NEXUS
DIRECTIONAL SOLUTIONS, L.P.

Survey Sheet

Company:	EOG Resources	Job Number:	14.0111
Well:	Dragon 36 State #3H	GRID Decl.:	6.70
Location:	Lea Co. NM	Dir Driller:	Joe Paup
Rig:	Cactus 123	MWD Eng:	Kenny Stroud
Leg:	Vert / Curve / Lateral	MWD Eng:	Tony Bautista

Calculation Method:	Minimum Curvature
Reference point:	GRID NORTH
Proposed Azimuth	355.62
Depth Reference	Rig
Tie Into:	SURFACE

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)		Coordinates E/W (ft)		Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
Tie In	0	0.00	0.00		0	0	0		0						
THE FOLLOWING ARE NEXUS MWD SURVEYS															
1	222	1.60	336.40	222	221.97	2.93	2.84	N	1.24	W	3.10	336.40	0.72	0.72	151.53
2	434	3.10	293.60	212	433.80	8.41	7.85	N	7.68	W	10.98	315.62	1.04	0.71	-20.19
3	615	3.50	254.60	181	614.52	9.65	8.34	N	17.49	W	19.38	295.49	1.23	0.22	-21.55
4	794	2.30	215.60	179	793.31	5.85	3.97	N	24.85	W	25.17	279.07	1.25	-0.67	-21.79
5	973	2.80	229.90	179	972.13	0.55	1.77	S	30.29	W	30.34	266.66	0.45	0.28	7.99
6	1157	3.60	214.50	184	1155.85	-6.57	9.42	S	37.00	W	38.18	255.71	0.63	0.43	-8.37
7	1202	3.90	207.30	45	1200.75	-8.97	11.95	S	38.50	W	40.31	252.76	1.24	0.67	-16.00
8	1356	2.10	213.20	154	1354.53	-15.67	18.96	S	42.45	W	46.49	245.93	1.18	-1.17	3.83
9	1546	1.30	215.90	190	1544.45	-20.07	23.62	S	45.62	W	51.37	242.62	0.42	-0.42	1.42
10	1737	1.20	205.20	191	1735.40	-23.46	27.19	S	47.74	W	54.94	240.34	0.13	-0.05	-5.60
11	1926	1.40	222.20	189	1924.35	-26.77	30.69	S	50.13	W	58.78	238.53	0.23	0.11	8.99
12	2117	1.50	231.70	191	2115.29	-29.77	33.97	S	53.66	W	63.51	237.67	0.14	0.05	4.97
13	2307	1.40	236.40	190	2305.23	-32.29	36.79	S	57.55	W	68.30	237.41	0.08	-0.05	2.47
14	2497	1.40	254.60	190	2495.18	-33.87	38.69	S	61.72	W	72.84	237.91	0.23	0.00	9.58
15	2687	1.20	248.80	190	2685.13	-34.89	40.03	S	65.81	W	77.03	238.69	0.13	-0.11	-3.05
16	2877	1.30	235.20	190	2875.08	-36.55	41.98	S	69.43	W	81.14	238.84	0.16	0.05	-7.16
17	3066	1.30	238.20	189	3064.03	-38.63	44.33	S	73.02	W	85.42	238.74	0.04	0.00	1.59
18	3256	0.80	238.60	190	3254.00	-40.22	46.16	S	75.98	W	88.90	238.72	0.26	-0.26	0.21
19	3446	0.90	235.70	190	3443.98	-41.57	47.69	S	78.35	W	91.72	238.67	0.06	0.05	-1.53
20	3636	1.30	224.40	190	3633.94	-43.73	50.07	S	81.09	W	95.30	238.30	0.24	0.21	-5.95
21	3825	1.30	224.50	189	3822.90	-46.56	53.13	S	84.09	W	99.47	237.71	0.00	0.00	0.05
22	4016	1.50	227.40	191	4013.84	-49.53	56.37	S	87.45	W	104.04	237.19	0.11	0.10	1.52
23	4206	1.70	228.40	190	4203.76	-52.77	59.92	S	91.39	W	109.28	236.75	0.11	0.11	0.53
24	4395	1.60	226.30	189	4392.69	-56.14	63.61	S	95.39	W	114.65	236.30	0.06	-0.05	-1.11
25	4586	1.60	174.40	191	4583.62	-60.49	68.10	S	97.06	W	118.57	234.94	0.73	0.00	-27.17
26	4775	2.00	163.10	189	4772.53	-66.35	73.89	S	95.84	W	121.02	232.37	0.28	0.21	-5.98
27	4965	2.20	167.10	190	4962.40	-73.19	80.61	S	94.06	W	123.88	229.40	0.13	0.11	2.11
28	5114	2.20	167.40	149	5111.29	-78.85	86.19	S	92.80	W	126.65	227.11	0.01	0.00	0.20
29	5234	2.00	173.00	120	5231.21	-83.22	90.52	S	92.04	W	129.10	225.48	0.24	-0.17	4.67
30	5424	3.10	247.70	190	5421.06	-88.12	95.76	S	96.39	W	135.87	225.19	1.69	0.58	39.32
31	5615	3.20	249.00	191	5611.77	-91.23	99.63	S	106.15	W	145.58	226.81	0.06	0.05	0.68
32	5805	3.50	247.70	190	5801.45	-94.53	103.73	S	116.47	W	155.96	228.31	0.16	0.16	-0.68
33	5995	3.60	245.20	190	5991.08	-98.40	108.43	S	127.25	W	167.18	229.56	0.10	0.05	-1.32
34	6184	3.40	245.40	189	6179.73	-102.41	113.26	S	137.73	W	178.31	230.57	0.11	-0.11	0.11
35	6373	3.50	246.00	189	6368.39	-106.28	117.94	S	148.09	W	189.32	231.47	0.06	0.05	0.32
36	6563	3.40	242.70	190	6558.04	-110.42	122.88	S	158.40	W	200.47	232.20	0.12	-0.05	-1.74
37	6754	3.30	242.50	191	6748.72	-114.79	128.01	S	168.31	W	211.46	232.74	0.05	-0.05	-0.10

Provide signature page for survey

30-025-40925

Company:	EOG Resources	Job Number:	14.0111
Well:	Dragon 36 State #3H	GRID Decl.:	6.70
Location:	Lea Co. NM	Dir Driller:	Joe Paup
Rig:	Cactus 123	MWD Eng:	Kenny Stroud
Leg:	Vert / Curve / Lateral	MWD Eng:	Tony Bautista

Calculation Method:	Minimum Curvature
Reference point:	GRID NORTH
Proposed Azimuth	355.62
Depth Reference	Rig
Tie Into:	SURFACE

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)		Coordinates E/W (ft)		Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
38	6943	3.50	244.80	189	6937.39	-118.97	132.98	S	178.35	W	222.47	233.29	0.13	0.11	1.22
39	7133	3.20	240.70	190	7127.06	-123.27	138.05	S	188.23	W	233.42	233.74	0.20	-0.16	-2.16
40	7323	4.60	249.60	190	7316.62	-127.61	143.30	S	199.99	W	246.03	234.38	0.80	0.74	4.68
41	7512	4.30	248.70	189	7505.05	-131.76	148.51	S	213.70	W	260.24	235.20	0.16	-0.16	-0.48
42	7703	4.40	252.00	191	7695.50	-135.57	153.38	S	227.34	W	274.24	235.99	0.14	0.05	1.73
43	7893	4.00	252.20	190	7884.99	-138.82	157.66	S	240.58	W	287.63	236.76	0.21	-0.21	0.11
44	8083	3.30	240.60	190	8074.60	-142.67	162.37	S	251.65	W	299.49	237.17	0.53	-0.37	-6.11
45	8273	3.00	240.10	190	8264.32	-147.13	167.53	S	260.73	W	309.91	237.28	0.16	-0.16	-0.26
46	8463	2.30	237.70	190	8454.11	-151.06	172.05	S	268.26	W	318.69	237.33	0.37	-0.37	-1.26
47	8653	1.90	237.10	190	8643.98	-154.35	175.79	S	274.13	W	325.65	237.33	0.21	-0.21	-0.32
48	8843	1.90	240.40	190	8833.88	-157.19	179.06	S	279.51	W	331.95	237.36	0.06	0.00	1.74
49	8874	1.90	242.70	31	8864.86	-157.61	179.55	S	280.41	W	332.97	237.37	0.25	0.00	7.42
50	8938	3.10	321.70	64	8928.82	-156.59	178.68	S	282.43	W	334.20	237.68	5.17	1.88	123.44
51	8985	8.60	344.60	47	8975.56	-152.08	174.29	S	284.15	W	333.35	238.48	12.49	11.70	48.72
52	9033	14.10	359.00	48	9022.61	-142.71	164.98	S	285.21	W	329.49	239.95	12.80	11.46	30.00
53	9080	20.70	3.50	47	9067.44	-128.75	150.94	S	284.80	W	322.33	242.08	14.32	14.04	-756.38
54	9127	26.70	1.30	47	9110.45	-110.00	132.08	S	284.05	W	313.26	245.06	12.90	12.77	-4.68
55	9174	33.50	358.10	47	9151.09	-86.51	108.53	S	284.24	W	304.26	249.10	14.86	14.47	759.15
56	9222	37.80	354.70	48	9190.09	-58.55	80.63	S	286.04	W	297.19	254.26	9.86	8.96	-7.08
57	9269	41.90	354.60	47	9226.17	-28.44	50.65	S	288.85	W	293.26	260.05	8.72	8.72	-0.21
58	9317	46.00	354.90	48	9260.72	4.86	17.48	S	291.90	W	292.42	266.57	8.55	8.54	0.62
59	9364	51.20	356.20	47	9291.79	40.10	17.65	N	294.61	W	295.14	273.43	11.26	11.06	2.77
60	9412	56.00	356.90	48	9320.27	78.72	56.21	N	296.93	W	302.20	280.72	10.07	10.00	1.46
61	9459	59.40	356.50	47	9345.38	118.44	95.86	N	299.22	W	314.20	287.76	7.27	7.23	-0.85
62	9507	62.90	356.10	48	9368.54	160.47	137.81	N	301.94	W	331.90	294.53	7.33	7.29	-0.83
63	9554	67.00	355.70	47	9388.43	203.04	180.27	N	304.98	W	354.28	300.59	8.76	8.72	-0.85
64	9602	72.00	355.50	48	9405.24	247.98	225.09	N	308.43	W	381.83	306.12	10.42	10.42	-0.42
65	9649	74.50	355.00	47	9418.78	292.98	269.93	N	312.16	W	412.68	310.85	5.42	5.32	-1.06
66	9697	75.40	355.70	48	9431.24	339.34	316.13	N	315.92	W	446.93	315.02	2.34	1.88	1.46
67	9744	76.70	356.10	47	9442.57	384.95	361.63	N	319.18	W	482.34	318.57	2.89	2.77	0.85
68	9792	77.60	355.70	48	9453.25	431.75	408.31	N	322.52	W	520.32	321.69	2.04	1.87	-0.83
69	9834	83.90	356.20	42	9460.00	473.18	449.64	N	325.45	W	555.06	324.10	15.05	15.00	1.19
70	9927	91.10	356.60	93	9464.05	566.02	542.30	N	331.28	W	635.48	328.58	7.75	7.74	0.43
71	10022	92.20	355.60	95	9461.32	660.97	637.04	N	337.73	W	721.03	332.07	1.56	1.16	-1.05
72	10117	91.30	355.50	95	9458.41	755.93	731.71	N	345.10	W	809.01	334.75	0.95	-0.95	-0.11
73	10212	90.40	356.00	95	9457.01	850.92	826.44	N	352.14	W	898.33	336.92	1.08	-0.95	0.53
74	10307	89.60	358.00	95	9457.01	945.88	921.30	N	357.11	W	988.09	338.81	2.27	-0.84	2.11
75	10402	92.20	359.10	95	9455.51	1040.74	1016.25	N	359.52	W	1077.97	340.52	2.97	2.74	1.16
76	10497	91.30	358.60	95	9452.61	1135.54	1111.18	N	361.42	W	1168.49	341.98	1.08	-0.95	-0.53
77	10591	90.40	358.10	94	9451.22	1229.42	1205.13	N	364.13	W	1258.94	343.19	1.10	-0.96	-0.53
78	10687	89.80	359.00	96	9451.05	1325.30	1301.10	N	366.56	W	1351.75	344.27	1.13	-0.63	0.94
79	10781	89.00	1.30	94	9452.03	1418.99	1395.09	N	366.31	W	1442.38	345.29	2.59	-0.85	-380.53
80	10877	90.80	1.70	96	9452.20	1514.48	1491.05	N	363.80	W	1534.79	346.29	1.92	1.88	0.42
81	10972	90.50	1.30	95	9451.12	1608.98	1586.01	N	361.31	W	1626.65	347.17	0.53	-0.32	-0.42
82	11067	91.00	0.60	95	9449.88	1703.56	1680.99	N	359.74	W	1719.05	347.92	0.91	0.53	-0.74
83	11162	90.30	359.50	95	9448.80	1798.26	1775.98	N	359.66	W	1812.03	348.55	1.37	-0.74	377.79
84	11257	90.20	358.70	95	9448.39	1893.09	1870.97	N	361.15	W	1905.51	349.07	0.85	-0.11	-0.84

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85	11352	90.70	357.70	95	9447.64	1987.99	1965.92	N	364.13	W	1999.36	349.51	1.18	0.53	-1.05
86	11447	89.80	357.10	95	9447.23	2082.94	2060.82	N	368.44	W	2093.49	349.86	1.14	-0.95	-0.63
87	11542	90.40	357.70	95	9447.06	2177.89	2155.72	N	372.75	W	2187.71	350.19	0.89	0.63	0.63
88	11637	89.40	358.80	95	9447.23	2272.79	2250.67	N	375.65	W	2281.81	350.52	1.56	-1.05	1.16
89	11731	88.40	359.80	94	9449.03	2366.57	2344.65	N	376.80	W	2374.73	350.87	1.50	-1.06	1.06
90	11826	90.10	3.30	95	9450.28	2461.04	2439.58	N	374.23	W	2468.12	351.28	4.10	1.79	-375.26
91	11922	92.30	3.80	96	9448.27	2556.09	2535.37	N	368.29	W	2561.98	351.74	2.35	2.29	0.52
92	12016	92.30	1.50	94	9444.49	2649.31	2629.19	N	363.95	W	2654.26	352.12	2.44	0.00	-2.45
93	12111	91.50	0.70	95	9441.34	2743.82	2724.12	N	362.12	W	2748.08	352.43	1.19	-0.84	-0.84
94	12207	89.40	359.00	96	9440.59	2839.55	2820.11	N	362.37	W	2843.29	352.68	2.81	-2.19	373.23
95	12301	88.20	357.70	94	9442.56	2933.41	2914.04	N	365.08	W	2936.82	352.86	1.88	-1.28	-1.38
96	12396	89.40	359.80	95	9444.55	3028.25	3008.99	N	367.15	W	3031.31	353.04	2.55	1.26	2.21
97	12490	90.40	359.10	94	9444.71	3122.03	3102.99	N	368.05	W	3124.74	353.24	1.30	1.06	-0.74
98	12585	92.00	359.80	95	9442.72	3216.80	3197.96	N	368.97	W	3219.17	353.42	1.84	1.68	0.74
99	12680	92.30	359.90	95	9439.16	3311.47	3292.89	N	369.21	W	3313.53	353.60	0.33	0.32	0.11
100	12774	90.50	0.30	94	9436.86	3405.15	3386.86	N	369.05	W	3406.91	353.78	1.96	-1.91	-382.55
101	12869	88.60	0.40	95	9437.61	3499.82	3481.85	N	368.47	W	3501.29	353.96	2.00	-2.00	0.11
102	12964	90.00	1.20	95	9438.77	3594.42	3576.83	N	367.14	W	3595.62	354.14	1.70	1.47	0.84
103	13058	91.40	1.20	94	9437.62	3687.97	3670.80	N	365.17	W	3688.92	354.32	1.49	1.49	0.00
104	13153	90.50	0.00	95	9436.05	3782.59	3765.78	N	364.18	W	3783.35	354.48	1.58	-0.95	-1.26
105	13247	88.80	359.10	94	9436.62	3876.37	3859.77	N	364.92	W	3876.98	354.60	2.05	-1.81	382.02
106	13342	90.50	358.80	95	9437.20	3971.20	3954.75	N	366.66	W	3971.71	354.70	1.82	1.79	-0.32
107	13437	91.70	358.80	95	9435.38	4066.04	4049.71	N	368.65	W	4066.45	354.80	1.26	1.26	0.00
108	13532	91.50	359.40	95	9432.72	4160.82	4144.66	N	370.14	W	4161.15	354.90	0.67	-0.21	0.63
109	13627	90.20	359.70	95	9431.31	4255.59	4239.64	N	370.89	W	4255.84	355.00	1.40	-1.37	0.32
110	13722	88.70	359.70	95	9432.23	4350.34	4334.64	N	371.38	W	4350.52	355.10	1.58	-1.58	0.00
111	13816	90.10	359.80	94	9433.21	4444.09	4428.63	N	371.79	W	4444.21	355.20	1.49	1.49	0.11
112	13910	88.80	0.00	94	9434.11	4537.82	4522.62	N	371.96	W	4537.89	355.30	1.40	-1.38	-382.77
113	14005	90.40	0.00	95	9434.78	4632.54	4617.61	N	371.96	W	4632.57	355.39	1.68	1.68	0.00
114	14099	89.10	0.20	94	9435.19	4726.25	4711.61	N	371.79	W	4726.26	355.49	1.40	-1.38	0.21
115	14162	89.40	0.30	63	9436.01	4789.03	4774.61	N	371.52	W	4789.04	355.55	0.50	0.48	0.16
PTB	14214	89.40	0.30	52	9436.55	4840.86	4826.60	N	371.25	W	4840.86	355.60	0.00	0.00	0.00
117															
118															
119															
120															
121															
122															
123															
124															
125															
126															
127															
128															
129															
130															
131															

eog resources

Lea County, NM (NAD 27 NME)

Dragon 36 State #3H

Cactus 123

Plan #3

PROJECT DETAILS: Lea County, NM (NAD 27 NME)

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level

WELL DETAILS: #3H

Ground Level: 3480.0
KB = 30 @ 3510.0usft (Cactus 123)

Northing	Easting	Latitude	Longitude
425514.00	749274.00	32° 10' 2.244 N	103° 31' 39.919 W

Azimuths to Grid North
True North: -0.43°
Magnetic North: 6.70°

Magnetic Field
Strength: 48234.9snT
Dip Angle: 60.05°
Date: 12/19/2014
Model: IGRF201014

To convert a Magnetic Direction to a Grid Direction, Add 6.70°
To convert a Magnetic Direction to a True Direction, Add 7.13° East
To convert a True Direction to a Grid Direction, Subtract 0.43°

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0		
2	5200.0	0.00	0.00	5200.0	0.0	0.0	0.00	0.00	0.0		
3	5751.0	5.51	239.71	5750.1	-13.4	-22.9	1.00	239.71	-11.6		
4	8984.8	5.51	239.71	8969.0	-170.0	-291.0	0.00	0.00	-147.2		
5	9760.7	90.37	359.58	9467.5	309.7	-336.5	12.00	119.72	334.5		
6	9999.8	90.37	359.58	9466.0	548.8	-338.3	0.00	0.00	573.0	LP(Dragon 36 State #3H)	
7	10929.0	90.37	359.58	9460.0	1477.9	-345.2	0.00	0.00	1500.0	TGT#1(Dragon 36 State #3H)	
8	10958.4	90.96	359.58	9459.7	1507.3	-345.4	2.00	0.00	1529.3		
9	12432.8	90.96	359.58	9435.0	2981.5	-356.3	0.00	0.00	3000.0	TGT#2(Dragon 36 State #3H)	
10	12439.2	91.09	359.58	9434.9	2987.9	-356.4	2.00	0.00	3006.4		
11	14278.7	91.09	359.58	9400.0	4827.0	-370.0	0.00	0.00	4841.2	PBHL(Dragon 36 State #3H)	

CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
PBHL(Dragon 36 State #3H)	9400.0	4827.0	-370.0	430341.00	748904.00
FTP(Dragon 36 State #3H)	9424.3	108.0	-335.0	425622.00	748939.00
TGT#2(Dragon 36 State #3H)	9435.0	2981.5	-356.3	428495.50	748917.69
TGT#1(Dragon 36 State #3H)	9460.0	1477.9	-345.2	426991.90	748928.84
LP(Dragon 36 State #3H)	9466.0	548.8	-338.3	426062.80	748935.73