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
SHL	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3081	199	4636	663
BHL	9031	90.70	0.70	4763.30	4529.53	-34.73	4529.66	0.02	-1448	4729	4676	661
Miss Entry	5036	75.25	358.28	4791.43	538.07	3.11	538.03	8.09	2543	737	4648	656
Top Perf	5558	87.75	358.38	4826.05	1057.84	-12.13	1057.91	1.63	2024	1257	4642	667
Bottom Perf	8992	90.70	0.70	4763.78	4490.53	-35.21	4490.67	0.44	-1409	4690	4675	662

Survey Points		X	Y		X	Y		m
	NW Corner XY Coord	2055555	123981				North Line slope	0.0024413
	SW Corner XY Coord	2055609	120704	Surface XY	2060242	120911	East Line slope	-0.0082292
	NE Corner XY Coord	2060880	123994				South Line slope	0.0016988
	SE Corner XY Coord	2060907	120713				West Line slope	-0.0164785

	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
	0	0.0	0	0	0	0	0	0	3081	199	4636	663
	1143	0.90	116.10	1142.95	-4.0	8.1	-4.01	0.08	3085	195	4644	655
	1418	1.30	120.40	1417.90	-6.5	12.7	-6.58	0.15	3088	193	4649	651
	1876	1.00	109.90	1875.81	-10.5	20.9	-10.63	0.08	3092	189	4657	643
	2350	0.90	119.60	2349.74	-13.7	28.1	-13.93	0.04	3095	185	4664	635
	2825	0.20	153.90	2824.72	-16.3	31.7	-16.55	0.16	3098	183	4668	632
	3299	0.30	312.00	3298.72	-16.2	31.1	-16.46	0.10	3098	183	4667	632
	3531	0.70	7.00	3530.71	-14.4	30.8	-14.64	0.25	3096	185	4667	633
	3584	0.60	9.70	3583.71	-13.8	30.9	-14.04	0.20	3095	185	4667	633
	3615	0.80	7.20	3614.70	-13.4	31.0	-13.67	0.65	3095	186	4667	633
	3647	0.80	2.50	3646.70	-13.0	31.0	-13.22	0.21	3094	186	4667	632
	3679	1.20	354.30	3678.70	-12.4	31.0	-12.67	1.33	3094	187	4667	632
	3710	3.10	345.40	3709.67	-11.3	30.8	-11.53	6.21	3093	188	4667	633
	3773	3.70	351.90	3772.56	-7.6	30.0	-7.86	1.13	3089	191	4666	633
	3868	2.80	353.50	3867.41	-2.3	29.3	-2.51	0.95	3084	197	4666	634
	3963	2.80	356.70	3962.30	2.3	29.0	2.11	0.17	3079	201	4665	634
	4058	2.50	355.80	4057.19	6.7	28.7	6.50	0.32	3075	206	4665	635
	4090	2.70	357.60	4089.16	8.2	28.6	7.95	0.68	3073	207	4665	635
	4121	4.30	1.50	4120.10	10.1	28.6	9.84	5.22	3071	209	4665	635
	4153	6.50	1.50	4151.96	13.1	28.7	12.85	6.88	3068	212	4665	635
	4185	8.70	355.80	4183.68	17.3	28.5	17.08	7.26	3064	216	4665	635
	4216	10.60	353.40	4214.24	22.5	28.0	22.25	6.26	3059	222	4665	635
	4248	12.20	352.00	4245.60	28.8	27.2	28.53	5.07	3053	228	4664	636
	4279	15.00	354.00	4275.73	36.0	26.4	35.78	9.16	3046	235	4663	637
	4311	17.20	356.00	4306.47	44.8	25.6	44.62	7.09	3037	244	4663	637
	4343	19.10	356.60	4336.88	54.8	25.0	54.57	5.97	3027	254	4662	638
	4374	21.10	355.40	4365.99	65.4	24.2	65.21	6.59	3016	264	4662	639
	4406	23.80	354.40	4395.56	77.6	23.1	77.39	8.52	3004	277	4661	640
	4438	26.70	354.10	4424.50	91.2	21.7	90.98	9.07	2990	290	4660	641
	4469	29.00	354.60	4451.91	105.6	20.3	105.40	7.46	2976	305	4658	642
	4501	31.10	354.20	4479.61	121.5	18.8	121.36	6.59	2960	321	4657	644
	4533	33.00	354.10	4506.73	138.4	17.0	138.27	5.94	2943	338	4656	645
	4564	35.70	355.00	4532.32	155.8	15.4	155.69	8.86	2926	355	4654	647
Top of Tangent	4596	38.10	356.00	4557.91	175.0	13.9	174.86	7.73	2907	374	4653	648
@ 5197'	4627	40.50	357.10	4581.90	194.6	12.7	194.46	8.06	2887	394	4652	649
	4659	43.50	357.60	4605.68	216.0	11.7	215.86	9.43	2866	415	4652	650
	4691	46.50	357.90	4628.30	238.6	10.8	238.47	9.40	2843	438	4651	651
	4722	49.20	357.40	4649.10	261.5	9.9	261.44	8.79	2820	461	4651	651
Btm of Tangent	4754	52.30	357.00	4669.35	286.3	8.7	286.20	9.74	2795	485	4650	652
@ 5425'	4786	54.70	358.20	4688.38	312.0	7.6	311.91	8.08	2769	511	4649	653
	4817	56.90	1.10	4705.80	337.6	7.5	337.54	10.50	2744	537	4649	653
	4849	59.90	0.10	4722.57	364.9	7.7	364.79	9.75	2717	564	4650	653
	4881	63.00	359.30	4737.86	393.0	7.6	392.90	9.93	2688	592	4650	653
	4912	66.50	358.50	4751.08	421.0	7.0	420.93	11.53	2660	620	4650	653
	4944	69.00	358.20	4763.20	450.6	6.2	450.54	7.86	2631	650	4650	653
	4976	71.50	357.60	4774.01	480.7	5.1	480.64	8.01	2601	680	4649	654
	5007	72.80	358.10	4783.52	510.2	4.0	510.14	4.47	2571	709	4649	655
	5039	75.50	358.30	4792.25	541.0	3.0	540.91	8.46	2540	740	4648	656
	5070	78.60	358.70	4799.20	571.2	2.2	571.11	10.08	2510	770	4648	656
	5102	82.10	358.50	4804.56	602.7	1.5	602.65	10.96	2479	802	4648	657
	5134	85.00	358.40	4808.16	634.5	0.6	634.44	9.07	2447	834	4647	658
	5165	86.70	358.40	4810.40	665.4	-0.3	665.35	5.48	2416	865	4647	658
	5197	89.10	358.10	4811.57	697.3	-1.2	697.32	7.56	2384	896	4647	659
	5229	89.70	358.20	4811.91	729.3	-2.3	729.31	1.90	2352	928	4646	660
	5260	88.40	358.20	4812.42	760.3	-3.2	760.30	4.19	2321	959	4646	660
	5292	88.10	358.80	4813.40	792.3	-4.1	792.28	2.10	2289	991	4645	661
	5324	87.90	358.10	4814.52	824.2	-4.9	824.26	2.27	2257	1023	4645	662
	5355	87.60	358.00	4815.73	855.2	-6.0	855.22	1.02	2226	1054	4645	662
	5387	87.30	358.20	4817.16	887.2	-7.1	887.18	1.13	2194	1086	4644	663
	5419	86.90	358.00	4818.78	919.1	-8.1	919.13	1.40	2162	1118	4643	664
	5450	86.70	358.20	4820.51	950.0	-9.1	950.08	0.91	2131	1149	4643	665
	5489	86.60	358.50	4822.79	989.0	-10.3	989.00	0.81	2092	1188	4642	665
	5549	87.40	358.30	4825.93	1048.8	-11.9	1048.91	1.38	2033	1248	4642	667
	5644	91.10	359.10	4827.17	1143.8	-14.1	1143.87	3.99	1938	1343	4641	668
	5739	92.00	358.60	4824.60	1238.7	-16.0	1238.83	1.08	1843	1438	4641	669

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
5831	92.50	359.00	4820.99	1330.7	-17.9	1330.75	0.70	1751	1530	4640	670
5923	91.20	359.40	4818.02	1422.6	-19.2	1422.70	1.48	1659	1622	4641	671
6014	90.60	359.20	4816.59	1513.6	-20.3	1513.69	0.70	1568	1713	4641	671
6106	91.00	359.50	4815.30	1605.6	-21.4	1605.68	0.54	1476	1805	4642	672
6197	91.70	359.70	4813.16	1696.5	-22.0	1696.66	0.80	1385	1896	4642	671
6288	90.90	0.60	4811.10	1787.5	-21.8	1787.63	1.32	1294	1987	4644	670
6380	91.40	0.10	4809.25	1879.5	-21.2	1879.60	0.77	1202	2079	4646	669
6471	92.30	0.30	4806.31	1970.4	-20.9	1970.55	1.01	1111	2170	4648	668
6563	91.10	0.80	4803.58	2062.4	-20.0	2062.49	1.41	1019	2262	4650	666
6655	90.50	1.70	4802.30	2154.4	-18.0	2154.44	1.18	927	2354	4654	664
6747	91.10	1.70	4801.01	2246.3	-15.2	2246.37	0.65	835	2445	4658	660
6838	89.70	1.30	4800.38	2337.3	-12.9	2337.31	1.60	744	2536	4662	657
6930	90.40	0.10	4800.30	2429.3	-11.7	2429.29	1.51	652	2628	4665	655
7021	90.30	359.40	4799.74	2520.3	-12.1	2520.29	0.78	561	2719	4666	655
7113	90.60	358.30	4799.02	2612.3	-14.0	2612.28	1.24	469	2811	4665	656
7204	91.20	358.40	4797.59	2703.2	-16.6	2703.25	0.67	378	2902	4664	658
7296	91.80	358.00	4795.18	2795.1	-19.5	2795.19	0.78	286	2994	4663	660
7387	91.60	359.30	4792.48	2886.1	-21.6	2886.14	1.45	195	3085	4662	661
7479	91.20	359.50	4790.23	2978.0	-22.6	2978.11	0.49	103	3177	4663	661
7571	91.70	359.50	4787.91	3070.0	-23.4	3070.08	0.54	11	3269	4664	661
7665	91.00	359.60	4785.69	3164.0	-24.1	3164.06	0.75	-83	3363	4664	661
7760	89.40	359.50	4785.36	3259.0	-24.9	3259.06	1.69	-178	3458	4665	661
7855	90.00	359.80	4785.86	3354.0	-25.5	3354.05	0.71	-273	3553	4666	661
7950	90.30	359.70	4785.61	3449.0	-25.9	3449.05	0.33	-368	3648	4667	661
8045	90.40	359.10	4785.03	3544.0	-26.9	3544.05	0.64	-463	3743	4668	661
8140	90.60	358.60	4784.20	3638.9	-28.8	3639.04	0.57	-558	3838	4668	662
8235	91.90	358.40	4782.13	3733.9	-31.3	3734.00	1.39	-653	3933	4667	664
8330	91.60	358.90	4779.23	3828.8	-33.5	3828.95	0.61	-747	4028	4666	665
8425	91.50	359.20	4776.66	3923.8	-35.1	3923.91	0.33	-842	4123	4666	666
8520	91.80	358.60	4773.92	4018.7	-36.9	4018.87	0.71	-937	4218	4666	667
8615	91.50	359.10	4771.19	4114	-39	4113.82	0.61	-1032	4313	4665	668
8710	91.30	0.20	4768.86	4209	-39	4208.79	1.18	-1127	4408	4666	668
8805	91.20	1.00	4766.79	4304	-38	4303.75	0.85	-1222	4503	4669	666
8900	90.90	1.10	4765.05	4399	-37	4398.70	0.33	-1317	4598	4672	664
8984	90.70	0.70	4763.88	4483	-35	4482.67	0.53	-1401	4682	4675	662
9033	90.70	0.70	4763.28	4532	-35	4531.66	0.00	-1450	4731	4676	661