



Marathon Oil Permian LLC

RKB (Precision 601) 25' + GL(3518') @ 3543.00usft

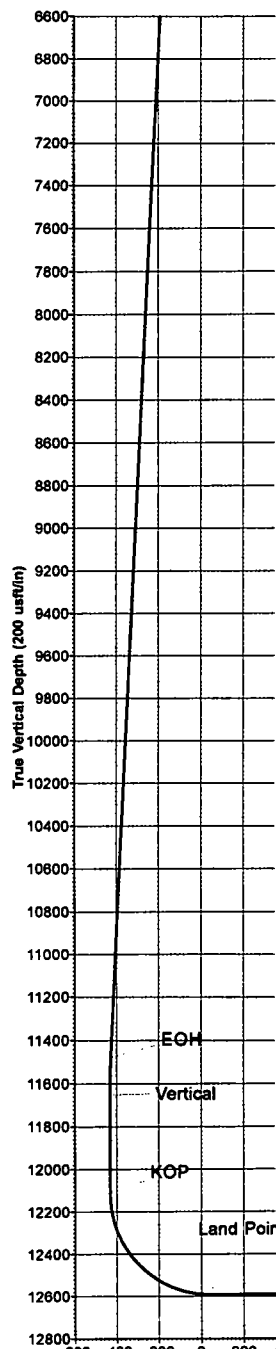
3518.00

Project: Lea County, New Mexico (NAD 27)
Site: Will Kane 15 Pad (Grid) [Permitting]
Well: Will Kane 15 WA Fee 11H
Wellbore: Wellbore #1
Design: Plan 1
Rig:

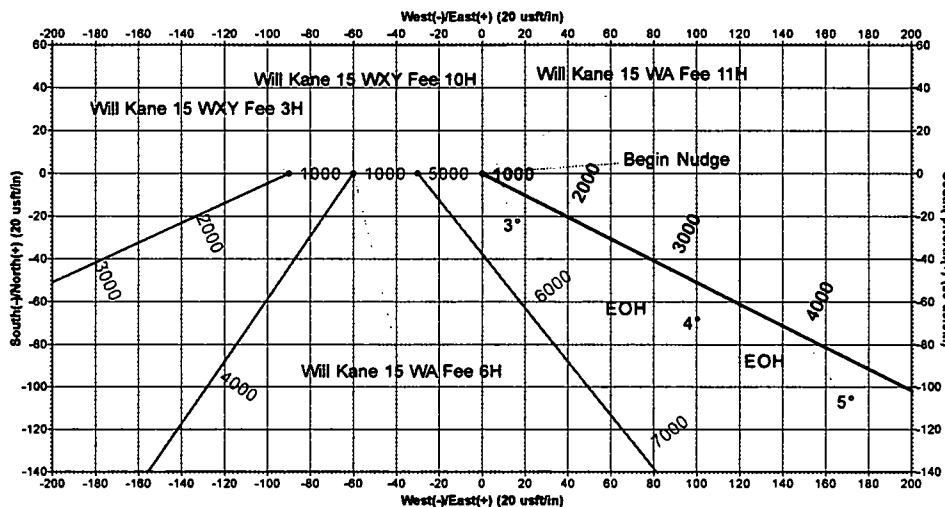
Map System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone Name: New Mexico East 3001



Azimuth to Grid North
True North: -0.47°
Magnetic North: 5.18°
Magnetic Field
Strength: 4700.2nT
Dip Angle: 59.87°
Date: 5/1/2019
Model: HDGM_2019

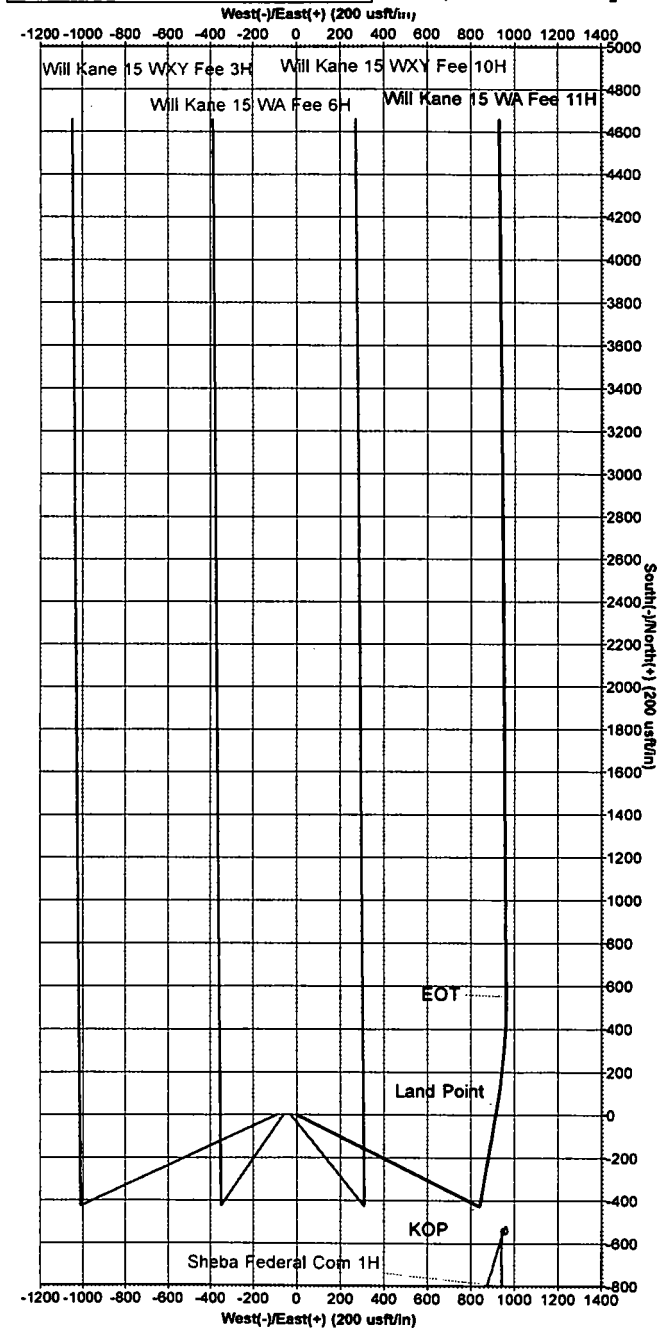
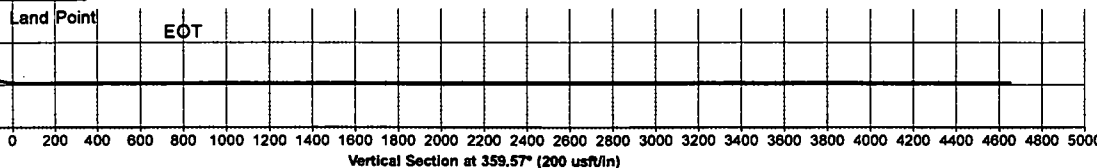


WELL DETAILS					
3518.00					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	441806.50	772272.50	32.21157799	-103.45300748



SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00	0.00	Begin Nudge
1400.00	3.00	116.96	1399.82	-4.75	9.33	0.75	116.96	-4.82	3°
3000.00	3.00	116.96	2997.62	-42.71	83.97	0.00	0.00	-43.34	EOH
3050.00	4.00	116.96	3047.53	-44.09	86.69	2.00	0.00	-44.74	4°
4000.00	4.00	116.96	3995.22	-74.14	145.76	0.00	0.00	-75.23	EOH
4050.00	5.00	116.96	4045.06	-75.92	149.25	2.00	0.00	-77.03	5°
5000.00	5.00	116.96	4991.45	-113.45	223.05	0.00	0.00	-115.13	EOH
5028.63	6.00	116.96	5019.94	-114.70	225.50	3.50	-0.02	-116.39	6°
11523.11	6.00	116.96	11478.83	-422.53	830.80	0.00	0.00	-428.76	EOH
11694.60	0.00	0.00	11650.00	-426.60	838.80	3.50	180.00	-432.88	Vertical
12158.14	0.00	0.00	12113.54	-426.60	838.80	0.00	0.00	-432.88	KOP
12908.14	90.00	9.76	12591.00	43.95	919.74	12.00	9.76	37.05	Land Point
13417.44	90.00	359.57	12591.00	550.89	961.12	2.00	-90.00	543.66	EOT
17523.86	90.00	359.57	12591.00	4657.20	930.60	0.00	0.00	4650.08	BHL

HALLIBURTON | Sperry Drilling



Marathon Oil Permian LLC

Lea County, New Mexico (NAD 27) Will Kane 15 Pad (Grid) [Permitting]

API#

Will Kane 15 WA Fee 11H

SHL: (520' FSL - 1299' FEL)

Wellbore #1

Plan: Plan 1

Sperry Drilling Services Combo Report

16 May, 2019

Well Coordinates: 32.21157798
-103.45300748

NAD 1927 (NADCON CONUS)
New Mexico East 3001
441,806.50 N
772,272.50 E

Ground Level: 3,518.00 usft

Local Coordinate Origin:

Viewing Datum:

TVDs to System:

North Reference:

Unit System:

Centered on Well Will Kane 15 WA Fee 11H
RKB (Precision 601) 25' + GL(3518') @ 3543.00usft

N

Grid

Midcon (2 decimal)

Version: 5000.15 Build: 91

Report Version: Midcon Combo v1.13

HALLIBURTON

Plan Report for Will Kane 15 WA Fee 11H - Plan 1

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Toolface Angle (°)	Comments
				Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)				
0.00	0.00	0.00	0.00	0.00 N	0.00 E	441,806.50	772,272.50	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00 N	0.00 E	441,806.50	772,272.50	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00 N	0.00 E	441,806.50	772,272.50	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00 N	0.00 E	441,806.50	772,272.50	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00 N	0.00 E	441,806.50	772,272.50	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00 N	0.00 E	441,806.50	772,272.50	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00 N	0.00 E	441,806.50	772,272.50	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00 N	0.00 E	441,806.50	772,272.50	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00 N	0.00 E	441,806.50	772,272.50	0.00	0.00	0.00	
900.00	0.00	0.00	900.00	0.00 N	0.00 E	441,806.50	772,272.50	0.00	0.00	0.00	
950.00	0.00	0.00	950.00	0.00 N	0.00 E	441,806.50	772,272.50	0.00	0.00	0.00	9 5/8"
1,000.00	0.00	0.00	1,000.00	0.00 N	0.00 E	441,806.50	772,272.50	0.00	0.00	0.00	Begin Nudge
1,100.00	0.75	116.96	1,100.00	0.30 S	0.58 E	441,806.20	772,273.08	0.75	-0.30	116.96	
1,200.00	1.50	116.96	1,199.98	1.19 S	2.33 E	441,805.31	772,274.83	0.75	-1.20	0.00	
1,300.00	2.25	116.96	1,299.92	2.67 S	5.25 E	441,803.83	772,277.75	0.75	-2.71	0.00	
1,400.00	3.00	116.96	1,399.82	4.75 S	9.33 E	441,801.75	772,281.83	0.75	-4.82	0.00	3°
1,500.00	3.00	116.96	1,499.68	7.12 S	14.00 E	441,799.38	772,286.50	0.00	-7.22	0.00	
1,600.00	3.00	116.96	1,599.54	9.49 S	18.66 E	441,797.01	772,291.16	0.00	-9.63	0.00	
1,700.00	3.00	116.96	1,699.41	11.86 S	23.33 E	441,794.64	772,295.83	0.00	-12.04	0.00	
1,800.00	3.00	116.96	1,799.27	14.24 S	27.99 E	441,792.26	772,300.49	0.00	-14.45	0.00	
1,900.00	3.00	116.96	1,899.13	16.61 S	32.66 E	441,789.89	772,305.16	0.00	-16.85	0.00	
2,000.00	3.00	116.96	1,998.99	18.98 S	37.32 E	441,787.52	772,309.82	0.00	-19.26	0.00	
2,100.00	3.00	116.96	2,098.86	21.36 S	41.99 E	441,785.14	772,314.49	0.00	-21.67	0.00	
2,200.00	3.00	116.96	2,198.72	23.73 S	46.65 E	441,782.77	772,319.15	0.00	-24.08	0.00	
2,300.00	3.00	116.96	2,298.58	26.10 S	51.32 E	441,780.40	772,323.82	0.00	-26.49	0.00	
2,400.00	3.00	116.96	2,398.45	28.47 S	55.98 E	441,778.03	772,328.48	0.00	-28.89	0.00	
2,500.00	3.00	116.96	2,498.31	30.85 S	60.64 E	441,775.65	772,333.14	0.00	-31.30	0.00	
2,600.00	3.00	116.96	2,598.17	33.22 S	65.31 E	441,773.28	772,337.81	0.00	-33.71	0.00	
2,700.00	3.00	116.96	2,698.04	35.59 S	69.97 E	441,770.91	772,342.47	0.00	-36.12	0.00	
2,800.00	3.00	116.96	2,797.90	37.97 S	74.64 E	441,768.53	772,347.14	0.00	-38.52	0.00	
2,900.00	3.00	116.96	2,897.76	40.34 S	79.30 E	441,766.16	772,351.80	0.00	-40.93	0.00	
3,000.00	3.00	116.96	2,997.62	42.71 S	83.97 E	441,763.79	772,356.47	0.00	-43.34	0.00	EOH
3,050.00	4.00	116.96	3,047.53	44.09 S	86.69 E	441,762.41	772,359.19	2.00	-44.74	0.00	4°
3,100.00		116.96	3,097.41	45.68 S	89.80 E	441,760.82	772,362.30	0.00	-46.35	0.00	
3,200.00		116.96	3,197.17	48.84 S	96.02 E	441,757.66	772,368.52	0.00	-49.56	0.00	
3,300.00		116.96	3,296.92	52.00 S	102.23 E	441,754.50	772,374.73	0.00	-52.77	0.00	

Plan Report for Will Kane 15 WA Fee 11H - Plan 1

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Toolface Angle (°)	Comments
				Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)				
3,400.00		116.96	3,396.68	55.16 S	108.45 E	441,751.34	772,380.95	0.00	-55.98	0.00	
3,500.00		116.96	3,496.43	58.33 S	114.67 E	441,748.17	772,387.17	0.00	-59.18	0.00	
3,600.00		116.96	3,596.19	61.49 S	120.89 E	441,745.01	772,393.39	0.00	-62.39	0.00	
3,700.00		116.96	3,695.95	64.65 S	127.10 E	441,741.85	772,399.60	0.00	-65.60	0.00	
3,800.00		116.96	3,795.70	67.81 S	133.32 E	441,738.69	772,405.82	0.00	-68.81	0.00	
3,900.00		116.96	3,895.46	70.98 S	139.54 E	441,735.52	772,412.04	0.00	-72.02	0.00	
4,000.00		116.96	3,995.22	74.14 S	145.76 E	441,732.36	772,418.26	0.00	-75.23	0.00	EOH
4,050.00	5.00	116.96	4,045.06	75.92 S	149.25 E	441,730.58	772,421.75	2.00	-77.03	0.00	5°
4,100.00		116.96	4,094.87	77.89 S	153.14 E	441,728.61	772,425.64	0.00	-79.04	0.00	
4,200.00		116.96	4,194.49	81.84 S	160.91 E	441,724.66	772,433.41	0.00	-83.05	0.00	
4,300.00		116.96	4,294.11	85.80 S	168.67 E	441,720.70	772,441.17	0.00	-87.06	0.00	
4,400.00		116.96	4,393.73	89.75 S	176.44 E	441,716.75	772,448.94	0.00	-91.07	0.00	
4,500.00		116.96	4,493.35	93.70 S	184.21 E	441,712.80	772,456.71	0.00	-95.08	0.00	
4,600.00		116.96	4,592.97	97.65 S	191.98 E	441,708.85	772,464.48	0.00	-99.09	0.00	
4,700.00		116.96	4,692.59	101.60 S	199.75 E	441,704.90	772,472.25	0.00	-103.10	0.00	
4,800.00		116.96	4,792.21	105.55 S	207.52 E	441,700.95	772,480.02	0.00	-107.11	0.00	
4,900.00		116.96	4,891.83	109.50 S	215.28 E	441,697.00	772,487.78	0.00	-111.12	0.00	
5,000.00		116.96	4,991.45	113.45 S	223.05 E	441,693.05	772,495.55	0.00	-115.13	0.00	EOH
5,028.63	6.00	116.96	5,019.94	114.70 S	225.50 E	441,691.80	772,498.00	3.50	-116.39	-0.02	6°
5,100.00	6.00	116.96	5,090.92	118.08 S	232.15 E	441,688.42	772,504.65	0.00	-119.82	0.00	
5,200.00	6.00	116.96	5,190.38	122.82 S	241.47 E	441,683.68	772,513.97	0.00	-124.63	0.00	
5,300.00	6.00	116.96	5,289.83	127.56 S	250.79 E	441,678.94	772,523.29	0.00	-129.44	0.00	
5,400.00	6.00	116.96	5,389.28	132.30 S	260.11 E	441,674.20	772,532.61	0.00	-134.25	0.00	
5,500.00	6.00	116.96	5,488.73	137.04 S	269.43 E	441,669.46	772,541.93	0.00	-139.06	0.00	
5,600.00	6.00	116.96	5,588.18	141.78 S	278.75 E	441,664.72	772,551.25	0.00	-143.87	0.00	
5,700.00	6.00	116.96	5,687.63	146.52 S	288.07 E	441,659.98	772,560.57	0.00	-148.68	0.00	
5,800.00	6.00	116.96	5,787.09	151.26 S	297.39 E	441,655.24	772,569.89	0.00	-153.49	0.00	
5,900.00	6.00	116.96	5,886.54	156.00 S	306.71 E	441,650.50	772,579.21	0.00	-158.30	0.00	
6,000.00	6.00	116.96	5,985.99	160.74 S	316.03 E	441,645.76	772,588.53	0.00	-163.11	0.00	
6,100.00	6.00	116.96	6,085.44	165.48 S	325.35 E	441,641.02	772,597.85	0.00	-167.92	0.00	
6,200.00	6.00	116.96	6,184.89	170.22 S	334.67 E	441,636.28	772,607.17	0.00	-172.73	0.00	
6,300.00	6.00	116.96	6,284.35	174.96 S	343.99 E	441,631.54	772,616.49	0.00	-177.54	0.00	
6,400.00	6.00	116.96	6,383.80	179.70 S	353.31 E	441,626.80	772,625.81	0.00	-182.35	0.00	
6,500.00	6.00	116.96	6,483.25	184.44 S	362.63 E	441,622.06	772,635.13	0.00	-187.16	0.00	
6,600.00	6.00	116.96	6,582.70	189.18 S	371.95 E	441,617.32	772,644.45	0.00	-191.97	0.00	
6,700.00	6.00	116.96	6,682.15	193.92 S	381.27 E	441,612.58	772,653.77	0.00	-196.78	0.00	
6,800.00	6.00	116.96	6,781.60	198.66 S	390.60 E	441,607.84	772,663.10	0.00	-201.59	0.00	

Plan Report for Will Kane 15 WA Fee 11H - Plan 1

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Toolface Angle (°)	Comments
Depth (usft)	Inclination (°)	Azimuth (°)	Depth (usft)	Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)	Rate (°/100usft)	Section (usft)	Angle (°)	
6,900.00	6.00	116.96	6,881.06	203.40 S	399.92 E	441,603.10	772,672.42	0.00	-206.40	0.00	
7,000.00	6.00	116.96	6,980.51	208.14 S	409.24 E	441,598.36	772,681.74	0.00	-211.21	0.00	
7,100.00	6.00	116.96	7,079.96	212.88 S	418.56 E	441,593.62	772,691.06	0.00	-216.02	0.00	
7,200.00	6.00	116.96	7,179.41	217.62 S	427.88 E	441,588.88	772,700.38	0.00	-220.83	0.00	
7,300.00	6.00	116.96	7,278.86	222.36 S	437.20 E	441,584.14	772,709.70	0.00	-225.63	0.00	
7,400.00	6.00	116.96	7,378.32	227.10 S	446.52 E	441,579.40	772,719.02	0.00	-230.44	0.00	
7,500.00	6.00	116.96	7,477.77	231.84 S	455.84 E	441,574.66	772,728.34	0.00	-235.25	0.00	
7,600.00	6.00	116.96	7,577.22	236.58 S	465.16 E	441,569.92	772,737.66	0.00	-240.06	0.00	
7,700.00	6.00	116.96	7,676.67	241.32 S	474.48 E	441,565.18	772,746.98	0.00	-244.87	0.00	
7,800.00	6.00	116.96	7,776.12	246.06 S	483.80 E	441,560.44	772,756.30	0.00	-249.68	0.00	
7,900.00	6.00	116.96	7,875.57	250.80 S	493.12 E	441,555.70	772,765.62	0.00	-254.49	0.00	
8,000.00	6.00	116.96	7,975.03	255.54 S	502.44 E	441,550.96	772,774.94	0.00	-259.30	0.00	
8,100.00	6.00	116.96	8,074.48	260.28 S	511.76 E	441,546.22	772,784.26	0.00	-264.11	0.00	
8,200.00	6.00	116.96	8,173.93	265.02 S	521.08 E	441,541.48	772,793.58	0.00	-268.92	0.00	
8,300.00	6.00	116.96	8,273.38	269.76 S	530.40 E	441,536.74	772,802.90	0.00	-273.73	0.00	
8,400.00	6.00	116.96	8,372.83	274.50 S	539.72 E	441,532.00	772,812.22	0.00	-278.54	0.00	
8,500.00	6.00	116.96	8,472.29	279.24 S	549.04 E	441,527.26	772,821.54	0.00	-283.35	0.00	
8,600.00	6.00	116.96	8,571.74	283.98 S	558.36 E	441,522.52	772,830.86	0.00	-288.16	0.00	
8,700.00	6.00	116.96	8,671.19	288.72 S	567.68 E	441,517.78	772,840.18	0.00	-292.97	0.00	
8,800.00	6.00	116.96	8,770.64	293.46 S	577.00 E	441,513.04	772,849.50	0.00	-297.78	0.00	
8,900.00	6.00	116.96	8,870.09	298.20 S	586.32 E	441,508.30	772,858.82	0.00	-302.59	0.00	
9,000.00	6.00	116.96	8,969.54	302.94 S	595.64 E	441,503.56	772,868.14	0.00	-307.40	0.00	
9,100.00	6.00	116.96	9,069.00	307.68 S	604.96 E	441,498.82	772,877.46	0.00	-312.21	0.00	
9,200.00	6.00	116.96	9,168.45	312.42 S	614.28 E	441,494.08	772,886.78	0.00	-317.02	0.00	
9,300.00	6.00	116.96	9,267.90	317.16 S	623.60 E	441,489.34	772,896.10	0.00	-321.83	0.00	
9,400.00	6.00	116.96	9,367.35	321.90 S	632.92 E	441,484.60	772,905.42	0.00	-326.64	0.00	
9,500.00	6.00	116.96	9,466.80	326.64 S	642.24 E	441,479.86	772,914.74	0.00	-331.45	0.00	
9,600.00	6.00	116.96	9,566.26	331.38 S	651.56 E	441,475.12	772,924.06	0.00	-336.26	0.00	
9,700.00	6.00	116.96	9,665.71	336.12 S	660.88 E	441,470.38	772,933.38	0.00	-341.07	0.00	
9,800.00	6.00	116.96	9,765.16	340.86 S	670.20 E	441,465.64	772,942.70	0.00	-345.88	0.00	
9,900.00	6.00	116.96	9,864.61	345.60 S	679.52 E	441,460.90	772,952.02	0.00	-350.69	0.00	
10,000.00	6.00	116.96	9,964.06	350.34 S	688.84 E	441,456.16	772,961.34	0.00	-355.50	0.00	
10,100.00	6.00	116.96	10,063.51	355.08 S	698.16 E	441,451.42	772,970.66	0.00	-360.31	0.00	
10,200.00	6.00	116.96	10,162.97	359.82 S	707.48 E	441,446.68	772,979.98	0.00	-365.12	0.00	
10,300.00	6.00	116.96	10,262.42	364.56 S	716.80 E	441,441.94	772,989.30	0.00	-369.93	0.00	
10,400.00	6.00	116.96	10,361.87	369.30 S	726.12 E	441,437.20	772,998.62	0.00	-374.74	0.00	
10,500.00	6.00	116.96	10,461.32	374.04 S	735.44 E	441,432.46	773,007.94	0.00	-379.55	0.00	

Plan Report for Will Kane 15 WA Fee 11H - Plan 1

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Toolface Angle (°)	Comments
				Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)				
10,600.00	6.00	116.96	10,560.77	378.78 S	744.76 E	441,427.72	773,017.26	0.00	-384.36	0.00	
10,700.00	6.00	116.96	10,660.23	383.52 S	754.08 E	441,422.98	773,026.58	0.00	-389.17	0.00	
10,800.00	6.00	116.96	10,759.68	388.26 S	763.41 E	441,418.24	773,035.91	0.00	-393.98	0.00	
10,900.00	6.00	116.96	10,859.13	393.00 S	772.73 E	441,413.50	773,045.23	0.00	-398.79	0.00	
11,000.00	6.00	116.96	10,958.58	397.74 S	782.05 E	441,408.76	773,054.55	0.00	-403.59	0.00	
11,100.00	6.00	116.96	11,058.03	402.48 S	791.37 E	441,404.02	773,063.87	0.00	-408.40	0.00	
11,200.00	6.00	116.96	11,157.48	407.22 S	800.69 E	441,399.28	773,073.19	0.00	-413.21	0.00	
11,300.00	6.00	116.96	11,256.94	411.96 S	810.01 E	441,394.54	773,082.51	0.00	-418.02	0.00	
11,400.00	6.00	116.96	11,356.39	416.70 S	819.33 E	441,389.80	773,091.83	0.00	-422.83	0.00	
11,500.00	6.00	116.96	11,455.84	421.44 S	828.65 E	441,385.06	773,101.15	0.00	-427.64	0.00	
11,523.11	6.00	116.96	11,478.83	422.53 S	830.80 E	441,383.97	773,103.30	0.00	-428.76	0.00	EOH
11,600.00	3.31	116.96	11,555.45	425.36 S	836.36 E	441,381.14	773,108.86	3.50	-431.63	180.00	
11,694.60	0.00	0.00	11,650.00	426.60 S	838.80 E	441,379.90	773,111.30	3.50	-432.88	-180.00	Vertical
11,700.00	0.00	0.00	11,655.40	426.60 S	838.80 E	441,379.90	773,111.30	0.00	-432.88	0.00	
11,800.00	0.00	0.00	11,755.40	426.60 S	838.80 E	441,379.90	773,111.30	0.00	-432.88	0.00	
11,900.00	0.00	0.00	11,855.40	426.60 S	838.80 E	441,379.90	773,111.30	0.00	-432.88	0.00	
12,000.00	0.00	0.00	11,955.40	426.60 S	838.80 E	441,379.90	773,111.30	0.00	-432.88	0.00	
12,100.00	0.00	0.00	12,055.40	426.60 S	838.80 E	441,379.90	773,111.30	0.00	-432.88	0.00	
12,158.14	0.00	0.00	12,113.54	426.60 S	838.80 E	441,379.90	773,111.30	0.00	-432.88	0.00	KOP
12,200.00	5.02	9.76	12,155.35	424.79 S	839.11 E	441,381.71	773,111.61	12.00	-431.08	9.76	
12,300.00	17.02	9.76	12,253.32	405.98 S	842.35 E	441,400.52	773,114.85	12.00	-412.29	0.00	
12,400.00	29.02	9.76	12,345.19	367.51 S	848.96 E	441,438.99	773,121.46	12.00	-373.87	0.00	
12,500.00	41.02	9.76	12,426.93	311.05 S	858.68 E	441,495.45	773,131.18	12.00	-317.49	0.00	
12,600.00	53.02	9.76	12,494.98	239.08 S	871.06 E	441,567.42	773,143.56	12.00	-245.61	0.00	
12,700.00	65.02	9.76	12,546.35	154.74 S	885.56 E	441,651.76	773,158.06	12.00	-161.38	0.00	
12,800.00	77.02	9.76	12,578.81	61.71 S	901.56 E	441,744.79	773,174.06	12.00	-68.48	0.00	
12,900.00	89.02	9.76	12,590.94	35.93 N	918.36 E	441,842.43	773,190.86	12.00	29.04	0.00	
12,908.14	90.00	9.76	12,591.00	43.95 N	919.74 E	441,850.45	773,192.24	12.00	37.05	0.00	Land Point
13,000.00	90.00	7.92	12,591.00	134.72 N	933.86 E	441,941.22	773,206.36	2.00	127.71	-90.00	
13,100.00	90.00	5.92	12,591.00	233.98 N	945.91 E	442,040.48	773,218.41	2.00	226.88	-90.00	
13,200.00	90.00	3.92	12,591.00	333.61 N	954.49 E	442,140.11	773,226.99	2.00	326.44	-90.00	
13,300.00	90.00	1.92	12,591.00	433.48 N	959.59 E	442,239.98	773,232.09	2.00	426.26	-90.00	
13,400.00	90.00	359.92	12,591.00	533.46 N	961.20 E	442,339.96	773,233.70	2.00	526.23	-90.00	
13,417.44	90.00	359.57	12,591.00	550.89 N	961.12 E	442,357.39	773,233.62	2.00	543.66	-90.00	EOT
13,500.00	90.00	359.57	12,591.00	633.46 N	960.51 E	442,439.96	773,233.01	0.00	626.23	0.00	
13,600.00	90.00	359.57	12,591.00	733.45 N	959.77 E	442,539.95	773,232.27	0.00	726.23	0.00	

Plan Report for Will Kane 15 WA Fee 11H - Plan 1

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Toolface Angle (°)	Comments
Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)								
13,700.00	90.00	359.57	12,591.00	833.45 N	959.02 E	442,639.95	773,231.52	0.00	826.23	0.00	
13,800.00	90.00	359.57	12,591.00	933.45 N	958.28 E	442,739.95	773,230.78	0.00	926.23	0.00	
13,900.00	90.00	359.57	12,591.00	1,033.44 N	957.54 E	442,839.94	773,230.04	0.00	1,026.23	0.00	
14,000.00	90.00	359.57	12,591.00	1,133.44 N	956.79 E	442,939.94	773,229.29	0.00	1,126.23	0.00	
14,100.00	90.00	359.57	12,591.00	1,233.44 N	956.05 E	443,039.94	773,228.55	0.00	1,226.23	0.00	
14,200.00	90.00	359.57	12,591.00	1,333.44 N	955.31 E	443,139.94	773,227.81	0.00	1,326.23	0.00	
14,300.00	90.00	359.57	12,591.00	1,433.43 N	954.56 E	443,239.93	773,227.06	0.00	1,426.23	0.00	
14,400.00	90.00	359.57	12,591.00	1,533.43 N	953.82 E	443,339.93	773,226.32	0.00	1,526.23	0.00	
14,500.00	90.00	359.57	12,591.00	1,633.43 N	953.08 E	443,439.93	773,225.58	0.00	1,626.23	0.00	
14,600.00	90.00	359.57	12,591.00	1,733.42 N	952.33 E	443,539.92	773,224.83	0.00	1,726.23	0.00	
14,700.00	90.00	359.57	12,591.00	1,833.42 N	951.59 E	443,639.92	773,224.09	0.00	1,826.23	0.00	
14,800.00	90.00	359.57	12,591.00	1,933.42 N	950.85 E	443,739.92	773,223.35	0.00	1,926.23	0.00	
14,900.00	90.00	359.57	12,591.00	2,033.42 N	950.10 E	443,839.92	773,222.60	0.00	2,026.23	0.00	
15,000.00	90.00	359.57	12,591.00	2,133.41 N	949.36 E	443,939.91	773,221.86	0.00	2,126.23	0.00	
15,100.00	90.00	359.57	12,591.00	2,233.41 N	948.62 E	444,039.91	773,221.12	0.00	2,226.23	0.00	
15,200.00	90.00	359.57	12,591.00	2,333.41 N	947.87 E	444,139.91	773,220.37	0.00	2,326.23	0.00	
15,300.00	90.00	359.57	12,591.00	2,433.41 N	947.13 E	444,239.91	773,219.63	0.00	2,426.23	0.00	
15,400.00	90.00	359.57	12,591.00	2,533.40 N	946.39 E	444,339.90	773,218.89	0.00	2,526.23	0.00	
15,500.00	90.00	359.57	12,591.00	2,633.40 N	945.64 E	444,439.90	773,218.14	0.00	2,626.23	0.00	
15,600.00	90.00	359.57	12,591.00	2,733.40 N	944.90 E	444,539.90	773,217.40	0.00	2,726.23	0.00	
15,700.00	90.00	359.57	12,591.00	2,833.39 N	944.16 E	444,639.89	773,216.66	0.00	2,826.23	0.00	
15,800.00	90.00	359.57	12,591.00	2,933.39 N	943.41 E	444,739.89	773,215.91	0.00	2,926.23	0.00	
15,900.00	90.00	359.57	12,591.00	3,033.39 N	942.67 E	444,839.89	773,215.17	0.00	3,026.23	0.00	
16,000.00	90.00	359.57	12,591.00	3,133.39 N	941.93 E	444,939.89	773,214.43	0.00	3,126.23	0.00	
16,100.00	90.00	359.57	12,591.00	3,233.38 N	941.18 E	445,039.88	773,213.68	0.00	3,226.23	0.00	
16,200.00	90.00	359.57	12,591.00	3,333.38 N	940.44 E	445,139.88	773,212.94	0.00	3,326.23	0.00	
16,300.00	90.00	359.57	12,591.00	3,433.38 N	939.70 E	445,239.88	773,212.20	0.00	3,426.23	0.00	
16,400.00	90.00	359.57	12,591.00	3,533.38 N	938.95 E	445,339.88	773,211.45	0.00	3,526.23	0.00	
16,500.00	90.00	359.57	12,591.00	3,633.37 N	938.21 E	445,439.87	773,210.71	0.00	3,626.23	0.00	
16,600.00	90.00	359.57	12,591.00	3,733.37 N	937.47 E	445,539.87	773,209.97	0.00	3,726.23	0.00	
16,700.00	90.00	359.57	12,591.00	3,833.37 N	936.72 E	445,639.87	773,209.22	0.00	3,826.23	0.00	
16,800.00	90.00	359.57	12,591.00	3,933.36 N	935.98 E	445,739.86	773,208.48	0.00	3,926.23	0.00	
16,900.00	90.00	359.57	12,591.00	4,033.36 N	935.24 E	445,839.86	773,207.74	0.00	4,026.23	0.00	
17,000.00	90.00	359.57	12,591.00	4,133.36 N	934.49 E	445,939.86	773,206.99	0.00	4,126.23	0.00	
17,100.00	90.00	359.57	12,591.00	4,233.36 N	933.75 E	446,039.86	773,206.25	0.00	4,226.23	0.00	
17,200.00	90.00	359.57	12,591.00	4,333.35 N	933.01 E	446,139.85	773,205.51	0.00	4,326.23	0.00	
17,300.00	90.00	359.57	12,591.00	4,433.35 N	932.26 E	446,239.85	773,204.76	0.00	4,426.23	0.00	

Plan Report for Will Kane 15 WA Fee 11H - Plan 1

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Toolface Angle (°)	Comments
				Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)				
17,400.00	90.00	359.57	12,591.00	4,533.35 N	931.52 E	446,339.85	773,204.02	0.00	4,526.23	0.00	
17,500.00	90.00	359.57	12,591.00	4,633.34 N	930.78 E	446,439.84	773,203.28	0.00	4,626.23	0.00	
17,523.86	90.00	359.57	12,591.00	4,657.20 N	930.60 E	446,463.70	773,203.10	0.00	4,650.08	0.00	BHL

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,000.00	1,000.00	0.00	0.00	Begin Nudge
1,400.00	1,399.82	-4.75	9.33	3°
3,000.00	2,997.62	-42.71	83.97	EOH
3,050.00	3,047.53	-44.09	86.69	4°
4,000.00	3,995.22	-74.14	145.76	EOH
4,050.00	4,045.06	-75.92	149.25	5°
5,000.00	4,991.45	-113.45	223.05	EOH
5,028.83	5,019.94	-114.70	225.50	6°
11,523.11	11,478.83	-422.53	830.80	EOH
11,694.60	11,650.00	-426.60	838.80	Vertical
12,158.14	12,113.54	-426.60	838.80	KOP
12,908.14	12,591.00	43.95	919.74	Land Point
13,417.44	12,591.00	550.89	961.12	EOT
17,523.86	12,591.00	4,657.20	930.60	BHL

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/-S (usft)	Origin +E/-W (usft)	Start TVD (usft)
User	No Target (Freehand)	359.57	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	17,523.72	Plan 1	2_MWD+HRGM+AX

Plan Report for Will Kane 15 WA Fee 11H - Plan 1

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
950.00	950.00	9 5/8"	9-5/8	12-1/4

Design Targets

Target Name	Dip Angle (")	Dip Dir. (")	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Will Kane 11H BHL (100' FNL - 330' FEL) ()									
	0.00	0.00	12,591.00	4,657.20	930.60	446,463.70	773,203.10	32.22435810	-103.44987514
- plan hits target center									
- Point									
Adjusted Will Kane 11H FTP (100' FSL - 460' FEL) ()									
	0.00	0.00	12,591.00	-426.60	838.80	441,379.90	773,111.30	32.21038649	-103.45030704
- plan misses target center by 197.95usft at 12526.11usft MD (12446.15 TVD, -293.64 N, 861.67 E)									
- Point									

Directional Difficulty Index

Average Dogleg over Survey:	0.64 °/100usft	Maximum Dogleg over Survey:	12.00 °/100usft at 12,908.14 usft
Net Tortousity applicable to Plans:	0.64 °/100usft	Directional Difficulty Index:	6.203

Audit Info

North Reference Sheet for Will Kane 15 Pad (Grid) [Permitting] - Will Kane 15 WA Fee 11H - Wellbore #1

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to Grid North Reference.

Vertical Depths are relative to RKB (Precision 601) 25' + GL(3518') @ 3543.00usft. Northing and Easting are relative to Will Kane 15 WA Fee 11H

Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 3001 using datum NAD 1927 (NADCON CONUS), ellipsoid Clarke 1866

Projection method is Transverse Mercator (Gauss-Kruger)

Central Meridian is -104.33333333°, Longitude Origin: 0.00000000°, Latitude Origin: 0.00000000°

False Easting: 500,000.00usft, False Northing: 0.00usft, Scale Reduction: 0.99999400

Grid Coordinates of Well: 441,806.50 usft N, 772,272.50 usft E

Geographical Coordinates of Well: 32° 12' 41.68" N, 103° 27' 10.83" W

Grid Convergence at Surface is: 0.47°

Based upon Minimum Curvature type calculations, at a Measured Depth of 17,523.86usft
the Bottom Hole Displacement is 4,749.27usft in the Direction of 11.30° (Grid).

Magnetic Convergence at surface is: -6.16° (1 May 2019, , HDGM_2019)

