

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	2436	212	1980	3271
BHL	9254	89.60	3.90	5064.97	4533.76	128.15	4535.56	0.00	-2099	4746	2023	3213
Miss Entry	5194	54.21	2.81	5000.23	495.18	27.28	495.78	11.16	1940	707	1998	3251
Top Perf	5315	69.43	3.33	5057.67	601.01	33.57	601.75	13.38	1834	813	2003	3247
Bottom Perf	9150	89.80	3.90	5064.34	4430.00	121.08	4431.64	0.95	-1996	4643	2018	3218

Survey Points	NW Corner XY Coord	X	Y	Surface XY	X	Y	m					
							North Line slope	East Line slope	South Line slope	West Line slope		
		1717345	240595				-0.0104922					
	SW Corner XY Coord	1717295	237946		1719279	238139	0.0155127					
	NE Corner XY Coord	1722587	240540				-0.0093316					
	SE Corner XY Coord	1722546	237897				0.018875					

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	0	0.0	0	0	0	0	0	0	2436	212	1980	3271
	1162	1.30	214.10	1161.90	-11	-7	-11.13	0.11	2447	201	1973	3278
	1633	1.10	163.40	1632.81	-20	-9	-19.93	0.22	2455	192	1972	3280
	2109	0.90	141.10	2108.74	-27	-5	-27.11	0.09	2463	185	1975	3276
	2584	1.10	118.20	2583.67	-32	1	-31.97	0.09	2468	180	1982	3269
	3059	0.90	131.60	3058.60	-37	8	-36.39	0.07	2472	175	1989	3262
	3534	0.60	16.50	3533.57	-37	11	-36.38	0.27	2472	175	1992	3259
	4008	0.40	150.30	4007.56	-36	13	-35.39	0.20	2471	176	1994	3257
	4090	0.50	190.10	4089.56	-36	13	-35.99	0.39	2472	175	1994	3257
	4135	0.10	3.90	4134.56	-37	13	-36.14	1.33	2472	175	1994	3257
	4167	2.10	9.60	4166.55	-36	13	-35.53	6.25	2472	176	1994	3257
	4199	4.20	9.40	4198.50	-34	13	-33.79	6.56	2470	177	1994	3257
	4231	6.10	9.00	4230.37	-31	14	-30.94	5.94	2467	180	1995	3257
	4262	8.00	8.50	4261.14	-28	14	-27.16	6.13	2463	184	1995	3256
	4294	9.80	10.50	4292.75	-23	15	-22.26	5.71	2458	189	1996	3255
	4326	11.80	9.30	4324.18	-17	16	-16.32	6.29	2452	195	1997	3254
	4357	14.00	9.00	4354.40	-10	17	-9.46	7.10	2446	202	1998	3253
	4389	16.70	7.30	4385.25	-2	18	-1.04	8.55	2437	210	1999	3252
	4421	18.70	5.10	4415.74	8	19	8.66	6.59	2427	220	2000	3251
	4452	20.00	3.90	4444.99	18	20	18.92	4.39	2417	230	2000	3251
	4484	21.10	3.50	4474.95	30	21	30.15	3.47	2406	241	2001	3250
	4516	23.10	4.30	4504.60	42	22	42.18	6.32	2394	253	2001	3250
	4547	25.90	3.80	4532.80	54	23	55.02	9.06	2381	266	2002	3249
	4579	29.00	3.10	4561.20	69	24	69.77	9.74	2366	281	2003	3248
	4611	32.30	2.80	4588.72	85	24	86.07	10.32	2350	297	2003	3248
	4642	35.20	1.90	4614.50	103	25	103.30	9.49	2333	314	2004	3247
	4674	37.30	0.80	4640.30	121	26	122.22	6.87	2314	333	2004	3247
	4706	38.50	0.90	4665.55	141	26	141.87	3.76	2294	353	2004	3247
	4737	40.30	1.30	4689.50	161	26	161.55	5.86	2275	373	2004	3247
	4769	41.80	1.10	4713.64	182	27	182.56	4.71	2254	394	2004	3247
	4801	44.10	1.00	4737.06	204	27	204.36	7.19	2232	415	2004	3247
	4832	46.20	0.80	4758.92	226	27	226.34	6.79	2210	437	2003	3247
	4864	48.10	0.00	4780.68	249	28	249.79	6.21	2186	461	2003	3247
<b>Top of Tangent @ 4896'</b>	4896	49.00	359.90	4801.86	273	28	273.77	2.82	2162	485	2003	3247
	4927	48.50	359.40	4822.30	296	27	297.06	2.02	2139	508	2002	3248
	4959	48.20	359.30	4843.57	320	27	320.95	0.97	2115	532	2001	3249
	4991	47.60	359.30	4865.02	344	27	344.67	1.88	2091	556	2001	3249
	5022	47.40	358.80	4885.97	367	26	367.50	1.35	2069	579	2000	3250
<b>Btm of Tangent @ 5022'</b>	5054	46.50	358.80	4907.81	390	26	390.86	2.81	2045	602	1999	3251
	5086	45.90	359.30	4929.96	413	26	413.93	2.19	2022	625	1998	3252
	5117	47.20	0.40	4951.28	436	26	436.42	4.92	2000	648	1998	3252
	5149	49.40	1.30	4972.56	460	26	460.31	7.19	1976	671	1998	3252
	5181	52.70	2.60	4992.68	485	27	485.19	10.79	1951	696	1998	3252
	5212	56.30	3.10	5010.68	510	28	510.42	11.69	1926	722	1999	3251
	5244	60.00	3.80	5027.56	537	30	537.59	11.71	1898	749	2000	3249
	5276	64.20	3.50	5042.53	565	31	565.85	13.15	1870	777	2001	3248
	5307	68.40	3.30	5054.99	593	33	594.22	13.56	1842	805	2002	3247
	5339	72.50	3.40	5065.70	624	35	624.36	12.82	1812	835	2003	3246
	5371	77.20	3.50	5074.06	654	37	655.22	14.69	1781	866	2005	3244
	5403	81.40	3.00	5080.00	686	39	686.65	13.22	1750	898	2006	3243
	5434	85.70	2.90	5083.48	717	40	717.44	13.88	1719	928	2007	3242
	5450	88.30	2.80	5084.32	733	41	733.41	16.26	1703	944	2007	3241
	5561	92.40	3.00	5083.64	843	47	844.37	3.70	1592	1055	2011	3237
	5653	92.40	3.10	5079.78	935	51	936.26	0.11	1500	1147	2014	3234
	5745	92.10	2.10	5076.17	1027	56	1028.18	1.14	1408	1239	2017	3231
	5837	91.80	0.80	5073.04	1119	58	1120.12	1.45	1316	1331	2017	3230
	5930	91.50	0.80	5070.36	1212	59	1213.07	0.32	1223	1424	2017	3230
	6023	91.60	0.60	5067.85	1305	60	1306.03	0.24	1130	1517	2016	3231
	6116	91.70	0.60	5065.17	1398	61	1398.97	0.11	1037	1610	2015	3231
	6210	90.90	359.50	5063.04	1492	61	1492.90	1.45	943	1704	2014	3232
	6303	90.90	359.10	5061.58	1585	60	1585.81	0.43	850	1797	2011	3235
	6398	89.50	358.00	5061.25	1680	58	1680.66	1.88	755	1892	2007	3239
	6493	88.90	357.60	5062.57	1775	54	1775.43	0.76	661	1987	2001	3244
	6585	88.40	359.10	5064.74	1867	52	1867.24	1.72	569	2079	1997	3248
	6678	89.60	1.60	5066.36	1960	52	1960.19	2.98	476	2172	1996	3249

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6772	89.90	2.00	5066.77	2053	55	2054.19	0.53	382	2265	1997	3248
6865	89.90	2.10	5066.94	2146	58	2147.19	0.11	289	2358	1998	3246
6960	89.90	2.00	5067.10	2241	62	2242.19	0.11	194	2453	2000	3244
7056	89.50	1.40	5067.60	2337	65	2338.19	0.75	98	2549	2001	3242
7152	90.00	1.80	5068.02	2433	67	2434.19	0.67	2	2645	2002	3241
7247	90.60	2.30	5067.53	2528	71	2529.19	0.82	-93	2740	2003	3239
7343	90.80	2.30	5066.35	2624	75	2625.18	0.21	-189	2836	2005	3237
7438	90.90	2.10	5064.94	2719	78	2720.16	0.24	-284	2931	2007	3235
7533	91.10	1.80	5063.29	2814	81	2815.15	0.38	-379	3026	2009	3233
7627	90.20	1.60	5062.22	2908	84	2909.14	0.98	-473	3120	2010	3232
7723	90.50	1.90	5061.63	3004	87	3005.14	0.44	-569	3216	2011	3230
7818	90.70	1.60	5060.64	3099	90	3100.14	0.38	-664	3311	2012	3229
7913	90.80	2.00	5059.39	3194	93	3195.13	0.43	-759	3406	2013	3227
8008	91.60	1.90	5057.40	3289	96	3290.11	0.85	-854	3501	2015	3225
8104	90.00	1.80	5056.06	3385	99	3386.10	1.67	-950	3597	2016	3224
8199	89.70	0.80	5056.31	3480	102	3481.09	1.10	-1045	3692	2016	3223
8294	88.50	359.40	5057.81	3575	102	3576.04	1.94	-1140	3787	2015	3224
8389	90.90	0.00	5058.30	3670	101	3670.97	2.61	-1235	3882	2012	3226
8485	91.10	0.00	5056.63	3766	101	3766.92	0.21	-1331	3978	2011	3228
8580	89.70	0.30	5055.96	3861	102	3861.88	1.51	-1426	4073	2009	3229
8675	87.20	0.50	5058.53	3956	102	3956.81	2.64	-1521	4168	2008	3230
8770	88.80	0.90	5061.85	4050	103	4051.73	1.74	-1616	4263	2007	3230
8865	90.90	3.00	5062.10	4145	107	4146.72	3.13	-1711	4358	2009	3228
8960	88.50	2.30	5062.60	4240	111	4241.70	2.63	-1806	4453	2011	3226
9055	89.80	3.00	5064.00	4335	115	4336.68	1.56	-1901	4548	2014	3223
9150	89.80	3.90	5064.34	4430	121	4431.64	0.95	-1996	4643	2018	3218
9203	89.60	3.90	5064.61	4483	125	4484.60	0.38	-2048	4696	2020	3216
9254	89.60	3.90	5064.97	4534	128	4535.56	0.00	-2099	4746	2023	3213