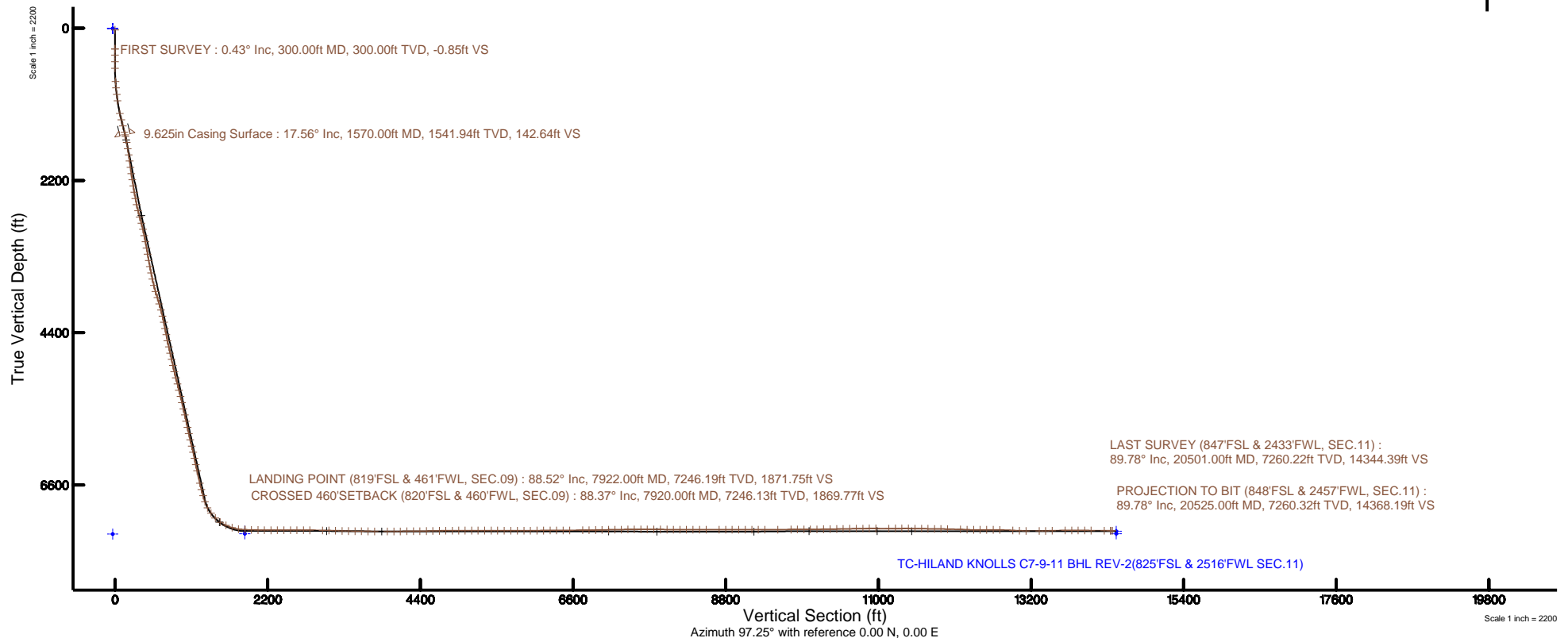
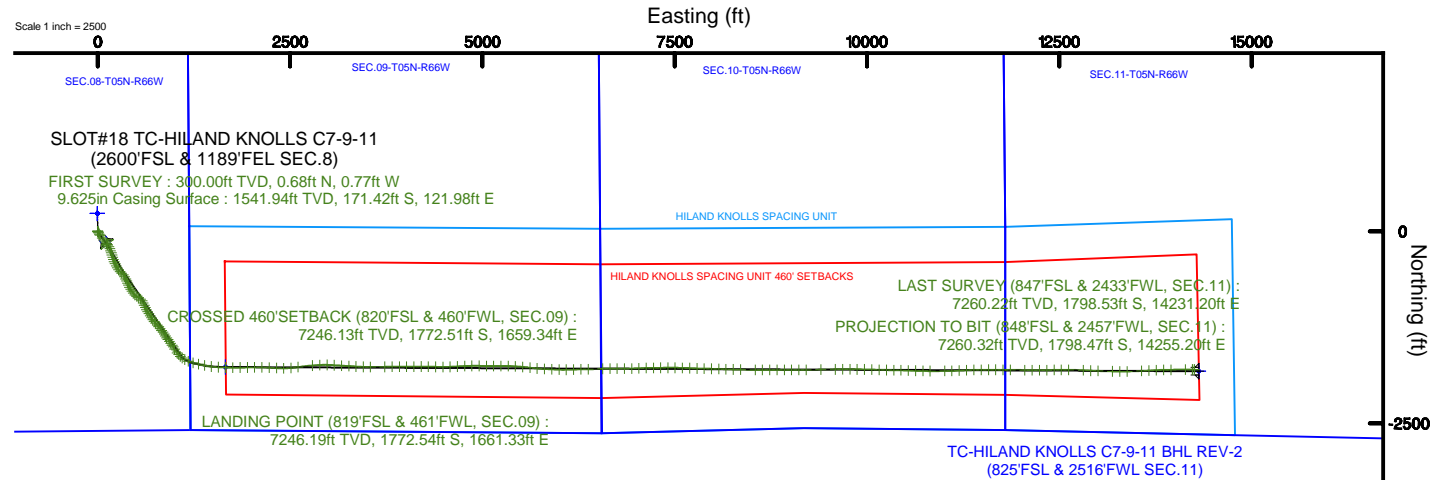


EXTRACTION OIL & GAS

Location: COLORADO Slot: SLOT#18 TC-HILAND KNOLLS C7-9-11 (2600'FSL & 1189'FEL SEC.8) Drilled
Field: WELD COUNTY (NAD83/TRUE NORTH) Well: TC-HILAND KNOLLS C7-9-11
Facility: SEC.08-T05N-R66W Wellbore: TC-HILAND KNOLLS C7-9-11 PWB

Plot reference wellpath is TC-HILAND KNOLLS C7-9-11 REV-C.0 PWP	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
True vertical depths are referenced to PATTERSON 341 (25) (RKB)	* = Wellpath was transformed from a different geodetic datum
Measured depths are referenced to PATTERSON 341 (25) (RKB)	North Reference: True north
PATTERSON 341 (25) (RKB) to Mean Sea Level: 4817 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#18 TC-HILAND KNOLLS C7-9-11 (2600'FSL & 1189'FEL SEC.8) Drilled): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: ingnjmr on 2017-06-09
	Database: WA_DEN_Denver_Defn





Actual Wellpath Report

TC-HILAND KNOLLS C7-9-11 AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	EXTRACTION OIL & GAS	Slot	SLOT#18 TC-HILAND KNOLLS C7-9-11 (2600'FSL & 1189'FEL SEC.8) Drilled
Area	COLORADO	Well	TC-HILAND KNOLLS C7-9-11
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	TC-HILAND KNOLLS C7-9-11 AWB
Facility	SEC.08-T05N-R66W		

REPORT SETUP INFORMATION			
Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 5.0
North Reference	True	User	Ingmjmr
Scale	0.999961	Report Generated	6/9/2017 at 3:22:33 PM
Convergence at slot	0.46° East	Database/Source file	WA_DEN_Denver_Defn/TC-HILAND_KNOLLS_C7-9-11_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-193.09	5.57	3195288.14	1394425.55	40°24'50.328"N	104°47'55.176"W
Facility Reference Pt			3195281.04	1394618.58	40°24'52.236"N	104°47'55.248"W
Field Reference Pt			3185481.27	1419166.81	40°28'55.560"N	104°49'59.556"W

WELLPATH DATUM			
Calculation method	Minimum curvature	PATTERSON 341 (25') (RKB) to Facility Vertical Datum	4817.00ft
Horizontal Reference Pt	Slot	PATTERSON 341 (25') (RKB) to Mean Sea Level	4817.00ft
Vertical Reference Pt	PATTERSON 341 (25') (RKB)	PATTERSON 341 (25') (RKB) to Mud Line at Slot (SLOT#18 TC-HILAND KNOLLS C7-9-11 (2600'FSL & 1189'FEL SEC.8) Drilled)	4817.00ft
MD Reference Pt	PATTERSON 341 (25') (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	97.25°

REFERENCE WELLPATH IDENTIFICATION

Operator	EXTRACTION OIL & GAS	Slot	SLOT#18 TC-HILAND KNOLLS C7-9-11 (2600'FSL & 1189'FEL SEC.8) Drilled
Area	COLORADO	Well	TC-HILAND KNOLLS C7-9-11
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	TC-HILAND KNOLLS C7-9-11 AWB
Facility	SEC.08-T05N-R66W		

WELLPATH DATA (204 stations) † = interpolated/extrapolated station

MD (ft)	Inclination [°]	Azimuth [°]	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Latitude	Longitude	DLS [°/100ft]	Comments
0.00†	0.000	311.510	0.00	0.00	0.00	0.00	40°24'50.328"N	104°47'55.176"W	0.00	
25.00	0.000	311.510	25.00	0.00	0.00	0.00	40°24'50.328"N	104°47'55.176"W	0.00	
300.00	0.430	311.510	300.00	-0.85	0.68	-0.77	40°24'50.335"N	104°47'55.186"W	0.16	FIRST SURVEY
391.00	0.790	298.010	390.99	-1.72	1.20	-1.58	40°24'50.340"N	104°47'55.196"W	0.42	
485.00	0.340	297.630	484.99	-2.59	1.64	-2.40	40°24'50.344"N	104°47'55.207"W	0.48	
580.00	1.810	161.000	579.97	-2.19	0.35	-2.16	40°24'50.331"N	104°47'55.204"W	2.18	
770.00	6.260	150.690	769.46	5.31	-11.53	3.89	40°24'50.214"N	104°47'55.126"W	2.36	
865.00	8.340	148.120	863.68	12.75	-21.89	10.06	40°24'50.112"N	104°47'55.046"W	2.22	
960.00	10.490	146.200	957.40	22.77	-34.93	18.51	40°24'49.983"N	104°47'54.937"W	2.29	
1055.00	12.230	141.720	1050.53	35.64	-50.02	29.56	40°24'49.834"N	104°47'54.794"W	2.05	
1244.00	16.710	143.010	1233.49	68.89	-87.45	58.32	40°24'49.464"N	104°47'54.422"W	2.38	
1339.00	18.980	142.400	1323.92	89.32	-110.61	75.97	40°24'49.235"N	104°47'54.194"W	2.40	
1434.00	20.350	143.500	1413.37	111.64	-136.13	95.22	40°24'48.983"N	104°47'53.945"W	1.49	
1529.00	18.510	142.650	1502.96	133.65	-161.39	114.20	40°24'48.733"N	104°47'53.700"W	1.96	
1591.00	17.070	141.210	1561.99	147.11	-176.31	125.87	40°24'48.586"N	104°47'53.549"W	2.43	
1685.00	17.170	148.580	1651.84	165.72	-198.91	141.75	40°24'48.362"N	104°47'53.343"W	2.31	
1779.00	18.340	156.690	1741.37	181.91	-224.34	154.84	40°24'48.111"N	104°47'53.174"W	2.91	
1874.00	18.330	160.470	1831.55	196.24	-252.14	165.74	40°24'47.836"N	104°47'53.033"W	1.25	
1968.00	18.380	163.020	1920.77	208.98	-280.25	175.01	40°24'47.559"N	104°47'52.913"W	0.86	
2063.00	18.260	163.090	2010.96	221.22	-308.81	183.72	40°24'47.276"N	104°47'52.801"W	0.13	
2158.00	18.450	163.430	2101.12	233.38	-337.46	192.33	40°24'46.993"N	104°47'52.690"W	0.23	
2252.00	18.670	160.110	2190.24	246.25	-365.86	201.69	40°24'46.713"N	104°47'52.569"W	1.15	
2347.00	18.710	157.150	2280.23	260.83	-394.20	212.78	40°24'46.433"N	104°47'52.425"W	1.00	
2442.00	18.610	154.980	2370.24	276.57	-421.98	225.11	40°24'46.158"N	104°47'52.266"W	0.74	
2537.00	18.760	152.590	2460.23	293.35	-449.28	238.56	40°24'45.888"N	104°47'52.092"W	0.82	
2631.00	18.620	149.270	2549.28	311.18	-475.60	253.18	40°24'45.628"N	104°47'51.903"W	1.14	
2725.00	18.820	143.760	2638.31	330.85	-500.73	269.82	40°24'45.380"N	104°47'51.688"W	1.89	
2820.00	18.730	134.370	2728.28	353.57	-523.76	289.78	40°24'45.152"N	104°47'51.430"W	3.18	
2914.00	18.660	133.210	2817.32	377.77	-544.61	311.53	40°24'44.946"N	104°47'51.149"W	0.40	
3009.00	18.350	142.950	2907.43	400.52	-566.95	331.62	40°24'44.726"N	104°47'50.889"W	3.27	



Actual Wellpath Report

TC-HILAND KNOLLS C7-9-11 AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	EXTRACTION OIL & GAS	Slot	SLOT#18 TC-HILAND KNOLLS C7-9-11 (2600'FSL & 1189'FEL SEC.8) Drilled
Area	COLORADO	Well	TC-HILAND KNOLLS C7-9-11
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	TC-HILAND KNOLLS C7-9-11 AWB
Facility	SEC.08-T05N-R66W		

WELLPATH DATA (204 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
3103.00	18.700	152.150	2996.58	419.53	-592.09	347.58	40°24'44.477"N	104°47'50.683"W	3.13	
3198.00	18.600	152.410	3086.59	436.94	-618.99	361.71	40°24'44.211"N	104°47'50.500"W	0.14	
3292.00	18.130	155.220	3175.80	453.26	-645.55	374.79	40°24'43.949"N	104°47'50.331"W	1.07	
3387.00	18.790	157.340	3265.91	468.73	-673.09	386.88	40°24'43.677"N	104°47'50.175"W	0.99	
3482.00	18.590	156.080	3355.91	484.20	-701.05	398.91	40°24'43.400"N	104°47'50.019"W	0.47	
3577.00	18.540	152.730	3445.96	500.59	-728.32	411.97	40°24'43.131"N	104°47'49.850"W	1.12	
3672.00	18.660	149.500	3536.01	518.46	-754.84	426.60	40°24'42.869"N	104°47'49.661"W	1.09	
3766.00	18.570	147.670	3625.09	537.20	-780.44	442.24	40°24'42.616"N	104°47'49.459"W	0.63	
3861.00	18.840	142.870	3715.08	557.57	-805.46	459.59	40°24'42.369"N	104°47'49.235"W	1.64	
3955.00	19.030	127.250	3804.05	581.47	-826.85	480.96	40°24'42.157"N	104°47'48.958"W	5.38	
4050.00	18.980	125.890	3893.87	608.44	-845.28	505.81	40°24'41.975"N	104°47'48.637"W	0.47	
4144.00	19.120	128.300	3982.72	635.05	-863.78	530.28	40°24'41.792"N	104°47'48.321"W	0.85	
4239.00	18.460	131.440	4072.66	660.82	-883.38	553.76	40°24'41.599"N	104°47'48.017"W	1.27	
4333.00	18.940	144.410	4161.74	683.51	-905.64	573.80	40°24'41.379"N	104°47'47.758"W	4.44	
4426.00	19.870	153.420	4249.47	702.58	-932.06	589.66	40°24'41.118"N	104°47'47.553"W	3.37	
4521.00	19.620	155.200	4338.89	720.03	-960.98	603.58	40°24'40.832"N	104°47'47.373"W	0.69	
4615.00	19.890	156.460	4427.36	736.59	-989.96	616.58	40°24'40.545"N	104°47'47.205"W	0.54	
4710.00	19.600	152.090	4516.78	754.04	-1018.86	630.50	40°24'40.260"N	104°47'47.025"W	1.58	
4804.00	19.320	146.930	4605.41	773.18	-1045.83	646.36	40°24'39.993"N	104°47'46.820"W	1.85	
4899.00	19.370	146.110	4695.05	793.72	-1072.07	663.72	40°24'39.734"N	104°47'46.596"W	0.29	
4993.00	19.450	149.300	4783.71	813.60	-1098.47	680.41	40°24'39.473"N	104°47'46.380"W	1.13	
5088.00	19.150	148.550	4873.37	833.07	-1125.36	696.61	40°24'39.207"N	104°47'46.171"W	0.41	
5182.00	18.850	143.510	4962.26	853.21	-1150.73	713.69	40°24'38.957"N	104°47'45.950"W	1.77	
5276.00	18.480	137.740	5051.32	875.04	-1173.96	732.74	40°24'38.727"N	104°47'45.704"W	2.00	
5371.00	18.660	139.960	5141.37	897.66	-1196.74	752.64	40°24'38.502"N	104°47'45.446"W	0.77	
5465.00	18.530	141.220	5230.47	919.46	-1219.90	771.67	40°24'38.273"N	104°47'45.200"W	0.45	
5560.00	18.750	139.500	5320.48	941.62	-1243.28	791.04	40°24'38.042"N	104°47'44.950"W	0.62	
5654.00	18.130	140.720	5409.66	963.42	-1266.09	810.11	40°24'37.817"N	104°47'44.703"W	0.78	
5749.00	18.250	144.140	5499.91	984.31	-1289.58	828.18	40°24'37.585"N	104°47'44.470"W	1.13	
5843.00	18.460	144.750	5589.13	1004.43	-1313.67	845.40	40°24'37.347"N	104°47'44.247"W	0.30	

REFERENCE WELLPATH IDENTIFICATION

Operator	EXTRACTION OIL & GAS	Slot	SLOT#18 TC-HILAND KNOLLS C7-9-11 (2600'FSL & 1189'FEL SEC.8) Drilled
Area	COLORADO	Well	TC-HILAND KNOLLS C7-9-11
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	TC-HILAND KNOLLS C7-9-11 AWB
Facility	SEC.08-T05N-R66W		

WELLPATH DATA (204 stations) † = interpolated/extrapolated station

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Latitude	Longitude	DLS (°/100ft)	Comments
5937.00	18.040	146.210	5678.40	1024.04	-1337.92	862.08	40°24'37.107"N	104°47'44.032"W	0.66	
6031.00	18.050	145.430	5767.78	1043.30	-1362.00	878.44	40°24'36.869"N	104°47'43.820"W	0.26	
6126.00	16.530	144.880	5858.48	1062.23	-1385.18	894.57	40°24'36.640"N	104°47'43.612"W	1.61	
6220.00	18.850	143.210	5948.03	1081.80	-1408.28	911.35	40°24'36.412"N	104°47'43.395"W	2.53	
6314.00	18.960	143.060	6036.96	1103.00	-1432.65	929.63	40°24'36.171"N	104°47'43.158"W	0.13	
6408.00	19.020	142.900	6125.85	1124.35	-1457.07	948.04	40°24'35.930"N	104°47'42.920"W	0.08	
6503.00	17.480	145.930	6216.07	1144.59	-1481.24	965.38	40°24'35.691"N	104°47'42.696"W	1.90	
6597.00	17.690	150.020	6305.68	1162.56	-1505.30	980.42	40°24'35.453"N	104°47'42.502"W	1.33	
6692.00	19.060	149.670	6395.83	1180.75	-1531.19	995.47	40°24'35.197"N	104°47'42.307"W	1.45	
6881.00	18.880	141.130	6574.60	1221.62	-1581.65	1030.25	40°24'34.699"N	104°47'41.858"W	1.47	
6976.00	18.990	138.540	6664.46	1244.31	-1605.20	1050.13	40°24'34.466"N	104°47'41.601"W	0.89	
7071.00	18.720	135.640	6754.37	1267.88	-1627.68	1071.02	40°24'34.244"N	104°47'41.331"W	1.03	
7165.00	21.310	125.870	6842.71	1294.71	-1648.48	1095.42	40°24'34.038"N	104°47'41.015"W	4.49	
7260.00	29.020	116.870	6928.66	1331.63	-1669.05	1130.03	40°24'33.835"N	104°47'40.568"W	9.04	
7354.00	37.670	111.760	7007.12	1381.02	-1690.05	1177.14	40°24'33.627"N	104°47'39.959"W	9.67	
7449.00	45.860	107.030	7077.94	1442.83	-1710.84	1236.81	40°24'33.422"N	104°47'39.188"W	9.23	
7543.00	55.680	102.600	7137.33	1514.92	-1729.23	1307.14	40°24'33.240"N	104°47'38.278"W	11.06	
7638.00	65.380	101.820	7184.02	1597.22	-1746.68	1387.88	40°24'33.068"N	104°47'37.235"W	10.24	
7732.00	73.170	96.600	7217.28	1684.99	-1760.63	1474.58	40°24'32.930"N	104°47'36.114"W	9.78	
7827.00	81.600	93.580	7238.01	1777.53	-1768.81	1566.83	40°24'32.849"N	104°47'34.921"W	9.40	
7920.00†	88.374	91.015	7246.13	1869.77	-1772.51	1659.34	40°24'32.812"N	104°47'33.726"W	7.78	CROSSED 460'SETBACK (820'FSL & 460'FWL, SEC.09)
7922.00	88.520	90.960	7246.19	1871.75	-1772.54	1661.33	40°24'32.812"N	104°47'33.700"W	7.78	LANDING POINT (819'FSL & 461'FWL, SEC.09)
8016.00	88.580	90.250	7248.57	1965.09	-1773.53	1755.30	40°24'32.802"N	104°47'32.485"W	0.76	
8111.00	88.520	89.460	7250.97	2059.27	-1773.29	1850.27	40°24'32.804"N	104°47'31.257"W	0.83	
8205.00	88.710	89.330	7253.24	2152.36	-1772.30	1944.23	40°24'32.814"N	104°47'30.043"W	0.24	
8299.00	90.250	88.670	7254.09	2245.38	-1770.66	2038.21	40°24'32.830"N	104°47'28.828"W	1.78	
8394.00	90.090	91.030	7253.81	2339.58	-1770.41	2133.21	40°24'32.833"N	104°47'27.600"W	2.49	
8489.00	90.060	93.960	7253.69	2434.24	-1774.55	2228.10	40°24'32.792"N	104°47'26.373"W	3.08	
8583.00	90.000	92.910	7253.64	2528.03	-1780.18	2321.93	40°24'32.736"N	104°47'25.160"W	1.12	
8677.00	89.880	90.020	7253.74	2621.55	-1782.58	2415.89	40°24'32.712"N	104°47'23.945"W	3.08	



Actual Wellpath Report

TC-HILAND KNOLLS C7-9-11 AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	EXTRACTION OIL & GAS	Slot	SLOT#18 TC-HILAND KNOLLS C7-9-11 (2600'FSL & 1189'FEL SEC.8) Drilled
Area	COLORADO	Well	TC-HILAND KNOLLS C7-9-11
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	TC-HILAND KNOLLS C7-9-11 AWP
Facility	SEC.08-T05N-R66W		

WELLPATH DATA (204 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8772.00	89.880	84.710	7253.94	2715.10	-1778.22	2510.76	40°24'32.755"N	104°47'22.719"W	5.59	
8866.00	89.910	81.930	7254.11	2806.33	-1767.28	2604.11	40°24'32.863"N	104°47'21.512"W	2.96	
9054.00	89.230	85.900	7255.52	2989.22	-1747.36	2791.01	40°24'33.060"N	104°47'19.096"W	2.14	
9149.00	88.550	86.230	7257.36	3082.39	-1740.84	2885.77	40°24'33.124"N	104°47'17.871"W	0.80	
9244.00	88.490	91.980	7259.82	3176.36	-1739.36	2980.68	40°24'33.139"N	104°47'16.644"W	6.05	
9338.00	87.940	93.350	7262.74	3270.02	-1743.72	3074.53	40°24'33.095"N	104°47'15.431"W	1.57	
9432.00	88.650	93.060	7265.54	3363.74	-1748.98	3168.34	40°24'33.043"N	104°47'14.218"W	0.82	
9526.00	89.450	93.960	7267.10	3457.52	-1754.73	3262.15	40°24'32.986"N	104°47'13.006"W	1.28	
9620.00	89.450	93.260	7268.00	3551.33	-1760.65	3355.96	40°24'32.928"N	104°47'11.793"W	0.74	
9714.00	89.510	92.000	7268.86	3645.02	-1764.96	3449.86	40°24'32.885"N	104°47'10.579"W	1.34	
9809.00	89.320	89.720	7269.83	3739.42	-1766.39	3544.83	40°24'32.871"N	104°47'09.351"W	2.41	
9996.00	90.120	89.130	7270.74	3924.67	-1764.51	3731.82	40°24'32.889"N	104°47'06.934"W	0.53	
10090.00	90.090	88.690	7270.57	4017.68	-1762.72	3825.80	40°24'32.907"N	104°47'05.719"W	0.47	
10184.00	90.920	89.920	7269.74	4110.77	-1761.58	3919.79	40°24'32.918"N	104°47'04.504"W	1.58	
10279.00	90.920	90.020	7268.21	4204.99	-1761.53	4014.78	40°24'32.918"N	104°47'03.276"W	0.11	
10374.00	90.550	89.810	7266.99	4299.20	-1761.39	4109.77	40°24'32.919"N	104°47'02.048"W	0.45	
10468.00	89.850	89.470	7266.67	4392.37	-1760.80	4203.77	40°24'32.925"N	104°47'00.833"W	0.83	
10562.00	91.200	90.900	7265.80	4485.65	-1761.11	4297.76	40°24'32.922"N	104°46'59.618"W	2.09	
10656.00	91.110	92.710	7263.91	4579.21	-1764.07	4391.69	40°24'32.892"N	104°46'58.404"W	1.93	
10750.00	91.140	89.590	7262.06	4672.64	-1765.95	4485.64	40°24'32.874"N	104°46'57.190"W	3.32	
10844.00	91.170	87.790	7260.17	4765.57	-1763.80	4579.59	40°24'32.895"N	104°46'55.975"W	1.91	
10939.00	90.340	87.410	7258.92	4859.22	-1759.83	4674.50	40°24'32.934"N	104°46'54.748"W	0.96	
11033.00	90.250	86.900	7258.43	4951.76	-1755.16	4768.38	40°24'32.980"N	104°46'53.535"W	0.55	
11127.00	89.850	88.430	7258.35	5044.45	-1751.33	4862.30	40°24'33.017"N	104°46'52.320"W	1.68	
11222.00	89.850	91.670	7258.60	5138.69	-1751.41	4957.29	40°24'33.016"N	104°46'51.093"W	3.41	
11316.00	90.000	90.930	7258.72	5232.18	-1753.55	5051.26	40°24'32.995"N	104°46'49.878"W	0.80	
11410.00	90.090	89.780	7258.65	5325.50	-1754.13	5145.26	40°24'32.989"N	104°46'48.663"W	1.23	
11505.00	90.120	89.370	7258.47	5419.65	-1753.42	5240.26	40°24'32.996"N	104°46'47.435"W	0.43	
11599.00	89.880	91.750	7258.47	5513.00	-1754.34	5334.25	40°24'32.987"N	104°46'46.220"W	2.54	
11694.00	89.750	94.040	7258.78	5607.72	-1759.14	5429.12	40°24'32.939"N	104°46'44.993"W	2.41	



Actual Wellpath Report

TC-HILAND KNOLLS C7-9-11 AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	EXTRACTION OIL & GAS	Slot	SLOT#18 TC-HILAND KNOLLS C7-9-11 (2600'FSL & 1189'FEL SEC.8) Drilled
Area	COLORADO	Well	TC-HILAND KNOLLS C7-9-11
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	TC-HILAND KNOLLS C7-9-11 AWP
Facility	SEC.08-T05N-R66W		

WELLPATH DATA (204 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11789.00	89.850	94.450	7259.11	5702.59	-1766.17	5523.86	40°24'32.869"N	104°46'43.768"W	0.44	
11884.00	89.910	96.600	7259.31	5797.54	-1775.32	5618.41	40°24'32.779"N	104°46'42.546"W	2.26	
11978.00	90.150	95.240	7259.26	5891.51	-1785.01	5711.90	40°24'32.683"N	104°46'41.338"W	1.47	
12073.00	90.180	93.030	7258.99	5986.36	-1791.86	5806.65	40°24'32.615"N	104°46'40.113"W	2.33	
12168.00	90.400	92.370	7258.51	6081.06	-1796.34	5901.54	40°24'32.570"N	104°46'38.886"W	0.73	
12263.00	90.460	93.010	7257.80	6175.76	-1800.80	5996.44	40°24'32.526"N	104°46'37.659"W	0.68	
12358.00	90.220	87.770	7257.23	6270.04	-1801.44	6091.40	40°24'32.519"N	104°46'36.432"W	5.52	
12452.00	90.400	88.610	7256.72	6362.87	-1798.47	6185.35	40°24'32.549"N	104°46'35.217"W	0.91	
12547.00	90.460	89.430	7256.01	6456.89	-1796.85	6280.33	40°24'32.564"N	104°46'33.989"W	0.87	
12642.00	90.460	88.750	7255.25	6550.92	-1795.34	6375.32	40°24'32.579"N	104°46'32.762"W	0.72	
12831.00	90.310	87.630	7253.98	6737.56	-1789.37	6564.22	40°24'32.637"N	104°46'30.320"W	0.60	
12925.00	91.140	90.310	7252.79	6830.56	-1787.68	6658.18	40°24'32.654"N	104°46'29.105"W	2.98	
13019.00	91.170	90.650	7250.89	6923.88	-1788.47	6752.16	40°24'32.646"N	104°46'27.890"W	0.36	
13114.00	91.230	88.860	7248.90	7018.05	-1788.06	6847.14	40°24'32.650"N	104°46'26.662"W	1.88	
13208.00	91.290	88.690	7246.84	7111.00	-1786.05	6941.09	40°24'32.669"N	104°46'25.448"W	0.19	
13302.00	90.280	88.070	7245.55	7203.86	-1783.40	7035.04	40°24'32.695"N	104°46'24.233"W	1.26	
13396.00	91.170	88.320	7244.36	7296.68	-1780.44	7128.99	40°24'32.724"N	104°46'23.019"W	0.98	
13491.00	91.010	89.250	7242.55	7390.63	-1778.42	7223.95	40°24'32.744"N	104°46'21.791"W	0.99	
13585.00	89.940	89.260	7241.77	7483.71	-1777.20	7317.94	40°24'32.756"N	104°46'20.576"W	1.14	
13679.00	89.970	89.850	7241.85	7576.87	-1776.47	7411.93	40°24'32.763"N	104°46'19.361"W	0.63	
13773.00	89.750	90.210	7242.08	7670.12	-1776.52	7505.93	40°24'32.762"N	104°46'18.146"W	0.45	
13868.00	89.850	91.580	7242.41	7764.53	-1778.00	7600.92	40°24'32.747"N	104°46'16.918"W	1.45	
13962.00	89.380	92.740	7243.04	7858.16	-1781.55	7694.85	40°24'32.712"N	104°46'15.704"W	1.33	
14057.00	89.630	92.170	7243.86	7952.82	-1785.61	7789.76	40°24'32.671"N	104°46'14.477"W	0.66	
14151.00	89.350	90.840	7244.70	8046.34	-1788.08	7883.72	40°24'32.646"N	104°46'13.262"W	1.45	
14246.00	89.660	91.190	7245.52	8140.78	-1789.77	7978.70	40°24'32.629"N	104°46'12.035"W	0.49	
14340.00	89.480	91.500	7246.22	8234.28	-1791.97	8072.67	40°24'32.607"N	104°46'10.820"W	0.38	
14435.00	90.180	92.060	7246.50	8328.84	-1794.92	8167.62	40°24'32.578"N	104°46'09.592"W	0.94	
14529.00	90.120	91.640	7246.26	8422.43	-1797.96	8261.57	40°24'32.548"N	104°46'08.378"W	0.45	
14624.00	90.250	91.460	7245.95	8516.95	-1800.53	8356.54	40°24'32.522"N	104°46'07.150"W	0.23	



Actual Wellpath Report

TC-HILAND KNOLLS C7-9-11 AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	EXTRACTION OIL & GAS	Slot	SLOT#18 TC-HILAND KNOLLS C7-9-11 (2600'FSL & 1189'FEL SEC.8) Drilled
Area	COLORADO	Well	TC-HILAND KNOLLS C7-9-11
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	TC-HILAND KNOLLS C7-9-11 AWB
Facility	SEC.08-T05N-R66W		

WELLPATH DATA (204 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
14814.00	90.280	90.230	7245.07	8705.76	-1803.33	8546.51	40°24'32.494"N	104°46'04.694"W	0.65	
14909.00	90.090	89.980	7244.77	8800.02	-1803.50	8641.51	40°24'32.492"N	104°46'03.466"W	0.33	
15003.00	90.150	89.920	7244.57	8893.26	-1803.42	8735.51	40°24'32.492"N	104°46'02.251"W	0.09	
15098.00	89.910	90.350	7244.52	8987.53	-1803.65	8830.51	40°24'32.489"N	104°46'01.023"W	0.52	
15194.00	89.850	90.210	7244.72	9082.82	-1804.11	8926.51	40°24'32.484"N	104°45'59.782"W	0.16	
15288.00	89.970	89.960	7244.87	9176.09	-1804.25	9020.51	40°24'32.483"N	104°45'58.567"W	0.30	
15383.00	89.910	90.380	7244.97	9270.36	-1804.54	9115.51	40°24'32.480"N	104°45'57.339"W	0.45	
15478.00	90.220	89.760	7244.86	9364.62	-1804.65	9210.51	40°24'32.478"N	104°45'56.111"W	0.73	
15667.00	90.220	88.150	7244.13	9551.63	-1801.21	9399.47	40°24'32.512"N	104°45'53.668"W	0.85	
15857.00	90.280	89.610	7243.31	9739.60	-1797.49	9589.42	40°24'32.547"N	104°45'51.213"W	0.77	
15952.00	90.220	89.740	7242.89	9833.77	-1796.95	9684.42	40°24'32.552"N	104°45'49.984"W	0.15	
16046.00	90.250	90.230	7242.51	9927.01	-1796.93	9778.42	40°24'32.552"N	104°45'48.769"W	0.52	
16141.00	90.340	90.250	7242.02	10021.30	-1797.33	9873.42	40°24'32.548"N	104°45'47.541"W	0.10	
16236.00	90.920	90.790	7240.97	10115.64	-1798.19	9968.41	40°24'32.539"N	104°45'46.313"W	0.83	
16331.00	91.020	91.800	7239.36	10210.11	-1800.33	10063.37	40°24'32.518"N	104°45'45.086"W	1.07	
16426.00	90.890	91.900	7237.78	10304.68	-1803.40	10158.31	40°24'32.487"N	104°45'43.859"W	0.17	
16522.00	90.950	91.130	7236.24	10400.19	-1805.94	10254.26	40°24'32.461"N	104°45'42.618"W	0.80	
16616.00	91.080	90.820	7234.57	10493.61	-1807.54	10348.23	40°24'32.445"N	104°45'41.403"W	0.36	
16711.00	90.890	91.420	7232.94	10588.05	-1809.39	10443.20	40°24'32.426"N	104°45'40.176"W	0.66	
16806.00	90.740	91.550	7231.59	10682.56	-1811.86	10538.16	40°24'32.402"N	104°45'38.948"W	0.21	
16901.00	90.920	92.070	7230.21	10777.12	-1814.86	10633.10	40°24'32.372"N	104°45'37.721"W	0.58	
16995.00	90.980	91.240	7228.65	10870.66	-1817.57	10727.05	40°24'32.344"N	104°45'36.506"W	0.89	
17090.00	89.200	90.380	7228.51	10965.06	-1818.91	10822.03	40°24'32.331"N	104°45'35.279"W	2.08	
17279.00	90.150	88.840	7229.58	11152.37	-1817.63	11011.02	40°24'32.343"N	104°45'32.836"W	0.96	
17373.00	90.310	88.580	7229.20	11245.32	-1815.51	11104.99	40°24'32.363"N	104°45'31.621"W	0.32	
17468.00	90.090	87.860	7228.87	11339.15	-1812.56	11199.94	40°24'32.392"N	104°45'30.393"W	0.79	
17563.00	89.940	87.650	7228.84	11432.84	-1808.84	11294.87	40°24'32.428"N	104°45'29.166"W	0.27	
17659.00	89.080	88.310	7229.66	11527.59	-1805.46	11390.81	40°24'32.461"N	104°45'27.926"W	1.13	
17754.00	89.020	89.040	7231.24	11621.51	-1803.26	11485.77	40°24'32.482"N	104°45'26.698"W	0.77	
17848.00	89.110	89.550	7232.77	11714.59	-1802.10	11579.75	40°24'32.493"N	104°45'25.483"W	0.55	



Actual Wellpath Report

TC-HILAND KNOLLS C7-9-11 AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	EXTRACTION OIL & GAS	Slot	SLOT#18 TC-HILAND KNOLLS C7-9-11 (2600'FSL & 1189'FEL SEC.8) Drilled
Area	COLORADO	Well	TC-HILAND KNOLLS C7-9-11
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	TC-HILAND KNOLLS C7-9-11 AWB
Facility	SEC.08-T05N-R66W		

WELLPATH DATA (204 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
17943.00	89.050	90.580	7234.30	11808.83	-1802.21	11674.73	40°24'32.492"N	104°45'24.256"W	1.09	
18038.00	89.660	90.730	7235.37	11903.20	-1803.30	11769.72	40°24'32.481"N	104°45'23.028"W	0.66	
18132.00	88.550	90.290	7236.84	11996.54	-1804.13	11863.70	40°24'32.472"N	104°45'21.813"W	1.27	
18322.00	87.970	91.470	7242.61	12185.27	-1807.05	12053.59	40°24'32.442"N	104°45'19.358"W	0.69	
18417.00	87.880	91.050	7246.05	12279.69	-1809.14	12148.51	40°24'32.421"N	104°45'18.131"W	0.45	
18512.00	90.120	88.970	7247.70	12373.91	-1809.15	12243.48	40°24'32.421"N	104°45'16.903"W	3.22	
18606.00	90.030	88.790	7247.58	12466.91	-1807.32	12337.46	40°24'32.438"N	104°45'15.688"W	0.21	
18701.00	90.150	88.990	7247.43	12560.90	-1805.48	12432.44	40°24'32.456"N	104°45'14.461"W	0.25	
18796.00	90.000	89.530	7247.31	12654.97	-1804.25	12527.44	40°24'32.468"N	104°45'13.233"W	0.59	
18891.00	88.430	90.350	7248.61	12749.19	-1804.15	12622.42	40°24'32.468"N	104°45'12.005"W	1.86	
19082.00	86.980	92.860	7256.26	12939.09	-1809.49	12813.17	40°24'32.414"N	104°45'09.539"W	1.52	
19177.00	88.000	92.540	7260.42	13033.70	-1813.96	12907.98	40°24'32.370"N	104°45'08.313"W	1.13	
19272.00	88.980	91.900	7262.92	13128.30	-1817.64	13002.87	40°24'32.333"N	104°45'07.087"W	1.23	
19462.00	90.150	91.180	7264.36	13317.34	-1822.75	13192.79	40°24'32.281"N	104°45'04.632"W	0.72	
19556.00	91.540	90.480	7262.98	13410.74	-1824.11	13286.77	40°24'32.268"N	104°45'03.417"W	1.66	
19651.00	91.570	88.960	7260.40	13504.88	-1823.64	13381.73	40°24'32.272"N	104°45'02.189"W	1.60	
19841.00	90.520	87.330	7256.93	13692.45	-1817.49	13571.59	40°24'32.331"N	104°44'59.735"W	1.02	
19936.00	90.490	87.060	7256.10	13785.99	-1812.85	13666.47	40°24'32.377"N	104°44'58.508"W	0.29	
20031.00	89.910	87.260	7255.77	13879.52	-1808.14	13761.35	40°24'32.423"N	104°44'57.282"W	0.65	
20126.00	88.860	88.670	7256.79	13973.26	-1804.77	13856.28	40°24'32.456"N	104°44'56.054"W	1.85	
20221.00	88.890	88.770	7258.65	14067.19	-1802.64	13951.24	40°24'32.476"N	104°44'54.827"W	0.11	
20411.00	90.180	89.200	7260.19	14255.21	-1799.28	14141.20	40°24'32.508"N	104°44'52.371"W	0.72	
20501.00	89.780	89.850	7260.22	14344.39	-1798.53	14231.20	40°24'32.515"N	104°44'51.208"W	0.85	LAST SURVEY (847'FSL & 2433'FWL, SEC.11)
20525.00	89.780	89.850	7260.32	14368.19	-1798.47	14255.20	40°24'32.516"N	104°44'50.898"W	0.00	PROJECTION TO BIT (848'FSL & 2457'FWL, SEC.11)



Actual Wellpath Report

TC-HILAND KNOLLS C7-9-11 AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	EXTRACTION OIL & GAS	Slot	SLOT#18 TC-HILAND KNOLLS C7-9-11 (2600'FSL & 1189'FEL SEC.8) Drilled
Area	COLORADO	Well	TC-HILAND KNOLLS C7-9-11
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	TC-HILAND KNOLLS C7-9-11 AWB
Facility	SEC.08-T05N-R66W		

HOLE & CASING SECTIONS - Ref Wellbore: TC-HILAND KNOLLS C7-9-11 AWB Ref Wellpath: TC-HILAND KNOLLS C7-9-11 AWP									
String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
13.5in Open Hole	25.00	1587.00	1562.00	25.00	1558.17	0.00	0.00	-175.39	125.13
9.625in Casing Surface	25.00	1570.00	1545.00	25.00	1541.94	0.00	0.00	-171.42	121.98
8.5in Open Hole	1587.00	20525.00	18938.00	1558.17	7260.32	-175.39	125.13	-1798.47	14255.20



Actual Wellpath Report

TC-HILAND KNOLLS C7-9-11 AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	EXTRACTION OIL & GAS	Slot	SLOT#18 TC-HILAND KNOLLS C7-9-11 (2600'FSL & 1189'FEL SEC.8) Drilled
Area	COLORADO	Well	TC-HILAND KNOLLS C7-9-11
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	TC-HILAND KNOLLS C7-9-11 AWB
Facility	SEC.08-T05N-R66W		

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
HILAND KNOLLS SPACING UNIT	5.00	233.16	-5.57	3195280.72	1394658.65	40°24'52.632"N	104°47'55.248"W	polygon
SEC.08-T05N-R66W	5.00	233.16	-5.57	3195280.72	1394658.65	40°24'52.632"N	104°47'55.248"W	polygon
SEC.09-T05N-R66W	5.00	233.16	-5.57	3195280.72	1394658.65	40°24'52.632"N	104°47'55.248"W	polygon
SEC.10-T05N-R66W	5.00	233.16	-5.57	3195280.72	1394658.65	40°24'52.632"N	104°47'55.248"W	polygon
SEC.11-T05N-R66W	5.00	233.16	-5.57	3195280.72	1394658.65	40°24'52.632"N	104°47'55.248"W	polygon
TC-HILAND KNOLLS C7-9-11 LP REV-2 (825'FSL & 460'FWL SEC.9)	7265.00	-1766.86	1659.77	3196961.76	1392671.94	40°24'32.868"N	104°47'33.720"W	point
TC-HILAND KNOLLS C7-9-11 BHL REV-2 (825'FSL & 2516'FWL SEC.11)	7268.00	-1821.06	14314.13	3209615.63	1392717.83	40°24'32.292"N	104°44'50.136"W	point
TC-HILAND KNOLLS C7-9-11 BHL REV-1 (825'FSL & 2516'FWL SEC.11)	7304.00	-1821.06	14314.13	3209615.63	1392717.83	40°24'32.292"N	104°44'50.136"W	point
TC-HILAND KNOLLS C7-9-11 LP REV-1 (825'FSL & 460'FWL SEC.9)	7304.00	-1766.86	1659.77	3196961.76	1392671.94	40°24'32.868"N	104°47'33.720"W	point
HILAND KNOLLS SPACING UNIT 460' SETBACKS	7309.00	233.16	-5.57	3195280.72	1394658.65	40°24'52.632"N	104°47'55.248"W	polygon



Actual Wellpath Report

TC-HILAND KNOLLS C7-9-11 AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	EXTRACTION OIL & GAS	Slot	SLOT#18 TC-HILAND KNOLLS C7-9-11 (2600'FSL & 1189'FEL SEC.8) Drilled
Area	COLORADO	Well	TC-HILAND KNOLLS C7-9-11
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	TC-HILAND KNOLLS C7-9-11 AWB
Facility	SEC.08-T05N-R66W		

WELLPATH COMPOSITION - Ref Wellbore: TC-HILAND KNOLLS C7-9-11 AWB					Ref Wellpath: TC-HILAND KNOLLS C7-9-11 AWP	
Start MD	End MD	Positional Uncertainty Model		Log Name/Comment		Wellbore
[ft]	[ft]					
25.00	1529.00	Custom BHI NaviTrak (Standard Rotating) (Rockies 0.03Gt model)		BHI NAVITRAK MWD, STD ROTATING, ROCKIES GT 13 1/2<300-1529>		TC-HILAND KNOLLS C7-9-11 AWB
1529.00	20501.00	BHI AutoTrak Curve (Short)		BHI ATC MWD SHORT <1591-20501>		TC-HILAND KNOLLS C7-9-11 AWB
20501.00	20525.00	Blind Drilling (std)		Projection to bit		TC-HILAND KNOLLS C7-9-11 AWB



Actual Wellpath Report

TC-HILAND KNOLLS C7-9-11 AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	EXTRACTION OIL & GAS	Slot	SLOT#18 TC-HILAND KNOLLS C7-9-11 (2600'FSL & 1189'FEL SEC.8) Drilled
Area	COLORADO	Well	TC-HILAND KNOLLS C7-9-11
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	TC-HILAND KNOLLS C7-9-11 AWB
Facility	SEC.08-T05N-R66W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
300.00	0.430	311.510	300.00	FIRST SURVEY
7920.00	88.374	91.015	7246.13	CROSSED 460'SETBACK (820'FSL & 460'FWL, SEC.09)
7922.00	88.520	90.960	7246.19	LANDING POINT (819'FSL & 461'FWL, SEC.09)
20501.00	89.780	89.850	7260.22	LAST SURVEY (847'FSL & 2433'FWL, SEC.11)
20525.00	89.780	89.850	7260.32	PROJECTION TO BIT (848'FSL & 2457'FWL, SEC.11)