

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSeet	Annotation
4875.00	15.48	237.22	4769.47	-532.26	-728.72	0.00	0.00	-45.68	Tie-on to MWD Survey
4951.00	15.48	237.22	4842.71	-543.25	-745.77	0.00	0.00	-45.52	Projection to Bit
5244.24	15.48	237.22	5125.31	-585.62	-811.58	0.00	0.00	-44.88	Start Build/Turn
6039.87	75.34	276.27	5666.11	-602.88	-1338.70	8.00	42.87	229.65	Cont Build/Turn
6681.16	90.31	339.37	5755.00	-229.06	-1810.32	10.00	82.35	800.83	End Build/Turn
14190.58	90.31	339.37	5714.00	6798.61	-4456.36	0.00	0.00	8128.98	TD

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
OV Royalty Trust LLC BRK 201H P3 BHL	5714.00	6798.61	-4456.36	40.304476	-80.600186
OV Royalty Trust LLC BRK 201H P3 LP	5755.00	-229.06	-1810.32	40.285145	-80.590812

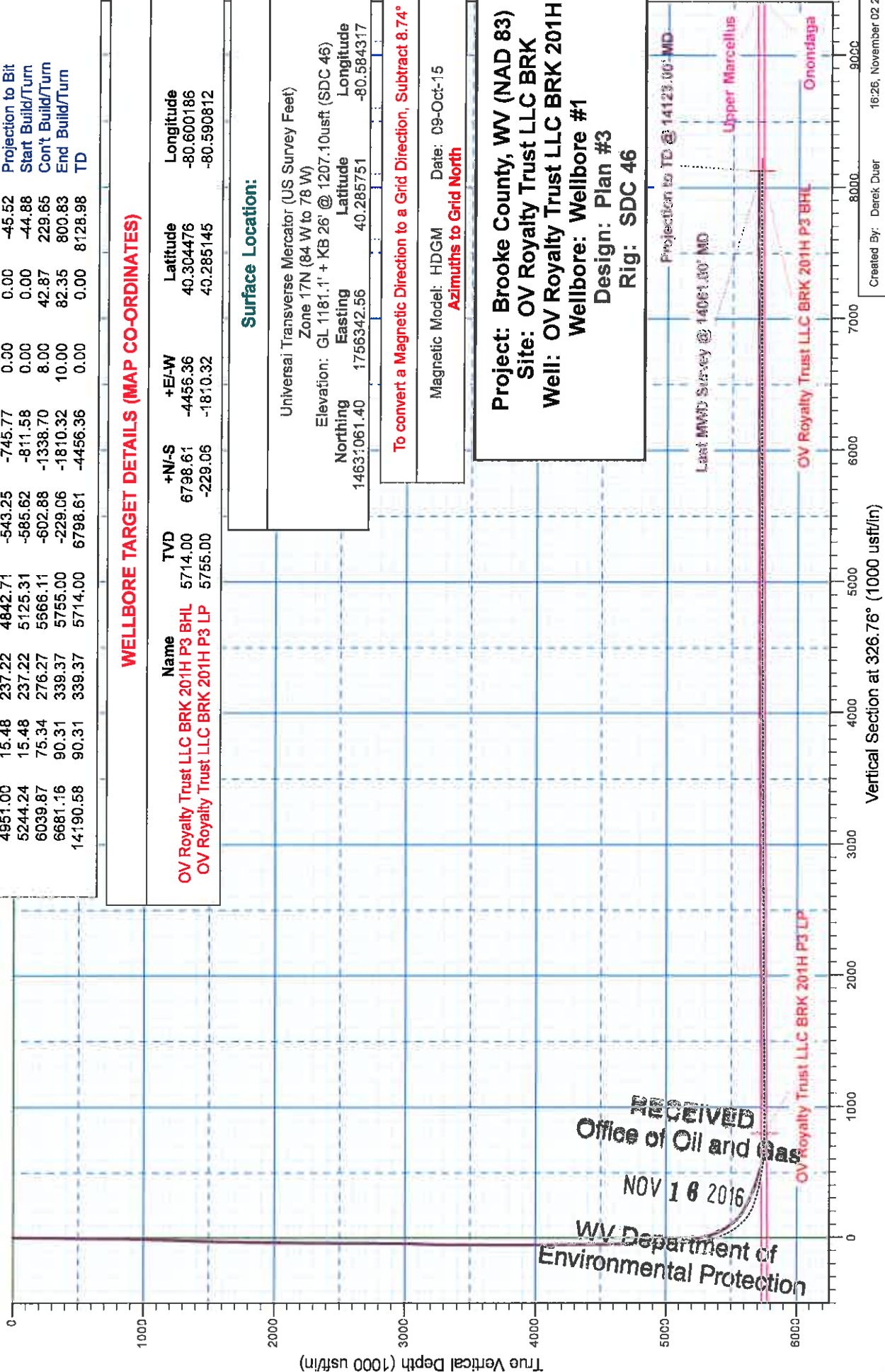
Surface Location:

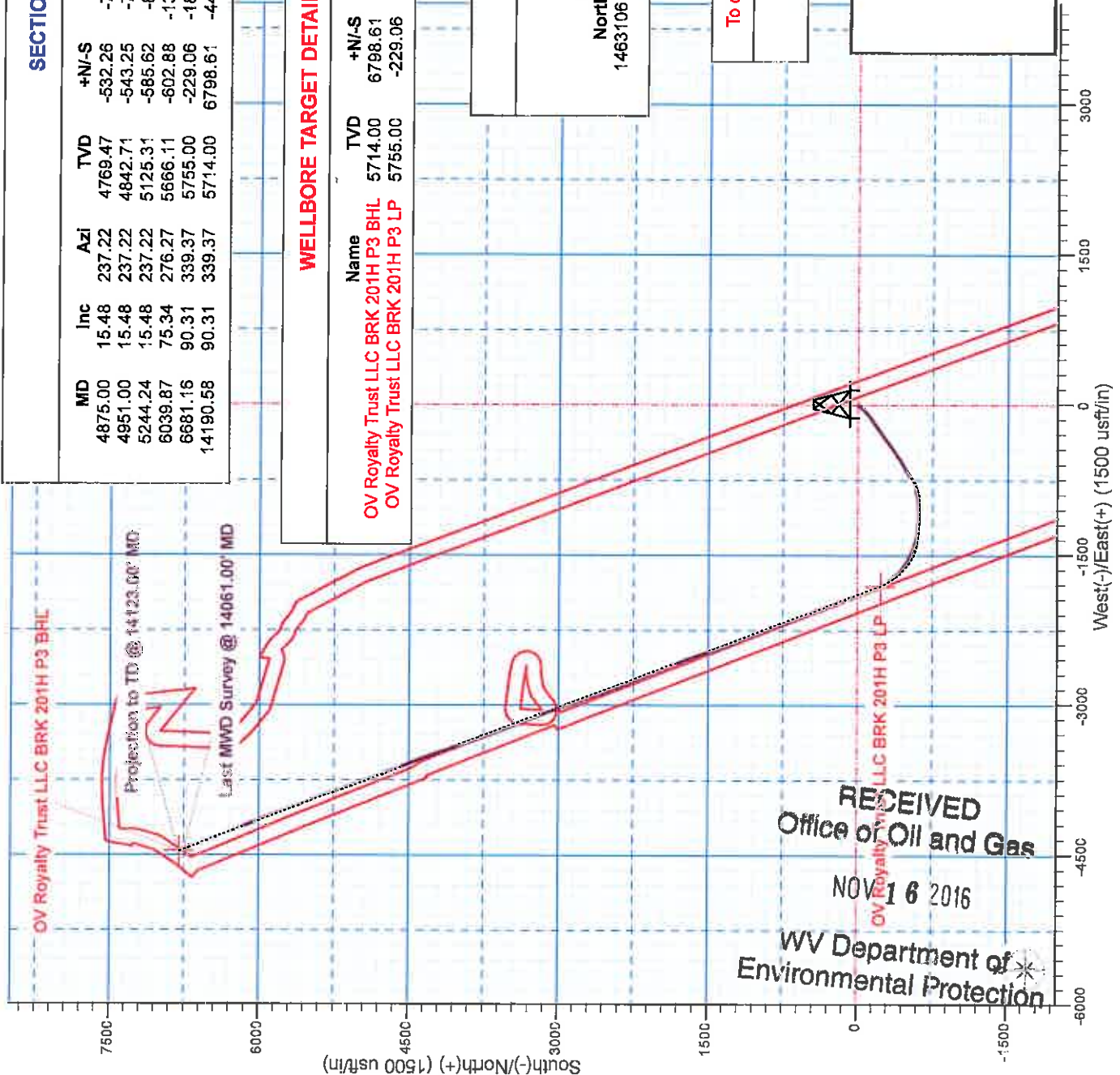
Universal Transverse Mercator (US Survey Feet)
 Zone 17N (84 W to 78 W)
 Elevation: GL 1181.1' + KB 26' @ 1207.10usft (SDC 46)
 Northing Easting Latitude Longitude
 14631061.40 1756342.56 40.285751 -80.584317

To convert a Magnetic Direction to a Grid Direction, Subtract 8.74°

Magnetic Model: HDGM Date: 09-Oct-15
Azimuths to Grid North

Project: Brooke County, WV (NAD 83)
Site: OV Royalty Trust LLC BRK
Well: OV Royalty Trust LLC BRK 201H
Wellbore: Wellbore #1
Design: Plan #3
Rig: SDC 46





SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSept	Annotation
4875.00	15.48	237.22	4769.47	-532.26	-728.72	0.00	0.00	-45.68	Tie-on to MWD Survey
4951.00	15.48	237.22	4842.71	-543.25	-745.77	0.00	0.00	-45.52	Projection to Bit
5244.24	15.48	237.22	5125.31	-585.62	-811.58	0.00	0.00	-44.88	Start Build/Turn
6039.87	75.34	276.27	5666.11	-602.88	-1338.70	8.00	42.87	229.65	Cont Build/Turn
6681.16	90.31	339.37	5755.00	-229.06	-1810.32	10.00	82.35	800.83	End Build/Turn
14190.58	90.31	339.37	5714.00	6798.61	-4456.36	0.00	0.00	8128.98	TD

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	+N/-S	+E/-W	Latitude	Longitude
OV Royalty Trust LLC BRK 201H P3 BHL	6798.61	-4456.36	40.304476	-80.600186
OV Royalty Trust LLC BRK 201H P3 LP	-229.06	-1810.32	40.285145	-80.590812

Surface Location:

Universal Transverse Mercator (US Survey Feet)
 Zone 17N (84 W to 78 W)
 Elevation: GL 1181.1' + KB 26' @ 1207.10usft (SDC 46)
 Northing 14631061.40 Easting 1756342.56 Latitude 40.288751 Longitude -80.584317

To convert a Magnetic Direction to a Grid Direction, Subtract 8.74°

Magnetic Model: HDGM Date: 09-Oct-15
 Azimuths to Grid North

Project: Brooke County, WV (NAD 83)
 Site: OV Royalty Trust LLC BRK
 Well: OV Royalty Trust LLC BRK 201H
 Wellbore: Wellbore #1
 Design: Plan #3
 Rig: SDC 46

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Sperry Drilling

SWN Production Company LLC

Brooke County, WV (NAD 83)

OV Royalty Trust LLC BRK

OV Royalty Trust LLC BRK 201H - Slot 201H

Wellbore #1

Design: Definitive Surveys

Survey Report - Geographic

02 November, 2015

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Company:	SWN Production Company LLC	Local Co-ordinate Reference:	Well OV Royalty Trust LLC BRK 201H - Slot 201H
Project:	Brooke County, WV (NAD 83)	TVD Reference:	GL 1181.1' + KB 26' @ 1207.10usft (SDC 46)
Site:	OV Royalty Trust LLC BRK	MD Reference:	GL 1181.1' + KB 26' @ 1207.10usft (SDC 46)
Well:	OV Royalty Trust LLC BRK 201H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Definitive Surveys	Database:	EDM 5000.1 Single User Db

Project	Brooke County, WV (NAD 83)		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	NAD83 West Virginia - HARN		
Map Zone:	Zone 17N (84 W to 78 W)		

Site	OV Royalty Trust LLC BRK			
Site Position:	Northing:	14,631,069.22 usft	Latitude:	40.285773
From: Map	Easting:	1,756,330.78 usft	Longitude:	-80.584359
Position Uncertainty: 0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.27 °

Well	OV Royalty Trust LLC BRK 201H - Slot 201H			
Well Position	+N/-S	0.00 usft	Northing:	14,631,061.40 usft
	+E/-W	0.00 usft	Easting:	1,756,342.56 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	1,181.10 usft
			Ground Level:	1,181.10 usft

Wellbore	Wellbore #1			
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	10/9/2015	-8.47	67.88	52,774

Design	Definitive Surveys			
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Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	326.76

Survey Program	Date	From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
	11/2/2015	152.00	245.00	SWN EMS (Wellbore #1)	EMS+HRGM	OWSG EMS + HRGM
		360.00	14,123.00	Sperry MWD (Wellbore #1)	MWD+HRGM	OWSG MWD + HRGM

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	14,631,061.40	1,756,342.56	40.285751	-80.584317
152.00	0.10	251.06	152.00	-0.04	-0.13	14,631,061.35	1,756,342.44	40.285751	-80.584318
245.00	0.30	161.36	245.00	-0.30	-0.12	14,631,061.09	1,756,342.44	40.285750	-80.584318
360.00	0.48	114.91	360.00	-0.79	0.41	14,631,060.61	1,756,342.97	40.285749	-80.584316
429.00	0.62	102.16	428.99	-0.99	1.04	14,631,060.41	1,756,343.60	40.285748	-80.584313
476.00	0.63	79.00	475.99	-0.99	1.54	14,631,060.40	1,756,344.10	40.285748	-80.584312
522.00	0.74	92.57	521.99	-0.96	2.08	14,631,060.44	1,756,344.64	40.285748	-80.584308
569.00	0.35	87.48	568.99	-0.97	2.53	14,631,060.43	1,756,345.09	40.285748	-80.584307
615.00	0.56	150.85	614.98	-1.16	2.78	14,631,060.24	1,756,345.34	40.285748	-80.584307
661.00	0.97	199.63	660.98	-1.72	2.76	14,631,059.68	1,756,345.32	40.285746	-80.584307

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Company:	SWN Production Company LLC	Local Co-ordinate Reference:	Well OV Royalty Trust LLC BRK 201H - Slot 201H
Project:	Brooke County, WV (NAD 83)	TVD Reference:	GL 1181 1' + KB 26' @ 1207 10usft (SDC 46)
Site:	OV Royalty Trust LLC BRK	MD Reference:	GL 1181 1' + KB 26' @ 1207 10usft (SDC 46)
Well:	OV Royalty Trust LLC BRK 201H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Definitive Surveys	Database:	EDM 5000 1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
708.00	1.88	217.20	707.97	-2.71	2.16	14,631,058.69	1,756,344.72	40.285744	-80.584309
754.00	2.96	221.86	753.92	-4.19	0.91	14,631,057.20	1,756,343.47	40.285739	-80.584314
800.00	4.14	225.91	799.84	-6.23	-1.08	14,631,055.16	1,756,341.49	40.285734	-80.584321
847.00	5.44	228.72	846.67	-8.88	-3.97	14,631,052.51	1,756,338.59	40.285727	-80.584332
940.00	7.03	228.57	939.12	-15.56	-11.55	14,631,045.84	1,756,331.01	40.285708	-80.584359
986.00	7.14	227.91	984.77	-19.34	-15.78	14,631,042.06	1,756,326.78	40.285698	-80.584374
1,032.00	7.69	223.81	1,030.38	-23.47	-20.03	14,631,037.92	1,756,322.53	40.285687	-80.584389
1,079.00	8.50	219.67	1,076.91	-28.42	-24.43	14,631,032.98	1,756,318.13	40.285673	-80.584405
1,125.00	9.29	220.40	1,122.36	-33.86	-29.00	14,631,027.53	1,756,313.56	40.285658	-80.584422
1,171.00	9.32	219.14	1,167.75	-39.58	-33.76	14,631,021.82	1,756,308.80	40.285643	-80.584439
1,264.00	8.54	219.63	1,259.63	-50.74	-42.92	14,631,010.66	1,756,299.64	40.285612	-80.584472
1,356.00	7.63	227.14	1,350.71	-60.15	-51.75	14,631,001.24	1,756,290.81	40.285586	-80.584504
1,449.00	7.79	228.98	1,442.87	-68.49	-61.04	14,630,992.91	1,756,281.53	40.285564	-80.584537
1,542.00	9.11	227.53	1,534.86	-77.60	-71.22	14,630,983.80	1,756,271.34	40.285539	-80.584574
1,629.00	9.93	228.40	1,620.66	-87.23	-81.91	14,630,974.17	1,756,260.65	40.285512	-80.584612
1,675.00	10.32	229.14	1,665.95	-92.56	-87.99	14,630,968.84	1,756,254.57	40.285498	-80.584634
1,722.00	10.77	229.91	1,712.15	-98.14	-94.54	14,630,963.26	1,756,248.02	40.285483	-80.584658
1,768.00	12.10	230.66	1,757.24	-103.96	-101.55	14,630,957.43	1,756,241.01	40.285467	-80.584683
1,815.00	13.13	231.88	1,803.10	-110.38	-109.56	14,630,951.01	1,756,233.00	40.285449	-80.584712
1,907.00	13.78	233.27	1,892.58	-123.39	-126.57	14,630,938.01	1,756,215.99	40.285414	-80.584773
2,000.00	14.04	233.51	1,982.85	-136.72	-144.51	14,630,924.68	1,756,198.05	40.285377	-80.584838
2,093.00	13.33	237.56	2,073.21	-149.18	-162.63	14,630,912.22	1,756,179.93	40.285343	-80.584903
2,186.00	13.21	235.33	2,163.73	-160.97	-180.42	14,630,900.42	1,756,162.14	40.285311	-80.584967
2,279.00	14.02	231.81	2,254.12	-173.98	-198.01	14,630,887.41	1,756,144.55	40.285276	-80.585030
2,372.00	14.64	231.95	2,344.22	-188.19	-216.12	14,630,873.20	1,756,126.44	40.285237	-80.585095
2,464.00	15.07	235.60	2,433.15	-202.12	-235.15	14,630,859.28	1,756,107.42	40.285199	-80.585164
2,557.00	15.31	238.06	2,522.90	-215.44	-255.54	14,630,845.95	1,756,087.02	40.285163	-80.585237
2,650.00	14.26	234.45	2,612.82	-228.60	-275.28	14,630,832.80	1,756,067.28	40.285127	-80.585308
2,743.00	13.57	237.42	2,703.09	-241.13	-293.79	14,630,820.26	1,756,048.77	40.285093	-80.585375
2,836.00	14.09	236.24	2,793.40	-253.30	-312.40	14,630,808.10	1,756,030.16	40.285059	-80.585442
2,928.00	15.04	234.76	2,882.44	-266.41	-331.46	14,630,794.99	1,756,011.10	40.285024	-80.585510
3,021.00	14.27	232.04	2,972.42	-280.42	-350.35	14,630,780.97	1,755,992.21	40.284985	-80.585578
3,114.00	12.94	228.54	3,062.81	-294.37	-367.19	14,630,767.03	1,755,975.37	40.284947	-80.585639
3,207.00	12.58	228.13	3,153.51	-308.02	-382.54	14,630,753.37	1,755,960.02	40.284910	-80.585694
3,300.00	12.83	230.44	3,244.23	-321.36	-398.04	14,630,740.04	1,755,944.52	40.284874	-80.585750
3,392.00	13.42	233.86	3,333.83	-334.16	-414.54	14,630,727.23	1,755,928.02	40.284839	-80.585809
3,485.00	13.88	236.54	3,424.20	-346.68	-432.56	14,630,714.72	1,755,910.00	40.284805	-80.585874
3,578.00	14.03	237.38	3,514.46	-358.90	-451.36	14,630,702.49	1,755,891.20	40.284771	-80.585942
3,670.00	14.54	236.25	3,603.61	-371.33	-470.36	14,630,690.06	1,755,872.21	40.284737	-80.586010
3,763.00	15.09	234.89	3,693.52	-384.78	-489.97	14,630,676.62	1,755,852.60	40.284701	-80.586080
3,856.00	14.63	236.51	3,783.41	-398.22	-509.66	14,630,663.17	1,755,832.90	40.284664	-80.586151
3,948.00	14.64	236.90	3,872.43	-410.98	-529.09	14,630,650.41	1,755,813.47	40.284629	-80.586221
4,041.00	14.70	237.88	3,962.40	-423.67	-548.93	14,630,637.72	1,755,793.63	40.284595	-80.586293
4,134.00	14.79	239.48	4,052.33	-435.98	-569.15	14,630,625.42	1,755,773.41	40.284561	-80.586365
4,226.00	14.87	238.76	4,141.27	-448.06	-589.36	14,630,613.33	1,755,753.20	40.284528	-80.586438
4,319.00	14.46	239.23	4,231.24	-460.19	-609.54	14,630,601.20	1,755,733.02	40.284495	-80.586510
4,412.00	13.51	239.42	4,321.48	-471.66	-628.87	14,630,589.74	1,755,713.69	40.284464	-80.586580
4,504.00	13.85	239.04	4,410.87	-482.79	-647.56	14,630,578.60	1,755,695.00	40.284434	-80.586647
4,597.00	14.33	238.85	4,501.07	-494.47	-666.96	14,630,566.93	1,755,675.60	40.284400	-80.586717
4,690.00	14.76	239.81	4,591.09	-506.38	-687.05	14,630,555.01	1,755,655.51	40.284365	-80.586789
4,783.00	15.64	237.83	4,680.84	-519.01	-707.90	14,630,542.38	1,755,634.66	40.284335	-80.586864
4,875.00	15.48	237.22	4,769.47	-532.26	-728.72	14,630,529.13	1,755,613.84	40.284299	-80.586939
4,977.00	14.79	235.88	4,867.93	-546.94	-750.94	14,630,514.46	1,755,591.62	40.284265	-80.587019
5,070.00	14.97	238.06	4,957.81	-559.95	-770.96	14,630,501.45	1,755,571.60	40.284223	-80.587091

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Company:	SWN Production Company LLC	Local Co-ordinate Reference:	Well OV Royalty Trust LLC BRK 201H - Slot 201H
Project:	Brooke County, WV (NAD 83)	TVD Reference:	GL 1181 1' + KB 26' @ 1207 10usft (SDC 46)
Site:	OV Royalty Trust LLC BRK	MD Reference:	GL 1181 1' + KB 26' @ 1207 10usft (SDC 46)
Well:	OV Royalty Trust LLC BRK 201H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Definitive Surveys	Database:	EDM 5000 1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,116.00	15.16	238.20	5,002.23	-566.26	-781.12	14,630,495.13	1,755,561.44	40.284206	-80.587127
5,162.00	19.27	249.04	5,046.17	-572.15	-793.33	14,630,489.24	1,755,549.24	40.284190	-80.587171
5,209.00	23.31	257.23	5,089.96	-576.98	-809.65	14,630,484.41	1,755,532.91	40.284177	-80.587230
5,255.00	27.04	260.86	5,131.59	-580.66	-828.85	14,630,480.74	1,755,513.71	40.284167	-80.587299
5,301.00	29.67	261.28	5,172.07	-584.05	-850.44	14,630,477.35	1,755,492.13	40.284158	-80.587376
5,348.00	30.20	260.13	5,212.80	-587.83	-873.58	14,630,473.56	1,755,468.98	40.284148	-80.587459
5,394.00	32.15	256.95	5,252.15	-592.58	-896.91	14,630,468.81	1,755,445.66	40.284135	-80.587543
5,441.00	33.62	257.06	5,291.62	-598.32	-921.77	14,630,463.07	1,755,420.79	40.284120	-80.587632
5,487.00	35.89	263.07	5,329.42	-602.80	-947.58	14,630,458.59	1,755,394.98	40.284108	-80.587725
5,533.00	38.55	266.19	5,366.06	-605.38	-975.27	14,630,456.01	1,755,367.29	40.284101	-80.587824
5,580.00	42.05	267.19	5,401.90	-607.13	-1,005.61	14,630,454.27	1,755,336.95	40.284097	-80.587933
5,626.00	45.99	268.81	5,434.97	-608.23	-1,037.55	14,630,453.17	1,755,305.01	40.284094	-80.588048
5,673.00	48.64	269.24	5,466.83	-608.81	-1,072.09	14,630,452.58	1,755,270.47	40.284093	-80.588172
5,719.00	52.65	270.07	5,495.99	-609.02	-1,107.65	14,630,452.36	1,755,234.91	40.284093	-80.588299
5,765.00	56.34	272.01	5,522.71	-608.32	-1,145.09	14,630,453.07	1,755,197.48	40.284095	-80.588433
5,812.00	59.95	273.35	5,547.51	-606.45	-1,184.95	14,630,454.95	1,755,157.61	40.284101	-80.588576
5,858.00	63.91	275.76	5,569.15	-603.21	-1,225.40	14,630,458.19	1,755,117.16	40.284110	-80.588721
5,904.00	67.25	279.55	5,588.17	-597.61	-1,266.90	14,630,463.78	1,755,075.67	40.284126	-80.588870
5,951.00	68.18	281.97	5,606.00	-589.49	-1,309.61	14,630,471.90	1,755,032.95	40.284149	-80.589023
5,997.00	68.87	285.07	5,622.84	-579.48	-1,351.23	14,630,481.91	1,754,991.33	40.284177	-80.589172
6,044.00	69.34	288.42	5,639.61	-566.83	-1,393.27	14,630,494.56	1,754,949.29	40.284212	-80.589322
6,090.00	70.76	291.40	5,655.31	-552.11	-1,433.91	14,630,509.29	1,754,908.65	40.284253	-80.589468
6,136.00	71.87	293.50	5,670.04	-535.46	-1,474.18	14,630,525.93	1,754,868.38	40.284299	-80.589612
6,183.00	72.96	296.69	5,684.25	-516.46	-1,514.75	14,630,544.93	1,754,827.81	40.284352	-80.589757
6,229.00	73.93	299.76	5,697.36	-495.61	-1,553.59	14,630,565.79	1,754,788.97	40.284410	-80.589896
6,276.00	75.26	303.32	5,709.85	-471.91	-1,592.20	14,630,589.49	1,754,750.36	40.284475	-80.590034
6,322.00	75.40	306.98	5,721.50	-446.29	-1,628.58	14,630,615.10	1,754,713.98	40.284546	-80.590164
6,368.00	76.30	311.47	5,732.75	-418.09	-1,663.12	14,630,643.30	1,754,679.44	40.284624	-80.590288
6,415.00	77.85	315.95	5,743.27	-386.44	-1,696.22	14,630,674.95	1,754,646.34	40.284711	-80.590406
6,461.00	80.89	320.99	5,751.76	-352.61	-1,726.17	14,630,708.79	1,754,616.39	40.284805	-80.590513
6,507.00	84.25	325.46	5,757.71	-316.08	-1,753.46	14,630,745.31	1,754,589.10	40.284905	-80.590610
6,554.00	87.48	328.76	5,761.10	-276.73	-1,778.91	14,630,784.67	1,754,563.65	40.285014	-80.590700
6,600.00	92.28	332.59	5,761.19	-236.64	-1,801.43	14,630,824.75	1,754,541.13	40.285124	-80.590780
6,647.00	94.06	337.42	5,758.59	-194.12	-1,821.25	14,630,867.27	1,754,521.31	40.285241	-80.590851
6,741.00	92.96	339.95	5,752.84	-106.73	-1,855.35	14,630,954.67	1,754,487.21	40.285482	-80.590972
6,833.00	91.79	339.69	5,749.02	-20.45	-1,887.06	14,631,040.95	1,754,455.50	40.285719	-80.591084
6,926.00	91.67	339.55	5,746.22	66.69	-1,919.43	14,631,128.08	1,754,423.13	40.285959	-80.591199
7,019.00	89.57	339.54	5,745.21	153.82	-1,951.93	14,631,215.21	1,754,390.63	40.286198	-80.591314
7,112.00	90.43	339.34	5,745.21	240.89	-1,984.59	14,631,302.29	1,754,357.97	40.286438	-80.591429
7,205.00	91.11	339.51	5,743.96	327.95	-2,017.27	14,631,389.35	1,754,325.29	40.286677	-80.591545
7,298.00	90.37	339.37	5,742.76	415.02	-2,049.93	14,631,476.41	1,754,292.63	40.286917	-80.591661
7,390.00	90.00	339.21	5,742.46	501.07	-2,082.46	14,631,562.47	1,754,260.10	40.287153	-80.591776
7,483.00	90.49	338.49	5,742.07	587.81	-2,116.02	14,631,649.20	1,754,226.54	40.287392	-80.591895
7,576.00	90.43	338.35	5,741.32	674.29	-2,150.22	14,631,735.68	1,754,192.34	40.287630	-80.592016
7,669.00	90.86	338.40	5,740.27	760.73	-2,184.49	14,631,822.13	1,754,158.07	40.287868	-80.592138
7,762.00	90.43	339.08	5,739.22	847.40	-2,218.21	14,631,908.79	1,754,124.35	40.288106	-80.592257
7,854.00	89.81	339.10	5,739.03	933.34	-2,251.05	14,631,994.73	1,754,091.52	40.288343	-80.592373
7,947.00	89.57	338.22	5,739.54	1,019.96	-2,284.89	14,632,081.36	1,754,057.67	40.288581	-80.592493
8,040.00	89.75	338.52	5,740.09	1,106.41	-2,319.17	14,632,167.81	1,754,023.39	40.288819	-80.592615
8,133.00	89.88	338.29	5,740.39	1,192.88	-2,353.40	14,632,254.28	1,753,989.17	40.289057	-80.592736
8,225.00	89.69	337.99	5,740.73	1,278.27	-2,387.65	14,632,339.66	1,753,954.91	40.289292	-80.592857
8,318.00	89.63	338.93	5,741.28	1,364.77	-2,421.80	14,632,426.16	1,753,920.77	40.289529	-80.592978
8,411.00	91.24	341.95	5,740.58	1,452.39	-2,452.93	14,632,513.78	1,753,889.64	40.289770	-80.593099
8,504.00	91.05	342.52	5,738.72	1,540.93	-2,481.30	14,632,602.33	1,753,861.27	40.290014	-80.593189

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Company:	SWN Production Company LLC	Local Co-ordinate Reference:	Well OV Royalty Trust LLC BRK 201H - Slot 201H
Project:	Brooke County, WV (NAD 83)	TVD Reference:	GL 1181.1' + KB 26' @ 1207.10usft (SDC 46)
Site:	OV Royalty Trust LLC BRK	MD Reference:	GL 1181.1' + KB 26' @ 1207.10usft (SDC 46)
Well:	OV Royalty Trust LLC BRK 201H	North Reference:	Grd
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Definitive Surveys	Database:	EDM 5000 1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vortical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
8,597.00	90.37	339.84	5,737.57	1,628.95	-2,511.29	14,632,690.34	1,753,831.27	40.290256	-80.593295
8,689.00	89.20	339.23	5,737.91	1,715.14	-2,543.46	14,632,776.53	1,753,799.10	40.290493	-80.593409
8,782.00	90.37	339.52	5,738.26	1,802.17	-2,576.22	14,632,863.57	1,753,766.35	40.290733	-80.593525
8,875.00	90.37	337.52	5,737.66	1,888.71	-2,610.27	14,632,950.10	1,753,732.29	40.290971	-80.593646
8,967.00	90.93	338.01	5,736.62	1,973.86	-2,645.08	14,633,035.26	1,753,697.48	40.291205	-80.593769
9,060.00	91.05	337.92	5,735.01	2,060.06	-2,679.96	14,633,121.45	1,753,662.60	40.291442	-80.593893
9,153.00	90.25	336.85	5,733.96	2,145.90	-2,715.72	14,633,207.29	1,753,626.84	40.291678	-80.594020
9,245.00	90.68	338.07	5,733.21	2,230.86	-2,750.99	14,633,292.26	1,753,591.57	40.291912	-80.594145
9,338.00	90.19	337.42	5,732.50	2,316.93	-2,786.21	14,633,378.33	1,753,556.35	40.292149	-80.594270
9,431.00	91.23	337.72	5,731.35	2,402.89	-2,821.69	14,633,464.28	1,753,520.87	40.292385	-80.594395
9,523.00	91.48	341.49	5,729.17	2,489.08	-2,857.74	14,633,550.48	1,753,488.83	40.292622	-80.594509
9,615.00	91.11	340.82	5,727.09	2,576.13	-2,893.45	14,633,637.52	1,753,459.12	40.292862	-80.594614
9,706.00	91.11	341.18	5,725.33	2,662.15	-2,913.07	14,633,723.55	1,753,429.49	40.293098	-80.594719
9,798.00	90.31	341.37	5,724.19	2,749.28	-2,942.60	14,633,810.67	1,753,399.96	40.293338	-80.594823
9,890.00	90.00	340.56	5,723.94	2,836.25	-2,972.60	14,633,897.64	1,753,369.96	40.293577	-80.594929
9,981.00	90.00	339.80	5,723.94	2,921.85	-3,003.46	14,633,983.25	1,753,339.10	40.293813	-80.595039
10,073.00	90.31	340.19	5,723.69	3,008.30	-3,034.93	14,634,069.70	1,753,307.63	40.294050	-80.595150
10,165.00	90.00	339.08	5,723.45	3,094.55	-3,066.95	14,634,155.95	1,753,275.61	40.294288	-80.595264
10,257.00	89.94	338.99	5,723.49	3,180.46	-3,099.86	14,634,241.85	1,753,242.70	40.294524	-80.595380
10,350.00	89.94	338.69	5,723.59	3,267.19	-3,133.43	14,634,328.58	1,753,209.13	40.294762	-80.595499
10,443.00	89.88	338.83	5,723.74	3,353.87	-3,167.13	14,634,415.27	1,753,175.44	40.295001	-80.595619
10,536.00	90.37	338.48	5,723.53	3,440.49	-3,200.98	14,634,501.89	1,753,141.59	40.295239	-80.595739
10,629.00	90.06	338.25	5,723.18	3,526.94	-3,235.26	14,634,588.33	1,753,107.30	40.295477	-80.595860
10,721.00	90.56	338.72	5,722.69	3,612.53	-3,269.00	14,634,673.92	1,753,073.56	40.295712	-80.595980
10,814.00	90.06	339.99	5,722.18	3,699.55	-3,301.79	14,634,760.95	1,753,040.77	40.295952	-80.596096
10,907.00	89.81	339.48	5,722.29	3,786.79	-3,334.00	14,634,848.19	1,753,008.56	40.296192	-80.596210
11,000.00	91.73	342.14	5,721.04	3,874.61	-3,364.57	14,634,936.00	1,752,977.99	40.296433	-80.596318
11,093.00	90.37	340.75	5,719.34	3,962.75	-3,394.15	14,635,024.15	1,752,948.41	40.296676	-80.596423
11,185.00	91.48	341.35	5,717.85	4,049.75	-3,424.03	14,635,111.15	1,752,918.53	40.296915	-80.596529
11,278.00	92.04	342.68	5,714.99	4,138.17	-3,452.73	14,635,199.56	1,752,889.83	40.297158	-80.596630
11,371.00	90.31	341.63	5,713.09	4,226.67	-3,481.22	14,635,288.06	1,752,861.34	40.297402	-80.596731
11,464.00	90.43	339.94	5,712.49	4,314.48	-3,511.83	14,635,375.88	1,752,830.74	40.297643	-80.596839
11,556.00	91.48	338.83	5,710.95	4,400.58	-3,544.21	14,635,461.97	1,752,798.35	40.297880	-80.596954
11,649.00	91.11	338.86	5,708.85	4,487.29	-3,577.77	14,635,548.68	1,752,764.79	40.298118	-80.597073
11,742.00	90.49	338.77	5,707.55	4,573.99	-3,611.37	14,635,635.39	1,752,731.19	40.298357	-80.597192
11,834.00	90.31	338.45	5,706.91	4,659.65	-3,644.92	14,635,721.05	1,752,697.64	40.298593	-80.597311
11,927.00	90.25	337.97	5,706.46	4,746.01	-3,679.45	14,635,807.40	1,752,663.12	40.298830	-80.597433
12,020.00	90.86	339.13	5,705.55	4,832.56	-3,713.45	14,635,893.96	1,752,629.11	40.299068	-80.597554
12,112.00	90.12	340.20	5,704.77	4,918.82	-3,745.42	14,635,980.22	1,752,597.14	40.299305	-80.597667
12,205.00	89.13	340.65	5,703.38	5,006.44	-3,776.58	14,636,067.84	1,752,565.98	40.299546	-80.597777
12,298.00	89.07	340.29	5,706.84	5,094.08	-3,807.67	14,636,155.48	1,752,534.90	40.299787	-80.597887
12,391.00	88.21	340.03	5,709.04	5,181.54	-3,839.22	14,636,242.93	1,752,503.34	40.300028	-80.597999
12,483.00	89.69	339.78	5,710.73	5,267.92	-3,870.82	14,636,329.31	1,752,471.74	40.300266	-80.598111
12,576.00	91.98	338.97	5,709.38	5,354.94	-3,903.58	14,636,416.34	1,752,438.99	40.300505	-80.598227
12,669.00	92.41	339.00	5,705.81	5,441.69	-3,936.90	14,636,503.09	1,752,405.66	40.300744	-80.598345
12,762.00	91.05	338.73	5,703.01	5,528.40	-3,970.42	14,636,589.79	1,752,372.14	40.300982	-80.598464
12,854.00	91.30	339.83	5,701.12	5,614.43	-4,002.96	14,636,675.82	1,752,339.60	40.301220	-80.598579
12,947.00	89.51	339.85	5,700.46	5,701.72	-4,035.01	14,636,763.12	1,752,307.55	40.301459	-80.598693
13,040.00	89.69	340.65	5,701.11	5,789.25	-4,066.44	14,636,850.64	1,752,276.13	40.301697	-80.598804
13,133.00	90.93	339.99	5,700.61	5,876.81	-4,097.75	14,636,938.21	1,752,244.81	40.301936	-80.598915
13,225.00	90.06	337.02	5,699.81	5,962.40	-4,113.46	14,637,023.80	1,752,211.10	40.302176	-80.599035
13,318.00	91.79	338.91	5,698.31	6,048.59	-4,166.34	14,637,109.98	1,752,176.22	40.302413	-80.599156
13,411.00	91.48	338.58	5,695.66	6,135.23	-4,200.04	14,637,196.62	1,752,142.52	40.302651	-80.599278
13,504.00	90.62	339.02	5,693.95	6,221.92	-4,233.67	14,637,283.31	1,752,108.65	40.302890	-80.599397

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WV Department of Environmental Protection
COMPASS 5000.1 Build 74

Company:	SWN Production Company LLC	Local Co-ordinate Reference:	Well OV Royalty Trust LLC BRK 201H -- Slot 201H
Project:	Brooke County, WV (NAD 83)	TVD Reference:	GL 1181 1' + KB 26' @ 1207 10usft (SDC 46)
Site:	OV Royalty Trust LLC BRK	MD Reference:	GL 1181 1' + KB 26' @ 1207 10usft (SDC 46)
Well:	OV Royalty Trust LLC BRK 201H	North Reference:	Grd
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Definitive Surveys	Database:	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
13,597.00	89.94	338.47	5,693.50	6,308.59	-4,267.38	14,637,369.98	1,752,075.18	40.303128	-80.599516
13,689.00	89.94	338.32	5,693.60	6,394.13	-4,301.26	14,637,455.52	1,752,041.30	40.303364	-80.599636
13,782.00	90.86	339.63	5,692.95	6,480.93	-4,334.62	14,637,542.32	1,752,007.94	40.303602	-80.599755
13,875.00	90.12	340.00	5,692.15	6,568.21	-4,366.71	14,637,629.61	1,751,975.85	40.303842	-80.599868
13,968.00	89.81	340.10	5,692.21	6,655.63	-4,398.44	14,637,717.03	1,751,944.12	40.304083	-80.599981
14,061.00	89.94	339.35	5,692.41	6,742.87	-4,430.67	14,637,804.26	1,751,911.89	40.304323	-80.600095
Last MWD Survey @ 14061.00' MD									
14,123.00	89.94	339.35	5,692.48	6,800.89	-4,452.53	14,637,862.28	1,751,890.03	40.304482	-80.600172
Projection to TD @ 14123.00' MD									

Design Targets

Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- Shape									
OV Royalty Trust LLC	0.00	0.00	5,714.00	6,798.61	-4,456.36	14,637,860.01	1,751,886.20	40.304476	-80.600186
- actual wellpath misses target center by 21.97usft at 14122.25usft MD (5692.47 TVD, 6800.18 N, -4452.27 E)									
- Point									
OV Royalty Trust LLC	0.00	0.00	5,755.00	-229.06	-1,810.32	14,630,832.33	1,754,532.24	40.285145	-80.590812
- actual wellpath misses target center by 7.29usft at 6610.96usft MD (5760.72 TVD, -226.87 N, -1806.37 E)									
- Point									

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
100.00	20"		20.000	26.000
300.00	300.00	13 3/8"	13.375	17.500
14,123.00	5,692.48	5 1/2"	5.500	8.500

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
14,061.00	5,692.41	6,742.87	-4,430.67	Last MWD Survey @ 14061.00' MD
14,123.00	5,692.48	6,800.89	-4,452.53	Projection to TD @ 14123.00' MD