



Actual Wellpath Report

SD EA 18 19 Federal COM P15 No. 19H ST01_awp
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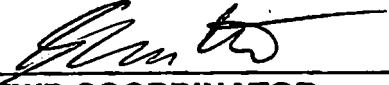
REFERENCE WELLPATH IDENTIFICATION			
Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FEDERAL COM P15 19H
Area	Lea County, NM	Well	SD EA 18 19 Federal COM P15 No. 19H ST01
Field	Bone Spring (Lea County, NM) NAD27	Wellbore	SD EA 18 19 Federal COM P15 No. 19H ST01
Facility	SD EA 18-19 Fed COM P15	Sidetrack from	SD EA 18 19 FEDERAL COM P15 19H_awp at 12280.00 MD

REPORT SETUP INFORMATION			
Projection System	NAD27 / TM New Mexico SP, Eastern Zone (3001), US feet	Software System	WellArchitect® 5.1
North Reference	Grid	User	Okimlucg
Scale	0.999967	Report Generated	1/8/2019 at 2:21:06 PM
Convergence at slot	0.39° East	Database/Source file	WA_HOU_Midland_Defn/SD EA 18 19 Federal COM P15 No. 19H ST01_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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Area	Lea County, NM	Well	SD EA 18 19 Federal COM P15 No. 19H ST01
Field	Bone Spring (Lea County, NM) NAD27	Wellbore	SD EA 18 19 Federal COM P15 No. 19H ST01
Facility	SD EA 18-19 Fed COM P15	Sidetrack from	SD EA 18 19 FEDERAL COM P15 19H_awp at 12280.00 MD

WELLPATH DATA (185 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	DLS [°/100ft]	Comments
0.00†	0.000	302.090	0.00	0.00	0.00	0.00	725572.00	382462.00	32°02'57.884"N	103°36'19.034"W	0.00	
32.60	0.000	302.090	32.60	0.00	0.00	0.00	725572.00	382462.00	32°02'57.884"N	103°36'19.034"W	0.00	
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	1.16	
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	0.10	
525.00	1.160	308.930	524.89	-5.90	5.84	-8.16	725563.84	382467.84	32°02'57.943"N	103°36'19.128"W	0.09	
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	0.10	
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	0.19	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	0.15	
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	1.81	
1169.00	4.450	50.000	1168.49	-20.60	20.65	-8.74	725565.26	382482.55	32°02'58.088"N	103°36'19.110"W	1.53	
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	1.23	
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	1.12	
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	0.77	
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	0.66	
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	0.16	
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	0.18	
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	0.23	
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	0.34	
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	0.10	
2972.00	10.980	59.990	2943.28	-178.89	180.85	260.99	725832.98	382642.85	32°02'59.656"N	103°36'15.987"W	0.10	
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	0.97	
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	0.45	
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	0.53	
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	0.76	
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	0.33	
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	0.15	
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	0.50	
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	0.47	
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	0.71	
4769.00	7.880	63.980	4710.99	-363.03	366.97	522.68	726094.66	382828.95	32°03'01.481"N	103°36'12.932"W	1.08	



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Field	Bone Spring (Lea County, NM) NAD27	Wellbore	SD EA 18 19 Federal COM P15 No. 19H ST01
Facility	SD EA 18-19 Fed COM P15	Sidetrack from	SD EA 18 19 FEDERAL COM P15 19H_awp at 12280.00 MD

WELLPATH DATA (185 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	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	0.64	
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	0.78	
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	1.01	
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	1.14	
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	0.45	
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	0.38	
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	0.23	
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	0.15	
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	0.08	
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	0.08	
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	0.07	
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	0.02	
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	0.07	
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	0.08	
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	0.11	
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	0.05	
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	0.19	
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	0.07	
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	0.14	
8559.00	0.280	147.380	8497.66	-377.57	381.96	583.04	726155.02	382843.94	32°03'01.625"N	103°36'12.230"W	0.07	
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	0.05	
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	0.09	
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	0.10	
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	0.20	
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	0.31	
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	0.25	
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	0.33	
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	0.26	
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	0.23	
10447.00	0.400	320.570	10385.58	-385.12	389.60	594.73	726166.71	382851.58	32°03'01.700"N	103°36'12.084"W	0.16	



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Area	Lea County, NM	Well	SD EA 18 19 Federal COM P15 No. 19H ST01
Field	Bone Spring (Lea County, NM) NAD27	Wellbore	SD EA 18 19 Federal COM P15 No. 19H ST01
Facility	SD EA 18-19 Fed COM P15	Sidetrack from	SD EA 18 19 FEDERAL COM P15 19H_awp at 12280.00 MD

WELLPATH DATA (185 stations)												
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	DLS (°/100ft)	Comments
10637.00	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	0.10	
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	0.05	
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	0.25	
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	0.20	
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	0.15	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	0.25	
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	2.96	
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	2.31	
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	2.72	
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	2.40	
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	5.73	
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	3.90	
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	4.52	
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	1.37	
12408.00	33.850	181.470	12304.00	-154.57	158.85	570.18	726142.16	382620.84	32°02'59.418"N	103°36'12.397"W	7.23	5 3/4 BH MWD 12408' - 22528'
12471.00	38.720	180.700	12354.77	-117.31	121.58	569.48	726141.46	382583.58	32°02'59.049"N	103°36'12.408"W	7.76	
12565.00	50.910	181.840	12421.33	-51.21	55.48	567.95	726139.93	382517.47	32°02'58.395"N	103°36'12.431"W	13.00	
12659.00	62.310	182.010	12472.97	27.08	-22.83	565.31	726137.29	382439.17	32°02'57.621"N	103°36'12.468"W	12.13	
12753.00	70.210	182.990	12510.79	112.94	-108.73	561.54	726133.52	382353.28	32°02'56.771"N	103°36'12.518"W	8.46	
12847.00	77.270	180.880	12537.09	203.04	-188.85	558.52	726130.50	382263.15	32°02'55.879"N	103°36'12.560"W	7.81	
12941.00	83.520	180.720	12552.77	295.66	-291.48	557.23	726129.21	382170.53	32°02'54.963"N	103°36'12.583"W	6.65	
13035.00	91.230	180.160	12557.07	389.47	-385.31	556.51	726128.49	382076.70	32°02'54.034"N	103°36'12.598"W	8.22	
13128.00	90.740	180.320	12555.47	482.45	-478.29	556.12	726128.10	381983.72	32°02'53.114"N	103°36'12.610"W	0.55	
13222.00	89.570	180.990	12555.22	576.44	-572.29	555.05	726127.03	381889.73	32°02'52.184"N	103°36'12.630"W	1.43	
13316.00	89.940	180.420	12555.62	670.42	-666.28	553.89	726125.87	381795.75	32°02'51.254"N	103°36'12.651"W	0.72	
13410.00	89.200	180.760	12556.33	764.40	-760.27	552.92	726124.90	381701.76	32°02'50.324"N	103°36'12.670"W	0.87	
13504.00	87.940	180.510	12558.67	858.35	-854.23	551.88	726123.86	381607.80	32°02'49.394"N	103°36'12.689"W	1.37	
13598.00	91.730	181.170	12558.94	952.31	-948.20	550.50	726122.48	381513.83	32°02'48.465"N	103°36'12.712"W	4.09	
13692.00	88.920	181.890	12558.41	1046.24	-1042.16	547.99	726119.97	381419.88	32°02'47.535"N	103°36'12.749"W	3.09	
13786.00	87.070	181.280	12561.70	1140.12	-1136.06	545.39	726117.37	381325.98	32°02'46.606"N	103°36'12.787"W	2.07	



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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 No. 19H ST01
Field	Bone Spring (Lea County, NM) NAD27	Wellbore	SD EA 18 19 Federal COM P15 No. 19H ST01
Facility	SD EA 18-19 Fed COM P15	Sidetrack from	SD EA 18 19 FEDERAL COM P15 19H_awp at 12280.00 MD

WELLPATH DATA (185 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
13880.00	87.410	181.190	12566.22	1233.97	-1229.93	543.37	726115.35	381232.11	32°02'45.677"N	103°36'12.817"W	0.37	
13974.00	87.170	181.120	12570.67	1327.83	-1323.81	541.48	726113.46	381138.24	32°02'44.748"N	103°36'12.847"W	0.27	
14068.00	87.160	181.190	12575.32	1421.68	-1417.67	539.58	726111.57	381044.38	32°02'43.820"N	103°36'12.876"W	0.08	
14162.00	87.630	178.490	12579.59	1515.57	-1511.56	539.85	726111.83	380950.49	32°02'42.890"N	103°36'12.881"W	2.91	
14256.00	91.540	177.120	12580.27	1609.51	-1605.47	543.45	726115.43	380856.58	32°02'41.961"N	103°36'12.846"W	4.41	
14350.00	92.590	176.640	12576.88	1703.34	-1699.27	548.56	726120.54	380762.79	32°02'41.032"N	103°36'12.794"W	1.23	
14444.00	90.090	177.790	12574.69	1797.23	-1793.13	553.12	726125.11	380668.94	32°02'40.103"N	103°36'12.748"W	2.93	
14538.00	89.940	177.940	12574.66	1891.18	-1887.06	556.63	726128.61	380575.01	32°02'39.174"N	103°36'12.715"W	0.23	
14632.00	89.780	178.600	12574.89	1985.16	-1981.02	559.46	726131.45	380481.05	32°02'38.244"N	103°36'12.689"W	0.72	
14726.00	87.930	180.190	12576.77	2079.13	-2074.98	560.46	726132.44	380387.09	32°02'37.314"N	103°36'12.685"W	2.59	
14820.00	87.650	178.540	12580.39	2173.06	-2168.91	561.50	726133.48	380293.17	32°02'36.384"N	103°36'12.681"W	1.78	
14914.00	87.840	177.860	12584.09	2266.96	-2262.79	564.45	726136.43	380199.29	32°02'35.455"N	103°36'12.654"W	0.75	
15008.00	90.220	177.340	12585.68	2360.88	-2356.68	568.38	726140.36	380105.40	32°02'34.526"N	103°36'12.615"W	2.59	
15102.00	88.370	176.770	12586.84	2454.78	-2450.55	573.21	726145.19	380011.54	32°02'33.597"N	103°36'12.567"W	2.06	
15196.00	82.190	176.090	12588.38	2548.62	-2544.35	579.06	726151.04	379917.74	32°02'32.668"N	103°36'12.506"W	4.13	
15290.00	93.880	178.900	12581.40	2642.41	-2638.11	583.17	726155.15	379823.98	32°02'31.740"N	103°36'12.466"W	3.48	
15384.00	95.740	181.340	12573.52	2736.07	-2731.77	582.98	726154.96	379730.33	32°02'30.813"N	103°36'12.475"W	3.26	
15478.00	90.620	182.930	12568.31	2829.79	-2825.52	579.48	726151.46	379636.57	32°02'29.886"N	103°36'12.523"W	5.70	
15572.00	90.680	184.720	12567.24	2923.53	-2919.31	573.21	726145.19	379542.80	32°02'28.958"N	103°36'12.603"W	1.91	
15666.00	88.520	183.370	12567.90	3017.23	-3013.08	566.58	726138.56	379449.04	32°02'28.031"N	103°36'12.688"W	2.71	
15760.00	89.880	182.080	12569.21	3111.07	-3106.94	562.11	726134.09	379355.17	32°02'27.102"N	103°36'12.747"W	1.99	
15854.00	88.490	180.710	12570.55	3205.01	-3200.90	559.82	726131.80	379261.21	32°02'26.172"N	103°36'12.781"W	2.08	
15948.00	88.280	179.560	12573.20	3298.97	-3294.86	559.60	726131.58	379167.25	32°02'25.243"N	103°36'12.791"W	1.24	
16042.00	88.550	177.820	12575.80	3392.92	-3388.80	561.75	726133.73	379073.32	32°02'24.313"N	103°36'12.773"W	1.87	
16136.00	88.090	175.910	12578.55	3486.77	-3482.61	566.88	726138.87	378979.51	32°02'23.384"N	103°36'12.721"W	2.09	
16230.00	91.450	176.000	12578.93	3580.57	-3576.36	573.51	726145.49	378885.76	32°02'22.456"N	103°36'12.651"W	3.58	
16324.00	92.770	177.050	12575.47	3674.37	-3670.12	579.21	726151.19	378792.00	32°02'21.528"N	103°36'12.593"W	1.79	
16418.00	89.850	177.970	12573.32	3768.27	-3764.00	583.29	726155.27	378698.13	32°02'20.599"N	103°36'12.553"W	3.26	
16512.00	90.340	177.450	12573.16	3862.22	-3857.92	587.05	726159.03	378604.21	32°02'19.669"N	103°36'12.516"W	0.76	
16606.00	88.310	176.310	12574.27	3956.10	-3951.77	582.16	726164.14	378510.37	32°02'18.740"N	103°36'12.484"W	2.48	



Actual Wellpath Report

SD EA 18 19 Federal COM P15 No. 19H ST01_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 No. 19H ST01
Field	Bone Spring (Lea County, NM) NAD27	Wellbore	SD EA 18 19 Federal COM P15 No. 19H ST01
Facility	SD EA 18-19 Fed COM P15	Sidetrack from	SD EA 18 19 FEDERAL COM P15 19H_awp at 12280.00 MD

WELLPATH DATA (185 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
16700.00	88.980	178.170	12576.49	4049.99	-4045.63	596.69	726168.67	378416.51	32°02'17.811"N	103°36'12.419"W	2.10	
16793.00	92.130	181.020	12575.59	4142.97	-4138.60	597.34	726169.32	378323.54	32°02'16.891"N	103°36'12.419"W	4.57	
16887.00	94.130	181.710	12570.46	4236.78	-4232.43	595.11	726167.09	378229.72	32°02'15.962"N	103°36'12.452"W	2.25	
16981.00	92.130	180.970	12565.33	4330.59	-4326.26	592.91	726164.89	378135.89	32°02'15.034"N	103°36'12.485"W	2.27	
17075.00	90.120	181.380	12563.48	4424.53	-4420.22	591.00	726162.98	378041.94	32°02'14.104"N	103°36'12.515"W	2.18	
17169.00	88.120	181.530	12564.93	4518.46	-4514.17	588.63	726160.61	377947.99	32°02'13.175"N	103°36'12.549"W	2.14	
17263.00	89.010	180.350	12567.28	4612.40	-4608.13	587.09	726159.07	377854.03	32°02'12.245"N	103°36'12.575"W	1.57	
17357.00	87.540	180.490	12570.11	4706.35	-4702.08	586.40	726158.38	377760.08	32°02'11.316"N	103°36'12.590"W	1.57	
17451.00	86.490	180.540	12575.01	4800.20	-4795.95	585.56	726157.54	377666.22	32°02'10.387"N	103°36'12.607"W	1.12	
17545.00	87.230	180.080	12580.15	4894.05	-4889.80	585.05	726157.03	377572.37	32°02'09.458"N	103°36'12.621"W	0.93	
17638.00	86.700	180.590	12585.08	4986.92	-4982.67	584.51	726156.49	377479.50	32°02'08.539"N	103°36'12.634"W	0.79	
17733.00	87.280	181.760	12590.07	5081.75	-5077.52	582.56	726154.54	377384.66	32°02'07.601"N	103°36'12.664"W	1.37	
17828.00	87.010	178.410	12594.80	5176.61	-5172.38	582.42	726154.40	377289.79	32°02'06.662"N	103°36'12.673"W	3.53	
17922.00	87.750	177.970	12599.10	5270.48	-5266.24	585.39	726157.37	377195.94	32°02'05.733"N	103°36'12.646"W	0.92	
18017.00	88.180	177.880	12602.47	5365.38	-5361.12	588.83	726160.81	377101.07	32°02'04.794"N	103°36'12.614"W	0.46	
18111.00	88.710	178.830	12605.02	5459.33	-5455.04	591.52	726163.50	377007.15	32°02'03.864"N	103°36'12.590"W	1.16	
18206.00	89.450	179.070	12606.55	5554.31	-5550.01	593.26	726165.24	376912.18	32°02'02.924"N	103°36'12.577"W	0.82	
18300.00	89.690	178.530	12607.25	5648.30	-5643.99	595.23	726167.21	376818.21	32°02'01.994"N	103°36'12.562"W	0.63	
18394.00	89.690	177.970	12607.76	5742.27	-5737.94	598.10	726170.08	376724.26	32°02'01.064"N	103°36'12.536"W	0.60	
18487.00	89.450	177.760	12608.46	5835.23	-5830.88	601.57	726173.55	376631.33	32°02'00.144"N	103°36'12.503"W	0.34	
18580.00	89.880	177.780	12609.00	5928.18	-5923.80	605.19	726177.17	376538.40	32°01'59.225"N	103°36'12.468"W	0.46	
18672.00	90.090	178.800	12609.03	6020.15	-6015.76	607.93	726179.91	376446.45	32°01'58.315"N	103°36'12.443"W	1.13	
18765.00	89.410	180.460	12609.43	6113.15	-6108.75	608.53	726180.51	376353.46	32°01'57.394"N	103°36'12.444"W	1.93	
18858.00	90.550	179.830	12609.47	6206.14	-6201.75	608.30	726180.28	376260.46	32°01'56.474"N	103°36'12.454"W	1.40	
18951.00	89.080	182.450	12609.77	6299.10	-6294.72	606.45	726178.43	376167.50	32°01'55.554"N	103°36'12.482"W	3.23	
19044.00	89.320	181.590	12611.06	6392.00	-6387.65	603.17	726175.15	376074.57	32°01'54.635"N	103°36'12.528"W	0.96	
19137.00	89.850	182.150	12611.74	6484.92	-6480.60	600.13	726172.11	375981.62	32°01'53.715"N	103°36'12.570"W	0.83	
19230.00	89.880	182.140	12611.96	6577.83	-6573.54	596.65	726168.63	375888.69	32°01'52.796"N	103°36'12.618"W	0.03	
19323.00	90.250	181.350	12611.85	6670.76	-6666.49	593.82	726165.80	375795.74	32°01'51.876"N	103°36'12.658"W	0.94	
19416.00	89.420	179.070	12612.12	6763.75	-6759.48	593.48	726165.48	375702.75	32°01'50.956"N	103°36'12.669"W	2.61	



Actual Wellpath Report

SD EA 18 19 Federal COM P15 No. 19H ST01_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 No. 19H ST01
Field	Bone Spring (Lea County, NM) NAD27	Wellbore	SD EA 18 19 Federal COM P15 No. 19H ST01
Facility	SD EA 18-19 Fed COM P15	Sidetrack from	SD EA 18 19 FEDERAL COM P15 19H_awp at 12280.00 MD

WELLPATH DATA (185 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
19508.00	88.740	179.390	12613.60	6855.73	-6851.46	594.72	726166.70	375610.77	32°01'50.046"N	103°36'12.662"W	0.82	
19601.00	90.220	180.240	12614.44	6948.73	-6944.46	595.02	726167.00	375517.78	32°01'49.125"N	103°36'12.666"W	1.84	
19694.00	87.810	178.450	12616.04	7041.70	-7037.43	596.08	726168.06	375424.82	32°01'48.205"N	103°36'12.661"W	3.23	
19787.00	88.770	178.020	12618.81	7134.63	-7130.34	598.94	726170.92	375331.91	32°01'47.286"N	103°36'12.635"W	1.13	
19880.00	88.090	178.800	12621.36	7227.58	-7223.27	601.52	726173.50	375238.98	32°01'46.366"N	103°36'12.612"W	1.11	
19972.00	88.980	178.590	12623.71	7319.54	-7315.21	603.62	726175.60	375147.04	32°01'45.456"N	103°36'12.595"W	0.99	
20065.00	88.980	178.790	12625.37	7412.51	-7408.17	605.74	726177.72	375054.08	32°01'44.536"N	103°36'12.578"W	0.22	
20158.00	89.040	178.810	12626.98	7505.49	-7501.14	607.69	726179.67	374961.12	32°01'43.616"N	103°36'12.563"W	0.07	
20251.00	90.800	178.990	12627.11	7598.48	-7594.12	609.48	726181.45	374868.15	32°01'42.696"N	103°36'12.549"W	1.90	
20344.00	92.370	180.140	12624.53	7691.44	-7687.08	610.18	726182.16	374775.19	32°01'41.776"N	103°36'12.548"W	2.09	
20437.00	89.600	177.620	12622.94	7784.40	-7780.03	612.00	726183.98	374682.24	32°01'40.856"N	103°36'12.534"W	4.03	
20529.00	92.740	177.950	12621.06	7876.33	-7871.93	615.55	726187.53	374590.35	32°01'39.946"N	103°36'12.500"W	3.43	
20622.00	93.640	178.600	12615.88	7969.16	-7964.74	618.35	726190.33	374497.54	32°01'39.028"N	103°36'12.475"W	1.19	
20715.00	92.740	180.730	12610.71	8062.01	-8057.59	618.89	726190.87	374404.69	32°01'38.109"N	103°36'12.476"W	2.48	
20808.00	88.810	180.140	12609.81	8154.97	-8150.58	618.19	726190.16	374311.72	32°01'37.189"N	103°36'12.492"W	4.49	
20901.00	90.580	181.490	12610.27	8247.94	-8243.54	616.86	726188.84	374218.75	32°01'36.269"N	103°36'12.514"W	2.57	
20994.00	91.360	182.290	12608.69	8340.85	-8336.47	613.80	726185.78	374125.81	32°01'35.349"N	103°36'12.557"W	1.20	
21086.00	92.030	182.570	12605.97	8432.69	-8428.35	609.90	726181.88	374033.94	32°01'34.441"N	103°36'12.610"W	0.79	
21179.00	90.770	181.220	12603.70	8525.58	-8521.27	606.82	726178.80	373941.03	32°01'33.521"N	103°36'12.653"W	1.99	
21272.00	91.360	182.520	12601.97	8618.49	-8614.20	603.79	726175.77	373848.10	32°01'32.602"N	103°36'12.695"W	1.53	
21365.00	89.480	179.640	12601.29	8711.44	-8707.17	602.04	726174.02	373755.13	32°01'31.682"N	103°36'12.723"W	3.70	
21459.00	90.340	181.260	12601.44	8805.42	-8801.16	601.30	726173.28	373661.14	32°01'30.752"N	103°36'12.739"W	1.95	
21554.00	88.710	178.820	12602.23	8900.41	-8896.15	601.23	726173.21	373566.16	32°01'29.812"N	103°36'12.747"W	3.09	
21648.00	86.950	175.550	12605.79	8994.24	-8989.95	605.84	726177.82	373472.36	32°01'28.883"N	103°36'12.701"W	3.95	
21743.00	89.570	177.650	12608.87	9089.08	-9084.72	611.47	726183.45	373377.59	32°01'27.945"N	103°36'12.843"W	3.53	
21838.00	91.230	177.600	12608.01	9184.00	-9179.64	615.41	726187.39	373282.68	32°01'27.006"N	103°36'12.605"W	1.75	
21932.00	91.080	177.290	12606.11	9277.91	-9273.52	619.60	726191.58	373188.80	32°01'26.076"N	103°36'12.563"W	0.37	
22027.00	90.620	177.110	12604.70	9372.82	-9368.40	624.24	726196.22	373093.92	32°01'25.137"N	103°36'12.517"W	0.52	
22121.00	91.700	177.880	12602.80	9466.74	-9462.29	628.35	726200.33	373000.04	32°01'24.208"N	103°36'12.477"W	1.41	
22216.00	87.130	173.980	12603.77	9561.50	-9557.00	635.10	726207.08	372905.33	32°01'23.270"N	103°36'12.405"W	6.34	



Actual Wellpath Report

SD EA 18 19 Federal COM P15 No. 19H ST01_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 No. 19H ST01
Field	Bone Spring (Lea County, NM) NAD27	Wellbore	SD EA 18 19 Federal COM P15 No. 19H ST01
Facility	SD EA 18-19 Fed COM P15	Sidetrack from	SD EA 18 19 FEDERAL COM P15 19H_awp at 12280.00 MD

WELLPATH DATA (185 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
22311.00	86.740	174.550	12608.85	9655.95	-9651.39	644.60	726216.58	372810.95	32°01'22.336"N	103°36'12.303"W	0.74	
22406.00	91.940	178.650	12609.94	9750.77	-9746.16	650.23	726222.20	372716.18	32°01'21.397"N	103°36'12.245"W	6.97	
22499.00	88.120	172.800	12609.89	9843.50	-9838.85	657.15	726229.13	372623.50	32°01'20.480"N	103°36'12.171"W	7.51	
22528.00	88.610	173.720	12610.72	9872.31	-9867.63	660.56	726232.53	372594.71	32°01'20.195"N	103°36'12.134"W	3.59	
22583.00	88.610	173.720	12612.06	9927.01	-9922.29	666.57	726238.55	372540.06	32°01'19.653"N	103°36'12.069"W	0.00	Proj to TD 22528'

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	12506.60	129.00	574.02	726146.00	382591.00	32°02'59.122"N	103°36'12.355"W	point
SD EA 18 19 FED P15 19H LTP	12611.16	-9770.34	649.02	726221.00	372692.00	32°01'21.158"N	103°36'12.261"W	point
SD EA 18 19 FED P15 19H MP	12616.67	-4820.67	611.52	726183.50	377641.50	32°02'10.140"N	103°36'12.308"W	point
SD EA 18 19 FED P15 19H PBLH rev 3	12652.16	-9920.34	650.02	726222.00	372542.00	32°01'19.674"N	103°36'12.261"W	rectangle

WELLPATH COMPOSITION - Ref Wellbore: SD EA 18 19 Federal COM P15 No. 19H ST01 Ref Wellpath: SD EA 18 19 Federal COM P15 No. 19H ST01_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	12280.00	BHI NaviTrak (Axial)	8 1/2 BH MWD 11494-13037	SD EA 18 19 FEDERAL COM P15 19H
12280.00	22528.00	BHI NaviTrak (Axial)	6 3/4 BH MWD 12408' - 22528'	SD EA 18 19 Federal COM P15 No. 19H ST01
22528.00	22583.00	Blind Drilling (std)	Projection to bit	SD EA 18 19 Federal COM P15 No. 19H ST01



Actual Wellpath Report

SD EA 18 19 Federal COM P15 No. 19H ST01_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 No. 19H ST01
Field	Bone Spring (Lea County, NM) NAD27	Wellbore	SD EA 18 19 Federal COM P15 No. 19H ST01
Facility	SD EA 18-19 Fed COM P15	Sidetrack from	SD EA 18 19 FEDERAL COM P15 19H_awp at 12280.00 MD

COMMENTS

Wellpath general comments

Well: SD EA 18 19 Federal COM P15 No. 19H ST01
Field: Bone Spring
Rig: Nabors X30
Location: Lea Co., NM
API: 300-25-44167-01
Latitude: 32° 02' 57.884" N
Longitude: 103° 36' 19.034" W
DF Elevation: 3263.60 feet
Elev. GL: 3231.00 feet
Proposed Direction: 179.57
PBHL: 22583 feet
Duration: 6/7/2018-01/04/2019
FSE's: D. Hardeman
SO#: 9205509
6 3/4 BH MWD 12408' - 22528'
Proj to TD 22528'

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