



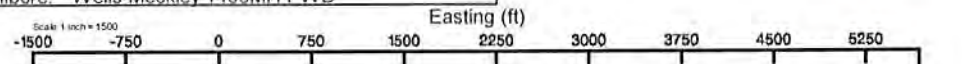
BLUE RIDGE MOUNTAIN RESOURCES



Location: Tyler County, WV
Field: Tyler
Facility: Meckley Pad

Slot: Slot #09
Well: Wells Meckley 1406MH
Wellbore: Wells Meckley 1406MH PWB

Plot reference wellpath is Wells Meckley 1406MH PWB from A9	Grid System: NAD83 (Lancaster West Virginia SP, Northern Zone (4201), US feet)
True vertical depths are referenced to H&P 371 (RKB)	Bench Reference: Grid north
Measured depths are referenced to H&P 371 (RKB)	Scale: True distance
H&P 371 (RKB) to Mean Sea Level: 985 feet	Depths are in feet
Mean Sea Level to Mud line (at Slot #09): -958 feet	Checked by: Indycorp on 2018-02-06
Coordinates are in feet referenced to Grid	Drawn by: WA, MR, EAOTE/INKUS Date:



BH AT Curve <8-1/2"> (4669')(4704'-14316') : 4500.27ft TVD, 533.01ft N, 985.83ft E

ProDirectional EM <8-3/4"> (2819')(2911'-4669') : 2877.11ft TVD, 186.05ft N, 336.98ft E

ProDirectional EM <12-1/4"> (394')(471'-2819') : 470.91ft TVD, 7.32ft N, 2.01ft E

ProDirectional EM <17-1/2"> (170'-394') : 170.00ft TVD, 0.63ft N, 0.16ft E Slot #09

Location Information							
Facility Name		Grid East (US ft)	Grid North (US ft)	Latitude	Longitude		
Meckley Pad		1567241.300	380260.800	39°32'07.060"N	80°55'22.002"W		
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
Slot #09	4.30	53.70	1567295.000	380265.100	39°32'07.111"N	80°55'21.317"W	
Comment: 1406MH							
H&P 371 (RKB) to Mud line (At Slot Slot #09)						27ft	
Mean Sea Level to Mud line (At Slot Slot #09)						-958ft	
H&P 371 (RKB) to Mean Sea Level						985ft	

ProDirectional EM <17-1/2"> (170'-394') : 0.52° Inc, 170.00ft MD, 170.00ft TVD, -0.53ft VS

ProDirectional EM <12-1/4"> (394')(471'-2819') : 2.10° Inc, 471.00ft MD, 470.91ft TVD, -6.16ft VS

API: 47-095-02488-0000
BH Job #: 8939729
Rig: H&P 371
Duration: 1/26/2018-1/30/2018

ProDirectional EM <8-3/4"> (2819')(2911'-4669') : 11.04° Inc, 2911.00ft MD, 2877.11ft TVD, -56.26ft VS

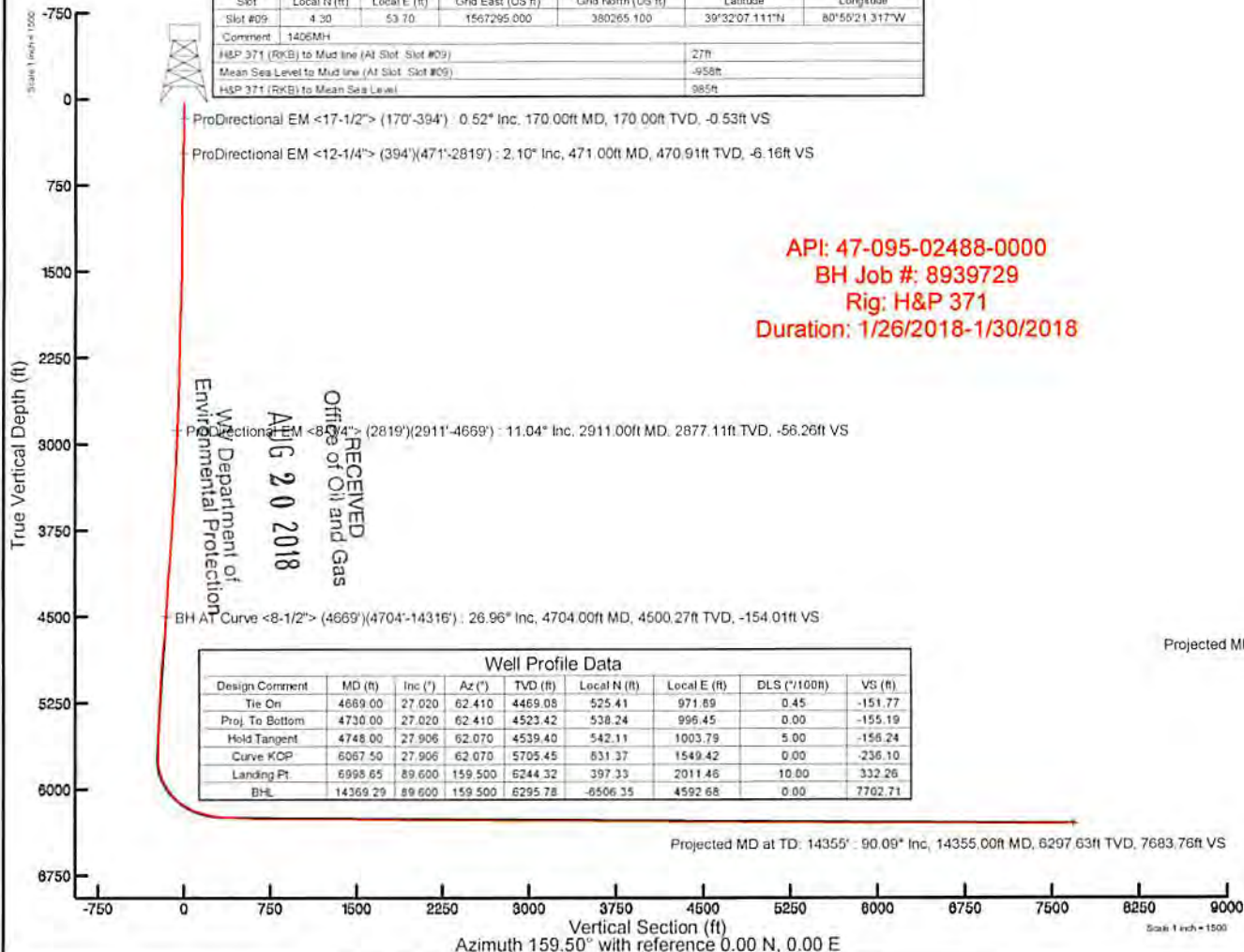
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BH AT Curve <8-1/2"> (4669')(4704'-14316') : 26.96° Inc, 4704.00ft MD, 4500.27ft TVD, -154.01ft VS

Well Profile Data								
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	4669.00	27.020	62.410	4469.08	525.41	971.89	0.45	-151.77
Proj. To Bottom	4730.00	27.020	62.410	4523.42	538.24	996.45	0.00	-155.19
Hold Tangent	4748.00	27.906	62.070	4539.40	542.11	1003.79	5.00	-156.24
Curve KDP	6067.50	27.906	62.070	5705.45	831.37	1549.42	0.00	-236.10
Landing Pt	6998.65	89.600	159.500	6244.32	397.33	2011.46	10.00	332.26
BHL	14369.29	89.600	159.500	6295.78	-6506.35	4592.68	0.00	7702.71

Projected MD at TD: 14355' : 6297.63ft TVD, 6494.71ft S, 4569.70ft E

Projected MD at TD: 14355' : 90.09° Inc, 14355.00ft MD, 6297.63ft TVD, 7683.76ft VS



User specified (HDGM) Dip 66.73° Field 51945 nT
Magnetic North is 7.55 degrees West of True North (at 26/Jan/2018)
Grid North is 0.91 degrees West of True North
To correct azimuth from True to Grid add 0.91 degrees
To correct azimuth from Magnetic to Grid subtract 6.64 degrees

Wells Meckley 1406 Formation Tops

Formation	TVD= MD	Rock Type/ record QTY/Type of Fluid (Fresh water, brine, oil, gas, H2S, Ect)
Water zone	980	water
Salt Sand	1,563	Sandstone
Maxton Sand	1,687	Sandstone
Greenbrier Limestone	1,773	Limestone
Keener Sand	1,811	Sandstone
Big Injun	1,822	Sandstone
Squaw Sand	2,020	Sandstone
Weir Sand	2,228	Sandstone
Berea Sandstone	2,398	Sandstone
Gordon Stray Sand	2,729	Sandstone
Gordon	2,752	Sandstone
Fifth Sand	2,840	Sandstone
Warren	3,375	Sandstone
Benson	4,845	Sandstone
Tully LS	6,147	Limestone
Marcellus Shale	6,169	Shale / gas
TARGET	6,194	Shale / gas
Onondaga LS	6,223	Limestone

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ACTUAL WELLPATH REPORT (CSV version)

Prepared by Baker Hughes
Software System: WellArchitect® 5.1

REFERENCE WELLPATH IDENTIFICATION

Operator BLUE RIDGE MOUNTAIN RESOURCES
Area Tyler County, WV
Field Tyler
Facility Meckley Pad
Slot Slot #09
Well Wells Meckley 1406MH
Wellbore Wells Meckley 1406MH AWB
Wellpath Wells Meckley 1406MH AWP Proj: 14355'
Sidetrack (none)

REPORT SETUP INFORMATION

Projection NAD83 / Lambert West Virginia SP, Northern Zone (4701), US feet
North Refe Grid
Scale 0.999942
Convergen 0.91° West
Software S WellArchitect® 5.1
User Edsaryar
Report Ger 05/Feb/2018 at 11:29
DataBase: WA_MPL_EASTERNUS_Defn/ev590.xml

WELLPATH	Local North	Local East	Easting	Northing	Latitude	Longitude
	[ft]	[ft]	[US ft]	[US ft]		
Slot Locatn	4.3	53.7	1567295	380265.1	39°32'07.1 80°55'21.317°W	
Facility Ref			1567241	380260.8	39°32'07.0 80°55'22.002°W	
Field Refen			600000	0	38°24'00.3 84°16'35.572°W	

WELLPATH DATUM

Calculation Minimum curvature
Horizontal Slot
Vertical Re H&P 371 (RKB)
MD Refere H&P 371 (RKB)
Field Vertic Mean Sea Level
H&P 371 (F 27.00ft)
H&P 371 (F 985.00ft)
H&P 371 (F 27.00ft)
Section Ori N 0.00, E 0.00 ft
Section Azi 159.50°

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WELLPATH DATA † = Int interpolated/extrapolated station

	MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dis	Closure Dir	DLS	Build Rate	Turn Rate
	[ft]	[°]	[°]	[ft]	[ft]	[ft]	[ft]	[US ft]	[US ft]			[ft]	[°]	[°/100ft]	[°/100ft]	[°/100ft]
†	0	0	14.57	0	0	0	0	1567295	380265.1	39°32'07.1 80°55'21.3		0	0	0	0	0
	27	0	14.57	27	0	0	0	1567295	380265.1	39°32'07.1 80°55'21.3		0	0	0	0	0
	170	0.52	14.57	170	-0.53	0.63	0.16	1567295	380265.7	39°32'07.1 80°55'21.3		0.65	14.57	0.36	0.36	10.19
	200	0.67	347.56	200	-0.82	0.93	0.16	1567295	380266	39°32'07.1 80°55'21.3		0.94	9.733	1.05	0.5	-90.03
	231	1.1	7.99	230.99	-1.26	1.4	0.16	1567295	380266.5	39°32'07.1 80°55'21.3		1.41	6.589	1.7	1.39	65.9
	290	1.04	21.05	289.98	-2.16	2.46	0.43	1567295	380267.6	39°32'07.1 80°55'21.3		2.5	9.971	0.42	-0.1	22.14
	321	1.27	12.11	320.98	-2.66	3.06	0.61	1567296	380268.2	39°32'07.1 80°55'21.3		3.12	11.199	0.94	0.74	-28.84
	394	1.74	22.09	393.95	-4.15	4.88	1.19	1567296	380270	39°32'07.1 80°55'21.3		5.02	13.735	0.73	0.64	13.67
	471	2.1	15.39	470.91	-6.16	7.32	2.01	1567297	380272.4	39°32'07.1 80°55'21.2		7.59	15.324	0.55	0.47	-8.7
	565	2.77	52.23	564.83	-8.23	10.37	4.26	1567299	380275.5	39°32'07.2 80°55'21.2		11.22	22.32	1.77	0.71	39.19
	659	3.73	57.3	658.68	-9.55	13.42	8.63	1567304	380278.5	39°32'07.2 80°55'21.2		15.95	32.741	1.07	1.02	5.39
	754	4.3	52.37	753.44	-11.25	17.26	14.05	1567309	380282.4	39°32'07.2 80°55'21.1		22.26	39.141	0.7	0.6	-5.19
	848	4.75	48.23	847.15	-13.7	22.01	19.74	1567315	380287.1	39°32'07.3 80°55'21.0		29.56	41.896	0.59	0.48	-4.4
	943	5.02	59.57	941.81	-15.84	26.73	26.26	1567321	380291.8	39°32'07.3 80°55'20.9		37.47	44.49	1.05	0.28	11.94
	1037	5.77	60.18	1035.39	-17.32	31.16	33.91	1567329	380296.3	39°32'07.4 80°55'20.8		46.05	47.413	0.8	0.8	0.65
	1131	6.47	58	1128.85	-19.14	36.32	42.5	1567337	380301.4	39°32'07.4 80°55'20.7		55.9	49.481	0.78	0.74	-2.32
	1225	7.48	56.34	1222.16	-21.59	42.52	52.08	1567347	380307.6	39°32'07.5 80°55'20.6		67.23	50.772	1.1	1.07	-1.77
	1319	8.18	66.71	1315.28	-23.31	48.55	63.32	1567358	380313.7	39°32'07.6 80°55'20.5		79.79	52.517	1.67	0.74	11.03
	1414	9.01	71.67	1409.22	-23.35	53.57	76.59	1567372	380318.7	39°32'07.6 80°55'20.3		93.46	55.03	1.17	0.87	5.22
	1508	9.34	67.36	1502.02	-23.36	58.82	90.61	1567386	380323.9	39°32'07.7 80°55'20.1		108.03	57.012	0.81	0.35	-4.59
	1602	9.24	64.65	1594.78	-24.28	64.98	104.47	1567399	380330.1	39°32'07.7 80°55'19.9		123.04	58.118	0.48	-0.11	-2.88
	1697	10.12	64.75	1688.43	-25.62	71.81	118.92	1567414	380336.9	39°32'07.8 80°55'19.8		138.92	58.873	0.93	0.93	0.11
	1791	11.31	62.74	1780.79	-27.39	79.56	134.58	1567430	380344.7	39°32'07.9 80°55'19.6		156.34	59.411	1.33	1.27	-2.14
	1885	11.81	62.44	1872.88	-29.65	88.23	151.3	1567446	380353.3	39°32'08.0 80°55'19.4		175.15	59.752	0.54	0.53	-0.32
	1979	12.11	59.7	1964.84	-32.51	97.65	168.34	1567463	380362.8	39°32'08.1 80°55'19.1		194.62	59.882	0.68	0.32	-2.91
	2073	11.19	63.84	2056.91	-35.09	106.65	185.04	1567480	380371.7	39°32'08.1 80°55'18.9		213.58	60.043	1.32	-0.98	4.4
	2168	10.45	63.63	2150.22	-36.88	114.54	201.04	1567496	380379.6	39°32'08.2 80°55'18.7		231.38	60.328	0.78	-0.78	-0.22
	2262	11.26	63.67	2242.53	-38.69	122.4	216.9	1567512	380387.5	39°32'08.3 80°55'18.5		249.05	60.564	0.86	0.86	0.04
	2356	11.83	64.78	2334.63	-40.41	130.57	233.84	1567529	380395.7	39°32'08.4 80°55'18.3		267.83	60.822	0.65	0.61	1.18
	2450	11.99	63.94	2426.61	-42.15	138.97	251.33	1567546	380404.1	39°32'08.5 80°55'18.1		287.19	61.06	0.25	0.17	-0.89
	2545	12.47	63.09	2519.45	-44.25	147.95	269.34	1567564	380413	39°32'08.6 80°55'17.9		307.3	61.22	0.54	0.51	-0.89
	2639	12.52	61.83	2611.23	-46.74	157.35	287.37	1567582	380422.4	39°32'08.7 80°55'17.6		327.63	61.297	0.29	0.05	-1.34
	2733	12.69	60.79	2702.96	-49.67	167.2	305.37	1567600	380432.3	39°32'08.8 80°55'17.4		348.14	61.298	0.3	0.18	-1.11
	2819	12.04	59.31	2786.97	-52.69	176.39	321.32	1567616	380441.5	39°32'08.9 80°55'17.2		366.55	61.236	0.84	-0.76	-1.72

10452	89.63	151.59	6279	3789.18	-2848.08	3202.29	1570497	377417.2	39°31'39.4	80°54'39.8	4285.58	131.65	2.22	0	-2.22
10549	89.63	151.08	6279.62	3885.19	-2933.19	3248.82	1570544	377332.1	39°31'38.6	80°54'39.2	4377.03	132.077	0.53	0	-0.53
10640	89.57	153.89	6280.26	3975.5	-3013.88	3290.85	1570586	377251.4	39°31'37.8	80°54'38.7	4462.42	132.485	3.09	-0.07	3.09
10735	89.51	155.44	6281.02	4070.16	-3099.74	3331.5	1570626	377165.6	39°31'36.9	80°54'38.1	4550.53	132.936	1.63	-0.06	1.63
10829	89.45	157.32	6281.87	4164.01	-3185.86	3369.16	1570664	377079.4	39°31'36.1	80°54'37.6	4636.91	133.398	2	-0.06	2
10923	89.48	159.85	6282.75	4257.99	-3273.36	3403.48	1570698	376991.9	39°31'35.2	80°54'37.2	4722.13	133.884	2.69	0.03	2.69
11017	89.57	161.08	6283.53	4351.97	-3361.94	3434.91	1570730	376903.4	39°31'34.4	80°54'36.8	4806.38	134.385	1.31	0.1	1.31
11111	89.54	162.76	6284.26	4445.88	-3451.29	3464.08	1570759	376814	39°31'33.5	80°54'36.4	4889.92	134.894	1.79	-0.03	1.79
11206	89.6	163.57	6284.97	4540.68	-3542.22	3491.59	1570786	376723.1	39°31'32.6	80°54'36.0	4973.78	135.412	0.85	0.06	0.85
11300	89.51	161.9	6285.7	4634.52	-3631.98	3519.49	1570814	376633.3	39°31'31.7	80°54'35.6	5057.48	135.901	1.78	-0.1	-1.78
11394	89.48	162.59	6286.53	4728.41	-3721.5	3548.15	1570843	376543.8	39°31'30.8	80°54'35.2	5141.88	136.366	0.73	-0.03	0.73
11488	89.51	163.26	6287.36	4822.24	-3811.35	3575.75	1570871	376454	39°31'30.0	80°54'34.9	5226.12	136.827	0.71	0.03	0.71
11583	89.66	162.64	6288.05	4917.06	-3902.17	3603.6	1570898	376363.2	39°31'29.1	80°54'34.5	5311.58	137.278	0.67	0.16	-0.65
11677	89.57	160.78	6288.68	5010.99	-3991.42	3633.1	1570928	376273.9	39°31'28.2	80°54'34.1	5397.3	137.691	1.98	-0.1	-1.98
11771	89.69	159.98	6289.29	5104.97	-4079.96	3664.66	1570959	376185.4	39°31'27.3	80°54'33.7	5484.14	138.069	0.86	0.13	-0.85
11866	89.54	158.39	6289.93	5199.97	-4168.75	3698.42	1570993	376096.6	39°31'26.4	80°54'33.2	5572.86	138.421	1.68	-0.16	-1.67
11960	89.57	154.27	6290.66	5293.8	-4254.82	3736.15	1571031	376010.5	39°31'25.6	80°54'32.7	5662.36	138.714	4.38	0.03	-4.38
12055	89.48	160.73	6291.45	5388.69	-4342.54	3772.48	1571067	375922.8	39°31'24.7	80°54'32.3	5752.33	139.018	6.8	-0.09	6.8
12149	89.66	161.9	6292.15	5482.64	-4431.58	3802.6	1571097	375833.8	39°31'23.9	80°54'31.9	5839.41	139.368	1.26	0.19	1.24
12243	89.94	154.96	6292.48	5576.56	-4518.95	3837.13	1571132	375746.4	39°31'23.0	80°54'31.4	5928.28	139.665	7.39	0.3	-7.38
12337	89.66	153.34	6292.81	5670.15	-4603.54	3878.12	1571173	375661.8	39°31'22.2	80°54'30.9	6019.33	139.889	1.75	-0.3	-1.72
12432	89.78	159.21	6293.27	5764.96	-4690.47	3916.32	1571211	375574.9	39°31'21.3	80°54'30.3	6110.49	140.14	6.18	0.13	6.18
12526	89.82	161.47	6293.6	5858.94	-4778.98	3947.95	1571243	375486.4	39°31'20.5	80°54'29.9	6198.79	140.44	2.4	0.04	2.4
12620	89.82	160.13	6293.9	5952.91	-4867.75	3978.86	1571274	375397.6	39°31'19.6	80°54'29.5	6287	140.738	1.43	0	-1.43
12714	89.78	159.98	6294.22	6046.91	-4956.11	4010.92	1571306	375309.3	39°31'18.7	80°54'29.1	6375.78	141.017	0.17	-0.04	-0.16
12808	89.63	160.04	6294.71	6140.9	-5044.45	4043.06	1571338	375221	39°31'17.8	80°54'28.7	6464.73	141.288	0.17	-0.16	0.06
12902	89.57	162.87	6295.36	6234.84	-5133.56	4072.95	1571368	375131.9	39°31'17.0	80°54'28.3	6553.04	141.572	3.01	-0.06	3.01
12996	89.6	165.27	6296.05	6328.53	-5223.94	4098.75	1571394	375041.5	39°31'16.1	80°54'27.9	6639.97	141.882	2.55	0.03	2.55
13090	90.18	159.64	6296.23	6422.37	-5313.53	4127.07	1571422	374951.9	39°31'15.2	80°54'27.5	6728.02	142.163	6.02	0.62	-5.99
13184	90.03	157.86	6296.05	6516.35	-5401.13	4161.14	1571456	374864.3	39°31'14.3	80°54'27.1	6818.16	142.389	1.9	-0.16	-1.89
13278	90.09	155.19	6295.96	6610.22	-5487.35	4198.58	1571493	374778.1	39°31'13.5	80°54'26.6	6909.35	142.579	2.84	0.06	-2.84
13373	89.72	152.41	6296.11	6704.74	-5572.58	4240.52	1571535	374692.9	39°31'12.7	80°54'26.0	7002.54	142.73	2.95	-0.39	-2.93
13467	89.6	150.17	6296.67	6797.77	-5655.01	4285.67	1571580	374610.4	39°31'11.8	80°54'25.4	7095.5	142.843	2.39	-0.13	-2.38
13561	88.83	155.21	6297.96	6891.07	-5738.5	4328.78	1571624	374526.9	39°31'11.0	80°54'24.9	7188.1	142.971	5.42	-0.82	5.36
13655	89.66	163.51	6299.2	6984.97	-5826.38	4361.88	1571657	374439.1	39°31'10.2	80°54'24.4	7278.24	143.18	8.87	0.88	8.83
13750	90.22	160.21	6299.3	7079.88	-5916.65	4391.46	1571686	374348.8	39°31'09.3	80°54'24.0	7368.28	143.416	3.52	0.59	-3.47
13844	90.12	163.46	6299.02	7173.79	-6005.95	4420.76	1571715	374259.5	39°31'08.4	80°54'23.6	7457.52	143.645	3.46	-0.11	3.46
13939	90.15	161.95	6298.8	7268.64	-6096.65	4449	1571744	374168.8	39°31'07.5	80°54'23.3	7547.37	143.88	1.59	0.03	-1.59
14033	90.28	162.75	6298.44	7362.52	-6186.23	4477.5	1571772	374079.3	39°31'06.6	80°54'22.9	7636.58	144.104	0.86	0.14	0.85
14128	90.18	162.51	6298.06	7457.38	-6276.89	4505.86	1571801	373988.6	39°31'05.7	80°54'22.5	7726.72	144.327	0.27	-0.11	-0.25
14222	90.09	163.28	6297.84	7551.21	-6366.73	4533.51	1571828	373898.8	39°31'04.9	80°54'22.1	7815.88	144.547	0.82	-0.1	0.82
14316	90.09	164.72	6297.69	7644.92	-6457.09	4559.42	1571854	373808.4	39°31'04.0	80°54'21.8	7904.57	144.774	1.53	0	1.53
14355	90.09	164.72	6297.63	7683.76	-6494.71	4569.7	1571864	373770.8	39°31'03.6	80°54'21.7	7941.25	144.87	0	0	0

HOLE AND CASING SECTIONS Ref Wellbore: Wells Meckley 1406MH AWB Ref Wellpath: Wells Meckley 1406MH AWP Proj: 14355'

String/Diag	Start MD	End MD	Interval	Start TVD	End TVD	Start N/S	Start E/W	End N/S	End E/W
	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]
20In Condi	27	100	73	27	100	0	0	0.16	0.04
17.5In Ope	100	444	344	100	443.92	0.16	0.04	6.4	1.74
13.375In C	27	444	417	27	443.92	0	0	6.4	1.74
12.25In Op	444	2866	2422	443.92	2832.98	6.4	1.74	181.36	329.53
9.625In Cas	27	2866	2839	27	2832.98	0	0	181.36	329.53
8.75In Ope	2866	4730	1864	2832.98	4523.42	181.36	329.53	538.86	996.12
8.5In Open	4730	14355	9625	4523.42	6297.63	538.86	996.12	-6494.71	4569.7
5.5In Casin	27	14355	14328	27	6297.63	0	0	-6494.71	4569.7

TARGETS

Name	TVD	North	East	Grid East	Grid North	Latitude	Longitude	Shape	Comment
	[ft]	[ft]	[ft]	[ft]	[US ft]	[US ft]			
Wells Med	6244.32	397.33	2011.46	1569306	380662.4	39°32'11.3	80°54'55.7	point	
Wells Med	6295.78	-6506.35	4592.68	1571887	373759.1	39°31'03.5	80°54'21.4	point	

WELLPATH COMPOSITION Ref Wellbore: Wells Meckley 1406MH AWB Ref Wellpath: Wells Meckley 1406MH AWP Proj: 14355'

Log Name/	Start MD	End MD	Pos Unc	Model
	[ft]	[ft]		
01_ProDire	27	394		ISCWSA MWD, Rev. 4 (Standard)
02_ProDire	394	2819		ISCWSA MWD, Rev. 4 (Standard)
03_ProDire	2819	4669		ISCWSA MWD, Rev. 4 (Standard)
04_BH AT (4669	14316		BHI AutoTrak Curve (Short)
Projection	14316	14355		Blind Drilling (std)

COMMENTS

Wellpath general comments
 API: 47-095-02488-0000
 BH Job #: 8939729
 Rig: H&P 371
 Duration: 1/26/2018-1/30/2018
 ProDirectional EM <17-1/2> (170'-394')*
 ProDirectional EM <12-1/4> (394')(471'-2819)*
 ProDirectional EM <8-3/4> (2819')(2911'-4669)*

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BH AT Curve <B-1/2> (4669)(4704-14316)*
Projected MD at TD: 14355'

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