



Actual Wellpath Report

SD WE 24 Federal P24 No. 5H_ awp 167.5' - 19283' Proj: 19338'
Page 1 of 9



REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD WE 24 FED P24 5H
Area	Lea County, NM	Well	SD WE 24 Federal P24 No. 5H
Field	Jennings / Upper BN SPRN Shale (Lea County, NM)	Wellbore	SD WE 24 FED P24 5H
Facility	SD WE 24 Fed P24		

REPORT SETUP INFORMATION

Projection System	NAD27 / TM New Mexico SP, Eastern Zone (3001), US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Tranlam
Scale	0.999965	Report Generated	10/19/2017 at 3:30:26 PM
Convergence at slot	0.38° East	Database/Source file	WA_Midland/SD_WE_24_Federal_P24_No_5H_ awp_167.5_-_19283_Proj_19338_.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.00	0.00	720045.00	372221.00	32°01'16.904"N	103°37'24.031"W
Facility Reference Pt			720045.00	372221.00	32°01'16.904"N	103°37'24.031"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 X-30 (KB) to Facility Vertical Datum	3171.00ft
Horizontal Reference Pt	Slot	Rig: Nabors X-30 (KB) to Mean Sea Level	3171.00ft
Vertical Reference Pt	Rig: Nabors X-30 (KB)	Rig: Nabors X-30 (KB) to Ground Level at Slot (SD WE 24 FED P24 5H)	33.00ft
MD Reference Pt	Rig: Nabors X-30 (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	359.65°

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



Actual Wellpath Report

SD WE 24 Federal P24 No. 5H_ awp 167.5' - 19283' Proj: 19338'
Page 2 of 9



REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD WE 24 FED P24 5H
Area	Lea County, NM	Well	SD WE 24 Federal P24 No. 5H
Field	Jennings / Upper BN SPRN Shale (Lea County, NM)	Wellbore	SD WE 24 FED P24 5H
Facility	SD WE 24 Fed P24		

WELLPATH DATA (174 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	311.000	0.00	0.00	0.00	0.00	720045.00	372221.00	32°01'16.904"N	103°37'24.031"W	0.00	
33.00	0.000	311.000	33.00	0.00	0.00	0.00	720045.00	372221.00	32°01'16.904"N	103°37'24.031"W	0.00	
167.50	0.900	311.000	167.49	0.70	0.89	-0.80	720044.20	372221.69	32°01'16.911"N	103°37'24.040"W	0.67	
258.50	0.700	329.000	258.49	1.65	1.64	-1.62	720043.38	372222.64	32°01'16.921"N	103°37'24.050"W	0.35	
445.50†	0.200	272.000	445.48	2.64	2.63	-2.54	720042.46	372223.63	32°01'16.931"N	103°37'24.060"W	0.33	
684.50	0.600	223.000	684.47	1.75	1.73	-3.81	720041.19	372222.73	32°01'16.922"N	103°37'24.075"W	0.21	
797.00	0.680	227.230	796.97	0.87	0.84	-4.70	720040.30	372221.84	32°01'16.913"N	103°37'24.085"W	0.08	
976.00	1.080	236.160	975.95	-0.77	-0.82	-6.88	720038.12	372220.18	32°01'16.897"N	103°37'24.111"W	0.24	
1153.00	3.530	263.110	1152.79	-2.32	-2.40	-13.68	720031.32	372218.60	32°01'16.882"N	103°37'24.190"W	1.48	
1330.00†	4.300	263.060	1329.38	-3.70	-3.85	-25.67	720019.33	372217.15	32°01'16.868"N	103°37'24.329"W	0.44	
1508.00	5.350	260.920	1506.75	-5.72	-5.97	-40.49	720004.51	372215.03	32°01'16.848"N	103°37'24.502"W	0.60	
1685.00	6.030	260.460	1682.87	-8.46	-8.81	-57.81	719987.19	372212.19	32°01'16.821"N	103°37'24.703"W	0.39	
1862.00	7.250	260.330	1858.68	-11.75	-12.23	-77.99	719967.01	372208.77	32°01'16.788"N	103°37'24.938"W	0.69	
2041.00	8.290	261.360	2036.04	-15.44	-16.07	-101.88	719943.12	372204.93	32°01'16.752"N	103°37'25.215"W	0.59	
2218.00†	9.700	259.510	2210.85	-19.91	-20.70	-129.16	719915.84	372200.30	32°01'16.708"N	103°37'25.533"W	0.81	
2395.00	10.780	259.410	2385.03	-25.48	-26.46	-160.09	719884.91	372194.55	32°01'16.653"N	103°37'25.892"W	0.61	
2572.00	10.940	262.450	2558.86	-30.53	-31.70	-193.02	719851.99	372189.30	32°01'16.603"N	103°37'26.275"W	0.34	
2750.00	10.410	265.380	2733.78	-33.84	-35.22	-225.79	719819.22	372185.78	32°01'16.571"N	103°37'26.656"W	0.43	
2927.00	9.280	263.770	2908.18	-36.49	-38.06	-255.92	719789.09	372182.95	32°01'16.544"N	103°37'27.006"W	0.66	
3104.00†	8.860	262.150	3082.98	-39.73	-41.47	-283.61	719761.40	372179.53	32°01'16.513"N	103°37'27.328"W	0.28	
3281.00	8.570	264.760	3257.92	-42.64	-44.53	-310.24	719734.77	372176.47	32°01'16.484"N	103°37'27.638"W	0.28	
3458.00	8.070	268.340	3433.06	-44.05	-46.10	-335.80	719709.22	372174.90	32°01'16.470"N	103°37'27.935"W	0.41	
3635.00	9.130	270.190	3608.06	-44.20	-46.41	-362.26	719682.76	372174.59	32°01'16.469"N	103°37'28.242"W	0.62	
3813.00	11.840	264.880	3783.08	-45.65	-48.06	-394.57	719650.45	372172.94	32°01'16.455"N	103°37'28.617"W	1.62	
3990.00†	12.680	264.400	3956.04	-49.00	-51.64	-431.98	719613.03	372169.37	32°01'16.422"N	103°37'29.052"W	0.48	
4167.00	9.880	260.580	4129.61	-53.17	-56.02	-466.30	719578.71	372164.98	32°01'16.380"N	103°37'29.451"W	1.64	
4344.00	9.090	253.730	4304.19	-59.40	-62.42	-494.71	719550.31	372158.58	32°01'16.319"N	103°37'29.781"W	0.78	
4432.00	9.300	250.190	4391.06	-63.67	-66.78	-508.07	719536.95	372154.22	32°01'16.277"N	103°37'29.937"W	0.69	12 1/4 BH MWD 797' - 4432'
4611.00	9.540	249.360	4567.65	-73.64	-76.91	-535.56	719509.46	372144.09	32°01'16.178"N	103°37'30.257"W	0.15	
4788.00†	8.800	249.070	4742.39	-83.48	-86.92	-561.93	719483.09	372134.09	32°01'16.081"N	103°37'30.564"W	0.42	



Actual Wellpath Report

SD WE 24 Federal P24 No. 5H_ awp 167.5' - 19283' Proj: 19338'
Page 3 of 9



REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD WE 24 FED P24 5H
Area	Lea County, NM	Well	SD WE 24 Federal P24 No. 5H
Field	Jennings / Upper BN SPRN Shale (Lea County, NM)	Wellbore	SD WE 24 FED P24 5H
Facility	SD WE 24 Fed P24		

WELLPATH DATA (174 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
4986.00	9.700	249.570	4918.07	-93.42	-97.01	-588.70	719456.32	372123.99	32°01'15.983"N	103°37'30.876"W	0.51	
5143.00	10.260	264.020	5092.42	-100.08	-103.86	-618.36	719426.66	372117.14	32°01'15.917"N	103°37'31.221"W	1.45	
5320.00	9.750	267.800	5266.73	-102.11	-106.08	-649.01	719396.01	372114.92	32°01'15.897"N	103°37'31.577"W	0.47	
5498.00	9.440	267.220	5442.24	-103.22	-107.37	-678.65	719366.37	372113.64	32°01'15.886"N	103°37'31.921"W	0.18	
5675.00	8.760	266.170	5617.01	-104.65	-108.97	-706.60	719338.43	372112.03	32°01'15.872"N	103°37'32.246"W	0.40	
5852.00	8.830	269.190	5791.93	-105.58	-110.06	-733.63	719311.40	372110.94	32°01'15.863"N	103°37'32.560"W	0.26	
6029.00	8.680	269.800	5966.87	-105.65	-110.30	-760.57	719284.46	372110.70	32°01'15.862"N	103°37'32.873"W	0.10	
6206.00	8.430	268.700	6141.90	-105.83	-110.64	-786.90	719258.13	372110.36	32°01'15.861"N	103°37'33.179"W	0.17	
6383.00	8.190	268.050	6317.04	-106.40	-111.37	-812.47	719232.56	372109.64	32°01'15.855"N	103°37'33.476"W	0.15	
6560.00	8.190	267.030	6492.23	-107.33	-112.45	-837.66	719207.37	372108.56	32°01'15.846"N	103°37'33.768"W	0.08	
6737.00	7.420	261.830	6667.59	-109.46	-114.73	-861.56	719183.47	372106.28	32°01'15.825"N	103°37'34.046"W	0.59	
6914.00	6.460	266.460	6843.30	-111.57	-116.97	-882.82	719162.22	372104.04	32°01'15.804"N	103°37'34.293"W	0.63	
7091.00	4.690	273.410	7019.45	-111.65	-117.15	-899.98	719145.05	372103.85	32°01'15.804"N	103°37'34.493"W	1.07	
7268.00	2.250	271.180	7196.12	-111.08	-116.65	-910.68	719134.36	372104.36	32°01'15.809"N	103°37'34.617"W	1.38	
7445.00	0.930	241.180	7373.05	-111.67	-117.27	-915.41	719129.62	372103.74	32°01'15.803"N	103°37'34.672"W	0.86	
7622.00	1.250	254.600	7550.02	-112.86	-118.47	-918.53	719126.50	372102.53	32°01'15.792"N	103°37'34.708"W	0.23	
7800.00	1.130	242.020	7727.98	-114.18	-119.81	-921.95	719123.08	372101.19	32°01'15.779"N	103°37'34.748"W	0.16	
7977.00	0.220	194.500	7904.96	-115.32	-120.96	-923.58	719121.46	372100.04	32°01'15.767"N	103°37'34.767"W	0.56	
8154.00	0.520	137.600	8081.96	-116.24	-121.88	-923.12	719121.91	372099.12	32°01'15.758"N	103°37'34.762"W	0.25	
8331.00	0.620	145.760	8258.95	-117.63	-123.27	-922.04	719122.99	372097.74	32°01'15.744"N	103°37'34.749"W	0.07	
8515.00	0.330	168.580	8442.94	-118.98	-124.61	-921.38	719123.66	372096.39	32°01'15.731"N	103°37'34.742"W	0.19	8 3/4 BH MWD 4611' - 8515'
8580.00	0.770	182.380	8507.94	-119.60	-125.23	-921.36	719123.68	372095.77	32°01'15.725"N	103°37'34.742"W	0.70	
8669.00	8.330	1.910	8596.65	-113.74	-119.37	-921.17	719123.87	372101.63	32°01'15.783"N	103°37'34.739"W	10.22	
8757.00	19.170	2.500	8682.01	-92.88	-98.50	-920.32	719124.71	372122.50	32°01'15.989"N	103°37'34.727"W	12.32	
8846.00	30.010	2.620	8762.81	-55.95	-61.56	-918.66	719126.37	372159.44	32°01'16.355"N	103°37'34.705"W	12.18	
8934.00	38.130	359.160	8835.65	-6.72	-12.33	-918.05	719126.98	372208.67	32°01'16.842"N	103°37'34.695"W	9.48	
9023.00	44.280	1.870	8902.59	51.86	46.26	-917.44	719127.59	372267.26	32°01'17.422"N	103°37'34.683"W	7.19	
9111.00	56.230	359.880	8958.75	119.38	113.79	-916.51	719128.52	372334.78	32°01'18.090"N	103°37'34.667"W	13.69	
9200.00	62.900	1.140	9003.81	196.07	190.48	-915.80	719129.23	372411.47	32°01'18.849"N	103°37'34.653"W	7.59	
9289.00	70.410	1.210	9039.06	277.69	272.11	-914.13	719130.91	372493.10	32°01'19.656"N	103°37'34.627"W	8.44	



Actual Wellpath Report

SD WE 24 Federal P24 No. 5H_awp 167.5' - 19283' Proj: 19338'

Page 4 of 9

**BAKER
HUGHES**
a GE company



REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD WE 24 FED P24 5H
Area	Lea County, NM	Well	SD WE 24 Federal P24 No. 5H
Field	Jennings / Upper BN SPRN Shale (Lea County, NM)	Wellbore	SD WE 24 FED P24 5H
Facility	SD WE 24 Fed P24		

WELLPATH DATA (174 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
9377.00	80.810	1.540	9060.90	362.78	357.21	-912.08	719132.96	372578.20	32°01'20.498"N	103°37'34.597"W	11.82	
9469.00	89.320	0.940	9068.80	454.31	448.76	-910.10	719134.94	372669.75	32°01'21.404"N	103°37'34.567"W	9.27	
9557.00	90.180	1.930	9069.19	542.27	536.73	-907.89	719137.14	372757.71	32°01'22.275"N	103°37'34.535"W	1.49	
9646.00	90.000	1.900	9069.05	631.20	625.68	-904.92	719140.11	372846.66	32°01'23.155"N	103°37'34.494"W	0.21	
9734.00	90.310	2.430	9068.81	719.11	713.62	-901.60	719143.44	372934.59	32°01'24.025"N	103°37'34.448"W	0.70	
9822.00	90.370	2.490	9068.29	807.01	801.54	-897.82	719147.21	373022.51	32°01'24.894"N	103°37'34.398"W	0.10	
9911.00	89.820	359.940	9068.14	895.97	890.51	-895.93	719149.10	373111.48	32°01'25.775"N	103°37'34.369"W	2.93	
9999.00	91.450	0.830	9067.16	983.95	978.50	-895.34	719149.69	373199.46	32°01'26.645"N	103°37'34.355"W	2.11	
10087.00	91.510	359.450	9064.89	1071.91	1066.47	-895.13	719149.91	373287.43	32°01'27.516"N	103°37'34.346"W	1.57	
10176.00	91.940	1.050	9062.21	1160.87	1155.42	-894.74	719150.30	373376.38	32°01'28.396"N	103°37'34.335"W	1.86	
10264.00	92.100	0.610	9059.11	1248.79	1243.36	-893.46	719151.57	373464.31	32°01'29.266"N	103°37'34.314"W	0.53	
10353.00	89.320	358.830	9058.01	1337.77	1332.34	-893.90	719151.13	373553.29	32°01'30.147"N	103°37'34.312"W	3.71	
10442.00	89.010	358.710	9059.30	1426.75	1421.31	-895.81	719149.22	373642.25	32°01'31.027"N	103°37'34.327"W	0.37	
10530.00	89.170	358.400	9060.70	1514.73	1509.27	-898.03	719147.01	373730.21	32°01'31.898"N	103°37'34.346"W	0.40	
10618.00	89.540	358.660	9061.69	1602.70	1597.23	-900.29	719144.75	373818.17	32°01'32.768"N	103°37'34.366"W	0.51	
10707.00	88.180	357.810	9063.46	1691.66	1686.17	-903.03	719142.01	373907.11	32°01'33.649"N	103°37'34.391"W	1.80	
10795.00	87.560	357.460	9066.73	1779.54	1774.03	-906.66	719138.38	373994.97	32°01'34.518"N	103°37'34.426"W	0.81	
10883.00	89.200	356.700	9069.22	1867.41	1861.88	-911.14	719133.90	374082.81	32°01'35.388"N	103°37'34.472"W	2.05	
10972.00	89.510	356.850	9070.22	1956.29	1950.74	-916.14	719128.89	374171.66	32°01'36.268"N	103°37'34.523"W	0.39	
11061.00	92.620	357.720	9068.57	2045.19	2039.61	-920.36	719124.68	374260.53	32°01'37.147"N	103°37'34.565"W	3.63	
11149.00	93.020	357.980	9064.24	2133.04	2127.44	-923.65	719121.38	374348.36	32°01'38.017"N	103°37'34.597"W	0.54	
11240.00	92.650	359.860	9059.74	2223.92	2218.31	-925.37	719119.67	374439.22	32°01'38.916"N	103°37'34.610"W	2.10	
11331.00	94.260	359.930	9054.25	2314.75	2309.14	-925.53	719119.50	374530.05	32°01'39.815"N	103°37'34.605"W	1.77	
11422.00	92.250	0.720	9049.09	2405.59	2399.99	-925.02	719120.02	374620.90	32°01'40.714"N	103°37'34.592"W	2.37	
11513.00	89.540	0.870	9047.67	2496.55	2490.96	-923.76	719121.28	374711.86	32°01'41.614"N	103°37'34.571"W	2.98	
11603.00	89.510	0.210	9048.41	2586.54	2580.95	-922.91	719122.13	374801.85	32°01'42.504"N	103°37'34.554"W	0.73	
11694.00	89.690	0.620	9049.05	2677.53	2671.94	-922.25	719122.79	374892.84	32°01'43.405"N	103°37'34.539"W	0.49	
11785.00	91.690	0.740	9047.95	2768.50	2762.93	-921.17	719123.87	374983.82	32°01'44.305"N	103°37'34.520"W	2.20	
11877.00	90.120	1.470	9046.50	2860.46	2854.89	-919.39	719125.84	375075.79	32°01'45.215"N	103°37'34.492"W	1.88	
11967.00	89.850	0.620	9046.52	2950.43	2944.88	-917.75	719127.28	375165.77	32°01'46.105"N	103°37'34.466"W	0.99	



Actual Wellpath Report

SD WE 24 Federal P24 No. 5H_ awp 167.5' - 19283' Proj: 19338'

Page 5 of 9

**BAKER
HUGHES**
a GE company



REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD WE 24 FED P24 5H
Area	Lea County, NM	Well	SD WE 24 Federal P24 No. 5H
Field	Jennings / Upper BN SPRN Shale (Lea County, NM)	Wellbore	SD WE 24 FED P24 5H
Facility	SD WE 24 Fed P24		

WELLPATH DATA (174 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
12056.00	90.030	0.100	9046.62	3039.42	3033.88	-917.19	719127.84	375254.76	32°01'46.986"N	103°37'34.453"W	0.62	
12144.00	88.520	0.390	9047.73	3127.41	3121.87	-916.82	719128.22	375342.75	32°01'47.857"N	103°37'34.442"W	1.75	
12233.00	88.430	0.310	9050.10	3216.37	3210.83	-916.27	719128.76	375431.71	32°01'48.737"N	103°37'34.429"W	0.14	
12322.00	87.970	0.360	9052.89	3305.32	3299.79	-915.75	719129.28	375520.66	32°01'49.617"N	103°37'34.416"W	0.52	
12411.00	87.720	0.550	9056.24	3394.25	3388.72	-915.05	719129.99	375609.59	32°01'50.497"N	103°37'34.401"W	0.35	
12499.00	88.180	359.790	9059.39	3482.19	3476.66	-914.79	719130.25	375697.53	32°01'51.367"N	103°37'34.391"W	1.01	
12588.00	90.960	359.530	9060.06	3571.18	3565.65	-915.32	719129.72	375786.52	32°01'52.248"N	103°37'34.391"W	3.14	
12676.00	89.320	359.560	9059.84	3659.17	3653.65	-916.01	719129.02	375874.51	32°01'53.119"N	103°37'34.392"W	1.86	
12765.00	88.640	359.390	9061.43	3748.16	3742.63	-916.83	719128.20	375963.49	32°01'53.999"N	103°37'34.395"W	0.79	
12853.00	88.090	358.850	9063.94	3836.12	3830.58	-918.18	719126.85	376051.44	32°01'54.870"N	103°37'34.404"W	0.88	
12941.00	87.590	358.980	9067.25	3924.05	3918.50	-919.84	719125.20	376139.35	32°01'55.740"N	103°37'34.416"W	0.59	
13030.00	86.140	358.450	9072.12	4012.90	4007.34	-921.82	719123.21	376228.19	32°01'56.619"N	103°37'34.433"W	1.74	
13118.00	87.220	358.710	9077.22	4100.74	4095.17	-924.00	719121.03	376316.01	32°01'57.488"N	103°37'34.451"W	1.26	
13207.00	88.180	359.430	9080.79	4189.66	4184.08	-925.44	719119.59	376404.93	32°01'58.368"N	103°37'34.461"W	1.35	
13295.00	88.150	359.080	9083.61	4277.61	4272.03	-926.59	719118.45	376492.87	32°01'59.239"N	103°37'34.468"W	0.40	
13384.00	87.410	358.190	9087.05	4366.53	4360.94	-928.70	719116.33	376581.77	32°02'00.119"N	103°37'34.486"W	1.30	
13473.00	89.110	358.310	9089.78	4455.46	4449.85	-931.42	719113.61	376670.68	32°02'00.999"N	103°37'34.511"W	1.91	
13561.00	93.080	0.030	9088.07	4543.42	4537.80	-932.70	719112.34	376758.63	32°02'01.869"N	103°37'34.519"W	4.92	
13650.00	90.860	1.280	9085.01	4632.34	4626.74	-931.68	719113.36	376847.56	32°02'02.749"N	103°37'34.500"W	2.86	
13738.00	90.000	0.010	9084.35	4720.32	4714.73	-930.69	719114.35	376935.55	32°02'03.620"N	103°37'34.482"W	1.74	
13827.00	90.220	359.230	9084.18	4809.32	4803.72	-931.28	719113.76	377024.54	32°02'04.500"N	103°37'34.482"W	0.91	
13915.00	89.080	358.000	9084.72	4897.30	4891.69	-933.41	719111.63	377112.51	32°02'05.371"N	103°37'34.500"W	1.91	
14004.00	90.550	0.750	9085.01	4986.29	4980.68	-934.38	719110.66	377201.49	32°02'06.252"N	103°37'34.505"W	3.50	
14092.00	89.350	0.610	9085.09	5074.28	5068.67	-933.33	719111.70	377289.48	32°02'07.122"N	103°37'34.486"W	1.37	
14181.00	90.030	1.500	9085.57	5163.25	5157.65	-931.69	719113.34	377378.46	32°02'08.003"N	103°37'34.460"W	1.26	
14270.00	88.430	0.950	9086.76	5252.20	5246.62	-929.79	719115.24	377467.42	32°02'08.883"N	103°37'34.431"W	1.90	
14358.00	89.230	1.040	9088.56	5340.16	5334.59	-928.26	719116.77	377555.39	32°02'09.753"N	103°37'34.407"W	0.91	
14447.00	88.000	1.030	9090.71	5429.10	5423.55	-926.66	719118.38	377644.34	32°02'10.634"N	103°37'34.381"W	1.38	
14536.00	87.690	1.410	9094.06	5518.01	5512.46	-924.76	719120.27	377733.26	32°02'11.513"N	103°37'34.352"W	0.55	
14625.00	86.920	2.440	9098.24	5606.84	5601.31	-921.78	719123.26	377822.10	32°02'12.392"N	103°37'34.311"W	1.44	



Actual Wellpath Report

SD WE 24 Federal P24 No. 5H_awp 167.5' - 19283' Proj: 19338'

Page 6 of 9

**BAKER
HUGHES**
a GE company



REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD WE 24 FED P24 5H
Area	Lea County, NM	Well	SD WE 24 Federal P24 No. 5H
Field	Jennings / Upper BN SPRN Shale (Lea County, NM)	Wellbore	SD WE 24 FED P24 5H
Facility	SD WE 24 Fed P24		

WELLPATH DATA (174 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
14714.00	86.950	1.350	9103.00	5695.64	5690.13	-918.84	719126.20	377910.92	32°02'13.271"N	103°37'34.270"W	1.22	
14802.00	91.140	1.020	9104.47	5783.58	5778.08	-917.02	719128.02	377998.87	32°02'14.141"N	103°37'34.242"W	4.78	
14891.00	92.890	0.990	9101.34	5872.49	5867.01	-915.46	719129.58	378087.79	32°02'15.021"N	103°37'34.217"W	1.97	
14980.00	89.750	359.180	9099.29	5961.45	5955.97	-915.33	719129.71	378176.75	32°02'15.902"N	103°37'34.209"W	4.07	
15068.00	88.580	358.480	9100.57	6049.43	6043.94	-917.12	719127.91	378264.72	32°02'16.772"N	103°37'34.223"W	1.55	
15157.00	88.520	357.850	9102.82	6138.37	6132.87	-919.97	719125.08	378353.64	32°02'17.652"N	103°37'34.250"W	0.71	
15245.00	88.060	357.150	9105.45	6226.27	6220.74	-923.81	719121.23	378441.51	32°02'18.522"N	103°37'34.288"W	0.95	
15334.00	87.720	357.260	9108.73	6315.13	6309.58	-928.15	719116.89	378530.34	32°02'19.402"N	103°37'34.331"W	0.40	
15422.00	89.600	357.890	9110.78	6403.04	6397.47	-931.87	719113.17	378618.23	32°02'20.271"N	103°37'34.368"W	2.25	
15510.00	89.910	357.950	9111.16	6491.00	6485.41	-935.08	719109.97	378706.17	32°02'21.142"N	103°37'34.398"W	0.36	
15599.00	92.190	1.090	9109.53	6579.97	6574.38	-935.81	719109.23	378795.13	32°02'22.022"N	103°37'34.400"W	4.36	
15687.00	92.800	1.980	9105.70	6667.84	6662.26	-933.45	719111.58	378883.01	32°02'22.892"N	103°37'34.366"W	1.23	
15776.00	92.190	2.280	9101.82	6756.67	6751.11	-930.15	719114.89	378971.86	32°02'23.771"N	103°37'34.321"W	0.76	
15864.00	92.280	2.010	9098.39	6844.52	6838.99	-926.86	719118.18	379059.73	32°02'24.640"N	103°37'34.276"W	0.32	
15953.00	92.160	1.640	9094.94	6933.39	6927.87	-924.03	719121.01	379148.61	32°02'25.520"N	103°37'34.236"W	0.44	
16042.00	89.720	359.780	9093.48	7022.35	7016.84	-922.92	719122.11	379237.58	32°02'26.400"N	103°37'34.217"W	3.45	
16130.00	89.510	359.160	9094.08	7110.35	7104.84	-923.74	719121.30	379325.57	32°02'27.271"N	103°37'34.219"W	0.74	
16219.00	90.490	359.260	9094.08	7199.34	7193.83	-924.96	719120.07	379414.56	32°02'28.151"N	103°37'34.227"W	1.11	
16307.00	90.190	358.970	9093.55	7287.34	7281.82	-926.32	719118.71	379502.54	32°02'29.022"N	103°37'34.236"W	0.47	
16396.00	92.930	359.820	9091.13	7376.30	7370.77	-927.26	719117.77	379591.49	32°02'29.903"N	103°37'34.240"W	3.22	
16484.00	89.570	358.670	9089.21	7464.26	7458.73	-928.42	719116.61	379679.45	32°02'30.773"N	103°37'34.247"W	4.04	
16573.00	89.880	358.350	9089.64	7553.24	7547.70	-930.74	719114.30	379768.41	32°02'31.654"N	103°37'34.267"W	0.50	
16661.00	89.630	359.110	9090.01	7641.23	7635.67	-932.69	719112.35	379856.39	32°02'32.524"N	103°37'34.283"W	0.91	
16750.00	91.110	359.260	9089.44	7730.22	7724.66	-933.95	719111.08	379945.37	32°02'33.405"N	103°37'34.291"W	1.67	
16838.00	91.480	359.070	9087.47	7818.19	7812.63	-935.24	719109.80	380033.33	32°02'34.275"N	103°37'34.299"W	0.45	
16927.00	89.510	358.340	9086.71	7907.17	7901.60	-937.25	719107.79	380122.30	32°02'35.156"N	103°37'34.316"W	2.34	
17015.00	88.090	358.360	9088.56	7995.13	7989.54	-939.78	719105.26	380210.24	32°02'36.026"N	103°37'34.339"W	1.61	
17104.00	89.380	358.250	9090.52	8084.08	8078.48	-942.41	719102.62	380299.17	32°02'36.907"N	103°37'34.362"W	1.45	
17192.00	86.050	356.770	9094.03	8171.94	8166.31	-946.23	719098.81	380387.00	32°02'37.776"N	103°37'34.400"W	4.14	
17280.00	87.410	356.080	9099.05	8259.65	8253.99	-951.71	719093.33	380474.68	32°02'38.644"N	103°37'34.457"W	1.73	



Actual Wellpath Report

SD WE 24 Federal P24 No. 5H_awp 167.5' - 19283' Proj: 19338'
Page 7 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	Chevron U.S.A. Inc.	Slot	SD WE 24 FED P24 5H
Area	Lea County, NM	Well	SD WE 24 Federal P24 No. 5H
Field	Jennings / Upper BN SPRN Shale (Lea County, NM)	Wellbore	SD WE 24 FED P24 5H
Facility	SD WE 24 Fed P24		

WELLPATH DATA (174 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
17370.00	87.310	355.340	9103.19	8349.34	8343.64	-958.43	719086.60	380564.33	32°02'39.532"N	103°37'34.528"W	0.83	
17458.00	89.850	357.380	9105.37	8437.16	8431.43	-964.02	719081.02	380652.11	32°02'40.401"N	103°37'34.586"W	3.70	
17546.00	87.530	357.550	9107.39	8525.07	8519.31	-967.91	719077.13	380739.99	32°02'41.271"N	103°37'34.625"W	2.64	
17635.00	88.980	358.410	9110.10	8613.98	8608.21	-971.04	719073.99	380828.89	32°02'42.151"N	103°37'34.655"W	1.89	
17723.00	91.200	0.200	9109.96	8701.97	8696.20	-972.11	719072.93	380916.87	32°02'43.021"N	103°37'34.660"W	3.24	
17811.00	90.860	0.750	9108.38	8789.95	8784.18	-971.38	719073.65	381004.85	32°02'43.892"N	103°37'34.645"W	0.73	
17900.00	91.600	0.750	9106.47	8878.91	8873.15	-970.22	719074.82	381093.82	32°02'44.772"N	103°37'34.625"W	0.83	
17988.00	90.120	357.920	9105.14	8966.89	8961.12	-971.24	719073.80	381181.79	32°02'45.643"N	103°37'34.630"W	3.63	
18077.00	90.090	359.040	9104.98	9055.87	9050.09	-973.60	719071.44	381270.75	32°02'46.523"N	103°37'34.651"W	1.26	
18165.00	88.490	358.650	9106.07	9143.85	9138.06	-975.37	719069.66	381358.72	32°02'47.394"N	103°37'34.665"W	1.87	
18254.00	91.660	359.800	9105.96	9232.83	9227.04	-976.58	719068.46	381447.70	32°02'48.275"N	103°37'34.672"W	3.79	
18343.00	91.360	359.430	9103.61	9321.80	9316.01	-977.17	719067.86	381536.66	32°02'49.155"N	103°37'34.672"W	0.54	
18431.00	89.290	358.880	9103.11	9409.79	9403.99	-978.47	719066.56	381624.64	32°02'50.026"N	103°37'34.680"W	2.43	
18520.00	92.160	2.410	9101.98	9498.75	9492.96	-977.47	719067.57	381713.60	32°02'50.906"N	103°37'34.662"W	5.11	
18608.00	92.190	2.200	9098.64	9586.59	9580.82	-973.93	719071.10	381801.46	32°02'51.775"N	103°37'34.614"W	0.24	
18697.00	93.880	1.960	9093.93	9675.38	9669.63	-970.71	719074.33	381890.27	32°02'52.654"N	103°37'34.570"W	1.92	
18785.00	91.790	1.250	9089.58	9763.22	9757.49	-968.25	719076.79	381978.12	32°02'53.523"N	103°37'34.535"W	2.51	
18874.00	91.170	1.500	9087.28	9852.15	9846.43	-966.11	719078.92	382067.06	32°02'54.403"N	103°37'34.503"W	0.75	
18962.00	90.830	1.050	9085.75	9940.10	9934.40	-964.15	719080.88	382155.02	32°02'55.273"N	103°37'34.474"W	0.64	
19051.00	88.210	359.950	9086.49	10029.08	10023.38	-963.38	719081.66	382244.00	32°02'56.154"N	103°37'34.458"W	3.19	
19139.00	85.930	358.800	9090.99	10116.95	10111.25	-964.34	719080.70	382331.87	32°02'57.023"N	103°37'34.462"W	2.90	
19228.00	92.250	0.330	9092.40	10205.90	10200.19	-965.01	719080.03	382420.81	32°02'57.904"N	103°37'34.463"W	7.31	
19283.00	92.060	0.360	9090.33	10260.85	10255.15	-964.68	719080.36	382475.77	32°02'58.447"N	103°37'34.455"W	0.35	8 1/2 BH MWD 8580' - 19283'
19338.00	92.060	0.360	9088.36	10315.81	10310.11	-964.33	719080.70	382530.73	32°02'58.991"N	103°37'34.447"W	0.00	Projection to TD: 19338'



Actual Wellpath Report

SD WE 24 Federal P24 No. 5H_awp 167.5' - 19283' Proj: 19338'

Page 8 of 9

**BAKER
HUGHES**
a GE company



REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD WE 24 FED P24 5H
Area	Lea County, NM	Well	SD WE 24 Federal P24 No. 5H
Field	Jennings / Upper BN SPRN Shale (Lea County, NM)	Wellbore	SD WE 24 FED P24 5H
Facility	SD WE 24 Fed P24		

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SD WE 24 FED P24 5H 5400' from LP rev 2	9025.00	5772.25	-933.11	719111.92	377993.03	32°02'14.085"N	103°37'34.430"W	rectangle
SD WE 24 FED P24 5H 2800' from LP rev 2	9058.00	3172.36	-917.14	719127.89	375393.24	32°01'48.356"N	103°37'34.442"W	rectangle
SD WE 24 FED P24 5H FTP	9074.00	0.00	0.00	720045.00	372221.00	32°01'16.904"N	103°37'24.031"W	point
SD WE 24 FED P24 5H PBHL rev 3	9081.00	10318.39	-961.04	719084.00	382539.00	32°02'59.073"N	103°37'34.408"W	point

WELLPATH COMPOSITION - Ref Wellbore: SD WE 24 FED P24 5H Ref Wellpath: SD WE 24 Federal P24 No. 5H_awp 167.5' - 19283' Proj: 19338'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
33.00	684.50	ISCWSA MWD, Rev. 4 (Standard)	Imported Survey's 167.5' - 684.5'	SD WE 24 FED P24 5H
684.50	4432.00	BHI NaviTrak (Standard)	12 1/4 BH MWD 797' - 4432'	SD WE 24 FED P24 5H
4432.00	8515.00	BHI NaviTrak (Standard)	8 3/4 BH MWD 4611' - 8515'	SD WE 24 FED P24 5H
8515.00	19283.00	BHI NaviTrak (Standard)	8 1/2 BH MWD 8580' - 19283'	SD WE 24 FED P24 5H
19283.00	19338.00	Blind Drilling (std)	Projection to bit	SD WE 24 FED P24 5H



Actual Wellpath Report

SD WE 24 Federal P24 No. 5H_awp 167.5' - 19283' Proj: 19338'

Page 9 of 9

**BAKER
HUGHES**
a GE company



REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD WE 24 FED P24 5H
Area	Lea County, NM	Well	SD WE 24 Federal P24 No. 5H
Field	Jennings / Upper BN SPRN Shale (Lea County, NM)	Wellbore	SD WE 24 FED P24 5H
Facility	SD WE 24 Fed P24		

COMMENTS

Wellpath general comments

Well: SD WE 24 Federal P24 No. 5H
Field: Jennings/Upper BN SPRN, Shale
Rig: Nabors X30
Location: Lea Co., NM
API: 30-025-43674-00
Latitude: 32° 01' 16.904" N
Longitude: 103° 37' 24.031" W
DF Elevation: 3171 feet
Elev. GL: 3138 feet
Proposed Direction: 359.65°
PBHL: 19338 feet
Duration: 08/14/2017-10/08/2017
FSE's: D. Hardeman
SO#: 8708423
12 1/4 BH MWD 797' - 4432'
8 3/4 BH MWD 4611' - 8515'
8 1/2 BH MWD 8580' - 19283'
Projection to TD: 19338'