



EOG Resources - Midland

Lea County, NM (NAD 83 NME)
Durango 2 State
#708H
OH

Design: OH

Midland PVA

23 August, 2019

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Midland PVA

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Durango 2 State
Well: #708H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #708H
TVD Reference: KB = 25 @ 3522.0usft
MD Reference: KB = 25 @ 3522.0usft
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	Durango 2 State		
Site Position:		Northing:	425,051.00 usft
From:	Map	Easting:	783,515.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 9' 58.041 N
		Longitude:	103° 33' 2.454 W
		Grid Convergence:	0.42 °

Well	#708H		
Well Position	+N/-S	0.0 usft	Northing: 424,942.00 usft
	+E/-W	0.0 usft	Easting: 786,818.00 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 9' 56.723 N
		Longitude:	103° 32' 24.039 W
		Ground Level:	3,497.0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (")	Dip Angle (")	Field Strength (nT)
	IGRF2015	6/20/2019	6.72	59.99	47,699.91030685

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	163.91	

Survey Program	Date	8/23/2019			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
199.0	17,492.0	Driltech MWD (OH)	MWD	OWSG MWD - Standard	



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0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.0	0.0	0.0
199.0	1.76	44.43	199.0	2.2	2.1	0.88	0.88	0.00	-3.1	0.0	
399.0	1.58	45.31	398.9	6.3	6.2	0.09	-0.09	0.44	-8.9	0.1	
488.0	1.32	47.60	487.9	7.9	7.9	0.30	-0.29	2.57	-11.1	0.5	
580.0	1.23	49.53	579.8	9.2	9.4	0.11	-0.10	2.10	-13.1	0.9	
769.0	1.06	54.81	768.8	11.5	12.4	0.11	-0.09	2.79	-16.8	2.3	
864.0	1.14	321.11	863.8	12.8	12.5	1.69	0.08	-98.63	-2.1	-17.8	
958.0	1.06	56.74	957.8	14.0	12.6	1.74	-0.09	101.73	-18.3	4.8	
1,052.0	0.88	31.43	1,051.8	15.1	13.8	0.49	-0.19	-26.93	-20.0	-3.9	
1,147.0	0.88	43.64	1,146.7	16.2	14.6	0.20	0.00	12.85	-21.9	0.6	
1,238.0	0.70	54.10	1,237.7	17.1	15.6	0.25	-0.20	11.49	-22.6	4.7	
1,325.0	0.62	64.21	1,324.7	17.6	16.4	0.16	-0.09	11.62	-22.4	8.7	
1,420.0	1.93	84.42	1,419.7	18.0	18.5	1.44	1.38	21.27	-19.3	16.0	
1,515.0	3.87	78.01	1,514.6	18.8	23.2	2.07	2.04	-6.75	-21.8	13.4	
1,610.0	7.56	78.54	1,609.1	20.7	32.5	3.88	3.88	0.56	-24.1	13.2	
1,705.0	10.38	77.92	1,702.9	23.7	47.0	2.97	2.97	-0.65	-28.9	12.5	
1,800.0	12.49	79.94	1,796.0	27.3	65.5	2.26	2.22	2.13	-34.0	12.8	
1,895.0	12.84	79.68	1,888.7	31.0	86.0	0.37	0.37	-0.27	-38.4	11.3	
1,989.0	12.40	80.21	1,980.4	34.6	106.2	0.48	-0.47	0.56	-39.5	10.2	
2,084.0	13.72	76.25	2,073.0	39.0	127.2	1.68	1.39	-4.17	-39.4	6.5	
2,177.0	14.25	75.28	2,163.2	44.5	149.0	0.62	0.57	-1.04	-40.1	5.8	
2,271.0	14.25	75.28	2,254.3	50.4	171.3	0.00	0.00	0.00	-41.1	5.9	
2,366.0	14.25	74.23	2,346.4	56.6	193.9	0.27	0.00	-1.11	-42.2	5.5	
2,460.0	14.25	73.88	2,437.5	62.9	216.1	0.09	0.00	-0.37	-43.3	5.8	
2,553.0	14.16	73.53	2,527.7	69.3	238.0	0.13	-0.10	-0.38	-44.3	6.3	
2,647.0	13.98	72.91	2,618.9	75.9	259.9	0.25	-0.19	-0.66	-45.1	6.7	
2,742.0	14.25	72.65	2,711.0	82.8	282.1	0.29	0.28	-0.27	-45.9	7.6	



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2,837.0	14.68	71.86	2,803.0	90.0	304.7	0.50	0.45	-0.83	-47.5	8.3
2,931.0	15.04	71.50	2,893.8	97.6	327.5	0.40	0.38	-0.38	-49.6	9.5
3,024.0	13.72	74.58	2,983.9	104.3	349.6	1.64	-1.42	3.31	-50.2	13.1
3,119.0	13.89	74.32	3,076.2	110.4	371.5	0.19	0.18	-0.27	-50.6	13.3
3,214.0	14.33	73.53	3,168.3	116.8	393.7	0.51	0.46	-0.83	-51.6	13.3
3,309.0	14.51	72.74	3,260.3	123.7	416.3	0.28	0.19	-0.83	-53.1	13.6
3,404.0	13.63	77.13	3,352.5	129.7	438.6	1.46	-0.93	4.62	-52.6	17.8
3,497.0	13.81	75.37	3,442.8	135.0	460.0	0.49	0.19	-1.89	-53.3	15.9
3,590.0	14.51	75.28	3,533.0	140.7	482.1	0.75	0.75	-0.10	-54.2	15.9
3,685.0	13.01	77.48	3,625.3	146.1	504.0	1.67	-1.58	2.32	-53.8	17.7
3,778.0	12.22	75.72	3,716.0	150.8	523.8	0.94	-0.85	-1.89	-52.6	15.7
3,871.0	10.99	73.44	3,807.1	155.7	541.8	1.41	-1.32	-2.45	-49.9	14.1
3,965.0	12.13	75.90	3,899.2	160.7	560.0	1.32	1.21	2.62	-45.9	16.4
4,058.0	11.87	77.13	3,990.2	165.2	578.8	0.39	-0.28	1.32	-42.9	17.0
4,153.0	10.82	77.75	4,083.3	169.3	597.0	1.11	-1.11	0.65	-38.9	16.7
4,246.0	11.70	74.05	4,174.5	173.7	614.6	1.22	0.95	-3.98	-36.1	14.2
4,338.0	11.43	72.38	4,264.7	179.0	632.3	0.47	-0.29	-1.82	-33.2	14.1
4,430.0	11.87	78.62	4,354.8	183.7	650.2	1.45	0.48	6.78	-28.3	17.4
4,523.0	13.01	77.13	4,445.6	187.9	669.8	1.27	1.23	-1.60	-26.8	15.8
4,618.0	14.07	82.14	4,537.9	191.8	691.7	1.66	1.12	5.27	-25.3	16.4
4,712.0	13.45	86.97	4,629.3	194.0	713.9	1.39	-0.66	5.14	-24.5	15.0
4,807.0	12.31	81.44	4,721.9	196.1	735.0	1.77	-1.20	-5.82	-24.6	9.3
4,902.0	13.10	91.10	4,814.5	197.4	755.7	2.38	0.83	10.17	-21.9	8.9
4,997.0	14.33	86.36	4,906.8	197.9	778.2	1.75	1.29	-4.99	-23.0	2.0
5,091.0	15.12	86.71	4,997.8	199.4	802.1	0.85	0.84	0.37	-25.2	-2.0
5,186.0	11.78	77.75	5,090.1	202.1	823.9	4.13	-3.52	-9.43	-24.2	-8.6
5,281.0	10.46	74.84	5,183.4	206.4	841.7	1.51	-1.39	-3.06	-19.6	-10.0



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5,375.0	11.70	73.97	5,275.6	211.3	859.1	1.33	1.32	-0.93	-15.2	-9.8
5,468.0	13.54	74.93	5,366.4	216.7	878.7	1.99	1.98	1.03	-13.8	-9.1
5,561.0	14.25	73.17	5,456.6	222.9	900.2	0.89	0.76	-1.89	-13.9	-9.0
5,654.0	14.86	73.70	5,546.6	229.5	922.6	0.67	0.66	0.57	-15.5	-8.0
5,746.0	14.68	73.53	5,635.6	236.2	945.1	0.20	-0.20	-0.18	-17.4	-7.3
5,841.0	15.74	70.71	5,727.3	243.8	968.8	1.36	1.12	-2.97	-19.7	-6.8
5,936.0	16.09	69.92	5,818.6	252.6	993.3	0.43	0.37	-0.83	-23.5	-5.1
6,031.0	15.04	70.98	5,910.2	261.1	1,017.3	1.15	-1.11	1.12	-26.8	-2.6
6,127.0	15.39	69.83	6,002.8	269.6	1,041.1	0.48	0.36	-1.20	-29.6	-1.1
6,222.0	15.56	68.78	6,094.3	278.6	1,064.8	0.34	0.18	-1.11	-32.7	0.8
6,317.0	13.19	75.28	6,186.4	285.9	1,087.2	3.01	-2.49	6.84	-33.6	5.9
6,408.0	13.01	74.84	6,275.0	291.2	1,107.1	0.23	-0.20	-0.48	-32.8	5.9
6,502.0	12.66	73.00	6,366.7	297.0	1,127.1	0.57	-0.37	-1.96	-31.7	5.5
6,596.0	12.75	73.17	6,458.4	303.0	1,146.9	0.10	0.10	0.18	-30.2	6.5
6,691.0	12.84	70.80	6,551.0	309.5	1,166.9	0.56	0.09	-2.49	-29.1	6.7
6,786.0	12.84	70.36	6,643.6	316.6	1,186.8	0.10	0.00	-0.46	-28.0	8.5
6,879.0	13.10	67.99	6,734.2	324.0	1,206.3	0.64	0.28	-2.55	-27.4	9.8
6,973.0	13.54	76.25	6,825.7	330.6	1,226.9	2.08	0.47	8.79	-25.1	14.8
7,067.0	13.81	77.13	6,917.1	335.7	1,248.5	0.36	0.29	0.94	-25.0	14.8
7,159.0	13.54	73.35	7,006.5	341.2	1,269.6	1.01	-0.29	-4.11	-26.0	13.2
7,254.0	12.22	81.26	7,099.1	346.0	1,290.1	2.32	-1.39	8.33	-22.7	15.9
7,346.0	10.55	80.03	7,189.3	348.9	1,308.1	1.83	-1.82	-1.34	-20.9	13.7
7,441.0	8.44	84.07	7,283.0	351.1	1,323.6	2.33	-2.22	4.25	-17.8	13.1
7,534.0	6.24	83.19	7,375.2	352.4	1,335.4	2.37	-2.37	-0.95	-15.5	10.8
7,629.0	4.40	82.05	7,469.8	353.5	1,344.1	1.94	-1.94	-1.20	-12.7	9.0
7,724.0	4.40	85.74	7,564.5	354.3	1,351.4	0.30	0.00	3.88	-10.9	8.5
7,820.0	2.90	81.44	7,660.3	354.9	1,357.4	1.59	-1.56	-4.48	-12.0	6.9



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7,915.0	3.08	79.15	7,755.2	355.8	1,362.3	0.23	0.19	-2.41	-14.8	6.1	
8,010.0	1.58	116.59	7,850.1	355.7	1,366.0	2.17	-1.58	39.41	-11.3	15.4	
8,105.0	1.76	154.47	7,945.0	353.8	1,367.8	1.15	0.19	39.87	-2.0	19.9	
8,200.0	1.76	160.71	8,040.0	351.1	1,368.9	0.20	0.00	6.57	-2.7	20.1	
8,295.0	1.67	168.54	8,135.0	348.3	1,369.7	0.26	-0.09	8.24	-2.8	20.5	
8,390.0	1.41	165.64	8,229.9	345.9	1,370.2	0.29	-0.27	-3.05	-6.4	20.3	
8,484.0	1.76	165.64	8,323.9	343.3	1,370.9	0.37	0.37	0.00	-9.0	20.3	
8,579.0	1.58	179.08	8,418.9	340.6	1,371.3	0.45	-0.19	14.15	-6.7	22.1	
8,671.0	1.58	179.17	8,510.8	338.1	1,371.3	0.00	0.00	0.10	-9.2	22.2	
8,765.0	1.32	176.53	8,604.8	335.7	1,371.4	0.29	-0.28	-2.81	-12.6	21.7	
8,860.0	1.58	189.19	8,699.8	333.3	1,371.2	0.43	0.27	13.33	-10.0	24.1	
8,955.0	1.49	183.13	8,794.7	330.8	1,371.0	0.20	-0.09	-6.38	-15.0	22.8	
9,050.0	1.49	179.26	8,889.7	328.3	1,370.9	0.11	0.00	-4.07	-19.0	21.7	
9,145.0	1.49	191.91	8,984.7	325.9	1,370.7	0.35	0.00	13.32	-16.2	25.6	
9,241.0	1.49	191.12	9,080.6	323.4	1,370.2	0.02	0.00	-0.82	-19.0	25.3	
9,336.0	0.79	184.88	9,175.6	321.6	1,369.9	0.75	-0.74	-6.57	-23.6	23.0	
9,431.0	0.62	204.66	9,270.6	320.5	1,369.6	0.31	-0.18	20.82	-15.5	29.8	
9,526.0	0.44	206.15	9,365.6	319.7	1,369.2	0.19	-0.19	1.57	-15.6	30.2	
9,621.0	0.35	245.70	9,460.6	319.2	1,368.8	0.30	-0.09	41.63	6.6	33.5	
9,716.0	0.35	189.28	9,555.6	318.8	1,368.5	0.35	0.00	-59.39	-24.7	23.8	
9,811.0	0.79	204.57	9,650.6	317.9	1,368.2	0.49	0.46	16.09	-18.5	29.5	
9,906.0	1.23	214.50	9,745.6	316.5	1,367.3	0.50	0.46	10.45	-14.8	32.4	
10,001.0	1.14	180.58	9,840.6	314.7	1,366.7	0.73	-0.09	-35.71	-32.1	18.1	
10,096.0	1.41	121.34	9,935.5	313.1	1,367.7	1.35	0.28	-62.36	-33.6	-19.2	
10,191.0	1.41	116.07	10,030.5	312.0	1,369.8	0.14	0.00	-5.55	-34.0	-22.3	
10,286.0	1.14	79.33	10,125.5	311.7	1,371.8	0.89	-0.28	-38.67	-15.8	-38.9	
10,381.0	1.58	90.84	10,220.5	311.8	1,374.0	0.54	0.46	12.12	-25.5	-34.8	



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10,476.0	1.41	104.64	10,315.4	311.5	1,376.4	0.42	-0.18	14.53	-35.5	-27.4	
10,571.0	0.26	47.69	10,410.4	311.4	1,377.7	1.35	-1.21	-59.95	2.7	-45.7	
10,666.0	0.53	144.37	10,505.4	311.2	1,378.1	0.65	0.28	101.77	-46.1	2.8	
10,761.0	1.06	170.12	10,600.4	309.9	1,378.5	0.66	0.56	27.11	-41.6	22.8	
10,856.0	1.23	186.20	10,695.4	308.1	1,378.6	0.38	0.18	16.93	-35.5	33.6	
10,951.0	1.14	190.42	10,790.4	306.1	1,378.3	0.13	-0.09	4.44	-34.9	36.2	
11,046.0	1.85	186.91	10,885.3	303.7	1,377.9	0.75	0.75	-3.69	-39.5	34.0	
11,141.0	1.85	185.50	10,980.3	300.6	1,377.6	0.05	0.00	-1.48	-43.4	32.9	
11,235.0	1.93	192.88	11,074.2	297.6	1,377.1	0.27	0.09	7.85	-41.9	38.4	
11,330.0	2.55	242.01	11,169.2	295.0	1,374.9	2.05	0.65	51.72	-1.5	58.1	
11,425.0	3.17	257.31	11,264.0	293.4	1,370.5	1.03	0.65	16.11	9.2	57.0	
11,520.0	3.34	249.31	11,358.9	291.9	1,365.3	0.51	0.18	-8.42	-4.2	57.3	
11,615.0	2.90	249.40	11,453.8	290.1	1,360.5	0.46	-0.46	0.09	-9.3	57.3	
11,710.0	2.37	257.39	11,548.7	288.8	1,356.3	0.68	-0.56	8.41	-5.6	58.4	
11,805.0	2.46	258.27	11,643.6	288.0	1,352.4	0.10	0.09	0.93	-8.7	58.5	
11,901.0	2.90	244.83	11,739.5	286.5	1,348.2	0.80	0.46	-14.00	-26.4	54.4	
11,965.0	2.73	240.78	11,803.4	285.1	1,345.4	0.41	-0.27	-6.33	-33.4	52.3	
12,038.0	2.81	246.85	11,876.3	283.5	1,342.2	0.42	0.11	8.32	-31.2	55.7	
12,133.0	3.17	199.65	11,971.2	280.1	1,339.2	2.54	0.38	-49.68	-66.3	13.3	
12,228.0	8.62	182.51	12,065.7	270.5	1,338.0	5.97	5.74	-18.04	-75.6	-7.7	
12,276.0	17.50	179.79	12,112.4	259.7	1,337.9	18.54	18.50	-5.67	-79.5	-11.5	
12,324.0	21.37	179.70	12,157.6	243.7	1,337.9	8.06	8.06	-0.19	-83.4	-11.6	
12,371.0	25.68	180.58	12,200.7	225.0	1,337.9	9.20	9.17	1.87	-85.1	-10.6	
12,419.0	29.63	179.96	12,243.2	202.7	1,337.8	8.25	8.23	-1.29	-84.2	-11.7	
12,466.0	35.09	178.47	12,282.9	177.6	1,338.2	11.74	11.62	-3.17	-81.3	-13.1	
12,514.0	40.89	177.68	12,320.7	148.0	1,339.2	12.13	12.08	-1.65	-77.6	-12.8	
12,561.0	44.58	177.76	12,355.2	116.2	1,340.4	7.85	7.85	0.17	-72.4	-11.4	



Midland PVA

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 Wellbore: OH
 Design: OH

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 TVD Reference: KB = 25 @ 3522.0usft
 MD Reference: KB = 25 @ 3522.0usft
 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)
12,609.0	50.83	179.79	12,387.5	80.7	1,341.2	13.39	13.02	4.23	-65.8	-9.3
12,656.0	54.26	180.66	12,416.1	43.4	1,341.0	7.44	7.30	1.85	-57.9	-9.4
12,704.0	57.16	180.23	12,443.1	3.7	1,340.7	6.09	6.04	-0.90	-47.0	-10.3
12,751.0	64.19	177.94	12,466.1	-37.2	1,341.4	15.55	14.96	-4.87	-35.4	-10.2
12,799.0	71.58	178.03	12,484.2	-81.6	1,342.9	15.40	15.40	0.19	-24.7	-8.6
12,846.0	75.71	178.20	12,497.4	-126.7	1,344.4	8.79	8.79	0.36	-14.2	-7.2
12,894.0	80.64	179.43	12,507.3	-173.6	1,345.4	10.57	10.27	2.56	-5.5	-6.4
12,941.0	85.38	180.49	12,513.0	-220.3	1,345.4	10.33	10.09	2.26	-0.9	-6.6
12,989.0	86.44	180.93	12,516.4	-268.1	1,344.8	2.39	2.21	0.92	1.4	-7.4
13,084.0	89.43	180.93	12,519.8	-363.0	1,343.3	3.15	3.15	0.00	2.7	-9.5
13,180.0	90.13	181.54	12,520.2	-459.0	1,341.2	0.97	0.73	0.64	0.8	-12.0
13,273.0	88.02	179.61	12,521.7	-552.0	1,340.3	3.07	-2.27	-2.08	0.2	-13.5
13,367.0	87.41	178.29	12,525.4	-645.9	1,342.0	1.55	-0.65	-1.40	1.8	-12.2
13,462.0	87.49	177.59	12,529.7	-740.7	1,345.4	0.74	0.08	-0.74	3.8	-9.3
13,557.0	89.16	178.82	12,532.5	-835.7	1,348.4	2.18	1.76	1.29	4.4	-6.8
13,652.0	89.34	179.00	12,533.7	-930.6	1,350.2	0.27	0.19	0.19	3.4	-5.5
13,746.0	88.81	180.05	12,535.2	-1,024.6	1,351.0	1.25	-0.56	1.12	3.4	-5.3
13,840.0	88.55	179.35	12,537.4	-1,118.6	1,351.5	0.79	-0.28	-0.74	4.6	-5.3
13,935.0	88.37	179.79	12,539.9	-1,213.6	1,352.2	0.50	-0.19	0.46	6.3	-5.1
14,030.0	88.20	179.87	12,542.8	-1,308.5	1,352.5	0.20	-0.18	0.08	8.2	-5.3
14,125.0	87.58	178.91	12,546.3	-1,403.4	1,353.5	1.20	-0.65	-1.01	10.9	-4.8
14,217.0	89.87	180.05	12,548.3	-1,495.4	1,354.3	2.78	2.49	1.24	12.0	-4.4
14,308.0	90.31	178.82	12,548.2	-1,586.4	1,355.2	1.44	0.48	-1.35	11.0	-4.0
14,403.0	91.01	180.58	12,547.1	-1,681.4	1,355.7	1.99	0.74	1.85	9.0	-4.0
14,497.0	89.96	179.87	12,546.3	-1,775.4	1,355.3	1.35	-1.12	-0.76	7.4	-4.9
14,592.0	89.43	181.54	12,546.8	-1,870.4	1,354.2	1.84	-0.56	1.76	7.0	-6.5
14,687.0	88.55	179.79	12,548.5	-1,965.3	1,353.1	2.06	-0.93	-1.84	7.8	-8.1



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 Survey Calculation Method: Minimum Curvature
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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)
14,782.0	88.20	178.73	12,551.2	-2,060.3	1,354.3	1.17	-0.37	-1.12	9.6	-7.4
14,877.0	86.53	178.64	12,555.5	-2,155.2	1,356.5	1.76	-1.76	-0.09	13.0	-5.7
14,971.0	89.78	178.91	12,558.6	-2,249.1	1,358.5	3.47	3.46	0.29	15.2	-4.2
15,066.0	90.48	179.43	12,558.3	-2,344.1	1,359.9	0.92	0.74	0.55	14.1	-3.3
15,158.0	89.87	179.43	12,558.1	-2,436.1	1,360.8	0.66	-0.66	0.00	12.9	-2.9
15,250.0	88.81	179.43	12,559.1	-2,528.1	1,361.7	1.15	-1.15	0.00	13.1	-2.5
15,344.0	89.34	179.79	12,560.6	-2,622.0	1,362.3	0.68	0.56	0.38	13.8	-2.3
15,439.0	90.84	181.02	12,560.5	-2,717.0	1,361.7	2.04	1.58	1.29	12.7	-3.5
15,534.0	89.87	182.77	12,559.9	-2,812.0	1,358.5	2.11	-1.02	1.84	11.2	-7.2
15,627.0	87.23	182.77	12,562.2	-2,904.8	1,354.0	2.84	-2.84	0.00	12.7	-12.2
15,721.0	87.05	181.98	12,566.9	-2,998.6	1,350.1	0.86	-0.19	-0.84	16.5	-16.6
15,816.0	88.02	181.81	12,571.0	-3,093.5	1,347.0	1.04	1.02	-0.18	19.7	-20.2
15,911.0	89.08	181.37	12,573.4	-3,188.4	1,344.4	1.21	1.12	-0.46	21.2	-23.3
16,006.0	89.52	180.84	12,574.6	-3,283.4	1,342.5	0.73	0.46	-0.56	21.4	-25.6
16,101.0	88.20	179.43	12,576.5	-3,378.4	1,342.3	2.03	-1.39	-1.48	22.4	-26.4
16,196.0	87.93	179.17	12,579.7	-3,473.3	1,343.5	0.39	-0.28	-0.27	24.6	-25.7
16,290.0	88.72	180.05	12,582.4	-3,567.3	1,344.1	1.26	0.84	0.94	26.5	-25.6
16,384.0	90.66	178.73	12,582.9	-3,661.2	1,345.1	2.50	2.06	-1.40	26.0	-25.1
16,479.0	91.36	178.91	12,581.3	-3,756.2	1,347.1	0.76	0.74	0.19	23.4	-23.6
16,574.0	91.01	177.24	12,579.3	-3,851.1	1,350.2	1.80	-0.37	-1.76	20.5	-20.9
16,669.0	91.63	178.03	12,577.1	-3,946.0	1,354.2	1.06	0.65	0.83	17.4	-17.5
16,764.0	89.78	177.15	12,575.9	-4,040.9	1,358.2	2.16	-1.95	-0.93	15.3	-14.0
16,859.0	90.57	178.56	12,575.7	-4,135.9	1,361.7	1.70	0.83	1.48	13.9	-10.9
16,955.0	90.40	178.38	12,574.8	-4,231.8	1,364.3	0.26	-0.18	-0.19	11.9	-8.9
17,050.0	89.16	178.47	12,575.2	-4,326.8	1,366.9	1.31	-1.31	0.09	11.0	-6.8
17,145.0	88.29	179.26	12,577.3	-4,421.7	1,368.8	1.24	-0.92	0.83	11.9	-5.4
17,240.0	87.85	177.76	12,580.5	-4,516.7	1,371.2	1.64	-0.46	-1.58	13.8	-3.4



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 Database: EDM 5000.14

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)
17,292.0	88.11	178.73	12,582.4	-4,568.6	1,372.8	1.93	0.50	1.87	15.0	-2.1
17,492.0	88.11	178.73	12,589.0	-4,768.4	1,377.3	0.00	0.00	0.00	19.0	1.3

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
11,252.9	11,092.1	297.0	1,376.9	FTP Crossing, MD:11252.9', TVD:11092.1', N/S:297.0', E/W:1376.9', INC:1.92
12,197.0	12,034.9	274.7	1,338.3	KOP, MD:12197.0', TVD:12034.9', N/S:274.7', E/W:1338.3', INC:6.80
17,292.0	12,582.4	-4,568.6	1,372.8	Last MWD Survey (MD=17292.0')
17,492.0	12,589.0	-4,768.4	1,377.3	Projection to Bit (MD=17492.0')

Checked By: _____ Approved By: _____ Date: _____

I certify this survey to be true and correct to the best of my belief and knowledge.

Kay Maddox 1/20/2020
 Signed Date



Lea County, NM (NAD 83 NME)

Durango 2 State #708H

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

WELL DETAILS: #708H

KB = 25 @ 3522.0usft
Northing 424942.00 Easting 786818.00 Latitude 32° 9' 56.723 N Longitude 103° 32' 24.039 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VFace	Target	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0		
2	1350.0	0.00	0.00	1350.0	0.0	0.0	0.00	0.00	0.0		
3	2031.4	13.63	75.57	2025.0	20.1	78.1	2.00	75.57	2.3		
4	7258.6	13.63	75.57	7105.0	326.9	1270.9	0.00	0.00	38.2		
5	7940.0	0.00	0.00	7780.0	347.0	1349.0	2.00	189.00	40.5		
6	12194.2	0.00	0.00	12034.2	347.0	1349.0	0.00	0.00	40.5		
7	12933.1	88.68	179.70	12511.5	-119.4	1351.5	12.00	179.70	489.3		
8	13775.6	88.58	179.70	12531.0	-961.9	1355.9	0.00	0.00	1299.9		
9	13815.0	89.46	179.70	12531.6	-1001.0	1356.1	2.00	0.00	1337.7		
10	15875.1	89.46	179.70	12551.0	-3061.0	1367.0	0.00	0.00	3320.0		
11	15876.3	89.44	179.70	12551.0	-3062.2	1367.0	2.00	189.00	3321.1		
12	16893.5	89.44	179.70	12561.0	-4079.4	1372.4	0.00	0.00	4300.0		
13	16902.9	89.25	179.70	12561.1	-4088.7	1372.4	2.00	-180.00	4308.9		
14	17583.2	89.35	179.70	12570.0	-4769.0	1376.0	0.00	0.00	4963.5		

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
Brushy Top(Durango 2 State #708H)	7780.0	347.0	1349.0	425239.00	788167.00
TGT#1(Durango 2 State #708H)	12531.0	-961.9	1355.9	423980.20	788173.91
TGT#2(Durango 2 State #708H)	12551.0	-3061.0	1367.0	421891.00	788184.99
TGT#3(Durango 2 State #708H)	12561.0	-4079.4	1372.4	420882.60	788190.36
PBHL(Durango 2 State #708H)	12570.0	-4769.0	1376.0	420173.00	788194.00
PTP(Durango 2 State #708H)	12501.0	297.0	1349.0	425239.00	788167.00

