

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
									200	5091	1980	3278
SHL	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	200	5091	1980	3278
BHL	9578	87.50	180.10	5226.90	-4763.92	-85.92	4764.63	0.00	4965	328	2005	3275
Miss Entry	5365	64.16	180.58	5129.33	-562.89	-50.71	563.91	8.56	764	4529	1943	3318
Top Perf	5368	64.36	180.65	5130.63	-565.60	-50.74	566.62	8.37	766	4526	1943	3318
Bottom Perf	9475	87.23	180.78	5222.24	-4661.03	-85.28	4661.75	0.69	4862	431	2004	3276

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
	SW Corner XY Coord	1753902	229856		1756000.5	234953	-0.0038045	0.0185923	0.0026505	0.0231857
	NE Corner XY Coord	1759282	235141							
	SE Corner XY Coord	1759184	229870							

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									200	5091	1980	3278
	0	0.0	0	0	0	0	0	0	200	5091	1980	3278
	992	0.40	248.60	991.99	-1	-3	1.34	0.04	202	5090	1977	3281
	1146	0.20	258.10	1145.99	-2	-4	1.61	0.13	202	5090	1976	3282
	1427	0.30	276.00	1426.99	-2	-5	1.66	0.04	202	5090	1975	3283
	1712	1.30	326.90	1711.96	1	-8	-1.07	0.40	199	5093	1973	3286
	2187	1.10	315.70	2186.85	9	-14	-8.70	0.06	192	5100	1966	3292
	2662	0.90	294.30	2661.78	14	-20	-13.35	0.09	187	5105	1960	3299
	3138	1.00	304.00	3137.72	18	-27	-17.05	0.04	183	5109	1953	3306
	3612	1.10	305.90	3611.64	23	-34	-21.86	0.02	178	5114	1945	3313
	3992	1.40	312.00	3991.55	28	-41	-26.96	0.09	173	5119	1939	3319
	4087	1.10	275.80	4086.53	29	-43	-27.79	0.87	172	5120	1937	3321
	4182	1.00	285.90	4181.51	29	-44	-28.07	0.22	172	5121	1935	3323
	4214	1.10	280.40	4213.51	29	-45	-28.19	0.44	171	5121	1935	3323
	4246	1.00	271.50	4245.50	29	-45	-28.24	0.60	171	5121	1934	3324
	4278	1.70	219.40	4277.49	29	-46	-27.86	4.19	172	5120	1934	3325
	4310	3.30	193.50	4309.46	28	-47	-26.59	6.00	173	5119	1933	3325
	4341	5.40	186.60	4340.37	25	-47	-24.26	6.97	175	5117	1933	3325
	4373	7.60	184.90	4372.16	22	-47	-20.65	6.90	179	5113	1933	3326
	4405	10.10	185.60	4403.78	17	-48	-15.74	7.82	184	5108	1932	3326
	4436	11.90	186.20	4434.21	11	-48	-9.85	5.82	190	5103	1932	3327
	4468	13.30	186.40	4465.44	4	-49	-2.89	4.38	197	5096	1931	3327
	4500	15.80	185.70	4496.41	-4	-50	5.12	7.83	205	5088	1930	3328
	4531	18.50	183.60	4526.03	-13	-51	14.24	8.93	214	5078	1930	3328
	4563	20.90	181.60	4556.15	-24	-51	25.03	7.79	225	5068	1930	3329
	4595	22.70	181.30	4585.86	-36	-51	36.91	5.64	236	5056	1930	3329
	4626	24.80	179.50	4614.24	-48	-52	49.39	7.17	249	5043	1930	3329
	4658	27.50	176.70	4642.96	-62	-51	63.47	9.27	263	5029	1931	3328
	4690	30.10	176.50	4671.00	-78	-50	78.83	8.13	278	5014	1932	3327
	4721	32.10	176.80	4697.54	-94	-49	94.79	6.47	294	4998	1933	3325
	4753	33.60	178.30	4724.42	-111	-48	112.11	5.33	312	4981	1934	3324
	4785	35.40	180.60	4750.80	-129	-48	130.22	6.94	330	4962	1935	3324
	4816	37.60	181.30	4775.71	-148	-49	148.66	7.22	348	4944	1935	3324
	4848	39.30	180.30	4800.77	-167	-49	168.55	5.66	368	4924	1935	3324
	4880	42.20	180.80	4825.01	-188	-49	189.44	9.12	389	4903	1936	3324
	4911	42.50	180.10	4847.92	-209	-49	210.32	1.80	410	4882	1936	3323
	4943	43.80	180.80	4871.27	-231	-49	232.20	4.33	432	4860	1936	3323
	4975	46.20	181.50	4893.90	-254	-50	254.82	7.66	454	4838	1936	3323
	5006	49.80	180.80	4914.64	-277	-50	277.86	11.73	477	4815	1936	3323
	5038	50.10	180.80	4935.23	-301	-51	302.35	0.94	502	4790	1937	3323
	5070	49.60	180.70	4955.86	-326	-51	326.81	1.58	526	4766	1937	3323
	5101	49.60	180.20	4975.95	-349	-51	350.41	1.23	550	4742	1937	3323
	5133	49.00	179.90	4996.82	-374	-51	374.67	2.01	574	4718	1938	3322
	5164	48.80	180.30	5017.20	-397	-51	398.02	1.17	598	4695	1938	3322
	5196	49.80	179.70	5038.06	-421	-51	422.28	3.43	622	4670	1939	3321
	5228	52.60	179.40	5058.11	-446	-51	447.20	8.78	647	4645	1940	3321
	5259	55.40	179.60	5076.33	-471	-51	472.27	9.05	672	4620	1940	3320
	5291	58.40	180.00	5093.81	-498	-51	499.06	9.43	699	4594	1941	3319
	5323	60.60	179.60	5110.05	-526	-51	526.62	6.96	726	4566	1942	3319
	5354	63.40	180.30	5124.60	-553	-51	553.98	9.25	754	4539	1943	3318
	5386	65.60	181.10	5138.38	-582	-51	582.86	7.24	783	4510	1943	3318
	5417	69.50	181.10	5150.21	-610	-51	611.51	12.58	811	4481	1943	3318
	5449	72.60	181.20	5160.60	-641	-52	641.77	9.69	841	4451	1943	3318
	5481	76.50	180.70	5169.12	-672	-53	672.60	12.28	872	4420	1943	3318
	5512	78.80	181.30	5175.75	-702	-53	702.88	7.66	903	4390	1943	3318
	5544	82.40	181.80	5180.98	-733	-54	734.45	11.36	934	4358	1943	3318
	5576	85.90	181.00	5184.24	-765	-55	766.28	11.22	966	4326	1943	3319
	5608	89.80	180.80	5187.20	-800	-56	845.20	4.94	1045	4247	1944	3318
	5640	90.60	179.60	5186.99	-840	-56	906.19	2.36	1106	4186	1945	3317
	5672	91.50	178.80	5185.31	-885	-55	998.11	1.31	1198	4094	1949	3314
	5704	90.10	178.70	5184.02	-938	-53	1090.01	1.53	1290	4003	1953	3311
	5736	89.40	178.00	5184.42	-1000	-50	1181.88	1.08	1382	3911	1957	3306
	5768	90.00	177.20	5184.90	-1073	-46	1273.68	1.09	1474	3819	1963	3301
	5800	88.30	177.30	5186.28	-1156	-42	1366.43	1.83	1566	3726	1970	3295
	5832	87.60	176.00	5189.68	-1251	-36	1461.06	1.55	1661	3631	1978	3287
	5864	89.00	177.70	5192.50	-1358	-31	1555.72	2.32	1756	3536	1985	3280

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6462	88.70	179.20	5194.41	-1650	-29	1650.58	1.61	1851	3441	1990	3276
6556	89.20	180.00	5196.13	-1744	-28	1744.52	1.00	1945	3347	1993	3274
6651	90.10	181.30	5196.71	-1839	-29	1839.51	1.66	2040	3252	1994	3273
6746	89.40	182.40	5197.12	-1934	-32	1934.50	1.37	2135	3157	1993	3274
6841	89.40	181.80	5198.12	-2029	-36	2029.49	0.63	2230	3062	1992	3276
6936	89.50	183.30	5199.03	-2124	-40	2124.46	1.58	2325	2967	1990	3278
7030	89.60	183.30	5199.77	-2218	-45	2218.40	0.11	2419	2874	1987	3282
7125	90.80	182.70	5199.44	-2313	-50	2313.35	1.41	2513	2779	1984	3285
7220	87.80	178.00	5200.60	-2408	-51	2408.30	5.87	2608	2684	1985	3284
7315	88.60	178.70	5203.58	-2503	-48	2503.12	1.12	2703	2589	1990	3280
7410	89.20	179.30	5205.41	-2598	-46	2598.02	0.89	2798	2494	1994	3276
7505	89.30	180.10	5206.65	-2693	-46	2692.98	0.85	2893	2399	1997	3274
7600	89.60	179.70	5207.56	-2788	-46	2787.94	0.53	2988	2304	1999	3272
7695	91.70	181.20	5206.49	-2883	-46	2882.92	2.72	3083	2209	2001	3271
7790	92.30	182.70	5203.17	-2977	-50	2977.85	1.70	3178	2114	2000	3272
7885	91.70	181.90	5199.85	-3072	-54	3072.78	1.05	3273	2019	1998	3274
7980	90.70	180.90	5197.86	-3167	-56	3167.75	1.49	3368	1924	1998	3275
8075	87.90	178.10	5199.03	-3262	-55	3262.68	4.17	3463	1829	2001	3272
8170	90.40	179.90	5200.43	-3357	-53	3357.58	3.24	3558	1734	2005	3269
8265	91.40	180.10	5198.94	-3452	-53	3452.54	1.07	3653	1639	2007	3267
8360	92.80	183.50	5195.46	-3547	-56	3547.46	3.87	3748	1544	2006	3268
8455	91.50	181.30	5191.90	-3642	-60	3642.37	2.69	3843	1450	2004	3271
8550	89.30	181.80	5191.23	-3737	-63	3737.36	2.37	3938	1355	2004	3271
8645	87.70	181.80	5193.72	-3832	-66	3832.32	1.68	4033	1260	2003	3273
8740	87.70	181.80	5197.53	-3927	-69	3927.24	0.00	4127	1165	2003	3274
8834	87.70	181.80	5201.30	-4021	-72	4021.16	0.00	4221	1071	2002	3275
8929	87.70	181.10	5205.12	-4115	-74	4116.08	0.74	4316	976	2002	3276
9024	88.80	181.30	5208.02	-4210	-76	4211.04	1.18	4411	881	2002	3276
9119	87.10	180.40	5211.42	-4305	-78	4305.97	2.02	4506	786	2003	3276
9214	90.20	181.50	5213.65	-4400	-79	4400.93	3.46	4601	691	2003	3275
9309	87.90	181.80	5215.23	-4495	-82	4495.91	2.44	4696	596	2003	3276
9404	87.60	181.00	5218.96	-4590	-84	4590.83	0.90	4791	502	2003	3277
9499	87.10	180.70	5223.35	-4685	-86	4685.73	0.61	4886	407	2003	3277
9528	87.50	180.10	5224.72	-4714	-86	4714.69	2.48	4915	378	2004	3276
9578	87.50	180.10	5226.90	-4764	-86	4764.63	0.00	4965	328	2005	3275
								200	5091	1980	3278
								200	5091	1980	3278
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