

Petro Operating Company

Location Weld County, CO
Field Wattenberg
Installation Homestead

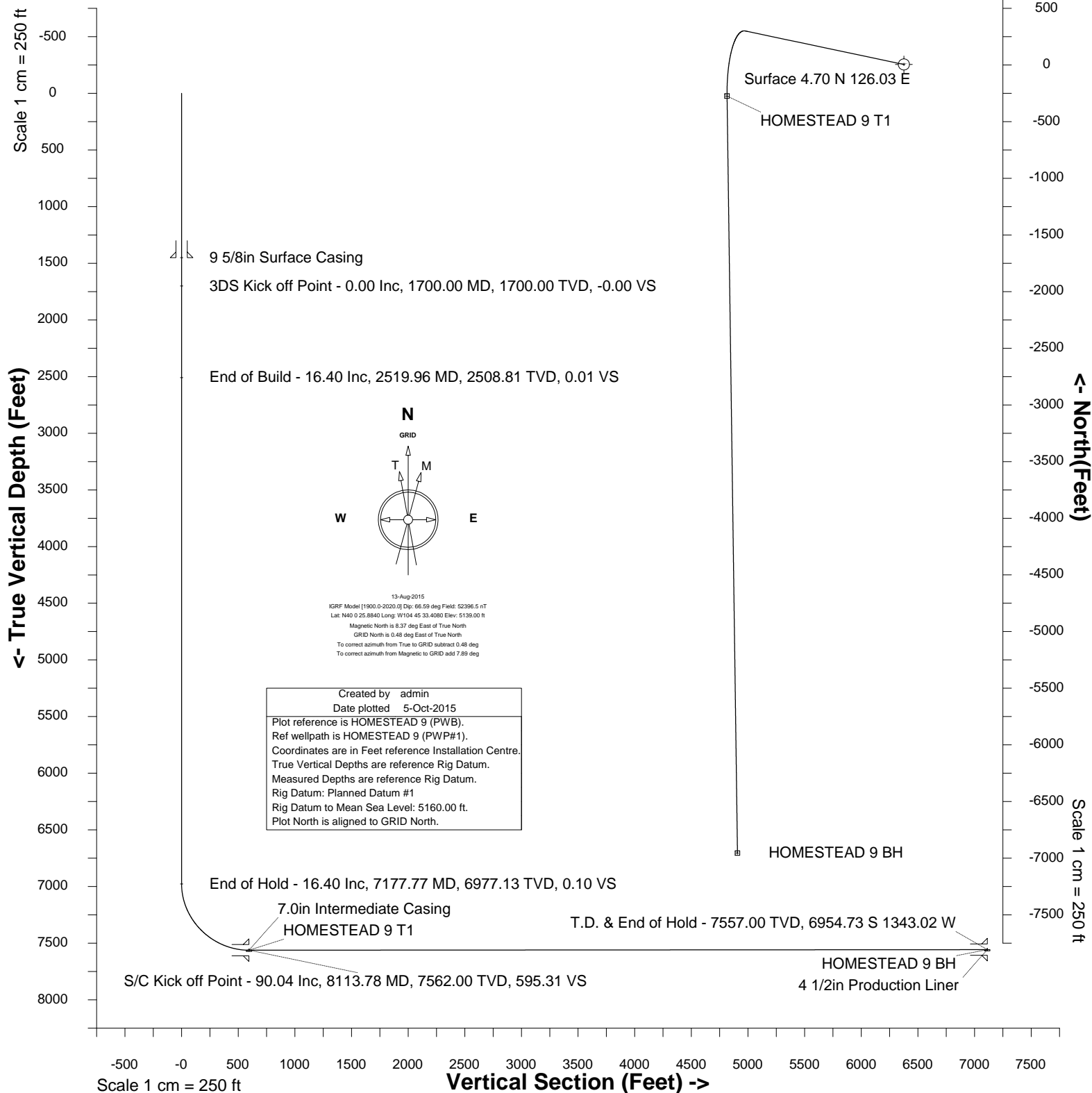
Slot HOMESTEAD 9
Well HOMESTEAD 9
Wellbore HOMESTEAD 9 (PWB)



Scale 1 cm = 250 ft

East (Feet) ->

-2000 -1500 -1000 -500 0 500 1000





SYSDRILL
Well Design Combined Report
Wellbore: HOMESTEAD 9 (PWB)

Wellhead Details							
Name	Latitude	Longitude	Northing	Easting	North	East	Slot Elevation Above Ground
HOMESTEAD 9	40.00720000	-104.75883000	1246337.2694	3207617.0977	4.70N	126.03E	0.00

Declination		
Date	Source	Time
13-Aug-2015	IGRF Model [1900.0-2020.0]	08:38

Installation Details						
Name	Installation Position (Latitude)	Installation Position (Longitude)	Northing	Easting	Coord System Name	North Alignment
Homestead	40.00719000	-104.75928000	1246332.5735	3207491.0767	CO83-NF on NORTH AMERICAN DATUM 1983 datum	Grid

Summary Wellpath									
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	Northing	Easting
23.00	0.00	0.000	23.00	0.00N	0.00E		0.00	1246337.27	3207617.10
1700.00	0.00	281.920	1700.00	0.00N	0.00E	==>	0.00	1246337.27	3207617.10
2519.96	16.40	281.920	2508.81	24.06N	114.03W	2.00	0.01	1246361.33	3207503.07
7177.77	16.40	281.920	6977.13	295.58N	1400.73W	==>	0.09	1246632.84	3206216.42
8113.78	90.04	179.210	7562.00	278.94S	1560.89W	10.00	595.30	1246058.34	3206056.27
14794.90	90.04	179.210	7557.00	6959.43S	1469.04W	==>	7112.78	1239378.09	3206148.11

Interpolated Wellpath								
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	All Station Comments
0.00	0.00	0.000	0.00	0.00N	0.00E		0.00	Rig Datum
23.00	0.00	0.000	23.00	0.00N	0.00E	==>	0.00	Slot Datum
100.00	0.00	0.000	100.00	0.00N	0.00E	==>	0.00	
200.00	0.00	0.000	200.00	0.00N	0.00E	==>	0.00	
300.00	0.00	0.000	300.00	0.00N	0.00E	==>	0.00	
400.00	0.00	0.000	400.00	0.00N	0.00E	==>	0.00	
500.00	0.00	0.000	500.00	0.00N	0.00E	==>	0.00	
600.00	0.00	0.000	600.00	0.00N	0.00E	==>	0.00	
700.00	0.00	0.000	700.00	0.00N	0.00E	==>	0.00	
800.00	0.00	0.000	800.00	0.00N	0.00E	==>	0.00	
900.00	0.00	0.000	900.00	0.00N	0.00E	==>	0.00	
1000.00	0.00	0.000	1000.00	0.00N	0.00E	==>	0.00	
1100.00	0.00	0.000	1100.00	0.00N	0.00E	==>	0.00	
1200.00	0.00	0.000	1200.00	0.00N	0.00E	==>	0.00	
1300.00	0.00	0.000	1300.00	0.00N	0.00E	==>	0.00	
1400.00	0.00	0.000	1400.00	0.00N	0.00E	==>	0.00	
1450.00	0.00	0.000	1450.00	0.00N	0.00E	==>	0.00	9 5/8in Surface Casing
1500.00	0.00	0.000	1500.00	0.00N	0.00E	==>	0.00	
1600.00	0.00	0.000	1600.00	0.00N	0.00E	==>	0.00	
1700.00	0.00	281.920	1700.00	0.00N	0.00E	==>	0.00	3DS Kick off Point
1800.00	2.00	281.920	1799.98	0.36N	1.71W	2.00	0.00	
1900.00	4.00	281.920	1899.84	1.44N	6.83W	2.00	0.00	
2000.00	6.00	281.920	1999.45	3.24N	15.36W	2.00	0.00	
2100.00	8.00	281.920	2098.70	5.76N	27.28W	2.00	0.00	
2200.00	10.00	281.920	2197.47	8.99N	42.58W	2.00	0.00	
2300.00	12.00	281.920	2295.62	12.93N	61.25W	2.00	0.00	
2400.00	14.00	281.920	2393.06	17.57N	83.26W	2.00	0.01	
2500.00	16.00	281.920	2489.64	22.91N	108.59W	2.00	0.01	
2519.96	16.40	281.920	2508.81	24.06N	114.03W	2.00	0.01	End of Build
2600.00	16.40	281.920	2585.59	28.73N	136.14W	==>	0.01	
2700.00	16.40	281.920	2681.53	34.56N	163.77W	==>	0.01	
2800.00	16.40	281.920	2777.46	40.39N	191.39W	==>	0.01	
2900.00	16.40	281.920	2873.39	46.22N	219.02W	==>	0.01	
3000.00	16.40	281.920	2969.32	52.05N	246.64W	==>	0.02	
3100.00	16.40	281.920	3065.25	57.88N	274.27W	==>	0.02	
3200.00	16.40	281.920	3161.18	63.71N	301.89W	==>	0.02	

All data is in Feet unless otherwise stated
Coordinates are from Slot MD's are from Rig and TVD's are from Rig (Planned Datum #1 5160.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 191.920 degrees
Bottom hole distance is 7112.78 Feet on azimuth 191.92 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 5-Oct-2015



SYSDRILL
Well Design Combined Report
Wellbore: HOMESTEAD 9 (PWB)

Interpolated Wellpath								
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	All Station Comments
3300.00	16.40	281.920	3257.12	69.54N	329.52W	==>	0.02	
3400.00	16.40	281.920	3353.05	75.36N	357.14W	==>	0.02	
3500.00	16.40	281.920	3448.98	81.19N	384.76W	==>	0.02	
3600.00	16.40	281.920	3544.91	87.02N	412.39W	==>	0.03	
3700.00	16.40	281.920	3640.84	92.85N	440.01W	==>	0.03	
3800.00	16.40	281.920	3736.78	98.68N	467.64W	==>	0.03	
3900.00	16.40	281.920	3832.71	104.51N	495.26W	==>	0.03	
4000.00	16.40	281.920	3928.64	110.34N	522.89W	==>	0.03	
4100.00	16.40	281.920	4024.57	116.17N	550.51W	==>	0.03	
4200.00	16.40	281.920	4120.50	122.00N	578.14W	==>	0.04	
4300.00	16.40	281.920	4216.43	127.83N	605.76W	==>	0.04	
4400.00	16.40	281.920	4312.37	133.66N	633.38W	==>	0.04	
4500.00	16.40	281.920	4408.30	139.49N	661.01W	==>	0.04	
4600.00	16.40	281.920	4504.23	145.32N	688.63W	==>	0.04	
4700.00	16.40	281.920	4600.16	151.15N	716.26W	==>	0.05	
4800.00	16.40	281.920	4696.09	156.98N	743.88W	==>	0.05	
4900.00	16.40	281.920	4792.03	162.80N	771.51W	==>	0.05	
5000.00	16.40	281.920	4887.96	168.63N	799.13W	==>	0.05	
5100.00	16.40	281.920	4983.89	174.46N	826.76W	==>	0.05	
5200.00	16.40	281.920	5079.82	180.29N	854.38W	==>	0.05	
5300.00	16.40	281.920	5175.75	186.12N	882.00W	==>	0.06	
5400.00	16.40	281.920	5271.68	191.95N	909.63W	==>	0.06	
5500.00	16.40	281.920	5367.62	197.78N	937.25W	==>	0.06	
5600.00	16.40	281.920	5463.55	203.61N	964.88W	==>	0.06	
5700.00	16.40	281.920	5559.48	209.44N	992.50W	==>	0.06	
5800.00	16.40	281.920	5655.41	215.27N	1020.13W	==>	0.06	
5900.00	16.40	281.920	5751.34	221.10N	1047.75W	==>	0.07	
6000.00	16.40	281.920	5847.28	226.93N	1075.37W	==>	0.07	
6100.00	16.40	281.920	5943.21	232.76N	1103.00W	==>	0.07	
6200.00	16.40	281.920	6039.14	238.59N	1130.62W	==>	0.07	
6300.00	16.40	281.920	6135.07	244.42N	1158.25W	==>	0.07	
6400.00	16.40	281.920	6231.00	250.25N	1185.87W	==>	0.07	
6500.00	16.40	281.920	6326.93	256.07N	1213.50W	==>	0.08	
6600.00	16.40	281.920	6422.87	261.90N	1241.12W	==>	0.08	
6700.00	16.40	281.920	6518.80	267.73N	1268.75W	==>	0.08	
6800.00	16.40	281.920	6614.73	273.56N	1296.37W	==>	0.08	
6900.00	16.40	281.920	6710.66	279.39N	1323.99W	==>	0.08	
7000.00	16.40	281.920	6806.59	285.22N	1351.62W	==>	0.09	
7100.00	16.40	281.920	6902.53	291.05N	1379.24W	==>	0.09	
7177.77	16.40	281.920	6977.13	295.58N	1400.73W	==>	0.09	End of Hold
7200.00	16.07	274.050	6998.48	296.45N	1406.87W	10.00	0.51	
7300.00	18.16	240.310	7094.28	289.69N	1434.28W	10.00	12.79	
7400.00	24.41	218.470	7187.55	265.73N	1460.74W	10.00	41.69	
7500.00	32.50	206.010	7275.47	225.30N	1485.44W	10.00	86.35	
7600.00	41.37	198.250	7355.37	169.63N	1507.63W	10.00	145.40	
7700.00	50.60	192.870	7424.81	100.41N	1526.63W	10.00	217.06	
7800.00	60.01	188.760	7481.68	19.74N	1541.87W	10.00	299.13	
7900.00	69.53	185.380	7524.27	69.93S	1552.88W	10.00	389.14	
8000.00	79.11	182.390	7551.26	165.86S	1559.34W	10.00	484.35	
8100.00	88.72	179.590	7561.85	265.16S	1561.03W	10.00	581.85	7.0in Intermediate Casing S/C Kick off Point/Target, HOMESTEAD 9 T1
8113.00	89.97	179.230	7562.00	278.16S	1560.90W	10.00	594.54	
8113.78	90.04	179.210	7562.00	278.94S	1560.89W	10.00	595.30	
8200.00	90.04	179.210	7561.94	365.15S	1559.70W	==>	679.41	
8300.00	90.04	179.210	7561.86	465.14S	1558.33W	==>	776.96	
8400.00	90.04	179.210	7561.79	565.13S	1556.95W	==>	874.51	
8500.00	90.04	179.210	7561.71	665.12S	1555.58W	==>	972.06	
8600.00	90.04	179.210	7561.64	765.11S	1554.20W	==>	1069.61	
8700.00	90.04	179.210	7561.56	865.10S	1552.83W	==>	1167.16	
8800.00	90.04	179.210	7561.49	965.09S	1551.45W	==>	1264.71	
8900.00	90.04	179.210	7561.41	1065.08S	1550.08W	==>	1362.27	
9000.00	90.04	179.210	7561.34	1165.07S	1548.71W	==>	1459.82	
9100.00	90.04	179.210	7561.26	1265.06S	1547.33W	==>	1557.37	

All data is in Feet unless otherwise stated
Coordinates are from Slot MD's are from Rig and TVD's are from Rig (Planned Datum #1 5160.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 191.920 degrees
Bottom hole distance is 7112.78 Feet on azimuth 191.92 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 5-Oct-2015



SYSDRILL
Well Design Combined Report
Wellbore: HOMESTEAD 9 (PWB)

Interpolated Wellpath								
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	All Station Comments
9200.00	90.04	179.210	7561.19	1365.05S	1545.96W	==>	1654.92	
9300.00	90.04	179.210	7561.11	1465.05S	1544.58W	==>	1752.47	
9400.00	90.04	179.210	7561.04	1565.04S	1543.21W	==>	1850.02	
9500.00	90.04	179.210	7560.96	1665.03S	1541.83W	==>	1947.57	
9600.00	90.04	179.210	7560.89	1765.02S	1540.46W	==>	2045.12	
9700.00	90.04	179.210	7560.81	1865.01S	1539.08W	==>	2142.67	
9800.00	90.04	179.210	7560.74	1965.00S	1537.71W	==>	2240.22	
9900.00	90.04	179.210	7560.66	2064.99S	1536.33W	==>	2337.77	
10000.00	90.04	179.210	7560.59	2164.98S	1534.96W	==>	2435.32	
10100.00	90.04	179.210	7560.51	2264.97S	1533.58W	==>	2532.87	
10200.00	90.04	179.210	7560.44	2364.96S	1532.21W	==>	2630.42	
10300.00	90.04	179.210	7560.36	2464.95S	1530.83W	==>	2727.98	
10400.00	90.04	179.210	7560.29	2564.94S	1529.46W	==>	2825.53	
10500.00	90.04	179.210	7560.21	2664.93S	1528.08W	==>	2923.08	
10600.00	90.04	179.210	7560.14	2764.92S	1526.71W	==>	3020.63	
10700.00	90.04	179.210	7560.06	2864.91S	1525.33W	==>	3118.18	
10800.00	90.04	179.210	7559.99	2964.90S	1523.96W	==>	3215.73	
10900.00	90.04	179.210	7559.91	3064.89S	1522.59W	==>	3313.28	
11000.00	90.04	179.210	7559.84	3164.88S	1521.21W	==>	3410.83	
11100.00	90.04	179.210	7559.77	3264.87S	1519.84W	==>	3508.38	
11200.00	90.04	179.210	7559.69	3364.87S	1518.46W	==>	3605.93	
11300.00	90.04	179.210	7559.62	3464.86S	1517.09W	==>	3703.48	
11400.00	90.04	179.210	7559.54	3564.85S	1515.71W	==>	3801.03	
11500.00	90.04	179.210	7559.47	3664.84S	1514.34W	==>	3898.58	
11600.00	90.04	179.210	7559.39	3764.83S	1512.96W	==>	3996.13	
11700.00	90.04	179.210	7559.32	3864.82S	1511.59W	==>	4093.69	
11800.00	90.04	179.210	7559.24	3964.81S	1510.21W	==>	4191.24	
11900.00	90.04	179.210	7559.17	4064.80S	1508.84W	==>	4288.79	
12000.00	90.04	179.210	7559.09	4164.79S	1507.46W	==>	4386.34	
12100.00	90.04	179.210	7559.02	4264.78S	1506.09W	==>	4483.89	
12200.00	90.04	179.210	7558.94	4364.77S	1504.71W	==>	4581.44	
12300.00	90.04	179.210	7558.87	4464.76S	1503.34W	==>	4678.99	
12400.00	90.04	179.210	7558.79	4564.75S	1501.96W	==>	4776.54	
12500.00	90.04	179.210	7558.72	4664.74S	1500.59W	==>	4874.09	
12600.00	90.04	179.210	7558.64	4764.73S	1499.22W	==>	4971.64	
12700.00	90.04	179.210	7558.57	4864.72S	1497.84W	==>	5069.19	
12800.00	90.04	179.210	7558.49	4964.71S	1496.47W	==>	5166.74	
12900.00	90.04	179.210	7558.42	5064.70S	1495.09W	==>	5264.29	
13000.00	90.04	179.210	7558.34	5164.69S	1493.72W	==>	5361.84	
13100.00	90.04	179.210	7558.27	5264.69S	1492.34W	==>	5459.40	
13200.00	90.04	179.210	7558.19	5364.68S	1490.97W	==>	5556.95	
13300.00	90.04	179.210	7558.12	5464.67S	1489.59W	==>	5654.50	
13400.00	90.04	179.210	7558.04	5564.66S	1488.22W	==>	5752.05	
13500.00	90.04	179.210	7557.97	5664.65S	1486.84W	==>	5849.60	
13600.00	90.04	179.210	7557.89	5764.64S	1485.47W	==>	5947.15	
13700.00	90.04	179.210	7557.82	5864.63S	1484.09W	==>	6044.70	
13800.00	90.04	179.210	7557.74	5964.62S	1482.72W	==>	6142.25	
13900.00	90.04	179.210	7557.67	6064.61S	1481.34W	==>	6239.80	
14000.00	90.04	179.210	7557.59	6164.60S	1479.97W	==>	6337.35	
14100.00	90.04	179.210	7557.52	6264.59S	1478.59W	==>	6434.90	
14200.00	90.04	179.210	7557.45	6364.58S	1477.22W	==>	6532.45	
14300.00	90.04	179.210	7557.37	6464.57S	1475.84W	==>	6630.00	
14400.00	90.04	179.210	7557.30	6564.56S	1474.47W	==>	6727.55	
14500.00	90.04	179.210	7557.22	6664.55S	1473.10W	==>	6825.11	
14600.00	90.04	179.210	7557.15	6764.54S	1471.72W	==>	6922.66	
14700.00	90.04	179.210	7557.07	6864.53S	1470.35W	==>	7020.21	
14794.90	90.04	179.210	7557.00	6959.43S	1469.04W	==>	7112.78	End of Hold/Target, 4 1/2in Production Liner, HOMESTEAD 9 BH

All data is in Feet unless otherwise stated
Coordinates are from Slot MD's are from Rig and TVD's are from Rig (Planned Datum #1 5160.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 191.920 degrees
Bottom hole distance is 7112.78 Feet on azimuth 191.92 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 5-Oct-2015

Hole Sections

Diameter [in]	Start MD[ft]	Start TVD[ft]	Start North[ft]	Start East[ft]	End MD[ft]	End TVD[ft]	End North[ft]	End East[ft]
13 1/2	23.00	23.00	0.00N	0.00E	1450.00	1450.00	0.00N	0.00E
8 3/4	1450.00	1450.00	0.00N	0.00E	8113.00	7562.00	278.16S	1560.90W
6 1/8	8113.00	7562.00	278.16S	1560.90W	14794.90	7557.00	6959.43S	1469.04W

Casings

Name	Top MD[ft]	Top TVD[ft]	Top North[ft]	Top East[ft]	Shoe MD[ft]	Shoe TVD[ft]	Shoe North[ft]	Shoe East[ft]
9 5/8in Surface Casing	23.00	23.00	0.00N	0.00E	1450.00	1450.00	0.00N	0.00E
7.0in Intermediate Casing	23.00	23.00	0.00N	0.00E	8113.00	7562.00	278.16S	1560.90W
4 1/2in Production Liner	7217.00	7014.82	296.53N	1411.56W	14794.90	7557.00	6959.43S	1469.04W

Targets

Name	North[ft]	East[ft]	TVD[ft]	Latitude	Longitude	Northing	Easting
HOMESTEAD 9 BH	6959.43S	1469.04W	7557.00	39.98813000	-104.76428000	1239378.09	3206148.11
HOMESTEAD 9 T1	278.94S	1560.89W	7562.00	40.00647000	-104.76441000	1246058.34	3206056.27

Survey Tool Program

Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model
400567	Planned	14794.90	7557.00	ISCWSA MWD	Rev 3 + Fixed Rig + Rotating

Notes



SYSDRILL
Closest Approach + Clearance Factor Summary Report
Wellbore: HOMESTEAD 9 (PWB)

Ellipse separations are reported ONLY if BOTH wells have uncertainty data
Only Depth and Magnetic Reference Field error terms are correlated across tie points
Scan limit is calculated on CENTRE to CENTRE distance
Summary data uses Closest Approach clearance calculation for all minima
Hole size/Casings ARE included
Hole size/Casings are NOT subtracted from Centre-Centre distance
Confidence limit of 95.00% / 2.80 SD.

Wellbore		
Name	Created	Last Revised
HOMESTEAD 9 (PWB)	17-Aug-2015	5-Oct-2015

Well		
Name	Government ID	Last Revised
HOMESTEAD 9		17-Aug-2015

Slot						
Name	Latitude	Longitude	Grid Northing	Grid Easting	North	East
HOMESTEAD 9	40.00720000	-104.75883000	1246337.2694	3207617.0977	4.70N	126.03E

Installation						
Name	Installation Position (Latitude)	Installation Position (Longitude)	Easting	Northing	Coord System Name	North Alignment
Homestead	40.00719000	-104.75928000	3207491.0767	1246332.5735	CO83-NF on NORTH AMERICAN DATUM 1983 datum	Grid

Clearance Summary							
Offset WellName	Separation [ft]	MD[ft]	Diverging From[ft]	Ellipse Separation [ft]	Ellipse MD[ft]	Clearance Factor	Clearance MD[ft]
HOMESTEAD 8	14.01	1650.00	14786.78	-32.95	14794.90	0.88	14794.90
HOMESTEAD 10	16.81	1700.00	1700.00	-135.35	14786.78	0.59	14786.78
HOMESTEAD 7	30.81	1625.00	14792.98	16.95	14794.90	1.05	14794.90
HOMESTEAD 11	33.62	1700.00	1700.00	23.05	1712.63	1.20	14794.90
HOMESTEAD 6	47.62	1600.00	1600.00	37.65	1623.00	1.54	14794.90
HOMESTEAD 12	50.42	1700.00	8123.00	39.86	1723.00	1.54	14794.90
HOMESTEAD 5	61.63	1549.00	1549.00	51.99	1549.00	2.17	14794.90
HOMESTEAD 4	78.44	1524.00	14794.90	68.94	1548.59	2.57	14794.90
HOMESTEAD 3	95.25	1499.38	1499.38	85.86	1523.00	3.08	14794.90
HOMESTEAD 2	112.11	1473.00	14791.47	102.84	1433.76	3.66	14794.90
HOMESTEAD 1	126.11	1448.00	14790.66	116.75	1448.00	4.09	14794.90
HOMESTEAD 13	231.00	2253.97	14794.90	217.03	2270.38	2.09	14794.90
HOMESTEAD 14	261.50	2155.55	14794.90	248.12	2171.95	2.58	14794.90
HOMESTEAD 15	283.11	2106.33	14793.31	270.08	2123.00	2.98	14793.31
HOMESTEAD 16	308.24	2040.72	14794.21	295.61	2057.12	3.44	14794.21
HOMESTEAD 17	332.40	1942.29	14794.90	320.31	1958.70	3.92	14794.90
HOMESTEAD 18	351.98	1893.08	14794.90	340.24	1909.48	4.33	14794.90
HOMESTEAD 19	372.89	1823.00	14794.90	361.59	1843.87	4.79	14794.90
HOMESTEAD 20	391.31	1729.04	14794.90	380.53	1745.44	5.26	14794.90
HOMESTEAD 21	406.20	1532.19	14794.90	396.29	1663.42	5.69	14794.90
HOMESTEAD 22	423.00	1506.00	14794.90	413.55	1532.19	6.15	14794.90
HOMESTEAD 23	439.81	1481.00	14794.90	430.51	1515.78	6.61	14794.90

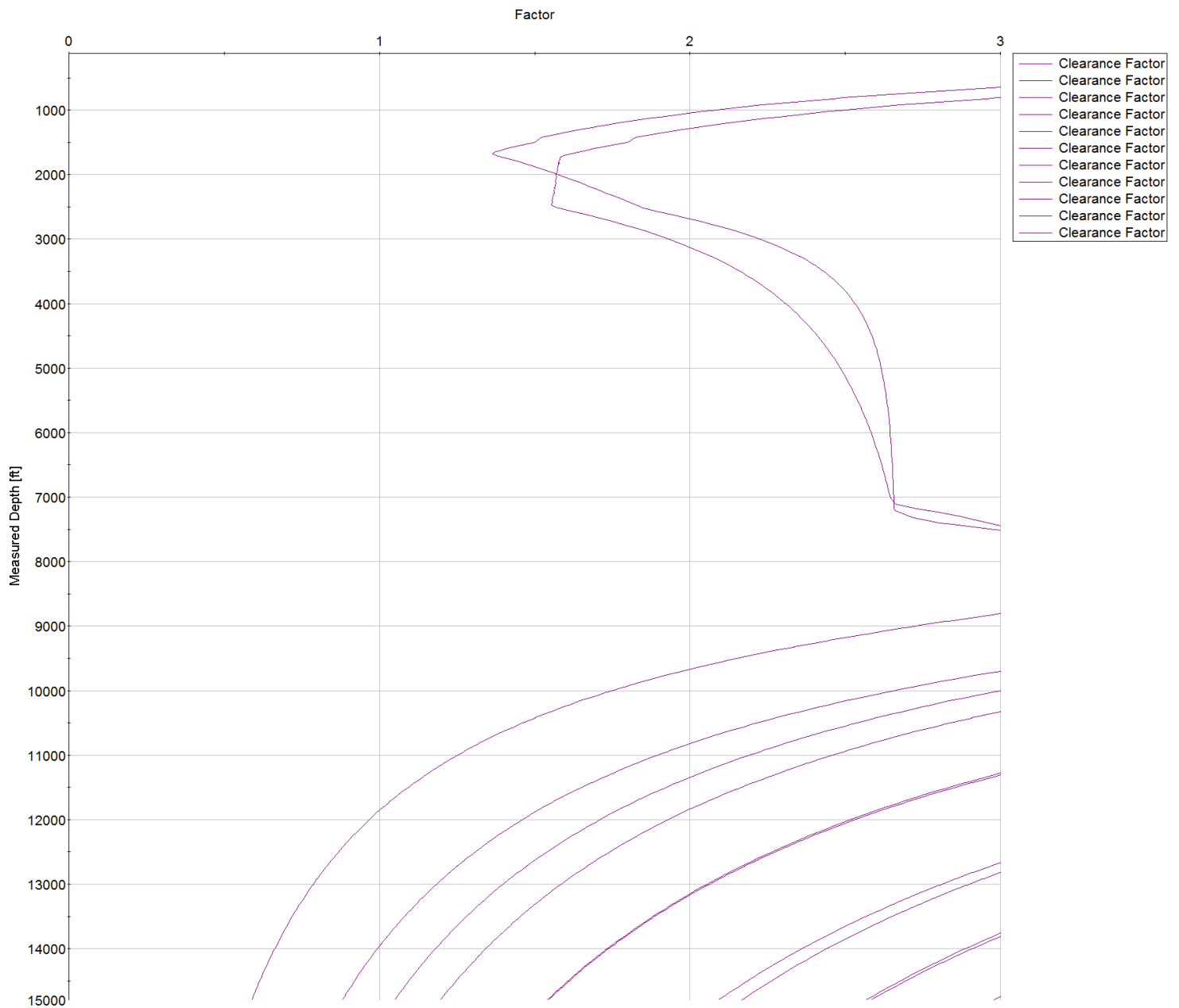


SYSDRILL
Closest Approach + Clearance Factor Summary Report
Wellbore: HOMESTEAD 9 (PWB)

Clearance Summary							
Offset WellName	Separation [ft]	MD[ft]	Diverging From[ft]	Ellipse Separation [ft]	Ellipse MD[ft]	Clearance Factor	Clearance MD[ft]
HOMESTEAD 24	453.82	1456.00	14794.90	444.57	1433.76	7.04	14794.90
BERGMAN #2	667.67	13909.67	13909.67	486.85	13950.17	3.65	14015.78
WILLARD, JOHN W. GAS UNIT #1	1104.30	3960.27	3960.27	1067.35	4091.24	23.10	6387.83
BERGMAN #1	2645.96	10991.40	10991.40	2537.54	11023.00	23.91	11407.51
BEN STEVENSON GAS UNIT #1	2701.95	14794.90	14794.90	2538.24	14794.90	16.50	14794.90
UPRR 50 PAN AM M #1	2776.73	1700.00	9295.94	2759.35	1723.00	47.61	11063.03
VISTA USX #WW33-08D	3152.91	7700.17	7700.17	3091.76	7716.57	43.60	9783.50
BRIGHTON COMPANY #1	4986.40	13630.71	13630.71	4813.50	13723.00	27.16	14794.90
SHAW A #1	6260.10	14794.90	14794.90	6089.87	14794.90	36.77	14794.90

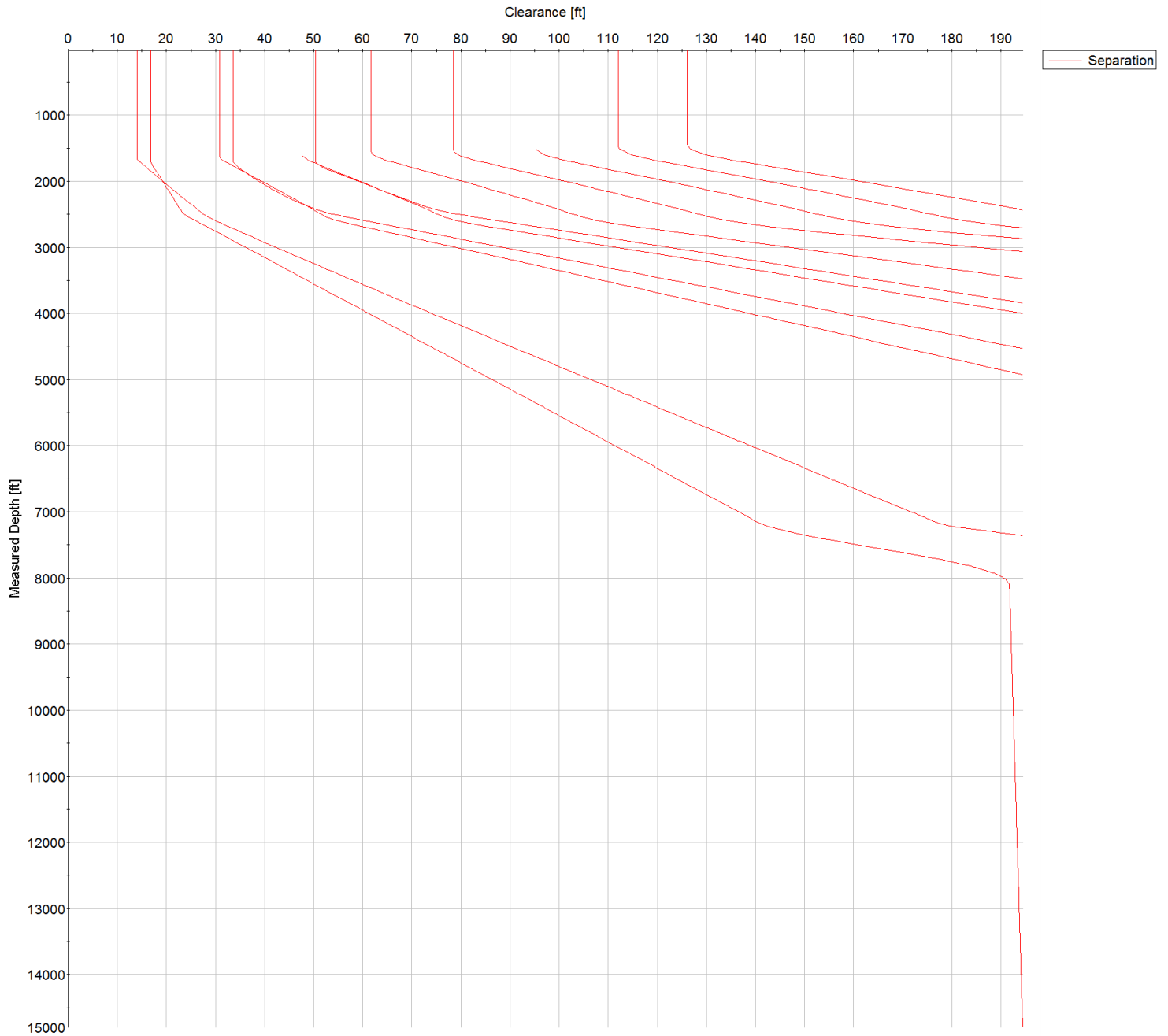


SYSDRILL
Closest Approach + Clearance Factor Summary Report
Wellbore: HOMESTEAD 9 (PWB)





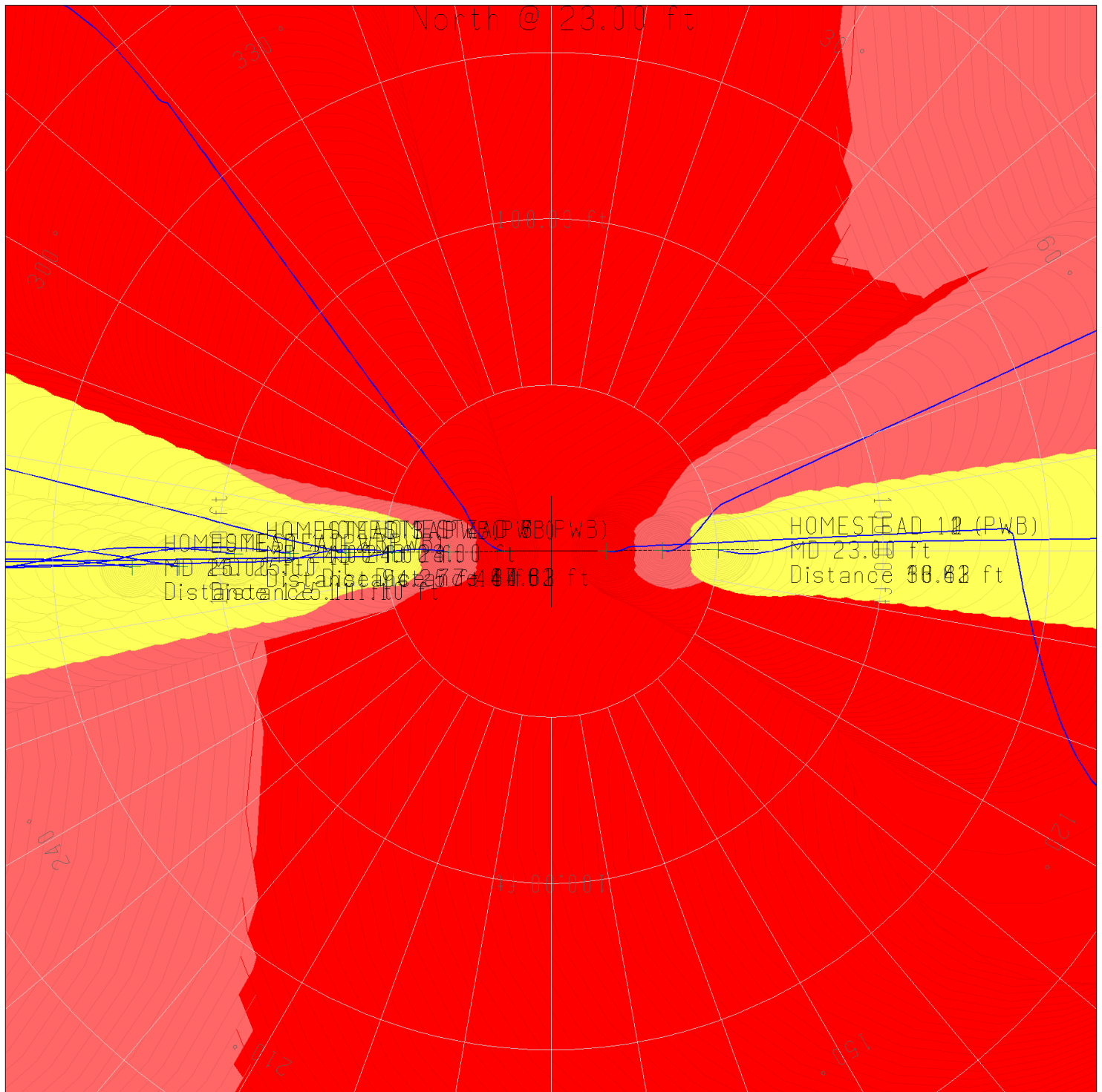
SYSDRILL
Closest Approach + Clearance Factor Summary Report
Wellbore: HOMESTEAD 9 (PWB)



All data is in Feet unless otherwise stated
Coordinates are from Slot MD's are from Rig and TVD's are from Rig (Planned Datum #1 5160.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 191.920 degrees
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 5-Oct-2015



SYSDRILL
Closest Approach + Clearance Factor Summary Report
Wellbore: HOMESTEAD 9 (PWB)



All data is in Feet unless otherwise stated
Coordinates are from Slot MD's are from Rig and TVD's are from Rig (Planned Datum #1 5160.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 191.920 degrees
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 5-Oct-2015