

Directional Survey Calculations	Measured Depth (ft)	Sub-Sea Incl. (deg)	Vertical Azim. (ft)	True Vert Depth (ft)	Northings (+) Southings (-) (ft)	Eastings (+) Westings (-) (ft)	Vert Section (ft)	DLS deg/100' (deg)	FNL	FSL	FWL	FEL
									7654	202	663	4621
SHL	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7654	202	663	4621
BHL	11396	86.30	355.50	5264.71	6544.61	-12.57	6544.55	0.00	1109	6747	631	4733
Miss Entry	5471	67.77	359.02	5225.70	631.65	3.47	631.66	10.59	7022	834	665	4627
Top Perf	7002	90.90	121.23	5269.62	2154.49	-1.76	2154.48	1.03	5499	2356	655	4655
Bottom Perf	11242	90.92	356.54	5259.06	6391.17	-1.48	6391.14	4.69	1263	6593	642	4719

Survey Points	NW Corner XY Coord	X	Y	Surface XY	X	Y	m	
							North Line slope	0.0011159
	SW Corner XY Coord	1732830	232559		1733494	232763	East Line slope	0.015167
	NE Corner XY Coord	1738231	240422				South Line slope	0.0032185
	SE Corner XY Coord	1738112	232576				West Line slope	0.0030546

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								7654	202	663	4621
0	0.0	0	0	0	0	0	0	7654	202	663	4621
1238	0.40	338.70	1237.99	4	-2	4.02	0.03	7650	206	662	4622
1421	0.30	328.50	1420.99	5	-2	5.03	0.07	7649	207	661	4623
1896	0.30	20.00	1895.98	7	-2	7.26	0.06	7646	209	661	4623
2372	0.50	37.60	2371.97	10	-1	10.08	0.05	7644	212	663	4622
2847	0.40	4.80	2846.96	13	1	13.38	0.06	7640	215	664	4620
3322	0.30	251.60	3321.95	15	0	14.64	0.12	7639	216	663	4621
3797	0.70	296.20	3796.93	16	-4	15.51	0.11	7638	217	659	4625
4272	0.80	308.20	4271.89	19	-9	18.83	0.04	7635	221	654	4630
4303	0.90	311.90	4302.89	19	-10	19.13	0.37	7635	221	654	4631
4336	1.10	328.80	4335.88	20	-10	19.57	1.07	7634	221	653	4631
4367	1.70	16.10	4366.88	20	-10	20.27	4.03	7633	222	653	4631
4399	4.60	19.10	4398.82	22	-9	21.94	9.08	7632	224	654	4631
4431	7.50	14.00	4430.64	25	-8	25.19	9.21	7628	227	655	4630
4462	9.80	9.20	4461.29	30	-8	29.76	7.77	7624	232	656	4629
4494	11.80	7.40	4492.72	36	-7	35.69	6.34	7618	238	657	4628
4526	13.80	8.10	4523.92	43	-6	42.72	6.27	7611	245	658	4627
4557	15.90	9.00	4553.89	51	-5	50.58	6.82	7603	252	659	4626
4588	18.60	7.70	4583.49	60	-3	59.68	8.80	7594	262	660	4625
4620	21.00	6.30	4613.60	70	-2	70.44	7.65	7583	272	661	4624
4652	23.40	6.90	4643.22	82	-1	82.46	7.53	7571	284	663	4623
4683	23.90	7.50	4671.62	95	1	94.80	1.79	7559	297	664	4621
4715	25.30	6.10	4700.71	108	3	108.03	4.74	7546	310	666	4620
4747	27.20	4.40	4729.41	122	4	122.13	6.39	7532	324	667	4619
4778	28.60	2.30	4756.81	137	5	136.61	5.52	7517	338	668	4618
4810	30.30	0.40	4784.67	152	5	152.34	6.06	7501	354	668	4618
4842	31.00	360.00	4812.20	169	5	168.65	2.28	7485	370	668	4618
4873	32.80	360.00	4838.52	185	5	185.04	5.81	7469	387	668	4618
4905	34.50	1.00	4865.16	203	5	202.77	5.59	7451	405	668	4619
4936	36.40	1.40	4890.41	221	6	220.74	6.18	7433	423	668	4618
4968	38.30	0.60	4915.85	240	6	240.16	6.13	7414	442	669	4618
5000	41.40	358.60	4940.41	261	6	260.66	10.48	7393	462	668	4619
5031	45.10	357.90	4962.99	282	5	281.88	12.04	7372	484	668	4620
5063	47.80	358.30	4985.03	305	4	305.06	8.49	7349	507	667	4621
5094	49.30	359.30	5005.55	328	4	328.29	5.41	7325	530	666	4622
5126	48.90	359.30	5026.50	352	4	352.47	1.25	7301	554	666	4622
5158	48.50	359.30	5047.62	377	3	376.51	1.25	7277	578	666	4623
5189	49.20	359.50	5068.02	400	3	399.85	2.31	7254	602	665	4624
5221	49.20	359.90	5088.93	424	3	424.08	0.95	7230	626	665	4624
5253	49.70	0.20	5109.74	448	3	448.39	1.72	7205	650	665	4625
5284	49.90	0.60	5129.75	472	3	472.07	1.18	7182	674	665	4625
5316	52.50	0.80	5149.80	497	4	497.01	8.14	7157	699	665	4625
5348	56.40	1.20	5168.40	523	4	523.04	12.23	7131	725	666	4625
5379	59.70	0.20	5184.80	549	4	549.34	10.99	7104	751	666	4625
5411	62.50	359.40	5200.26	577	4	577.35	9.02	7076	779	666	4625
5443	64.70	359.20	5214.49	606	4	606.01	6.90	7048	808	665	4626
5474	68.10	359.00	5226.90	634	3	634.41	10.98	7019	836	665	4627
5506	70.90	358.60	5238.11	664	3	664.37	8.83	6989	866	664	4628
5537	73.20	359.00	5247.66	694	2	693.85	7.52	6960	896	663	4629
5569	74.40	359.50	5256.59	725	2	724.58	4.04	6929	926	663	4630
5601	76.00	0.20	5264.76	756	2	755.51	5.43	6898	957	663	4631
5632	79.40	0.80	5271.36	786	2	785.80	11.13	6868	988	663	4631
5664	81.80	1.90	5276.59	817	3	817.36	8.23	6836	1019	664	4631
5667	82.10	2.00	5277.01	820	3	820.33	10.53	6833	1022	664	4630
5745	87.00	2.20	5284.42	898	6	897.91	6.29	6756	1100	666	4629
5837	90.30	0.30	5286.58	990	8	989.85	4.14	6664	1192	668	4628
5929	91.00	359.90	5285.54	1082	8	1081.85	0.88	6572	1284	668	4629
6021	91.40	359.90	5283.61	1174	8	1173.83	0.44	6480	1376	667	4631
6113	91.30	360.00	5281.45	1266	8	1265.80	0.15	6388	1468	667	4632
6205	91.10	360.00	5279.52	1358	8	1357.78	0.22	6296	1560	667	4634
6297	91.50	359.90	5277.43	1450	8	1449.76	0.45	6204	1652	666	4635
6389	90.60	359.80	5275.75	1542	7	1541.74	0.99	6112	1744	666	4637
6481	89.30	0.60	5275.83	1634	8	1633.74	1.66	6020	1836	666	4638
6573	90.20	0.60	5276.23	1726	9	1725.74	0.98	5928	1928	667	4638
6665	91.00	357.80	5275.26	1818	7	1817.71	3.17	5836	2020	665	4641

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								FNL	FSL	FWL	FEL
6757	90.70	357.30	5273.90	1910	3	1909.60	0.63	5744	2111	661	4646
6849	91.00	358.60	5272.53	2002	0	2001.52	1.45	5652	2203	657	4651
6941	91.30	359.40	5270.69	2093	-2	2093.49	0.93	5560	2295	655	4654
7033	90.70	0.20	5269.08	2185	-2	2185.47	1.09	5468	2387	655	4656
7125	90.70	359.40	5267.96	2277	-2	2277.46	0.87	5376	2479	654	4658
7217	91.10	2.10	5266.51	2369	-1	2369.44	2.97	5284	2571	655	4658
7309	90.50	2.30	5265.23	2461	3	2461.37	0.69	5192	2663	658	4656
7401	90.30	1.90	5264.59	2553	6	2553.32	0.49	5100	2755	661	4654
7493	90.50	0.60	5263.94	2645	8	2645.30	1.43	5008	2847	663	4653
7586	90.80	0.40	5262.89	2738	9	2738.29	0.39	4915	2940	664	4654
7681	90.60	359.70	5261.73	2833	9	2833.28	0.77	4820	3035	664	4655
7776	90.10	359.70	5261.15	2928	8	2928.28	0.53	4725	3130	663	4657
7871	89.70	0.20	5261.31	3023	8	3023.28	0.68	4630	3225	662	4658
7966	88.60	359.30	5262.72	3118	8	3118.27	1.50	4535	3320	662	4660
8061	89.20	359.10	5264.55	3213	7	3213.24	0.67	4440	3415	660	4663
8156	89.20	359.20	5265.87	3308	5	3308.21	0.11	4346	3510	658	4666
8251	90.70	1.40	5265.96	3403	6	3403.20	2.80	4251	3605	659	4667
8346	92.20	2.50	5263.55	3498	9	3498.12	1.96	4156	3700	662	4665
8441	93.10	3.30	5259.16	3593	14	3592.91	1.27	4061	3795	666	4662
8535	91.70	1.50	5255.22	3687	18	3686.75	2.43	3967	3889	670	4659
8630	89.40	0.30	5254.31	3782	19	3781.73	2.73	3872	3983	671	4659
8725	89.20	359.10	5255.47	3877	19	3876.72	1.28	3777	4078	670	4661
8820	90.90	0.10	5255.39	3972	18	3971.72	2.08	3682	4173	669	4663
8915	92.20	1.30	5252.82	4067	19	4066.67	1.86	3587	4268	670	4663
8956	93.20	2.50	5250.89	4108	20	4107.61	3.81	3546	4309	671	4663
9048	93.10	3.90	5245.83	4199	26	4199.34	1.52	3454	4401	676	4659
9140	88.70	1.50	5244.39	4291	30	4291.21	5.45	3363	4493	680	4656
9232	86.60	359.50	5248.16	4383	31	4383.12	3.15	3271	4585	681	4657
9323	92.40	1.70	5248.95	4474	32	4474.07	6.82	3180	4676	681	4657
9415	88.50	358.40	5248.23	4566	32	4566.04	5.55	3088	4768	681	4658
9509	89.00	358.90	5250.28	4660	30	4659.98	0.75	2994	4862	679	4662
9604	89.00	358.00	5251.94	4755	27	4754.93	0.95	2899	4957	676	4666
9699	90.30	358.60	5252.52	4850	24	4849.87	1.51	2804	5052	673	4670
9794	94.10	0.80	5248.87	4945	24	4944.78	4.62	2709	5147	672	4672
9889	89.40	358.50	5245.97	5040	23	5039.70	5.51	2614	5241	671	4674
9984	91.00	0.40	5245.64	5135	22	5134.69	2.62	2519	5336	670	4677
10079	91.60	1.70	5243.49	5230	24	5229.65	1.51	2424	5431	671	4676
10174	91.80	0.20	5240.67	5325	25	5324.60	1.59	2329	5526	673	4676
10269	88.60	360.00	5240.34	5420	26	5419.58	3.38	2234	5621	672	4677
10364	88.50	0.20	5242.74	5515	26	5514.55	0.24	2139	5716	672	4679
10459	89.70	359.70	5244.23	5609	26	5609.54	1.37	2044	5811	672	4680
10554	88.90	359.50	5245.39	5704	25	5704.53	0.87	1949	5906	671	4682
10649	86.80	359.40	5248.96	5799	24	5799.45	2.21	1854	6001	670	4685
10744	85.20	358.90	5255.58	5894	23	5894.20	1.77	1760	6096	668	4688
10839	87.30	357.70	5261.80	5989	20	5988.94	2.55	1665	6191	665	4692
10934	89.00	357.10	5264.86	6084	16	6083.78	1.90	1570	6286	660	4698
11029	90.40	356.50	5265.36	6179	10	6178.61	1.60	1475	6380	655	4704
11124	91.70	356.90	5263.62	6273	5	6273.42	1.43	1380	6475	649	4711
11156	92.20	357.20	5262.53	6305	3	6305.36	1.82	1348	6507	647	4713
11187	93.30	356.90	5261.04	6336	2	6336.28	3.68	1317	6538	646	4715
11219	92.00	356.90	5259.56	6368	0	6368.19	4.06	1285	6570	644	4718
11251	90.50	356.40	5258.87	6400	-2	6400.12	4.94	1254	6602	642	4720
11282	88.70	355.90	5259.08	6431	-4	6431.05	6.03	1223	6633	640	4722
11314	88.20	356.10	5259.95	6463	-6	6462.95	1.68	1191	6665	637	4725
11346	86.30	355.50	5261.48	6495	-9	6494.82	6.23	1159	6697	635	4728
11396	86.30	355.50	5264.71	6545	-13	6544.55	0.00	1109	6747	631	4733