

SWN PRODUCTION COMPANY, LLC

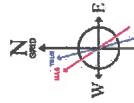
Location: Brooke County, WV Slot: Slot 10H
 Field: Brooke Well: Robert Bone BRK 10H
 Facility: Robert Bone BRK Pad Wellbore: Robert Bone BRK 10H PWB

Location Information

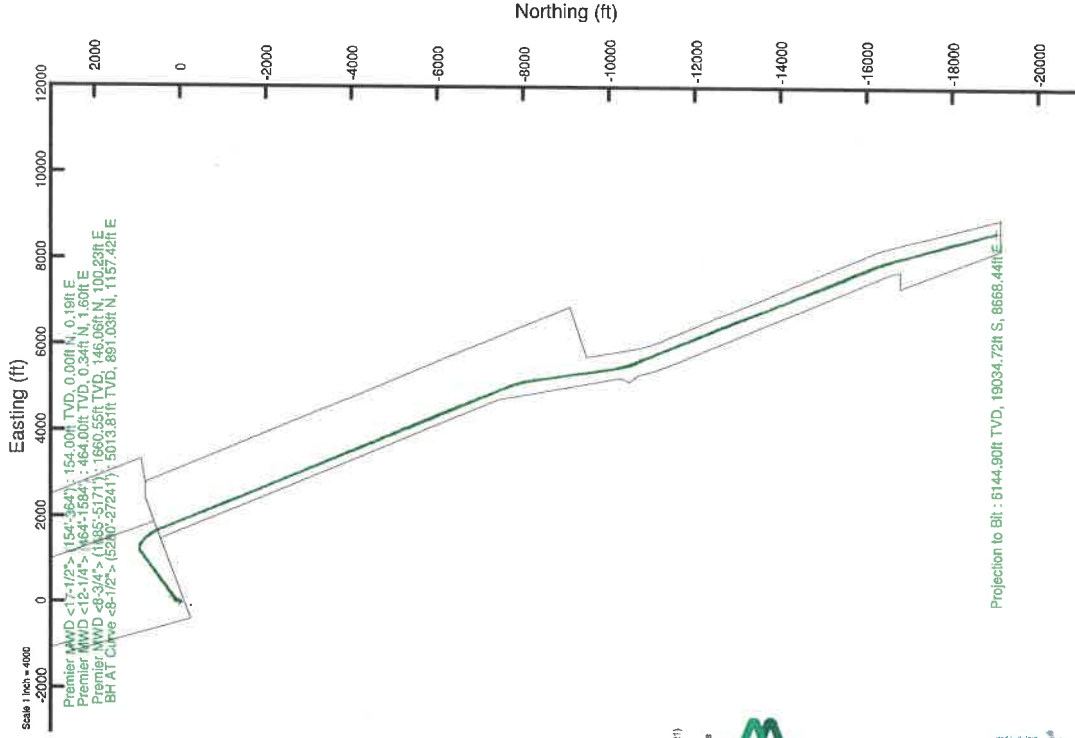
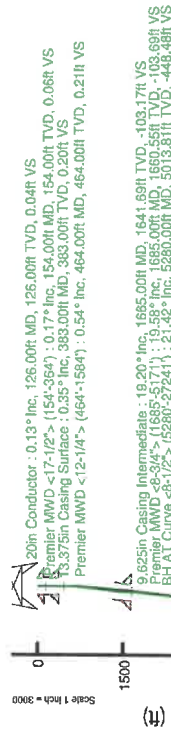
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Robert Bone BRK Pad	1751384.200	1460698.310	40°13'8.0838"N	80°36'8.9557"W
Slot	Local E (ft)	Grid North (US ft)	Latitude	Longitude
Slot 10H	37.27	1751411.940	40°13'8.4509"N	80°36'8.5959"W
SDC 40 (RKB) to Ground level (At Slot: Slot 10H)			26ft	
Mean Sea Level to Ground level (At Slot: Slot 10H)			-1148.6ft	
SDC 40 (RKB) to Mean Sea Level			1174.6ft	

Plot reference wellpath is Robert Bone BRK 10H PWB Rev-A.0	
Grid System: NAD83 / UTM Zone 17 North, US feet	
North Reference: Grid north	
Scale: True distance	
Coordinates are in feet referenced to Slot	
SDC 40 (RKB) to Mean Sea Level: 1174.6 feet	
Mean Sea Level to Ground level (At Slot: Slot 10H): -1148.6 feet	
Offset wellpath MDs are referenced to each path's default MD datum	
Created by: manajh on 2021-07-05; Database: WA_MPL_EASTERUS_Defn	

API: 47-009-00287
BH Job#: 110934657
Rig: SDC 40
Duration: 06/27/2021-07/05/2021



User specified Dip: 87.24° Field: 52285 NT
 Magdalo North is 8.24 degrees West of True North (at 6202021)
 To correct azimuth from True to Grid subtract 0.28 degrees
 To correct azimuth from Magnetic to Grid subtract 8.26 degrees



REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Robert Bone BRK 10H
Field	Brooke	API/Legal	
Facility	Robert Bone BRK Pad	Wellbore	Robert Bone BRK 10H AWB
Slot	Slot 10H		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 17 North, US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Manajohj
Scale	0.999614	Report Generated	7/6/2021 at 8:41:25 PM
Convergence at slot	0.26° East	Database	WA_MPL_EASTERUS_Defn

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	37.27	27.75	1751411.94	14606735.57	40°13'8.4509"N	80°36'8.5959"W
Facility Reference Pt			1751384.20	14606698.31	40°13'8.0838"N	80°36'8.9557"W
Field Reference Pt			0.00	0.00	0°00'0.0000"	85°29'19.4780"W

WELLPATH DATUM			
Calculation method	Minimum curvature	SDC 40 (RKB) to Facility Vertical Datum	1174.60ft
Horizontal Reference Pt	Slot	SDC 40 (RKB) to Mean Sea Level	1174.60ft
Vertical Reference Pt	SDC 40 (RKB)	SDC 40 (RKB) to Ground Level at Slot (Slot 10H)	26.00ft
MD Reference Pt	SDC 40 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	160.29°

REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Robert Bone BRK 10H
Field	Brooke	API/Legal	
Facility	Robert Bone BRK Pad	Wellbore	Robert Bone BRK 10H AWB
Slot	Slot 10H		

WELLPATH DATA (289 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	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
0.00	0.00	90.160	0.00	0.00	0.00	0.00	1751411.94	14606735.57	40°13'8.4509"N	80°36'8.5959"W	0.00	0.000	0.00	0.00	0.00
26.00	0.00	90.160	26.00	0.00	0.00	0.00	1751411.94	14606735.57	40°13'8.4509"N	80°36'8.5959"W	0.00	0.000	0.00	0.00	0.00
154.00	0.170	90.160	154.00	0.06	0.00	0.19	1751412.13	14606735.57	40°13'8.4509"N	80°36'8.5934"W	0.19	90.160	0.13	0.13	0.00
227.00	0.190	71.120	227.00	0.10	0.04	0.41	1751412.35	14606735.61	40°13'8.4512"N	80°36'8.5905"W	0.41	84.693	0.09	0.03	-26.08
317.00	0.190	90.820	317.00	0.16	0.08	0.70	1751412.64	14606735.65	40°13'8.4517"N	80°36'8.5868"W	0.71	83.148	0.07	0.00	21.89
364.00	0.300	75.520	364.00	0.20	0.11	0.90	1751412.84	14606735.68	40°13'8.4520"N	80°36'8.5843"W	0.91	82.774	0.27	0.23	-32.55
464.00	0.540	69.530	464.00	0.21	0.34	1.60	1751413.53	14606735.91	40°13'8.4542"N	80°36'8.5753"W	1.63	77.817	0.24	0.24	-5.99
500.00	0.490	83.570	499.99	0.25	0.42	1.91	1751413.85	14606735.99	40°13'8.4550"N	80°36'8.5713"W	1.95	77.552	0.38	-0.14	39.00
596.00	1.980	329.620	595.98	-1.29	1.90	1.48	1751413.42	14606737.47	40°13'8.4696"N	80°36'8.5767"W	2.40	37.877	2.32	1.55	-118.70
692.00	4.190	329.470	691.83	-6.36	6.35	-1.14	1751410.80	14606741.92	40°13'8.5137"N	80°36'8.6102"W	6.45	349.783	2.30	2.30	-0.16
788.00	6.260	324.680	787.43	-14.85	13.64	-5.95	1751405.99	14606749.21	40°13'8.5859"N	80°36'8.6718"W	14.88	336.427	2.20	2.16	-4.99
885.00	7.140	331.830	883.77	-25.91	23.27	-11.86	1751400.09	14606758.83	40°13'8.6814"N	80°36'8.7474"W	26.12	333.003	1.25	0.91	7.37
981.00	7.010	352.680	979.05	-37.53	34.34	-15.42	1751396.53	14606769.90	40°13'8.7909"N	80°36'8.7926"W	37.65	335.821	2.66	-0.14	21.72
1077.00	8.080	15.560	1074.24	-48.76	46.66	-14.36	1751397.59	14606782.21	40°13'8.9126"N	80°36'8.7782"W	48.81	342.897	3.30	1.11	23.83
1173.00	10.980	27.240	1168.91	-60.52	61.29	-8.36	1751403.58	14606796.83	40°13'9.0569"N	80°36'8.7001"W	61.86	352.233	3.62	3.02	12.17
1269.00	13.550	33.370	1262.72	-73.52	78.81	2.01	1751413.95	14606814.35	40°13'9.2296"N	80°36'8.5654"W	78.84	1.463	3.00	2.68	6.39
1365.00	16.020	43.510	1355.55	-86.24	97.82	17.32	1751429.26	14606833.35	40°13'9.4167"N	80°36'8.3669"W	99.34	10.043	3.72	2.57	10.56
1461.00	17.540	55.460	1447.49	-95.92	115.63	38.37	1751450.29	14606851.16	40°13'9.5918"N	80°36'8.0946"W	121.83	18.356	3.92	1.58	12.45
1558.00	17.320	65.360	1540.05	-100.90	129.94	63.54	1751475.45	14606865.46	40°13'9.7321"N	80°36'7.7693"W	144.65	26.057	3.06	-0.23	10.21
1584.00	17.680	67.050	1564.85	-101.46	133.10	70.69	1751482.60	14606868.62	40°13'9.7630"N	80°36'7.6769"W	150.71	27.974	2.40	1.38	6.50
1685.00	19.580	65.650	1660.55	-103.69	146.06	100.23	1751512.14	14606881.57	40°13'9.8897"N	80°36'7.2953"W	177.14	34.461	1.93	1.88	-1.39
1712.00	19.910	65.370	1685.96	-104.45	149.84	108.54	1751520.43	14606885.35	40°13'9.9267"N	80°36'7.1881"W	185.02	35.918	1.27	1.22	-1.04
1808.00	19.060	54.650	1776.50	-110.08	165.72	136.19	1751548.08	14606901.23	40°13'10.0825"N	80°36'6.8307"W	214.50	39.413	3.82	-0.89	-11.17
1904.00	19.350	51.740	1867.15	-119.37	184.64	161.46	1751573.34	14606920.14	40°13'10.2683"N	80°36'6.5038"W	245.28	41.168	1.04	0.30	-3.03
2000.00	19.360	55.070	1957.73	-128.61	203.60	187.00	1751598.86	14606939.09	40°13'10.4546"N	80°36'6.1735"W	276.44	42.566	1.15	0.01	3.47
2096.00	19.480	52.430	2048.27	-137.69	222.47	212.73	1751624.59	14606957.96	40°13'10.6399"N	80°36'5.8407"W	307.81	43.718	0.92	0.12	-2.75
2193.00	19.930	56.130	2139.60	-146.70	241.55	239.28	1751651.12	14606977.03	40°13'10.8272"N	80°36'5.4974"W	340.00	44.729	1.37	0.46	3.81
2289.00	20.160	53.420	2229.78	-155.50	260.53	266.15	1751677.98	14606996.00	40°13'11.0136"N	80°36'5.1499"W	372.44	45.611	1.00	0.24	-2.82
2385.00	20.420	50.770	2319.83	-165.90	280.98	292.41	1751704.23	14607016.44	40°13'11.2145"N	80°36'4.8103"W	405.52	46.142	0.99	0.27	-2.76
2481.00	20.870	56.660	2409.67	-175.53	300.97	319.67	1751731.48	14607036.42	40°13'11.4108"N	80°36'4.4577"W	439.06	46.726	2.21	0.47	6.14
2577.00	21.110	56.100	2499.30	-183.79	320.01	348.30	1751760.11	14607055.46	40°13'11.5977"N	80°36'4.0874"W	472.99	47.424	0.33	0.25	-0.58
2673.00	21.100	53.880	2588.86	-192.91	339.84	376.61	1751788.40	14607075.28	40°13'11.7924"N	80°36'3.7214"W	507.27	47.938	0.83	-0.01	-2.31
2769.00	21.300	55.850	2678.37	-202.14	359.81	405.00	1751816.78	14607095.24	40°13'11.9885"N	80°36'3.3543"W	541.75	48.381	0.77	0.21	2.05
2865.00	21.240	54.210	2767.83	-211.31	379.77	433.53	1751845.31	14607115.19	40°13'12.1845"N	80°36'2.9853"W	576.35	48.782	0.62	-0.06	-1.71
2962.00	21.120	51.740	2858.28	-221.73	400.87	461.51	1751873.27	14607136.28	40°13'12.3917"N	80°36'2.6234"W	611.30	49.022	0.93	-0.12	-2.55
3058.00	21.180	57.530	2947.82	-231.07	420.89	489.72	1751901.47	14607156.30	40°13'12.5883"N	80°36'2.2585"W	645.74	49.323	2.18	0.06	6.03
3154.00	20.730	55.040	3037.47	-239.37	439.94	518.28	1751930.02	14607175.34	40°13'12.7753"N	80°36'1.8893"W	679.82	49.674	1.04	-0.47	-2.59
3250.00	20.020	51.960	3127.47	-249.00	459.80	545.15	1751956.88	14607195.19	40°13'12.9703"N	80°36'1.5418"W	713.16	49.854	1.34	-0.74	-3.21
3346.00	21.040	54.250	3217.37	-258.93	479.99	572.08	1751983.79	14607215.38	40°13'13.1687"N	80°36'1.1935"W	746.77	50.002	1.35	1.06	2.39
3442.00	20.380	51.770	3307.17	-269.01	500.41	599.19	1752010.90	14607235.78	40°13'13.3692"N	80°36'0.8427"W	780.67	50.134	1.14	-0.69	-2.58
3538.00	21.660	54.500	3396.78	-279.14	521.04	626.75	1752038.45	14607256.41	40°13'13.5719"N	80°36'0.4863"W	815.05	50.262	1.68	1.33	2.84
3634.00	23.240	56.710	3485.51	-288.41	541.73	657.01	1752068.69	14607277.09	40°13'13.7750"N	80°36'0.0950"W	851.54	50.493	1.87	1.65	2.30
3730.00	21.610	53.470	3574.25	-297.97	562.65	687.05	1752098.72	14607298.00	40°13'13.9803"N	80°35'59.7066"W	888.04	50.685	2.13	-1.70	-3.38
3826.00	22.650	54.800	3663.17	-308.02	583.83	716.36	1752128.02	14607319.17	40°13'14.1883"N	80°35'59.3275"W	924.13	50.820	1.20	1.08	1.39
3922.00	22.940	59.030	3751.68	-316.61	604.11	747.51	1752159.16	14607339.45	40°13'14.3874"N	80°35'58.9248"W	961.10	51.056	1.73	0.30	4.41

REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Robert Bone BRK 10H
Field	Brooke	API/Legal	
Facility	Robert Bone BRK Pad	Wellbore	Robert Bone BRK 10H AWB
Slot	Slot 10H		

WELLPATH DATA (289 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	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
25648.00	89.080	163.870	6120.44	19230.50	-17472.99	8246.52	1759655.26	14589269.36	40°10'15.4066"N	80°34'23.3750"W	19321.24	154.735	0.51	-0.19	-0.48
25744.00	89.320	164.260	6121.78	19326.28	-17565.29	8272.87	1759681.60	14589177.09	40°10'14.4933"N	80°34'23.0412"W	19415.97	154.781	0.48	0.25	0.41
25840.00	89.260	164.180	6122.97	19422.04	-17657.67	8298.98	1759707.70	14589084.75	40°10'13.5792"N	80°34'22.7107"W	19510.67	154.827	0.10	-0.06	-0.08
25937.00	88.860	163.920	6124.56	19518.82	-17750.92	8325.63	1759734.34	14588991.54	40°10'12.6564"N	80°34'22.3731"W	19606.41	154.872	0.49	-0.41	-0.27
26033.00	88.740	163.510	6126.57	19614.63	-17843.05	8352.54	1759761.24	14588899.44	40°10'11.7447"N	80°34'22.0322"W	19701.25	154.915	0.44	-0.12	-0.43
26129.00	88.800	164.430	6128.63	19710.41	-17935.29	8379.05	1759787.74	14588807.23	40°10'10.8319"N	80°34'21.6965"W	19796.04	154.959	0.96	0.06	0.96
26225.00	89.140	165.430	6130.36	19806.08	-18027.98	8404.00	1759812.68	14588714.59	40°10'9.9148"N	80°34'21.3808"W	19890.58	155.007	1.10	0.35	1.04
26321.00	89.320	165.440	6131.65	19901.68	-18120.88	8428.14	1759836.81	14588621.72	40°10'8.9956"N	80°34'21.0756"W	19984.99	155.057	0.19	0.19	0.01
26417.00	89.450	165.250	6132.68	19997.30	-18213.75	8452.43	1759861.09	14588528.88	40°10'8.0767"N	80°34'20.7685"W	20079.45	155.105	0.24	0.14	-0.20
26513.00	89.140	165.260	6133.86	20092.94	-18306.58	8476.86	1759885.51	14588436.09	40°10'7.1582"N	80°34'20.4595"W	20173.95	155.154	0.32	-0.32	0.01
26609.00	89.020	164.760	6135.40	20188.60	-18399.31	8501.69	1759910.33	14588343.40	40°10'6.2407"N	80°34'20.1455"W	20268.53	155.200	0.54	-0.12	-0.52
26705.00	89.320	165.570	6136.79	20284.24	-18492.10	8526.26	1759934.90	14588250.65	40°10'5.3226"N	80°34'19.8347"W	20363.07	155.247	0.90	0.31	0.84
26802.00	88.980	165.210	6138.23	20380.84	-18585.95	8550.73	1759959.35	14588156.83	40°10'4.3940"N	80°34'19.5254"W	20458.55	155.295	0.51	-0.35	-0.37
26898.00	89.380	165.400	6139.61	20476.47	-18678.80	8575.08	1759983.69	14588064.02	40°10'3.4753"N	80°34'19.2175"W	20553.09	155.341	0.46	0.42	0.20
26994.00	89.110	165.290	6140.87	20572.08	-18771.67	8599.36	1760007.97	14587971.18	40°10'2.5565"N	80°34'18.9104"W	20647.63	155.387	0.30	-0.28	-0.11
27090.00	89.140	165.350	6142.34	20667.70	-18864.52	8623.69	1760032.28	14587878.37	40°10'1.6377"N	80°34'18.6028"W	20742.18	155.433	0.07	0.03	0.06
27186.00	89.140	165.120	6143.78	20763.34	-18957.34	8648.15	1760056.74	14587785.58	40°10'0.7193"N	80°34'18.2935"W	20836.78	155.478	0.24	0.00	-0.24
27241.00	89.230	165.410	6144.56	20818.12	-19010.53	8662.14	1760070.72	14587732.42	40°10'0.1931"N	80°34'18.1166"W	20890.97	155.504	0.55	0.16	0.53
27266.00	89.230	165.410	6144.90	20843.02	-19034.72	8668.44	1760077.01	14587708.23	40°09'59.9537"N	80°34'18.0370"W	20915.60	155.515	0.00	0.00	0.00

HOLE & CASING SECTIONS - Ref Wellbore: Robert Bone BRK 10H AWB Ref Wellpath: Robert Bone BRK 10H AWP Proj: 27266'									
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]
20in Conductor	26.00	126.00	100.00	26.00	126.00	0.00	0.00	0.00	0.12
17.5in Open Hole	126.00	440.00	314.00	126.00	440.00	0.00	0.12	0.27	1.39
12.25in Open Hole	440.00	1670.00	1230.00	440.00	1646.41	0.27	1.39	144.01	95.68
12.25in Open Hole	1670.00	5239.00	3569.00	1646.41	4975.72	144.01	95.68	882.42	1144.94
13.375in Casing Surface	126.00	383.00	257.00	126.00	383.00	0.00	0.12	0.14	1.00
9.625in Casing Intermediate	383.00	1665.00	1282.00	383.00	1641.69	0.14	1.00	143.33	94.18
8.75in Open Hole	1665.00	5171.00	3506.00	1641.69	4912.89	143.33	94.18	867.37	1123.75
8.5in Open Hole	5171.00	27266.00	22095.00	4912.89	6144.90	867.37	1123.75	-19034.72	8668.44

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Robert Bone BRK 10H LP Rev-4	5859.00	391.49	1711.76	1753123.04	14607126.91	40°13'12.2432"N	80°35'46.5069"W	point
Robert Bone BRK 10H BHL Rev-5	6112.00	-19034.46	8671.95	1760080.53	14587708.50	40°09'59.9562"N	80°34'17.9917"W	point

REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Robert Bone BRK 10H
Field	Brooke	API/Legal	
Facility	Robert Bone BRK Pad	Wellbore	Robert Bone BRK 10H AWB
Slot	Slot 10H		

WELLPATH COMPOSITION - Ref Wellbore: Robert Bone BRK 10H AWB Ref Wellpath: Robert Bone BRK 10H AWP Proj: 27266'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
26.00	364.00	OWSG MWD rev2 + HRGM	01 Premier MWD <17-1/2"> (154'-364')	Robert Bone BRK 10H AWB	6/27/2021
364.00	1584.00	OWSG MWD rev2 + HRGM	02 Premier MWD <12-1/4"> (464'-1584')	Robert Bone BRK 10H AWB	6/27/2021
1584.00	5171.00	OWSG MWD rev2 + HRGM	03 Premier MWD <8-3/4"> (1685'-5171')	Robert Bone BRK 10H AWB	6/27/2021
5171.00	27266.00	BH AutoTrak Curve/eXpress (2019) (HRGM, Short spacing)	04 BH AT Curve <8-1/2"> (5280'-27241')	Robert Bone BRK 10H AWB	6/27/2021

REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Robert Bone BRK 10H
Field	Brooke	API/Legal	
Facility	Robert Bone BRK Pad	Wellbore	Robert Bone BRK 10H AWB
Slot	Slot 10H		

COMMENTS
<p>Wellpath general comments API: 47-009-00287 BH Job#: 110934657 Rig: SDC 40 Duration: 06/27/2021-07/05/2021</p>