

Tie Point Parameters for Directional Survey

Measured Depth	True Vertical Depth	+East -West Well Departure	+North -South Well Departure	Deviation	Azimuth
1800.0	1800.0	0.0	0.0	0.000	0.0

Coordinates

Measured Depth (ft)	True Vertical Depth (ft)	+North -South (ft)	+East -West (ft)	Course Length (ft)	Wellbore Deviation (deg)	Wellbore Azimuth (deg)
1800.0	1800.0	0.0	0.0	0.0	1.5	0.0
1900.0	1899.9	-2.3	2.0	3.0	2.1	140.0
2000.0	1999.7	-6.9	6.6	9.6	5.6	125.4
2100.0	2098.9	-13.0	17.2	21.5	8.4	117.7
2200.0	2197.7	-19.7	31.2	36.9	9.9	111.8
2300.0	2296.1	-24.9	48.4	54.4	10.7	102.7
2400.0	2393.9	-28.4	69.0	74.6	13.6	98.7
2500.0	2490.4	-31.5	94.7	99.8	16.4	95.8
2600.0	2585.8	-34.1	124.7	129.3	18.6	94.5
2700.0	2680.2	-36.9	157.6	161.9	19.6	95.3
2800.0	2774.3	-40.2	191.2	195.4	19.7	95.8
2900.0	2868.5	-43.6	224.6	228.8	19.5	96.0
3000.0	2962.8	-47.1	257.7	262.0	19.4	96.0
3100.0	3057.2	-50.5	290.6	294.9	19.2	95.9
3200.0	3151.6	-53.9	323.4	327.8	19.4	95.5
3300.0	3245.6	-57.0	357.3	361.8	20.0	95.2
3400.0	3339.6	-60.2	391.3	395.9	19.9	95.7
3500.0	3433.7	-63.7	425.1	429.8	19.8	95.9
3600.0	3527.8	-67.3	458.8	463.7	19.8	96.3
3700.0	3621.9	-71.1	492.3	497.4	19.6	96.6
3800.0	3716.2	-74.8	525.4	530.7	19.3	96.2
3900.0	3810.4	-77.9	558.7	564.1	19.6	95.1
4000.0	3904.6	-80.9	592.1	597.6	19.5	94.8
4100.0	3998.9	-83.4	625.3	630.8	19.3	93.8
4200.0	4093.2	-85.3	658.6	664.1	19.4	92.9