



INTEQ

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Record of Survey

David H. Arrington Oil & Gas, Inc.

Royal Stimulator #1
Lea County, New Mexico

Tuesday, February 20, 2001

David H. Arrington Oil & Gas, Inc.
Royal Stimulator No. 1

slot #1
UNKNOWN
LEA COUNTY, NEW MEXICO

S U R V E Y L I S T I N G

by
Baker Hughes INTEQ

Your ref : MWD st-01
Our ref : svy1565
License :

Date printed : 20-Feb-2001
Date created : 20-Feb-2001
Last revised : 20-Feb-2001

Field is centred on n33 30 0.000,w103 30 0
Structure is centred on 802946.000,720589.000,999.00000,N

Slot location is n32 58 37.421,w103 20 43.702
Slot grid coordinates are N 720589.000, E 802946.000
Slot local coordinates are 0.00 N 0.00 E

Projection type: mercator - New Mexico East (3001), Spheroid: Clarke - 1866
Reference North is Grid North

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SURVEY LISTING Page 1
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Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	R E C T A N G U L A R C O O R D I N A T E S	Dogleg Deg/100ft	Vert Sect
0.00	0.00	0.00	0.00	0.00 N 0.00 E	0.00	0.00
100.00	0.66	308.16	100.00	0.36 N 0.45 W	0.66	-0.19
200.00	0.54	281.48	199.99	0.81 N 1.37 W	0.30	-0.31
300.00	0.47	253.06	299.99	0.78 N 2.22 W	0.26	0.00
400.00	0.44	248.03	399.99	0.52 N 2.97 W	0.05	0.50
500.00	0.63	249.83	499.98	0.18 N 3.84 W	0.19	1.10
600.00	0.45	237.17	599.98	0.22 S 4.69 W	0.22	1.76
700.00	0.42	261.52	699.97	0.48 S 5.38 W	0.18	2.24
800.00	0.44	259.49	799.97	0.61 S 6.12 W	0.03	2.60
900.00	0.53	258.11	899.97	0.77 S 6.95 W	0.09	3.03
1000.00	0.57	252.40	999.96	1.02 S 7.88 W	0.06	3.57
1100.00	0.50	261.45	1099.96	1.23 S 8.78 W	0.11	4.07
1200.00	0.43	265.34	1199.96	1.33 S 9.59 W	0.08	4.43
1300.00	0.37	275.05	1299.95	1.33 S 10.28 W	0.09	4.67
1400.00	0.25	331.92	1399.95	1.11 S 10.71 W	0.32	4.60
1500.00	0.32	336.40	1499.95	0.66 S 10.93 W	0.07	4.24
1600.00	0.37	321.49	1599.95	0.15 S 11.24 W	0.10	3.87
1700.00	0.37	321.74	1699.95	0.35 N 11.64 W	0.00	3.53
1800.00	0.26	323.43	1799.95	0.78 N 11.97 W	0.11	3.23
1900.00	0.43	319.89	1899.94	1.25 N 12.34 W	0.17	2.91
2000.00	0.50	330.68	1999.94	1.91 N 12.79 W	0.11	2.44
2100.00	0.42	302.79	2099.94	2.49 N 13.31 W	0.23	2.07
2200.00	0.21	301.49	2199.94	2.78 N 13.78 W	0.22	1.95
2300.00	0.28	347.54	2299.93	3.11 N 13.98 W	0.20	1.70
2400.00	0.26	340.06	2399.93	3.56 N 14.11 W	0.04	1.32

All data is in feet unless otherwise stated.

Coordinates from slot #1 and TVD from rotary table.

Bottom hole distance is 93.99 on azimuth 221.11 degrees from wellhead.

Vertical section is from S 0.00 E 0.00 on azimuth 199.36 degrees.

Calculation uses the minimum curvature method.

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 UNKNOWN, LEA COUNTY, NEW MEXICO

SURVEY LISTING Page 2
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Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	R E C T A N G U L A R C O O R D I N A T E S	Dogleg Deg/100ft	Vert Sect
2500.00	0.41	339.17	2499.93	4.10 N	14.32 W	0.16
2600.00	0.35	347.07	2599.93	4.74 N	14.51 W	0.08
2700.00	0.54	18.53	2699.93	5.49 N	14.43 W	0.30
2800.00	0.57	30.25	2799.92	6.37 N	14.03 W	0.12
2900.00	0.62	31.89	2899.92	7.26 N	13.50 W	0.06
3000.00	0.37	38.30	2999.91	7.97 N	13.01 W	0.26
3100.00	0.37	31.51	3099.91	8.50 N	12.64 W	0.04
3200.00	0.54	24.04	3199.91	9.20 N	12.28 W	0.18
3300.00	0.64	23.12	3299.90	10.15 N	11.87 W	0.10
3400.00	0.60	34.40	3399.90	11.09 N	11.36 W	0.13
3500.00	0.50	16.58	3499.89	11.94 N	10.94 W	0.19
3600.00	0.57	15.61	3599.89	12.84 N	10.68 W	0.07
3700.00	0.64	7.92	3699.88	13.87 N	10.47 W	0.11
3800.00	0.66	3.81	3799.88	14.99 N	10.36 W	0.05
3900.00	0.80	4.51	3899.87	16.26 N	10.26 W	0.14
4000.00	0.87	5.30	3999.86	17.71 N	10.14 W	0.07
4100.00	0.89	357.50	4099.85	19.24 N	10.10 W	0.12
4200.00	0.91	347.81	4199.83	20.79 N	10.30 W	0.15
4300.00	0.57	355.49	4299.82	22.07 N	10.51 W	0.35
4400.00	0.43	355.60	4399.82	22.94 N	10.58 W	0.14
4500.00	0.51	353.22	4499.82	23.76 N	10.66 W	0.08
4600.00	0.62	352.06	4599.81	24.73 N	10.79 W	0.12
4700.00	0.61	351.59	4699.81	25.79 N	10.94 W	0.02
4800.00	0.52	338.71	4799.80	26.73 N	11.18 W	0.15
4900.00	0.46	4.97	4899.80	27.56 N	11.31 W	0.23

All data is in feet unless otherwise stated.

Coordinates from slot #1 and TVD from rotary table.

Bottom hole distance is 93.99 on azimuth 221.11 degrees from wellhead.

Vertical section is from S 0.00 E 0.00 on azimuth 199.36 degrees.

Calculation uses the minimum curvature method.

Presented by Baker Hughes INTEQ

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 UNKNOWN, LEA COUNTY, NEW MEXICO

SURVEY LISTING Page 3
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Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	R E C T A N G U L A R C O O R D I N A T E S	Dogleg Deg/100ft	Vert Sect
5000.00	0.48	2.72	4999.79	28.38 N	0.03	-23.04
5100.00	0.58	338.61	5099.79	29.27 N	0.24	-23.83
5200.00	0.65	337.59	5199.78	30.26 N	0.06	-24.63
5300.00	0.65	351.87	5299.78	31.34 N	0.16	-25.55
5400.00	0.49	338.54	5399.77	32.30 N	0.20	-26.38
5500.00	0.63	353.74	5499.77	33.25 N	0.20	-27.20
5600.00	0.54	350.71	5599.76	34.26 N	0.09	-28.11
5700.00	0.49	346.84	5699.76	35.14 N	0.06	-28.89
5800.00	0.33	346.30	5799.76	35.84 N	0.16	-29.49
5900.00	0.61	349.65	5899.75	36.65 N	0.28	-30.19
6000.00	0.44	0.25	5999.75	37.55 N	0.19	-31.02
6100.00	0.33	356.09	6099.75	38.23 N	0.12	-31.65
6200.00	0.53	319.25	6199.74	38.87 N	0.33	-32.15
6300.00	0.67	327.81	6299.74	39.72 N	0.17	-32.74
6400.00	0.72	319.62	6399.73	40.69 N	0.11	-33.43
6500.00	0.45	337.70	6499.73	41.54 N	0.32	-34.04
6600.00	0.75	333.69	6599.72	42.49 N	0.30	-34.79
6700.00	0.73	336.53	6699.71	43.66 N	0.04	-35.71
6800.00	0.66	311.51	6799.70	44.63 N	0.31	-36.40
6900.00	0.70	342.33	6899.70	45.59 N	0.36	-37.10
7000.00	0.76	316.88	6999.69	46.66 N	0.33	-37.90
7100.00	0.57	306.76	7099.68	47.44 N	0.23	-38.35
7200.00	0.44	315.32	7199.68	48.01 N	0.15	-38.67
7300.00	0.45	284.63	7299.68	48.39 N	0.24	-38.81
7400.00	0.48	326.23	7399.67	48.83 N	0.33	-39.03

All data is in feet unless otherwise stated.

Coordinates from slot #1 and TVD from rotary table.

Bottom hole distance is 93.99 on azimuth 221.11 degrees from wellhead.

Vertical section is from S 0.00 E 0.00 on azimuth 199.36 degrees.

Calculation uses the minimum curvature method.

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SURVEY LISTING Page 4
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Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	R E C T A N G U L A R C O O R D I N A T E S	Dogleg Deg/100ft	Vert Sect
7500.00	0.51	309.02	7499.67	49.46 N 21.83 W	0.15	-39.43
7600.00	0.54	309.08	7599.67	50.04 N 22.54 W	0.03	-39.74
7700.00	0.41	309.14	7699.66	50.56 N 23.18 W	0.13	-40.02
7800.00	0.42	55.54	7799.66	51.00 N 23.16 W	0.66	-40.43
8000.00	1.75	60.00	7999.62	52.93 N 19.91 W	0.67	-43.34
8190.00	1.00	7.00	8189.57	56.03 N 17.20 W	0.74	-47.16
8380.00	1.00	28.00	8379.54	59.14 N 16.22 W	0.19	-50.42
8569.00	1.10	75.00	8568.51	61.07 N 13.69 W	0.45	-53.07
8785.00	1.00	60.00	8784.48	62.55 N 10.06 W	0.13	-55.67
8975.00	0.50	51.00	8974.46	63.90 N 7.98 W	0.27	-57.64
9195.00	0.75	73.00	9194.45	64.92 N 5.86 W	0.16	-59.31
9384.00	0.40	33.00	9383.44	65.84 N 4.31 W	0.27	-60.68
9572.00	0.60	86.00	9571.43	66.45 N 2.97 W	0.26	-61.71
9670.00	1.10	89.80	9669.42	66.49 N 1.52 W	0.51	-62.23
9702.00	0.90	73.50	9701.42	66.57 N 0.97 W	1.08	-62.48
9733.00	0.30	111.70	9732.42	66.61 N 0.66 W	2.22	-62.62
9765.00	1.00	198.20	9764.41	66.31 N 0.67 W	3.21	-62.34
9796.00	2.30	200.40	9795.40	65.47 N 0.97 W	4.20	-61.44
9827.00	3.60	201.20	9826.36	63.98 N 1.54 W	4.20	-59.85
9858.00	4.80	203.40	9857.28	61.88 N 2.41 W	3.90	-57.58
9890.00	5.90	204.70	9889.14	59.16 N 3.63 W	3.46	-54.61
9921.00	7.20	203.70	9919.93	55.93 N 5.08 W	4.21	-51.09
9952.00	8.30	200.80	9950.65	52.06 N 6.65 W	3.76	-46.91
9983.00	9.30	198.70	9981.28	47.60 N 8.25 W	3.39	-42.17
10014.00	9.90	198.00	10011.85	42.69 N 9.88 W	1.97	-37.00

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Coordinates from slot #1 and TVD from rotary table.

Bottom hole distance is 93.99 on azimuth 221.11 degrees from wellhead.

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Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	R E C T A N G U L A R C O O R D I N A T E S	Dogleg Deg/100ft	Vert Sect
10045.00	10.60	197.90	10042.35	37.44 N	2.26 W	-31.49
10076.00	11.30	199.60	10072.79	31.87 N	2.49 W	-25.60
10108.00	11.50	202.20	10104.16	25.96 N	1.72 W	-19.28
10153.00	12.20	207.00	10148.20	17.57 N	2.69 W	-10.08
10184.00	12.60	207.70	10178.48	11.66 N	1.38 W	-3.49
10216.00	12.50	206.50	10209.71	5.47 N	0.87 W	3.40
10246.00	12.40	207.30	10239.01	0.30 S	0.66 W	9.81
10277.00	12.20	207.90	10269.30	6.15 S	0.77 W	16.34
10308.00	11.40	207.60	10299.64	11.76 S	2.59 W	22.62
10370.00	11.00	204.20	10360.46	22.59 S	1.25 W	34.57
10431.00	11.20	205.70	10420.32	33.23 S	0.58 W	46.26
10492.00	11.20	203.30	10480.16	44.01 S	0.76 W	58.06
10523.00	11.10	203.00	10510.57	49.53 S	0.37 W	64.04
10603.00	11.00	204.70	10589.09	63.55 S	0.43 W	79.32
10645.00	11.00	205.00	10630.32	70.82 S	0.14 W	87.30
10,840.00	11.00	204.00		77.52 S	77.52 W	→ Extrapolated.

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Coordinates from slot #1 and TVD from rotary table.
Bottom hole distance is 93.99 on azimuth 221.11 degrees from wellhead.
Vertical section is from S 0.00 E 0.00 on azimuth 199.36 degrees.
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A.P.I. Number: 30-025-35284

Well Bore Schematic

Lease: Royal Stimulator Well: 1 Field: Caudill Permo-Upper Penn

Location: 1485 feet FNL & 1890 feet FWL. Section 31 Township 15S Range 30E

Block _____ Survey _____ Lea County, NM State

BHL: 1589' FNL & 1813' FWL Sec 31 T15S R30E

Spud Date: 12/12/00

Completion Date: 2/18/01

GL 3926'

DF _____

KB 3944'



Surface Casing

13 3/8" OD, 54.50 #ft, grade J-55
Casing Set at 465'
Cmt with 500 sks, Circ 2 1/2 sks
Hole Size: 17 1/2"

Intermediate Casing

8 5/8" OD, 32.0 #ft, grade J-55
Casing Set at 4809'
Cmt with 1450 sks, Circ 208 sks
TOC @ 5014' by _____
Hole Size: 11"

Rig up Directional Equip
@ 9,673' MD. See attached
surveys for detail.

Current Perforations:

Open Hole MD: 10,691-10,840'

Open Hole TVD: 10,630'-10,825'

TOC @ 9,179'
by Calc.

Production Casing

5 1/2" OD, 17 #ft, grade N-80, 8rd
Casing Set @ 10,691' w/ 200 total sks
in 1 stages with DV tool set @ N/A
Stage 1 circ? _____ sks TOC @ 9180' by 6916
Stage 2 circ? _____ sks TOC @ _____ by _____
Stage 3 circ? _____ sks TOC @ _____ by _____
Hole Size: 7 7/8"

PBTD: 10,840 MD
TD: 10,840 MD

TVD: 10,825'

Date: 4/4/01
Prepared By: Chuck Sledge