



EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Ruby 2 State Com

#706H

ST01

Design: ST01

Midland PVA

08 May, 2018

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JUN 21 2018
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Midland PVA



Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #706H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3319.0usft
Site:	Ruby 2 State Com	MD Reference:	KB = 25 @ 3319.0usft
Well:	#706H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01	Database:	EDM 5000.14

Project	Lea County, NM (NAD 83 NME)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Ruby 2 State Com		
Site Position:		Northing:	393,589.99 usft
From:	Map	Easting:	775,148.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 4' 47.315 N
		Longitude:	103° 34' 42.355 W
		Grid Convergence:	0.40 "

Well	#706H		
Well Position	+N-S	0.0 usft	Northing: 393,618.00 usft
	+E-W	0.0 usft	Easting: 819,254.00 usft
Position Uncertainty	0.0 usft		Latitude: 32° 4' 44.250 N
		Wellhead Elevation:	usft
			Longitude: 103° 26' 9.745 W
			Ground Level: 3,294.0 usft

Wellbore	ST01		
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	4/22/2018	6.79	59.94	47,780.05430356

Design	ST01			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 12,113.0
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)
	0.0	0.0	0.0	185.30



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Survey Program		Date 5/8/2018			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
163.0	937.0	Invictus MWD (OH)	MWD	OWSG MWD - Standard	
1,053.0	12,113.0	Halliburton MWD (OH)	MWD	OWSG MWD - Standard	
12,184.0	17,389.0	Premier MWD (ST01)	MWD	OWSG MWD - Standard	

MD (usft)	Inc (")	Azi (azimuth) (")	TVD (usft)	N/S (usft)	EAW (usft)	DLeg ("/100usft)	Build ("/100usft)	Turn ("/100usft)	High to Plan (usft)	Right to Plan (usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.0	0.0
163.0	0.30	129.36	163.0	-0.3	0.3	0.18	0.18	0.00	0.0	0.0
191.0	0.10	87.36	191.0	-0.3	0.4	0.84	-0.71	-150.00	0.0	0.0
220.0	0.30	97.36	220.0	-0.3	0.5	0.70	0.69	34.48	0.0	0.0
282.0	0.40	74.36	282.0	-0.3	0.9	0.28	0.16	-37.10	0.0	0.0
313.0	0.50	40.36	313.0	-0.2	1.1	0.90	0.32	-109.68	0.0	0.0
344.0	0.40	67.36	344.0	0.0	1.3	0.75	-0.32	87.10	0.0	0.0
375.0	0.30	27.36	375.0	0.1	1.4	0.83	-0.32	-129.03	0.0	0.0
406.0	0.20	90.36	406.0	0.2	1.5	0.89	-0.32	203.23	0.0	0.0
436.0	0.30	41.36	436.0	0.2	1.6	0.75	0.33	-163.33	0.0	0.0
498.0	0.30	356.36	498.0	0.5	1.7	0.37	0.00	-72.58	0.0	0.0
529.0	0.40	22.36	529.0	0.7	1.7	0.60	0.32	83.87	0.0	0.0
560.0	0.30	9.36	560.0	0.9	1.8	0.41	-0.32	-41.94	0.0	0.0
591.0	0.50	58.36	591.0	1.0	1.9	1.22	0.65	158.06	0.0	0.0
623.0	0.40	15.36	623.0	1.2	2.1	1.07	-0.31	-134.37	0.0	0.0
654.0	0.40	30.36	654.0	1.4	2.1	0.34	0.00	48.39	0.0	0.0
685.0	0.70	30.36	685.0	1.7	2.3	0.97	0.97	0.00	0.0	0.0
717.0	0.80	48.36	717.0	2.0	2.6	0.80	0.31	56.25	0.0	0.0
749.0	0.80	58.36	749.0	2.2	2.9	0.44	0.00	31.25	0.0	0.0
781.0	0.60	55.36	781.0	2.5	3.2	0.64	-0.62	-9.37	0.0	0.0



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Well:	#706H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (")	Azi (azimuth) (")	TVD (usft)	N/S (usft)	E/W (usft)	DLeg ("/100usft)	Build ("/100usft)	Turn ("/100usft)	High to Plan (usft)	Right to Plan (usft)	
812.0	0.50	38.36	812.0	2.7	3.5	0.61	-0.32	-54.84	0.0	0.0	
843.0	0.50	31.36	843.0	2.9	3.6	0.20	0.00	-22.58	0.0	0.0	
874.0	0.70	33.36	874.0	3.2	3.8	0.65	0.65	6.45	0.0	0.0	
937.0	0.50	36.36	937.0	3.7	4.2	0.32	-0.32	4.76	0.0	0.0	
1,053.0	0.66	64.87	1,053.0	4.4	5.1	0.28	0.14	24.57	0.0	0.0	
1,145.0	1.80	316.85	1,145.0	5.7	4.6	2.28	1.24	-117.41	0.0	0.0	
1,238.0	2.95	304.90	1,237.9	8.1	1.6	1.34	1.24	-12.85	0.0	0.0	
1,422.0	2.68	302.52	1,421.6	13.1	-5.9	0.16	-0.15	-1.29	0.0	0.0	
1,609.0	2.11	312.63	1,608.5	17.8	-12.1	0.38	-0.30	5.41	0.0	0.0	
1,797.0	3.91	299.01	1,796.2	23.3	-20.3	1.02	0.96	-7.24	0.0	0.0	
1,985.0	4.70	292.15	1,983.7	29.3	-33.0	0.50	0.42	-3.65	0.0	0.0	
2,172.0	4.40	290.04	2,170.1	34.6	-46.9	0.18	-0.16	-1.13	0.0	0.0	
2,360.0	4.09	292.59	2,357.6	39.7	-59.8	0.19	-0.16	1.36	0.0	0.0	
2,547.0	4.22	296.02	2,544.1	45.2	-72.2	0.15	0.07	1.83	0.0	0.0	
2,735.0	3.65	291.01	2,731.7	50.4	-84.0	0.35	-0.30	-2.66	0.0	0.0	
2,922.0	3.87	299.80	2,918.2	55.7	-95.0	0.33	0.12	4.70	0.0	0.0	
3,110.0	3.43	300.59	3,105.9	61.7	-105.3	0.24	-0.23	0.42	0.0	0.0	
3,298.0	2.29	249.88	3,293.7	63.3	-113.7	1.41	-0.61	-26.97	0.0	0.0	
3,485.0	1.41	204.44	3,480.6	59.9	-118.2	0.88	-0.47	-24.30	0.0	0.0	
3,673.0	0.97	258.49	3,668.5	57.5	-120.7	0.61	-0.23	28.75	0.0	0.0	
3,859.0	1.19	283.89	3,854.5	57.6	-124.1	0.28	0.12	13.66	0.0	0.0	
4,046.0	0.53	4.93	4,041.5	59.0	-125.9	0.66	-0.35	43.34	0.0	0.0	
4,233.0	1.23	63.46	4,228.5	60.7	-124.1	0.56	0.37	31.30	0.0	0.0	
4,420.0	2.59	266.31	4,415.4	61.3	-126.5	2.01	0.73	-84.04	0.0	0.0	
4,607.0	1.19	227.29	4,602.3	59.7	-132.1	0.98	-0.75	-20.87	0.0	0.0	
4,794.0	0.70	251.99	4,789.3	58.1	-134.6	0.34	-0.26	13.21	0.0	0.0	
4,981.0	0.57	151.44	4,976.3	56.9	-135.3	0.52	-0.07	-53.77	0.0	0.0	



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Well:	#706H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (")	Azi (azimuth) (")	TVD (usft)	N/S (usft)	E/W (usft)	DLeg ("/100usft)	Build ("/100usft)	Turn ("/100usft)	High to Plan (usft)	Right to Plan (usft)	
5,168.0	1.85	135.79	5,163.2	53.9	-132.7	0.70	0.68	-8.37	0.0	0.0	
5,341.0	1.27	159.53	5,336.2	50.1	-130.1	0.50	-0.34	13.72	0.0	0.0	
5,528.0	8.40	292.50	5,522.6	53.4	-142.0	4.98	3.81	71.11	0.0	0.0	
5,716.0	11.16	295.84	5,707.8	66.6	-171.1	1.50	1.47	1.78	0.0	0.0	
5,903.0	10.15	294.96	5,891.6	81.5	-202.3	0.55	-0.54	-0.47	0.0	0.0	
6,091.0	10.42	292.77	6,076.6	95.0	-233.0	0.25	0.14	-1.16	0.0	0.0	
6,278.0	8.26	289.16	6,261.1	106.0	-261.3	1.20	-1.16	-1.93	0.0	0.0	
6,465.0	9.67	296.11	6,445.8	117.3	-288.1	0.95	0.75	3.72	0.0	0.0	
6,652.0	11.43	295.67	6,629.6	132.2	-318.9	0.94	0.94	-0.24	0.0	0.0	
6,840.0	13.32	295.40	6,813.2	149.6	-355.3	1.01	1.01	-0.14	0.0	0.0	
7,027.0	11.74	292.50	6,995.8	166.1	-392.3	0.91	-0.84	-1.55	0.0	0.0	
7,214.0	11.78	287.41	7,178.9	179.1	-428.1	0.55	0.02	-2.72	0.0	0.0	
7,402.0	6.15	282.66	7,364.5	187.1	-456.2	3.02	-2.99	-2.53	0.0	0.0	
7,589.0	2.20	234.32	7,551.0	187.2	-468.9	2.66	-2.11	-25.85	0.0	0.0	
7,776.0	1.93	324.06	7,737.9	187.6	-473.7	1.56	-0.14	47.99	0.0	0.0	
7,962.0	1.27	332.05	7,923.9	192.0	-476.5	0.37	-0.35	4.30	0.0	0.0	
8,150.0	0.66	73.57	8,111.8	194.1	-476.4	0.82	-0.32	54.00	0.0	0.0	
8,337.0	1.63	111.63	8,298.8	193.5	-472.9	0.63	0.52	20.35	0.0	0.0	
8,526.0	1.58	121.73	8,487.7	191.1	-468.2	0.15	-0.03	5.34	0.0	0.0	
8,713.0	1.93	131.49	8,674.6	187.6	-463.7	0.25	0.19	5.22	0.0	0.0	
8,901.0	1.98	126.83	8,862.5	183.6	-458.7	0.09	0.03	-2.48	0.0	0.0	
9,088.0	1.63	114.61	9,049.4	180.6	-453.7	0.28	-0.19	-6.53	0.0	0.0	
9,276.0	1.76	127.09	9,237.4	177.7	-449.0	0.21	0.07	6.64	0.0	0.0	
9,463.0	0.66	100.81	9,424.3	175.8	-445.6	0.64	-0.59	-14.05	0.0	0.0	
9,650.0	1.19	85.43	9,611.3	175.7	-442.6	0.31	0.28	-8.22	0.0	0.0	
9,838.0	1.36	32.44	9,799.2	177.8	-439.5	0.61	0.09	-28.19	0.0	0.0	
10,025.0	4.40	323.53	9,986.0	185.4	-442.6	2.20	1.63	-36.85	0.0	0.0	



Midland PVA



Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #708H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3319.0usft
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Well:	#708H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (")	Azi (azimuth) (")	TVD (usft)	N/S (usft)	EW (usft)	DLeg ("/100usft)	Build ("/100usft)	Turn ("/100usft)	High to Plan (usft)	Right to Plan (usft)	
10,213.0	3.56	315.44	10,173.6	195.4	-450.9	0.54	-0.45	-4.30	0.0	0.0	
10,401.0	4.22	324.58	10,361.1	205.2	-459.0	0.48	0.35	4.86	0.0	0.0	
10,589.0	1.49	336.45	10,548.9	213.0	-464.0	1.48	-1.45	6.31	0.0	0.0	
10,776.0	0.70	5.63	10,735.9	216.4	-464.9	0.50	-0.42	15.60	0.0	0.0	
10,962.0	0.75	41.93	10,921.8	218.4	-464.0	0.24	0.03	19.52	0.0	0.0	
11,149.0	1.89	7.83	11,108.8	222.4	-462.7	0.71	0.61	-18.24	0.0	0.0	
11,336.0	2.95	108.00	11,295.7	224.1	-457.7	1.99	0.57	52.50	0.0	0.0	
11,524.0	4.35	77.96	11,483.3	224.3	-446.1	1.19	0.74	-14.91	0.0	0.0	
11,711.0	3.38	321.68	11,670.1	230.1	-442.5	3.52	-0.52	-62.18	0.0	0.0	
11,898.0	3.16	277.39	11,856.8	235.1	-451.1	1.32	-0.12	-23.68	0.0	0.0	
11,961.0	3.25	277.04	11,919.7	235.5	-454.6	0.15	0.14	-0.56	0.0	0.0	
12,113.0	2.73	285.30	12,071.5	237.0	-462.3	0.44	-0.34	5.43	0.0	0.0	
12,184.0	4.38	208.00	12,142.4	235.1	-465.2	6.51	2.32	-108.84	-0.8	-1.1	
12,233.0	5.83	182.93	12,191.2	230.9	-466.2	5.36	2.96	-51.16	1.6	-2.3	
12,278.0	10.29	160.47	12,235.8	224.9	-465.0	11.95	9.91	-49.91	4.6	0.8	
12,326.0	18.08	156.29	12,282.3	214.0	-460.6	16.36	16.23	-8.71	4.6	6.3	
12,371.0	25.84	160.17	12,324.0	198.3	-454.4	17.53	17.24	8.62	2.6	12.0	
12,420.0	33.97	164.19	12,366.4	175.1	-447.1	17.08	16.59	8.20	-2.0	18.6	
12,465.0	41.41	169.42	12,402.0	148.3	-440.9	17.98	16.53	11.62	-7.8	24.5	
12,513.0	48.13	173.09	12,436.0	114.9	-435.8	15.00	14.01	7.65	-16.4	30.0	
12,558.0	52.82	179.36	12,464.7	80.3	-433.6	14.96	10.42	13.93	-24.4	34.4	
12,607.0	57.78	186.49	12,492.6	40.2	-435.7	15.66	10.12	14.55	-33.5	36.1	
12,652.0	62.35	191.14	12,515.1	1.7	-441.7	13.54	10.16	10.33	-43.3	34.0	
12,700.0	66.31	192.24	12,535.9	-40.7	-450.5	8.50	8.25	2.29	-55.4	27.9	
12,731.8	65.39	191.94	12,548.9	-69.1	-456.6	3.02	-2.89	-0.95	-62.5	22.5	
FTP Crossing 12731.8' MD; 12548.9' TVD; -69.1'; -456.6'; 65.39											
12,745.0	65.01	191.81	12,554.4	-80.8	-459.1	3.02	-2.89	-0.96	-64.8	20.3	



Midland PVA



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Site: Ruby 2 State Com
Well: #706H
Wellbore: ST01
Design: ST01

Local Co-ordinate Reference: Well #706H
TVD Reference: KB = 25 @ 3319.0usft
MD Reference: KB = 25 @ 3319.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.14

Survey											
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12,794.0	65.20	191.53	12,575.0	-124.3	-466.0	0.65	0.39	-0.57	-70.2	12.0	
12,839.0	65.36	190.25	12,593.8	-164.5	-475.8	2.61	0.36	-2.84	-71.5	4.1	
12,867.0	63.56	187.10	12,614.5	-207.3	-482.3	7.01	-3.75	-6.56	-67.8	-3.4	
12,932.0	62.69	187.69	12,634.9	-247.1	-487.5	2.26	-1.93	1.31	-59.5	-8.0	
12,981.0	67.06	183.66	12,655.7	-291.2	-491.8	11.62	8.92	-8.22	-47.8	-12.4	
13,026.0	73.72	177.87	12,670.8	-333.5	-492.4	19.12	14.80	-12.87	-37.8	-12.0	
13,074.0	77.65	172.91	12,682.7	-379.9	-488.6	12.93	8.19	-10.33	-28.1	-6.5	
13,119.0	78.33	175.59	12,692.0	-423.7	-484.2	6.02	1.51	5.96	-19.1	-1.0	
13,168.0	81.78	170.37	12,700.5	-471.5	-478.3	12.63	7.04	-10.65	-11.0	5.1	
13,262.0	91.52	179.09	12,706.0	-564.8	-469.7	13.89	10.36	9.28	-6.0	13.3	
13,356.0	91.54	181.07	12,703.5	-658.7	-469.8	2.11	0.02	2.11	-9.2	12.7	
13,436.0	91.00	185.70	12,701.7	-738.6	-474.6	5.83	-0.68	5.79	-11.5	7.6	
13,529.0	90.00	187.00	12,700.9	-831.0	-484.9	1.76	-1.08	1.40	-12.9	-3.1	
13,623.0	86.30	187.50	12,703.9	-924.2	-496.7	3.97	-3.94	0.53	-10.6	-15.4	
13,717.0	83.50	186.40	12,712.3	-1,017.1	-508.0	3.20	-2.98	-1.17	-3.1	-27.2	
13,810.0	83.30	183.30	12,723.0	-1,109.2	-515.9	3.32	-0.22	-3.33	7.0	-35.6	
13,904.0	83.30	180.20	12,734.0	-1,202.5	-518.7	3.28	0.00	-3.30	17.6	-38.9	
13,935.0	84.40	177.50	12,737.3	-1,233.3	-518.1	9.36	3.55	-8.71	20.9	-38.4	
13,966.0	84.20	177.80	12,740.4	-1,264.1	-516.8	1.16	-0.65	0.97	23.7	-37.3	
13,997.0	85.20	177.70	12,743.2	-1,294.9	-515.6	3.24	3.23	-0.32	26.4	-36.2	
14,029.0	88.70	176.90	12,744.9	-1,326.9	-514.1	11.22	10.94	-2.50	27.9	-34.9	
14,060.0	91.10	175.80	12,745.0	-1,357.8	-512.1	8.52	7.74	-3.55	27.7	-33.1	
14,092.0	92.70	175.30	12,743.9	-1,389.7	-509.6	5.24	5.00	-1.56	26.4	-30.8	
14,123.0	93.30	174.90	12,742.3	-1,420.5	-507.0	2.33	1.94	-1.29	24.5	-28.3	
14,186.0	94.02	173.96	12,738.3	-1,483.1	-500.9	1.88	1.14	-1.49	20.0	-22.6	
14,280.0	94.33	178.79	12,731.4	-1,576.6	-495.0	5.14	0.33	5.14	12.3	-17.6	
14,311.0	93.14	179.32	12,729.4	-1,607.6	-494.5	4.20	-3.84	1.71	10.0	-17.4	



Midland PVA



Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #706H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3319.0usft
Site:	Ruby 2 State Com	MD Reference:	KB = 25 @ 3319.0usft
Well:	#706H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	NS (usft)	EW (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
14,374.0	89.85	176.42	12,727.8	-1,670.5	-492.1	6.96	-5.22	-4.60	7.8	-15.7	
14,467.0	93.98	179.32	12,724.7	-1,763.3	-488.7	5.42	4.44	3.12	3.8	-13.2	
14,562.0	92.88	182.04	12,719.0	-1,858.1	-489.8	3.08	-1.16	2.86	-2.8	-15.4	
14,593.0	90.30	181.30	12,718.1	-1,889.1	-490.7	8.66	-8.32	-2.39	-3.9	-16.6	
14,655.0	89.40	181.70	12,718.3	-1,951.1	-492.3	1.59	-1.45	0.65	-4.4	-18.8	
14,749.0	88.50	182.20	12,720.0	-2,045.0	-495.5	1.10	-0.86	0.53	-3.6	-23.0	
14,843.0	88.92	179.30	12,722.1	-2,139.0	-496.7	3.12	0.45	-3.09	-2.3	-25.2	
14,936.0	89.80	181.80	12,723.2	-2,232.0	-497.6	2.85	0.95	2.69	-2.2	-27.1	
15,030.0	87.40	175.90	12,725.4	-2,325.9	-495.8	6.77	-2.55	-6.28	-0.7	-26.2	
15,123.0	90.11	180.18	12,727.5	-2,418.8	-492.6	5.45	2.91	4.60	0.4	-24.0	
15,217.0	87.52	177.10	12,729.4	-2,512.7	-490.4	4.28	-2.76	-3.28	1.4	-22.7	
15,311.0	90.50	178.80	12,731.0	-2,606.6	-487.0	3.65	3.17	1.81	2.1	-20.3	
15,404.0	89.30	175.90	12,731.2	-2,699.5	-482.7	3.37	-1.29	-3.12	1.4	-17.0	
15,498.0	87.70	175.50	12,733.7	-2,793.2	-475.6	1.75	-1.70	-0.43	3.0	-10.9	
15,592.0	86.50	174.80	12,738.4	-2,886.7	-467.7	1.48	-1.28	-0.74	6.8	-4.0	
15,685.0	90.10	177.40	12,741.2	-2,979.5	-461.4	4.77	3.87	2.80	8.7	1.4	
15,779.0	88.60	173.10	12,742.2	-3,073.1	-453.6	4.84	-1.60	-4.57	8.9	8.2	
15,873.0	90.20	171.70	12,743.2	-3,166.3	-441.2	2.26	1.70	-1.49	9.0	19.6	
15,967.0	93.50	177.50	12,740.2	-3,259.7	-432.3	7.10	3.51	6.17	5.1	27.5	
16,061.0	93.50	191.30	12,734.4	-3,353.1	-439.5	14.65	0.00	14.68	-1.9	19.3	
16,154.0	92.50	193.20	12,729.6	-3,443.8	-459.2	2.31	-1.08	2.04	-7.4	-1.2	
16,247.0	86.50	188.00	12,730.4	-3,535.1	-476.3	8.54	-6.45	-5.59	-7.6	-19.2	
16,341.0	82.70	187.50	12,739.2	-3,627.8	-488.9	4.08	-4.04	-0.53	-0.1	-32.9	
16,382.0	82.50	187.50	12,744.5	-3,668.1	-494.2	0.49	-0.49	0.00	4.7	-38.7	
16,476.0	85.10	183.10	12,754.6	-3,761.2	-502.9	5.41	2.77	-4.68	14.4	-48.3	
16,569.0	90.80	181.40	12,758.0	-3,854.0	-506.5	6.40	6.13	-1.83	17.2	-52.8	
16,662.0	90.20	181.60	12,757.2	-3,947.0	-508.9	0.68	-0.65	0.22	15.5	-56.2	



Midland PVA



Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #706H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3319.0usft
Site:	Ruby 2 State Com	MD Reference:	KB = 25 @ 3319.0usft
Well:	#706H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01	Database:	EDM 5000.14

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
16,756.0	90.40	175.70	12,756.7	-4,040.9	-506.7	6.28	0.21	-6.28	13.3	-55.0
16,849.0	92.00	176.10	12,754.7	-4,133.6	-500.1	1.77	1.72	0.43	8.2	-49.3
16,943.0	91.40	175.20	12,751.9	-4,227.3	-492.9	1.15	-0.64	-0.96	2.3	-43.2
17,036.0	88.50	173.80	12,752.0	-4,319.9	-484.0	3.46	-3.12	-1.51	-0.5	-35.2
17,130.0	91.00	178.50	12,752.4	-4,413.6	-477.7	5.66	2.66	5.00	-3.3	-29.9
17,224.0	87.80	177.30	12,753.4	-4,507.6	-474.3	3.63	-3.40	-1.28	-5.4	-27.4
Last MWD Survey (MD = 17224.0)										
17,389.0	87.80	177.30	12,759.7	-4,672.2	-466.5	0.00	0.00	0.00	-4.5	-21.4
Projection to Bit (MD = 17389.0)										

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/S (usft)	+E/W (usft)	
12,731.8	12,548.9	-69.1	-456.6	FTP Crossing 12731.8' MD; 12548.9' TVD; -69.1'; -456.6'; 65.39
17,224.0	12,753.4	-4,507.6	-474.3	Last MWD Survey (MD = 17224.0)
17,389.0	12,759.7	-4,672.2	-466.5	Projection to Bit (MD = 17389.0)

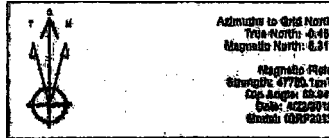
Checked By: _____ Approved By: _____ Date: _____



Lea County, NM (NAD 83 NME)

Ruby 2 State Com #706H

Plan #2



Azimuth to Grid North
True North: 0.49°
Magnetic North: 6.31°

Magnetic North
Grid North: 4778.1m
Grid North: 4778.1m
Grid North: 4778.1m
Grid North: 4778.1m

To convert a Magnetic Direction to a Grid Direction, Add 6.31°
To convert a Magnetic Direction to a True Direction, Add 6.79° East
To convert a True Direction to a Grid Direction, Subtract 6.48°

PROJECT DETAILS: Lea County, NM (NAD 83 NME)

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level

WELL DETAILS: #706H

3294.0
KB = 25 @ 3319.0sft
Northing 393618.00 Easting 819254.00 Latitude 32° 4' 44.250 N Longitude 103° 26' 9.745 W

SECTION DETAILS

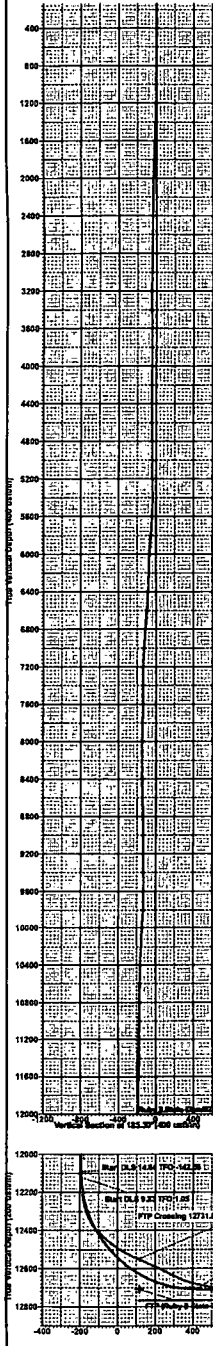
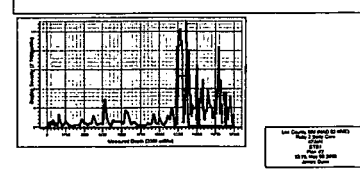
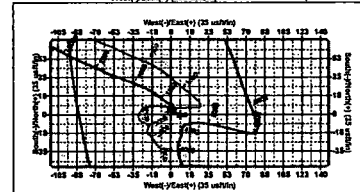
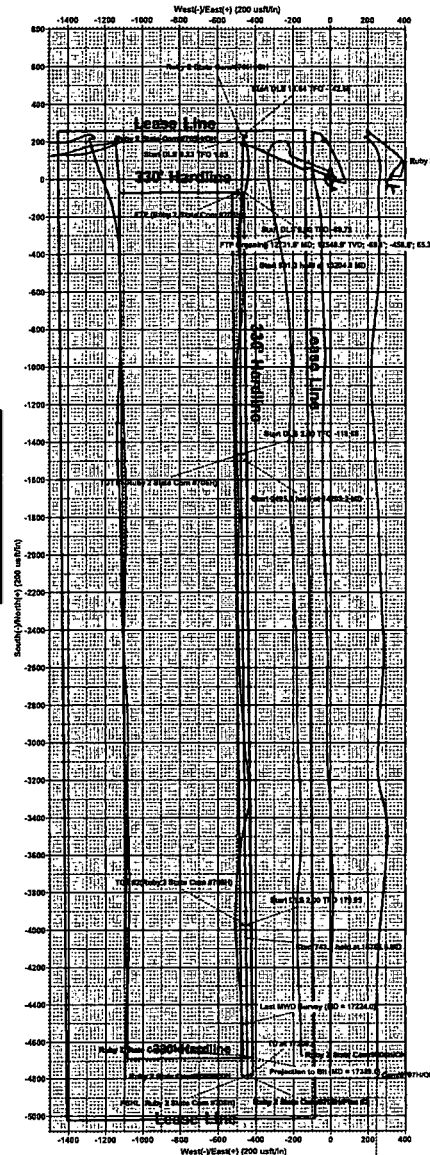
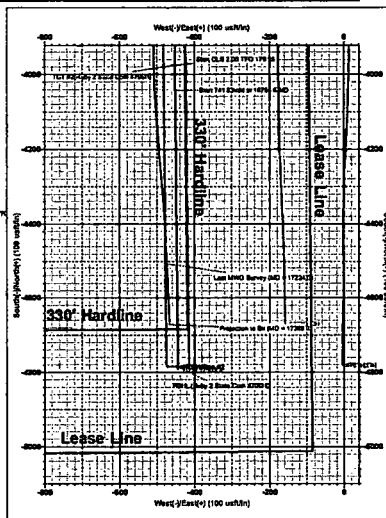
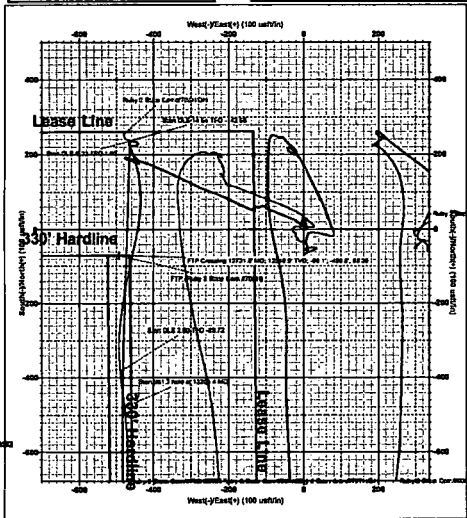
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSeal	Target
1	12131.5	2.76	286.04	12090.0	237.3	-463.2	0.00	0.00	-193.4	
2	12161.5	2.76	180.70	12120.0	236.7	-463.9	14.64	-142.66	-192.9	
3	13102.5	89.61	181.75	12710.8	-378.8	-482.2	9.23	1.05	421.7	
4	13204.4	89.62	179.71	12711.5	-480.7	-483.5	2.00	-89.72	523.4	
5	14185.7	89.62	179.71	12718.0	-1462.0	-478.5	0.00	0.00	1500.0	TGT #1(Ruby 2 State Com #706H)
6	14203.2	89.45	179.40	12718.1	-1479.5	-478.4	2.00	-118.68	1517.4	
7	16699.2	89.45	179.40	12742.0	-3975.2	-452.4	0.00	0.00	4000.0	TGT #2(Ruby 2 State Com #706H)
8	16766.6	88.10	179.40	12743.4	-4042.7	-451.7	2.00	179.95	4067.1	
9	17508.4	88.10	179.40	12768.0	-4784.0	-444.0	0.00	0.00	4804.6	PBHL (Ruby 2 State Com #706H)

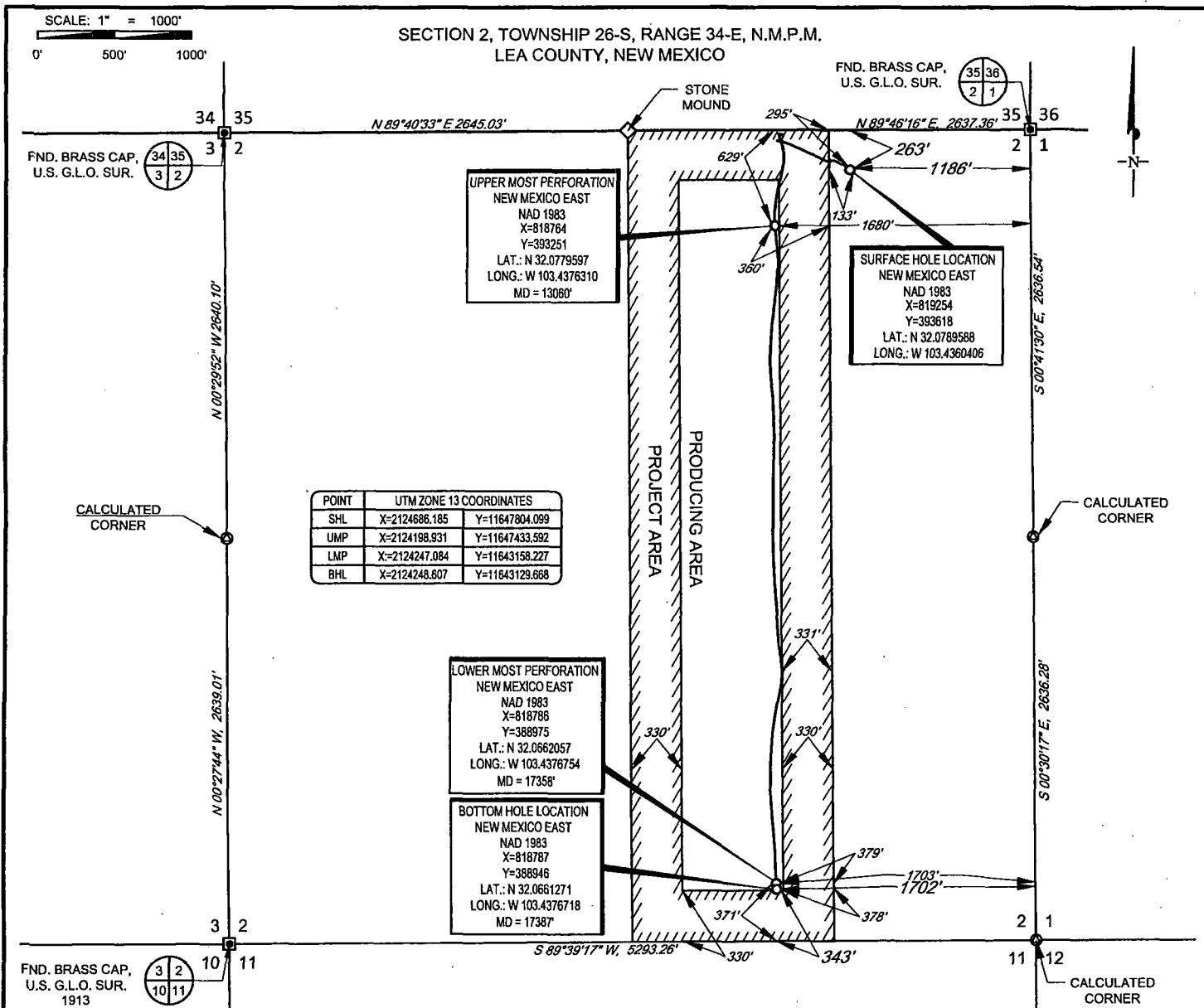
CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
TGT #1(Ruby 2 State Com #706H)	12718.0	-1462.0	-478.5	392156.00	818775.48
TGT #2(Ruby 2 State Com #706H)	12742.0	-3975.2	-452.4	395642.80	818661.60
PBHL (Ruby 2 State Com #706H)	12768.0	-4784.0	-444.0	388534.00	818810.00
FTP (Ruby 2 State Com #706H)	12708.0	-69.0	-493.0	393549.00	818761.00





LEASE NAME & WELL NO.: RUBY 2 STATE COM #706H

SECTION 2 TWP 26-S RGE 34-E SURVEY N.M.P.M.

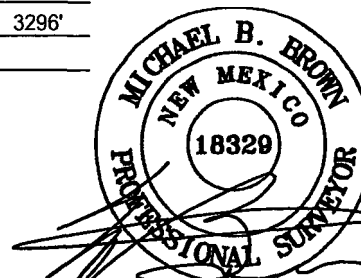
COUNTY LEA STATE NM ELEVATION 3296'

DESCRIPTION 263' FNL & 1186' FEL



TOPOGRAPHIC
LOYALTY INNOVATION LEGACY

1400 EVERMAN PARKWAY, Ste. 146 • FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 • FAX (817) 744-7554
TEXAS FIRM REGISTRATION NO. 10042504
WWW.TOPOGRAPHIC.COM



Michael Blake Brown, P.S. No. 18329
JUNE 19, 2018

Geog resources, Inc.

RUBY 2 STATE COM #706H AS-COMplete	REVISION:		NOTES: 1. ORIGINAL DOCUMENT SIZE: 8.5" X 11" 2. ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM, EAST ZONE, U.S. SURVEY FEET, NORTH AMERICAN DATUM 1983. 3. THIS WELL LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY EOG RESOURCES, INC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.
DATE: 06/19/18			
FILE:AD_RUBY2STATECOM_706H			
DRAWN BY: H.B.			
SHEET: 1 OF 1			