

# PETROSHARE

Location: COLORADO Slot: SLOT#03 WAKEMAN 20-17-4NBH (293°FSL & 2053°FEL, SEC.20)  
Field: ADAMS COUNTY (NAD83/ GRID NORTH) Well: WAKEMAN 20-17-4NBH  
Facility: SEC.20-T01S-R65W Wellbore: WAKEMAN 20-17-4NBH PWB

Plot reference wellpath is WAKEMAN 20-17-4NBH PWB (REV-A.0)

True vertical depths are referenced to RIG (13KB) (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to RIG (13KB) (RKB)	North Reference: Grid north
RIG (13KB) (RKB) to Mean Sea Level: 5203 feet	Scale: True distance
Mean Sea Level to Ground level (At Slot: SLOT#03 WAKEMAN 20-17-4NBH (293°FSL & 2053°FEL, SEC.20)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: ingmjmr on 2017-09-22
	Database: WellArchitectDB1

## Location Information

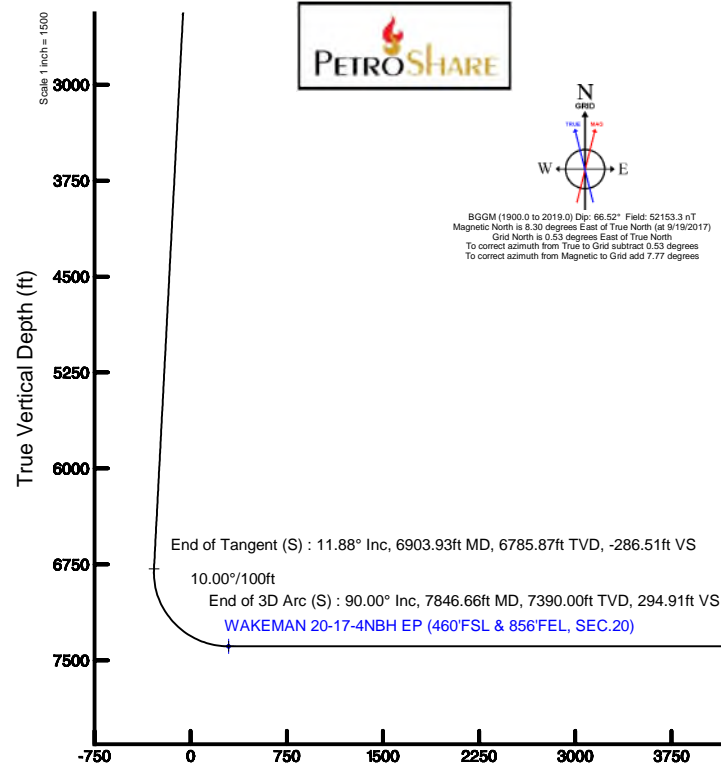
Facility Name				Grid East (US Rt)	Grid North (US Rt)	Latitude	Longitude
SEC.20-T01S-R65W				3228360.558	1223518.730	39°56'38.622"N	104°41'07.909"W
Slot	Local N (ft)	Local E (ft)	Grid East (US Rt)	Grid North (US Rt)	Latitude	Longitude	
SLOT#03 WAKEMAN 20-17-4NBH (293°FSL & 2053°FEL, SEC.20)	0.01	-29.95	3228330.613	1223518.743	39°56'38.625"N	104°41'08.294"W	
RIG (13KB) (RKB) to Ground level (At Slot: SLOT#03 WAKEMAN 20-17-4NBH (293°FSL & 2053°FEL, SEC.20))						5203R	
Mean Sea Level to Ground level (At Slot: SLOT#03 WAKEMAN 20-17-4NBH (293°FSL & 2053°FEL, SEC.20))						0ft	
RIG (13KB) (RKB) to Mean Sea Level						5203R	

## Hole and Casing Sections

Name	Start MD (ft)	End MD (ft)	Interval (ft)	Start TVD (ft)	End TVD (ft)	Start Local N (ft)	Start Local E (ft)	End Local N (ft)	End Local E (ft)	Wellbore
9.625in Casing Surface	13.00	1800.00	1787.00	13.00	1791.34	0.00	0.00	-36.24	97.25	WAKEMAN 20-17-4NBH PWB
8.5in Open Hole	1800.00	17645.62	15845.62	1791.34	7390.00	-36.24	97.25	9967.67	1060.93	WAKEMAN 20-17-4NBH PWB

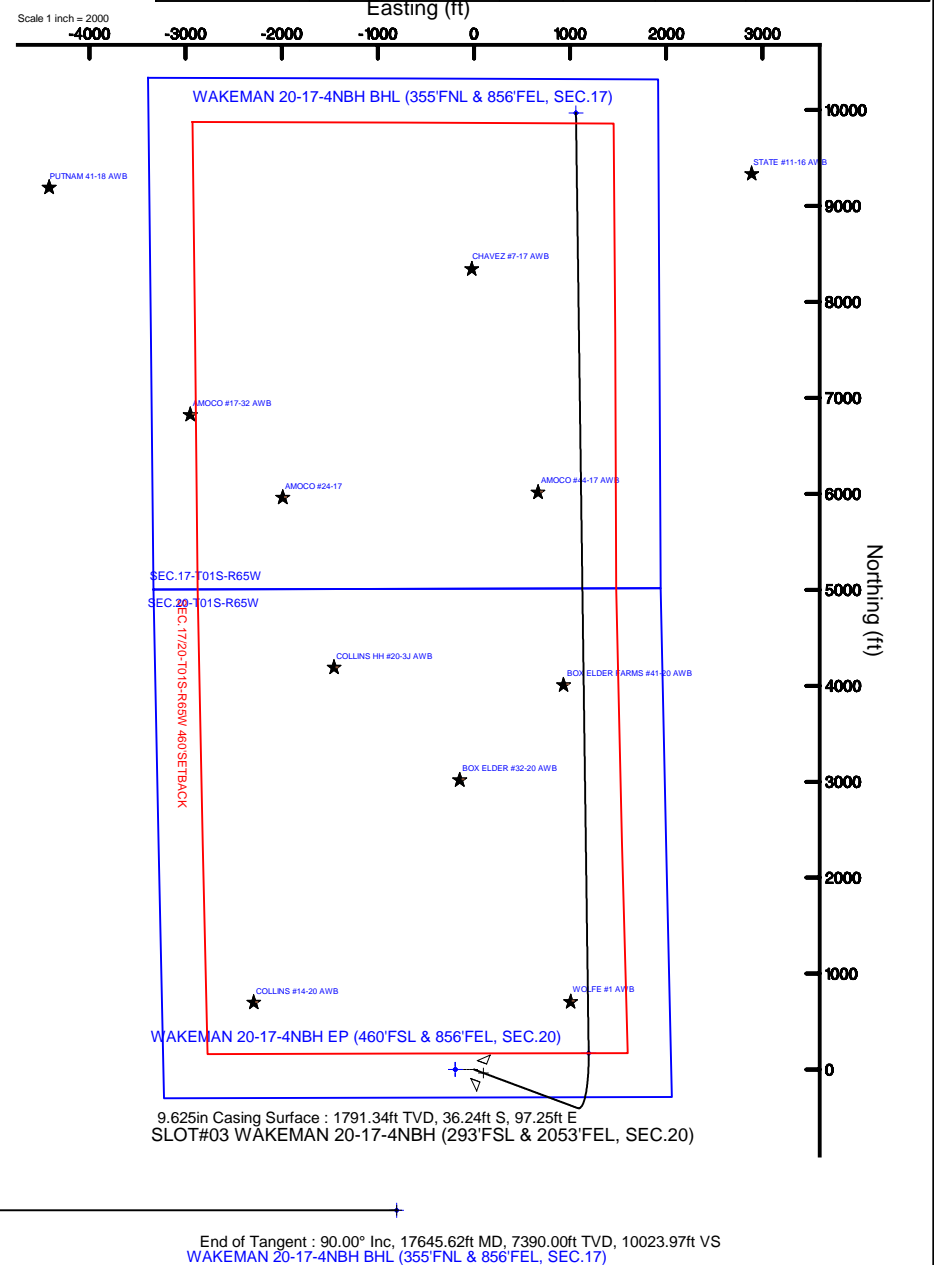
## Survey Program

Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
13.00	17645.62	BHI NavTrak	Custom BHI NavTrak (Standard Rotating+Axial Cor) (Rockies 0.03Gt model)		WAKEMAN 20-17-4NBH PWB



Well Profile Data								
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	13.00	0.000	110.440	13.00	0.00	0.00	0.00	0.00
End of Tangent	1000.00	0.000	110.440	1000.00	0.00	0.00	0.00	0.00
End of Build (S)	1594.22	11.884	110.440	1589.97	-21.44	57.54	2.00	-15.23
End of Tangent (S)	6903.93	11.884	110.440	6785.87	-403.31	1082.17	0.00	-286.51
End of 3D Arc (S)	7846.66	90.000	359.228	7390.00	169.60	1192.98	10.00	294.91
End of Tangent	17645.62	90.000	359.228	7390.00	9967.67	1060.93	0.00	10023.97

Scale 1 inch = 2000



Vertical Section (ft)

Azimuth 6.08° with reference 0.00 N, 0.00 E

Scale 1 inch = 1500



# Planned Wellpath Report

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## REFERENCE WELLPATH IDENTIFICATION

Operator	PETROSHARE	Slot	SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20)
Area	COLORADO	Well	WAKEMAN 20-17-4NBH
Field	ADAMS COUNTY (NAD83/ GRID NORTH)	Wellbore	WAKEMAN 20-17-4NBH PWB
Facility	SEC.20-T01S-R65W		

## REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 5.1
North Reference	Grid	User	Ingmjmr
Scale	0.999971	Report Generated	9/22/2017 at 11:40:24 AM
Convergence at slot	0.53° East	Database/Source file	WellArchitectDB1/WAKEMAN_20-17-4NBH_PWP_REV-A.0_.xml

## WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.01	-29.95	3228330.61	1223518.74	39°56'38.625"N	104°41'08.294"W
Facility Reference Pt			3228360.56	1223518.73	39°56'38.622"N	104°41'07.909"W
Field Reference Pt			3175478.75	1240632.48	39°59'31.992"N	104°52'25.320"W

## WELLPATH DATUM

Calculation method	Minimum curvature	RIG (13'KB) (RKB) to Facility Vertical Datum	5203.00ft
Horizontal Reference Pt	Slot	RIG (13'KB) (RKB) to Mean Sea Level	5203.00ft
Vertical Reference Pt	RIG (13'KB) (RKB)	RIG (13'KB) (RKB) to Ground Level at Slot (SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20))	5203.00ft
MD Reference Pt	RIG (13'KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	6.08°



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**BAKER  
HUGHES**  
a GE company



## REFERENCE WELLPATH IDENTIFICATION

Operator	PETROSHARE	Slot	SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20)
Area	COLORADO	Well	WAKEMAN 20-17-4NBH
Field	ADAMS COUNTY (NAD83/ GRID NORTH)	Wellbore	WAKEMAN 20-17-4NBH PWB
Facility	SEC.20-T01S-R65W		

## WELLPATH DATA (188 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	110.440	0.00	0.00	0.00	0.00	39°56'38.625"N	104°41'08.294"W	0.00	
13.00	0.000	110.440	13.00	0.00	0.00	0.00	39°56'38.625"N	104°41'08.294"W	0.00	Tie On
113.00†	0.000	110.440	113.00	0.00	0.00	0.00	39°56'38.625"N	104°41'08.294"W	0.00	
213.00†	0.000	110.440	213.00	0.00	0.00	0.00	39°56'38.625"N	104°41'08.294"W	0.00	
313.00†	0.000	110.440	313.00	0.00	0.00	0.00	39°56'38.625"N	104°41'08.294"W	0.00	
413.00†	0.000	110.440	413.00	0.00	0.00	0.00	39°56'38.625"N	104°41'08.294"W	0.00	
513.00†	0.000	110.440	513.00	0.00	0.00	0.00	39°56'38.625"N	104°41'08.294"W	0.00	
613.00†	0.000	110.440	613.00	0.00	0.00	0.00	39°56'38.625"N	104°41'08.294"W	0.00	
713.00†	0.000	110.440	713.00	0.00	0.00	0.00	39°56'38.625"N	104°41'08.294"W	0.00	
813.00†	0.000	110.440	813.00	0.00	0.00	0.00	39°56'38.625"N	104°41'08.294"W	0.00	
913.00†	0.000	110.440	913.00	0.00	0.00	0.00	39°56'38.625"N	104°41'08.294"W	0.00	
1000.00	0.000	110.440	1000.00	0.00	0.00	0.00	39°56'38.625"N	104°41'08.294"W	0.00	End of Tangent
1013.00†	0.260	110.440	1013.00	-0.01	-0.01	0.03	39°56'38.625"N	104°41'08.293"W	2.00	
1113.00†	2.260	110.440	1112.97	-0.55	-0.78	2.09	39°56'38.617"N	104°41'08.267"W	2.00	
1213.00†	4.260	110.440	1212.80	-1.96	-2.76	7.42	39°56'38.597"N	104°41'08.199"W	2.00	
1313.00†	6.260	110.440	1312.38	-4.24	-5.97	16.01	39°56'38.564"N	104°41'08.089"W	2.00	
1413.00†	8.260	110.440	1411.57	-7.37	-10.38	27.85	39°56'38.520"N	104°41'07.937"W	2.00	
1502.57†	10.051	110.440	1500.00	-10.91	-15.36	41.20	39°56'38.469"N	104°41'07.766"W	2.00	FOX HILLS
1513.00†	10.260	110.440	1510.26	-11.36	-16.00	42.92	39°56'38.463"N	104°41'07.744"W	2.00	
1594.22	11.884	110.440	1589.97	-15.23	-21.44	57.54	39°56'38.408"N	104°41'07.557"W	2.00	End of Build (S)
1613.00†	11.884	110.440	1608.35	-16.19	-22.80	61.16	39°56'38.394"N	104°41'07.511"W	0.00	
1713.00†	11.884	110.440	1706.20	-21.30	-29.99	80.46	39°56'38.321"N	104°41'07.264"W	0.00	
1813.00†	11.884	110.440	1804.06	-26.41	-37.18	99.76	39°56'38.248"N	104°41'07.017"W	0.00	
1913.00†	11.884	110.440	1901.92	-31.52	-44.37	119.06	39°56'38.175"N	104°41'06.770"W	0.00	
2013.00†	11.884	110.440	1999.77	-36.63	-51.56	138.35	39°56'38.103"N	104°41'06.523"W	0.00	
2113.00†	11.884	110.440	2097.63	-41.74	-58.75	157.65	39°56'38.030"N	104°41'06.276"W	0.00	
2213.00†	11.884	110.440	2195.48	-46.85	-65.95	176.95	39°56'37.957"N	104°41'06.030"W	0.00	
2313.00†	11.884	110.440	2293.34	-51.96	-73.14	196.25	39°56'37.884"N	104°41'05.783"W	0.00	
2413.00†	11.884	110.440	2391.20	-57.07	-80.33	215.54	39°56'37.811"N	104°41'05.536"W	0.00	
2513.00†	11.884	110.440	2489.05	-62.17	-87.52	234.84	39°56'37.738"N	104°41'05.289"W	0.00	



# Planned Wellpath Report

WAKEMAN 20-17-4NBH PWP (REV-A.0)

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## REFERENCE WELLPATH IDENTIFICATION

Operator	PETROSHARE	Slot	SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20)
Area	COLORADO	Well	WAKEMAN 20-17-4NBH
Field	ADAMS COUNTY (NAD83/ GRID NORTH)	Wellbore	WAKEMAN 20-17-4NBH PWB
Facility	SEC.20-T01S-R65W		

## WELLPATH DATA (188 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
2613.00†	11.884	110.440	2586.91	-67.28	-94.71	254.14	39°56'37.666"N	104°41'05.042"W	0.00	
2713.00†	11.884	110.440	2684.77	-72.39	-101.91	273.43	39°56'37.593"N	104°41'04.795"W	0.00	
2813.00†	11.884	110.440	2782.62	-77.50	-109.10	292.73	39°56'37.520"N	104°41'04.548"W	0.00	
2913.00†	11.884	110.440	2880.48	-82.61	-116.29	312.03	39°56'37.447"N	104°41'04.301"W	0.00	
3013.00†	11.884	110.440	2978.34	-87.72	-123.48	331.33	39°56'37.374"N	104°41'04.054"W	0.00	
3113.00†	11.884	110.440	3076.19	-92.83	-130.67	350.62	39°56'37.301"N	104°41'03.807"W	0.00	
3213.00†	11.884	110.440	3174.05	-97.94	-137.86	369.92	39°56'37.229"N	104°41'03.561"W	0.00	
3313.00†	11.884	110.440	3271.91	-103.05	-145.06	389.22	39°56'37.156"N	104°41'03.314"W	0.00	
3413.00†	11.884	110.440	3369.76	-108.16	-152.25	408.51	39°56'37.083"N	104°41'03.067"W	0.00	
3513.00†	11.884	110.440	3467.62	-113.26	-159.44	427.81	39°56'37.010"N	104°41'02.820"W	0.00	
3613.00†	11.884	110.440	3565.48	-118.37	-166.63	447.11	39°56'36.937"N	104°41'02.573"W	0.00	
3713.00†	11.884	110.440	3663.33	-123.48	-173.82	466.41	39°56'36.865"N	104°41'02.326"W	0.00	
3813.00†	11.884	110.440	3761.19	-128.59	-181.02	485.70	39°56'36.792"N	104°41'02.079"W	0.00	
3913.00†	11.884	110.440	3859.05	-133.70	-188.21	505.00	39°56'36.719"N	104°41'01.832"W	0.00	
4013.00†	11.884	110.440	3956.90	-138.81	-195.40	524.30	39°56'36.646"N	104°41'01.585"W	0.00	
4113.00†	11.884	110.440	4054.76	-143.92	-202.59	543.60	39°56'36.573"N	104°41'01.338"W	0.00	
4213.00†	11.884	110.440	4152.61	-149.03	-209.78	562.89	39°56'36.500"N	104°41'01.092"W	0.00	
4313.00†	11.884	110.440	4250.47	-154.14	-216.97	582.19	39°56'36.428"N	104°41'00.845"W	0.00	
4413.00†	11.884	110.440	4348.33	-159.25	-224.17	601.49	39°56'36.355"N	104°41'00.598"W	0.00	
4513.00†	11.884	110.440	4446.18	-164.36	-231.36	620.78	39°56'36.282"N	104°41'00.351"W	0.00	
4613.00†	11.884	110.440	4544.04	-169.46	-238.55	640.08	39°56'36.209"N	104°41'00.104"W	0.00	
4713.00†	11.884	110.440	4641.90	-174.57	-245.74	659.38	39°56'36.136"N	104°40'59.857"W	0.00	
4813.00†	11.884	110.440	4739.75	-179.68	-252.93	678.68	39°56'36.063"N	104°40'59.610"W	0.00	
4913.00†	11.884	110.440	4837.61	-184.79	-260.13	697.97	39°56'35.991"N	104°40'59.363"W	0.00	
4925.66†	11.884	110.440	4850.00	-185.44	-261.04	700.42	39°56'35.981"N	104°40'59.332"W	0.00	SUSSEX/SHANNON
5013.00†	11.884	110.440	4935.47	-189.90	-267.32	717.27	39°56'35.918"N	104°40'59.116"W	0.00	
5113.00†	11.884	110.440	5033.32	-195.01	-274.51	736.57	39°56'35.845"N	104°40'58.870"W	0.00	
5213.00†	11.884	110.440	5131.18	-200.12	-281.70	755.86	39°56'35.772"N	104°40'58.623"W	0.00	
5313.00†	11.884	110.440	5229.04	-205.23	-288.89	775.16	39°56'35.699"N	104°40'58.376"W	0.00	
5413.00†	11.884	110.440	5326.89	-210.34	-296.08	794.46	39°56'35.627"N	104°40'58.129"W	0.00	



# Planned Wellpath Report

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## REFERENCE WELLPATH IDENTIFICATION

Operator	PETROSHARE	Slot	SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20)
Area	COLORADO	Well	WAKEMAN 20-17-4NBH
Field	ADAMS COUNTY (NAD83/ GRID NORTH)	Wellbore	WAKEMAN 20-17-4NBH PWB
Facility	SEC.20-T01S-R65W		

## WELLPATH DATA (188 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
5513.00†	11.884	110.440	5424.75	-215.45	-303.28	813.76	39°56'35.554"N	104°40'57.882"W	0.00	
5613.00†	11.884	110.440	5522.61	-220.55	-310.47	833.05	39°56'35.481"N	104°40'57.635"W	0.00	
5713.00†	11.884	110.440	5620.46	-225.66	-317.66	852.35	39°56'35.408"N	104°40'57.388"W	0.00	
5813.00†	11.884	110.440	5718.32	-230.77	-324.85	871.65	39°56'35.335"N	104°40'57.141"W	0.00	
5913.00†	11.884	110.440	5816.18	-235.88	-332.04	890.95	39°56'35.262"N	104°40'56.894"W	0.00	
6013.00†	11.884	110.440	5914.03	-240.99	-339.24	910.24	39°56'35.190"N	104°40'56.647"W	0.00	
6113.00†	11.884	110.440	6011.89	-246.10	-346.43	929.54	39°56'35.117"N	104°40'56.401"W	0.00	
6213.00†	11.884	110.440	6109.74	-251.21	-353.62	948.84	39°56'35.044"N	104°40'56.154"W	0.00	
6313.00†	11.884	110.440	6207.60	-256.32	-360.81	968.13	39°56'34.971"N	104°40'55.907"W	0.00	
6413.00†	11.884	110.440	6305.46	-261.43	-368.00	987.43	39°56'34.898"N	104°40'55.660"W	0.00	
6513.00†	11.884	110.440	6403.31	-266.54	-375.19	1006.73	39°56'34.825"N	104°40'55.413"W	0.00	
6613.00†	11.884	110.440	6501.17	-271.64	-382.39	1026.03	39°56'34.753"N	104°40'55.166"W	0.00	
6713.00†	11.884	110.440	6599.03	-276.75	-389.58	1045.32	39°56'34.680"N	104°40'54.919"W	0.00	
6813.00†	11.884	110.440	6696.88	-281.86	-396.77	1064.62	39°56'34.607"N	104°40'54.672"W	0.00	
6903.93	11.884	110.440	6785.87	-286.51	-403.31	1082.17	39°56'34.541"N	104°40'54.448"W	0.00	End of Tangent (S)
6913.00†	11.593	106.218	6794.74	-286.90	-403.89	1083.92	39°56'34.535"N	104°40'54.425"W	10.00	
7013.00†	12.910	58.093	6892.71	-281.78	-400.78	1103.10	39°56'34.564"N	104°40'54.179"W	10.00	
7113.00†	19.910	32.026	6988.70	-259.54	-380.39	1121.66	39°56'34.764"N	104°40'53.938"W	10.00	
7213.00†	28.697	20.229	7079.80	-220.85	-343.34	1139.03	39°56'35.128"N	104°40'53.711"W	10.00	
7313.00†	38.052	13.744	7163.25	-166.89	-290.74	1154.70	39°56'35.647"N	104°40'53.503"W	10.00	
7380.57†	44.513	10.739	7214.00	-122.60	-247.19	1164.07	39°56'36.076"N	104°40'53.378"W	10.00	NIOBRARA A CHALK
7404.90†	46.856	9.823	7231.00	-105.23	-230.06	1167.17	39°56'36.245"N	104°40'53.336"W	10.00	NIOBRARA A MARL
7413.00†	47.638	9.534	7236.50	-99.30	-224.20	1168.17	39°56'36.303"N	104°40'53.322"W	10.00	
7513.00†	57.337	6.453	7297.33	-20.13	-145.74	1179.05	39°56'37.077"N	104°40'53.173"W	10.00	
7613.00†	67.096	3.983	7343.89	68.21	-57.74	1187.00	39°56'37.946"N	104°40'53.061"W	10.00	
7713.00†	76.888	1.847	7374.77	163.05	37.12	1191.78	39°56'38.883"N	104°40'52.988"W	10.00	
7813.00†	86.697	359.877	7389.03	261.49	135.96	1193.25	39°56'39.860"N	104°40'52.958"W	10.00	
7846.66	90.000	359.228	7390.00†	294.91	169.60	1192.98	39°56'40.192"N	104°40'52.957"W	10.00	End of 3D Arc (S)
7913.00†	90.000	359.228	7390.00	360.78	235.93	1192.09	39°56'40.848"N	104°40'52.961"W	0.00	
8013.00†	90.000	359.228	7390.00	460.06	335.92	1190.74	39°56'41.836"N	104°40'52.966"W	0.00	



# Planned Wellpath Report

WAKEMAN 20-17-4NBH PWP (REV-A.0)

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## REFERENCE WELLPATH IDENTIFICATION

Operator	PETROSHARE	Slot	SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20)
Area	COLORADO	Well	WAKEMAN 20-17-4NBH
Field	ADAMS COUNTY (NAD83/ GRID NORTH)	Wellbore	WAKEMAN 20-17-4NBH PWB
Facility	SEC.20-T01S-R65W		

## WELLPATH DATA (188 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8113.00†	90.000	359.228	7390.00	559.35	435.91	1189.39	39°56'42.824"N	104°40'52.972"W	0.00	
8213.00†	90.000	359.228	7390.00	658.64	535.90	1188.05	39°56'43.812"N	104°40'52.977"W	0.00	
8313.00†	90.000	359.228	7390.00	757.92	635.89	1186.70	39°56'44.801"N	104°40'52.983"W	0.00	
8413.00†	90.000	359.228	7390.00	857.21	735.88	1185.35	39°56'45.789"N	104°40'52.988"W	0.00	
8513.00†	90.000	359.228	7390.00	956.50	835.88	1184.00	39°56'46.777"N	104°40'52.994"W	0.00	
8613.00†	90.000	359.228	7390.00	1055.78	935.87	1182.66	39°56'47.765"N	104°40'52.999"W	0.00	
8713.00†	90.000	359.228	7390.00	1155.07	1035.86	1181.31	39°56'48.753"N	104°40'53.004"W	0.00	
8813.00†	90.000	359.228	7390.00	1254.36	1135.85	1179.96	39°56'49.742"N	104°40'53.010"W	0.00	
8913.00†	90.000	359.228	7390.00	1353.64	1235.84	1178.61	39°56'50.730"N	104°40'53.015"W	0.00	
9013.00†	90.000	359.228	7390.00	1452.93	1335.83	1177.27	39°56'51.718"N	104°40'53.021"W	0.00	
9113.00†	90.000	359.228	7390.00	1552.22	1435.82	1175.92	39°56'52.706"N	104°40'53.026"W	0.00	
9213.00†	90.000	359.228	7390.00	1651.50	1535.81	1174.57	39°56'53.695"N	104°40'53.032"W	0.00	
9313.00†	90.000	359.228	7390.00	1750.79	1635.80	1173.22	39°56'54.683"N	104°40'53.037"W	0.00	
9413.00†	90.000	359.228	7390.00	1850.08	1735.79	1171.88	39°56'55.671"N	104°40'53.043"W	0.00	
9513.00†	90.000	359.228	7390.00	1949.36	1835.78	1170.53	39°56'56.659"N	104°40'53.048"W	0.00	
9613.00†	90.000	359.228	7390.00	2048.65	1935.78	1169.18	39°56'57.648"N	104°40'53.053"W	0.00	
9713.00†	90.000	359.228	7390.00	2147.94	2035.77	1167.83	39°56'58.636"N	104°40'53.059"W	0.00	
9813.00†	90.000	359.228	7390.00	2247.22	2135.76	1166.48	39°56'59.624"N	104°40'53.064"W	0.00	
9913.00†	90.000	359.228	7390.00	2346.51	2235.75	1165.14	39°57'00.612"N	104°40'53.070"W	0.00	
10013.00†	90.000	359.228	7390.00	2445.80	2335.74	1163.79	39°57'01.601"N	104°40'53.075"W	0.00	
10113.00†	90.000	359.228	7390.00	2545.08	2435.73	1162.44	39°57'02.589"N	104°40'53.081"W	0.00	
10213.00†	90.000	359.228	7390.00	2644.37	2535.72	1161.09	39°57'03.577"N	104°40'53.086"W	0.00	
10313.00†	90.000	359.228	7390.00	2743.66	2635.71	1159.75	39°57'04.565"N	104°40'53.092"W	0.00	
10413.00†	90.000	359.228	7390.00	2842.94	2735.70	1158.40	39°57'05.553"N	104°40'53.097"W	0.00	
10513.00†	90.000	359.228	7390.00	2942.23	2835.69	1157.05	39°57'06.542"N	104°40'53.103"W	0.00	
10613.00†	90.000	359.228	7390.00	3041.52	2935.69	1155.70	39°57'07.530"N	104°40'53.108"W	0.00	
10713.00†	90.000	359.228	7390.00	3140.80	3035.68	1154.36	39°57'08.518"N	104°40'53.113"W	0.00	
10813.00†	90.000	359.228	7390.00	3240.09	3135.67	1153.01	39°57'09.506"N	104°40'53.119"W	0.00	
10913.00†	90.000	359.228	7390.00	3339.38	3235.66	1151.66	39°57'10.495"N	104°40'53.124"W	0.00	
11013.00†	90.000	359.228	7390.00	3438.66	3335.65	1150.31	39°57'11.483"N	104°40'53.130"W	0.00	





# Planned Wellpath Report

WAKEMAN 20-17-4NBH PWP (REV-A.0)

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## REFERENCE WELLPATH IDENTIFICATION

Operator	PETROSHARE	Slot	SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20)
Area	COLORADO	Well	WAKEMAN 20-17-4NBH
Field	ADAMS COUNTY (NAD83/ GRID NORTH)	Wellbore	WAKEMAN 20-17-4NBH PWB
Facility	SEC.20-T01S-R65W		

## WELLPATH DATA (188 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11113.00†	90.000	359.228	7390.00	3537.95	3435.64	1148.97	39°57'12.471"N	104°40'53.135"W	0.00	
11213.00†	90.000	359.228	7390.00	3637.24	3535.63	1147.62	39°57'13.459"N	104°40'53.141"W	0.00	
11313.00†	90.000	359.228	7390.00	3736.52	3635.62	1146.27	39°57'14.448"N	104°40'53.146"W	0.00	
11413.00†	90.000	359.228	7390.00	3835.81	3735.61	1144.92	39°57'15.436"N	104°40'53.152"W	0.00	
11513.00†	90.000	359.228	7390.00	3935.10	3835.60	1143.58	39°57'16.424"N	104°40'53.157"W	0.00	
11613.00†	90.000	359.228	7390.00	4034.38	3935.59	1142.23	39°57'17.412"N	104°40'53.162"W	0.00	
11713.00†	90.000	359.228	7390.00	4133.67	4035.59	1140.88	39°57'18.400"N	104°40'53.168"W	0.00	
11813.00†	90.000	359.228	7390.00	4232.96	4135.58	1139.53	39°57'19.389"N	104°40'53.173"W	0.00	
11913.00†	90.000	359.228	7390.00	4332.24	4235.57	1138.19	39°57'20.377"N	104°40'53.179"W	0.00	
12013.00†	90.000	359.228	7390.00	4431.53	4335.56	1136.84	39°57'21.365"N	104°40'53.184"W	0.00	
12113.00†	90.000	359.228	7390.00	4530.82	4435.55	1135.49	39°57'22.353"N	104°40'53.190"W	0.00	
12213.00†	90.000	359.228	7390.00	4630.10	4535.54	1134.14	39°57'23.342"N	104°40'53.195"W	0.00	
12313.00†	90.000	359.228	7390.00	4729.39	4635.53	1132.79	39°57'24.330"N	104°40'53.201"W	0.00	
12413.00†	90.000	359.228	7390.00	4828.68	4735.52	1131.45	39°57'25.318"N	104°40'53.206"W	0.00	
12513.00†	90.000	359.228	7390.00	4927.96	4835.51	1130.10	39°57'26.306"N	104°40'53.212"W	0.00	
12613.00†	90.000	359.228	7390.00	5027.25	4935.50	1128.75	39°57'27.295"N	104°40'53.217"W	0.00	
12713.00†	90.000	359.228	7390.00	5126.54	5035.49	1127.40	39°57'28.283"N	104°40'53.222"W	0.00	
12813.00†	90.000	359.228	7390.00	5225.82	5135.49	1126.06	39°57'29.271"N	104°40'53.228"W	0.00	
12913.00†	90.000	359.228	7390.00	5325.11	5235.48	1124.71	39°57'30.259"N	104°40'53.233"W	0.00	
13013.00†	90.000	359.228	7390.00	5424.40	5335.47	1123.36	39°57'31.247"N	104°40'53.239"W	0.00	
13113.00†	90.000	359.228	7390.00	5523.68	5435.46	1122.01	39°57'32.236"N	104°40'53.244"W	0.00	
13213.00†	90.000	359.228	7390.00	5622.97	5535.45	1120.67	39°57'33.224"N	104°40'53.250"W	0.00	
13313.00†	90.000	359.228	7390.00	5722.25	5635.44	1119.32	39°57'34.212"N	104°40'53.255"W	0.00	
13413.00†	90.000	359.228	7390.00	5821.54	5735.43	1117.97	39°57'35.200"N	104°40'53.261"W	0.00	
13513.00†	90.000	359.228	7390.00	5920.83	5835.42	1116.62	39°57'36.189"N	104°40'53.266"W	0.00	
13613.00†	90.000	359.228	7390.00	6020.11	5935.41	1115.28	39°57'37.177"N	104°40'53.272"W	0.00	
13713.00†	90.000	359.228	7390.00	6119.40	6035.40	1113.93	39°57'38.165"N	104°40'53.277"W	0.00	
13813.00†	90.000	359.228	7390.00	6218.69	6135.39	1112.58	39°57'39.153"N	104°40'53.282"W	0.00	
13913.00†	90.000	359.228	7390.00	6317.97	6235.39	1111.23	39°57'40.142"N	104°40'53.288"W	0.00	
14013.00†	90.000	359.228	7390.00	6417.26	6335.38	1109.89	39°57'41.130"N	104°40'53.293"W	0.00	



# Planned Wellpath Report

WAKEMAN 20-17-4NBH PWP (REV-A.0)

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## REFERENCE WELLPATH IDENTIFICATION

Operator	PETROSHARE	Slot	SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20)
Area	COLORADO	Well	WAKEMAN 20-17-4NBH
Field	ADAMS COUNTY (NAD83/ GRID NORTH)	Wellbore	WAKEMAN 20-17-4NBH PWB
Facility	SEC.20-T01S-R65W		

## WELLPATH DATA (188 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
14113.00†	90.000	359.228	7390.00	6516.55	6435.37	1108.54	39°57'42.118"N	104°40'53.299"W	0.00	
14213.00†	90.000	359.228	7390.00	6615.83	6535.36	1107.19	39°57'43.106"N	104°40'53.304"W	0.00	
14313.00†	90.000	359.228	7390.00	6715.12	6635.35	1105.84	39°57'44.094"N	104°40'53.310"W	0.00	
14413.00†	90.000	359.228	7390.00	6814.41	6735.34	1104.50	39°57'45.083"N	104°40'53.315"W	0.00	
14513.00†	90.000	359.228	7390.00	6913.69	6835.33	1103.15	39°57'46.071"N	104°40'53.321"W	0.00	
14613.00†	90.000	359.228	7390.00	7012.98	6935.32	1101.80	39°57'47.059"N	104°40'53.326"W	0.00	
14713.00†	90.000	359.228	7390.00	7112.27	7035.31	1100.45	39°57'48.047"N	104°40'53.332"W	0.00	
14813.00†	90.000	359.228	7390.00	7211.55	7135.30	1099.10	39°57'49.036"N	104°40'53.337"W	0.00	
14913.00†	90.000	359.228	7390.00	7310.84	7235.29	1097.76	39°57'50.024"N	104°40'53.342"W	0.00	
15013.00†	90.000	359.228	7390.00	7410.13	7335.29	1096.41	39°57'51.012"N	104°40'53.348"W	0.00	
15113.00†	90.000	359.228	7390.00	7509.41	7435.28	1095.06	39°57'52.000"N	104°40'53.353"W	0.00	
15213.00†	90.000	359.228	7390.00	7608.70	7535.27	1093.71	39°57'52.989"N	104°40'53.359"W	0.00	
15313.00†	90.000	359.228	7390.00	7707.99	7635.26	1092.37	39°57'53.977"N	104°40'53.364"W	0.00	
15413.00†	90.000	359.228	7390.00	7807.27	7735.25	1091.02	39°57'54.965"N	104°40'53.370"W	0.00	
15513.00†	90.000	359.228	7390.00	7906.56	7835.24	1089.67	39°57'55.953"N	104°40'53.375"W	0.00	
15613.00†	90.000	359.228	7390.00	8005.85	7935.23	1088.32	39°57'56.941"N	104°40'53.381"W	0.00	
15713.00†	90.000	359.228	7390.00	8105.13	8035.22	1086.98	39°57'57.930"N	104°40'53.386"W	0.00	
15813.00†	90.000	359.228	7390.00	8204.42	8135.21	1085.63	39°57'58.918"N	104°40'53.391"W	0.00	
15913.00†	90.000	359.228	7390.00	8303.71	8235.20	1084.28	39°57'59.906"N	104°40'53.397"W	0.00	
16013.00†	90.000	359.228	7390.00	8402.99	8335.19	1082.93	39°58'00.894"N	104°40'53.402"W	0.00	
16113.00†	90.000	359.228	7390.00	8502.28	8435.19	1081.59	39°58'01.883"N	104°40'53.408"W	0.00	
16213.00†	90.000	359.228	7390.00	8601.57	8535.18	1080.24	39°58'02.871"N	104°40'53.413"W	0.00	
16313.00†	90.000	359.228	7390.00	8700.85	8635.17	1078.89	39°58'03.859"N	104°40'53.419"W	0.00	
16413.00†	90.000	359.228	7390.00	8800.14	8735.16	1077.54	39°58'04.847"N	104°40'53.424"W	0.00	
16513.00†	90.000	359.228	7390.00	8899.43	8835.15	1076.20	39°58'05.836"N	104°40'53.430"W	0.00	
16613.00†	90.000	359.228	7390.00	8998.71	8935.14	1074.85	39°58'06.824"N	104°40'53.435"W	0.00	
16713.00†	90.000	359.228	7390.00	9098.00	9035.13	1073.50	39°58'07.812"N	104°40'53.441"W	0.00	
16813.00†	90.000	359.228	7390.00	9197.29	9135.12	1072.15	39°58'08.800"N	104°40'53.446"W	0.00	
16913.00†	90.000	359.228	7390.00	9296.57	9235.11	1070.81	39°58'09.788"N	104°40'53.451"W	0.00	
17013.00†	90.000	359.228	7390.00	9395.86	9335.10	1069.46	39°58'10.777"N	104°40'53.457"W	0.00	





# Planned Wellpath Report

WAKEMAN 20-17-4NBH PWP (REV-A.0)

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## REFERENCE WELLPATH IDENTIFICATION

Operator	PETROSHARE	Slot	SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20)
Area	COLORADO	Well	WAKEMAN 20-17-4NBH
Field	ADAMS COUNTY (NAD83/ GRID NORTH)	Wellbore	WAKEMAN 20-17-4NBH PWB
Facility	SEC.20-T01S-R65W		

## WELLPATH DATA (188 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
17113.00†	90.000	359.228	7390.00	9495.15	9435.09	1068.11	39°58'11.765"N	104°40'53.462"W	0.00	
17213.00†	90.000	359.228	7390.00	9594.43	9535.09	1066.76	39°58'12.753"N	104°40'53.468"W	0.00	
17313.00†	90.000	359.228	7390.00	9693.72	9635.08	1065.41	39°58'13.741"N	104°40'53.473"W	0.00	
17413.00†	90.000	359.228	7390.00	9793.01	9735.07	1064.07	39°58'14.730"N	104°40'53.479"W	0.00	
17513.00†	90.000	359.228	7390.00	9892.29	9835.06	1062.72	39°58'15.718"N	104°40'53.484"W	0.00	
17613.00†	90.000	359.228	7390.00	9991.58	9935.05	1061.37	39°58'16.706"N	104°40'53.490"W	0.00	
17645.62†	90.000	359.228	7390.00	10023.97	9967.67	1060.93	39°58'17.028"N	104°40'53.491"W	0.00	NIOBRARA B CHALK
17645.62	90.000	359.228	7390.00 <sup>2</sup>	10023.97	9967.67	1060.93	39°58'17.028"N	104°40'53.491"W	0.00	End of Tangent

## HOLE & CASING SECTIONS

- Ref Wellbore: WAKEMAN 20-17-4NBH PWB

Ref Wellpath: WAKEMAN 20-17-4NBH PWP (REV-A.0)

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	13.00	1800.00	1787.00	13.00	1791.34	0.00	0.00	-36.24	97.25
8.5in Open Hole	1800.00	17645.62	15845.62	1791.34	7390.00	-36.24	97.25	9967.67	1060.93



# Planned Wellpath Report

WAKEMAN 20-17-4NBH PWP (REV-A.0)

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## REFERENCE WELLPATH IDENTIFICATION

Operator	PETROSHARE	Slot	SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20)
Area	COLORADO	Well	WAKEMAN 20-17-4NBH
Field	ADAMS COUNTY (NAD83/ GRID NORTH)	Wellbore	WAKEMAN 20-17-4NBH PWB
Facility	SEC.20-T01S-R65W		

## TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.17-T01S-R65W		0.00	0.98	-194.30	3228136.32	1223519.73	39°56'38.652"N	104°41'10.788"W	polygon
SEC.20-T01S-R65W		0.00	0.98	-194.30	3228136.32	1223519.73	39°56'38.652"N	104°41'10.788"W	polygon
2) WAKEMAN 20-17-4NBH BHL (355'FNL & 856'FEL, SEC.17)	17645.62	7390.00	9967.67	1060.93	3229391.51	1233486.10	39°58'17.028"N	104°40'53.491"W	point
1) WAKEMAN 20-17-4NBH EP (460'FSL & 856'FEL, SEC.20)		7390.00	169.59	1193.00	3229523.57	1223688.33	39°56'40.192"N	104°40'52.957"W	point
SEC.17/20-T01S-R65W 460'SETBACK		7638.00	0.98	-194.30	3228136.32	1223519.73	39°56'38.652"N	104°41'10.788"W	polygon

## SURVEY PROGRAM -

Ref Wellbore: WAKEMAN 20-17-4NBH PWB Ref Wellpath: WAKEMAN 20-17-4NBH PWP (REV-A.0)

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
13.00	17645.62	Custom BHI NaviTrak (Standard Rotating+Axial Corr) (Rockies 0.03Gt model)		WAKEMAN 20-17-4NBH PWB



# Planned Wellpath Report

WAKEMAN 20-17-4NBH PWP (REV-A.0)

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## REFERENCE WELLPATH IDENTIFICATION

Operator	PETROSHARE	Slot	SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20)
Area	COLORADO	Well	WAKEMAN 20-17-4NBH
Field	ADAMS COUNTY (NAD83/ GRID NORTH)	Wellbore	WAKEMAN 20-17-4NBH PWB
Facility	SEC.20-T01S-R65W		

## WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1502.57	10.051	110.440	1500.00	FOX HILLS
4925.66	11.884	110.440	4850.00	SUSSEX/SHANNON
7380.57	44.513	10.739	7214.00	NIOBRARA A CHALK
7404.90	46.856	9.823	7231.00	NIOBRARA A MARL
17645.62	90.000	359.228	7390.00	NIOBRARA B CHALK

## DESIGN COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
13.00	0.000	110.440	13.00	Tie On
1000.00	0.000	110.440	1000.00	End of Tangent
1594.22	11.884	110.440	1589.97	End of Build (S)
6903.93	11.884	110.440	6785.87	End of Tangent (S)
7846.66	90.000	359.228	7390.00	End of 3D Arc (S)
17645.62	90.000	359.228	7390.00	End of Tangent



# Clearance Report

WAKEMAN 20-17-4NBH PWP (REV-A.0)  
Closest Approach  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	PETROSHARE	Slot	SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20)
Area	COLORADO	Well	WAKEMAN 20-17-4NBH
Field	ADAMS COUNTY (NAD83/ GRID NORTH)	Wellbore	WAKEMAN 20-17-4NBH PWB
Facility	SEC.20-T01S-R65W		

## REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 5.1
North Reference	Grid	User	Ingmjmr
Scale	0.999971	Report Generated	9/22/2017 at 11:40:13 AM
Convergence at slot	0.53° East	Database/Source file	WellArchitectDB1/WAKEMAN_20-17-4NBH_PWP_REV-A.0_CR.xml

## WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.01	-29.95	3228330.61	1223518.74	39°56'38.625"N	104°41'08.294"W
Facility Reference Pt			3228360.56	1223518.73	39°56'38.622"N	104°41'07.909"W
Field Reference Pt			3175478.75	1240632.48	39°59'31.992"N	104°52'25.320"W

## WELLPATH DATUM

Calculation method	Minimum Curvature	RIG (13'KB) (RKB) to Facility Vertical Datum	5203.00ft
Horizontal Reference Pt	Slot	RIG (13'KB) (RKB) to Mean Sea Level	5203.00ft
Vertical Reference Pt	RIG (13'KB) (RKB)	RIG (13'KB) (RKB) to Ground Level at Slot (SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20))	5203.00ft
MD Reference Pt	RIG (13'KB) (RKB)		
Field Vertical Reference	Mean Sea Level		

## POSITIONAL UNCERTAINTY CALCULATION SETTINGS

Ellipse Confidence Limit	3.00 Std Dev	Ellipse Start MD	13.00ft	Surface Position Uncertainty	Included
Declination	8.30° East of TN	Dip Angle	66.52°	Mag Field Strength	52153 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



**Clearance Report**  
**WAKEMAN 20-17-4NBH PWP (REV-A.0)**  
**Closest Approach**  
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**REFERENCE WELLPATH IDENTIFICATION**

Operator	PETROSHARE	Slot	SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20)
Area	COLORADO	Well	WAKEMAN 20-17-4NBH
Field	ADAMS COUNTY (NAD83/ GRID NORTH)	Wellbore	WAKEMAN 20-17-4NBH PWB
Facility	SEC.20-T01S-R65W		

**ANTI-COLLISION RULE**

Rule Name	Baker Hughes Stop Drilling (offset is HSE risk)	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: WAKEMAN 20-17-4NBH PWB Ref Wellpath: WAKEMAN 20-17-4NBH PWP (REV-A.0)**

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	13.00	1800.00	1787.00	13.00	1791.34	0.00	0.00	-36.24	97.25
8.5in Open Hole	1800.00	17645.62	15845.62	1791.34	7390.00	-36.24	97.25	9967.67	1060.93

**SURVEY PROGRAM - Ref Wellbore: WAKEMAN 20-17-4NBH PWB Ref Wellpath: WAKEMAN 20-17-4NBH PWP (REV-A.0)**

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
13.00	17645.62	Custom BHI NaviTrak (Standard Rotating+Axial Corr) (Rockies 0.03Gt model)		WAKEMAN 20-17-4NBH PWB



# Clearance Report

WAKEMAN 20-17-4NBH PWP (REV-A.0)  
Closest Approach  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	PETROSHARE	Slot	SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20)
Area	COLORADO	Well	WAKEMAN 20-17-4NBH
Field	ADAMS COUNTY (NAD83/ GRID NORTH)	Wellbore	WAKEMAN 20-17-4NBH PWB
Facility	SEC.20-T01S-R65W		

## CALCULATION RANGE & CUTOFF

From: 13.00ft MD	To: 17645.62ft MD	C-C Cutoff: 1000.00 ft
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## OFFSET WELL CLEARANCE SUMMARY (26 Offset Wellpaths selected) Ratios are calculated in Closest Approach plane

Offset Facility	Offset Slot	Offset Well	Offset Wellbore	Offset Wellpath	C-C Clearance Distance			ACR 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]	ACR Status
SEC.20-T01S-R65W	SLOT#01 EX. BOX ELDER FARMS #41-20 (990'FNL & 990'FEL, SEC.20,OG,PA, 8145)	BOX ELDER FARMS #41-20	BOX ELDER FARMS #41-20 AWB	BOX ELDER FARMS #41-20 AWP	11694.95	170.94	11694.95	11683.27	0.52	11683.27	FAIL
SEC.20-T01S-R65W	SLOT#02 WAKEMAN 20-17-4NAH (293'FSL & 2038'FEL, SEC.20)	WAKEMAN 20-17-4NAH	WAKEMAN 20-17-4NAH PWB	WAKEMAN 20-17-4NAH PWP (REV-A.0)	13.00	14.95	813.00	17645.62	0.61	17645.62	FAIL
SEC.20-T01S-R65W	SLOT#04 WAKEMAN 20-17-4NCH (293'FSL & 2068'FEL, SEC.20)	WAKEMAN 20-17-4NCH	WAKEMAN 20-17-4NCH PWB	WAKEMAN 20-17-4NCH PWP (REV-A.0)	13.00	15.00	17645.62	17645.62	0.65	17645.62	FAIL
SEC.20-T01S-R65W	SLOT#01 EX. WOLFE #1 (990'FSL & 990'FEL,SEC.20,OG,PR, 8200)	WOLFE #1	WOLFE #1 AWB	WOLFE #1 AWP	8397.31	157.76	8397.31	8384.91	0.65	8384.91	FAIL
SEC.20-T01S-R65W	SLOT#01 WAKEMAN 20-17-4CDH (293'FSL & 2023'FEL, SEC.20)	WAKEMAN 20-17-4CDH	WAKEMAN 20-17-4CDH PWB	WAKEMAN 20-17-4CDH PWP (REV-A.0)	13.00	29.95	11513.00	17645.62	0.86	17645.62	FAIL
SEC.17-T1S-R65W	SLOT#03 EX. AMOCO #44-17 (990'FSL & 1320'FEL,SEC.17,OG,PR,8130)	AMOCO #44-17	AMOCO #44-17 AWB	AMOCO #44-17 AWP	13706.43	416.08	13706.43	13689.63	1.07	13689.63	PASS
SEC.20-T01S-R65W	SLOT#05 WAKEMAN 20-17-3CDH (293'FSL & 2083'FEL, SEC.20)	WAKEMAN 20-17-3CDH	WAKEMAN 20-17-3CDH PWB	WAKEMAN 20-17-3CDH PWP (REV-A.0)	13.00	30.00	17645.62	17645.62	1.36	17645.62	PASS
SEC.20-T01S-R65W	SLOT#06 WAKEMAN 20-17-3NAH (293'FSL & 2098'FEL, SEC.20)	WAKEMAN 20-17-3NAH	WAKEMAN 20-17-3NAH PWB	WAKEMAN 20-17-3NAH PWP (REV-A.0)	13.00	45.03	17645.62	17645.62	1.47	17645.62	PASS
SEC.20-T01S-R65W	SLOT#07 WAKEMAN 20-17-3NBH (293'FSL & 2113'FEL, SEC.20)	WAKEMAN 20-17-3NBH	WAKEMAN 20-17-3NBH PWB	WAKEMAN 20-17-3NBH PWP (REV-A.0)	13.00	59.98	17645.62	17645.62	1.89	17645.62	PASS
SEC.17-T01S-R65W	SLOT#01 EX. CHAVEZ #7-17 (1971'FNL & 1926'FEL,SEC.17,OG,SI, 8190)	CHAVEZ #7-17	CHAVEZ #7-17 AWB	CHAVEZ #7-17 AWP	16052.61	1097.58	16052.61	16052.61	2.38	16052.61	PASS
SEC.20-T01S-R65W	SLOT#08 WAKEMAN 20-17-3NCH (293'FSL & 2128'FEL, SEC.20)	WAKEMAN 20-17-3NCH	WAKEMAN 20-17-3NCH PWB	WAKEMAN 20-17-3NCH PWP (REV-A.0)	13.00	75.03	17645.62	17645.62	2.53	17645.62	PASS
SEC.20-T01S-R65W	SLOT#09 WAKEMAN 20-17-2NBH (293'FSL & 2143'FEL, SEC.20)	WAKEMAN 20-17-2NBH	WAKEMAN 20-17-2NBH PWB	WAKEMAN 20-17-2NBH PWP (REV-A.0)	13.00	90.01	1000.00	17645.62	3.20	17645.62	PASS
SEC.16-T01S-R65W	SLOT#01 EX. STATE #11-16 (990'FNL & 990'FNL,SEC.16,OG,PR,8173)	STATE #11-16	STATE #11-16 AWB	STATE #11-16 AWP	16997.94	1836.90	16997.94	17213.00	3.70	17213.00	PASS
SEC.20-T01S-R65W	SLOT#10 WAKEMAN 20-17-2NCH (293'FSL & 2158'FEL, SEC.20)	WAKEMAN 20-17-2NCH	WAKEMAN 20-17-2NCH PWB	WAKEMAN 20-17-2NCH PWP (REV-A.0)	13.00	104.98	1000.00	17645.62	3.84	17645.62	PASS
SEC.20-T01S-R65W	SLOT#02 EX. BOX ELDER #32-20 (1980'FNL & 2080'FEL,SEC.20,OG,PR)	BOX ELDER #32-20	BOX ELDER #32-20 AWB	BOX ELDER #32-20 AWP	10718.23	1271.30	10718.23	10724.75	4.25	10724.75	PASS
SEC.20-T01S-R65W	SLOT#11 WAKEMAN 20-17-2NAH (293'FSL & 2173'FEL, SEC.20)	WAKEMAN 20-17-2NAH	WAKEMAN 20-17-2NAH PWB	WAKEMAN 20-17-2NAH PWP (REV-A.0)	13.00	120.04	1000.00	17645.62	4.32	17645.62	PASS
SEC.20-T01S-R65W	SLOT#12 WAKEMAN 20-17-2CDH (293'FSL & 2188'FEL, SEC.20)	WAKEMAN 20-17-2CDH	WAKEMAN 20-17-2CDH PWB	WAKEMAN 20-17-2CDH PWP (REV-A.0)	13.00	135.01	1000.00	17645.62	4.50	17645.62	PASS
SEC.20-T01S-R65W	SLOT#13 WAKEMAN 20-17-1NBH (293'FSL & 2203'FEL, SEC.20)	WAKEMAN 20-17-1NBH	WAKEMAN 20-17-1NBH PWB	WAKEMAN 20-17-1NBH PWP (REV-A.0)	13.00	150.02	1000.00	17645.62	5.09	17645.62	PASS
SEC.20-T01S-R65W	SLOT#14 WAKEMAN 20-17-1NCH (293'FSL & 2218'FEL, SEC.20)	WAKEMAN 20-17-1NCH	WAKEMAN 20-17-1NCH PWB	WAKEMAN 20-17-1NCH PWP (REV-A.0)	13.00	164.96	913.00	17645.62	5.73	17645.62	PASS
SEC.20-T01S-R65W	SLOT#15 WAKEMAN 20-17-1NAH (293'FSL & 2233'FEL, SEC.20)	WAKEMAN 20-17-1NAH	WAKEMAN 20-17-1NAH PWB	WAKEMAN 20-17-1NAH PWP (REV-A.0)	13.00	180.02	813.00	17645.62	6.21	17645.62	PASS
SEC.20-T01S-R65W	SLOT#16 WAKEMAN 20-17-1CDH (293'FSL & 2248'FEL, SEC.20)	WAKEMAN 20-17-1CDH	WAKEMAN 20-17-1CDH PWB	WAKEMAN 20-17-1CDH PWP (REV-A.0)	13.00	194.96	713.00	17645.62	6.38	17645.62	PASS
SEC.20-T1S-R65W	SLOT#02 EX. COLLINS HH #20-3J (814'FNL & 1886'FNL,SEC.20,8163, PR)	COLLINS HH #20-3J	COLLINS HH #20-3J AWB	COLLINS HH #20-3J AWP	11905.94	2568.41	11905.94	12134.92	7.67	12134.92	PASS
SEC.17-T1S-R65W	SLOT#02 EX. AMOCO #24-17 (990'FSL & 1360'FNL,SEC.17,OG,PR,8130)	AMOCO #24-17	AMOCO #24-17 AWB	AMOCO #24-17 AWP	13688.00	3082.08	13688.00	13996.88	7.91	13996.88	PASS
SEC.17-T1S-R65W	SLOT#01 EX. AMOCO #17-32 (2013'FSL & 464'FNL,SEC.17,OG,PR, 8140)	AMOCO #17-32	AMOCO #17-32 AWB	AMOCO #17-32 AWP	14563.00	4025.71	14563.00	15113.00	9.59	15113.00	PASS
SEC.18-T01S-R65W	SLOT#01 EX PUTNAM 41-18 (990'FNL & 990'FEL, SEC.18, SI,8092')	PUTNAM 41-18	PUTNAM 41-18 AWB	PUTNAM 41-18 AWP	16950.50	5483.35	16950.50	17645.62	11.02	17645.62	PASS





**Clearance Report**  
**WAKEMAN 20-17-4NBH PWP (REV-A.0)**  
**Closest Approach**  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	PETROSHARE	Slot	SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20)
Area	COLORADO	Well	WAKEMAN 20-17-4NBH
Field	ADAMS COUNTY (NAD83/ GRID NORTH)	Wellbore	WAKEMAN 20-17-4NBH PWB
Facility	SEC.20-T01S-R65W		

CALCULATION RANGE & CUTOFF		
From: 13.00ft MD	To: 17645.62ft MD	C-C Cutoff: 1000.00 ft

OFFSET WELL CLEARANCE SUMMARY (26 Offset Wellpaths selected) Ratios are calculated in Closest Approach plane											
Offset Facility	Offset Slot	Offset Well	Offset Wellbore	Offset Wellpath	C-C Clearance Distance			ACR 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]	ACR Status
SEC.20-T1S-R65W	SLOT#01 EX. COLLINS #14-20 (990'FSL & 990'FWL, SEC.20, OG, PR, 8202)	COLLINS #14-20	COLLINS #14-20 AWB	COLLINS #14-20 AWP	113.00	2371.19	8413.00	8663.82	13.34	9013.00	PASS



# Clearance Report

WAKEMAN 20-17-4NBH PWP (REV-A.0)  
Closest Approach  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	PETROSHARE	Slot	SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20)
Area	COLORADO	Well	WAKEMAN 20-17-4NBH
Field	ADAMS COUNTY (NAD83/ GRID NORTH)	Wellbore	WAKEMAN 20-17-4NBH PWB
Facility	SEC.20-T01S-R65W		

## CLEARANCE DATA - Offset Wellbore: BOX ELDER FARMS #41-20 AWB Offset Wellpath: BOX ELDER FARMS #41-20 AWP

Facility: SEC.20-T01S-R65W Slot: SLOT#01 EX. BOX ELDER FARMS #41-20 (990'FNL & 990'FEL, SEC.20,OG,PA, 8145) Well: BOX ELDER FARMS #41-20 Threshold Value=1.00 † = interpolated/extrapolated sts													
Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Angle from Highside [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	AC Stat	
13.00	13.00	0.00	0.00	-13.00	29.00	4015.34	970.20	13.58	4130.92	25.40	167.88	PAS	
113.00†	113.00	0.00	0.00	71.00	113.00	4015.34	970.20	13.58	4130.89	51.62	81.20	PAS	
213.00†	213.00	0.00	0.00	171.00	213.00	4015.34	970.20	13.58	4130.89	53.79	77.63	PAS	
313.00†	313.00	0.00	0.00	271.00	313.00	4015.34	970.20	13.58	4130.89	56.14	74.36	PAS	
413.00†	413.00	0.00	0.00	371.00	413.00	4015.34	970.20	13.58	4130.89	58.48	71.34	PAS	
513.00†	513.00	0.00	0.00	471.00	513.00	4015.34	970.20	13.58	4130.89	60.84	68.56	PAS	
613.00†	613.00	0.00	0.00	571.00	613.00	4015.34	970.20	13.58	4130.89	63.19	65.98	PAS	
713.00†	713.00	0.00	0.00	671.00	713.00	4015.34	970.20	13.58	4130.89	65.55	63.58	PAS	
813.00†	813.00	0.00	0.00	771.00	813.00	4015.34	970.20	13.58	4130.89	67.92	61.35	PAS	
913.00†	913.00	0.00	0.00	871.00	913.00	4015.34	970.20	13.58	4130.89	70.28	59.26	PAS	
1000.00	1000.00	0.00	0.00	958.00	1000.00	4015.34	970.20	13.58	4130.89	72.35	57.56	PAS	
1013.00†	1013.00	-0.01	0.03	971.00	1013.00	4015.34	970.20	-96.86	4130.90	72.66	57.31	PAS	
1113.00†	1112.97	-0.78	2.09	1070.97	1112.97	4015.34	970.20	-96.88	4131.16	75.03	55.49	PAS	
1213.00†	1212.80	-2.76	7.42	1170.80	1212.80	4015.34	970.20	-96.95	4131.84	77.41	53.78	PAS	
1313.00†	1312.38	-5.97	16.01	1270.38	1312.38	4015.34	970.20	-97.05	4132.97	79.79	52.18	PAS	
1413.00†	1411.57	-10.38	27.85	1369.57	1411.57	4015.34	970.20	-97.19	4134.55	82.17	50.67	PAS	
1513.00†	1510.26	-16.00	42.92	1468.26	1510.26	4015.34	970.20	-97.37	4136.61	84.56	49.26	PAS	
1594.22	1589.97	-21.44	57.54	1547.97	1589.97	4015.34	970.20	-97.54	4138.67	86.50	48.17	PAS	
1613.00†	1608.35	-22.80	61.16	1566.35	1608.35	4015.34	970.20	-97.59	4139.19	86.95	47.92	PAS	
1713.00†	1706.20	-29.99	80.46	1664.20	1706.20	4015.34	970.20	-97.87	4142.02	89.36	46.66	PAS	
1813.00†	1804.06	-37.18	99.76	1762.06	1804.06	4015.34	970.20	-98.14	4144.95	91.74	45.45	PAS	
1913.00†	1901.92	-44.37	119.06	1859.92	1901.92	4015.34	970.20	-98.42	4147.98	94.18	44.29	PAS	
2013.00†	1999.77	-51.56	138.35	1957.77	1999.77	4015.34	970.20	-98.69	4151.11	96.65	43.19	PAS	
2113.00†	2097.63	-58.75	157.65	2055.63	2097.63	4015.34	970.20	-98.97	4154.34	99.13	42.13	PAS	
2213.00†	2195.48	-65.95	176.95	2153.48	2195.48	4015.34	970.20	-99.24	4157.66	101.63	41.12	PAS	
2313.00†	2293.34	-73.14	196.25	2251.34	2293.34	4015.34	970.20	-99.52	4161.09	104.15	40.16	PAS	
2413.00†	2391.20	-80.33	215.54	2349.20	2391.20	4015.34	970.20	-99.79	4164.62	106.68	39.23	PAS	
2513.00†	2489.05	-87.52	234.84	2447.05	2489.05	4015.34	970.20	-100.06	4168.24	109.23	38.35	PAS	
2613.00†	2586.91	-94.71	254.14	2544.91	2586.91	4015.34	970.20	-100.34	4171.97	111.79	37.50	PAS	
2713.00†	2684.77	-101.91	273.43	2642.77	2684.77	4015.34	970.20	-100.61	4175.79	114.37	36.68	PAS	

C-C Clearance Distance Cutoff: 1000.00 ft



# Clearance Report

WAKEMAN 20-17-4NBH PWP (REV-A.0)  
Closest Approach  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	PETROSHARE	Slot	SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20)
Area	COLORADO	Well	WAKEMAN 20-17-4NBH
Field	ADAMS COUNTY (NAD83/ GRID NORTH)	Wellbore	WAKEMAN 20-17-4NBH PWB
Facility	SEC.20-T01S-R65W		

## CLEARANCE DATA - Offset Wellbore: BOX ELDER FARMS #41-20 AWB Offset Wellpath: BOX ELDER FARMS #41-20 AWP

Facility: SEC.20-T01S-R65W Slot: SLOT#01 EX. BOX ELDER FARMS #41-20 (990'FNL & 990'FEL, SEC.20,OG,PA, 8145) Well: BOX ELDER FARMS #41-20 Threshold Value=1.00 † = interpolated/extrapolated stat												AC Stat
Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Angle from Highside [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	
2813.00†	2782.62	-109.10	292.73	2740.62	2782.62	4015.34	970.20	-100.88	4179.71	116.96	35.90	PAS
2913.00†	2880.48	-116.29	312.03	2838.48	2880.48	4015.34	970.20	-101.15	4183.73	119.57	35.14	PAS
3013.00†	2978.34	-123.48	331.33	2936.34	2978.34	4015.34	970.20	-101.42	4187.84	122.19	34.42	PAS
3113.00†	3076.19	-130.67	350.62	3034.19	3076.19	4015.34	970.20	-101.69	4192.06	124.82	33.73	PAS
3213.00†	3174.05	-137.86	369.92	3132.05	3174.05	4015.34	970.20	-101.96	4196.36	127.47	33.06	PAS
3313.00†	3271.91	-145.06	389.22	3229.91	3271.91	4015.34	970.20	-102.23	4200.77	130.12	32.41	PAS
3413.00†	3369.76	-152.25	408.51	3327.76	3369.76	4015.34	970.20	-102.50	4205.27	132.79	31.79	PAS
3513.00†	3467.62	-159.44	427.81	3425.62	3467.62	4015.34	970.20	-102.77	4209.87	135.47	31.20	PAS
3613.00†	3565.48	-166.63	447.11	3523.48	3565.48	4015.34	970.20	-103.04	4214.56	138.15	30.62	PAS
3713.00†	3663.33	-173.82	466.41	3621.33	3663.33	4015.34	970.20	-103.30	4219.35	140.85	30.07	PAS
3813.00†	3761.19	-181.02	485.70	3719.19	3761.19	4015.34	970.20	-103.57	4224.24	143.55	29.53	PAS
3913.00†	3859.05	-188.21	505.00	3817.05	3859.05	4015.34	970.20	-103.83	4229.21	146.27	29.02	PAS
4013.00†	3956.90	-195.40	524.30	3914.90	3956.90	4015.34	970.20	-104.10	4234.29	148.99	28.52	PAS
4113.00†	4054.76	-202.59	543.60	4012.76	4054.76	4015.34	970.20	-104.36	4239.45	151.71	28.04	PAS
4213.00†	4152.61	-209.78	562.89	4110.61	4152.61	4015.34	970.20	-104.63	4244.71	154.45	27.58	PAS
4313.00†	4250.47	-216.97	582.19	4208.47	4250.47	4015.34	970.20	-104.89	4250.07	157.19	27.13	PAS
4413.00†	4348.33	-224.17	601.49	4306.33	4348.33	4015.34	970.20	-105.15	4255.51	159.94	26.69	PAS
4513.00†	4446.18	-231.36	620.78	4404.18	4446.18	4015.34	970.20	-105.42	4261.05	162.70	26.27	PAS
4613.00†	4544.04	-238.55	640.08	4502.04	4544.04	4015.34	970.20	-105.68	4266.68	165.46	25.87	PAS
4713.00†	4641.90	-245.74	659.38	4599.90	4641.90	4015.34	970.20	-105.94	4272.41	168.22	25.48	PAS
4813.00†	4739.75	-252.93	678.68	4697.75	4739.75	4015.34	970.20	-106.20	4278.22	170.99	25.10	PAS
4913.00†	4837.61	-260.13	697.97	4795.61	4837.61	4015.34	970.20	-106.46	4284.13	173.77	24.73	PAS
5013.00†	4935.47	-267.32	717.27	4893.47	4935.47	4015.34	970.20	-106.72	4290.12	176.55	24.37	PAS
5113.00†	5033.32	-274.51	736.57	4991.32	5033.32	4015.34	970.20	-106.97	4296.21	179.33	24.03	PAS
5213.00†	5131.18	-281.70	755.86	5089.18	5131.18	4015.34	970.20	-107.23	4302.39	182.12	23.69	PAS
5313.00†	5229.04	-288.89	775.16	5187.04	5229.04	4015.34	970.20	-107.49	4308.65	184.92	23.37	PAS
5413.00†	5326.89	-296.08	794.46	5284.89	5326.89	4015.34	970.20	-107.74	4315.01	187.71	23.05	PAS
5513.00†	5424.75	-303.28	813.76	5382.75	5424.75	4015.34	970.20	-108.00	4321.45	190.51	22.75	PAS
5613.00†	5522.61	-310.47	833.05	5480.61	5522.61	4015.34	970.20	-108.25	4327.99	193.31	22.45	PAS
5713.00†	5620.46	-317.66	852.35	5578.46	5620.46	4015.34	970.20	-108.51	4334.61	196.11	22.16	PAS

C-C Clearance Distance Cutoff: 1000.00 ft



# Clearance Report

WAKEMAN 20-17-4NBH PWP (REV-A.0)  
Closest Approach  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	PETROSHARE	Slot	SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20)
Area	COLORADO	Well	WAKEMAN 20-17-4NBH
Field	ADAMS COUNTY (NAD83/ GRID NORTH)	Wellbore	WAKEMAN 20-17-4NBH PWB
Facility	SEC.20-T01S-R65W		

## CLEARANCE DATA - Offset Wellbore: BOX ELDER FARMS #41-20 AWB Offset Wellpath: BOX ELDER FARMS #41-20 AWP

Facility: SEC.20-T01S-R65W Slot: SLOT#01 EX. BOX ELDER FARMS #41-20 (990'FNL & 990'FEL, SEC.20, OG, PA, 8145) Well: BOX ELDER FARMS #41-20 Threshold Value=1.00 † = interpolated/extrapolated												AC Stat
Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Angle from Highside [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	AC Stat
5813.00†	5718.32	-324.85	871.65	5676.32	5718.32	4015.34	970.20	-108.76	4341.31	198.92	21.88	PA5
5913.00†	5816.18	-332.04	890.95	5774.18	5816.18	4015.34	970.20	-109.01	4348.11	201.73	21.61	PA5
6013.00†	5914.03	-339.24	910.24	5872.03	5914.03	4015.34	970.20	-109.26	4354.99	204.54	21.35	PA5
6113.00†	6011.89	-346.43	929.54	5969.89	6011.89	4015.34	970.20	-109.51	4361.96	207.35	21.09	PA5
6213.00†	6109.74	-353.62	948.84	6067.74	6109.74	4015.34	970.20	-109.76	4369.02	210.17	20.84	PA5
6313.00†	6207.60	-360.81	968.13	6165.60	6207.60	4015.34	970.20	-110.01	4376.16	212.99	20.60	PA5
6413.00†	6305.46	-368.00	987.43	6263.46	6305.46	4015.34	970.20	-110.26	4383.38	215.80	20.36	PA5
6513.00†	6403.31	-375.19	1006.73	6361.31	6403.31	4015.34	970.20	-110.51	4390.69	218.62	20.13	PA5
6613.00†	6501.17	-382.39	1026.03	6459.17	6501.17	4015.34	970.20	-110.75	4398.08	221.44	19.91	PA5
6713.00†	6599.03	-389.58	1045.32	6557.03	6599.03	4015.34	970.20	-111.00	4405.56	224.27	19.69	PA5
6813.00†	6696.88	-396.77	1064.62	6654.88	6696.88	4015.34	970.20	-111.24	4413.12	227.09	19.48	PA5
6903.93	6785.87	-403.31	1082.17	6743.87	6785.87	4015.34	970.20	-111.47	4420.07	229.66	19.29	PA5
6913.00†	6794.74	-403.89	1083.92	6752.74	6794.74	4015.34	970.20	-107.35	4420.70	229.91	19.27	PA5
7013.00†	6892.71	-400.78	1103.10	6850.71	6892.71	4015.34	970.20	-60.45	4418.13	232.93	19.01	PA5
7113.00†	6988.70	-380.39	1121.66	6946.70	6988.70	4015.34	970.20	-35.66	4398.35	236.48	18.64	PA5
7213.00†	7079.80	-343.34	1139.03	7037.80	7079.80	4015.34	970.20	-25.22	4361.95	239.88	18.22	PA5
7313.00†	7163.25	-290.74	1154.70	7121.25	7163.25	4015.34	970.20	-20.25	4310.03	242.87	17.78	PA5
7413.00†	7236.50	-224.20	1168.17	7194.50	7236.50	4015.34	970.20	-17.80	4244.16	245.44	17.33	PA5
7513.00†	7297.33	-145.74	1179.05	7255.33	7297.33	4015.34	970.20	-16.93	4166.32	247.52	16.87	PA5
7613.00†	7343.89	-57.74	1187.00	7301.89	7343.89	4015.34	970.20	-17.58	4078.85	249.09	16.41	PA5
7713.00†	7374.77	37.12	1191.78	7332.77	7374.77	4015.34	970.20	-21.23	3984.39	250.14	15.96	PA5
7813.00†	7389.03	135.96	1193.25	7347.03	7389.03	4015.34	970.20	-43.84	3885.79	250.67	15.53	PA5
7846.66	7390.00	169.60	1192.98	7348.00	7390.00	4015.34	970.20	-90.00	3852.19	250.74	15.39	PA5
7913.00†	7390.00	235.93	1192.09	7348.00	7390.00	4015.34	970.20	-90.00	3785.92	250.80	15.13	PA5
8013.00†	7390.00	335.92	1190.74	7348.00	7390.00	4015.34	970.20	-90.00	3686.03	250.92	14.72	PA5
8113.00†	7390.00	435.91	1189.39	7348.00	7390.00	4015.34	970.20	-90.00	3586.14	251.03	14.31	PA5
8213.00†	7390.00	535.90	1188.05	7348.00	7390.00	4015.34	970.20	-90.00	3486.25	251.16	13.91	PA5
8313.00†	7390.00	635.89	1186.70	7348.00	7390.00	4015.34	970.20	-90.00	3386.38	251.29	13.50	PA5
8413.00†	7390.00	735.88	1185.35	7348.00	7390.00	4015.34	970.20	-90.00	3286.51	251.43	13.10	PA5
8513.00†	7390.00	835.88	1184.00	7348.00	7390.00	4015.34	970.20	-90.00	3186.65	251.59	12.69	PA5

C-C Clearance Distance Cutoff: 1000.00 ft



# Clearance Report

WAKEMAN 20-17-4NBH PWP (REV-A.0)  
Closest Approach  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	PETROSHARE	Slot	SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20)
Area	COLORADO	Well	WAKEMAN 20-17-4NBH
Field	ADAMS COUNTY (NAD83/ GRID NORTH)	Wellbore	WAKEMAN 20-17-4NBH PWB
Facility	SEC.20-T01S-R65W		

## CLEARANCE DATA - Offset Wellbore: BOX ELDER FARMS #41-20 AWB Offset Wellpath: BOX ELDER FARMS #41-20 AWP

Facility: SEC.20-T01S-R65W Slot: SLOT#01 EX. BOX ELDER FARMS #41-20 (990'FNL & 990'FEL, SEC.20,OG,PA, 8145) Well: BOX ELDER FARMS #41-20 Threshold Value=1.00 † = interpolated/extrapolated sts													
Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Angle from Highside [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	AC Stat	
8613.00†	7390.00	935.87	1182.66	7348.00	7390.00	4015.34	970.20	-90.00	3086.80	251.75	12.29	PA5	
8713.00†	7390.00	1035.86	1181.31	7348.00	7390.00	4015.34	970.20	-90.00	2986.96	251.92	11.88	PA5	
8813.00†	7390.00	1135.85	1179.96	7348.00	7390.00	4015.34	970.20	-90.00	2887.13	252.11	11.47	PA5	
8913.00†	7390.00	1235.84	1178.61	7348.00	7390.00	4015.34	970.20	-90.00	2787.31	252.31	11.07	PA5	
9013.00†	7390.00	1335.83	1177.27	7348.00	7390.00	4015.34	970.20	-90.00	2687.50	252.53	10.66	PA5	
9113.00†	7390.00	1435.82	1175.92	7348.00	7390.00	4015.34	970.20	-90.00	2587.71	252.76	10.26	PA5	
9213.00†	7390.00	1535.81	1174.57	7348.00	7390.00	4015.34	970.20	-90.00	2487.94	253.01	9.85	PA5	
9313.00†	7390.00	1635.80	1173.22	7348.00	7390.00	4015.34	970.20	-90.00	2388.19	253.28	9.45	PA5	
9413.00†	7390.00	1735.79	1171.88	7348.00	7390.00	4015.34	970.20	-90.00	2288.45	253.58	9.04	PA5	
9513.00†	7390.00	1835.78	1170.53	7348.00	7390.00	4015.34	970.20	-90.00	2188.75	253.91	8.64	PA5	
9613.00†	7390.00	1935.78	1169.18	7348.00	7390.00	4015.34	970.20	-90.00	2089.07	254.26	8.23	PA5	
9713.00†	7390.00	2035.77	1167.83	7348.00	7390.00	4015.34	970.20	-90.00	1989.42	254.65	7.83	PA5	
9813.00†	7390.00	2135.76	1166.48	7348.00	7390.00	4015.34	970.20	-90.00	1889.81	255.09	7.42	PA5	
9913.00†	7390.00	2235.75	1165.14	7348.00	7390.00	4015.34	970.20	-90.00	1790.24	255.57	7.02	PA5	
10013.00†	7390.00	2335.74	1163.79	7348.00	7390.00	4015.34	970.20	-90.00	1690.72	256.10	6.61	PA5	
10113.00†	7390.00	2435.73	1162.44	7348.00	7390.00	4015.34	970.20	-90.00	1591.27	256.71	6.21	PA5	
10213.00†	7390.00	2535.72	1161.09	7348.00	7390.00	4015.34	970.20	-90.00	1491.89	257.40	5.81	PA5	
10313.00†	7390.00	2635.71	1159.75	7348.00	7390.00	4015.34	970.20	-90.00	1392.59	258.18	5.40	PA5	
10413.00†	7390.00	2735.70	1158.40	7348.00	7390.00	4015.34	970.20	-90.00	1293.41	259.09	5.00	PA5	
10513.00†	7390.00	2835.69	1157.05	7348.00	7390.00	4015.34	970.20	-90.00	1194.36	260.15	4.60	PA5	
10613.00†	7390.00	2935.69	1155.70	7348.00	7390.00	4015.34	970.20	-90.00	1095.48	261.40	4.20	PA5	
10713.00†	7390.00	3035.68	1154.36	7348.00	7390.00	4015.34	970.20	-90.00	996.83	262.91	3.80	PA5	
10813.00†	7390.00	3135.67	1153.01	7348.00	7390.00	4015.34	970.20	-90.00	898.47	264.75	3.40	PA5	
10913.00†	7390.00	3235.66	1151.66	7348.00	7390.00	4015.34	970.20	-90.00	800.52	267.04	3.00	PA5	
11013.00†	7390.00	3335.65	1150.31	7348.00	7390.00	4015.34	970.20	-90.00	703.15	269.97	2.61	PA5	
11113.00†	7390.00	3435.64	1148.97	7348.00	7390.00	4015.34	970.20	-90.00	606.64	273.81	2.22	PA5	
11213.00†	7390.00	3535.63	1147.62	7348.00	7390.00	4015.34	970.20	-90.00	511.47	279.05	1.83	PA5	
11313.00†	7390.00	3635.62	1146.27	7348.00	7390.00	4015.34	970.20	-90.00	418.56	286.44	1.46	PA5	
11413.00†	7390.00	3735.61	1144.92	7348.00	7390.00	4015.34	970.20	-90.00	329.82	297.24	1.11	PA5	
11513.00†	7390.00	3835.60	1143.58	7348.00	7390.00	4015.34	970.20	-90.00	249.73	312.74	0.80	FAI	

C-C Clearance Distance Cutoff: 1000.00 ft



# Clearance Report

WAKEMAN 20-17-4NBH PWP (REV-A.0)  
Closest Approach  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	PETROSHARE	Slot	SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20)
Area	COLORADO	Well	WAKEMAN 20-17-4NBH
Field	ADAMS COUNTY (NAD83/ GRID NORTH)	Wellbore	WAKEMAN 20-17-4NBH PWB
Facility	SEC.20-T01S-R65W		

## CLEARANCE DATA - Offset Wellbore: BOX ELDER FARMS #41-20 AWB Offset Wellpath: BOX ELDER FARMS #41-20 AWP

Facility: SEC.20-T01S-R65W Slot: SLOT#01 EX. BOX ELDER FARMS #41-20 (990'FNL & 990'FEL, SEC.20,OG,PA, 8145) Well: BOX ELDER FARMS #41-20 Threshold Value=1.00 † = interpolated/extrapolated sts													
Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Angle from Highside [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	AC Stat	
11613.00†	7390.00	3935.59	1142.23	7348.00	7390.00	4015.34	970.20	-90.00	189.61	329.30	0.58	FA	
11683.27†	7390.00	4005.86	1141.28	7348.00	7390.00	4015.34	970.20	-90.00	171.34	329.46	0.52	FA	
11694.95†	7390.00	4017.54	1141.12	7347.97	7389.97	4015.34	970.20	-89.99	170.94	327.63	0.52	FA	
11713.00†	7390.00	4035.59	1140.88	7348.00	7390.00	4015.34	970.20	-90.00	171.88	323.73	0.53	FA	
11813.00†	7390.00	4135.58	1139.53	7348.00	7390.00	4015.34	970.20	-90.00	207.68	289.80	0.72	FA	
11913.00†	7390.00	4235.57	1138.19	7348.00	7390.00	4015.34	970.20	-90.00	276.98	261.68	1.06	PAS	
12013.00†	7390.00	4335.56	1136.84	7348.00	7390.00	4015.34	970.20	-90.00	360.98	246.82	1.46	PAS	
12113.00†	7390.00	4435.55	1135.49	7348.00	7390.00	4015.34	970.20	-90.00	451.55	240.11	1.88	PAS	
12213.00†	7390.00	4535.54	1134.14	7348.00	7390.00	4015.34	970.20	-90.00	545.42	237.49	2.30	PAS	
12313.00†	7390.00	4635.53	1132.79	7348.00	7390.00	4015.34	970.20	-90.00	641.15	236.77	2.71	PAS	
12413.00†	7390.00	4735.52	1131.45	7348.00	7390.00	4015.34	970.20	-90.00	738.01	236.89	3.12	PAS	
12513.00†	7390.00	4835.51	1130.10	7348.00	7390.00	4015.34	970.20	-90.00	835.61	237.35	3.53	PAS	
12613.00†	7390.00	4935.50	1128.75	7348.00	7390.00	4015.34	970.20	-90.00	933.72	237.95	3.93	PAS	

C-C Clearance Distance Cutoff: 1000.00 ft

## POSITIONAL UNCERTAINTY - Offset Wellbore: BOX ELDER FARMS #41-20 AWB Offset Wellpath: BOX ELDER FARMS #41-20 AWP

Slot Surface Uncertainty @1SD	Horizontal	0.100ft	Vertical	1.000ft
Facility Surface Uncertainty @1SD	Horizontal	8.200ft	Vertical	3.000ft

## HOLE & CASING SECTIONS - Offset Wellbore: BOX ELDER FARMS #41-20 AWB Offset Wellpath: BOX ELDER FARMS #41-20 AWP

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
12.25in Open Hole	0.00	91.00	91.00	29.00	120.00	2450.43	580.13	2450.43	580.13
8.625in Casing Surface	0.00	91.00	91.00	29.00	120.00	2450.43	580.13	2450.43	580.13
7.875in Open Hole	91.00	8123.00	8032.00	120.00	8152.00	2450.43	580.13	2450.43	580.13
4.5in Casing Production	0.00	8123.00	8123.00	29.00	8152.00	2450.43	580.13	2450.43	580.13





**Clearance Report**  
**WAKEMAN 20-17-4NBH PWP (REV-A.0)**  
**Closest Approach**  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	PETROSHARE	Slot	SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20)
Area	COLORADO	Well	WAKEMAN 20-17-4NBH
Field	ADAMS COUNTY (NAD83/ GRID NORTH)	Wellbore	WAKEMAN 20-17-4NBH PWB
Facility	SEC.20-T01S-R65W		

WELLPATH COMPOSITION - Offset Wellbore: BOX ELDER FARMS #41-20 AWB Offset Wellpath: BOX ELDER FARMS #41-20 AWP			
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment
0.00	8145.00	Drift Indicator - Inclination Only (Actual Survey)	ASSUMED VERTICAL COGCC <8145'>
			BOX ELDER FARMS #41-20 AWB

OFFSET WELLPATH REFERENCE - Offset Wellbore: BOX ELDER FARMS #41-20 AWB Offset Wellpath: BOX ELDER FARMS #41-20 AWP	
MD Reference: Rig on SLOT#01 EX. BOX ELDER FARMS #41-20 (990'FNL & 990'FEL, SEC.20,OG,PA) (RT)	Offset TVD & local coordinates use Reference Wellpath settings (See WELLPATH DATUM on page 1 of this report)
Ellipse Start MD	0.00ft



# Clearance Report

WAKEMAN 20-17-4NBH PWP (REV-A.0)  
Closest Approach  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	PETROSHARE	Slot	SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20)
Area	COLORADO	Well	WAKEMAN 20-17-4NBH
Field	ADAMS COUNTY (NAD83/ GRID NORTH)	Wellbore	WAKEMAN 20-17-4NBH PWB
Facility	SEC.20-T01S-R65W		

## CLEARANCE DATA - Offset Wellbore: WAKEMAN 20-17-4NAH PWB Offset Wellpath: WAKEMAN 20-17-4NAH PWP (REV-A.0)

Facility: SEC.20-T01S-R65W		Slot: SLOT#02 WAKEMAN 20-17-4NAH (293'FSL & 2038'FEL, SEC.20)				Well: WAKEMAN 20-17-4NAH		Threshold Value=1.00		† = interpolated/extrapolated station			
Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Angle from Highside [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	ACR Status	
13.00	13.00	0.00	0.00	13.00	13.00	-0.08	14.95	90.31	14.95	1.40	23.57	PASS	
113.00†	113.00	0.00	0.00	113.00	113.00	-0.08	14.95	90.31	14.95	1.73	15.21	PASS	
213.00†	213.00	0.00	0.00	213.00	213.00	-0.08	14.95	90.31	14.95	2.31	9.39	PASS	
313.00†	313.00	0.00	0.00	313.00	313.00	-0.08	14.95	90.31	14.95	2.91	6.69	PASS	
413.00†	413.00	0.00	0.00	413.00	413.00	-0.08	14.95	90.31	14.95	3.53	5.18	PASS	
513.00†	513.00	0.00	0.00	513.00	513.00	-0.08	14.95	90.31	14.95	4.15	4.22	PASS	
613.00†	613.00	0.00	0.00	613.00	613.00	-0.08	14.95	90.31	14.95	4.77	3.56	PASS	
713.00†	713.00	0.00	0.00	713.00	713.00	-0.08	14.95	90.31	14.95	5.40	3.08	PASS	
813.00†	813.00	0.00	0.00	813.00	813.00	-0.08	14.95	90.31	14.95	6.02	2.71	PASS	
913.00†	913.00	0.00	0.00	912.94	912.94	-0.09	14.97	90.35	14.97	6.65	2.42	PASS	
1000.00	1000.00	0.00	0.00	999.46	999.44	-0.60	16.59	92.07	16.61	7.29	2.44	PASS	
1013.00†	1013.00	-0.01	0.03	1012.38	1012.35	-0.74	17.05	-17.97	17.05	7.39	2.47	PASS	
1113.00†	1112.97	-0.78	2.09	1111.69	1111.50	-2.43	22.40	-15.76	20.44	8.48	2.56	PASS	
1213.00†	1212.80	-2.76	7.42	1210.88	1210.27	-5.14	31.02	-14.61	23.86	9.74	2.58	PASS	
1313.00†	1312.38	-5.97	16.01	1309.96	1308.56	-8.88	42.88	-14.12	27.30	10.89	2.63	PASS	
1413.00†	1411.57	-10.38	27.85	1408.91	1406.24	-13.62	57.95	-14.07	30.74	11.95	2.69	PASS	
1513.00†	1510.26	-16.00	42.92	1507.76	1503.21	-19.37	76.21	-14.33	34.19	12.95	2.75	PASS	
1594.22	1589.97	-21.44	57.54	1587.95	1581.36	-24.78	93.36	-14.71	36.99	13.69	2.81	PASS	
1613.00†	1608.35	-22.80	61.16	1606.56	1599.42	-26.12	97.63	-14.80	37.69	13.83	2.83	PASS	
1713.00†	1706.20	-29.99	80.46	1706.48	1696.37	-33.39	120.71	-15.16	41.57	14.41	3.00	PASS	
1813.00†	1804.06	-37.18	99.76	1806.40	1793.32	-40.66	143.79	-15.47	45.46	14.93	3.15	PASS	
1913.00†	1901.92	-44.37	119.06	1906.33	1890.27	-47.93	166.87	-15.73	49.34	15.57	3.27	PASS	
2013.00†	1999.77	-51.56	138.35	2006.25	1987.21	-55.20	189.95	-15.95	53.23	16.23	3.38	PASS	
2113.00†	2097.63	-58.75	157.65	2106.18	2084.16	-62.47	213.03	-16.14	57.12	16.91	3.48	PASS	
2213.00†	2195.48	-65.95	176.95	2206.10	2181.11	-69.74	236.11	-16.30	61.00	17.62	3.57	PASS	
2313.00†	2293.34	-73.14	196.25	2306.03	2278.06	-77.01	259.20	-16.45	64.89	18.34	3.64	PASS	
2413.00†	2391.20	-80.33	215.54	2405.95	2375.01	-84.27	282.28	-16.58	68.78	19.08	3.71	PASS	
2513.00†	2489.05	-87.52	234.84	2505.87	2471.96	-91.54	305.36	-16.69	72.67	19.83	3.76	PASS	
2613.00†	2586.91	-94.71	254.14	2605.80	2568.91	-98.81	328.44	-16.80	76.56	20.59	3.82	PASS	
2713.00†	2684.77	-101.91	273.43	2705.72	2665.86	-106.08	351.52	-16.89	80.45	21.36	3.86	PASS	

C-C Clearance Distance Cutoff: 1000.00 ft



# Clearance Report

WAKEMAN 20-17-4NBH PWP (REV-A.0)  
Closest Approach  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	PETROSHARE	Slot	SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20)
Area	COLORADO	Well	WAKEMAN 20-17-4NBH
Field	ADAMS COUNTY (NAD83/ GRID NORTH)	Wellbore	WAKEMAN 20-17-4NBH PWB
Facility	SEC.20-T01S-R65W		

## REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 5.1
North Reference	Grid	User	Ingmjmr
Scale	0.999971	Report Generated	9/22/2017 at 11:40:13 AM
Convergence at slot	0.53° East	Database/Source file	WellArchitectDB1\WAKEMAN_20-17-4NBH_PWP_REV-A.0_CR.xml

## WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.01	-29.95	3228330.61	1223518.74	39°56'38.625"N	104°41'08.294"W
Facility Reference Pt			3228360.56	1223518.73	39°56'38.622"N	104°41'07.909"W
Field Reference Pt			3175478.75	1240632.48	39°59'31.992"N	104°52'25.320"W

## WELLPATH DATUM

Calculation method	Minimum Curvature	RIG (13'KB) (RKB) to Facility Vertical Datum	5203.00ft
Horizontal Reference Pt	Slot	RIG (13'KB) (RKB) to Mean Sea Level	5203.00ft
Vertical Reference Pt	RIG (13'KB) (RKB)	RIG (13'KB) (RKB) to Ground Level at Slot (SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20))	5203.00ft
MD Reference Pt	RIG (13'KB) (RKB)		
Field Vertical Reference	Mean Sea Level		

## POSITIONAL UNCERTAINTY CALCULATION SETTINGS

Ellipse Confidence Limit	3.00 Std Dev	Ellipse Start MD	13.00ft	Surface Position Uncertainty	Included
Declination	8.30° East of TN	Dip Angle	66.52°	Mag Field Strength	52153 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



# Clearance Report

WAKEMAN 20-17-4NBH PWP (REV-A.0)  
Closest Approach  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	PETROSHARE	Slot	SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20)
Area	COLORADO	Well	WAKEMAN 20-17-4NBH
Field	ADAMS COUNTY (NAD83/ GRID NORTH)	Wellbore	WAKEMAN 20-17-4NBH PWB
Facility	SEC.20-T01S-R65W		

## ANTI-COLLISION RULE

Rule Name	Baker Hughes Stop Drilling (offset is HSE risk)	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: WAKEMAN 20-17-4NBH PWB Ref Wellpath: WAKEMAN 20-17-4NBH PWP (REV-A.0)

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	13.00	1800.00	1787.00	13.00	1791.34	0.00	0.00	-36.24	97.25
8.5in Open Hole	1800.00	17645.62	15845.62	1791.34	7390.00	-36.24	97.25	9967.67	1060.93

## SURVEY PROGRAM - Ref Wellbore: WAKEMAN 20-17-4NBH PWB Ref Wellpath: WAKEMAN 20-17-4NBH PWP (REV-A.0)

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
13.00	17645.62	Custom BHI NaviTrak (Standard Rotating+Axial Corr) (Rockies 0.03Gt model)		WAKEMAN 20-17-4NBH PWB



# Clearance Report

WAKEMAN 20-17-4NBH PWP (REV-A.0)  
Closest Approach  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	PETROSHARE	Slot	SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20)
Area	COLORADO	Well	WAKEMAN 20-17-4NBH
Field	ADAMS COUNTY (NAD83/ GRID NORTH)	Wellbore	WAKEMAN 20-17-4NBH PWB
Facility	SEC.20-T01S-R65W		

## CALCULATION RANGE & CUTOFF

From: 13.00ft MD	To: 17645.62ft MD	C-C Cutoff: 1000.00 ft
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## OFFSET WELL CLEARANCE SUMMARY (26 Offset Wellpaths selected) Ratios are calculated in Closest Approach plane

Offset Facility	Offset Slot	Offset Well	Offset Wellbore	Offset Wellpath	C-C Clearance Distance			ACR 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]	ACR Status
SEC.20-T01S-R65W	SLOT#01 EX. BOX ELDER FARMS #41-20 (990'FNL & 990'FEL, SEC.20,OG,PA, 8145)	BOX ELDER FARMS #41-20	BOX ELDER FARMS #41-20 AWB	BOX ELDER FARMS #41-20 AWP	11694.95	170.94	11694.95	11683.27	0.52	11683.27	FAIL
SEC.20-T01S-R65W	SLOT#02 WAKEMAN 20-17-4NAH (293'FSL & 2038'FEL, SEC.20)	WAKEMAN 20-17-4NAH	WAKEMAN 20-17-4NAH PWB	WAKEMAN 20-17-4NAH PWP (REV-A.0)	13.00	14.95	813.00	17645.62	0.61	17645.62	FAIL
SEC.20-T01S-R65W	SLOT#04 WAKEMAN 20-17-4NCH (293'FSL & 2068'FEL, SEC.20)	WAKEMAN 20-17-4NCH	WAKEMAN 20-17-4NCH PWB	WAKEMAN 20-17-4NCH PWP (REV-A.0)	13.00	15.00	17645.62	17645.62	0.65	17645.62	FAIL
SEC.20-T01S-R65W	SLOT#01 EX. WOLFE #1 (990'FSL & 990'FEL,SEC.20,OG,PR, 8200)	WOLFE #1	WOLFE #1 AWB	WOLFE #1 AWP	8397.31	157.76	8397.31	8384.91	0.65	8384.91	FAIL
SEC.20-T01S-R65W	SLOT#01 WAKEMAN 20-17-4CDH (293'FSL & 2023'FEL, SEC.20)	WAKEMAN 20-17-4CDH	WAKEMAN 20-17-4CDH PWB	WAKEMAN 20-17-4CDH PWP (REV-A.0)	13.00	29.95	11513.00	17645.62	0.86	17645.62	FAIL
SEC.17-T1S-R65W	SLOT#03 EX. AMOCO #44-17 (990'FSL & 1320'FEL,SEC.17,OG,PR,8130)	AMOCO #44-17	AMOCO #44-17 AWB	AMOCO #44-17 AWP	13706.43	416.08	13706.43	13689.63	1.07	13689.63	PASS
SEC.20-T01S-R65W	SLOT#05 WAKEMAN 20-17-3CDH (293'FSL & 2083'FEL, SEC.20)	WAKEMAN 20-17-3CDH	WAKEMAN 20-17-3CDH PWB	WAKEMAN 20-17-3CDH PWP (REV-A.0)	13.00	30.00	17645.62	17645.62	1.36	17645.62	PASS
SEC.20-T01S-R65W	SLOT#06 WAKEMAN 20-17-3NAH (293'FSL & 2098'FEL, SEC.20)	WAKEMAN 20-17-3NAH	WAKEMAN 20-17-3NAH PWB	WAKEMAN 20-17-3NAH PWP (REV-A.0)	13.00	45.03	17645.62	17645.62	1.47	17645.62	PASS
SEC.20-T01S-R65W	SLOT#07 WAKEMAN 20-17-3NBH (293'FSL & 2113'FEL, SEC.20)	WAKEMAN 20-17-3NBH	WAKEMAN 20-17-3NBH PWB	WAKEMAN 20-17-3NBH PWP (REV-A.0)	13.00	59.98	17645.62	17645.62	1.89	17645.62	PASS
SEC.17-T01S-R65W	SLOT#01 EX. CHAVEZ #7-17 (1971'FNL & 1926'FEL,SEC.17,OG,SI, 8190)	CHAVEZ #7-17	CHAVEZ #7-17 AWB	CHAVEZ #7-17 AWP	16052.61	1097.58	16052.61	16052.61	2.38	16052.61	PASS
SEC.20-T01S-R65W	SLOT#08 WAKEMAN 20-17-3NCH (293'FSL & 2128'FEL, SEC.20)	WAKEMAN 20-17-3NCH	WAKEMAN 20-17-3NCH PWB	WAKEMAN 20-17-3NCH PWP (REV-A.0)	13.00	75.03	17645.62	17645.62	2.53	17645.62	PASS
SEC.20-T01S-R65W	SLOT#09 WAKEMAN 20-17-2NBH (293'FSL & 2143'FEL, SEC.20)	WAKEMAN 20-17-2NBH	WAKEMAN 20-17-2NBH PWB	WAKEMAN 20-17-2NBH PWP (REV-A.0)	13.00	90.01	1000.00	17645.62	3.20	17645.62	PASS
SEC.16-T01S-R65W	SLOT#01 EX. STATE #11-16 (990'FNL & 990'FNL,SEC.16,OG,PR,8173)	STATE #11-16	STATE #11-16 AWB	STATE #11-16 AWP	16997.94	1836.90	16997.94	17213.00	3.70	17213.00	PASS
SEC.20-T01S-R65W	SLOT#10 WAKEMAN 20-17-2NCH (293'FSL & 2158'FEL, SEC.20)	WAKEMAN 20-17-2NCH	WAKEMAN 20-17-2NCH PWB	WAKEMAN 20-17-2NCH PWP (REV-A.0)	13.00	104.98	1000.00	17645.62	3.84	17645.62	PASS
SEC.20-T01S-R65W	SLOT#02 EX. BOX ELDER #32-20 (1980'FNL & 2080'FEL,SEC.20,OG,PR)	BOX ELDER #32-20	BOX ELDER #32-20 AWB	BOX ELDER #32-20 AWP	10718.23	1271.30	10718.23	10724.75	4.25	10724.75	PASS
SEC.20-T01S-R65W	SLOT#11 WAKEMAN 20-17-2NAH (293'FSL & 2173'FEL, SEC.20)	WAKEMAN 20-17-2NAH	WAKEMAN 20-17-2NAH PWB	WAKEMAN 20-17-2NAH PWP (REV-A.0)	13.00	120.04	1000.00	17645.62	4.32	17645.62	PASS
SEC.20-T01S-R65W	SLOT#12 WAKEMAN 20-17-2CDH (293'FSL & 2188'FEL, SEC.20)	WAKEMAN 20-17-2CDH	WAKEMAN 20-17-2CDH PWB	WAKEMAN 20-17-2CDH PWP (REV-A.0)	13.00	135.01	1000.00	17645.62	4.50	17645.62	PASS
SEC.20-T01S-R65W	SLOT#13 WAKEMAN 20-17-1NBH (293'FSL & 2203'FEL, SEC.20)	WAKEMAN 20-17-1NBH	WAKEMAN 20-17-1NBH PWB	WAKEMAN 20-17-1NBH PWP (REV-A.0)	13.00	150.02	1000.00	17645.62	5.09	17645.62	PASS
SEC.20-T01S-R65W	SLOT#14 WAKEMAN 20-17-1NCH (293'FSL & 2218'FEL, SEC.20)	WAKEMAN 20-17-1NCH	WAKEMAN 20-17-1NCH PWB	WAKEMAN 20-17-1NCH PWP (REV-A.0)	13.00	164.96	913.00	17645.62	5.73	17645.62	PASS
SEC.20-T01S-R65W	SLOT#15 WAKEMAN 20-17-1NAH (293'FSL & 2233'FEL, SEC.20)	WAKEMAN 20-17-1NAH	WAKEMAN 20-17-1NAH PWB	WAKEMAN 20-17-1NAH PWP (REV-A.0)	13.00	180.02	813.00	17645.62	6.21	17645.62	PASS
SEC.20-T01S-R65W	SLOT#16 WAKEMAN 20-17-1CDH (293'FSL & 2248'FEL, SEC.20)	WAKEMAN 20-17-1CDH	WAKEMAN 20-17-1CDH PWB	WAKEMAN 20-17-1CDH PWP (REV-A.0)	13.00	194.96	713.00	17645.62	6.38	17645.62	PASS
SEC.20-T1S-R65W	SLOT#02 EX. COLLINS HH #20-3J (814'FNL & 1886'FNL,SEC.20,8163, PR)	COLLINS HH #20-3J	COLLINS HH #20-3J AWB	COLLINS HH #20-3J AWP	11905.94	2568.41	11905.94	12134.92	7.67	12134.92	PASS
SEC.17-T1S-R65W	SLOT#02 EX. AMOCO #24-17 (990'FSL & 1360'FNL,SEC.17,OG,PR,8130)	AMOCO #24-17	AMOCO #24-17 AWB	AMOCO #24-17 AWP	13688.00	3082.08	13688.00	13996.88	7.91	13996.88	PASS
SEC.17-T1S-R65W	SLOT#01 EX. AMOCO #17-32 (2013'FSL & 464'FNL,SEC.17,OG,PR, 8140)	AMOCO #17-32	AMOCO #17-32 AWB	AMOCO #17-32 AWP	14563.00	4025.71	14563.00	15113.00	9.59	15113.00	PASS
SEC.18-T01S-R65W	SLOT#01 EX PUTNAM 41-18 (990'FNL & 990'FEL, SEC.18, SI,8092')	PUTNAM 41-18	PUTNAM 41-18 AWB	PUTNAM 41-18 AWP	16950.50	5483.35	16950.50	17645.62	11.02	17645.62	PASS



**Clearance Report**  
**WAKEMAN 20-17-4NBH PWP (REV-A.0)**  
**Closest Approach**  
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**REFERENCE WELLPATH IDENTIFICATION**

Operator	PETROSHARE	Slot	SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20)
Area	COLORADO	Well	WAKEMAN 20-17-4NBH
Field	ADAMS COUNTY (NAD83/ GRID NORTH)	Wellbore	WAKEMAN 20-17-4NBH PWB
Facility	SEC.20-T01S-R65W		

**CALCULATION RANGE & CUTOFF**

From: 13.00ft MD	To: 17645.62ft MD	C-C Cutoff: 1000.00 ft
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**OFFSET WELL CLEARANCE SUMMARY** (26 Offset Wellpaths selected) Ratios are calculated in Closest Approach plane

Offset Facility	Offset Slot	Offset Well	Offset Wellbore	Offset Wellpath	C-C Clearance Distance			ACR 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]	ACR Status
SEC.20-T1S-R65W	SLOT#01 EX. COLLINS #14-20 (990'FSL & 990'FWL, SEC.20, OG, PR, 8202)	COLLINS #14-20	COLLINS #14-20 AWB	COLLINS #14-20 AWP	113.00	2371.19	8413.00	8663.82	13.34	9013.00	PASS





# Clearance Report

WAKEMAN 20-17-4NBH PWP (REV-A.0)  
Closest Approach  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	PETROSHARE	Slot	SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20)
Area	COLORADO	Well	WAKEMAN 20-17-4NBH
Field	ADAMS COUNTY (NAD83/ GRID NORTH)	Wellbore	WAKEMAN 20-17-4NBH PWB
Facility	SEC.20-T01S-R65W		

## CLEARANCE DATA - Offset Wellbore: BOX ELDER FARMS #41-20 AWB Offset Wellpath: BOX ELDER FARMS #41-20 AWP

Facility: SEC.20-T01S-R65W Slot: SLOT#01 EX. BOX ELDER FARMS #41-20 (990'FNL & 990'FEL, SEC.20,OG,PA, 8145) Well: BOX ELDER FARMS #41-20 Threshold Value=1.00 † = interpolated/extrapolated sts														AC Stat	
Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Angle from Highside [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio				
13.00	13.00	0.00	0.00	-13.00	29.00	4015.34	970.20	13.58	4130.92	25.40	167.88	PAS			
113.00†	113.00	0.00	0.00	71.00	113.00	4015.34	970.20	13.58	4130.89	51.62	81.20	PAS			
213.00†	213.00	0.00	0.00	171.00	213.00	4015.34	970.20	13.58	4130.89	53.79	77.63	PAS			
313.00†	313.00	0.00	0.00	271.00	313.00	4015.34	970.20	13.58	4130.89	56.14	74.36	PAS			
413.00†	413.00	0.00	0.00	371.00	413.00	4015.34	970.20	13.58	4130.89	58.48	71.34	PAS			
513.00†	513.00	0.00	0.00	471.00	513.00	4015.34	970.20	13.58	4130.89	60.84	68.56	PAS			
613.00†	613.00	0.00	0.00	571.00	613.00	4015.34	970.20	13.58	4130.89	63.19	65.98	PAS			
713.00†	713.00	0.00	0.00	671.00	713.00	4015.34	970.20	13.58	4130.89	65.55	63.58	PAS			
813.00†	813.00	0.00	0.00	771.00	813.00	4015.34	970.20	13.58	4130.89	67.92	61.35	PAS			
913.00†	913.00	0.00	0.00	871.00	913.00	4015.34	970.20	13.58	4130.89	70.28	59.26	PAS			
1000.00	1000.00	0.00	0.00	958.00	1000.00	4015.34	970.20	13.58	4130.89	72.35	57.56	PAS			
1013.00†	1013.00	-0.01	0.03	971.00	1013.00	4015.34	970.20	-96.86	4130.90	72.66	57.31	PAS			
1113.00†	1112.97	-0.78	2.09	1070.97	1112.97	4015.34	970.20	-96.88	4131.16	75.03	55.49	PAS			
1213.00†	1212.80	-2.76	7.42	1170.80	1212.80	4015.34	970.20	-96.95	4131.84	77.41	53.78	PAS			
1313.00†	1312.38	-5.97	16.01	1270.38	1312.38	4015.34	970.20	-97.05	4132.97	79.79	52.18	PAS			
1413.00†	1411.57	-10.38	27.85	1369.57	1411.57	4015.34	970.20	-97.19	4134.55	82.17	50.67	PAS			
1513.00†	1510.26	-16.00	42.92	1468.26	1510.26	4015.34	970.20	-97.37	4136.61	84.56	49.26	PAS			
1594.22	1589.97	-21.44	57.54	1547.97	1589.97	4015.34	970.20	-97.54	4138.67	86.50	48.17	PAS			
1613.00†	1608.35	-22.80	61.16	1566.35	1608.35	4015.34	970.20	-97.59	4139.19	86.95	47.92	PAS			
1713.00†	1706.20	-29.99	80.46	1664.20	1706.20	4015.34	970.20	-97.87	4142.02	89.36	46.66	PAS			
1813.00†	1804.06	-37.18	99.76	1762.06	1804.06	4015.34	970.20	-98.14	4144.95	91.74	45.45	PAS			
1913.00†	1901.92	-44.37	119.06	1859.92	1901.92	4015.34	970.20	-98.42	4147.98	94.18	44.29	PAS			
2013.00†	1999.77	-51.56	138.35	1957.77	1999.77	4015.34	970.20	-98.69	4151.11	96.65	43.19	PAS			
2113.00†	2097.63	-58.75	157.65	2055.63	2097.63	4015.34	970.20	-98.97	4154.34	99.13	42.13	PAS			
2213.00†	2195.48	-65.95	176.95	2153.48	2195.48	4015.34	970.20	-99.24	4157.66	101.63	41.12	PAS			
2313.00†	2293.34	-73.14	196.25	2251.34	2293.34	4015.34	970.20	-99.52	4161.09	104.15	40.16	PAS			
2413.00†	2391.20	-80.33	215.54	2349.20	2391.20	4015.34	970.20	-99.79	4164.62	106.68	39.23	PAS			
2513.00†	2489.05	-87.52	234.84	2447.05	2489.05	4015.34	970.20	-100.06	4168.24	109.23	38.35	PAS			
2613.00†	2586.91	-94.71	254.14	2544.91	2586.91	4015.34	970.20	-100.34	4171.97	111.79	37.50	PAS			
2713.00†	2684.77	-101.91	273.43	2642.77	2684.77	4015.34	970.20	-100.61	4175.79	114.37	36.68	PAS			

C-C Clearance Distance Cutoff: 1000.00 ft



# Clearance Report

WAKEMAN 20-17-4NBH PWP (REV-A.0)  
Closest Approach  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	PETROSHARE	Slot	SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20)
Area	COLORADO	Well	WAKEMAN 20-17-4NBH
Field	ADAMS COUNTY (NAD83/ GRID NORTH)	Wellbore	WAKEMAN 20-17-4NBH PWB
Facility	SEC.20-T01S-R65W		

## CLEARANCE DATA - Offset Wellbore: BOX ELDER FARMS #41-20 AWB Offset Wellpath: BOX ELDER FARMS #41-20 AWP

Facility: SEC.20-T01S-R65W Slot: SLOT#01 EX. BOX ELDER FARMS #41-20 (990'FNL & 990'FEL, SEC.20,OG,PA, 8145) Well: BOX ELDER FARMS #41-20 Threshold Value=1.00 † = interpolated/extrapolated												AC Stat
Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Angle from Highside [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	AC Stat
2813.00†	2782.62	-109.10	292.73	2740.62	2782.62	4015.34	970.20	-100.88	4179.71	116.96	35.90	PAS
2913.00†	2880.48	-116.29	312.03	2838.48	2880.48	4015.34	970.20	-101.15	4183.73	119.57	35.14	PAS
3013.00†	2978.34	-123.48	331.33	2936.34	2978.34	4015.34	970.20	-101.42	4187.84	122.19	34.42	PAS
3113.00†	3076.19	-130.67	350.62	3034.19	3076.19	4015.34	970.20	-101.69	4192.06	124.82	33.73	PAS
3213.00†	3174.05	-137.86	369.92	3132.05	3174.05	4015.34	970.20	-101.96	4196.36	127.47	33.06	PAS
3313.00†	3271.91	-145.06	389.22	3229.91	3271.91	4015.34	970.20	-102.23	4200.77	130.12	32.41	PAS
3413.00†	3369.76	-152.25	408.51	3327.76	3369.76	4015.34	970.20	-102.50	4205.27	132.79	31.79	PAS
3513.00†	3467.62	-159.44	427.81	3425.62	3467.62	4015.34	970.20	-102.77	4209.87	135.47	31.20	PAS
3613.00†	3565.48	-166.63	447.11	3523.48	3565.48	4015.34	970.20	-103.04	4214.56	138.15	30.62	PAS
3713.00†	3663.33	-173.82	466.41	3621.33	3663.33	4015.34	970.20	-103.30	4219.35	140.85	30.07	PAS
3813.00†	3761.19	-181.02	485.70	3719.19	3761.19	4015.34	970.20	-103.57	4224.24	143.55	29.53	PAS
3913.00†	3859.05	-188.21	505.00	3817.05	3859.05	4015.34	970.20	-103.83	4229.21	146.27	29.02	PAS
4013.00†	3956.90	-195.40	524.30	3914.90	3956.90	4015.34	970.20	-104.10	4234.29	148.99	28.52	PAS
4113.00†	4054.76	-202.59	543.60	4012.76	4054.76	4015.34	970.20	-104.36	4239.45	151.71	28.04	PAS
4213.00†	4152.61	-209.78	562.89	4110.61	4152.61	4015.34	970.20	-104.63	4244.71	154.45	27.58	PAS
4313.00†	4250.47	-216.97	582.19	4208.47	4250.47	4015.34	970.20	-104.89	4250.07	157.19	27.13	PAS
4413.00†	4348.33	-224.17	601.49	4306.33	4348.33	4015.34	970.20	-105.15	4255.51	159.94	26.69	PAS
4513.00†	4446.18	-231.36	620.78	4404.18	4446.18	4015.34	970.20	-105.42	4261.05	162.70	26.27	PAS
4613.00†	4544.04	-238.55	640.08	4502.04	4544.04	4015.34	970.20	-105.68	4266.68	165.46	25.87	PAS
4713.00†	4641.90	-245.74	659.38	4599.90	4641.90	4015.34	970.20	-105.94	4272.41	168.22	25.48	PAS
4813.00†	4739.75	-252.93	678.68	4697.75	4739.75	4015.34	970.20	-106.20	4278.22	170.99	25.10	PAS
4913.00†	4837.61	-260.13	697.97	4795.61	4837.61	4015.34	970.20	-106.46	4284.13	173.77	24.73	PAS
5013.00†	4935.47	-267.32	717.27	4893.47	4935.47	4015.34	970.20	-106.72	4290.12	176.55	24.37	PAS
5113.00†	5033.32	-274.51	736.57	4991.32	5033.32	4015.34	970.20	-106.97	4296.21	179.33	24.03	PAS
5213.00†	5131.18	-281.70	755.86	5089.18	5131.18	4015.34	970.20	-107.23	4302.39	182.12	23.69	PAS
5313.00†	5229.04	-288.89	775.16	5187.04	5229.04	4015.34	970.20	-107.49	4308.65	184.92	23.37	PAS
5413.00†	5326.89	-296.08	794.46	5284.89	5326.89	4015.34	970.20	-107.74	4315.01	187.71	23.05	PAS
5513.00†	5424.75	-303.28	813.76	5382.75	5424.75	4015.34	970.20	-108.00	4321.45	190.51	22.75	PAS
5613.00†	5522.61	-310.47	833.05	5480.61	5522.61	4015.34	970.20	-108.25	4327.99	193.31	22.45	PAS
5713.00†	5620.46	-317.66	852.35	5578.46	5620.46	4015.34	970.20	-108.51	4334.61	196.11	22.16	PAS

C-C Clearance Distance Cutoff: 1000.00 ft



# Clearance Report

WAKEMAN 20-17-4NBH PWP (REV-A.0)  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	PETROSHARE	Slot	SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20)
Area	COLORADO	Well	WAKEMAN 20-17-4NBH
Field	ADAMS COUNTY (NAD83/ GRID NORTH)	Wellbore	WAKEMAN 20-17-4NBH PWB
Facility	SEC.20-T01S-R65W		

## CLEARANCE DATA - Offset Wellbore: BOX ELDER FARMS #41-20 AWB Offset Wellpath: BOX ELDER FARMS #41-20 AWP

Facility: SEC.20-T01S-R65W Slot: SLOT#01 EX. BOX ELDER FARMS #41-20 (990'FNL & 990'FEL, SEC.20, OG, PA, 8145) Well: BOX ELDER FARMS #41-20 Threshold Value=1.00 † = interpolated/extrapolated												AC Stat
Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Angle from Highside [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	AC Stat
5813.00†	5718.32	-324.85	871.65	5676.32	5718.32	4015.34	970.20	-108.76	4341.31	198.92	21.88	PA5
5913.00†	5816.18	-332.04	890.95	5774.18	5816.18	4015.34	970.20	-109.01	4348.11	201.73	21.61	PA5
6013.00†	5914.03	-339.24	910.24	5872.03	5914.03	4015.34	970.20	-109.26	4354.99	204.54	21.35	PA5
6113.00†	6011.89	-346.43	929.54	5969.89	6011.89	4015.34	970.20	-109.51	4361.96	207.35	21.09	PA5
6213.00†	6109.74	-353.62	948.84	6067.74	6109.74	4015.34	970.20	-109.76	4369.02	210.17	20.84	PA5
6313.00†	6207.60	-360.81	968.13	6165.60	6207.60	4015.34	970.20	-110.01	4376.16	212.99	20.60	PA5
6413.00†	6305.46	-368.00	987.43	6263.46	6305.46	4015.34	970.20	-110.26	4383.38	215.80	20.36	PA5
6513.00†	6403.31	-375.19	1006.73	6361.31	6403.31	4015.34	970.20	-110.51	4390.69	218.62	20.13	PA5
6613.00†	6501.17	-382.39	1026.03	6459.17	6501.17	4015.34	970.20	-110.75	4398.08	221.44	19.91	PA5
6713.00†	6599.03	-389.58	1045.32	6557.03	6599.03	4015.34	970.20	-111.00	4405.56	224.27	19.69	PA5
6813.00†	6696.88	-396.77	1064.62	6654.88	6696.88	4015.34	970.20	-111.24	4413.12	227.09	19.48	PA5
6903.93	6785.87	-403.31	1082.17	6743.87	6785.87	4015.34	970.20	-111.47	4420.07	229.66	19.29	PA5
6913.00†	6794.74	-403.89	1083.92	6752.74	6794.74	4015.34	970.20	-107.35	4420.70	229.91	19.27	PA5
7013.00†	6892.71	-400.78	1103.10	6850.71	6892.71	4015.34	970.20	-60.45	4418.13	232.93	19.01	PA5
7113.00†	6988.70	-380.39	1121.66	6946.70	6988.70	4015.34	970.20	-35.66	4398.35	236.48	18.64	PA5
7213.00†	7079.80	-343.34	1139.03	7037.80	7079.80	4015.34	970.20	-25.22	4361.95	239.88	18.22	PA5
7313.00†	7163.25	-290.74	1154.70	7121.25	7163.25	4015.34	970.20	-20.25	4310.03	242.87	17.78	PA5
7413.00†	7236.50	-224.20	1168.17	7194.50	7236.50	4015.34	970.20	-17.80	4244.16	245.44	17.33	PA5
7513.00†	7297.33	-145.74	1179.05	7255.33	7297.33	4015.34	970.20	-16.93	4166.32	247.52	16.87	PA5
7613.00†	7343.89	-57.74	1187.00	7301.89	7343.89	4015.34	970.20	-17.58	4078.85	249.09	16.41	PA5
7713.00†	7374.77	37.12	1191.78	7332.77	7374.77	4015.34	970.20	-21.23	3984.39	250.14	15.96	PA5
7813.00†	7389.03	135.96	1193.25	7347.03	7389.03	4015.34	970.20	-43.84	3885.79	250.67	15.53	PA5
7846.66	7390.00	169.60	1192.98	7348.00	7390.00	4015.34	970.20	-90.00	3852.19	250.74	15.39	PA5
7913.00†	7390.00	235.93	1192.09	7348.00	7390.00	4015.34	970.20	-90.00	3785.92	250.80	15.13	PA5
8013.00†	7390.00	335.92	1190.74	7348.00	7390.00	4015.34	970.20	-90.00	3686.03	250.92	14.72	PA5
8113.00†	7390.00	435.91	1189.39	7348.00	7390.00	4015.34	970.20	-90.00	3586.14	251.03	14.31	PA5
8213.00†	7390.00	535.90	1188.05	7348.00	7390.00	4015.34	970.20	-90.00	3486.25	251.16	13.91	PA5
8313.00†	7390.00	635.89	1186.70	7348.00	7390.00	4015.34	970.20	-90.00	3386.38	251.29	13.50	PA5
8413.00†	7390.00	735.88	1185.35	7348.00	7390.00	4015.34	970.20	-90.00	3286.51	251.43	13.10	PA5
8513.00†	7390.00	835.88	1184.00	7348.00	7390.00	4015.34	970.20	-90.00	3186.65	251.59	12.69	PA5

C-C Clearance Distance Cutoff: 1000.00 ft



# Clearance Report

WAKEMAN 20-17-4NBH PWP (REV-A.0)  
Closest Approach  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	PETROSHARE	Slot	SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20)
Area	COLORADO	Well	WAKEMAN 20-17-4NBH
Field	ADAMS COUNTY (NAD83/ GRID NORTH)	Wellbore	WAKEMAN 20-17-4NBH PWB
Facility	SEC.20-T01S-R65W		

## CLEARANCE DATA - Offset Wellbore: BOX ELDER FARMS #41-20 AWB Offset Wellpath: BOX ELDER FARMS #41-20 AWP

Facility: SEC.20-T01S-R65W Slot: SLOT#01 EX. BOX ELDER FARMS #41-20 (990'FNL & 990'FEL, SEC.20,OG,PA, 8145) Well: BOX ELDER FARMS #41-20 Threshold Value=1.00 † = interpolated/extrapolated sts													
Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Angle from Highside [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	AC Stat	
8613.00†	7390.00	935.87	1182.66	7348.00	7390.00	4015.34	970.20	-90.00	3086.80	251.75	12.29	PA5	
8713.00†	7390.00	1035.86	1181.31	7348.00	7390.00	4015.34	970.20	-90.00	2986.96	251.92	11.88	PA5	
8813.00†	7390.00	1135.85	1179.96	7348.00	7390.00	4015.34	970.20	-90.00	2887.13	252.11	11.47	PA5	
8913.00†	7390.00	1235.84	1178.61	7348.00	7390.00	4015.34	970.20	-90.00	2787.31	252.31	11.07	PA5	
9013.00†	7390.00	1335.83	1177.27	7348.00	7390.00	4015.34	970.20	-90.00	2687.50	252.53	10.66	PA5	
9113.00†	7390.00	1435.82	1175.92	7348.00	7390.00	4015.34	970.20	-90.00	2587.71	252.76	10.26	PA5	
9213.00†	7390.00	1535.81	1174.57	7348.00	7390.00	4015.34	970.20	-90.00	2487.94	253.01	9.85	PA5	
9313.00†	7390.00	1635.80	1173.22	7348.00	7390.00	4015.34	970.20	-90.00	2388.19	253.28	9.45	PA5	
9413.00†	7390.00	1735.79	1171.88	7348.00	7390.00	4015.34	970.20	-90.00	2288.45	253.58	9.04	PA5	
9513.00†	7390.00	1835.78	1170.53	7348.00	7390.00	4015.34	970.20	-90.00	2188.75	253.91	8.64	PA5	
9613.00†	7390.00	1935.78	1169.18	7348.00	7390.00	4015.34	970.20	-90.00	2089.07	254.26	8.23	PA5	
9713.00†	7390.00	2035.77	1167.83	7348.00	7390.00	4015.34	970.20	-90.00	1989.42	254.65	7.83	PA5	
9813.00†	7390.00	2135.76	1166.48	7348.00	7390.00	4015.34	970.20	-90.00	1889.81	255.09	7.42	PA5	
9913.00†	7390.00	2235.75	1165.14	7348.00	7390.00	4015.34	970.20	-90.00	1790.24	255.57	7.02	PA5	
10013.00†	7390.00	2335.74	1163.79	7348.00	7390.00	4015.34	970.20	-90.00	1690.72	256.10	6.61	PA5	
10113.00†	7390.00	2435.73	1162.44	7348.00	7390.00	4015.34	970.20	-90.00	1591.27	256.71	6.21	PA5	
10213.00†	7390.00	2535.72	1161.09	7348.00	7390.00	4015.34	970.20	-90.00	1491.89	257.40	5.81	PA5	
10313.00†	7390.00	2635.71	1159.75	7348.00	7390.00	4015.34	970.20	-90.00	1392.59	258.18	5.40	PA5	
10413.00†	7390.00	2735.70	1158.40	7348.00	7390.00	4015.34	970.20	-90.00	1293.41	259.09	5.00	PA5	
10513.00†	7390.00	2835.69	1157.05	7348.00	7390.00	4015.34	970.20	-90.00	1194.36	260.15	4.60	PA5	
10613.00†	7390.00	2935.69	1155.70	7348.00	7390.00	4015.34	970.20	-90.00	1095.48	261.40	4.20	PA5	
10713.00†	7390.00	3035.68	1154.36	7348.00	7390.00	4015.34	970.20	-90.00	996.83	262.91	3.80	PA5	
10813.00†	7390.00	3135.67	1153.01	7348.00	7390.00	4015.34	970.20	-90.00	898.47	264.75	3.40	PA5	
10913.00†	7390.00	3235.66	1151.66	7348.00	7390.00	4015.34	970.20	-90.00	800.52	267.04	3.00	PA5	
11013.00†	7390.00	3335.65	1150.31	7348.00	7390.00	4015.34	970.20	-90.00	703.15	269.97	2.61	PA5	
11113.00†	7390.00	3435.64	1148.97	7348.00	7390.00	4015.34	970.20	-90.00	606.64	273.81	2.22	PA5	
11213.00†	7390.00	3535.63	1147.62	7348.00	7390.00	4015.34	970.20	-90.00	511.47	279.05	1.83	PA5	
11313.00†	7390.00	3635.62	1146.27	7348.00	7390.00	4015.34	970.20	-90.00	418.56	286.44	1.46	PA5	
11413.00†	7390.00	3735.61	1144.92	7348.00	7390.00	4015.34	970.20	-90.00	329.82	297.24	1.11	PA5	
11513.00†	7390.00	3835.60	1143.58	7348.00	7390.00	4015.34	970.20	-90.00	249.73	312.74	0.80	FAI	

C-C Clearance Distance Cutoff: 1000.00 ft



# Clearance Report

WAKEMAN 20-17-4NBH PWP (REV-A.0)  
Closest Approach  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	PETROSHARE	Slot	SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20)
Area	COLORADO	Well	WAKEMAN 20-17-4NBH
Field	ADAMS COUNTY (NAD83/ GRID NORTH)	Wellbore	WAKEMAN 20-17-4NBH PWB
Facility	SEC.20-T01S-R65W		

## CLEARANCE DATA - Offset Wellbore: BOX ELDER FARMS #41-20 AWB Offset Wellpath: BOX ELDER FARMS #41-20 AWP

Facility: SEC.20-T01S-R65W Slot: SLOT#01 EX. BOX ELDER FARMS #41-20 (990'FNL & 990'FEL, SEC.20,OG,PA, 8145) Well: BOX ELDER FARMS #41-20 Threshold Value=1.00 † = interpolated/extrapolated sts													
Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Angle from Highside [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	AC Stat	
11613.00†	7390.00	3935.59	1142.23	7348.00	7390.00	4015.34	970.20	-90.00	189.61	329.30	0.58	FA	
11683.27†	7390.00	4005.86	1141.28	7348.00	7390.00	4015.34	970.20	-90.00	171.34	329.46	0.52	FA	
11694.95†	7390.00	4017.54	1141.12	7347.97	7389.97	4015.34	970.20	-89.99	170.94	327.63	0.52	FA	
11713.00†	7390.00	4035.59	1140.88	7348.00	7390.00	4015.34	970.20	-90.00	171.88	323.73	0.53	FA	
11813.00†	7390.00	4135.58	1139.53	7348.00	7390.00	4015.34	970.20	-90.00	207.68	289.80	0.72	FA	
11913.00†	7390.00	4235.57	1138.19	7348.00	7390.00	4015.34	970.20	-90.00	276.98	261.68	1.06	PAS	
12013.00†	7390.00	4335.56	1136.84	7348.00	7390.00	4015.34	970.20	-90.00	360.98	246.82	1.46	PAS	
12113.00†	7390.00	4435.55	1135.49	7348.00	7390.00	4015.34	970.20	-90.00	451.55	240.11	1.88	PAS	
12213.00†	7390.00	4535.54	1134.14	7348.00	7390.00	4015.34	970.20	-90.00	545.42	237.49	2.30	PAS	
12313.00†	7390.00	4635.53	1132.79	7348.00	7390.00	4015.34	970.20	-90.00	641.15	236.77	2.71	PAS	
12413.00†	7390.00	4735.52	1131.45	7348.00	7390.00	4015.34	970.20	-90.00	738.01	236.89	3.12	PAS	
12513.00†	7390.00	4835.51	1130.10	7348.00	7390.00	4015.34	970.20	-90.00	835.61	237.35	3.53	PAS	
12613.00†	7390.00	4935.50	1128.75	7348.00	7390.00	4015.34	970.20	-90.00	933.72	237.95	3.93	PAS	

C-C Clearance Distance Cutoff: 1000.00 ft

## POSITIONAL UNCERTAINTY - Offset Wellbore: BOX ELDER FARMS #41-20 AWB Offset Wellpath: BOX ELDER FARMS #41-20 AWP

Slot Surface Uncertainty @1SD	Horizontal	0.100ft	Vertical	1.000ft
Facility Surface Uncertainty @1SD	Horizontal	8.200ft	Vertical	3.000ft

## HOLE & CASING SECTIONS - Offset Wellbore: BOX ELDER FARMS #41-20 AWB Offset Wellpath: BOX ELDER FARMS #41-20 AWP

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
12.25in Open Hole	0.00	91.00	91.00	29.00	120.00	2450.43	580.13	2450.43	580.13
8.625in Casing Surface	0.00	91.00	91.00	29.00	120.00	2450.43	580.13	2450.43	580.13
7.875in Open Hole	91.00	8123.00	8032.00	120.00	8152.00	2450.43	580.13	2450.43	580.13
4.5in Casing Production	0.00	8123.00	8123.00	29.00	8152.00	2450.43	580.13	2450.43	580.13



**Clearance Report**  
**WAKEMAN 20-17-4NBH PWP (REV-A.0)**  
**Closest Approach**  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	PETROSHARE	Slot	SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20)
Area	COLORADO	Well	WAKEMAN 20-17-4NBH
Field	ADAMS COUNTY (NAD83/ GRID NORTH)	Wellbore	WAKEMAN 20-17-4NBH PWB
Facility	SEC.20-T01S-R65W		

WELLPATH COMPOSITION - Offset Wellbore: BOX ELDER FARMS #41-20 AWB Offset Wellpath: BOX ELDER FARMS #41-20 AWP			
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment
0.00	8145.00	Drift Indicator - Inclination Only (Actual Survey)	ASSUMED VERTICAL COGCC <8145'>
			BOX ELDER FARMS #41-20 AWB

OFFSET WELLPATH REFERENCE - Offset Wellbore: BOX ELDER FARMS #41-20 AWB Offset Wellpath: BOX ELDER FARMS #41-20 AWP	
MD Reference: Rig on SLOT#01 EX. BOX ELDER FARMS #41-20 (990'FNL & 990'FEL, SEC.20,OG,PA) (RT)	Offset TVD & local coordinates use Reference Wellpath settings (See WELLPATH DATUM on page 1 of this report)
Ellipse Start MD	0.00ft





# Clearance Report

WAKEMAN 20-17-4NBH PWP (REV-A.0)  
Closest Approach  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	PETROSHARE	Slot	SLOT#03 WAKEMAN 20-17-4NBH (293'FSL & 2053'FEL, SEC.20)
Area	COLORADO	Well	WAKEMAN 20-17-4NBH
Field	ADAMS COUNTY (NAD83/ GRID NORTH)	Wellbore	WAKEMAN 20-17-4NBH PWB
Facility	SEC.20-T01S-R65W		

## CLEARANCE DATA - Offset Wellbore: WAKEMAN 20-17-4NAH PWB Offset Wellpath: WAKEMAN 20-17-4NAH PWP (REV-A.0)

Facility: SEC.20-T01S-R65W		Slot: SLOT#02 WAKEMAN 20-17-4NAH (293'FSL & 2038'FEL, SEC.20)				Well: WAKEMAN 20-17-4NAH		Threshold Value=1.00		† = interpolated/extrapolated station		
Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Angle from Highside [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	ACR Status
13.00	13.00	0.00	0.00	13.00	13.00	-0.08	14.95	90.31	14.95	1.40	23.57	PASS
113.00†	113.00	0.00	0.00	113.00	113.00	-0.08	14.95	90.31	14.95	1.73	15.21	PASS
213.00†	213.00	0.00	0.00	213.00	213.00	-0.08	14.95	90.31	14.95	2.31	9.39	PASS
313.00†	313.00	0.00	0.00	313.00	313.00	-0.08	14.95	90.31	14.95	2.91	6.69	PASS
413.00†	413.00	0.00	0.00	413.00	413.00	-0.08	14.95	90.31	14.95	3.53	5.18	PASS
513.00†	513.00	0.00	0.00	513.00	513.00	-0.08	14.95	90.31	14.95	4.15	4.22	PASS
613.00†	613.00	0.00	0.00	613.00	613.00	-0.08	14.95	90.31	14.95	4.77	3.56	PASS
713.00†	713.00	0.00	0.00	713.00	713.00	-0.08	14.95	90.31	14.95	5.40	3.08	PASS
813.00†	813.00	0.00	0.00	813.00	813.00	-0.08	14.95	90.31	14.95	6.02	2.71	PASS
913.00†	913.00	0.00	0.00	912.94	912.94	-0.09	14.97	90.35	14.97	6.65	2.42	PASS
1000.00	1000.00	0.00	0.00	999.46	999.44	-0.60	16.59	92.07	16.61	7.29	2.44	PASS
1013.00†	1013.00	-0.01	0.03	1012.38	1012.35	-0.74	17.05	-17.97	17.05	7.39	2.47	PASS
1113.00†	1112.97	-0.78	2.09	1111.69	1111.50	-2.43	22.40	-15.76	20.44	8.48	2.56	PASS
1213.00†	1212.80	-2.76	7.42	1210.88	1210.27	-5.14	31.02	-14.61	23.86	9.74	2.58	PASS
1313.00†	1312.38	-5.97	16.01	1309.96	1308.56	-8.88	42.88	-14.12	27.30	10.89	2.63	PASS
1413.00†	1411.57	-10.38	27.85	1408.91	1406.24	-13.62	57.95	-14.07	30.74	11.95	2.69	PASS
1513.00†	1510.26	-16.00	42.92	1507.76	1503.21	-19.37	76.21	-14.33	34.19	12.95	2.75	PASS
1594.22	1589.97	-21.44	57.54	1587.95	1581.36	-24.78	93.36	-14.71	36.99	13.69	2.81	PASS
1613.00†	1608.35	-22.80	61.16	1606.56	1599.42	-26.12	97.63	-14.80	37.69	13.83	2.83	PASS
1713.00†	1706.20	-29.99	80.46	1706.48	1696.37	-33.39	120.71	-15.16	41.57	14.41	3.00	PASS
1813.00†	1804.06	-37.18	99.76	1806.40	1793.32	-40.66	143.79	-15.47	45.46	14.93	3.15	PASS
1913.00†	1901.92	-44.37	119.06	1906.33	1890.27	-47.93	166.87	-15.73	49.34	15.57	3.27	PASS
2013.00†	1999.77	-51.56	138.35	2006.25	1987.21	-55.20	189.95	-15.95	53.23	16.23	3.38	PASS
2113.00†	2097.63	-58.75	157.65	2106.18	2084.16	-62.47	213.03	-16.14	57.12	16.91	3.48	PASS
2213.00†	2195.48	-65.95	176.95	2206.10	2181.11	-69.74	236.11	-16.30	61.00	17.62	3.57	PASS
2313.00†	2293.34	-73.14	196.25	2306.03	2278.06	-77.01	259.20	-16.45	64.89	18.34	3.64	PASS
2413.00†	2391.20	-80.33	215.54	2405.95	2375.01	-84.27	282.28	-16.58	68.78	19.08	3.71	PASS
2513.00†	2489.05	-87.52	234.84	2505.87	2471.96	-91.54	305.36	-16.69	72.67	19.83	3.76	PASS
2613.00†	2586.91	-94.71	254.14	2605.80	2568.91	-98.81	328.44	-16.80	76.56	20.59	3.82	PASS
2713.00†	2684.77	-101.91	273.43	2705.72	2665.86	-106.08	351.52	-16.89	80.45	21.36	3.86	PASS

C-C Clearance Distance Cutoff: 1000.00 ft