

HOBBS OCD

FEB 04 2020

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EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Valiant 24 Fed Com

#710H

OH

Design: OH

Midland PVA

02 October, 2019



Midland PVA

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Valiant 24 Fed Com
 Well: #710H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #710H
 TVD Reference: KB = 25 @ 3487.0usft
 MD Reference: KB = 25 @ 3487.0usft
 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
 Geo Datum: North American Datum 1983
 Map Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level

Site Valiant 24 Fed Com

Site Position:	Map	Northing:	406,151.00 usft	Latitude:	32° 6' 52.620 N
From:		Easting:	760,107.00 usft	Longitude:	103° 37' 36.212 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.38 "

Well #710H

Well Position	+N-S	0.0 usft	Northing:	405,886.00 usft	Latitude:	32° 6' 49.890 N
	+E-W	0.0 usft	Easting:	761,765.00 usft	Longitude:	103° 37' 16.955 W
Position Uncertainty	0.0 usft		Wellhead Elevation:	usft	Ground Level:	3,462.0 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	9/8/2019	6.73	59.92	47,639.09844491

Design OH

Audit Notes:		Phase:	ACTUAL	Tie On Depth:	0.0
Version:	1.0				
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)	
	0.0	0.0	0.0	178.63	

Survey Program Date 10/2/2019

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
194.0	19,930.0	Driltech MWD (OH)	MWD	OWSG MWD - Standard



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Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	EW (usft)	DLeg (°/100usft)	Bulld (°/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
194.0	0.82	141.16	194.0	-0.8	0.7	0.32	0.32	0.00	-1.0	0.0
224.0	0.44	112.59	224.0	-1.0	0.9	1.05	-0.60	-85.23	-1.2	-0.6
397.0	1.23	133.16	397.0	-2.5	2.8	0.48	0.48	11.89	-3.8	0.1
572.0	1.58	128.68	571.9	-5.3	6.1	0.21	0.20	-2.56	-8.1	-0.3
668.0	1.58	129.47	667.9	-7.0	8.1	0.02	0.00	0.82	-10.7	-0.2
853.0	2.11	113.03	852.8	-8.9	13.2	0.40	0.29	-8.89	-16.1	-4.0
942.0	1.67	113.21	941.7	-11.1	15.9	0.49	-0.49	0.20	-19.0	-3.9
1,028.0	0.79	47.66	1,027.7	-11.2	17.5	1.77	-1.02	-76.22	-5.3	-20.2
1,123.0	1.67	10.31	1,122.7	-8.4	18.3	1.21	0.93	-39.32	8.6	-19.7
1,218.0	4.57	6.97	1,217.6	-4.3	19.0	3.06	3.05	-3.52	10.2	-19.1
1,312.0	6.33	7.76	1,311.1	4.8	20.1	1.87	1.87	0.84	9.6	-19.0
1,406.0	6.24	8.02	1,404.6	14.8	21.5	0.10	-0.10	0.28	10.4	-18.8
1,501.0	6.07	8.46	1,499.0	24.9	23.0	0.19	-0.18	0.46	11.7	-18.7
1,596.0	6.07	7.05	1,593.5	34.8	24.4	0.16	0.00	-1.48	13.7	-18.2
1,691.0	6.07	9.51	1,687.9	44.8	25.8	0.27	0.00	2.59	14.4	-18.6
1,786.0	6.07	7.23	1,782.4	54.7	27.3	0.25	0.00	-2.40	16.7	-17.9
1,881.0	6.07	5.82	1,876.9	64.7	28.4	0.16	0.00	-1.48	18.6	-17.0
1,976.0	6.16	8.37	1,971.3	74.7	29.7	0.30	0.09	2.68	19.3	-17.4
2,070.0	8.35	7.40	2,064.6	85.5	31.3	2.33	2.33	-1.03	19.2	-18.9
2,164.0	8.97	9.07	2,157.5	100.5	33.3	0.71	0.66	1.78	16.0	-17.3
2,353.0	9.41	10.22	2,344.1	130.2	38.4	0.25	0.23	0.61	8.4	-17.8
2,543.0	10.29	13.12	2,531.3	162.1	45.0	0.53	0.46	1.53	-2.0	-19.1
2,638.0	10.20	14.17	2,624.8	178.5	49.0	0.22	-0.09	1.11	-7.8	-19.9
2,732.0	10.29	16.02	2,717.3	194.6	53.3	0.36	0.10	1.97	-13.8	-20.6
2,827.0	10.38	15.84	2,810.7	211.0	58.0	0.10	0.09	-0.19	-19.4	-22.3
3,015.0	10.82	22.61	2,895.5	243.6	69.4	0.70	0.23	3.60	-34.2	-23.3



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 MD Reference: KB = 25 @ 3487.0usft
 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)	D/Leg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)		
3,110.0	10.99	25.60	3,088.8	260.0	78.7	0.62	0.18	3.15	-42.3	-24.3		
3,205.0	10.29	14.70	3,182.2	278.4	82.8	2.24	-0.74	-11.47	-42.9	-34.7		
3,297.0	10.73	12.33	3,272.6	292.7	86.7	0.67	0.48	-2.58	-47.1	-37.4		
3,391.0	10.38	13.73	3,365.1	309.5	80.6	0.46	-0.37	1.49	-53.9	-37.0		
3,580.0	10.55	20.85	3,550.9	342.2	100.8	0.69	0.09	3.77	-69.8	-32.7		
3,675.0	10.29	22.87	3,644.4	358.1	107.2	0.47	-0.27	2.13	-76.9	-32.7		
3,770.0	9.32	20.76	3,738.0	373.1	113.2	1.09	-1.02	-2.22	-80.6	-38.1		
3,864.0	9.32	25.16	3,830.7	387.1	119.2	0.76	0.00	4.68	-87.5	-34.5		
3,957.0	8.35	27.27	3,922.6	399.9	125.4	1.10	-1.04	2.27	-92.2	-34.5		
4,049.0	7.21	25.77	4,013.8	411.1	131.0	1.26	-1.24	-1.83	-93.0	-40.3		
4,144.0	6.24	26.74	4,108.1	421.1	135.9	1.03	-1.02	1.02	-93.8	-42.1		
4,239.0	5.89	32.54	4,202.6	429.8	140.9	0.74	-0.37	8.11	-97.0	-36.6		
4,429.0	4.75	53.37	4,391.8	442.7	152.4	1.17	-0.60	10.96	-104.0	-12.5		
4,524.0	4.75	72.88	4,486.5	446.2	159.4	1.69	0.00	20.54	-104.8	13.8		
4,617.0	5.19	95.21	4,579.1	447.0	167.2	2.12	0.47	24.01	-98.7	42.7		
4,808.0	6.24	40.80	4,769.3	454.0	182.6	2.78	0.55	-28.49	-87.9	-74.5		
4,998.0	5.01	19.71	4,958.4	469.7	192.2	1.26	-0.65	-11.10	-50.5	-109.1		
5,093.0	5.28	16.63	5,053.0	477.8	194.8	0.41	0.28	-3.24	-41.6	-113.4		
5,188.0	6.51	3.45	5,147.5	487.3	198.4	1.92	1.29	-13.87	-12.9	-118.8		
5,283.0	6.77	3.01	5,241.9	498.3	197.0	0.28	0.27	-0.46	-11.5	-118.7		
5,377.0	6.51	2.39	5,335.2	509.1	197.5	0.29	-0.28	-0.66	-9.7	-117.6		
5,471.0	6.16	356.33	5,428.7	519.5	197.4	0.80	-0.37	-6.45	3.5	-116.0		
5,565.0	6.33	356.77	5,522.1	529.7	198.8	0.19	0.18	0.47	3.8	-113.6		
5,659.0	6.68	354.57	5,615.5	540.3	198.0	0.46	0.37	-2.34	8.4	-110.7		
5,751.0	7.91	353.17	5,708.8	551.9	194.7	1.35	1.34	-1.52	10.1	-107.5		
5,846.0	8.00	350.71	5,800.9	564.9	192.9	0.37	0.09	-2.59	12.5	-103.7		
5,940.0	7.65	348.24	5,894.0	577.5	190.6	0.52	-0.37	-2.63	14.9	-99.3		



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Well:	#710H	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)	EW (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
6,034.0	7.39	347.37	5,987.2	589.6	188.0	0.30	-0.28	-0.93	14.7	-84.9	
6,129.0	7.47	346.93	6,081.4	601.5	185.2	0.10	0.08	-0.46	13.9	-80.5	
6,224.0	7.12	346.66	6,175.6	613.3	182.5	0.37	-0.37	-0.28	13.0	-88.1	
6,319.0	7.12	344.20	6,269.9	624.7	179.5	0.32	0.00	-2.59	15.4	-80.8	
6,414.0	7.03	346.05	6,364.1	636.0	178.5	0.26	-0.09	1.95	11.7	-78.6	
6,509.0	7.12	344.29	6,458.4	647.3	173.5	0.25	0.09	-1.85	12.9	-71.5	
6,605.0	7.12	343.85	6,553.7	658.7	170.3	0.06	0.00	-0.46	12.1	-66.5	
6,698.0	6.86	344.38	6,648.0	669.6	167.2	0.29	-0.28	0.57	10.5	-61.9	
6,793.0	6.69	344.82	6,740.3	680.4	164.2	0.20	-0.19	0.46	9.4	-57.2	
6,886.0	6.24	345.61	6,832.7	690.5	161.5	0.46	-0.47	0.85	8.6	-52.7	
6,980.0	5.98	345.26	6,926.2	700.2	159.0	0.28	-0.28	-0.37	9.4	-48.1	
7,074.0	5.63	341.56	7,019.7	709.3	156.3	0.54	-0.37	-3.94	13.2	-42.4	
7,169.0	5.63	345.17	7,114.3	718.2	153.6	0.37	0.00	3.80	11.8	-38.2	
7,263.0	5.28	352.38	7,207.8	727.0	151.9	0.82	-0.37	7.67	8.0	-35.5	
7,357.0	5.19	347.54	7,301.4	735.4	150.4	0.48	-0.10	-5.15	14.0	-30.9	
7,451.0	4.31	349.83	7,395.1	743.1	148.8	0.86	-0.94	2.44	13.4	-28.3	
7,546.0	2.90	349.91	7,489.9	746.9	147.8	1.48	-1.48	0.08	13.0	-26.4	
7,641.0	1.58	9.78	7,584.9	752.6	147.6	1.59	-1.39	20.92	2.4	-28.4	
7,736.0	1.23	17.07	7,679.8	754.9	148.1	0.41	-0.37	7.67	-3.3	-28.4	
7,788.1	1.18	18.83	7,731.9	755.9	148.4	0.12	-0.10	3.38	-5.3	-28.2	
Brushy Top (VAL 24 FC #710H)											
7,829.0	1.14	20.32	7,772.8	756.7	148.7	0.12	-0.10	3.64	-8.9	-28.1	
7,922.0	0.88	18.13	7,865.8	758.2	149.3	0.28	-0.28	-2.35	-7.4	-28.4	
8,016.0	0.35	40.01	7,959.8	759.1	149.7	0.61	-0.56	23.28	-18.4	-23.3	
8,110.0	0.26	151.80	8,053.8	759.2	150.0	0.54	-0.10	119.03	-14.8	26.0	
8,203.0	0.26	206.92	8,146.8	759.8	150.0	0.26	0.00	59.16	12.5	27.3	
8,288.0	0.44	226.34	8,241.8	758.3	149.6	0.22	0.19	20.44	20.3	21.6	



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8,393.0	0.79	228.87	8,338.8	757.6	148.9	0.37	0.37	0.56	19.5	21.4	
8,488.0	1.06	213.24	8,431.8	758.5	147.9	0.36	0.28	-14.35	12.3	25.3	
8,583.0	1.23	201.99	8,526.8	754.8	147.0	0.30	0.18	-11.84	5.3	27.0	
8,677.0	1.41	202.35	8,620.7	752.8	148.2	0.19	0.19	0.38	3.3	27.0	
8,772.0	1.49	202.87	8,715.7	750.6	145.3	0.09	0.08	0.55	1.1	27.0	
8,865.0	1.67	205.07	8,808.7	748.2	144.2	0.20	0.19	2.37	-0.4	27.0	
8,960.0	1.49	210.87	8,903.6	745.9	143.0	0.25	-0.19	6.11	-0.3	27.0	
9,054.0	1.06	220.01	8,997.6	744.2	141.8	0.50	-0.46	9.72	1.9	26.9	
9,148.0	0.53	279.60	9,091.6	743.6	140.9	0.97	-0.56	63.39	23.3	12.7	
9,241.0	1.06	319.42	9,184.6	744.3	139.9	0.79	0.57	42.82	24.8	-4.9	
9,335.0	1.06	315.11	9,278.6	745.6	138.7	0.08	0.00	-4.59	23.4	-3.1	
9,429.0	1.41	321.17	9,372.5	747.1	137.4	0.40	0.37	6.45	20.9	-5.4	
9,524.0	1.93	327.85	9,467.5	749.4	135.8	0.58	0.55	7.03	17.4	-7.7	
9,619.0	2.37	327.08	9,562.4	752.4	133.9	0.46	0.46	-0.83	13.9	-7.5	
9,714.0	2.80	323.37	9,657.3	756.0	131.3	0.59	0.56	-3.88	10.0	-6.7	
9,809.0	2.55	318.54	9,752.2	759.5	128.5	0.44	-0.37	-5.08	6.0	-6.0	
9,904.0	2.64	309.82	9,847.1	762.5	125.4	0.42	0.09	-9.07	2.6	-5.4	
9,999.0	2.37	312.91	9,942.0	765.2	122.3	0.32	-0.28	3.15	-1.8	-5.4	
10,094.0	1.85	309.31	10,037.0	767.5	119.7	0.56	-0.55	-3.79	-5.0	-5.6	
10,188.0	1.58	285.40	10,128.9	768.8	117.3	0.82	-0.29	-25.99	-4.9	-7.8	
10,281.0	1.06	272.66	10,223.9	769.2	115.2	0.63	-0.55	-13.41	-5.2	-8.8	
10,376.0	1.41	281.01	10,318.9	769.4	113.2	0.41	0.37	6.79	-8.5	-8.0	
10,467.0	1.49	291.20	10,409.9	770.1	111.0	0.30	0.09	11.20	-12.1	-6.1	
10,561.0	0.44	298.76	10,503.8	770.7	109.5	1.12	-1.12	8.04	-14.4	-4.3	
10,655.0	0.62	281.36	10,597.8	771.0	108.7	0.25	0.19	-18.51	-13.3	-8.5	
10,749.0	0.88	305.71	10,691.8	771.5	107.8	0.43	0.28	25.90	-16.8	-2.1	
10,844.0	1.32	303.16	10,786.8	772.5	106.1	0.47	0.46	-2.68	-18.5	-2.8	



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10,939.0	2.20	288.76	10,881.8	774.0	103.6	0.94	0.93	-4.63	-21.1	-4.4
11,034.0	1.58	297.09	10,976.7	775.5	100.8	0.66	-0.65	-1.76	-24.1	-5.0
11,129.0	2.46	268.88	11,071.7	776.0	97.6	1.37	0.93	-26.69	-22.1	-16.5
11,224.0	2.37	260.00	11,166.6	775.6	93.6	0.40	-0.09	-9.35	-23.2	-20.0
11,319.0	2.81	254.03	11,261.5	774.7	89.5	0.54	0.46	-6.28	-25.3	-22.5
11,414.0	3.78	248.05	11,356.3	772.8	84.3	1.08	1.02	-6.29	-28.3	-25.3
11,509.0	3.52	268.09	11,451.1	771.6	78.5	1.36	-0.27	21.09	-41.1	-13.0
11,654.0	3.78	282.50	11,595.8	772.5	69.4	0.66	0.18	9.94	-52.1	-1.2
11,749.0	3.52	282.33	11,690.7	773.8	63.5	0.27	-0.27	-0.18	-58.2	-1.4
11,845.0	3.43	277.23	11,786.5	774.8	57.8	0.34	-0.09	-5.31	-63.6	-6.8
11,920.0	2.32	238.79	11,881.4	774.3	54.2	2.88	-1.48	-51.28	-48.1	-47.6
KOP, MD:11920.0', TVD:11881.4', N/S:774.3', EW:54.2', INC:2.32										
11,940.0	2.29	224.41	11,881.4	773.8	53.6	2.88	-0.14	-71.89	-34.2	-59.5
12,035.0	17.85	168.86	11,974.7	758.0	55.1	17.54	16.38	-58.47	33.4	-59.9
12,130.0	39.25	163.85	12,058.1	715.0	66.2	21.60	21.47	-5.27	26.8	-49.4
12,139.2	39.25	163.93	12,065.3	709.5	67.8	10.86	10.85	0.89	25.0	-48.3
FTP Crossing, MD:12139.2', TVD:12065.3', N/S:709.5', EW:67.8', INC:39.25										
12,224.0	48.45	164.55	12,126.4	653.0	83.7	10.86	10.85	0.73	8.4	-36.0
12,286.3	55.04	171.17	12,166.2	603.7	94.2	13.05	10.25	10.30	-4.6	-27.3
FTP(VAL 24 FC #710H)										
12,319.0	58.30	173.96	12,183.1	578.3	97.5	13.05	10.62	9.07	-9.7	-24.2
12,413.0	63.49	175.36	12,228.8	498.5	105.1	5.67	5.52	1.49	-17.7	-17.1
12,505.0	68.57	178.00	12,267.6	413.3	109.9	4.24	3.35	2.87	-13.4	-12.4
12,598.0	76.06	177.65	12,297.4	325.3	113.3	10.21	10.20	-0.38	-0.6	-9.4
12,693.0	91.36	175.01	12,307.8	231.4	119.3	16.34	16.11	-2.78	7.8	-3.9
12,787.0	91.36	175.45	12,305.5	137.7	127.1	0.47	0.00	0.47	5.6	3.3
12,882.0	90.75	176.33	12,303.6	43.0	133.9	1.13	-0.64	0.93	3.8	9.5



Midland PVA

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Valiant 24 Fed Corn
 Well: #710H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #710H
 TVD Reference: KB = 25 @ 3487.0usft
 MD Reference: KB = 25 @ 3487.0usft
 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)
12,976.0	89.43	178.79	12,303.6	-50.9	137.9	2.97	-1.40	2.82	3.7	12.9
13,071.0	89.87	178.97	12,304.2	-145.9	139.8	0.50	0.46	0.19	4.2	14.2
13,166.0	90.22	178.44	12,304.1	-240.9	141.9	0.67	0.37	-0.56	4.2	15.8
13,258.0	90.04	177.56	12,303.9	-332.8	145.2	0.98	-0.20	-0.96	4.0	16.4
13,349.0	91.45	178.70	12,302.7	-423.7	148.1	1.99	1.55	1.25	2.8	20.8
13,444.0	91.63	179.76	12,300.2	-518.7	149.4	1.13	0.19	1.12	0.2	21.5
13,538.0	91.10	179.85	12,297.9	-612.7	149.7	0.57	-0.56	0.10	-2.0	21.2
13,633.0	90.75	179.85	12,296.4	-707.7	150.0	0.37	-0.37	0.00	-3.6	20.9
13,727.0	90.57	179.14	12,295.3	-801.6	150.8	0.78	-0.19	-0.76	-4.6	21.1
13,822.0	91.10	179.06	12,293.9	-896.6	152.3	0.56	0.56	-0.08	-6.0	22.0
13,916.0	91.80	180.81	12,291.6	-990.6	152.4	2.00	0.74	1.86	-8.4	21.6
14,011.0	88.02	181.43	12,291.7	-1,085.6	150.5	4.03	-3.98	0.65	-8.2	19.1
14,106.0	87.41	180.99	12,295.5	-1,180.5	148.5	0.79	-0.84	-0.46	-4.5	16.5
14,201.0	88.72	180.55	12,298.7	-1,275.4	147.3	1.45	1.38	-0.46	-1.3	14.7
14,296.0	85.47	178.62	12,303.5	-1,370.2	147.9	3.98	-3.42	-2.03	3.5	14.6
14,391.0	87.93	177.12	12,309.0	-1,465.0	151.5	3.03	2.59	-1.58	9.0	17.7
14,486.0	93.47	177.03	12,307.8	-1,559.8	156.3	5.83	5.83	-0.09	7.9	22.0
14,581.0	92.59	176.51	12,302.8	-1,654.8	161.7	1.08	-0.93	-0.55	2.9	26.7
14,675.0	93.21	179.76	12,298.1	-1,748.4	164.7	3.52	0.66	3.46	-1.9	29.2
14,770.0	93.39	181.60	12,292.6	-1,843.2	163.6	1.94	0.19	1.94	-7.4	27.5
14,864.0	89.78	181.34	12,290.0	-1,937.1	161.2	3.85	-3.84	-0.28	-10.0	24.5
14,959.0	91.10	182.31	12,289.3	-2,032.1	158.2	1.72	1.39	1.02	-10.8	20.9
15,050.0	89.34	180.90	12,288.9	-2,123.0	155.6	2.48	-1.93	-1.55	-11.1	17.8
15,145.0	91.10	181.87	12,288.5	-2,218.0	153.3	2.12	1.85	1.02	-11.5	14.9
15,240.0	88.37	181.69	12,289.0	-2,312.9	150.4	2.88	-2.87	-0.19	-11.0	11.4
15,335.0	88.11	180.90	12,291.9	-2,407.9	148.2	0.88	-0.27	-0.83	-8.1	8.6
15,428.0	92.86	180.90	12,291.1	-2,500.8	146.8	5.11	5.11	0.00	-8.9	6.6



Midland PVA

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Valiant 24 Fed Com
 Well: #710H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference:
 TVD Reference:
 MD Reference:
 North Reference:
 Survey Calculation Method:
 Database:

Well #710H
 KB = 25 @ 3487.0usft
 KB = 25 @ 3487.0usft
 Grid
 Minimum Curvature
 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)
15,523.0	89.16	180.89	12,289.4	-2,595.8	145.2	3.90	-3.89	0.09	-10.6	4.4
15,618.0	90.66	181.43	12,289.6	-2,690.8	143.2	1.65	1.58	0.46	-10.4	1.8
15,713.0	90.40	181.34	12,288.7	-2,785.7	140.9	0.29	-0.27	-0.09	-11.3	-1.0
15,808.0	90.84	181.78	12,287.7	-2,880.7	138.3	0.65	0.48	0.48	-12.3	-4.2
15,855.0	89.52	180.64	12,287.5	-2,927.7	137.3	3.71	-2.81	-2.43	-12.5	-5.5
15,903.0	90.13	181.69	12,287.7	-2,975.7	136.3	2.53	1.27	2.19	-12.3	-6.8
15,998.0	89.25	180.46	12,288.2	-3,070.6	134.6	1.59	-0.93	-1.29	-11.8	-9.1
16,093.0	91.71	180.84	12,287.4	-3,165.6	133.6	2.80	2.59	0.19	-12.6	-10.6
16,187.0	90.04	180.64	12,286.0	-3,259.6	132.6	1.78	-1.78	0.00	-14.0	-12.3
16,282.0	89.16	181.08	12,286.6	-3,354.6	131.2	1.04	-0.93	0.46	-13.4	-14.3
16,377.0	91.54	182.04	12,286.0	-3,449.6	128.6	2.70	2.51	1.01	-13.9	-17.5
16,472.0	89.96	180.89	12,284.8	-3,544.5	126.1	2.00	-1.66	-1.11	-15.2	-20.6
16,566.0	89.69	181.78	12,285.1	-3,638.5	123.8	0.89	-0.29	0.84	-14.9	-23.4
16,661.0	88.37	180.90	12,286.7	-3,733.4	121.6	1.67	-1.39	-0.93	-13.3	-26.2
16,756.0	88.37	178.35	12,289.4	-3,828.4	122.2	2.68	0.00	-2.68	-10.6	-26.2
16,851.0	90.57	178.44	12,290.3	-3,923.3	124.9	2.32	2.32	0.09	-9.7	-24.1
16,898.0	91.45	179.14	12,289.4	-3,970.3	125.8	2.39	1.87	1.49	-10.6	-23.4
16,946.0	89.96	178.18	12,288.9	-4,018.3	127.0	3.69	-3.10	-2.00	-11.1	-22.6
17,041.0	92.15	179.06	12,287.1	-4,113.3	129.3	2.48	2.31	0.93	-12.9	-20.9
17,136.0	94.82	179.06	12,281.5	-4,208.1	130.8	2.80	2.60	0.00	-18.5	-19.9
17,204.3	93.36	180.07	12,278.8	-4,276.2	131.3	2.37	-1.85	1.47	-23.2	-19.8
TGT#1 (VAL 24 FC #710H)										
17,231.0	92.86	180.46	12,275.3	-4,302.9	131.2	2.37	-1.85	1.47	-24.8	-20.1
17,326.0	89.78	180.46	12,273.1	-4,397.8	130.4	3.24	-3.24	0.00	-27.3	-21.4
17,421.0	89.96	180.55	12,273.3	-4,492.8	129.6	0.21	0.19	0.09	-27.4	-22.9
17,516.0	88.88	179.49	12,275.9	-4,587.8	129.6	3.43	-3.24	-1.12	-25.2	-23.5
17,611.0	87.85	179.23	12,280.3	-4,682.7	130.6	1.06	1.02	-0.27	-21.1	-23.0



Midland PVA

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Valiant 24 Fed Com
 Well: #710H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #710H
 TVD Reference: KB = 25 @ 3487.0usft
 MD Reference: KB = 25 @ 3487.0usft
 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)
17,705.0	89.43	180.84	12,282.5	-4,776.6	130.7	2.25	1.68	1.50	-19.3	-23.5
17,800.0	88.90	179.23	12,283.9	-4,871.6	130.9	1.59	-0.56	-1.48	-18.2	-24.0
17,895.0	87.49	179.32	12,286.9	-4,966.6	132.1	1.49	-1.48	0.09	-15.6	-23.4
17,990.0	87.85	177.91	12,290.8	-5,061.4	134.3	1.53	0.38	-1.48	-12.1	-21.7
18,084.0	89.78	178.79	12,282.7	-5,155.4	137.1	2.26	2.05	0.94	-10.5	-19.5
18,179.0	91.45	178.79	12,281.7	-5,250.4	139.1	1.76	1.78	0.00	-11.8	-18.1
18,271.0	92.24	177.82	12,288.7	-5,342.3	141.8	1.36	0.86	-1.05	-15.2	-16.0
18,366.0	88.64	177.65	12,288.0	-5,437.2	145.5	3.79	-3.79	-0.18	-16.2	-12.8
18,460.0	89.16	178.95	12,289.8	-5,531.0	150.0	0.93	0.55	-0.74	-14.8	-8.9
18,554.0	89.78	177.65	12,290.7	-5,624.9	154.4	0.99	0.66	0.74	-14.2	-5.1
18,648.0	88.37	177.56	12,292.2	-5,718.8	158.3	1.50	-1.50	-0.10	-13.1	-1.8
18,742.0	89.43	177.39	12,294.0	-5,812.7	162.5	1.14	1.13	-0.18	-11.6	1.8
18,835.0	89.34	178.09	12,295.0	-5,905.7	166.1	0.76	-0.10	0.75	-11.0	4.9
18,930.0	90.31	177.47	12,295.3	-6,000.6	169.8	1.21	1.02	-0.65	-11.0	8.0
19,025.0	88.37	178.18	12,296.4	-6,095.5	173.4	2.17	-2.04	0.75	-10.3	11.0
19,119.0	88.46	177.03	12,299.0	-6,189.4	177.3	1.23	0.10	-1.22	-8.0	14.3
19,214.0	87.93	178.86	12,302.0	-6,284.2	182.4	0.59	-0.56	-0.18	-5.4	18.8
19,309.0	89.52	177.56	12,304.1	-6,379.1	187.0	1.83	1.67	0.74	-3.6	22.9
19,404.0	90.84	180.02	12,303.8	-6,474.0	189.0	2.94	1.39	2.59	-4.3	24.3
19,499.0	91.54	180.46	12,301.8	-6,569.0	188.6	0.87	0.74	0.46	-6.6	23.3
19,594.0	88.99	182.13	12,301.4	-6,664.0	186.5	3.21	-2.68	1.78	-7.4	20.6
19,689.0	88.11	181.16	12,303.8	-6,758.9	183.8	1.38	-0.93	-1.02	-5.3	17.3
19,731.0	87.58	181.52	12,305.4	-6,800.9	182.8	1.53	-1.26	0.86	-3.9	16.0
Last MWD Survey (MD=19731.0')										
19,930.0	87.58	181.52	12,313.8	-6,999.6	177.5	0.00	0.00	0.00	3.8	9.5
Projection to Bit (MD=19930.0') - PBHL (VAL 24 FC #710H)										



Midland PVA

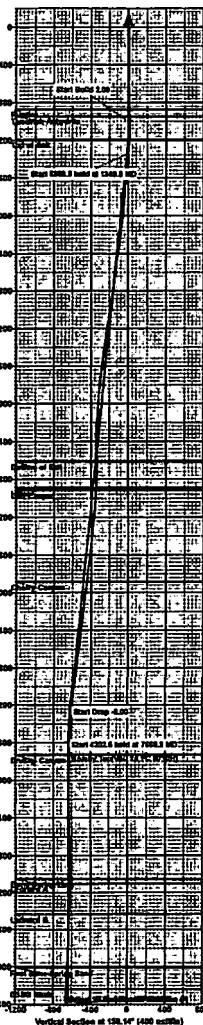
Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Valiant 24 Fed Com
 Well: #710H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #710H
 TVD Reference: KB = 25 @ 3487.0usft
 MD Reference: KB = 25 @ 3487.0usft
 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)	
11,920.0	11,861.4	774.3	54.2	KOP, MD:11920.0', TVD:11861.4', N/S:774.3', E/W:54.2', INC:2.32
12,139.2	12,065.3	709.5	67.8	FTP Crossing, MD:12139.2', TVD:12065.3', N/S:709.5', E/W:67.8', INC:39.25
19,731.0	12,305.4	-6,800.9	182.8	Last MWD Survey (MD=19731.0')
19,930.0	12,313.8	-6,999.6	177.5	Projection to Bit (MD=19930.0')

Checked By: _____ Approved By: _____ Date: _____



Plan #1

Instructions to field users:
Type number 0-9
Character length: 8-11

Company Name
Company CRIC ID
City Region Code
Year Started
Phone Number

To convert a Magnetic Direction to a Grid Direction, Add 0.25°
To convert a Magnetic Direction to a True Direction, Add 0.73° E
To convert a True Direction to a Grid Direction, Subtract 0.20°

+N-S	+E-W	Northings	Eastings	Latitude	Longitude
0.0	0.0	405886.00	781785.00	32° 5' 49.890 N	103° 37' 18.955 W

Sec	MD	Inc	Azi	TVD	+N/S	+E/W	Dleg	Tface	Vsect	Target
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2	1000.0	0.0	0.0	1000.0	0.0	0.0	0.0	0.0	0.0	
3	1349.8	7.00	8.97	1348.9	21.1	3.3	2.00	8.97	-21.0	
4	7318.3	7.00	8.97	7271.1	738.9	118.7	0.00	0.00	-735.9	
5	7868.2	0.00	0.00	7620.0	760.0	120.0	2.00	180.0	-758.9	
6	11886.7	0.00	0.00	11822.5	760.0	120.0	0.00	0.00	-758.9	
7	90.00	0.00	176.85	1230.0	282.1	12.0	12.00	176.85	-276.0	
8	71178.9	90.00	176.85	12300.0	-4277.5	151.2	0.00	0.00	-4280.0	TGT#1 (VAL 24 FC #710H)
9	71189.4	89.79	176.85	12300.0	-4288.1	151.2	2.00	180.0	-4290.5	
10	18902.4	89.79	176.85	12310.0	-7001.0	168.0	0.00	0.00	-7003.0	PBHJL (VAL 24 FC #710H)

Name	TVD	+H-S	+E-W	Northing	Easting	Shape
Brushy Top(VAL 34 FC #7104)	7732.0	765.0	120.0	406443.0	761855.0	Polygon
FTPL(VAL 34 FC #7104)	12300.0	710.0	120.0	406539.0	761855.0	Point
TOTR(VAL 24 FC #7104)	12300.0	-6277.5	151.2	401630.4	761916.1	Point
PSBL(VAL 34 FC #7104)	12310.0	-7001.0	168.0	336355.0	761831.0	Rectangle (Sides: L0.0 W60.0)

