



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 WXY Fee 3H
Wellbore: Wellbore #1
Design: Plan 1
Rig:

HOBBS OCD

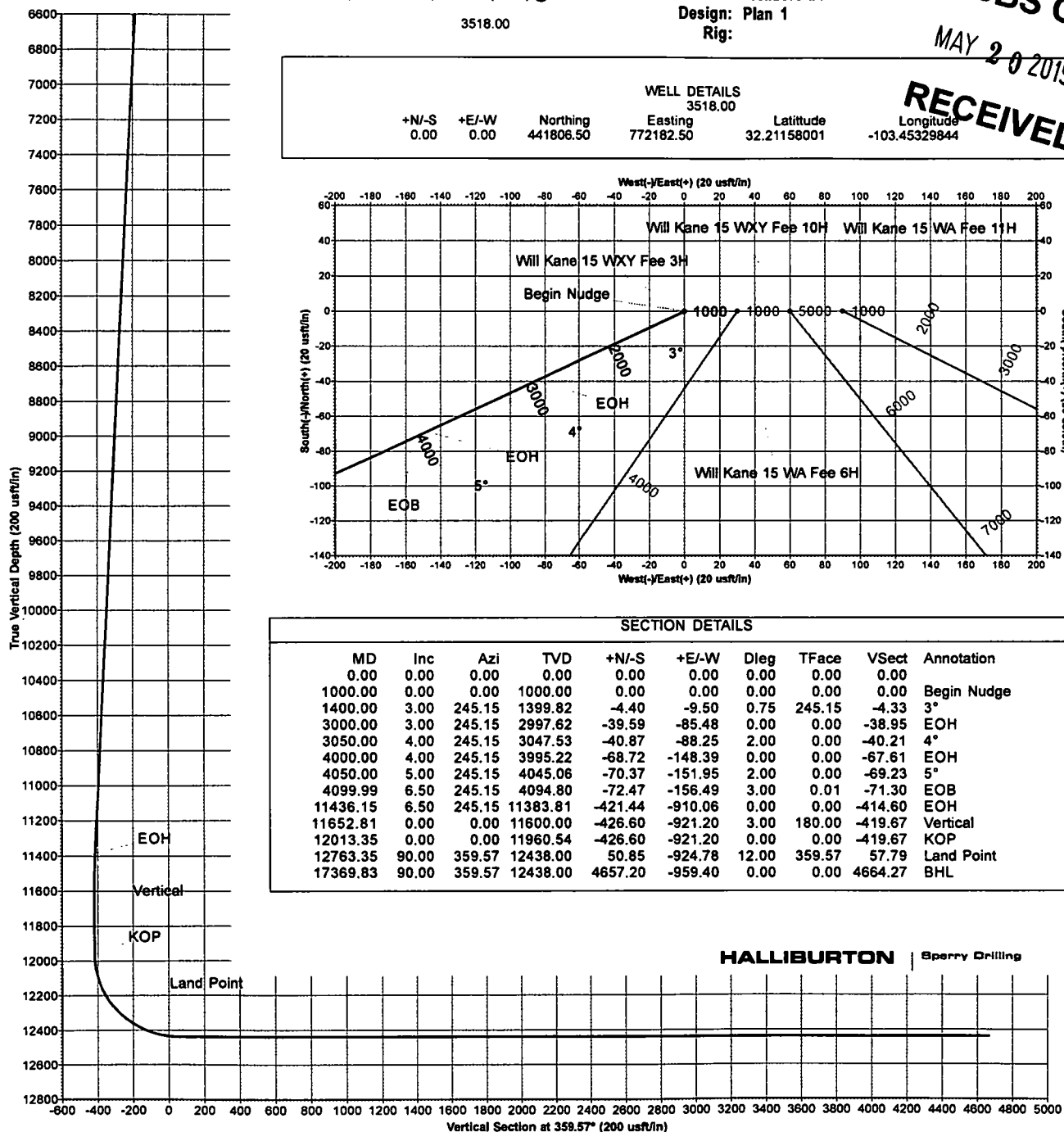
MAY 20 2019

RECEIVED

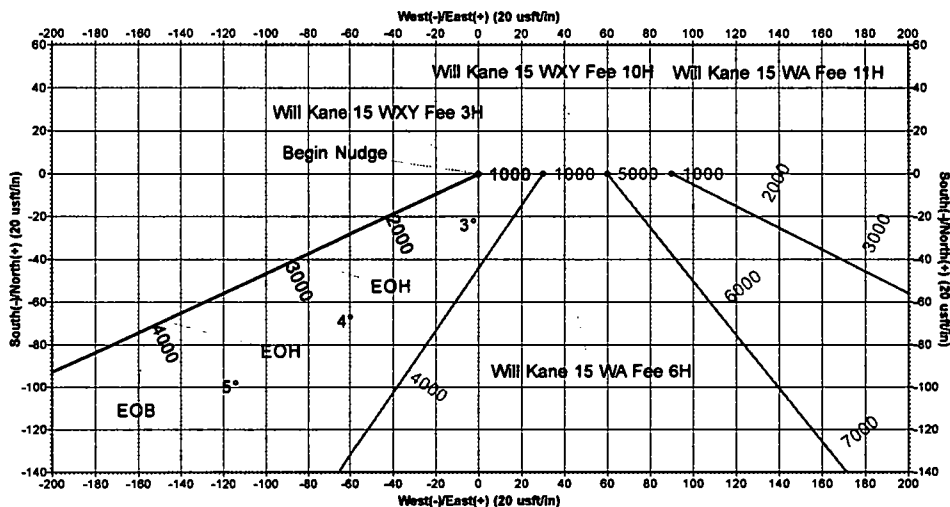
Map System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1886
Zone Name: New Mexico East 3001



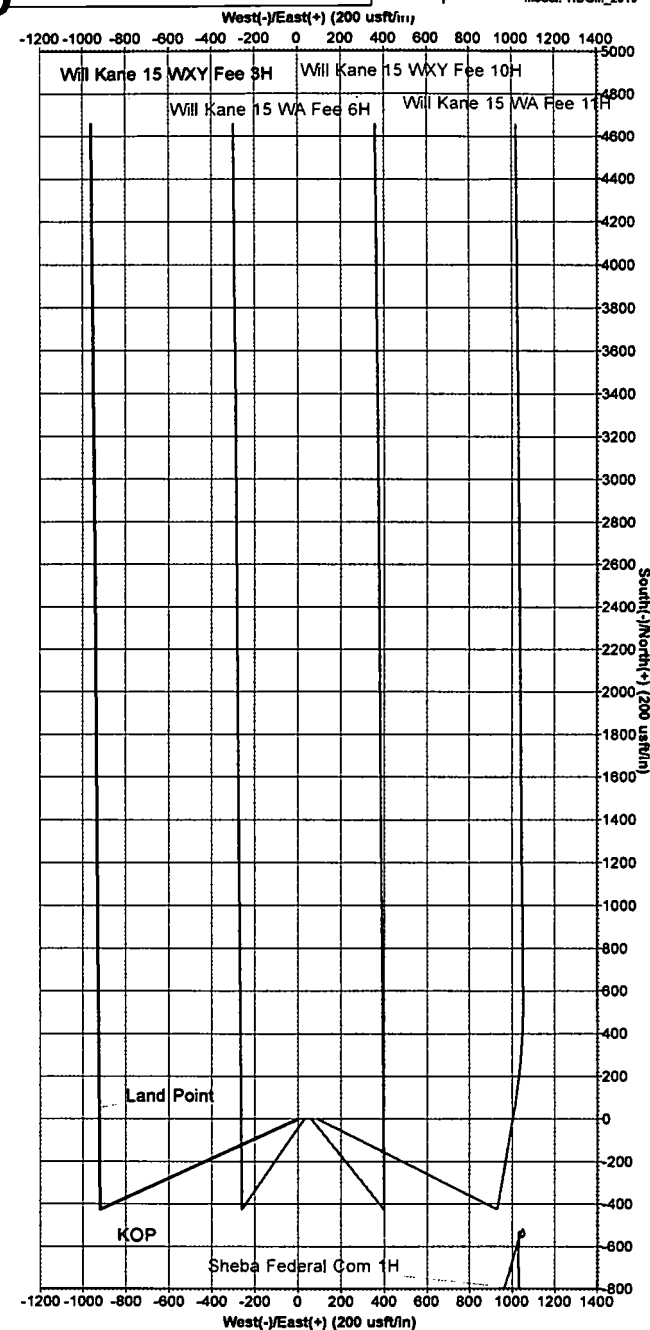
Azimuths to Grid North
True North: -0.47°
Magnetic North: 8.16°
Magnetic Field
Strength: 47907.1nT
Dip Angle: 59.87°
Date: 5/1/2019
Model: HDGM_2019



WELL DETAILS					
3518.00					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	441806.50	772182.50	32.21158001	-103.45329844



SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VFace	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	245.15	1399.82	-4.40	-9.50	0.75	245.15	-4.33	3°
3000.00	3.00	245.15	2997.62	-39.59	-85.48	0.00	0.00	-38.95	EOH
3050.00	4.00	245.15	3047.53	-40.87	-88.25	2.00	0.00	-40.21	4°
4000.00	4.00	245.15	3995.22	-68.72	-148.39	0.00	0.00	-67.61	EOH
4050.00	5.00	245.15	4045.06	-70.37	-151.95	2.00	0.00	-69.23	5°
4099.99	6.50	245.15	4094.80	-72.47	-156.49	3.00	0.01	-71.30	EOB
11436.15	6.50	245.15	11383.81	-421.44	-910.06	0.00	0.00	-414.60	EOH
11652.81	0.00	0.00	11600.00	-426.60	-921.20	3.00	180.00	-419.67	Vertical
12013.35	0.00	0.00	11960.54	-426.60	-921.20	0.00	0.00	-419.67	KOP
12763.35	90.00	359.57	12438.00	50.85	-924.78	12.00	359.57	57.79	Land Point
17369.83	90.00	359.57	12438.00	4657.20	-959.40	0.00	0.00	4664.27	BHL



Marathon Oil Permian LLC

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

API#

Will Kane 15 WXY Fee 3H

SHL: (520' FSL - 1389' FEL)

Wellbore #1

Plan: Plan 1

Sperry Drilling Services Combo Report

16 May, 2019

Well Coordinates: 32.21158001
-103.45329844

NAD 1927 (NADCON CONUS)
New Mexico East 3001
441,806.50 N
772,182.50 E

Ground Level: 3,518.00 usft

Local Coordinate Origin:

Centered on Well Will Kane 15 WXY Fee 3H

Viewing Datum:

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

TVDs to System:

N

North Reference:

Grid

Unit System:

Midcon (2 decimal)

Version: 5000.15 Build: 91

Report Version: Midcon Combo v1.13

HALLIBURTON

Plan Report for Will Kane 15 WXY Fee 3H - 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	772,182.50	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00 N	0.00 E	441,806.50	772,182.50	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00 N	0.00 E	441,806.50	772,182.50	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00 N	0.00 E	441,806.50	772,182.50	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00 N	0.00 E	441,806.50	772,182.50	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00 N	0.00 E	441,806.50	772,182.50	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00 N	0.00 E	441,806.50	772,182.50	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00 N	0.00 E	441,806.50	772,182.50	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00 N	0.00 E	441,806.50	772,182.50	0.00	0.00	0.00	
900.00	0.00	0.00	900.00	0.00 N	0.00 E	441,806.50	772,182.50	0.00	0.00	0.00	
950.00	0.00	0.00	950.00	0.00 N	0.00 E	441,806.50	772,182.50	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	772,182.50	0.00	0.00	0.00	Begin Nudge
1,100.00	0.75	245.15	1,100.00	0.28 S	0.59 W	441,806.22	772,181.91	0.75	-0.27	245.15	
1,200.00	1.50	245.15	1,199.98	1.10 S	2.38 W	441,805.40	772,180.12	0.75	-1.08	0.00	
1,300.00	2.25	245.15	1,299.92	2.48 S	5.34 W	441,804.02	772,177.16	0.75	-2.43	0.00	
1,400.00	3.00	245.15	1,399.82	4.40 S	9.50 W	441,802.10	772,173.00	0.75	-4.33	0.00	3°
1,500.00	3.00	245.15	1,499.68	6.60 S	14.25 W	441,799.90	772,168.25	0.00	-6.49	0.00	
1,600.00	3.00	245.15	1,599.54	8.80 S	19.00 W	441,797.70	772,163.50	0.00	-8.66	0.00	
1,700.00	3.00	245.15	1,699.41	11.00 S	23.75 W	441,795.50	772,158.75	0.00	-10.82	0.00	
1,800.00	3.00	245.15	1,799.27	13.20 S	28.50 W	441,793.30	772,154.00	0.00	-12.98	0.00	
1,900.00	3.00	245.15	1,899.13	15.40 S	33.25 W	441,791.10	772,149.25	0.00	-15.15	0.00	
2,000.00	3.00	245.15	1,998.99	17.60 S	37.99 W	441,788.90	772,144.51	0.00	-17.31	0.00	
2,100.00	3.00	245.15	2,098.86	19.80 S	42.74 W	441,786.70	772,139.76	0.00	-19.47	0.00	
2,200.00	3.00	245.15	2,198.72	21.99 S	47.49 W	441,784.51	772,135.01	0.00	-21.64	0.00	
2,300.00	3.00	245.15	2,298.58	24.19 S	52.24 W	441,782.31	772,130.26	0.00	-23.80	0.00	
2,400.00	3.00	245.15	2,398.45	26.39 S	56.99 W	441,780.11	772,125.51	0.00	-25.97	0.00	
2,500.00	3.00	245.15	2,498.31	28.59 S	61.74 W	441,777.91	772,120.76	0.00	-28.13	0.00	
2,600.00	3.00	245.15	2,598.17	30.79 S	66.49 W	441,775.71	772,116.01	0.00	-30.29	0.00	
2,700.00	3.00	245.15	2,698.04	32.99 S	71.24 W	441,773.51	772,111.26	0.00	-32.46	0.00	
2,800.00	3.00	245.15	2,797.90	35.19 S	75.99 W	441,771.31	772,106.51	0.00	-34.62	0.00	
2,900.00	3.00	245.15	2,897.76	37.39 S	80.74 W	441,769.11	772,101.76	0.00	-36.78	0.00	
3,000.00	3.00	245.15	2,997.62	39.59 S	85.48 W	441,766.91	772,097.02	0.00	-38.95	0.00	EOH
3,050.00	4.00	245.15	3,047.53	40.87 S	88.25 W	441,765.63	772,094.25	2.00	-40.21	0.00	4°
3,100.00		245.15	3,097.41	42.34 S	91.42 W	441,764.16	772,091.08	0.00	-41.65	0.00	
3,200.00		245.15	3,197.17	45.27 S	97.75 W	441,761.23	772,084.75	0.00	-44.54	0.00	
3,300.00		245.15	3,296.92	48.20 S	104.08 W	441,758.30	772,078.42	0.00	-47.42	0.00	

Plan Report for Will Kane 15 WXY Fee 3H - 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		245.15	3,396.68	51.13 S	110.41 W	441,755.37	772,072.09	0.00	-50.30	0.00	
3,500.00		245.15	3,496.43	54.06 S	116.74 W	441,752.44	772,065.76	0.00	-53.19	0.00	
3,600.00		245.15	3,596.19	57.00 S	123.07 W	441,749.50	772,059.43	0.00	-56.07	0.00	
3,700.00		245.15	3,695.95	59.93 S	129.40 W	441,746.57	772,053.10	0.00	-58.95	0.00	
3,800.00		245.15	3,795.70	62.86 S	135.73 W	441,743.64	772,046.77	0.00	-61.84	0.00	
3,900.00		245.15	3,895.46	65.79 S	142.06 W	441,740.71	772,040.44	0.00	-64.72	0.00	
4,000.00		245.15	3,995.22	68.72 S	148.39 W	441,737.78	772,034.11	0.00	-67.61	0.00	EOH
4,050.00	5.00	245.15	4,045.06	70.37 S	151.95 W	441,736.13	772,030.55	2.00	-69.23	0.00	5°
4,099.99	6.50	245.15	4,094.80	72.47 S	156.49 W	441,734.03	772,026.01	3.00	-71.30	0.01	EOB
4,100.00	6.50	245.15	4,094.81	72.48 S	156.49 W	441,734.02	772,026.01	0.00	-71.30	0.00	
4,200.00	6.50	245.15	4,194.17	77.23 S	166.76 W	441,729.27	772,015.74	0.00	-75.98	0.00	
4,300.00	6.50	245.15	4,293.52	81.99 S	177.04 W	441,724.51	772,005.46	0.00	-80.66	0.00	
4,400.00	6.50	245.15	4,392.88	86.75 S	187.31 W	441,719.75	771,995.19	0.00	-85.34	0.00	
4,500.00	6.50	245.15	4,492.24	91.50 S	197.58 W	441,715.00	771,984.92	0.00	-90.02	0.00	
4,600.00	6.50	245.15	4,591.59	96.26 S	207.85 W	441,710.24	771,974.65	0.00	-94.70	0.00	
4,700.00	6.50	245.15	4,690.95	101.02 S	218.12 W	441,705.48	771,964.38	0.00	-99.38	0.00	
4,800.00	6.50	245.15	4,790.31	105.77 S	228.40 W	441,700.73	771,954.10	0.00	-104.06	0.00	
4,900.00	6.50	245.15	4,889.67	110.53 S	238.67 W	441,695.97	771,943.83	0.00	-108.74	0.00	
5,000.00	6.50	245.15	4,989.02	115.29 S	248.94 W	441,691.21	771,933.56	0.00	-113.42	0.00	
5,100.00	6.50	245.15	5,088.38	120.04 S	259.21 W	441,686.46	771,923.29	0.00	-118.09	0.00	
5,200.00	6.50	245.15	5,187.74	124.80 S	269.48 W	441,681.70	771,913.02	0.00	-122.77	0.00	
5,300.00	6.50	245.15	5,287.10	129.56 S	279.76 W	441,676.94	771,902.74	0.00	-127.45	0.00	
5,400.00	6.50	245.15	5,386.45	134.31 S	290.03 W	441,672.19	771,892.47	0.00	-132.13	0.00	
5,500.00	6.50	245.15	5,485.81	139.07 S	300.30 W	441,667.43	771,882.20	0.00	-136.81	0.00	
5,600.00	6.50	245.15	5,585.17	143.83 S	310.57 W	441,662.67	771,871.93	0.00	-141.49	0.00	
5,700.00	6.50	245.15	5,684.52	148.58 S	320.84 W	441,657.92	771,861.66	0.00	-146.17	0.00	
5,800.00	6.50	245.15	5,783.88	153.34 S	331.12 W	441,653.16	771,851.38	0.00	-150.85	0.00	
5,900.00	6.50	245.15	5,883.24	158.10 S	341.39 W	441,648.40	771,841.11	0.00	-155.53	0.00	
6,000.00	6.50	245.15	5,982.60	162.85 S	351.66 W	441,643.65	771,830.84	0.00	-160.21	0.00	
6,100.00	6.50	245.15	6,081.95	167.61 S	361.93 W	441,638.89	771,820.57	0.00	-164.89	0.00	
6,200.00	6.50	245.15	6,181.31	172.37 S	372.20 W	441,634.13	771,810.30	0.00	-169.57	0.00	
6,300.00	6.50	245.15	6,280.67	177.12 S	382.48 W	441,629.38	771,800.02	0.00	-174.25	0.00	
6,400.00	6.50	245.15	6,380.03	181.88 S	392.75 W	441,624.62	771,789.75	0.00	-178.93	0.00	
6,500.00	6.50	245.15	6,479.38	186.64 S	403.02 W	441,619.86	771,779.48	0.00	-183.61	0.00	
6,600.00	6.50	245.15	6,578.74	191.40 S	413.29 W	441,615.10	771,769.21	0.00	-188.29	0.00	
6,700.00	6.50	245.15	6,678.10	196.15 S	423.56 W	441,610.35	771,758.94	0.00	-192.97	0.00	
6,800.00	6.50	245.15	6,777.45	200.91 S	433.84 W	441,605.59	771,748.66	0.00	-197.65	0.00	

Plan Report for Will Kane 15 WXY Fee 3H - 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)				
6,900.00	6.50	245.15	6,876.81	205.67 S	444.11 W	441,600.83	771,738.39	0.00	-202.33	0.00	
7,000.00	6.50	245.15	6,976.17	210.42 S	454.38 W	441,596.08	771,728.12	0.00	-207.01	0.00	
7,100.00	6.50	245.15	7,075.53	215.18 S	464.65 W	441,591.32	771,717.85	0.00	-211.69	0.00	
7,200.00	6.50	245.15	7,174.88	219.94 S	474.92 W	441,586.56	771,707.58	0.00	-216.37	0.00	
7,300.00	6.50	245.15	7,274.24	224.69 S	485.20 W	441,581.81	771,697.30	0.00	-221.05	0.00	
7,400.00	6.50	245.15	7,373.60	229.45 S	495.47 W	441,577.05	771,687.03	0.00	-225.72	0.00	
7,500.00	6.50	245.15	7,472.95	234.21 S	505.74 W	441,572.29	771,676.76	0.00	-230.40	0.00	
7,600.00	6.50	245.15	7,572.31	238.96 S	516.01 W	441,567.54	771,666.49	0.00	-235.08	0.00	
7,700.00	6.50	245.15	7,671.67	243.72 S	526.28 W	441,562.78	771,656.22	0.00	-239.76	0.00	
7,800.00	6.50	245.15	7,771.03	248.48 S	536.56 W	441,558.02	771,645.94	0.00	-244.44	0.00	
7,900.00	6.50	245.15	7,870.38	253.23 S	546.83 W	441,553.27	771,635.67	0.00	-249.12	0.00	
8,000.00	6.50	245.15	7,969.74	257.99 S	557.10 W	441,548.51	771,625.40	0.00	-253.80	0.00	
8,100.00	6.50	245.15	8,069.10	262.75 S	567.37 W	441,543.75	771,615.13	0.00	-258.48	0.00	
8,200.00	6.50	245.15	8,168.46	267.50 S	577.64 W	441,539.00	771,604.86	0.00	-263.16	0.00	
8,300.00	6.50	245.15	8,267.81	272.26 S	587.92 W	441,534.24	771,594.58	0.00	-267.84	0.00	
8,400.00	6.50	245.15	8,367.17	277.02 S	598.19 W	441,529.48	771,584.31	0.00	-272.52	0.00	
8,500.00	6.50	245.15	8,466.53	281.77 S	608.46 W	441,524.73	771,574.04	0.00	-277.20	0.00	
8,600.00	6.50	245.15	8,565.88	286.53 S	618.73 W	441,519.97	771,563.77	0.00	-281.88	0.00	
8,700.00	6.50	245.15	8,665.24	291.29 S	629.00 W	441,515.21	771,553.50	0.00	-286.56	0.00	
8,800.00	6.50	245.15	8,764.60	296.04 S	639.28 W	441,510.46	771,543.22	0.00	-291.24	0.00	
8,900.00	6.50	245.15	8,863.96	300.80 S	649.55 W	441,505.70	771,532.95	0.00	-295.92	0.00	
9,000.00	6.50	245.15	8,963.31	305.56 S	659.82 W	441,500.94	771,522.68	0.00	-300.60	0.00	
9,100.00	6.50	245.15	9,062.67	310.32 S	670.09 W	441,496.18	771,512.41	0.00	-305.28	0.00	
9,200.00	6.50	245.15	9,162.03	315.07 S	680.36 W	441,491.43	771,502.14	0.00	-309.96	0.00	
9,300.00	6.50	245.15	9,261.38	319.83 S	690.64 W	441,486.67	771,491.86	0.00	-314.64	0.00	
9,400.00	6.50	245.15	9,360.74	324.59 S	700.91 W	441,481.91	771,481.59	0.00	-319.32	0.00	
9,500.00	6.50	245.15	9,460.10	329.34 S	711.18 W	441,477.16	771,471.32	0.00	-324.00	0.00	
9,600.00	6.50	245.15	9,559.46	334.10 S	721.45 W	441,472.40	771,461.05	0.00	-328.68	0.00	
9,700.00	6.50	245.15	9,658.81	338.86 S	731.72 W	441,467.64	771,450.78	0.00	-333.36	0.00	
9,800.00	6.50	245.15	9,758.17	343.61 S	742.00 W	441,462.89	771,440.50	0.00	-338.03	0.00	
9,900.00	6.50	245.15	9,857.53	348.37 S	752.27 W	441,458.13	771,430.23	0.00	-342.71	0.00	
10,000.00	6.50	245.15	9,956.89	353.13 S	762.54 W	441,453.37	771,419.96	0.00	-347.39	0.00	
10,100.00	6.50	245.15	10,056.24	357.88 S	772.81 W	441,448.62	771,409.69	0.00	-352.07	0.00	
10,200.00	6.50	245.15	10,155.60	362.64 S	783.08 W	441,443.86	771,399.42	0.00	-356.75	0.00	
10,300.00	6.50	245.15	10,254.96	367.40 S	793.36 W	441,439.10	771,389.14	0.00	-361.43	0.00	
10,400.00	6.50	245.15	10,354.31	372.15 S	803.63 W	441,434.35	771,378.87	0.00	-366.11	0.00	
10,500.00	6.50	245.15	10,453.67	376.91 S	813.90 W	441,429.59	771,368.60	0.00	-370.79	0.00	

Plan Report for Will Kane 15 WXY Fee 3H - 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	6.50	245.15	10,553.03	381.67 S	824.17 W	441,424.83	771,358.33	0.00	-375.47	0.00	
10,700.00	6.50	245.15	10,652.39	386.42 S	834.44 W	441,420.08	771,348.06	0.00	-380.15	0.00	
10,800.00	6.50	245.15	10,751.74	391.18 S	844.72 W	441,415.32	771,337.78	0.00	-384.83	0.00	
10,900.00	6.50	245.15	10,851.10	395.94 S	854.99 W	441,410.56	771,327.51	0.00	-389.51	0.00	
11,000.00	6.50	245.15	10,950.46	400.69 S	865.26 W	441,405.81	771,317.24	0.00	-394.19	0.00	
11,100.00	6.50	245.15	11,049.81	405.45 S	875.53 W	441,401.05	771,306.97	0.00	-398.87	0.00	
11,200.00	6.50	245.15	11,149.17	410.21 S	885.80 W	441,396.29	771,296.70	0.00	-403.55	0.00	
11,300.00	6.50	245.15	11,248.53	414.97 S	896.08 W	441,391.53	771,286.42	0.00	-408.23	0.00	
11,400.00	6.50	245.15	11,347.89	419.72 S	906.35 W	441,386.78	771,276.15	0.00	-412.91	0.00	
11,436.15	6.50	245.15	11,383.81	421.44 S	910.06 W	441,385.06	771,272.44	0.00	-414.60	0.00	EOH
11,500.00	4.58	245.15	11,447.35	424.03 S	915.66 W	441,382.47	771,266.84	3.00	-417.15	180.00	
11,600.00	1.58	245.15	11,547.20	426.29 S	920.54 W	441,380.21	771,261.96	3.00	-419.37	180.00	
11,652.81	0.00	0.00	11,600.00	426.60 S	921.20 W	441,379.90	771,261.30	3.00	-419.67	180.00	Vertical
11,700.00	0.00	0.00	11,647.19	426.60 S	921.20 W	441,379.90	771,261.30	0.00	-419.67	0.00	
11,800.00	0.00	0.00	11,747.19	426.60 S	921.20 W	441,379.90	771,261.30	0.00	-419.67	0.00	
11,900.00	0.00	0.00	11,847.19	426.60 S	921.20 W	441,379.90	771,261.30	0.00	-419.67	0.00	
12,000.00	0.00	0.00	11,947.19	426.60 S	921.20 W	441,379.90	771,261.30	0.00	-419.67	0.00	
12,013.35	0.00	0.00	11,960.54	426.60 S	921.20 W	441,379.90	771,261.30	0.00	-419.67	0.00	KOP
12,100.00	10.40	359.57	12,046.71	418.76 S	921.26 W	441,387.74	771,261.24	12.00	-411.83	359.57	
12,200.00	22.40	359.57	12,142.47	390.58 S	921.47 W	441,415.92	771,261.03	12.00	-383.65	0.00	
12,300.00	34.40	359.57	12,230.28	343.11 S	921.83 W	441,463.39	771,260.67	12.00	-336.18	0.00	
12,400.00	46.40	359.57	12,306.29	278.42 S	922.31 W	441,528.08	771,260.19	12.00	-271.49	0.00	
12,500.00	58.40	359.57	12,367.20	199.34 S	922.91 W	441,607.16	771,259.59	12.00	-192.41	0.00	
12,600.00	70.40	359.57	12,410.33	109.33 S	923.58 W	441,697.17	771,258.92	12.00	-102.39	0.00	
12,700.00	82.40	359.57	12,433.81	12.31 S	924.31 W	441,794.19	771,258.19	12.00	-5.37	0.00	
12,763.35	90.00	359.57	12,438.00	50.85 N	924.78 W	441,857.35	771,257.72	12.00	57.79	0.00	Land Point
12,800.00	90.00	359.57	12,438.00	87.50 N	925.06 W	441,894.00	771,257.44	0.00	94.44	0.00	
12,900.00	90.00	359.57	12,438.00	187.50 N	925.81 W	441,994.00	771,256.69	0.00	194.44	0.00	
13,000.00	90.00	359.57	12,438.00	287.49 N	926.56 W	442,093.99	771,255.94	0.00	294.44	0.00	
13,100.00	90.00	359.57	12,438.00	387.49 N	927.31 W	442,193.99	771,255.19	0.00	394.44	0.00	
13,200.00	90.00	359.57	12,438.00	487.49 N	928.06 W	442,293.99	771,254.44	0.00	494.44	0.00	
13,300.00	90.00	359.57	12,438.00	587.49 N	928.81 W	442,393.99	771,253.69	0.00	594.44	0.00	
13,400.00	90.00	359.57	12,438.00	687.48 N	929.56 W	442,493.98	771,252.94	0.00	694.44	0.00	
13,500.00	90.00	359.57	12,438.00	787.48 N	930.31 W	442,593.98	771,252.19	0.00	794.44	0.00	
13,600.00	90.00	359.57	12,438.00	887.48 N	931.06 W	442,693.98	771,251.44	0.00	894.44	0.00	
13,700.00	90.00	359.57	12,438.00	987.47 N	931.81 W	442,793.97	771,250.69	0.00	994.44	0.00	

Plan Report for Will Kane 15 WXY Fee 3H - 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)				
13,800.00	90.00	359.57	12,438.00	1,087.47 N	932.56 W	442,893.97	771,249.94	0.00	1,094.44	0.00	
13,900.00	90.00	359.57	12,438.00	1,187.47 N	933.31 W	442,993.97	771,249.19	0.00	1,194.44	0.00	
14,000.00	90.00	359.57	12,438.00	1,287.47 N	934.06 W	443,093.97	771,248.44	0.00	1,294.44	0.00	
14,100.00	90.00	359.57	12,438.00	1,387.46 N	934.81 W	443,193.96	771,247.69	0.00	1,394.44	0.00	
14,200.00	90.00	359.57	12,438.00	1,487.46 N	935.57 W	443,293.96	771,246.93	0.00	1,494.44	0.00	
14,300.00	90.00	359.57	12,438.00	1,587.46 N	936.32 W	443,393.96	771,246.18	0.00	1,594.44	0.00	
14,400.00	90.00	359.57	12,438.00	1,687.46 N	937.07 W	443,493.96	771,245.43	0.00	1,694.44	0.00	
14,500.00	90.00	359.57	12,438.00	1,787.45 N	937.82 W	443,593.95	771,244.68	0.00	1,794.44	0.00	
14,600.00	90.00	359.57	12,438.00	1,887.45 N	938.57 W	443,693.95	771,243.93	0.00	1,894.44	0.00	
14,700.00	90.00	359.57	12,438.00	1,987.45 N	939.32 W	443,793.95	771,243.18	0.00	1,994.44	0.00	
14,800.00	90.00	359.57	12,438.00	2,087.44 N	940.07 W	443,893.94	771,242.43	0.00	2,094.44	0.00	
14,900.00	90.00	359.57	12,438.00	2,187.44 N	940.82 W	443,993.94	771,241.68	0.00	2,194.44	0.00	
15,000.00	90.00	359.57	12,438.00	2,287.44 N	941.57 W	444,093.94	771,240.93	0.00	2,294.44	0.00	
15,100.00	90.00	359.57	12,438.00	2,387.44 N	942.32 W	444,193.94	771,240.18	0.00	2,394.44	0.00	
15,200.00	90.00	359.57	12,438.00	2,487.43 N	943.07 W	444,293.93	771,239.43	0.00	2,494.44	0.00	
15,300.00	90.00	359.57	12,438.00	2,587.43 N	943.82 W	444,393.93	771,238.68	0.00	2,594.44	0.00	
15,400.00	90.00	359.57	12,438.00	2,687.43 N	944.57 W	444,493.93	771,237.93	0.00	2,694.44	0.00	
15,500.00	90.00	359.57	12,438.00	2,787.42 N	945.32 W	444,593.92	771,237.18	0.00	2,794.44	0.00	
15,600.00	90.00	359.57	12,438.00	2,887.42 N	946.07 W	444,693.92	771,236.43	0.00	2,894.44	0.00	
15,700.00	90.00	359.57	12,438.00	2,987.42 N	946.82 W	444,793.92	771,235.68	0.00	2,994.44	0.00	
15,800.00	90.00	359.57	12,438.00	3,087.42 N	947.57 W	444,893.92	771,234.93	0.00	3,094.44	0.00	
15,900.00	90.00	359.57	12,438.00	3,187.41 N	948.32 W	444,993.91	771,234.18	0.00	3,194.44	0.00	
16,000.00	90.00	359.57	12,438.00	3,287.41 N	949.07 W	445,093.91	771,233.43	0.00	3,294.44	0.00	
16,100.00	90.00	359.57	12,438.00	3,387.41 N	949.82 W	445,193.91	771,232.68	0.00	3,394.44	0.00	
16,200.00	90.00	359.57	12,438.00	3,487.40 N	950.57 W	445,293.90	771,231.93	0.00	3,494.44	0.00	
16,300.00	90.00	359.57	12,438.00	3,587.40 N	951.33 W	445,393.90	771,231.17	0.00	3,594.44	0.00	
16,400.00	90.00	359.57	12,438.00	3,687.40 N	952.08 W	445,493.90	771,230.42	0.00	3,694.44	0.00	
16,500.00	90.00	359.57	12,438.00	3,787.40 N	952.83 W	445,593.90	771,229.67	0.00	3,794.44	0.00	
16,600.00	90.00	359.57	12,438.00	3,887.39 N	953.58 W	445,693.89	771,228.92	0.00	3,894.44	0.00	
16,700.00	90.00	359.57	12,438.00	3,987.39 N	954.33 W	445,793.89	771,228.17	0.00	3,994.44	0.00	
16,800.00	90.00	359.57	12,438.00	4,087.39 N	955.08 W	445,893.89	771,227.42	0.00	4,094.44	0.00	
16,900.00	90.00	359.57	12,438.00	4,187.38 N	955.83 W	445,993.88	771,226.67	0.00	4,194.44	0.00	
17,000.00	90.00	359.57	12,438.00	4,287.38 N	956.58 W	446,093.88	771,225.92	0.00	4,294.44	0.00	
17,100.00	90.00	359.57	12,438.00	4,387.38 N	957.33 W	446,193.88	771,225.17	0.00	4,394.44	0.00	
17,200.00	90.00	359.57	12,438.00	4,487.38 N	958.08 W	446,293.88	771,224.42	0.00	4,494.44	0.00	
17,300.00	90.00	359.57	12,438.00	4,587.37 N	958.83 W	446,393.87	771,223.67	0.00	4,594.44	0.00	
17,369.83	90.00	359.57	12,438.00	4,657.20 N	959.40 W	446,463.70	771,223.10	0.00	4,664.27	0.00	BHL

Plan Report for Will Kane 15 WXY Fee 3H - 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)				

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	-4.40	-9.50	3°
3,000.00	2,997.62	-39.59	-85.48	EOH
3,050.00	3,047.53	-40.87	-88.25	4°
4,000.00	3,995.22	-68.72	-148.39	EOH
4,050.00	4,045.06	-70.37	-151.95	5°
4,099.99	4,094.80	-72.47	-156.49	EOB
11,436.15	11,383.81	-421.44	-910.06	EOH
11,652.81	11,600.00	-426.60	-921.20	Vertical
12,013.35	11,960.54	-426.60	-921.20	KOP
12,763.35	12,438.00	50.85	-924.78	Land Point
17,369.83	12,438.00	4,657.20	-959.40	BHL

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (usft)
				+N/_S (usft)	+E/-W (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	17,369.51	Plan 1	2_MWD+HRGM+AX

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

Plan Report for Will Kane 15 WXY Fee 3H - Plan 1

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Will Kane 3H BHL (100' FNL - 2306' FEL) ()									
- plan hits target center	0.00	0.00	12,438.00	4,657.20	-959.40	446,463.70	771,223.10	32.22440269	-103.45627723
- Point									
Will Kane 3H FTP (100' FSL - 2315' FEL) ()									
- plan misses target center by 198.25usft at 12400.00usft MD (12306.29 TVD, -278.42 N, -922.31 E)	0.00	0.00	12,438.00	-426.60	-921.20	441,379.90	771,261.30	32.21042812	-103.45628787
- Point									

Directional Difficulty Index

Average Dogleg over Survey:	0.59 °/100usft	Maximum Dogleg over Survey:	12.00 °/100usft at 12,763.35 usft
Net Tortousity applicable to Plans:	0.59 °/100usft	Directional Difficulty Index:	6.191

Audit Info

North Reference Sheet for Will Kane 15 Pad (Grid) [Permitting] - Will Kane 15 WXY Fee 3H - 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 WXY Fee 3H

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: 0.99999394

Grid Coordinates of Well: 441,806.50 usft N, 772,182.50 usft E

Geographical Coordinates of Well: 32° 12' 41.69" N, 103° 27' 11.87" W

Grid Convergence at Surface is: 0.47°

Based upon Minimum Curvature type calculations, at a Measured Depth of 17,369.83usft

the Bottom Hole Displacement is 4,754.99usft in the Direction of 348.36° (Grid).

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

