

SYSDRILL
Closest Approach + Clearance Factor Report
Wellbore: GP-JEvans #2-19-19 (PWB)
Wellpath: GP-JEvans #2-19-19 (PWP#1)

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
GP-JEvans #2-19-19 (PWB)	6-Aug-2014	6-Aug-2014

Well

Name	Government ID	Last Revised
GP-JEvans #2-19-19		11-Aug-2014

Slot

Name	Grid Northing	Grid Easting	Latitude	Longitude	North	East
Slot #45	1386070.7050	3227709.8680	40.39028450	-104.68250629	424.45S	376.69W

Installation

Name	Easting	Northing	Coord System Name	North Alignment
Greeley Project	3228086.5450	1386495.1419	CO83-NF on NORTH AMERICAN DATUM 1983 datum	Grid

Field

Name	Easting	Northing	Coord System Name	North Alignment
Wattenberg	3211772.6087	1400656.3763	CO83-NF on NORTH AMERICAN DATUM 1983 datum	Grid

Clearance Summary

Offset WellName	Offset Wellbore	Offset Slot	Offset Structure	Separation [ft]	MD[ft]	Diverging From[ft]	Ellipse Separation [ft]	Ellipse MD[ft]	Clearance Factor	Clearance MD[ft]
Commerce Center 4 Federal #20-2HS	Commerce Center 4 Federal #20-2HS (AWB)	Commerce Center 4 Federal #20-2HS	MRI Offsets	196.20	1722.44	1722.44	189.51	1722.44	28.44	1804.46

Reference Wellbore Survey Tool Program

Survey Name	MD[ft]	Survey Tool	Error Model
Planned	12935.75	WdW Rate Gyro	Standard

Clearance Data

Reference MD[ft]	Reference TVD[ft]	Offset Well	Offset MD[ft]	Offset TVD[ft]	Offset North[ft]	Offset East[ft]	Closest Approach Distance [ft]	Clearance Factor
0.00	0.00	Commerce Center 4 Federal #20-2HS	-22.00	2.58	223.26S	327.70W	396.53	
2.58	2.58	Commerce Center 4 Federal #20-2HS	-22.00	2.58	223.26S	327.70W	396.52	428.95
100.00	100.00	Commerce Center 4 Federal #20-2HS	75.42	100.00	223.26S	327.70W	396.52	241.10
200.00	200.00	Commerce Center 4 Federal #20-2HS	175.42	200.00	223.26S	327.70W	396.52	198.11
300.00	300.00	Commerce Center 4 Federal #20-2HS	275.42	300.00	223.26S	327.70W	396.52	172.90
350.00	350.00	Commerce Center 4 Federal #20-2HS	325.42	350.00	223.26S	327.70W	396.52	163.46
450.00	449.98	Commerce Center 4 Federal #20-2HS	426.07	450.65	223.27S	327.68W	394.97	148.16
458.31	458.29	Commerce Center 4 Federal #20-2HS	421.00	445.58	223.26S	327.70W	394.92	147.56
550.00	549.84	Commerce Center 4 Federal #20-2HS	528.50	553.07	223.89S	326.42W	389.71	135.86
650.00	649.45	Commerce Center 4 Federal #20-2HS	629.22	653.78	224.58S	324.80W	381.19	122.14
750.00	748.70	Commerce Center 4 Federal #20-2HS	728.24	752.78	225.17S	322.99W	369.55	109.94
850.00	847.47	Commerce Center 4 Federal #20-2HS	827.86	852.37	225.64S	320.89W	354.86	98.54
950.00	945.62	Commerce Center 4 Federal #20-2HS	926.68	951.16	226.04S	318.61W	337.43	93.98
1050.00	1043.06	Commerce Center 4 Federal #20-2HS	1023.63	1048.09	226.37S	316.23W	317.60	82.57
1150.00	1139.64	Commerce Center 4 Federal #20-2HS	1119.56	1143.98	226.71S	313.82W	295.93	71.80
1250.00	1235.27	Commerce Center 4 Federal #20-2HS	1213.75	1238.14	227.12S	311.54W	273.18	61.60
1350.00	1329.82	Commerce Center 4 Federal #20-2HS	1307.54	1331.90	227.62S	309.37W	250.33	52.12
1450.00	1423.17	Commerce Center 4 Federal #20-2HS	1399.52	1423.86	228.22S	307.37W	228.86	43.68
1550.00	1515.21	Commerce Center 4 Federal #20-2HS	1490.66	1514.98	228.86S	305.43W	210.80	36.69
1650.00	1605.84	Commerce Center 4 Federal #20-2HS	1580.49	1604.80	229.46S	303.71W	199.01	31.59
1722.44	1670.54	Commerce Center 4 Federal #20-2HS	1644.59	1668.88	229.89S	302.48W	196.20	29.35
1750.00	1694.94	Commerce Center 4 Federal #20-2HS	1668.74	1693.03	230.06S	302.02W	196.67	28.89
1804.46	1742.78	Commerce Center 4 Federal #20-2HS	1716.65	1740.93	230.29S	301.20W	200.20	28.44
1850.00	1782.39	Commerce Center 4 Federal #20-2HS	1755.90	1780.17	230.47S	300.55W	205.99	28.70
1950.00	1868.11	Commerce Center 4 Federal #20-2HS	1840.77	1865.03	230.86S	299.13W	227.64	30.83
2050.00	1951.97	Commerce Center 4 Federal #20-2HS	1924.59	1948.84	231.11S	297.88W	260.14	34.79
2132.54	2019.72	Commerce Center 4 Federal #20-2HS	1991.68	2015.92	231.28S	296.93W	293.81	39.10

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 4672.6ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 267.060 degrees
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 17-Sep-2014

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Closest Approach + Clearance Factor Report
Wellbore: GP-JEvans #2-19-19 (PWB)
Wellpath: GP-JEvans #2-19-19 (PWP#1)

Clearance Data

Reference MD[ft]	Reference TVD[ft]	Offset Well	Offset MD[ft]	Offset TVD[ft]	Offset North[ft]	Offset East[ft]	Closest Approach Distance [ft]	Clearance Factor
2200.00	2074.54	Commerce Center 4 Federal #20-2HS	2045.95	2070.18	231.41S	296.16W	324.66	43.06
2300.00	2155.80	Commerce Center 4 Federal #20-2HS	2126.96	2151.19	231.65S	295.15W	373.51	49.45
2400.00	2237.06	Commerce Center 4 Federal #20-2HS	2207.60	2231.82	232.08S	294.25W	425.00	56.03
2500.00	2318.32	Commerce Center 4 Federal #20-2HS	2288.45	2312.67	232.70S	293.44W	478.24	62.60
2600.00	2399.58	Commerce Center 4 Federal #20-2HS	2368.52	2392.73	233.51S	292.68W	532.70	69.13
2700.00	2480.83	Commerce Center 4 Federal #20-2HS	2476.47	2500.66	234.27S	292.80W	587.46	75.37
2800.00	2562.09	Commerce Center 4 Federal #20-2HS	2652.17	2675.11	226.49S	310.35W	633.55	79.86
2900.00	2643.35	Commerce Center 4 Federal #20-2HS	2783.25	2803.08	214.04S	335.73W	671.21	83.57
3000.00	2724.61	Commerce Center 4 Federal #20-2HS	2911.22	2926.11	199.56S	367.78W	703.93	85.99
3100.00	2805.87	Commerce Center 4 Federal #20-2HS	3006.51	3017.10	188.43S	393.80W	735.19	88.12
3200.00	2887.13	Commerce Center 4 Federal #20-2HS	3100.64	3106.87	177.76S	420.02W	766.51	89.72
3300.00	2968.38	Commerce Center 4 Federal #20-2HS	3183.21	3185.83	169.16S	442.57W	798.91	91.28
3400.00	3049.64	Commerce Center 4 Federal #20-2HS	3273.44	3272.29	159.73S	466.56W	832.40	92.29
3500.00	3130.90	Commerce Center 4 Federal #20-2HS	3362.57	3357.84	150.67S	489.87W	866.66	93.01
3600.00	3212.16	Commerce Center 4 Federal #20-2HS	3466.82	3457.94	141.29S	517.46W	900.94	92.89
3700.00	3293.42	Commerce Center 4 Federal #20-2HS	3563.63	3550.55	131.99S	544.08W	934.44	92.56
3800.00	3374.68	Commerce Center 4 Federal #20-2HS	3649.00	3632.24	123.64S	567.41W	968.33	92.44
3854.99	3419.36	Commerce Center 4 Federal #20-2HS	3695.50	3676.88	119.40S	579.73W	987.49	92.39
3900.00	3455.94	Commerce Center 4 Federal #20-2HS	3731.22	3711.24	116.26S	588.95W	1003.48	92.48
4000.00	3537.19	Commerce Center 4 Federal #20-2HS	3826.35	3802.79	108.10S	613.52W	1039.16	91.99
4100.00	3618.45	Commerce Center 4 Federal #20-2HS	3922.24	3894.93	99.79S	638.73W	1074.52	91.31
4200.00	3699.71	Commerce Center 4 Federal #20-2HS	4016.31	3985.27	91.48S	663.61W	1109.87	90.58
4248.69	3739.27	Commerce Center 4 Federal #20-2HS	4054.85	4022.32	88.09S	673.64W	1127.31	90.49
4300.00	3780.97	Commerce Center 4 Federal #20-2HS	4088.43	4054.71	85.14S	681.99W	1146.24	90.69
4400.00	3862.23	Commerce Center 4 Federal #20-2HS	4153.01	4117.30	79.53S	696.89W	1184.87	91.27
4500.00	3943.49	Commerce Center 4 Federal #20-2HS	4217.00	4179.66	74.35S	710.28W	1225.58	92.06
4600.00	4024.75	Commerce Center 4 Federal #20-2HS	4270.55	4232.16	70.56S	720.03W	1268.69	93.53
4700.00	4106.00	Commerce Center 4 Federal #20-2HS	4315.19	4276.17	67.86S	727.00W	1314.35	95.43
4800.00	4187.26	Commerce Center 4 Federal #20-2HS	4374.00	4334.43	65.00S	734.49W	1362.43	97.36
4900.00	4268.52	Commerce Center 4 Federal #20-2HS	4419.45	4379.64	63.32S	738.89W	1412.95	99.84
5000.00	4349.78	Commerce Center 4 Federal #20-2HS	4453.00	4413.09	62.30S	741.12W	1466.13	102.86
5100.00	4431.04	Commerce Center 4 Federal #20-2HS	4487.05	4447.12	61.48S	742.12W	1522.22	106.07
5200.00	4512.30	Commerce Center 4 Federal #20-2HS	4546.11	4506.16	60.30S	742.24W	1580.46	109.10
5300.00	4593.56	Commerce Center 4 Federal #20-2HS	4624.69	4584.73	58.69S	742.08W	1639.10	111.86
5400.00	4674.81	Commerce Center 4 Federal #20-2HS	4707.69	4667.71	56.90S	741.87W	1697.79	114.48
5500.00	4756.07	Commerce Center 4 Federal #20-2HS	4787.33	4747.32	55.17S	741.74W	1756.42	117.05
5600.00	4837.33	Commerce Center 4 Federal #20-2HS	4868.29	4828.27	53.56S	741.53W	1815.10	119.56
5700.00	4918.59	Commerce Center 4 Federal #20-2HS	4951.30	4911.27	52.23S	741.36W	1873.70	122.11
5800.00	4999.85	Commerce Center 4 Federal #20-2HS	5038.05	4998.01	51.31S	741.33W	1932.10	124.59
5900.00	5081.11	Commerce Center 4 Federal #20-2HS	5125.14	5085.10	50.91S	741.48W	1990.29	127.01
6000.00	5162.37	Commerce Center 4 Federal #20-2HS	5205.33	5165.29	50.90S	741.61W	2048.43	129.59
6100.00	5243.62	Commerce Center 4 Federal #20-2HS	5278.01	5237.98	51.04S	741.65W	2106.66	132.30
6200.00	5324.88	Commerce Center 4 Federal #20-2HS	5359.11	5319.07	51.32S	741.39W	2165.16	134.91
6300.00	5406.14	Commerce Center 4 Federal #20-2HS	5431.06	5391.02	51.68S	740.92W	2223.92	137.58
6400.00	5487.40	Commerce Center 4 Federal #20-2HS	5502.53	5462.48	52.10S	740.28W	2282.86	140.23
6500.00	5568.66	Commerce Center 4 Federal #20-2HS	5583.14	5543.08	52.68S	739.33W	2342.02	142.77
6600.00	5649.92	Commerce Center 4 Federal #20-2HS	5653.86	5613.80	53.31S	738.20W	2401.48	145.38
6700.00	5731.17	Commerce Center 4 Federal #20-2HS	5728.58	5688.50	53.98S	736.92W	2461.06	147.88
6800.00	5812.43	Commerce Center 4 Federal #20-2HS	5808.80	5768.71	54.69S	735.43W	2520.74	150.21
6900.00	5893.69	Commerce Center 4 Federal #20-2HS	5887.82	5847.71	55.30S	733.96W	2580.44	152.52
7000.00	5974.95	Commerce Center 4 Federal #20-2HS	5968.02	5927.89	55.82S	732.46W	2640.16	154.77
7100.00	6056.21	Commerce Center 4 Federal #20-2HS	6046.97	6006.82	56.24S	730.98W	2699.90	157.00
7200.00	6137.47	Commerce Center 4 Federal #20-2HS	6127.14	6086.98	56.57S	729.47W	2759.65	159.17
7300.00	6218.73	Commerce Center 4 Federal #20-2HS	6210.66	6170.49	56.88S	727.94W	2819.37	161.22
7400.00	6299.98	Commerce Center 4 Federal #20-2HS	6290.91	6250.73	57.15S	726.53W	2879.03	163.24
7500.00	6381.24	Commerce Center 4 Federal #20-2HS	6379.50	6339.30	57.47S	725.03W	2938.64	165.10
7600.00	6462.50	Commerce Center 4 Federal #20-2HS	6459.91	6419.71	57.82S	723.84W	2998.08	167.03
7700.00	6543.76	Commerce Center 4 Federal #20-2HS	6549.01	6508.79	58.21S	722.53W	3057.51	168.82
7800.00	6625.02	Commerce Center 4 Federal #20-2HS	6629.59	6589.37	58.64S	721.56W	3116.72	170.67
7900.00	6706.28	Commerce Center 4 Federal #20-2HS	6710.17	6669.94	59.07S	720.58W	3175.93	172.49
7913.64	6717.36	Commerce Center 4 Federal #20-2HS	6721.17	6680.93	59.13S	720.45W	3184.00	172.69
8000.00	6784.36	Commerce Center 4 Federal #20-2HS	6788.23	6747.99	59.59S	719.64W	3239.15	174.53
8100.00	6853.16	Commerce Center 4 Federal #20-2HS	6856.18	6815.94	60.06S	718.81W	3312.33	177.14
8200.00	6911.25	Commerce Center 4 Federal #20-2HS	6905.14	6864.89	60.41S	718.21W	3394.17	180.35
8300.00	6957.52	Commerce Center 4 Federal #20-2HS	6950.13	6909.87	60.83S	717.55W	3483.16	183.95
8400.00	6991.05	Commerce Center 4 Federal #20-2HS	6982.29	6942.03	61.13S	717.07W	3577.44	188.00
8500.00	7011.20	Commerce Center 4 Federal #20-2HS	7001.01	6960.74	61.30S	716.79W	3675.21	192.46
8595.83	7017.58	Commerce Center 4 Federal #20-2HS	7005.98	6965.72	61.35S	716.72W	3770.40	197.03
8600.00	7017.58	Commerce Center 4 Federal #20-2HS	7005.92	6965.65	61.35S	716.72W	3774.55	197.14
8700.00	7017.58	Commerce Center 4 Federal #20-2HS	7004.45	6964.18	61.33S	716.74W	3874.07	202.15
8800.00	7017.58	Commerce Center 4 Federal #20-2HS	7002.97	6962.71	61.32S	716.76W	3973.61	209.36
8900.00	7017.58	Commerce Center 4 Federal #20-2HS	7001.50	6961.23	61.31S	716.79W	4073.17	214.27
9000.00	7017.58	Commerce Center 4 Federal #20-2HS	7000.02	6959.76	61.29S	716.81W	4172.75	219.15
9100.00	7017.58	Commerce Center 4 Federal #20-2HS	6998.55	6958.28	61.28S	716.83W	4272.35	224.01
9200.00	7017.58	Commerce Center 4 Federal #20-2HS	6997.08	6956.81	61.26S	716.85W	4371.97	228.84
9300.00	7017.58	Commerce Center 4 Federal #20-2HS	6995.60	6955.34	61.25S	716.87W	4471.61	233.65

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Vertical Section is from 0.00N 0.00E on azimuth 267.060 degrees
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 17-Sep-2014

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Wellbore: GP-JEvans #2-19-19 (PWB)
Wellpath: GP-JEvans #2-19-19 (PWP#1)

Clearance Data

Reference MD[ft]	Reference TVD[ft]	Offset Well	Offset MD[ft]	Offset TVD[ft]	Offset North[ft]	Offset East[ft]	Closest Approach Distance [ft]	Clearance Factor
9400.00	7017.58	Commerce Center 4 Federal #20-2HS	6994.13	6953.86	61.24S	716.90W	4571.26	238.43
9500.00	7017.58	Commerce Center 4 Federal #20-2HS	6992.65	6952.39	61.22S	716.92W	4670.92	243.19
9600.00	7017.58	Commerce Center 4 Federal #20-2HS	6991.18	6950.91	61.21S	716.94W	4770.60	247.92
9700.00	7017.58	Commerce Center 4 Federal #20-2HS	6989.70	6949.44	61.20S	716.96W	4870.29	252.63
9800.00	7017.58	Commerce Center 4 Federal #20-2HS	6988.23	6947.96	61.18S	716.98W	4970.00	257.31
9900.00	7017.58	Commerce Center 4 Federal #20-2HS	6986.75	6946.49	61.17S	717.00W	5069.71	261.97
10000.00	7017.58	Commerce Center 4 Federal #20-2HS	6985.28	6945.02	61.16S	717.03W	5169.44	266.60
10100.00	7017.58	Commerce Center 4 Federal #20-2HS	6983.81	6943.54	61.14S	717.05W	5269.17	271.21
10200.00	7017.58	Commerce Center 4 Federal #20-2HS	6982.33	6942.07	61.13S	717.07W	5368.92	275.79
10300.00	7017.58	Commerce Center 4 Federal #20-2HS	6980.86	6940.59	61.11S	717.09W	5468.67	280.35
10400.00	7017.58	Commerce Center 4 Federal #20-2HS	6979.38	6939.12	61.10S	717.11W	5568.44	284.88
10500.00	7017.58	Commerce Center 4 Federal #20-2HS	6977.91	6937.65	61.09S	717.13W	5668.21	289.38
10600.00	7017.58	Commerce Center 4 Federal #20-2HS	6976.43	6936.17	61.07S	717.16W	5767.98	293.86
10700.00	7017.58	Commerce Center 4 Federal #20-2HS	6974.96	6934.70	61.06S	717.18W	5867.77	298.32
10800.00	7017.58	Commerce Center 4 Federal #20-2HS	6973.48	6933.22	61.05S	717.20W	5967.56	302.75
10900.00	7017.58	Commerce Center 4 Federal #20-2HS	6972.01	6931.75	61.03S	717.22W	6067.36	307.15
11000.00	7017.58	Commerce Center 4 Federal #20-2HS	6970.54	6930.27	61.02S	717.24W	6167.16	311.54
11100.00	7017.58	Commerce Center 4 Federal #20-2HS	6969.06	6928.80	61.01S	717.27W	6266.97	315.89
11200.00	7017.58	Commerce Center 4 Federal #20-2HS	6967.59	6927.33	60.99S	717.29W	6366.79	320.22
11300.00	7017.58	Commerce Center 4 Federal #20-2HS	6966.11	6925.85	60.98S	717.31W	6466.61	324.53
11400.00	7017.58	Commerce Center 4 Federal #20-2HS	6964.64	6924.38	60.96S	717.33W	6566.44	328.81
11500.00	7017.58	Commerce Center 4 Federal #20-2HS	6963.16	6922.90	60.95S	717.35W	6666.27	333.07
11600.00	7017.58	Commerce Center 4 Federal #20-2HS	6961.69	6921.43	60.94S	717.37W	6766.11	337.30
11700.00	7017.58	Commerce Center 4 Federal #20-2HS	6960.22	6919.95	60.92S	717.40W	6865.95	341.51
11800.00	7017.58	Commerce Center 4 Federal #20-2HS	6958.74	6918.48	60.91S	717.42W	6965.79	345.69
11900.00	7017.58	Commerce Center 4 Federal #20-2HS	6957.27	6917.01	60.90S	717.44W	7065.64	349.85
12000.00	7017.58	Commerce Center 4 Federal #20-2HS	6955.79	6915.53	60.88S	717.46W	7165.49	353.99
12100.00	7017.58	Commerce Center 4 Federal #20-2HS	6954.32	6914.06	60.87S	717.48W	7265.35	358.10
12200.00	7017.58	Commerce Center 4 Federal #20-2HS	6952.84	6912.58	60.85S	717.51W	7365.21	362.19
12300.00	7017.58	Commerce Center 4 Federal #20-2HS	6951.37	6911.11	60.84S	717.53W	7465.07	366.25
12400.00	7017.58	Commerce Center 4 Federal #20-2HS	6949.89	6909.64	60.83S	717.55W	7564.94	370.29
12500.00	7017.58	Commerce Center 4 Federal #20-2HS	6948.42	6908.16	60.81S	717.57W	7664.81	374.31
12600.00	7017.58	Commerce Center 4 Federal #20-2HS	6946.95	6906.69	60.80S	717.59W	7764.68	378.30
12700.00	7017.58	Commerce Center 4 Federal #20-2HS	6945.47	6905.21	60.79S	717.61W	7864.56	382.27
12800.00	7017.58	Commerce Center 4 Federal #20-2HS	6944.00	6903.74	60.77S	717.64W	7964.44	386.22
12900.00	7017.58	Commerce Center 4 Federal #20-2HS	6942.52	6902.26	60.76S	717.66W	8064.32	390.14
12935.75	7017.58	Commerce Center 4 Federal #20-2HS	6941.99	6901.74	60.75S	717.67W	8100.03	391.33

Offset Wellbore Survey Tool Programs

Well	Wellbore	Survey Name	MD[ft]	Survey Tool	Error Model
Commerce Center 4 Federal #20-2HS	Commerce Center 4 Federal #20-2HS (AWB)	Actual	7322.00	ISCWSA MWD	Rev 0