04	0.05
2400.0	2399.97	1.6	0.39	69.53	-1.64	4.62	0.09
2500.0	2499.97	1.5	0.39	92.23	-1.53	5.29	0.15
2600.0	2599.97	1.7	0.44	115.33	-1.71	5.97	0.17
2700.0	2699.96	2.0	0.39	118.42	-2.03	6.62	0.06
2800.0	2799.96	2.4	0.37	138.37	-2.44	7.13	0.13
2900.0	2899.96	2.9	0.33	139.13	-2.89	7.53	0.04
3000.0	2999.96	3.3	0.35	126.89	-3.29	7.96	0.08
3100.0	3099.96	3.7	0.43	123.53	-3.68	8.52	0.08
3200.0	3199.95	4.1	0.44	119.29	-4.08	9.17	0.03
3300.0	3299.95	4.5	0.47	118.34	-4.46	9.86	0.03
3400.0	3399.95	4.9	0.45	123.53	-4.87	10.55	0.05
3500.0	3499.94	5.2	0.32	103.75	-5.16	11.15	0.18
3600.0	3599.94	5.2	0.34	78.90	-5.17	11.71	0.14
3700.0	3699.94	5.0	0.43	70.73	-4.99	12.36	0.10
3800.0	3799.94	4.6	0.61	54.13	-4.55	13.14	0.24

Outrun Survey
Browning

Well number : Byers No.1

Date : 20-SEP-1997

Measured Depth	Vertical Depth	Vert. Section	Inc Deg	Azimuth Deg	Coordinates		D-leg
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3900.0	3899.93	4.0	0.55	58.54	-3.99	13.98	0.07
4000.0	3999.93	3.5	0.63	60.76	-3.47	14.87	0.08
4100.0	4099.92	2.8	0.66	52.20	-2.85	15.80	0.10
4200.0	4199.91	2.1	0.79	55.35	-2.10	16.82	0.14
4300.0	4299.90	1.3	0.72	54.67	-1.35	17.90	0.07
4400.0	4399.89	0.5	0.85	52.19	-0.53	19.00	0.13
4500.0	4499.88	-0.4	0.82	45.58	0.42	20.10	0.10
4600.0	4599.87	-1.3	0.72	47.48	1.34	21.07	0.11
4700.0	4699.86	-2.2	0.75	38.14	2.28	21.93	0.12
4800.0	4799.86	-3.4	0.80	33.85	3.38	22.72	0.08
4900.0	4899.85	-4.4	0.58	37.58	4.36	23.42	0.22
5000.0	4999.84	-5.2	0.68	36.16	5.24	24.08	0.10
5100.0	5099.84	-6.2	0.62	31.46	6.17	24.71	0.08
5200.0	5199.83	-7.0	0.56	36.06	7.03	25.28	0.08
5300.0	5299.83	-7.8	0.55	39.96	7.80	25.88	0.04
5400.0	5399.82	-8.6	0.65	36.56	8.62	26.52	0.10
5500.0	5499.81	-9.6	0.67	31.48	9.57	27.16	0.06
5600.0	5599.81	-10.5	0.68	36.52	10.54	27.82	0.06
5700.0	5699.80	-11.5	0.59	28.10	11.48	28.42	0.13
5800.0	5799.80	-12.4	0.67	33.61	12.42	28.99	0.10
5900.0	5899.79	-13.5	0.75	27.61	13.48	29.61	0.10
6000.0	5999.78	-14.5	0.66	33.33	14.54	30.23	0.11
6100.0	6099.77	-15.6	0.67	21.91	15.56	30.77	0.13
6200.0	6199.77	-16.7	0.78	21.55	16.74	31.23	0.11
6300.0	6299.76	-18.0	0.76	27.27	17.96	31.79	0.08
6400.0	6399.75	-19.0	0.67	35.23	19.03	32.43	0.14
6500.0	6499.74	-19.9	0.62	45.26	19.88	33.15	0.12
6600.0	6599.74	-20.6	0.61	49.43	20.61	33.94	0.04
6700.0	6699.73	-21.4	0.61	37.47	21.38	34.66	0.13
6800.0	6799.73	-22.2	0.61	34.31	22.24	35.28	0.03
6900.0	6899.72	-23.2	0.58	19.66	23.15	35.75	0.15
7000.0	6999.72	-24.0	0.45	11.54	24.01	36.00	0.15
7072.0	7071.71	-24.6	0.59	15.44	24.65	36.16	0.20

At Bottom Hole Location: Measured Depth
= 7072.0

Horiz. Displ.
= 43.758

Closure Dir.
= 55.720

Survey Report

OPERATOR: Browning Oil Company, Inc.

START: 9/19/97

WELL: Byers #1 ReEntry

FINISH: 10/2/97

LOCATION: Lea County, NM

PROPOSED DIRECTION: 180.0

MIN. CURVATURE CALCULATIONS

SUR NUM	MD ft	INCL. °	TRUE AZM. °	TVD ft	N-S ft	E-W ft	SECT. ft	DLS °/100 ft
Tie-in	7784.0	0.10	295.80	7783.7	29.8	33.0	-29.8	0.0
1	7878.0	1.10	153.10	7877.7	29.0	33.3	-29.0	1.26
2	7909.0	3.30	180.80	7908.7	27.9	33.5	-27.9	7.68
3	7939.0	7.70	184.90	7938.5	25.0	33.3	-25.0	14.72
4	7970.0	12.60	184.20	7969.0	19.6	32.8	-19.6	15.81
5	8002.0	18.80	184.60	7999.8	10.9	32.2	-10.9	19.38
6	8034.0	25.80	184.70	8029.4	-1.2	31.2	1.2	21.88
7	8066.0	32.00	184.60	8057.4	-16.6	29.9	16.6	19.38
8	8098.0	37.80	184.50	8083.6	-34.8	28.5	34.8	18.13
9	8128.0	43.70	184.30	8106.4	-54.3	27.0	54.3	19.67
10	8159.0	49.30	183.50	8127.7	-76.8	25.5	76.8	18.16
11	8190.0	54.10	182.50	8146.9	-101.0	24.2	101.0	15.69
12	8221.0	59.20	181.70	8163.9	-126.9	23.3	126.9	16.59
13	8251.0	64.90	180.60	8178.0	-153.4	22.7	153.4	19.27
14	8284.0	70.10	180.60	8190.6	-183.9	22.4	183.9	15.76
15	8315.0	74.70	180.90	8200.0	-213.4	22.0	213.4	14.87
16	8346.0	80.30	181.70	8206.7	-243.7	21.3	243.7	18.24
17	8379.0	81.50	182.80	8211.9	-276.2	20.1	276.2	4.90
18	8410.0	83.40	183.20	8216.0	-306.9	18.5	306.9	6.26
19	8441.0	83.90	182.30	8219.4	-337.7	17.0	337.7	3.31
20	8472.0	84.00	182.30	8222.7	-368.5	15.7	368.5	0.32
21	8504.0	81.40	182.40	8226.7	-400.2	14.4	400.2	8.13
22	8537.0	78.80	182.50	8232.4	-432.7	13.0	432.7	7.88
23	8566.0	78.30	183.70	8238.2	-461.0	11.5	461.0	4.41
24	8600.0	76.00	182.90	8245.7	-494.1	9.6	494.1	7.14
25	8632.0	73.90	182.70	8254.0	-525.0	8.1	525.0	6.59
26	8663.0	71.70	184.90	8263.2	-554.5	6.1	554.5	9.81
27	8695.0	69.30	183.10	8273.9	-584.6	4.0	584.6	9.18

Survey Report

OPERATOR: Browning Oil Company, Inc. START: 9/19/97
WELL: Byers #1 ReEntry FINISH: 10/2/97
LOCATION: Lea County, NM

PROPOSED DIRECTION: 180.0

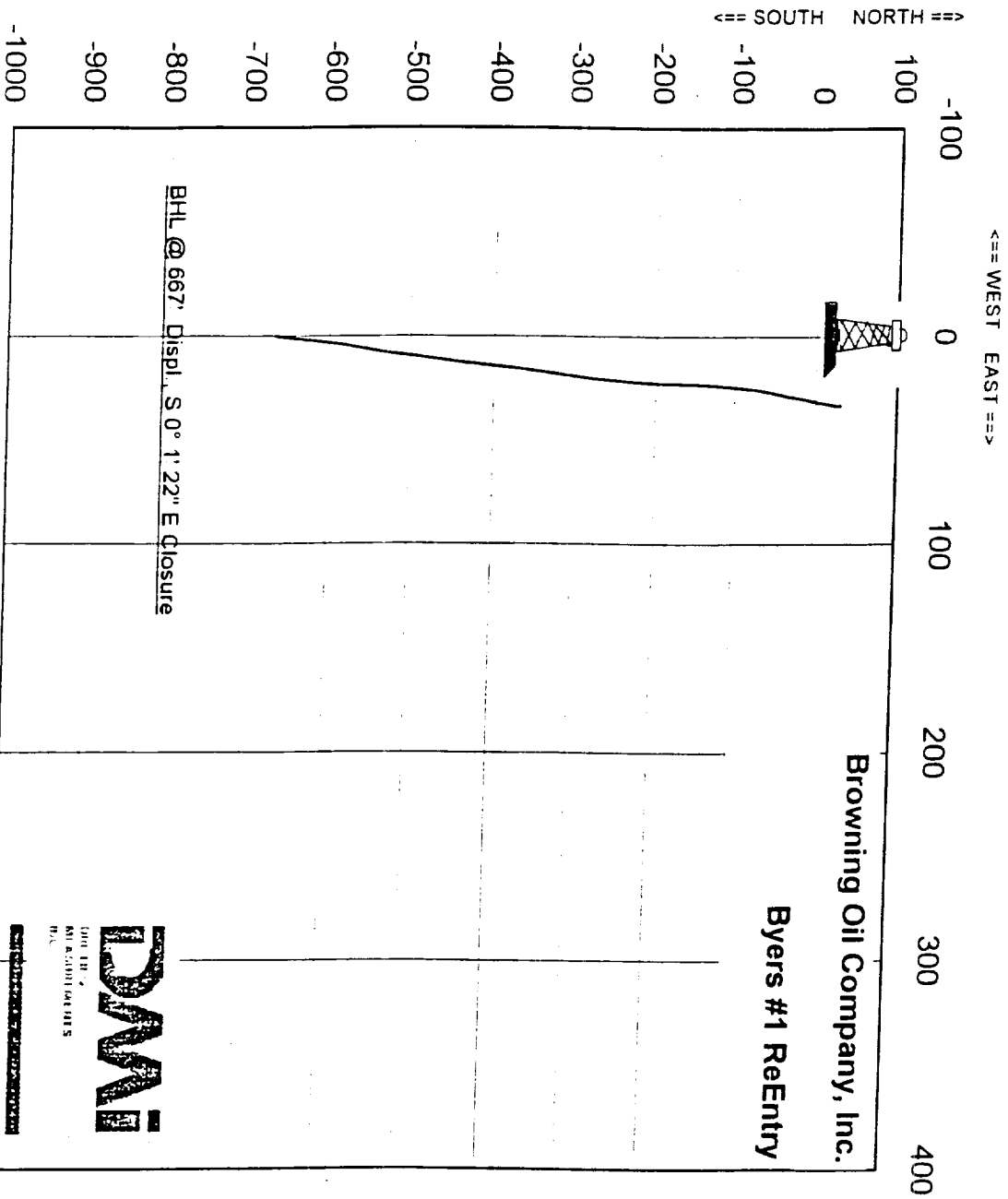
MIN. CURVATURE CALCULATIONS

SUR NUM	MD ft	INCL °	TRUE AZM. °	TVD ft	N-S ft	E-W ft	SECT. ft	DLS °/100 ft
28	8728.0	69.60	182.50	8285.5	-615.5	2.5	615.5	1.93
Bit	8783.0	69.60	182.50	8304.7	-667.0	0.3	667.0	0.00

BOTTOM HOLE LOCATION Byers #1 ReEntry

Closure Distance: 667.0 ft
Closure Bearing: 180.0 ° (S 0° 1' 22" E)
T.V.D.: 8304.7 ft
Coordinate N/S: 667.0 ft South
Coordinate E/W: 0.3 ft East

WELLBORE AS DRILLED



DMA
DOW TECHNOLOGIES
P.L.C.

Browning Oil Company, Inc.

WELLBORE AS DRILLED

Byers #1 ReEntry

