

Job Number:	State/Country:
Company:	Declination:
Lease/Well:	Grid:
Location:	File name: C:\WINSERVE\MFM20-5.SVY
Rig Name:	Date/Time: 22-Dec-18 / 05:13
RKB:	Curve Name: MT FED MAPPLEWOOD 8W-20-5
G.L. or M.S.L.:	

Scientific Drilling

WINSERVE SURVEY CALCULATIONS
Minimum Curvature Method
Vertical Section Plane 273.44
Vertical Section Referenced to Wellhead
Rectangular Coordinates Referenced to Wellhead

<i>Measured Depth FT</i>	<i>Incl Angle Deg</i>	<i>Drift Direction Deg</i>	<i>True Vertical Depth</i>	<i>N-S FT</i>	<i>E-W FT</i>	<i>Vertical Section FT</i>	<i>C L O S U R E Distance FT</i>	<i>Direction Deg</i>	<i>Dogleg Severity Deg/100</i>
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
104.00	.48	343.32	104.00	.42	-.13	.15	.44	343.32	.46
198.00	.83	12.68	197.99	1.46	-.09	.18	1.46	356.52	.50
294.00	.75	125.27	293.99	1.77	.58	-.47	1.87	18.02	1.37
389.00	.83	152.78	388.98	.80	1.40	-1.35	1.61	60.14	.40
484.00	.75	146.62	483.97	-.33	2.06	-2.07	2.08	99.05	.12
578.00	1.14	249.28	577.96	-1.17	1.52	-1.59	1.92	127.64	1.59
673.00	2.86	265.36	672.90	-1.70	-1.73	1.62	2.42	225.47	1.89
768.00	5.67	271.08	767.63	-1.80	-8.78	8.66	8.97	258.41	2.99
863.00	7.25	275.65	862.02	-1.12	-19.44	19.34	19.47	266.69	1.75
958.00	9.27	279.87	956.03	.78	-32.95	32.93	32.95	271.35	2.22
1054.00	11.07	278.20	1050.52	3.42	-49.69	49.80	49.80	273.94	1.90
1149.00	12.61	276.70	1143.50	5.93	-69.01	69.25	69.27	274.91	1.65
1244.00	15.25	276.70	1235.70	8.60	-91.73	92.08	92.13	275.35	2.78
1339.00	17.27	278.55	1326.89	12.15	-118.08	118.60	118.71	275.88	2.19
1434.00	17.53	278.28	1417.54	16.31	-146.19	146.90	147.09	276.37	.29
1529.00	18.59	275.74	1507.86	19.88	-175.41	176.29	176.54	276.47	1.39
1571.00	18.15	274.50	1547.72	21.07	-188.59	189.52	189.77	276.37	1.40
PROJECTION TO BIT									
1621.00	18.15	274.50	1595.24	22.29	-204.12	205.09	205.34	276.23	.00