

NOBLE ENERGY, INC

Location: COLORADO Slot: SLOT#05 APACHE STATE E35-661 (2144'FNL & 1631'FEL, SEC.36)

Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: Apache State E35-661

Facility: SEC.36-T06N-R65W Wellbore: Apache State E35-661 PWB

Plot reference wellpath is Apache State E35-661 (REV-C.0) PWP

True vertical depths are referenced to Rig (4650'GL+30'KB = 4680.0'RK) (RKB)

Reference wellpath measured depths are referenced to Rig (4650'GL+30'KB = 4680.0'RK) (RKB)

Rig (4650'GL+30'KB = 4680.0'RK) to Mean Sea Level: 4680 feet

Mean Sea Level to Ground level (At Slot: SLOT#05 APACHE STATE E35-661 (2144'FNL & 1631'FEL, SEC.36)): 0 feet

Offset wellpath MDs are referenced to each path's default MD datum

Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet

North Reference: Grid north

Scale: True distance

Coordinates are in feet referenced to Slot

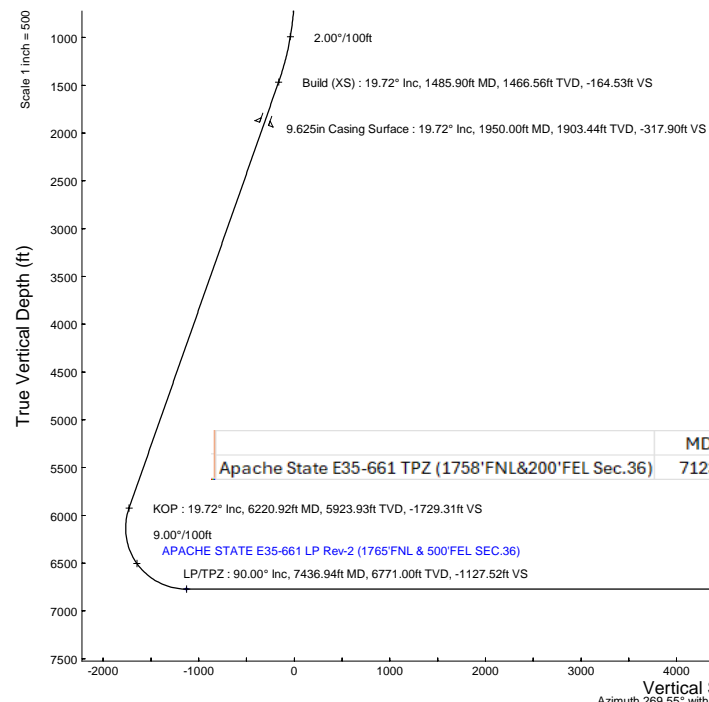
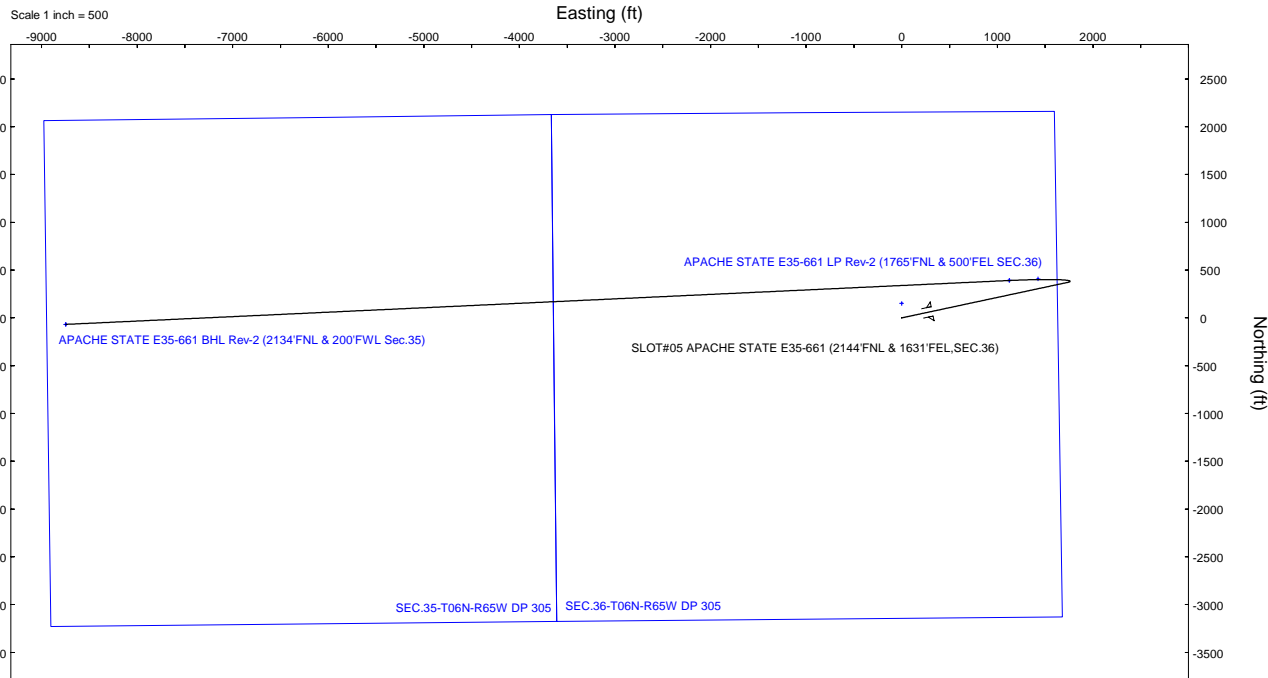
Depths are in feet

Created by: guenaler on 2025-02-11; Database: WA_Danver

Location Information				
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.36-T06N-R65W	3248365.688	1405898.248	40°26'38.9832"N	104°36'27.5004"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
SLOT#05 APACHE STATE E35-661 (2144'FNL & 1631'FEL, SEC.36)	-151.54	1.80	3248367.491	1405746.709
Rig (4650'GL+30'KB = 4680.0'RK) (RKB) to Ground level (At Slot: SLOT#05 APACHE STATE E35-661 (2144'FNL & 1631'FEL, SEC.36))	4680ft			
Mean Sea Level to Ground level (At Slot: SLOT#05 APACHE STATE E35-661 (2144'FNL & 1631'FEL, SEC.36))	0ft			
Rig (4650'GL+30'KB = 4680.0'RK) (RKB) to Mean Sea Level	4680ft			

Targets									
Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
SEC.35-T06N-R65W DP.305	N/A	1.00	151.54	-1.80	3248365.69	1405898.25	40°26'38.9832"N	104°36'27.5004"W	
SEC.36-T06N-R65W DP.305	N/A	1.00	151.54	-1.80	3248365.69	1405898.25	40°26'38.9832"N	104°36'27.5004"W	
APACHE STATE E35-661 BHL Rev-2 (2134'FNL & 200'FWL Sec.35)	17318.20	6771.00	-68.25	-8746.08	3239621.76	1405678.46	40°26'37.6056"N	104°38'20.6196"W	
APACHE STATE E35-661 LP Rev-2 (1765'FNL & 500'FEL SEC.36)	7436.94	6771.00	390.98	1124.50	3249491.95	1406137.67	40°26'41.2368"N	104°36'12.9024"W	
Liback E35-661 BPZ Rev-1 (2134'FNL & 200'FWL, SEC.35)	N/A	6771.00	-69.13	-8748.35	3239619.48	1405677.58	40°26'37.6072"N	104°38'20.6491"W	
Liback E35-661 LP Rev-1 (1751'FNL & 200'FEL, SEC.36)	N/A	6771.00	407.05	1426.33	3249793.76	1406153.75	40°26'41.3655"N	104°36'8.9567"W	
Liback E35-661 LP Rev-2 (1765'FNL & 500'FEL SEC.36)	N/A	6771.00	393.02	1126.50	3249493.95	1406139.72	40°26'41.2588"N	104°36'12.8762"W	

Well Profile Data							
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	VS (ft)
Tie On	30.00	0.000	77.926	30.00	0.00	0.00	0.00
End of Tangent	500.00	0.000	77.926	500.00	0.00	0.00	0.00
Build (XS)	1485.90	19.718	77.926	1466.56	35.14	164.26	2.00
KOP	6220.92	19.718	77.926	5923.93	369.29	1726.48	0.00
LP/TPZ	7436.94	90.000	267.336	6771.00	390.98	1124.50	9.00
BHL	17318.20	90.000	267.336	6771.00	-68.25	-8746.08	0.00



HDGM2024v1.0 (1900.0 to 2025.0) Dpr: 66.61" Field: 51533.6 nT
 Magnetic North is 7.46 degrees East of True North (at 12/02/2024)
 Grid North is 0.58 degrees East of True North
 To correct azimuth from True to Grid subtract 0.58 degrees
 To correct azimuth from Magnetic to Grid add 6.88 degrees



Planned Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Apache State E35-661
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.36-T06N-R65W	Wellbore	Apache State E35-661 PWB
Slot	SLOT#05 APACHE STATE E35-661 (2144'FNL & 1631'FEL,SEC.36)		

REPORT SETUP INFORMATION			
Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Guenaler
Scale	0.999963	Report Generated	2/10/2025 at 2:53:39 PM
Convergence at slot	0.58° East	Database	WA_Denver

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-151.54	1.80	3248367.49	1405746.71	40.4437460°	-104.6076380°
Facility Reference Pt			3248365.69	1405898.25	40.4441620°	-104.6076390°
Field Reference Pt			3000000.00	4454105.15	48.7761986°	-105.5000000°

WELLPATH DATUM			
Calculation method	Minimum curvature	Rig (4650'GL+30'KB = 4680.0'RKB) (RKB) to Facility Vertical Datum	4680.00ft
Horizontal Reference Pt	Slot	Rig (4650'GL+30'KB = 4680.0'RKB) (RKB) to Mean Sea Level	4680.00ft
Vertical Reference Pt	Rig (4650'GL+30'KB = 4680.0'RKB) (RKB)	Rig (4650'GL+30'KB = 4680.0'RKB) (RKB) to Ground Level at Slot (SLOT#05 APACHE STATE E35-661 (2144'FNL & 1631'FEL,SEC.36))	4680.00ft
MD Reference Pt	Rig (4650'GL+30'KB = 4680.0'RKB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	269.55°



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Slot	SLOT#05 APACHE STATE E35-661 (2144'FNL & 1631'FEL,SEC.36)		

WELLPATH DATA (180 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	77.926	0.00	0.00	0.00	0.00	40.4437460	-104.6076380	0.00	
30.00	0.000	77.926	30.00	0.00	0.00	0.00	40.4437460	-104.6076380	0.00	Tie On
130.00†	0.000	77.926	130.00	0.00	0.00	0.00	40.4437460	-104.6076380	0.00	
230.00†	0.000	77.926	230.00	0.00	0.00	0.00	40.4437460	-104.6076380	0.00	
330.00†	0.000	77.926	330.00	0.00	0.00	0.00	40.4437460	-104.6076380	0.00	
430.00†	0.000	77.926	430.00	0.00	0.00	0.00	40.4437460	-104.6076380	0.00	
500.00	0.000	77.926	500.00	0.00	0.00	0.00	40.4437460	-104.6076380	0.00	End of Tangent
530.00†	0.600	77.926	530.00	-0.15	0.03	0.15	40.4437461	-104.6076374	2.00	
630.00†	2.600	77.926	629.96	-2.89	0.62	2.88	40.4437476	-104.6076276	2.00	
730.00†	4.600	77.926	729.75	-9.04	1.93	9.02	40.4437510	-104.6076055	2.00	
830.00†	6.600	77.926	829.27	-18.60	3.97	18.57	40.4437564	-104.6075712	2.00	
930.00†	8.600	77.926	928.39	-31.55	6.74	31.50	40.4437636	-104.6075246	2.00	
1030.00†	10.600	77.926	1026.98	-47.88	10.23	47.81	40.4437727	-104.6074659	2.00	
1130.00†	12.600	77.926	1124.93	-67.58	14.43	67.47	40.4437837	-104.6073951	2.00	
1230.00†	14.600	77.926	1222.13	-90.61	19.35	90.46	40.4437966	-104.6073123	2.00	
1330.00†	16.600	77.926	1318.44	-116.95	24.97	116.76	40.4438113	-104.6072176	2.00	
1430.00†	18.600	77.926	1413.75	-146.56	31.30	146.32	40.4438279	-104.6071112	2.00	
1485.90	19.718	77.926	1466.56	-164.53	35.14	164.26	40.4438379	-104.6070466	2.00	Build (XS)
1530.00†	19.718	77.926	1508.07	-179.11	38.25	178.81	40.4438460	-104.6069942	0.00	
1630.00†	19.718	77.926	1602.20	-212.15	45.31	211.80	40.4438645	-104.6068754	0.00	
1730.00†	19.718	77.926	1696.34	-245.20	52.36	244.80	40.4438830	-104.6067567	0.00	
1830.00†	19.718	77.926	1790.48	-278.25	59.42	277.79	40.4439014	-104.6066379	0.00	
1930.00†	19.718	77.926	1884.61	-311.29	66.48	310.78	40.4439199	-104.6065191	0.00	
2030.00†	19.718	77.926	1978.75	-344.34	73.53	343.78	40.4439383	-104.6064003	0.00	
2130.00†	19.718	77.926	2072.89	-377.39	80.59	376.77	40.4439568	-104.6062815	0.00	
2230.00†	19.718	77.926	2167.02	-410.43	87.65	409.76	40.4439752	-104.6061627	0.00	
2330.00†	19.718	77.926	2261.16	-443.48	94.71	442.75	40.4439937	-104.6060440	0.00	
2430.00†	19.718	77.926	2355.30	-476.53	101.76	475.75	40.4440122	-104.6059252	0.00	
2530.00†	19.718	77.926	2449.43	-509.57	108.82	508.74	40.4440306	-104.6058064	0.00	
2630.00†	19.718	77.926	2543.57	-542.62	115.88	541.73	40.4440491	-104.6056876	0.00	
2730.00†	19.718	77.926	2637.71	-575.67	122.93	574.73	40.4440675	-104.6055688	0.00	

WELLPATH DATA (180 stations) † = interpolated, ‡ = extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
2830.00†	19.718	77.926	2731.84	-608.71	129.99	607.72	40.4440860	-104.6054500	0.00	
2930.00†	19.718	77.926	2825.98	-641.76	137.05	640.71	40.4441044	-104.6053313	0.00	
3030.00†	19.718	77.926	2920.11	-674.81	144.11	673.70	40.4441229	-104.6052125	0.00	
3130.00†	19.718	77.926	3014.25	-707.86	151.16	706.70	40.4441414	-104.6050937	0.00	
3230.00†	19.718	77.926	3108.39	-740.90	158.22	739.69	40.4441598	-104.6049749	0.00	
3330.00†	19.718	77.926	3202.52	-773.95	165.28	772.68	40.4441783	-104.6048561	0.00	
3430.00†	19.718	77.926	3296.66	-807.00	172.33	805.68	40.4441967	-104.6047373	0.00	
3530.00†	19.718	77.926	3390.80	-840.04	179.39	838.67	40.4442152	-104.6046186	0.00	
3630.00†	19.718	77.926	3484.93	-873.09	186.45	871.66	40.4442336	-104.6044998	0.00	
3730.00†	19.718	77.926	3579.07	-906.14	193.51	904.65	40.4442521	-104.6043810	0.00	
3830.00†	19.718	77.926	3673.21	-939.18	200.56	937.65	40.4442705	-104.6042622	0.00	
3930.00†	19.718	77.926	3767.34	-972.23	207.62	970.64	40.4442890	-104.6041434	0.00	
4030.00†	19.718	77.926	3861.48	-1005.28	214.68	1003.63	40.4443075	-104.6040246	0.00	
4130.00†	19.718	77.926	3955.62	-1038.32	221.73	1036.63	40.4443259	-104.6039058	0.00	



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Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.36-T06N-R65W	Wellbore	Apache State E35-661 PWB
Slot	SLOT#05 APACHE STATE E35-661 (2144'FNL & 1631'FEL,SEC.36)		

WELLPATH DATA (180 stations) † = interpolated, ‡ = extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4230.00†	19.718	77.926	4049.75	-1071.37	228.79	1069.62	40.4443444	-104.6037871	0.00	
4330.00†	19.718	77.926	4143.89	-1104.42	235.85	1102.61	40.4443628	-104.6036683	0.00	
4430.00†	19.718	77.926	4238.02	-1137.47	242.91	1135.60	40.4443813	-104.6035495	0.00	
4530.00†	19.718	77.926	4332.16	-1170.51	249.96	1168.60	40.4443997	-104.6034307	0.00	
4630.00†	19.718	77.926	4426.30	-1203.56	257.02	1201.59	40.4444182	-104.6033119	0.00	
4730.00†	19.718	77.926	4520.43	-1236.61	264.08	1234.58	40.4444366	-104.6031931	0.00	
4830.00†	19.718	77.926	4614.57	-1269.65	271.13	1267.58	40.4444551	-104.6030744	0.00	
4930.00†	19.718	77.926	4708.71	-1302.70	278.19	1300.57	40.4444735	-104.6029556	0.00	
5030.00†	19.718	77.926	4802.84	-1335.75	285.25	1333.56	40.4444920	-104.6028368	0.00	
5130.00†	19.718	77.926	4896.98	-1368.79	292.31	1366.55	40.4445105	-104.6027180	0.00	
5230.00†	19.718	77.926	4991.12	-1401.84	299.36	1399.55	40.4445289	-104.6025992	0.00	
5330.00†	19.718	77.926	5085.25	-1434.89	306.42	1432.54	40.4445474	-104.6024804	0.00	
5430.00†	19.718	77.926	5179.39	-1467.93	313.48	1465.53	40.4445658	-104.6023616	0.00	
5530.00†	19.718	77.926	5273.53	-1500.98	320.54	1498.53	40.4445843	-104.6022429	0.00	
5630.00†	19.718	77.926	5367.66	-1534.03	327.59	1531.52	40.4446027	-104.6021241	0.00	
5730.00†	19.718	77.926	5461.80	-1567.07	334.65	1564.51	40.4446212	-104.6020053	0.00	
5830.00†	19.718	77.926	5555.94	-1600.12	341.71	1597.50	40.4446396	-104.6018865	0.00	
5930.00†	19.718	77.926	5650.07	-1633.17	348.76	1630.50	40.4446581	-104.6017677	0.00	
6030.00†	19.718	77.926	5744.21	-1666.22	355.82	1663.49	40.4446765	-104.6016489	0.00	
6130.00†	19.718	77.926	5838.34	-1699.26	362.88	1696.48	40.4446950	-104.6015301	0.00	
6220.92	19.718	77.926	5923.93	-1729.31	369.29	1726.48	40.4447118	-104.6014221	0.00	KOP
6230.00†	18.914	77.489	5932.50	-1732.25	369.93	1729.41	40.4447134	-104.6014116	9.00	
6330.00†	10.187	68.304	6029.21	-1756.39	376.73	1753.50	40.4447314	-104.6013248	9.00	
6430.00†	3.411	7.895	6128.54	-1765.08	382.96	1762.15	40.4447483	-104.6012935	9.00	
6530.00†	9.017	289.006	6228.04	-1758.11	388.47	1755.13	40.4447636	-104.6013185	9.00	
6630.00†	17.686	277.925	6325.26	-1735.64	393.12	1732.63	40.4447770	-104.6013992	9.00	
6730.00†	26.572	274.064	6417.80	-1698.24	396.81	1695.20	40.4447882	-104.6015335	9.00	
6830.00†	35.513	272.046	6503.40	-1646.82	399.44	1643.76	40.4447968	-104.6017182	9.00	
6930.00†	44.475	270.758	6579.93	-1582.65	400.94	1579.57	40.4448027	-104.6019488	9.00	
7030.00†	53.448	269.826	6645.52	-1507.31	401.28	1504.22	40.4448057	-104.6022194	9.00	
7130.00†	62.427	269.090	6698.55	-1422.65	400.46	1419.57	40.4448058	-104.6025236	9.00	

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MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7230.00†	71.408	268.466	6737.72	-1330.76	398.48	1327.69	40.4448029	-104.6028538	9.00	
7330.00†	80.392	267.905	6762.05	-1233.90	395.40	1230.85	40.4447972	-104.6032018	9.00	
7430.00†	89.376	267.373	6770.96	-1134.46	391.30	1131.44	40.4447887	-104.6035591	9.00	
7432.96†	89.642	267.357	6770.99	-1131.50	391.16	1128.48	40.4447884	-104.6035697	9.00	
7436.94	90.000	267.336	6771.00 [†]	-1127.52	390.98	1124.50	40.4447880	-104.6035840	9.00	LP/TPZ
7530.00†	90.000	267.336	6771.00	-1034.53	386.65	1031.54	40.4447787	-104.6039181	0.00	
7630.00†	90.000	267.336	6771.00	-934.60	382.01	931.65	40.4447687	-104.6042772	0.00	
7730.00†	90.000	267.336	6771.00	-834.68	377.36	831.76	40.4447587	-104.6046362	0.00	
7830.00†	90.000	267.336	6771.00	-734.75	372.71	731.87	40.4447487	-104.6049952	0.00	
7930.00†	90.000	267.336	6771.00	-634.83	368.06	631.98	40.4447388	-104.6053543	0.00	
8030.00†	90.000	267.336	6771.00	-534.90	363.42	532.08	40.4447288	-104.6057133	0.00	
8130.00†	90.000	267.336	6771.00	-434.98	358.77	432.19	40.4447188	-104.6060723	0.00	
8230.00†	90.000	267.336	6771.00	-335.05	354.12	332.30	40.4447088	-104.6064314	0.00	
8330.00†	90.000	267.336	6771.00	-235.13	349.47	232.41	40.4446988	-104.6067904	0.00	



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Facility	SEC.36-T06N-R65W	Wellbore	Apache State E35-661 PWB
Slot	SLOT#05 APACHE STATE E35-661 (2144'FNL & 1631'FEL,SEC.36)		

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MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8430.00†	90.000	267.336	6771.00	-135.20	344.83	132.52	40.4446888	-104.6071495	0.00	
8530.00†	90.000	267.336	6771.00	-35.28	340.18	32.62	40.4446788	-104.6075085	0.00	
8630.00†	90.000	267.336	6771.00	64.65	335.53	-67.27	40.4446688	-104.6078675	0.00	
8730.00†	90.000	267.336	6771.00	164.57	330.88	-167.16	40.4446588	-104.6082266	0.00	
8830.00†	90.000	267.336	6771.00	264.50	326.24	-267.05	40.4446488	-104.6085856	0.00	
8930.00†	90.000	267.336	6771.00	364.42	321.59	-366.94	40.4446388	-104.6089446	0.00	
9030.00†	90.000	267.336	6771.00	464.35	316.94	-466.83	40.4446288	-104.6093037	0.00	
9130.00†	90.000	267.336	6771.00	564.27	312.29	-566.73	40.4446188	-104.6096627	0.00	
9230.00†	90.000	267.336	6771.00	664.20	307.65	-666.62	40.4446088	-104.6100218	0.00	
9330.00†	90.000	267.336	6771.00	764.12	303.00	-766.51	40.4445988	-104.6103808	0.00	
9430.00†	90.000	267.336	6771.00	864.05	298.35	-866.40	40.4445888	-104.6107398	0.00	
9530.00†	90.000	267.336	6771.00	963.97	293.70	-966.29	40.4445788	-104.6110989	0.00	
9630.00†	90.000	267.336	6771.00	1063.90	289.06	-1066.19	40.4445688	-104.6114579	0.00	
9730.00†	90.000	267.336	6771.00	1163.82	284.41	-1166.08	40.4445588	-104.6118169	0.00	
9830.00†	90.000	267.336	6771.00	1263.75	279.76	-1265.97	40.4445488	-104.6121760	0.00	
9930.00†	90.000	267.336	6771.00	1363.67	275.11	-1365.86	40.4445387	-104.6125350	0.00	
10030.00†	90.000	267.336	6771.00	1463.60	270.47	-1465.75	40.4445287	-104.6128940	0.00	
10130.00†	90.000	267.336	6771.00	1563.52	265.82	-1565.65	40.4445187	-104.6132531	0.00	
10230.00†	90.000	267.336	6771.00	1663.45	261.17	-1665.54	40.4445087	-104.6136121	0.00	
10330.00†	90.000	267.336	6771.00	1763.37	256.52	-1765.43	40.4444987	-104.6139711	0.00	
10430.00†	90.000	267.336	6771.00	1863.30	251.88	-1865.32	40.4444887	-104.6143302	0.00	
10530.00†	90.000	267.336	6771.00	1963.23	247.23	-1965.21	40.4444786	-104.6146892	0.00	
10630.00†	90.000	267.336	6771.00	2063.15	242.58	-2065.11	40.4444686	-104.6150483	0.00	
10730.00†	90.000	267.336	6771.00	2163.08	237.93	-2165.00	40.4444586	-104.6154073	0.00	
10830.00†	90.000	267.336	6771.00	2263.00	233.29	-2264.89	40.4444486	-104.6157663	0.00	
10930.00†	90.000	267.336	6771.00	2362.93	228.64	-2364.78	40.4444386	-104.6161254	0.00	
11030.00†	90.000	267.336	6771.00	2462.85	223.99	-2464.67	40.4444285	-104.6164844	0.00	
11130.00†	90.000	267.336	6771.00	2562.78	219.34	-2564.57	40.4444185	-104.6168434	0.00	
11230.00†	90.000	267.336	6771.00	2662.70	214.70	-2664.46	40.4444085	-104.6172025	0.00	
11330.00†	90.000	267.336	6771.00	2762.63	210.05	-2764.35	40.4443985	-104.6175615	0.00	
11430.00†	90.000	267.336	6771.00	2862.55	205.40	-2864.24	40.4443884	-104.6179205	0.00	

WELLPATH DATA (180 stations) † = interpolated, ‡ = extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11530.00†	90.000	267.336	6771.00	2962.48	200.75	-2964.13	40.4443784	-104.6182796	0.00	
11630.00†	90.000	267.336	6771.00	3062.40	196.11	-3064.03	40.4443684	-104.6186386	0.00	
11730.00†	90.000	267.336	6771.00	3162.33	191.46	-3163.92	40.4443583	-104.6189976	0.00	
11830.00†	90.000	267.336	6771.00	3262.25	186.81	-3263.81	40.4443483	-104.6193567	0.00	
11930.00†	90.000	267.336	6771.00	3362.18	182.16	-3363.70	40.4443383	-104.6197157	0.00	
12030.00†	90.000	267.336	6771.00	3462.10	177.52	-3463.59	40.4443282	-104.6200747	0.00	
12130.00†	90.000	267.336	6771.00	3562.03	172.87	-3563.49	40.4443182	-104.6204338	0.00	
12230.00†	90.000	267.336	6771.00	3661.95	168.22	-3663.38	40.4443082	-104.6207928	0.00	
12330.00†	90.000	267.336	6771.00	3761.88	163.57	-3763.27	40.4442981	-104.6211518	0.00	
12430.00†	90.000	267.336	6771.00	3861.80	158.93	-3863.16	40.4442881	-104.6215109	0.00	
12530.00†	90.000	267.336	6771.00	3961.73	154.28	-3963.05	40.4442781	-104.6218699	0.00	
12630.00†	90.000	267.336	6771.00	4061.65	149.63	-4062.94	40.4442680	-104.6222289	0.00	
12730.00†	90.000	267.336	6771.00	4161.58	144.98	-4162.84	40.4442580	-104.6225880	0.00	
12830.00†	90.000	267.336	6771.00	4261.50	140.34	-4262.73	40.4442479	-104.6229470	0.00	



Planned Wellpath Report

Apache State E35-661 (REV-C.0) PWP
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Apache State E35-661
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.36-T06N-R65W	Wellbore	Apache State E35-661 PWB
Slot	SLOT#05 APACHE STATE E35-661 (2144'FNL & 1631'FEL,SEC.36)		

WELLPATH DATA (180 stations) † = interpolated, ‡ = extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12930.00†	90.000	267.336	6771.00	4361.43	135.69	-4362.62	40.4442379	-104.6233060	0.00	
13030.00†	90.000	267.336	6771.00	4461.35	131.04	-4462.51	40.4442278	-104.6236651	0.00	
13130.00†	90.000	267.336	6771.00	4561.28	126.39	-4562.40	40.4442178	-104.6240241	0.00	
13230.00†	90.000	267.336	6771.00	4661.20	121.75	-4662.30	40.4442077	-104.6243831	0.00	
13330.00†	90.000	267.336	6771.00	4761.13	117.10	-4762.19	40.4441977	-104.6247422	0.00	
13430.00†	90.000	267.336	6771.00	4861.05	112.45	-4862.08	40.4441876	-104.6251012	0.00	
13530.00†	90.000	267.336	6771.00	4960.98	107.80	-4961.97	40.4441776	-104.6254602	0.00	
13630.00†	90.000	267.336	6771.00	5060.91	103.16	-5061.86	40.4441675	-104.6258193	0.00	
13730.00†	90.000	267.336	6771.00	5160.83	98.51	-5161.76	40.4441575	-104.6261783	0.00	
13830.00†	90.000	267.336	6771.00	5260.76	93.86	-5261.65	40.4441474	-104.6265373	0.00	
13930.00†	90.000	267.336	6771.00	5360.68	89.21	-5361.54	40.4441374	-104.6268964	0.00	
14030.00†	90.000	267.336	6771.00	5460.61	84.57	-5461.43	40.4441273	-104.6272554	0.00	
14130.00†	90.000	267.336	6771.00	5560.53	79.92	-5561.32	40.4441173	-104.6276144	0.00	
14230.00†	90.000	267.336	6771.00	5660.46	75.27	-5661.22	40.4441072	-104.6279734	0.00	
14330.00†	90.000	267.336	6771.00	5760.38	70.62	-5761.11	40.4440971	-104.6283325	0.00	
14430.00†	90.000	267.336	6771.00	5860.31	65.98	-5861.00	40.4440871	-104.6286915	0.00	
14530.00†	90.000	267.336	6771.00	5960.23	61.33	-5960.89	40.4440770	-104.6290505	0.00	
14630.00†	90.000	267.336	6771.00	6060.16	56.68	-6060.78	40.4440669	-104.6294096	0.00	
14730.00†	90.000	267.336	6771.00	6160.08	52.03	-6160.68	40.4440569	-104.6297686	0.00	
14830.00†	90.000	267.336	6771.00	6260.01	47.39	-6260.57	40.4440468	-104.6301276	0.00	
14930.00†	90.000	267.336	6771.00	6359.93	42.74	-6360.46	40.4440368	-104.6304867	0.00	
15030.00†	90.000	267.336	6771.00	6459.86	38.09	-6460.35	40.4440267	-104.6308457	0.00	
15130.00†	90.000	267.336	6771.00	6559.78	33.44	-6560.24	40.4440166	-104.6312047	0.00	
15230.00†	90.000	267.336	6771.00	6659.71	28.80	-6660.14	40.4440065	-104.6315638	0.00	
15330.00†	90.000	267.336	6771.00	6759.63	24.15	-6760.03	40.4439965	-104.6319228	0.00	
15430.00†	90.000	267.336	6771.00	6859.56	19.50	-6859.92	40.4439864	-104.6322818	0.00	
15530.00†	90.000	267.336	6771.00	6959.48	14.86	-6959.81	40.4439763	-104.6326408	0.00	
15630.00†	90.000	267.336	6771.00	7059.41	10.21	-7059.70	40.4439662	-104.6329999	0.00	
15730.00†	90.000	267.336	6771.00	7159.33	5.56	-7159.60	40.4439562	-104.6333589	0.00	
15830.00†	90.000	267.336	6771.00	7259.26	0.91	-7259.49	40.4439461	-104.6337179	0.00	
15930.00†	90.000	267.336	6771.00	7359.18	-3.73	-7359.38	40.4439360	-104.6340770	0.00	

WELLPATH DATA (180 stations) † = interpolated, ‡ = extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
16030.00†	90.000	267.336	6771.00	7459.11	-8.38	-7459.27	40.4439259	-104.6344360	0.00	
16130.00†	90.000	267.336	6771.00	7559.03	-13.03	-7559.16	40.4439159	-104.6347950	0.00	
16230.00†	90.000	267.336	6771.00	7658.96	-17.68	-7659.06	40.4439058	-104.6351541	0.00	
16330.00†	90.000	267.336	6771.00	7758.88	-22.32	-7758.95	40.4438957	-104.6355131	0.00	
16430.00†	90.000	267.336	6771.00	7858.81	-26.97	-7858.84	40.4438856	-104.6358721	0.00	
16530.00†	90.000	267.336	6771.00	7958.74	-31.62	-7958.73	40.4438755	-104.6362311	0.00	
16630.00†	90.000	267.336	6771.00	8058.66	-36.27	-8058.62	40.4438654	-104.6365902	0.00	
16730.00†	90.000	267.336	6771.00	8158.59	-40.91	-8158.51	40.4438554	-104.6369492	0.00	
16830.00†	90.000	267.336	6771.00	8258.51	-45.56	-8258.41	40.4438453	-104.6373082	0.00	
16930.00†	90.000	267.336	6771.00	8358.44	-50.21	-8358.30	40.4438352	-104.6376673	0.00	
17030.00†	90.000	267.336	6771.00	8458.36	-54.86	-8458.19	40.4438251	-104.6380263	0.00	
17130.00†	90.000	267.336	6771.00	8558.29	-59.50	-8558.08	40.4438150	-104.6383853	0.00	
17230.00†	90.000	267.336	6771.00	8658.21	-64.15	-8657.97	40.4438049	-104.6387443	0.00	
17318.20	90.000	267.336	6771.00 ²	8746.34	-68.25	-8746.08	40.4437960	-104.6390610	0.00	BHL



Planned Wellpath Report

Apache State E35-661 (REV-C.0) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	Apache State E35-661
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.36-T06N-R65W	Wellbore	Apache State E35-661 PWB
Slot	SLOT#05 APACHE STATE E35-661 (2144'FNL & 1631'FEL,SEC.36)		

HOLE & CASING SECTIONS - Ref Wellbore: Apache State E35-661 PWB Ref Wellpath: Apache State E35-661 (REV-C.0) PWP

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]
9.625in Casing Surface	30.00	1950.00	1920.00	30.00	1903.44	0.00	0.00	67.89	317.38

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.35-T06N-R65W DP 305	N/A	1.00	151.54	-1.80	3248365.69	1405898.25	40.4441620	-104.6076390	polygon
2D Polygon: dimensions not calculated									
SEC.36-T06N-R65W DP 305	N/A	1.00	151.54	-1.80	3248365.69	1405898.25	40.4441620	-104.6076390	polygon
2D Polygon: dimensions not calculated									
2) APACHE STATE E35-661 BHL Rev-2 (2134'FNL & 200'FWL Sec.35)	17318.20	6771.00	-68.25	-8746.08	3239621.76	1405678.46	40.4437960	-104.6390610	point
1) APACHE STATE E35-661 LP Rev-2 (1765'FNL & 500'FEL SEC.36)	7436.94	6771.00	390.98	1124.50	3249491.95	1406137.67	40.4447880	-104.6035840	point
Libsack E35-661 BPZ Rev-1 (2134'FNL & 200'FWL,SEC.35)	N/A	6771.00	-69.13	-8748.35	3239619.48	1405677.58	40.4437937	-104.6390692	point
Libsack E35-661 LP Rev-1 (1751'FNL & 200'FEL,SEC.36)	N/A	6771.00	407.05	1426.33	3249793.76	1406153.75	40.4448237	-104.6024991	point
Libsack E35-661 LP Rev-2 (1765'FNL & 500'FEL SEC.36)	N/A	6771.00	393.02	1126.50	3249493.95	1406139.72	40.4447936	-104.6035767	point

SURVEY PROGRAM - Ref Wellbore: Apache State E35-661 PWB Ref Wellpath: Apache State E35-661 (REV-C.0) PWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
30.00	17777.10	OWSG MWD rev2 (MS+IFR1)		Apache State E35-661 PWB



Planned Wellpath Report

Apache State E35-661 (REV-C.0) PWP
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Apache State E35-661
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.36-T06N-R65W	Wellbore	Apache State E35-661 PWB
Slot	SLOT#05 APACHE STATE E35-661 (2144'FNL & 1631'FEL,SEC.36)		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
7432.96	89.642	267.357	6770.99	

DESIGN COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
30.00	0.000	77.926	30.00	Tie On
500.00	0.000	77.926	500.00	End of Tangent
1485.90	19.718	77.926	1466.56	Build (XS)
6220.92	19.718	77.926	5923.93	KOP
7436.94	90.000	267.336	6771.00	LP/TPZ
17318.20	90.000	267.336	6771.00	BHL



Closest Approach Clearance Summary Report

Apache State E35-661 (REV-C.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Apache State E35-661
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.36-T06N-R65W	Wellbore	Apache State E35-661 PWB
Slot	SLOT#05 APACHE STATE E35-661 (2144'FNL & 1631'FEL,SEC.36)		

REPORT SETUP INFORMATION			
Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Guenaler
Scale	0.999963	Report Generated	2/10/2025 at 5:17:38 PM
Convergence at slot	0.58° East	Database	WA_Denver

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-151.54	1.80	3248367.49	1405746.71	40°26'37.4856"N	104°36'27.4968"W
Facility Reference Pt			3248365.69	1405898.25	40°26'38.9832"N	104°36'27.5004"W
Field Reference Pt			3000000.00	4454105.15	48°46'34.3150"N	105°30'0.0000"W

WELLPATH DATUM			
Calculation method	Minimum Curvature	Rig (4650'GL+30'KB = 4680.0'RKB) (RKB) to Facility Vertical Datum	4680.00ft
Horizontal Reference Pt	Slot	Rig (4650'GL+30'KB = 4680.0'RKB) (RKB) to Mean Sea Level	4680.00ft
Vertical Reference Pt	Rig (4650'GL+30'KB = 4680.0'RKB) (RKB)	Rig (4650'GL+30'KB = 4680.0'RKB) (RKB) to Ground Level at Slot (SLOT#05 APACHE STATE E35-661 (2144'FNL & 1631'FEL,SEC.36))	4680.00ft
MD Reference Pt	Rig (4650'GL+30'KB = 4680.0'RKB) (RKB)		
Field Vertical Reference	Mean Sea Level		

POSITIONAL UNCERTAINTY CALCULATION SETTINGS					
Ellipse Confidence Limit	3.50 Std Dev	Ellipse Start MD	30.00ft	Surface Position Uncertainty	included

POSITIONAL UNCERTAINTY CALCULATION SETTINGS

Declination	7.46° East of TN	Dip Angle	66.61°	Mag Field Strength	51534 nT
Slot Surface Uncertainty @1SD		Horizontal	0.100ft	Vertical	1.000ft
Facility Surface Uncertainty @1SD		Horizontal	8.200ft	Vertical	3.000ft

Positional Uncertainty values in the WELLPATH DATA table are the projection of the ellipsoid of uncertainty onto the vertical and horizontal planes



Closest Approach Clearance Summary Report

Apache State E35-661 (REV-C.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Apache State E35-661
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.36-T06N-R65W	Wellbore	Apache State E35-661 PWB
Slot	SLOT#05 APACHE STATE E35-661 (2144'FNL & 1631'FEL,SEC.36)		

PROXIMITY-SCAN RULE			
Rule Name	SPE WPTS Stop Drilling HSE Risk (2017)	Rule Based On	Ratio
Plane of Rule	Closest Approach	Threshold Value	1.00
Include Casing & Hole Size	yes	Apply Cone of Safety	no

HOLE & CASING SECTIONS - Ref Wellbore: Apache State E35-661 PWB Ref Wellpath: Apache State E35-661 (REV-C.0) PWP									
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]
9.625in Casing Surface	30.00	1950.00	1920.00	30.00	1903.44	0.00	0.00	67.89	317.38

SURVEY PROGRAM - Ref Wellbore: Apache State E35-661 PWB Ref Wellpath: Apache State E35-661 (REV-C.0) PWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
30.00	17777.10	OWSG MWD rev2 (MS+IFR1)		Apache State E35-661 PWB



Closest Approach Clearance Summary Report

Apache State E35-661 (REV-C.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Apache State E35-661
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.36-T06N-R65W	Wellbore	Apache State E35-661 PWB
Slot	SLOT#05 APACHE STATE E35-661 (2144'FNL & 1631'FEL,SEC.36)		

CALCULATION RANGE & CUTOFF		
From: 30.00ft MD	To: 17318.20ft MD	C-C Cutoff: (none)

OFFSET WELL CLEARANCE SUMMARY (70 Offset Wellpaths selected) Ratios are calculated in Closest Approach plane													
Offset Facility	Offset Slot	Offset Well	Offset Wellbore	Offset Wellpath	Wellbore Status	C-C Clearance Distance			Rule Separation Ratio				
						Ref MD [ft]	Min C-C Clear Dist [ft]	Diverging from MD [ft]	Ref MD of Min Ratio [ft]	Min Ratio	Min Ratio Dvrg from [ft]	Rule Status	
E Section 35	WARREN #E 35-6 (05-123-12087) PA	WARREN #E 35-6 (05-123-12087)	WARREN #E 35-6 AWB	WARREN #E 35-6 AWP	Drilling	15513.73	42.29	15513.73	15513.73	0.00	15513.73	FAIL	
E Section 35	Little Will 8 (05-123-11986) PR	Little Will 8 (05-123-11986)	Little Will 8 AWB	Little Will 8 AWP	Drilling	14334.23	68.14	14334.23	14334.23	0.02	14334.23	FAIL	
E Section 35	Hoshiko 3 (05-123-11550) PA	Hoshiko 3 (05-123-11550)	Hoshiko 3 AWB	Hoshiko 3 - As Drilled	Drilling	12823.92	10.32	12823.92	12823.89	0.04	12823.89	FAIL	
E Section 35	Lyster 4-35EG (05-123-12998) PA	Lyster 4-35EG (05-123-12998)	Lyster 4-35EG AWB	Lyster 4-35EG AWP	Drilling	14180.33	1313.07	14180.33	14180.42	0.16	14180.42	FAIL	
E Section 35	Warren E 35-12 (05-123-16221) SI	Warren E 35-12 (05-123-16221)	Warren E 35-12 AWB	Warren E 35-12 AWP	Drilling	16909.80	1398.91	16909.80	16909.80	0.17	16909.80	FAIL	
E Section 35	Warren E 35-11 (05-123-16220) PA	Warren E 35-11 (05-123-16220)	Warren E 35-11 AWB	Warren E 35-11 AWP	Drilling	15422.29	1412.01	15422.29	15422.29	0.17	15422.29	FAIL	
E Section 35	Little Will 5 (05-123-11742) PA	Little Will 5 (05-123-11742)	Little Will 5 AWB	Little Will 5 No Surveys	Drilling	12979.16	2704.28	12979.16	12979.46	0.33	12979.46	FAIL	
E Section 35	Warren E35-14 (05-123-16223) PA	Warren E 35-14 (05-123-16223)	Warren E 35-14 AWB	Warren E 35-14 AWP	Drilling	15465.25	2733.42	15465.25	15465.67	0.33	15465.67	FAIL	
E Section 36	(Sinjin E36-6 (SI))	Sinjin E36-6 (05-123-16354)	Sinjin E36-6 AWB	Wellbore #1\No Surveys	Drilling	10266.27	109.40	10266.27	10266.39	0.47	10266.39	FAIL	
SEC.36-T06N-R65W	SLOT#06 APACHE STATE E35-656 (2159'FNL & 1631'FEL,SEC.36)	Apache State E35-656	Apache State E35-656 PWB	Apache State E35-656 (REV-C.0) PWP	Planned	30.00	14.94	17318.20	17318.20	1.04	17318.20	WARN	
SEC.36-T06N-R65W	SLOT#04 APACHE STATE E35-669 (2129'FNL & 1631'FEL,SEC.36)	Apache State E35-669	Apache State E35-669 PWB	Apache State E35-669 (REV-C.0) PWP	Planned	30.00	14.94	17305.28	17305.28	1.07	17305.28	WARN	
SEC.19-T06N-R64W	SLOT#18 ROTH STATE A31-790 (508'FSL & 1980'FWL,SEC.19)	ROTH STATE A31-790 (05-123-51060)	ROTH STATE A31-790 AWB	ROTH STATE A31-790 AWP	Drilling	6999.10	158.67	6999.10	7012.41	1.18	7012.41	PASS	
E Section 35	Warren E 35-05 (05-123-16119) PA	Warren E 35-05 (05-123-16119)	Warren E 35-05 AWB	Warren E 35-05 AWP	Drilling	16753.56	270.86	16753.56	16757.89	1.19	16757.89	PASS	
E Section 35	Hoshiko 1-35 (05-123-14541) PA	Hoshiko 1-35 (05-123-14541)	Hoshiko 1-35 AWB	Hoshiko 1-35 - No Surveys	Drilling	12845.35	3359.52	12845.35	3879.71	1.20	15530.00	PASS	
E Section 36	(Sinjin E36-7 (PA))	Sinjin E36-7 (05-123-16302)	Sinjin E36-7 AWB	Wellbore #1\No Surveys	Drilling	30.00	355.29	8930.00	8931.68	1.78	8931.68	PASS	

OFFSET WELL CLEARANCE SUMMARY (70 Offset Wellpaths selected) Ratios are calculated in Closest Approach plane

Offset Facility	Offset Slot	Offset Well	Offset Wellbore	Offset Wellpath	Wellbore Status	C-C Clearance Distance			Rule Separation Ratio			
						Ref MD [ft]	Min C-C Clear Dist [ft]	Diverging from MD [ft]	Ref MD of Min Ratio [ft]	Min Ratio	Min Ratio Dvrg from [ft]	Rule Status
E Section 36	(Bill E36-67HN)	Bill E36-67HN (05-123-34609)	Bill E36-67HN	Bill E36-67HN - As Drilled	Drilling	11744.37	282.92	11744.37	11758.10	1.85	11758.10	PASS
SEC.36-T06N-R65W	SLOT#07 APACHE STATE E35-646 (2174'FNL & 1631'FEL,SEC.36)	Apache State E35-646	Apache State E35-646 PWB	Apache State E35-646 (REV-C.0) PWP	Planned	30.00	29.88	17318.20	17318.20	2.03	17318.20	PASS
E Section 36	(Sinjin E36-5 (PR))	Sinjin E36-5 (05-123-16353)	Sinjin E36-5 AWB	Wellbore #1\Gyro Surveys	Drilling	11560.03	268.19	11560.03	11564.80	2.25	11564.80	PASS
SEC.36-T06N-R65W	SLOT#03 APACHE STATE E35-674 (2114'FNL & 1631'FEL,SEC.36)	Apache State E35-674	Apache State E35-674 PWB	Apache State E35-674 (REV-C.0) PWP	Planned	30.00	29.88	17309.23	17309.23	2.39	17309.23	PASS
SEC.34-T06N-R65W	SLOT#1 LDS E #35-79HC (05-123-35466)	LDS E #35-79HC	LDS E #35-79HC AWB	LDS E #35-79HC AWP	Drilling	17318.20	343.75	17318.20	17318.20	2.42	17318.20	PASS
SEC.36-T06N-R65W	SLOT#08 APACHE STATE E35-640 (2189'FNL & 1631'FEL,SEC.36)	Apache State E35-640	Apache State E35-640 PWB	Apache State E35-640 (REV-C.0) PWP	Planned	30.00	45.18	17318.20	17318.20	3.45	17318.20	PASS
SEC.36-T06N-R65W	SLOT#02 APACHE STATE E35-679 (2099'FNL & 1631'FEL,SEC.36)	Apache State E35-679	Apache State E35-679 PWB	Apache State E35-679 (REV-C.0) PWP	Planned	30.00	45.18	17318.20	17318.20	3.82	17318.20	PASS
E Section 36	(Mansfield E36-65HN)	Mansfield E36-65HN (05-123-34611)	Mansfield E36-65HN ST01	Mansfield E36-65HN ST01 - As Drilled	Drilling	9108.56	860.96	11730.00	7490.19	3.87	11830.00	PASS
E Section 36	(Sinjin E36-8 (SI))	Sinjin E36-8 (05-123-16468)	Sinjin E36-8 AWB	Wellbore #1\Gyro Surveys	Drilling	4185.04	205.71	7436.94	4232.41	4.30	7436.94	PASS
E Section 35	CSU E 35-19 (05-123-30493) SI	CSU E 35-19 (05-123-30493)	CSU E 35-19 AWB	CSU E 35-19 AWP	Drilling	16283.14	929.15	16283.14	16329.58	4.31	16329.58	PASS



Closest Approach Clearance Summary Report

Apache State E35-661 (REV-C.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)
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REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	Apache State E35-661
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.36-T06N-R65W	Wellbore	Apache State E35-661 PWB
Slot	SLOT#05 APACHE STATE E35-661 (2144'FNL & 1631'FEL,SEC.36)		

CALCULATION RANGE & CUTOFF

From: 30.00ft MD	To: 17318.20ft MD	C-C Cutoff: (none)
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OFFSET WELL CLEARANCE SUMMARY (70 Offset Wellpaths selected) Ratios are calculated in Closest Approach plane

Offset Facility	Offset Slot	Offset Well	Offset Wellbore	Offset Wellpath	Wellbore Status	C-C Clearance Distance			Rule Separation Ratio			
						Ref MD [ft]	Min C-C Clear Dist [ft]	Diverging from MD [ft]	Ref MD of Min Ratio [ft]	Min Ratio	Min Ratio Dvrg from [ft]	Rule Status
SEC.36-T06N-R65W	SLOT#09 APACHE STATE E35-635 (2204'FNL & 1631'FEL,SEC.36)	Apache State E35-635	Apache State E35-635 PWB	Apache State E35-635 (REV-C.0) PWP	Planned	30.00	60.11	17318.20	17318.20	4.49	17318.20	PASS
E Section 36	(Sinjin State E36-19)	Sinjin State E36-19 (05-123-30092)	Sinjin State E36-19 AWB	Wellbore #1\Gyro Surveys	Drilling	10932.15	521.55	10932.15	10961.08	4.86	10961.08	PASS
SEC.36-T06N-R65W	SLOT#01 APACHE STATE E35-684 (2084'FNL & 1631'FEL,SEC.36)	Apache State E35-684	Apache State E35-684 PWB	Apache State E35-684 (REV-C.0) PWP	Planned	30.00	60.11	500.00	17318.20	5.16	17318.20	PASS
E Section 35	CSU E 35-04 (05-123-30492) SI	CSU E 35-04 (05-123-30492)	CSU E 35-04 AWB	CSU E 35-04 AWP	Suspended	16961.53	1269.58	16961.53	17043.29	5.52	17043.29	PASS
SEC.36-T06N-R65W	SLOT#10 APACHE STATE E35-630 (2219'FNL & 1631'FEL,SEC.36)	Apache State E35-630	Apache State E35-630 PWB	Apache State E35-630 (REV-D.0) PWP	Planned	30.00	75.05	17318.20	17318.20	5.54	17318.20	PASS
SEC.19-T06N-R64W	SLOT#19 ROTH A31-780 (492'FSL & 1996'FWL,SEC.19)	ROTH A31-780 (05-123-51064)	ROTH A31-780 AWB	ROTH A31-780 AWP	Drilling	6766.16	738.06	6766.16	6791.44	5.68	6791.44	PASS
E Section 36	(Sinjin E36-11 (SI))	Sinjin E36-11 (05-123-16305)	Sinjin E36-11 AWB	Wellbore #1\No Surveys	Drilling	10168.55	1438.13	10168.55	10220.97	6.35	10220.97	PASS
E Section 35	CSU E35-03D (05-123-30495)	CSU E35-03D (05-123-30495)	CSU E35-03D AWB	CSU E35-03D - As Drilled	Drilling	15615.82	1462.57	15615.82	15696.04	6.55	15696.04	PASS
SEC.36-T06N-R65W	SLOT#11 APACHE STATE E35-625 (2234'FNL & 1631'FEL,SEC.36)	Apache State E35-625	Apache State E35-625 PWB	Apache State E35-625 (REV-C.0) PWP	Planned	30.00	89.99	17318.20	17318.20	6.57	17318.20	PASS
E Section 36	(Sinjin State E36-20 (SI))	Sinjin State E36-20 (05-123-30661)	Sinjin State E36-20 AWB	Wellbore #1\Gyro Surveys	Drilling	10889.23	706.60	10889.23	10935.36	6.64	10935.36	PASS
E Section 26	(Healy E34-69HN)	Healy E34-69HN (05-123-38160)	Healy E34-69HN AWB	Healy E34-69HN\Original Drilling	Drilling	12553.67	1904.88	12553.67	17318.20	6.74	17318.20	PASS
E Section 36	(Mansfield E36-65HN)	Mansfield E36-65HN (05-123-34611)	Mansfield E36-65HN	Mansfield E36-65HN - As Drilled	Drilling	11180.68	860.34	11730.00	11814.97	6.99	11814.97	PASS
E Section 36	(Sinjin E36-10(SI))	Sinjin E36-10(05-123-16304)	Sinjin E36-10 AWB	Wellbore #1\No Surveys	Drilling	30.00	1300.32	8930.00	8990.01	7.22	8990.01	PASS
		Apache State E35-620			Planned	30.00	104.92	17318.20	17318.20	7.64	17318.20	PASS

OFFSET WELL CLEARANCE SUMMARY (70 Offset Wellpaths selected) Ratios are calculated in Closest Approach plane												
Offset Facility	Offset Slot	Offset Well	Offset Wellbore	Offset Wellpath	Wellbore Status	C-C Clearance Distance			Rule Separation Ratio			
						Ref MD [ft]	Min C-C Clear Dist [ft]	Diverging from MD [ft]	Ref MD of Min Ratio [ft]	Min Ratio	Min Ratio Dvrg from [ft]	Rule Status
SEC.36-T06N-R65W	SLOT#12 APACHE STATE E35-620 (2249'FNL & 1631'FEL,SEC.36)		Apache State E35-620 PWB	Apache State E35-620 (REV-C.0) PWP								
E Section 36	(Sinjin E36-9 (SI))	Sinjin E36-9 (05-123-16303)	Sinjin E36-9 AWB	Wellbore #1\No Surveys	Drilling	2930.27	1558.66	7696.30	7696.30	8.18	7696.30	PASS
SEC.36-T06N-R65W	SLOT#13 APACHE STATE E35-615 (2264'FNL & 1631'FEL,SEC.36)	Apache State E35-615	Apache State E35-615 PWB	Apache State E35-615 (REV-C.0) PWP	Planned	30.00	119.86	17318.20	17318.20	8.65	17318.20	PASS
E Section 35	CEI-Hoshiko 2 (05-123-11415) PA	CEI-Hoshiko 2 (05-123-11415)	CEI-Hoshiko 2 AWB	CEI-Hoshiko 2 AWP	Abandoned	12812.66	1312.29	12812.66	12942.53	8.91	12942.53	PASS
SEC.01-T05N-R65W	SLOT #1 LDS #1U-304 (05-123-41129)	LDS #1U-304	LDS #1U-304 AWB	LDS #1U-304 AWP	Drilling	14057.38	3447.02	14057.38	14578.33	8.93	14578.33	PASS
E Section 36	(Sinjin E36-12 (SI))	Sinjin E36-12 (05-123-12890)	Sinjin E36-12 AWB	Wellbore #1\Gyro Surveys	Drilling	11670.73	1568.76	11670.73	11987.43	9.21	11987.43	PASS
SEC.01-T05N-R65W	SLOT #2 LDS #1U-234 (05-123-41128)	LDS #1U-234	LDS #1U-234 AWB	LDS #1U-234 AWP	Drilling	14495.47	3644.93	14495.47	14576.03	9.40	14576.03	PASS
E Section 36	(Sinjin E36-04 (SI))	Sinjin E36-04 (05-123-11676)	Sinjin E36-04 Gyros	Sinjin E36-04 Gyros\As-Drilled	Drilling	11531.62	1276.48	11531.62	11684.01	10.75	11684.01	PASS
E Section 36	(Sinjin E36-14 (PA))	Sinjin E36-14 (05-123-16307)	Sinjin E36-14 AWB	Wellbore #1\No Surveys	Drilling	10301.23	2569.62	10301.23	10482.33	11.30	10482.33	PASS
E Section 35	EWS #2 (05-123-37808) IJ	EWS #2 (05-123-37808)	EWS #2	EWS #2 - As-Drilled	Drilling	14359.73	2058.73	14359.73	14606.62	11.54	14606.62	PASS
E Section 36	(LDS F 01-29 (SI))	LDS F 01-29 (05-123-29793)	LDS F 01-29 AWB	Wellbore #1\Inc Only Surveys	Drilling	11008.97	3177.73	11008.97	11241.30	11.56	11241.30	PASS
E Section 35	Warren E35-13 (05-123-16222) SI	Warren E35-13 (05-123-16222)	Warren E35-13 AWB	Warren E35-13 AWP	Drilling	16979.58	2693.34	16979.58	17307.65	11.59	17307.65	PASS



Closest Approach Clearance Summary Report

Apache State E35-661 (REV-C.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)
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REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	Apache State E35-661
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.36-T06N-R65W	Wellbore	Apache State E35-661 PWB
Slot	SLOT#05 APACHE STATE E35-661 (2144'FNL & 1631'FEL,SEC.36)		

CALCULATION RANGE & CUTOFF

From: 30.00ft MD	To: 17318.20ft MD	C-C Cutoff: (none)
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OFFSET WELL CLEARANCE SUMMARY (70 Offset Wellpaths selected) Ratios are calculated in Closest Approach plane

Offset Facility	Offset Slot	Offset Well	Offset Wellbore	Offset Wellpath	Wellbore Status	C-C Clearance Distance			Rule Separation Ratio			
						Ref MD [ft]	Min C-C Clear Dist [ft]	Diverging from MD [ft]	Ref MD of Min Ratio [ft]	Min Ratio	Min Ratio Dvrg from [ft]	Rule Status
E Section 36	(Sinjin E 36-3 (PA))	Sinjin E 36-3 (05-123-16467)	Sinjin E 36-3 AWB	Wellbore #1\Gyro Surveys	Drilling	10188.59	1307.31	10188.59	10374.88	13.58	10374.88	PASS
E Section 35	SRC Airport 34-35D (05-123-34400) PR	SRC Airport 34-35D (05-123-34400)	SRC Airport 34-35D AWB	SRC Airport 34-35D AWP	Drilling	14298.68	2618.95	14298.68	14757.97	14.60	14757.97	PASS
E Section 36	(Sinjin E36-2 (PR))	Sinjin E36-2 (05-123-16301)	Sinjin E36-2 AWB	Wellbore #1\Gyro Surveys	Drilling	9086.27	1166.53	9086.27	9253.65	14.68	9253.65	PASS
E Section 36	(LDS E 36-33 (SI))	LDS E 36-33 (05-123-29796)	LDS E 36-33 AWB	LDS E 36-33\Gyro Surveys	Drilling	12129.21	2024.50	12129.21	12456.13	15.44	12456.13	PASS
E Section 35	SRC Airport 44-35D (05-123-34406) SI	SRC Airport 44-35D (05-123-34406)	SRC Airport 44-35D AWB	SRC Airport 44-35D AWP	Drilling	13081.67	2538.81	13081.67	13510.92	16.37	13510.92	PASS
A Section 31	Ehrlich 31-1 (05-123-13686) PA	Ehrlich 31-1 (05-123-13686)	Ehrlich 31-1 AWB	Ehrlich 31-1 AWP	Abandoned	6562.74	1059.82	6562.74	6633.75	16.92	6633.75	PASS
E Section 36	(Sinjin E36-25 (SI))	Sinjin E36-25 (05-123-22619)	Sinjin E36-25 AWB	Wellbore #1\Gyro Surveys	Drilling	10850.81	1973.90	10850.81	11214.63	18.24	11214.63	PASS
E Section 36	(Sinjin E36-1 (SI))	Sinjin E36-1 (05-123-16466)	Sinjin E36-1 AWB	Wellbore #1\Gyro Surveys	Drilling	7658.08	1214.73	7658.08	7767.55	18.46	7767.55	PASS
E Section 36	(Cattleman 13-31D (PR))	Cattleman 13-31D (05-123-22091)	Cattleman 13-31D AWB	Wellbore #1\MWD Surveys	Drilling	6501.21	1600.27	6501.21	6776.91	19.45	6776.91	PASS
SEC.02-T05N-R65W	SLOT#01 Noffsinger #2RD (05-123-31903)	Noffsinger #2RD	Noffsinger #2RD AWB	Noffsinger #2RD AWP	Drilling	13619.88	3338.97	13619.88	14310.31	19.62	14310.31	PASS
E Section 36	(Sinjin E36-13 (TA))	Sinjin E36-13 (05-123-16306)	Sinjin E36-13 AWB	Wellbore #1\Gyro Surveys	Drilling	11715.76	2492.68	11715.76	12236.18	19.93	12236.18	PASS
E Section 36	(Cattleman 23-31D (PR))	Cattleman 23-31D (05-123-22090)	Cattleman 23-31D AWB	Wellbore #1\MWD Surveys	Drilling	6393.77	2226.83	6393.77	6521.37	20.38	16330.00	PASS
E Section 36	(LDS F 01-30D (TA))	LDS F 01-30D (05-123-30047)	LDS F 01-30D AWB	Wellbore #1\MWD Surveys	Drilling	12257.45	3297.78	12257.45	13105.53	22.94	13105.53	PASS
A Section 31	Cervi 13-31H (05-123-34142) PR	Cervi 13-31H (05-123-34142)	Cervi 13-31H AWB	Cervi 13-31H AWP	Producing / injecting	4813.02	1985.55	4813.02	6705.30	29.93	6705.30	PASS
E Section 36	(SINJIN E36-15 (PA))	SINJIN E36-15 (05-123-16308)	SINJIN E36-15	SINJIN E36-15\Wellbore #1 - As Drilled	Drilling	167.17	2697.98	9030.00	10014.30	34.23	10014.30	PASS

OFFSET WELL CLEARANCE SUMMARY (70 Offset Wellpaths selected) Ratios are calculated in Closest Approach plane

Offset Facility	Offset Slot	Offset Well	Offset Wellbore	Offset Wellpath	Wellbore Status	C-C Clearance Distance			Rule Separation Ratio			
						Ref MD [ft]	Min C-C Clear Dist [ft]	Diverging from MD [ft]	Ref MD of Min Ratio [ft]	Min Ratio	Min Ratio Dvrg from [ft]	Rule Status
E Section 36	(Cattleman 24-31D (TA))	Cattleman 24-31D (05-123-22092)	Cattleman 24-31D AWB	Wellbore #1\MWD Surveys	Drilling	469.07	2959.53	469.07	6723.18	35.18	15930.00	PASS
E Section 36	(LDS F 01-28D (SI))	LDS F 01-28D (05-123-29794)	LDS F 01-28D AWB	Wellbore #1\Gyro Surveys	Drilling	378.52	2949.40	9630.00	10838.55	35.56	10838.55	PASS
E Section 36	(Cattleman 14-31D (SI))	Cattleman 14-31D (05-123-22089)	Cattleman 14-31D AWB	Wellbore #1\MWD Surveys	Drilling	5561.50	2836.31	5561.50	6944.70	37.75	6944.70	PASS
E Section 36	(LDS F 01-27 (SI))	LDS F 01-27 (05-123-29795)	LDS F 01-27 AWB	Wellbore #1\Gyro Surveys	Drilling	397.22	2952.73	8330.00	9651.78	42.78	9651.78	PASS
E Section 36	(Sinjin E36-16 (PA))	Sinjin E36-16 (05-123-16469)	Sinjin E36-16 AWB	Wellbore #1\Gyro Surveys	Drilling	2174.43	2809.34	7730.00	8785.42	44.01	8785.42	PASS