

HOBBS OCD

FEB 04 2020

RECEIVED



EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Valiant 24 Fed Com

#728H

OH

Design: OH

Midland PVA

27 September, 2019



Midland PVA

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Valiant 24 Fed Com
 Well: #728H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #728H
 TVD Reference: KB = 25 @ 3486.0usft
 MD Reference: KB = 25 @ 3486.0usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 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 Com		
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	#728H		
Well Position	+N-S 0.0 usft	Northing:	406,056.00 usft
	+E-W 0.0 usft	Easting:	760,787.00 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 6' 51.635 N
		Longitude:	103° 37' 28.197 W
		Ground Level:	3,461.0 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2015	9/8/2019	6.73
			Dip Angle (°)
			59.92
			Field Strength (nT)
			47,839.06816875

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)
	0.0	0.0	0.0
			Direction (°)
			178.76

Survey Program	Date 9/27/2019		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
140.0	20,114.0	Drilltech MWD (OH)	MWD
			Description
			OWSG MWD - Standard



Midland PVA

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Valiant 24 Fed Com
 Well: #728H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #728H
 TVD Reference: KB = 25 @ 3486.0usft
 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)	E/W (usft)	DLeg ("/100usft)	Bulid ("/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	0.0
140.0	0.44	253.54	140.0	-0.2	-0.5	0.31	0.31	0.00	-0.5	0.0	
228.0	0.62	200.72	228.0	-0.7	-1.0	0.57	0.20	-60.02	-1.0	-0.7	
315.0	0.53	192.37	315.0	-1.5	-1.3	0.14	-0.10	-9.60	-1.8	-0.9	
400.0	0.62	201.86	400.0	-2.3	-1.5	0.15	0.11	11.16	-2.7	-0.5	
487.0	0.70	192.45	487.0	-3.3	-1.8	0.15	0.09	-10.82	-3.6	-1.1	
575.0	0.62	191.75	575.0	-4.3	-2.0	0.09	-0.09	-0.80	-4.6	-1.1	
671.0	0.79	180.85	671.0	-5.5	-2.1	0.22	0.18	-11.35	-5.5	-2.1	
762.0	0.70	179.80	762.0	-6.6	-2.1	0.10	-0.10	-1.15	-6.6	-2.2	
899.0	0.70	170.75	898.9	-8.3	-2.0	0.08	0.00	-6.81	-7.9	-3.3	
1,037.0	0.88	158.93	1,036.9	-10.1	-1.5	0.18	0.13	-8.57	-8.9	-5.0	
1,222.0	5.01	53.46	1,221.7	-6.6	5.5	2.87	2.23	-57.01	-0.5	-6.6	
1,314.0	5.28	47.04	1,313.3	-1.4	11.8	0.69	0.29	-6.98	-7.7	-8.1	
1,407.0	5.36	28.92	1,405.9	5.4	16.9	2.00	0.09	-21.83	-12.5	-12.7	
1,489.0	5.54	23.14	1,497.5	13.3	20.6	0.44	0.20	-4.11	-20.4	-13.8	
1,594.0	5.63	22.61	1,592.1	21.9	24.2	0.11	0.09	-0.56	-29.5	-14.0	
1,689.0	6.86	19.71	1,686.5	31.5	27.9	1.34	1.29	-3.05	-39.0	-15.8	
1,784.0	7.21	20.76	1,780.8	42.4	32.0	0.39	0.37	1.11	-51.0	-15.0	
1,878.0	7.21	22.87	1,874.1	53.4	36.3	0.26	0.00	2.24	-62.8	-12.9	
1,973.0	8.53	18.13	1,968.2	65.6	40.9	1.55	1.39	-4.99	-71.1	-19.0	
2,068.0	9.50	16.19	2,062.0	79.8	45.2	1.07	1.02	-2.04	-78.7	-22.3	
2,163.0	8.79	9.69	2,155.8	94.5	48.6	1.32	-0.75	-6.84	-81.3	-31.8	
2,258.0	9.06	10.39	2,249.6	109.0	51.2	0.31	0.28	0.74	-86.6	-30.8	
2,353.0	9.23	11.10	2,343.4	123.8	54.0	0.21	0.18	0.75	-92.2	-29.6	
2,448.0	9.32	12.68	2,437.2	138.8	57.2	0.28	0.09	1.66	-98.4	-27.2	
2,543.0	9.32	13.47	2,530.9	153.8	60.7	0.13	0.00	0.83	-104.3	-26.2	
2,638.0	9.50	16.46	2,624.6	168.8	64.7	0.55	0.19	3.15	-111.2	-21.4	



Midland PVA

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Valiant 24 Fed Com
 Well: #728H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #728H
 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)	EW (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
2,733.0	9.87	16.88		2,718.3	183.9	69.2	0.20	0.18	0.55	-117.4	-21.4
2,828.0	10.46	21.20		2,811.9	199.8	74.7	1.14	0.83	4.44	-125.5	-14.0
2,923.0	9.41	19.18		2,905.4	215.0	80.3	1.16	-1.11	-2.13	-131.6	-20.2
3,017.0	9.50	23.23		2,988.2	229.4	85.9	0.71	0.10	4.31	-138.6	-12.5
3,112.0	8.44	25.07		3,092.0	242.9	92.0	1.16	-1.12	1.94	-144.1	-10.3
3,207.0	7.47	7.67		3,188.1	255.3	95.8	2.72	-1.02	-18.32	-137.5	-54.3
3,302.0	7.03	12.06		3,280.3	287.1	97.8	0.74	-0.46	4.82	-143.3	-43.4
3,397.0	6.51	12.77		3,374.7	278.1	100.2	0.55	-0.55	0.75	-145.1	-41.8
3,492.0	5.89	9.78		3,469.1	288.1	102.2	0.74	-0.65	-3.15	-143.1	-49.8
3,587.0	5.89	20.32		3,563.6	297.5	104.7	1.14	0.00	11.09	-149.6	-23.5
3,681.0	6.16	4.59		3,657.1	307.0	106.8	1.77	0.29	-16.73	-137.7	-63.2
3,776.0	6.07	2.75		3,751.6	317.1	107.5	0.23	-0.09	-1.94	-135.9	-66.4
3,871.0	7.21	8.02		3,845.9	328.1	108.5	1.36	1.20	5.55	-142.4	-52.8
3,967.0	6.68	4.77		3,941.2	338.6	109.8	0.69	-0.55	-3.39	-140.8	-60.1
4,061.0	5.72	359.85		4,034.7	349.7	110.3	1.17	-1.02	-5.23	-135.7	-70.5
4,156.0	7.03	357.39		4,129.1	360.3	110.0	1.41	1.38	-2.59	-133.4	-74.2
4,251.0	7.21	8.64		4,223.4	372.0	110.6	1.48	0.19	11.84	-147.1	-45.4
4,346.0	5.80	21.03		4,317.7	382.4	113.3	2.09	-1.46	13.04	-154.2	-13.5
4,441.0	6.42	15.14		4,412.2	392.0	116.4	0.93	0.65	-6.20	-152.2	-30.5
4,536.0	6.51	22.43		4,506.6	402.1	119.8	0.87	0.09	7.67	-155.8	-12.4
4,631.0	7.56	23.93		4,600.9	412.8	124.4	1.12	1.11	1.58	-158.1	-10.5
4,725.0	6.77	31.84		4,694.2	423.1	129.8	1.34	-0.84	8.41	-160.5	8.6
4,820.0	5.80	0.81		4,788.6	432.7	132.9	3.67	-1.02	-32.66	-142.0	-76.2
4,915.0	8.44	358.53		4,882.9	444.4	132.7	2.79	2.78	-2.40	-141.0	-78.9
5,010.0	8.35	358.79		4,976.8	458.3	132.4	0.10	-0.09	0.27	-145.5	-77.2
5,105.0	8.44	357.65		5,070.8	472.2	132.0	0.20	0.09	-1.20	-148.2	-78.0
5,200.0	8.44	355.10		5,164.8	486.1	131.1	0.39	0.00	-2.68	-149.0	-82.1



Midland PVA

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Valiant 24 Fed Com
 Well: #728H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #728H
 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)	E/W (usft)	DLog (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
5,295.0	8.44	353.87	5,258.8	500.0	129.8	0.19	0.00	-1.29	-151.7	-82.6
5,390.0	8.09	353.61	5,352.8	513.5	128.3	0.37	-0.37	-0.27	-155.5	-80.4
5,485.0	7.74	351.67	5,446.9	526.5	126.8	0.46	-0.37	-2.04	-156.4	-82.6
5,580.0	7.91	351.85	5,541.0	539.3	124.8	0.18	0.18	0.19	-160.2	-78.9
5,674.0	8.35	357.82	5,634.1	552.5	123.6	1.01	0.47	6.35	-171.2	-59.1
5,769.0	7.91	354.75	5,728.1	565.9	122.7	0.65	-0.46	-3.23	-171.6	-65.8
5,864.0	5.63	346.66	5,822.4	577.0	121.0	2.60	-2.40	-8.52	-162.9	-86.0
5,959.0	5.63	347.81	5,917.0	588.1	119.0	0.12	0.00	1.21	-164.8	-78.8
6,054.0	3.87	338.93	6,011.6	593.6	116.8	2.00	-1.85	-9.35	-150.0	-98.8
6,148.0	1.23	309.84	6,105.5	597.2	114.9	3.04	-2.81	-30.95	-81.9	-152.3
6,243.0	1.14	304.56	6,200.5	598.4	113.4	0.15	-0.09	-5.56	-65.5	-150.2
6,338.0	1.14	301.93	6,295.5	599.4	111.8	0.06	0.00	-2.77	-56.8	-143.9
6,433.0	0.97	301.31	6,390.5	600.4	110.3	0.18	-0.18	-0.65	-53.4	-135.2
6,528.0	1.06	302.45	6,485.5	601.3	108.9	0.10	0.09	1.20	-54.1	-124.9
6,622.0	0.70	297.09	6,579.5	602.0	107.6	0.39	-0.38	-5.70	-40.8	-120.1
6,717.0	0.70	349.65	6,674.5	602.8	107.0	0.65	0.00	55.33	-111.8	-36.7
6,812.0	0.79	347.45	6,769.5	604.0	106.8	0.10	0.09	-2.32	-102.4	-37.1
6,907.0	0.53	328.73	6,864.4	605.0	106.4	0.35	-0.27	-19.71	-78.7	-61.6
7,002.0	0.35	300.34	6,959.4	605.6	105.9	0.29	-0.19	-29.88	-37.3	-82.5
7,097.0	0.26	297.09	7,054.4	605.8	105.5	0.10	-0.09	-3.42	-30.2	-75.0
7,192.0	0.44	294.28	7,149.4	606.1	104.9	0.19	0.19	-2.96	-24.8	-66.7
7,286.0	0.53	270.90	7,243.4	606.2	104.2	0.23	0.10	-24.87	1.3	-61.5
7,381.0	0.35	253.32	7,338.4	606.1	103.5	0.23	-0.19	-18.51	14.6	-49.6
7,476.0	0.44	287.60	7,433.4	606.2	102.8	0.26	0.09	36.08	-15.2	-39.2
7,571.0	0.35	247.79	7,528.4	606.2	102.2	0.30	-0.09	-41.91	8.7	-33.5
7,666.0	0.53	235.74	7,623.4	605.8	101.6	0.21	0.19	-12.68	11.5	-27.7
7,761.0	0.53	251.04	7,718.4	605.4	100.8	0.15	0.00	16.11	2.1	-28.3



Midland PVA

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Valiant 24 Fed Corn
 Well: #728H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #728H
 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)	E/W (usft)	DLeg ("/100usft)	Build ("/100usft)	Turn ("/100usft)	High to Plan (usft)	Right to Plan (usft)	
7,855.0	0.79	231.44	7,812.4	604.9	99.9	0.36	0.28	-20.85	10.4	-26.1	
7,950.0	0.70	231.88	7,907.4	604.1	98.9	0.09	-0.09	0.46	9.0	-26.1	
8,045.0	0.70	219.31	8,002.4	603.3	98.1	0.16	0.00	-13.23	13.3	-23.7	
8,140.0	0.79	211.57	8,097.4	602.3	97.4	0.14	0.09	-8.15	15.1	-21.8	
8,235.0	0.62	224.93	8,192.4	601.4	96.7	0.25	-0.18	14.06	8.6	-24.5	
8,330.0	0.79	221.33	8,287.4	600.5	95.9	0.18	0.18	-3.79	8.9	-24.0	
8,425.0	0.97	220.28	8,382.4	599.4	94.9	0.19	0.19	-1.11	7.9	-23.8	
8,520.0	1.06	220.72	8,477.4	598.1	93.8	0.10	0.09	0.46	6.0	-23.9	
8,615.0	1.14	228.89	8,572.3	596.8	92.6	0.19	0.08	8.60	0.8	-24.4	
8,710.0	1.23	244.09	8,667.3	595.8	90.9	0.34	0.09	16.00	-7.6	-23.5	
8,805.0	1.23	242.16	8,762.3	594.9	89.1	0.04	0.00	-2.03	-8.8	-23.7	
8,900.0	1.23	239.61	8,857.3	593.9	87.3	0.08	0.00	-2.68	-9.8	-24.1	
8,996.0	1.32	236.45	8,953.2	592.7	85.5	0.12	0.09	-3.29	-10.6	-24.7	
9,091.0	1.32	239.52	9,048.2	591.6	83.7	0.07	0.00	3.23	-14.1	-24.0	
9,185.0	1.41	239.81	9,142.2	590.4	81.7	0.10	0.10	0.10	-16.4	-24.0	
9,280.0	1.32	220.10	9,237.2	589.0	80.0	0.50	-0.08	-20.54	-9.6	-28.5	
9,375.0	0.97	207.62	9,332.1	587.5	78.9	0.43	-0.37	-13.14	-5.1	-30.1	
9,470.0	0.88	225.64	9,427.1	586.2	78.0	0.32	-0.09	18.97	-15.7	-26.8	
9,565.0	0.97	233.28	9,522.1	585.2	76.9	0.16	0.09	8.04	-20.6	-24.4	
9,660.0	0.97	234.34	9,617.1	584.3	75.6	0.02	0.00	1.12	-22.7	-24.0	
9,755.0	0.97	255.87	9,712.1	583.6	74.1	0.38	0.00	22.66	-31.5	-13.7	
9,850.0	1.06	270.46	9,807.1	583.4	72.5	0.29	0.09	15.36	-35.6	-5.2	
9,945.0	1.76	324.07	9,902.1	584.6	70.8	1.49	0.74	56.43	-27.2	26.3	
10,040.0	2.90	320.91	9,997.0	587.7	68.4	1.21	1.20	-3.33	-32.5	24.7	
10,135.0	2.81	320.82	10,091.9	591.3	65.4	0.09	-0.09	-0.09	-37.2	24.8	
10,230.0	2.64	321.61	10,186.6	594.9	62.6	0.18	-0.18	0.63	-41.4	25.2	
10,325.0	2.20	305.00	10,281.7	597.6	59.7	0.87	-0.46	-17.48	-50.8	11.6	



Midland PVA

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Valiant 24 Fed Com
 Well: #728H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #728H
 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)	NJS (usft)	E/W (usft)	DLeg ("/100usft)	Build ("/100usft)	Turn ("/100usft)	High to Plan (usft)	Right to Plan (usft)
10,418.0	2.29	289.89	10,375.6	599.6	56.6	0.23	0.10	-5.33	-55.3	7.0
10,514.0	1.23	288.72	10,470.5	600.8	54.0	1.18	-1.12	-13.97	-58.3	-6.3
10,609.0	1.06	291.64	10,565.5	601.5	52.2	0.21	-0.18	5.18	-60.5	-1.2
10,704.0	0.62	310.89	10,660.5	602.1	51.0	0.54	-0.46	20.26	-58.9	18.1
10,789.0	0.44	268.88	10,755.5	602.5	50.2	0.44	-0.19	-44.22	-57.3	-25.6
10,894.0	0.18	346.22	10,850.5	602.8	49.8	0.46	-0.27	81.41	-37.7	50.6
10,989.0	1.23	325.66	10,945.5	603.6	49.2	1.12	1.11	-21.84	-54.3	34.1
11,084.0	1.85	339.54	11,040.5	605.9	48.1	0.76	0.65	14.61	-47.0	46.4
11,179.0	1.14	346.84	11,135.4	608.2	47.4	0.77	-0.75	7.68	-43.2	52.2
11,274.0	0.79	20.15	11,230.4	609.7	47.4	0.68	-0.37	35.06	-8.9	67.9
11,287.0	0.35	58.10	11,253.4	609.9	47.5	2.38	-1.91	156.30	32.4	60.3
11,413.0	0.88	309.75	11,369.4	610.7	47.1	0.89	0.46	-91.68	-67.7	13.8
11,508.0	1.41	310.45	11,464.4	611.9	45.6	0.56	0.56	0.74	-69.5	14.6
11,603.0	1.06	223.18	11,559.4	612.0	44.2	1.81	-0.37	-91.86	-18.9	-69.9
11,698.0	3.25	185.56	11,654.3	608.7	43.3	2.63	2.31	-39.60	24.3	-67.4
11,792.0	3.67	188.20	11,748.1	602.9	42.6	0.68	0.66	2.81	15.3	-68.3
11,887.0	3.69	194.52	11,842.9	596.8	41.4	0.48	-0.19	6.65	1.5	-69.2
11,982.0	3.17	198.92	11,937.8	591.4	39.7	0.61	-0.55	4.63	-9.5	-68.9
12,077.0	4.13	195.05	12,032.6	585.6	38.0	1.04	1.01	-4.07	-10.8	-69.6
12,172.0	16.80	172.20	12,125.8	568.6	39.0	13.78	13.34	-24.05	4.5	-69.1
12,267.0	27.87	170.97	12,213.6	532.9	44.3	11.66	11.65	-1.29	-8.9	-65.8
12,362.0	36.93	176.51	12,293.7	482.4	49.6	10.03	9.54	5.83	-25.9	-60.3
12,457.0	38.43	176.59	12,368.9	424.4	53.1	1.58	1.58	0.08	-26.2	-57.0
12,551.0	48.98	176.07	12,436.7	359.7	57.3	11.23	11.22	-0.55	-16.5	-52.8
12,646.0	64.98	175.89	12,488.3	280.5	62.8	16.84	16.84	-0.19	-10.1	-47.3
12,741.0	79.23	175.19	12,517.5	190.6	69.9	15.02	15.00	-0.74	-9.1	-40.7
12,836.0	90.84	174.31	12,525.7	96.5	78.5	12.26	12.22	-0.93	-10.4	-32.4



Midland PVA

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Valiant 24 Fed Com
 Well: #728H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #728H
 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 (°)	Azl (azimuth) (°)	TVD (usft)	N/S (usft)	EW (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
12,931.0	88.84	173.81	12,526.1	2.1	88.5	2.43	-2.32	-0.74	-9.9	-23.1	
13,026.0	91.63	178.53	12,525.9	-92.7	95.0	6.06	3.15	5.18	-10.1	-17.1	
13,120.0	88.90	178.79	12,525.4	-188.6	97.2	2.92	-2.80	0.28	-10.5	-15.5	
13,215.0	86.97	178.97	12,528.9	-281.5	99.1	2.04	-2.03	0.19	-7.1	-14.3	
13,310.0	85.91	179.23	12,534.8	-376.3	100.6	1.15	-1.12	0.27	-1.2	-13.3	
13,405.0	89.43	179.41	12,538.6	-471.2	101.7	3.71	3.71	0.19	2.8	-12.8	
13,500.0	90.22	179.23	12,538.9	-566.2	102.8	0.85	0.83	-0.19	2.9	-12.3	
13,595.0	90.75	179.67	12,538.1	-661.2	103.7	0.73	0.58	0.46	2.1	-11.9	
13,690.0	93.21	188.17	12,534.8	-756.0	98.9	7.31	2.59	6.84	-1.1	-17.4	
13,784.0	89.78	185.91	12,532.4	-849.4	89.0	3.66	-3.65	-0.28	-3.6	-27.8	
13,879.0	91.01	188.09	12,531.7	-943.9	79.1	1.31	1.29	0.19	-4.2	-38.3	
13,974.0	94.00	181.87	12,527.6	-1,038.5	72.5	5.44	3.15	-4.44	-8.3	-45.5	
14,069.0	91.80	174.66	12,522.8	-1,133.3	75.4	7.93	-2.32	-7.59	-13.4	-43.2	
14,164.0	87.93	174.22	12,523.0	-1,227.8	84.6	4.10	-4.07	-0.46	-13.0	-34.6	
14,258.0	87.85	175.89	12,526.4	-1,321.4	82.7	1.78	-0.09	1.78	-8.5	-27.1	
14,353.0	89.87	176.86	12,528.3	-1,416.2	88.7	2.36	2.13	1.02	-7.7	-21.7	
14,448.0	89.87	175.72	12,528.5	-1,511.0	104.8	1.20	0.00	-1.20	-7.5	-16.1	
14,543.0	91.19	177.39	12,527.7	-1,605.8	110.5	2.24	1.39	1.76	-8.6	-11.0	
14,638.0	90.40	177.30	12,526.3	-1,700.7	114.9	0.84	-0.83	-0.09	-10.2	-7.2	
14,732.0	91.10	176.42	12,525.1	-1,794.6	120.1	1.20	0.74	-0.94	-11.7	-2.6	
14,826.0	92.07	177.30	12,522.5	-1,890.4	125.3	1.36	1.01	0.92	-14.6	2.1	
14,923.0	91.80	178.09	12,519.3	-1,985.3	129.2	0.88	-0.28	0.83	-18.0	5.3	
15,018.0	88.81	177.82	12,518.7	-2,080.2	132.5	3.16	-3.15	-0.28	-16.8	8.1	
15,113.0	88.55	176.77	12,520.9	-2,175.0	137.0	1.14	-0.27	-1.11	-16.9	12.0	
15,208.0	88.37	179.58	12,523.5	-2,270.0	140.0	2.96	-0.19	2.96	-14.6	14.4	
15,302.0	89.18	181.78	12,525.5	-2,363.9	138.9	2.49	0.84	2.34	-12.8	12.7	
15,397.0	89.78	181.69	12,526.4	-2,458.9	136.1	0.66	0.65	-0.09	-12.2	9.3	



Midland PVA

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Valiant 24 Fed Com
 Well: #728H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #728H
 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)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
15,492.0	90.92	185.03	12,525.8	-2,553.7	130.5	3.71	1.20	3.52	-13.0	3.1	
15,586.0	93.12	182.04	12,522.5	-2,647.4	124.7	3.95	2.34	-3.18	-16.6	-3.3	
15,681.0	93.91	179.49	12,518.7	-2,742.2	123.4	2.81	0.83	-2.68	-22.6	-5.1	
15,776.0	91.63	177.82	12,512.1	-2,837.1	125.7	2.97	-2.40	-1.76	-27.5	-3.5	
15,871.0	90.75	178.70	12,510.1	-2,932.0	128.5	1.31	-0.93	0.93	-29.7	-1.2	
15,965.0	89.96	178.62	12,509.5	-3,026.0	130.7	0.84	-0.84	-0.09	-30.5	0.4	
16,060.0	92.68	180.55	12,507.3	-3,121.0	131.4	3.51	2.66	2.03	-33.0	0.6	
16,154.0	90.48	178.53	12,504.7	-3,214.9	132.2	3.18	-2.34	-2.15	-35.8	0.7	
16,249.0	87.41	178.88	12,506.5	-3,309.9	134.3	3.25	-3.23	0.37	-34.3	2.3	
16,343.0	87.14	179.67	12,511.0	-3,403.7	135.5	0.89	-0.29	0.84	-30.1	2.9	
16,438.0	88.29	179.32	12,514.8	-3,498.7	138.4	1.27	1.21	-0.37	-28.6	3.1	
16,533.0	89.69	179.67	12,516.4	-3,593.6	137.2	1.52	1.47	0.37	-25.2	3.4	
16,627.0	90.75	180.29	12,516.1	-3,687.6	137.2	1.31	1.13	0.66	-25.8	2.8	
16,722.0	90.48	177.82	12,515.0	-3,782.6	138.8	2.62	-0.28	-2.60	-27.0	3.8	
16,817.0	90.66	178.09	12,514.1	-3,877.5	142.2	0.34	0.19	0.28	-28.2	6.6	
16,911.0	90.66	182.22	12,513.0	-3,971.5	141.9	4.39	0.00	4.39	-29.6	5.8	
17,006.0	88.48	181.34	12,513.7	-4,066.5	139.0	2.49	-2.32	-0.93	-29.1	2.3	
17,100.0	87.67	180.11	12,516.9	-4,160.4	137.8	1.55	-0.64	-1.31	-26.2	0.5	
17,194.0	89.25	183.27	12,519.4	-4,254.3	135.0	3.76	1.68	3.36	-23.9	-2.9	
17,287.0	91.45	184.15	12,518.9	-4,347.1	129.0	2.55	2.37	0.95	-24.7	-8.4	
17,381.0	89.08	180.02	12,518.4	-4,441.0	129.6	5.07	-2.52	-4.39	-25.4	-13.5	
17,476.0	86.17	177.21	12,522.4	-4,535.9	127.9	4.26	-3.06	-2.96	-21.7	-11.8	
17,571.0	88.72	177.39	12,526.6	-4,630.7	132.3	2.69	2.68	0.19	-17.7	-7.9	
17,665.0	88.99	178.59	12,528.5	-4,724.5	137.3	0.90	0.29	-0.85	-16.1	-3.5	
17,760.0	89.96	176.95	12,529.4	-4,819.4	142.6	1.09	1.02	0.38	-15.5	1.2	
17,855.0	90.13	178.00	12,529.3	-4,914.3	146.8	1.12	0.18	1.11	-15.8	4.8	
17,950.0	90.92	177.65	12,528.4	-5,009.2	150.4	0.91	0.83	-0.37	-16.9	7.9	



Midland PVA

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Vallant 24 Fed Corn
 Well: #728H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #728H
 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)	E/W (usft)	DLeg (°/100usft)	Buflg (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
18,044.0	90.75	179.14	12,527.1	-5,103.2	153.1	1.60	-0.18	1.59	-18.8	9.9
18,139.0	88.72	177.39	12,527.5	-5,198.1	155.9	2.82	-2.14	-1.84	-18.4	12.2
18,234.0	90.04	177.65	12,528.5	-5,293.0	160.0	1.42	1.39	0.27	-17.6	15.7
18,329.0	89.52	178.88	12,528.9	-5,388.0	162.9	1.41	-0.55	1.29	-17.5	18.0
18,424.0	89.34	179.67	12,529.8	-5,482.9	164.1	0.85	-0.19	0.83	-16.8	18.6
18,518.0	91.45	181.25	12,529.2	-5,576.9	163.4	2.80	2.24	1.68	-17.7	17.3
18,613.0	89.43	180.11	12,528.5	-5,671.9	162.2	2.44	-2.13	-1.20	-18.7	15.6
18,708.0	89.87	180.81	12,529.0	-5,766.9	161.5	0.87	0.46	0.74	-18.4	14.2
18,803.0	90.48	180.90	12,528.7	-5,861.9	160.1	0.65	0.64	0.09	-18.9	12.2
18,897.0	90.22	181.08	12,528.2	-5,955.9	158.4	0.34	-0.28	0.19	-19.7	10.0
18,992.0	90.04	181.87	12,528.0	-6,050.9	158.0	0.85	-0.19	0.83	-20.5	7.0
19,087.0	89.87	179.41	12,528.0	-6,145.8	154.9	2.60	-0.18	-2.59	-21.4	5.3
19,182.0	89.52	178.62	12,528.5	-6,240.8	156.6	0.91	-0.37	-0.83	-21.9	6.4
19,277.0	89.08	178.53	12,529.7	-6,335.8	158.9	0.47	-0.46	-0.09	-21.7	8.2
19,373.0	88.29	179.06	12,531.9	-6,431.7	160.9	0.99	-0.82	0.55	-20.4	9.6
19,467.0	88.72	178.79	12,534.3	-6,525.7	162.7	0.54	0.46	-0.29	-19.0	10.8
19,562.0	88.02	177.91	12,537.0	-6,620.6	165.4	1.18	-0.74	-0.93	-17.2	12.9
19,657.0	88.37	177.47	12,540.0	-6,715.5	169.3	0.59	0.37	-0.46	-15.2	16.1
19,752.0	87.23	178.95	12,543.7	-6,810.3	173.9	1.32	-1.20	-0.55	-12.6	20.2
19,847.0	86.26	178.33	12,549.1	-6,905.0	179.4	1.21	-1.02	-0.65	-8.2	25.1
19,941.0	88.16	177.65	12,552.8	-6,998.8	184.4	3.39	3.09	1.40	-5.3	29.5
20,036.0	90.04	178.53	12,553.5	-7,093.7	187.5	1.31	0.93	0.93	-5.6	32.1
20,114.0	90.04	178.53	12,553.4	-7,171.7	189.5	0.00	0.00	0.00	-8.4	33.8



Midland PVA

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Valiant 24 Fed Com
Well: #728H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #728H
TVD Reference: KB = 25 @ 3486.0usft
MD Reference: KB = 25 @ 3486.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.14

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/S (usft)	+E/W (usft)	
12,063.0	12,018.6	586.5	38.3	KOP, MD:12063.0', TVD:12018.6', N/S:586.5', E/W:38.3', INC:3.99
12,277.5	12,222.8	528.0	45.1	FTP Crossing, MD:12277.5', TVD:12222.8', N/S:528.0', E/W:45.1', INC:28.86
20,036.0	12,553.5	-7,093.7	187.5	Last MWD Survey (MD=20036.0')
20,114.0	12,553.4	-7,171.7	189.5	Projection to Bit (MD=20114.0')

Checked By: _____ Approved By: _____ Date: _____



Lea County, NM (NAD 83 NME)

Valiant 24 Fed Com

#728H

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



Adjustment to Grid North
True North: 4.35°
Magnetic North: 0.35°
Magnetic Declination: 4.00°
By: [Signature]
Date: [Date]
Project: [Project Name]

To convert a Magnetic Direction to a Grid Direction, Add 0.35°
To convert a Magnetic Direction to a True Direction, Add 4.70° East
To convert a True Direction to a Grid Direction, Subtract 0.35°

WELL DETAILS: #728H

		3481.0									
		KB = 25 @ 3488.0m		Latitude		Longitude		Shot			
+N-S	+E-W	North	East	32° 0' 51.835 N	103° 37' 28.197 W						
0.0	0.0	408056.00	760797.00								

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSeal	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1820.0	0.00	0.00	1820.0	0.0	0.0	0.00	0.00	0.0	
3	2119.8	8.00	10.58	2119.2	15.4	2.9	2.00	10.58	-15.3	
4	7449.5	6.00	10.58	7419.8	582.8	105.1	0.00	0.00	-580.2	Brushy Top (VAL 24 FC #708H)
5	7749.2	0.00	0.00	7719.0	578.0	108.0	2.00	180.00	-575.5	
6	12058.7	0.00	0.00	12058.5	578.0	108.0	0.00	0.00	-575.5	
7	12838.7	90.00	179.65	12538.0	100.6	111.0	12.00	179.65	-98.1	
8	14437.0	90.00	179.65	12538.0	-1497.7	120.8	0.00	0.00	1500.0	TGT#1 (VAL 24 FC #728H)
9	14444.6	89.85	179.65	12536.0	-1505.3	120.9	2.00	180.00	1507.6	
10	18937.6	89.85	179.65	12548.0	-5998.2	148.7	0.00	0.00	6000.0	TGT#2 (VAL 24 FC #728H)
11	18959.2	89.42	179.65	12548.1	-6019.8	148.8	2.00	-180.00	6021.6	
12	20122.5	89.42	179.65	12560.0	-7183.0	156.0	0.00	0.00	7184.7	PBHL (VAL 24 FC #728H)

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N-S	+E-W	North	East	Shape
Brushy Top (VAL 24 FC #708H)	7719.0	578.0	108.0	40834.00	760905.00	Polygon
FTF#1 (VAL 24 FC #728H)	12938.0	828.0	108.0	408384.00	760905.00	Point
TGT#1 (VAL 24 FC #728H)	12538.0	-1497.7	120.8	404588.30	760917.84	Point
TGT#2 (VAL 24 FC #728H)	12548.0	-6005.2	148.7	400087.20	760945.67	Point
PBHL (VAL 24 FC #728H)	12560.0	-7183.0	156.0	398973.00	760953.00	Rectangle (Sides: L&D W&D)

