

# Directional Surveys



Well : **IONE 6-8-4**

API # : 05123315710000

Area : Wattenberg

Direction of Vertical Section (in degrees) : 215.40

Survey Company : Ensign Directional

Magnetic Dec. Correction : 8.97

Extrap.	Corrected			TVD	Northings	Eastings	Vertical Section	Dog Leg
	Depth (MD)	Angle (deg)	Direction (deg)					
*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	9.10	13.40	221.10	8.98	-0.79	-0.69	1.05	147.25
	78.00	0.20	77.30	76.94	-6.78	-5.82	8.90	19.68
	171.00	0.20	127.00	169.94	-6.84	-5.53	8.78	0.18
	264.00	0.50	92.40	262.94	-6.95	-4.99	8.56	0.38
	357.00	0.40	93.70	355.94	-6.99	-4.26	8.16	0.11
	450.00	0.80	89.30	448.93	-7.00	-3.29	7.61	0.43
	542.00	0.70	134.30	540.92	-7.38	-2.25	7.32	0.63
	634.00	1.20	216.60	632.91	-8.55	-2.42	8.37	1.42
	726.00	3.20	224.80	724.83	-11.15	-4.80	11.87	2.20
	757.00	3.60	225.30	755.78	-12.45	-6.10	13.68	1.29
	839.00	4.40	220.50	837.58	-16.65	-9.97	19.35	1.06
	926.00	5.10	226.40	924.28	-21.85	-14.94	26.47	0.98
	1014.00	5.70	225.40	1011.89	-27.62	-20.88	34.61	0.69
	1101.00	6.50	216.30	1098.40	-34.62	-26.87	43.79	1.44
	1188.00	7.30	214.00	1184.77	-43.17	-32.88	54.23	0.97
	1276.00	8.40	216.20	1271.94	-52.99	-39.80	66.25	1.30
	1363.00	10.20	221.80	1357.79	-63.86	-48.69	80.26	2.31
	1450.00	11.40	223.40	1443.24	-75.85	-59.73	96.43	1.42
	1625.00	15.50	218.10	1613.33	-106.82	-86.04	136.91	2.44
	1712.00	16.40	215.80	1696.98	-125.93	-100.40	160.81	1.26
	1799.00	16.40	215.30	1780.44	-145.92	-114.68	185.37	0.16
	1887.00	16.90	216.40	1864.75	-166.35	-129.45	210.59	0.67
	1974.00	20.30	216.40	1947.17	-188.68	-145.91	238.32	3.91
	2061.00	19.70	212.30	2028.92	-213.22	-162.70	268.05	1.75
	2149.00	19.10	215.50	2111.92	-237.48	-178.99	297.26	1.39
	2236.00	19.80	218.00	2193.95	-260.68	-196.33	326.22	1.25
	2323.00	19.60	216.00	2275.86	-284.10	-213.98	355.53	0.81
	2410.00	20.90	217.00	2357.48	-308.30	-231.90	385.64	1.55
	2498.00	22.80	218.90	2439.15	-334.11	-252.05	418.35	2.30
	2585.00	23.60	218.50	2519.11	-360.86	-273.48	452.57	0.94
	2672.00	23.30	218.00	2598.92	-388.05	-294.91	487.15	0.41
	2760.00	24.90	218.60	2679.24	-416.24	-317.18	523.03	1.84
	2847.00	27.50	219.60	2757.28	-446.03	-341.41	561.34	3.03
	2934.00	29.50	217.50	2833.73	-478.50	-367.25	602.78	2.57
	3022.00	31.10	216.10	2909.70	-514.05	-393.83	647.16	1.99
	3109.00	31.20	213.20	2984.16	-551.06	-419.41	692.14	1.73
	3196.00	31.50	213.30	3058.46	-588.91	-444.23	737.37	0.35
	3283.00	30.60	214.20	3132.99	-626.22	-469.15	782.22	1.16
	3371.00	28.20	214.50	3209.64	-661.88	-493.52	825.40	2.73
	3458.00	28.20	214.50	3286.31	-695.76	-516.81	866.51	0.00
	3545.00	27.40	215.10	3363.27	-729.08	-539.96	907.08	0.97
	3633.00	25.90	216.30	3441.91	-761.14	-562.98	946.55	1.81
	3720.00	24.20	215.90	3520.72	-790.90	-584.68	983.38	1.96
	3807.00	26.70	218.20	3599.26	-820.70	-607.22	1020.73	3.09
	3895.00	26.10	218.00	3678.08	-851.49	-631.36	1059.81	0.69
	3982.00	26.10	218.20	3756.21	-881.61	-654.98	1098.04	0.10

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	4069.00	25.50	216.00	3834.54	-911.80	-677.82	1135.88	1.30
	4156.00	26.20	214.00	3912.83	-942.87	-699.57	1173.81	1.29
	4244.00	27.70	211.90	3991.27	-976.34	-721.24	1213.64	2.02
	4331.00	27.70	209.80	4068.30	-1011.05	-741.97	1253.95	1.12
	4418.00	28.00	211.50	4145.22	-1046.01	-762.69	1294.44	0.98
	4506.00	27.00	210.10	4223.27	-1080.90	-783.50	1334.94	1.35
	4593.00	24.00	210.60	4301.77	-1113.21	-802.41	1372.23	3.46
	4680.00	21.20	215.40	4382.07	-1141.26	-820.53	1405.59	3.85
	4768.00	21.30	218.50	4464.09	-1166.74	-839.70	1437.46	1.28
	4855.00	20.90	217.00	4545.26	-1191.50	-858.88	1468.75	0.77
	4942.00	18.40	216.80	4627.17	-1214.89	-876.44	1498.00	2.87
	5029.00	16.70	216.60	4710.11	-1235.92	-892.12	1524.22	1.96
	5117.00	15.70	216.50	4794.61	-1255.64	-906.74	1548.77	1.14
	5204.00	14.20	215.50	4878.66	-1273.79	-919.94	1571.20	1.75
	5291.00	12.40	214.30	4963.32	-1290.19	-931.40	1591.22	2.09
	5379.00	10.70	214.50	5049.53	-1304.73	-941.35	1608.83	1.93
	5466.00	9.50	214.30	5135.18	-1317.32	-949.97	1624.08	1.38
	5553.00	8.30	214.90	5221.13	-1328.40	-957.61	1637.54	1.38
	5641.00	6.90	216.40	5308.35	-1337.86	-964.38	1649.18	1.61
	5728.00	5.40	214.00	5394.84	-1345.46	-969.77	1658.49	1.75
	5815.00	4.70	216.00	5481.50	-1351.74	-974.15	1666.15	0.83
	5902.00	4.10	217.00	5568.24	-1357.11	-978.12	1672.82	0.70
	6077.00	2.60	225.70	5742.93	-1364.88	-984.73	1682.98	0.90
	6252.00	1.80	245.90	5917.80	-1368.77	-990.08	1689.26	0.63
	6426.00	1.50	261.10	6091.73	-1370.24	-994.82	1693.20	0.30
	6601.00	1.10	265.00	6266.68	-1370.74	-998.76	1695.89	0.23
	6775.00	0.20	166.50	6440.66	-1371.18	-1000.35	1697.17	0.66
	6950.00	0.50	101.90	6615.66	-1371.63	-999.53	1697.07	0.26
	7125.00	1.10	158.70	6790.64	-1373.35	-998.17	1697.68	0.53
	7299.00	1.10	179.00	6964.61	-1376.58	-997.53	1699.94	0.22
	7474.00	1.00	192.00	7139.58	-1379.75	-997.82	1702.69	0.15
	7648.00	0.90	181.40	7313.56	-1382.60	-998.17	1705.22	0.12
	7823.00	0.70	175.90	7488.54	-1385.04	-998.13	1707.18	0.12
	7998.00	0.90	190.50	7663.52	-1387.46	-998.30	1709.25	0.16
	8172.00	0.90	175.80	7837.50	-1390.17	-998.45	1711.55	0.13
	8300.00	1.00	180.40	7965.48	-1392.29	-998.38	1713.24	0.10
	8350.00	1.00	180.40	8015.47	-1393.16	-998.39	1713.95	0.00