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EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Valiant 24 Fed Com

#714H

OH

Design: OH

Midland PVA

11 October, 2019



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #714H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3488.0usft
Site:	Valiant 24 Fed Corn	MD Reference:	KB = 25 @ 3488.0usft
Well:	#714H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	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 Valiant 24 Fed Corn			
Site Position:		Northing:	406,151.00 usft
From:	Map	Easting:	760,107.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 6' 52.620 N
		Longitude:	103° 37' 38.212 W
		Grid Convergence:	0.38 "

Well #714H			
Well Position	+N-S 0.0 usft	Northing:	406,089.00 usft
	+E-W 0.0 usft	Easting:	760,797.00 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 6' 51.962 N
		Longitude:	103° 37' 28.194 W
		Ground Level:	3,461.0 usft

Wellbore OH					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	9/6/2019	8.73	59.92	47,639.12188662

Design OH				
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)
	0.0	0.0	0.0	181.46

Survey Program Date 10/11/2019				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
140.0	19,835.0	Driltech MWD (OH)	MWD	OWSG MWD - Standard



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 Well: #714H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #714H
 TVD Reference: KB = 25 @ 3486.0usft
 ND Reference: KB = 25 @ 3486.0usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 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)
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.0	0.0
140.0	1.06	100.61	140.0	-0.2	1.3	0.76	0.76	0.00	-1.3	0.0
228.0	1.14	112.83	228.0	-0.7	2.9	0.28	0.09	13.89	-2.9	0.4
315.0	1.14	130.49	315.0	-1.6	4.3	0.40	0.00	20.30	-4.4	1.6
400.0	1.14	126.18	399.9	-2.7	5.7	0.10	0.00	-5.07	-6.1	1.2
487.0	0.97	132.86	486.9	-3.7	6.9	0.24	-0.20	7.88	-7.6	2.0
575.0	0.97	141.57	574.9	-4.8	7.9	0.17	0.00	9.90	-8.7	3.2
671.0	0.88	149.56	670.9	-6.0	8.8	0.16	-0.09	8.32	-9.7	4.5
762.0	0.88	142.97	761.9	-7.2	9.6	0.11	0.00	-7.24	-11.5	3.3
855.0	1.06	155.19	854.9	-8.6	10.4	0.29	0.19	13.14	-12.1	5.8
914.0	1.06	148.16	913.9	-9.5	10.9	0.22	0.00	-11.92	-13.8	4.2
1,037.0	0.79	172.11	1,036.9	-11.3	11.6	0.38	-0.22	19.47	-12.8	9.9
1,129.0	0.18	18.04	1,128.9	-11.8	11.7	1.04	-0.66	-167.47	7.6	-14.8
1,222.0	3.61	351.76	1,221.6	-8.8	11.3	3.71	3.69	-28.26	10.4	-10.0
1,314.0	6.24	346.49	1,313.4	-1.0	9.8	2.90	2.86	-5.73	5.5	-9.6
1,406.0	8.97	344.38	1,404.6	10.7	6.7	2.98	2.97	-2.29	-1.3	-10.3
1,499.0	9.15	346.57	1,496.5	24.9	3.0	0.42	0.19	2.35	-8.3	-11.3
1,594.0	9.50	345.43	1,590.2	39.8	-0.7	0.42	0.37	-1.20	-13.7	-13.1
1,688.0	9.76	344.11	1,682.9	55.0	-4.9	0.38	0.28	-1.40	-19.4	-14.9
1,783.0	9.85	346.40	1,776.5	70.6	-9.0	0.42	0.09	2.41	-26.4	-15.4
1,878.0	9.58	344.29	1,870.1	86.2	-13.0	0.47	-0.28	-2.22	-32.1	-18.0
1,973.0	9.15	344.29	1,963.9	101.0	-17.2	0.45	-0.45	0.00	-37.7	-19.3
2,067.0	9.32	345.87	2,056.6	115.6	-21.1	0.32	0.18	1.68	-43.7	-19.6
2,162.0	9.76	347.54	2,150.3	130.9	-24.7	0.55	0.46	1.76	-50.3	-19.9
2,258.0	9.06	335.68	2,245.0	145.8	-29.6	2.14	-0.73	-12.35	-50.7	-31.3
2,353.0	9.41	336.38	2,338.8	159.7	-35.8	0.39	0.37	0.74	-56.4	-30.5
2,448.0	8.09	336.20	2,432.7	172.9	-41.6	1.39	-1.39	-0.19	-60.9	-30.6



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 Site: Valiant 24 Fed Com
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 Wellbore: OH
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Local Co-ordinate Reference: Well #714H
 TVD Reference: KB = 25 @ 3466.0usft
 MD Reference: KB = 25 @ 3466.0usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 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)	
2,543.0	7.39	336.73	2,526.8	184.7	-46.7	0.74	-0.74	0.56	-64.0	-28.9	
2,638.0	7.65	337.61	2,621.0	196.1	-51.5	0.30	0.27	0.93	-67.0	-29.0	
2,733.0	8.09	339.72	2,715.1	208.2	-56.2	0.55	0.46	2.22	-71.1	-26.8	
2,827.0	8.71	344.82	2,808.1	221.3	-60.4	1.03	0.66	5.43	-77.2	-21.2	
2,922.0	7.56	343.85	2,902.2	234.3	-64.0	1.22	-1.21	-1.02	-80.5	-23.8	
3,017.0	7.03	343.32	2,996.4	245.8	-67.4	0.56	-0.56	-0.56	-82.5	-25.8	
3,112.0	7.12	344.03	3,090.7	257.1	-70.7	0.13	0.09	0.75	-84.8	-25.9	
3,207.0	7.12	345.70	3,184.9	268.4	-73.8	0.22	0.00	1.76	-87.3	-24.8	
3,302.0	7.21	346.31	3,279.2	278.9	-76.7	0.12	0.09	0.64	-89.6	-25.5	
3,396.0	6.77	348.16	3,372.5	291.1	-79.2	0.53	-0.47	1.97	-92.2	-24.3	
3,491.0	7.21	338.66	3,466.8	302.1	-82.5	1.30	0.46	-10.00	-88.5	-40.4	
3,586.0	8.27	342.18	3,560.9	314.2	-86.8	1.22	1.12	3.71	-93.8	-35.5	
3,681.0	7.83	341.92	3,655.0	326.8	-90.9	0.46	-0.46	-0.27	-97.0	-36.8	
3,776.0	8.00	333.48	3,749.1	336.9	-95.8	1.24	0.18	-8.88	-93.7	-51.0	
3,871.0	7.83	332.42	3,843.2	350.5	-101.8	0.24	-0.18	-1.12	-96.0	-52.1	
3,966.0	7.30	328.47	3,937.4	361.4	-107.9	0.78	-0.56	-4.16	-94.9	-57.5	
4,061.0	6.77	327.41	4,031.6	371.3	-114.1	0.57	-0.56	-1.12	-95.7	-57.7	
4,156.0	6.07	322.23	4,126.1	380.0	-120.2	0.98	-0.74	-5.45	-91.1	-64.1	
4,251.0	4.75	328.03	4,220.6	387.3	-125.4	1.50	-1.39	6.11	-96.2	-52.6	
4,345.0	3.25	344.03	4,314.4	393.1	-128.2	1.97	-1.60	17.02	-103.5	-24.4	
4,440.0	3.87	332.25	4,409.2	398.6	-130.4	1.01	0.65	-12.40	-92.4	-44.7	
4,535.0	3.17	334.27	4,504.0	403.8	-133.0	0.75	-0.74	2.13	-89.7	-40.9	
4,630.0	2.29	334.16	4,598.9	407.8	-135.0	0.93	-0.93	-0.09	-84.3	-40.6	
4,725.0	5.80	337.17	4,693.7	414.0	-137.7	3.70	3.69	3.15	-83.0	-36.1	
4,820.0	5.19	334.45	4,788.2	422.3	-141.4	0.70	-0.64	-2.86	-80.4	-39.8	
4,915.0	4.57	332.69	4,882.9	429.5	-145.0	0.67	-0.65	-1.85	-77.3	-41.7	
5,010.0	4.31	328.29	4,977.8	435.9	-148.6	0.45	-0.27	-4.63	-71.4	-46.3	



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5,104.0	6.68	323.72	5,071.2	443.3	-153.7	2.56	2.52	-4.86	-67.0	-49.8
5,200.0	6.51	321.97	5,166.5	452.1	-160.3	0.27	-0.18	-1.82	-66.7	-49.4
5,295.0	6.42	320.65	5,260.8	460.5	-167.0	0.18	-0.09	-1.39	-66.7	-48.3
5,390.0	6.24	317.31	5,355.4	468.4	-173.9	0.43	-0.19	-3.52	-64.9	-48.1
5,484.0	6.33	316.16	5,448.8	475.9	-180.9	0.16	0.10	-1.22	-65.0	-47.0
5,579.0	6.16	312.74	5,543.2	483.1	-188.3	0.43	-0.18	-3.60	-63.4	-47.0
5,674.0	6.51	311.33	5,637.6	490.1	-196.1	0.40	0.37	-1.48	-63.7	-44.4
5,769.0	6.24	320.30	5,732.1	497.8	-203.4	1.09	-0.28	9.44	-70.8	-30.4
5,864.0	5.36	321.97	5,826.6	505.1	-209.5	0.94	-0.93	1.76	-71.6	-25.6
5,958.0	4.40	322.58	5,920.2	511.4	-214.4	1.02	-1.02	0.85	-70.4	-22.4
6,053.0	4.31	319.86	6,015.0	517.1	-218.9	0.24	-0.09	-2.86	-68.9	-23.0
6,148.0	4.13	320.12	6,109.7	522.4	-223.4	0.19	-0.19	0.27	-64.5	-19.8
6,243.0	4.04	316.43	6,204.5	527.5	-227.9	0.29	-0.09	-3.88	-60.5	-20.7
6,338.0	3.87	319.24	6,299.2	532.3	-232.3	0.27	-0.18	2.96	-58.5	-14.5
6,432.0	2.55	289.27	6,393.1	535.4	-236.3	2.23	-1.40	-31.88	-41.7	-36.1
6,527.0	2.64	289.09	6,488.0	538.8	-240.4	0.10	0.09	-0.19	-39.2	-28.9
6,622.0	2.20	289.80	6,582.9	538.2	-244.2	0.46	-0.46	0.75	-36.7	-21.1
6,717.0	0.79	13.03	6,677.9	539.4	-245.7	2.37	-1.48	87.61	-18.2	29.8
6,812.0	0.70	351.67	6,772.9	540.6	-245.7	0.31	-0.09	-22.48	-19.4	18.4
6,906.0	0.82	347.19	6,868.9	541.7	-245.9	0.10	-0.09	-4.77	-13.0	15.1
7,001.0	0.53	319.42	6,961.9	542.5	-246.3	0.30	-0.09	-29.23	-13.6	8.9
7,096.0	0.62	305.62	7,056.9	543.2	-247.0	0.17	0.09	-14.53	-13.7	6.8
7,191.0	0.53	305.71	7,151.8	543.7	-247.8	0.09	-0.09	0.09	-14.4	7.0
7,286.0	0.62	307.20	7,246.8	544.3	-248.5	0.10	0.09	1.57	-15.1	7.4
7,381.0	0.62	285.07	7,341.8	544.8	-249.4	0.14	0.00	-12.77	-17.4	3.9
7,476.0	0.79	276.88	7,436.8	545.1	-250.5	0.29	0.18	-19.15	-18.9	-1.9
7,571.0	0.88	253.94	7,531.8	545.0	-251.9	0.36	0.09	-24.15	-18.0	-9.3



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7,665.0	1.06	248.93	7,625.8	544.5	-253.4	0.21	0.19	-5.33	-18.7	-10.9	
7,750.8	1.06	246.15	7,711.8	543.9	-254.8	0.06	0.00	-3.24	-19.7	-11.9	
Brushy Top (VAL 24 FC #714H)											
7,760.0	1.06	245.85	7,720.8	543.8	-255.0	0.06	0.00	-3.24	-19.8	-12.0	
7,855.0	1.06	250.16	7,815.8	543.1	-256.6	0.08	0.00	4.54	-22.4	-10.4	
7,950.0	1.32	251.92	7,910.8	542.5	-258.5	0.28	0.27	1.85	-24.7	-9.6	
8,044.0	1.14	259.30	8,004.7	542.0	-260.4	0.25	-0.19	7.85	-27.8	-6.3	
8,139.0	0.97	243.92	8,099.7	541.5	-262.1	0.35	-0.18	-16.19	-26.8	-13.6	
8,235.0	1.32	241.46	8,195.7	540.6	-263.8	0.37	0.36	-2.56	-28.1	-14.8	
8,330.0	1.32	236.18	8,290.7	539.4	-265.7	0.13	0.00	-5.56	-28.8	-17.4	
8,425.0	1.58	243.39	8,385.6	538.2	-267.7	0.33	0.27	7.59	-33.2	-13.5	
8,520.0	1.76	235.66	8,480.6	536.8	-270.1	0.30	0.16	-8.14	-33.8	-18.1	
8,615.0	1.76	236.71	8,575.6	535.2	-272.5	0.03	0.00	1.11	-37.1	-17.4	
8,710.0	1.58	238.91	8,670.5	533.7	-274.9	0.20	-0.18	2.32	-40.5	-15.9	
8,805.0	1.58	233.28	8,765.5	532.3	-277.0	0.16	0.00	-5.93	-41.3	-19.9	
8,900.0	1.67	230.21	8,860.4	530.6	-279.2	0.13	0.09	-3.23	-42.9	-22.2	
8,995.0	1.67	225.81	8,955.4	528.8	-281.2	0.13	0.00	-4.63	-43.8	-25.5	
9,090.0	0.62	103.47	9,050.4	527.7	-281.7	2.18	-1.11	-126.78	45.2	-24.5	
9,185.0	0.97	98.97	9,145.4	527.5	-280.4	0.38	0.37	-8.84	46.4	-19.3	
9,280.0	0.53	131.95	9,240.4	527.1	-279.3	0.65	-0.46	36.82	25.9	-42.0	
9,375.0	0.35	121.05	9,335.4	526.6	-278.7	0.21	-0.19	-11.47	32.6	-36.4	
9,470.0	0.88	79.56	9,430.4	526.6	-277.7	0.69	0.56	-43.67	47.6	-5.9	
9,565.0	0.35	92.66	9,525.4	526.7	-276.7	0.57	-0.56	13.79	44.0	-16.3	
9,660.0	0.70	13.29	9,620.4	527.3	-276.3	0.76	0.37	-83.55	23.5	40.0	
9,755.0	0.97	339.10	9,715.3	526.6	-276.5	0.58	0.28	-35.99	-4.3	46.0	
9,849.0	1.06	320.73	9,809.3	530.0	-277.3	0.36	0.10	-19.54	-20.2	42.0	
9,944.0	0.70	356.66	9,904.3	531.3	-277.9	0.68	-0.38	38.03	7.2	46.4	



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10,039.0	0.78	348.07	9,999.3	532.5	-278.1	0.15	0.09	-9.25	-1.2	48.8
10,134.0	0.82	327.33	10,094.3	533.8	-278.5	0.32	-0.18	-21.83	-18.8	43.1
10,229.0	0.82	312.82	10,189.3	534.3	-278.1	0.18	0.00	-15.27	-30.0	38.9
10,324.0	0.88	281.10	10,284.3	534.8	-280.2	0.51	0.27	-33.39	-48.1	15.3
10,419.0	0.79	281.50	10,379.3	534.9	-281.6	0.31	-0.09	-20.63	-49.9	-1.3
10,514.0	1.14	248.03	10,474.3	534.4	-283.1	0.46	0.37	-18.28	-49.4	-14.7
10,609.0	1.49	248.28	10,569.2	533.5	-285.1	0.37	0.37	0.27	-51.6	-14.5
10,704.0	1.23	244.71	10,664.2	532.8	-287.1	0.28	-0.27	-1.66	-53.5	-15.9
10,798.0	1.49	282.48	10,758.2	532.0	-289.3	0.52	0.28	18.88	-58.0	1.4
10,893.0	2.11	276.70	10,853.1	532.0	-282.2	0.80	0.65	14.99	-58.8	15.9
10,988.0	2.02	281.41	10,948.1	532.0	-285.6	0.59	-0.09	-18.09	-64.3	-0.8
11,083.0	0.53	348.66	11,043.1	532.2	-297.4	2.15	-1.57	89.74	-8.5	65.7
11,178.0	0.79	54.60	11,138.1	533.0	-298.9	0.81	0.27	71.52	57.6	31.1
11,273.0	0.26	275.03	11,233.1	533.4	-298.6	1.05	-0.58	-146.92	-83.7	13.3
11,368.0	1.23	287.47	11,328.0	533.3	-297.9	1.02	1.02	-7.96	-68.1	4.7
11,463.0	1.32	273.19	11,423.0	533.4	-300.0	0.16	0.09	8.02	-67.4	11.4
11,573.0	1.93	271.69	11,533.0	533.5	-303.1	0.56	0.55	-1.36	-70.8	8.8
11,697.0	2.20	285.45	11,656.9	533.4	-307.5	0.28	0.22	-5.03	-75.9	1.8
11,792.0	0.78	177.74	11,751.9	532.8	-309.3	2.43	-1.48	-92.33	-5.4	-77.6
11,811.0	2.80	171.13	11,770.9	531.9	-309.3	11.15	11.11	-34.78	3.0	-77.7
KOP, MD:11811.0', TVD:11776.9', N/S:531.9', E/W:-309.3', INC:2.80										
11,886.0	11.28	169.30	11,845.2	522.9	-307.6	11.15	11.15	-2.44	-1.3	-77.2
11,981.0	27.44	184.82	11,934.8	492.4	-300.1	17.09	17.03	-4.72	-8.3	-72.5
11,986.4	27.53	185.09	11,939.4	490.0	-299.5	2.82	1.59	5.05	-10.5	-72.1
FTP Crossing, MD:11986.4', TVD:11839.4', N/S:490.0', E/W:-299.5', INC:27.53										
12,078.0	29.02	169.39	12,018.3	448.8	-280.1	2.82	1.87	4.80	-22.3	-62.9
12,171.0	42.38	179.67	12,095.3	393.7	-285.7	15.37	14.06	10.82	-30.6	-54.6



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #714H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3488.0usft
Site:	Valiant 24 Fed Corn	MD Reference:	KB = 25 @ 3488.0usft
Well:	#714H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	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)	
12,210.4	48.88	178.34	12,122.8	385.5	-285.2	16.91	16.74	-3.37	-30.3	-54.7	
FTP(VAL 24 FC #714H)											
12,266.0	58.30	176.88	12,155.8	320.8	-283.3	16.91	16.77	-2.86	-32.3	-53.5	
12,361.0	59.62	173.87	12,204.7	239.7	-276.7	3.03	1.39	-3.15	-28.5	-48.0	
12,455.0	72.19	178.79	12,243.1	154.3	-271.4	14.20	13.37	5.23	-19.5	-41.9	
12,550.0	88.29	175.98	12,259.1	61.1	-267.1	17.19	16.95	-2.96	-12.8	-38.0	
12,645.0	88.81	173.69	12,261.5	-33.5	-258.5	2.47	0.55	-2.41	-10.7	-30.1	
12,740.0	89.25	175.45	12,263.1	-128.1	-249.5	1.91	0.46	1.85	-9.3	-21.7	
12,835.0	91.54	179.32	12,262.5	-222.9	-245.2	4.73	2.41	4.07	-10.2	-17.9	
12,930.0	83.54	177.12	12,266.8	-317.7	-242.2	8.73	-8.42	-2.32	-6.3	-15.8	
13,025.0	86.97	176.59	12,274.4	-412.2	-237.0	3.65	3.61	-0.56	1.2	-10.9	
13,120.0	89.87	175.36	12,277.0	-507.0	-230.4	3.32	3.05	-1.29	3.6	-4.9	
13,214.0	88.20	177.56	12,278.6	-600.8	-224.6	2.94	-1.78	2.34	4.9	0.4	
13,309.0	92.86	178.18	12,277.7	-695.7	-221.1	4.95	4.91	0.65	3.8	3.3	
13,404.0	89.34	178.53	12,275.9	-790.6	-218.3	3.72	-3.71	0.37	1.7	5.4	
13,499.0	90.04	178.35	12,276.4	-885.6	-215.7	0.76	0.74	-0.19	2.0	7.4	
13,594.0	89.43	178.44	12,278.9	-980.5	-213.1	0.65	-0.84	0.09	2.1	9.5	
13,689.0	87.93	178.18	12,279.1	-1,075.4	-210.3	1.60	-1.58	-0.27	4.1	11.7	
13,783.0	91.01	179.93	12,279.9	-1,169.4	-208.7	3.77	3.28	1.88	4.7	12.7	
13,878.0	92.51	180.11	12,277.0	-1,264.4	-208.8	1.59	1.58	0.19	1.5	12.1	
13,973.0	94.70	180.20	12,271.0	-1,359.2	-209.0	2.31	2.31	0.09	-4.7	11.2	
14,068.0	92.77	180.20	12,264.8	-1,454.0	-209.3	2.03	-2.03	0.00	-11.1	10.3	
14,163.0	85.82	178.88	12,268.0	-1,548.9	-208.6	7.45	-7.32	-1.39	-10.2	10.5	
14,257.0	90.13	179.85	12,269.3	-1,642.8	-207.5	4.70	4.59	1.03	-7.1	10.9	
14,352.0	90.13	179.41	12,269.1	-1,737.8	-206.9	0.46	0.00	-0.46	-7.6	11.0	
14,447.0	90.13	178.28	12,268.9	-1,832.8	-205.0	1.21	0.00	-1.21	-8.1	12.3	
14,542.0	92.33	177.56	12,268.9	-1,927.7	-201.5	2.43	2.32	-0.74	-10.3	15.2	



Midland PVA

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Vallant 24 Fed Com
 Well: #714H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #714H
 TVD Reference: KB = 25 @ 3488.0usft
 MD Reference: KB = 25 @ 3488.0usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 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)
14,637.0	91.10	178.79	12,264.0	-2,022.6	-198.5	1.83	-1.29	1.29	-13.4	17.6
14,732.0	87.32	178.53	12,265.3	-2,117.5	-198.3	3.99	-3.98	-0.27	-12.4	18.3
14,827.0	87.83	178.53	12,269.3	-2,212.4	-193.9	0.64	0.64	0.00	-8.7	21.1
14,822.0	90.22	180.73	12,270.8	-2,307.4	-193.2	3.34	2.41	2.32	-7.4	21.1
15,017.0	91.19	180.55	12,269.6	-2,402.4	-194.3	1.04	1.02	-0.19	-8.8	18.5
15,112.0	91.98	180.99	12,267.0	-2,497.3	-195.6	0.95	0.83	0.46	-11.7	17.6
15,207.0	92.15	183.10	12,263.6	-2,592.2	-199.0	2.23	0.18	2.22	-15.4	13.6
15,301.0	89.96	180.64	12,261.8	-2,686.1	-202.0	3.50	-2.33	-2.62	-17.4	10.0
15,396.0	91.63	181.34	12,260.5	-2,781.1	-203.7	1.91	1.76	0.74	-18.9	7.8
15,491.0	90.31	180.73	12,258.9	-2,876.1	-205.4	1.53	-1.39	-0.84	-20.8	5.5
15,585.0	90.04	180.11	12,258.6	-2,970.1	-206.1	0.72	-0.29	-0.66	-21.3	4.2
15,680.0	90.13	179.08	12,258.5	-3,065.1	-205.4	1.11	0.09	-1.11	-21.7	4.3
15,775.0	91.01	178.97	12,257.5	-3,160.1	-203.8	0.93	0.93	-0.09	-22.9	5.3
15,870.0	89.60	178.09	12,257.0	-3,255.0	-201.3	1.75	-1.48	-0.93	-23.7	7.2
15,964.0	89.96	177.65	12,257.4	-3,348.9	-197.8	0.60	0.38	-0.47	-23.6	10.1
16,059.0	89.96	178.70	12,257.5	-3,443.9	-194.8	1.11	0.00	1.11	-23.8	12.5
16,153.0	89.34	178.00	12,258.0	-3,537.9	-192.1	0.99	-0.66	-0.74	-23.4	14.7
16,248.0	89.78	178.00	12,258.8	-3,632.8	-188.8	0.46	0.46	0.00	-23.0	17.4
16,343.0	89.69	177.03	12,259.2	-3,727.7	-184.7	1.03	-0.09	-1.02	-22.8	20.9
16,437.0	90.40	179.23	12,259.1	-3,821.6	-181.6	2.46	0.76	2.34	-23.1	23.4
16,532.0	89.96	180.02	12,258.8	-3,916.6	-181.0	0.95	-0.46	0.83	-23.6	23.5
16,626.0	89.69	180.46	12,259.1	-4,010.6	-181.4	0.55	-0.29	0.47	-23.6	22.5
16,721.0	89.16	180.11	12,260.1	-4,105.6	-181.6	0.67	-0.56	-0.37	-22.9	21.4
16,816.0	89.16	180.73	12,261.5	-4,200.6	-182.5	0.65	0.00	0.65	-21.7	20.1
16,910.0	89.08	179.93	12,262.9	-4,294.6	-183.1	0.66	-0.09	-0.85	-20.5	19.0
17,005.0	90.22	179.93	12,263.5	-4,389.6	-183.0	1.20	1.20	0.00	-20.2	18.5
17,099.0	89.52	179.08	12,263.7	-4,483.6	-182.1	1.19	-0.74	-0.93	-20.3	18.8



Midland PVA

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Valiant 24 Fed Com
 Well: #714H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #714H
 TVD Reference: KB = 25 @ 3486.0usft
 MD Reference: KB = 25 @ 3486.0usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.14

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLog (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
17,111.6	89.38	178.96	12,263.8	-4,496.2	-181.9	1.36	-1.13	-0.76	-20.2	18.9
TOT#1(VAL 24 FC #714H)										
17,183.0	88.46	178.35	12,265.4	-4,577.6	-180.0	1.36	-1.13	-0.76	-19.1	20.3
17,286.0	88.46	177.47	12,267.9	-4,670.5	-176.6	0.95	0.00	-0.95	-17.2	23.1
17,380.0	89.16	178.18	12,269.8	-4,764.4	-173.1	1.06	0.74	0.76	-15.8	26.1
17,475.0	90.13	180.02	12,270.4	-4,859.4	-171.6	2.19	1.02	1.94	-15.8	27.0
17,570.0	89.60	178.88	12,270.6	-4,954.4	-170.7	1.32	-0.56	-1.20	-16.1	27.4
17,664.0	91.19	180.90	12,270.0	-5,048.3	-170.5	2.73	1.69	2.15	-17.3	27.0
17,759.0	88.72	181.43	12,270.1	-5,143.3	-172.4	2.66	-2.60	0.56	-17.8	24.4
17,854.0	89.60	182.39	12,271.5	-5,238.2	-175.6	1.37	0.93	1.01	-17.0	20.7
17,949.0	86.17	180.99	12,275.0	-5,333.1	-178.4	3.90	-3.61	-1.47	-14.0	17.3
18,044.0	86.79	180.46	12,280.8	-5,427.9	-179.6	0.86	0.65	-0.56	-8.8	15.5
18,138.0	88.90	182.04	12,284.3	-5,521.8	-181.6	2.80	2.24	1.88	-5.8	12.9
18,233.0	90.40	183.98	12,284.9	-5,616.7	-186.6	2.58	1.58	2.04	-5.8	7.3
18,328.0	89.34	181.69	12,285.1	-5,711.6	-191.3	2.66	-1.12	-2.41	-6.2	2.0
18,423.0	88.61	181.60	12,286.7	-5,806.5	-194.0	0.57	-0.56	-0.09	-5.2	-1.3
18,518.0	90.31	183.01	12,287.4	-5,901.4	-197.9	2.17	1.58	1.48	-5.0	-5.7
18,612.0	88.90	178.97	12,288.0	-5,995.4	-199.5	4.55	-1.50	-4.30	-5.0	-7.9
18,613.9	88.94	178.97	12,288.1	-5,997.3	-199.4	2.13	2.13	-0.09	-4.9	-7.9
TOT#2(VAL 24 FC #714H)										
18,707.0	90.92	178.88	12,288.2	-6,090.4	-197.7	2.13	2.13	-0.09	-5.8	-6.7
18,802.0	89.43	177.58	12,287.9	-6,185.3	-194.7	2.10	-1.57	-1.39	-7.2	-4.3
18,896.0	88.43	177.56	12,288.8	-6,279.2	-190.7	0.00	0.00	0.00	-7.4	-0.9
18,992.0	90.31	177.82	12,289.0	-6,375.2	-186.9	0.96	0.92	0.27	-8.3	2.4
19,087.0	88.46	177.12	12,290.1	-6,470.1	-182.7	2.08	-1.95	-0.74	-8.3	6.0
19,182.0	90.57	179.76	12,290.9	-6,565.0	-180.1	3.56	2.22	2.78	-8.6	8.0
19,277.0	88.20	180.02	12,291.9	-6,660.0	-179.9	2.51	-2.49	0.27	-8.7	7.6



Midland PVA

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Valiant 24 Fed Com
 Well: #714H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #714H
 TVD Reference: KB = 25 @ 3486.0usft
 MD Reference: KB = 25 @ 3486.0usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.14

Survey

MD (usft)	Inc (°)	Asl (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
19,372.0	88.17	178.35	12,288.6	-8,754.9	-178.6	2.77	-2.14	-1.76	-5.1	8.3
19,466.0	89.08	178.58	12,300.4	-8,848.8	-178.9	3.36	3.10	1.31	-2.3	9.4
19,561.0	88.64	179.23	12,302.3	-8,943.7	-175.9	0.59	-0.46	-0.37	-1.5	9.8
19,656.0	87.49	178.35	12,305.5	-7,038.6	-173.9	1.52	-1.21	-0.93	0.6	11.2
19,751.0	92.07	179.23	12,305.9	-7,133.6	-171.9	4.91	4.82	0.93	-0.1	12.7
Last MWD Survey (MD=19751.0')										
19,835.0	92.07	179.23	12,302.9	-7,217.5	-170.7	0.00	0.00	0.00	-4.1	13.3
Projection to Bit (MD=19835.0') - PBHL(VAL 24 FC #714H)										

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/S (usft)	+E/W (usft)	
11,811.0	11,770.9	531.9	-309.3	KOP, MD:11811.0', TVD:11770.9', N/S:531.9', E/W:-309.3', INC:2.90
11,988.4	11,939.4	490.0	-299.5	FTP Crossing, MD:11988.4', TVD:11939.4', N/S:490.0', E/W:-299.5', INC:27.53
19,751.0	12,305.9	-7,133.6	-171.9	Last MWD Survey (MD=19751.0')
19,835.0	12,302.9	-7,217.5	-170.7	Projection to Bit (MD=19835.0')

Checked By: _____ Approved By: _____ Date: _____



Lea County, NM (NAD 83 NME)

Valiant 24 Fed Com

#714H

Plan #1

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



Approximate to Grid North
True North: 4.35°
Magnetic North: 4.35°
Magnetic Declination: 0.00°
Magnetic Variation: 0.00°

To convert a Magnetic Direction to a Grid Direction, Add 0.35°
To convert a Magnetic Direction to a True Direction, Add 0.35° East
To convert a True Direction to a Grid Direction, Subtract 0.35°

WELL DETAILS: #714H

	1491.0	
	KB = 25 @ 3488.0m	
+N-S	0.0	North
+E-W	0.0	East
0.0	408089.00	780797.00
	32° 0' 0" N	103° 37' 28.194 W

SECTION DETAILS

Sec	MD	Inc	Azd	TVD	+N-S	+E-W	Dieg	TFace	VSeet	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1200.0	0.00	0.00	1200.0	0.0	0.0	0.00	0.00	0.0	
3	1500.0	6.00	338.79	1499.5	14.4	-6.2	2.00	338.79	-14.3	
4	6830.3	6.00	338.79	6800.5	528.6	-225.8	0.00	0.00	-520.8	
5	7130.3	0.00	0.00	7100.0	541.0	-232.0	2.00	180.00	-534.9	
6	7742.3	0.00	0.00	7712.0	541.0	-232.0	0.00	0.00	-534.9	Brushy Top(VAL 24 FC #714H)
7	11824.8	0.00	0.00	11794.5	541.0	-232.0	0.00	0.00	-534.9	
8	12573.5	89.85	179.85	12272.0	64.8	-229.1	12.00	179.85	-58.9	
9	17134.8	89.85	179.85	12284.0	-4496.3	-200.8	0.00	0.00	4500.0	TGT#1(VAL 24 FC #714H)
10	17144.4	89.86	179.85	12284.0	-4505.9	-200.8	2.00	180.00	4509.8	
11	18835.8	89.86	179.85	12293.1	-5997.1	-191.6	0.00	0.00	6000.0	TGT#2(VAL 24 FC #714H)
12	18851.3	89.34	179.85	12293.1	-6012.8	-191.5	2.00	-180.00	8015.7	
13	19858.6	89.34	179.85	12307.0	-7220.0	-184.0	0.00	0.00	7222.3	PBHL(VAL 24 FC #714H)

WELLS TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N-S	+E-W	North	East	Shape
Brushy Top(VAL 24 FC #714H)	7712.0	541.0	-232.0	408089.00	780808.00	Point
TGT#1(VAL 24 FC #714H)	12272.0	64.8	-229.1	408089.00	780808.00	Point
TGT#2(VAL 24 FC #714H)	12284.0	-4496.3	-200.8	401822.70	780808.16	Point
PBHL(VAL 24 FC #714H)	12307.0	-7220.0	-184.0	400091.80	780808.44	Point
PBHL(VAL 24 FC #714H)	12307.0	-7220.0	-184.0	388869.00	780813.00	Rectangle (Sides: L0.0 W60.0)

