



Actual Wellpath Report

SD EA 18 19 FEDERAL COM P15 19H_awp
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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FEDERAL COM P15 19H
Area	Lea County, NM	Well	SD EA 18 19 FEDERAL COM P15 19H
Field	Bone Spring (Lea County, NM) NAD27	Wellbore	SD EA 18 19 FEDERAL COM P15 19H
Facility	SD EA 18-19 Fed COM P15		

REPORT SETUP INFORMATION

Projection System	NAD27 / TM New Mexico SP, Eastern Zone (3001), US feet	Software System	WellArchitect® 5.1
North Reference	Grid	User	Gilbjosl
Scale	0.999967	Report Generated	03-Aug-18 at 8:38:05 AM
Convergence at slot	0.39° East	Database/Source file	WA_HOU_Midland_Defn/SD_EA_18_19_FEDERAL_COM_P15_19H_awp.xml

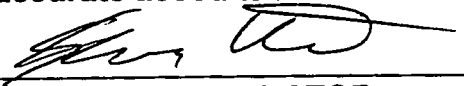
WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	1.00	75.00	725572.00	382462.00	32°02'57.884"N	103°36'19.034"W
Facility Reference Pt			725497.00	382461.00	32°02'57.879"N	103°36'19.905"W
Field Reference Pt			152400.30	0.00	30°59'42.846"N	105°26'33.659"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig: Nabors X30 (KB) to Facility Vertical Datum	3263.60ft
Horizontal Reference Pt	Slot	Rig: Nabors X30 (KB) to Mean Sea Level	3263.60ft
Vertical Reference Pt	Rig: Nabors X30 (KB)	Rig: Nabors X30 (KB) to Ground Level at Slot (SD EA 18 19 FEDERAL COM P15 19H)	32.60ft
MD Reference Pt	Rig: Nabors X30 (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	179.57°

We hereby certify that the surveys contained herein, are to the best of our knowledge a true and accurate account of the well.


MWD COORDINATOR



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Facility	SD EA 18-19 Fed COM P15		

WELLPATH DATA (83 stations) † = Interpolated/extrapolated station											
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Comments
0.00†	0.000	302.090	0.00	0.00	0.00	0.00	725572.00	382482.00	32°02'57.884"N	103°36'19.034"W	
32.60	0.000	302.090	32.60	0.00	0.00	0.00	725572.00	382482.00	32°02'57.884"N	103°36'19.034"W	
158.00	1.460	302.090	157.99	-0.86	0.85	-1.35	725570.65	382462.85	32°02'57.893"N	103°36'19.049"W	
340.00	1.330	307.380	339.93	-3.40	3.36	-5.00	725567.00	382465.36	32°02'57.918"N	103°36'19.092"W	
525.00	1.160	308.930	524.89	-5.90	5.84	-8.16	725563.84	382487.84	32°02'57.943"N	103°36'19.128"W	
706.00	1.310	312.860	705.85	-8.48	8.40	-11.10	725560.90	382470.40	32°02'57.968"N	103°36'19.162"W	
803.00	1.150	316.670	802.82	-9.96	9.86	-12.58	725559.42	382471.86	32°02'57.983"N	103°36'19.179"W	17 1/2 BH MWD 158' - 803'
884.00	1.250	319.660	883.81	-11.23	11.13	-13.71	725558.29	382473.13	32°02'57.995"N	103°36'19.192"W	
980.00	1.770	27.480	979.78	-13.34	13.24	-13.70	725558.30	382475.24	32°02'58.016"N	103°36'19.192"W	
1169.00	4.450	50.000	1168.49	-20.60	20.55	-8.74	725565.26	382482.55	32°02'58.088"N	103°36'19.110"W	
1359.00	6.750	54.470	1357.57	-31.71	31.77	8.00	725580.00	382493.77	32°02'58.198"N	103°36'18.938"W	
1549.00	8.820	58.440	1545.81	-45.67	45.89	29.50	725601.50	382507.89	32°02'58.336"N	103°36'18.687"W	
1739.00	10.260	59.750	1733.18	-61.61	62.04	56.53	725628.53	382524.04	32°02'58.494"N	103°36'18.372"W	
1929.00	11.500	58.870	1919.76	-79.70	80.35	87.36	725659.36	382542.35	32°02'58.674"N	103°36'18.013"W	
2118.00	11.240	59.740	2105.05	-98.48	99.38	119.40	725691.39	382561.37	32°02'58.860"N	103°36'17.639"W	
2214.00	11.100	60.290	2199.23	-107.65	108.67	135.50	725707.50	382570.67	32°02'58.951"N	103°36'17.451"W	
2403.00	10.810	62.030	2384.79	-124.74	126.00	166.96	725738.95	382588.00	32°02'59.120"N	103°36'17.084"W	
2594.00	11.190	59.230	2572.28	-142.39	143.88	198.70	725770.70	382605.88	32°02'59.295"N	103°36'16.714"W	
2783.00	11.010	59.010	2757.74	-160.83	162.56	229.93	725801.92	382624.55	32°02'59.478"N	103°36'16.350"W	
2972.00	10.980	59.990	2943.28	-178.89	180.85	280.99	725832.98	382642.85	32°02'59.656"N	103°36'15.987"W	
3160.00	12.040	52.570	3127.50	-199.53	201.73	292.07	725864.06	382663.72	32°02'59.861"N	103°36'15.625"W	
3350.00	11.190	52.310	3313.61	-222.62	225.04	322.39	725894.38	382687.04	32°03'00.090"N	103°36'15.271"W	
3539.00	10.280	50.130	3499.30	-244.43	247.07	349.85	725921.84	382709.06	32°03'00.306"N	103°36'14.950"W	
3634.00	10.910	52.000	3592.68	-255.30	258.04	363.44	725935.43	382720.03	32°03'00.413"N	103°36'14.791"W	
3823.00	10.330	53.300	3778.44	-276.23	279.17	391.12	725963.11	382741.17	32°03'00.621"N	103°36'14.468"W	
4013.00	10.230	51.780	3965.39	-296.65	299.79	418.03	725990.02	382761.78	32°03'00.823"N	103°36'14.154"W	
4202.00	9.280	51.740	4151.66	-316.28	319.61	443.18	726015.17	382781.60	32°03'01.017"N	103°36'13.860"W	
4391.00	9.810	56.070	4338.04	-334.51	338.04	468.51	726040.49	382800.03	32°03'01.198"N	103°36'13.564"W	
4580.00	9.900	63.950	4524.26	-350.43	354.16	496.47	726068.45	382816.15	32°03'01.356"N	103°36'13.238"W	
4769.00	7.860	63.980	4710.99	-363.03	366.97	522.68	726094.66	382828.95	32°03'01.481"N	103°36'12.932"W	



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Field	Bone Spring (Lea County, NM) NAD27	Wellbore	SD EA 18 19 FEDERAL COM P15 19H
Facility	SD EA 18-19 Fed COM P15		

WELLPATH DATA (83 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Comments
4959.00	6.660	62.730	4899.46	-373.62	377.71	544.15	726116.13	382839.70	32°03'01.586"N	103°36'12.682"W	
5147.00	5.210	60.260	5086.45	-382.72	386.94	561.25	726133.23	382848.93	32°03'01.676"N	103°36'12.483"W	
5337.00	3.300	58.090	5275.92	-389.80	394.12	573.39	726145.37	382856.10	32°03'01.746"N	103°36'12.341"W	
5526.00	1.180	70.060	5464.76	-393.29	397.65	579.83	726151.81	382859.64	32°03'01.781"N	103°36'12.266"W	
5714.00	0.540	110.020	5652.74	-393.63	398.01	582.49	726154.47	382860.00	32°03'01.784"N	103°36'12.235"W	
5904.00	0.570	191.720	5842.74	-392.39	396.78	583.13	726155.11	382858.77	32°03'01.772"N	103°36'12.228"W	
6094.00	0.930	211.270	6032.72	-390.16	394.54	582.14	726154.12	382856.52	32°03'01.750"N	103°36'12.239"W	
6283.00	0.650	208.290	6221.70	-387.91	392.28	580.84	726152.82	382854.27	32°03'01.727"N	103°36'12.255"W	
6474.00	0.540	197.580	6412.69	-386.11	390.47	580.05	726152.03	382852.46	32°03'01.709"N	103°36'12.264"W	
6663.00	0.440	184.010	6601.68	-384.53	388.90	579.73	726151.71	382850.88	32°03'01.694"N	103°36'12.268"W	
6853.00	0.330	172.660	6791.68	-383.26	387.63	579.75	726151.73	382849.61	32°03'01.681"N	103°36'12.268"W	
7041.00	0.310	166.360	6979.68	-382.23	386.60	579.94	726151.92	382848.58	32°03'01.671"N	103°36'12.266"W	
7231.00	0.250	193.110	7169.67	-381.33	385.69	579.97	726151.95	382847.68	32°03'01.662"N	103°36'12.265"W	
7421.00	0.280	160.690	7359.67	-380.49	384.85	580.03	726152.01	382846.84	32°03'01.654"N	103°36'12.265"W	
7612.00	0.400	132.870	7550.67	-379.59	383.96	580.67	726152.65	382845.94	32°03'01.645"N	103°36'12.257"W	
7801.00	0.380	146.230	7739.66	-378.61	382.99	581.50	726153.48	382844.97	32°03'01.635"N	103°36'12.248"W	
7990.00	0.070	86.330	7928.66	-378.09	382.47	581.97	726153.95	382844.46	32°03'01.630"N	103°36'12.242"W	
8180.00	0.190	57.970	8118.66	-378.27	382.65	582.35	726154.33	382844.63	32°03'01.632"N	103°36'12.238"W	
8369.00	0.150	159.940	8307.66	-378.20	382.58	582.70	726154.68	382844.57	32°03'01.631"N	103°36'12.234"W	
8559.00	0.280	147.380	8497.88	-377.57	381.98	583.04	726155.02	382843.94	32°03'01.625"N	103°36'12.230"W	
8748.00	0.240	128.200	8686.66	-376.93	381.32	583.60	726155.58	382843.31	32°03'01.619"N	103°36'12.224"W	
8937.00	0.190	84.310	8875.66	-376.71	381.11	584.22	726156.20	382843.10	32°03'01.616"N	103°36'12.216"W	
9125.00	0.310	49.550	9063.66	-377.07	381.47	584.92	726156.90	382843.46	32°03'01.620"N	103°36'12.208"W	
9314.00	0.570	10.800	9252.65	-378.32	382.72	585.48	726157.46	382844.71	32°03'01.632"N	103°36'12.202"W	
9504.00	0.740	61.780	9442.64	-379.82	384.23	586.74	726158.72	382846.22	32°03'01.647"N	103°36'12.187"W	
9694.00	0.980	89.750	9632.62	-380.39	384.82	589.44	726161.42	382846.81	32°03'01.653"N	103°36'12.155"W	
9884.00	1.040	53.970	9822.59	-381.38	385.84	592.46	726164.44	382847.83	32°03'01.663"N	103°36'12.120"W	
10070.00	0.600	38.540	10008.57	-383.12	387.60	594.44	726166.42	382849.58	32°03'01.680"N	103°36'12.097"W	
10259.00	0.220	7.340	10197.57	-384.25	388.73	595.10	726167.08	382850.72	32°03'01.691"N	103°36'12.089"W	
10447.00	0.400	320.570	10385.56	-385.12	389.60	594.73	726166.71	382851.58	32°03'01.700"N	103°36'12.094"W	



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REFERENCE WELLPATH IDENTIFICATION			
Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FEDERAL COM P15 19H
Area	Lea County, NM	Well	SD EA 18 19 FEDERAL COM P15 19H
Field	Bone Spring (Lea County, NM) NAD27	Wellbore	SD EA 18 19 FEDERAL COM P15 19H
Facility	SD EA 18-19 Fed COM P15		

WELLPATH DATA (83 stations)											
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Comments
10837.00	0.210	309.240	10575.56	-385.86	390.33	594.04	726166.02	382852.31	32°03'01.707"N	103°36'12.102"W	
10826.00	0.220	282.160	10764.56	-386.16	390.62	593.41	726165.39	382852.61	32°03'01.710"N	103°36'12.109"W	
11015.00	0.680	265.790	10953.55	-386.16	390.62	591.94	726163.92	382852.60	32°03'01.710"N	103°36'12.126"W	
11204.00	1.000	278.580	11142.53	-386.35	390.78	589.19	726161.17	382852.77	32°03'01.712"N	103°36'12.158"W	
11298.00	0.960	270.600	11236.52	-386.49	390.91	587.59	726159.57	382852.90	32°03'01.713"N	103°36'12.176"W	12 1/4 BH MWD 884' - 11298'
11494.00	0.870	239.820	11432.50	-385.78	390.18	584.67	726156.64	382852.17	32°03'01.706"N	103°36'12.210"W	
11588.00	3.430	202.980	11526.43	-382.85	387.23	582.95	726154.93	382849.22	32°03'01.677"N	103°36'12.231"W	
11683.00	5.560	195.990	11621.13	-375.82	380.19	580.57	726152.55	382842.18	32°03'01.608"N	103°36'12.259"W	
11777.00	8.120	196.330	11714.45	-365.10	369.44	577.45	726149.43	382831.43	32°03'01.501"N	103°36'12.296"W	
11872.00	10.200	190.440	11808.24	-350.41	354.73	574.04	726146.02	382816.72	32°03'01.356"N	103°36'12.337"W	
11966.00	15.460	185.030	11899.86	-329.75	334.05	571.43	726143.41	382796.04	32°03'01.152"N	103°36'12.369"W	
12062.00	19.180	183.610	11991.49	-301.27	305.55	569.32	726141.30	382767.54	32°03'00.870"N	103°36'12.395"W	
12157.00	23.130	178.900	12080.08	-267.03	271.31	568.69	726140.67	382733.30	32°03'00.531"N	103°36'12.405"W	
12280.00	24.760	177.890	12192.49	-217.13	221.41	570.10	726142.08	382683.40	32°03'00.037"N	103°36'12.393"W	
12374.00	23.200	177.380	12278.37	-178.94	183.24	571.67	726143.65	382645.23	32°02'59.659"N	103°36'12.378"W	
12469.00	20.290	178.670	12366.60	-143.77	148.07	572.91	726144.89	382610.07	32°02'59.311"N	103°36'12.366"W	
12564.00	18.830	178.540	12456.12	-111.97	116.28	573.69	726145.67	382578.27	32°02'58.997"N	103°36'12.360"W	
12658.00	17.390	178.740	12545.46	-82.75	87.07	574.38	726146.36	382549.06	32°02'58.707"N	103°36'12.354"W	
12753.00	16.210	178.950	12636.40	-55.30	59.62	574.94	726146.92	382521.61	32°02'58.436"N	103°36'12.349"W	
12847.00	14.790	179.990	12728.98	-30.18	34.50	575.18	726147.16	382496.50	32°02'58.187"N	103°36'12.349"W	
12942.00	13.000	180.540	12819.20	-7.37	11.69	575.08	726147.06	382473.69	32°02'57.961"N	103°36'12.352"W	
13037.00	11.180	181.330	12912.09	12.52	-8.21	574.77	726146.75	382453.79	32°02'57.765"N	103°36'12.357"W	8 1/2 BH MWD 11494-13037
13127.00	11.180	181.330	13000.38	29.96	-25.65	574.36	726146.34	382436.35	32°02'57.592"N	103°36'12.363"W	Projection to TD 13127



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Area	Lea County, NM	Well	SD EA 18 19 FEDERAL COM P15 19H
Field	Bone Spring (Lea County, NM) NAD27	Wellbore	SD EA 18 19 FEDERAL COM P15 19H
Facility	SD EA 18-19 Fed COM P15		

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SD EA 18 19 FED P15 19H FTP	12499.88	-72.34	574.77	726146.75	382389.66	32°02'57.130"N	103°36'12.362"W	point
SD EA 18 19 FED P15 19H TP1	12511.92	-4255.46	607.01	726178.99	378206.69	32°02'15.734"N	103°36'12.316"W	point
SD EA 18 19 FED P15 19H MP	12580.26	-5525.43	616.65	726188.63	376936.76	32°02'03.166"N	103°36'12.303"W	point
SD EA 18 19 FED P15 19H TP2	12581.42	-7925.36	634.88	726206.86	374536.91	32°01'39.416"N	103°36'12.280"W	point
SD EA 18 19 FED P15 19H PBLH rev 2	12603.93	-9920.34	650.02	726222.00	372542.00	32°01'19.674"N	103°36'12.261"W	point

WELLPATH COMPOSITION - Ref Wellbore: SD EA 18 19 FEDERAL COM P15 19H Ref Wellpath: SD EA 18 19 FEDERAL COM P15 19H_awp

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
32.60	803.00	BHI NaviTrak (Axial)	17 1/2 BH MWD 158' - 803'	SD EA 18 19 FEDERAL COM P15 19H
803.00	11298.00	BHI NaviTrak (Axial)	12 1/4 BH MWD 884' - 11298'	SD EA 18 19 FEDERAL COM P15 19H
11298.00	13037.00	BHI NaviTrak (Axial)	8 1/2 BH MWD 11494-13037	SD EA 18 19 FEDERAL COM P15 19H
13037.00	13127.00	Blind Drilling (std)	Projection to bit	SD EA 18 19 FEDERAL COM P15.19H



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Area	Lea County, NM	Well	SD EA 18 19 FEDERAL COM P15 19H
Field	Bone Spring (Lea County, NM) NAD27	Wellbore	SD EA 18 19 FEDERAL COM P15 19H
Facility	SD EA 18-19 Fed COM P15		

COMMENTS

Wellpath general comments

Well: SD EA 18 19 Federal COM P15 No. 19H
Field: Bone Spring
Rig: X30
Location: Lea Co., NM
API: 300254416700
Latitude: 32° 02' 57.884" N
Longitude: 103° 36' 19.034" W
DF Elevation: 3263.60 feet
Elev. GL: 3231 feet
Proposed Direction: 179.57°
PBHL: 13127 feet
Duration: 6/07/2018-7/23/2018
FSE's: D. Hardeman
SO#: 9205509
17 1/2 BH MWD 158' - 803'
12 1/4 BH MWD 884' - 11298'
8 1/2 BH MWD 11494-13037
Projection to TD 13127