

**HOBBS OCD**

NOV 06 2019

RECEIVED**Actual Wellpath Report**

SD EA 18 19 Federal COM P15 No. 18H ST02_awp

Page 1 of 9

**BAKER
HUGHES**
a GE company**REFERENCE WELLPATH IDENTIFICATION**

Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 18H
Area	Lea County, NM	Well	SD EA 18 19 Federal COM P15 No. 18H ST02
Field	Bone Spring (Lea County, NM) NAD27	Wellbore	SD EA 18 19 FED COM P15 18H ST02
Facility	SD EA 18-19 Fed COM P15	Sidetrack from	SD EA 18 19 FED P15 18H_awp at 14946.00 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	Gilbjosl
Scale	0.999967	Report Generated	30-Jan-19 at 9:23:05 AM
Convergence at slot	0.39° East	Database/Source file	WA_HOU_Midland_Defn/SD_EA_18_19_Federal_COM_P15_No_18H_ST02_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	50.00	725547.00	382462.00	32°02'57.886"N	103°36'19.324"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 FED P15 18H)	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	178.47°

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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Page 2 of 9

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Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 18H
Area	Lea County, NM	Well	SD EA 18 19 Federal COM P15 No. 18H ST02
Field	Bone Spring (Lea County, NM) NAD27	Wellbore	SD EA 18 19 FED COM P15 18H ST02
Facility	SD EA 18-19 Fed COM P15	Sidetrack from	SD EA 18 19 FED P15 18H_awp at 14946.00 MD

WELLPATH DATA (188 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]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
0.00†	0.000	338.200	0.00	0.00	0.00	0.00	725547.00	382462.00	32°02'57.886°N	103°36'19.324°W	0.00	0.00	0.00	
32.60	0.000	338.200	32.60	0.00	0.00	0.00	725547.00	382462.00	32°02'57.886°N	103°36'19.324°W	0.00	0.00	0.00	
153.00	0.460	338.200	153.00	-0.45	0.45	-0.18	725546.82	382462.45	32°02'57.890°N	103°36'19.326°W	0.38	0.38	-18.11	
340.00	0.500	342.270	339.99	-1.94	1.92	-0.71	725546.29	382463.92	32°02'57.905°N	103°36'19.332°W	0.03	0.02	2.18	
525.00	0.370	347.280	524.99	-3.30	3.27	-1.08	725545.92	382465.27	32°02'57.918°N	103°36'19.337°W	0.07	-0.07	2.71	
705.00	0.990	317.720	704.97	-5.05	4.99	-2.26	725544.74	382466.99	32°02'57.935°N	103°36'19.350°W	0.38	0.34	-16.42	
815.00	0.860	323.270	814.96	-6.44	6.36	-3.39	725543.61	382468.36	32°02'57.949°N	103°36'19.363°W	0.14	-0.12	5.05	17 1/2 BH MWD 153' - 815'
887.00	1.120	321.730	886.95	-7.45	7.34	-4.15	725542.85	382469.34	32°02'57.959°N	103°36'19.372°W	0.36	0.36	-2.14	
972.00	1.340	326.640	971.93	-8.96	8.82	-5.21	725541.79	382470.82	32°02'57.974°N	103°36'19.384°W	0.29	0.26	5.78	
1067.00	1.090	331.250	1066.91	-10.71	10.54	-6.26	725540.74	382472.54	32°02'57.991°N	103°36'19.396°W	0.28	-0.26	4.85	
1162.00	2.410	19.210	1161.87	-13.38	13.22	-6.03	725540.97	382475.22	32°02'58.017°N	103°36'19.393°W	1.96	1.39	50.48	
1256.00	3.340	26.660	1255.75	-17.64	17.54	-4.16	725542.85	382479.54	32°02'58.060°N	103°36'19.371°W	1.06	0.99	7.93	
1351.00	3.110	26.850	1350.60	-22.35	22.31	-1.75	725545.25	382484.31	32°02'58.107°N	103°36'19.343°W	0.24	-0.24	0.20	
1446.00	4.870	25.340	1445.36	-28.21	28.25	1.14	725548.14	382490.25	32°02'58.165°N	103°36'19.309°W	1.86	1.85	-1.59	
1541.00	8.010	26.850	1539.75	-37.64	37.81	5.86	725552.86	382499.80	32°02'58.260°N	103°36'19.253°W	3.31	3.31	1.59	
1731.00	8.910	29.590	1727.68	-61.88	62.41	19.10	725566.10	382524.41	32°02'58.502°N	103°36'19.097°W	0.52	0.47	1.44	
1921.00	8.600	31.690	1915.47	-86.36	87.29	33.83	725580.83	382549.29	32°02'58.747°N	103°36'18.924°W	0.23	-0.16	1.11	
2111.00	8.400	34.680	2103.38	-109.44	110.79	49.19	725596.19	382572.79	32°02'58.979°N	103°36'18.744°W	0.26	-0.11	1.57	
2301.00	7.870	38.030	2291.47	-130.67	132.45	65.10	725612.10	382594.45	32°02'59.192°N	103°36'18.558°W	0.37	-0.28	1.76	
2491.00	8.620	31.100	2479.51	-152.69	154.89	80.47	725627.47	382616.89	32°02'59.413°N	103°36'18.377°W	0.65	0.39	-3.65	
2682.00	8.910	29.480	2668.28	-177.42	180.03	95.14	725642.14	382642.02	32°02'59.661°N	103°36'18.205°W	0.20	0.15	-0.85	
2869.00	9.700	25.170	2852.82	-203.91	206.89	108.97	725655.97	382668.88	32°02'59.926°N	103°36'18.042°W	0.56	0.42	-2.30	
3058.00	9.900	23.680	3039.06	-232.83	236.18	122.27	725669.26	382698.17	32°03'00.215°N	103°36'17.885°W	0.17	0.11	-0.79	
3247.00	9.160	25.780	3225.45	-260.90	264.61	135.33	725682.33	382726.60	32°03'00.495°N	103°36'17.731°W	0.43	-0.39	1.11	
3437.00	8.380	29.110	3413.23	-286.25	290.32	148.65	725695.64	382752.31	32°03'00.749°N	103°36'17.574°W	0.49	-0.41	1.75	
3626.00	9.330	23.050	3599.98	-312.03	316.45	161.35	725708.34	382778.44	32°03'01.007°N	103°36'17.425°W	0.70	0.50	-3.21	
3816.00	8.270	35.240	3787.76	-336.99	341.79	175.26	725722.26	382803.78	32°03'01.256°N	103°36'17.261°W	1.13	-0.56	6.42	
4005.00	6.230	20.090	3975.25	-357.41	362.52	186.63	725733.62	382824.51	32°03'01.461°N	103°36'17.128°W	1.47	-1.08	-8.02	
4195.00	4.780	10.810	4164.38	-374.73	379.98	191.66	725738.65	382841.97	32°03'01.633°N	103°36'17.068°W	0.89	-0.76	-4.88	
4383.00	1.940	356.890	4352.04	-385.57	390.86	192.95	725739.95	382852.84	32°03'01.741°N	103°36'17.052°W	1.56	-1.51	-7.40	



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Page 3 of 9

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Field	Bone Spring (Lea County, NM) NAD27	Wellbore	SD EA 18 19 FED COM P15 18H ST02
Facility	SD EA 18-19 Fed COM P15	Sidetrack from	SD EA 18 19 FED P15 18H_awp at 14946.00 MD

WELLPATH DATA (188 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]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
4572.00	0.150	49.920	4541.00	-388.92	394.21	192.97	725739.96	382856.20	32°03'01.774"N	103°36'17.051"W	0.98	-0.95	28.06	
4762.00	0.090	2.230	4731.00	-389.22	394.52	193.17	725740.16	382856.51	32°03'01.777"N	103°36'17.049"W	0.06	-0.03	-25.10	
4951.00	0.070	174.350	4920.00	-389.26	394.55	193.18	725740.18	382856.54	32°03'01.777"N	103°36'17.049"W	0.08	-0.01	91.07	
5140.00	0.150	184.150	5109.00	-388.90	394.19	193.18	725740.17	382856.18	32°03'01.774"N	103°36'17.049"W	0.04	0.04	5.19	
5329.00	0.170	187.140	5298.00	-388.37	393.67	193.12	725740.12	382855.65	32°03'01.769"N	103°36'17.050"W	0.01	0.01	1.58	
5518.00	0.140	152.600	5487.00	-387.89	393.18	193.19	725740.19	382855.17	32°03'01.764"N	103°36'17.049"W	0.05	-0.02	-18.28	
5707.00	0.090	182.750	5676.00	-387.53	392.83	193.29	725740.29	382854.82	32°03'01.760"N	103°36'17.048"W	0.04	-0.03	15.95	
5896.00	0.100	12.540	5865.00	-387.54	392.84	193.32	725740.32	382854.83	32°03'01.760"N	103°36'17.047"W	0.10	0.01	-90.06	
6087.00	0.190	229.690	6056.00	-387.51	392.80	193.12	725740.11	382854.79	32°03'01.760"N	103°36'17.050"W	0.14	0.05	-74.79	
6276.00	0.130	265.470	6244.99	-387.30	392.58	192.66	725739.66	382854.57	32°03'01.758"N	103°36'17.055"W	0.06	-0.03	18.93	
6466.00	0.030	261.100	6434.99	-387.28	392.56	192.40	725739.39	382854.54	32°03'01.758"N	103°36'17.058"W	0.05	-0.05	-2.30	
6655.00	0.130	204.410	6623.99	-387.08	392.35	192.26	725739.26	382854.34	32°03'01.756"N	103°36'17.060"W	0.06	0.05	-29.99	
6845.00	0.180	272.930	6813.99	-386.91	392.17	191.88	725738.87	382854.16	32°03'01.754"N	103°36'17.064"W	0.09	0.03	36.06	
7033.00	0.130	185.800	7001.99	-386.72	391.98	191.56	725738.55	382853.96	32°03'01.752"N	103°36'17.068"W	0.12	-0.03	-46.35	
7223.00	0.160	127.910	7191.99	-386.34	391.60	191.75	725738.74	382853.59	32°03'01.748"N	103°36'17.066"W	0.08	0.02	-30.47	
7413.00	0.470	115.980	7381.99	-385.81	391.09	192.66	725739.65	382853.08	32°03'01.743"N	103°36'17.055"W	0.17	0.16	-6.28	
7604.00	0.470	103.830	7572.98	-385.24	390.56	194.12	725741.12	382852.55	32°03'01.738"N	103°36'17.038"W	0.05	0.00	-6.36	
7793.00	0.810	104.150	7761.97	-384.68	390.05	196.17	725743.16	382852.04	32°03'01.733"N	103°36'17.015"W	0.18	0.18	0.17	
7988.00	0.760	103.960	7956.95	-383.96	389.40	198.76	725745.75	382851.39	32°03'01.726"N	103°36'16.984"W	0.03	-0.03	-0.10	
8178.00	0.850	106.030	8146.93	-383.20	388.71	201.34	725748.33	382850.70	32°03'01.719"N	103°36'16.955"W	0.05	0.05	1.09	
8368.00	1.080	127.640	8336.91	-381.64	387.23	204.11	725751.10	382849.21	32°03'01.704"N	103°36'16.922"W	0.22	0.12	11.37	
8557.00	1.100	143.420	8525.87	-379.03	384.68	206.60	725753.60	382846.67	32°03'01.679"N	103°36'16.894"W	0.16	0.01	8.35	
8747.00	0.990	137.610	8715.84	-376.30	382.01	208.80	725755.79	382843.99	32°03'01.652"N	103°36'16.868"W	0.08	-0.06	-3.06	
8935.00	1.020	146.210	8903.81	-373.65	379.42	210.82	725757.81	382841.40	32°03'01.626"N	103°36'16.845"W	0.08	0.02	4.57	
9123.00	0.910	127.660	9091.79	-371.30	377.11	212.94	725759.93	382839.10	32°03'01.603"N	103°36'16.821"W	0.18	-0.06	-9.90	
9313.00	0.770	112.250	9281.77	-369.83	375.71	215.31	725762.30	382837.70	32°03'01.589"N	103°36'16.793"W	0.14	-0.07	-8.08	
9503.00	1.080	122.240	9471.74	-368.32	374.27	218.01	725765.00	382836.26	32°03'01.575"N	103°36'16.762"W	0.18	0.16	5.26	
9692.00	1.420	145.720	9660.70	-365.36	371.39	220.83	725767.83	382833.37	32°03'01.546"N	103°36'16.729"W	0.32	0.18	12.42	
9787.00	1.840	132.620	9755.66	-363.31	369.38	222.62	725769.61	382831.37	32°03'01.526"N	103°36'16.709"W	0.59	0.44	-13.79	
9882.00	2.700	139.270	9850.58	-360.51	366.85	225.20	725772.19	382828.64	32°03'01.499"N	103°36'16.679"W	0.95	0.91	7.00	



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Page 4 of 9



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Area	Lea County, NM	Well	SD EA 18 19 Federal COM P15 No. 18H ST02
Field	Bone Spring (Lea County, NM) NAD27	Wellbore	SD EA 18 19 FED COM P15 18H ST02
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WELLPATH DATA (188 stations)														
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	DLS	Build Rate	Turn Rate	Comments
[ft]	[°]	[°]	[ft]	[ft]	[ft]	[ft]	[US ft]	[US ft]			[°/100ft]	[°/100ft]	[°/100ft]	
9977.00	1.940	145.700	9945.51	-357.42	363.63	227.57	725774.56	382825.62	32°03'01.469°N	103°36'16.652°W	0.84	-0.80	6.77	
10073.00	1.680	150.920	10041.46	-354.81	361.06	229.17	725776.16	382823.04	32°03'01.443°N	103°36'16.633°W	0.32	-0.27	5.44	
10167.00	1.490	144.740	10135.42	-352.57	358.85	230.54	725777.53	382820.84	32°03'01.422°N	103°36'16.618°W	0.27	-0.20	-6.57	
10262.00	1.510	158.220	10230.39	-350.37	356.68	231.72	725778.71	382818.67	32°03'01.400°N	103°36'16.604°W	0.37	0.02	14.19	
10356.00	1.110	171.640	10324.37	-348.30	354.63	232.31	725779.30	382816.62	32°03'01.380°N	103°36'16.597°W	0.53	-0.43	14.28	
10450.00	1.100	166.880	10418.35	-346.52	352.85	232.65	725779.64	382814.84	32°03'01.362°N	103°36'16.594°W	0.10	-0.01	-5.06	
10545.00	0.930	144.240	10513.33	-344.99	351.34	233.31	725780.30	382813.33	32°03'01.347°N	103°36'16.586°W	0.45	-0.18	-23.83	
10640.00	0.830	143.570	10608.32	-343.78	350.16	234.17	725781.16	382812.15	32°03'01.335°N	103°36'16.576°W	0.11	-0.11	-0.71	
10734.00	1.050	169.790	10702.31	-342.37	348.76	234.72	725781.72	382810.75	32°03'01.321°N	103°36'16.570°W	0.51	0.23	27.89	
10829.00	0.830	188.440	10797.30	-340.84	347.23	234.78	725781.77	382809.22	32°03'01.306°N	103°36'16.569°W	0.39	-0.23	19.63	
10923.00	0.680	167.750	10891.29	-339.62	346.01	234.79	725781.79	382808.00	32°03'01.294°N	103°36'16.569°W	0.33	-0.16	-22.01	
11018.00	0.760	186.670	10986.28	-338.44	344.83	234.84	725781.83	382806.82	32°03'01.283°N	103°36'16.569°W	0.26	0.08	19.92	
11113.00	1.050	236.190	11081.27	-337.35	343.72	234.04	725781.04	382805.71	32°03'01.272°N	103°36'16.578°W	0.84	0.31	52.13	
11207.00	1.530	216.470	11175.25	-335.90	342.23	232.58	725779.58	382804.22	32°03'01.257°N	103°36'16.595°W	0.69	0.51	-20.98	
11301.00	1.980	196.860	11269.20	-333.37	339.67	231.37	725778.36	382801.66	32°03'01.232°N	103°36'16.610°W	0.79	0.48	-20.86	12 1/4 BH MWD 887-11301
11389.00	2.020	196.370	11357.15	-330.45	336.73	230.49	725777.48	382798.72	32°03'01.203°N	103°36'16.620°W	0.05	0.05	-0.56	
11519.00	0.000	6.350	11487.12	-328.27	334.53	229.84	725776.83	382796.52	32°03'01.181°N	103°36'16.628°W	1.55	-1.55	125.87	
11550.00	0.900	181.400	11518.12	-328.03	334.29	229.84	725776.83	382796.27	32°03'01.179°N	103°36'16.628°W	2.90	2.90	-576.13	
11645.00	11.860	176.920	11612.39	-317.49	323.76	230.34	725777.34	382785.75	32°03'01.074°N	103°36'16.623°W	11.54	11.54	-4.72	
11739.00	19.440	175.570	11702.84	-292.18	298.48	232.07	725779.07	382760.47	32°03'00.824°N	103°36'16.605°W	8.07	8.06	-1.44	
11834.00	25.760	176.380	11790.50	-255.72	262.08	234.60	725781.59	382724.07	32°03'00.464°N	103°36'16.578°W	6.66	6.65	0.85	
11928.00	32.920	176.170	11872.39	-209.73	216.15	237.60	725784.59	382678.14	32°03'00.009°N	103°36'16.547°W	7.62	7.62	-0.22	
12021.00	39.510	176.370	11947.38	-154.85	161.35	241.17	725788.16	382623.34	32°02'59.466°N	103°36'16.510°W	7.09	7.09	0.22	
12116.00	46.700	178.800	12016.70	-90.00	96.54	243.81	725790.80	382558.54	32°02'58.825°N	103°36'16.484°W	7.77	7.57	2.56	
12211.00	53.380	179.690	12077.68	-17.23	23.77	244.74	725791.73	382485.77	32°02'58.105°N	103°36'16.479°W	7.07	7.03	0.94	
12306.00	60.310	179.550	12129.61	62.24	-55.71	245.27	725792.26	382406.29	32°02'57.318°N	103°36'16.479°W	7.30	7.29	-0.15	
12401.00	66.530	181.400	12172.09	147.10	-140.62	244.53	725791.52	382321.38	32°02'56.478°N	103°36'16.494°W	6.77	6.55	1.95	
12495.00	74.540	181.300	12203.39	235.54	-229.15	242.44	725789.44	382232.85	32°02'55.602°N	103°36'16.525°W	8.52	8.52	-0.11	
12591.00	80.730	181.130	12223.94	329.16	-322.86	240.46	725787.45	382139.15	32°02'54.675°N	103°36'16.556°W	6.45	6.45	-0.18	
12686.00	85.710	180.470	12235.15	423.39	-417.16	239.14	725786.14	382044.86	32°02'53.742°N	103°36'16.579°W	5.29	5.24	-0.69	



Actual Wellpath Report

SD EA 18 19 Federal COM P15 No. 18H ST02_awp
Page 5 of 9

**BAKER
HUGHES**
a GE company



REFERENCE WELLPATH IDENTIFICATION			
Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 18H
Area	Lea County, NM	Well	SD EA 18 19 Federal COM P15 No. 18H ST02
Field	Bone Spring (Lea County, NM) NAD27	Wellbore	SD EA 18 19 FED COM P15 18H ST02
Facility	SD EA 18-19 Fed COM P15	Sidetrack from	SD EA 18 19 FED P15 18H_awp at 14946.00 MD

WELLPATH DATA (188 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]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
12782.00	90.650	184.550	12238.20	519.05	-512.97	234.94	725781.93	381949.05	32°02'52.794"N	103°36'16.635"W	6.67	5.15	4.25	
12877.00	89.880	182.380	12237.76	613.69	-607.78	229.20	725776.19	381854.24	32°02'51.856"N	103°36'16.709"W	2.42	-0.81	-2.28	
12971.00	90.650	180.650	12237.33	707.55	-701.75	226.71	725773.71	381760.28	32°02'50.927"N	103°36'16.745"W	2.01	0.82	-1.84	
13067.00	90.060	178.780	12236.73	803.52	-797.74	227.19	725774.18	381664.29	32°02'49.977"N	103°36'16.747"W	2.04	-0.61	-1.95	
13162.00	87.870	177.500	12238.45	898.49	-892.67	230.27	725777.27	381569.37	32°02'49.037"N	103°36'16.719"W	2.67	-2.31	-1.35	
13255.00	87.910	179.140	12241.87	991.43	-985.56	233.00	725779.99	381476.48	32°02'48.118"N	103°36'16.695"W	1.76	0.04	1.76	
13349.00	88.740	180.740	12244.62	1085.35	-1079.51	233.10	725780.09	381382.52	32°02'47.188"N	103°36'16.701"W	1.92	0.88	1.70	
13443.00	89.050	180.370	12246.43	1179.27	-1173.49	232.19	725779.18	381288.55	32°02'46.258"N	103°36'16.719"W	0.51	0.33	-0.39	
13536.00	88.340	180.830	12248.55	1272.18	-1266.46	231.21	725778.20	381195.58	32°02'45.338"N	103°36'16.737"W	0.91	-0.76	0.49	
13630.00	87.720	180.350	12251.78	1366.06	-1360.40	230.24	725777.24	381101.65	32°02'44.409"N	103°36'16.756"W	0.83	-0.66	-0.51	
13724.00	87.750	179.340	12255.50	1459.96	-1454.33	230.50	725777.49	381007.72	32°02'43.479"N	103°36'16.760"W	1.07	0.03	-1.07	
13818.00	87.870	177.280	12259.09	1553.89	-1548.21	233.27	725780.26	380913.84	32°02'42.550"N	103°36'16.735"W	2.19	0.13	-2.19	
13911.00	89.230	174.200	12261.44	1646.74	-1640.91	240.17	725787.17	380821.15	32°02'41.632"N	103°36'16.663"W	3.62	1.46	-3.31	
14005.00	89.820	177.320	12262.22	1740.62	-1734.64	247.12	725794.11	380727.42	32°02'40.704"N	103°36'16.589"W	3.38	0.63	3.32	
14098.00	90.030	179.480	12262.35	1833.61	-1827.60	249.72	725796.71	380634.47	32°02'39.784"N	103°36'16.566"W	2.33	0.23	2.32	
14192.00	90.400	177.070	12261.99	1927.60	-1921.55	252.55	725799.54	380540.52	32°02'38.854"N	103°36'16.541"W	2.59	0.39	-2.56	
14287.00	90.520	181.870	12261.23	2022.56	-2016.51	253.43	725800.42	380445.56	32°02'37.915"N	103°36'16.538"W	5.05	0.13	5.05	
14380.00	90.370	182.750	12260.51	2115.35	-2109.43	249.68	725796.67	380352.64	32°02'36.995"N	103°36'16.589"W	0.96	-0.16	0.95	
14474.00	90.430	181.480	12259.85	2209.15	-2203.36	246.21	725793.20	380258.71	32°02'36.066"N	103°36'16.637"W	1.35	0.06	-1.35	
14568.00	90.460	183.310	12259.12	2302.92	-2297.28	242.28	725789.27	380164.80	32°02'35.137"N	103°36'16.690"W	1.95	0.03	1.95	
14662.00	90.430	183.110	12258.39	2396.60	-2391.13	237.02	725784.01	380070.96	32°02'34.209"N	103°36'16.758"W	0.22	-0.03	-0.21	
14757.00	90.430	179.620	12257.68	2491.46	-2486.08	234.76	725781.75	379976.01	32°02'33.269"N	103°36'16.792"W	3.67	0.00	-3.67	
14852.00	89.600	180.260	12257.65	2586.43	-2581.08	234.86	725781.85	379881.01	32°02'32.329"N	103°36'16.798"W	1.10	-0.87	0.67	
14946.00	89.540	183.400	12258.36	2680.25	-2675.02	231.85	725778.85	379787.08	32°02'31.400"N	103°36'16.840"W	3.34	-0.06	3.34	
15010.00	89.570	183.440	12258.86	2744.01	-2738.90	228.04	725775.03	379723.19	32°02'30.768"N	103°36'16.890"W	0.08	0.05	0.06	
15103.00	84.050	182.760	12264.03	2836.53	-2831.58	223.02	725770.01	379630.51	32°02'29.851"N	103°36'16.955"W	5.98	-5.94	-0.73	
15198.00	84.630	181.900	12273.40	2930.85	-2926.04	219.17	725766.16	379536.06	32°02'28.917"N	103°36'17.007"W	1.09	0.61	-0.91	
15293.00	85.750	182.150	12281.36	3025.33	-3020.65	215.83	725762.82	379441.46	32°02'27.981"N	103°36'17.054"W	1.21	1.18	0.26	
15387.00	85.660	182.160	12288.40	3118.87	-3114.32	212.30	725759.30	379347.79	32°02'27.054"N	103°36'17.102"W	0.10	-0.10	0.01	
15482.00	84.170	180.250	12296.82	3213.39	-3208.91	210.31	725757.30	379253.20	32°02'26.118"N	103°36'17.132"W	2.54	-1.57	-2.01	



Actual Wellpath Report

SD EA 18 19 Federal COM P15 No. 18H ST02_awp
Page 6 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 18H
Area	Lea County, NM	Well	SD EA 18 19 Federal COM P15 No. 18H ST02
Field	Bone Spring (Lea County, NM) NAD27	Wellbore	SD EA 18 19 FED COM P15 18H ST02
Facility	SD EA 18-19 Fed COM P15	Sidetrack from	SD EA 18 19 FED P15 18H_awp at 14946.00 MD

WELLPATH DATA (188 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]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
15577.00	83.600	179.620	12306.94	3307.81	-3303.37	210.42	725757.41	379158.74	32°02'25.183"N	103°36'17.139"W	0.89	-0.60	-0.66	
15672.00	83.980	180.290	12317.22	3402.22	-3397.81	210.49	725757.48	379064.30	32°02'24.249"N	103°36'17.145"W	0.81	0.40	0.71	
15767.00	83.740	178.440	12327.38	3496.66	-3492.26	211.54	725758.53	378969.86	32°02'23.314"N	103°36'17.140"W	1.95	-0.25	-1.95	
15862.00	83.590	176.050	12337.87	3591.05	-3586.56	216.08	725763.07	378875.56	32°02'22.381"N	103°36'17.095"W	2.51	-0.16	-2.52	
15956.00	85.930	174.960	12346.45	3684.53	-3679.87	223.41	725770.41	378782.25	32°02'21.457"N	103°36'17.017"W	2.74	2.49	-1.16	
16051.00	85.560	174.720	12353.50	3779.08	-3774.23	231.93	725778.93	378687.90	32°02'20.522"N	103°36'16.925"W	0.46	-0.39	-0.25	
16146.00	87.160	175.600	12359.53	3873.72	-3868.70	239.93	725786.92	378593.44	32°02'19.587"N	103°36'16.840"W	1.92	1.68	0.93	
16241.00	86.740	175.660	12364.59	3968.47	-3963.28	247.16	725794.15	378498.85	32°02'18.651"N	103°36'16.763"W	0.45	-0.44	0.06	
16336.00	90.800	177.310	12366.62	4063.37	-4058.06	252.98	725799.97	378404.08	32°02'17.712"N	103°36'16.703"W	4.61	4.27	1.74	
16431.00	88.830	177.730	12366.93	4158.35	-4152.97	257.09	725804.08	378309.18	32°02'16.773"N	103°36'16.663"W	2.12	-2.07	0.44	
16525.00	89.440	175.830	12368.35	4252.29	-4246.80	262.37	725809.36	378215.34	32°02'15.844"N	103°36'16.609"W	2.12	0.65	-2.02	
16620.00	87.660	178.100	12370.75	4347.22	-4341.63	267.40	725814.39	378120.52	32°02'14.905"N	103°36'16.558"W	3.04	-1.87	2.39	
16715.00	88.400	178.620	12374.02	4442.16	-4436.53	270.12	725817.11	378025.62	32°02'13.966"N	103°36'16.534"W	0.95	0.78	0.55	
16810.00	88.640	179.400	12376.47	4537.13	-4531.49	271.76	725818.75	377930.67	32°02'13.026"N	103°36'16.522"W	0.86	0.25	0.82	
16905.00	89.170	178.830	12378.29	4632.10	-4626.46	273.22	725820.21	377835.70	32°02'12.088"N	103°36'16.513"W	0.82	0.56	-0.60	
17000.00	88.550	179.680	12380.18	4727.07	-4721.43	274.46	725821.45	377740.73	32°02'11.147"N	103°36'16.506"W	1.11	-0.65	0.89	
17095.00	88.980	179.130	12382.23	4822.04	-4816.40	275.45	725822.44	377645.77	32°02'10.207"N	103°36'16.502"W	0.73	0.45	-0.58	
17190.00	89.050	178.720	12383.86	4917.02	-4911.37	277.23	725824.22	377550.80	32°02'09.267"N	103°36'16.488"W	0.44	0.07	-0.43	
17285.00	90.370	177.850	12384.34	5012.02	-5006.32	280.07	725827.06	377455.85	32°02'08.327"N	103°36'16.463"W	1.66	1.39	-0.92	
17381.00	90.960	178.310	12383.23	5108.01	-5102.28	283.29	725830.28	377359.91	32°02'07.377"N	103°36'16.433"W	0.78	0.61	0.48	
17475.00	90.960	177.310	12381.65	5201.99	-5196.18	286.88	725833.87	377266.00	32°02'06.448"N	103°36'16.399"W	1.06	0.00	-1.06	
17570.00	90.710	177.150	12380.27	5296.95	-5291.06	291.47	725838.46	377171.13	32°02'05.509"N	103°36'16.353"W	0.31	-0.26	-0.17	
17665.00	91.050	177.270	12378.81	5391.92	-5385.93	296.09	725843.08	377076.25	32°02'04.570"N	103°36'16.307"W	0.38	0.36	0.13	
17759.00	90.490	177.070	12377.55	5485.89	-5479.81	300.73	725847.72	376982.38	32°02'03.640"N	103°36'16.260"W	0.63	-0.60	-0.21	
17854.00	87.840	176.450	12378.93	5580.82	-5574.84	308.10	725853.09	376887.55	32°02'02.701"N	103°36'16.205"W	2.86	-2.79	-0.65	
17949.00	87.660	176.700	12382.66	5675.70	-5669.40	311.77	725858.76	376792.80	32°02'01.763"N	103°36'16.147"W	0.32	-0.19	0.26	
18043.00	88.280	177.940	12385.99	5769.62	-5763.23	316.16	725863.15	376698.97	32°02'00.835"N	103°36'16.103"W	1.47	0.66	1.32	
18138.00	87.070	177.620	12389.84	5864.53	-5858.08	319.84	725866.83	376604.12	32°01'59.896"N	103°36'16.068"W	1.32	-1.27	-0.34	
18233.00	86.950	177.320	12394.80	5959.39	-5952.86	324.03	725871.02	376509.35	32°01'58.958"N	103°36'16.026"W	0.34	-0.13	-0.32	
18329.00	88.180	178.720	12398.88	6055.29	-6048.71	327.34	725874.33	376413.50	32°01'58.009"N	103°36'15.995"W	1.94	1.28	1.46	



Actual Wellpath Report

SD EA 18 19 Federal COM P15 No. 18H ST02_awp
Page 7 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 18H
Area	Lea County, NM	Well	SD EA 18 19 Federal COM P15 No. 18H ST02
Field	Bone Spring (Lea County, NM) NAD27	Wellbore	SD EA 18 19 FED COM P15 18H ST02
Facility	SD EA 18-19 Fed COM P15	Sidetrack from	SD EA 18 19 FED P15 18H_awp at 14946.00 MD

WELLPATH DATA (188 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]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
18423.00	87.970	178.290	12402.03	6149.24	-6142.63	329.79	725876.78	376319.59	32°01'57.079"N	103°36'15.974"W	0.51	-0.22	-0.46	
18518.00	88.330	180.470	12405.10	6244.17	-6237.57	330.82	725877.81	376224.65	32°01'56.140"N	103°36'15.970"W	2.32	0.38	2.29	
18611.00	90.340	180.200	12406.18	6337.11	-6330.55	330.28	725877.27	376131.67	32°01'55.220"N	103°36'15.983"W	2.18	2.16	-0.29	
18706.00	90.220	178.470	12405.72	6432.10	-6425.54	331.38	725878.37	376036.68	32°01'54.280"N	103°36'15.978"W	1.83	-0.13	-1.82	
18800.00	89.050	177.920	12406.32	6526.09	-6519.49	334.34	725881.33	375942.74	32°01'53.350"N	103°36'15.951"W	1.38	-1.24	-0.59	
18895.00	90.060	178.660	12407.05	6621.09	-6614.44	337.17	725884.16	375847.79	32°01'52.410"N	103°36'15.926"W	1.32	1.06	0.78	
18989.00	89.720	176.160	12407.23	6715.06	-6708.34	341.42	725888.41	375753.89	32°01'51.481"N	103°36'15.884"W	2.68	-0.36	-2.66	
19083.00	90.830	179.100	12406.78	6809.04	-6802.25	345.31	725892.30	375659.99	32°01'50.551"N	103°36'15.846"W	3.34	1.18	3.13	
19179.00	90.310	181.400	12405.83	6904.98	-6898.23	344.89	725891.88	375564.00	32°01'49.601"N	103°36'15.858"W	2.46	-0.54	2.40	
19273.00	91.260	184.860	12404.54	6998.65	-6992.07	339.76	725886.75	375470.17	32°01'48.673"N	103°36'15.925"W	3.82	1.01	3.68	
19368.00	89.260	184.380	12404.11	7093.10	-7086.75	332.11	725879.10	375375.49	32°01'47.737"N	103°36'16.021"W	2.17	-2.11	-0.51	
19463.00	91.260	186.810	12403.68	7187.35	-7181.29	322.85	725869.84	375280.96	32°01'46.802"N	103°36'16.136"W	3.31	2.11	2.56	
19558.00	89.540	183.620	12403.01	7281.67	-7275.88	314.21	725861.20	375186.37	32°01'45.866"N	103°36'16.244"W	3.81	-1.81	-3.36	
19652.00	89.230	181.440	12404.02	7375.43	-7369.78	310.06	725857.05	375092.48	32°01'44.937"N	103°36'16.300"W	2.34	-0.33	-2.32	
19747.00	90.620	183.920	12404.15	7470.16	-7464.66	305.62	725852.81	374997.60	32°01'43.999"N	103°36'16.359"W	2.99	1.46	2.61	
19844.00	89.050	179.880	12404.43	7566.96	-7561.58	302.41	725849.40	374900.68	32°01'43.040"N	103°36'16.404"W	4.47	-1.62	-4.16	
19939.00	88.520	179.640	12406.44	7661.92	-7656.56	302.81	725849.80	374805.70	32°01'42.100"N	103°36'16.406"W	0.61	-0.56	-0.25	
20033.00	88.300	179.910	12409.05	7755.86	-7750.53	303.17	725850.16	374711.74	32°01'41.170"N	103°36'16.410"W	0.37	-0.23	0.29	
20128.00	89.050	179.740	12411.25	7850.80	-7845.50	303.46	725850.45	374616.77	32°01'40.230"N	103°36'16.414"W	0.81	0.79	-0.18	
20223.00	91.970	179.780	12410.40	7945.77	-7940.48	303.86	725850.85	374521.79	32°01'39.290"N	103°36'16.416"W	3.07	3.07	0.04	
20317.00	91.140	178.840	12407.85	8039.72	-8034.44	304.99	725851.98	374427.84	32°01'38.361"N	103°36'16.411"W	1.33	-0.88	-1.00	
20412.00	90.770	178.890	12406.27	8134.70	-8129.41	306.88	725853.87	374332.87	32°01'37.421"N	103°36'16.396"W	0.39	-0.39	0.05	
20507.00	90.990	179.650	12404.81	8229.68	-8224.39	308.09	725855.08	374237.90	32°01'36.481"N	103°36'16.390"W	0.83	0.23	0.80	
20602.00	89.690	181.150	12404.24	8324.62	-8319.38	307.42	725854.41	374142.91	32°01'35.541"N	103°36'16.405"W	2.09	-1.37	1.58	
20696.00	87.750	181.510	12406.34	8418.48	-8413.33	305.24	725852.23	374048.96	32°01'34.611"N	103°36'16.437"W	2.10	-2.06	0.38	
20791.00	89.600	180.990	12408.54	8513.34	-8508.27	303.17	725850.16	373954.02	32°01'33.672"N	103°36'16.469"W	2.02	1.95	-0.55	
20886.00	91.450	181.120	12407.67	8608.23	-8603.25	301.42	725848.41	373859.05	32°01'32.732"N	103°36'16.497"W	1.95	1.95	0.14	
20981.00	91.140	180.920	12405.52	8703.11	-8698.21	299.73	725846.72	373764.09	32°01'31.792"N	103°36'16.524"W	0.39	-0.33	-0.21	
21076.00	90.710	181.330	12403.99	8798.00	-8793.18	297.87	725844.86	373669.13	32°01'30.853"N	103°36'16.553"W	0.63	-0.45	0.43	
21171.00	91.790	181.300	12401.92	8892.86	-8888.13	295.69	725842.68	373574.18	32°01'29.913"N	103°36'16.588"W	1.14	1.14	-0.03	



Actual Wellpath Report

SD EA 18 19 Federal COM P15 No. 18H ST02_awp
Page 8 of 9

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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 18H
Area	Lea County, NM	Well	SD EA 18 19 Federal COM P15 No. 18H ST02
Field	Bone Spring (Lea County, NM) NAD27	Wellbore	SD EA 18 19 FED COM P15 18H ST02
Facility	SD EA 18-19 Fed COM P15	Sidetrack from	SD EA 18 19 FED P15 18H_awp at 14946.00 MD

WELLPATH DATA (188 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]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
21266.00	91.880	181.820	12398.87	8987.67	-8983.05	293.10	725840.09	373479.27	32°01'28.974"N	103°36'16.623"W	0.56	0.09	0.55	
21361.00	91.390	181.980	12396.16	9082.46	-9077.95	289.95	725836.94	373384.36	32°01'28.035"N	103°36'16.667"W	0.54	-0.52	0.17	
21456.00	87.900	180.160	12396.75	9177.34	-9172.92	288.18	725835.17	373289.40	32°01'27.096"N	103°36'16.695"W	4.14	-3.67	-1.92	
21551.00	88.340	180.910	12399.87	9272.23	-9267.86	287.29	725834.28	373194.46	32°01'26.156"N	103°36'16.713"W	0.91	0.46	0.79	
21645.00	91.050	182.830	12400.37	9366.05	-9361.80	284.22	725831.22	373100.53	32°01'25.227"N	103°36'16.756"W	3.53	2.88	2.04	
21739.00	90.680	183.200	12398.95	9459.74	-9455.66	279.28	725826.27	373006.67	32°01'24.299"N	103°36'16.821"W	0.56	-0.39	0.39	
21833.00	91.110	183.560	12397.48	9553.38	-9549.48	273.74	725820.73	372912.85	32°01'23.370"N	103°36'16.892"W	0.60	0.46	0.38	1/2 BH MWD 15010-21833
22207.00	91.110	183.560	12390.24	9925.84	-9922.69	250.52	725797.51	372539.65	32°01'19.679"N	103°36'17.191"W	0.00	0.00	0.00	Projection to bit 22207

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 18H PBHL rev 3	12266.23	-9923.34	265.01	725812.00	372539.00	32°01'19.671"N	103°36'17.023"W	point

WELLPATH COMPOSITION - Ref Wellbore: SD EA 18 19 FED COM P15 18H ST02 Ref Wellpath: SD EA 18 19 Federal COM P15 No. 18H ST02_awp

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
32.60	815.00	BHI NaviTrak (Axial)	17 1/2 BH MWD 153' - 815'	SD EA 18 19 FED P15 18H
815.00	11301.00	BHI NaviTrak (Axial)	12 1/4 BH MWD 887-11301	SD EA 18 19 FED P15 18H
11301.00	14946.00	BHI AutoTrak Curve (Axial)	8 1/2 BH MWD 11389-21195	SD EA 18 19 FED P15 18H
14946.00	21833.00	BHI NaviTrak (Axial)	8 1/2 BH MWD 15010-21833	SD EA 18 19 FED COM P15 18H ST02
21833.00	22207.00	Blind Drilling (std)	Projection to bit	SD EA 18 19 FED COM P15 18H ST02



Actual Wellpath Report

SD EA 18 19 Federal COM P15 No. 18H ST02_awp
Page 9 of 9

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REFERENCE WELLPATH IDENTIFICATION			
Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 18H
Area	Lea County, NM	Well	SD EA 18 19 Federal COM P15 No. 18H ST02
Field	Bone Spring (Lea County, NM) NAD27	Wellbore	SD EA 18 19 FED COM P15 18H ST02
Facility	SD EA 18-19 Fed COM P15	Sidetrack from	SD EA 18 19 FED P15 18H_awp at 14946.00 MD

COMMENTS

Wellpath general comments

Well: SD EA 18 19 Federal COM P15 No. 18H ST02
Field: Bone Spring (Lea County, NM)
Rig: Nabors X30
Location: Lea County, NM
API: 30-025-4409002
Latitude: 32° 02' 57.886" N
Longitude: 103° 36' 19.324" W
DF Elevation: 3263.6 feet
Elev. GL: 3231 feet
DF: 32.6 feet
Proposed Direction: 178.47
PBHL: 22207 feet
Duration: 6/5/2018-01/27/2019
FSE's: J. Kumar
SO#: 9205504
8 1/2 BH MWD 15010-21833
Projection to bit 22207

Well: SD EA 18 19 Federal COM P15 No. 18H
Field: Bone Spring
Rig: Nabors X30
Location: Lea Co., NM
API: 300-25-44409-00
Latitude: 32° 02' 57.886" N
Longitude: 103° 36' 19.324" W
DF Elevation: 3263.60 feet
Elev. GL: 3231.00 feet
Proposed Direction: 179.57
PBHL: 21253 feet
Duration: 6/5/2018-10/6/2018
FSE's: J. Kumar
SO#: 9205504

COMMENTS

17 1/2 BH MWD 153' - 815'

12 1/4 BH MWD 887-11301

8 1/2 BH MWD 11389-21195

Projection to bit 21253