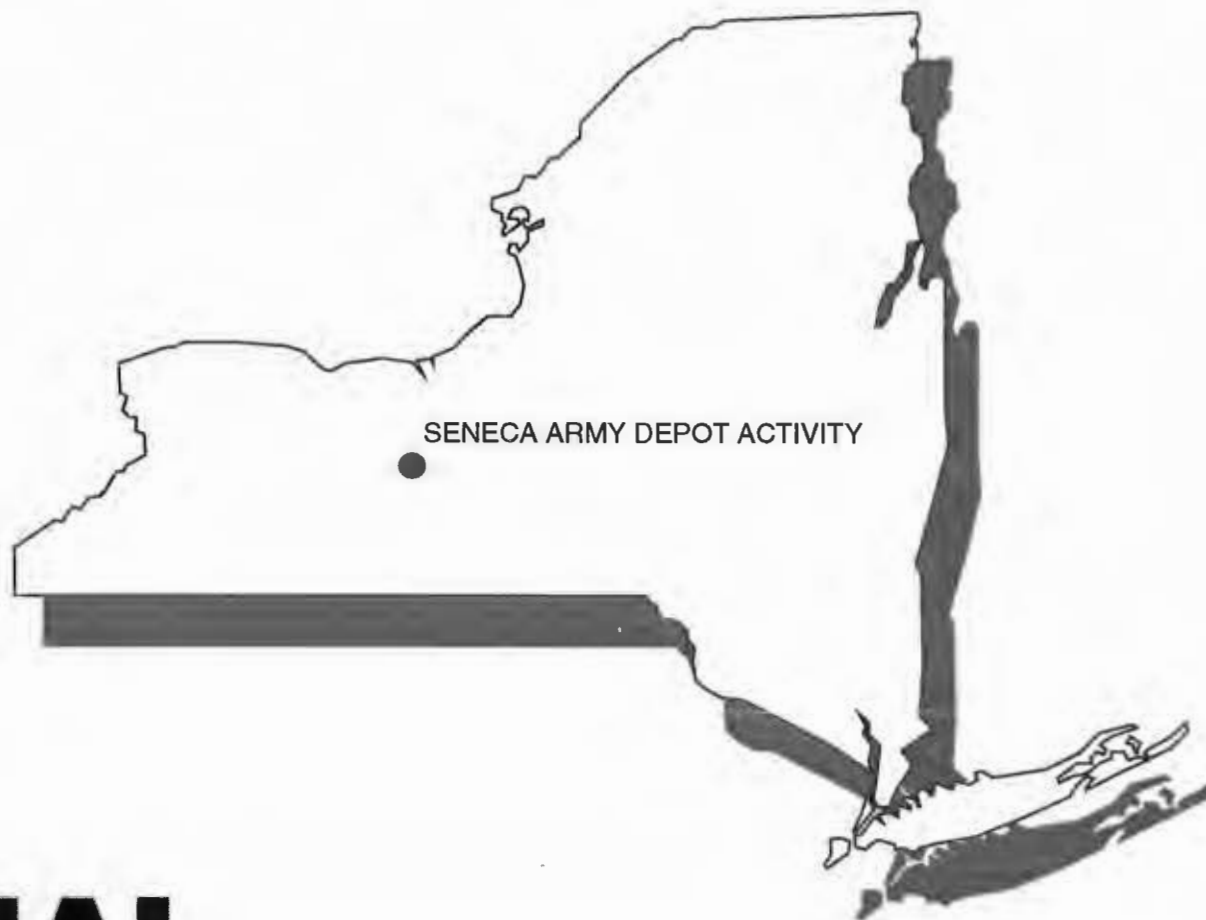
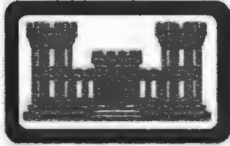


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**U.S. ARMY ENGINEER DIVISION  
HUNTSVILLE, ALABAMA**



**FINAL**

**EXPANDED SITE INSPECTION  
SEVEN HIGH PRIORITY SWMU's  
SEAD 4, 16, 17, 24, 25, 26, AND 45**

**VOLUME 2 OF 2**

**DECEMBER 1995**

**APPENDIX A**

**GEOPHYSICAL DATA: EM-31**

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
LINE 0:	SEAD-4, FORMER MUNITIONS WASHOUT FACILITY			10.000	290.000	29.342	3.665
0.000	0.000	-92.853	-32.247	10.000	285.000	18.411	0.157
0.000	5.000	-92.816	-32.247	10.000	280.000	10.592	0.113
0.000	10.000	-92.422	-32.247	10.000	275.000	10.226	-0.007
0.000	15.000	20.727	-14.201	10.000	270.000	23.163	2.589
0.000	20.000	39.733	6.952	10.000	265.000	33.252	3.492
0.000	25.000	19.747	2.421	10.000	260.000	31.933	3.770
0.000	30.000	17.111	-0.430	10.000	255.000	29.883	2.289
0.000	35.000	18.237	-0.424	10.000	250.000	27.172	2.079
0.000	40.000	18.228	0.264	10.000	245.000	24.352	1.073
0.000	45.000	18.539	0.218	10.000	240.000	23.227	1.198
0.000	50.000	18.685	-0.240	10.000	235.000	22.082	0.738
0.000	55.000	19.052	-0.503	10.000	230.000	21.405	0.560
0.000	60.000	18.924	-0.395	10.000	225.000	20.672	0.889
0.000	65.000	18.521	0.213	10.000	220.000	19.775	0.635
0.000	70.000	18.402	0.970	10.000	215.000	19.381	0.850
0.000	75.000	18.493	0.292	10.000	210.000	18.942	0.242
0.000	80.000	18.594	0.384	10.000	205.000	18.667	-0.093
0.000	85.000	18.521	0.591	10.000	200.000	18.750	1.537
0.000	90.000	18.511	0.690	10.000	195.000	18.337	0.202
0.000	95.000	19.143	3.085	10.000	190.000	17.175	0.108
0.000	100.000	19.015	0.773	10.000	185.000	17.038	-0.207
0.000	105.000	19.747	-0.027	10.000	180.000	17.496	0.056
0.000	110.000	19.326	-0.045	10.000	175.000	18.365	-0.095
0.000	115.000	19.262	0.615	10.000	170.000	18.063	0.905
0.000	120.000	20.370	4.872	10.000	165.000	17.679	1.201
0.000	125.000	21.423	3.158	10.000	160.000	17.761	1.245
0.000	130.000	22.806	1.855	10.000	155.000	17.651	0.312
0.000	135.000	17.422	-2.278	10.000	150.000	18.347	0.373
0.000	140.000	9.384	-0.286	10.000	145.000	18.292	0.290
0.000	145.000	8.203	-3.937	10.000	140.000	18.127	0.442
0.000	150.000	19.446	1.185	10.000	135.000	18.548	1.265
0.000	155.000	18.814	-0.055	10.000	130.000	18.777	0.973
0.000	160.000	18.384	-0.139	10.000	125.000	18.447	1.282
0.000	165.000	18.090	0.883	10.000	120.000	18.182	1.223
0.000	170.000	19.015	4.343	10.000	115.000	18.255	0.461
0.000	175.000	19.107	2.690	10.000	110.000	18.017	0.771
0.000	180.000	18.402	1.062	10.000	105.000	16.690	0.562
0.000	185.000	17.880	0.775	10.000	100.000	18.558	-0.244
0.000	190.000	17.990	0.791	10.000	95.000	18.530	0.214
0.000	195.000	19.152	-0.470	10.000	90.000	18.246	0.975
0.000	200.000	19.693	-2.478	10.000	85.000	17.935	0.431
0.000	205.000	19.381	-2.153	10.000	80.000	18.228	2.265
0.000	210.000	18.915	0.532	10.000	75.000	18.173	2.642
0.000	215.000	18.228	1.330	10.000	70.000	17.788	1.653
0.000	220.000	18.777	0.764	10.000	65.000	17.578	1.210
0.000	225.000	19.583	0.826	10.000	60.000	17.816	1.344
0.000	230.000	20.132	0.343	10.000	55.000	17.962	0.769
0.000	235.000	20.315	1.317	10.000	50.000	17.431	-0.284
0.000	240.000	20.343	1.427	10.000	45.000	17.688	0.056
0.000	245.000	20.800	1.971	10.000	40.000	17.770	-0.062
0.000	250.000	21.396	0.718	10.000	35.000	17.614	0.134
0.000	255.000	22.155	0.814	10.000	30.000	17.541	1.076
0.000	260.000	23.217	1.304	10.000	25.000	17.541	1.356
0.000	265.000	25.195	1.556	10.000	20.000	17.431	0.768
0.000	270.000	27.832	2.065	10.000	15.000	19.573	2.906
0.000	275.000	29.937	3.142	10.000	10.000	4.275	-11.182
0.000	280.000	30.386	2.759	10.000	5.000	-63.327	-32.241
0.000	285.000	28.509	2.164	10.000	0.000	-57.907	-32.243
0.000	290.000	21.688	0.406	LINE 20			
0.000	295.000	10.052	-1.600	20.000	0.000	20.910	1.653
0.000	300.000	19.473	0.731	20.000	5.000	20.974	1.918
LINE 10				20.000	10.000	20.022	2.124
10.000	300.000	30.212	3.351	20.000	15.000	18.741	2.210
10.000	295.000	31.063	3.516	20.000	20.000	18.145	1.326
				20.000	25.000	17.935	2.265

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
20.000	30.000	16.470	1.539	30.000	250.000	25.534	0.843
20.000	35.000	16.159	0.126	30.000	245.000	30.523	0.982
20.000	40.000	17.578	0.812	30.000	240.000	29.589	1.188
20.000	45.000	17.916	0.509	30.000	235.000	27.273	3.300
20.000	50.000	17.605	0.169	30.000	230.000	24.820	1.017
20.000	55.000	18.393	-0.459	30.000	225.000	22.906	2.651
20.000	60.000	17.907	0.056	30.000	220.000	21.075	2.561
20.000	65.000	17.496	-0.159	30.000	215.000	20.178	2.100
20.000	70.000	17.916	0.613	30.000	210.000	19.326	0.317
20.000	75.000	18.310	2.802	30.000	205.000	19.354	-0.200
20.000	80.000	18.173	0.949	30.000	200.000	17.797	0.385
20.000	85.000	18.090	0.183	30.000	195.000	17.715	-0.086
20.000	90.000	18.356	1.633	30.000	190.000	17.880	2.377
20.000	95.000	18.182	1.326	30.000	185.000	17.715	2.252
20.000	100.000	18.200	0.598	30.000	180.000	17.697	0.856
20.000	105.000	18.420	0.071	30.000	175.000	17.431	0.452
20.000	110.000	18.274	0.209	30.000	170.000	17.514	1.951
20.000	115.000	17.230	0.090	30.000	165.000	16.323	0.356
20.000	120.000	16.406	0.453	30.000	160.000	16.305	0.450
20.000	125.000	17.660	1.602	30.000	155.000	18.337	4.077
20.000	130.000	18.466	1.115	30.000	150.000	18.594	0.297
20.000	135.000	18.868	3.897	30.000	145.000	18.704	0.202
20.000	140.000	16.726	1.282	30.000	140.000	19.098	7.619
20.000	145.000	15.811	-0.749	30.000	135.000	17.733	3.353
20.000	150.000	19.198	0.358	30.000	130.000	17.871	3.011
20.000	155.000	18.750	0.112	30.000	125.000	18.676	5.780
20.000	160.000	19.436	4.801	30.000	120.000	18.008	2.256
20.000	165.000	17.853	3.388	30.000	115.000	17.092	0.554
20.000	170.000	17.257	2.217	30.000	110.000	17.120	0.731
20.000	175.000	17.523	2.070	30.000	105.000	17.514	0.766
20.000	180.000	16.992	1.047	30.000	100.000	16.974	-0.073
20.000	185.000	17.001	0.940	30.000	95.000	17.614	-0.242
20.000	190.000	16.699	0.330	30.000	90.000	17.614	-0.069
20.000	195.000	16.836	0.777	30.000	85.000	17.889	0.588
20.000	200.000	18.484	-0.121	30.000	80.000	17.724	1.666
20.000	205.000	18.713	0.169	30.000	75.000	17.596	0.446
20.000	210.000	18.722	1.607	30.000	70.000	17.449	-0.117
20.000	215.000	18.713	0.861	30.000	65.000	17.083	0.540
20.000	220.000	19.061	0.665	30.000	60.000	15.820	1.210
20.000	225.000	19.949	2.342	30.000	55.000	16.387	0.589
20.000	230.000	20.571	2.017	30.000	50.000	17.184	0.207
20.000	235.000	21.908	0.966	30.000	45.000	17.248	-0.095
20.000	240.000	23.116	1.321	30.000	40.000	17.275	-0.042
20.000	245.000	24.646	4.323	30.000	35.000	17.322	0.762
20.000	250.000	29.077	1.587	30.000	30.000	16.754	0.621
20.000	255.000	31.668	1.872	30.000	25.000	16.067	0.453
20.000	260.000	32.611	1.863	30.000	20.000	16.662	0.404
20.000	265.000	31.585	1.828	30.000	15.000	17.587	0.227
20.000	270.000	26.156	0.905	30.000	10.000	17.651	0.564
20.000	275.000	13.055	-0.373	30.000	5.000	16.443	1.888
20.000	280.000	8.560	-0.400	30.000	0.000	17.358	-0.068
20.000	285.000	18.905	2.410	LINE 40			
20.000	290.000	28.995	3.377	40.000	0.000	17.285	-0.440
20.000	295.000	31.677	3.838	40.000	5.000	17.092	-0.404
20.000	300.000	28.674	2.954	40.000	10.000	16.653	0.180
LINE 30				40.000	15.000	16.479	-0.071
30.000	300.000	23.611	1.708	40.000	20.000	17.825	0.268
30.000	295.000	24.234	1.964	40.000	25.000	17.449	0.360
30.000	290.000	25.753	2.566	40.000	30.000	17.092	0.527
30.000	285.000	28.006	3.724	40.000	35.000	17.083	0.402
30.000	280.000	31.750	4.250	40.000	40.000	17.431	0.115
30.000	275.000	35.019	5.218	40.000	45.000	17.523	0.365
30.000	270.000	32.244	3.946	40.000	50.000	17.257	0.147
30.000	265.000	19.958	2.916	40.000	55.000	17.193	-0.367
30.000	260.000	6.848	-1.861	40.000	60.000	17.614	0.174
30.000	255.000	9.393	-1.280	40.000	65.000	17.999	0.633

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
40.000	70.000	17.788	-0.088	50.000	210.000	23.995	3.957
40.000	75.000	17.862	1.701	50.000	205.000	21.103	0.859
40.000	80.000	18.200	2.094	50.000	200.000	19.665	0.361
40.000	85.000	17.587	0.858	50.000	195.000	20.068	-0.128
40.000	90.000	17.440	1.190	50.000	190.000	20.169	-0.115
40.000	95.000	17.138	-0.244	50.000	185.000	18.576	0.356
40.000	100.000	18.027	-0.314	50.000	180.000	17.083	0.303
40.000	105.000	17.550	-0.227	50.000	175.000	17.184	0.069
40.000	110.000	17.587	1.528	50.000	170.000	17.111	4.310
40.000	115.000	17.843	2.157	50.000	165.000	17.193	2.136
40.000	120.000	17.550	0.323	50.000	160.000	18.072	1.137
40.000	125.000	18.640	1.429	50.000	155.000	18.356	0.755
40.000	130.000	18.365	2.032	50.000	150.000	16.854	0.722
40.000	135.000	17.733	0.444	50.000	145.000	16.140	0.062
40.000	140.000	18.081	1.210	50.000	140.000	18.182	2.820
40.000	145.000	18.045	0.479	50.000	135.000	17.788	3.502
40.000	150.000	18.036	0.525	50.000	130.000	15.985	0.615
40.000	155.000	18.145	0.170	50.000	125.000	17.028	1.093
40.000	160.000	18.100	0.883	50.000	120.000	18.017	0.707
40.000	165.000	17.679	3.746	50.000	115.000	18.063	0.101
40.000	170.000	18.777	6.524	50.000	110.000	17.853	-0.112
40.000	175.000	17.431	2.098	50.000	105.000	17.907	0.415
40.000	180.000	18.008	-0.001	50.000	100.000	18.539	-0.222
40.000	185.000	18.704	0.253	50.000	95.000	18.255	0.378
40.000	190.000	18.841	2.087	50.000	90.000	18.027	-0.009
40.000	195.000	18.228	1.337	50.000	85.000	18.274	0.323
40.000	200.000	18.915	0.253	50.000	80.000	18.292	0.610
40.000	205.000	18.795	0.104	50.000	75.000	18.356	0.209
40.000	210.000	19.290	0.635	50.000	70.000	17.697	0.196
40.000	215.000	20.461	0.415	50.000	65.000	17.367	-0.023
40.000	220.000	21.853	1.060	50.000	60.000	17.294	-0.369
40.000	225.000	23.492	1.394	50.000	55.000	17.596	-0.152
40.000	230.000	26.541	3.577	50.000	50.000	17.578	-0.396
40.000	235.000	29.022	2.530	50.000	45.000	17.706	-0.152
40.000	240.000	30.816	1.330	50.000	40.000	17.120	-0.169
40.000	245.000	29.278	1.152	50.000	35.000	17.074	0.222
40.000	250.000	18.933	-0.062	50.000	30.000	17.157	1.218
40.000	255.000	3.927	-2.587	50.000	25.000	17.148	1.958
40.000	260.000	8.450	-1.054	50.000	20.000	16.946	0.900
40.000	265.000	35.211	4.540	50.000	15.000	16.983	0.130
40.000	270.000	46.115	8.171	50.000	10.000	16.726	0.321
40.000	275.000	40.677	6.590	50.000	5.000	15.829	0.790
40.000	280.000	33.837	4.626	50.000	0.000	16.021	0.124
40.000	285.000	29.095	4.134	LINE 60			
40.000	290.000	26.138	4.496	60.000	0.000	17.706	-0.194
40.000	295.000	24.573	2.416	60.000	5.000	16.470	0.135
40.000	300.000	24.169	1.653	60.000	10.000	15.353	1.093
LINE 50				60.000	15.000	15.884	0.486
50.000	300.000	21.579	1.491	60.000	20.000	16.708	1.109
50.000	295.000	21.688	1.605	60.000	25.000	16.617	0.801
50.000	290.000	23.364	4.566	60.000	30.000	16.461	0.935
50.000	285.000	25.534	3.724	60.000	35.000	16.708	0.347
50.000	280.000	27.694	6.908	60.000	40.000	16.827	0.025
50.000	275.000	30.331	7.121	60.000	45.000	17.331	-0.124
50.000	270.000	34.662	6.927	60.000	50.000	17.816	-0.316
50.000	265.000	41.235	7.913	60.000	55.000	18.100	-0.395
50.000	260.000	42.068	6.352	60.000	60.000	17.916	-0.380
50.000	255.000	21.697	0.784	60.000	65.000	17.569	-0.293
50.000	250.000	-5.172	-4.676	60.000	70.000	17.569	0.336
50.000	245.000	30.908	-0.192	60.000	75.000	17.816	0.152
50.000	240.000	33.133	2.803	60.000	80.000	18.072	-0.330
50.000	235.000	18.594	1.727	60.000	85.000	18.008	-0.231
50.000	230.000	18.118	0.343	60.000	90.000	17.898	0.000
50.000	225.000	25.094	1.107	60.000	95.000	17.688	-0.299
50.000	220.000	27.969	0.597	60.000	100.000	17.669	-0.236
50.000	215.000	26.394	1.648	60.000	105.000	18.109	0.189

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
60.000	110.000	18.374	0.005	70.000	170.000	17.239	0.330
60.000	115.000	18.136	0.132	70.000	165.000	16.699	0.106
60.000	120.000	17.953	-0.161	70.000	160.000	16.891	0.944
60.000	125.000	18.621	-0.382	70.000	155.000	17.349	1.181
60.000	130.000	18.694	-0.194	70.000	150.000	17.331	0.982
60.000	135.000	17.431	0.143	70.000	145.000	18.109	-0.189
60.000	140.000	14.483	-0.088	70.000	140.000	17.788	0.242
60.000	145.000	16.589	-0.347	70.000	135.000	15.307	0.418
60.000	150.000	17.184	-0.187	70.000	130.000	14.511	2.421
60.000	155.000	16.690	-0.209	70.000	125.000	17.889	0.244
60.000	160.000	18.072	-0.058	70.000	120.000	19.674	-0.452
60.000	165.000	18.649	-0.095	70.000	115.000	19.198	0.824
60.000	170.000	18.100	2.704	70.000	110.000	18.841	-0.022
60.000	175.000	16.992	3.301	70.000	105.000	18.228	-0.042
60.000	180.000	17.111	3.748	70.000	100.000	18.502	-0.407
60.000	185.000	17.221	2.267	70.000	95.000	18.466	-0.430
60.000	190.000	17.779	0.075	70.000	90.000	18.548	2.412
60.000	195.000	18.393	-0.029	70.000	85.000	17.889	0.575
60.000	200.000	19.848	-0.121	70.000	80.000	17.825	0.189
60.000	205.000	20.416	0.135	70.000	75.000	17.834	1.681
60.000	210.000	21.798	1.142	70.000	70.000	17.632	0.637
60.000	215.000	23.931	2.241	70.000	65.000	17.679	-0.251
60.000	220.000	27.667	0.975	70.000	60.000	17.679	-0.148
60.000	225.000	28.454	0.505	70.000	55.000	17.449	-0.242
60.000	230.000	23.172	0.488	70.000	50.000	17.532	-0.012
60.000	235.000	12.048	0.216	70.000	45.000	17.770	-0.270
60.000	240.000	18.731	2.743	70.000	40.000	17.505	0.938
60.000	245.000	46.380	5.089	70.000	35.000	17.294	0.393
60.000	250.000	76.006	6.649	70.000	30.000	17.340	1.442
60.000	255.000	13.174	-3.509	70.000	25.000	16.800	2.326
60.000	260.000	-16.067	-6.427	70.000	20.000	16.580	1.174
60.000	265.000	6.436	1.446	70.000	15.000	16.754	-0.134
60.000	270.000	43.487	8.217	70.000	10.000	16.635	0.286
60.000	275.000	42.627	7.728	70.000	5.000	16.049	0.536
60.000	280.000	32.290	4.426	70.000	0.000	16.021	0.264
60.000	285.000	28.921	3.505	LINE 80			
60.000	290.000	26.751	3.504	80.000	0.000	16.497	-0.226
60.000	295.000	23.666	2.456	80.000	5.000	16.296	-0.222
60.000	300.000	20.992	1.664	80.000	10.000	15.976	0.791
LINE 70				80.000	15.000	16.351	1.354
70.000	300.000	22.815	1.881	80.000	20.000	16.570	0.834
70.000	295.000	22.686	1.971	80.000	25.000	16.369	1.736
70.000	290.000	23.153	3.935	80.000	30.000	16.223	0.525
70.000	285.000	24.005	3.384	80.000	35.000	16.800	0.990
70.000	280.000	25.717	5.306	80.000	40.000	16.424	1.124
70.000	275.000	28.417	4.854	80.000	45.000	16.827	0.200
70.000	270.000	34.524	5.047	80.000	50.000	17.138	0.452
70.000	265.000	45.025	7.087	80.000	55.000	16.781	-0.088
70.000	260.000	53.530	8.277	80.000	60.000	16.800	0.139
70.000	255.000	3.378	-3.564	80.000	65.000	17.303	-0.169
70.000	250.000	-23.373	-8.009	80.000	70.000	17.596	0.000
70.000	245.000	24.399	1.622	80.000	75.000	17.596	0.001
70.000	240.000	81.280	8.713	80.000	80.000	17.642	-0.266
70.000	235.000	84.549	7.783	80.000	85.000	18.447	-0.203
70.000	230.000	65.313	5.284	80.000	90.000	17.733	-0.049
70.000	225.000	39.047	2.605	80.000	95.000	17.651	-0.051
70.000	220.000	16.983	1.348	80.000	100.000	18.036	-0.319
70.000	215.000	12.945	1.120	80.000	105.000	17.770	-0.181
70.000	210.000	18.823	0.845	80.000	110.000	17.651	0.317
70.000	205.000	24.609	1.736	80.000	115.000	17.953	0.384
70.000	200.000	25.030	0.876	80.000	120.000	17.889	0.110
70.000	195.000	20.865	-0.020	80.000	125.000	18.283	-0.095
70.000	190.000	19.747	0.861	80.000	130.000	18.173	-0.266
70.000	185.000	18.658	0.152	80.000	135.000	16.049	-0.213
70.000	180.000	18.814	1.405	80.000	140.000	14.959	0.314
70.000	175.000	18.008	0.801	80.000	145.000	16.626	0.376

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
80.000	150.000	17.752	-0.003	90.000	130.000	16.204	0.290
80.000	155.000	18.072	-0.497	90.000	125.000	16.809	1.409
80.000	160.000	17.340	-1.008	90.000	120.000	17.733	2.379
80.000	165.000	17.047	-0.430	90.000	115.000	17.898	0.821
80.000	170.000	16.086	0.161	90.000	110.000	17.743	-0.060
80.000	175.000	15.042	2.171	90.000	105.000	17.752	0.328
80.000	180.000	17.843	4.815	90.000	100.000	17.871	0.338
80.000	185.000	17.385	2.596	90.000	95.000	17.916	0.240
80.000	190.000	18.704	2.996	90.000	90.000	16.955	0.209
80.000	195.000	19.885	1.517	90.000	85.000	16.570	1.616
80.000	200.000	25.854	0.391	90.000	80.000	17.322	0.679
80.000	205.000	24.499	0.431	90.000	75.000	17.376	0.238
80.000	210.000	21.817	1.675	90.000	70.000	16.864	0.440
80.000	215.000	14.291	1.117	90.000	65.000	16.763	0.148
80.000	220.000	11.920	1.170	90.000	60.000	17.047	-0.009
80.000	225.000	22.027	1.532	90.000	55.000	16.955	-0.170
80.000	230.000	41.427	2.794	90.000	50.000	18.017	-0.268
80.000	235.000	52.020	3.276	90.000	45.000	17.944	-0.382
80.000	240.000	58.017	3.862	90.000	40.000	18.008	0.260
80.000	245.000	66.604	6.346	90.000	35.000	18.750	0.104
80.000	250.000	78.927	7.746	90.000	30.000	17.559	0.709
80.000	255.000	36.483	-0.106	90.000	25.000	14.712	1.102
80.000	260.000	-21.166	-8.858	90.000	20.000	14.987	0.773
80.000	265.000	-20.123	-4.942	90.000	15.000	16.635	0.521
80.000	270.000	28.473	4.246	90.000	10.000	17.074	0.512
80.000	275.000	50.701	9.108	90.000	5.000	17.193	0.101
80.000	280.000	41.372	6.306	90.000	0.000	16.946	-0.104
80.000	285.000	32.391	5.708	LINE 100			
80.000	290.000	28.839	4.121	100.000	0.000	17.047	-0.286
80.000	295.000	27.538	2.961	100.000	5.000	17.074	-0.194
80.000	300.000	26.330	2.894	100.000	10.000	17.166	-0.123
LINE 90				100.000	15.000	18.530	-0.157
90.000	300.000	38.196	4.317	100.000	20.000	18.210	-0.161
90.000	295.000	38.370	4.679	100.000	25.000	17.889	-0.255
90.000	290.000	37.573	5.113	100.000	30.000	18.337	-0.305
90.000	285.000	38.003	5.596	100.000	35.000	14.611	-0.202
90.000	280.000	40.017	5.824	100.000	40.000	11.535	-0.249
90.000	275.000	43.990	7.691	100.000	45.000	15.381	-0.409
90.000	270.000	50.390	8.492	100.000	50.000	19.143	-0.635
90.000	265.000	45.465	5.674	100.000	55.000	19.281	-0.615
90.000	260.000	16.891	-1.556	100.000	60.000	18.191	-0.514
90.000	255.000	-3.790	-5.486	100.000	65.000	17.449	-0.345
90.000	250.000	95.755	7.810	100.000	70.000	16.974	0.023
90.000	245.000	82.607	5.957	100.000	75.000	17.221	-0.068
90.000	240.000	82.360	8.450	100.000	80.000	17.019	0.415
90.000	235.000	64.911	5.394	100.000	85.000	16.873	0.453
90.000	230.000	50.784	3.086	100.000	90.000	16.891	-0.141
90.000	225.000	57.129	6.098	100.000	95.000	17.166	0.545
90.000	220.000	56.570	4.703	100.000	100.000	18.145	0.101
90.000	215.000	45.904	2.543	100.000	105.000	18.393	-0.310
90.000	210.000	36.227	1.120	100.000	110.000	17.953	-0.288
90.000	205.000	23.337	0.275	100.000	115.000	17.632	-0.178
90.000	200.000	15.344	-0.137	100.000	120.000	18.750	-0.325
90.000	195.000	18.173	0.712	100.000	125.000	20.114	-0.382
90.000	190.000	19.848	0.463	100.000	130.000	20.123	-0.113
90.000	185.000	14.446	-2.475	100.000	135.000	19.345	0.033
90.000	180.000	15.280	0.172	100.000	140.000	20.059	-0.108
90.000	175.000	16.021	0.949	100.000	145.000	20.818	-0.152
90.000	170.000	16.461	1.631	100.000	150.000	20.114	1.161
90.000	165.000	16.470	2.186	100.000	155.000	16.818	0.604
90.000	160.000	17.148	0.268	100.000	160.000	16.387	-0.718
90.000	155.000	18.210	0.736	100.000	165.000	18.255	-0.328
90.000	150.000	17.486	2.960	100.000	170.000	18.402	-0.282
90.000	145.000	17.614	0.350	100.000	175.000	18.337	-0.236
90.000	140.000	17.743	2.098	100.000	180.000	18.805	-0.189
90.000	135.000	17.083	0.808	100.000	185.000	18.878	-0.194

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
100.000	190.000	18.109	-0.236	110.000	90.000	18.750	-0.380
100.000	195.000	17.376	-0.310	110.000	85.000	18.319	-0.358
100.000	200.000	16.937	-0.470	110.000	80.000	18.118	-0.347
100.000	205.000	18.219	-0.503	110.000	75.000	17.907	-0.323
100.000	210.000	20.791	-0.244	110.000	70.000	17.496	-0.181
100.000	215.000	25.708	0.229	110.000	65.000	17.733	-0.363
100.000	220.000	32.794	0.747	110.000	60.000	18.411	-0.512
100.000	225.000	46.161	1.256	110.000	55.000	19.399	-0.578
100.000	230.000	66.384	2.190	110.000	50.000	19.830	-0.661
100.000	235.000	85.894	3.101	110.000	45.000	21.624	-0.714
100.000	240.000	99.453	4.097	110.000	40.000	18.429	-0.391
100.000	245.000	112.692	5.284	110.000	35.000	10.748	0.090
100.000	250.000	122.836	7.070	110.000	30.000	12.405	0.128
100.000	255.000	96.954	5.258	110.000	25.000	19.876	-0.347
100.000	260.000	-0.311	-2.690	110.000	20.000	20.178	-0.310
100.000	265.000	-34.515	-6.844	110.000	15.000	18.658	-0.115
100.000	270.000	24.682	0.841	110.000	10.000	18.502	0.022
100.000	275.000	65.790	8.397	110.000	5.000	18.676	-0.056
100.000	280.000	64.517	9.038	110.000	0.000	17.871	-0.016
100.000	285.000	58.182	7.924	LINE 120			
100.000	290.000	54.547	7.296	120.000	0.000	19.839	0.367
100.000	295.000	51.599	6.611	120.000	5.000	19.455	0.227
100.000	300.000	46.435	5.563	120.000	10.000	19.491	0.183
LINE 110				120.000	15.000	19.967	1.146
110.000	300.000	31.219	1.093	120.000	20.000	19.812	2.070
110.000	295.000	25.488	0.154	120.000	25.000	18.731	0.591
110.000	290.000	20.095	-0.499	120.000	30.000	18.878	0.137
110.000	285.000	20.809	-0.044	120.000	35.000	20.398	0.025
110.000	280.000	32.391	2.261	120.000	40.000	22.338	-0.286
110.000	275.000	54.135	5.923	120.000	45.000	18.814	-0.205
110.000	270.000	66.970	7.855	120.000	50.000	8.184	0.744
110.000	265.000	46.179	4.667	120.000	55.000	11.105	0.236
110.000	260.000	-4.843	-3.577	120.000	60.000	22.165	-0.736
110.000	255.000	1.044	-4.542	120.000	65.000	22.888	-0.611
110.000	250.000	94.638	4.130	120.000	70.000	19.876	-0.069
110.000	245.000	122.571	7.623	120.000	75.000	18.805	0.036
110.000	240.000	113.506	5.918	120.000	80.000	18.640	-0.040
110.000	235.000	87.222	3.862	120.000	85.000	19.198	-0.113
110.000	230.000	70.834	2.901	120.000	90.000	19.537	0.113
110.000	225.000	46.692	1.462	120.000	95.000	19.427	0.718
110.000	220.000	23.190	0.319	120.000	100.000	19.656	1.334
110.000	215.000	19.756	-0.266	120.000	105.000	20.434	0.203
110.000	210.000	25.461	-0.123	120.000	110.000	20.947	-0.014
110.000	205.000	25.048	0.091	120.000	115.000	21.981	0.069
110.000	200.000	21.780	-0.042	120.000	120.000	24.042	0.198
110.000	195.000	19.006	0.101	120.000	125.000	26.925	0.183
110.000	190.000	17.202	0.187	120.000	130.000	31.255	0.260
110.000	185.000	17.157	-0.220	120.000	135.000	31.942	0.172
110.000	180.000	17.138	-0.279	120.000	140.000	18.310	-0.437
110.000	175.000	18.347	-0.268	120.000	145.000	3.158	0.420
110.000	170.000	19.216	-0.110	120.000	150.000	33.590	0.303
110.000	165.000	20.104	-0.172	120.000	155.000	35.541	0.391
110.000	160.000	21.862	-0.174	120.000	160.000	36.117	0.567
110.000	155.000	22.512	-0.205	120.000	165.000	32.473	0.466
110.000	150.000	19.262	-0.384	120.000	170.000	26.953	0.244
110.000	145.000	12.991	-0.893	120.000	175.000	19.235	-0.167
110.000	140.000	13.137	-1.130	120.000	180.000	15.014	0.220
110.000	135.000	19.674	-0.347	120.000	185.000	16.854	2.899
110.000	130.000	25.204	-0.163	120.000	190.000	20.379	0.723
110.000	125.000	24.435	-0.238	120.000	195.000	21.853	-0.227
110.000	120.000	22.054	-0.297	120.000	200.000	21.377	0.343
110.000	115.000	21.066	-0.244	120.000	205.000	21.780	0.104
110.000	110.000	20.526	-0.299	120.000	210.000	23.007	0.023
110.000	105.000	19.317	-0.374	120.000	215.000	24.682	0.095
110.000	100.000	19.089	-0.305	120.000	220.000	27.566	0.198
110.000	95.000	19.042	-0.417	120.000	225.000	30.569	0.299



Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
120.000	230.000	33.325	0.428	140.000	30.000	20.672	0.391
120.000	235.000	37.115	0.564	140.000	35.000	20.892	0.384
120.000	240.000	41.217	0.889	140.000	40.000	20.883	0.005
120.000	245.000	43.222	1.532	140.000	45.000	21.817	-0.110
120.000	250.000	44.064	2.405	140.000	50.000	24.682	-0.106
120.000	255.000	48.971	2.965	140.000	55.000	24.508	-0.371
120.000	260.000	40.475	1.183	140.000	60.000	8.504	0.700
120.000	265.000	14.794	-2.375	140.000	65.000	2.068	1.091
120.000	270.000	4.065	-2.125	140.000	70.000	16.369	-0.134
120.000	275.000	3.515	0.373	140.000	75.000	28.152	-0.398
120.000	280.000	28.290	3.391	140.000	80.000	26.166	0.319
120.000	285.000	71.658	5.980	140.000	85.000	23.410	0.069
120.000	290.000	87.268	6.677	140.000	90.000	23.217	0.216
120.000	295.000	69.442	5.282	140.000	95.000	23.382	0.292
120.000	300.000	50.299	3.867	140.000	100.000	24.472	0.334
LINE 130				140.000	105.000	27.402	0.316
130.000	210.000	21.222	-0.068	140.000	110.000	29.608	0.722
130.000	205.000	21.387	-0.112	140.000	115.000	34.021	0.742
130.000	200.000	21.267	0.093	140.000	120.000	37.289	0.628
130.000	195.000	22.110	-0.121	140.000	125.000	29.068	-0.185
130.000	190.000	22.696	2.043	140.000	130.000	8.368	-1.488
130.000	185.000	23.959	1.289	140.000	135.000	1.602	-0.709
130.000	180.000	26.083	0.446	140.000	140.000	34.542	1.898
130.000	175.000	26.440	0.839	140.000	145.000	58.822	1.984
130.000	170.000	22.659	0.560	140.000	150.000	25.506	-0.150
130.000	165.000	15.948	0.192	140.000	155.000	22.714	-0.325
130.000	160.000	13.330	0.823	140.000	160.000	8.642	-1.052
130.000	155.000	24.975	1.273	140.000	165.000	15.426	-0.536
130.000	150.000	43.158	4.387	140.000	170.000	32.775	0.286
130.000	145.000	48.870	1.515	140.000	175.000	34.817	0.150
130.000	140.000	43.185	1.683	140.000	180.000	29.937	-0.099
130.000	135.000	23.163	1.183	140.000	185.000	26.706	-0.150
130.000	130.000	0.860	-0.547	140.000	190.000	23.474	-0.012
130.000	125.000	8.377	-0.611	LINE 150			
130.000	120.000	28.985	0.567	150.000	160.000	34.460	0.523
130.000	115.000	34.506	0.791	150.000	155.000	34.423	0.567
130.000	110.000	29.635	0.922	150.000	150.000	23.227	-0.001
130.000	105.000	25.479	0.330	150.000	145.000	18.081	-0.308
130.000	100.000	24.169	1.334	150.000	140.000	11.133	-0.064
130.000	95.000	22.247	0.949	150.000	135.000	33.133	1.403
130.000	90.000	21.276	-0.073	150.000	130.000	67.437	3.222
130.000	85.000	20.315	0.986	150.000	125.000	69.561	4.687
130.000	80.000	19.958	1.297	150.000	120.000	32.748	2.192
130.000	75.000	19.756	0.178	150.000	115.000	-0.769	-1.170
130.000	70.000	20.544	-0.271	150.000	110.000	7.818	-1.243
130.000	65.000	22.284	-0.523	150.000	105.000	32.510	0.575
130.000	60.000	23.638	-0.277	150.000	100.000	33.609	0.700
130.000	55.000	23.364	-0.417	150.000	95.000	32.098	0.452
130.000	50.000	5.200	0.554	150.000	90.000	29.232	0.308
130.000	45.000	9.915	0.380	150.000	85.000	27.172	0.157
130.000	40.000	19.775	0.194	150.000	80.000	27.118	0.007
130.000	35.000	26.358	-0.422	150.000	75.000	29.260	-0.519
130.000	30.000	22.741	-0.152	150.000	70.000	31.732	-0.826
130.000	25.000	19.528	0.593	150.000	65.000	24.984	-0.244
130.000	20.000	19.537	0.135	150.000	60.000	3.332	1.334
130.000	15.000	19.949	0.485	150.000	55.000	4.669	1.098
130.000	10.000	19.949	1.332	150.000	50.000	25.543	-0.540
130.000	5.000	20.745	0.744	150.000	45.000	27.933	-0.718
130.000	0.000	20.233	1.006	150.000	40.000	23.327	-0.205
LINE 140				150.000	35.000	20.800	0.077
140.000	0.000	25.570	1.683	150.000	30.000	20.196	0.088
140.000	5.000	25.305	1.420	150.000	25.000	20.480	0.422
140.000	10.000	24.234	1.062	150.000	20.000	20.773	0.382
140.000	15.000	23.190	0.753	150.000	15.000	21.130	0.652
140.000	20.000	21.862	0.459	150.000	10.000	22.888	1.049
140.000	25.000	20.370	0.771	150.000	5.000	24.582	1.705

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
150.000	0.000	28.527	2.401	180.000	35.000	22.824	1.872
LINE 160				180.000	40.000	21.899	1.260
160.000	0.000	22.000	0.430	180.000	45.000	21.780	0.907
160.000	5.000	22.439	0.643	180.000	50.000	21.697	0.938
160.000	10.000	28.317	2.019	180.000	55.000	22.412	0.946
160.000	15.000	30.038	2.307	180.000	60.000	24.215	0.784
160.000	20.000	26.403	1.585	180.000	65.000	27.429	0.926
160.000	25.000	23.337	1.098	180.000	70.000	32.775	0.731
160.000	30.000	21.734	0.565	180.000	75.000	39.276	0.810
160.000	35.000	21.258	0.398	180.000	80.000	38.854	1.721
160.000	40.000	20.938	0.174	180.000	85.000	19.693	3.121
160.000	45.000	20.590	0.040	180.000	90.000	24.261	3.366
160.000	50.000	20.910	0.150	180.000	95.000	37.839	-1.102
160.000	55.000	22.989	0.003	180.000	100.000	26.550	-3.369
160.000	60.000	27.484	-0.361	180.000	105.000	31.128	0.005
160.000	65.000	36.099	-0.760	180.000	110.000	33.755	4.602
160.000	70.000	23.831	-0.132	180.000	115.000	33.535	4.229
160.000	75.000	-21.130	2.298	180.000	120.000	27.942	-1.273
160.000	80.000	-14.657	1.706	LINE 190			
160.000	85.000	38.370	-0.363	190.000	120.000	47.589	1.216
160.000	90.000	48.276	-0.398	190.000	115.000	47.085	0.773
160.000	95.000	40.292	0.740	190.000	110.000	12.515	-1.626
160.000	100.000	40.823	1.824	190.000	105.000	-20.361	-1.776
160.000	105.000	42.013	1.383	190.000	100.000	65.872	7.691
160.000	110.000	32.134	-0.214	190.000	95.000	105.889	6.859
160.000	115.000	5.850	-1.409	190.000	90.000	35.724	-0.328
160.000	120.000	9.420	2.085	190.000	85.000	-18.576	-2.873
160.000	125.000	53.704	5.447	190.000	80.000	5.987	0.101
160.000	130.000	75.970	5.148	190.000	75.000	49.759	2.258
160.000	135.000	39.084	0.712	190.000	70.000	50.381	1.995
160.000	140.000	24.874	-0.159	190.000	65.000	38.809	1.427
LINE 170				190.000	60.000	32.602	1.111
170.000	125.000	35.541	0.316	190.000	55.000	27.822	1.163
170.000	120.000	41.427	1.128	190.000	50.000	25.341	1.036
170.000	115.000	65.597	4.764	190.000	45.000	24.408	1.730
170.000	110.000	49.749	4.604	190.000	40.000	23.593	2.491
170.000	105.000	11.810	0.165	190.000	35.000	23.089	1.927
170.000	100.000	36.163	-0.444	190.000	30.000	23.172	1.126
170.000	95.000	37.362	-0.240	190.000	25.000	24.526	1.543
170.000	90.000	49.127	1.073	190.000	20.000	26.422	2.860
170.000	85.000	54.721	0.848	190.000	15.000	29.535	3.018
170.000	80.000	37.454	1.043	190.000	10.000	31.265	3.246
170.000	75.000	-6.390	2.236	190.000	5.000	23.464	0.667
170.000	70.000	-1.702	1.319	190.000	0.000	-2.151	-4.856
170.000	65.000	42.416	-0.459	LINE 200			
170.000	60.000	41.427	0.339	200.000	0.000	-2.975	-5.473
170.000	55.000	28.656	1.394	200.000	5.000	-4.449	-5.843
170.000	50.000	23.135	2.037	200.000	10.000	8.102	-2.491
170.000	45.000	22.045	0.988	200.000	15.000	29.150	2.339
170.000	40.000	21.166	1.548	200.000	20.000	36.456	3.669
170.000	35.000	20.856	0.665	200.000	25.000	32.583	2.879
170.000	30.000	21.295	0.716	200.000	30.000	27.475	2.583
170.000	25.000	22.128	1.216	200.000	35.000	26.092	1.765
170.000	20.000	23.849	1.264	200.000	40.000	25.698	1.512
170.000	15.000	25.543	1.907	200.000	45.000	25.616	1.427
170.000	10.000	25.964	2.061	200.000	50.000	26.458	1.537
170.000	5.000	21.817	1.104	200.000	55.000	27.667	1.738
170.000	0.000	4.632	-4.007	200.000	60.000	30.240	2.528
LINE 180				200.000	65.000	33.874	3.033
180.000	0.000	11.728	-1.852	200.000	70.000	39.056	3.052
180.000	5.000	6.738	-3.333	200.000	75.000	45.300	3.171
180.000	10.000	-0.741	-4.134	200.000	80.000	42.297	1.306
180.000	15.000	13.210	-0.718	200.000	85.000	27.759	-1.835
180.000	20.000	28.106	2.412	200.000	90.000	35.733	-0.044
180.000	25.000	29.553	2.590	200.000	95.000	68.774	8.400
180.000	30.000	25.268	1.797	200.000	100.000	51.068	9.133

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
200.000	105.000	37.390	4.589	215.000	10.000	18.685	1.644
200.000	110.000	41.610	0.406	210.000	10.000	18.951	0.191
200.000	115.000	12.826	-0.060	205.000	10.000	19.281	0.780
200.000	120.000	16.213	1.330	200.000	10.000	19.683	-0.597
200.000	125.000	0.000	0.000	195.000	10.000	19.756	-0.540
				190.000	10.000	19.546	0.093
LINE 0: SEAD-4, LEACH FIELD				185.000	10.000	19.857	3.858
0.000	0.000	18.191	-0.477	180.000	10.000	20.151	2.700
5.000	0.000	17.669	-0.485	175.000	10.000	20.325	-0.393
10.000	0.000	17.065	0.463	170.000	10.000	20.654	0.216
15.000	0.000	19.015	0.082	165.000	10.000	21.387	3.619
20.000	0.000	20.343	-0.483	160.000	10.000	21.139	0.769
25.000	0.000	19.372	-0.499	155.000	10.000	20.498	1.119
30.000	0.000	18.438	-0.387	150.000	10.000	20.938	-0.521
35.000	0.000	18.200	-0.161	145.000	10.000	20.846	-0.380
40.000	0.000	18.402	-0.273	140.000	10.000	20.535	0.275
45.000	0.000	18.576	-0.387	135.000	10.000	20.645	-0.071
50.000	0.000	18.786	-0.371	130.000	10.000	20.388	-0.308
55.000	0.000	18.832	-0.496	125.000	10.000	19.986	0.020
60.000	0.000	18.658	-0.496	120.000	10.000	20.755	-0.301
65.000	0.000	18.731	-0.470	115.000	10.000	21.469	0.404
70.000	0.000	18.850	0.147	110.000	10.000	21.194	-0.202
75.000	0.000	18.887	0.415	105.000	10.000	20.297	-0.244
80.000	0.000	18.915	0.047	100.000	10.000	20.452	-0.477
85.000	0.000	18.795	0.240	95.000	10.000	20.773	-0.562
90.000	0.000	19.089	0.027	90.000	10.000	20.517	-0.049
95.000	0.000	19.171	-0.080	85.000	10.000	19.079	2.973
100.000	0.000	19.189	-0.521	80.000	10.000	18.621	2.601
105.000	0.000	19.079	-0.442	75.000	10.000	19.180	0.931
110.000	0.000	19.308	-0.385	70.000	10.000	19.354	-0.235
115.000	0.000	19.555	-0.395	65.000	10.000	19.125	0.001
120.000	0.000	19.427	-0.354	60.000	10.000	19.235	1.087
125.000	0.000	19.262	-0.418	55.000	10.000	19.491	-0.271
130.000	0.000	19.171	0.055	50.000	10.000	19.674	-0.569
135.000	0.000	19.326	-0.226	45.000	10.000	19.546	-0.446
140.000	0.000	19.546	-0.475	40.000	10.000	19.162	-0.382
145.000	0.000	19.500	-0.325	35.000	10.000	18.850	-0.248
150.000	0.000	19.464	-0.529	30.000	10.000	18.466	0.203
155.000	0.000	19.629	-0.516	25.000	10.000	18.411	-0.051
160.000	0.000	19.345	-0.389	20.000	10.000	18.768	0.703
165.000	0.000	19.491	-0.139	15.000	10.000	20.242	0.452
170.000	0.000	19.583	-0.018	10.000	10.000	19.601	1.304
175.000	0.000	19.711	-0.093	5.000	10.000	14.483	1.795
180.000	0.000	19.738	0.020	0.000	10.000	14.199	1.708
185.000	0.000	19.399	-0.214	LINE 20			
190.000	0.000	19.665	-0.323	0.000	20.000	17.761	-0.014
195.000	0.000	20.077	3.426	5.000	20.000	17.889	0.598
200.000	0.000	18.933	-0.531	10.000	20.000	15.811	1.844
205.000	0.000	18.731	-0.418	15.000	20.000	15.078	2.158
210.000	0.000	18.685	-0.205	20.000	20.000	17.413	1.980
215.000	0.000	19.061	-0.385	25.000	20.000	18.786	0.802
220.000	0.000	19.216	-0.310	30.000	20.000	17.303	0.181
225.000	0.000	18.786	-0.082	35.000	20.000	16.424	0.271
230.000	0.000	18.612	-0.273	40.000	20.000	16.836	0.091
235.000	0.000	18.759	-0.391	45.000	20.000	17.532	-0.314
240.000	0.000	18.585	-0.180	50.000	20.000	17.788	-0.404
245.000	0.000	18.631	-0.319	55.000	20.000	17.587	-0.409
250.000	0.000	19.024	-0.248	60.000	20.000	17.239	-0.259
LINE 10				65.000	20.000	17.019	0.802
250.000	10.000	19.528	-0.481	70.000	20.000	16.763	0.924
245.000	10.000	19.638	-0.402	75.000	20.000	16.406	0.674
240.000	10.000	19.482	-0.157	80.000	20.000	16.552	0.424
235.000	10.000	18.887	-0.012	85.000	20.000	16.955	0.091
230.000	10.000	18.786	0.012	90.000	20.000	17.129	-0.231
225.000	10.000	19.116	0.373	95.000	20.000	17.404	0.519
220.000	10.000	18.759	1.142	100.000	20.000	17.898	-0.069

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
105.000	20.000	17.422	-0.115	75.000	30.000	15.618	-0.242
110.000	20.000	17.358	0.437	70.000	30.000	15.893	0.676
115.000	20.000	17.239	0.389	65.000	30.000	15.536	1.034
120.000	20.000	18.136	1.212	60.000	30.000	15.298	0.519
125.000	20.000	18.805	0.330	55.000	30.000	15.618	0.011
130.000	20.000	18.347	-0.165	50.000	30.000	15.710	-0.363
135.000	20.000	17.834	1.095	45.000	30.000	15.792	-0.387
140.000	20.000	18.008	0.192	40.000	30.000	15.939	-0.352
145.000	20.000	18.741	-0.510	35.000	30.000	15.865	-0.395
150.000	20.000	18.283	-0.222	30.000	30.000	15.682	0.110
155.000	20.000	17.971	-0.334	25.000	30.000	15.664	0.178
160.000	20.000	17.669	0.281	20.000	30.000	17.578	2.724
165.000	20.000	17.779	0.343	15.000	30.000	-13.540	-32.329
170.000	20.000	17.944	-0.031	10.000	30.000	-29.498	-32.328
175.000	20.000	18.191	-0.249	5.000	30.000	-12.213	-32.328
180.000	20.000	18.045	1.095	0.000	30.000	19.537	-0.251
185.000	20.000	17.376	0.878	LINE 40			
190.000	20.000	17.111	0.543	0.000	40.000	15.234	-0.248
195.000	20.000	17.340	0.870	5.000	40.000	15.151	0.426
200.000	20.000	17.505	-0.293	10.000	40.000	14.794	1.100
205.000	20.000	17.587	-0.345	15.000	40.000	14.712	1.146
210.000	20.000	17.514	1.350	20.000	40.000	14.803	2.074
215.000	20.000	17.312	0.997	25.000	40.000	14.502	1.734
220.000	20.000	16.983	1.109	30.000	40.000	14.620	-0.113
225.000	20.000	16.223	0.687	35.000	40.000	14.749	-0.078
230.000	20.000	16.443	-0.104	40.000	40.000	14.904	0.775
235.000	20.000	16.882	0.802	45.000	40.000	15.024	0.395
240.000	20.000	16.827	0.440	50.000	40.000	15.252	-0.420
245.000	20.000	16.965	-0.143	55.000	40.000	15.106	-0.361
250.000	20.000	17.422	-0.371	60.000	40.000	14.813	0.242
LINE 30				65.000	40.000	14.309	2.186
250.000	30.000	15.738	-0.361	70.000	40.000	14.099	1.109
245.000	30.000	15.573	-0.268	75.000	40.000	14.483	2.120
240.000	30.000	16.159	0.336	80.000	40.000	14.648	1.186
235.000	30.000	16.314	0.003	85.000	40.000	15.408	2.394
230.000	30.000	16.552	1.662	90.000	40.000	15.289	1.545
225.000	30.000	16.049	1.710	95.000	40.000	15.307	0.093
220.000	30.000	15.774	0.068	100.000	40.000	15.573	-0.259
215.000	30.000	15.783	0.093	105.000	40.000	15.682	-0.271
210.000	30.000	15.939	-0.011	110.000	40.000	15.618	1.554
205.000	30.000	15.994	-0.282	115.000	40.000	15.261	0.275
200.000	30.000	15.976	0.358	120.000	40.000	15.756	0.837
195.000	30.000	16.168	-0.350	125.000	40.000	15.555	1.337
190.000	30.000	15.847	0.268	130.000	40.000	15.719	1.012
185.000	30.000	15.582	1.221	135.000	40.000	15.985	1.282
180.000	30.000	15.527	0.793	140.000	40.000	16.113	1.390
175.000	30.000	16.113	0.117	145.000	40.000	15.252	-0.031
170.000	30.000	16.570	0.139	150.000	40.000	15.765	-0.404
165.000	30.000	16.507	0.431	155.000	40.000	15.710	-0.027
160.000	30.000	16.406	1.931	160.000	40.000	15.463	-0.170
155.000	30.000	16.260	1.343	165.000	40.000	15.838	2.206
150.000	30.000	16.845	-0.020	170.000	40.000	15.490	1.277
145.000	30.000	17.157	-0.475	175.000	40.000	15.225	1.291
140.000	30.000	17.569	1.786	180.000	40.000	15.124	1.407
135.000	30.000	17.038	3.461	185.000	40.000	14.950	1.036
130.000	30.000	16.470	0.457	190.000	40.000	15.298	-0.029
125.000	30.000	16.744	-0.382	195.000	40.000	15.408	-0.077
120.000	30.000	16.864	-0.056	200.000	40.000	15.170	-0.202
115.000	30.000	17.101	-0.099	205.000	40.000	15.307	-0.402
110.000	30.000	17.010	-0.163	210.000	40.000	15.399	-0.246
105.000	30.000	16.213	0.303	215.000	40.000	15.334	0.595
100.000	30.000	16.213	-0.156	220.000	40.000	15.124	0.196
95.000	30.000	16.223	0.220	225.000	40.000	15.115	0.227
90.000	30.000	16.159	0.812	230.000	40.000	15.518	0.205
85.000	30.000	15.792	0.306	235.000	40.000	15.692	-0.141
80.000	30.000	15.664	-0.176	240.000	40.000	15.518	-0.354

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
245.000	40.000	15.280	-0.235	55.000	60.000	14.172	-0.442
250.000	40.000	16.049	-0.466	60.000	60.000	14.272	0.192
LINE 50				65.000	60.000	14.136	-0.147
250.000	50.000	15.298	-0.452	70.000	60.000	14.117	0.817
245.000	50.000	15.390	-0.433	75.000	60.000	14.309	0.970
240.000	50.000	15.334	0.407	80.000	60.000	14.300	-0.033
235.000	50.000	15.417	1.005	85.000	60.000	14.355	0.861
230.000	50.000	14.877	0.674	90.000	60.000	14.291	1.659
225.000	50.000	14.291	0.387	95.000	60.000	14.199	0.490
220.000	50.000	14.813	0.650	100.000	60.000	14.364	-0.078
215.000	50.000	15.142	0.470	105.000	60.000	14.959	-0.259
210.000	50.000	14.840	0.531	110.000	60.000	14.996	-0.203
205.000	50.000	14.840	0.972	115.000	60.000	15.161	-0.290
200.000	50.000	14.831	-0.360	120.000	60.000	15.124	-0.345
195.000	50.000	14.941	-0.361	125.000	60.000	14.941	0.681
190.000	50.000	14.493	0.731	130.000	60.000	14.959	0.727
185.000	50.000	14.566	0.988	135.000	60.000	14.703	0.226
180.000	50.000	14.803	1.539	140.000	60.000	14.547	-0.192
175.000	50.000	14.584	0.852	145.000	60.000	14.410	0.088
170.000	50.000	14.456	0.216	150.000	60.000	14.538	-0.040
165.000	50.000	15.051	0.159	155.000	60.000	14.868	1.174
160.000	50.000	15.124	0.915	160.000	60.000	14.373	1.510
155.000	50.000	15.115	-0.101	165.000	60.000	14.337	-0.075
150.000	50.000	15.142	-0.249	170.000	60.000	14.547	-0.011
145.000	50.000	15.518	-0.349	175.000	60.000	14.465	0.558
140.000	50.000	15.454	0.497	180.000	60.000	14.520	0.453
135.000	50.000	15.170	0.113	185.000	60.000	14.538	0.650
130.000	50.000	15.216	-0.327	190.000	60.000	14.373	0.745
125.000	50.000	15.353	0.718	195.000	60.000	14.493	1.188
120.000	50.000	15.573	1.672	200.000	60.000	14.831	-0.214
115.000	50.000	15.573	1.392	205.000	60.000	14.822	0.420
110.000	50.000	15.655	1.038	210.000	60.000	15.033	0.602
105.000	50.000	15.399	-0.371	215.000	60.000	14.648	0.260
100.000	50.000	15.087	-0.317	220.000	60.000	14.446	0.654
95.000	50.000	15.207	-0.486	225.000	60.000	14.456	0.203
90.000	50.000	15.316	0.667	230.000	60.000	14.117	0.696
85.000	50.000	15.207	3.682	235.000	60.000	13.980	0.551
80.000	50.000	14.987	3.171	240.000	60.000	14.538	0.586
75.000	50.000	14.419	2.006	245.000	60.000	14.923	0.918
70.000	50.000	14.126	0.784	250.000	60.000	15.417	0.376
65.000	50.000	14.062	0.589	LINE 70			
60.000	50.000	14.483	0.762	250.000	70.000	15.307	-0.523
55.000	50.000	14.190	1.357	245.000	70.000	15.362	-0.222
50.000	50.000	14.620	0.382	240.000	70.000	15.417	0.567
45.000	50.000	14.703	0.227	235.000	70.000	15.060	0.176
40.000	50.000	14.886	1.196	230.000	70.000	14.392	1.679
35.000	50.000	14.950	1.229	225.000	70.000	14.025	2.004
30.000	50.000	15.060	2.800	220.000	70.000	13.971	0.850
25.000	50.000	14.511	2.500	215.000	70.000	14.245	0.248
20.000	50.000	13.897	0.815	210.000	70.000	14.630	0.733
15.000	50.000	14.145	0.615	205.000	70.000	14.740	-0.102
10.000	50.000	14.373	0.044	200.000	70.000	14.895	2.351
5.000	50.000	14.483	0.011	195.000	70.000	14.868	2.173
0.000	50.000	14.437	-0.529	190.000	70.000	14.346	3.083
LINE 60				185.000	70.000	14.300	1.991
0.000	60.000	14.602	-0.475	180.000	70.000	14.291	2.385
5.000	60.000	14.630	0.949	175.000	70.000	14.282	2.092
10.000	60.000	14.245	1.932	170.000	70.000	14.437	0.968
15.000	60.000	14.154	1.288	165.000	70.000	14.190	1.124
20.000	60.000	14.383	1.942	160.000	70.000	14.099	1.269
25.000	60.000	14.282	2.627	155.000	70.000	14.401	0.867
30.000	60.000	13.641	0.738	150.000	70.000	14.593	1.141
35.000	60.000	13.943	0.259	145.000	70.000	14.401	0.509
40.000	60.000	14.272	1.438	140.000	70.000	14.383	1.403
45.000	60.000	14.117	1.508	135.000	70.000	14.016	1.277
50.000	60.000	14.099	0.485	130.000	70.000	14.181	1.115

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
125.000	70.000	14.263	0.474	195.000	80.000	14.868	-0.049
120.000	70.000	14.474	0.698	200.000	80.000	15.151	-0.194
115.000	70.000	14.730	-0.115	205.000	80.000	15.252	3.281
110.000	70.000	15.051	0.538	210.000	80.000	15.454	3.138
105.000	70.000	14.840	1.988	215.000	80.000	14.749	0.033
100.000	70.000	14.566	-0.165	220.000	80.000	13.861	-0.038
95.000	70.000	14.446	0.966	225.000	80.000	13.870	0.913
90.000	70.000	14.145	1.295	230.000	80.000	14.794	0.369
85.000	70.000	13.943	0.290	235.000	80.000	15.298	0.595
80.000	70.000	13.962	0.556	240.000	80.000	15.481	-0.060
75.000	70.000	13.769	1.190	245.000	80.000	14.895	1.503
70.000	70.000	14.025	1.343	250.000	80.000	14.630	-0.494
65.000	70.000	13.824	0.464	LINE 90			
60.000	70.000	13.605	0.492	250.000	90.000	14.053	-0.404
55.000	70.000	13.861	-0.029	245.000	90.000	13.934	-0.420
50.000	70.000	14.145	-0.384	240.000	90.000	14.053	0.788
45.000	70.000	14.483	-0.413	235.000	90.000	14.483	0.325
40.000	70.000	14.227	0.881	230.000	90.000	14.392	1.400
35.000	70.000	14.602	1.120	225.000	90.000	14.648	3.053
30.000	70.000	14.721	1.756	220.000	90.000	15.207	2.761
25.000	70.000	14.337	1.545	215.000	90.000	15.124	1.209
20.000	70.000	14.236	2.963	210.000	90.000	14.419	1.049
15.000	70.000	14.364	1.198	205.000	90.000	13.806	0.534
10.000	70.000	13.897	0.126	200.000	90.000	13.906	0.093
5.000	70.000	13.906	0.826	195.000	90.000	14.758	-0.374
0.000	70.000	14.474	-0.409	190.000	90.000	14.859	0.108
LINE 80				185.000	90.000	14.703	1.361
0.000	80.000	14.016	-0.415	180.000	90.000	14.446	2.239
5.000	80.000	14.044	-0.385	175.000	90.000	14.502	1.431
10.000	80.000	13.568	0.700	170.000	90.000	14.355	1.583
15.000	80.000	14.117	4.496	165.000	90.000	13.925	1.411
20.000	80.000	13.815	1.111	160.000	90.000	13.870	1.662
25.000	80.000	13.714	0.602	155.000	90.000	14.053	0.468
30.000	80.000	14.218	1.481	150.000	90.000	14.474	1.361
35.000	80.000	14.639	0.655	145.000	90.000	14.291	0.554
40.000	80.000	14.428	0.823	140.000	90.000	14.254	0.646
45.000	80.000	14.053	0.016	135.000	90.000	13.989	1.708
50.000	80.000	14.373	-0.279	130.000	90.000	14.016	0.145
55.000	80.000	14.593	1.811	125.000	90.000	14.410	-0.191
60.000	80.000	14.556	1.745	120.000	90.000	14.657	-0.130
65.000	80.000	14.300	-0.312	115.000	90.000	14.117	0.670
70.000	80.000	14.117	0.147	110.000	90.000	13.915	0.948
75.000	80.000	14.126	0.898	105.000	90.000	14.749	0.020
80.000	80.000	14.419	1.060	100.000	90.000	14.813	-0.534
85.000	80.000	14.016	0.920	95.000	90.000	14.694	-0.132
90.000	80.000	13.788	0.169	90.000	90.000	14.575	1.220
95.000	80.000	14.035	-0.183	85.000	90.000	14.163	0.639
100.000	80.000	14.108	0.769	80.000	90.000	14.456	0.902
105.000	80.000	14.428	0.299	75.000	90.000	14.740	0.648
110.000	80.000	15.024	1.934	70.000	90.000	14.483	0.946
115.000	80.000	15.124	0.797	65.000	90.000	14.465	1.196
120.000	80.000	14.712	-0.306	60.000	90.000	14.401	0.202
125.000	80.000	14.410	0.205	55.000	90.000	14.245	-0.143
130.000	80.000	14.291	0.409	50.000	90.000	14.355	-0.352
135.000	80.000	14.538	0.830	45.000	90.000	14.282	-0.124
140.000	80.000	14.328	0.268	40.000	90.000	13.879	1.808
145.000	80.000	14.126	-0.229	35.000	90.000	13.934	1.297
150.000	80.000	14.502	0.494	30.000	90.000	13.897	0.582
155.000	80.000	14.611	-0.461	25.000	90.000	14.145	2.230
160.000	80.000	14.758	0.613	20.000	90.000	14.620	1.754
165.000	80.000	14.373	0.847	15.000	90.000	14.291	0.740
170.000	80.000	14.016	2.181	10.000	90.000	14.373	1.028
175.000	80.000	14.053	1.299	5.000	90.000	14.282	0.255
180.000	80.000	14.639	-0.139	0.000	90.000	14.456	-0.222
185.000	80.000	14.667	0.509	LINE 100			
190.000	80.000	14.721	0.540	0.000	100.000	14.154	-0.479

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
5.000	100.000	14.291	-0.242	25.000	110.000	13.842	0.595
10.000	100.000	14.263	0.437	20.000	110.000	14.263	-0.099
15.000	100.000	14.474	0.185	15.000	110.000	14.767	0.365
20.000	100.000	14.904	2.370	10.000	110.000	14.694	0.270
25.000	100.000	14.794	3.459	5.000	110.000	14.593	0.374
30.000	100.000	14.575	1.023	0.000	110.000	14.474	-0.521
35.000	100.000	14.428	1.738	LINE 120			
40.000	100.000	14.272	1.344	0.000	120.000	14.053	-0.369
45.000	100.000	14.218	1.109	5.000	120.000	13.906	-0.268
50.000	100.000	14.676	-0.139	10.000	120.000	13.980	0.780
55.000	100.000	14.446	-0.115	15.000	120.000	13.934	0.154
60.000	100.000	14.035	0.679	20.000	120.000	14.428	1.251
65.000	100.000	13.989	1.023	25.000	120.000	14.474	1.780
70.000	100.000	14.272	0.352	30.000	120.000	13.833	0.068
75.000	100.000	14.154	0.361	35.000	120.000	13.769	-0.152
80.000	100.000	13.989	1.260	40.000	120.000	14.145	0.824
85.000	100.000	13.888	0.916	45.000	120.000	14.245	0.398
90.000	100.000	14.172	-0.137	50.000	120.000	14.529	0.007
95.000	100.000	14.749	-0.273	55.000	120.000	14.319	-0.145
100.000	100.000	14.721	-0.396	60.000	120.000	14.117	1.041
105.000	100.000	14.886	-0.271	65.000	120.000	14.007	0.119
110.000	100.000	14.493	1.107	70.000	120.000	14.035	-0.124
115.000	100.000	13.870	1.554	75.000	120.000	14.254	1.023
120.000	100.000	14.089	1.247	80.000	120.000	14.346	0.305
125.000	100.000	14.493	0.226	85.000	120.000	14.566	0.373
130.000	100.000	14.502	-0.025	90.000	120.000	14.685	1.141
135.000	100.000	14.437	-0.110	95.000	120.000	14.502	0.020
140.000	100.000	14.145	0.152	100.000	120.000	14.813	-0.222
145.000	100.000	14.199	1.014	LINE 130			
150.000	100.000	14.776	-0.227	100.000	130.000	14.712	-0.534
155.000	100.000	14.767	-0.211	95.000	130.000	14.648	-0.299
160.000	100.000	14.584	0.707	90.000	130.000	14.263	-0.317
165.000	100.000	14.209	0.948	85.000	130.000	13.980	1.006
170.000	100.000	13.906	1.098	80.000	130.000	13.760	1.525
175.000	100.000	14.209	0.288	75.000	130.000	14.181	0.519
180.000	100.000	14.667	0.659	70.000	130.000	14.511	-0.045
185.000	100.000	14.868	0.881	65.000	130.000	14.328	0.604
190.000	100.000	14.648	0.547	60.000	130.000	14.493	0.652
195.000	100.000	14.218	0.180	55.000	130.000	14.419	-0.249
200.000	100.000	14.667	-0.415	50.000	130.000	14.749	-0.373
205.000	100.000	14.923	-0.338	45.000	130.000	14.392	-0.316
210.000	100.000	14.703	-0.056	40.000	130.000	14.172	0.430
215.000	100.000	15.133	-0.088	35.000	130.000	13.998	2.096
220.000	100.000	15.261	0.347	30.000	130.000	13.440	1.256
225.000	100.000	14.667	0.025	25.000	130.000	13.732	1.098
230.000	100.000	14.840	0.453	20.000	130.000	14.291	0.339
235.000	100.000	14.593	1.438	15.000	130.000	14.291	0.733
240.000	100.000	14.630	0.014	10.000	130.000	13.971	0.635
245.000	100.000	15.097	0.338	5.000	130.000	14.089	0.821
250.000	100.000	14.776	-0.270	0.000	130.000	14.456	-0.273
LINE 110				LINE 140			
100.000	110.000	14.648	-0.518	0.000	140.000	13.732	-0.442
95.000	110.000	14.767	-0.532	5.000	140.000	13.641	-0.497
90.000	110.000	14.392	-0.056	10.000	140.000	14.117	0.328
85.000	110.000	14.272	0.093	15.000	140.000	14.813	0.988
80.000	110.000	14.199	-0.214	20.000	140.000	15.033	1.471
75.000	110.000	14.053	-0.233	25.000	140.000	14.667	1.589
70.000	110.000	14.209	0.038	30.000	140.000	14.254	0.312
65.000	110.000	14.328	0.049	35.000	140.000	14.364	-0.347
60.000	110.000	14.089	0.130	40.000	140.000	14.373	0.584
55.000	110.000	14.080	-0.312	45.000	140.000	14.172	0.023
50.000	110.000	14.346	-0.374	50.000	140.000	14.493	-0.284
45.000	110.000	14.410	-0.440	55.000	140.000	14.520	-0.452
40.000	110.000	14.474	0.595	60.000	140.000	14.822	0.562
35.000	110.000	14.337	0.126	65.000	140.000	14.410	0.084
30.000	110.000	13.980	-0.248	70.000	140.000	14.300	-0.169

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
75.000	140.000	14.694	-0.068	5.000	170.000	14.218	-0.286
80.000	140.000	14.740	0.000	0.000	170.000	14.456	-0.490
85.000	140.000	14.831	0.915	LINE 180			
90.000	140.000	14.538	0.082	0.000	180.000	14.630	-0.512
95.000	140.000	15.051	-0.450	5.000	180.000	14.822	0.863
LINE 150				10.000	180.000	14.401	0.257
95.000	150.000	14.721	-0.547	15.000	180.000	14.392	1.633
90.000	150.000	14.794	-0.534	20.000	180.000	14.373	1.299
85.000	150.000	14.667	0.398	25.000	180.000	14.667	0.970
80.000	150.000	14.547	0.365	30.000	180.000	14.767	0.657
75.000	150.000	14.904	0.547	35.000	180.000	14.089	0.308
70.000	150.000	15.087	0.367	40.000	180.000	14.364	0.786
65.000	150.000	14.676	-0.176	45.000	180.000	15.243	0.929
60.000	150.000	14.611	-0.475	50.000	180.000	14.895	0.600
55.000	150.000	15.344	0.960	55.000	180.000	15.234	1.302
50.000	150.000	14.383	-0.349	60.000	180.000	15.024	1.681
45.000	150.000	14.419	-0.343	65.000	180.000	14.108	0.735
40.000	150.000	13.723	0.196	70.000	180.000	14.511	0.830
35.000	150.000	13.870	-0.222	75.000	180.000	14.740	-0.139
30.000	150.000	14.474	-0.104	80.000	180.000	14.291	0.916
25.000	150.000	14.712	0.753	85.000	180.000	13.943	-0.099
20.000	150.000	14.319	0.771	90.000	180.000	14.291	-0.339
15.000	150.000	14.099	0.073	95.000	180.000	13.989	-0.281
10.000	150.000	14.300	0.060	LINE 190			
5.000	150.000	14.428	-0.099	95.000	190.000	14.272	0.022
0.000	150.000	14.145	-0.486	90.000	190.000	14.209	0.259
LINE 160				85.000	190.000	14.044	0.854
0.000	160.000	14.163	-0.418	80.000	190.000	14.209	0.628
5.000	160.000	14.126	-0.413	75.000	190.000	14.254	0.132
10.000	160.000	14.419	-0.196	70.000	190.000	14.648	-0.203
15.000	160.000	14.190	0.365	65.000	190.000	14.511	1.526
20.000	160.000	14.392	0.744	60.000	190.000	14.300	1.684
25.000	160.000	14.263	1.122	55.000	190.000	14.914	0.942
30.000	160.000	14.218	1.510	50.000	190.000	14.977	-0.192
35.000	160.000	13.980	1.161	45.000	190.000	14.575	-0.203
40.000	160.000	13.678	0.799	40.000	190.000	14.950	0.382
45.000	160.000	14.410	0.850	35.000	190.000	15.381	0.597
50.000	160.000	14.437	0.126	30.000	190.000	14.996	0.488
55.000	160.000	14.794	-0.352	25.000	190.000	14.859	0.613
60.000	160.000	14.630	-0.231	20.000	190.000	14.859	-0.073
65.000	160.000	14.446	0.170	15.000	190.000	14.740	0.198
70.000	160.000	14.566	-0.292	10.000	190.000	14.959	0.571
75.000	160.000	15.069	-0.086	5.000	190.000	15.216	0.196
80.000	160.000	15.417	0.121	0.000	190.000	15.234	-0.371
85.000	160.000	15.051	0.435	LINE 200			
90.000	160.000	15.170	0.576	0.000	200.000	14.373	-0.418
95.000	160.000	14.730	-0.534	5.000	200.000	14.108	-0.349
LINE 170				10.000	200.000	14.337	0.823
95.000	170.000	14.767	-0.556	15.000	200.000	14.291	0.029
90.000	170.000	14.749	-0.510	20.000	200.000	14.950	1.319
85.000	170.000	14.648	0.689	25.000	200.000	15.106	2.394
80.000	170.000	14.446	-0.045	30.000	200.000	15.097	1.385
75.000	170.000	14.667	-0.165	35.000	200.000	14.740	0.117
70.000	170.000	14.776	0.016	40.000	200.000	14.529	0.824
65.000	170.000	15.124	2.010	45.000	200.000	14.639	0.001
60.000	170.000	14.493	0.384	50.000	200.000	15.243	0.350
55.000	170.000	14.181	-0.354	55.000	200.000	15.463	1.392
50.000	170.000	14.575	0.518	60.000	200.000	15.499	0.768
45.000	170.000	14.437	-0.380	65.000	200.000	15.225	0.826
40.000	170.000	14.309	1.401	70.000	200.000	15.024	1.131
35.000	170.000	14.309	0.701	75.000	200.000	15.261	-0.045
30.000	170.000	14.300	0.126	80.000	200.000	15.600	-0.479
25.000	170.000	14.117	0.442	85.000	200.000	15.472	0.187
20.000	170.000	13.586	0.255	90.000	200.000	14.493	-0.345
15.000	170.000	13.696	0.209	95.000	200.000	14.456	0.395
10.000	170.000	14.099	-0.253	100.000	200.000	0.000	0.000



Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
LINE 0: WASTEWATER DRAINAGE DITCH				100.000	15.000	16.791	-0.507
0.000	300.000	35.010	3.924	100.000	20.000	16.983	-0.431
0.000	295.000	34.277	3.625	100.000	25.000	16.946	-0.501
0.000	290.000	27.923	1.703	100.000	30.000	16.827	-0.450
0.000	285.000	17.221	-0.843	100.000	35.000	16.662	-0.481
0.000	280.000	6.180	-3.112	100.000	40.000	16.516	-0.446
0.000	275.000	11.590	-1.694	100.000	45.000	17.019	-0.407
0.000	270.000	24.957	0.926	100.000	50.000	17.651	-0.356
0.000	265.000	31.704	1.940	100.000	55.000	18.264	-0.334
0.000	260.000	31.567	1.927	100.000	60.000	18.036	-0.406
0.000	255.000	28.152	1.662	100.000	65.000	17.340	-0.461
0.000	250.000	23.611	0.665	100.000	70.000	16.690	-0.464
0.000	245.000	23.190	0.536	100.000	75.000	16.864	-0.426
0.000	240.000	22.659	0.457	100.000	80.000	17.019	-0.459
0.000	235.000	21.523	0.268	100.000	85.000	17.038	-0.448
0.000	230.000	20.590	0.259	100.000	90.000	17.660	-0.422
0.000	225.000	20.068	0.183	100.000	95.000	18.054	-0.437
0.000	220.000	19.683	-0.020	100.000	100.000	16.241	-0.477
0.000	215.000	19.427	-0.152	100.000	105.000	16.086	-0.442
0.000	210.000	19.216	-0.134	100.000	110.000	15.756	-0.424
0.000	205.000	18.969	-0.126	100.000	115.000	16.076	-0.356
0.000	200.000	18.640	-0.189	100.000	120.000	16.598	-0.350
0.000	195.000	19.024	-0.198	100.000	125.000	16.854	-0.398
0.000	190.000	19.207	-0.238	100.000	130.000	16.415	-0.325
0.000	185.000	19.052	-0.253	100.000	135.000	15.628	-0.264
0.000	180.000	18.612	-0.266	100.000	140.000	15.353	-0.277
0.000	175.000	18.750	-0.244	100.000	145.000	15.692	-0.266
0.000	170.000	19.857	-0.251	100.000	150.000	16.104	-0.404
0.000	165.000	20.123	-0.205	100.000	155.000	16.570	-0.407
0.000	160.000	19.711	-0.090	100.000	160.000	16.589	-0.380
0.000	155.000	19.509	-0.036	100.000	165.000	16.113	-0.422
0.000	150.000	19.418	-0.174	100.000	170.000	15.976	-0.292
0.000	145.000	19.198	-0.310	100.000	175.000	16.204	-0.422
0.000	140.000	18.539	-0.290	100.000	180.000	16.323	-0.389
0.000	135.000	18.274	-0.288	100.000	185.000	16.186	-0.349
0.000	130.000	18.915	-0.299	100.000	190.000	15.527	-0.400
0.000	125.000	18.905	-0.306	100.000	195.000	15.490	-0.374
0.000	120.000	19.061	-0.090	100.000	200.000	15.756	-0.354
0.000	115.000	18.658	-0.038	100.000	205.000	15.802	-0.395
0.000	110.000	18.915	-0.325	100.000	210.000	15.820	-0.407
0.000	105.000	19.555	-0.288	100.000	215.000	15.747	-0.365
0.000	100.000	20.260	-0.018	100.000	220.000	15.719	-0.373
0.000	95.000	22.531	0.659	100.000	225.000	15.820	-0.312
0.000	90.000	25.268	-0.367	100.000	230.000	15.765	-0.317
0.000	85.000	7.168	-18.719	100.000	235.000	15.719	-0.361
0.000	80.000	4.037	-3.748	100.000	240.000	15.856	-0.361
0.000	75.000	3.488	-15.919	100.000	245.000	16.122	-0.442
0.000	70.000	15.097	-9.115	100.000	250.000	15.729	-0.382
0.000	65.000	21.240	1.378	100.000	255.000	15.042	-0.453
0.000	60.000	19.116	0.369	100.000	260.000	15.170	-0.330
0.000	55.000	18.384	-0.507	100.000	265.000	15.472	-0.273
0.000	50.000	19.042	-0.400	100.000	270.000	16.030	-0.286
0.000	45.000	18.878	-0.418	100.000	275.000	16.434	-0.321
0.000	40.000	19.345	-0.531	100.000	280.000	16.470	-0.264
0.000	35.000	19.162	-0.365	100.000	285.000	16.278	-0.310
0.000	30.000	18.722	-0.382	100.000	290.000	16.296	-0.227
0.000	25.000	18.741	-0.407	100.000	295.000	16.396	-0.222
0.000	20.000	18.878	-0.409	100.000	300.000	16.635	0.172
0.000	15.000	18.768	-0.430	LINE 200			
0.000	10.000	18.493	-0.440	200.000	300.000	13.760	-0.497
0.000	5.000	18.567	-0.365	200.000	295.000	13.788	-0.527
0.000	0.000	19.006	-0.413	200.000	290.000	14.300	-0.367
LINE 100				200.000	285.000	14.602	-0.400
100.000	0.000	17.559	-0.501	200.000	280.000	14.272	-0.376
100.000	5.000	17.358	-0.558	200.000	275.000	14.236	-0.384
100.000	10.000	17.028	-0.527	200.000	270.000	14.263	-0.418

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
200.000	265.000	14.245	-0.343	300.000	55.000	15.884	-0.464
200.000	260.000	14.199	-0.246	300.000	60.000	15.792	-0.461
200.000	255.000	14.566	-0.338	300.000	65.000	15.811	-0.424
200.000	250.000	14.236	-0.273	300.000	70.000	15.738	-0.444
200.000	245.000	13.678	-0.306	300.000	75.000	15.838	-0.433
200.000	240.000	13.513	-0.319	300.000	80.000	15.692	-0.424
200.000	235.000	13.614	-0.314	300.000	85.000	15.051	-0.413
200.000	230.000	13.741	-0.354	300.000	90.000	14.493	-0.273
200.000	225.000	13.879	-0.312	300.000	95.000	14.611	-0.244
200.000	220.000	14.080	-0.385	300.000	100.000	14.859	0.055
200.000	215.000	14.016	-0.463	300.000	105.000	14.465	-0.068
200.000	210.000	13.962	-0.450	300.000	110.000	14.291	-0.369
200.000	205.000	14.071	-0.437	300.000	115.000	14.392	-0.374
200.000	200.000	14.154	-0.196	300.000	120.000	14.703	-0.420
200.000	195.000	14.181	-0.218	300.000	125.000	15.097	-0.472
200.000	190.000	14.272	-0.384	300.000	130.000	15.179	-0.426
200.000	185.000	14.291	-0.474	300.000	135.000	15.087	-0.488
200.000	180.000	14.373	-0.380	300.000	140.000	14.694	-0.466
200.000	175.000	14.831	-0.382	300.000	145.000	14.236	-0.229
200.000	170.000	14.996	-0.284	300.000	150.000	14.383	-0.319
200.000	165.000	15.408	-0.253	300.000	155.000	14.850	-0.354
200.000	160.000	15.087	-0.464	300.000	160.000	14.401	-0.134
200.000	155.000	14.602	0.220	300.000	165.000	13.558	-0.332
200.000	150.000	14.071	-0.169	300.000	170.000	13.732	-0.413
200.000	145.000	14.364	-0.518	300.000	175.000	13.971	-0.196
200.000	140.000	14.685	-0.422	300.000	180.000	14.346	-0.308
200.000	135.000	14.895	-0.374	300.000	185.000	14.493	-0.391
200.000	130.000	15.087	-0.453	300.000	190.000	14.566	-0.382
200.000	125.000	14.950	-0.406	300.000	195.000	14.758	-0.325
200.000	120.000	14.446	-0.442	300.000	200.000	14.657	-0.327
200.000	115.000	13.659	-0.475	300.000	205.000	14.602	-0.284
200.000	110.000	13.623	-0.466	300.000	210.000	14.428	-0.236
200.000	105.000	13.806	-0.352	300.000	215.000	14.328	-0.246
200.000	100.000	13.915	0.341	300.000	220.000	14.181	-0.288
200.000	95.000	14.163	-0.172	300.000	225.000	14.502	-0.323
200.000	90.000	14.346	-0.393	300.000	230.000	14.803	-0.305
200.000	85.000	14.602	-0.435	300.000	235.000	14.730	-0.367
200.000	80.000	15.033	-0.431	300.000	240.000	14.831	-0.350
200.000	75.000	15.637	-0.038	300.000	245.000	14.895	-0.264
200.000	70.000	15.865	0.157	300.000	250.000	15.097	-0.417
200.000	65.000	16.241	-0.227	300.000	255.000	15.142	-0.418
200.000	60.000	16.296	-0.378	300.000	260.000	15.060	-0.450
200.000	55.000	16.067	-0.385	300.000	265.000	15.261	-0.415
200.000	50.000	16.269	-0.152	300.000	270.000	15.518	-0.430
200.000	45.000	16.845	-0.413	300.000	275.000	15.573	-0.463
200.000	40.000	17.120	-0.431	300.000	280.000	15.618	-0.486
200.000	35.000	17.367	-0.409	300.000	285.000	15.618	-0.430
200.000	30.000	17.322	-0.444	300.000	290.000	15.564	-0.468
200.000	25.000	17.166	-0.527	300.000	295.000	15.682	-0.501
200.000	20.000	16.626	-0.499	300.000	300.000	15.435	-0.450
200.000	15.000	16.653	-0.446	LINE 400			
200.000	10.000	17.532	-0.387	400.000	250.000	14.428	-0.439
200.000	5.000	17.459	-0.345	400.000	245.000	14.703	-0.428
200.000	0.000	16.278	-0.455	400.000	240.000	14.895	-0.433
LINE 300				400.000	235.000	14.977	-0.440
300.000	0.000	16.744	-0.510	400.000	230.000	15.124	-0.486
300.000	5.000	16.726	-0.483	400.000	225.000	15.307	-0.450
300.000	10.000	16.690	-0.463	400.000	220.000	15.390	-0.404
300.000	15.000	16.690	-0.398	400.000	215.000	15.481	-0.448
300.000	20.000	16.772	-0.339	400.000	210.000	15.536	-0.442
300.000	25.000	16.717	-0.290	400.000	205.000	15.555	-0.464
300.000	30.000	16.708	-0.406	400.000	200.000	15.600	-0.554
300.000	35.000	16.552	-0.420	400.000	195.000	15.664	-0.521
300.000	40.000	16.744	-0.466	400.000	190.000	15.719	-0.497
300.000	45.000	16.735	-0.494	400.000	185.000	15.847	-0.523
300.000	50.000	16.232	-0.496	400.000	180.000	16.067	-0.547

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
400.000	175.000	16.250	-0.474	500.000	145.000	15.976	-0.494
400.000	170.000	16.186	-0.481	500.000	150.000	15.225	-0.534
400.000	165.000	15.792	-0.483	500.000	155.000	15.381	-0.591
400.000	160.000	15.865	-0.497	500.000	160.000	15.573	-0.477
400.000	155.000	16.086	-0.534	500.000	165.000	15.802	-0.406
400.000	150.000	15.948	-0.481	500.000	170.000	15.729	-0.512
400.000	145.000	16.113	-0.424	500.000	175.000	15.802	-0.542
400.000	140.000	16.653	-0.218	500.000	180.000	15.802	-0.356
400.000	135.000	16.781	-0.040	500.000	185.000	15.628	-0.339
400.000	130.000	16.168	-0.415	500.000	190.000	14.794	-0.312
400.000	125.000	15.618	-0.494	500.000	195.000	14.502	-0.413
400.000	120.000	15.325	-0.483	500.000	200.000	15.033	-0.378
400.000	115.000	15.325	-0.483	500.000	205.000	15.289	-0.486
400.000	110.000	15.454	-0.488	500.000	210.000	14.831	-0.472
400.000	105.000	15.499	-0.117	500.000	215.000	14.502	-0.321
400.000	100.000	15.518	-0.033	500.000	220.000	14.309	-0.297
400.000	95.000	15.344	-0.288	500.000	225.000	14.483	0.749
400.000	90.000	15.170	-0.288	500.000	230.000	13.806	0.532
400.000	85.000	15.124	-0.056	500.000	235.000	13.687	-0.380
400.000	80.000	14.630	-0.053	500.000	240.000	14.071	-0.101
400.000	75.000	14.859	-0.435	500.000	245.000	14.154	-0.075
400.000	70.000	14.932	-0.442	500.000	250.000	14.062	-0.305
400.000	65.000	15.142	-0.428				
400.000	60.000	14.996	-0.404	LINE 0: SEAD-24			
400.000	55.000	14.950	-0.404	0.000	0.000	17.752	1.012
400.000	50.000	14.941	-0.369	0.000	5.000	17.651	0.665
400.000	45.000	14.831	0.573	0.000	10.000	17.376	0.711
400.000	40.000	14.639	0.514	0.000	15.000	16.965	2.098
400.000	35.000	14.712	0.593	0.000	20.000	16.598	0.915
400.000	30.000	14.556	0.022	0.000	25.000	16.241	1.152
400.000	25.000	14.364	-0.308	0.000	30.000	16.113	1.501
400.000	20.000	14.172	-0.271	0.000	35.000	16.818	2.862
400.000	15.000	14.044	-0.286	0.000	40.000	16.561	1.651
400.000	10.000	14.080	-0.374	0.000	45.000	16.186	0.376
400.000	5.000	14.254	-0.345	0.000	50.000	16.818	0.490
400.000	0.000	14.657	-0.328	0.000	55.000	16.909	0.413
LINE 500				0.000	60.000	16.873	0.532
500.000	0.000	14.639	-0.455	0.000	65.000	16.635	1.367
500.000	5.000	14.529	-0.442	0.000	70.000	16.305	1.607
500.000	10.000	14.272	-0.463	0.000	75.000	15.646	1.126
500.000	15.000	14.282	-0.437	0.000	80.000	15.820	1.039
500.000	20.000	14.428	-0.328	0.000	85.000	16.122	0.863
500.000	25.000	14.639	-0.402	0.000	90.000	15.966	0.701
500.000	30.000	14.383	-0.496	0.000	95.000	15.508	0.830
500.000	35.000	14.456	-0.496	0.000	100.000	14.950	0.705
500.000	40.000	14.758	-0.422	0.000	105.000	15.490	0.415
500.000	45.000	14.950	-0.464	0.000	110.000	15.903	0.558
500.000	50.000	15.252	-0.461	0.000	115.000	15.994	0.869
500.000	55.000	15.216	-0.464	0.000	120.000	15.921	1.286
500.000	60.000	15.115	-0.382	0.000	125.000	15.673	1.238
500.000	65.000	14.803	-0.459	0.000	130.000	15.912	0.859
500.000	70.000	14.968	-0.426	0.000	135.000	15.966	0.797
500.000	75.000	15.307	-0.433	0.000	140.000	16.021	0.709
500.000	80.000	15.618	-0.474	0.000	145.000	15.774	0.696
500.000	85.000	15.518	-0.426	0.000	150.000	16.296	0.606
500.000	90.000	15.271	-0.554	0.000	155.000	16.699	0.483
500.000	95.000	15.261	-0.534	0.000	160.000	16.461	0.417
500.000	100.000	15.106	-0.468	0.000	165.000	16.525	0.446
500.000	105.000	15.207	-0.519	0.000	170.000	16.671	0.672
500.000	110.000	14.950	-0.310	0.000	175.000	16.744	1.416
500.000	115.000	14.914	-0.479	0.000	180.000	16.351	1.813
500.000	120.000	15.014	-0.452	0.000	185.000	16.333	0.757
500.000	125.000	15.087	-0.514	0.000	190.000	16.443	0.663
500.000	130.000	15.325	-0.483	0.000	195.000	16.617	0.611
500.000	135.000	15.710	-0.540	0.000	200.000	16.589	0.668
500.000	140.000	15.921	-0.553	0.000	205.000	16.763	0.769

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
0.000	210.000	16.598	1.130	10.000	370.000	17.706	0.567
0.000	215.000	16.149	1.356	10.000	365.000	17.953	0.538
0.000	220.000	16.269	0.692	10.000	360.000	17.953	0.518
0.000	225.000	16.470	0.558	10.000	355.000	17.724	0.497
0.000	230.000	16.287	0.575	10.000	350.000	17.294	0.424
0.000	235.000	16.095	0.466	10.000	345.000	16.992	0.534
0.000	240.000	15.976	0.663	10.000	340.000	17.129	0.516
0.000	245.000	15.985	0.716	10.000	335.000	17.541	0.497
0.000	250.000	16.168	0.470	10.000	330.000	17.743	0.430
0.000	255.000	16.305	0.823	10.000	325.000	17.596	0.470
0.000	260.000	15.499	1.223	10.000	320.000	17.706	0.389
0.000	265.000	16.131	0.905	10.000	315.000	17.679	0.354
0.000	270.000	16.131	0.578	10.000	310.000	17.459	0.396
0.000	275.000	16.681	0.483	10.000	305.000	17.111	0.727
0.000	280.000	17.083	0.461	10.000	300.000	17.788	0.602
0.000	285.000	16.882	0.523	10.000	295.000	17.990	0.532
0.000	290.000	16.809	0.509	10.000	290.000	18.228	0.486
0.000	295.000	17.111	0.411	10.000	285.000	18.063	0.554
0.000	300.000	17.614	0.422	10.000	280.000	17.376	0.619
0.000	305.000	17.871	1.797	10.000	275.000	17.468	0.564
0.000	310.000	17.202	1.504	10.000	270.000	18.118	0.488
0.000	315.000	17.221	0.654	10.000	265.000	17.806	0.468
0.000	320.000	18.210	0.518	10.000	260.000	16.983	0.558
0.000	325.000	18.960	0.626	10.000	255.000	16.626	0.824
0.000	330.000	18.951	0.564	10.000	250.000	16.708	0.452
0.000	335.000	18.255	0.521	10.000	245.000	16.735	0.418
0.000	340.000	18.008	0.521	10.000	240.000	16.369	0.523
0.000	345.000	17.999	0.457	10.000	235.000	17.010	0.481
0.000	350.000	17.129	0.442	10.000	230.000	17.047	0.455
0.000	355.000	17.422	0.430	10.000	225.000	16.589	0.711
0.000	360.000	17.092	0.463	10.000	220.000	16.708	0.536
0.000	365.000	17.074	0.450	10.000	215.000	16.543	0.391
0.000	370.000	16.543	0.485	10.000	210.000	16.580	0.328
0.000	375.000	16.644	0.549	10.000	205.000	16.873	0.527
0.000	380.000	16.653	0.652	10.000	200.000	17.477	0.424
0.000	385.000	16.662	0.604	10.000	195.000	17.523	0.450
0.000	390.000	16.818	0.760	10.000	190.000	17.505	0.420
0.000	395.000	16.269	1.299	10.000	185.000	17.001	0.486
0.000	400.000	15.792	0.992	10.000	180.000	17.001	0.711
0.000	405.000	16.039	0.626	10.000	175.000	16.873	0.854
0.000	410.000	16.095	0.896	10.000	170.000	17.275	0.597
0.000	415.000	16.076	1.102	10.000	165.000	17.157	0.694
0.000	420.000	15.701	1.422	10.000	160.000	16.974	0.610
0.000	425.000	15.536	1.302	10.000	155.000	16.918	0.597
0.000	430.000	15.939	1.021	10.000	150.000	16.891	0.913
0.000	435.000	16.241	0.689	10.000	145.000	16.177	1.304
0.000	440.000	16.113	0.915	10.000	140.000	16.406	0.981
0.000	445.000	17.212	0.955	10.000	135.000	16.671	0.775
0.000	450.000	18.374	0.903	10.000	130.000	16.195	0.712
LINE 10				10.000	125.000	15.555	0.424
10.000	450.000	17.413	0.444	10.000	120.000	15.930	0.990
10.000	445.000	17.541	0.417	10.000	115.000	16.177	0.832
10.000	440.000	16.927	0.564	10.000	110.000	17.019	0.786
10.000	435.000	16.204	0.828	10.000	105.000	16.534	0.622
10.000	430.000	16.369	0.810	10.000	100.000	16.598	0.439
10.000	425.000	16.497	0.942	10.000	95.000	16.992	0.466
10.000	420.000	16.351	0.819	10.000	90.000	17.505	0.615
10.000	415.000	16.287	0.661	10.000	85.000	17.761	0.617
10.000	410.000	16.250	0.852	10.000	80.000	17.806	0.610
10.000	405.000	16.387	1.265	10.000	75.000	17.212	0.687
10.000	400.000	16.360	0.872	10.000	70.000	16.369	0.679
10.000	395.000	16.516	0.795	10.000	65.000	16.443	0.661
10.000	390.000	16.891	0.959	10.000	60.000	16.735	0.683
10.000	385.000	16.662	1.076	10.000	55.000	17.212	0.633
10.000	380.000	16.763	1.258	10.000	50.000	17.322	0.507
10.000	375.000	17.331	0.659	10.000	45.000	17.459	0.448

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
10.000	40.000	17.294	0.503	20.000	280.000	16.305	0.578
10.000	35.000	17.193	0.474	20.000	285.000	16.131	0.551
10.000	30.000	17.541	0.707	20.000	290.000	16.168	0.716
10.000	25.000	17.047	0.824	20.000	295.000	16.360	0.679
10.000	20.000	17.101	0.668	20.000	300.000	16.260	0.872
10.000	15.000	17.175	0.617	20.000	305.000	16.159	0.690
10.000	10.000	17.157	0.532	20.000	310.000	15.893	0.821
10.000	5.000	17.257	0.543	20.000	315.000	15.555	1.098
10.000	0.000	18.100	0.571	20.000	320.000	15.609	0.872
LINE 20				20.000	325.000	16.241	0.834
20.000	0.000	18.502	0.378	20.000	330.000	17.028	0.711
20.000	5.000	18.567	0.382	20.000	335.000	16.965	0.738
20.000	10.000	18.210	0.382	20.000	340.000	17.550	0.600
20.000	15.000	17.111	0.632	20.000	345.000	17.788	0.501
20.000	20.000	17.010	0.549	20.000	350.000	17.935	0.450
20.000	25.000	16.918	0.509	20.000	355.000	17.376	0.580
20.000	30.000	16.909	1.651	20.000	360.000	17.449	0.815
20.000	35.000	17.019	1.104	20.000	365.000	17.120	0.766
20.000	40.000	17.148	0.442	20.000	370.000	17.477	0.832
20.000	45.000	17.239	0.564	20.000	375.000	17.541	1.058
20.000	50.000	17.230	0.648	20.000	380.000	17.898	0.865
20.000	55.000	17.221	0.485	20.000	385.000	18.292	0.819
20.000	60.000	16.809	0.571	20.000	390.000	17.843	0.962
20.000	65.000	17.212	0.459	20.000	395.000	17.065	1.039
20.000	70.000	18.045	1.536	20.000	400.000	17.157	1.137
20.000	75.000	17.651	1.912	20.000	405.000	17.440	0.727
20.000	80.000	17.514	0.964	20.000	410.000	17.569	0.852
20.000	85.000	17.413	0.779	20.000	415.000	16.992	1.069
20.000	90.000	17.816	0.516	20.000	420.000	16.617	0.779
20.000	95.000	17.578	0.531	20.000	425.000	16.461	0.907
20.000	100.000	17.166	0.472	20.000	430.000	17.083	0.784
20.000	105.000	17.404	0.745	20.000	435.000	17.129	0.624
20.000	110.000	17.340	0.909	20.000	440.000	16.644	0.687
20.000	115.000	17.486	0.940	20.000	445.000	16.260	0.913
20.000	120.000	17.660	0.703	20.000	450.000	16.900	0.639
20.000	125.000	17.660	0.598	LINE 30			
20.000	130.000	17.431	0.604	30.000	450.000	16.644	0.475
20.000	135.000	17.623	0.670	30.000	445.000	16.681	0.424
20.000	140.000	17.541	0.707	30.000	440.000	16.424	0.457
20.000	145.000	16.983	0.567	30.000	435.000	16.378	0.486
20.000	150.000	16.543	0.648	30.000	430.000	16.470	0.490
20.000	155.000	16.845	0.828	30.000	425.000	16.507	0.668
20.000	160.000	16.681	0.655	30.000	420.000	16.735	0.722
20.000	165.000	16.443	0.536	30.000	415.000	16.927	0.564
20.000	170.000	16.791	0.628	30.000	410.000	16.983	0.553
20.000	175.000	17.019	0.946	30.000	405.000	17.111	0.564
20.000	180.000	16.177	0.968	30.000	400.000	18.411	0.514
20.000	185.000	15.957	0.865	30.000	395.000	18.402	0.523
20.000	190.000	16.122	0.745	30.000	390.000	17.935	0.422
20.000	195.000	16.626	0.602	30.000	385.000	17.587	0.479
20.000	200.000	16.937	0.588	30.000	380.000	18.365	0.402
20.000	205.000	16.818	0.576	30.000	375.000	18.667	0.435
20.000	210.000	17.038	0.499	30.000	370.000	17.916	0.437
20.000	215.000	16.918	0.514	30.000	365.000	17.111	0.437
20.000	220.000	16.195	0.571	30.000	360.000	17.761	0.361
20.000	225.000	16.223	0.488	30.000	355.000	18.127	0.279
20.000	230.000	16.260	0.512	30.000	350.000	18.676	0.288
20.000	235.000	15.591	0.683	30.000	345.000	18.868	0.259
20.000	240.000	16.287	0.525	30.000	340.000	20.517	0.310
20.000	245.000	16.067	0.588	30.000	335.000	22.384	0.334
20.000	250.000	15.490	0.667	30.000	330.000	20.856	0.242
20.000	255.000	15.903	0.540	30.000	325.000	18.219	0.327
20.000	260.000	16.378	0.545	30.000	320.000	16.927	0.437
20.000	265.000	16.580	0.519	30.000	315.000	16.415	0.380
20.000	270.000	16.369	0.611	30.000	310.000	16.735	0.319
20.000	275.000	16.424	0.589	30.000	305.000	16.744	0.332

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
30.000	300.000	16.754	0.330	40.000	20.000	16.937	0.497
30.000	295.000	16.818	0.317	40.000	25.000	16.927	0.477
30.000	290.000	16.516	0.457	40.000	30.000	16.296	0.608
30.000	285.000	16.443	0.431	40.000	35.000	16.021	0.668
30.000	280.000	16.461	0.464	40.000	40.000	16.223	0.659
30.000	275.000	16.287	0.499	40.000	45.000	16.534	0.569
30.000	270.000	16.223	0.455	40.000	50.000	16.800	0.459
30.000	265.000	15.618	0.729	40.000	55.000	17.148	0.360
30.000	260.000	15.783	0.547	LINE 50			
30.000	255.000	15.747	0.560	50.000	0.000	17.541	0.490
30.000	250.000	15.454	0.365	50.000	5.000	17.459	0.505
30.000	245.000	15.463	0.332	50.000	10.000	17.239	1.128
30.000	240.000	15.829	0.384	50.000	15.000	17.092	0.672
30.000	235.000	16.113	0.356	50.000	20.000	16.827	0.562
30.000	230.000	16.149	0.257	50.000	25.000	16.534	0.519
30.000	225.000	15.930	0.279	50.000	30.000	16.140	0.576
30.000	220.000	15.966	0.457	50.000	35.000	16.744	0.582
30.000	215.000	15.756	0.407	50.000	40.000	16.937	0.793
30.000	210.000	15.829	0.306	LINE 60			
30.000	205.000	16.461	0.303	60.000	0.000	17.669	0.420
30.000	200.000	16.250	0.356	60.000	5.000	17.916	0.430
30.000	195.000	16.296	0.330	60.000	10.000	17.367	0.637
30.000	190.000	15.985	0.404	60.000	15.000	17.239	0.418
30.000	185.000	16.039	0.387	60.000	20.000	17.083	0.545
30.000	180.000	16.021	0.330	60.000	25.000	16.296	0.597
30.000	175.000	15.957	0.349	60.000	30.000	15.838	0.501
30.000	170.000	16.260	0.339	60.000	35.000	15.921	0.565
30.000	165.000	16.241	0.281	60.000	40.000	16.845	0.799
30.000	160.000	16.058	0.339	LINE 70			
30.000	155.000	16.067	0.327	70.000	0.000	17.953	0.396
30.000	150.000	16.076	0.319	70.000	5.000	18.163	0.430
30.000	145.000	16.195	0.319	70.000	10.000	18.163	0.663
30.000	140.000	16.204	0.338	70.000	15.000	17.266	0.764
30.000	135.000	16.479	0.373	70.000	20.000	17.331	0.720
30.000	130.000	16.534	0.369	70.000	25.000	17.486	0.632
30.000	125.000	16.250	0.387	70.000	30.000	16.626	0.518
30.000	120.000	16.342	0.384	70.000	35.000	15.994	0.558
30.000	115.000	16.479	0.363	LINE 80			
30.000	110.000	16.333	0.360	80.000	0.000	17.422	0.564
30.000	105.000	16.333	0.339	80.000	5.000	17.358	0.573
30.000	100.000	16.241	0.259	80.000	10.000	17.715	0.584
30.000	95.000	16.323	0.301	80.000	15.000	17.459	0.584
30.000	90.000	16.095	0.384	80.000	20.000	17.532	0.782
30.000	85.000	16.095	0.376	80.000	25.000	16.955	0.902
30.000	80.000	16.333	0.374	80.000	30.000	16.891	0.499
30.000	75.000	16.607	0.389	80.000	35.000	16.434	0.453
30.000	70.000	16.781	0.395	80.000	40.000	16.095	0.455
30.000	65.000	16.818	0.374	LINE 90			
30.000	60.000	16.699	0.417	90.000	0.000	17.523	0.497
30.000	55.000	16.223	0.435	90.000	5.000	17.248	0.461
30.000	50.000	16.626	0.415	90.000	10.000	17.559	0.442
30.000	45.000	16.726	0.418	90.000	15.000	17.853	0.463
30.000	40.000	16.626	0.483	90.000	20.000	17.679	0.442
30.000	35.000	16.992	0.431	90.000	25.000	17.724	0.529
30.000	30.000	16.909	0.507	90.000	30.000	17.596	0.488
30.000	25.000	16.260	0.474	90.000	35.000	17.239	0.430
30.000	20.000	16.039	0.444	90.000	40.000	15.930	1.098
30.000	15.000	16.406	0.440	LINE 100			
30.000	10.000	16.525	0.725	100.000	0.000	18.054	0.433
30.000	5.000	17.010	0.738	100.000	5.000	18.319	0.453
30.000	0.000	18.411	0.466	100.000	10.000	17.806	0.472
LINE 40				100.000	15.000	17.733	0.519
40.000	0.000	17.990	0.393	100.000	20.000	17.614	0.575
40.000	5.000	17.944	0.398	100.000	25.000	17.797	1.809
40.000	10.000	17.688	0.545	100.000	30.000	17.898	1.530
40.000	15.000	16.772	0.606	100.000	35.000	17.505	0.817

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
100.000	40.000	16.735	0.685	160.000	15.000	17.083	0.689
100.000	45.000	16.626	0.509	160.000	20.000	17.028	0.709
LINE 110				160.000	25.000	16.791	1.198
110.000	0.000	17.770	0.650	160.000	30.000	16.854	1.209
110.000	5.000	17.642	0.655	160.000	35.000	16.607	0.959
110.000	10.000	17.294	0.927	160.000	40.000	16.864	0.970
110.000	15.000	17.449	0.929	160.000	45.000	16.470	1.253
110.000	20.000	17.642	1.416	160.000	50.000	16.580	0.461
110.000	25.000	17.376	0.924	LINE 170			
110.000	30.000	17.129	0.814	170.000	0.000	17.514	0.395
110.000	35.000	17.559	1.111	170.000	5.000	17.770	0.422
110.000	40.000	17.376	0.610	170.000	10.000	17.834	0.474
110.000	45.000	16.387	0.463	170.000	15.000	17.340	0.505
110.000	50.000	16.434	0.532	170.000	20.000	16.937	0.564
LINE 120				170.000	25.000	17.376	0.516
120.000	0.000	17.623	0.417	170.000	30.000	17.889	0.466
120.000	5.000	17.660	0.433	170.000	35.000	17.724	0.448
120.000	10.000	17.853	0.437	170.000	40.000	17.275	0.589
120.000	15.000	17.797	0.652	170.000	45.000	17.065	0.801
120.000	20.000	17.916	0.764	170.000	50.000	16.260	0.622
120.000	25.000	17.816	0.632	170.000	55.000	16.744	0.475
120.000	30.000	17.422	0.551	LINE 180			
120.000	35.000	17.889	0.565	180.000	0.000	17.257	0.655
120.000	40.000	17.505	0.755	180.000	5.000	17.376	0.598
120.000	45.000	16.561	0.641	180.000	10.000	17.440	0.641
120.000	50.000	15.976	0.562	180.000	15.000	17.074	0.788
LINE 130				180.000	20.000	16.937	0.867
130.000	0.000	17.816	0.477	180.000	25.000	16.992	1.001
130.000	5.000	17.843	0.525	180.000	30.000	17.047	1.326
130.000	10.000	17.752	0.622	180.000	35.000	16.708	1.214
130.000	15.000	17.550	0.593	180.000	40.000	16.882	0.740
130.000	20.000	17.797	0.848	180.000	45.000	16.873	0.940
130.000	25.000	18.200	1.277	180.000	50.000	16.323	0.701
130.000	30.000	17.468	0.611	180.000	55.000	16.314	0.543
130.000	35.000	17.358	0.630	LINE 190			
130.000	40.000	18.246	0.716	190.000	0.000	16.992	0.341
130.000	45.000	17.505	0.663	190.000	5.000	17.120	0.327
130.000	50.000	16.772	0.654	190.000	10.000	17.019	0.643
LINE 140				190.000	15.000	16.918	0.576
140.000	0.000	17.440	0.440	190.000	20.000	17.120	0.714
140.000	5.000	17.788	0.455	190.000	25.000	17.184	0.650
140.000	10.000	17.669	0.448	190.000	30.000	17.166	0.485
140.000	15.000	17.367	0.468	190.000	35.000	17.486	0.578
140.000	20.000	16.946	0.611	190.000	40.000	17.587	0.459
140.000	25.000	16.909	0.764	190.000	45.000	17.926	0.683
140.000	30.000	17.505	0.745	190.000	50.000	17.358	0.622
140.000	35.000	17.733	0.802	190.000	55.000	16.443	0.463
140.000	40.000	17.358	0.802	190.000	60.000	16.406	0.409
140.000	45.000	16.095	0.830	LINE 200			
140.000	50.000	15.756	0.815	200.000	0.000	16.488	0.542
LINE 150				200.000	5.000	16.937	0.461
150.000	0.000	17.422	0.293	200.000	10.000	17.056	0.628
150.000	5.000	17.550	0.373	200.000	15.000	17.212	0.569
150.000	10.000	17.376	0.516	200.000	20.000	17.120	0.571
150.000	15.000	17.559	0.494	200.000	25.000	16.983	0.790
150.000	20.000	17.239	0.562	200.000	30.000	16.965	0.565
150.000	25.000	17.074	0.536	200.000	35.000	17.376	0.540
150.000	30.000	17.257	0.696	200.000	40.000	17.358	0.760
150.000	35.000	17.010	0.751	200.000	45.000	17.248	0.894
150.000	40.000	17.184	0.621	200.000	50.000	17.596	0.584
150.000	45.000	17.001	0.655	200.000	55.000	16.882	0.556
150.000	50.000	16.927	0.417	200.000	60.000	16.122	0.657
LINE 160				LINE 210			
160.000	0.000	16.818	0.534	210.000	0.000	16.946	0.736
160.000	5.000	17.047	0.553	210.000	5.000	17.092	0.742
160.000	10.000	17.138	0.692	210.000	10.000	17.120	1.236

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
210.000	15.000	17.193	1.455	250.000	25.000	16.845	0.927
210.000	20.000	17.239	0.856	250.000	30.000	16.717	0.707
210.000	25.000	17.523	0.802	250.000	35.000	17.294	0.751
210.000	30.000	17.440	0.797	250.000	40.000	17.578	0.768
210.000	35.000	17.761	0.845	250.000	45.000	17.559	0.916
210.000	40.000	17.862	0.731	250.000	50.000	17.578	0.788
210.000	45.000	18.036	0.648	250.000	55.000	18.027	0.672
210.000	50.000	18.145	0.810	250.000	60.000	17.120	0.824
210.000	55.000	17.660	0.565	250.000	65.000	16.644	0.909
210.000	60.000	16.781	0.604	250.000	70.000	16.800	0.922
210.000	65.000	16.561	0.667	250.000	75.000	16.809	0.593
LINE 220				LINE 260			
220.000	0.000	17.404	0.593	260.000	0.000	16.717	0.444
220.000	5.000	17.569	0.650	260.000	5.000	16.662	0.519
220.000	10.000	17.395	0.705	260.000	10.000	16.653	0.604
220.000	15.000	17.505	0.674	260.000	15.000	16.909	0.582
220.000	20.000	17.074	0.915	260.000	20.000	16.452	0.354
220.000	25.000	17.532	0.869	260.000	25.000	16.864	0.378
220.000	30.000	16.681	0.817	260.000	30.000	17.239	0.569
220.000	35.000	16.836	1.023	260.000	35.000	17.101	0.812
220.000	40.000	17.129	1.003	260.000	40.000	16.927	1.462
220.000	45.000	17.376	0.751	260.000	45.000	16.909	1.534
220.000	50.000	17.916	0.731	260.000	50.000	17.010	0.635
220.000	55.000	17.788	0.687	260.000	55.000	17.184	0.606
220.000	60.000	17.184	0.510	260.000	60.000	17.157	0.532
220.000	65.000	16.635	0.536	260.000	65.000	17.101	0.453
220.000	70.000	17.248	0.509	260.000	70.000	16.690	0.485
LINE 230				260.000	75.000	16.351	0.490
230.000	0.000	17.294	1.240	LINE 40			
230.000	5.000	17.303	0.716	40.000	450.000	16.726	0.529
230.000	10.000	17.440	0.845	40.000	445.000	16.662	0.540
230.000	15.000	17.761	1.155	40.000	440.000	16.131	0.562
230.000	20.000	17.679	1.482	40.000	435.000	16.213	0.703
230.000	25.000	17.532	1.582	40.000	430.000	16.681	0.819
230.000	30.000	17.569	0.997	40.000	425.000	16.607	0.870
230.000	35.000	17.569	0.255	40.000	420.000	16.818	0.725
230.000	40.000	17.999	0.336	40.000	415.000	17.239	0.564
230.000	45.000	18.200	0.477	40.000	410.000	17.175	0.602
230.000	50.000	18.585	0.749	40.000	405.000	17.340	0.646
230.000	55.000	18.640	0.542	40.000	400.000	17.303	1.265
230.000	60.000	17.916	0.486	40.000	395.000	17.193	1.378
230.000	65.000	16.772	0.613	40.000	390.000	17.779	0.819
230.000	70.000	17.312	0.464	40.000	385.000	17.962	0.505
LINE 240				40.000	380.000	18.054	0.488
240.000	0.000	17.505	0.374	40.000	375.000	18.027	0.497
240.000	5.000	17.514	0.374	40.000	370.000	17.733	0.586
240.000	10.000	17.449	0.505	LINE 50			
240.000	15.000	17.413	0.709	50.000	450.000	16.772	0.573
240.000	20.000	17.367	0.646	50.000	445.000	17.038	0.578
240.000	25.000	17.688	0.521	50.000	440.000	17.101	0.582
240.000	30.000	17.779	0.598	50.000	435.000	16.626	0.554
240.000	35.000	17.486	0.727	50.000	430.000	16.223	0.538
240.000	40.000	18.063	0.740	50.000	425.000	16.086	0.543
240.000	45.000	18.384	0.740	50.000	420.000	16.561	0.543
240.000	50.000	18.347	0.652	50.000	415.000	16.983	0.534
240.000	55.000	18.658	0.613	50.000	410.000	17.322	0.534
240.000	60.000	18.127	0.670	50.000	405.000	17.651	0.578
240.000	65.000	17.001	0.490	50.000	400.000	17.779	0.751
240.000	70.000	16.589	0.565	50.000	395.000	17.715	0.709
240.000	75.000	17.340	0.417	50.000	390.000	17.733	0.505
LINE 250				50.000	385.000	17.944	0.516
250.000	0.000	16.927	0.633	50.000	380.000	17.990	0.497
250.000	5.000	16.974	0.446	50.000	375.000	17.953	0.503
250.000	10.000	16.827	0.422	50.000	370.000	17.496	0.496
250.000	15.000	17.028	0.446	50.000	365.000	17.257	0.413
250.000	20.000	17.413	0.644	50.000	360.000	16.974	0.538



Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
50.000	355.000	17.413	0.485	70.000	345.000	17.825	0.455
50.000	350.000	21.432	0.301	70.000	340.000	18.393	0.595
LINE 60				70.000	335.000	17.990	0.553
60.000	250.000	15.921	0.442	70.000	330.000	16.909	0.593
60.000	255.000	15.682	0.426	70.000	325.000	16.488	0.608
60.000	260.000	15.884	0.474	70.000	320.000	16.424	1.034
60.000	265.000	15.939	0.655	70.000	315.000	16.232	1.324
60.000	270.000	15.802	0.735	70.000	310.000	16.396	0.900
60.000	275.000	15.738	0.576	70.000	305.000	15.573	0.707
60.000	280.000	15.893	0.586	70.000	300.000	17.010	0.486
60.000	285.000	16.086	0.588	70.000	295.000	16.900	0.560
60.000	290.000	16.049	0.470	70.000	290.000	16.213	0.497
60.000	295.000	15.903	0.545	70.000	285.000	15.893	0.464
60.000	300.000	16.168	0.562	70.000	280.000	16.260	0.628
60.000	305.000	16.287	0.578	70.000	275.000	16.012	0.643
60.000	310.000	16.360	0.670	70.000	270.000	16.122	0.428
60.000	315.000	16.333	0.654	70.000	265.000	16.186	0.426
60.000	320.000	16.195	0.591	70.000	260.000	15.856	0.494
60.000	325.000	16.342	0.643	70.000	255.000	15.802	0.486
60.000	330.000	16.269	0.663	70.000	250.000	15.142	0.779
60.000	335.000	16.470	0.643	70.000	245.000	15.234	0.639
60.000	340.000	16.836	0.576	70.000	240.000	15.545	0.705
60.000	345.000	16.360	0.391	70.000	235.000	15.673	0.655
60.000	350.000	16.507	0.635	70.000	230.000	15.426	0.665
60.000	355.000	16.763	0.562	70.000	225.000	15.198	0.521
60.000	360.000	17.477	0.613	70.000	220.000	15.261	0.466
60.000	365.000	17.953	0.696	70.000	215.000	15.198	0.516
60.000	370.000	17.001	0.650	70.000	210.000	15.445	0.562
60.000	375.000	16.873	0.639	70.000	205.000	15.893	0.494
60.000	380.000	17.486	0.558	70.000	200.000	15.646	0.426
60.000	385.000	17.550	0.597	70.000	195.000	15.957	0.542
60.000	390.000	17.285	0.648	70.000	190.000	16.406	0.621
60.000	395.000	17.129	0.775	70.000	185.000	16.479	0.716
60.000	400.000	17.532	0.681	70.000	180.000	16.607	0.615
60.000	405.000	17.614	0.604	70.000	175.000	16.406	0.677
60.000	410.000	17.349	0.701	70.000	170.000	15.985	0.681
60.000	415.000	17.184	0.600	70.000	165.000	16.086	0.496
60.000	420.000	16.864	0.598	70.000	160.000	16.223	0.532
60.000	425.000	16.406	0.617	70.000	155.000	16.168	0.523
60.000	430.000	16.250	0.755	70.000	150.000	16.644	0.542
60.000	435.000	16.250	0.571	70.000	145.000	16.974	0.424
60.000	440.000	16.387	0.630	70.000	140.000	16.653	0.543
60.000	445.000	16.278	0.771	70.000	135.000	16.415	0.536
60.000	450.000	16.580	0.648	70.000	130.000	16.763	0.464
LINE 70				70.000	125.000	16.827	0.470
70.000	450.000	15.994	0.486	70.000	120.000	16.543	0.457
70.000	445.000	16.131	0.507	70.000	115.000	16.260	0.668
70.000	440.000	16.598	0.588	70.000	110.000	16.351	0.677
70.000	435.000	16.836	0.575	70.000	105.000	16.149	0.420
70.000	430.000	16.443	0.547	70.000	100.000	16.314	0.464
70.000	425.000	16.223	0.580	LINE 80			
70.000	420.000	16.159	0.545	80.000	80.000	16.415	0.604
70.000	415.000	16.424	0.490	80.000	85.000	16.067	0.551
70.000	410.000	16.735	0.523	80.000	90.000	16.076	0.497
70.000	405.000	17.138	0.580	80.000	95.000	16.223	0.733
70.000	400.000	17.550	0.549	80.000	100.000	17.239	0.442
70.000	395.000	17.770	0.611	80.000	105.000	17.065	0.531
70.000	390.000	17.449	0.600	80.000	110.000	17.303	0.595
70.000	385.000	17.047	0.711	80.000	115.000	17.779	0.547
70.000	380.000	16.681	0.893	80.000	120.000	17.578	0.455
70.000	375.000	17.422	0.512	80.000	125.000	17.111	0.773
70.000	370.000	17.468	0.841	80.000	130.000	16.854	1.095
70.000	365.000	17.578	0.619	80.000	135.000	17.065	0.768
70.000	360.000	17.962	0.567	80.000	140.000	17.010	0.586
70.000	355.000	17.770	0.595	80.000	145.000	17.065	0.742
70.000	350.000	17.266	0.499	80.000	150.000	16.946	0.845

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
80.000	155.000	16.845	1.176	90.000	425.000	15.646	0.626
80.000	160.000	16.800	0.874	90.000	420.000	15.646	0.621
80.000	165.000	17.266	0.665	90.000	415.000	16.159	1.627
80.000	170.000	17.312	0.679	90.000	410.000	16.269	1.510
80.000	175.000	16.791	0.769	90.000	405.000	16.012	0.933
80.000	180.000	16.488	0.571	90.000	400.000	16.497	0.687
80.000	185.000	16.387	0.529	90.000	395.000	16.891	0.611
80.000	190.000	16.140	0.905	90.000	390.000	16.800	0.657
80.000	195.000	16.278	0.608	90.000	385.000	16.351	0.622
80.000	200.000	15.856	0.505	90.000	380.000	16.314	0.516
80.000	205.000	15.518	0.580	90.000	375.000	16.406	0.556
80.000	210.000	15.820	0.589	90.000	370.000	16.461	0.674
80.000	215.000	16.159	0.565	90.000	365.000	17.028	0.657
80.000	220.000	16.323	0.497	90.000	360.000	17.477	0.718
80.000	225.000	16.159	0.576	90.000	355.000	17.092	0.828
80.000	230.000	16.039	0.606	90.000	350.000	17.257	0.700
80.000	235.000	16.168	0.595	90.000	345.000	17.358	0.667
80.000	240.000	16.177	0.554	90.000	340.000	16.965	0.661
80.000	245.000	16.039	0.512	90.000	335.000	16.809	0.635
80.000	250.000	16.131	0.543	90.000	330.000	17.019	0.690
80.000	255.000	15.985	0.542	90.000	325.000	17.038	0.665
80.000	260.000	15.939	0.503	90.000	320.000	16.845	0.501
80.000	265.000	16.177	0.543	90.000	315.000	16.681	0.440
80.000	270.000	16.626	0.540	90.000	310.000	16.525	0.510
80.000	275.000	16.351	0.534	90.000	305.000	16.598	0.534
80.000	280.000	16.241	0.547	90.000	300.000	16.434	0.580
80.000	285.000	16.250	0.532	90.000	295.000	16.626	0.512
80.000	290.000	16.213	0.571	90.000	290.000	16.681	0.536
80.000	295.000	16.012	0.604	90.000	285.000	16.570	0.521
80.000	300.000	15.994	0.624	90.000	280.000	16.452	0.580
80.000	305.000	16.278	0.556	90.000	275.000	16.406	0.571
80.000	310.000	16.497	0.738	90.000	270.000	16.186	0.562
80.000	315.000	16.095	0.828	90.000	265.000	16.470	0.538
80.000	320.000	16.342	0.667	90.000	260.000	16.909	0.582
80.000	325.000	16.570	0.667	90.000	255.000	16.818	0.591
80.000	330.000	16.662	0.689	90.000	250.000	16.763	0.483
80.000	335.000	16.891	0.650	90.000	245.000	16.845	0.510
80.000	340.000	17.028	0.790	90.000	240.000	16.717	0.440
80.000	345.000	17.028	0.841	90.000	235.000	16.452	0.497
80.000	350.000	16.626	0.788	90.000	230.000	16.754	0.531
80.000	355.000	16.681	0.600	90.000	225.000	16.671	0.670
80.000	360.000	16.754	0.621	90.000	220.000	16.396	0.554
80.000	365.000	17.047	0.549	90.000	215.000	16.387	0.576
80.000	370.000	17.019	0.677	90.000	210.000	16.314	0.696
80.000	375.000	16.763	0.575	90.000	205.000	16.434	0.610
80.000	380.000	16.965	0.538	90.000	200.000	16.479	0.722
80.000	385.000	17.083	0.527	90.000	195.000	16.415	0.744
80.000	390.000	16.965	0.567	90.000	190.000	16.955	0.630
80.000	395.000	16.488	0.584	90.000	185.000	17.248	0.740
80.000	400.000	16.607	0.633	90.000	180.000	16.891	0.830
80.000	405.000	17.212	0.593	90.000	175.000	16.159	0.815
80.000	410.000	16.900	0.709	90.000	170.000	16.269	0.845
80.000	415.000	15.609	0.909	90.000	165.000	17.010	1.561
80.000	420.000	15.161	0.696	90.000	160.000	17.212	1.585
80.000	425.000	15.527	0.611	90.000	155.000	16.937	0.852
80.000	430.000	15.729	0.749	90.000	150.000	17.001	0.668
80.000	435.000	16.250	0.657	90.000	145.000	17.752	0.613
80.000	440.000	16.507	0.661	90.000	140.000	17.202	1.365
80.000	445.000	15.820	0.768	90.000	135.000	16.589	1.683
80.000	450.000	15.564	0.804	90.000	130.000	16.873	0.903
LINE 90				90.000	125.000	17.275	0.705
90.000	450.000	15.353	0.521	90.000	120.000	16.635	0.872
90.000	445.000	15.499	0.542	90.000	115.000	16.507	0.786
90.000	440.000	15.225	0.757	90.000	110.000	16.580	0.749
90.000	435.000	15.454	0.667	90.000	105.000	17.074	0.700
90.000	430.000	15.856	0.633	90.000	100.000	17.367	0.558

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
90.000	95.000	17.376	0.598	100.000	395.000	17.101	0.650
90.000	90.000	16.671	0.617	100.000	400.000	17.019	0.610
90.000	85.000	15.976	0.667	100.000	405.000	16.617	0.745
NE 100				100.000	410.000	16.452	0.824
100.000	85.000	15.966	0.597	100.000	415.000	16.809	0.714
100.000	90.000	15.994	0.711	100.000	420.000	16.635	0.633
100.000	95.000	16.030	0.883	100.000	425.000	15.893	0.622
100.000	100.000	16.580	0.815	100.000	430.000	15.710	0.670
100.000	105.000	16.854	0.722	100.000	435.000	15.756	0.727
100.000	110.000	16.580	0.802	100.000	440.000	15.271	0.863
100.000	115.000	16.653	0.597	100.000	445.000	15.106	0.804
100.000	120.000	16.791	0.569	100.000	450.000	14.987	0.742
100.000	125.000	16.882	0.652	LINE 110			
100.000	130.000	16.937	0.723	110.000	450.000	15.912	0.512
100.000	135.000	17.385	0.654	110.000	445.000	16.086	0.472
100.000	140.000	17.550	0.729	110.000	440.000	15.738	0.600
100.000	145.000	17.312	0.725	110.000	435.000	15.316	0.628
100.000	150.000	17.184	0.521	110.000	430.000	15.408	0.617
100.000	155.000	17.257	0.514	110.000	425.000	15.820	0.606
100.000	160.000	17.101	0.573	110.000	420.000	16.030	0.598
100.000	165.000	17.166	0.553	110.000	415.000	16.323	0.543
100.000	170.000	17.926	0.542	110.000	410.000	16.681	0.488
100.000	175.000	17.797	0.567	110.000	405.000	16.552	0.595
100.000	180.000	16.974	0.576	110.000	400.000	16.461	0.549
100.000	185.000	17.266	0.705	110.000	395.000	16.873	0.503
100.000	190.000	17.688	0.643	110.000	390.000	16.873	0.551
100.000	195.000	16.818	0.819	110.000	385.000	16.965	0.586
100.000	200.000	16.360	0.847	110.000	380.000	16.653	0.505
100.000	205.000	16.598	0.751	110.000	375.000	16.589	0.479
100.000	210.000	16.699	0.595	110.000	370.000	17.257	0.479
100.000	215.000	16.589	0.527	110.000	365.000	17.523	0.529
100.000	220.000	16.681	0.619	110.000	360.000	17.111	0.648
100.000	225.000	16.543	0.633	110.000	355.000	17.266	0.722
100.000	230.000	16.726	0.576	110.000	350.000	17.395	0.573
100.000	235.000	16.699	0.845	110.000	345.000	17.303	0.610
100.000	240.000	16.387	1.297	110.000	340.000	16.570	0.698
100.000	245.000	16.653	0.839	110.000	335.000	16.818	0.683
100.000	250.000	16.836	1.023	110.000	330.000	17.853	0.617
100.000	255.000	16.653	1.038	110.000	325.000	17.834	0.773
100.000	260.000	16.406	0.982	110.000	320.000	17.651	0.604
100.000	265.000	16.516	0.723	110.000	315.000	17.413	0.586
100.000	270.000	16.626	0.771	110.000	310.000	17.184	0.753
100.000	275.000	16.443	0.709	110.000	305.000	16.836	0.948
100.000	280.000	16.671	0.604	110.000	300.000	17.120	0.505
100.000	285.000	16.744	0.711	110.000	295.000	17.175	0.547
100.000	290.000	16.525	0.725	110.000	290.000	16.873	0.606
100.000	295.000	16.845	0.643	110.000	285.000	16.946	0.637
100.000	300.000	17.056	0.622	110.000	280.000	17.175	0.519
100.000	305.000	16.744	0.554	110.000	275.000	16.800	0.519
100.000	310.000	16.699	0.628	110.000	270.000	16.461	0.509
100.000	315.000	17.047	0.595	110.000	265.000	17.092	0.497
100.000	320.000	16.937	0.723	110.000	260.000	17.221	0.670
100.000	325.000	16.708	0.902	110.000	255.000	17.001	0.755
100.000	330.000	17.001	0.635	110.000	250.000	16.965	0.551
100.000	335.000	18.017	0.591	110.000	245.000	16.671	0.556
100.000	340.000	18.100	0.639	110.000	240.000	16.818	0.576
100.000	345.000	17.019	0.784	110.000	235.000	17.111	0.573
100.000	350.000	16.717	0.784	110.000	230.000	17.212	0.485
100.000	355.000	17.367	0.723	110.000	225.000	17.422	0.468
100.000	360.000	17.688	0.536	110.000	220.000	17.019	0.481
100.000	365.000	17.376	0.819	110.000	215.000	16.946	0.523
100.000	370.000	17.806	0.771	110.000	210.000	16.882	0.556
100.000	375.000	17.797	0.727	110.000	205.000	17.349	0.514
100.000	380.000	17.148	0.769	110.000	200.000	17.404	0.567
100.000	385.000	16.278	0.727	110.000	195.000	17.449	0.615
100.000	390.000	16.570	0.626	110.000	190.000	17.431	0.497

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
110.000	185.000	17.431	0.442	120.000	305.000	17.028	0.543
110.000	180.000	17.843	0.509	120.000	310.000	17.340	0.497
110.000	175.000	17.834	0.545	120.000	315.000	17.148	0.595
110.000	170.000	17.797	0.518	120.000	320.000	16.772	0.692
110.000	165.000	17.953	0.576	120.000	325.000	16.818	0.551
110.000	160.000	18.264	0.501	120.000	330.000	17.248	0.507
110.000	155.000	17.898	0.531	120.000	335.000	17.706	0.518
110.000	150.000	17.550	0.569	120.000	340.000	17.953	0.542
110.000	145.000	17.916	0.404	120.000	345.000	17.367	0.654
110.000	140.000	17.477	0.363	120.000	350.000	17.148	0.589
110.000	135.000	17.129	0.483	120.000	355.000	17.166	0.523
110.000	130.000	17.642	0.562	120.000	360.000	16.873	0.584
110.000	125.000	17.880	0.490	120.000	365.000	16.791	0.611
110.000	120.000	17.505	0.475	120.000	370.000	17.266	0.578
110.000	115.000	17.230	0.488	120.000	375.000	17.212	0.679
110.000	110.000	17.285	0.464	120.000	380.000	16.974	0.611
110.000	105.000	17.001	0.558	120.000	385.000	16.635	0.639
110.000	100.000	17.010	0.492	120.000	390.000	16.452	0.564
110.000	95.000	17.230	0.486	120.000	395.000	15.966	0.604
110.000	90.000	16.699	0.488	120.000	400.000	17.001	0.584
110.000	85.000	16.360	0.643	120.000	405.000	17.120	0.564
LINE 120				120.000	410.000	16.965	0.591
120.000	85.000	16.369	0.674	120.000	415.000	16.772	0.843
120.000	90.000	16.269	0.720	120.000	420.000	16.918	0.749
120.000	95.000	15.957	0.861	120.000	425.000	16.241	0.554
120.000	100.000	16.479	0.791	120.000	430.000	16.058	0.525
120.000	105.000	17.184	0.742	120.000	435.000	16.058	0.534
120.000	110.000	17.239	0.830	120.000	440.000	15.903	0.621
120.000	115.000	17.129	1.028	120.000	445.000	15.783	0.630
120.000	120.000	17.221	0.894	120.000	450.000	15.481	0.707
120.000	125.000	17.257	0.718	LINE 130			
120.000	130.000	17.120	0.648	130.000	450.000	15.372	0.389
120.000	135.000	17.166	1.008	130.000	445.000	15.463	0.431
120.000	140.000	17.294	0.817	130.000	440.000	15.390	0.584
120.000	145.000	16.974	0.683	130.000	435.000	15.591	0.707
120.000	150.000	17.047	0.674	130.000	430.000	15.508	0.837
120.000	155.000	17.468	0.733	130.000	425.000	15.729	1.249
120.000	160.000	17.880	0.637	130.000	420.000	15.637	1.168
120.000	165.000	17.990	0.661	130.000	415.000	15.856	0.801
120.000	170.000	17.889	0.576	130.000	410.000	15.994	1.302
120.000	175.000	17.623	0.547	130.000	405.000	16.342	0.707
120.000	180.000	17.175	0.681	130.000	400.000	16.396	0.951
120.000	185.000	17.193	0.584	130.000	395.000	16.809	1.225
120.000	190.000	17.395	0.534	130.000	390.000	16.772	1.662
120.000	195.000	17.505	0.562	130.000	385.000	15.939	1.304
120.000	200.000	17.440	0.492	130.000	380.000	15.811	0.586
120.000	205.000	17.184	0.714	130.000	375.000	15.838	0.703
120.000	210.000	16.800	0.534	130.000	370.000	16.030	0.676
120.000	215.000	16.791	0.532	130.000	365.000	16.076	0.613
120.000	220.000	16.927	0.823	130.000	360.000	16.095	0.870
120.000	225.000	16.873	0.913	130.000	355.000	16.552	0.718
120.000	230.000	16.974	0.731	130.000	350.000	16.516	0.668
120.000	235.000	17.157	0.516	130.000	345.000	16.699	0.703
120.000	240.000	17.166	0.569	130.000	340.000	16.543	0.755
120.000	245.000	17.129	0.580	130.000	335.000	16.452	1.378
120.000	250.000	17.038	0.516	130.000	330.000	16.781	1.649
120.000	255.000	17.184	0.490	130.000	325.000	16.415	1.337
120.000	260.000	17.275	0.641	130.000	320.000	16.900	1.030
120.000	265.000	17.083	0.821	130.000	315.000	16.900	1.150
120.000	270.000	16.754	0.740	130.000	310.000	16.735	0.812
120.000	275.000	16.552	0.782	130.000	305.000	16.543	0.758
120.000	280.000	16.791	0.667	130.000	300.000	17.010	0.549
120.000	285.000	16.516	0.655	130.000	295.000	16.992	0.527
120.000	290.000	16.818	0.569	130.000	290.000	16.681	0.635
120.000	295.000	16.927	0.584	130.000	285.000	16.809	0.760
120.000	300.000	16.946	0.534	130.000	280.000	16.983	0.727

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
130.000	275.000	17.001	0.663	140.000	180.000	17.459	0.880
130.000	270.000	16.791	0.619	140.000	185.000	17.642	0.578
130.000	265.000	16.791	0.602	140.000	190.000	17.523	0.624
130.000	260.000	16.690	0.608	140.000	195.000	17.349	0.663
130.000	255.000	17.019	0.635	140.000	200.000	17.120	0.711
130.000	250.000	17.221	0.749	140.000	205.000	17.248	0.696
130.000	245.000	17.202	0.663	140.000	210.000	16.946	0.668
130.000	240.000	17.111	0.549	140.000	215.000	16.864	0.725
130.000	235.000	17.083	0.560	140.000	220.000	17.120	0.775
130.000	230.000	17.550	0.580	140.000	225.000	17.358	0.657
130.000	225.000	17.148	0.617	140.000	230.000	17.138	0.828
130.000	220.000	17.138	0.564	140.000	235.000	16.644	0.782
130.000	215.000	17.120	0.674	140.000	240.000	16.570	0.786
130.000	210.000	17.175	0.611	140.000	245.000	16.561	0.814
130.000	205.000	17.074	0.626	140.000	250.000	16.644	0.810
130.000	200.000	16.845	0.753	140.000	255.000	16.149	0.970
130.000	195.000	17.275	0.764	140.000	260.000	16.159	0.722
130.000	190.000	17.376	0.707	140.000	265.000	16.626	0.542
130.000	185.000	17.248	0.834	140.000	270.000	16.708	0.604
130.000	180.000	17.679	0.610	140.000	275.000	16.626	0.635
130.000	175.000	17.175	0.626	140.000	280.000	16.443	0.543
130.000	170.000	16.992	0.661	140.000	285.000	16.763	0.850
130.000	165.000	17.541	0.534	140.000	290.000	16.250	1.019
130.000	160.000	17.980	0.545	140.000	295.000	15.765	0.654
130.000	155.000	17.806	0.812	140.000	300.000	17.184	0.654
130.000	150.000	17.230	0.810	140.000	305.000	17.477	0.602
130.000	145.000	17.367	0.635	140.000	310.000	17.230	0.628
130.000	140.000	17.248	0.582	140.000	315.000	16.497	0.665
130.000	135.000	17.422	0.608	140.000	320.000	16.213	0.613
130.000	130.000	17.642	0.665	140.000	325.000	16.992	0.707
130.000	125.000	17.496	0.584	140.000	330.000	17.001	0.494
130.000	120.000	17.092	0.630	140.000	335.000	17.257	0.518
130.000	115.000	17.074	0.646	140.000	340.000	17.285	0.507
130.000	110.000	16.927	0.703	140.000	345.000	16.937	0.667
130.000	105.000	17.010	0.779	140.000	350.000	16.396	0.872
130.000	100.000	16.809	0.622	140.000	355.000	16.452	1.106
130.000	95.000	16.699	0.516	140.000	360.000	15.966	0.700
130.000	90.000	16.204	0.613	140.000	365.000	15.765	0.575
130.000	85.000	16.250	0.852	140.000	370.000	15.774	0.657
LINE 140				140.000	375.000	15.921	0.676
140.000	50.000	16.552	0.790	140.000	380.000	16.617	0.540
140.000	55.000	17.056	0.837	140.000	385.000	16.717	0.597
140.000	60.000	16.461	1.221	140.000	390.000	15.582	0.597
140.000	65.000	14.392	0.900	140.000	395.000	15.435	0.569
140.000	70.000	13.476	0.602	140.000	400.000	16.058	0.507
140.000	75.000	13.888	0.933	140.000	405.000	17.001	0.847
140.000	80.000	14.474	1.207	140.000	410.000	17.120	0.604
140.000	85.000	15.069	0.915	140.000	415.000	16.415	0.694
140.000	90.000	15.948	0.951	140.000	420.000	15.701	0.821
140.000	95.000	16.223	0.845	140.000	425.000	15.865	0.749
140.000	100.000	16.809	0.938	140.000	430.000	15.930	0.644
140.000	105.000	17.257	0.703	140.000	435.000	16.003	0.591
140.000	110.000	16.909	0.747	140.000	440.000	15.856	0.610
140.000	115.000	16.927	1.023	140.000	445.000	15.664	0.613
140.000	120.000	17.367	0.850	140.000	450.000	15.609	0.602
140.000	125.000	17.138	1.115	LINE 150			
140.000	130.000	16.791	1.256	150.000	450.000	15.316	0.479
140.000	135.000	17.523	1.014	150.000	445.000	15.628	0.479
140.000	140.000	17.724	0.929	150.000	440.000	15.555	0.538
140.000	145.000	17.660	0.806	150.000	435.000	15.618	0.558
140.000	150.000	17.422	0.979	150.000	430.000	15.856	0.562
140.000	155.000	17.496	1.032	150.000	425.000	15.756	0.694
140.000	160.000	17.843	0.959	150.000	420.000	15.792	0.859
140.000	165.000	17.743	0.964	150.000	415.000	15.710	1.017
140.000	170.000	17.898	0.523	150.000	410.000	15.903	0.562
140.000	175.000	17.422	1.407	150.000	405.000	16.095	1.400

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
150.000	400.000	16.195	1.227	160.000	90.000	16.168	0.681
150.000	395.000	16.049	0.606	160.000	95.000	16.525	0.676
150.000	390.000	15.655	0.641	160.000	100.000	16.396	0.659
150.000	385.000	14.657	0.705	160.000	105.000	16.497	0.823
150.000	380.000	14.977	1.243	160.000	110.000	16.900	0.659
150.000	375.000	16.104	0.674	160.000	115.000	16.873	1.651
150.000	370.000	16.974	0.501	160.000	120.000	16.671	1.655
150.000	365.000	16.671	2.052	160.000	125.000	16.900	0.832
150.000	360.000	16.086	2.103	160.000	130.000	17.175	0.949
150.000	355.000	15.115	0.589	160.000	135.000	17.367	0.979
150.000	350.000	15.747	0.595	160.000	140.000	17.111	0.834
150.000	345.000	16.461	0.604	160.000	145.000	16.946	0.632
150.000	340.000	16.260	1.104	160.000	150.000	17.440	0.621
150.000	335.000	15.847	1.130	160.000	155.000	17.395	0.527
150.000	330.000	16.021	0.588	160.000	160.000	17.257	0.547
150.000	325.000	16.058	0.643	160.000	165.000	16.965	0.610
150.000	320.000	15.875	0.670	160.000	170.000	16.873	0.558
150.000	315.000	16.049	0.569	160.000	175.000	17.202	0.547
150.000	310.000	16.131	0.597	160.000	180.000	17.413	0.556
150.000	305.000	16.049	0.712	160.000	185.000	16.854	0.698
150.000	300.000	16.387	0.521	160.000	190.000	16.552	0.551
150.000	295.000	16.644	0.437	160.000	195.000	16.434	0.929
150.000	290.000	16.296	0.510	160.000	200.000	16.763	1.047
150.000	285.000	16.452	0.483	160.000	205.000	16.635	0.872
150.000	280.000	16.543	0.486	160.000	210.000	16.827	0.527
150.000	275.000	16.635	0.474	160.000	215.000	16.836	0.657
150.000	270.000	16.791	0.507	160.000	220.000	16.387	0.648
150.000	265.000	17.065	0.450	160.000	225.000	16.369	0.703
150.000	260.000	17.129	0.415	160.000	230.000	16.260	0.751
150.000	255.000	16.937	0.509	160.000	235.000	16.626	0.589
150.000	250.000	16.681	0.488	160.000	240.000	16.690	0.650
150.000	245.000	16.809	0.475	160.000	245.000	16.104	0.874
150.000	240.000	17.175	0.571	160.000	250.000	16.168	0.672
150.000	235.000	17.239	0.531	160.000	255.000	16.314	0.509
150.000	230.000	16.927	0.540	160.000	260.000	16.351	0.549
150.000	225.000	16.671	0.558	160.000	265.000	16.296	0.531
150.000	220.000	16.461	0.712	160.000	270.000	16.617	0.532
150.000	215.000	16.607	0.755	160.000	275.000	16.763	0.624
150.000	210.000	16.864	0.582	160.000	280.000	16.708	0.606
150.000	205.000	17.129	0.505	160.000	285.000	16.918	0.534
150.000	200.000	17.340	0.448	160.000	290.000	16.845	0.538
150.000	195.000	17.385	0.461	160.000	295.000	16.580	0.595
150.000	190.000	17.101	0.512	160.000	300.000	16.543	0.597
150.000	185.000	16.900	0.556	160.000	305.000	16.561	0.600
150.000	180.000	17.303	0.564	160.000	310.000	16.589	0.554
150.000	175.000	17.541	0.534	160.000	315.000	16.671	0.582
150.000	170.000	17.111	0.683	160.000	320.000	16.699	0.554
150.000	165.000	17.385	0.597	160.000	325.000	16.864	0.527
150.000	160.000	17.679	0.516	160.000	330.000	16.809	0.521
150.000	155.000	17.806	0.556	160.000	335.000	16.323	0.553
150.000	150.000	18.027	0.613	160.000	340.000	16.516	0.578
150.000	145.000	17.834	0.582	160.000	345.000	16.617	0.569
150.000	140.000	17.514	0.580	160.000	350.000	17.129	0.525
150.000	135.000	17.578	0.657	160.000	355.000	16.965	0.499
150.000	130.000	17.935	0.622	160.000	360.000	16.617	0.606
150.000	125.000	17.294	0.554	160.000	365.000	16.360	0.615
150.000	120.000	17.523	0.466	160.000	370.000	16.406	0.534
150.000	115.000	17.871	0.450	160.000	375.000	16.204	0.597
150.000	110.000	18.072	0.538	160.000	380.000	16.360	0.507
150.000	105.000	17.614	0.490	160.000	385.000	16.342	0.542
150.000	100.000	16.891	0.497	160.000	390.000	15.976	0.538
150.000	95.000	16.891	0.615	160.000	395.000	15.435	0.554
150.000	90.000	16.918	0.600	160.000	400.000	16.772	0.488
150.000	85.000	16.260	1.212	160.000	405.000	16.873	0.483
NE 160				160.000	410.000	17.157	0.496
160.000	85.000	15.976	0.758	160.000	415.000	16.662	0.562

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
160.000	420.000	16.095	0.595	170.000	160.000	17.395	0.452
160.000	425.000	16.076	0.481	170.000	155.000	17.331	0.512
160.000	430.000	15.847	0.661	170.000	150.000	17.431	0.536
160.000	435.000	15.518	0.692	170.000	145.000	17.797	0.492
160.000	440.000	15.582	0.536	170.000	140.000	17.843	0.543
160.000	445.000	15.948	0.499	170.000	135.000	17.834	0.576
160.000	450.000	15.903	0.534	170.000	130.000	17.834	0.494
LINE 170				170.000	125.000	17.843	0.479
170.000	450.000	15.637	0.411	170.000	120.000	17.614	0.430
170.000	445.000	15.628	0.356	170.000	115.000	17.761	0.558
170.000	440.000	15.573	0.492	170.000	110.000	16.992	0.586
170.000	435.000	15.582	0.578	170.000	105.000	16.708	0.562
170.000	430.000	15.481	0.701	170.000	100.000	16.278	0.696
170.000	425.000	15.609	0.683	170.000	95.000	16.342	0.617
170.000	420.000	15.609	0.676	170.000	90.000	16.617	0.915
170.000	415.000	15.582	0.641	LINE 180			
170.000	410.000	15.701	0.600	180.000	90.000	16.269	0.972
170.000	405.000	15.609	0.635	180.000	95.000	16.296	1.054
170.000	400.000	15.820	0.604	180.000	100.000	15.856	0.551
170.000	395.000	15.655	0.565	180.000	105.000	16.241	0.562
170.000	390.000	14.950	0.626	180.000	110.000	16.809	0.564
170.000	385.000	15.005	0.610	180.000	115.000	16.763	0.915
170.000	380.000	15.637	0.694	180.000	120.000	17.138	3.544
170.000	375.000	16.323	0.661	180.000	125.000	17.550	3.031
170.000	370.000	16.296	0.757	180.000	130.000	17.404	0.611
170.000	365.000	15.207	0.814	180.000	135.000	17.331	0.494
170.000	360.000	15.518	0.589	180.000	140.000	17.056	0.569
170.000	355.000	15.957	0.824	180.000	145.000	17.166	0.654
170.000	350.000	16.342	0.486	180.000	150.000	17.312	0.959
170.000	345.000	16.049	1.212	180.000	155.000	16.854	0.740
170.000	340.000	15.994	0.740	180.000	160.000	17.056	0.674
170.000	335.000	16.012	0.554	180.000	165.000	17.193	0.672
170.000	330.000	16.149	0.558	180.000	170.000	17.065	0.521
170.000	325.000	16.149	0.799	180.000	175.000	16.873	0.547
170.000	320.000	16.058	0.619	180.000	180.000	16.681	0.740
170.000	315.000	16.076	0.604	180.000	185.000	16.424	1.205
170.000	310.000	16.168	0.674	180.000	190.000	16.278	0.872
170.000	305.000	15.930	0.745	180.000	195.000	16.396	1.354
170.000	300.000	15.774	0.797	180.000	200.000	16.250	0.808
170.000	295.000	16.030	0.949	180.000	205.000	16.241	0.683
170.000	290.000	15.939	0.966	180.000	210.000	16.323	0.786
170.000	285.000	16.497	0.606	180.000	215.000	16.818	0.745
170.000	280.000	16.543	0.709	180.000	220.000	17.120	0.731
170.000	275.000	16.049	0.670	180.000	225.000	17.395	0.657
170.000	270.000	16.195	0.558	180.000	230.000	16.983	0.771
170.000	265.000	16.570	0.576	180.000	235.000	16.140	1.030
170.000	260.000	16.104	0.598	180.000	240.000	16.140	0.819
170.000	255.000	16.095	0.553	180.000	245.000	16.378	0.663
170.000	250.000	16.443	0.483	180.000	250.000	16.681	0.624
170.000	245.000	16.561	0.527	180.000	255.000	16.470	0.644
170.000	240.000	16.223	0.527	180.000	260.000	16.561	0.657
170.000	235.000	16.095	0.591	180.000	265.000	16.653	0.655
170.000	230.000	16.598	0.538	180.000	270.000	16.791	0.554
170.000	225.000	16.827	0.518	180.000	275.000	16.754	0.793
170.000	220.000	16.946	0.600	180.000	280.000	16.323	0.753
170.000	215.000	16.131	0.452	180.000	285.000	16.690	0.611
170.000	210.000	15.060	0.953	180.000	290.000	16.708	0.600
170.000	205.000	15.921	0.773	180.000	295.000	16.717	0.576
170.000	200.000	16.754	0.586	180.000	300.000	16.534	0.580
170.000	195.000	16.836	0.610	180.000	305.000	16.396	0.516
170.000	190.000	16.497	0.580	180.000	310.000	16.461	0.551
170.000	185.000	16.690	0.488	180.000	315.000	16.690	0.554
170.000	180.000	17.065	0.542	180.000	320.000	16.781	0.509
170.000	175.000	17.285	0.529	180.000	325.000	16.351	0.538
170.000	170.000	16.946	0.529	180.000	330.000	16.122	0.510
170.000	165.000	16.891	0.529	180.000	335.000	16.241	0.518

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
180.000	340.000	16.461	0.463	190.000	240.000	16.396	0.547
180.000	345.000	16.635	0.481	190.000	235.000	16.086	0.490
180.000	350.000	16.635	0.521	190.000	230.000	16.323	0.738
180.000	355.000	16.626	0.584	190.000	225.000	16.323	0.891
180.000	360.000	16.195	0.740	190.000	220.000	16.570	0.839
180.000	365.000	15.545	1.150	190.000	215.000	16.552	0.986
180.000	370.000	15.664	1.051	190.000	210.000	16.873	1.039
180.000	375.000	15.893	0.632	190.000	205.000	17.111	1.074
180.000	380.000	15.939	0.527	190.000	200.000	17.175	0.801
180.000	385.000	16.232	0.711	190.000	195.000	17.028	0.580
180.000	390.000	16.067	0.790	190.000	190.000	16.800	0.485
180.000	395.000	15.408	0.677	190.000	185.000	16.626	0.606
180.000	400.000	14.611	0.948	190.000	180.000	16.845	0.626
180.000	405.000	15.252	0.780	190.000	175.000	16.946	0.518
180.000	410.000	16.049	0.712	190.000	170.000	16.671	0.492
180.000	415.000	16.149	0.773	190.000	165.000	17.166	0.512
180.000	420.000	15.829	0.889	190.000	160.000	17.395	0.569
180.000	425.000	15.682	1.435	190.000	155.000	17.202	0.575
180.000	430.000	15.774	1.548	190.000	150.000	16.681	0.543
180.000	435.000	15.307	0.665	190.000	145.000	16.946	0.457
180.000	440.000	15.170	0.569	190.000	140.000	17.221	0.591
180.000	445.000	15.499	0.466	190.000	135.000	17.477	0.696
180.000	450.000	14.977	0.474	190.000	130.000	16.974	0.602
LINE 190				190.000	125.000	16.744	0.597
190.000	450.000	15.664	0.297	190.000	120.000	17.212	0.654
190.000	445.000	15.536	0.358	190.000	115.000	17.074	0.760
190.000	440.000	15.508	0.497	190.000	110.000	16.818	0.619
190.000	435.000	15.408	0.529	190.000	105.000	17.101	0.659
190.000	430.000	15.408	0.496	190.000	100.000	15.847	0.659
190.000	425.000	15.261	0.639	190.000	95.000	16.149	0.707
190.000	420.000	15.243	0.973	LINE 200			
190.000	415.000	15.069	1.017	200.000	95.000	16.479	0.509
190.000	410.000	15.060	0.845	200.000	100.000	16.314	0.444
190.000	405.000	15.463	0.948	200.000	105.000	16.195	0.347
190.000	400.000	15.884	1.493	200.000	110.000	15.426	0.764
190.000	395.000	15.216	1.348	200.000	115.000	15.783	0.580
190.000	390.000	14.703	0.854	200.000	120.000	16.552	0.542
190.000	385.000	15.316	0.622	200.000	125.000	17.138	0.749
190.000	380.000	15.903	0.611	200.000	130.000	17.175	0.790
190.000	375.000	15.783	0.595	200.000	135.000	16.918	0.814
190.000	370.000	15.747	0.554	200.000	140.000	17.056	0.705
190.000	365.000	15.847	0.593	200.000	145.000	17.148	0.777
190.000	360.000	15.985	0.578	200.000	150.000	17.001	0.576
190.000	355.000	15.939	0.628	200.000	155.000	16.955	0.683
190.000	350.000	16.003	0.586	200.000	160.000	17.019	0.571
190.000	345.000	16.104	0.633	200.000	165.000	17.101	0.683
190.000	340.000	16.424	0.690	200.000	170.000	16.864	0.749
190.000	335.000	16.067	0.626	200.000	175.000	17.038	0.617
190.000	330.000	15.856	0.525	200.000	180.000	16.965	0.571
190.000	325.000	16.387	0.505	200.000	185.000	16.726	0.586
190.000	320.000	16.626	0.532	200.000	190.000	16.626	0.657
190.000	315.000	16.387	0.536	200.000	195.000	16.635	0.633
190.000	310.000	15.994	0.573	200.000	200.000	16.387	0.663
190.000	305.000	16.534	0.565	200.000	205.000	16.974	0.790
190.000	300.000	16.955	0.613	200.000	210.000	17.486	1.095
190.000	295.000	16.534	0.615	200.000	215.000	17.440	1.036
190.000	290.000	16.177	0.652	200.000	220.000	16.415	0.573
190.000	285.000	16.086	0.628	200.000	225.000	16.030	0.632
190.000	280.000	16.095	0.602	200.000	230.000	17.028	1.003
190.000	275.000	16.012	0.773	200.000	235.000	16.873	1.019
190.000	270.000	16.396	0.665	200.000	240.000	15.829	0.861
190.000	265.000	16.406	0.677	200.000	245.000	15.966	0.689
190.000	260.000	16.076	0.621	200.000	250.000	16.534	0.648
190.000	255.000	15.682	0.810	200.000	255.000	16.534	0.670
190.000	250.000	16.086	1.003	200.000	260.000	16.443	0.648
190.000	245.000	16.470	0.679	200.000	265.000	16.507	0.670



Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
200.000	270.000	16.470	0.751	210.000	310.000	16.900	0.655
200.000	275.000	16.735	0.659	210.000	305.000	16.323	0.874
200.000	280.000	16.406	0.619	210.000	300.000	16.296	0.667
200.000	285.000	16.058	0.740	210.000	295.000	16.580	0.567
200.000	290.000	16.443	0.685	210.000	290.000	16.323	0.661
200.000	295.000	17.047	0.610	210.000	285.000	16.131	0.751
200.000	300.000	16.443	0.701	210.000	280.000	16.534	0.683
200.000	305.000	16.287	0.565	210.000	275.000	16.570	1.003
200.000	310.000	16.351	0.536	210.000	270.000	15.738	1.379
200.000	315.000	16.305	0.751	210.000	265.000	15.893	0.994
200.000	320.000	16.177	0.663	210.000	260.000	16.617	0.565
200.000	325.000	16.323	0.705	210.000	255.000	16.708	0.745
200.000	330.000	16.204	0.736	210.000	250.000	16.726	1.225
200.000	335.000	15.875	0.622	210.000	245.000	16.580	1.585
200.000	340.000	16.131	0.667	210.000	240.000	16.461	1.025
200.000	345.000	16.507	0.883	210.000	235.000	16.561	0.667
200.000	350.000	16.461	1.027	210.000	230.000	16.516	0.714
200.000	355.000	15.646	0.802	210.000	225.000	16.387	0.677
200.000	360.000	15.756	0.589	210.000	220.000	16.497	0.615
200.000	365.000	15.976	0.740	210.000	215.000	16.406	0.799
200.000	370.000	16.104	0.661	210.000	210.000	16.378	0.962
200.000	375.000	16.039	0.665	210.000	205.000	17.010	0.870
200.000	380.000	15.591	0.700	210.000	200.000	17.166	0.758
200.000	385.000	15.600	0.635	210.000	195.000	16.800	0.661
200.000	390.000	16.086	0.565	210.000	190.000	16.305	0.549
200.000	395.000	15.701	0.567	210.000	185.000	16.507	0.474
200.000	400.000	15.170	0.556	210.000	180.000	16.900	0.540
200.000	405.000	15.307	0.907	210.000	175.000	16.864	0.564
200.000	410.000	15.756	0.913	210.000	170.000	16.937	0.518
200.000	415.000	15.600	0.689	210.000	165.000	16.965	0.569
200.000	420.000	15.289	0.619	210.000	160.000	16.781	0.881
200.000	425.000	15.783	0.661	210.000	155.000	16.735	0.881
200.000	430.000	15.792	0.659	210.000	150.000	17.038	1.332
200.000	435.000	15.097	0.847	210.000	145.000	17.212	1.387
200.000	440.000	14.868	0.852	210.000	140.000	17.175	0.760
200.000	445.000	14.959	0.757	210.000	135.000	17.111	0.540
200.000	450.000	15.207	0.575	210.000	130.000	17.358	0.582
LINE 210				210.000	125.000	17.202	0.760
210.000	450.000	15.435	0.435	210.000	120.000	17.230	0.711
210.000	445.000	15.582	0.433	210.000	115.000	17.038	1.084
210.000	440.000	15.344	0.426	210.000	110.000	16.561	0.931
210.000	435.000	15.188	0.519	210.000	105.000	16.095	0.584
210.000	430.000	15.161	0.542	210.000	100.000	16.854	0.624
210.000	425.000	15.133	0.505	LINE 220			
210.000	420.000	15.372	0.611	220.000	100.000	16.140	0.744
210.000	415.000	15.985	2.418	220.000	105.000	16.333	0.696
210.000	410.000	16.561	2.339	220.000	110.000	15.710	0.933
210.000	405.000	15.994	0.382	220.000	115.000	15.765	1.330
210.000	400.000	15.655	0.501	220.000	120.000	16.305	3.340
210.000	395.000	15.463	0.466	220.000	125.000	16.965	3.733
210.000	390.000	15.207	0.453	220.000	130.000	16.195	2.844
210.000	385.000	15.198	0.672	220.000	135.000	17.257	3.323
210.000	380.000	15.618	0.644	220.000	140.000	17.440	0.896
210.000	375.000	15.655	0.584	220.000	145.000	17.395	0.929
210.000	370.000	15.454	0.578	220.000	150.000	17.111	0.848
210.000	365.000	15.829	0.665	220.000	155.000	16.617	0.543
210.000	360.000	15.692	0.654	220.000	160.000	16.754	1.567
210.000	355.000	15.454	0.898	220.000	165.000	16.690	1.870
210.000	350.000	15.774	2.136	220.000	170.000	16.635	0.894
210.000	345.000	15.976	1.409	220.000	175.000	16.800	0.898
210.000	340.000	16.030	0.639	220.000	180.000	17.047	0.848
210.000	335.000	16.168	0.755	220.000	185.000	17.074	0.667
210.000	330.000	16.369	0.672	220.000	190.000	16.726	0.878
210.000	325.000	16.396	0.650	220.000	195.000	16.488	0.915
210.000	320.000	16.424	0.591	220.000	200.000	16.598	0.861
210.000	315.000	16.726	0.613	220.000	205.000	16.104	1.334

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
220.000	210.000	15.893	1.209	230.000	370.000	16.168	0.595
220.000	215.000	15.884	1.649	230.000	365.000	16.507	0.654
220.000	220.000	15.454	1.192	230.000	360.000	16.213	0.632
220.000	225.000	15.536	1.043	230.000	355.000	15.930	0.982
220.000	230.000	15.903	0.797	230.000	350.000	16.781	0.435
220.000	235.000	16.095	0.709	230.000	345.000	16.918	0.527
220.000	240.000	15.903	0.700	230.000	340.000	16.580	0.578
220.000	245.000	15.765	0.949	230.000	335.000	16.617	0.551
220.000	250.000	15.856	1.117	230.000	330.000	16.278	0.593
220.000	255.000	16.305	0.837	230.000	325.000	16.589	0.604
220.000	260.000	16.140	0.714	230.000	320.000	16.927	0.492
220.000	265.000	16.260	0.518	230.000	315.000	16.845	0.542
220.000	270.000	16.598	1.232	230.000	310.000	16.708	0.532
220.000	275.000	16.314	1.727	230.000	305.000	17.038	0.514
220.000	280.000	16.818	0.477	230.000	300.000	17.056	0.531
220.000	285.000	16.927	0.722	230.000	295.000	16.434	0.479
220.000	290.000	16.598	0.766	230.000	290.000	16.424	0.485
220.000	295.000	16.488	0.543	230.000	285.000	16.570	0.468
220.000	300.000	16.763	0.565	230.000	280.000	17.074	0.464
220.000	305.000	16.744	0.492	230.000	275.000	17.166	0.536
220.000	310.000	16.589	0.617	230.000	270.000	17.550	0.472
220.000	315.000	16.470	0.779	230.000	265.000	17.202	0.615
220.000	320.000	16.443	0.628	230.000	260.000	16.287	0.589
220.000	325.000	16.763	0.716	230.000	255.000	16.360	0.536
220.000	330.000	16.534	0.637	230.000	250.000	16.791	0.452
220.000	335.000	16.323	0.578	230.000	245.000	16.754	0.435
220.000	340.000	16.195	0.615	230.000	240.000	16.104	0.626
220.000	345.000	16.003	0.641	230.000	235.000	15.792	0.703
220.000	350.000	16.168	0.527	230.000	230.000	15.417	0.650
220.000	355.000	16.617	0.538	230.000	225.000	16.131	0.624
220.000	360.000	16.204	0.604	230.000	220.000	15.838	0.810
220.000	365.000	15.856	0.804	230.000	215.000	15.664	0.722
220.000	370.000	15.692	1.041	230.000	210.000	15.353	0.516
220.000	375.000	15.865	0.516	230.000	205.000	15.508	0.558
220.000	380.000	16.039	0.516	230.000	200.000	15.087	0.573
220.000	385.000	16.058	0.633	230.000	195.000	15.390	0.553
220.000	390.000	15.847	0.740	230.000	190.000	15.325	0.534
220.000	395.000	15.481	0.496	230.000	185.000	15.673	0.665
220.000	400.000	14.868	0.492	230.000	180.000	15.628	1.163
220.000	405.000	14.694	1.249	230.000	175.000	15.811	0.981
220.000	410.000	15.271	0.637	230.000	170.000	16.396	0.755
220.000	415.000	15.243	0.584	230.000	165.000	16.488	0.786
220.000	420.000	15.234	0.624	230.000	160.000	16.434	1.356
220.000	425.000	15.271	0.486	230.000	155.000	17.083	1.032
220.000	430.000	14.822	0.461	230.000	150.000	16.497	0.608
220.000	435.000	14.859	0.588	230.000	145.000	16.351	0.536
220.000	440.000	14.676	0.633	230.000	140.000	16.763	0.707
220.000	445.000	14.630	0.633	230.000	135.000	16.690	0.786
220.000	450.000	15.097	0.466	230.000	130.000	16.461	0.490
LINE 230				230.000	125.000	16.223	0.531
230.000	450.000	14.959	0.437	230.000	120.000	16.314	0.602
230.000	445.000	14.977	0.475	230.000	115.000	16.461	0.499
230.000	440.000	14.584	0.516	230.000	110.000	15.628	0.863
230.000	435.000	14.611	0.477	230.000	105.000	15.792	0.551
230.000	430.000	14.721	0.516	230.000	100.000	15.747	0.674
230.000	425.000	14.859	0.725	LINE 240			
230.000	420.000	15.042	0.775	240.000	245.000	17.468	0.562
230.000	415.000	15.490	1.194	240.000	250.000	16.927	1.010
230.000	410.000	15.042	0.817	240.000	255.000	16.854	1.519
230.000	405.000	15.014	0.499	240.000	260.000	16.818	1.104
230.000	400.000	15.490	0.676	240.000	265.000	16.946	0.880
230.000	395.000	15.261	0.565	240.000	270.000	16.479	1.130
230.000	390.000	15.234	0.466	240.000	275.000	16.516	1.006
230.000	385.000	15.325	0.514	240.000	280.000	16.580	0.650
230.000	380.000	15.573	0.532	240.000	285.000	16.983	0.667
230.000	375.000	15.765	0.463	240.000	290.000	16.791	0.858

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
240.000	295.000	16.424	0.893	250.000	285.000	15.481	0.637
240.000	300.000	16.635	0.731	250.000	280.000	15.408	0.808
240.000	305.000	16.204	0.644	250.000	275.000	15.637	0.885
240.000	310.000	16.076	0.661	250.000	270.000	16.131	0.745
240.000	315.000	16.525	0.677	250.000	265.000	16.516	0.701
240.000	320.000	16.580	0.823	250.000	260.000	16.195	0.701
240.000	325.000	16.378	0.733	250.000	255.000	15.710	0.731
240.000	330.000	16.269	0.632	250.000	250.000	14.941	0.578
240.000	335.000	16.424	0.920	250.000	245.000	15.106	0.543
240.000	340.000	16.726	1.484	250.000	240.000	15.682	0.635
240.000	345.000	16.690	0.628	250.000	235.000	15.289	1.400
240.000	350.000	16.452	0.477	250.000	230.000	16.323	0.578
240.000	355.000	16.369	0.712	LINE 260			
240.000	360.000	16.396	0.689	260.000	170.000	15.792	0.542
240.000	365.000	16.415	1.262	260.000	175.000	15.655	0.560
240.000	370.000	16.479	1.491	260.000	180.000	15.673	0.516
240.000	375.000	16.296	1.383	260.000	185.000	16.104	0.578
240.000	380.000	16.021	0.876	260.000	190.000	15.948	0.865
240.000	385.000	16.012	1.089	260.000	195.000	15.582	0.885
240.000	390.000	15.682	0.977	260.000	200.000	14.428	0.764
240.000	395.000	15.701	0.768	260.000	205.000	13.852	0.817
240.000	400.000	15.353	0.670	260.000	210.000	12.588	1.955
240.000	405.000	15.198	0.507	260.000	215.000	11.352	3.068
240.000	410.000	14.968	0.483	260.000	220.000	12.588	2.017
240.000	415.000	14.703	0.553	260.000	225.000	15.463	1.589
240.000	420.000	14.987	0.584	260.000	230.000	15.976	1.387
240.000	425.000	15.316	0.549	260.000	235.000	15.582	0.788
240.000	430.000	15.170	0.670	260.000	240.000	15.536	0.883
240.000	435.000	14.749	1.398	260.000	245.000	15.454	1.440
240.000	440.000	14.154	0.654	260.000	250.000	15.445	0.753
240.000	445.000	14.272	0.589	260.000	255.000	15.582	0.468
240.000	450.000	14.987	0.874	260.000	260.000	15.719	0.694
LINE 250				260.000	265.000	15.536	0.784
250.000	450.000	15.435	0.547	260.000	270.000	15.536	0.593
250.000	445.000	15.508	0.665	260.000	275.000	15.664	0.564
250.000	440.000	15.600	0.736	260.000	280.000	15.829	0.516
250.000	435.000	15.170	0.747	260.000	285.000	15.820	0.556
250.000	430.000	14.959	0.793	260.000	290.000	16.058	0.725
250.000	425.000	15.014	1.163	260.000	295.000	15.994	0.808
250.000	420.000	15.161	0.687	260.000	300.000	15.664	0.823
250.000	415.000	15.334	0.648	260.000	305.000	15.655	0.948
250.000	410.000	14.895	0.788	260.000	310.000	15.783	0.786
250.000	405.000	15.024	0.576	260.000	315.000	15.508	1.102
250.000	400.000	15.445	0.650	260.000	320.000	15.408	1.164
250.000	395.000	15.756	0.646	260.000	325.000	15.417	1.361
250.000	390.000	16.003	0.668	260.000	330.000	15.362	1.139
250.000	385.000	15.865	0.738	260.000	335.000	16.021	0.903
250.000	380.000	15.893	0.677	260.000	340.000	15.930	0.931
250.000	375.000	15.939	0.674	260.000	345.000	16.003	0.725
250.000	370.000	16.241	0.872	260.000	350.000	15.976	0.624
250.000	365.000	16.937	0.786	260.000	355.000	16.039	0.757
250.000	360.000	16.461	0.828	260.000	360.000	16.241	0.729
250.000	355.000	16.333	0.606	260.000	365.000	16.434	0.556
250.000	350.000	16.470	0.464	260.000	370.000	16.845	0.957
250.000	345.000	16.626	0.437	260.000	375.000	16.854	0.621
250.000	340.000	16.671	0.472	260.000	380.000	16.177	1.291
250.000	335.000	16.900	0.450	260.000	385.000	15.912	0.652
250.000	330.000	17.083	0.477	260.000	390.000	16.195	0.982
250.000	325.000	16.396	0.606	260.000	395.000	16.076	1.056
250.000	320.000	15.884	0.536	260.000	400.000	15.893	0.712
250.000	315.000	15.948	1.852	260.000	405.000	15.838	0.817
250.000	310.000	16.323	1.383	260.000	410.000	15.903	0.867
250.000	305.000	16.360	0.428	260.000	415.000	15.316	0.617
250.000	300.000	16.003	0.486	260.000	420.000	15.024	0.626
250.000	295.000	16.149	0.529	260.000	425.000	14.914	0.560
250.000	290.000	15.966	0.674	260.000	430.000	15.060	0.567

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
260.000	435.000	15.261	0.644	270.000	145.000	15.792	0.492
260.000	440.000	15.097	1.104	270.000	140.000	15.518	0.580
260.000	445.000	15.271	0.782	270.000	135.000	15.939	0.549
260.000	450.000	15.756	0.602	270.000	130.000	16.122	0.622
LINE 270				270.000	125.000	15.710	0.814
270.000	450.000	16.232	0.632	270.000	120.000	15.051	1.052
270.000	445.000	16.140	0.657	270.000	115.000	12.853	1.936
270.000	440.000	15.811	0.648	270.000	110.000	12.185	2.048
270.000	435.000	15.417	0.600	270.000	105.000	14.080	1.069
270.000	430.000	15.545	0.597	270.000	100.000	16.561	0.652
270.000	425.000	15.765	0.668	270.000	95.000	16.836	0.610
270.000	420.000	15.463	0.946	270.000	90.000	16.424	0.630
270.000	415.000	15.591	0.977	270.000	85.000	16.882	0.615
270.000	410.000	15.527	0.870	270.000	80.000	17.596	0.613
270.000	405.000	16.039	0.694	270.000	75.000	17.230	0.667
270.000	400.000	16.507	0.485	270.000	70.000	16.479	0.674
270.000	395.000	16.827	0.407	270.000	65.000	16.387	0.576
270.000	390.000	16.754	0.567	270.000	60.000	16.873	0.586
270.000	385.000	16.809	0.802	270.000	55.000	17.294	0.606
270.000	380.000	17.202	0.575	270.000	50.000	16.937	0.694
270.000	375.000	17.322	0.472	270.000	45.000	17.514	0.543
270.000	370.000	16.626	0.714	270.000	40.000	17.843	0.584
270.000	365.000	16.488	0.723	270.000	35.000	17.632	0.663
270.000	360.000	16.378	0.742	270.000	30.000	17.157	0.821
270.000	355.000	16.479	0.571	270.000	25.000	17.532	0.694
270.000	350.000	16.030	0.428	270.000	20.000	17.496	0.859
270.000	345.000	15.976	0.439	270.000	15.000	17.001	0.676
270.000	340.000	16.131	0.580	270.000	10.000	17.111	0.731
270.000	335.000	16.030	0.639	270.000	5.000	16.974	1.464
270.000	330.000	15.875	0.665	270.000	0.000	17.148	1.196
270.000	325.000	15.719	0.679	LINE 280			
270.000	320.000	15.738	1.335	280.000	0.000	17.221	0.490
270.000	315.000	15.582	2.157	280.000	5.000	17.266	0.497
270.000	310.000	16.424	0.365	280.000	10.000	17.001	0.837
270.000	305.000	16.470	0.496	280.000	15.000	16.516	1.497
270.000	300.000	15.316	0.567	280.000	20.000	16.754	0.948
270.000	295.000	15.252	0.582	280.000	25.000	16.891	1.495
270.000	290.000	15.307	0.757	280.000	30.000	16.983	1.604
270.000	285.000	15.372	1.058	280.000	35.000	17.303	0.889
270.000	280.000	15.198	1.119	280.000	40.000	16.891	2.107
270.000	275.000	14.914	1.334	280.000	45.000	16.387	1.221
270.000	270.000	14.822	1.006	280.000	50.000	16.516	0.847
270.000	265.000	15.024	0.718	280.000	55.000	17.266	1.137
270.000	260.000	15.362	0.883	280.000	60.000	17.074	1.091
270.000	255.000	15.399	0.766	280.000	65.000	16.351	0.725
270.000	250.000	15.179	0.940	280.000	70.000	16.149	0.466
270.000	245.000	15.179	0.990	280.000	75.000	16.434	1.039
270.000	240.000	15.637	1.049	280.000	80.000	15.847	2.256
270.000	235.000	15.710	0.729	280.000	85.000	15.701	1.330
270.000	230.000	15.454	1.308	280.000	90.000	15.820	0.685
270.000	225.000	15.912	1.378	280.000	95.000	16.067	0.801
270.000	220.000	15.966	2.179	280.000	100.000	16.021	0.758
270.000	215.000	16.159	1.106	280.000	105.000	16.021	0.562
270.000	210.000	16.012	0.955	280.000	110.000	15.921	1.056
270.000	205.000	16.204	0.898	280.000	115.000	15.838	0.948
270.000	200.000	15.628	0.650	280.000	120.000	16.003	0.718
270.000	195.000	15.527	0.565	280.000	125.000	16.049	1.148
270.000	190.000	15.481	0.598	280.000	130.000	15.921	1.727
270.000	185.000	15.628	0.738	280.000	135.000	16.131	0.876
270.000	180.000	15.646	0.674	280.000	140.000	16.443	0.630
270.000	175.000	16.039	0.531	280.000	145.000	16.186	0.698
270.000	170.000	16.104	0.613	280.000	150.000	15.847	0.698
270.000	165.000	15.719	0.654	280.000	155.000	15.939	0.646
270.000	160.000	15.985	0.687	280.000	160.000	15.682	0.801
270.000	155.000	16.003	0.626	280.000	165.000	16.067	0.837
270.000	150.000	16.003	0.531	280.000	170.000	16.580	0.510

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
280.000	175.000	16.900	1.115	290.000	405.000	17.074	1.379
280.000	180.000	16.946	0.946	290.000	400.000	16.965	0.523
280.000	185.000	16.708	0.681	290.000	395.000	18.081	0.588
280.000	190.000	16.122	0.856	290.000	390.000	17.944	0.602
280.000	195.000	15.682	0.755	290.000	385.000	17.202	0.654
280.000	200.000	16.177	0.667	290.000	380.000	16.937	0.553
280.000	205.000	16.644	0.685	290.000	375.000	17.001	0.628
280.000	210.000	16.278	1.190	290.000	370.000	17.752	0.635
280.000	215.000	15.930	0.709	290.000	365.000	18.301	0.531
280.000	220.000	15.783	0.589	290.000	360.000	17.999	0.595
280.000	225.000	16.617	0.486	290.000	355.000	16.836	0.549
280.000	230.000	16.580	0.477	290.000	350.000	14.602	0.494
280.000	235.000	15.372	0.488	290.000	345.000	15.399	0.332
280.000	240.000	14.776	0.516	290.000	340.000	15.930	0.486
280.000	245.000	15.060	0.650	290.000	335.000	15.829	0.553
280.000	250.000	14.932	0.841	290.000	330.000	15.582	0.486
280.000	255.000	14.850	1.207	290.000	325.000	15.573	0.529
280.000	260.000	14.914	0.771	290.000	320.000	15.261	0.492
280.000	265.000	14.794	0.714	290.000	315.000	15.334	0.527
280.000	270.000	14.657	0.733	290.000	310.000	14.895	0.426
280.000	275.000	14.520	0.626	290.000	305.000	14.373	0.591
280.000	280.000	14.721	0.575	290.000	300.000	14.685	0.648
280.000	285.000	14.676	0.687	290.000	295.000	14.227	0.690
280.000	290.000	14.639	0.681	290.000	290.000	14.886	0.667
280.000	295.000	14.685	0.670	290.000	285.000	14.977	0.597
280.000	300.000	14.236	0.736	290.000	280.000	15.243	0.621
280.000	305.000	14.556	0.446	290.000	275.000	15.252	0.646
280.000	310.000	14.831	0.402	290.000	270.000	15.316	0.659
280.000	315.000	15.362	1.133	290.000	265.000	15.087	0.683
280.000	320.000	15.042	0.365	290.000	260.000	14.877	0.657
280.000	325.000	14.840	0.437	290.000	255.000	14.730	0.883
280.000	330.000	14.611	0.404	290.000	250.000	15.353	0.635
280.000	335.000	14.941	0.826	290.000	245.000	15.280	0.582
280.000	340.000	15.417	0.345	290.000	240.000	15.179	0.709
280.000	345.000	15.582	0.418	290.000	235.000	14.648	0.780
280.000	350.000	14.850	0.600	290.000	230.000	14.620	0.727
280.000	355.000	15.225	0.714	290.000	225.000	15.097	0.744
280.000	360.000	16.086	0.510	290.000	220.000	15.701	0.788
280.000	365.000	16.516	0.576	290.000	215.000	15.280	0.786
280.000	370.000	16.543	1.326	290.000	210.000	14.941	0.661
280.000	375.000	16.104	1.034	290.000	205.000	15.454	0.630
280.000	380.000	15.847	0.707	290.000	200.000	16.021	0.551
280.000	385.000	16.644	0.760	290.000	195.000	15.903	0.610
280.000	390.000	16.946	1.214	290.000	190.000	15.454	0.665
280.000	395.000	16.534	1.155	290.000	185.000	15.142	0.685
280.000	400.000	16.507	0.902	290.000	180.000	15.573	0.639
280.000	405.000	16.342	1.159	290.000	175.000	16.186	0.604
280.000	410.000	16.653	0.644	290.000	170.000	16.168	0.595
280.000	415.000	16.543	0.701	290.000	165.000	15.682	0.610
280.000	420.000	15.719	0.850	290.000	160.000	15.536	0.622
280.000	425.000	15.216	0.937	290.000	155.000	15.664	0.745
280.000	430.000	15.417	0.894	290.000	150.000	15.903	0.703
280.000	435.000	15.600	0.714	290.000	145.000	16.030	0.757
280.000	440.000	15.609	0.986	290.000	140.000	16.204	0.626
280.000	445.000	14.868	1.047	290.000	135.000	16.360	0.621
280.000	450.000	16.131	0.606	290.000	130.000	16.836	0.536
LINE 290				290.000	125.000	17.239	0.543
290.000	450.000	15.729	0.595	290.000	120.000	17.129	0.598
290.000	445.000	15.655	0.597	290.000	115.000	16.845	0.586
290.000	440.000	15.234	0.619	290.000	110.000	17.047	0.619
290.000	435.000	15.655	0.749	290.000	105.000	16.039	0.959
290.000	430.000	15.692	0.722	290.000	100.000	16.012	0.694
290.000	425.000	16.104	0.652	290.000	95.000	15.271	1.176
290.000	420.000	16.021	0.995	290.000	90.000	14.987	1.401
290.000	415.000	15.774	1.069	290.000	85.000	15.701	1.365
290.000	410.000	16.269	0.814	290.000	80.000	15.738	0.815

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
290.000	75.000	15.655	0.753	300.000	245.000	14.923	0.924
290.000	70.000	15.426	1.014	300.000	250.000	14.575	0.801
290.000	65.000	15.618	1.124	300.000	255.000	14.419	0.839
290.000	60.000	15.829	0.960	300.000	260.000	14.611	0.874
290.000	55.000	16.104	1.385	300.000	265.000	14.620	0.852
290.000	50.000	16.012	1.565	300.000	270.000	14.904	0.703
290.000	45.000	16.058	1.703	300.000	275.000	14.685	0.907
290.000	40.000	15.783	1.183	300.000	280.000	14.401	1.016
290.000	35.000	16.122	1.218	300.000	285.000	14.520	0.716
290.000	30.000	16.635	0.992	300.000	290.000	14.493	0.773
290.000	25.000	16.434	0.955	300.000	295.000	14.538	0.727
290.000	20.000	16.314	0.997	300.000	300.000	14.703	0.749
290.000	15.000	16.095	1.100	300.000	305.000	14.712	1.534
290.000	10.000	16.140	1.528	300.000	310.000	14.639	1.565
290.000	5.000	16.186	1.475	300.000	315.000	14.566	0.736
290.000	0.000	16.671	0.861	300.000	320.000	14.584	1.098
LINE 300				300.000	325.000	14.758	0.979
300.000	0.000	16.269	0.648	300.000	330.000	15.243	0.677
300.000	5.000	16.387	0.676	300.000	335.000	15.399	0.720
300.000	10.000	16.149	1.218	300.000	340.000	15.097	0.843
300.000	15.000	16.543	1.084	300.000	345.000	15.985	0.744
300.000	20.000	16.644	0.801	300.000	350.000	16.690	0.643
300.000	25.000	16.617	0.733	300.000	355.000	15.692	0.676
300.000	30.000	16.543	0.744	300.000	360.000	15.948	0.749
300.000	35.000	16.552	0.909	300.000	365.000	16.552	0.869
300.000	40.000	16.516	1.218	300.000	370.000	17.019	0.970
300.000	45.000	16.561	0.900	300.000	375.000	18.447	0.795
300.000	50.000	16.305	0.953	300.000	380.000	19.638	0.810
300.000	55.000	15.957	0.955	300.000	385.000	19.079	0.926
300.000	60.000	16.305	0.984	300.000	390.000	17.697	0.819
300.000	65.000	16.159	1.232	300.000	395.000	17.440	0.731
300.000	70.000	15.985	1.098	300.000	400.000	17.569	0.764
300.000	75.000	16.140	0.745	300.000	405.000	17.413	0.729
300.000	80.000	16.195	0.762	300.000	410.000	17.092	1.089
300.000	85.000	15.856	0.782	300.000	415.000	16.873	1.330
300.000	90.000	15.829	0.964	300.000	420.000	17.257	0.826
300.000	95.000	15.903	1.003	300.000	425.000	16.763	0.926
300.000	100.000	16.195	0.725	300.000	430.000	17.074	0.758
300.000	105.000	15.966	0.887	300.000	435.000	17.120	0.723
300.000	110.000	15.655	1.212	300.000	440.000	16.918	0.676
300.000	115.000	15.719	0.953	300.000	445.000	16.369	0.735
300.000	120.000	16.030	0.938	300.000	450.000	17.532	0.723
300.000	125.000	15.994	0.885				
300.000	130.000	16.443	0.815	LINE 180: SEAD-45			
300.000	135.000	16.681	0.905	500.000	180.000	28.390	0.790
300.000	140.000	15.939	0.900	510.000	180.000	25.735	1.144
300.000	145.000	15.646	0.926	520.000	180.000	25.012	1.526
300.000	150.000	16.140	1.023	530.000	180.000	22.897	3.638
300.000	155.000	16.534	0.802	540.000	180.000	13.531	2.520
300.000	160.000	16.470	0.903	550.000	180.000	19.299	2.090
300.000	165.000	16.140	0.867	560.000	180.000	19.537	2.938
300.000	170.000	16.287	0.887	570.000	180.000	17.596	2.985
300.000	175.000	16.104	1.041	580.000	180.000	17.266	2.113
300.000	180.000	16.039	0.916	590.000	180.000	18.466	1.910
300.000	185.000	16.278	0.824	600.000	180.000	18.896	1.605
300.000	190.000	15.930	0.782	610.000	180.000	18.832	2.859
300.000	195.000	15.912	1.201	620.000	180.000	16.140	3.640
300.000	200.000	15.875	1.006	630.000	180.000	15.692	2.024
300.000	205.000	15.060	1.106	640.000	180.000	20.315	0.988
300.000	210.000	14.740	0.994	650.000	180.000	20.132	1.894
300.000	215.000	14.959	1.038	660.000	180.000	18.274	1.359
300.000	220.000	15.115	0.937	670.000	180.000	18.475	1.662
300.000	225.000	14.904	1.192	680.000	180.000	18.915	1.356
300.000	230.000	14.813	1.084	690.000	180.000	18.182	2.636
300.000	235.000	14.602	1.343	700.000	180.000	17.733	1.751
300.000	240.000	14.685	0.984	710.000	180.000	17.614	1.977

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
720.000	180.000	18.493	3.301	730.000	390.000	59.637	4.224
730.000	180.000	18.163	1.967	740.000	390.000	53.512	5.628
740.000	180.000	20.297	1.383	750.000	390.000	47.644	3.663
750.000	180.000	20.269	0.387	760.000	390.000	43.542	1.304
760.000	180.000	21.624	1.243	770.000	390.000	43.066	1.741
770.000	180.000	20.379	1.589	780.000	390.000	48.440	1.107
780.000	180.000	19.876	2.328	790.000	390.000	51.251	1.786
790.000	180.000	19.537	3.165	800.000	390.000	57.440	2.372
800.000	180.000	20.590	0.123	LINE 400			
LINE 190				800.000	400.000	38.763	1.176
800.000	190.000	20.846	0.055	790.000	400.000	37.078	1.473
790.000	190.000	21.396	0.492	780.000	400.000	30.963	1.214
780.000	190.000	20.828	1.993	770.000	400.000	28.967	0.595
770.000	190.000	21.624	3.283	760.000	400.000	29.150	0.905
760.000	190.000	21.853	1.021	750.000	400.000	29.131	1.545
750.000	190.000	21.762	0.676	740.000	400.000	27.402	3.079
740.000	190.000	21.258	0.499	730.000	400.000	28.152	2.269
730.000	190.000	20.278	0.850	720.000	400.000	29.141	1.609
720.000	190.000	18.933	0.896	710.000	400.000	27.374	3.972
710.000	190.000	17.074	1.322	700.000	400.000	28.116	2.524
700.000	190.000	17.770	3.450	690.000	400.000	27.731	2.629
690.000	190.000	17.578	2.693	680.000	400.000	27.712	2.993
680.000	190.000	18.741	1.850	670.000	400.000	27.365	2.969
670.000	190.000	19.079	1.778	660.000	400.000	29.068	4.303
660.000	190.000	18.090	3.849	650.000	400.000	30.304	3.090
650.000	190.000	18.841	1.967	640.000	400.000	27.374	3.391
640.000	190.000	21.368	3.564	630.000	400.000	26.989	3.266
630.000	190.000	19.225	1.727	620.000	400.000	29.305	4.137
620.000	190.000	17.706	2.237	610.000	400.000	31.695	3.693
610.000	190.000	16.699	1.547	600.000	400.000	32.565	3.605
600.000	190.000	18.823	1.264	590.000	400.000	30.578	3.689
590.000	190.000	18.466	1.389	580.000	400.000	32.693	2.713
580.000	190.000	16.232	3.176	570.000	400.000	33.590	2.193
570.000	190.000	17.907	2.791	560.000	400.000	32.794	1.760
560.000	190.000	17.926	2.056	550.000	400.000	33.087	1.565
550.000	190.000	19.290	2.298	540.000	400.000	25.588	0.784
540.000	190.000	19.509	1.833	530.000	400.000	23.309	1.826
530.000	190.000	13.009	2.386	520.000	400.000	27.649	1.609
520.000	190.000	23.858	5.622	510.000	400.000	25.314	4.441
510.000	190.000	23.483	3.375	500.000	400.000	20.654	4.815
500.000	190.000	25.909	1.786	490.000	400.000	19.702	3.693
LINE 390				LINE 410			
490.000	390.000	25.021	0.867	490.000	410.000	25.936	2.280
500.000	390.000	20.608	2.609	500.000	410.000	21.697	2.792
510.000	390.000	24.700	1.973	510.000	410.000	21.450	2.732
520.000	390.000	33.490	1.852	520.000	410.000	22.128	1.949
530.000	390.000	37.600	1.177	530.000	410.000	24.490	1.932
540.000	390.000	27.703	1.907	540.000	410.000	23.245	2.838
550.000	390.000	27.795	1.541	550.000	410.000	20.974	2.947
560.000	390.000	32.272	1.352	560.000	410.000	29.635	1.718
570.000	390.000	41.995	2.148	570.000	410.000	29.965	4.843
580.000	390.000	49.502	3.331	580.000	410.000	27.886	2.261
590.000	390.000	50.244	5.679	590.000	410.000	26.733	3.342
600.000	390.000	50.070	4.529	600.000	410.000	27.063	3.364
610.000	390.000	52.002	4.088	610.000	410.000	27.319	2.881
620.000	390.000	49.850	5.084	620.000	410.000	26.861	4.145
630.000	390.000	51.132	5.916	630.000	410.000	24.389	2.763
640.000	390.000	53.686	4.821	640.000	410.000	23.373	4.307
650.000	390.000	53.082	5.565	650.000	410.000	26.760	3.577
660.000	390.000	58.337	6.006	660.000	410.000	26.156	1.978
670.000	390.000	65.085	6.135	670.000	410.000	24.728	2.021
680.000	390.000	63.949	5.973	680.000	410.000	24.737	2.552
690.000	390.000	64.993	5.850	690.000	410.000	26.046	3.116
700.000	390.000	65.881	5.383	700.000	410.000	26.614	2.355
710.000	390.000	67.327	6.772	710.000	410.000	25.461	2.653
720.000	390.000	65.753	5.146	720.000	410.000	26.907	2.673

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
730.000	410.000	28.262	1.265	710.000	430.000	61.688	2.011
740.000	410.000	28.262	1.901	720.000	430.000	77.224	2.302
750.000	410.000	28.335	1.210	730.000	430.000	69.296	2.993
760.000	410.000	28.711	4.115	740.000	430.000	60.864	2.311
770.000	410.000	33.727	3.230	750.000	430.000	14.035	0.933
780.000	410.000	35.266	2.517	760.000	430.000	24.554	1.183
790.000	410.000	36.456	3.353	770.000	430.000	70.880	4.887
800.000	410.000	42.462	2.221	780.000	430.000	105.432	4.053
LINE 420				790.000	430.000	106.329	4.198
800.000	420.000	116.345	3.719	800.000	430.000	87.396	4.400
790.000	420.000	93.072	3.142	LINE 440			
780.000	420.000	120.593	3.641	800.000	440.000	36.694	1.435
770.000	420.000	112.280	3.147	790.000	440.000	36.603	1.594
760.000	420.000	96.579	3.002	780.000	440.000	39.056	1.712
750.000	420.000	80.099	2.695	770.000	440.000	43.633	1.927
740.000	420.000	71.127	2.412	760.000	440.000	43.881	2.454
730.000	420.000	62.649	2.449	750.000	440.000	44.375	3.022
720.000	420.000	49.667	3.077	740.000	440.000	44.284	2.408
710.000	420.000	39.761	3.415	730.000	440.000	44.961	3.669
700.000	420.000	32.830	2.544	720.000	440.000	47.113	2.785
690.000	420.000	27.639	2.987	710.000	440.000	46.966	2.938
680.000	420.000	23.620	2.589	700.000	440.000	39.468	2.656
670.000	420.000	21.276	2.434	690.000	440.000	32.757	2.028
660.000	420.000	19.592	2.732	680.000	440.000	23.364	2.230
650.000	420.000	21.880	2.541	670.000	440.000	17.697	1.894
640.000	420.000	21.716	2.662	660.000	440.000	19.519	3.485
630.000	420.000	22.860	2.445	650.000	440.000	18.548	2.528
620.000	420.000	21.542	2.440	640.000	440.000	17.239	3.950
610.000	420.000	21.157	2.144	630.000	440.000	16.424	2.125
600.000	420.000	20.508	2.798	620.000	440.000	17.743	2.309
590.000	420.000	20.818	2.522	610.000	440.000	20.251	2.616
580.000	420.000	21.496	2.155	600.000	440.000	15.710	3.125
570.000	420.000	23.245	2.217	590.000	440.000	13.659	2.423
560.000	420.000	23.281	1.892	580.000	440.000	17.257	2.673
550.000	420.000	24.289	1.532	570.000	440.000	22.512	2.067
540.000	420.000	21.203	2.517	560.000	440.000	23.116	1.457
530.000	420.000	22.091	1.765	550.000	440.000	14.437	1.521
520.000	420.000	22.915	1.822	540.000	440.000	15.646	1.604
510.000	420.000	22.082	1.773	530.000	440.000	22.485	1.462
500.000	420.000	22.806	1.681	520.000	440.000	21.954	3.783
490.000	420.000	22.522	1.787	510.000	440.000	20.718	2.039
480.000	420.000	26.138	3.037	500.000	440.000	20.306	5.135
LINE 430				490.000	440.000	21.460	2.917
480.000	430.000	28.051	0.810	480.000	440.000	30.001	-1.085
490.000	430.000	21.542	3.895	LINE 450			
500.000	430.000	20.160	2.006	480.000	450.000	20.782	6.190
510.000	430.000	21.725	1.357	490.000	450.000	24.930	1.025
520.000	430.000	21.359	1.865	500.000	450.000	19.711	2.052
530.000	430.000	22.879	4.251	510.000	450.000	19.244	2.113
540.000	430.000	22.879	1.991	520.000	450.000	20.581	2.125
550.000	430.000	20.278	6.271	530.000	450.000	22.522	1.964
560.000	430.000	25.021	4.804	540.000	450.000	24.435	3.167
570.000	430.000	20.590	3.408	550.000	450.000	20.334	1.958
580.000	430.000	22.320	3.680	560.000	450.000	20.599	1.398
590.000	430.000	18.255	3.996	570.000	450.000	22.165	3.206
600.000	430.000	17.212	4.529	580.000	450.000	21.945	4.077
610.000	430.000	21.405	2.693	590.000	450.000	19.189	2.976
620.000	430.000	22.531	2.193	600.000	450.000	17.788	2.668
630.000	430.000	21.807	2.570	610.000	450.000	19.354	2.383
640.000	430.000	22.650	4.347	620.000	450.000	19.848	2.045
650.000	430.000	20.370	3.285	630.000	450.000	19.198	2.884
660.000	430.000	19.033	2.712	640.000	450.000	18.072	2.835
670.000	430.000	20.498	2.243	650.000	450.000	17.788	2.144
680.000	430.000	23.501	2.656	660.000	450.000	16.827	1.793
690.000	430.000	31.814	1.749	670.000	450.000	18.750	2.491
700.000	430.000	46.993	2.278	680.000	450.000	19.042	2.611



Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
690.000	450.000	20.224	2.458	670.000	470.000	16.021	3.105
700.000	450.000	21.780	2.359	680.000	470.000	15.747	1.934
710.000	450.000	23.327	2.050	690.000	470.000	16.424	2.769
720.000	450.000	26.541	3.537	700.000	470.000	17.596	2.585
730.000	450.000	27.264	1.984	710.000	470.000	17.971	1.576
740.000	450.000	27.218	1.789	720.000	470.000	19.409	5.282
750.000	450.000	26.953	1.920	730.000	470.000	19.629	2.952
760.000	450.000	29.004	1.403	740.000	470.000	20.141	1.231
770.000	450.000	24.682	1.442	750.000	470.000	20.535	0.970
780.000	450.000	23.565	1.635	760.000	470.000	20.361	1.027
790.000	450.000	25.900	1.491	770.000	470.000	20.745	1.719
800.000	450.000	24.856	1.240	780.000	470.000	21.075	0.740
LINE 460				790.000	470.000	22.009	1.927
800.000	460.000	21.954	0.751	800.000	470.000	23.647	0.395
790.000	460.000	21.615	1.264	LINE 480			
780.000	460.000	21.560	0.955	800.000	480.000	21.148	0.667
770.000	460.000	21.981	1.488	790.000	480.000	21.213	0.661
760.000	460.000	21.368	1.229	780.000	480.000	20.965	0.437
750.000	460.000	21.542	1.065	770.000	480.000	20.169	1.622
740.000	460.000	20.480	1.155	760.000	480.000	19.583	1.063
730.000	460.000	20.654	2.291	750.000	480.000	18.777	0.735
720.000	460.000	20.700	4.391	740.000	480.000	19.052	3.044
710.000	460.000	19.399	2.304	730.000	480.000	19.464	0.953
700.000	460.000	18.850	2.313	720.000	480.000	17.028	1.879
690.000	460.000	17.660	2.372	710.000	480.000	17.275	1.640
680.000	460.000	17.230	2.331	700.000	480.000	15.829	1.932
670.000	460.000	17.953	1.879	690.000	480.000	14.667	2.192
660.000	460.000	16.662	2.010	680.000	480.000	14.145	2.482
650.000	460.000	16.396	2.052	670.000	480.000	15.390	2.090
640.000	460.000	19.912	1.510	660.000	480.000	17.999	1.469
630.000	460.000	19.061	2.017	650.000	480.000	18.365	1.802
620.000	460.000	18.722	2.100	640.000	480.000	16.946	1.078
610.000	460.000	20.526	2.090	630.000	480.000	18.576	1.747
600.000	460.000	18.896	2.085	620.000	480.000	18.768	1.681
590.000	460.000	19.418	1.918	610.000	480.000	19.006	1.784
580.000	460.000	20.233	1.683	600.000	480.000	17.596	1.633
570.000	460.000	20.727	2.460	590.000	480.000	17.898	2.015
560.000	460.000	21.103	1.736	580.000	480.000	19.033	1.536
550.000	460.000	20.379	1.596	570.000	480.000	19.867	1.458
540.000	460.000	18.576	1.633	560.000	480.000	22.128	1.495
530.000	460.000	23.016	1.560	550.000	480.000	17.028	1.795
520.000	460.000	22.054	1.238	540.000	480.000	19.665	1.293
510.000	460.000	21.981	1.569	530.000	480.000	23.675	0.672
500.000	460.000	20.269	1.791	520.000	480.000	24.444	0.887
490.000	460.000	19.638	1.622	510.000	480.000	23.776	1.124
480.000	460.000	25.378	2.350	500.000	480.000	20.791	1.526
LINE 470				490.000	480.000	19.803	2.912
480.000	470.000	24.600	1.515	480.000	480.000	23.538	2.337
490.000	470.000	22.549	1.804	LINE 0			
500.000	470.000	21.652	1.436	0.000	0.000	19.839	0.124
510.000	470.000	22.393	0.962	10.000	0.000	19.812	0.038
520.000	470.000	23.272	0.856	20.000	0.000	20.334	0.110
530.000	470.000	22.961	1.523	30.000	0.000	19.930	0.082
540.000	470.000	23.337	1.903	40.000	0.000	20.287	0.014
550.000	470.000	21.166	2.067	50.000	0.000	19.647	0.117
560.000	470.000	18.145	4.431	60.000	0.000	20.727	0.071
570.000	470.000	21.432	2.285	70.000	0.000	21.798	0.012
580.000	470.000	20.040	3.171	80.000	0.000	22.311	-0.029
590.000	470.000	19.821	2.318	90.000	0.000	20.379	0.229
600.000	470.000	18.942	1.855	100.000	0.000	17.623	0.295
610.000	470.000	18.832	2.721	110.000	0.000	19.125	0.385
620.000	470.000	20.645	1.958	120.000	0.000	20.846	0.055
630.000	470.000	19.134	2.102	130.000	0.000	21.349	0.073
640.000	470.000	17.056	1.830	140.000	0.000	21.048	0.080
650.000	470.000	17.779	1.784	150.000	0.000	21.276	0.135
660.000	470.000	16.204	1.609	160.000	0.000	21.002	0.135

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
170.000	0.000	20.590	0.437	790.000	10.000	18.942	0.119
180.000	0.000	20.352	0.224	780.000	10.000	18.356	0.167
190.000	0.000	20.443	0.181	770.000	10.000	18.310	0.145
200.000	0.000	21.377	0.157	760.000	10.000	18.777	0.165
210.000	0.000	20.883	0.172	750.000	10.000	17.010	0.290
220.000	0.000	21.597	0.152	740.000	10.000	17.697	0.058
230.000	0.000	20.123	0.352	730.000	10.000	17.550	0.101
240.000	0.000	20.287	0.235	720.000	10.000	17.376	0.214
250.000	0.000	20.370	0.042	710.000	10.000	17.761	0.275
260.000	0.000	20.590	0.101	700.000	10.000	17.303	0.327
270.000	0.000	20.004	0.255	690.000	10.000	17.999	0.194
280.000	0.000	19.821	0.345	680.000	10.000	18.182	0.209
290.000	0.000	21.286	0.282	670.000	10.000	18.420	0.170
300.000	0.000	21.697	0.205	660.000	10.000	18.612	0.185
310.000	0.000	21.753	0.112	650.000	10.000	18.054	0.373
320.000	0.000	22.210	0.080	640.000	10.000	17.148	0.385
330.000	0.000	20.287	0.632	630.000	10.000	18.832	0.430
340.000	0.000	15.042	1.850	620.000	10.000	18.228	0.049
350.000	0.000	19.070	1.038	610.000	10.000	18.191	0.159
360.000	0.000	17.825	0.622	600.000	10.000	19.125	0.384
370.000	0.000	17.541	0.850	590.000	10.000	17.642	0.512
380.000	0.000	17.853	0.797	580.000	10.000	15.600	0.485
390.000	0.000	17.715	0.843	570.000	10.000	17.605	0.758
400.000	0.000	18.558	0.955	560.000	10.000	17.605	0.540
410.000	0.000	19.042	0.795	550.000	10.000	15.994	1.356
420.000	0.000	20.718	0.207	540.000	10.000	16.012	1.508
430.000	0.000	21.570	0.152	530.000	10.000	15.289	1.732
440.000	0.000	20.077	0.474	520.000	10.000	14.282	2.033
450.000	0.000	20.325	0.332	510.000	10.000	16.058	1.784
460.000	0.000	21.286	0.218	500.000	10.000	14.932	1.982
470.000	0.000	21.368	0.156	490.000	10.000	15.372	1.859
480.000	0.000	20.910	0.027	480.000	10.000	18.402	0.836
490.000	0.000	17.962	1.006	470.000	10.000	21.057	0.317
500.000	0.000	15.756	1.697	460.000	10.000	20.910	0.293
510.000	0.000	16.177	1.315	450.000	10.000	21.084	0.341
520.000	0.000	16.525	1.534	440.000	10.000	20.828	0.238
530.000	0.000	16.662	1.605	430.000	10.000	19.647	0.911
540.000	0.000	17.294	1.076	420.000	10.000	18.887	1.085
550.000	0.000	16.873	0.916	410.000	10.000	19.143	1.556
560.000	0.000	18.777	0.417	400.000	10.000	14.556	2.050
570.000	0.000	17.651	0.472	390.000	10.000	14.648	1.765
580.000	0.000	18.814	0.529	380.000	10.000	18.685	1.446
590.000	0.000	18.850	0.266	370.000	10.000	19.006	0.893
600.000	0.000	18.182	0.391	360.000	10.000	19.537	0.981
610.000	0.000	18.274	0.167	350.000	10.000	18.694	0.999
620.000	0.000	19.189	0.170	340.000	10.000	19.491	0.723
630.000	0.000	18.219	0.084	330.000	10.000	19.519	0.703
640.000	0.000	18.859	0.251	320.000	10.000	21.240	0.551
650.000	0.000	19.042	0.141	310.000	10.000	21.707	0.435
660.000	0.000	18.741	0.178	300.000	10.000	21.340	0.350
670.000	0.000	18.539	0.157	290.000	10.000	21.093	0.328
680.000	0.000	18.264	0.134	280.000	10.000	19.326	0.626
690.000	0.000	17.614	0.213	270.000	10.000	19.702	0.545
700.000	0.000	17.175	0.115	260.000	10.000	19.564	0.262
710.000	0.000	17.816	0.119	250.000	10.000	19.592	0.497
720.000	0.000	17.990	0.115	240.000	10.000	19.436	0.554
730.000	0.000	17.990	0.128	230.000	10.000	19.354	0.512
740.000	0.000	17.166	0.198	220.000	10.000	20.663	0.385
750.000	0.000	17.761	0.115	210.000	10.000	20.388	0.350
760.000	0.000	18.090	0.135	200.000	10.000	21.194	0.200
770.000	0.000	18.191	0.137	190.000	10.000	21.093	0.358
780.000	0.000	18.603	0.163	180.000	10.000	21.460	0.398
790.000	0.000	18.191	0.123	170.000	10.000	20.581	0.330
800.000	0.000	18.502	0.132	160.000	10.000	19.290	0.314
NE 10				150.000	10.000	19.921	0.191
800.000	10.000	18.612	0.214	140.000	10.000	21.011	0.407

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
130.000	10.000	19.482	0.255	510.000	20.000	17.038	1.852
120.000	10.000	18.420	0.584	520.000	20.000	16.131	2.057
110.000	10.000	17.376	1.258	530.000	20.000	16.387	2.124
100.000	10.000	17.889	0.698	540.000	20.000	15.628	2.241
90.000	10.000	20.553	0.033	550.000	20.000	14.282	2.074
80.000	10.000	22.045	0.121	560.000	20.000	15.710	1.567
70.000	10.000	17.358	1.286	570.000	20.000	18.859	0.779
60.000	10.000	13.128	1.688	580.000	20.000	18.008	0.762
50.000	10.000	22.952	0.290	590.000	20.000	18.136	0.801
40.000	10.000	21.560	0.246	600.000	20.000	17.166	0.668
30.000	10.000	20.645	0.297	610.000	20.000	17.843	0.670
20.000	10.000	19.171	0.347	620.000	20.000	18.841	0.488
10.000	10.000	19.354	0.251	630.000	20.000	18.090	0.529
0.000	10.000	19.977	0.192	640.000	20.000	18.868	0.499
LINE 20				650.000	20.000	18.466	0.615
0.000	20.000	19.756	0.339	660.000	20.000	17.587	0.663
10.000	20.000	19.711	0.509	670.000	20.000	18.447	0.384
20.000	20.000	19.528	0.464	680.000	20.000	19.061	0.384
30.000	20.000	20.919	0.273	690.000	20.000	18.090	0.485
40.000	20.000	18.676	0.854	700.000	20.000	17.505	0.461
50.000	20.000	18.567	0.753	710.000	20.000	18.017	0.369
60.000	20.000	17.376	1.491	720.000	20.000	18.621	0.402
70.000	20.000	18.072	1.109	730.000	20.000	17.880	0.380
80.000	20.000	16.396	1.240	740.000	20.000	17.733	0.363
90.000	20.000	-3.726	11.377	750.000	20.000	17.853	0.437
100.000	20.000	-0.851	9.793	760.000	20.000	18.511	0.373
110.000	20.000	23.217	-1.141	770.000	20.000	18.081	0.393
120.000	20.000	19.583	0.369	780.000	20.000	17.770	0.306
130.000	20.000	19.427	0.290	790.000	20.000	18.356	0.365
140.000	20.000	19.830	0.301	800.000	20.000	18.301	0.233
150.000	20.000	20.700	0.328	LINE 30			
160.000	20.000	20.480	0.407	800.000	30.000	19.042	0.262
170.000	20.000	20.645	0.428	790.000	30.000	19.546	0.281
180.000	20.000	21.560	0.358	780.000	30.000	19.436	0.323
190.000	20.000	23.016	0.354	770.000	30.000	19.299	0.295
200.000	20.000	23.346	0.345	760.000	30.000	17.843	0.490
210.000	20.000	23.400	0.308	750.000	30.000	17.999	0.387
220.000	20.000	22.585	0.428	740.000	30.000	17.221	0.523
230.000	20.000	21.349	0.389	730.000	30.000	17.816	0.494
240.000	20.000	19.903	0.389	720.000	30.000	18.264	0.339
250.000	20.000	19.409	0.507	710.000	30.000	18.274	0.485
260.000	20.000	19.519	0.464	700.000	30.000	17.505	0.363
270.000	20.000	20.947	0.218	690.000	30.000	17.679	0.463
280.000	20.000	21.057	0.189	680.000	30.000	17.752	0.483
290.000	20.000	21.899	0.198	670.000	30.000	16.827	0.633
300.000	20.000	19.977	0.973	660.000	30.000	19.921	0.459
310.000	20.000	20.700	0.894	650.000	30.000	19.143	0.393
320.000	20.000	19.921	0.740	640.000	30.000	19.308	0.556
330.000	20.000	18.301	0.975	630.000	30.000	18.658	0.610
340.000	20.000	20.141	1.019	620.000	30.000	18.017	0.630
350.000	20.000	20.050	0.953	610.000	30.000	18.374	0.757
360.000	20.000	19.033	1.071	600.000	30.000	14.355	1.074
370.000	20.000	20.691	1.119	590.000	30.000	15.051	0.920
380.000	20.000	18.447	1.468	580.000	30.000	15.490	0.773
390.000	20.000	17.715	1.359	570.000	30.000	17.074	0.869
400.000	20.000	14.703	2.296	560.000	30.000	18.136	0.972
410.000	20.000	13.009	2.434	550.000	30.000	14.822	2.006
420.000	20.000	13.238	2.271	540.000	30.000	15.729	1.868
430.000	20.000	15.051	1.741	530.000	30.000	15.463	1.719
440.000	20.000	18.511	1.096	520.000	30.000	16.882	1.981
450.000	20.000	21.652	0.222	510.000	30.000	17.065	1.824
460.000	20.000	21.048	0.341	500.000	30.000	16.131	2.050
470.000	20.000	21.103	0.420	490.000	30.000	17.028	2.043
480.000	20.000	20.370	0.597	480.000	30.000	22.430	0.492
490.000	20.000	18.200	1.306	470.000	30.000	19.482	1.168
500.000	20.000	16.213	1.927	460.000	30.000	14.987	1.850

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
450.000	30.000	22.933	0.306	190.000	40.000	62.402	0.474
440.000	30.000	21.157	0.804	200.000	40.000	72.693	0.378
430.000	30.000	20.608	1.363	210.000	40.000	58.264	0.569
420.000	30.000	12.900	3.090	220.000	40.000	46.737	0.663
410.000	30.000	14.959	2.316	230.000	40.000	18.210	0.968
400.000	30.000	16.589	1.857	240.000	40.000	19.399	0.852
390.000	30.000	17.376	1.831	250.000	40.000	22.485	0.650
380.000	30.000	16.443	2.113	260.000	40.000	-2.563	7.948
370.000	30.000	19.290	1.475	270.000	40.000	3.112	5.067
360.000	30.000	20.361	1.135	280.000	40.000	12.268	3.509
350.000	30.000	19.262	1.003	290.000	40.000	15.207	2.871
340.000	30.000	19.116	1.122	300.000	40.000	16.965	1.773
330.000	30.000	20.022	1.124	310.000	40.000	13.806	2.282
320.000	30.000	19.125	1.017	320.000	40.000	15.060	2.798
310.000	30.000	16.946	1.649	330.000	40.000	19.848	1.504
300.000	30.000	17.907	1.762	340.000	40.000	20.104	1.170
290.000	30.000	17.275	1.778	350.000	40.000	20.251	0.992
280.000	30.000	17.413	1.960	360.000	40.000	17.422	1.403
270.000	30.000	9.219	3.331	370.000	40.000	15.426	2.094
260.000	30.000	18.621	0.786	380.000	40.000	17.953	1.308
250.000	30.000	21.551	0.444	390.000	40.000	17.230	1.706
240.000	30.000	20.022	0.692	400.000	40.000	17.385	2.135
230.000	30.000	19.244	0.461	410.000	40.000	16.470	2.249
220.000	30.000	25.158	0.536	420.000	40.000	13.980	3.039
210.000	30.000	36.575	0.317	430.000	40.000	14.593	3.000
200.000	30.000	42.599	0.404	440.000	40.000	16.937	2.113
190.000	30.000	44.183	0.374	450.000	40.000	13.668	2.842
180.000	30.000	37.472	0.260	460.000	40.000	15.344	1.839
170.000	30.000	23.272	0.518	470.000	40.000	22.018	0.946
160.000	30.000	20.160	0.560	480.000	40.000	17.688	2.204
150.000	30.000	20.508	0.519	490.000	40.000	16.754	1.833
140.000	30.000	19.244	0.507	500.000	40.000	17.953	1.931
130.000	30.000	19.848	0.433	510.000	40.000	16.754	1.881
120.000	30.000	20.242	0.492	520.000	40.000	16.561	2.287
110.000	30.000	21.029	0.466	530.000	40.000	14.694	2.697
100.000	30.000	20.178	0.435	540.000	40.000	15.445	2.368
90.000	30.000	17.715	1.322	550.000	40.000	15.316	2.287
80.000	30.000	21.396	0.503	560.000	40.000	17.898	1.635
70.000	30.000	15.811	2.070	570.000	40.000	15.729	1.528
60.000	30.000	19.857	0.773	580.000	40.000	17.395	1.106
50.000	30.000	23.382	0.613	590.000	40.000	17.614	1.133
40.000	30.000	21.295	1.264	600.000	40.000	14.840	1.060
30.000	30.000	16.086	0.400	610.000	40.000	13.696	1.177
20.000	30.000	21.359	0.532	620.000	40.000	15.939	1.240
10.000	30.000	19.839	0.714	630.000	40.000	16.955	1.045
0.000	30.000	20.224	0.723	640.000	40.000	18.511	0.729
LINE 40				650.000	40.000	19.015	0.738
0.000	40.000	21.084	0.786	660.000	40.000	19.052	0.648
10.000	40.000	16.140	1.644	670.000	40.000	18.493	0.571
20.000	40.000	20.040	0.937	680.000	40.000	19.528	0.628
30.000	40.000	20.434	0.837	690.000	40.000	16.955	0.865
40.000	40.000	21.075	0.670	700.000	40.000	16.726	0.661
50.000	40.000	22.879	0.633	710.000	40.000	17.779	0.564
60.000	40.000	20.498	1.163	720.000	40.000	18.090	0.753
70.000	40.000	17.422	1.659	730.000	40.000	18.090	0.396
80.000	40.000	17.706	1.514	740.000	40.000	17.395	0.543
90.000	40.000	12.222	4.167	750.000	40.000	17.413	0.692
100.000	40.000	17.248	0.896	760.000	40.000	18.109	0.659
110.000	40.000	18.310	0.826	770.000	40.000	18.420	0.687
120.000	40.000	19.061	0.821	780.000	40.000	19.253	0.613
130.000	40.000	19.143	0.683	790.000	40.000	17.990	0.624
140.000	40.000	20.077	0.529	800.000	40.000	17.614	0.578
150.000	40.000	19.473	0.562	LINE 50			
160.000	40.000	19.015	0.486	800.000	50.000	18.365	0.654
170.000	40.000	20.132	0.797	790.000	50.000	17.816	0.690
180.000	40.000	36.483	0.571	780.000	50.000	18.210	0.646

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
770.000	50.000	18.558	0.637	110.000	50.000	19.281	1.038
760.000	50.000	17.715	0.630	100.000	50.000	18.292	1.087
750.000	50.000	18.072	0.606	90.000	50.000	16.223	2.318
740.000	50.000	17.935	0.659	80.000	50.000	16.882	1.876
730.000	50.000	17.724	0.632	70.000	50.000	20.526	0.894
720.000	50.000	17.422	0.685	60.000	50.000	19.262	1.102
710.000	50.000	15.765	0.903	50.000	50.000	20.224	1.098
700.000	50.000	17.907	0.677	40.000	50.000	13.018	2.497
690.000	50.000	19.446	0.733	30.000	50.000	15.261	2.291
680.000	50.000	19.079	0.700	20.000	50.000	14.071	1.800
670.000	50.000	19.216	1.067	10.000	50.000	14.968	2.079
660.000	50.000	17.853	1.019	0.000	50.000	15.847	2.576
650.000	50.000	18.045	1.028	LINE 60			
640.000	50.000	17.642	1.339	0.000	60.000	19.317	2.171
630.000	50.000	14.373	1.512	10.000	60.000	18.072	2.127
620.000	50.000	13.549	1.534	20.000	60.000	15.033	1.106
610.000	50.000	15.490	1.514	30.000	60.000	21.258	1.047
600.000	50.000	15.774	1.310	40.000	60.000	21.661	0.880
590.000	50.000	15.618	1.435	50.000	60.000	22.924	0.782
580.000	50.000	16.992	1.264	60.000	60.000	19.171	1.275
570.000	50.000	17.569	1.249	70.000	60.000	18.521	1.203
560.000	50.000	18.694	0.964	80.000	60.000	18.036	1.198
550.000	50.000	18.484	1.229	90.000	60.000	17.632	1.368
540.000	50.000	15.655	1.843	100.000	60.000	17.669	1.376
530.000	50.000	16.452	2.340	110.000	60.000	18.484	1.082
520.000	50.000	12.936	3.279	120.000	60.000	17.926	1.321
510.000	50.000	16.791	2.081	130.000	60.000	18.301	1.119
500.000	50.000	18.081	2.002	140.000	60.000	18.154	0.975
490.000	50.000	17.248	2.440	150.000	60.000	17.376	1.330
480.000	50.000	16.095	2.285	160.000	60.000	18.933	0.992
470.000	50.000	21.588	0.995	170.000	60.000	21.029	0.727
460.000	50.000	25.113	0.817	180.000	60.000	21.148	0.655
450.000	50.000	22.668	0.931	190.000	60.000	19.940	1.558
440.000	50.000	19.052	1.695	200.000	60.000	7.617	5.442
430.000	50.000	18.548	1.865	210.000	60.000	13.678	3.597
420.000	50.000	16.809	2.916	220.000	60.000	10.968	4.477
410.000	50.000	18.511	1.383	230.000	60.000	17.404	1.479
400.000	50.000	21.148	1.512	240.000	60.000	21.276	0.736
390.000	50.000	18.475	1.425	250.000	60.000	21.349	0.927
380.000	50.000	16.543	1.692	260.000	60.000	23.483	0.902
370.000	50.000	16.827	1.929	270.000	60.000	26.587	0.551
360.000	50.000	15.555	2.539	280.000	60.000	22.119	2.719
350.000	50.000	20.489	1.126	290.000	60.000	11.544	5.053
340.000	50.000	21.222	1.560	300.000	60.000	17.715	1.686
330.000	50.000	18.951	1.820	310.000	60.000	16.635	2.214
320.000	50.000	16.204	3.140	320.000	60.000	15.765	2.647
310.000	50.000	15.573	2.982	330.000	60.000	15.445	2.875
300.000	50.000	17.880	1.901	LINE 70			
290.000	50.000	20.325	2.598	330.000	70.000	11.929	2.669
280.000	50.000	12.689	3.867	320.000	70.000	17.505	2.837
270.000	50.000	10.739	3.976	310.000	70.000	21.331	2.063
260.000	50.000	9.768	4.248	300.000	70.000	22.641	1.993
250.000	50.000	22.247	0.723	290.000	70.000	20.654	1.888
240.000	50.000	21.460	0.968	280.000	70.000	5.529	3.292
230.000	50.000	19.583	0.949	270.000	70.000	12.982	2.164
220.000	50.000	22.961	0.404	260.000	70.000	10.968	3.300
210.000	50.000	26.980	0.290	250.000	70.000	20.947	1.243
200.000	50.000	28.417	0.275	240.000	70.000	23.483	0.863
190.000	50.000	27.374	0.622	230.000	70.000	21.734	1.032
180.000	50.000	24.115	0.751	220.000	70.000	19.583	1.993
170.000	50.000	20.910	0.935	210.000	70.000	3.085	6.550
160.000	50.000	19.491	0.479	200.000	70.000	10.629	4.182
150.000	50.000	19.528	1.319	190.000	70.000	11.984	3.939
140.000	50.000	19.656	0.848	180.000	70.000	20.315	0.701
130.000	50.000	18.685	1.076	170.000	70.000	19.921	0.933
120.000	50.000	18.274	1.427	160.000	70.000	19.354	0.977

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
150.000	70.000	19.821	0.931	190.000	90.000	20.654	0.317
140.000	70.000	19.446	0.973	180.000	90.000	21.496	0.360
130.000	70.000	19.949	0.933	170.000	90.000	20.306	0.466
120.000	70.000	20.059	1.028	160.000	90.000	20.287	0.382
110.000	70.000	18.859	1.243	150.000	90.000	21.240	0.189
100.000	70.000	17.770	1.201	140.000	90.000	20.654	0.367
90.000	70.000	18.292	1.146	130.000	90.000	19.079	0.453
80.000	70.000	20.233	0.907	120.000	90.000	19.546	0.415
70.000	70.000	21.249	0.869	110.000	90.000	18.969	0.470
60.000	70.000	20.425	1.049	100.000	90.000	18.759	0.477
50.000	70.000	21.817	1.131	90.000	90.000	21.908	0.121
40.000	70.000	14.328	2.269	80.000	90.000	14.154	0.990
30.000	70.000	17.688	1.550	70.000	90.000	19.225	0.799
20.000	70.000	20.892	0.635	60.000	90.000	24.810	0.440
10.000	70.000	14.108	2.024	50.000	90.000	20.151	1.754
0.000	70.000	16.342	2.451	40.000	90.000	16.434	-0.051
LINE 80				30.000	90.000	15.325	0.885
0.000	80.000	9.237	2.265	20.000	90.000	22.467	0.194
10.000	80.000	10.263	1.119	10.000	90.000	22.677	0.214
20.000	80.000	20.938	-0.183	0.000	90.000	22.412	0.134
30.000	80.000	18.814	1.348	LINE 100			
40.000	80.000	18.027	1.635	0.000	100.000	21.002	0.404
50.000	80.000	19.189	1.440	10.000	100.000	21.276	0.457
60.000	80.000	23.135	0.464	20.000	100.000	20.800	0.264
70.000	80.000	23.025	0.163	30.000	100.000	22.228	0.257
80.000	80.000	18.603	0.424	40.000	100.000	23.968	0.345
90.000	80.000	20.956	0.292	50.000	100.000	19.098	0.850
100.000	80.000	19.134	0.407	60.000	100.000	18.054	-0.422
110.000	80.000	19.573	0.475	70.000	100.000	21.359	0.814
120.000	80.000	19.693	0.389	80.000	100.000	17.578	0.832
130.000	80.000	19.225	0.393	90.000	100.000	17.806	0.431
140.000	80.000	21.066	0.317	100.000	100.000	19.656	0.339
150.000	80.000	20.654	0.176	110.000	100.000	19.198	0.477
160.000	80.000	20.141	0.290	120.000	100.000	19.573	0.371
170.000	80.000	20.297	0.229	130.000	100.000	20.114	0.259
180.000	80.000	21.166	0.202	140.000	100.000	19.830	0.271
190.000	80.000	19.519	0.716	150.000	100.000	20.251	0.288
200.000	80.000	19.784	0.790	160.000	100.000	21.075	0.442
210.000	80.000	22.091	-0.056	170.000	100.000	20.745	0.273
220.000	80.000	23.492	-0.071	180.000	100.000	20.755	0.306
230.000	80.000	23.144	0.005	190.000	100.000	21.368	0.282
240.000	80.000	22.595	0.409	200.000	100.000	17.422	1.412
250.000	80.000	24.563	0.354	210.000	100.000	15.921	1.977
260.000	80.000	20.892	0.999	220.000	100.000	14.575	2.368
270.000	80.000	24.536	2.124	230.000	100.000	16.387	2.528
280.000	80.000	-9.905	3.118	240.000	100.000	19.290	1.815
290.000	80.000	31.650	0.782	250.000	100.000	24.453	0.964
300.000	80.000	26.724	0.861	260.000	100.000	34.469	0.784
310.000	80.000	26.156	0.966	270.000	100.000	54.684	4.643
320.000	80.000	23.410	0.931	280.000	100.000	-84.631	-1.214
330.000	80.000	21.340	1.607	290.000	100.000	71.584	4.957
LINE 90				300.000	100.000	26.523	2.938
330.000	90.000	23.318	2.256	310.000	100.000	18.905	3.377
320.000	90.000	24.472	1.074	320.000	100.000	19.766	2.186
310.000	90.000	14.914	0.990	330.000	100.000	25.799	1.177
300.000	90.000	13.678	1.335	LINE 110			
290.000	90.000	34.570	3.476	330.000	110.000	25.314	1.615
280.000	90.000	59.756	6.557	320.000	110.000	22.686	2.337
270.000	90.000	-68.335	3.391	310.000	110.000	21.194	2.923
260.000	90.000	41.226	3.634	300.000	110.000	29.443	2.796
250.000	90.000	32.583	0.415	290.000	110.000	64.324	8.147
240.000	90.000	26.385	0.703	280.000	110.000	-92.797	-3.856
230.000	90.000	19.253	1.556	270.000	110.000	12.405	5.159
220.000	90.000	19.079	1.385	260.000	110.000	42.810	7.052
210.000	90.000	17.632	1.299	250.000	110.000	34.899	1.765
200.000	90.000	18.896	0.711	240.000	110.000	26.925	1.931

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
230.000	110.000	20.846	2.563	260.000	130.000	78.699	4.632
220.000	110.000	16.671	2.855	250.000	130.000	51.709	3.537
210.000	110.000	16.168	2.364	240.000	130.000	51.772	3.004
200.000	110.000	20.471	1.017	230.000	130.000	41.857	3.827
190.000	110.000	20.581	0.861	220.000	130.000	34.378	3.559
180.000	110.000	21.744	0.248	210.000	130.000	36.950	2.493
170.000	110.000	21.670	0.189	200.000	130.000	24.490	1.888
160.000	110.000	21.093	0.170	190.000	130.000	25.552	0.867
150.000	110.000	20.526	0.110	180.000	130.000	23.053	0.694
140.000	110.000	20.782	0.148	170.000	130.000	21.972	0.578
130.000	110.000	21.002	0.227	160.000	130.000	21.688	0.323
120.000	110.000	19.729	0.483	150.000	130.000	21.496	0.117
110.000	110.000	18.530	0.679	140.000	130.000	21.963	0.308
100.000	110.000	20.791	0.101	130.000	130.000	19.949	0.418
90.000	110.000	21.029	0.203	120.000	130.000	20.800	0.600
80.000	110.000	20.663	0.238	110.000	130.000	17.193	0.916
70.000	110.000	22.567	0.170	100.000	130.000	19.537	0.448
60.000	110.000	22.348	0.349	90.000	130.000	18.814	0.503
50.000	110.000	19.308	0.538	80.000	130.000	21.359	0.347
40.000	110.000	25.543	-0.075	70.000	130.000	22.696	0.148
30.000	110.000	24.756	0.178	60.000	130.000	19.629	0.499
20.000	110.000	16.873	1.299	50.000	130.000	11.178	1.824
10.000	110.000	16.754	1.308	40.000	130.000	14.410	2.013
0.000	110.000	15.252	1.242	30.000	130.000	21.075	0.418
LINE 120				20.000	130.000	23.666	0.036
0.000	120.000	16.177	1.135	10.000	130.000	24.646	0.023
10.000	120.000	16.955	1.291	0.000	130.000	22.906	0.310
20.000	120.000	15.701	1.119	LINE 140			
30.000	120.000	21.176	0.349	0.000	140.000	25.030	0.078
40.000	120.000	20.508	0.823	10.000	140.000	26.751	-0.205
50.000	120.000	18.210	1.322	20.000	140.000	25.470	-0.018
60.000	120.000	16.369	1.956	30.000	140.000	24.087	0.053
70.000	120.000	19.436	0.801	40.000	140.000	24.042	-0.053
80.000	120.000	21.771	0.143	50.000	140.000	24.005	0.022
90.000	120.000	20.471	0.282	60.000	140.000	23.419	0.031
100.000	120.000	19.958	0.178	70.000	140.000	21.991	0.106
110.000	120.000	20.992	0.211	80.000	140.000	20.297	0.073
120.000	120.000	21.194	0.290	90.000	140.000	18.475	0.775
130.000	120.000	21.615	0.270	100.000	140.000	19.519	0.191
140.000	120.000	20.837	0.244	110.000	140.000	20.022	0.519
150.000	120.000	21.798	0.117	120.000	140.000	19.528	0.959
160.000	120.000	21.551	0.174	130.000	140.000	18.731	1.071
170.000	120.000	21.688	0.233	140.000	140.000	20.178	0.448
180.000	120.000	21.826	0.430	150.000	140.000	21.450	0.519
190.000	120.000	20.892	0.931	160.000	140.000	20.608	0.630
200.000	120.000	18.612	2.447	170.000	140.000	20.242	0.837
210.000	120.000	17.679	2.315	180.000	140.000	21.249	0.740
220.000	120.000	17.587	2.668	190.000	140.000	26.147	0.654
230.000	120.000	18.163	3.450	200.000	140.000	37.207	3.748
240.000	120.000	22.054	2.974	210.000	140.000	47.818	5.745
250.000	120.000	27.181	2.013	220.000	140.000	73.746	3.895
260.000	120.000	32.327	2.633	230.000	140.000	77.179	4.801
270.000	120.000	60.736	5.255	240.000	140.000	85.629	5.517
280.000	120.000	-16.012	1.078	250.000	140.000	92.596	5.720
290.000	120.000	-11.700	4.788	260.000	140.000	93.640	8.534
300.000	120.000	31.878	4.589	270.000	140.000	115.310	12.310
310.000	120.000	23.931	3.608	280.000	140.000	121.719	14.253
320.000	120.000	24.930	1.741	290.000	140.000	-92.862	-4.996
330.000	120.000	25.809	1.265	300.000	140.000	39.514	3.062
LINE 130				310.000	140.000	32.355	1.793
320.000	130.000	25.973	1.372	320.000	140.000	24.023	1.885
310.000	130.000	24.636	2.030	LINE 150			
300.000	130.000	42.901	3.040	320.000	150.000	25.396	1.481
290.000	130.000	75.503	6.963	310.000	150.000	19.390	5.133
280.000	130.000	-92.797	-5.760	300.000	150.000	44.888	2.835
270.000	130.000	95.178	9.786	290.000	150.000	69.241	2.748

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
280.000	150.000	-77.938	-1.605	300.000	170.000	50.976	2.373
270.000	150.000	107.190	5.387	290.000	170.000	-0.732	1.830
260.000	150.000	121.536	8.568	280.000	170.000	53.338	3.764
250.000	150.000	121.518	11.364	270.000	170.000	51.809	3.987
240.000	150.000	121.692	10.148	260.000	170.000	39.505	2.544
230.000	150.000	122.186	9.332	250.000	170.000	34.909	2.695
220.000	150.000	119.705	10.445	240.000	170.000	23.675	4.255
210.000	150.000	88.668	3.281	230.000	170.000	19.244	4.025
200.000	150.000	41.592	1.903	220.000	170.000	30.285	0.966
190.000	150.000	34.826	0.716	210.000	170.000	20.141	3.693
180.000	150.000	23.254	1.085	200.000	170.000	18.685	2.280
170.000	150.000	17.834	1.648	190.000	170.000	15.042	3.573
160.000	150.000	19.281	1.481	180.000	170.000	14.712	2.741
150.000	150.000	18.978	1.356	170.000	170.000	16.900	2.079
140.000	150.000	18.200	0.948	160.000	170.000	19.638	1.115
130.000	150.000	17.806	0.874	150.000	170.000	18.649	1.299
120.000	150.000	18.219	1.021	140.000	170.000	20.260	1.115
110.000	150.000	20.654	0.499	130.000	170.000	19.116	0.951
100.000	150.000	18.951	0.474	120.000	170.000	20.508	0.738
90.000	150.000	19.061	0.378	110.000	170.000	21.249	0.305
80.000	150.000	21.871	0.244	100.000	170.000	21.405	0.181
70.000	150.000	21.222	0.235	90.000	170.000	21.103	0.295
60.000	150.000	21.213	0.299	80.000	170.000	21.103	0.238
50.000	150.000	22.778	0.036	70.000	170.000	22.476	0.187
40.000	150.000	23.272	0.220	60.000	170.000	25.231	0.045
30.000	150.000	17.596	1.255	50.000	170.000	23.584	0.213
20.000	150.000	19.399	1.234	40.000	170.000	15.417	1.102
10.000	150.000	13.403	1.436	30.000	170.000	20.672	0.527
0.000	150.000	14.968	2.227	20.000	170.000	26.211	0.132
LINE 160				10.000	170.000	22.284	0.485
0.000	160.000	23.520	0.391	0.000	170.000	23.419	0.069
10.000	160.000	10.858	1.359	LINE 180			
20.000	160.000	15.591	1.633	0.000	180.000	23.877	0.101
30.000	160.000	19.354	2.350	10.000	180.000	21.185	0.428
40.000	160.000	15.499	0.630	20.000	180.000	17.724	1.010
50.000	160.000	14.456	1.499	30.000	180.000	24.362	0.378
60.000	160.000	21.652	-0.014	40.000	180.000	21.469	0.944
70.000	160.000	21.615	0.198	50.000	180.000	17.971	1.631
80.000	160.000	20.617	0.358	60.000	180.000	15.637	1.466
90.000	160.000	19.436	0.281	70.000	180.000	21.880	0.891
100.000	160.000	20.068	0.531	80.000	180.000	18.090	1.212
110.000	160.000	18.328	0.777	90.000	180.000	21.048	0.496
120.000	160.000	18.274	0.418	100.000	180.000	19.921	0.420
130.000	160.000	16.434	1.466	110.000	180.000	19.747	0.415
140.000	160.000	17.779	1.321	120.000	180.000	19.903	0.455
150.000	160.000	18.237	1.280	130.000	180.000	19.839	0.931
160.000	160.000	17.926	1.585	140.000	180.000	18.374	1.218
170.000	160.000	18.090	1.684	150.000	180.000	18.576	1.317
180.000	160.000	18.447	1.622	160.000	180.000	20.196	0.944
190.000	160.000	22.686	1.401	170.000	180.000	20.260	0.878
200.000	160.000	26.513	1.741	180.000	180.000	13.971	2.925
210.000	160.000	29.205	1.776	190.000	180.000	16.396	1.920
220.000	160.000	41.427	1.653	200.000	180.000	21.423	1.109
230.000	160.000	41.043	6.002	210.000	180.000	24.178	0.907
240.000	160.000	53.430	4.387	220.000	180.000	24.234	1.111
250.000	160.000	49.164	6.664	230.000	180.000	29.150	0.595
260.000	160.000	69.516	5.205	240.000	180.000	17.404	3.981
270.000	160.000	90.792	5.859	250.000	180.000	19.995	5.109
280.000	160.000	111.648	8.549	260.000	180.000	33.352	1.964
290.000	160.000	-1.034	2.212	270.000	180.000	33.792	2.306
300.000	160.000	44.220	2.950	280.000	180.000	40.255	2.662
310.000	160.000	31.237	1.907	290.000	180.000	28.454	3.007
320.000	160.000	24.142	1.690	300.000	180.000	40.521	2.991
LINE 170				310.000	180.000	29.150	1.177
320.000	170.000	28.290	0.935	LINE 190			
310.000	170.000	29.242	1.808	310.000	190.000	27.740	1.107



Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
300.000	190.000	35.000	2.164	300.000	210.000	31.485	0.949
290.000	190.000	-1.089	2.373	290.000	210.000	10.235	3.110
280.000	190.000	24.453	2.706	280.000	210.000	57.458	3.492
270.000	190.000	26.019	3.970	270.000	210.000	54.977	4.573
260.000	190.000	23.895	3.031	260.000	210.000	57.303	5.154
250.000	190.000	26.770	1.940	250.000	210.000	61.706	5.870
240.000	190.000	23.767	3.270	240.000	210.000	53.622	7.237
230.000	190.000	26.065	1.719	230.000	210.000	59.371	4.714
220.000	190.000	26.413	1.115	220.000	210.000	64.498	1.859
210.000	190.000	23.767	0.891	210.000	210.000	51.434	1.299
200.000	190.000	23.053	0.545	200.000	210.000	24.618	1.135
190.000	190.000	20.086	0.758	190.000	210.000	18.374	1.457
180.000	190.000	10.043	3.924	180.000	210.000	15.527	2.353
170.000	190.000	13.934	2.498	170.000	210.000	7.306	5.170
160.000	190.000	16.149	1.932	160.000	210.000	14.950	2.212
150.000	190.000	15.948	1.813	150.000	210.000	15.710	1.989
140.000	190.000	16.836	1.378	140.000	210.000	17.248	1.073
130.000	190.000	16.030	1.488	130.000	210.000	18.210	1.251
120.000	190.000	17.056	1.365	120.000	210.000	15.792	1.297
110.000	190.000	16.497	1.458	110.000	210.000	16.992	1.221
100.000	190.000	17.449	1.111	100.000	210.000	16.772	0.948
90.000	190.000	20.837	0.543	90.000	210.000	17.157	1.128
80.000	190.000	19.446	0.439	80.000	210.000	19.033	0.962
70.000	190.000	14.813	1.039	70.000	210.000	19.775	1.052
60.000	190.000	20.132	0.880	60.000	210.000	19.784	0.509
50.000	190.000	26.367	1.392	50.000	210.000	20.983	0.745
40.000	190.000	16.909	1.131	40.000	210.000	23.602	0.128
30.000	190.000	18.283	1.767	30.000	210.000	24.051	-0.011
20.000	190.000	17.395	2.046	20.000	210.000	23.428	0.428
10.000	190.000	18.264	1.624	10.000	210.000	22.284	0.753
0.000	190.000	23.703	0.078	0.000	210.000	16.570	2.021
LINE 200				LINE 220			
0.000	200.000	19.967	1.311	0.000	220.000	15.948	1.798
10.000	200.000	19.446	1.231	10.000	220.000	15.966	1.304
20.000	200.000	18.960	1.275	20.000	220.000	21.157	1.260
30.000	200.000	23.428	0.499	30.000	220.000	16.965	1.576
40.000	200.000	24.042	0.481	40.000	220.000	20.718	0.644
50.000	200.000	24.160	0.626	50.000	220.000	22.549	0.479
60.000	200.000	25.433	0.670	60.000	220.000	18.191	0.461
70.000	200.000	19.061	1.491	70.000	220.000	14.831	0.588
80.000	200.000	16.561	1.039	80.000	220.000	22.201	0.464
90.000	200.000	18.612	0.639	90.000	220.000	18.576	1.262
100.000	200.000	16.937	1.131	100.000	220.000	17.541	1.389
110.000	200.000	14.813	1.675	110.000	220.000	17.907	1.299
120.000	200.000	14.355	1.655	120.000	220.000	17.138	1.501
130.000	200.000	16.955	1.508	130.000	220.000	17.349	1.466
140.000	200.000	16.927	1.754	140.000	220.000	19.702	1.058
150.000	200.000	16.296	1.980	150.000	220.000	16.534	1.809
160.000	200.000	14.099	2.184	160.000	220.000	16.314	1.795
170.000	200.000	14.538	2.473	170.000	220.000	12.652	3.663
180.000	200.000	12.204	3.050	180.000	220.000	9.054	4.152
190.000	200.000	14.337	2.214	190.000	220.000	16.278	1.841
200.000	200.000	21.688	0.654	200.000	220.000	21.176	1.833
210.000	200.000	24.536	0.665	210.000	220.000	19.070	2.054
220.000	200.000	24.526	1.119	220.000	220.000	7.416	1.179
230.000	200.000	27.822	1.447	230.000	220.000	26.577	1.265
240.000	200.000	30.184	1.997	240.000	220.000	59.106	4.834
250.000	200.000	28.015	3.119	250.000	220.000	87.954	8.876
260.000	200.000	23.858	3.380	260.000	220.000	106.411	8.321
270.000	200.000	23.602	3.897	270.000	220.000	120.849	9.494
280.000	200.000	27.841	3.875	280.000	220.000	113.022	8.002
290.000	200.000	32.134	2.677	290.000	220.000	113.607	4.757
300.000	200.000	25.845	1.466	300.000	220.000	32.153	1.802
310.000	200.000	24.646	2.175	310.000	220.000	37.261	2.228
NE 210				LINE 230			
310.000	210.000	27.575	1.639	310.000	230.000	41.455	2.607

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
300.000	230.000	-33.682	-4.674	290.000	250.000	71.017	9.479
290.000	230.000	-52.148	-5.247	280.000	250.000	48.294	6.405
280.000	230.000	121.389	20.004	270.000	250.000	40.686	5.007
270.000	230.000	122.891	12.946	260.000	250.000	31.018	3.864
260.000	230.000	89.062	10.894	250.000	250.000	30.075	3.178
250.000	230.000	66.943	8.977	240.000	250.000	28.811	2.068
240.000	230.000	49.850	7.967	230.000	250.000	28.051	1.337
230.000	230.000	50.931	3.623	220.000	250.000	25.900	1.122
220.000	230.000	49.383	2.653	210.000	250.000	22.815	1.278
210.000	230.000	38.708	1.666	200.000	250.000	21.606	1.390
200.000	230.000	23.337	1.321	190.000	250.000	20.077	1.664
190.000	230.000	19.601	1.883	180.000	250.000	16.342	1.973
180.000	230.000	10.299	3.417	170.000	250.000	16.443	1.791
170.000	230.000	16.424	2.566	160.000	250.000	16.653	1.082
160.000	230.000	19.775	0.655	150.000	250.000	16.067	2.033
150.000	230.000	15.673	1.677	140.000	250.000	16.287	1.817
140.000	230.000	14.959	1.319	130.000	250.000	16.168	2.024
130.000	230.000	16.717	1.786	120.000	250.000	15.682	1.934
120.000	230.000	16.516	1.683	110.000	250.000	16.534	2.342
110.000	230.000	18.118	1.517	100.000	250.000	18.759	1.468
100.000	230.000	19.720	1.141	90.000	250.000	17.733	1.341
90.000	230.000	20.077	1.153	80.000	250.000	17.980	1.447
80.000	230.000	18.530	1.060	70.000	250.000	20.865	0.990
70.000	230.000	20.452	0.870	60.000	250.000	21.093	1.012
60.000	230.000	21.597	0.705	50.000	250.000	19.793	0.962
50.000	230.000	21.093	0.633	40.000	250.000	19.930	1.054
40.000	230.000	22.970	0.560	30.000	250.000	22.183	0.782
30.000	230.000	20.471	1.089	20.000	250.000	23.144	0.668
20.000	230.000	16.946	1.997	10.000	250.000	21.789	1.010
10.000	230.000	18.905	1.403	0.000	250.000	18.457	1.273
0.000	230.000	23.419	0.389	LINE 260			
LINE 240				0.000	260.000	18.805	1.729
0.000	240.000	22.906	0.540	10.000	260.000	19.683	1.374
10.000	240.000	23.556	0.582	20.000	260.000	19.225	1.664
20.000	240.000	21.185	0.994	30.000	260.000	17.632	1.510
30.000	240.000	20.691	0.828	40.000	260.000	19.949	1.174
40.000	240.000	20.562	0.916	50.000	260.000	16.744	1.032
50.000	240.000	20.334	0.861	60.000	260.000	19.299	1.729
60.000	240.000	20.214	0.758	70.000	260.000	19.784	1.412
70.000	240.000	21.176	0.812	80.000	260.000	18.878	1.563
80.000	240.000	20.544	0.852	90.000	260.000	18.374	1.446
90.000	240.000	20.709	0.880	100.000	260.000	17.797	1.457
100.000	240.000	18.731	1.179	110.000	260.000	16.415	1.649
110.000	240.000	18.045	1.416	120.000	260.000	15.463	2.063
120.000	240.000	17.651	1.635	130.000	260.000	16.470	2.004
130.000	240.000	18.210	1.385	140.000	260.000	17.001	1.635
140.000	240.000	16.159	2.245	150.000	260.000	16.122	1.993
150.000	240.000	16.699	1.721	160.000	260.000	16.681	1.672
160.000	240.000	19.473	1.378	170.000	260.000	17.239	1.890
170.000	240.000	19.052	1.074	180.000	260.000	17.761	1.975
180.000	240.000	18.237	0.891	190.000	260.000	19.693	1.984
190.000	240.000	19.986	1.074	200.000	260.000	20.370	2.316
200.000	240.000	21.908	1.392	210.000	260.000	23.190	2.125
210.000	240.000	25.067	1.424	220.000	260.000	27.007	2.171
220.000	240.000	29.187	1.464	230.000	260.000	28.161	2.769
230.000	240.000	29.113	2.541	240.000	260.000	29.956	3.015
240.000	240.000	30.807	3.450	250.000	260.000	37.335	3.217
250.000	240.000	34.057	4.378	260.000	260.000	37.069	4.972
260.000	240.000	45.282	5.308	270.000	260.000	45.941	6.081
270.000	240.000	56.589	6.420	280.000	260.000	53.723	7.099
280.000	240.000	72.363	8.961	290.000	260.000	74.066	9.859
290.000	240.000	81.683	9.126	300.000	260.000	-27.255	-3.584
300.000	240.000	-28.216	-4.327	LINE 270			
310.000	240.000	44.137	2.373	300.000	270.000	-2.599	-0.999
NE 250				290.000	270.000	121.783	15.502
300.000	250.000	40.127	5.613	280.000	270.000	114.230	12.287

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
270.000	270.000	92.697	9.883	250.000	290.000	48.532	4.386
260.000	270.000	74.386	8.860	240.000	290.000	48.239	3.469
250.000	270.000	59.344	7.158	230.000	290.000	44.568	2.754
240.000	270.000	53.128	4.924	220.000	290.000	44.476	2.515
230.000	270.000	41.199	4.071	210.000	290.000	29.352	3.509
220.000	270.000	34.789	2.956	200.000	290.000	14.941	3.105
210.000	270.000	30.789	2.539	190.000	290.000	16.809	0.949
200.000	270.000	23.986	2.004	180.000	290.000	18.109	3.079
190.000	270.000	19.857	2.193	170.000	290.000	21.276	1.115
180.000	270.000	17.761	2.329	160.000	290.000	20.617	1.479
170.000	270.000	17.230	2.182	150.000	290.000	18.264	1.357
160.000	270.000	15.765	2.021	140.000	290.000	18.942	1.390
150.000	270.000	17.642	1.910	130.000	290.000	17.523	1.806
140.000	270.000	17.202	1.898	120.000	290.000	16.479	2.045
130.000	270.000	17.715	1.714	110.000	290.000	16.800	2.096
120.000	270.000	17.111	2.283	100.000	290.000	16.269	2.392
110.000	270.000	17.166	2.223	90.000	290.000	19.409	1.675
100.000	270.000	18.768	1.727	80.000	290.000	16.396	0.933
90.000	270.000	16.351	1.918	70.000	290.000	22.183	1.164
80.000	270.000	21.460	1.216	60.000	290.000	21.780	1.067
70.000	270.000	17.999	2.090	50.000	290.000	23.007	0.720
60.000	270.000	19.098	2.153	40.000	290.000	16.726	1.973
50.000	270.000	18.109	2.263	30.000	290.000	20.654	1.844
40.000	270.000	22.110	1.045	20.000	290.000	19.079	1.563
30.000	270.000	18.676	1.841	10.000	290.000	16.323	1.883
20.000	270.000	19.272	1.574	0.000	290.000	19.995	1.541
10.000	270.000	22.943	0.861				
0.000	270.000	26.559	0.464				
LINE 280				LINE 330			
0.000	280.000	24.911	1.455	310.000	330.000	7.873	-1.080
10.000	280.000	25.204	0.453	300.000	330.000	44.366	2.618
20.000	280.000	18.484	1.398	290.000	330.000	47.854	4.670
30.000	280.000	21.853	1.104	280.000	330.000	33.984	3.360
40.000	280.000	19.812	1.084	270.000	330.000	28.692	2.149
50.000	280.000	17.559	1.466	260.000	330.000	36.364	2.917
60.000	280.000	19.995	2.181	250.000	330.000	51.910	3.594
70.000	280.000	21.460	1.699	240.000	330.000	58.575	3.575
80.000	280.000	17.157	1.166	230.000	330.000	50.875	2.684
90.000	280.000	22.045	1.618	220.000	330.000	34.277	3.647
100.000	280.000	20.297	1.460	210.000	330.000	20.370	2.392
110.000	280.000	16.946	2.054	200.000	330.000	21.304	1.249
120.000	280.000	17.166	1.706	190.000	330.000	19.464	1.865
130.000	280.000	19.089	1.468	180.000	330.000	18.384	1.594
140.000	280.000	18.594	1.458	170.000	330.000	18.567	1.822
150.000	280.000	17.349	1.468	160.000	330.000	17.660	2.254
160.000	280.000	17.101	1.661	150.000	330.000	17.175	2.225
170.000	280.000	17.733	1.688	140.000	330.000	18.027	1.988
180.000	280.000	18.008	2.206	130.000	330.000	18.594	1.765
190.000	280.000	15.957	2.721	120.000	330.000	18.200	1.977
200.000	280.000	19.198	1.703	110.000	330.000	17.752	1.826
210.000	280.000	18.118	2.250	100.000	330.000	17.569	1.339
220.000	280.000	18.548	2.383	90.000	330.000	14.712	2.517
230.000	280.000	17.496	2.436	80.000	330.000	19.455	1.613
240.000	280.000	15.472	2.458	70.000	330.000	18.319	1.978
250.000	280.000	11.654	1.826	60.000	330.000	13.980	2.528
260.000	280.000	4.129	1.221	50.000	330.000	17.449	1.830
270.000	280.000	24.609	2.452	40.000	330.000	21.121	1.337
280.000	280.000	31.293	2.813	30.000	330.000	21.002	1.350
290.000	280.000	37.115	3.083	20.000	330.000	18.841	1.786
300.000	280.000	41.116	2.096	10.000	330.000	22.155	1.288
LINE 290				LINE 340			
300.000	290.000	19.290	1.721	0.000	340.000	18.612	1.418
290.000	290.000	72.921	4.079	10.000	340.000	17.367	1.863
280.000	290.000	50.106	3.941	20.000	340.000	19.079	1.503
270.000	290.000	47.113	4.433	30.000	340.000	18.704	1.920
260.000	290.000	46.756	4.878	40.000	340.000	21.349	1.203
				50.000	340.000	22.402	1.359

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
60.000	340.000	21.057	1.251	60.000	360.000	25.863	1.107
70.000	340.000	20.361	1.488	70.000	360.000	24.399	1.091
80.000	340.000	15.078	2.122	80.000	360.000	21.157	1.258
90.000	340.000	19.107	1.027	90.000	360.000	22.961	1.144
100.000	340.000	16.909	1.627	100.000	360.000	18.283	1.433
110.000	340.000	17.990	1.607	110.000	360.000	17.669	1.449
120.000	340.000	18.356	1.293	120.000	360.000	16.424	1.760
130.000	340.000	20.050	1.286	130.000	360.000	15.756	1.808
140.000	340.000	20.160	1.113	140.000	360.000	17.322	2.456
150.000	340.000	18.045	1.626	150.000	360.000	17.083	1.819
160.000	340.000	17.065	2.030	160.000	360.000	15.701	2.928
170.000	340.000	18.741	1.499	170.000	360.000	19.674	1.058
180.000	340.000	18.713	1.308	180.000	360.000	18.768	1.626
190.000	340.000	20.745	1.260	190.000	360.000	19.656	1.776
200.000	340.000	21.002	1.534	200.000	360.000	19.336	1.080
210.000	340.000	27.291	2.098	210.000	360.000	19.482	1.223
220.000	340.000	33.444	2.487	220.000	360.000	21.762	1.341
230.000	340.000	41.427	3.197	230.000	360.000	21.387	1.644
240.000	340.000	46.911	3.424	240.000	360.000	24.975	1.427
250.000	340.000	50.637	6.074	250.000	360.000	25.561	2.083
260.000	340.000	58.868	5.923	260.000	360.000	22.567	4.141
270.000	340.000	67.804	7.134	270.000	360.000	24.169	4.861
280.000	340.000	79.230	8.953	280.000	360.000	29.443	5.155
290.000	340.000	101.037	12.544	290.000	360.000	37.115	6.557
300.000	340.000	73.050	7.028	300.000	360.000	59.244	7.546
310.000	340.000	-21.011	-5.062	310.000	360.000	6.921	-1.934
LINE 350				LINE 370			
310.000	350.000	-1.986	-2.787	310.000	370.000	25.287	1.374
300.000	350.000	86.480	12.132	300.000	370.000	73.590	9.664
290.000	350.000	57.852	8.518	290.000	370.000	58.309	8.485
280.000	350.000	42.764	5.266	280.000	370.000	40.329	5.040
270.000	350.000	36.044	5.626	270.000	370.000	33.096	4.123
260.000	350.000	32.318	3.307	260.000	370.000	28.884	3.564
250.000	350.000	24.389	4.332	250.000	370.000	30.597	2.337
240.000	350.000	26.742	2.133	240.000	370.000	23.995	2.807
230.000	350.000	25.177	2.188	230.000	370.000	21.020	2.124
220.000	350.000	24.178	1.418	220.000	370.000	19.052	2.092
210.000	350.000	21.634	0.982	210.000	370.000	19.418	2.017
200.000	350.000	20.745	0.966	200.000	370.000	18.988	1.479
190.000	350.000	20.068	1.141	190.000	370.000	16.113	1.661
180.000	350.000	20.077	0.926	180.000	370.000	12.606	2.963
170.000	350.000	19.729	1.071	170.000	370.000	9.768	3.950
160.000	350.000	17.275	1.815	160.000	370.000	19.509	1.063
150.000	350.000	18.667	1.253	150.000	370.000	17.697	1.640
140.000	350.000	19.235	1.787	140.000	370.000	16.717	2.072
130.000	350.000	15.609	1.784	130.000	370.000	16.149	1.661
120.000	350.000	16.589	1.989	120.000	370.000	16.763	1.843
110.000	350.000	16.735	1.808	110.000	370.000	16.974	2.122
100.000	350.000	17.679	1.782	100.000	370.000	18.704	1.267
90.000	350.000	18.896	1.591	90.000	370.000	18.915	1.433
80.000	350.000	18.750	1.631	80.000	370.000	18.621	1.394
70.000	350.000	18.210	1.216	70.000	370.000	20.764	1.995
60.000	350.000	23.794	1.475	60.000	370.000	22.696	2.054
50.000	350.000	23.703	1.150	50.000	370.000	17.523	2.936
40.000	350.000	19.821	1.984	40.000	370.000	15.097	1.863
30.000	350.000	20.919	1.708	30.000	370.000	23.446	0.850
20.000	350.000	24.481	2.495	20.000	370.000	18.631	2.706
10.000	350.000	21.194	2.039	10.000	370.000	19.363	2.076
0.000	350.000	22.247	1.218	0.000	370.000	18.493	1.598
LINE 360				LINE 380			
0.000	360.000	19.912	1.451	0.000	380.000	21.002	1.111
10.000	360.000	20.892	1.424	10.000	380.000	21.469	1.240
20.000	360.000	21.871	1.372	20.000	380.000	21.936	1.844
30.000	360.000	23.254	0.986	30.000	380.000	22.613	1.982
40.000	360.000	18.072	1.596	40.000	380.000	21.533	1.418
50.000	360.000	22.622	0.867	50.000	380.000	21.093	0.995

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
60.000	380.000	19.052	2.021	60.000	400.000	20.178	1.277
70.000	380.000	20.114	1.967	70.000	400.000	19.482	1.572
80.000	380.000	18.530	1.844	80.000	400.000	20.617	1.407
90.000	380.000	20.205	1.427	90.000	400.000	20.956	1.299
100.000	380.000	19.006	1.317	100.000	400.000	17.028	1.877
110.000	380.000	17.990	1.679	110.000	400.000	14.373	2.620
120.000	380.000	17.303	1.653	120.000	400.000	17.367	1.326
130.000	380.000	16.854	1.677	130.000	400.000	17.486	1.672
140.000	380.000	17.459	1.701	140.000	400.000	17.212	1.804
150.000	380.000	18.356	1.433	150.000	400.000	17.340	1.708
160.000	380.000	19.061	1.321	160.000	400.000	17.266	1.655
170.000	380.000	17.971	1.442	170.000	400.000	16.635	1.795
180.000	380.000	12.414	2.949	180.000	400.000	16.360	1.870
190.000	380.000	15.976	2.260	190.000	400.000	13.421	2.916
200.000	380.000	14.538	2.662	200.000	400.000	13.769	2.954
210.000	380.000	17.761	2.306	210.000	400.000	15.655	2.510
220.000	380.000	17.990	2.239	220.000	400.000	19.079	2.057
230.000	380.000	21.396	2.342	230.000	400.000	21.029	2.423
240.000	380.000	30.679	2.247	240.000	400.000	28.683	2.838
250.000	380.000	41.253	2.682	250.000	400.000	39.037	2.835
260.000	380.000	48.321	3.165	260.000	400.000	47.955	3.338
270.000	380.000	56.323	5.209	270.000	400.000	48.623	4.281
280.000	380.000	61.660	6.019	280.000	400.000	58.227	4.632
290.000	380.000	64.737	7.487	290.000	400.000	71.154	5.185
300.000	380.000	87.213	9.988	300.000	400.000	74.661	5.343
310.000	380.000	35.184	1.778				
LINE 390				LINE 410			
310.000	390.000	26.220	0.788	300.000	410.000	59.610	2.879
300.000	390.000	59.628	5.907	290.000	410.000	50.527	2.230
290.000	390.000	51.260	5.727	280.000	410.000	38.488	3.393
280.000	390.000	52.212	5.888	270.000	410.000	31.585	3.647
270.000	390.000	26.779	3.632	260.000	410.000	27.172	2.927
260.000	390.000	27.832	3.505	250.000	410.000	26.568	2.688
250.000	390.000	37.381	3.064	240.000	410.000	24.948	7.243
240.000	390.000	46.609	3.375	230.000	410.000	21.222	1.670
230.000	390.000	33.114	2.767	220.000	410.000	19.207	1.789
220.000	390.000	20.178	3.300	210.000	410.000	16.809	2.002
210.000	390.000	16.525	2.627	200.000	410.000	11.563	2.693
200.000	390.000	14.877	2.695	190.000	410.000	14.959	2.811
190.000	390.000	11.389	3.632	180.000	410.000	20.095	1.725
180.000	390.000	15.518	2.294	170.000	410.000	18.420	1.363
170.000	390.000	13.668	2.552	160.000	410.000	17.111	1.615
160.000	390.000	18.777	1.455	150.000	410.000	16.763	2.500
150.000	390.000	18.457	1.414	140.000	410.000	15.710	2.651
140.000	390.000	17.788	1.381	130.000	410.000	15.472	2.870
130.000	390.000	17.212	1.615	120.000	410.000	17.422	2.148
120.000	390.000	17.440	1.955	110.000	410.000	18.631	1.953
110.000	390.000	20.361	1.346	100.000	410.000	17.047	1.747
100.000	390.000	17.019	1.545	90.000	410.000	14.108	2.792
90.000	390.000	16.543	1.572	80.000	410.000	17.340	5.295
80.000	390.000	19.436	1.901	70.000	410.000	21.084	1.661
70.000	390.000	18.163	1.918	60.000	410.000	20.095	2.827
60.000	390.000	20.224	1.234	50.000	410.000	20.992	1.646
50.000	390.000	21.789	1.624	40.000	410.000	18.731	6.313
40.000	390.000	21.396	1.370	30.000	410.000	21.249	4.169
30.000	390.000	21.643	2.440	20.000	410.000	24.178	2.166
20.000	390.000	21.368	2.046	10.000	410.000	23.821	2.298
10.000	390.000	20.297	1.352	0.000	410.000	22.320	0.771
0.000	390.000	23.263	0.745	LINE 420			
LINE 400				0.000	420.000	23.419	0.773
0.000	400.000	20.828	0.755	10.000	420.000	24.765	3.926
10.000	400.000	16.818	1.503	20.000	420.000	24.646	1.400
20.000	400.000	18.163	1.837	30.000	420.000	17.111	3.246
30.000	400.000	20.196	1.543	40.000	420.000	21.606	2.072
40.000	400.000	21.304	1.497	50.000	420.000	19.198	2.170
50.000	400.000	21.103	1.627	60.000	420.000	19.537	4.801
				70.000	420.000	20.874	0.806

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
80.000	420.000	21.148	1.789	100.000	440.000	16.717	1.808
90.000	420.000	19.491	2.193	110.000	440.000	20.517	2.054
100.000	420.000	21.496	1.229	120.000	440.000	21.349	2.430
110.000	420.000	22.714	5.403	130.000	440.000	18.292	1.661
120.000	420.000	17.257	3.899	140.000	440.000	20.123	1.477
130.000	420.000	14.227	5.644	150.000	440.000	15.856	2.116
140.000	420.000	9.347	6.732	160.000	440.000	17.056	2.035
150.000	420.000	17.157	3.303	170.000	440.000	18.832	1.458
160.000	420.000	16.159	4.323	180.000	440.000	17.019	1.473
170.000	420.000	16.763	1.940	190.000	440.000	15.930	2.087
180.000	420.000	18.384	3.349	200.000	440.000	18.621	2.105
190.000	420.000	17.266	2.192	210.000	440.000	12.744	2.383
200.000	420.000	8.184	6.420	220.000	440.000	6.481	3.147
210.000	420.000	6.124	7.057	230.000	440.000	22.686	2.754
220.000	420.000	18.200	2.754	240.000	440.000	24.197	4.097
230.000	420.000	20.800	1.918	250.000	440.000	21.139	4.597
240.000	420.000	20.123	2.269	260.000	440.000	9.841	7.268
250.000	420.000	21.927	4.317	270.000	440.000	20.334	4.883
260.000	420.000	21.606	3.261	280.000	440.000	27.740	4.571
270.000	420.000	22.201	3.279	290.000	440.000	33.837	4.567
280.000	420.000	23.428	3.426	300.000	440.000	41.977	2.721
290.000	420.000	25.240	3.619	LINE 450			
300.000	420.000	43.478	3.875	300.000	450.000	46.993	2.989
LINE 430				290.000	450.000	50.116	3.685
300.000	430.000	40.704	3.165	280.000	450.000	49.850	5.120
290.000	430.000	37.317	2.517	270.000	450.000	41.500	3.239
280.000	430.000	29.287	3.893	260.000	450.000	35.010	4.264
270.000	430.000	26.550	3.432	250.000	450.000	23.016	4.112
260.000	430.000	23.657	2.802	240.000	450.000	24.325	2.989
250.000	430.000	22.192	2.237	230.000	450.000	27.255	2.440
240.000	430.000	22.714	2.046	220.000	450.000	19.098	3.509
230.000	430.000	19.647	3.145	210.000	450.000	2.115	3.338
220.000	430.000	20.974	3.070	200.000	450.000	17.056	1.890
210.000	430.000	13.074	3.680	190.000	450.000	18.264	2.607
200.000	430.000	16.342	2.015	180.000	450.000	14.446	2.552
190.000	430.000	15.518	2.149	170.000	450.000	18.438	1.648
180.000	430.000	16.836	1.640	160.000	450.000	17.166	2.456
170.000	430.000	18.805	1.706	150.000	450.000	14.437	4.262
160.000	430.000	16.543	2.078	140.000	450.000	16.735	2.546
150.000	430.000	18.741	2.486	130.000	450.000	17.422	2.493
140.000	430.000	15.115	2.486	120.000	450.000	17.706	2.473
130.000	430.000	16.415	3.191	110.000	450.000	17.212	2.452
120.000	430.000	18.978	1.560	100.000	450.000	17.990	0.753
110.000	430.000	20.700	1.442	90.000	450.000	16.149	2.107
100.000	430.000	19.171	1.740	80.000	450.000	12.863	5.740
90.000	430.000	18.887	1.677	70.000	450.000	20.269	4.604
80.000	430.000	18.027	3.467	60.000	450.000	18.951	2.565
70.000	430.000	22.201	1.376	50.000	450.000	18.841	4.204
60.000	430.000	21.469	1.412	40.000	450.000	19.152	4.084
50.000	430.000	17.797	2.285	30.000	450.000	20.938	2.026
40.000	430.000	20.407	2.565	20.000	450.000	23.913	4.069
30.000	430.000	21.514	1.473	10.000	450.000	20.489	2.148
20.000	430.000	18.063	2.445	0.000	450.000	18.960	2.557
10.000	430.000	23.236	2.487	LINE 460			
0.000	430.000	17.175	2.550	0.000	460.000	19.793	1.376
LINE 440				10.000	460.000	20.343	2.985
0.000	440.000	16.497	-0.157	20.000	460.000	22.064	2.754
10.000	440.000	13.485	-2.765	30.000	460.000	21.606	3.121
20.000	440.000	18.640	0.615	40.000	460.000	18.640	3.967
30.000	440.000	22.054	2.443	50.000	460.000	19.354	1.868
40.000	440.000	22.961	1.776	60.000	460.000	19.747	1.716
50.000	440.000	21.597	1.892	70.000	460.000	17.138	3.402
60.000	440.000	16.342	2.390	80.000	460.000	15.829	2.781
70.000	440.000	20.205	1.087	90.000	460.000	15.738	2.983
80.000	440.000	21.331	1.058	100.000	460.000	17.605	1.809
90.000	440.000	17.248	3.002	110.000	460.000	16.974	2.021

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
120.000	460.000	17.514	1.762	140.000	480.000	16.213	2.026
130.000	460.000	18.210	1.400	150.000	480.000	19.464	2.833
140.000	460.000	18.228	2.585	160.000	480.000	15.948	2.533
150.000	460.000	14.895	2.769	170.000	480.000	17.486	2.408
160.000	460.000	16.113	2.304	180.000	480.000	15.738	2.956
170.000	460.000	18.411	1.940	190.000	480.000	17.660	2.144
180.000	460.000	18.255	2.776	200.000	480.000	18.585	2.412
190.000	460.000	15.847	2.730	210.000	480.000	4.101	7.948
200.000	460.000	20.910	1.956	220.000	480.000	7.168	7.377
210.000	460.000	16.570	2.965	230.000	480.000	18.997	5.993
220.000	460.000	6.811	4.308	240.000	480.000	18.685	4.634
230.000	460.000	22.146	2.421	250.000	480.000	20.581	5.209
240.000	460.000	30.917	2.410	260.000	480.000	23.428	5.490
250.000	460.000	54.427	2.579	270.000	480.000	27.319	7.369
260.000	460.000	64.773	3.908	280.000	480.000	30.450	5.346
270.000	460.000	52.661	3.222	290.000	480.000	37.655	4.279
280.000	460.000	33.984	3.228	300.000	480.000	36.429	4.261
290.000	460.000	20.370	3.737	LINE 490			
300.000	460.000	30.267	2.447	300.000	490.000	33.471	4.086
LINE 470				290.000	490.000	33.856	3.900
300.000	470.000	56.561	5.251	280.000	490.000	31.219	2.848
290.000	470.000	59.985	6.454	270.000	490.000	26.614	3.785
280.000	470.000	61.899	7.663	260.000	490.000	24.462	3.772
270.000	470.000	68.765	5.058	250.000	490.000	24.774	3.121
260.000	470.000	68.316	5.424	240.000	490.000	19.738	3.704
250.000	470.000	63.610	5.113	230.000	490.000	22.265	2.427
240.000	470.000	55.416	3.529	220.000	490.000	19.381	3.243
230.000	470.000	28.308	4.582	210.000	490.000	15.463	3.454
220.000	470.000	15.820	5.901	200.000	490.000	23.318	0.856
210.000	470.000	17.376	2.513	190.000	490.000	21.240	1.227
200.000	470.000	13.027	2.572	180.000	490.000	17.596	1.697
190.000	470.000	20.306	1.662	170.000	490.000	17.184	1.947
180.000	470.000	18.603	1.865	160.000	490.000	17.047	2.046
170.000	470.000	19.656	1.427	150.000	490.000	16.900	2.090
160.000	470.000	19.747	1.765	140.000	490.000	17.688	1.964
150.000	470.000	16.443	2.605	130.000	490.000	17.953	1.363
140.000	470.000	17.129	2.723	120.000	490.000	18.292	1.523
130.000	470.000	15.316	2.818	110.000	490.000	17.404	2.065
120.000	470.000	15.573	2.844	100.000	490.000	16.772	1.405
110.000	470.000	18.210	2.002	90.000	490.000	17.880	2.351
100.000	470.000	16.974	2.497	80.000	490.000	17.752	2.429
90.000	470.000	15.508	1.947	70.000	490.000	17.797	2.996
80.000	470.000	15.069	3.307	60.000	490.000	18.649	2.282
70.000	470.000	16.644	2.342	50.000	490.000	19.638	1.633
60.000	470.000	16.360	1.846	40.000	490.000	21.826	2.769
50.000	470.000	19.281	1.618	30.000	490.000	20.544	1.574
40.000	470.000	20.480	1.609	20.000	490.000	18.704	2.184
30.000	470.000	18.969	2.344	10.000	490.000	19.766	1.424
20.000	470.000	16.937	2.083	0.000	490.000	19.977	0.959
10.000	470.000	19.629	2.373	LINE 500			
0.000	470.000	18.750	1.673	0.000	500.000	20.251	1.122
LINE 480				10.000	500.000	19.610	0.951
0.000	480.000	17.669	1.830	20.000	500.000	20.809	1.433
10.000	480.000	18.558	2.462	30.000	500.000	21.148	1.802
20.000	480.000	19.793	2.831	40.000	500.000	21.991	1.773
30.000	480.000	19.464	2.329	50.000	500.000	19.189	1.411
40.000	480.000	20.242	3.048	60.000	500.000	19.620	1.394
50.000	480.000	20.315	2.813	70.000	500.000	18.676	0.955
60.000	480.000	18.640	2.928	80.000	500.000	18.978	1.192
70.000	480.000	16.424	2.087	90.000	500.000	16.809	1.032
80.000	480.000	17.715	2.109	100.000	500.000	19.665	1.142
90.000	480.000	16.012	2.357	110.000	500.000	17.733	1.622
100.000	480.000	15.701	1.416	120.000	500.000	16.525	1.804
110.000	480.000	15.838	2.368	130.000	500.000	17.175	2.087
120.000	480.000	16.067	2.616	140.000	500.000	18.951	1.736
130.000	480.000	16.754	2.373	150.000	500.000	16.864	2.192

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
160.000	500.000	17.349	2.201	180.000	520.000	18.667	1.659
170.000	500.000	19.967	1.379	190.000	520.000	14.446	2.464
180.000	500.000	18.997	1.504	200.000	520.000	14.703	2.333
190.000	500.000	19.409	1.706	210.000	520.000	12.616	3.491
200.000	500.000	14.987	3.917	220.000	520.000	12.378	4.007
210.000	500.000	14.126	3.029	230.000	520.000	18.063	2.497
220.000	500.000	22.833	1.662	240.000	520.000	19.766	2.225
230.000	500.000	20.517	2.824	250.000	520.000	24.682	1.918
240.000	500.000	20.434	2.958	260.000	520.000	31.173	2.577
250.000	500.000	23.107	2.487	270.000	520.000	37.921	3.031
260.000	500.000	21.981	2.544	280.000	520.000	48.403	3.399
270.000	500.000	27.228	2.825	290.000	520.000	54.427	3.355
280.000	500.000	29.361	3.167	300.000	520.000	53.659	4.095
290.000	500.000	34.597	3.498				
300.000	500.000	34.533	3.709				
				LINE 530			
				300.000	530.000	35.925	2.195
				290.000	530.000	44.732	3.741
				280.000	530.000	67.657	3.869
				270.000	530.000	50.793	3.265
				260.000	530.000	39.230	3.217
				250.000	530.000	29.544	2.954
				240.000	530.000	21.570	2.787
				230.000	530.000	17.871	3.217
				220.000	530.000	14.914	4.218
				210.000	530.000	15.838	3.256
				200.000	530.000	18.631	1.861
				190.000	530.000	19.253	1.747
				180.000	530.000	18.750	1.416
				170.000	530.000	18.292	1.736
				160.000	530.000	17.596	2.090
				150.000	530.000	18.832	1.378
				140.000	530.000	18.997	2.045
				130.000	530.000	19.089	1.888
				120.000	530.000	16.992	2.638
				110.000	530.000	19.830	0.951
				100.000	530.000	18.896	1.262
				90.000	530.000	19.354	1.300
				80.000	530.000	20.443	1.668
				70.000	530.000	19.894	2.397
				60.000	530.000	19.033	1.649
				50.000	530.000	21.835	1.960
				40.000	530.000	21.588	1.723
				30.000	530.000	20.764	1.624
				20.000	530.000	20.251	1.813
				10.000	530.000	22.430	1.201
				0.000	530.000	23.868	0.696
				LINE 540			
				0.000	540.000	20.791	0.920
				10.000	540.000	21.286	1.152
				20.000	540.000	20.297	1.512
				30.000	540.000	22.595	1.172
				40.000	540.000	20.764	1.655
				50.000	540.000	20.022	1.495
				60.000	540.000	19.381	1.543
				70.000	540.000	19.683	1.570
				80.000	540.000	19.390	1.675
				90.000	540.000	17.816	1.649
				100.000	540.000	17.706	1.501
				110.000	540.000	18.429	1.604
				120.000	540.000	17.193	0.986
				130.000	540.000	16.241	1.607
				140.000	540.000	19.308	1.912
				150.000	540.000	18.612	1.330
				160.000	540.000	17.578	1.554
				170.000	540.000	17.449	1.793
				180.000	540.000	19.683	1.460
				190.000	540.000	18.878	1.719
LINE 510							
300.000	510.000	38.205	4.307				
290.000	510.000	39.239	5.159				
280.000	510.000	32.382	4.182				
270.000	510.000	29.397	3.682				
260.000	510.000	26.175	2.526				
250.000	510.000	22.402	3.606				
240.000	510.000	18.045	4.290				
230.000	510.000	22.860	1.521				
220.000	510.000	15.124	2.401				
210.000	510.000	12.341	4.334				
200.000	510.000	15.948	2.452				
190.000	510.000	16.287	2.631				
180.000	510.000	17.358	2.076				
170.000	510.000	19.848	1.372				
160.000	510.000	17.431	2.208				
150.000	510.000	19.921	1.991				
140.000	510.000	22.073	0.709				
130.000	510.000	19.061	1.464				
120.000	510.000	17.752	2.296				
110.000	510.000	19.189	1.168				
100.000	510.000	17.120	1.802				
90.000	510.000	18.631	1.532				
80.000	510.000	21.615	1.370				
70.000	510.000	19.042	2.057				
60.000	510.000	19.665	2.315				
50.000	510.000	20.764	1.400				
40.000	510.000	21.075	1.844				
30.000	510.000	20.691	1.221				
20.000	510.000	20.910	1.196				
10.000	510.000	22.293	0.810				
0.000	510.000	20.645	1.458				
LINE 520							
0.000	520.000	6.619	5.334				
10.000	520.000	23.391	0.463				
20.000	520.000	19.766	1.466				
30.000	520.000	22.458	1.060				
40.000	520.000	23.053	1.280				
50.000	520.000	21.249	1.356				
60.000	520.000	19.189	1.220				
70.000	520.000	21.908	0.887				
80.000	520.000	20.910	1.084				
90.000	520.000	16.589	2.250				
100.000	520.000	15.710	2.304				
110.000	520.000	17.971	0.463				
120.000	520.000	19.629	1.488				
130.000	520.000	21.450	0.760				
140.000	520.000	19.573	1.519				
150.000	520.000	18.328	1.738				
160.000	520.000	19.143	1.620				
170.000	520.000	19.830	1.131				



Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
200.000	540.000	18.365	1.752	220.000	560.000	22.668	2.673
210.000	540.000	17.541	2.085	230.000	560.000	15.527	2.447
220.000	540.000	19.134	2.148	240.000	560.000	26.824	1.861
230.000	540.000	18.438	3.011	250.000	560.000	17.797	3.755
240.000	540.000	19.098	2.340	260.000	560.000	20.956	2.785
250.000	540.000	26.340	1.942	270.000	560.000	25.543	2.111
260.000	540.000	38.086	2.304	280.000	560.000	31.210	2.355
270.000	540.000	47.149	2.535	290.000	560.000	29.507	2.914
280.000	540.000	47.616	3.426	300.000	560.000	25.827	2.239
290.000	540.000	49.099	3.246	LINE 570			
300.000	540.000	41.803	2.708	300.000	570.000	26.605	1.973
LINE 550				290.000	570.000	34.167	1.819
300.000	550.000	26.971	2.612	280.000	570.000	40.273	2.678
290.000	550.000	28.060	2.350	270.000	570.000	33.526	3.426
280.000	550.000	27.090	1.341	260.000	570.000	24.234	2.577
270.000	550.000	28.967	2.888	250.000	570.000	24.105	1.651
260.000	550.000	27.054	2.388	240.000	570.000	27.942	1.931
250.000	550.000	14.776	4.751	230.000	570.000	21.606	2.513
240.000	550.000	19.610	3.028	220.000	570.000	16.104	3.722
230.000	550.000	26.650	1.624	210.000	570.000	18.017	3.094
220.000	550.000	18.548	2.811	200.000	570.000	19.253	2.023
210.000	550.000	16.195	3.186	190.000	570.000	17.862	2.024
200.000	550.000	17.660	2.138	180.000	570.000	19.793	1.758
190.000	550.000	18.933	1.809	170.000	570.000	18.795	1.383
180.000	550.000	20.260	1.668	160.000	570.000	18.805	1.468
170.000	550.000	19.098	1.789	150.000	570.000	18.264	1.896
160.000	550.000	17.944	1.661	140.000	570.000	18.274	1.615
150.000	550.000	18.786	1.199	130.000	570.000	19.171	1.865
140.000	550.000	17.523	1.729	120.000	570.000	18.997	1.545
130.000	550.000	16.342	1.874	110.000	570.000	18.118	1.718
120.000	550.000	18.127	1.155	100.000	570.000	19.977	1.218
110.000	550.000	18.988	1.381	90.000	570.000	19.107	2.985
100.000	550.000	17.898	2.004	80.000	570.000	20.764	1.879
90.000	550.000	17.340	1.859	70.000	570.000	21.871	1.688
80.000	550.000	19.272	1.199	60.000	570.000	20.764	1.591
70.000	550.000	21.066	1.315	50.000	570.000	18.420	2.037
60.000	550.000	21.093	1.471	40.000	570.000	21.029	1.501
50.000	550.000	19.409	1.512	30.000	570.000	20.132	2.070
40.000	550.000	21.020	1.960	20.000	570.000	21.011	1.392
30.000	550.000	21.624	1.815	10.000	570.000	20.553	0.995
20.000	550.000	19.024	2.236	0.000	570.000	19.006	1.214
10.000	550.000	21.121	1.523	LINE 580			
0.000	550.000	20.828	1.236	0.000	580.000	20.461	1.107
LINE 560				10.000	580.000	21.029	1.047
0.000	560.000	19.665	1.238	20.000	580.000	20.800	1.721
10.000	560.000	20.425	1.350	30.000	580.000	20.343	1.284
20.000	560.000	20.352	1.326	40.000	580.000	20.461	1.962
30.000	560.000	19.427	1.528	50.000	580.000	21.304	2.087
40.000	560.000	22.128	1.429	60.000	580.000	20.132	1.615
50.000	560.000	19.555	1.688	70.000	580.000	20.169	2.045
60.000	560.000	21.661	1.179	80.000	580.000	20.983	3.266
70.000	560.000	20.736	1.231	90.000	580.000	19.500	1.582
80.000	560.000	21.148	1.225	100.000	580.000	17.971	1.098
90.000	560.000	19.162	1.205	110.000	580.000	16.827	1.661
100.000	560.000	18.521	1.262	120.000	580.000	17.706	1.697
110.000	560.000	17.834	1.752	130.000	580.000	18.191	1.789
120.000	560.000	17.541	0.630	140.000	580.000	18.768	1.348
130.000	560.000	18.585	0.981	150.000	580.000	18.109	1.352
140.000	560.000	17.056	1.639	160.000	580.000	19.134	1.510
150.000	560.000	17.477	1.291	170.000	580.000	18.237	1.495
160.000	560.000	19.592	1.234	180.000	580.000	19.216	1.668
170.000	560.000	17.743	1.751	190.000	580.000	19.381	1.605
180.000	560.000	20.425	1.523	200.000	580.000	19.152	1.769
190.000	560.000	19.885	1.664	210.000	580.000	20.434	1.947
200.000	560.000	17.440	2.131	220.000	580.000	17.413	3.979
210.000	560.000	20.846	2.212	230.000	580.000	18.603	4.029

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
240.000	580.000	21.771	2.541	260.000	600.000	18.301	3.290
250.000	580.000	24.573	2.102	270.000	600.000	23.556	3.424
260.000	580.000	32.867	1.967	280.000	600.000	26.166	3.928
270.000	580.000	38.964	2.941	290.000	600.000	28.619	3.046
280.000	580.000	43.231	2.673	300.000	600.000	23.034	1.787
290.000	580.000	28.756	1.528	LINE 610			
300.000	580.000	17.834	1.662	300.000	610.000	19.967	0.213
LINE 590				290.000	610.000	19.720	1.738
300.000	590.000	25.845	1.444	280.000	610.000	20.883	12.118
290.000	590.000	29.507	2.023	270.000	610.000	22.705	3.992
280.000	590.000	39.001	2.611	260.000	610.000	18.942	1.508
270.000	590.000	37.802	3.278	250.000	610.000	22.449	2.515
260.000	590.000	29.461	3.877	240.000	610.000	21.478	0.306
250.000	590.000	21.267	2.430	230.000	610.000	18.658	1.142
240.000	590.000	22.219	1.833	220.000	610.000	14.227	1.887
230.000	590.000	18.722	3.785	210.000	610.000	18.008	1.356
220.000	590.000	18.337	2.857	200.000	610.000	19.107	0.075
210.000	590.000	18.100	2.331	190.000	610.000	19.024	0.301
200.000	590.000	16.195	2.794	180.000	610.000	17.825	3.634
190.000	590.000	19.162	2.265	170.000	610.000	18.045	0.395
180.000	590.000	18.896	2.960	160.000	610.000	18.374	0.705
170.000	590.000	18.859	2.138	150.000	610.000	18.054	0.236
160.000	590.000	17.733	1.872	140.000	610.000	17.065	3.153
150.000	590.000	19.244	1.782	130.000	610.000	18.814	0.578
140.000	590.000	18.612	1.306	120.000	610.000	17.129	5.238
130.000	590.000	17.761	1.695	110.000	610.000	18.667	8.959
120.000	590.000	17.999	1.315	100.000	610.000	16.003	1.379
110.000	590.000	14.566	1.971	90.000	610.000	16.369	0.885
100.000	590.000	19.299	1.481	80.000	610.000	17.898	2.419
90.000	590.000	18.384	1.593	70.000	610.000	17.505	1.627
80.000	590.000	17.898	1.199	60.000	610.000	16.278	1.049
70.000	590.000	18.154	1.249	50.000	610.000	17.101	0.621
60.000	590.000	18.805	1.526	40.000	610.000	16.360	0.042
50.000	590.000	18.283	2.160	30.000	610.000	17.468	0.858
40.000	590.000	18.036	1.692	20.000	610.000	18.988	0.898
30.000	590.000	18.411	1.918	10.000	610.000	20.352	0.266
20.000	590.000	18.511	2.035	0.000	610.000	17.120	1.394
10.000	590.000	18.219	1.729	LINE 620			
0.000	590.000	23.089	0.172	0.000	620.000	20.727	0.011
LINE 600				10.000	620.000	19.720	1.300
0.000	600.000	10.922	3.722	20.000	620.000	19.180	0.554
10.000	600.000	5.154	6.425	30.000	620.000	19.766	0.150
20.000	600.000	17.120	1.971	40.000	620.000	19.537	0.214
30.000	600.000	19.399	1.177	50.000	620.000	17.385	0.519
40.000	600.000	18.576	2.111	60.000	620.000	15.719	0.920
50.000	600.000	17.212	1.458	70.000	620.000	15.701	1.453
60.000	600.000	19.583	1.221	80.000	620.000	18.915	0.417
70.000	600.000	18.219	1.435	90.000	620.000	17.129	0.970
80.000	600.000	20.535	1.466	100.000	620.000	18.100	-0.249
90.000	600.000	20.233	1.262	110.000	620.000	18.210	0.747
100.000	600.000	18.109	1.716	120.000	620.000	17.322	-0.117
110.000	600.000	18.694	1.659	130.000	620.000	15.792	0.606
120.000	600.000	17.322	2.903	140.000	620.000	17.129	0.839
130.000	600.000	17.239	3.994	150.000	620.000	15.142	0.380
140.000	600.000	17.065	1.668	160.000	620.000	17.275	0.216
150.000	600.000	18.805	1.567	170.000	620.000	17.632	0.044
160.000	600.000	17.404	2.328	180.000	620.000	19.967	8.441
170.000	600.000	16.937	2.465	190.000	620.000	18.631	2.199
180.000	600.000	17.184	1.995	200.000	620.000	19.180	0.297
190.000	600.000	18.850	1.661	210.000	620.000	19.399	0.931
200.000	600.000	19.125	1.802	220.000	620.000	15.024	2.493
210.000	600.000	18.402	1.986	230.000	620.000	13.018	2.853
220.000	600.000	19.784	1.468	240.000	620.000	21.936	1.365
230.000	600.000	15.362	2.871	250.000	620.000	21.624	1.554
240.000	600.000	18.511	3.064	260.000	620.000	21.194	2.735
250.000	600.000	17.422	3.586	270.000	620.000	19.189	2.377

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
280.000	620.000	21.057	1.892	300.000	640.000	20.178	0.593
290.000	620.000	21.148	0.218	LINE 650			
300.000	620.000	19.912	0.477	300.000	650.000	19.336	0.681
LINE 630				290.000	650.000	19.702	1.063
300.000	630.000	21.817	0.301	280.000	650.000	19.921	11.621
290.000	630.000	20.645	0.521	270.000	650.000	20.269	9.089
280.000	630.000	20.489	0.360	260.000	650.000	23.620	11.114
270.000	630.000	19.720	0.992	250.000	650.000	22.998	2.770
260.000	630.000	24.426	4.235	240.000	650.000	16.580	5.725
250.000	630.000	21.478	0.718	230.000	650.000	18.027	4.612
240.000	630.000	13.623	2.998	220.000	650.000	19.336	2.566
230.000	630.000	18.100	1.234	210.000	650.000	16.671	1.607
220.000	630.000	16.607	3.652	200.000	650.000	19.720	8.000
210.000	630.000	15.390	1.888	190.000	650.000	17.944	0.815
200.000	630.000	18.786	-0.064	180.000	650.000	16.763	0.224
190.000	630.000	19.399	0.720	170.000	650.000	14.923	0.253
180.000	630.000	18.310	0.927	160.000	650.000	16.534	0.670
170.000	630.000	15.289	0.801	150.000	650.000	15.985	0.393
160.000	630.000	17.385	0.178	140.000	650.000	18.942	0.194
150.000	630.000	16.360	0.464	130.000	650.000	18.402	0.567
140.000	630.000	14.932	-0.090	120.000	650.000	20.278	2.087
130.000	630.000	16.012	0.777	110.000	650.000	18.978	-0.600
120.000	630.000	19.299	4.764	100.000	650.000	19.216	0.064
110.000	630.000	19.775	-0.418	90.000	650.000	19.399	-0.053
100.000	630.000	17.743	-0.325	80.000	650.000	18.777	0.301
90.000	630.000	19.601	3.906	70.000	650.000	20.919	-0.187
80.000	630.000	17.889	-0.536	60.000	650.000	21.295	8.891
70.000	630.000	16.937	0.106	50.000	650.000	18.301	0.172
60.000	630.000	22.815	16.713	40.000	650.000	17.038	0.564
50.000	630.000	18.402	0.040	30.000	650.000	17.578	0.034
40.000	630.000	17.266	1.389	20.000	650.000	18.978	-0.082
30.000	630.000	18.878	4.470	10.000	650.000	16.626	-0.124
20.000	630.000	16.177	1.210	0.000	650.000	16.396	0.299
10.000	630.000	17.752	0.097	LINE 660			
0.000	630.000	18.805	0.758	0.000	660.000	17.257	-0.124
LINE 640				10.000	660.000	18.667	1.412
0.000	640.000	19.610	-0.268	20.000	660.000	20.617	3.856
10.000	640.000	18.310	1.234	30.000	660.000	20.736	-0.077
20.000	640.000	15.033	1.405	40.000	660.000	17.496	0.725
30.000	640.000	15.655	-0.878	50.000	660.000	17.724	0.628
40.000	640.000	16.589	-0.872	60.000	660.000	22.714	13.042
50.000	640.000	17.550	1.633	70.000	660.000	18.905	1.269
60.000	640.000	18.585	-0.102	80.000	660.000	21.166	0.440
70.000	640.000	21.469	8.402	90.000	660.000	20.306	1.023
80.000	640.000	18.118	-0.034	100.000	660.000	20.361	1.804
90.000	640.000	19.308	1.914	110.000	660.000	19.940	0.426
100.000	640.000	20.672	0.108	120.000	660.000	19.061	0.222
110.000	640.000	18.942	0.466	130.000	660.000	18.942	0.341
120.000	640.000	20.151	0.036	140.000	660.000	18.859	0.848
130.000	640.000	18.576	0.231	150.000	660.000	18.337	0.332
140.000	640.000	18.292	0.128	160.000	660.000	18.530	1.036
150.000	640.000	15.847	0.701	170.000	660.000	16.580	0.444
160.000	640.000	16.250	1.131	180.000	660.000	17.212	0.418
170.000	640.000	17.148	0.766	190.000	660.000	18.219	0.231
180.000	640.000	15.390	0.891	200.000	660.000	17.614	-0.145
190.000	640.000	19.583	3.761	210.000	660.000	17.971	0.257
200.000	640.000	19.272	3.254	220.000	660.000	17.157	1.637
210.000	640.000	18.274	0.200	230.000	660.000	14.987	1.833
220.000	640.000	18.173	0.474	240.000	660.000	20.489	1.712
230.000	640.000	21.789	2.894	250.000	660.000	10.024	3.671
240.000	640.000	15.234	1.017	260.000	660.000	13.815	3.226
250.000	640.000	17.688	1.787	270.000	660.000	20.086	1.706
260.000	640.000	18.649	5.389	280.000	660.000	17.679	1.569
270.000	640.000	24.234	0.512	290.000	660.000	17.990	1.455
280.000	640.000	18.145	2.160	300.000	660.000	20.151	0.698
290.000	640.000	18.191	1.275	310.000	660.000	20.278	0.564

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
320.000	660.000	22.595	0.404	300.000	690.000	24.920	0.771
LINE 670				290.000	690.000	25.186	1.471
300.000	670.000	18.933	0.382	280.000	690.000	23.272	0.880
290.000	670.000	18.841	1.488	270.000	690.000	22.064	0.795
280.000	670.000	22.210	1.361	260.000	690.000	18.722	4.097
270.000	670.000	21.945	1.718	250.000	690.000	16.030	6.816
260.000	670.000	18.969	2.774	240.000	690.000	14.831	1.752
250.000	670.000	14.456	1.673	230.000	690.000	17.514	1.251
240.000	670.000	18.191	1.567	220.000	690.000	18.567	0.336
230.000	670.000	20.800	0.134	210.000	690.000	17.679	0.327
220.000	670.000	17.999	0.584	200.000	690.000	16.845	0.475
210.000	670.000	18.347	0.334	190.000	690.000	16.250	-0.207
200.000	670.000	19.262	0.582	180.000	690.000	16.974	1.128
190.000	670.000	18.649	0.514	170.000	690.000	18.878	0.271
180.000	670.000	15.408	0.350	160.000	690.000	19.912	1.605
170.000	670.000	16.598	-0.117	150.000	690.000	19.555	-0.023
160.000	670.000	17.862	0.207	140.000	690.000	18.612	0.277
150.000	670.000	19.281	-0.001	130.000	690.000	17.459	-0.373
140.000	670.000	19.152	-0.130	120.000	690.000	18.850	1.321
130.000	670.000	18.054	0.354	110.000	690.000	18.081	0.328
120.000	670.000	19.015	0.191	100.000	690.000	21.396	-0.371
110.000	670.000	19.189	0.437	90.000	690.000	19.995	0.299
100.000	670.000	19.162	-0.053	80.000	690.000	18.100	-0.178
90.000	670.000	18.054	0.632	70.000	690.000	19.821	-0.135
80.000	670.000	20.471	1.414	60.000	690.000	20.818	-0.169
70.000	670.000	21.441	0.709	50.000	690.000	19.555	-0.231
60.000	670.000	20.416	-0.062	40.000	690.000	19.162	0.001
50.000	670.000	21.011	-0.236	30.000	690.000	19.225	-0.066
40.000	670.000	21.377	-0.093	20.000	690.000	21.249	-0.488
30.000	670.000	17.679	0.560	10.000	690.000	18.731	1.102
20.000	670.000	15.865	0.595	0.000	690.000	15.939	0.843
10.000	670.000	18.393	0.378	LINE 700			
0.000	670.000	20.013	-0.159	0.000	700.000	18.466	-0.027
LINE 680				10.000	700.000	19.683	-0.288
0.000	680.000	19.839	-0.110	20.000	700.000	15.372	1.267
10.000	680.000	15.060	2.070	30.000	700.000	10.903	3.998
20.000	680.000	11.013	2.603	40.000	700.000	20.645	-0.031
30.000	680.000	15.399	0.931	50.000	700.000	23.062	0.104
40.000	680.000	17.212	0.231	60.000	700.000	21.213	0.270
50.000	680.000	20.965	0.986	70.000	700.000	21.103	-0.031
60.000	680.000	19.225	0.045	80.000	700.000	19.006	0.060
70.000	680.000	19.793	-0.117	90.000	700.000	17.523	0.459
80.000	680.000	23.227	-0.314	100.000	700.000	15.747	0.657
90.000	680.000	21.276	-0.220	110.000	700.000	22.247	0.668
100.000	680.000	19.555	0.371	120.000	700.000	19.848	0.876
110.000	680.000	18.356	0.268	130.000	700.000	19.564	-0.339
120.000	680.000	18.951	-0.301	140.000	700.000	18.163	2.329
130.000	680.000	18.841	0.661	150.000	700.000	18.768	0.911
140.000	680.000	18.558	2.203	160.000	700.000	19.290	0.115
150.000	680.000	18.090	-0.022	170.000	700.000	19.216	0.753
160.000	680.000	19.720	0.011	180.000	700.000	19.162	1.181
170.000	680.000	18.805	-0.248	190.000	700.000	19.042	7.173
180.000	680.000	17.761	-0.488	200.000	700.000	20.956	8.533
190.000	680.000	17.578	-0.216	210.000	700.000	17.733	1.039
200.000	680.000	19.272	1.644	220.000	700.000	18.384	1.119
210.000	680.000	18.594	0.281	230.000	700.000	18.109	0.437
220.000	680.000	17.651	0.718	240.000	700.000	14.987	3.794
230.000	680.000	20.160	0.082	250.000	700.000	12.918	2.056
240.000	680.000	19.564	0.745	260.000	700.000	17.477	1.427
250.000	680.000	19.647	0.801	270.000	700.000	16.644	2.135
260.000	680.000	14.850	1.572	280.000	700.000	22.750	0.578
270.000	680.000	15.957	1.262	290.000	700.000	21.789	0.602
280.000	680.000	21.057	0.411	300.000	700.000	23.089	1.334
290.000	680.000	21.423	2.530	LINE 320			
300.000	680.000	18.777	1.087	300.000	320.000	93.631	3.316
LINE 690				290.000	320.000	105.771	4.215

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
280.000	320.000	89.620	2.171	260.000	300.000	29.223	3.777
270.000	320.000	72.125	4.540	250.000	300.000	29.242	3.878
260.000	320.000	56.286	4.691	240.000	300.000	30.240	1.912
250.000	320.000	48.257	4.400	230.000	300.000	31.429	1.449
240.000	320.000	36.401	4.544	220.000	300.000	29.535	1.458
230.000	320.000	34.735	5.317	210.000	300.000	20.050	1.736
220.000	320.000	28.619	2.658	200.000	300.000	15.664	1.530
210.000	320.000	10.940	4.213	190.000	300.000	15.216	-0.365
200.000	320.000	18.191	0.916	180.000	300.000	14.630	2.019
190.000	320.000	23.638	-0.426	170.000	300.000	13.632	1.363
180.000	320.000	12.735	2.234	160.000	300.000	19.857	-0.161
170.000	320.000	19.326	0.029	150.000	300.000	20.352	-0.229
160.000	320.000	18.200	0.437	140.000	300.000	18.768	0.277
150.000	320.000	16.552	7.555	130.000	300.000	17.120	0.700
140.000	320.000	11.490	2.925	120.000	300.000	16.086	0.828
130.000	320.000	14.914	1.334	110.000	300.000	18.658	0.157
120.000	320.000	16.516	0.784	100.000	300.000	17.138	0.736
110.000	320.000	17.056	1.762	90.000	300.000	16.507	0.757
100.000	320.000	21.304	-0.716	80.000	300.000	17.733	0.670
90.000	320.000	14.694	0.332	70.000	300.000	19.253	-0.056
80.000	320.000	17.138	1.699	60.000	300.000	20.104	-0.507
70.000	320.000	19.610	0.178	50.000	300.000	19.903	-0.332
60.000	320.000	20.938	0.505	40.000	300.000	20.242	-0.380
50.000	320.000	20.874	0.878	30.000	300.000	20.031	1.591
40.000	320.000	21.927	-0.233	20.000	300.000	21.807	0.830
30.000	320.000	20.654	-0.216	10.000	300.000	21.789	3.698
20.000	320.000	20.773	0.567	0.000	300.000	17.349	1.332
10.000	320.000	20.626	-0.617				
0.000	320.000	20.608	-0.430				
LINE 310				LINE 60			
0.000	310.000	22.000	-0.501	480.000	60.000	20.205	3.136
10.000	310.000	21.936	-0.395	490.000	60.000	19.592	8.571
20.000	310.000	21.597	0.769	500.000	60.000	19.162	4.494
30.000	310.000	19.674	0.183	510.000	60.000	20.626	4.839
40.000	310.000	19.281	0.108	520.000	60.000	17.175	9.936
50.000	310.000	19.134	-0.082	530.000	60.000	20.287	3.006
60.000	310.000	20.672	-0.110	540.000	60.000	22.009	5.067
70.000	310.000	21.533	-0.413	550.000	60.000	21.899	5.923
80.000	310.000	20.187	0.299	560.000	60.000	19.986	2.032
90.000	310.000	17.853	1.047	570.000	60.000	20.416	5.392
100.000	310.000	16.443	0.874	580.000	60.000	19.225	0.723
110.000	310.000	16.781	0.777	590.000	60.000	19.986	7.636
120.000	310.000	17.312	0.685	600.000	60.000	16.983	1.427
130.000	310.000	14.566	1.383	610.000	60.000	16.479	1.598
140.000	310.000	16.195	0.902	620.000	60.000	16.351	1.822
150.000	310.000	16.864	0.760	630.000	60.000	17.010	1.163
160.000	310.000	19.455	-0.020	640.000	60.000	16.067	2.532
170.000	310.000	20.663	-0.481	650.000	60.000	6.481	-1.153
180.000	310.000	11.828	2.627	660.000	60.000	17.971	2.223
190.000	310.000	12.973	2.982	670.000	60.000	18.530	1.062
200.000	310.000	15.033	2.087	680.000	60.000	19.189	1.039
210.000	310.000	6.784	4.722	690.000	60.000	19.427	2.129
220.000	310.000	21.579	1.284	700.000	60.000	21.249	2.623
230.000	310.000	22.137	2.594	710.000	60.000	18.795	0.266
240.000	310.000	21.441	2.592	720.000	60.000	17.175	-0.112
250.000	310.000	28.051	1.582	730.000	60.000	18.274	4.744
260.000	310.000	28.756	4.937	740.000	60.000	18.402	1.324
270.000	310.000	32.190	2.469	750.000	60.000	19.766	4.323
280.000	310.000	35.641	2.519	760.000	60.000	19.006	0.314
290.000	310.000	49.081	1.530	770.000	60.000	18.814	0.461
300.000	310.000	34.222	0.551	780.000	60.000	18.795	1.574
LINE 300				790.000	60.000	18.127	0.227
300.000	300.000	19.867	0.106	800.000	60.000	18.548	-0.485
290.000	300.000	60.040	3.311	LINE 70			
280.000	300.000	42.828	7.640	800.000	70.000	19.116	-0.213
270.000	300.000	28.610	7.456	790.000	70.000	19.912	5.233
				780.000	70.000	19.253	0.573
				770.000	70.000	19.455	0.034

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
760.000	70.000	18.676	0.696	760.000	90.000	20.187	4.681
750.000	70.000	18.676	2.050	750.000	90.000	18.768	1.370
740.000	70.000	16.800	0.464	740.000	90.000	19.381	2.587
730.000	70.000	18.200	0.525	730.000	90.000	21.194	5.078
720.000	70.000	20.498	3.803	720.000	90.000	19.345	0.832
710.000	70.000	18.530	0.775	710.000	90.000	18.511	2.291
700.000	70.000	18.621	0.622	700.000	90.000	16.845	0.845
690.000	70.000	18.466	0.474	690.000	90.000	16.415	0.619
680.000	70.000	19.647	7.088	680.000	90.000	16.168	1.120
670.000	70.000	16.360	3.241	670.000	90.000	18.045	5.745
660.000	70.000	15.261	2.379	660.000	90.000	15.307	1.570
650.000	70.000	16.470	1.005	650.000	90.000	15.353	2.451
640.000	70.000	16.223	0.994	640.000	90.000	16.927	4.509
630.000	70.000	17.825	0.297	630.000	90.000	16.918	0.747
620.000	70.000	17.614	0.733	620.000	90.000	17.788	2.866
610.000	70.000	18.567	0.562	610.000	90.000	18.786	2.157
600.000	70.000	18.420	-0.137	600.000	90.000	17.834	0.422
590.000	70.000	18.100	0.562	590.000	90.000	18.027	5.758
580.000	70.000	19.336	-0.132	580.000	90.000	16.461	2.548
570.000	70.000	20.452	1.170	570.000	90.000	19.198	4.147
560.000	70.000	21.039	1.646	560.000	90.000	19.620	1.418
550.000	70.000	20.114	3.031	550.000	90.000	19.024	3.658
540.000	70.000	19.519	0.893	540.000	90.000	19.390	1.989
530.000	70.000	19.784	0.369	530.000	90.000	19.729	2.489
520.000	70.000	20.068	1.078	520.000	90.000	18.558	0.705
510.000	70.000	20.242	-0.123	510.000	90.000	17.092	1.416
500.000	70.000	21.075	0.227	500.000	90.000	21.688	0.321
490.000	70.000	18.750	1.596	490.000	90.000	19.592	2.168
LINE 80				LINE 100			
490.000	80.000	21.103	1.047	500.000	100.000	22.348	0.238
500.000	80.000	21.331	0.088	510.000	100.000	19.455	1.005
510.000	80.000	20.306	0.937	520.000	100.000	19.803	7.596
520.000	80.000	18.393	5.385	530.000	100.000	22.357	4.108
530.000	80.000	20.508	1.982	540.000	100.000	21.112	1.824
540.000	80.000	21.460	7.640	550.000	100.000	21.368	3.287
550.000	80.000	19.134	1.932	560.000	100.000	22.064	2.116
560.000	80.000	19.793	1.350	570.000	100.000	22.036	3.540
570.000	80.000	20.214	0.418	580.000	100.000	20.407	0.889
580.000	80.000	19.940	0.677	590.000	100.000	18.997	0.271
590.000	80.000	19.756	1.135	600.000	100.000	18.072	-0.257
600.000	80.000	20.022	-0.086	610.000	100.000	17.898	0.343
610.000	80.000	19.235	1.411	620.000	100.000	18.759	1.339
620.000	80.000	17.166	0.472	630.000	100.000	19.125	6.691
630.000	80.000	16.763	1.804	640.000	100.000	18.841	7.902
640.000	80.000	17.239	4.757	650.000	100.000	16.607	2.939
650.000	80.000	16.635	5.922	660.000	100.000	18.438	3.053
660.000	80.000	17.358	1.762	670.000	100.000	16.049	1.960
670.000	80.000	16.552	0.632	680.000	100.000	15.564	1.157
680.000	80.000	16.516	4.227	690.000	100.000	17.770	4.027
690.000	80.000	16.635	-0.373	700.000	100.000	17.688	-0.113
700.000	80.000	18.365	-0.251	710.000	100.000	17.028	0.755
710.000	80.000	18.384	2.985	720.000	100.000	16.699	-0.154
720.000	80.000	20.095	5.416	730.000	100.000	15.948	0.657
730.000	80.000	17.788	1.960	740.000	100.000	20.425	5.374
740.000	80.000	19.455	0.442	750.000	100.000	20.242	0.564
750.000	80.000	18.978	3.638	760.000	100.000	19.253	1.203
760.000	80.000	17.385	4.012	770.000	100.000	18.969	2.651
770.000	80.000	17.569	1.499	780.000	100.000	19.528	2.634
780.000	80.000	18.118	0.018	790.000	100.000	18.988	-0.126
790.000	80.000	17.816	1.447	800.000	100.000	16.617	0.001
800.000	80.000	18.933	1.231	LINE 110			
LINE 90				800.000	110.000	19.299	-0.624
800.000	90.000	19.006	-0.479	790.000	110.000	19.198	0.814
790.000	90.000	17.752	1.841	780.000	110.000	19.656	1.258
780.000	90.000	17.285	2.923	770.000	110.000	19.042	1.188
770.000	90.000	17.413	5.023	760.000	110.000	20.022	0.305

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
750.000	110.000	19.418	2.721	740.000	130.000	18.502	0.766
740.000	110.000	16.589	1.626	730.000	130.000	18.200	0.881
730.000	110.000	16.946	-0.029	720.000	130.000	17.175	1.065
720.000	110.000	19.601	6.908	710.000	130.000	16.827	0.518
710.000	110.000	18.310	0.347	700.000	130.000	16.241	0.758
700.000	110.000	17.505	0.439	690.000	130.000	16.305	0.468
690.000	110.000	17.743	0.815	680.000	130.000	16.260	2.328
680.000	110.000	17.532	0.955	670.000	130.000	17.358	1.356
670.000	110.000	18.027	1.481	660.000	130.000	17.651	1.401
660.000	110.000	16.552	2.168	650.000	130.000	16.479	2.390
650.000	110.000	16.754	2.511	640.000	130.000	19.620	2.776
640.000	110.000	16.909	2.805	630.000	130.000	20.709	0.944
630.000	110.000	17.569	0.606	620.000	130.000	18.457	0.786
620.000	110.000	16.854	1.212	610.000	130.000	17.404	1.944
610.000	110.000	18.621	0.808	600.000	130.000	16.067	0.001
600.000	110.000	20.278	1.010	590.000	130.000	14.456	1.137
590.000	110.000	20.663	0.883	580.000	130.000	12.259	1.311
580.000	110.000	21.084	0.913	570.000	130.000	13.137	1.460
570.000	110.000	19.363	1.192	560.000	130.000	14.145	1.782
560.000	110.000	18.255	0.119	550.000	130.000	18.502	0.788
550.000	110.000	19.225	3.066	540.000	130.000	17.797	0.766
540.000	110.000	22.036	2.282	530.000	130.000	13.714	1.609
530.000	110.000	18.567	1.876	520.000	130.000	24.197	0.016
520.000	110.000	20.398	1.025	510.000	130.000	23.382	0.411
510.000	110.000	16.086	0.406	500.000	130.000	25.671	-0.286
500.000	110.000	19.638	1.580	LINE 140			
LINE 120				500.000	140.000	26.587	-0.510
490.000	120.000	23.611	1.403	510.000	140.000	23.327	0.881
500.000	120.000	20.919	1.038	520.000	140.000	22.512	1.190
510.000	120.000	18.017	2.078	530.000	140.000	23.126	2.096
520.000	120.000	22.622	0.858	540.000	140.000	15.490	3.834
530.000	120.000	22.806	3.254	550.000	140.000	16.927	1.361
540.000	120.000	15.884	1.967	560.000	140.000	19.537	5.955
550.000	120.000	16.671	1.563	570.000	140.000	15.994	2.904
560.000	120.000	19.482	2.914	580.000	140.000	14.218	2.306
570.000	120.000	15.829	3.930	590.000	140.000	13.980	1.372
580.000	120.000	17.138	1.936	600.000	140.000	14.703	0.529
590.000	120.000	18.036	1.242	610.000	140.000	15.234	1.481
600.000	120.000	19.674	0.273	620.000	140.000	16.735	0.630
610.000	120.000	20.224	0.295	630.000	140.000	14.740	2.192
620.000	120.000	20.654	3.257	640.000	140.000	15.490	1.499
630.000	120.000	19.299	2.381	650.000	140.000	18.255	0.334
640.000	120.000	17.193	1.104	660.000	140.000	20.983	-0.011
650.000	120.000	16.965	0.801	670.000	140.000	19.427	0.687
660.000	120.000	17.349	1.078	680.000	140.000	17.907	0.905
670.000	120.000	14.923	1.176	690.000	140.000	16.232	1.170
680.000	120.000	16.589	1.534	700.000	140.000	17.385	0.347
690.000	120.000	17.038	1.620	710.000	140.000	16.754	2.449
700.000	120.000	18.658	-0.119	720.000	140.000	15.985	2.168
710.000	120.000	18.274	0.135	730.000	140.000	16.726	3.696
720.000	120.000	17.523	0.837	740.000	140.000	17.770	1.686
730.000	120.000	17.715	1.045	750.000	140.000	18.283	1.028
740.000	120.000	18.072	1.043	760.000	140.000	17.660	0.575
750.000	120.000	16.232	0.481	770.000	140.000	17.001	0.635
760.000	120.000	15.646	0.622	780.000	140.000	16.735	0.430
770.000	120.000	17.111	0.970	790.000	140.000	17.202	0.180
780.000	120.000	19.363	0.238	800.000	140.000	18.219	-0.341
790.000	120.000	19.537	0.308	LINE 150			
800.000	120.000	18.539	-0.670	800.000	150.000	16.443	-0.181
LINE 130				790.000	150.000	17.083	1.956
800.000	130.000	19.345	-0.264	780.000	150.000	18.274	2.484
790.000	130.000	18.713	1.580	770.000	150.000	18.356	0.624
780.000	130.000	17.092	2.969	760.000	150.000	18.163	0.293
770.000	130.000	16.204	0.979	750.000	150.000	18.466	0.253
760.000	130.000	16.525	0.683	740.000	150.000	17.422	0.529
750.000	130.000	17.632	0.900	730.000	150.000	16.607	1.109

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
720.000	150.000	16.644	1.646	700.000	170.000	17.523	0.384
710.000	150.000	16.396	1.604	690.000	170.000	16.012	0.832
700.000	150.000	18.384	0.771	680.000	170.000	15.976	0.997
690.000	150.000	18.264	1.929	670.000	170.000	18.805	0.470
680.000	150.000	19.756	0.178	660.000	170.000	19.171	0.268
670.000	150.000	21.240	1.598	650.000	170.000	18.649	0.718
660.000	150.000	17.944	1.161	640.000	170.000	17.944	0.472
650.000	150.000	17.157	1.684	630.000	170.000	14.648	1.659
640.000	150.000	15.472	1.425	620.000	170.000	14.520	0.165
630.000	150.000	14.923	0.841	610.000	170.000	18.109	1.587
620.000	150.000	14.437	1.109	600.000	170.000	17.971	0.797
610.000	150.000	15.912	0.935	590.000	170.000	16.241	1.258
600.000	150.000	16.434	0.676	580.000	170.000	16.864	2.906
590.000	150.000	16.543	1.447	570.000	170.000	14.850	1.916
580.000	150.000	17.019	1.181	560.000	170.000	16.653	1.982
570.000	150.000	17.019	1.021	550.000	170.000	20.160	1.422
560.000	150.000	17.065	1.289	540.000	170.000	17.907	1.096
550.000	150.000	17.733	2.096	530.000	170.000	12.762	1.196
540.000	150.000	17.212	1.385	520.000	170.000	23.419	0.731
530.000	150.000	13.394	1.679	510.000	170.000	25.918	0.110
520.000	150.000	25.094	1.659	500.000	170.000	26.706	-0.042
510.000	150.000	22.769	0.924	LINE 200			
500.000	150.000	24.600	-0.310	500.000	200.000	24.023	0.014
LINE 160				510.000	200.000	23.410	0.101
500.000	160.000	26.824	-0.466	520.000	200.000	23.684	0.859
510.000	160.000	25.396	-0.099	530.000	200.000	22.238	1.881
520.000	160.000	25.067	0.413	540.000	200.000	13.128	2.603
530.000	160.000	23.931	1.940	550.000	200.000	20.508	2.197
540.000	160.000	12.295	3.577	560.000	200.000	19.317	1.203
550.000	160.000	17.505	4.036	570.000	200.000	16.662	1.104
560.000	160.000	19.674	1.201	580.000	200.000	16.443	2.816
570.000	160.000	16.635	2.059	590.000	200.000	13.623	1.258
580.000	160.000	16.699	2.991	600.000	200.000	17.779	0.586
590.000	160.000	14.712	1.039	610.000	200.000	17.953	0.937
600.000	160.000	15.856	1.168	620.000	200.000	17.806	0.635
610.000	160.000	17.413	0.602	630.000	200.000	17.459	0.946
620.000	160.000	15.637	1.583	640.000	200.000	19.024	0.751
630.000	160.000	14.053	0.714	650.000	200.000	20.562	0.586
640.000	160.000	14.620	0.347	660.000	200.000	20.352	0.282
650.000	160.000	17.907	0.466	670.000	200.000	19.573	0.231
660.000	160.000	15.985	1.668	680.000	200.000	20.480	-0.235
670.000	160.000	18.100	0.880	690.000	200.000	21.798	-0.367
680.000	160.000	17.138	0.915	700.000	200.000	21.396	-0.113
690.000	160.000	18.438	0.402	710.000	200.000	21.405	-0.147
700.000	160.000	20.498	0.202	720.000	200.000	19.711	0.090
710.000	160.000	20.773	0.266	730.000	200.000	19.491	-0.014
720.000	160.000	17.907	1.220	740.000	200.000	18.713	-0.005
730.000	160.000	16.213	0.773	750.000	200.000	19.592	0.231
740.000	160.000	16.333	1.383	760.000	200.000	20.334	-0.556
750.000	160.000	17.221	0.679	770.000	200.000	20.718	-0.349
760.000	160.000	18.255	0.667	780.000	200.000	20.461	-0.567
770.000	160.000	18.017	0.580	790.000	200.000	20.718	-0.325
780.000	160.000	18.255	0.027	800.000	200.000	20.315	-0.464
790.000	160.000	18.631	-0.036	LINE 210			
800.000	160.000	18.210	0.000	800.000	210.000	20.251	-0.793
LINE 170				790.000	210.000	20.480	-0.672
800.000	170.000	18.667	-0.450	780.000	210.000	20.205	-0.545
790.000	170.000	19.409	0.907	770.000	210.000	20.370	-0.624
780.000	170.000	20.379	0.725	760.000	210.000	20.910	-0.747
770.000	170.000	19.336	0.292	750.000	210.000	20.992	-0.731
760.000	170.000	19.134	-0.086	740.000	210.000	20.691	0.034
750.000	170.000	19.152	0.200	730.000	210.000	20.736	-0.836
740.000	170.000	18.292	1.183	720.000	210.000	21.176	-0.534
730.000	170.000	18.777	0.641	710.000	210.000	21.084	0.316
720.000	170.000	19.766	0.496	700.000	210.000	19.317	-0.009
710.000	170.000	19.656	0.565	690.000	210.000	21.514	-0.091



Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
680.000	210.000	22.284	-0.336	660.000	230.000	20.727	0.117
670.000	210.000	18.878	0.226	650.000	230.000	21.624	-0.093
660.000	210.000	19.573	0.224	640.000	230.000	19.812	0.358
650.000	210.000	15.884	0.878	630.000	230.000	19.564	0.554
640.000	210.000	17.587	1.359	620.000	230.000	18.978	0.461
630.000	210.000	21.048	0.479	610.000	230.000	17.733	0.608
620.000	210.000	17.990	0.797	600.000	230.000	19.903	0.725
610.000	210.000	16.149	1.074	590.000	230.000	18.631	0.586
600.000	210.000	17.193	0.931	580.000	230.000	15.426	0.413
590.000	210.000	16.864	0.633	570.000	230.000	18.402	0.659
580.000	210.000	15.811	1.231	560.000	230.000	18.832	1.157
570.000	210.000	15.573	2.375	550.000	230.000	18.200	0.885
560.000	210.000	18.466	1.074	540.000	230.000	17.697	0.132
550.000	210.000	21.039	0.784	530.000	230.000	15.078	0.959
540.000	210.000	19.336	0.881	520.000	230.000	20.929	0.863
530.000	210.000	14.346	1.177	510.000	230.000	20.526	1.021
520.000	210.000	24.096	0.667	500.000	230.000	26.202	-0.033
510.000	210.000	23.611	0.119	LINE 240			
500.000	210.000	26.193	-0.170	500.000	240.000	24.060	0.174
LINE 220				510.000	240.000	23.785	0.463
500.000	220.000	28.372	-0.714	520.000	240.000	19.693	1.350
510.000	220.000	24.270	-0.097	530.000	240.000	20.608	1.460
520.000	220.000	23.062	0.573	540.000	240.000	13.989	1.497
530.000	220.000	21.972	0.922	550.000	240.000	17.752	0.870
540.000	220.000	13.330	1.003	560.000	240.000	18.997	0.698
550.000	220.000	18.237	0.689	570.000	240.000	19.647	0.911
560.000	220.000	19.921	0.931	580.000	240.000	18.063	0.707
570.000	220.000	17.898	0.920	590.000	240.000	16.424	0.771
580.000	220.000	17.074	0.790	600.000	240.000	18.548	0.560
590.000	220.000	16.974	0.786	610.000	240.000	18.182	0.878
600.000	220.000	17.614	0.791	620.000	240.000	18.411	0.569
610.000	220.000	17.459	0.707	630.000	240.000	17.010	0.786
620.000	220.000	16.351	0.711	640.000	240.000	14.840	0.395
630.000	220.000	17.697	0.547	650.000	240.000	18.036	-0.501
640.000	220.000	19.620	0.492	660.000	240.000	23.062	-0.297
650.000	220.000	19.995	0.525	670.000	240.000	21.258	-0.005
660.000	220.000	17.898	0.564	680.000	240.000	19.235	0.236
670.000	220.000	21.066	0.415	690.000	240.000	19.482	0.222
680.000	220.000	20.443	-0.288	700.000	240.000	20.224	-0.238
690.000	220.000	22.311	-0.365	710.000	240.000	20.059	-0.213
700.000	220.000	22.228	-0.463	720.000	240.000	21.817	-0.512
710.000	220.000	20.590	-0.479	730.000	240.000	20.883	-0.619
720.000	220.000	20.700	-0.519	740.000	240.000	21.450	-0.597
730.000	220.000	21.817	-0.257	750.000	240.000	20.278	-0.633
740.000	220.000	21.835	-0.573	760.000	240.000	20.571	-0.646
750.000	220.000	21.295	-0.617	770.000	240.000	20.471	-0.687
760.000	220.000	20.544	-0.549	780.000	240.000	20.663	-0.610
770.000	220.000	19.977	-0.385	790.000	240.000	19.656	-0.668
780.000	220.000	20.022	-0.576	800.000	240.000	19.372	-0.755
790.000	220.000	20.242	-0.586	LINE 250			
800.000	220.000	18.777	-0.430	800.000	250.000	19.436	-0.672
LINE 230				790.000	250.000	18.713	-0.444
800.000	230.000	18.915	-0.556	780.000	250.000	19.125	-0.674
790.000	230.000	18.896	-0.209	770.000	250.000	19.427	-0.365
780.000	230.000	19.674	-0.556	760.000	250.000	19.683	-0.369
770.000	230.000	20.132	-0.621	750.000	250.000	20.022	-0.525
760.000	230.000	19.995	-0.474	740.000	250.000	20.416	-0.703
750.000	230.000	20.151	-0.551	730.000	250.000	20.315	-0.172
740.000	230.000	20.590	-0.556	720.000	250.000	20.214	-0.216
730.000	230.000	21.551	-0.615	710.000	250.000	22.119	-0.518
720.000	230.000	20.901	-0.551	700.000	250.000	20.691	-0.007
710.000	230.000	20.452	-0.078	690.000	250.000	20.471	-0.189
700.000	230.000	20.278	0.198	680.000	250.000	20.663	-0.207
690.000	230.000	19.564	0.514	670.000	250.000	19.473	0.086
680.000	230.000	20.306	0.207	660.000	250.000	19.198	0.321
670.000	230.000	20.736	0.143	650.000	250.000	21.166	0.446

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
640.000	250.000	18.868	0.834	620.000	270.000	19.189	1.012
630.000	250.000	16.854	0.639	610.000	270.000	18.310	1.113
620.000	250.000	16.781	0.652	600.000	270.000	17.889	0.854
610.000	250.000	17.797	0.273	590.000	270.000	16.937	0.740
600.000	250.000	18.136	0.775	580.000	270.000	18.374	0.790
590.000	250.000	18.676	0.547	570.000	270.000	19.775	0.575
580.000	250.000	17.632	0.802	560.000	270.000	18.612	0.988
570.000	250.000	18.081	0.839	550.000	270.000	18.978	0.924
560.000	250.000	19.555	0.793	540.000	270.000	20.343	0.288
550.000	250.000	17.642	1.133	530.000	270.000	14.749	1.328
540.000	250.000	17.862	0.712	520.000	270.000	21.533	0.771
530.000	250.000	14.749	1.295	510.000	270.000	19.509	1.453
520.000	250.000	21.798	0.931	500.000	270.000	25.552	0.439
510.000	250.000	19.418	1.245	LINE 280			
500.000	250.000	23.281	0.316	500.000	280.000	25.094	0.909
LINE 260				510.000	280.000	23.584	1.174
500.000	260.000	24.856	0.424	520.000	280.000	20.553	1.547
510.000	260.000	22.796	0.865	530.000	280.000	22.128	0.863
520.000	260.000	20.068	1.447	540.000	280.000	16.314	1.576
530.000	260.000	20.388	2.227	550.000	280.000	20.278	0.604
540.000	260.000	15.307	1.096	560.000	280.000	19.903	0.843
550.000	260.000	19.024	0.986	570.000	280.000	19.272	1.220
560.000	260.000	18.942	1.218	580.000	280.000	19.601	0.817
570.000	260.000	18.429	1.495	590.000	280.000	16.882	0.464
580.000	260.000	18.594	1.016	600.000	280.000	18.814	0.406
590.000	260.000	17.175	1.868	610.000	280.000	20.050	0.817
600.000	260.000	18.118	0.703	620.000	280.000	18.502	2.135
610.000	260.000	19.583	0.617	630.000	280.000	19.061	0.773
620.000	260.000	19.729	1.221	640.000	280.000	19.747	1.078
630.000	260.000	17.376	2.162	650.000	280.000	20.654	0.373
640.000	260.000	17.010	1.569	660.000	280.000	20.315	0.257
650.000	260.000	18.310	1.304	670.000	280.000	20.800	-0.073
660.000	260.000	17.898	0.856	680.000	280.000	21.295	-0.112
670.000	260.000	17.880	0.617	690.000	280.000	21.231	-0.075
680.000	260.000	19.070	0.137	700.000	280.000	21.551	-0.314
690.000	260.000	19.555	0.580	710.000	280.000	21.240	-0.387
700.000	260.000	20.809	-0.292	720.000	280.000	20.535	-0.009
710.000	260.000	20.608	-0.398	730.000	280.000	20.782	-0.578
720.000	260.000	20.306	-0.310	740.000	280.000	20.709	-0.622
730.000	260.000	19.967	-0.650	750.000	280.000	19.967	-0.586
740.000	260.000	19.592	-0.459	760.000	280.000	19.756	-0.586
750.000	260.000	19.033	-0.332	770.000	280.000	19.775	-0.635
760.000	260.000	17.806	-0.233	780.000	280.000	19.784	-0.556
770.000	260.000	18.640	0.086	790.000	280.000	18.978	-0.593
780.000	260.000	18.658	0.023	800.000	280.000	20.040	-0.384
790.000	260.000	18.045	0.529	LINE 290			
800.000	260.000	18.814	0.817	800.000	290.000	19.573	-0.834
LINE 270				790.000	290.000	19.620	-0.729
800.000	270.000	19.729	-0.773	780.000	290.000	20.452	-0.373
790.000	270.000	19.812	-0.661	770.000	290.000	19.308	0.235
780.000	270.000	20.178	-0.510	760.000	290.000	20.718	-0.527
770.000	270.000	20.700	-0.490	750.000	290.000	19.473	-0.378
760.000	270.000	20.407	-0.586	740.000	290.000	20.471	-0.475
750.000	270.000	19.995	-0.598	730.000	290.000	20.718	-0.481
740.000	270.000	20.992	-0.554	720.000	290.000	21.661	-0.626
730.000	270.000	21.020	-0.415	710.000	290.000	22.338	-0.586
720.000	270.000	21.148	-0.431	700.000	290.000	22.585	-0.661
710.000	270.000	19.940	-0.292	690.000	290.000	21.826	-0.409
700.000	270.000	20.992	-0.286	680.000	290.000	21.276	-0.248
690.000	270.000	21.423	-0.391	670.000	290.000	21.267	-0.110
680.000	270.000	20.809	1.326	660.000	290.000	20.278	0.055
670.000	270.000	20.013	0.350	650.000	290.000	20.407	0.430
660.000	270.000	19.089	0.553	640.000	290.000	21.570	0.529
650.000	270.000	18.978	0.597	630.000	290.000	19.784	0.336
640.000	270.000	20.104	0.521	620.000	290.000	18.163	0.720
630.000	270.000	19.253	0.848	610.000	290.000	18.402	1.192

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
600.000	290.000	19.473	0.937	580.000	310.000	17.358	0.786
590.000	290.000	17.926	0.817	570.000	310.000	20.425	0.751
580.000	290.000	17.477	0.701	560.000	310.000	18.585	1.135
570.000	290.000	17.193	0.959	550.000	310.000	19.756	0.753
560.000	290.000	18.868	0.826	540.000	310.000	21.295	0.481
550.000	290.000	19.116	0.055	530.000	310.000	14.272	1.556
540.000	290.000	20.141	1.091	520.000	310.000	23.208	0.674
530.000	290.000	16.131	2.122	510.000	310.000	22.393	1.481
520.000	290.000	23.062	0.999	500.000	310.000	21.112	1.684
510.000	290.000	20.791	1.400	LINE 320			
500.000	290.000	24.289	0.863	500.000	320.000	23.647	0.824
LINE 300				510.000	320.000	21.057	1.271
500.000	300.000	21.679	1.892	520.000	320.000	22.054	0.712
510.000	300.000	20.965	1.747	530.000	320.000	24.142	0.531
520.000	300.000	22.384	1.475	540.000	320.000	15.344	1.618
530.000	300.000	21.826	0.994	550.000	320.000	21.387	0.576
540.000	300.000	14.831	1.602	560.000	320.000	20.095	1.122
550.000	300.000	21.387	0.946	570.000	320.000	18.640	1.122
560.000	300.000	18.658	1.539	580.000	320.000	19.500	0.894
570.000	300.000	18.777	1.583	590.000	320.000	17.953	0.874
580.000	300.000	18.685	1.705	600.000	320.000	17.175	0.836
590.000	300.000	18.493	0.852	610.000	320.000	19.381	1.183
600.000	300.000	19.803	0.608	620.000	320.000	17.193	1.137
610.000	300.000	19.702	0.477	630.000	320.000	15.976	1.469
620.000	300.000	18.896	0.856	640.000	320.000	17.230	1.054
630.000	300.000	16.598	1.203	650.000	320.000	18.841	0.859
640.000	300.000	19.793	1.390	660.000	320.000	20.947	0.588
650.000	300.000	20.635	0.178	670.000	320.000	20.306	0.817
660.000	300.000	20.773	0.134	680.000	320.000	21.066	0.667
670.000	300.000	19.629	0.893	690.000	320.000	21.972	0.486
680.000	300.000	20.571	0.545	700.000	320.000	19.244	0.727
690.000	300.000	21.387	-0.389	710.000	320.000	18.081	1.032
700.000	300.000	22.329	-0.185	720.000	320.000	18.667	0.404
710.000	300.000	23.025	-0.527	730.000	320.000	19.674	0.501
720.000	300.000	21.606	0.200	740.000	320.000	21.560	0.415
730.000	300.000	21.029	-0.580	750.000	320.000	20.846	-0.183
740.000	300.000	20.626	-0.297	760.000	320.000	21.349	-0.573
750.000	300.000	19.738	-0.134	770.000	320.000	20.645	-0.507
760.000	300.000	20.425	-0.468	780.000	320.000	20.992	0.106
770.000	300.000	20.086	-0.494	790.000	320.000	20.562	-0.466
780.000	300.000	19.857	-0.088	800.000	320.000	20.800	-0.229
790.000	300.000	19.519	-0.325	LINE 330			
800.000	300.000	18.484	-0.305	800.000	330.000	20.562	-0.661
LINE 310				790.000	330.000	21.084	-0.400
800.000	310.000	19.601	-0.646	780.000	330.000	20.031	-0.176
790.000	310.000	18.978	-0.521	770.000	330.000	21.002	-0.341
780.000	310.000	19.784	0.119	760.000	330.000	21.093	-0.305
770.000	310.000	20.031	0.264	750.000	330.000	21.103	-0.336
760.000	310.000	19.601	0.339	740.000	330.000	21.634	-0.240
750.000	310.000	19.867	0.148	730.000	330.000	20.416	0.382
740.000	310.000	20.278	0.384	720.000	330.000	20.022	0.685
730.000	310.000	19.372	0.229	710.000	330.000	19.620	1.545
720.000	310.000	18.054	0.582	700.000	330.000	19.207	1.322
710.000	310.000	18.255	0.565	690.000	330.000	21.744	0.516
700.000	310.000	19.162	0.565	680.000	330.000	23.474	0.023
690.000	310.000	20.983	0.130	670.000	330.000	21.744	0.216
680.000	310.000	21.240	-0.044	660.000	330.000	20.672	0.683
670.000	310.000	20.022	0.319	650.000	330.000	20.251	0.611
660.000	310.000	18.805	0.325	640.000	330.000	18.328	1.885
650.000	310.000	19.830	0.769	630.000	330.000	17.038	1.525
640.000	310.000	19.326	1.091	620.000	330.000	16.168	1.284
630.000	310.000	19.281	0.694	610.000	330.000	18.402	0.657
620.000	310.000	17.779	0.670	600.000	330.000	17.660	0.768
610.000	310.000	18.393	0.472	590.000	330.000	16.845	0.924
600.000	310.000	18.887	0.924	580.000	330.000	19.885	0.845
590.000	310.000	17.752	0.742	570.000	330.000	20.297	0.736

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
560.000	330.000	19.546	0.624	540.000	350.000	25.635	0.034
550.000	330.000	21.954	0.677	530.000	350.000	15.609	1.637
540.000	330.000	24.014	0.244	520.000	350.000	25.104	0.113
530.000	330.000	15.078	1.536	510.000	350.000	22.622	1.120
520.000	330.000	25.296	0.492	500.000	350.000	21.597	1.596
510.000	330.000	23.263	1.010	490.000	350.000	24.169	1.161
500.000	330.000	23.089	1.141				
LINE 340				LINE 360			
500.000	340.000	24.096	0.911	490.000	360.000	24.984	0.771
510.000	340.000	22.806	0.830	500.000	360.000	22.796	1.100
520.000	340.000	21.862	0.826	510.000	360.000	22.860	0.883
530.000	340.000	23.922	0.411	520.000	360.000	24.325	0.505
540.000	340.000	16.607	2.028	530.000	360.000	24.481	0.406
550.000	340.000	19.940	0.323	540.000	360.000	15.673	-1.356
560.000	340.000	21.753	0.635	550.000	360.000	25.708	-0.044
570.000	340.000	21.414	1.282	560.000	360.000	25.882	0.764
580.000	340.000	21.542	0.841	570.000	360.000	25.305	1.133
590.000	340.000	20.983	1.343	580.000	360.000	26.779	1.374
600.000	340.000	20.334	1.275	590.000	360.000	24.682	1.322
610.000	340.000	20.461	1.199	600.000	360.000	27.081	1.916
620.000	340.000	19.747	1.640	610.000	360.000	30.377	1.804
630.000	340.000	18.915	1.688	620.000	360.000	29.846	2.164
640.000	340.000	18.466	1.135	630.000	360.000	30.981	1.716
650.000	340.000	20.196	1.119	640.000	360.000	29.406	1.962
660.000	340.000	22.750	0.876	650.000	360.000	31.842	2.006
670.000	340.000	22.183	0.916	660.000	360.000	31.320	2.168
680.000	340.000	23.776	0.430	670.000	360.000	29.910	1.730
690.000	340.000	24.325	0.253	680.000	360.000	32.327	1.466
700.000	340.000	21.606	1.196	690.000	360.000	31.887	1.361
710.000	340.000	20.727	1.313	700.000	360.000	29.782	1.258
720.000	340.000	20.782	1.025	710.000	360.000	29.992	1.036
730.000	340.000	20.517	0.729	720.000	360.000	31.530	0.722
740.000	340.000	20.654	0.591	730.000	360.000	29.800	0.977
750.000	340.000	22.329	-0.402	740.000	360.000	27.484	0.764
760.000	340.000	22.576	-0.330	750.000	360.000	27.813	-0.075
770.000	340.000	21.954	-0.192	760.000	360.000	26.770	-0.011
780.000	340.000	21.798	-0.497	770.000	360.000	25.085	-0.058
790.000	340.000	21.927	-0.542	780.000	360.000	26.449	-0.124
800.000	340.000	21.460	-0.521	790.000	360.000	27.877	-0.112
LINE 350				LINE 370			
800.000	350.000	24.014	-0.317	800.000	370.000	54.391	3.066
790.000	350.000	22.723	-0.378	790.000	370.000	49.264	2.072
780.000	350.000	22.585	-0.356	780.000	370.000	45.675	1.567
770.000	350.000	22.632	-0.341	770.000	370.000	39.862	1.747
760.000	350.000	23.529	-0.194	760.000	370.000	36.593	0.466
750.000	350.000	22.759	-0.135	750.000	370.000	40.640	0.966
740.000	350.000	21.213	0.064	740.000	370.000	44.769	3.711
730.000	350.000	21.606	0.672	730.000	370.000	47.122	1.953
720.000	350.000	21.514	0.648	720.000	370.000	49.365	2.579
710.000	350.000	22.989	0.387	710.000	370.000	51.132	3.105
700.000	350.000	24.472	0.806	700.000	370.000	51.654	3.289
690.000	350.000	23.657	0.946	690.000	370.000	48.898	3.336
680.000	350.000	23.391	1.025	680.000	370.000	47.827	3.888
670.000	350.000	25.698	0.982	670.000	370.000	47.406	3.785
660.000	350.000	25.122	1.232	660.000	370.000	48.046	3.941
650.000	350.000	26.037	1.293	650.000	370.000	48.367	3.943
640.000	350.000	24.536	1.504	640.000	370.000	46.719	4.255
630.000	350.000	22.476	1.719	630.000	370.000	46.536	4.255
620.000	350.000	22.522	1.635	620.000	370.000	51.205	3.923
610.000	350.000	24.499	1.925	610.000	370.000	49.008	4.005
600.000	350.000	24.234	1.124	600.000	370.000	48.999	3.254
590.000	350.000	20.251	1.589	590.000	370.000	49.630	3.469
580.000	350.000	22.201	0.995	580.000	370.000	50.198	2.780
570.000	350.000	22.219	1.058	570.000	370.000	44.577	2.107
560.000	350.000	23.163	0.859	560.000	370.000	41.326	1.152
550.000	350.000	23.144	0.325	550.000	370.000	38.497	0.757

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
540.000	370.000	35.385	0.082	730.000	490.000	15.865	1.185
530.000	370.000	21.469	1.479	740.000	490.000	17.129	0.325
520.000	370.000	25.753	0.356	750.000	490.000	18.603	-0.185
510.000	370.000	25.790	1.431	760.000	490.000	18.438	0.003
500.000	370.000	22.705	1.447	770.000	490.000	18.942	-0.031
490.000	370.000	25.753	1.139	780.000	490.000	20.654	-0.036
LINE 380				790.000	490.000	21.927	2.570
490.000	380.000	25.296	1.025	800.000	490.000	19.876	-0.205
500.000	380.000	22.540	1.409	LINE 500			
510.000	380.000	25.653	4.060	800.000	500.000	20.178	1.526
520.000	380.000	30.752	1.565	790.000	500.000	19.775	1.240
530.000	380.000	33.966	0.185	780.000	500.000	19.921	0.384
540.000	380.000	26.220	1.104	770.000	500.000	19.272	0.604
550.000	380.000	26.229	1.315	760.000	500.000	17.715	0.213
560.000	380.000	32.556	1.102	750.000	500.000	16.635	-0.027
570.000	380.000	30.560	1.262	740.000	500.000	16.021	0.328
580.000	380.000	29.296	1.234	730.000	500.000	17.166	0.183
590.000	380.000	24.417	0.880	720.000	500.000	18.374	0.244
600.000	380.000	21.084	1.583	710.000	500.000	14.392	1.056
610.000	380.000	18.850	1.170	700.000	500.000	13.641	1.102
620.000	380.000	17.779	1.497	690.000	500.000	14.080	0.859
630.000	380.000	14.996	1.334	680.000	500.000	15.161	1.131
640.000	380.000	15.142	0.606	670.000	500.000	16.507	4.073
650.000	380.000	14.044	1.596	660.000	500.000	17.312	0.547
660.000	380.000	11.490	0.861	650.000	500.000	18.081	0.670
670.000	380.000	11.077	1.166	640.000	500.000	17.605	0.586
680.000	380.000	10.107	0.898	630.000	500.000	16.360	0.659
690.000	380.000	11.883	1.190	620.000	500.000	17.706	0.863
700.000	380.000	12.432	1.646	610.000	500.000	16.626	2.164
710.000	380.000	19.747	1.558	600.000	500.000	17.605	0.870
720.000	380.000	17.340	2.074	590.000	500.000	18.200	0.779
730.000	380.000	26.001	1.686	580.000	500.000	18.521	0.672
740.000	380.000	31.869	1.416	570.000	500.000	20.315	0.679
750.000	380.000	39.761	0.782	560.000	500.000	19.006	0.992
760.000	380.000	35.541	0.604	550.000	500.000	16.260	0.716
770.000	380.000	38.131	0.507	540.000	500.000	24.508	-0.349
780.000	380.000	40.374	1.883	530.000	500.000	26.403	4.435
790.000	380.000	47.314	1.993	520.000	500.000	24.545	-0.196
800.000	380.000	58.877	2.320	510.000	500.000	24.362	-0.034
LINE 490				500.000	500.000	22.677	0.621
470.000	490.000	26.349	2.574	490.000	500.000	21.432	0.376
480.000	490.000	25.067	3.257	480.000	500.000	22.576	1.324
490.000	490.000	23.812	2.998	470.000	500.000	21.084	-0.701
500.000	490.000	23.657	1.967	LINE 510			
510.000	490.000	23.684	0.380	470.000	510.000	23.236	2.928
520.000	490.000	24.930	4.777	480.000	510.000	23.098	2.622
530.000	490.000	25.012	0.468	490.000	510.000	26.568	14.624
540.000	490.000	23.950	0.113	500.000	510.000	22.494	0.492
550.000	490.000	21.835	0.396	510.000	510.000	22.668	1.984
560.000	490.000	16.333	1.315	520.000	510.000	25.424	4.804
570.000	490.000	22.503	0.622	530.000	510.000	24.765	-0.220
580.000	490.000	20.800	0.911	540.000	510.000	24.481	0.630
590.000	490.000	22.366	13.021	550.000	510.000	24.664	1.852
600.000	490.000	17.496	1.344	560.000	510.000	16.946	1.407
610.000	490.000	17.038	1.758	570.000	510.000	16.909	1.255
620.000	490.000	18.667	1.054	580.000	510.000	19.894	1.703
630.000	490.000	16.479	1.220	590.000	510.000	19.399	1.190
640.000	490.000	17.385	1.051	600.000	510.000	14.767	0.995
650.000	490.000	18.603	0.606	610.000	510.000	15.060	1.039
660.000	490.000	18.274	0.769	620.000	510.000	17.266	0.984
670.000	490.000	17.496	0.681	630.000	510.000	15.957	0.995
680.000	490.000	13.797	1.289	640.000	510.000	14.740	0.113
690.000	490.000	11.874	1.319	650.000	510.000	13.174	1.131
700.000	490.000	13.156	0.472	660.000	510.000	14.932	0.665
710.000	490.000	13.311	0.795	670.000	510.000	15.893	1.148
720.000	490.000	16.369	1.548	680.000	510.000	13.119	1.196

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
690.000	510.000	13.925	0.883	650.000	530.000	15.536	1.306
700.000	510.000	13.037	0.966	660.000	530.000	12.918	1.133
710.000	510.000	13.522	1.157	670.000	530.000	15.829	5.663
720.000	510.000	21.899	6.879	680.000	530.000	12.579	1.141
730.000	510.000	19.656	1.389	690.000	530.000	12.817	1.469
740.000	510.000	17.468	0.106	700.000	530.000	13.549	1.258
750.000	510.000	18.704	0.139	710.000	530.000	14.877	0.571
760.000	510.000	20.874	5.843	720.000	530.000	17.449	-0.299
770.000	510.000	29.498	39.122	730.000	530.000	19.784	1.435
780.000	510.000	23.190	12.946	740.000	530.000	20.104	1.444
790.000	510.000	20.782	5.245	750.000	530.000	20.379	0.815
800.000	510.000	19.272	0.066	760.000	530.000	20.626	0.521
LINE 520				770.000	530.000	20.077	-0.135
800.000	520.000	19.033	-0.363	780.000	530.000	20.059	-0.270
790.000	520.000	19.464	-0.097	790.000	530.000	19.152	-0.393
780.000	520.000	15.162	0.363	800.000	530.000	18.457	-0.571
770.000	520.000	21.880	6.159	LINE 540			
760.000	520.000	19.610	-0.672	800.000	540.000	18.301	0.538
750.000	520.000	21.084	6.076	790.000	540.000	18.960	6.015
740.000	520.000	17.541	1.223	780.000	540.000	19.409	2.215
730.000	520.000	18.649	0.214	770.000	540.000	20.398	0.681
720.000	520.000	19.079	-0.012	760.000	540.000	19.446	-0.222
710.000	520.000	15.408	0.545	750.000	540.000	19.253	1.107
700.000	520.000	15.847	6.771	740.000	540.000	19.143	0.679
690.000	520.000	13.586	1.982	730.000	540.000	19.610	0.534
680.000	520.000	16.662	12.873	720.000	540.000	19.601	5.078
670.000	520.000	12.844	1.313	710.000	540.000	16.644	3.522
660.000	520.000	13.842	1.855	700.000	540.000	18.466	3.132
650.000	520.000	14.584	4.323	690.000	540.000	14.996	2.078
640.000	520.000	15.811	7.274	680.000	540.000	14.721	1.580
630.000	520.000	16.168	1.422	670.000	540.000	13.824	1.344
620.000	520.000	17.303	0.795	660.000	540.000	10.391	1.931
610.000	520.000	15.847	0.942	650.000	540.000	13.229	2.315
600.000	520.000	13.183	0.672	640.000	540.000	14.319	-1.104
590.000	520.000	15.124	1.084	630.000	540.000	13.064	7.191
580.000	520.000	17.825	3.923	620.000	540.000	19.171	-1.089
570.000	520.000	20.187	0.757	610.000	540.000	18.850	0.940
560.000	520.000	16.965	2.719	600.000	540.000	16.974	1.019
550.000	520.000	20.452	7.757	590.000	540.000	15.646	1.341
540.000	520.000	22.952	-0.791	580.000	540.000	17.303	1.163
530.000	520.000	24.197	0.167	570.000	540.000	20.287	0.744
520.000	520.000	23.391	-0.209	560.000	540.000	10.153	0.924
510.000	520.000	25.479	-0.659	550.000	540.000	18.621	0.169
500.000	520.000	22.430	0.589	540.000	540.000	19.665	0.378
490.000	520.000	23.647	0.270	530.000	540.000	20.965	0.492
480.000	520.000	14.977	4.169	520.000	540.000	22.146	0.418
470.000	520.000	20.718	2.302	510.000	540.000	23.181	0.119
LINE 530				500.000	540.000	21.835	0.330
470.000	530.000	22.036	-0.854	490.000	540.000	20.214	0.964
480.000	530.000	19.308	2.458	480.000	540.000	17.642	0.238
490.000	530.000	19.198	2.300	470.000	540.000	21.002	1.644
500.000	530.000	22.421	1.920	460.000	540.000	16.653	-2.046
510.000	530.000	22.961	4.523	LINE 550			
520.000	530.000	28.884	22.143	460.000	550.000	23.538	0.003
530.000	530.000	27.383	19.857	470.000	550.000	18.027	-1.076
540.000	530.000	22.632	7.684	480.000	550.000	19.702	0.543
550.000	530.000	21.322	3.871	490.000	550.000	18.337	0.619
560.000	530.000	15.618	1.429	500.000	550.000	22.329	1.275
570.000	530.000	16.241	8.303	510.000	550.000	22.952	9.255
580.000	530.000	19.491	4.810	520.000	550.000	22.860	1.322
590.000	530.000	17.404	0.744	530.000	550.000	21.835	4.029
600.000	530.000	17.138	-0.058	540.000	550.000	20.837	3.546
610.000	530.000	17.193	0.995	550.000	550.000	19.738	1.789
620.000	530.000	17.248	1.385	560.000	550.000	19.674	0.312
630.000	530.000	15.774	0.236	570.000	550.000	9.540	2.243
640.000	530.000	15.261	0.279	580.000	550.000	19.638	1.126

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
590.000	550.000	16.983	1.181	510.000	570.000	21.918	2.888
600.000	550.000	15.454	1.082	520.000	570.000	22.778	5.694
610.000	550.000	15.307	1.260	530.000	570.000	21.927	0.804
620.000	550.000	23.428	15.390	540.000	570.000	20.617	1.028
630.000	550.000	19.207	1.820	550.000	570.000	19.519	4.733
640.000	550.000	18.585	4.351	560.000	570.000	18.255	0.479
650.000	550.000	19.162	10.833	570.000	570.000	13.403	13.813
660.000	550.000	13.037	2.026	580.000	570.000	18.154	1.218
670.000	550.000	11.380	1.613	590.000	570.000	16.589	2.065
680.000	550.000	14.089	1.907	600.000	570.000	16.351	1.089
690.000	550.000	15.408	1.038	610.000	570.000	17.587	6.331
700.000	550.000	22.897	14.109	620.000	570.000	18.704	6.432
710.000	550.000	17.935	2.651	630.000	570.000	18.951	7.616
720.000	550.000	16.314	3.413	640.000	570.000	18.182	0.716
730.000	550.000	19.015	-0.220	650.000	570.000	14.721	1.455
740.000	550.000	20.837	-0.341	660.000	570.000	13.668	1.763
750.000	550.000	19.967	-0.622	670.000	570.000	14.437	1.089
760.000	550.000	19.317	-0.823	680.000	570.000	14.209	0.955
770.000	550.000	19.784	-0.773	690.000	570.000	14.272	1.627
780.000	550.000	19.116	0.295	700.000	570.000	19.262	8.874
790.000	550.000	19.747	-0.354	710.000	570.000	17.138	-0.192
800.000	550.000	20.068	-0.567	720.000	570.000	18.924	0.205
LINE 560				730.000	570.000	19.464	-0.514
800.000	560.000	15.344	6.557	740.000	570.000	19.079	-0.293
790.000	560.000	15.051	-3.798	750.000	570.000	19.610	-0.486
780.000	560.000	19.876	0.011	760.000	570.000	19.225	-0.165
770.000	560.000	19.116	-0.529	770.000	570.000	19.198	0.251
760.000	560.000	18.741	-0.727	780.000	570.000	18.722	0.055
750.000	560.000	18.411	-0.161	790.000	570.000	19.592	0.078
740.000	560.000	27.960	24.381	800.000	570.000	11.361	2.864
730.000	560.000	19.290	4.801	LINE 580			
720.000	560.000	21.121	8.246	800.000	580.000	18.274	0.306
710.000	560.000	16.058	-0.119	790.000	580.000	19.793	3.752
700.000	560.000	16.003	0.505	780.000	580.000	19.491	-1.005
690.000	560.000	16.580	0.633	770.000	580.000	19.977	0.633
680.000	560.000	13.788	1.447	760.000	580.000	18.228	1.074
670.000	560.000	13.183	1.313	750.000	580.000	20.782	8.051
660.000	560.000	11.389	1.587	740.000	580.000	19.784	1.284
650.000	560.000	12.423	3.239	730.000	580.000	19.409	3.724
640.000	560.000	15.179	1.379	720.000	580.000	20.526	3.504
630.000	560.000	16.314	1.069	710.000	580.000	19.281	0.749
620.000	560.000	17.514	1.153	700.000	580.000	17.303	-0.036
610.000	560.000	18.594	0.795	690.000	580.000	17.797	0.334
600.000	560.000	15.719	1.642	680.000	580.000	14.520	0.944
590.000	560.000	14.648	1.697	670.000	580.000	11.929	1.740
580.000	560.000	16.149	1.308	660.000	580.000	13.540	1.639
570.000	560.000	19.876	3.695	650.000	580.000	13.366	3.336
560.000	560.000	9.942	-0.332	640.000	580.000	14.364	2.186
550.000	560.000	18.502	0.463	630.000	580.000	15.289	1.572
540.000	560.000	20.517	0.464	620.000	580.000	17.065	1.194
530.000	560.000	21.039	0.720	610.000	580.000	16.406	1.620
520.000	560.000	21.222	0.986	600.000	580.000	16.946	0.955
510.000	560.000	22.769	2.587	590.000	580.000	16.708	0.876
500.000	560.000	22.073	0.391	580.000	580.000	17.505	1.468
490.000	560.000	20.040	0.959	570.000	580.000	17.422	1.714
480.000	560.000	17.486	0.749	560.000	580.000	12.936	1.407
470.000	560.000	16.241	2.285	550.000	580.000	15.463	1.242
460.000	560.000	19.171	2.603	540.000	580.000	19.253	0.643
450.000	560.000	21.185	1.528	530.000	580.000	20.022	0.398
LINE 570				520.000	580.000	21.753	0.001
450.000	570.000	20.315	2.170	510.000	580.000	25.167	-0.191
460.000	570.000	20.517	1.473	500.000	580.000	22.769	0.137
470.000	570.000	18.374	1.442	490.000	580.000	20.407	1.587
480.000	570.000	19.674	1.815	480.000	580.000	22.311	12.781
490.000	570.000	19.006	1.521	470.000	580.000	19.345	1.793
500.000	570.000	22.348	6.344	460.000	580.000	18.539	1.440

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
450.000	580.000	19.061	2.135	530.000	600.000	21.634	0.716
LINE 590				520.000	600.000	24.646	0.093
450.000	590.000	19.729	1.186	510.000	600.000	25.360	-0.762
460.000	590.000	19.656	1.289	500.000	600.000	22.769	-0.402
470.000	590.000	19.427	5.413	490.000	600.000	20.544	-0.011
480.000	590.000	18.356	0.613	480.000	600.000	18.768	0.415
490.000	590.000	18.658	0.670	470.000	600.000	19.830	0.591
500.000	590.000	22.869	-0.360	460.000	600.000	18.631	1.319
510.000	590.000	23.849	-0.126	450.000	600.000	20.050	0.593
520.000	590.000	24.636	0.907	440.000	600.000	18.915	0.920
530.000	590.000	21.661	1.054	LINE 610			
540.000	590.000	21.753	3.472	440.000	610.000	19.033	0.510
550.000	590.000	18.237	5.661	450.000	610.000	20.214	0.903
560.000	590.000	15.628	3.641	460.000	610.000	19.399	0.382
570.000	590.000	16.434	2.680	470.000	610.000	20.214	8.154
580.000	590.000	18.429	1.539	480.000	610.000	19.225	0.916
590.000	590.000	17.688	2.684	490.000	610.000	18.969	4.299
600.000	590.000	15.921	1.484	500.000	610.000	22.613	0.082
610.000	590.000	15.747	2.447	510.000	610.000	23.529	-0.141
620.000	590.000	16.516	1.227	520.000	610.000	24.728	0.753
630.000	590.000	15.600	1.635	530.000	610.000	23.620	-0.170
640.000	590.000	15.106	1.672	540.000	610.000	26.779	5.991
650.000	590.000	14.538	3.533	550.000	610.000	17.322	0.235
660.000	590.000	14.474	5.199	560.000	610.000	17.184	0.363
670.000	590.000	14.218	6.717	570.000	610.000	15.829	3.660
680.000	590.000	14.254	1.065	580.000	610.000	15.682	5.587
690.000	590.000	15.738	1.054	590.000	610.000	15.682	1.920
700.000	590.000	19.903	-0.205	600.000	610.000	15.729	0.907
710.000	590.000	18.814	0.507	610.000	610.000	15.261	0.960
720.000	590.000	21.487	7.623	620.000	610.000	15.847	0.361
730.000	590.000	19.354	0.814	630.000	610.000	16.159	0.775
740.000	590.000	19.436	-0.097	640.000	610.000	14.648	1.155
750.000	590.000	20.178	2.342	650.000	610.000	14.850	0.867
760.000	590.000	19.125	0.935	660.000	610.000	14.089	0.898
770.000	590.000	18.466	0.110	670.000	610.000	13.705	1.003
780.000	590.000	19.803	0.510	680.000	610.000	13.659	0.977
790.000	590.000	18.924	0.545	690.000	610.000	15.701	0.650
800.000	590.000	19.262	-0.527	700.000	610.000	19.336	-0.534
LINE 600				710.000	610.000	17.788	-0.220
800.000	600.000	19.647	-0.391	720.000	610.000	15.646	-0.012
790.000	600.000	19.363	0.049	730.000	610.000	19.491	-0.437
780.000	600.000	19.555	0.696	740.000	610.000	19.683	-0.810
770.000	600.000	19.116	-0.268	750.000	610.000	19.061	-0.747
760.000	600.000	19.152	-0.560	760.000	610.000	19.638	-0.832
750.000	600.000	19.592	-0.758	770.000	610.000	19.363	-0.598
740.000	600.000	19.912	-0.677	780.000	610.000	20.315	-0.859
730.000	600.000	29.452	34.476	790.000	610.000	19.427	-0.700
720.000	600.000	20.773	12.744	800.000	610.000	19.024	-0.665
710.000	600.000	16.717	6.052	LINE 620			
700.000	600.000	18.127	2.392	800.000	620.000	20.104	0.242
690.000	600.000	19.784	3.799	790.000	620.000	20.004	-0.334
680.000	600.000	16.424	5.150	780.000	620.000	19.876	-0.457
670.000	600.000	18.731	21.556	770.000	620.000	19.290	-0.257
660.000	600.000	13.412	6.377	760.000	620.000	19.930	-0.349
650.000	600.000	13.797	7.182	750.000	620.000	18.814	-0.277
640.000	600.000	15.151	2.272	740.000	620.000	18.173	-0.338
630.000	600.000	16.589	7.048	730.000	620.000	18.264	-0.016
620.000	600.000	17.431	5.651	720.000	620.000	17.761	0.501
610.000	600.000	18.466	4.650	710.000	620.000	16.003	0.676
600.000	600.000	16.003	1.725	700.000	620.000	18.356	-0.214
590.000	600.000	16.104	2.001	690.000	620.000	14.685	1.045
580.000	600.000	15.811	2.010	680.000	620.000	12.991	0.916
570.000	600.000	16.424	4.600	670.000	620.000	14.474	0.564
560.000	600.000	16.213	2.210	660.000	620.000	14.520	1.133
550.000	600.000	15.261	2.776	650.000	620.000	18.100	6.379
540.000	600.000	17.935	7.618	640.000	620.000	15.783	0.676



Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
630.000	620.000	16.278	0.944	750.000	640.000	17.367	-0.003
620.000	620.000	16.681	0.450	740.000	640.000	18.640	-0.200
610.000	620.000	15.884	0.757	730.000	640.000	17.175	0.084
600.000	620.000	18.567	0.275	720.000	640.000	18.145	-0.132
590.000	620.000	19.354	2.373	710.000	640.000	16.378	-0.064
580.000	620.000	14.566	1.850	700.000	640.000	15.912	-0.068
570.000	620.000	14.199	4.113	690.000	640.000	14.419	0.788
560.000	620.000	16.690	13.196	680.000	640.000	14.419	0.775
550.000	620.000	16.076	10.850	670.000	640.000	13.788	0.975
540.000	620.000	16.351	5.745	660.000	640.000	14.263	4.490
530.000	620.000	17.129	2.170	650.000	640.000	13.119	1.176
520.000	620.000	20.983	0.674	640.000	640.000	14.877	0.964
510.000	620.000	20.910	2.372	630.000	640.000	15.948	1.435
500.000	620.000	20.224	0.648	620.000	640.000	18.850	3.199
490.000	620.000	18.978	1.479	610.000	640.000	17.761	0.071
480.000	620.000	17.806	0.826	600.000	640.000	20.068	-0.365
470.000	620.000	17.184	2.133	590.000	640.000	17.669	-0.279
460.000	620.000	19.125	4.696	580.000	640.000	15.792	3.873
450.000	620.000	19.656	7.517	570.000	640.000	15.298	5.374
440.000	620.000	18.457	0.435	560.000	640.000	13.971	3.167
430.000	620.000	21.918	0.207	550.000	640.000	17.083	0.082
LINE 630				540.000	640.000	17.779	0.944
430.000	630.000	20.278	2.445	530.000	640.000	15.106	0.927
440.000	630.000	19.720	0.946	520.000	640.000	17.266	0.363
450.000	630.000	18.255	0.667	510.000	640.000	18.163	0.369
460.000	630.000	17.413	0.824	500.000	640.000	16.699	1.218
470.000	630.000	18.027	1.225	490.000	640.000	15.243	1.014
480.000	630.000	16.744	1.014	480.000	640.000	17.496	0.038
490.000	630.000	16.744	1.012	470.000	640.000	17.212	0.299
500.000	630.000	18.548	0.384	460.000	640.000	17.797	0.437
510.000	630.000	19.537	0.292	450.000	640.000	18.768	0.185
520.000	630.000	20.736	2.120	440.000	640.000	19.620	2.283
530.000	630.000	18.814	0.806	430.000	640.000	18.988	0.350
540.000	630.000	16.003	0.624	LINE 650			
550.000	630.000	14.227	0.742	430.000	650.000	22.439	0.457
560.000	630.000	14.126	1.385	440.000	650.000	20.800	0.771
570.000	630.000	12.057	1.714	450.000	650.000	19.354	0.652
580.000	630.000	12.616	1.271	460.000	650.000	18.274	0.531
590.000	630.000	13.476	0.872	470.000	650.000	17.395	0.610
600.000	630.000	18.347	0.176	480.000	650.000	16.918	0.404
610.000	630.000	18.896	0.097	490.000	650.000	17.468	0.547
620.000	630.000	16.946	0.319	500.000	650.000	16.378	0.676
630.000	630.000	14.025	1.721	510.000	650.000	17.028	0.398
640.000	630.000	15.912	2.482	520.000	650.000	17.468	0.576
650.000	630.000	14.291	0.970	530.000	650.000	16.891	0.733
660.000	630.000	13.101	1.530	540.000	650.000	20.407	28.980
670.000	630.000	14.373	0.850	550.000	650.000	21.560	16.004
680.000	630.000	14.639	0.617	560.000	650.000	20.965	13.009
690.000	630.000	12.726	1.176	570.000	650.000	19.638	3.832
700.000	630.000	17.385	0.161	580.000	650.000	16.461	0.407
710.000	630.000	17.459	-0.400	590.000	650.000	17.816	-0.202
720.000	630.000	17.816	-0.207	600.000	650.000	20.260	-0.826
730.000	630.000	17.065	0.632	610.000	650.000	19.665	-0.700
740.000	630.000	18.676	3.254	620.000	650.000	19.473	-0.191
750.000	630.000	16.570	1.907	630.000	650.000	19.345	-0.650
760.000	630.000	18.173	0.806	640.000	650.000	16.854	-0.055
770.000	630.000	19.620	0.214	650.000	650.000	16.452	0.218
780.000	630.000	18.658	-0.172	660.000	650.000	14.566	1.017
790.000	630.000	19.033	1.798	670.000	650.000	13.110	0.916
800.000	630.000	19.683	-0.613	680.000	650.000	14.895	0.613
LINE 640				690.000	650.000	15.774	0.378
800.000	640.000	17.853	0.543	700.000	650.000	15.564	0.275
790.000	640.000	17.898	-0.349	710.000	650.000	16.360	0.235
780.000	640.000	19.509	-0.598	720.000	650.000	16.864	-0.286
770.000	640.000	19.436	-0.700	730.000	650.000	18.127	-0.393
760.000	640.000	16.763	0.053	740.000	650.000	19.052	-0.435

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
750.000	650.000	19.070	-0.582	610.000	670.000	18.365	-0.749
760.000	650.000	18.585	-0.398	620.000	670.000	19.839	1.809
770.000	650.000	15.847	0.022	630.000	670.000	19.290	-1.142
780.000	650.000	18.878	-0.459	640.000	670.000	18.493	-0.433
790.000	650.000	19.775	3.408	650.000	670.000	16.781	0.154
800.000	650.000	20.434	-0.033	660.000	670.000	17.138	0.176
LINE 660				670.000	670.000	15.573	0.722
800.000	660.000	19.720	0.771	680.000	670.000	15.133	1.649
790.000	660.000	19.546	0.031	690.000	670.000	16.305	0.183
780.000	660.000	20.160	-0.536	700.000	670.000	15.179	0.325
770.000	660.000	20.031	1.036	710.000	670.000	16.891	0.023
760.000	660.000	18.612	0.319	720.000	670.000	17.477	-0.373
750.000	660.000	17.889	-0.499	730.000	670.000	17.111	-0.189
740.000	660.000	18.301	0.295	740.000	670.000	17.157	-0.277
730.000	660.000	17.715	-0.468	750.000	670.000	17.468	-0.440
720.000	660.000	17.916	-0.450	760.000	670.000	19.143	1.659
710.000	660.000	17.980	-0.236	770.000	670.000	18.741	-0.876
700.000	660.000	15.829	0.235	780.000	670.000	19.885	2.414
690.000	660.000	14.263	0.755	790.000	670.000	19.912	-0.198
680.000	660.000	16.342	0.406	800.000	670.000	18.814	-1.021
670.000	660.000	14.721	0.918	LINE 680			
660.000	660.000	14.007	0.703	800.000	680.000	17.395	-0.927
650.000	660.000	16.369	0.407	790.000	680.000	17.816	-0.780
640.000	660.000	17.248	0.400	780.000	680.000	18.493	-0.681
630.000	660.000	17.623	-0.497	770.000	680.000	16.690	0.665
620.000	660.000	20.755	-0.960	760.000	680.000	17.871	-0.723
610.000	660.000	20.654	-0.935	750.000	680.000	18.402	-0.927
600.000	660.000	20.224	-0.791	740.000	680.000	19.546	-0.863
590.000	660.000	20.278	-0.907	730.000	680.000	18.850	-0.782
580.000	660.000	18.832	-0.711	720.000	680.000	18.859	-0.889
570.000	660.000	18.475	-0.588	710.000	680.000	17.743	-0.867
560.000	660.000	19.116	0.735	700.000	680.000	15.747	-0.380
550.000	660.000	24.178	22.925	690.000	680.000	15.087	0.378
540.000	660.000	19.134	8.114	680.000	680.000	16.452	-0.090
530.000	660.000	15.188	4.178	670.000	680.000	18.649	7.164
520.000	660.000	15.289	8.867	660.000	680.000	17.797	1.594
510.000	660.000	16.580	8.657	650.000	680.000	17.587	-0.470
500.000	660.000	13.962	0.972	640.000	680.000	18.228	-0.308
490.000	660.000	13.284	1.047	630.000	680.000	19.180	1.163
480.000	660.000	16.250	0.343	620.000	680.000	21.203	4.345
470.000	660.000	16.333	0.589	610.000	680.000	17.587	-0.997
460.000	660.000	15.847	0.802	600.000	680.000	15.179	-0.281
450.000	660.000	18.768	0.238	590.000	680.000	18.694	-0.101
440.000	660.000	19.620	0.018	580.000	680.000	19.089	-0.180
430.000	660.000	19.812	4.012	570.000	680.000	19.317	0.264
420.000	660.000	23.007	0.088	560.000	680.000	18.768	0.060
LINE 670				550.000	680.000	18.594	0.056
420.000	670.000	22.265	0.242	540.000	680.000	19.089	-0.426
430.000	670.000	19.555	0.463	530.000	680.000	18.576	-0.167
440.000	670.000	17.028	0.742	520.000	680.000	16.149	-0.009
450.000	670.000	18.777	1.734	510.000	680.000	14.950	0.481
460.000	670.000	18.951	0.475	500.000	680.000	14.337	0.738
470.000	670.000	15.628	1.036	490.000	680.000	14.218	0.859
480.000	670.000	16.781	2.351	480.000	680.000	17.550	0.108
490.000	670.000	15.738	1.258	470.000	680.000	16.461	0.110
500.000	670.000	15.198	0.606	460.000	680.000	17.788	-0.088
510.000	670.000	16.626	0.227	450.000	680.000	17.083	0.181
520.000	670.000	15.508	0.589	440.000	680.000	13.412	1.262
530.000	670.000	16.406	3.617	430.000	680.000	21.176	-0.463
540.000	670.000	17.193	0.257	420.000	680.000	12.808	2.118
550.000	670.000	19.125	-0.260	410.000	680.000	15.133	0.984
560.000	670.000	18.859	-0.387	400.000	680.000	23.703	-0.034
570.000	670.000	19.702	9.584	390.000	680.000	24.051	0.180
580.000	670.000	21.377	7.667	380.000	680.000	27.273	0.970
590.000	670.000	18.393	-0.395	370.000	680.000	38.003	1.484
600.000	670.000	19.345	-0.757	360.000	680.000	9.640	-1.532

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
350.000	680.000	43.698	3.037	730.000	700.000	17.788	0.246
340.000	680.000	49.493	3.540	720.000	700.000	16.617	0.268
330.000	680.000	32.190	1.675	710.000	700.000	17.651	-0.316
320.000	680.000	24.389	2.682	700.000	700.000	17.038	0.091
310.000	680.000	19.693	3.129	690.000	700.000	17.038	0.135
300.000	680.000	19.803	2.473	680.000	700.000	17.129	0.115
LINE 690				670.000	700.000	16.095	0.023
300.000	690.000	26.541	4.490	660.000	700.000	16.965	-0.321
310.000	690.000	26.541	3.614	650.000	700.000	16.644	0.861
320.000	690.000	26.669	4.674	640.000	700.000	16.039	0.328
330.000	690.000	32.886	2.963	630.000	700.000	16.909	0.202
340.000	690.000	40.750	2.732	620.000	700.000	17.724	0.134
350.000	690.000	54.977	4.691	610.000	700.000	18.100	-0.080
360.000	690.000	74.277	5.034	600.000	700.000	18.100	-0.380
370.000	690.000	-40.750	-5.277	590.000	700.000	18.200	0.007
380.000	690.000	49.273	2.585	580.000	700.000	18.969	0.108
390.000	690.000	29.498	1.049	570.000	700.000	19.812	-0.084
400.000	690.000	23.337	0.764	560.000	700.000	19.308	-0.433
410.000	690.000	17.431	1.387	550.000	700.000	18.027	-0.485
420.000	690.000	16.232	1.106	540.000	700.000	20.178	-0.430
430.000	690.000	13.568	1.245	530.000	700.000	18.420	0.264
440.000	690.000	16.488	-0.200	520.000	700.000	17.212	-0.084
450.000	690.000	14.446	1.429	510.000	700.000	16.744	0.494
460.000	690.000	16.131	0.376	500.000	700.000	13.824	0.766
470.000	690.000	20.361	1.758	490.000	700.000	15.381	0.288
480.000	690.000	16.754	0.610	480.000	700.000	16.351	0.271
490.000	690.000	17.019	1.547	470.000	700.000	16.507	0.962
500.000	690.000	13.522	0.885	460.000	700.000	17.889	0.433
510.000	690.000	15.765	0.643	450.000	700.000	20.031	-0.290
520.000	690.000	16.314	0.652	440.000	700.000	12.817	1.567
530.000	690.000	16.122	2.638	430.000	700.000	17.779	0.020
540.000	690.000	17.459	0.540	420.000	700.000	22.980	0.236
550.000	690.000	17.385	0.042	410.000	700.000	21.661	0.376
560.000	690.000	16.754	-0.036	400.000	700.000	21.249	1.565
570.000	690.000	17.926	-0.589	390.000	700.000	24.124	1.988
580.000	690.000	14.511	1.795	380.000	700.000	43.158	3.085
590.000	690.000	18.960	-0.872	370.000	700.000	46.646	2.532
600.000	690.000	18.649	-0.667	360.000	700.000	-85.620	-7.956
610.000	690.000	18.823	-0.657	350.000	700.000	111.099	11.313
620.000	690.000	19.564	-0.824	340.000	700.000	50.811	4.911
630.000	690.000	18.228	-0.512	330.000	700.000	39.852	3.660
640.000	690.000	16.617	-0.235	320.000	700.000	32.327	2.969
650.000	690.000	15.865	0.578	310.000	700.000	26.751	2.438
660.000	690.000	16.305	0.060	300.000	700.000	21.853	2.090
670.000	690.000	17.953	-0.497	LINE 710			
680.000	690.000	18.200	-0.523	0.000	710.000	17.843	-0.009
690.000	690.000	18.210	-0.112	10.000	710.000	20.480	-0.259
700.000	690.000	13.321	0.402	20.000	710.000	16.662	0.848
710.000	690.000	13.806	0.078	30.000	710.000	9.375	2.647
720.000	690.000	17.871	-0.527	40.000	710.000	21.450	8.928
730.000	690.000	17.990	0.338	50.000	710.000	28.518	31.317
740.000	690.000	18.667	0.275	60.000	710.000	19.775	-0.176
750.000	690.000	18.283	-0.637	70.000	710.000	20.398	5.964
760.000	690.000	18.402	-0.648	80.000	710.000	19.857	3.485
770.000	690.000	17.092	-0.637	90.000	710.000	16.955	0.292
780.000	690.000	17.761	-0.654	100.000	710.000	20.544	2.927
790.000	690.000	17.523	-0.893	110.000	710.000	22.018	0.395
800.000	690.000	17.166	0.569	120.000	710.000	20.315	0.744
LINE 700				130.000	710.000	19.885	0.209
800.000	700.000	16.149	4.828	140.000	710.000	18.283	1.521
790.000	700.000	16.406	3.285	150.000	710.000	22.320	16.571
780.000	700.000	17.239	1.936	160.000	710.000	17.697	0.872
770.000	700.000	16.360	2.291	170.000	710.000	18.704	2.476
760.000	700.000	18.859	-0.078	180.000	710.000	17.550	0.349
750.000	700.000	18.905	0.402	190.000	710.000	16.717	2.063
740.000	700.000	18.054	-0.135	200.000	710.000	20.040	0.018

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
210.000	710.000	17.862	0.562	750.000	720.000	18.374	1.038
220.000	710.000	17.422	1.227	740.000	720.000	16.873	-0.597
230.000	710.000	18.713	2.800	730.000	720.000	16.927	-0.029
240.000	710.000	16.086	1.945	720.000	720.000	18.246	4.810
250.000	710.000	15.564	1.341	710.000	720.000	17.376	3.070
260.000	710.000	18.667	3.878	700.000	720.000	15.198	0.878
270.000	710.000	19.244	18.424	690.000	720.000	14.785	1.706
280.000	710.000	20.544	0.909	680.000	720.000	14.272	0.519
290.000	710.000	23.455	4.194	670.000	720.000	14.538	0.536
300.000	710.000	29.251	1.649	660.000	720.000	14.721	2.296
310.000	710.000	32.748	1.449	650.000	720.000	16.598	-0.213
320.000	710.000	37.930	3.088	640.000	720.000	17.797	1.242
330.000	710.000	45.529	2.407	630.000	720.000	16.543	-0.224
340.000	710.000	50.583	4.292	620.000	720.000	16.681	0.474
350.000	710.000	58.154	5.264	610.000	720.000	17.660	-0.332
360.000	710.000	88.962	9.304	600.000	720.000	18.283	3.537
370.000	710.000	65.433	3.316	590.000	720.000	84.292	44.534
380.000	710.000	-45.226	-3.300	580.000	720.000	62.988	44.510
390.000	710.000	40.402	2.412	570.000	720.000	39.459	44.558
400.000	710.000	23.364	0.257	560.000	720.000	16.607	-4.011
410.000	710.000	21.707	0.417	550.000	720.000	17.623	0.090
420.000	710.000	20.901	0.071	540.000	720.000	15.838	0.481
430.000	710.000	22.320	-0.352	530.000	720.000	16.598	-0.213
440.000	710.000	17.322	4.374	520.000	720.000	15.921	-0.150
450.000	710.000	17.294	0.209	510.000	720.000	16.946	2.570
460.000	710.000	18.393	0.253	500.000	720.000	17.340	-0.178
470.000	710.000	17.358	1.277	490.000	720.000	18.310	0.858
480.000	710.000	16.809	0.218	480.000	720.000	20.031	5.277
490.000	710.000	16.333	0.332	470.000	720.000	18.163	4.185
500.000	710.000	13.605	0.398	460.000	720.000	19.903	12.367
510.000	710.000	14.328	0.102	450.000	720.000	18.521	-0.712
520.000	710.000	16.351	0.262	440.000	720.000	16.827	2.232
530.000	710.000	16.461	0.523	430.000	720.000	19.033	0.117
540.000	710.000	16.809	-0.036	420.000	720.000	18.905	-0.198
550.000	710.000	16.965	-0.185	410.000	720.000	21.020	1.017
560.000	710.000	17.449	0.457	400.000	720.000	22.210	0.534
570.000	710.000	17.834	-0.347	390.000	720.000	21.560	1.440
580.000	710.000	21.331	7.074	380.000	720.000	27.676	2.752
590.000	710.000	20.947	2.520	370.000	720.000	-23.849	-2.397
600.000	710.000	19.399	1.942	360.000	720.000	72.711	8.224
610.000	710.000	18.301	2.436	350.000	720.000	121.105	20.351
620.000	710.000	17.743	2.998	340.000	720.000	121.344	13.119
630.000	710.000	17.532	-0.453	330.000	720.000	122.021	8.522
640.000	710.000	18.090	6.236	320.000	720.000	86.462	8.540
650.000	710.000	16.049	-0.373	310.000	720.000	75.393	5.306
660.000	710.000	19.399	7.599	300.000	720.000	57.925	2.081
670.000	710.000	17.889	1.931	290.000	720.000	53.274	1.879
680.000	710.000	15.106	0.532	280.000	720.000	38.196	1.429
690.000	710.000	15.087	-0.112	270.000	720.000	27.291	0.771
700.000	710.000	14.163	0.698	260.000	720.000	23.327	0.909
710.000	710.000	17.038	-0.450	250.000	720.000	19.455	-0.543
720.000	710.000	17.761	0.863	240.000	720.000	16.507	0.701
730.000	710.000	16.644	1.909	230.000	720.000	18.163	3.781
740.000	710.000	17.514	1.304	220.000	720.000	17.101	0.270
750.000	710.000	17.651	0.808	210.000	720.000	16.809	0.101
760.000	710.000	18.100	1.618	200.000	720.000	19.070	-0.435
770.000	710.000	17.752	2.653	190.000	720.000	18.942	-0.387
780.000	710.000	16.525	0.255	180.000	720.000	19.683	2.102
790.000	710.000	14.895	0.457	170.000	720.000	19.867	3.515
800.000	710.000	16.534	-0.701	160.000	720.000	21.670	5.914
LINE 720				150.000	720.000	18.457	-0.374
800.000	720.000	16.772	-0.398	140.000	720.000	20.865	0.951
790.000	720.000	16.131	-0.452	130.000	720.000	21.176	-0.512
780.000	720.000	15.042	0.069	120.000	720.000	21.295	2.864
770.000	720.000	16.543	-0.768	110.000	720.000	21.789	-0.213
760.000	720.000	17.578	-0.799	100.000	720.000	23.254	-0.722

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
90.000	720.000	23.574	-0.604	550.000	730.000	16.396	-0.338
80.000	720.000	23.428	-0.470	560.000	730.000	17.083	1.019
70.000	720.000	25.451	14.370	570.000	730.000	16.525	-0.371
60.000	720.000	22.879	3.878	580.000	730.000	17.074	5.477
50.000	720.000	21.057	1.758	590.000	730.000	23.538	24.278
40.000	720.000	17.871	0.681	600.000	730.000	20.278	4.823
30.000	720.000	18.924	0.376	610.000	730.000	19.491	2.539
20.000	720.000	17.962	-0.090	620.000	730.000	19.317	10.003
10.000	720.000	18.795	0.505	630.000	730.000	17.212	2.864
0.000	720.000	17.605	0.180	640.000	730.000	17.761	7.737
LINE 730				650.000	730.000	16.021	3.439
0.000	730.000	16.809	-0.236	660.000	730.000	15.912	5.262
10.000	730.000	17.971	1.277	670.000	730.000	15.490	-0.542
20.000	730.000	17.083	0.110	680.000	730.000	15.865	3.074
30.000	730.000	18.081	0.251	690.000	730.000	16.012	2.116
40.000	730.000	19.235	2.006	700.000	730.000	14.337	0.428
50.000	730.000	17.880	0.507	710.000	730.000	15.280	-0.130
60.000	730.000	23.986	2.506	720.000	730.000	21.469	8.472
70.000	730.000	22.348	-1.670	730.000	730.000	17.221	-1.376
80.000	730.000	19.207	-0.093	740.000	730.000	17.431	-0.672
90.000	730.000	19.381	-0.350	750.000	730.000	17.770	0.395
100.000	730.000	20.782	-0.466	760.000	730.000	18.484	-1.006
110.000	730.000	21.972	-1.144	770.000	730.000	17.697	0.299
120.000	730.000	21.387	-0.922	780.000	730.000	17.550	-0.029
130.000	730.000	21.240	-0.562	790.000	730.000	16.918	-0.389
140.000	730.000	20.947	0.758	800.000	730.000	17.697	0.929
150.000	730.000	20.297	2.239	LINE 740			
160.000	730.000	17.212	1.528	800.000	740.000	18.558	0.972
170.000	730.000	19.098	6.385	790.000	740.000	18.310	0.156
180.000	730.000	19.702	0.095	780.000	740.000	22.000	13.266
190.000	730.000	22.915	18.718	770.000	740.000	19.839	2.963
200.000	730.000	18.402	0.984	760.000	740.000	22.036	12.445
210.000	730.000	17.294	1.346	750.000	740.000	18.759	0.569
220.000	730.000	18.576	7.557	740.000	740.000	18.878	0.769
230.000	730.000	16.113	1.085	730.000	740.000	18.841	-0.099
240.000	730.000	16.030	2.894	720.000	740.000	17.010	-0.722
250.000	730.000	19.152	1.089	710.000	740.000	16.507	0.071
260.000	730.000	22.449	1.541	700.000	740.000	15.802	6.431
270.000	730.000	13.788	1.716	690.000	740.000	14.163	1.881
280.000	730.000	36.575	3.546	680.000	740.000	15.682	0.486
290.000	730.000	91.067	4.641	670.000	740.000	16.424	0.984
300.000	730.000	82.269	3.009	660.000	740.000	14.794	-0.163
310.000	730.000	89.282	3.671	650.000	740.000	15.325	0.060
320.000	730.000	4.220	4.134	640.000	740.000	16.415	4.275
330.000	730.000	36.960	5.086	630.000	740.000	15.481	2.333
340.000	730.000	84.521	6.076	620.000	740.000	16.131	0.077
350.000	730.000	121.838	11.202	610.000	740.000	16.690	1.218
360.000	730.000	109.378	10.014	600.000	740.000	15.527	-0.598
370.000	730.000	70.843	4.736	590.000	740.000	16.763	-0.667
380.000	730.000	36.117	4.152	580.000	740.000	18.301	-0.341
390.000	730.000	20.287	2.939	570.000	740.000	17.074	-0.685
400.000	730.000	21.505	-0.034	560.000	740.000	15.865	0.725
410.000	730.000	21.551	-0.402	550.000	740.000	16.873	-0.477
420.000	730.000	20.654	-0.376	540.000	740.000	18.502	1.186
430.000	730.000	19.409	3.658	530.000	740.000	16.918	7.061
440.000	730.000	18.420	0.523	520.000	740.000	15.618	1.403
450.000	730.000	16.882	4.075	510.000	740.000	16.378	0.644
460.000	730.000	16.232	0.779	500.000	740.000	18.667	0.486
470.000	730.000	15.774	0.027	490.000	740.000	17.083	0.257
480.000	730.000	16.589	-0.124	480.000	740.000	16.570	0.440
490.000	730.000	16.781	0.420	470.000	740.000	16.827	-0.226
500.000	730.000	19.894	-0.655	460.000	740.000	16.296	0.124
510.000	730.000	19.015	-0.314	450.000	740.000	17.632	4.621
520.000	730.000	18.704	0.038	440.000	740.000	19.674	0.012
530.000	730.000	16.434	-0.213	430.000	740.000	22.137	3.401
540.000	730.000	15.884	-0.293	420.000	740.000	19.006	2.464

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
410.000	740.000	18.685	1.932	230.000	750.000	17.505	3.610
400.000	740.000	21.075	3.893	240.000	750.000	16.836	2.002
390.000	740.000	19.162	4.667	250.000	750.000	19.399	6.860
380.000	740.000	19.930	3.831	260.000	750.000	21.753	0.903
370.000	740.000	25.085	2.739	270.000	750.000	18.036	1.052
360.000	740.000	29.040	8.152	280.000	750.000	22.741	1.240
350.000	740.000	32.775	10.032	290.000	750.000	28.225	1.563
340.000	740.000	41.730	8.672	300.000	750.000	24.371	1.519
330.000	740.000	50.857	5.705	310.000	750.000	27.209	2.816
320.000	740.000	50.216	4.233	320.000	750.000	29.470	2.677
310.000	740.000	62.997	2.223	330.000	750.000	30.221	2.554
300.000	740.000	58.657	1.302	340.000	750.000	30.432	1.322
290.000	740.000	60.891	3.680	350.000	750.000	27.667	1.517
280.000	740.000	54.061	2.644	360.000	750.000	23.529	1.269
270.000	740.000	34.323	8.459	370.000	750.000	21.615	1.073
260.000	740.000	12.909	-0.387	380.000	750.000	20.306	1.111
250.000	740.000	20.947	0.169	390.000	750.000	16.937	1.706
240.000	740.000	17.926	-0.123	400.000	750.000	19.702	0.266
230.000	740.000	17.056	1.343	410.000	750.000	20.086	0.595
220.000	740.000	17.358	1.743	420.000	750.000	18.685	0.165
210.000	740.000	17.459	0.576	430.000	750.000	19.098	-0.034
200.000	740.000	16.223	0.141	440.000	750.000	17.679	0.251
190.000	740.000	17.148	0.034	450.000	750.000	18.576	1.655
180.000	740.000	18.163	0.213	460.000	750.000	18.997	0.531
170.000	740.000	19.244	2.851	470.000	750.000	20.040	0.428
160.000	740.000	19.390	5.185	480.000	750.000	17.962	-0.106
150.000	740.000	18.154	0.777	490.000	750.000	16.781	-0.023
140.000	740.000	20.388	2.375	500.000	750.000	18.118	-0.464
130.000	740.000	21.103	2.520	510.000	750.000	18.182	0.152
120.000	740.000	20.992	-0.488	520.000	750.000	16.671	-0.154
110.000	740.000	21.570	-0.446	530.000	750.000	15.417	-0.387
100.000	740.000	21.396	1.056	540.000	750.000	16.186	-0.428
90.000	740.000	23.831	-0.034	550.000	750.000	16.882	0.779
80.000	740.000	20.856	-0.398	560.000	750.000	18.374	2.386
70.000	740.000	21.103	-0.303	570.000	750.000	12.982	-0.007
60.000	740.000	18.182	0.711	580.000	750.000	14.584	0.891
50.000	740.000	19.098	0.933	590.000	750.000	16.662	0.802
40.000	740.000	19.052	2.241	600.000	750.000	17.733	-0.600
30.000	740.000	17.770	1.786	610.000	750.000	17.706	0.643
20.000	740.000	16.012	0.191	620.000	750.000	16.772	0.181
10.000	740.000	17.120	1.690	630.000	750.000	16.488	-0.488
0.000	740.000	16.434	0.189	640.000	750.000	17.614	-0.773
LINE 750				650.000	750.000	18.713	3.744
0.000	750.000	16.900	-0.134	660.000	750.000	17.779	3.915
10.000	750.000	18.511	0.275	670.000	750.000	18.493	3.132
20.000	750.000	17.797	1.765	680.000	750.000	17.632	-0.670
30.000	750.000	17.422	2.517	690.000	750.000	14.566	2.056
40.000	750.000	19.262	0.933	700.000	750.000	17.880	1.122
50.000	750.000	19.793	3.606	710.000	750.000	17.743	-0.086
60.000	750.000	18.658	3.930	720.000	750.000	17.926	0.328
70.000	750.000	18.521	1.591	730.000	750.000	17.331	-0.604
80.000	750.000	25.570	2.855	740.000	750.000	19.281	-0.433
90.000	750.000	21.835	2.388	750.000	750.000	18.301	-0.384
100.000	750.000	22.641	0.430	760.000	750.000	18.823	0.398
110.000	750.000	20.992	-0.354	770.000	750.000	19.152	-0.284
120.000	750.000	19.610	-0.152	780.000	750.000	19.354	0.266
130.000	750.000	21.304	-0.527	790.000	750.000	18.292	-0.040
140.000	750.000	21.166	-0.652	800.000	750.000	18.997	-0.192
150.000	750.000	21.322	-0.867	LINE 760			
160.000	750.000	21.002	-0.440	800.000	760.000	18.027	-0.916
170.000	750.000	19.189	-0.022	790.000	760.000	17.797	-0.644
180.000	750.000	19.024	0.056	780.000	760.000	18.109	-0.933
190.000	750.000	18.319	-0.244	770.000	760.000	17.862	0.347
200.000	750.000	17.752	-0.266	760.000	760.000	18.283	-0.655
210.000	750.000	17.779	0.194	750.000	760.000	17.587	0.464
220.000	750.000	18.713	1.826	740.000	760.000	18.182	0.012

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
730.000	760.000	17.999	0.082	70.000	760.000	20.581	-0.301
720.000	760.000	18.859	1.344	60.000	760.000	21.469	0.044
710.000	760.000	15.765	-0.191	50.000	760.000	20.992	1.479
700.000	760.000	14.803	0.576	40.000	760.000	18.145	1.008
690.000	760.000	16.589	-0.216	30.000	760.000	17.797	2.625
680.000	760.000	17.459	-0.106	20.000	760.000	17.614	1.124
670.000	760.000	16.744	-0.497	10.000	760.000	19.702	2.057
660.000	760.000	17.706	-0.143	0.000	760.000	18.457	0.551
650.000	760.000	17.212	-0.626	LINE	770		
640.000	760.000	15.811	-0.354	0.000	770.000	19.519	-0.639
630.000	760.000	15.966	-0.497	10.000	770.000	19.601	-0.564
620.000	760.000	15.545	0.068	20.000	770.000	18.511	-0.167
610.000	760.000	16.378	1.769	30.000	770.000	17.157	-0.040
600.000	760.000	16.909	-0.529	40.000	770.000	18.741	-0.266
590.000	760.000	17.111	-0.218	50.000	770.000	10.363	3.301
580.000	760.000	17.779	0.266	60.000	770.000	9.850	3.926
570.000	760.000	16.927	0.161	70.000	770.000	15.820	2.328
560.000	760.000	16.260	2.418	80.000	770.000	8.267	4.988
550.000	760.000	20.443	-0.012	90.000	770.000	9.448	3.158
540.000	760.000	19.207	0.147	100.000	770.000	21.734	-1.041
530.000	760.000	20.287	0.170	110.000	770.000	21.157	-0.670
520.000	760.000	18.576	0.929	120.000	770.000	20.370	-0.378
510.000	760.000	17.523	0.722	130.000	770.000	20.965	1.681
500.000	760.000	19.656	-0.281	140.000	770.000	19.290	0.139
490.000	760.000	19.070	-0.440	150.000	770.000	18.548	-0.102
480.000	760.000	19.446	0.169	160.000	770.000	20.269	2.339
470.000	760.000	20.654	0.271	170.000	770.000	19.986	0.141
460.000	760.000	18.603	0.321	180.000	770.000	17.990	0.297
450.000	760.000	18.063	5.284	190.000	770.000	19.216	1.903
440.000	760.000	17.395	3.004	200.000	770.000	20.892	-0.643
430.000	760.000	16.058	0.881	210.000	770.000	20.645	-0.406
420.000	760.000	17.907	1.955	220.000	770.000	16.507	-1.738
410.000	760.000	20.361	1.749	230.000	770.000	18.631	-1.712
400.000	760.000	18.631	0.714	240.000	770.000	19.418	-0.071
390.000	760.000	18.090	1.299	250.000	770.000	18.603	0.045
380.000	760.000	18.292	0.905	260.000	770.000	18.567	1.354
370.000	760.000	19.061	0.837	270.000	770.000	19.509	0.549
360.000	760.000	18.402	1.038	280.000	770.000	18.777	1.795
350.000	760.000	20.434	1.062	290.000	770.000	19.253	0.639
340.000	760.000	22.146	0.461	300.000	770.000	18.356	0.701
330.000	760.000	23.290	-0.170	310.000	770.000	19.509	2.772
320.000	760.000	23.116	0.562	320.000	770.000	20.544	2.197
310.000	760.000	22.320	0.795	330.000	770.000	23.565	-0.044
300.000	760.000	21.697	0.549	340.000	770.000	22.174	0.690
290.000	760.000	19.464	0.398	350.000	770.000	18.521	1.203
280.000	760.000	19.977	0.053	360.000	770.000	18.960	1.062
270.000	760.000	21.807	-0.380	370.000	770.000	17.816	1.455
260.000	760.000	18.786	0.437	380.000	770.000	16.177	1.047
250.000	760.000	18.539	-0.301	390.000	770.000	14.089	4.242
240.000	760.000	17.788	0.143	400.000	770.000	18.163	0.512
230.000	760.000	17.248	-0.077	410.000	770.000	18.429	0.345
220.000	760.000	19.345	0.062	420.000	770.000	17.294	-0.119
210.000	760.000	19.354	-0.424	430.000	770.000	12.726	0.418
200.000	760.000	20.151	-0.516	440.000	770.000	4.312	4.815
190.000	760.000	18.576	1.297	450.000	770.000	9.897	1.956
180.000	760.000	18.264	2.618	460.000	770.000	19.262	-0.327
170.000	760.000	18.466	-0.040	470.000	770.000	16.525	0.066
160.000	760.000	19.573	0.126	480.000	770.000	15.912	1.367
150.000	760.000	19.967	-0.407	490.000	770.000	17.212	-0.001
140.000	760.000	18.731	0.378	500.000	770.000	16.644	-0.319
130.000	760.000	20.571	0.012	510.000	770.000	16.635	-0.159
120.000	760.000	17.935	0.270	520.000	770.000	17.413	1.135
110.000	760.000	19.867	0.110	530.000	770.000	17.688	-0.134
100.000	760.000	21.359	-1.249	540.000	770.000	17.898	0.793
90.000	760.000	22.201	-1.139	550.000	770.000	20.151	-0.588
80.000	760.000	20.571	2.120	560.000	770.000	20.251	0.327

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
570.000	770.000	12.579	-0.299	390.000	780.000	16.525	1.914
580.000	770.000	16.030	-0.643	380.000	780.000	15.939	3.316
590.000	770.000	16.452	0.540	370.000	780.000	15.710	0.593
600.000	770.000	15.985	-0.569	360.000	780.000	19.089	0.705
610.000	770.000	15.490	0.205	350.000	780.000	20.562	2.346
620.000	770.000	16.836	3.424	340.000	780.000	17.184	2.296
630.000	770.000	15.976	1.662	330.000	780.000	19.317	0.235
640.000	770.000	16.003	2.272	320.000	780.000	20.498	-0.295
650.000	770.000	16.122	1.163	310.000	780.000	20.141	-0.305
660.000	770.000	17.376	1.980	300.000	780.000	20.031	-0.288
670.000	770.000	17.550	1.547	290.000	780.000	20.123	-0.174
680.000	770.000	16.159	2.261	280.000	780.000	18.219	-0.369
690.000	770.000	18.191	6.300	270.000	780.000	19.519	0.009
700.000	770.000	17.477	1.466	260.000	780.000	18.072	-0.268
710.000	770.000	17.248	2.068	250.000	780.000	18.008	-0.378
720.000	770.000	17.578	0.130	240.000	780.000	18.411	0.532
730.000	770.000	18.008	0.227	230.000	780.000	18.768	-0.470
740.000	770.000	14.602	-0.385	220.000	780.000	19.683	-0.509
750.000	770.000	18.036	1.738	210.000	780.000	18.759	-0.299
760.000	770.000	16.561	0.036	200.000	780.000	17.761	-0.779
770.000	770.000	17.761	1.144	190.000	780.000	17.990	-0.319
780.000	770.000	17.944	1.479	180.000	780.000	19.372	3.200
790.000	770.000	17.395	0.519	170.000	780.000	17.376	0.327
800.000	770.000	17.340	-0.580	160.000	780.000	18.640	-0.014
LINE 780				150.000	780.000	18.969	0.519
800.000	780.000	18.832	-0.178	140.000	780.000	19.775	0.758
790.000	780.000	18.915	-0.411	130.000	780.000	19.629	-1.084
780.000	780.000	18.658	-0.628	120.000	780.000	19.747	-0.404
770.000	780.000	18.924	-0.676	110.000	780.000	19.766	-1.078
760.000	780.000	18.924	-0.973	100.000	780.000	20.608	0.040
750.000	780.000	19.089	-0.374	90.000	780.000	20.800	-0.042
740.000	780.000	18.200	-0.948	80.000	780.000	23.739	-1.181
730.000	780.000	18.173	-0.848	70.000	780.000	18.997	1.424
720.000	780.000	17.303	3.432	60.000	780.000	10.986	2.265
710.000	780.000	15.225	0.053	50.000	780.000	15.216	2.866
700.000	780.000	15.856	-0.791	40.000	780.000	14.813	2.802
690.000	780.000	15.884	-0.371	30.000	780.000	18.210	0.733
680.000	780.000	16.699	3.257	20.000	780.000	19.473	6.982
670.000	780.000	16.726	-0.780	10.000	780.000	19.006	1.052
660.000	780.000	17.120	-0.802	0.000	780.000	17.559	0.073
650.000	780.000	16.681	-0.486	LINE 790			
640.000	780.000	18.182	0.077	0.000	790.000	19.281	-0.044
630.000	780.000	18.868	-0.238	10.000	790.000	19.244	-0.088
620.000	780.000	16.891	-0.260	20.000	790.000	19.345	-0.200
610.000	780.000	14.831	-0.038	30.000	790.000	17.614	0.161
600.000	780.000	17.431	-0.573	40.000	790.000	16.543	0.235
590.000	780.000	16.909	-0.384	50.000	790.000	19.089	0.341
580.000	780.000	19.336	7.743	60.000	790.000	20.260	1.192
570.000	780.000	17.486	0.290	70.000	790.000	19.821	0.101
560.000	780.000	20.169	0.001	80.000	790.000	20.434	0.347
550.000	780.000	22.128	1.034	90.000	790.000	21.505	-0.573
540.000	780.000	18.704	0.490	100.000	790.000	20.471	0.496
530.000	780.000	17.697	-0.093	110.000	790.000	20.398	0.843
520.000	780.000	13.971	0.367	120.000	790.000	20.325	0.005
510.000	780.000	15.024	0.132	130.000	790.000	19.336	-0.051
500.000	780.000	14.803	0.137	140.000	790.000	20.773	-0.356
490.000	780.000	14.859	0.126	150.000	790.000	20.727	-0.450
480.000	780.000	17.028	2.052	160.000	790.000	19.464	-0.295
470.000	780.000	19.024	-0.477	170.000	790.000	19.162	-0.135
460.000	780.000	17.385	-0.073	180.000	790.000	18.090	-0.069
450.000	780.000	17.312	0.575	190.000	790.000	18.786	0.321
440.000	780.000	12.030	4.066	200.000	790.000	18.859	-0.536
430.000	780.000	14.785	1.374	210.000	790.000	18.969	-0.365
420.000	780.000	17.083	1.374	220.000	790.000	19.207	-0.406
410.000	780.000	16.039	0.483	230.000	790.000	19.620	-0.154
400.000	780.000	18.328	-0.156	240.000	790.000	17.496	1.260



Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
250.000	790.000	16.323	0.635	710.000	800.000	17.019	-0.387
260.000	790.000	16.681	0.306	700.000	800.000	17.962	-0.540
270.000	790.000	16.909	-0.367	690.000	800.000	17.971	-0.303
280.000	790.000	17.889	0.393	680.000	800.000	17.660	-0.764
290.000	790.000	17.486	0.641	670.000	800.000	18.337	1.537
300.000	790.000	19.171	-0.086	660.000	800.000	18.027	-1.001
310.000	790.000	17.248	-0.253	650.000	800.000	19.418	3.026
320.000	790.000	19.995	-0.709	640.000	800.000	18.915	-0.224
330.000	790.000	19.235	-0.130	630.000	800.000	18.567	-0.611
340.000	790.000	18.475	0.630	620.000	800.000	19.198	-0.663
350.000	790.000	20.086	0.145	610.000	800.000	18.750	1.751
360.000	790.000	21.972	2.013	600.000	800.000	18.045	-0.676
370.000	790.000	21.817	-0.180	590.000	800.000	16.735	-0.466
380.000	790.000	19.912	1.284	580.000	800.000	15.673	0.068
390.000	790.000	16.387	1.629	570.000	800.000	17.285	0.137
400.000	790.000	16.983	0.430	560.000	800.000	15.628	0.187
410.000	790.000	16.030	0.703	550.000	800.000	16.516	3.417
420.000	790.000	16.891	0.545	540.000	800.000	18.466	1.925
430.000	790.000	20.626	0.644	530.000	800.000	16.671	-0.564
440.000	790.000	13.431	1.179	520.000	800.000	16.113	-0.466
450.000	790.000	12.158	1.898	510.000	800.000	14.209	0.505
460.000	790.000	18.631	-0.266	500.000	800.000	16.223	-0.349
470.000	790.000	16.726	0.731	490.000	800.000	15.334	-0.282
480.000	790.000	18.337	-0.628	480.000	800.000	15.207	1.074
490.000	790.000	16.195	-0.593	470.000	800.000	16.131	-0.240
500.000	790.000	14.721	-0.270	460.000	800.000	14.428	1.069
510.000	790.000	16.086	-0.369	450.000	800.000	11.947	1.365
520.000	790.000	15.573	-0.157	440.000	800.000	14.309	0.174
530.000	790.000	14.840	1.030	430.000	800.000	18.493	-0.259
540.000	790.000	14.785	-0.016	420.000	800.000	19.134	-0.222
550.000	790.000	14.511	-0.279	410.000	800.000	16.918	0.101
560.000	790.000	15.664	-0.236	400.000	800.000	19.272	-0.334
570.000	790.000	16.708	1.183	390.000	800.000	19.033	0.101
580.000	790.000	21.615	1.486	380.000	800.000	22.806	-0.463
590.000	790.000	19.592	1.455	370.000	800.000	13.522	0.233
600.000	790.000	20.782	-0.211	360.000	800.000	20.214	0.786
610.000	790.000	19.573	-0.731	350.000	800.000	18.759	0.696
620.000	790.000	18.859	-0.812	340.000	800.000	19.665	0.334
630.000	790.000	17.532	-0.387	330.000	800.000	19.803	-0.281
640.000	790.000	18.521	0.334	320.000	800.000	20.635	-0.448
650.000	790.000	18.878	-1.054	310.000	800.000	20.287	-0.586
660.000	790.000	18.466	-0.780	300.000	800.000	20.123	-0.709
670.000	790.000	19.986	-0.848	290.000	800.000	21.249	-0.628
680.000	790.000	14.410	-0.543	280.000	800.000	17.312	-0.260
690.000	790.000	17.514	0.973	270.000	800.000	17.953	0.005
700.000	790.000	17.376	-0.665	260.000	800.000	16.754	-0.011
710.000	790.000	17.349	-0.823	250.000	800.000	16.992	0.540
720.000	790.000	17.523	-0.690	240.000	800.000	17.505	-0.011
730.000	790.000	18.777	0.327	230.000	800.000	20.214	-0.804
740.000	790.000	18.521	-0.101	220.000	800.000	20.287	-0.880
750.000	790.000	19.079	-0.847	210.000	800.000	20.233	-0.916
760.000	790.000	18.640	-0.582	200.000	800.000	19.519	-0.758
770.000	790.000	18.887	-0.933	190.000	800.000	19.052	-0.086
780.000	790.000	19.638	-1.137	180.000	800.000	19.702	2.280
790.000	790.000	19.171	-1.247	170.000	800.000	19.006	-0.536
800.000	790.000	19.207	-1.265	160.000	800.000	18.365	-0.452
LINE 800				150.000	800.000	17.853	1.265
800.000	800.000	18.978	-1.238	140.000	800.000	20.031	-0.496
790.000	800.000	18.933	-1.130	130.000	800.000	20.315	-0.931
780.000	800.000	19.290	-0.948	120.000	800.000	19.940	-0.450
770.000	800.000	19.464	-1.278	110.000	800.000	19.894	-0.624
760.000	800.000	20.086	2.486	100.000	800.000	19.381	-0.894
750.000	800.000	19.940	1.673	90.000	800.000	19.894	-0.655
740.000	800.000	19.052	-0.854	80.000	800.000	20.992	-0.972
730.000	800.000	18.384	-0.553	70.000	800.000	22.146	-0.962
720.000	800.000	18.612	-0.845	60.000	800.000	18.750	-0.406

Line	Station	In-Phase	Quad.	Line	Station	In-Phase	Quad.
50.000	800.000	19.042	-0.735				
40.000	800.000	18.493	0.843				
30.000	800.000	18.027	-0.080				
20.000	800.000	18.429	0.744				
10.000	800.000	18.585	-0.231				
0.000	800.000	18.447	-0.279				

## **APPENDIX B**

### **SUBSURFACE INVESTIGATIONS**

- **Boring/Monitoring Well Logs**
- **Test pit Logs**



## **Boring/Monitoring Well Logs**



# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.		CLIENT: <u>ACOE</u>			BORING NO.: <u>MW4-1</u>			
PROJECT: <u>10 SWMU</u>		LOCATION: <u>SEAD 4</u>			JOB NO.: <u>720477</u>			
					EST. GROUND ELEV.: <u>698.392</u>			
					START DATE: <u>12-6-93</u>			
					FINISH DATE: <u>12-6-93</u>			
					CONTRACTOR: <u>Empire</u>			
					DRILLER: <u>Scott</u>			
					INSPECTOR: <u>ES/LB</u>			
					CHECKED BY: <u>AW</u>			
					CHECK DATE: <u>4/5/94</u>			
<b>DRILLING SUMMARY:</b>								
DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER		HAMMER			
			SIZE	TYPE	TYPE	WT/FALL		
<u>HSA</u>	<u>8 1/2"</u>		<u>3" x 2'</u>	<u>SS</u>	<u>HMR</u>	<u>140 / 30"</u>		
<b>DRILLING ACRONYMS:</b>								
HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON			
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING			
MRS LC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING			
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING			
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE			
				3S	3 INCH SPLIT SPOON			
<b>MONITORING EQUIPMENT SUMMARY</b>								
INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
<u>OVM</u>		<u>0-2000</u>	<u>0-0.4</u>	<u>1000</u>	<u>12-6-93</u>			<u>cloudy</u>
<u>Dust</u>		<u>0-0.99</u>	<u>.03</u>	<u>1000</u>	<u>12-6-93</u>			
<u>Ovm</u>		<u>0-2000</u>	<u>0-0.4</u>	<u>1330</u>	<u>12-6-93</u>			
<b>MONITORING ACRONYMS</b>								
PID	PHOTO - IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES			
FID	FLAME - IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION			
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT			
SCT	SCINTILLATION DETECTOR	RAD	RADIATION					
<b>COMMENTS:</b>			<b>OTHER REPORTS</b>		<b>DATE/PENDING</b>		<b>N/A</b>	
			WELL DEVELOPMENT		_____		_____	
			SURVEYOR		_____		_____	
			CORE LOG		_____		_____	
			WELL INSTALLATION DETAILS		_____		_____	
			HYDRAULIC TESTING		_____		_____	
			GEOPHYSICAL LOGGING		_____		_____	

# OVERBURDEN BORING REPORT

SB4-1

ENGINEERING-SCIENCE, INC.				CLIENT: <b>ACOE</b>				BORING #: <b>MW4-1</b>					
MONITORING				COMMENTS: <b>Sent SB4-1.1; -1.3, -1.5, -1.6</b>				DRILLER: <b>Empire</b>					
INSTRUMENT	INTERVAL	BGD	TIME					INSPECTOR: <b>ES/LB</b>					
<b>OVM</b>		<b>0-0.4</b>	<b>1000</b>					DATE: <b>12-6-93</b>					
<b>Dust</b>		<b>.03</b>	<b>1000</b>										
DEPTH (FT)	SAMPLING			SAMPLE			SAMPLE DESCRIPTION				USCS CLASS	STRATUM CLASS	
	BLOWS PER 6 INCHES	PENE-TRATION RANGE (FEET)	RECOV-ERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC	RAD SCR	<small>(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)</small>					
1	2	0	0	4-1.1	1.5	0	X	Lt brown SILT, and shale fragments (.25" to .75") little clay, moist					Fill
2	4	2	2	4-1.1	MED	0	X	Lt. brown SILT, some clay, trace shale fragments (.25" dia), oxidation, moist					
3	5	2	1.5	4-1.2	0	0	X	Lt. brown SILT, some shale fragments (to 2" dia, little clay, moist, dense					
4	6	2	4	4-1.2	0	0	X	Lt. brown SILT, some clay, little shale fragments, moist					
5	8	4	4	4-1.3	0	0	X	Lt. brown SILT, some clay, little shale fragments, moist					
6	12	4	4	4-1.3	0	0	X	gray weath. shale					
7	12	4	1.7	4-1.3	0	0	X	Lt. brown SILT, some clay, little shale fragments, dense, moist					
8	21	6	6	4-1.4	0	0	X	shale fragments (to 2" dia.)					
9	28	6	8	4-1.6	0	0	X	Lt. brown SILT, some clay, little shale fragments, densi, moist					
10	22	2.0	8	4-1.6	0	0	X	Weathered shale					
10	32							Spoon refusal at 10.3'					
10	35							Augered to 10.5'					
10	109.1												
10	100/3												
15													
20													



# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.		CLIENT: <u>ACOE</u>		BORING NO.: <u>MW4-2</u>				
PROJECT: <u>10 SWMU</u>				JOB NO.: <u>720477</u>				
LOCATION: <u>SEAD 4</u>				EST. GROUND ELEV.: <u>1099.448</u>				
<b>DRILLING SUMMARY:</b>								
DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER		HAMMER			
			SIZE	TYPE	TYPE	WT/FALL		
<u>HSA</u>	<u>8 1/2"</u>		<u>3"x2"</u>	<u>SS</u>	<u>HMR</u>	<u>140"/30"</u>		
DRILLING ACRONYMS:								
HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON			
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING			
MRLSC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING			
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING			
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE			
				3S	3 INCH SPLIT SPOON			
<b>MONITORING EQUIPMENT SUMMARY</b>								
INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
<u>OVM</u>	<u>PID</u>	<u>0-2000</u>	<u>0-1</u>	<u>1345</u>	<u>11/10/93</u>			<u>Sunny</u>
<b>MONITORING ACRONYMS</b>								
PID	PHOTO-IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES			
FID	FLAME-IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION			
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT			
SCT	SCINTILLATION DETECTOR	RAD	RADIATION					
<b>COMMENTS:</b>			<b>OTHER REPORTS</b>		<b>DATE/PENDING</b>		<b>N/A</b>	
<u>Drill log was 453.</u> <u>No downhole readings - hole</u> <u>1 OVM.</u>			WELL DEVELOPMENT		_____		_____	
			SURVEYOR		_____		_____	
			CORE LOG		_____		_____	
			WELL INSTALLATION DETAILS		_____		_____	
			HYDRAULIC TESTING		_____		_____	
			GEOPHYSICAL LOGGING		_____		_____	

# OVERBURDEN BORING REPORT

SB4-2

ENGINEERING-SCIENCE, INC.				CLIENT: <u>ACOE</u>				BORING #: <u>MW4-2</u>				
MONITORING				COMMENTS: <u>Sent SB4-2.1, SB4-2.2</u>				DRILLER: <u>Empire</u>				
INSTRUMENT	INTERVAL	BGD	TIME					INSPECTOR: <u>ES</u>				
<u>OLM</u>	<u>0-2000</u>	<u>0-1</u>	<u>1345</u>					DATE: <u>11/10/93</u>				
DEPTH (FT)	SAMPLING			SAMPLE			SAMPLE DESCRIPTION			USCS CLASS	STRATUM CLASS	
	BLOWS PER 6 INCHES	PENETRATION RANGE (FBFT)	RECOVERY RANGE (FBFT)	DEPTH INT (FBFT)	NO.	VOC	RAD	(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)				
1	86 8 9	0	0 ↓ 1.2	0	4- 21	0	-	Med brown SILT, some Clay, little Cobbles (.5-.75") rounded, moist.				
2	11 45	2	2	2	4- 22	0	-	No Recovery				
3	100/5		↓ 1.7 3.7	4			-	weathered shale, dry				
4								Spoon refusal @ 3.0' Auger refusal at 4.0'				
5												
6												
7												
8												
9												
10												
15												
20												

ML  
ML  
ST

# OVERBURDEN BORING REPORT

584-3

ENGINEERING-SCIENCE, INC. CLIENT: ACOE BORING NO.: MW4-3

PROJECT: 10 SWM4  
 LOCATION: SEAD 4  
 JOB NO.: 720477  
 EST. GROUND ELEV.: 697.6669

**DRILLING SUMMARY:**

DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER		HAMMER	
			SIZE	TYPE	TYPE	WT/FALL
<u>HSA</u>	<u>8 1/2"</u>		<u>3" x 2'</u>	<u>SS</u>	<u>Hmr</u>	<u>140#/30"</u>

START DATE: 11/10/93  
 FINISH DATE: 11/10/93  
 CONTRACTOR: Empire  
 DRILLER: Bob  
 INSPECTOR: ES  
 CHECKED BY: AW  
 CHECK DATE: 4/5/94

**DRILLING ACRONYMS:**

HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING
MRS LC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE
				3S	3 INCH SPLIT SPOON

**MONITORING EQUIPMENT SUMMARY**

INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
<u>0vm</u>	<u>PID</u>	<u>0-2000</u>	<u>0-.5</u>	<u>1500</u>	<u>11/10/93</u>			<u>Sunny</u>

**MONITORING ACRONYMS**

PID	PHOTO-IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES
FID	FLAME-IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT
SCT	SCINTILLATION DETECTOR	RAD	RADIATION		

COMMENTS:	OTHER REPORTS	DATE/PENDING	N/A
<p><u>No downhole monitoring;</u>  <u>1 ovm available.</u>  <u>Using small drill rig 45-C.</u></p>	WELL DEVELOPMENT	_____	_____
	SURVEYOR	_____	_____
	CORE LOG	_____	_____
	WELL INSTALLATION DETAILS	_____	_____
	HYDRAULIC TESTING	_____	_____
	GEOPHYSICAL LOGGING	_____	_____

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.				CLIENT: <u>ACOE</u>				BORING #: <u>MW4-3</u>			
MONITORING				COMMENTS: <u>Sent 3.1, 3.3, 3.4</u>				DRILLER: <u>Empire</u>			
INSTRUMENT	INTERVAL	BGD	TIME					INSPECTOR: <u>ES</u>			
<u>QUM</u>	<u>0-2000</u>	<u>0-.5</u>	<u>1500</u>					DATE: <u>11/10/93</u>			
DEPTH (FT)	SAMPLING			SAMPLE			SAMPLE DESCRIPTION <small>(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)</small>	USCS CLASS	STRATUM CLASS		
	BLOWS PER 6 INCHES	PENE-TRATION RANGE (FEET)	RECOV-ERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC				RAD SCRIN	
1	9 26 26	0	0	0	SB4 3.1	0	.4' topsoil Gray weathered shale fill, some SILT, shale fragments to .75". moist				
2	18 16	2	1.8	2	SB4 3.2	0	Lk. brown SILT, some clay, little SOBLES rounded (to .75") oxidation. moist, dense.				
3	28 30	4	1.5	4	SB4 3.3	0	← coarse sand lens. Lk. brown SILT, some fine sand, little shale fragments moist				
4	15 26	4	2.0	4	SB4 3.3	0	AA ← weath. shale lens.				
5	36 90	6	2.0	6	SB4 3.4	0	Lk. brown to lk. gray SILT, some weathered shale fragments (to 1.5" dia.)	Water layer 2"	wt.		
6	33 46	6	1.7	6	SB4 3.4	0	Lk. brown fine SAND, some shale fragments				
7	100/5	8	0	8	SB4 3.5	0	gray weathered shale, wet.				
8	100/3	8	0	8	SB4 3.5	0	Spoon refusal at 8.3' Augered to 9.0'				
9											
10											
15											
20											

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC. CLIENT: AOE BORING NO.: MWA-4

PROJECT: 10 SWM4  
 LOCATION: SEAD 4

JOB NO.: 120477  
 EST. GROUND ELEV.: 678.217  
 START DATE: 12-5-93  
 FINISH DATE: 12-5-93  
 CONTRACTOR: Empire  
 DRILLER: Scott  
 INSPECTOR: ES/LB  
 CHECKED BY: AW  
 CHECK DATE: 4/5/94

**DRILLING SUMMARY:**

DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER		HAMMER	
			SIZE	TYPE	TYPE	WT/FALL
HSA	8 1/2"		3" x 2'	SS	HMR	140/30"

**DRILLING ACRONYMS:**

HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING
MRS LC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE
				3S	3 INCH SPLIT SPOON

**MONITORING EQUIPMENT SUMMARY**

INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
0 VM			1.6	12/5	12-5-93			

**MONITORING ACRONYMS**

PID	PHOTO - IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES
FID	FLAME - IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT
SCT	SCINTILLATION DETECTOR	RAD	RADIATION		

COMMENTS:	OTHER REPORTS	DATE/PENDING	N/A
	WELL DEVELOPMENT	_____	_____
	SURVEYOR	_____	_____
	CORE LOG	_____	_____
	WELL INSTALLATION DETAILS	_____	_____
	HYDRAULIC TESTING	_____	_____
	GEOPHYSICAL LOGGING	_____	_____

# OVERBURDEN BORING REPORT

SB4-4

ENGINEERING-SCIENCE, INC.				CLIENT: <u>ACOE</u>				BORING #: <u>MW4-4</u>			
MONITORING				COMMENTS:  <div style="font-size: 1.5em; font-weight: bold; text-align: center;">Sent 4.1, 4.2, 4.3, 4.5</div>				DRILLER: _____			
INSTRUMENT	INTERVAL	BGD	TIME					INSPECTOR: _____			
<u>OVM</u>		<u>1.6</u>	<u>1215</u>					DATE: _____			
DEPTH (FT)	SAMPLING			SAMPLE			SAMPLE DESCRIPTION <small>(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)</small>	USCS CLASS	STRATUM CLASS		
	BLOWS PER 6 INCHES	PENE- TRATION RANGE (FEET)	RECOV- ERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC				RAD SCRN	
1	1			0	A- A.1 A.5	0	X				
	2		2	2	A.1 MRD						
2	5	2		2							
	36	2		2							
3	37		.25			0	X				
	38			4							
4	40	4		4							
	20	4		4	A- A.2		X				
5	28			6							
	38			6							
6	50	6		6							
	45	6		6	A- A.3						
7	58		1.0'	8		0					
	100/3			8							
8	62	8		8							
	100/1			8			X				
9				10							
10											
15											
20											

Spoon refusal at 8.5'  
Augered to 10.0

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.			CLIENT: <u>ACOE</u>			BORING NO.: <u>MW4-5</u>																																																																						
PROJECT: <u>10 SWMU</u>			LOCATION: <u>SEAD 4</u>			JOB NO.: <u>720477</u>																																																																						
						EST. GROUND ELEV.: <u>699.182</u>																																																																						
DRILLING SUMMARY:						START DATE: <u>12/5/93</u>																																																																						
						FINISH DATE: <u>12/5/93</u>																																																																						
						CONTRACTOR: <u>Empire</u>																																																																						
						DRILLER: <u>John W.</u>																																																																						
						INSPECTOR: <u>ES/LB</u>																																																																						
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GEOPHYSICAL LOGGING		_____		_____																																																																								

# OVERBURDEN BORING REPORT

SB4-5

ENGINEERING-SCIENCE, INC.

CLIENT: ACOE

BORING #: MW4-5

MONITORING			
INSTRUMENT	INTERVAL	BGD	TIME
<u>GVH</u>		<u>0-1.6</u>	<u>1010</u>

COMMENTS  
Sent 5.1, 5.2

DRILLER: Empire/ J...  
INSPECTOR: ES/LB  
DATE: 12-5/93

DEPTH (FT)	SAMPLING			SAMPLE			RAD SCRIN	SAMPLE DESCRIPTION <small>(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)</small>	USCS CLASS	STRATUM CLASS
	BLOWS PER 6 INCHES	PENE-TRATION RANGE (FEET)	RECOV-ERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC				
1	2 5 7	0	2	0	4' 5.1	0	Y	<u>Topsoil</u> <u>Lt. brown SILT, some clay, little wood, concrete pieces, shale fragments; moist</u>		
2	7 11	2	2	2				<u>Lt brown SILT, some clay, moist, dense</u>		
3	16 28	2	2	2	4' 5.2	0	X	<u>Lt. brown SILT, some clay, some shale fragments (.5" dia) moist</u>		
4	100/34	4	4	4				<u>weathered shale</u>		
5								<u>Spoon refusal at 3.8'</u> <u>Augered to 6.0'</u>		



# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC. CLIENT: USACOE BORING NO: SM-6

PROJECT: SEAD  
 LOCATION: Romulus, NY SEAD 4

JOB NO.: 720477  
 EST. GROUND ELEV.: 696.240  
 START DATE: 12-6-93  
 FINISH DATE: 12-6-93  
 CONTRACTOR: EMPIRE  
 DRILLER: BOB / AL  
 INSPECTOR: BH / MCR  
 CHECKED BY: \_\_\_\_\_  
 CHECK DATE: \_\_\_\_\_

**DRILLING SUMMARY:**

DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER		HAMMER	
			SIZE	TYPE	TYPE	WTFALL
HSA	8 1/2"		2" x 3'	SS	HMR	170# / 30"

**DRILLING ACRONYMS:**

HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING
MRLC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE
				3S	3 INCH SPLIT SPOON

**MONITORING EQUIPMENT SUMMARY**

INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
UVM	PIR	0-2000	0	1420	12-6-93			Cloudy, Cold
RAD		0-100	14-16	1420	12-6-93			LT SNOW
DUST		0-.99	0	1420	12-6-93			
UVM		0	0	1435	12-6-93			
RAD			14-16	1435	12-6-93			
DUST			0	1435	12-6-93			

**MONITORING ACRONYMS**

PID	PHOTO-IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES
FID	FLAME-IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT
SCT	SCINTILLATION DETECTOR	RAD	RADIATION		

COMMENTS:	OTHER REPORTS	DATE/PENDING	N/A
	WELL DEVELOPMENT	_____	_____
	SURVEYOR	_____	_____
	CORE LOG	_____	_____
	WELL INSTALLATION DETAILS	_____	_____
	HYDRAULIC TESTING	_____	_____
	GEOPHYSICAL LOGGING	_____	_____

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.				CLIENT:				BORING #: <i>SB 4-6</i>					
MONITORING				COMMENTS  <i>Sent to 1, 6.2</i>				DRILLER: <i>0306/2</i>					
INSTRUMENT	INTERVAL	BGD	TIME					INSPECTOR: <i>BH/ncj</i>					
<i>WPM</i>	<i>0-2000</i>	<i>0</i>	<i>1420</i>					DATE: <i>12-6-93</i>					
<i>LAD</i>	<i>0-100</i>	<i>14-16</i>	<i>1420</i>										
<i>DUST</i>	<i>0-99</i>	<i>0</i>											
DEPTH (FT)	SAMPLING			SAMPLE				SAMPLE DESCRIPTION				USCS CLASS	STRATUM CLASS
	BLOWS PER 6 INCHES	PENE-TRATION RANGE (FEET)	RECOV-ERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC	RAD SCRIN	(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)					
1420	4 6 10	0	62	0 6	4 6.1	0	X	<i>organic &amp; roots loam</i>					
1470	28 92	2	0.8	2 4	4 6.2	0	X	<i>Sand . clay no rocks weathered shale wet SPLIT shown report 2.8'</i>					
20		4		4									

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.		CLIENT: <u>USAIDE</u>			BORING NO.: <u>SB 4-7</u>																																						
PROJECT: <u>SEAD</u>		LOCATION: <u>Romulus, NY SEAD 4</u>			JOB NO.: <u>720477</u>																																						
DRILLING SUMMARY:					EST. GROUND ELEV.: <u>764.071</u>																																						
					START DATE: <u>12-5-93</u>																																						
					FINISH DATE: <u>12-5-93</u>																																						
					CONTRACTOR: <u>Empire</u>																																						
					DRILLER: <u>John</u>																																						
					INSPECTOR: <u>DH/MCA</u>																																						
					CHECKED BY: _____																																						
					CHECK DATE: _____																																						
<p>DRILLING ACRONYMS:</p> <table style="width: 100%; border: none;"> <tr> <td>HSA</td><td>HOLLOW-STEM AUGERS</td><td>HMR</td><td>HAMMER</td><td>SS</td><td>SPLIT SPOON</td> </tr> <tr> <td>DW</td><td>DRIVE-AND-WASH</td><td>SHR</td><td>SAFETY HAMMER</td><td>CS</td><td>CONTINUOUS SAMPLING</td> </tr> <tr> <td>MRLC</td><td>MUD-ROTARY SOIL-CORING</td><td>HHR</td><td>HYDRAULIC HAMMER</td><td>SI</td><td>5 FT INTERVAL SAMPLING</td> </tr> <tr> <td>CA</td><td>CASING ADVANCER</td><td>DHR</td><td>DOWN-HOLE HAMMER</td><td>NS</td><td>NO SAMPLING</td> </tr> <tr> <td>SPC</td><td>SPIN CASING</td><td>WL</td><td>WIRE-LINE</td><td>ST</td><td>SHELBY TUBE</td> </tr> <tr> <td></td><td></td><td></td><td></td><td>3S</td><td>3 INCH SPLIT SPOON</td> </tr> </table>								HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON	DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING	MRLC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING	CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING	SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE					3S	3 INCH SPLIT SPOON
HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON																																						
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING																																						
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MONITORING EQUIPMENT SUMMARY																																											
INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER																																			
			READING	TIME	DATE	TIME	DATE																																				
<u>V/M</u>	<u>P10</u>	<u>0-2000</u>	<u>0</u>	<u>1450</u>	<u>12-5-93</u>			<u>Cloudy, Cool</u>																																			
<u>RAD</u>		<u>0-1000</u>	<u>15-18</u>	<u>1450</u>	<u>12-5-93</u>																																						
<u>DJSS</u>		<u>0-.99</u>	<u>0</u>	<u>1450</u>	<u>12-5-93</u>																																						
<u>V/M</u>			<u>0</u>	<u>1530</u>	<u>12-5-93</u>																																						
<u>RAD</u>			<u>15-16</u>	<u>1530</u>	<u>12-5-93</u>																																						
<u>DJSS</u>			<u>0</u>	<u>1530</u>	<u>12-5-93</u>																																						
MONITORING ACRONYMS																																											
PID	PHOTO-IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES																																						
FID	FLAME-IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION																																						
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT																																						
SCT	SCINTILLATION DETECTOR	RAD	RADIATION																																								
COMMENTS:			OTHER REPORTS		DATE/PENDING		N/A																																				
			WELL DEVELOPMENT		_____		_____																																				
			SURVEYOR		_____		_____																																				
			CORE LOG		_____		_____																																				
			WELL INSTALLATION DETAILS		_____		_____																																				
			HYDRAULIC TESTING		_____		_____																																				
			GEOPHYSICAL LOGGING		_____		_____																																				

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.				CLIENT:				BORING #504-7			
MONITORING								COMMENTS			
INSTRUMENT	INTERVAL	BGD	TIME								
VVM	0-2000	0	1450								
LAD	0-100	5-10	1450								
DUST	0-99	0	1450								
DEPTH (FT)	SAMPLING			SAMPLE				SAMPLE DESCRIPTION <small>(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)</small>	USCS CLASS	STRATUM CLASS	
	BLOWS PER 6 INCHES	PENE- TRATION RANGE (FEET)	RECOV- ERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC	RAD SCRN				
ML (450)	3 7 9	0	1.7	0 2	4 7.0	<input checked="" type="checkbox"/>	X	OBACCS, Shale Clay Sand			
2	10	2		2				Shale clay oxidation Hard dry			
3	13 <del>16</del> 25 26	2	1.8	2	4 7.2	<input checked="" type="checkbox"/>	X				
4	28 30 42	4		4	4						
5	45 26 38	4	1.8	4 6	4 7.3	<input checked="" type="checkbox"/>	X	Clay Rock : Sticky (wet)			
6	26 28 38	6		6	4						
7	52 100/3	8	2.3	8	7.9	<input checked="" type="checkbox"/>	X	more Clay / sand			
8	100/3	8	.2	—	—	<input checked="" type="checkbox"/>	X	Silt/Sand refusal P. 3'			
9											
10											
11											
12											
15											
20											

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC. CLIENT: USACOE BORING NO.: S34-R

PROJECT: SEAD  
 LOCATION: Romulus, NY SEAD 4

JOB NO.: 720477  
 EST. GROUND ELEV.: 701.314  
 START DATE: 12-5-93  
 FINISH DATE: 12-5-93  
 CONTRACTOR: EMPIRE  
 DRILLER: Bob  
 INSPECTOR: BA/MCA  
 CHECKED BY: \_\_\_\_\_  
 CHECK DATE: \_\_\_\_\_

**DRILLING SUMMARY:**

DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER		HAMMER	
			SIZE	TYPE	TYPE	WT/FALL
HSA	8 1/2"		2' x 3"	SS	HMR	140# / 30"

**DRILLING ACRONYMS:**

HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING
MRS LC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE
				3S	3 INCH SPLIT SPOON

**MONITORING EQUIPMENT SUMMARY**

INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
VIM	PID	0-2000	0	1245	12-5-93			cloudy/d/d
RAD		0-100	18-20	1245	12-5-93			
DUST		0-0.99	0	1245	12-5-93			
VIM			0	1305	12-5-93			
RAD			17-18	1305	12-5-93			
DUST			0	1305	12-5-93			

**MONITORING ACRONYMS**

PID	PHOTO - IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES
FID	FLAME - IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT
SCT	SCINTILLATION DETECTOR	RAD	RADIATION		

COMMENTS:	OTHER REPORTS	DATE/PENDING	N/A
	WELL DEVELOPMENT	_____	_____
	SURVEYOR	_____	_____
	CORE LOG	_____	_____
	WELL INSTALLATION DETAILS	_____	_____
	HYDRAULIC TESTING	_____	_____
	GEOPHYSICAL LOGGING	_____	_____

# OVERBURDEN BORING REPORT

ENGINEERING—SCIENCE, INC.				CLIENT:				BORING #: <u>S/S 4-8</u>						
MONITORING								COMMENTS						
INSTRUMENT	INTERVAL	BGD	TIME											
<u>CM</u>	<u>0-2000</u>	<u>0</u>	<u>1245</u>											
<u>APC</u>	<u>0-120</u>	<u>15-20</u>	<u>1245</u>											
<u>DST</u>	<u>0-.95</u>	<u>0</u>	<u>1245</u>											
								DRILLER: <u>B.B.</u>						
								INSPECTOR: <u>BH/mcs</u>						
								DATE:						
DEPTH (FT)	SAMPLING			SAMPLE			SAMPLE DESCRIPTION				USCS CLASS	STRATUM CLASS		
	BLOWS PER 6 INCHES	PENE- TRATION RANGE (FEET)	RECOV- ERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC	RAD SCRN	(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)						
1	5 8	⊙	2.0	0	4-	8.1	0	X	Shale clay Some clay					
2	7 8	⊙	1.8	2	4-	8.2	0	X	wet clay sand Some rocks					
3	10 15	⊙	1.8	4	4	8.3	0	X	Rocks, shale, sand, clay gravel oxidation clay thin below split soon Refusal 5.6					
4	20 17	⊙	1.9	6	8.3	0	X	Rocks, shale, sand, clay gravel oxidation clay thin below split soon Refusal 5.6						
5	32 30	⊙	1.9	6	8.3	0	X	Rocks, shale, sand, clay gravel oxidation clay thin below split soon Refusal 5.6						
6	10.4	⊙	1.9	6	8.3	0	X	Rocks, shale, sand, clay gravel oxidation clay thin below split soon Refusal 5.6						
7														
8														
10														
15														
20														

1245

1252

1303

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC. CLIENT: US ACOE BORING NO.: 84-9

PROJECT: SEAD  
 LOCATION: Romulus, NY SEAD-4

JOB NO.: 720477  
 EST. GROUND ELEV.: 704.047  
 START DATE: 12-5-93  
 FINISH DATE: 12-5-93  
 CONTRACTOR: EMPIRE  
 DRILLER: SCOTT  
 INSPECTOR: Bylmes  
 CHECKED BY: \_\_\_\_\_  
 CHECK DATE: \_\_\_\_\_

**DRILLING SUMMARY:**

DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER		HAMMER	
			SIZE	TYPE	TYPE	WT/FALL
<u>YSA</u>	<u>8 1/2"</u>		<u>2' x 3"</u>	<u>SS</u>	<u>HMR</u>	<u>140# / 30"</u>

**DRILLING ACRONYMS:**

HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING
MRS LC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE
				3S	3 INCH SPLIT SPOON

**MONITORING EQUIPMENT SUMMARY**

INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
<u>OVM</u>	<u>PID</u>	<u>0-2000</u>	<u>0</u>	<u>0950</u>	<u>12-5-93</u>			<u>cloudy windy</u>
<u>RAD</u>		<u>0-100</u>	<u>10-22</u>	<u>0950</u>	<u>12-5-93</u>			<u>cloud</u>
<u>DUST</u>		<u>0-199</u>	<u>0</u>	<u>0950</u>	<u>12-5-93</u>			
<u>OVM</u>			<u>0</u>	<u>1005</u>	<u>12-5-93</u>			
<u>RAD</u>			<u>16-16</u>	<u>1005</u>	<u>12-5-93</u>			
<u>DUST</u>			<u>0</u>	<u>1005</u>	<u>12-5-93</u>			

**MONITORING ACRONYMS**

PID	PHOTO - IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES
FID	FLAME - IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT
SCT	SCINTILLATION DETECTOR	RAD	RADIATION		

COMMENTS:	OTHER REPORTS	DATE/PENDING	N/A
	WELL DEVELOPMENT	_____	_____
	SURVEYOR	_____	_____
	CORE LOG	_____	_____
	WELL INSTALLATION DETAILS	_____	_____
	HYDRAULIC TESTING	_____	_____
	GEOPHYSICAL LOGGING	_____	_____

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.			CLIENT:				BORING # <u>SB 4-9</u>		
MONITORING					COMMENTS			DRILLER: <u>SCOTT</u>	
INSTRUMENT	INTERVAL	BGD	TIME					INSPECTOR: <u>BH/MCS</u>	
<u>Q.M.</u>	<u>0-2000</u>	<u>0</u>	<u>0950</u>					DATE: <u>12-5-93</u>	
<u>RAW</u>	<u>0-100</u>	<u>20-22</u>	<u>0950</u>						
<u>QST</u>	<u>0-199</u>	<u>0</u>	<u>0950</u>						
DEPTH (FT)	SAMPLING			SAMPLE			SAMPLE DESCRIPTION <small>(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)</small>	USCS CLASS	STRATUM CLASS
	BLOWS PER 6 INCHES	PENE-TRATION RANGE (FEET)	RECOV-ERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC			
7-50	<u>2</u> <u>4</u> <u>5</u>	<u>0</u> <u>2.0</u>	<u>2</u>	<u>4</u> <u>9.1</u>	<u>0</u>	<u>X</u>	<u>organics rock sand</u> <u>sand, oxidation, subsoils like clay</u> <u>small pieces of shale</u>		
0955	<u>14</u> <u>25</u> <u>32</u> <u>38</u>	<u>0</u>	<u>2.1</u>	<u>4</u> <u>22</u>	<u>0</u>	<u>X</u>	<u>shale layer some sand</u>		
1003	<u>32</u> <u>48</u> <u>28</u> <u>109/12</u>	<u>4</u> <u>2.0</u>	<u>2.0</u>	<u>4</u> <u>93</u>	<u>0</u>	<u>X</u>	<u>dry clay + shale</u> <u>SPLIT SPAN refusal 5.9'</u>		
10									
15									
20									



# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC. CLIENT: USACOE BORING NO.: SB 4-10

PROJECT: SEAD  
 LOCATION: Romulus, NY  
 JOB NO.: 720477  
 EST. GROUND ELEV.: 702.275

**DRILLING SUMMARY:**

DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER		HAMMER	
			SIZE	TYPE	TYPE	WTR/ALL
HSA	8 1/2		2" x 3'	SS	HMB	140 #/30 "

START DATE: 12-6-93  
 FINISH DATE: 12-6-93  
 CONTRACTOR: Eyrill  
 DRILLER: Bos  
 INSPECTOR: SA/12/93  
 CHECKED BY: \_\_\_\_\_  
 CHECK DATE: \_\_\_\_\_

**DRILLING ACRONYMS:**

HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING
MRLC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE
				3S	3 INCH SPLIT SPOON

**MONITORING EQUIPMENT SUMMARY**

INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
DUM	PID	0-2000	0	1125	12-6-93			Cloudy cold
RAD		0-100	16-17	1125	12-6-93			lt snow
DUM		0-.99	0	1125	12-6-93			
DUM			0	1138	12-6-93			
RAD			15-16	1138	12-6-93			
DUM			0	1138	12-6-93			

**MONITORING ACRONYMS**

PID	PHOTO-IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES
FID	FLAME-IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT
SCT	SCINTILLATION DETECTOR	RAD	RADIATION		

COMMENTS:	OTHER REPORTS	DATE/PENDING	N/A
	WELL DEVELOPMENT	_____	_____
	SURVEYOR	_____	_____
	CORE LOG	_____	_____
	WELL INSTALLATION DETAILS	_____	_____
	HYDRAULIC TESTING	_____	_____
	GEOPHYSICAL LOGGING	_____	_____

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.				CLIENT:				BORING #: <i>SB 4-10</i>					
MONITORING							COMMENTS:				DRILLER: <i>Ba.S 1.92</i>		
INSTRUMENT	INTERVAL	BGD	TIME								INSPECTOR: <i>BH/403</i>		
<i>DVM</i>	<i>0-2000</i>	<i>0</i>	<i>1725</i>								DATE: <i>12-6-93</i>		
<i>R2P</i>	<i>0-100</i>	<i>16-17</i>	<i>1125</i>										
<i>2VIT</i>	<i>0-99</i>	<i>0</i>	<i>1125</i>										
DEPTH (FT)	SAMPLING			SAMPLE				SAMPLE DESCRIPTION			USCS CLASS	STRATUM CLASS	
	BLOWS PER 6 INCHES	PENETRATION RANGE (FEET)	RECOVERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC	RAD SCRIN	(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)					
1	<i>3</i>	<i>0</i>		<i>0</i>	<i>4</i>			<i>0-</i>					
1	<i>6</i>	<del><i>10</i></del>	<i>1.7</i>		<i>0.1</i>		<i>X</i>	<i>clay sand tan rocks</i>					
2	<i>10</i>	<i>2</i>		<i>2</i>									
2	<i>24</i>	<i>0</i>		<i>0</i>	<i>4</i>			<i>dry shaly sand</i>					
7	<i>52</i>		<i>2.0</i>										
7	<i>82</i>			<i>4</i>	<i>10.2</i>		<i>Y</i>						
4	<i>85</i>	<i>4</i>		<i>4</i>	<i>4</i>								
5	<i>118</i>	<i>4</i>		<i>4</i>	<i>4</i>								
5	<i>85</i>		<i>1.1</i>				<i>0</i>	<i>X</i>	<i>SPLIT SPOON REFUSAL 5.2'</i>				
6	<i>102/2</i>	<i>6</i>		<i>6</i>	<i>10.3</i>								
10													
15													
20													

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.		CLIENT: <u>ACOE</u>		BORING NO.: <u>MW16-1</u>	
PROJECT: <u>10 SWMW EST</u>		LOCATION: <u>SEAD-16</u>		(Background well)	
DRILLING SUMMARY:		JOB NO.: <u>720477</u>		EST. GROUND ELEV.: <u>733.44 735</u>	
DRILLING METHOD		HOLE DIA.		DEPTH INT.	
SAMPLER SIZE		SAMPLER TYPE		HAMMER TYPE	
WT/FALL					
<u>HSA</u>	<u>8 1/2"</u>	<u>0-6'</u>	<u>3"x2'</u>	<u>SS</u>	<u>Drop/stl (HMR)</u>
DRILLING ACRONYMS:		HMR HAMMER		SS SPLIT SPOON	
HSA HOLLOW-STEM AUGERS		SHR SAFETY HAMMER		CS CONTINUOUS SAMPLING	
DW DRIVE-AND-WASH		HHR HYDRAULIC HAMMER		5I 5 FT INTERVAL SAMPLING	
MRS LC MUD-ROTARY SOIL-CORING		DHR DOWN-HOLE HAMMER		NS NO SAMPLING	
CA CASING ADVANCER		WL WIRE-LINE		ST SHELBY TUBE	
SPC SPIN CASING				3S 3 INCH SPLIT SPOON	
MONITORING EQUIPMENT SUMMARY					
INSTRUMENT TYPE		DETECTOR TYPE/ENERGY		RANGE	
BACKGROUND READING		BACKGROUND TIME		BACKGROUND DATE	
CALIBRATION TIME		CALIBRATION DATE		WEATHER	
<u>OVM</u>	<u>PID</u>	<u>0-2000</u>	<u>0</u>	<u>300</u>	<u>10/25/93</u>
					<u>Sunny</u>
MONITORING ACRONYMS					
PID PHOTO-IONIZATION DETECTOR		BGD BACKGROUND		DGRT DRAEGER TUBES	
FID FLAME-IONIZATION DETECTOR		CPM COUNTS PER MINUTE		PPB PARTS PER BILLION	
GMD GEIGER MUELLER DETECTOR		PPM PARTS PER MILLION		MDL METHOD DETECTION LIMIT	
SCT SCINTILLATION DETECTOR		RAD RADIATION			
COMMENTS:		OTHER REPORTS		DATE/PENDING	
		WELL DEVELOPMENT		—	
		SURVEYOR		—	
		CORE LOG		—	
		WELL INSTALLATION DETAILS		—	
		HYDRAULIC TESTING		—	
		GEOPHYSICAL LOGGING		—	
				N/A	
				✓	
				✓	
				✓	
				✓	
				✓	
				✓	

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.			CLIENT: <u>ACOE</u>			BORING #: <u>MW16-1</u>			
MONITORING				COMMENTS				DRILLER: <u>Empire</u>	
INSTRUMENT	INTERVAL	BGD	TIME	RED BKGD 15 <del>NR</del> = 0 NR/hr				INSPECTOR: <u>Pm/KS</u>	
<u>EXM</u>	<u>0-2000</u>	<u>0</u>	<u>300</u>					DATE: <u>10/25/93</u>	
DEPTH (FT)	SAMPLING			SAMPLE			SAMPLE DESCRIPTION <small>(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)</small>	USCS CLASS	STRATUM CLASS
	BLOWS PER 6 INCHES	FINE-TRATION RANGE (FBET)	RECOVERY RANGE (FBET)	DEPTH INT (FBET)	NO.	VOC			
1	0	0	-	-	0	0	* <del>Brn</del> organic silt + clay, 0-0.6' roots fill 0.2' hole.		Top Soil
2	2'	1.8'	-	-	0	0	* Till, Brn-yellow f sand + SILT w/ some clay oxidized areas all the way through, dry		Till
3	2'	2'	-	-	0	0	Brn-yellow f-sand SILT w some clay oxidized areas through out, shale frags throughout, fine gravel size shale, dry		Till
4	4'	3.2'	-	-	0	0	Gray-brn, SILT + clay with some shale frags, WET, loose		
5	4.3	4.3	-	-	0	0	4.3' Split spoon refusal w/ will Auger to refusal (thin w. shale zone ~ 0.3' thick)		
6	4.3	4.3	-	-	0	0	→ Auger Refusal 6.0'		
10							* Water @ 4.3' below ground surface on morning of 10/26/93 @ 8:05 AM ∴ 1.2' in hole		
15							* Fill dark brn blk w/ some silt and clay coal chips + roots		
20									

# OVERBURDEN BORING REPORT

ENGINEERING--SCIENCE, INC.		CLIENT: <u>ACOE</u>			BORING NO.: <u>MW16-2</u>			
PROJECT: <u>10 SWAN ESI</u>		LOCATION: <u>SEAD-16</u>			JOB NO.: <u>720477</u> -			
					EST. GROUND ELEV.: <u>732.829</u>			
DRILLING SUMMARY:							START DATE: <u>10/26/93</u>	
DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER		HAMMER		FINISH DATE:	
			SIZE	TYPE	TYPE	WT/FALL	CONTRACTOR: <u>Empire</u>	
<u>HSA</u>	<u>8 1/2"</u>	<u>0-4.1'</u>	<u>3"X2'</u>	<u>SS</u>	<u>HHR</u>	<u>140/30"</u>	DRILLER: <u>Alan</u>	
							INSPECTOR: <u>RM/KS</u>	
							CHECKED BY: <u>[Signature]</u>	
							CHECK DATE: _____	
DRILLING ACRONYMS:								
HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON			
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING			
MRS LC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING			
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING			
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE			
				3S	3 INCH SPLIT SPOON			
MONITORING EQUIPMENT SUMMARY								
INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
<u>OVN</u>	<u>PID</u>	<u>0-2000</u>	<u>0</u>	<u>1050</u>	<u>10/26/93</u>			
<u>RAD</u>		<u>0-10</u>	<u>4 uR/hr</u>	<u>10<sup>35</sup></u>	<u>10/26/93</u>			
<u>DUST</u>		<u>0-.99</u>	<u>0.7</u>	<u>10<sup>30</sup></u>	<u>10/26/93</u>			
MONITORING ACRONYMS								
PID	PHOTO - IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES			
FID	FLAME - IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION			
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT			
SCT	SCINTILLATION DETECTOR	RAD	RADIATION					
COMMENTS:			OTHER REPORTS		DATE/PENDING		N/A	
			WELL DEVELOPMENT		_____		_____	
			SURVEYOR		_____		_____	
			CORE LOG		_____		_____	
			WELL INSTALLATION DETAILS		_____		_____	
			HYDRAULIC TESTING		_____		_____	
			GEOPHYSICAL LOGGING		_____		_____	

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.				CLIENT: <b>ACOE</b>				BORING #: <b>MW16-2</b>					
MONITORING				COMMENTS				DRILLER: <b>Al+</b> INSPECTOR: <b>Afm</b> DATE: <b>10/26/93</b>					
INSTRUMENT	INTERVAL	BGD	TIME										
OUM	0-200	0.0	1050										
RAD	0-100	19.4	1035										
DUST	0-.99	0.7	1030	XO									
DEPTH (FT)	SAMPLING			SAMPLE			SAMPLE DESCRIPTION				USCS CLASS	STRATUM CLASS	
	BLOWS PER 6 INCHES	PENETRATION RANGE (FEET)	RECOVERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC	RAD	(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)					
1		0	0	-	-	100	0	0-0.3' Asphalt blk some oil residue 0.3'-2' Crushed shale red f-c shaly gravel-sized with f-m silt filler in interstices gray, dry				FI	
2		2'	1.7'					Gray shale weathered & fissile with little f-silt in interstices				W.	SHALE
3		↓	↓	-	-	00	0	some gravel to cobble size silt flags at base of zone, WET					
4		3.3	3.3					Spoon refusal @ 3.3' will Auger to refusal before setting well					
5		↓ Competent Shale						* Auger refusal 4.1'					
6								Spoon refusal @ 3.3' will Auger to refusal before setting well					
10								* Auger refusal 4.1'					
15													
20													

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.		CLIENT: <u>ACOE</u>				BORING NO.: <u>MW16-3</u>																																							
PROJECT: <u>10 SWMU EST</u>		LOCATION: <u>SEAD-16</u>				JOB NO.: <u>720477</u>																																							
						EST. GROUND ELEV.: <u>733.049</u>																																							
<b>DRILLING SUMMARY:</b>																																													
DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER		HAMMER		START DATE:	FINISH DATE:	CONTRACTOR:																																				
			SIZE	TYPE	TYPE	WT/FALL																																							
<u>HSA</u>	<u>8 1/2"</u>		<u>3" x 2"</u>	<u>SS</u>	<u>HMR</u>	<u>140/30"</u>	<u>10/26/93</u>	<u>10/26/93</u>	<u>Empire</u>																																				
									<u>Alan</u>																																				
									<u>fjm</u>																																				
<p>DRILLING ACRONYMS:</p> <table style="width: 100%; border: none;"> <tr> <td>HSA</td><td>HOLLOW-STEM AUGERS</td><td>HMR</td><td>HAMMER</td><td>SS</td><td>SPLIT SPOON</td></tr> <tr> <td>DW</td><td>DRIVE-AND-WASH</td><td>SHR</td><td>SAFETY HAMMER</td><td>CS</td><td>CONTINUOUS SAMPLING</td></tr> <tr> <td>MRS LC</td><td>MUD-ROTARY SOIL-CORING</td><td>HHR</td><td>HYDRAULIC HAMMER</td><td>SI</td><td>5 FT INTERVAL SAMPLING</td></tr> <tr> <td>CA</td><td>CASING ADVANCER</td><td>DHR</td><td>DOWN-HOLE HAMMER</td><td>NS</td><td>NO SAMPLING</td></tr> <tr> <td>SPC</td><td>SPIN CASING</td><td>WL</td><td>WIRE-LINE</td><td>ST</td><td>SHELBY TUBE</td></tr> <tr> <td></td><td></td><td></td><td></td><td>3S</td><td>3 INCH SPLIT SPOON</td></tr> </table>										HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON	DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING	MRS LC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING	CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING	SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE					3S	3 INCH SPLIT SPOON
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<b>MONITORING EQUIPMENT SUMMARY</b>																																													
INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER																																					
			READING	TIME	DATE	TIME	DATE																																						
<u>OVM</u>	<u>PID</u>	<u>0-200</u>	<u>0ppm</u>	<u>235</u>	<u>10/26/93</u>			<u>overcast</u>																																					
<u>RAJ</u>		<u>0-100</u>	<u>8 uR/h</u>	<u>238</u>	<u>10/26/93</u>			<u>"</u>																																					
<u>Dust</u>		<u>0-0.99</u>	<u>0.05</u>	<u>739</u>	<u>10/26/93</u>			<u>"</u>																																					
<p>MONITORING ACRONYMS</p> <table style="width: 100%; border: none;"> <tr> <td>PID</td><td>PHOTO - IONIZATION DETECTOR</td><td>BGD</td><td>BACKGROUND</td><td>DGRT</td><td>DRAEGER TUBES</td></tr> <tr> <td>FID</td><td>FLAME - IONIZATION DETECTOR</td><td>CPM</td><td>COUNTS PER MINUTE</td><td>PPB</td><td>PARTS PER BILLION</td></tr> <tr> <td>GMD</td><td>GEIGER MUELLER DETECTOR</td><td>PPM</td><td>PARTS PER MILLION</td><td>MDL</td><td>METHOD DETECTION LIMIT</td></tr> <tr> <td>SCT</td><td>SCINTILLATION DETECTOR</td><td>RAD</td><td>RADIATION</td><td></td><td></td></tr> </table>										PID	PHOTO - IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES	FID	FLAME - IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION	GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT	SCT	SCINTILLATION DETECTOR	RAD	RADIATION														
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COMMENTS:				OTHER REPORTS		DATE/PENDING		N/A																																					
				WELL DEVELOPMENT	_____	_____	_____																																						
				SURVEYOR	_____	_____	_____	_____																																					
				CORE LOG	_____	_____	_____	_____																																					
				WELL INSTALLATION DETAILS	_____	_____	_____	_____																																					
				HYDRAULIC TESTING	_____	_____	_____	_____																																					
				GEOPHYSICAL LOGGING	_____	_____	_____	_____																																					

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.				CLIENT: <u>ACOE</u>				BORING #: <u>MW16-3</u>					
MONITORING								COMMENTS:				DRILLER: <u>Empire Air</u>	
INSTRUMENT	INTERVAL	BGD	TIME									INSPECTOR: <u>Pfm/CS</u>	
<u>LVN</u>	<u>0-2000</u>	<u>0</u>	<u>2:35</u>									DATE: <u>10/26/93</u>	
<u>SAD</u>	<u>0-100</u>	<u>84.5</u>	<u>2:39</u>										
<u>DUST</u>	<u>0-0.99</u>	<u>0.05</u>	<u>2:39</u>										
DEPTH (FT)	SAMPLING			SAMPLE			SAMPLE DESCRIPTION				USCS CLASS	STRATUM CLASS	
	BLOWS PER 6 INCHES	PENE-TRATION RANGE (FEET)	RECOV-ERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC	RAD SCRIN	(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)					
1	12	0	0			3.5	→ Asphalt 0-0.3'						
	34	↓	↓	-	-	0	→ Brn f-sand SILT + clay - some f-m gravelly 0.3'-0.6'						
2	22	2'	1.5'			0	→ Gray weathered shale, silt + clay in (Road?) interstices - some coarse sand				Fill		
3	17	2'	2'			0	Gray weathered shale silt + clay in interstices (2-2.3')				Fill		
4	8	↓	↓	-	-	0	A Sand, f+ - m SAND Brown, with fine fragments wet 2.3-3'						
5	8	4'	3'			0	Brn-Gray SILT and CLAY with fine fragments f-c gravel wet				F. W. SHALE?		
6	100/3	4	4			0	Competent SHALE						
		↓	↓				Spoon refusal 4.4'						
		↓	↓				Auger refusal 5.0'						
10													
15													
20													



# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC. CLIENT: ACO BORING NO.: MW17-1

PROJECT: 10 SAWH  
 LOCATION: SEAD 17

JOB NO.: 726477  
 EST. GROUND ELEV.: 734.465  
 START DATE: 12-1-93  
 FINISH DATE: 12-1-93  
 CONTRACTOR: Empire  
 DRILLER: BOB JOHN  
 INSPECTOR: ES/LB  
 CHECKED BY: \_\_\_\_\_  
 CHECK DATE: \_\_\_\_\_

**DRILLING SUMMARY:**

DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER		HAMMER	
			SIZE	TYPE	TYPE	WT/FALL
HSA	8.5"		2'x3"	SS	HMR	140#/30"

**DRILLING ACRONYMS:**

HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING
MRSLC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE
				3S	3 INCH SPLIT SPOON

**MONITORING EQUIPMENT SUMMARY**

INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
OVM		0-2000	0		12/1/93			

**MONITORING ACRONYMS**

PID	PHOTO - IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES
FID	FLAME - IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT
SCT	SCINTILLATION DETECTOR	RAD	RADIATION		

**COMMENTS:**

**OTHER REPORTS**

**DATE/PENDING**

**N/A**

WELL DEVELOPMENT	_____	_____
SURVEYOR	_____	_____
CORE LOG	_____	_____
WELL INSTALLATION DETAILS	_____	_____
HYDRAULIC TESTING	_____	_____
GEOPHYSICAL LOGGING	_____	_____

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.			CLIENT: <u>ACOE</u>			BORING #: <u>MW17-1</u>				
MONITORING				COMMENTS				DRILLER: <u>Empire</u>		
INSTRUMENT	INTERVAL	BGD	TIME					INSPECTOR: <u>ES/LB</u>		
<u>OVM</u>	<u>0-2000</u>	<u>-</u>	<u>1110</u>					DATE: <u>12-1-93</u>		
<u>Dust</u>										
DEPTH (FT)	SAMPLING			SAMPLE			SAMPLE DESCRIPTION <small>(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)</small>	USCS CLASS	STRATUM CLASS	
	BLOWS PER 6 INCHES	PENE-TRATION RANGE (FEET)	RECOV-ERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC				RAD SCRIN
1	2 3 6	0	2	0	17-1.1	0	X	Topsoil Med. brown SILT, some little Clay, trace Shale (25" dia.), moist		
2	10	2		2				AA		
3	15 17	2	1.8	2	17-1.2	0	X	med. brown, ← Shale fragments (1-1.5" dia.) SILT, some Clay. little Shale fragments (5" dia.), moist.		
4	21	4		4				← 2" shale fragments (1.5" dia.)		
5	25 27 28 32	4	1.8					AA wet area at interface		
6	30	6						Med. brown fine SAND, some shale fragments (to 1" dia.), wet.		
7	100/2									
8		8								
								Augered to 8.5'		
10										
15										
20										

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.		CLIENT: <u>ACOF</u>		BORING NO.: <u>MW17-2</u>				
PROJECT: <u>10 SWMV ESI</u>		LOCATION: <u>SEAD-17</u>		JOB NO.: <u>720477</u>				
				EST. GROUND ELEV.: <u>731.649</u>				
				START DATE: <u>10/22/93</u>				
				FINISH DATE: _____				
				CONTRACTOR: <u>EMPIR</u>				
				DRILLER: <u>Lian</u>				
				INSPECTOR: <u>GM</u>				
				CHECKED BY: <u>PTM</u>				
				CHECK DATE: _____				
<b>DRILLING SUMMARY:</b>								
DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER		HAMMER			
			SIZE	TYPE	TYPE	WT/FALL		
<u>HSA</u>	<u>8 1/2"</u>		<u>5" x 2"</u>	<u>SS</u>	<u>HHR</u>	<u>30 FT</u>		
<b>DRILLING ACRONYMS:</b>								
HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON			
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING			
MRS LC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING			
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING			
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE			
				3S	3 INCH SPLIT SPOON			
<b>MONITORING EQUIPMENT SUMMARY</b>								
INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
<u>OV10</u>	<u>PID</u>	<u>0-2000</u>	<u>0</u>	<u>3<sup>20</sup></u>	<u>10/27/93</u>			
<u>RAD</u>		<u>0-100</u>	<u>17uR/h</u>	<u>3<sup>20</sup></u>	<u>10/27/93</u>			
<u>DUST</u>		<u>0-0.99</u>	<u>0.05</u>	<u>3<sup>20</sup></u>	<u>10/22/93</u>			
<u>OV10</u>	<u>PID</u>	<u>0-2000</u>	<u>0</u>	<u>0955</u>	<u>11/2/93</u>			
<u>RAD</u>		<u>0-100</u>	<u>20uR/h</u>	<u>0955</u>	<u>11/2/93</u>			
<u>DUST</u>		<u>0-0.99</u>	<u>2.25</u>	<u>0955</u>	<u>11/2/93</u>			
<b>MONITORING ACRONYMS</b>								
PID	PHOTO-IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES			
FID	FLAME-IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION			
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT			
SCT	SCINTILLATION DETECTOR	RAD	RADIATION					
<b>COMMENTS:</b>			<b>OTHER REPORTS</b>		<b>DATE/PENDING</b>	<b>N/A</b>		
			WELL DEVELOPMENT	_____	_____			
			SURVEYOR	_____	_____			
			CORE LOG	_____	_____			
			WELL INSTALLATION DETAILS	_____	_____			
			HYDRAULIC TESTING	_____	_____			
			GEOPHYSICAL LOGGING	_____	_____			

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.				CLIENT:				BORING #: MW17-2					
MONITORING				COMMENTS <del>Rad High</del>				DRILLER: Empire INSPECTOR: Jm DATE: 10/2/93					
INSTRUMENT	INTERVAL	BGD	TIME										
OUM	0-2000	0	370										
RAD	0-100	22/14	220										
DUST	0-0.99	0.05	230										
DEPTH (FT)	SAMPLING			SAMPLE			SAMPLE DESCRIPTION				USCS CLASS	STRATUM CLASS	
	BLOWS PER 6 INCHES	PENE-TRATION RANGE (FEET)	RECOV-ERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC	RAD	(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)					
1	6	0	0	0	MW 17-2.1	0	0	B's bin in fill 0-0.1' to B'n, SILT + clay with some fine sand, some oxidized zone.				T	T
2	7	2'	1.4'	1.4'	MW 17-2.2	0	0	2.0-2.5 fine silt + clay with some iron				Till	Till
3	8	2'	2	2	MW 17-2.2	0	0	2.5-3.7 Gray-Gin silt + clay w/ some T-sand.				Till	Till
4	27	4'	4'	4'				3.7-4.0 weathered silty GRAY sand					
5	59	4'	4'	4'				Spoon refusal 4.0'					
6	100/4	4'	4'	4'				Auger refusal 3.6' (can't Auger as far as spoons were driven)					
10								Augered to 6.0' (different drill rig) 11/2/93.					
15								Note: MW17-2.10 dup of MW17-2.2					
20								0.50 corrected on ...					

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC. CLIENT: ACOE BORING NO.: MW/7-3

PROJECT: D SWMU  
 LOCATION: SEAD 17

JOB NO.: 720477  
 EST. GROUND ELEV.: 730.188  
 START DATE: 11/30/93  
 FINISH DATE: 11/30/93  
 CONTRACTOR: Empire  
 DRILLER: John  
 INSPECTOR: ES/LB  
 CHECKED BY: \_\_\_\_\_  
 CHECK DATE: \_\_\_\_\_

**DRILLING SUMMARY:**

DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER		HAMMER	
			SIZE	TYPE	TYPE	WT/FALL
HSA	8'2"		2'x3"	SS	HMR	140# / 30"

**DRILLING ACRONYMS:**

HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING
MRS LC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE
				3S	3 INCH SPLIT SPOON

**MONITORING EQUIPMENT SUMMARY**

INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
OVM		0-2000	0	1345	11/30/93			
Dust		0-0.99	0.51	1345	11/30/93			

**MONITORING ACRONYMS**

PID	PHOTO-IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES
FID	FLAME-IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT
SCT	SCINTILLATION DETECTOR	RAD	RADIATION		

**COMMENTS:**

*frenied sand dry.*

**OTHER REPORTS**

WELL DEVELOPMENT	DATE/PENDING	N/A
SURVEYOR	_____	_____
CORE LOG	_____	_____
WELL INSTALLATION DETAILS	_____	_____
HYDRAULIC TESTING	_____	_____
GEOPHYSICAL LOGGING	_____	_____

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.				CLIENT: <u>ACOE</u>				BORING #: <u>MW17-3</u>			
MONITORING				COMMENTS				DRILLER: <u>Empire</u> INSPECTOR: <u>ES/LB</u> DATE: <u>11/30/93</u>			
INSTRUMENT	INTERVAL	BGD	TIME								
<u>OVM</u> <u>Dust</u>	<u>0-2000</u> <u>0-.99</u>	<u>0</u> <u>.51</u>	<u>1345</u> <u>1345</u>								
DEPTH (FT)	SAMPLING			SAMPLE			SAMPLE DESCRIPTION <small>(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)</small>	USCS CLASS	STRATUM CLASS		
	BLOWS PER 6 INCHES	PENETRATION RANGE (FEET)	RECOVERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC				RAD SCRN	
1	2 4 6	0	1.7	0	17- 3.1	0	X	Med. brown SAND, some silt, moist	Fill		
2	7 7	2	2.0	2	17- 3.2	0	X	Lt. brown SILT, some fine sand, few shale fragments, moist AA, wet			
3	19 36	2	2.0	2	17- 3.2	0	X	Gray. weathered shale, (fragments to 2" dia) dry			
4	67	4	.7	4	17- 3.3	0	X	AA, wet			
5	100/3	4	.7	4	17- 3.3	0	X	AA, wet			
6	6	6	6	6				Spoon refusal @ 4.8' Augered to 6.0'			
7											
8											
10											
15											
20											

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC. CLIENT: ACOE BORING NO.: MW 17-4

PROJECT: 10 SWMLL  
 LOCATION: SEAD 17

JOB NO.: 720477  
 EST. GROUND ELEV.: 732.453  
 START DATE: 11/30/93  
 FINISH DATE: 12/1/93  
 CONTRACTOR: Empire  
 DRILLER: John W.  
 INSPECTOR: ES/LB  
 CHECKED BY: \_\_\_\_\_  
 CHECK DATE: \_\_\_\_\_

**DRILLING SUMMARY:**

DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER		HAMMER	
			SIZE	TYPE	TYPE	WT/FALL
<u>HSA</u>	<u>8 1/2"</u>		<u>2' x 3"</u>	<u>SS</u>	<u>HMR</u>	<u>140# / 30"</u>

**DRILLING ACRONYMS:**

HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING
MRS LC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE
				3S	3 INCH SPLIT SPOON

**MONITORING EQUIPMENT SUMMARY**

INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
<u>OVM</u>		<u>0-2000</u>	<u>0</u>	<u>1520</u>	<u>11/30/93</u>			<u>partly cloudy cold</u>

**MONITORING ACRONYMS**

PID	PHOTO - IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES
FID	FLAME - IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT
SCT	SCINTILLATION DETECTOR	RAD	RADIATION		

**COMMENTS:**

*Dust meter has high readings.  
 Sawd from bit*

**OTHER REPORTS**

OTHER REPORTS	DATE/PENDING	N/A
WELL DEVELOPMENT	_____	_____
SURVEYOR	_____	_____
CORE LOG	_____	_____
WELL INSTALLATION DETAILS	_____	_____
HYDRAULIC TESTING	_____	_____
GEOPHYSICAL LOGGING	_____	_____

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.			CLIENT: <u>ACOE</u>			BORING #: <u>MW17-4</u>				
MONITORING				COMMENTS				DRILLER: <u>Empire</u>		
INSTRUMENT	INTERVAL	BGD	TIME					INSPECTOR: <u>ES/LB</u>		
<u>OVM</u>	<u>0-2000</u>	<u>0</u>						DATE: <u>11-30-93</u>		
<u>Dust</u>		<u>-</u>								
DEPTH (FT)	SAMPLING			SAMPLE			SAMPLE DESCRIPTION <small>(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)</small>	USCS CLASS	STRATUM CLASS	
	BLOWS PER 6 INCHES	PENE-TRATION RANGE (FEET)	RECOV-ERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC				RAD SCRIN
1	3 5 7	0		0 2'	13- 4.1	0	X	Med. brown SILT, some Clay, trace shale fragments, moist.		
2	7	2		2				AK, wet		
3	17 48 77	2		2 1.8'	13- 4.2		X	weathered shale, dry		
4	60 100/2	4		4				Spoon refusal at 4.0 Augered to 6.0'		
5										
6										
10										
15										
20										



# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: <u>ALOE</u>	BORING NO.: <u>S3 24-1</u>				
PROJECT: <u>SEAO</u>		JOB NO.: <u>720477</u> EST. GROUND ELEV.: <u>633.811</u> START DATE: <u>11/30/93</u> FINISH DATE: <u>12/1/93</u> CONTRACTOR: <u>Empire</u> DRILLER: <u>GOOT</u> INSPECTOR: <u>BH/MB</u> CHECKED BY: _____ CHECK DATE: _____				
LOCATION: <u>Romulus NY, S3 24</u>						
<b>DRILLING SUMMARY:</b>						
DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER SIZE	TYPE	HAMMER TYPE	WTFALL
HSA	8 1/2"		2' x 3"	SS	HMR	140# / 30"

**DRILLING ACRONYMS:**

HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING
MRS LC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE
				3S	3 INCH SPLIT SPOON

**MONITORING EQUIPMENT SUMMARY**

INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
OVM	P10	0-2000	0	1425	11/30/93			Sunny/cold
RAD		0-100	16-18	1425	11/30/93			
DUST		0-0.99	0	1425	11/30/93			
OVM			0	0950	12/1/93			
RAD			16-18	0950	12/1/93			
DUST			0	0950	12/1/93			

**MONITORING ACRONYMS**

PID	PHOTO - IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES
FID	FLAME - IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT
SCT	SCINTILLATION DETECTOR	RAD	RADIATION		

COMMENTS:	OTHER REPORTS	DATE/PENDING	N/A
	WELL DEVELOPMENT	_____	_____
	SURVEYOR	_____	_____
	CORE LOG	_____	_____
	WELL INSTALLATION DETAILS	_____	_____
	HYDRAULIC TESTING	_____	_____
	GEOPHYSICAL LOGGING	_____	_____

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.

CLIENT: **USALOE**

BORING #: **SB 24-1**

MONITORING			
INSTRUMENT	INTERVAL	BGD	TIME
OVM	0-2000	0	1425
RAD	0-100	16-18	1425
DUST	0-0.94	0	1425

COMMENTS

DRILLER: SWTT  
 INSPECTOR: OH/MCS  
 DATE: 11/30/93 - 12-1-93

DEPTH (FT)	SAMPLING			SAMPLE			USCS CLASS	STRATUM CLASS
	BLOWS PER 6 INCHES	PENE-TRATION RANGE (FEET)	RECOV-ERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC		

SAMPLE DESCRIPTION								
(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)								
1	2	0		0	24-1.1			Organic material knots Sand
1	5				1.1			
	5	2	2		24-1.7	0	X	
2	8			2	1.7			Sandy clay few small rocks
	15	2		2	1.7			few Oxidation spots
3	15		2.1		24-1.2	0	X	
	23				1.2			more rocks sand moist
4	23	4		4				
	18	4		4	24-			
5	24		2			0	X	
	32				1.3			wet
6	44	6		6				
	100	6						
7	120/6		.2	-	-	0	X	
								Rocks broken shale sand
8	18	8		8	24			
	32		2		1.4	0	X	
9	45							
	72	10		10				
10	18	10		10	24			
	38		1.8					gravel + shale
11	60				1.5	0	X	
	100/2	12		12				water level 12'
12	41	12		12	24			
	84		1.1					
13	100/2				1.6	0	X	
		14		14				Auger refusal AT 13.8'
14								
15								
16								

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC. CLIENT: USACOE BORING NO.: 24-2.1

PROJECT: SEAD 24-10 SWMU  
 LOCATION: Romulus NY

JOB NO.: 720477-01001  
 EST. GROUND ELEV.: 1633.307  
 START DATE: 12-1-93  
 FINISH DATE: 12-1-93  
 CONTRACTOR: Empire  
 DRILLER: Jeff  
 INSPECTOR: BH/MSB  
 CHECKED BY: \_\_\_\_\_  
 CHECK DATE: \_\_\_\_\_

**DRILLING SUMMARY:**

DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER		HAMMER	
			SIZE	TYPE	TYPE	WT/FALL
HSA	8 1/2"		2'x3"	SS	HMR	140# / 30"

**DRILLING ACRONYMS:**

HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING
MRSLC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	5I	5 FT INTERVAL SAMPLING
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE
				3S	3 INCH SPLIT SPOON

**MONITORING EQUIPMENT SUMMARY**

INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
OUM	PID	0-200.0	0	1255	12-1-93			Sunny/Cold
Rad		0-100	15-17	1255	12-1-93			
DUST		0.99	0	1255	12-1-93			
OUM			0	1435	12-1-93			
<del>RAD</del>			15-17	1435	12-1-93			
DUST			0	1435	12-1-93			

**MONITORING ACRONYMS**

PID	PHOTO - IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES
FID	FLAME - IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT
SCT	SCINTILLATION DETECTOR	RAD	RADIATION		

COMMENTS:	OTHER REPORTS	DATE/PENDING	N/A
	WELL DEVELOPMENT	_____	_____
	SURVEYOR	_____	_____
	CORE LOG	_____	_____
	WELL INSTALLATION DETAILS	_____	_____
	HYDRAULIC TESTING	_____	_____
	GEOPHYSICAL LOGGING	_____	_____

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.				CLIENT: <b>USACOE</b>				BORING #: <b>8824-2</b>				
MONITORING							COMMENTS				DRILLER: <u>SCOTT</u>	
INSTRUMENT	INTERVAL	BGD	TIME	INSPECTOR: <u>BH MCB</u>								
CUM	0-2000	0	1255	DATE: <u>12-1-93</u>								
QAD	0-100	15-17	1255									
QVST	0-0.99	0	1255									
DEPTH (FT)	SAMPLING			SAMPLE			SAMPLE DESCRIPTION <small>(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)</small>	USCS CLASS	STRATUM CLASS			
	BLOWS PER 6 INCHES	PENE-TRATION RANGE (FEET)	RECOV-ERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC				RAD SCRIN		
1	1	0		0	24		ORGANICS, ROOTS SILTY Clay SAND					
1	3			1.5	2.1	0	X	Sand clay				
	6											
2	5	2		2				WET AREA				
	6	2		2	24							
3	12			2	2.2	0	X	Var-colored clay				
	15											
4	17	4		4				wet				
	17	4										
5	17			0.1	-	-	0	X				
	22											
6	26	6		6	24			Clay Sand Rock shale				
	19	6										
7	35			2.3	8	2.3	0	X				
	44											
8	100/4	8		8				water level 10'				
	30	8		9								
9	100/4			.9	-	-	0	X				
10		10		10	24			Gray Rockly, shale				
	22	10		10	24							
11	100/4			.6	-	-	0	X				
12		12		12	24			SPT Spow Refuse 13.2'				
	12	12		12	24							
13	80			1.1	2.4	0	X					
	100/2											
14												
15												
20												

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: <u>USAEOE</u>	BORING NO.: <sup>93</sup> <u>24-3,1</u>
PROJECT: <u>SEAD 24 - 10SWMU</u>		JOB NO.: <u>720477-01001</u>
LOCATION: <u>Romulus NY SEAD 24</u>		

DRILLING SUMMARY:						
DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER		HAMMER	
			SIZE	TYPE	TYPE	WT#ALL
<u>HSA</u>	<u>8 1/2"</u>		<u>2'x3"</u>	<u>SS</u>	<u>HMR</u>	<u>Mo #/30"</u>

EST. GROUND ELEV.: 629.543

START DATE: 12-2-93

FINISH DATE: 12-2-93

CONTRACTOR: Engines

DRILLER: SCOTT

INSPECTOR: BH/mcs

CHECKED BY: \_\_\_\_\_

CHECK DATE: \_\_\_\_\_

**DRILLING ACRONYMS:**

HSA HOLLOW-STEM AUGERS	HMR HAMMER	SS SPLIT SPOON
DW DRIVE-AND-WASH	SHR SAFETY HAMMER	CS CONTINUOUS SAMPLING
MRLSC MUD-ROTARY SOIL-CORING	HHR HYDRAULIC HAMMER	SI 5 FT INTERVAL SAMPLING
CA CASING ADVANCER	DHR DOWN-HOLE HAMMER	NS NO SAMPLING
SPC SPIN CASING	WL WIRE-LINE	ST SHELBY TUBE
		3S 3 INCH SPLIT SPOON

**MONITORING EQUIPMENT SUMMARY**

INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
<u>OUM</u>	<u>PID</u>	<u>0-2000</u>	<u>0</u>	<u>1420</u>	<u>12-2-93</u>			<u>Pcloudy, cold</u>
<u>RAD</u>		<u>0-100</u>	<u>15-17</u>	<u>1420</u>	<u>12-2-93</u>			
<u>DUST</u>		<u>0-0.99</u>	<u>0</u>	<u>1420</u>	<u>12-2-93</u>			
<u>OUM</u>			<u>0</u>	<u>1515</u>	<u>12-2-93</u>			
<u>RAD</u>			<u>15-17</u>	<u>1515</u>	<u>12-2-93</u>			
<u>DUST</u>			<u>0</u>	<u>1515</u>	<u>12-2-93</u>			

**MONITORING ACRONYMS**

PID PHOTO-IONIZATION DETECTOR	BGD BACKGROUND	DGRT DRAEGER TUBES
FID FLAME-IONIZATION DETECTOR	CPM COUNTS PER MINUTE	PPB PARTS PER BILLION
GMD GEIGER MUELLER DETECTOR	PPM PARTS PER MILLION	MDL METHOD DETECTION LIMIT
SCT SCINTILLATION DETECTOR	RAD RADIATION	

COMMENTS:	OTHER REPORTS	DATE/PENDING	N/A
	WELL DEVELOPMENT	_____	_____
	SURVEYOR	_____	_____
	CORE LOG	_____	_____
	WELL INSTALLATION DETAILS	_____	_____
	HYDRAULIC TESTING	_____	_____
	GEOPHYSICAL LOGGING	_____	_____

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.      CLIENT: **USAEOE**      BORING #: **24-8, 1**

MONITORING				COMMENTS
INSTRUMENT	INTERVAL	BGD	TIME	
DJM	0-2000	0	1420	
RAD	0-100	15-17	1420	
QUSF	0-.35	0	1420	

DRILLER: SCOTT  
INSPECTOR: BH/mg  
DATE: 12-2-93

DEPTH (FT)	SAMPLING			SAMPLE			RAD SCR	SAMPLE DESCRIPTION <small>(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)</small>	USCS CLASS	STRATUM CLASS
	BLOWS PER 6 INCHES	PENE-TRATION RANGE (FEET)	RECOV-ERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC				
	2	0		0	14			<i>organic material small</i> Sand clay reddish		
1	6		1.9	2	3.1	0	X			
1420	2	2						↓		
	7			2	24	0	X	Rocks Loose shale		
3	8		1.5	4	3.2					
1430	4	4		4	24			more shale, rocks, sandy clay		
	8		2.0	6	3.3	0	X			
1435	5	6		6	24			<i>gause shale, sand</i>		
	12		2.3	8	3.4	0	X			
1500	4	6		8	24			Red rock, shale, rust colored sand		
	15		1.4	10	3.5	0	X			
1510	7	8						Split Spoon refusal 10.1'		
	60									
	8	8								
	27									
	60									
	27									
	74									
	100/13	10								
	1560									
	100/11									
12										
13										
14										
15										
20										

# OVERBURDEN BORING REPORT

<b>ENGINEERING-SCIENCE, INC.</b>	<b>CLIENT:</b> <u>US ACOE</u>	<b>BORING NO.:</b> <u>24-4.1</u>					
<b>PROJECT:</b> <u>SEAD</u>		<b>JOB NO.:</b> <u>720477-01001</u>					
<b>LOCATION:</b> <u>Romulus, NY</u>							
<b>DRILLING SUMMARY:</b>		<b>EST. GROUND ELEV.:</b> <u>631.092</u>					
<b>DRILLING METHOD</b>	<b>HOLE DIA.</b>	<b>DEPTH INT.</b>	<b>SAMPLER SIZE</b>	<b>SAMPLER TYPE</b>	<b>HAMMER TYPE</b>	<b>HAMMER WTR/FALL</b>	<b>START DATE:</b> <u>12-1-93</u>
<u>H&amp;A</u>	<u>8 1/2"</u>		<u>2' x 3"</u>	<u>SS</u>	<u>HMR</u>	<u>140 # / 30"</u>	<b>FINISH DATE:</b> <u>12-2-93</u>
							<b>CONTRACTOR:</b> <u>Empire</u>
							<b>DRILLER:</b> <u>Jett/Suit</u>
							<b>INSPECTOR:</b> <u>BH/mgs</u>
							<b>CHECKED BY:</b> _____
							<b>CHECK DATE:</b> _____

**DRILLING ACRONYMS:**

HSA HOLLOW-STEM AUGERS	HMR HAMMER	SS SPLIT SPOON
DW DRIVE-AND-WASH	SHR SAFETY HAMMER	CS CONTINUOUS SAMPLING
MRS LC MUD-ROTARY SOIL-CORING	HHR HYDRAULIC HAMMER	SI 5 FT INTERVAL SAMPLING
CA CASING ADVANCER	DHR DOWN-HOLE HAMMER	NS NO SAMPLING
SPC SPIN CASING	WL WIRE-LINE	ST SHELBY TUBE
		3S 3 INCH SPLIT SPOON

**MONITORING EQUIPMENT SUMMARY**

INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
<u>OVM</u>	<u>PiD</u>	<u>0-2000</u>	<u>0</u>	<u>1550</u>	<u>12-1-93</u>			<u>Sunny cold</u>
<u>RAD</u>		<u>0-100</u>	<u>14-17</u>	<u>1550</u>	<u>12-1-93</u>			
<u>DUST</u>		<u>0-35</u>	<u>0</u>	<u>1550</u>	<u>12-1-93</u>			
<u>OVM</u>			<u>0</u>	<u>0855</u>	<u>12-2-93</u>			<u>Cloudy/cold</u>
<u>RAD</u>			<u>15-17</u>	<u>0855</u>	<u>12-2-93</u>			
<u>DUST</u>			<u>0</u>	<u>0855</u>	<u>12-2-93</u>			

**MONITORING ACRONYMS**

PID PHOTO-IONIZATION DETECTOR	BGD BACKGROUND	DGRT DRAEGER TUBES
FID FLAME-IONIZATION DETECTOR	CPM COUNTS PER MINUTE	PPB PARTS PER BILLION
GMD GEIGER MUELLER DETECTOR	PPM PARTS PER MILLION	MDL METHOD DETECTION LIMIT
SCT SCINTILLATION DETECTOR	RAD RADIATION	

<b>COMMENTS:</b>	<b>OTHER REPORTS</b>	<b>DATE/PENDING</b>	<b>N/A</b>
	WELL DEVELOPMENT	_____	_____
	SURVEYOR	_____	_____
	CORE LOG	_____	_____
	WELL INSTALLATION DETAILS	_____	_____
	HYDRAULIC TESTING	_____	_____
	GEOPHYSICAL LOGGING	_____	_____

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.			CLIENT: <b>USALOE</b>		BORING #: <b>9324-Y</b>		
MONITORING				COMMENTS:		DRILLER: <u>SCOTT</u> INSPECTOR: <u>DH/MCJ</u> DATE: <u>12-1-93 - 12-2-93</u>	
INSTRUMENT	INTERVAL	BGD	TIME				
DVM	0-2000	0	1550				
RAD	0-100	14-17	1550				
DST	0-999	0	1550				

DEPTH (FT)	SAMPLING			SAMPLE			SAMPLE DESCRIPTION <small>(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)</small>	USCS CLASS	STRATUM CLASS
	BLOWS PER 6 INCHES	PENE-TRATION RANGE (FEET)	RECOV-ERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC			
1	1	0		0	24		Organic material, rocks, worms sand clay		
1	2						Sand, clay, Gravel Very wet		
	5		1.4		4.1	0 X			
	8	2		2	24				
2	8	2		2	24				
	10		1.7			0 X			
3	30			4	4.2				
	30	4		4	24				
4	22	4		4	24		Small Rocks clay sand Some shale		
	24		1.9			0 X			
	28	6		6	4.3				
6	30	6		6	24				
	60	6		6	24				
7	54		2.3			0 X			
	56			8	4.4				
8	60	8		8	24				
	28	8		8	24				
9	45		1.1			0 X	more shale clay sand		
	45			10	4.5				
10	50	10		10	21		water level 10'		
	26	10		12	4.4				
11	32		1.9			0 X			
	36			12	24				
12	60	12		12	24				
	60	12		14	4.7				
13	75		1.7			0 X	dnt shale split spore refusal 13.4'		
	100/1			14					
14		14		14					
15									



# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.		CLIENT: <u>USAGE</u>			BORING NO.: <u>SB24-5.1</u>	
PROJECT: <u>SEAD</u>		JOB NO.: <u>726477-01001</u>			AW24-1	
LOCATION: <u>Romulus NY</u>		EST. GROUND ELEV.: <u>635.374</u>			START DATE: <u>12-1-93</u>	
		FINISH DATE: <u>12-1-93</u>			CONTRACTOR: <u>Empire</u>	
		DRILLER: <u>SCOTT</u>			INSPECTOR: <u>BH. INC</u>	
		CHECKED BY: _____			CHECK DATE: _____	

**DRILLING SUMMARY:**

DRILLING METHOD	HOLE DIA	DEPTH INT	SAMPLER		HAMMER	
			SIZE	TYPE	TYPE	WT/FALL
USA	8 1/2"		2' x 3"	SS	HMR	140# 30"

**DRILLING ACRONYMS:**

HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING
MRS LC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE
				3S	3 INCH SPLIT SPOON

**MONITORING EQUIPMENT SUMMARY**

INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
OVM	PID	0-2000	0	1032	12-1-93			Sunny/cold
RAD		0-100	16-18	1032	12-1-93			
DUST		0-0.99	0	1032	12-1-93			
OVM			0	1115	12-1-93			
RAD			16-18	1115	12-1-93			
DUST			0	1115	12-1-93			

**MONITORING ACRONYMS**

PID	PHOTO - IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES
FID	FLAME - IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT
SCT	SCINTILLATION DETECTOR	RAD	RADIATION		

<p><b>COMMENTS:</b></p>	<table style="width: 100%;"> <tr> <th style="text-align: left;">OTHER REPORTS</th> <th style="text-align: left;">DATE/PENDING</th> <th style="text-align: left;">N/A</th> </tr> <tr> <td>WELL DEVELOPMENT</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>SURVEYOR</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>CORE LOG</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>WELL INSTALLATION DETAILS</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>HYDRAULIC TESTING</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>GEOPHYSICAL LOGGING</td> <td>_____</td> <td>_____</td> </tr> </table>	OTHER REPORTS	DATE/PENDING	N/A	WELL DEVELOPMENT	_____	_____	SURVEYOR	_____	_____	CORE LOG	_____	_____	WELL INSTALLATION DETAILS	_____	_____	HYDRAULIC TESTING	_____	_____	GEOPHYSICAL LOGGING	_____	_____
OTHER REPORTS	DATE/PENDING	N/A																				
WELL DEVELOPMENT	_____	_____																				
SURVEYOR	_____	_____																				
CORE LOG	_____	_____																				
WELL INSTALLATION DETAILS	_____	_____																				
HYDRAULIC TESTING	_____	_____																				
GEOPHYSICAL LOGGING	_____	_____																				

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC. CLIENT: ACOE BORING #: 24-5

MONITORING				COMMENTS
INSTRUMENT	INTERVAL	BGD	TIME	
DVM	0-2000	0	1110	
RAD	0-100	16-18	1110	
DUST	0-0.99	0	1110	

DRILLER: Scott  
INSPECTOR: BH/mcs  
DATE: 12-1-93

DEPTH (FT)	SAMPLING			SAMPLE				SAMPLE DESCRIPTION <small>(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)</small>	USCS CLASS	STRATUM CLASS
	BLOWS PER 6 INCHES	PENE-TRATION RANGE (FEET)	RECOV-ERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC	RAD SCRIN			
1	1	0		0	24			ORGANIC material, roots sand		
1	2		1.8		5.1	0	X	Sand small, rocks, clay, moist		
	6									
2	6	2		2	24					
	8									
3	9		2.3		5.2	0	X	Very soft sand shale oxidized metal object		
	10									
4	14	4		4	24			Small rocks, little shale		
	18									
5	21		2.0		5.3	0	X			
	23									
6	25	6		6	24					
	26									
7	22		2.3			0	X	lots of shale clay rocks		
	18									
8	14	8		8	24			water level 8.5 feet		
	70									
9	100 1/3		.9			0	X	Anvil refusal 10'		
10		10		10	55					

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC. CLIENT: ACOE BORING NO.: MW24-2

PROJECT: 10 SWMU  
 LOCATION: SEAD-11  
 JOB NO.: 720477-01001  
 EST. GROUND ELEV.: 629.856

DRILLING SUMMARY:						
DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER		HAMMER	
			SIZE	TYPE	TYPE	WT./FALL
HSA	8 1/2"		3" x 2'	SS	HMR	140# / 30"

START DATE: 11/5/93  
 FINISH DATE: 11/6/93  
 CONTRACTOR: Empic  
 DRILLER: AI  
 INSPECTOR: ES/LB  
 CHECKED BY: \_\_\_\_\_  
 CHECK DATE: \_\_\_\_\_

DRILLING ACRONYMS:

HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING
MRSLC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE
				3S	3 INCH SPLIT SPOON

MONITORING EQUIPMENT SUMMARY

INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
<u>OVM</u>	<u>PID</u>	<u>0-2000</u>	<u>0-26</u>	<u>13:10</u>	<u>11/5/93</u>			
<u>Rad</u>		<u>0-100</u>	<u>13.9-19</u>	<u>13:10</u>	<u>11/5/93</u>			
<u>Dust</u>		<u>0-0.99</u>	<u>0</u>	<u>13:10</u>	<u>11/5/93</u>			

MONITORING ACRONYMS

PID	PHOTO - IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES
FID	FLAME - IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT
SCT	SCINTILLATION DETECTOR	RAD	RADIATION		

COMMENTS:	OTHER REPORTS	DATE/PENDING	N/A
	WELL DEVELOPMENT	_____	_____
	SURVEYOR	_____	_____
	CORE LOG	_____	_____
	WELL INSTALLATION DETAILS	_____	_____
	HYDRAULIC TESTING	_____	_____
	GEOPHYSICAL LOGGING	_____	_____

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.				CLIENT: <u>ACOE</u>				BORING #: <u>MW24-2</u>			
MONITORING				COMMENTS				DRILLER: <u>Empire / AI</u> INSPECTOR: <u>ES / LB</u> DATE: <u>11/5/93</u>			
INSTRUMENT	INTERVAL	BGD	TIME								
<u>QVM</u>	<u>0-2000</u>	<u>0-26</u>	<u>1310</u>								
<u>Rsd</u>	<u>0-100</u>	<u>13.9-19</u>	<u>1310</u>								
<u>Dust</u>	<u>0-0.99</u>	<u>0</u>	<u>1310</u>								
DEPTH (FT)	SAMPLING			SAMPLE				SAMPLE DESCRIPTION <small>(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)</small>	USCS CLASS	STRATUM CLASS	
	BLOWS PER 6 INCHES	PENE-TRATION RANGE (FEET)	RECOV-ERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC	RAD SCRN				
1	1	0						.6' topsoil			
1	4		1.6	-	-	0	20	Lt. brown SILT, little Clay, little Shale frags (2.5-5") moist.			
	8										
	17	2									
2	11	2									
	14		1.9	-	-	0	24	Lt. brown - green. gray SILT, little Clay, little Shale fragments, (rounded) and cobbles (rounded), moist - dense.		till?	
3	27										
	27	4									
4	20	4						AA, little cobbles and shale fragments (1.5" dia.), moist, dense			
	39		1.9	-	-	0	12				
5	49										
	100/4	6								till	
6	76	6	1.0								
	120										
7			NR	-	-	0	125				
		8						Lt. brown fine SAND, little silt, little shale fragments, moist, dense		till	
8	88	8	1.3	-	-	0	12	Gray SILT, some shale fragments (.25-1" dia.), little silt, moist - dense		till	
	120										
9		10	NR								
	92	10									
10	130		NR								
								weathered shale		weath. shale	
11		12									
	100/1	12						Spoon refusal @ 12.0			
12								Augered to 16.0'			
		14						Note: Driller put down 2 1/2" spoon & recovered rock flour.			
13	100/1										
14											
15											
16											
17											
18											
19											
20											

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: <u>ACOE</u>	BORING NO.: <u>MW24-3</u>																																														
PROJECT: <u>10 SWMU</u>		JOB NO.: <u>720477-01001</u>																																														
LOCATION: <u>SEAD. 24</u>																																																
<b>DRILLING SUMMARY:</b> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <thead> <tr> <th rowspan="2">DRILLING METHOD</th> <th rowspan="2">HOLE DIA.</th> <th rowspan="2">DEPTH INT.</th> <th colspan="2">SAMPLER</th> <th colspan="2">HAMMER</th> </tr> <tr> <th>SIZE</th> <th>TYPE</th> <th>TYPE</th> <th>WT/FALL</th> </tr> </thead> <tbody> <tr> <td>HSA</td> <td>8 1/2"</td> <td></td> <td>2' x 3"</td> <td>SS</td> <td>HMR</td> <td>140# / 30"</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>			DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER		HAMMER		SIZE	TYPE	TYPE	WT/FALL	HSA	8 1/2"		2' x 3"	SS	HMR	140# / 30"																												
DRILLING METHOD	HOLE DIA.	DEPTH INT.				SAMPLER		HAMMER																																								
			SIZE	TYPE	TYPE	WT/FALL																																										
HSA	8 1/2"		2' x 3"	SS	HMR	140# / 30"																																										
EST. GROUND ELEV.: <u>629.080</u>																																																
START DATE: <u>11/6/93</u>																																																
FINISH DATE: <u>11/6/93</u>																																																
CONTRACTOR: <u>Empire</u>																																																
DRILLER: <u>AI</u>																																																
INSPECTOR: <u>ES/LB</u>																																																
CHECKED BY: _____																																																
CHECK DATE: _____																																																

**DRILLING ACRONYMS:**

HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING
MRS LC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE
				3S	3 INCH SPLIT SPOON

**MONITORING EQUIPMENT SUMMARY**

INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
Ovm	PID	0-2000	0	1110	11/6/93			cloudy, cool
Rad		0-100	15-17	1110	11/6/93			
Dust		0-0.99	0	1110	11/6/93			
Ovm			0	1320	11/6/93			
Rad			13-22	1320	11/6/93			
Dust			.04	1320	11/6/93			

**MONITORING ACRONYMS**

PID	PHOTO - IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES
FID	FLAME - IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT
SCT	SCINTILLATION DETECTOR	RAD	RADIATION		

<b>COMMENTS:</b>  	<b>OTHER REPORTS</b> WELL DEVELOPMENT _____ SURVEYOR _____ CORE LOG _____ WELL INSTALLATION DETAILS _____ HYDRAULIC TESTING _____ GEOPHYSICAL LOGGING _____	DATE/PENDING _____ _____ _____ _____ _____	N/A _____ _____ _____ _____ _____
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# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.				CLIENT: <u>ACOE</u>				BORING #: <u>MW24-3</u>			
MONITORING				COMMENTS				DRILLER: <u>Empire/AI</u> INSPECTOR: <u>ES/LB</u> DATE: <u>11/6/93</u>			
INSTRUMENT	INTERVAL	BGD	TIME								
<u>OVM</u>	<u>0-2000</u>	<u>0</u>	<u>1110</u>								
<u>Rad</u>	<u>0-100</u>	<u>15-17</u>	<u>1110</u>								
<u>Dust</u>	<u>0-0.99</u>	<u>0</u>	<u>1110</u>								
DEPTH (FT)	SAMPLING			SAMPLE			SAMPLE DESCRIPTION <small>(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)</small>	USCS CLASS	STRATUM CLASS		
	BLOWS PER 6 INCHES	PENE-TRATION RANGE (FEET)	RECOV-ERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC				RAD SCRIN	
1	3	0					topsoil, roots, med brown silt and CLAY				
	11		1.7	-	-	0	22				
	21										
2	34	2							till?		
	21	2									
	24		1.6	-	-	0	15				
3	79										
	107.2	4									
4	59	4									
	36		1.8	-	-	0	18				
	67										
6	58	6									
	80	6									
7	91		1.4	-	-	X	Y				
	110										
8	110	8									
	88	8									
	107.4		1.4	-	-	0	16				
9											
		10									
10	107.3	10									
			0.7	-	-	0	27.2				
11											
		12									
12	27	12	1.0	-	-	0	21				
	100/3										
13											
		14									
14	100/1										
15											
16											
17											
20											

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC. CLIENT: USA COE BORING NO.: 25-1

PROJECT: SEAD - 10SWMU  
 LOCATION: Romulus NY SEAD-25

JOB NO.: 720477-01001  
 EST. GROUND ELEV.: 743.504  
 START DATE: 12-3-93  
 FINISH DATE: 12-3-93  
 CONTRACTOR: EMPIRE  
 DRILLER: SCOTT  
 INSPECTOR: BH/MS  
 CHECKED BY: \_\_\_\_\_  
 CHECK DATE: \_\_\_\_\_

**DRILLING SUMMARY:**

DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER		HAMMER	
			SIZE	TYPE	TYPE	WT/FALL
HSA	8 1/2"		2' X 3"	SS	HMR	140# / 30"

**DRILLING ACRONYMS:**

HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING
MRLC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE
				3S	3 INCH SPLIT SPOON

**MONITORING EQUIPMENT SUMMARY**

INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
GM		0-2000	0	1415	12-3-93			Partly cloudy
RAO		0-100	14-16	1415	12-3-93			
DUST		0.99	0	1415	12-3-93			
GM			0	1440	12-3-93			
RAO			14-16	1440	12-3-93			
DUST			0	1440	12-3-93			

**MONITORING ACRONYMS**

PID	PHOTO - IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES
FID	FLAME - IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT
SCT	SCINTILLATION DETECTOR	RAD	RADIATION		

COMMENTS	OTHER REPORTS	DATE/PENDING	N/A
	WELL DEVELOPMENT	_____	_____
	SURVEYOR	_____	_____
	CORE LOG	_____	_____
	WELL INSTALLATION DETAILS	_____	_____
	HYDRAULIC TESTING	_____	_____
	GEOPHYSICAL LOGGING	_____	_____

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.		CLIENT: <u>Acob</u>		BORING #: <u>SB</u> <del>ATD</del> <u>25-1</u>		
MONITORING				COMMENTS		
INSTRUMENT	INTERVAL	BGD	TIME			DRILLER: <u>Scott</u>
<u>OVM</u>	<u>0-2000</u>	<u>0</u>	<u>1415</u>			INSPECTOR: <u>BH/mcs</u>
<u>RAD</u>	<u>0-100</u>	<u>14-16</u>	<u>1415</u>			DATE: <u>12-3-93</u>
<u>QST</u>	<u>0-0.99</u>	<u>0</u>	<u>1415</u>			

DEPTH (FT)	SAMPLING			SAMPLE			SAMPLE DESCRIPTION <small>(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)</small>	USCS CLASS	STRATUM CLASS
	BLOWS PER 6 INCHES	PENE-TRATION RANGE (FEET)	RECOV-ERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC			
1	8	0		0	25		surface gravel, sand, blacked sand w/ <del>petroleum</del> petroleum smell		
	10		1.0	-	10	0 X			
2	10						Sandy, Clay, some oxidation		
	16	2		2					
3	6	2		2	25		pieces of shale		
	12		1.2	-	10	0 X			
4	14								
	20	4		4					
5	27	4		4	25				
	45		1.9			0 X			
6	60						dry sand + shale		
	60	6		6					
7	45				25		split spoon refusal 7.1 feet		
	95		1.7			0 X			
8	100/11	(7.1)							
		8	1.1	8	1.4				
9									
10									



# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: <u>ACOE</u>	BORING NO.: <u>SB25-2</u>				
PROJECT: <u>10 SWMU</u>		JOB NO.: <u>720477-01001</u>				
LOCATION: <u>SEAD 25</u>						
<b>DRILLING SUMMARY:</b>						
DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER		HAMMER	
			SIZE	TYPE	TYPE	WT/FALL
<u>HSA</u>	<u>8 1/2"</u>		<u>3"x2'</u>	<u>SS</u>	<u>Hme</u>	<u>140/30#</u>

EST. GROUND ELEV.:	<u>743.692</u>
START DATE:	<u>12-3-93</u>
FINISH DATE:	<u>12-3-93</u>
CONTRACTOR:	<u>Empire</u>
DRILLER:	<u>John W</u>
INSPECTOR:	<u>ES/LB</u>
CHECKED BY:	_____
CHECK DATE:	_____

**DRILLING ACRONYMS:**

HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING
MRS LC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE
				3S	3 INCH SPLIT SPOON

**MONITORING EQUIPMENT SUMMARY**

INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
<u>OMM</u>			<u>0-0.7</u>	<u>1250</u>	<u>12-3-93</u>			

**MONITORING ACRONYMS**

PID	PHOTO - IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES
FID	FLAME - IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT
SCT	SCINTILLATION DETECTOR	RAD	RADIATION		

COMMENTS:	<b>OTHER REPORTS</b>	DATE/PENDING	N/A
	WELL DEVELOPMENT	_____	_____
	SURVEYOR	_____	_____
	CORE LOG	_____	_____
	WELL INSTALLATION DETAILS	_____	_____
	HYDRAULIC TESTING	_____	_____
GEOPHYSICAL LOGGING	_____	_____	_____

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.      CLIENT: ACOE      BORING #: SB25-2

MONITORING			
INSTRUMENT	INTERVAL	BGD	TIME
<u>OVH</u>	<u>0-2000</u>	<u>0-0.7</u>	<u>1250</u>

COMMENTS

DRILLER: Empire  
 INSPECTOR: ES/LB  
 DATE: 12/3/93

DEPTH (FT)	SAMPLING			SAMPLE			RAD SCR	SAMPLE DESCRIPTION <small>(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)</small>	USCS CLASS	STRATUM CLASS
	BLOWS PER 6 INCHES	PENE-TRATION RANGE (FEET)	RECOV-ERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC				
1	10	0	1.4	0	25	0	X	Gray weathered Shale fill, gray SILT, and some shale fragments		
	15			25	21					
	11			25	24					
2	10	2	1.6	2	25	19	X	Gray SILT and CLAY, some cobbles (.25 to 1.0" dia.) moist		
	11			22						
3	20	4		4	25			Lt. brown SILT, some clay, little shale fragments, moist, heavy petroleum odor.		
	22									
4	17	5.1	1.0	4	25					
	34									
5	100/0.1			6	125		X	Spoon refusal at 5.1'		
6										

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: <u>USALOB</u>	BORING NO.: <u>825-3</u>
PROJECT: <u>SEAD 10 SWMA</u>		JOB NO.: <u>720477-01001</u>
LOCATION: <u>Romulus, NY, SEAN 25</u>		

DRILLING SUMMARY:						
DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER		HAMMER	
			SIZE	TYPE	TYPE	WT/FALL
HSA	8 1/2"		2' x 3"	SS	HMR	140# / 30"

EST. GROUND ELEV.:	<u>743.805</u>
START DATE:	<u>12-3-93</u>
FINISH DATE:	<u>12-3-93</u>
CONTRACTOR:	<u>Empire</u>
DRILLER:	<u>Jeff</u>
INSPECTOR:	_____
CHECKED BY:	_____
CHECK DATE:	_____

**DRILLING ACRONYMS:**

HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING
MRS LC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE
				3S	3 INCH SPLIT SPOON

MONITORING EQUIPMENT SUMMARY								
INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
OVM	PID	0-2000	0	1004	12-3-93			P, cloudy, cool
RAO		0-100	12-16	1004	12-3-93			
DUST		0-0.99	0	1004	12-3-93			
OVM			0	1020	12-3-93			
RAO			14-16	1020	12-3-93			
DUST			0	1020	12-3-93			

**MONITORING ACRONYMS**

PID	PHOTO - IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES
FID	FLAME - IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT
SCT	SCINTILLATION DETECTOR	RAD	RADIATION		

COMMENTS:	OTHER REPORTS	DATE/PENDING	N/A
	WELL DEVELOPMENT	_____	_____
	SURVEYOR	_____	_____
	CORE LOG	_____	_____
	WELL INSTALLATION DETAILS	_____	_____
	HYDRAULIC TESTING	_____	_____
	GEOPHYSICAL LOGGING	_____	_____

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC. CLIENT: USA CO E BORING #: SB 253

MONITORING				COMMENTS	DRILLER: <u>Scott</u>	
INSTRUMENT	INTERVAL	BGD	TIME		INSPECTOR: <u>BH/mcs</u>	
<u>01M</u>	<u>0-2000</u>	<u>0</u>	<u>1004</u>		DATE: <u>12-3-93</u>	
<u>RA0</u>	<u>0-100</u>	<u>15-16</u>	<u>1004</u>			
<u>025T</u>	<u>0-0.99</u>	<u>0</u>	<u>1004</u>			

DEPTH (FT)	SAMPLING			SAMPLE			SAMPLE DESCRIPTION <small>(As per Burmeister: color, grain size, MAJOR COMPONENT. Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)</small>	USCS CLASS	STRATUM CLASS
	BLOWS PER 6 INCHES	PENETRATION RANGE (FEET)	RECOVERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC			
1	12	0		0	25		Surface Gravel, Sand		
	14				3.1	220 X	Blackish Gravel Petroleum smell clay		
	16		1.6						
2	10	2		2			Petroleum smell		
	12	2		2	25				
3	14						Sand, clay grey color		
	18		2			20 X			
4	20	4		4	32		Broken Shale, rocks, sand, clay		
	6	4		4	25				
5	100/3	5	.6	5	3.3	1.3 X	gauge refusal 5.0'		

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: <u>USACOE</u>	BORING NO.: <u>1025-4</u>				
PROJECT: <u>SSAO 10 SWMU</u>		JOB NO.: <u>720477-01001</u>				
LOCATION: <u>Romulus NY</u>						
<b>DRILLING SUMMARY:</b>						
DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER		HAMMER	
			SIZE	TYPE	TYPE	WTR/FALL
<u>HSA</u>	<u>8 1/2"</u>		<u>2' x 3"</u>	<u>SS</u>	<u>HMR</u>	<u>140# / 30"</u>

EST. GROUND ELEV.: 743.613

START DATE: 12-3-93

FINISH DATE: 12-3-93

CONTRACTOR: Empire

DRILLER: Scott

INSPECTOR: Bitler

CHECKED BY: \_\_\_\_\_

CHECK DATE: \_\_\_\_\_

**DRILLING ACRONYMS:**

HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING
MRLSC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE
				3S	3 INCH SPLIT SPOON

**MONITORING EQUIPMENT SUMMARY**

INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
<u>OVM</u>	<u>P10</u>	<u>0-2000</u>	<u>0</u>	<u>1152</u>	<u>12-3-93</u>			<u>P, cloudy, cool</u>
<u>RAD</u>		<u>0-100</u>	<u>14-15</u>	<u>1152</u>	<u>12-3-93</u>			
<u>DUST</u>		<u>0-0.99</u>	<u>0</u>	<u>1152</u>	<u>12-3-93</u>			
<u>OVM</u>			<u>0</u>	<u>1220</u>	<u>12-3-93</u>			
<u>RAD</u>			<u>14-16</u>	<u>1220</u>	<u>12-3-93</u>			
<u>DUST</u>			<u>0</u>	<u>1220</u>	<u>12-3-93</u>			

**MONITORING ACRONYMS**

PID	PHOTO - IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES
FID	FLAME - IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT
SCT	SCINTILLATION DETECTOR	RAD	RADIATION		

COMMENTS:	OTHER REPORTS	DATE/PENDING	N/A
	WELL DEVELOPMENT	_____	_____
	SURVEYOR	_____	_____
	CORE LOG	_____	_____
	WELL INSTALLATION DETAILS	_____	_____
	HYDRAULIC TESTING	_____	_____
	GEOPHYSICAL LOGGING	_____	_____

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.

CLIENT: USA COE

BORING #: 98 25-4

MONITORING			
INSTRUMENT	INTERVAL	BGD	TIME
DUM	0-2000	0	1152
RAD	0-100	14-15	1152
DJS J	0-0.99	0	1152

COMMENTS

DRILLER: SCOTT  
 INSPECTOR: DH MCS  
 DATE: 12-3-93

DEPTH H (FT)	SAMPLING			SAMPLE			RAD SCRN	SAMPLE DESCRIPTION <small>(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)</small>	USCS CLASS	STRATUM CLASS
	BLOWS PER 6 INCHES	PENE- TRATION RANGE (FEET)	RECOV- ERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC				

1152

1200

1211

1	12 13 8	0		0	25 21						shale gravel rocks Black Gravel Petroleum Smell
2	7 6	2	1.1	2							Sandy clay <del>shale</del>
3	60 25	2		2	25 42						Clay Hard Black Shale Strong Petroleum Smell
4	25 45	4	1.9	4							
5	100/1	4		4	25 4.3	1.0					Shale Dry Silty Spangford 4.7'
6			.5	6							

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: <u>ACOE</u>	BORING NO.: <u>SB 25-5</u>					
PROJECT: <u>10 SWMU</u>		JOB NO.: <u>720477-01001</u>					
LOCATION: <u>SEAD 25</u>							
DRILLING SUMMARY:		EST. GROUND ELEV.: <u>743.629</u>					
DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER SIZE	SAMPLER TYPE	HAMMER TYPE	HAMMER WTR/FALL	START DATE:
<u>HSA</u>	<u>8 1/2"</u>		<u>3" x 2'</u>	<u>SS</u>	<u>HMR</u>	<u>140/30"</u>	<u>12-3-93</u>
							FINISH DATE: <u>12-3-93</u>
							CONTRACTOR: <u>Empire</u>
							DRILLER: <u>John W</u>
							INSPECTOR: <u>ES/LB</u>
							CHECKED BY: _____
							CHECK DATE: _____

**DRILLING ACRONYMS:**

HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING
MRLSC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE
				3S	3 INCH SPLIT SPOON

**MONITORING EQUIPMENT SUMMARY**

INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
<u>0 VM</u>		<u>0-2000</u>	<u>0-0.7</u>	<u>1430</u>	<u>12-3-93</u>			<u>overcast</u>
			<u>2.3</u>	<u>1440</u>	<u>12-3-93</u>			

**MONITORING ACRONYMS**

PID	PHOTO - IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES
FID	FLAME - IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT
SCT	SCINTILLATION DETECTOR	RAD	RADIATION		

COMMENTS:	OTHER REPORTS	DATE/PENDING	N/A
	WELL DEVELOPMENT	_____	_____
	SURVEYOR	_____	_____
	CORE LOG	_____	_____
	WELL INSTALLATION DETAILS	_____	_____
	HYDRAULIC TESTING	_____	_____
	GEOPHYSICAL LOGGING	_____	_____

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC. CLIENT: ACO BORING #: SB25-5

MONITORING			
INSTRUMENT	INTERVAL	BGD	TIME
<u>OVM</u>	<u>0-2000</u>	<u>0-0.7</u>	<u>1930</u>
		<u>2.3</u>	<u>1440</u>

COMMENTS

DRILLER: Empire  
 INSPECTOR: ES/LB  
 DATE: 12-3-93

DEPTH (FT)	SAMPLING			SAMPLE				SAMPLE DESCRIPTION <small>(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)</small>	USCS CLASS	STRATUM CLASS
	BLOWS PER 6 INCHES	PENE-TRATION RANGE (FEET)	RECOV-ERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC	RAD SCRIN			
1	7 10 13	0		0	25- 5.1		155 X	<u>Weathered shale fill, wet</u>		
2	10	2		2						
3	11 12 17	2	1.6	2	25- 5.2		69 X	<u>Greenish gray SILT and CLAY, some shale fragments (.25" dia) dense, wet., petroleum odore</u>		
4	24 17	4		4	25-		243 X	<u>cobbles to 2" dia.</u>		
5	52 100/4	4		4	5.3			<u>med. brown SILT, some clay, so little shale fragments, moist, very dense.</u>		
6		6	1.2	6						
7								<u>Augered to 5.5'</u>		
8										

*Note: When reading high VOC on sample, background (breathing space over sample) and at rig were 2.3 ppm. In hole reading 63.0 ppm*



# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC. CLIENT: ACOE BORING NO.: MW25-1

PROJECT: 10 SMWU  
 LOCATION: SEAD 25  
 JOB NO.: 720477-01001  
 EST. GROUND ELEV.: 740.261

**DRILLING SUMMARY:**

DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER		HAMMER	
			SIZE	TYPE	TYPE	WT/FALL
HSA	8.5"		2' x 3"	SS	HMR	140# / 30"

START DATE: 12-3-93  
 FINISH DATE: 12-3-93  
 CONTRACTOR: Empire  
 DRILLER: Bob/JOHN  
 INSPECTOR: ES/LB  
 CHECKED BY: \_\_\_\_\_  
 CHECK DATE: \_\_\_\_\_

**DRILLING ACRONYMS:**

HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING
MRLSC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE
				3S	3 INCH SPLIT SPOON

**MONITORING EQUIPMENT SUMMARY**

INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
OVM		0-2000	0	1000	12/3/93			cloudy 40°C

**MONITORING ACRONYMS**

PID	PHOTO - IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES
FID	FLAME - IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT
SCT	SCINTILLATION DETECTOR	RAD	RADIATION		

<p><b>COMMENTS:</b>                  Dust meter high readings - inaccurate.                  Soil was tremied</p>	<p><b>OTHER REPORTS</b></p> <p>WELL DEVELOPMENT _____</p> <p>SURVEYOR _____</p> <p>CORE LOG _____</p> <p>WELL INSTALLATION DETAILS _____</p> <p>HYDRAULIC TESTING _____</p> <p>GEOPHYSICAL LOGGING _____</p>	<p>DATE/PENDING _____</p> <p>N/A _____</p>
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# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.			CLIENT: <u>ACOE</u>			BORING #: <u>MW25-1</u>							
MONITORING				COMMENTS									
INSTRUMENT	INTERVAL	BGD	TIME										
<u>OVM</u>			<u>950</u>										
<u>Dust</u>		<u>.49</u>	<u>950</u>										
				DRILLER: <u>SB25-6</u> <u>Empire / J</u>									
				INSPECTOR: <u>ES/LB</u>									
				DATE: <u>12/3/93</u>									

DEPTH (FT)	SAMPLING			SAMPLE				SAMPLE DESCRIPTION <small>(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)</small>	USCS CLASS	STRATUM CLASS
	BLOWS PER 6 INCHES	PENE-TRATION RANGE (FEET)	RECOV-ERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC	RAD SCRIN			
1	5	0		0	SB 25'			Topsoil Med. brown SILT, some Clay, little shale fragments, moist ✓ shale fragments (1.5" dia) at interface		
	15		2		6.1	.7	X			
2	17			2				Med. brown fine SAND, little silt, little shale fragments. moist		
	15	2		2						
3	19	2		2	SB 25'			weathered shale, wet Spoon Refusal 4.3' Augered to 5.0'		
	19		1.9		6.2	.7	X			
	32									
4	85	4		4						
	100/1.3									
5										
6										
10										
15										
20										

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC. CLIENT: ACOE BORING NO.: MW25-2

PROJECT: 10 SWMK  
 LOCATION: SEAD 25  
 JOB NO.: 720477-01001  
 EST. GROUND ELEV.: 743.815

**DRILLING SUMMARY:**

DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER		HAMMER	
			SIZE	TYPE	TYPE	WT/FALL
<u>HSA</u>	<u>8 1/2"</u>		<u>3'x2'</u>		<u>HMR</u>	<u>300#/30'</u>

START DATE: 11/7/93  
 FINISH DATE: 11/7/93  
 CONTRACTOR: Empire  
 DRILLER: AI  
 INSPECTOR: ES/LB  
 CHECKED BY: \_\_\_\_\_  
 CHECK DATE: \_\_\_\_\_

**DRILLING ACRONYMS:**

HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING
MRS LC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE
				3S	3 INCH SPLIT SPOON

**MONITORING EQUIPMENT SUMMARY**

INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
<u>0 VM</u>	<u>PID</u>	<u>0-2000</u>	<u>0</u>	<u>1100</u>	<u>11/7/93</u>			<u>C/buddy</u>
<u>Racl</u>		<u>0-100</u>	<u>14-16</u>	<u>1100</u>	<u>11/7/93</u>			
<u>Dust</u>		<u>0-.99</u>	<u>.20</u>	<u>1100</u>	<u>11/7/93</u>			

**MONITORING ACRONYMS**

PID	PHOTO - IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES
FID	FLAME - IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT
SCT	SCINTILLATION DETECTOR	RAD	RADIATION		

COMMENTS:	OTHER REPORTS	DATE/PENDING	N/A
	WELL DEVELOPMENT	_____	_____
	SURVEYOR	_____	_____
	CORE LOG	_____	_____
	WELL INSTALLATION DETAILS	_____	_____
	HYDRAULIC TESTING	_____	_____
GEOPHYSICAL LOGGING	_____	_____	_____

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.      CLIENT: **USAEOE**      BORING #: **MW25-2**

MONITORING				COMMENTS
INSTRUMENT	INTERVAL	BGD	TIME	
OVM	0-2000	0	1100	
Rad	0-100	14-16	1100	
Dust	0-.99	.20	1100	

DRILLER: **Empire**  
INSPECTOR: **ES/LB**  
DATE: **11/7/93**

DEPTH (FT)	SAMPLING			SAMPLE			SAMPLE DESCRIPTION <small>(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)</small>	USCS CLASS	STRATUM CLASS
	BLOWS PER 6 INCHES	PENE-TRATION RANGE (FEET)	RECOV-ERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC			
1	18 12 11	0	1.8	-	-	0	20 .3' topsoil Green-gray SILT, some Clay, & some shale fragments (to 1.5" dia.) moist		
2	7	2					Green-gray SILT and CLAY, moist		
3	10 8 9	2	1.6			63	12 Green-gray SILT and CLAY, litho shale fragments, (.25"), wet, strong odor.		
4	20	4					NR		
5	20 18 100/3	4	1.4 1.3			*	109 AA, moist, dense		
6	100/1	6					Spoon refusal @ 6.0' Augered to 8.5' 8.5'		
7									
8									
9									
10									
15									
20									

\* No VOC reading in headspace.  
OVM reading 65 ppm downhole.

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: <u>ACOE</u>	BORING NO.: <u>MW25-3</u>				
PROJECT: <u>10 SMWU</u>		JOB NO.: <u>720477</u>				
LOCATION: <u>SEAD 25</u>						
DRILLING SUMMARY:						
DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER SIZE	SAMPLER TYPE	HAMMER TYPE	HAMMER WT/FALL
<u>HSA</u>	<u>8 1/2"</u>	<u>5</u>	<u>3" x 2'</u>		<u>HMR</u>	<u>140 #/30"</u>

EST. GROUND ELEV.: 743.270

START DATE: 11-7-93

FINISH DATE: 11/7/93

CONTRACTOR: Empire

DRILLER: AI

INSPECTOR: CS/LB

CHECKED BY: \_\_\_\_\_

CHECK DATE: \_\_\_\_\_

DRILLING ACRONYMS:

HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING
MRLC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE
				3S	3 INCH SPLIT SPOON

MONITORING EQUIPMENT SUMMARY

INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
<u>OM</u>	<u>PID</u>	<u>0-2000</u>	<u>0.5-2</u>	<u>1425</u>	<u>11/7/93</u>			<u>cloudy 30F</u>
<u>Rad</u>		<u>0-100</u>	<u>12-16</u>	<u>1425</u>	<u>11/7/93</u>			
<u>Dust</u>		<u>0-.99</u>	<u>-.04</u>	<u>1425</u>	<u>11/7/93</u>			

MONITORING ACRONYMS

PID	PHOTO - IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES
FID	FLAME - IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT
SCT	SCINTILLATION DETECTOR	RAD	RADIATION		

COMMENTS:	OTHER REPORTS	DATE/PENDING	N/A
	WELL DEVELOPMENT	_____	_____
	SURVEYOR	_____	_____
	CORE LOG	_____	_____
	WELL INSTALLATION DETAILS	_____	_____
	HYDRAULIC TESTING	_____	_____
	GEOPHYSICAL LOGGING	_____	_____

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.      CLIENT: ACOE      BORING #: MW25-3

MONITORING				COMMENTS
INSTRUMENT	INTERVAL	BGD	TIME	
OVM	0-2000	15-2	1425	
RAD	0-100	12-1316	1425	
DUST	0-0.99	.04	1425	

DRILLER: A1  
INSPECTOR: ES/LB  
DATE: 11/7/93

DEPTH (FT)	SAMPLING			SAMPLE			SAMPLE DESCRIPTION <small>(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)</small>	USCS CLASS	STRATUM CLASS
	BLOWS PER 6 INCHES	PENE-TRATION RANGE (FEET)	RECOV-ERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC			
1	10	0					top soil		
	11		1.5	-	-	0 167	lt. brown SILT and CLAY, little shale fragments, oxidation, moist		
	12								
2	12	2							
	21	2					AA,		
3	16		1.0	-	-				
	20								
4	100/4	4							
5							Spoon Refusal @ 3.9'		
6							Augered to 6.5'		
7									
8									
9									
10									
15									
20									

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: <u>ACOE</u>	BORING NO.: <u>MW26-1</u>
PROJECT: <u>10 SWMU.</u>		JOB NO.: <u>720477-01001</u>
LOCATION: <u>SEAD 26</u>		

DRILLING SUMMARY:						
DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER		HAMMER	
			SIZE	TYPE	TYPE	WTFALL
<u>HSA</u>	<u>8 1/2"</u>		<u>3" x 2'</u>	<u>SS</u>	<u>HMR</u>	<u>140" / 30"</u>

EST. GROUND ELEV.:	<u>751.340</u>
START DATE:	<u>11/17/93</u>
FINISH DATE:	<u>11/17/93</u>
CONTRACTOR:	<u>Empire</u>
DRILLER:	<u>John</u>
INSPECTOR:	<u>ES</u>
CHECKED BY:	_____
CHECK DATE:	_____

**DRILLING ACRONYMS:**

HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING
MRSLC	MUD-ROTARY SOIL-CORING	HRH	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE
				3S	3 INCH SPLIT SPOON

**MONITORING EQUIPMENT SUMMARY**

INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
<u>OVM</u>		<u>0-2000</u>		<u>1035</u>	<u>11/17/93</u>			<u>rainy</u>
<u>Dust</u>		<u>0-.99</u>			<u>11/17/93</u>			

**MONITORING ACRONYMS**

PID	PHOTO - IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES
FID	FLAME - IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT
SCT	SCINTILLATION DETECTOR	RAD	RADIATION		

<p><b>COMMENTS:</b></p>   	<table style="width: 100%;"> <tr> <th style="text-align: left;">OTHER REPORTS</th> <th style="text-align: left;">DATE/PENDING</th> <th style="text-align: left;">N/A</th> </tr> <tr> <td>WELL DEVELOPMENT</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>SURVEYOR</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>CORE LOG</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>WELL INSTALLATION DETAILS</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>HYDRAULIC TESTING</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>GEOPHYSICAL LOGGING</td> <td>_____</td> <td>_____</td> </tr> </table>	OTHER REPORTS	DATE/PENDING	N/A	WELL DEVELOPMENT	_____	_____	SURVEYOR	_____	_____	CORE LOG	_____	_____	WELL INSTALLATION DETAILS	_____	_____	HYDRAULIC TESTING	_____	_____	GEOPHYSICAL LOGGING	_____	_____
OTHER REPORTS	DATE/PENDING	N/A																				
WELL DEVELOPMENT	_____	_____																				
SURVEYOR	_____	_____																				
CORE LOG	_____	_____																				
WELL INSTALLATION DETAILS	_____	_____																				
HYDRAULIC TESTING	_____	_____																				
GEOPHYSICAL LOGGING	_____	_____																				

# OVERBURDEN BORING REPORT

ENGINEERING—SCIENCE, INC.	CLIENT: <i>ACOE</i>	BORING #: <i>MW26-1</i>
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MONITORING				COMMENTS: <i>Raining</i>	DRILLER: <i>Empire</i>	
INSTRUMENT	INTERVAL	BGD	TIME		INSPECTOR: <i>ES/LB</i>	
<i>Orm</i>	<i>0-20.00</i>	<i>0</i>	<i>1035</i>		DATE: <i>11/17/93</i>	
<i>Dust</i>	<i>0-0.99</i>		<i>1035</i>			

DEPTH (FT)	SAMPLING			SAMPLE			SAMPLE DESCRIPTION <small>(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)</small>	USCS CLASS	STRATUM CLASS
	BLOWS PER 6 INCHES	PENE-TRATION RANGE (FEET)	RECOV-ERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC			
1	40	0	1.7	26-1.1	0	X	Weathered SHALE fill		
	26								
	22								
2	30	2	1.7	26-1.2	0	X	Li. brown SILT, some silt & fragments, some COBBLES, little clay, oxidation; moist		
	39	2							
3	20	4	NR				Li. brown fine SAND, some shale fragments, some cobbles, little clay, moist		
	24								
4	100/4						weathered shale.		
	100/1								
5									
10									
15									
20									
							Augered to 6.0'		



# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: <u>ACOE</u>	BORING NO.: <u>MW26-2</u>				
PROJECT: <u>10 SWMU</u>		JOB NO.: <u>720477-01001</u>				
LOCATION: <u>SEAD 26</u>						
<b>DRILLING SUMMARY:</b>						
DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER		HAMMER	
			SIZE	TYPE	TYPE	WT/FALL
<u>HSA</u>	<u>8 1/2"</u>		<u>3" x 2'</u>	<u>SS</u>	<u>HMR</u>	<u>140/30"</u>

EST. GROUND ELEV.: 759.024  
 START DATE: 11/18/93  
 FINISH DATE: 11/18/93  
 CONTRACTOR: Empire  
 DRILLER: John  
 INSPECTOR: ES/LB  
 CHECKED BY: \_\_\_\_\_  
 CHECK DATE: \_\_\_\_\_

**DRILLING ACRONYMS:**

HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING
MRS LC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE
				3S	3 INCH SPLIT SPOON

**MONITORING EQUIPMENT SUMMARY**

INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
<u>OVM</u>		<u>0-2000</u>	<u>0</u>	<u>0930</u>	<u>11/18/93</u>			<u>sunny.</u>
<u>Dust</u>			<u>.33</u>	<u>0930</u>	<u>11/18/93</u>			

**MONITORING ACRONYMS**

PID	PHOTO - IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES
FID	FLAME - IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT
SCT	SCINTILLATION DETECTOR	RAD	RADIATION		

<p><b>COMMENTS:</b></p>   	<table style="width: 100%;"> <tr> <th style="text-align: left;">OTHER REPORTS</th> <th style="text-align: left;">DATE/PENDING</th> <th style="text-align: left;">N/A</th> </tr> <tr> <td>WELL DEVELOPMENT</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>SURVEYOR</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>CORE LOG</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>WELL INSTALLATION DETAILS</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>HYDRAULIC TESTING</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>GEOPHYSICAL LOGGING</td> <td>_____</td> <td>_____</td> </tr> </table>	OTHER REPORTS	DATE/PENDING	N/A	WELL DEVELOPMENT	_____	_____	SURVEYOR	_____	_____	CORE LOG	_____	_____	WELL INSTALLATION DETAILS	_____	_____	HYDRAULIC TESTING	_____	_____	GEOPHYSICAL LOGGING	_____	_____
OTHER REPORTS	DATE/PENDING	N/A																				
WELL DEVELOPMENT	_____	_____																				
SURVEYOR	_____	_____																				
CORE LOG	_____	_____																				
WELL INSTALLATION DETAILS	_____	_____																				
HYDRAULIC TESTING	_____	_____																				
GEOPHYSICAL LOGGING	_____	_____																				

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.      CLIENT: ACOE      BORING #: MW 26-2

MONITORING				COMMENTS	DRILLER: <u>Empire/abh.</u>
INSTRUMENT	INTERVAL	BGD	TIME		
<u>DVM</u>	<u>0-2000</u>	<u>0</u>	<u>0930</u>		
<u>DUST</u>	<u>0-0.99</u>	<u>.33</u>	<u>0930</u>		

INSPECTOR: \_\_\_\_\_  
DATE: \_\_\_\_\_

DEPTH (FT)	SAMPLING			SAMPLE			SAMPLE DESCRIPTION <small>(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)</small>	USCS CLASS	STRATUM CLASS
	BLOWS PER 6 INCHES	PENE-TRATION RANGE (FEET)	RECOV-ERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC			
							<u>Topsoil</u>		
1	<u>8</u> <u>12</u> <u>15</u>	<u>0</u>			<u>26-</u> <u>2.1,</u> <u>2.5,</u> <u>2.1</u>	<u>0</u>	<u>X</u>		<u>Fill</u>
2	<u>17</u> <u>16</u>	<u>2</u>	<u>1.7</u>		<u>26-</u> <u>2.2</u>	<u>0</u>	<u>X</u>		<u>Fill</u>
3	<u>23</u> <u>43</u>		<u>1.3</u>		<u>26-</u> <u>2.2</u>	<u>0</u>	<u>X</u>		<u>Fill</u>
4	<u>21</u> <u>10</u> <u>15</u>	<u>4</u>			<u>26-</u> <u>23</u>	<u>0</u>	<u>X</u>		
5	<u>14</u> <u>5</u> <u>3</u>	<u>6</u>	<u>1.5</u>		<u>26-</u> <u>24</u>	<u>0</u>	<u>X</u>		
6	<u>4</u> <u>9</u> <u>8</u>	<u>6</u>	<u>1.0</u>		<u>26-</u> <u>2.6</u>	<u>0</u>	<u>X</u>		
7	<u>8</u> <u>9</u> <u>10</u>	<u>8</u>			<u>26-</u> <u>2.6</u>	<u>X</u>	<u>X</u>		
8	<u>9</u> <u>10</u> <u>15</u>		<u>1.9</u>		<u>26-</u> <u>2.6</u>	<u>X</u>	<u>X</u>		
9	<u>6</u> <u>7</u> <u>7</u>	<u>10</u>			<u>26-</u> <u>2.7</u>	<u>X</u>	<u>X</u>		
10	<u>11</u> <u>7</u> <u>7</u>		<u>2.0</u>		<u>26-</u> <u>2.7</u>	<u>X</u>	<u>X</u>		
11	<u>9</u> <u>10/4</u>	<u>12</u>							
12									
13									
14									
15									
20									

Augured to 14.0'

2.01 ft not working

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC. CLIENT: ACE BORING NO.: MW26-3

PROJECT: 10 SWMU  
 LOCATION: SEAD 26

JOB NO.: 720477-01001  
 EST. GROUND ELEV.: 751.567  
 START DATE: 11/18/93  
 FINISH DATE: 11/19/93  
 CONTRACTOR: Empire  
 DRILLER: John W.  
 INSPECTOR: ES  
 CHECKED BY: \_\_\_\_\_  
 CHECK DATE: \_\_\_\_\_

**DRILLING SUMMARY:**

DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER		HAMMER	
			SIZE	TYPE	TYPE	WT/FALL
<u>HSA</u>	<u>8 1/2"</u>		<u>2' x 3"</u>	<u>SS</u>	<u>HMR</u>	<u>140# / 30"</u>

**DRILLING ACRONYMS:**

HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING
MRSLC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE
				3S	3 INCH SPLIT SPOON

**MONITORING EQUIPMENT SUMMARY**

INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
<u>0UM</u>			<u>0.0</u>	<u>1450</u>	<u>11/18/93</u>			<u>Sunny</u>
<u>Dust</u>			<u>0.04</u>	<u>1450</u>	<u>11/18/93</u>			
<u>0UM</u>			<u>0-0.1</u>	<u>800</u>	<u>11/19/93</u>			<u>cloudy</u>
<u>Dust</u>			<u>0</u>	<u>800</u>	<u>11/19/93</u>			<u>windy</u>

**MONITORING ACRONYMS**

PID	PHOTO - IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES
FID	FLAME - IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT
SCT	SCINTILLATION DETECTOR	RAD	RADIATION		

COMMENTS:	<b>OTHER REPORTS</b>	DATE/PENDING	N/A
	WELL DEVELOPMENT	_____	_____
	SURVEYOR	_____	_____
	CORE LOG	_____	_____
	WELL INSTALLATION DETAILS	_____	_____
	HYDRAULIC TESTING	_____	_____
	GEOPHYSICAL LOGGING	_____	_____

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.      CLIENT: ACOE      BORING #: MW26-3

MONITORING				COMMENTS	DRILLER: <u>Empire</u>
INSTRUMENT	INTERVAL	BGD	TIME		
<u>BUM</u>		<u>0.0</u>	<u>1450</u>		
<u>DUST</u>		<u>.04</u>	<u>1450</u>		

INSPECTOR: \_\_\_\_\_  
DATE: 11/15/93

DEPTH (FT)	SAMPLING			SAMPLE			SAMPLE DESCRIPTION <small>(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)</small>	USCS CLASS	STRATUM CLASS
	BLOWS PER 6 INCHES	PENE-TRATION RANGE (FEET)	RECOV-ERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC			
1	6 9 12	0	1.7	26" 3.1	0	X	<u>Topsoil</u> Lt. brown SILT, some Clay, little Shale fragments, moist, oxidation		
2	4 9	2							
3	9 7	2	1.6	26" 3.2	0	X			
4	8	4							
5	5 7	4	1.6	26" 3.3	0	Y			
6	9	6							
7	10 15	6	2.0	26" 3.4	0.6	X	Dark brown SILT, some Clay, little shale fragments, extensive oxidation, moist to wet		
8	10 7	8							
9	9 10	8	1.5	26" 3.5	0	X	AA, oxidation		
10	10	10							
11	6 10 29	10	1.7	26" 3.6	✓ 0	X	AA, moist to wet Gray weathered Shale, dry.		
12	19	12							
13	52 100/4						AA, wet.		
14							Spoon refusal @ 12.5' Augered to 14.0'		
15									
20									

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: <u>ACOE</u>	BORING NO.: <u>MW26-4</u>				
PROJECT: <u>10 SWMU</u>		JOB NO.: <u>720477-01001</u>				
LOCATION: <u>SEAD 26</u>						
<b>DRILLING SUMMARY:</b>						
DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER		HAMMER	
			SIZE	TYPE	TYPE	WT/FALL
<u>HSA</u>	<u>8 1/2"</u>		<u>3' x 2'</u>	<u>SS</u>	<u>Hmr</u>	<u>140*/30"</u>

EST. GROUND ELEV.: 750.012

START DATE: 11/19/93

FINISH DATE: 11/19/93

CONTRACTOR: Empire

DRILLER: John

INSPECTOR: ES

CHECKED BY: \_\_\_\_\_

CHECK DATE: \_\_\_\_\_

**DRILLING ACRONYMS:**

HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING
MRS LC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE
				3S	3 INCH SPLIT SPOON

**MONITORING EQUIPMENT SUMMARY**

INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
<u>OMM</u>			<u>0</u>	<u>930</u>	<u>11/19/93</u>			<u>cloudy</u>
<u>Dust</u>			<u>0.45</u>	<u>930</u>	<u>11/19/93</u>			<u>windy</u>

**MONITORING ACRONYMS**

PID	PHOTO - IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES
FID	FLAME - IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT
SCT	SCINTILLATION DETECTOR	RAD	RADIATION		

COMMENTS:	OTHER REPORTS	DATE/PENDING	N/A
	WELL DEVELOPMENT	_____	_____
	SURVEYOR	_____	_____
	CORE LOG	_____	_____
	WELL INSTALLATION DETAILS	_____	_____
	HYDRAULIC TESTING	_____	_____
	GEOPHYSICAL LOGGING	_____	_____

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.      CLIENT: ACOE      BORING #: MW26-4

MONITORING			
INSTRUMENT	INTERVAL	BGD	TIME
<u>OVM</u>		<u>0.0</u>	<u>9:30</u>
<u>Dust</u>		<u>0.45</u>	<u>9:30</u>

COMMENTS

DRILLER: Empire  
 INSPECTOR: ES  
 DATE: 11/19/93

DEPTH (FT)	SAMPLING			SAMPLE			RAD SCR	SAMPLE DESCRIPTION <small>(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)</small>	USCS CLASS	STRATUM CLASS
	BLOWS PER 6 INCHES	PENE-TRATION RANGE (FEET)	RECOV-ERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC				
1	7							<u>Topsoil</u> <u>weath shale fill</u>		
	12		<u>1.2</u>		<u>26</u>	<u>0</u>	<u>X</u>			
	12			<u>4.1</u>						
2	9							<u>Med. brown SILT, and weath shale fragments, (to 2" dia.) moist.</u>		<u>Fill</u>
	9		<u>1.4</u>		<u>26</u>	<u>0</u>	<u>X</u>			
	8			<u>4.2</u>						
3	9									
	9		<u>1.4</u>		<u>26</u>	<u>0</u>	<u>X</u>			
	6			<u>4.3</u>						
4	8							<u>Med brown SILT, some clay, little shale fragments (.25") moist</u>		
	9		<u>1.4</u>		<u>26</u>	<u>0</u>	<u>X</u>			
	10			<u>4.3</u>						
5	12									
	11		<u>2.0</u>		<u>26</u>	<u>0</u>				
	10			<u>4A</u>						
6	11							<u>weathered shale, dry</u>		
	10		<u>1.0</u>		<u>26</u>	<u>0</u>				
	16			<u>4.5</u>						
7	24							<u>Specimen refusal @ 9.0'</u> <u>Augered to 11.5'</u>		
	38									
	106									
8										
10										
15										
20										

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC. CLIENT: ACOE BORING NO.: MW-45-1

PROJECT: 10 SWMLL  
 LOCATION: SEAD - 45

JOB NO.: 720477-0100  
 EST. GROUND ELEV.: 622.794  
 START DATE: 11/20/93  
 FINISH DATE: 11/21/93  
 CONTRACTOR: ENGINEERING Science  
 DRILLER: EMPIRE Soils  
 INSPECTOR: KS/AW  
 CHECKED BY: \_\_\_\_\_  
 CHECK DATE: \_\_\_\_\_

**DRILLING SUMMARY:**

DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER		HAMMER	
			SIZE	TYPE	TYPE	WT/FALL
HSA	8 1/2"		3" x 2'	SS	HMR	140/30'

**DRILLING ACRONYMS:**

HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING
MRS LC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE
				3S	3 INCH SPLIT SPOON

**MONITORING EQUIPMENT SUMMARY**

INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
OVM	PID	0-2000	0	1:00 pm	11/20/93			Cold (30)
DUST		0-0.99	0.03	1:00 pm	11/20/93			

**MONITORING ACRONYMS**

PID	PHOTO - IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES
FID	FLAME - IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT
SCT	SCINTILLATION DETECTOR	RAD	RADIATION		

COMMENTS:	OTHER REPORTS	DATE/PENDING	N/A
	WELL DEVELOPMENT	_____	_____
	SURVEYOR	_____	_____
	CORE LOG	_____	_____
	WELL INSTALLATION DETAILS	_____	_____
	HYDRAULIC TESTING	_____	_____
	GEOPHYSICAL LOGGING	_____	_____

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.      CLIENT: ACOE      BORING #: MW-45-1

MONITORING				COMMENTS
INSTRUMENT	INTERVAL	BGD	TIME per	
DVM	0-2000	0	1:05	
DVST	0-0.99	0.03	1:05	

DRILLER: Empire (B-1)  
 INSPECTOR: AW/KS  
 DATE: 11/30/93

DEPTH (FT)	SAMPLING			SAMPLE			SAMPLE DESCRIPTION <small>(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)</small>	USCS CLASS	STRATUM CLASS
	BLOWS PER 6 INCHES	PENE-TRATION RANGE (FEET)	RECOV-ERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC			
1	10 11 14	0' ↓ ↓	0' ↓ ↓				Dk. brown clay with angular shale clasts and rusted areas. <u>Silt</u> .	Till	Till
2	20 25	2' ↓	1.5' ↓	N/A					
3	25 30 32	2' ↓ ↓	2' ↓ ↓	N/A					
4	32 75	4' ↓	3.8' ↓	N/A					
5	100/2	4.4' ↓	4.9' ↓	N/A			Highly weathered shale, dk. gray. (spoon refusal) dry.	Shale	Shale
6									
7									
10									
15									
20									



# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: <u>ACOÉ</u>	BORING NO.: <u>MW45-2</u>
PROJECT: <u>10 SWMU</u>		JOB NO.: <u>720477-01001</u>
LOCATION: <u>SEAD 4S</u>		

DRILLING SUMMARY:						
DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER		HAMMER	
			SIZE	TYPE	TYPE	WT/FALL
<u>HSA</u>	<u>8 1/2"</u>		<u>3" x 2'</u>	<u>SS</u>	<u>HMR</u>	<u>140/30"</u>

EST. GROUND ELEV.:	<u>624.6666</u>
START DATE:	<u>11/20/93</u>
FINISH DATE:	<u>11/21/93</u>
CONTRACTOR:	<u>Empire</u>
DRILLER:	<u>John W</u>
INSPECTOR:	<u>JC/AS</u>
CHECKED BY:	_____
CHECK DATE:	_____

**DRILLING ACRONYMS:**

HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING
MRS LC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE
				3S	3 INCH SPLIT SPOON

MONITORING EQUIPMENT SUMMARY								
INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
<u>OVM</u>		<u>0-2000</u>	<u>0</u>	<u>1515</u>	<u>11/20/93</u>			
<u>Dust</u>			<u>0.03</u>	<u>1515</u>	<u>11/20/93</u>			

**MONITORING ACRONYMS**

PID	PHOTO - IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES
FID	FLAME - IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT
SCT	SCINTILLATION DETECTOR	RAD	RADIATION		

COMMENTS:	OTHER REPORTS	DATE/PENDING	N/A
	WELL DEVELOPMENT	_____	_____
	SURVEYOR	_____	_____
	CORE LOG	_____	_____
	WELL INSTALLATION DETAILS	_____	_____
	HYDRAULIC TESTING	_____	_____
GEOPHYSICAL LOGGING	_____	_____	_____

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.				CLIENT: ACOE				BORING #: MW-45-2					
MONITORING				COMMENTS:  Dust meter moved at 0.38				DRILLER: Bob/Scott INSPECTOR: AMW/KS DATE: 11/20/93					
INSTRUMENT	INTERVAL	BGD	TIME										
DVM	0-2000	0	3:15										
DUST	0-0.99	0.03	3:15										
DEPTH (FT)	SAMPLING			SAMPLE			SAMPLE DESCRIPTION				USCS CLASS	STRATUM CLASS	
	BLOWS PER 6 INCHES	PENE-TRATION RANGE (FEET)	RECOV-ERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC	RAD SCRIN	(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)					
1	10 13 19	0' ↓ ↓	0' ↓ 1 1/2'	N/A			Ø	Dk. brn. silty clay with angular shale/limestone clasts (1/4") Oxidized spots. Rusted metal frag.				Till	
2	25	2'	1 1/2'										
3	30 24 26	2' ↓ ↓	2' ↓ 3.3'	N/A			Ø	Dk. brn. silty clay. Dry & hard pocked. Angular shale clasts (1/2") with rusting metal. Some wood.				Till	
4	30	4'	3.3'										
5	10 36 48 55	4' ↓ ↓ ↓	4' ↓ ↓ 4.7'	N/A			Ø	Dk. brown silty clay with sm. shale clasts, rusty areas and one zone of white crystalline powder (1/4") round.				Till →	
6	100/4	6' ↓						spoon refusal @ 6.4'					
6.4		6.4											
8													
9	10 24 34 40	8' ↓ ↓ ↓	8' ↓ ↓ 9.5'	N/A			Ø	Dk. grey weathered shale.				Shale	
10								↓					

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: <b>SEAD ACOE</b>	BORING NO.: <b>MW45-3</b>				
PROJECT: <b>SEAD 10 SWMU SEAD45</b>		JOB NO.: <b>720477-01001</b>				
LOCATION: <b>MW45-3</b>						
DRILLING SUMMARY:						
DRILLING METHOD	HOLE DIA	DEPTH INT.	SAMPLER SIZE	SAMPLER TYPE	HAMMER TYPE	WTFALL
<b>HSA</b>	<b>8'6"</b>	<b>2' INTERVALS</b>	<b>3"x24"</b>	<b>SPLIT SPOON</b>	<b>HAMMER</b>	<b>140<sup>lb</sup>/30"</b>

EST. GROUND ELEV.: **623.991**

START DATE: **11/21/93**

FINISH DATE: **11/22/93**

CONTRACTOR: **ENGINEERING-SC**

DRILLER: **EMPIRE SOILS**

INSPECTOR: **JWC/AS**

CHECKED BY: \_\_\_\_\_

CHECK DATE: \_\_\_\_\_

DRILLING ACRONYMS:

HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING
MRS LC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE
				3S	3 INCH SPLIT SPOON

MONITORING EQUIPMENT SUMMARY **NO READINGS ABOVE BACKGROUND**

INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
<b>OVM-580B</b>	<b>10.0 <math>\mu</math>ev/Bolt</b>	<b>0-2,000 ppm</b>	<b>0</b>	<b>3:30</b>	<b>11/21/93</b>	<b>8:30 PM</b>	<b>11/21/93</b>	<b>OVERCAST COLD</b>
<b>RAD.-190B</b>	<b>CS-137 <math>\gamma</math>B</b>	<b>0-100</b>	<b>BACKGROUND 10-18 mcp</b>	<b>"</b>	<b>11/21/93</b>	<b>FACTORY CALIBRATION</b>		<b>"</b>
<b>PDM-3</b>	<b>DUST COUNTER WINDOW</b>	<b>0-0.99</b>	<b>0.05</b>	<b>"</b>	<b>11/21/93</b>	<b>Z-BAG CAL.</b>		<b>"</b>
<b>OVM-580B</b>	<b>10.0 <math>\mu</math>ev/Bolt</b>	<b>0-2,000 ppm</b>		<b>0900</b>	<b>11/22/93</b>			<b>SUNNY COOL, MILD</b>
<b>VICTOREEN-190B</b>	<b>CS-137 <math>\gamma</math>B</b>	<b>0-100</b>		<b>"</b>	<b>11/22/93</b>			<b>"</b>
<b>PDM-3</b>	<b>DUST COUNTER WINDOW</b>	<b>0-0.99</b>		<b>"</b>	<b>11/22/93</b>			<b>"</b>

MONITORING ACRONYMS

PID	PHOTO - IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES
FID	FLAME - IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT
SCT	SCINTILLATION DETECTOR	RAD	RADIATION		

<p>COMMENTS: <b>No SAMPLES - CONTINUOUS SPOONING DOWN TO COMPETENT BEDROCK UNIT</b></p> <p><b>DRILLERS 1 3/4 GETTING WATER ONE HOUR LATE 11/22/93 (0800 ARRIVAL)</b></p> <p><b>* LIMESTONE UNIT PRESENT</b></p>	<p>OTHER REPORTS</p> <p>WELL DEVELOPMENT _____</p> <p>SURVEYOR _____</p> <p>CORE LOG <input checked="" type="checkbox"/></p> <p>WELL INSTALLATION DETAILS <input checked="" type="checkbox"/></p> <p>HYDRAULIC TESTING _____</p> <p>GEOPHYSICAL LOGGING _____</p>	<p>DATE/PENDING</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>N/A</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
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# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.		CLIENT: <b>SEAD USACOE</b>		BORING #: <b>MW45-3</b>		
MONITORING				COMMENTS: <b>TILL UNIT THROUGHOUT WITH INTERBEDDED SHALE LAYERS 10" LIMESTONE UNIT AT 3'8" SPOON REFUSAL @</b>		
INSTRUMENT	INTERVAL	BGD	TIME			DRILLER: <b>John Watson</b>
OVM 580B	0-10'	✓	3:30:43			INSPECTOR: <b>JWC/AS</b>
RAD-190B	0-10'	✓	"			
DUST	0-10'	✓	"	DATE: <b>11/21/93</b>		

DEPTH (FT)	SAMPLING			SAMPLE			SAMPLE DESCRIPTION <small>(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)</small>	USCS CLASS	STRATUM CLASS
	BLOWS PER 6 INCHES	PENE-TRATION RANGE (FEET)	RECOV-ERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC			
1	9						DARK <sup>ESANDY</sup> FILL LAYER WITH SMALL (SILTY) INTERBEDDED SHALE FRAGMENTS SOME LARGE ROCK PIECES (LIMESTONE)	TILL	
	16	2'	21"	2'		Ø BGD			
2	20								LIMESTONE
	20								
3	30	2'	19"	4'		Ø BGD	TOP 9" INTERBEDDED SHALE FRAGMENTS WITHIN TILL	TILL	
	32						BOTTOM 10" WHOLE LITHIC UNITS OF LIMESTONE (LIGHT GREY)		
4	36								
	19								
5	34	2'	16"	6'		Ø BGD	WELL DISPERSED SHALE LAYERS WITHIN TILL UNIT MEDIUM BROWN-GREY IN COLOR	TILL	SHALE
	36								
6	58								
	74								
7	65	2'	22"	8'		Ø BGD	FRAGMENTED SHALE UNITS WITHIN WEATHERED SHALE LAYER CLASTIC TILL REACHES STILL EVIDENT DARK GREY	TILL	SHALE
	85								
8	56								
	14								
9	50	2'	24"	10'		Ø BGD	FRAGMENTED SHALE UNITS W/ LIMESTONE CLASTS DARK GREY	TILL	SHALE
	80						UNIT VERY HOMOGENEOUS VERY REGULAR THROUGHOUT		
10	77								
	14								
11	25	1'	11"	11'		Ø BGD	SPOON REFUSAL @ 11'1" LIMESTONE CLASTS DARK TILL WITH DARK SILTY FINE SAND-SHALE AT BOTTOM 1" (WET ZONE)	SILTY SAND SHALE	
	100/1"								
							AUGER REFUSAL AT 11'4"		
15									
20									

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC. CLIENT: SEAD BORING NO.: MW45-4

PROJECT: SEAD 10 SWMU INVESTIGATION  
 LOCATION: SEAD SWMU 45

JOB NO.: 720477-01004  
 EST. GROUND ELEV.: 630.896  
 START DATE: 11/22/93  
 FINISH DATE: 11/22/93  
 CONTRACTOR: ENGINEERING-SCIENCE  
 DRILLER: EMPIRE SOILS  
 INSPECTOR: JWC/AD  
 CHECKED BY: \_\_\_\_\_  
 CHECK DATE: \_\_\_\_\_

**DRILLING SUMMARY:**

DRILLING METHOD	HOLE DIA.	DEPTH INT.	SAMPLER		HAMMER	
			SIZE	TYPE	TYPE	WT/FALL
HSA	8'6"	2' INTERVALS	24" x 3"	(SS)	HAMMER	140 <sup>lb</sup> /30"

**DRILLING ACRONYMS:**

HSA	HOLLOW-STEM AUGERS	HMR	HAMMER	SS	SPLIT SPOON
DW	DRIVE-AND-WASH	SHR	SAFETY HAMMER	CS	CONTINUOUS SAMPLING
MRLSC	MUD-ROTARY SOIL-CORING	HHR	HYDRAULIC HAMMER	SI	5 FT INTERVAL SAMPLING
CA	CASING ADVANCER	DHR	DOWN-HOLE HAMMER	NS	NO SAMPLING
SPC	SPIN CASING	WL	WIRE-LINE	ST	SHELBY TUBE
				3S	3 INCH SPLIT SPOON

**MONITORING EQUIPMENT SUMMARY**

INSTRUMENT TYPE	DETECTOR TYPE/ENERGY	RANGE	BACKGROUND			CALIBRATION		WEATHER
			READING	TIME	DATE	TIME	DATE	
OVM-580B	10.1 eV/Bq	0-2,000 PPM						
VICTOREEN 190B	CS-137							
MIE PDM-3	DUST COUNTER WINDOW							

**MONITORING ACRONYMS**

PID	PHOTO-IONIZATION DETECTOR	BGD	BACKGROUND	DGRT	DRAEGER TUBES
FID	FLAME-IONIZATION DETECTOR	CPM	COUNTS PER MINUTE	PPB	PARTS PER BILLION
GMD	GEIGER MUELLER DETECTOR	PPM	PARTS PER MILLION	MDL	METHOD DETECTION LIMIT
SCT	SCINTILLATION DETECTOR	RAD	RADIATION		

COMMENTS: <u>SWMU-45 BACKGROUND WELL</u>	OTHER REPORTS	DATE/PENDING	N/A
	WELL DEVELOPMENT	_____	_____
	SURVEYOR	_____	_____
	CORE LOG	_____	_____
	WELL INSTALLATION DETAILS	_____ ✓	_____
	HYDRAULIC TESTING	_____ ✓	_____
GEOPHYSICAL LOGGING	_____	_____	

# OVERBURDEN BORING REPORT

ENGINEERING-SCIENCE, INC.      CLIENT: **SEAD USAEOE**      BORING #: **MW45-4**

MONITORING				COMMENTS:
INSTRUMENT	INTERVAL	BGD	TIME	

DRILLER: **Bib TOWNSEND/c**  
INSPECTOR: **JWC/AS**  
DATE: **11/22/93**

DEPTH (FT)	SAMPLING			SAMPLE			SAMPLE DESCRIPTION <small>(As per Burmeister: color, grain size, MAJOR COMPONENT, Minor Components with amount modifiers and grain-size, density, stratification, wetness, etc.)</small>	USCS CLASS	STRATUM CLASS
	BLOWS PER 6 INCHES	PENETRATION RANGE (FEET)	RECOVERY RANGE (FEET)	DEPTH INT (FEET)	NO.	VOC			
1	2 5 12	2'	18"				TOPSOIL 1" (50%) TILL UNIT WITH SHALE FRAGMENTS INTERBEDDED THROUGHOUT IRON STAINED AREA AT 8" INTO THE UNIT BOTTOM 9" VERY COMPACTED TILL WITH LOW POROSITY DARK GREY	TILL	TOPSOIL
2	15 21	2'	19"				MEDIUM-GREY TILL W/SOME LIMESTONE CLASTS AND FRAGMENTED SHALE PIECES DISPERSED THROUGHOUT UNIT IN SMALL AMOUNTS	TILL	
3	31 38	2'	19"						
4	38 73	2'	9"						
5	100/3"	2'	9"						
6	73	2'	7"						
7	100/35"	2'	7"						
8									
9									
10									
15									
20									

## Test Pit Logs





# TEST PIT REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: <u>USACE</u>	TEST PIT #: <u>TP4-1</u>		
MONITORING DATA		DATE START: <u>11/10/93</u> DATE FINISH: <u>11/16/93</u> INSPECTOR: <u>DMK</u> CONTRACTOR: <u>LXB</u>		
INSTRUMENT	DETECTOR		BACKGROUND	TIME/DATE
PK <u>Dot</u> <u>UVM</u>	<u>P10</u>		<u>0</u>	<u>11/10/93 0800</u>
<u>Victoreen</u>			PK <u>40</u> <u>&lt;1</u>	<u>11/10/93 0830</u>
		<u>wing</u>		
		<u>units</u>		

SCALE (FT)	VOC./RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
1				topsoil	several inches of topsoil pit is pretty uniform clay loam	
2				uniform clay clay-loam	no odd color no foreign material	
3	<1 0/50 OK	TP4-1 11/10/93 0850	3 feet		lt brown dry clay, loam few rocks	photo # 10, 11 pit located 3' to 6' up berm
4						

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #: TP4-1

Handwritten notes at the top of the page, possibly a title or introductory text, which is mostly illegible due to fading.

Date	Description	Amount	Balance
1912	Jan 1	100.00	100.00
1912	Feb 1	50.00	50.00
1912	Mar 1	25.00	25.00
1912	Apr 1	15.00	10.00
1912	May 1	10.00	0.00
1912	Jun 1	5.00	-5.00
1912	Jul 1	3.00	-8.00
1912	Aug 1	2.00	-10.00
1912	Sep 1	1.00	-11.00

Handwritten notes at the bottom of the page, possibly a total or concluding remarks, which is mostly illegible.

# TEST PIT REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: <u>USACE</u>	TEST PIT #: <u>TP 4-2</u>
MONITORING DATA		DATE START: <u>11/8/93</u>
INSTRUMENT	DETECTOR	BACKGROUND
<u>GM</u>	<u>P10</u>	<u>0</u>
<u>Veteran 190</u>		<u>cl</u>
		TIME/DATE
		<u>11/16/93 0800</u>
		<u>11/16/93 0830</u>
		DATE FINISH: <u>11/8/93</u>
		INSPECTOR: <u>DMK</u>
		CONTRACTOR: <u>UXB</u>

SCALE (FT)	VOC/ RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
1				<u>Topsoil</u>		
2				<u>uniform clay clay loam</u>		
3	<u>0/cl</u>	<u>TP4-2</u> <u>11/16/93</u> <u>0916</u>	<u>3feet</u>		<u>lt brown-clay clay, clay-clay loam some rocks no foreign material</u>	<u>Photos 12 &amp; 13 Pit located 3' to 5' up berm</u>

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #: TP4-2

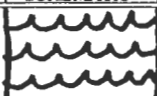
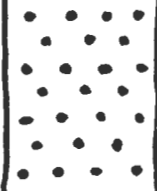





# TEST PIT REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: <b>SEAD</b>	TEST PIT #: <b>TP4-3</b>
PROJECT: <b>SENECA 10 SWMU INVESTIGATION</b>	JOB NUMBER: <b>720477-0100</b>	
LOCATION: <b>SEAD 4 TEST PIT TRIPLET LOCATION</b>	EST. GROUND ELEV.:	
TEST PIT DATA		
LENGTH: <b>6'</b>	WIDTH: <b>3'</b>	DEPTH: <b>4'</b>
EXCAVATION/SHORING METHOD: <b>BACK HOE</b>		
INSPECTOR: <b>JWC</b>		
CONTRACTOR: <b>ES/UXB</b>		
START DATE: <b>12/5/93</b>		
COMPLETION DATE: <b>12/5/93</b>		
CHECKED BY:		
DATE CHECKED:		

MONITORING DATA			
INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE
<b>OVM-580B</b>	<b>100eV</b>	<b>✓</b>	<b>10:20<sup>AM</sup> 12/5/93</b>
<b>LEL/O<sub>2</sub>/H<sub>2</sub>S</b>			

COMMENTS: Sample TP4-3.  
**SHALLOW OVERBURDEN SOILS**  
**WELL DEFINED UNITS**  
 1 ORGANIC 4 VOC - 40ML  
 1 INORGANIC 1 EXPLOSIVE  
 1 METALS  
 TOTAL SAMPLES: **[8]**

SCALE (FT)	VOC/RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
					<b>TOPSOIL, ROOT SYSTEMS HIGH ORGANIC CONTENT</b>	} ~6"
1					<b>LIGHT BROWN SILTY SAND FINE GRAINED &lt; 200 SIEVE SIZE W/SOME CLAY - GLACIAL TILL</b>	} 7"
2					<b>DARK TO MEDIUM (OLIVE) GREY UNIT DEFINING GLACIAL TILL PHASING INTO WEATHERED SHALE LAYER</b>  [WELL-DEFINED SHALE UNIT]	} 18"
3					<b>CONSISTENT SHALE UNIT - EXCAVATION TO BACKHOE REFUSAL NO INTRUSIVE PRESENCE</b>	} 17-18"
4					↓ <b>SHALE CONTINUATION</b>	
5						

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #: **TP4-3**

<p>1. [Faint text]</p>	<p>[Faint text]</p>	<p>[Faint text]</p>
<p>2. [Faint text]</p>	<p>[Faint text]</p>	<p>[Faint text]</p>
<p>3. [Faint text]</p>	<p>[Faint text]</p>	<p>[Faint text]</p>
<p>4. [Faint text]</p>	<p>[Faint text]</p>	<p>[Faint text]</p>
<p>5. [Faint text]</p>	<p>[Faint text]</p>	<p>[Faint text]</p>
<p>6. [Faint text]</p>	<p>[Faint text]</p>	<p>[Faint text]</p>

# TEST PIT REPORT

TIME 10:00 AM

ENGINEERING-SCIENCE, INC.	CLIENT: SEAD	TEST PIT #: TPA-4
PROJECT: SENECA 10 SWMU INVESTIGATIONS	JOB NUMBER: 720477-000	EST. GROUND ELEV.:
LOCATION: SEAD 4 TEST PIT TRIPLET LOCATION	INSPECTOR: JWC	CONTRACTOR: ES/UXB
TEST PIT DATA		START DATE: 12/5/93
LENGTH: 6.5'	WIDTH: 3'	DEPTH: 4'
		EXCAVATION/SHORING METHOD: BACKHOE
		COMPLETION DATE: 12/5/93
		CHECKED BY:
		DATE CHECKED:

MONITORING DATA				COMMENTS:
INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE	
OVM-580B	10.0 <sup>0V</sup>	φ	12/5/93	SHALLOW OVER BURDEN SOILS WELL DEFINED UNITS 1 ORGANICS - 500ML 1 INORGANICS - 500ML 4 VOC - 40ML 1 EXPLOSIVE - 40ML 1 METALS - 40ML
LEL/O <sub>2</sub> /H <sub>2</sub> S		—	12/5/93	
				TOTAL SAMPLES: [8]

SCALE (FT)	VOC/ RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
	φ				TOPSOIL, ROOT SYSTEMS HIGH ORGANIC CONTENT	7"
1	φ				LIGHT BROWN SILTY SAND FINE with some CLAY-TILL < 200 SIEVE SIZE	7"
2	φ	FOUR BOWLS AT SIDES OF THE PIT ~ 2 SAMPLE TP4-4	~ 2'		DARK- GREY → OLIVE GREY SOILS/TILL which phase INTO WEATHERED SHALE LAYER  [WELL-DEFINED SHALE UNIT]	18"
3	φ				CONSISTENT SHALE UNIT - LARGE PIECES EXCAVATION TO BACKHOE REFUSAL  (NO INTRUSIVE PRESENCE NOTED)	ALL NATURAL WELL SORTED SHALE
4						
5						

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #: TPA-4

Date	Description	Debit	Credit	Balance
1/1	Balance			100.00
1/5	Deposited		50.00	150.00
1/10	Withdrawal	20.00		130.00
1/15	Deposited		30.00	160.00
1/20	Withdrawal	10.00		150.00
1/25	Deposited		40.00	190.00
1/30	Withdrawal	15.00		175.00
2/1	Deposited		25.00	200.00
2/5	Withdrawal	30.00		170.00
2/10	Deposited		15.00	185.00
2/15	Withdrawal	25.00		160.00
2/20	Deposited		35.00	195.00
2/25	Withdrawal	18.00		177.00
2/28	Deposited		20.00	197.00
3/1	Withdrawal	22.00		175.00
3/5	Deposited		12.00	187.00
3/10	Withdrawal	15.00		172.00
3/15	Deposited		28.00	200.00
3/20	Withdrawal	12.00		188.00
3/25	Deposited		18.00	206.00
3/30	Withdrawal	20.00		186.00
3/31	Balance			186.00





# TEST PIT REPORT

TIME 9:40 <sup>AM</sup>

ENGINEERING—SCIENCE, INC.	CLIENT: SEAD	TEST PIT #: TP4-5
PROJECT: <u>SENECA 10 SWMU INVESTIGATIONS</u>	JOB NUMBER: <u>720477-0000</u>	
LOCATION: <u>SEAD 4 TEST PIT TRIPLET LOCATION</u>	EST. GROUND ELEV. _____	
TEST PIT DATA		INSPECTOR: <u>JWC</u>
LENGTH: <u>6'</u>	WIDTH: <u>3'</u>	DEPTH: <u>3.5-4'</u>
EXCAVATION/SHORING METHOD: <u>BACKHOE</u>		
		CONTRACTOR: <u>JES</u>
		START DATE: <u>12/5/93</u>
		COMPLETION DATE: <u>12/5/93</u>
		CHECKED BY: _____
		DATE CHECKED: _____

MONITORING DATA				COMMENTS:
INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE	
<u>OVM-580B</u>	<u>10.0EV</u>	<u>φ</u>	<u>12/5/93</u>	<u>SHALLOW OVERBURDEN SOILS</u> <u>WELL DEFINED UNITS</u>
<u>LEL/02/425</u>		<u>—</u>	<u>12/5/93</u>	
TOTAL SAMPLES: <u>[8]</u>				

SCALE (FT)	VOC./RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
—	φ				<u>TOPSOIL, ROOT SYSTEMS</u>	<u>} 6"</u>
1	φ				<u>LIGHT BROWN SILTY SAND</u> <u>FINE W/ SOME CLAY - TILL</u>  <u>200 SIEVE SIZE</u>	<u>} 8"</u>
2	φ	<u>Sample TP4-5 (FOUR) BOWLS AT SIDES OF THE PIT</u>	<u>~2'</u>		<u>DARKER GREY SOILS</u> <u>UNIT DEFINING TILL</u> <u>PHASING INTO WEATHERED SHALE LAYER</u>  <u>[WELL-DEFINED SHALE UNIT]</u>	<u>} 16"</u>
3	φ				<u>CONSISTENT SHALE</u> <u>UNIT - EXCAVATION</u> <u>TO BACKHOE REFUSAL</u> <u>NO INTRUSIVE PRESENCE NOTED</u>	<u>ALL NATURAL</u> <u>WELL SORTED</u>
4					<u>BACKHOE REFUSAL SHALE</u> <u>CONTINUATION</u> ↓	
5						

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #: TP4-5

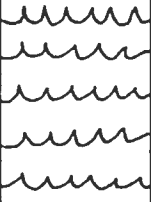
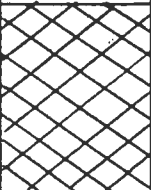
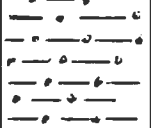
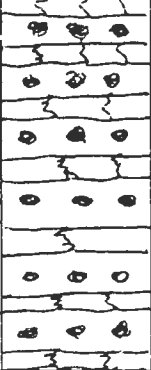
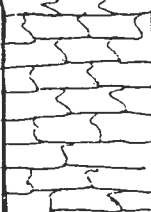



# TEST PIT REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: SEAD	TEST PIT #: TP4-6
PROJECT: <u>SENECA 10 SWMU INVESTIGATION</u>	JOB NUMBER: <u>720477-01000</u>	
LOCATION: <u>SEAD 4 CLAY PIPE TRACE</u>	EST. GROUND ELEV. _____	
TEST PIT DATA		
LENGTH: <u>48'</u>	WIDTH: <u>3'</u>	DEPTH: <u>6'</u>
EXCAVATION/SHORING METHOD: <u>BACKHOE</u>		
INSPECTOR: <u>JWC</u>		CONTRACTOR: <u>DES/WRB</u>
START DATE: <u>12/5/93</u>		COMPLETION DATE: <u>12/6/93</u>
CHECKED BY: _____		DATE CHECKED: _____

MONITORING DATA			
INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE
<u>OVM-580B</u>	<u>10.φ</u>	<u>φ</u>	<u>12/5/93 13:00</u>
<u>LEL/O2/H2S</u>			

COMMENTS:  
*EXCAVATED PERPENDICULAR TO 6" CLAY PIPE DIRECTION BUT WERE UNABLE TO LOCATE INTERSECTION*  
 Sample: TP4-6  
 TOTAL SAMPLES [8]

SCALE (FT)	VOC/RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
1	φ				TOPSOIL	} 12"
	φ				DARK GREY CLAYEY SAND WITH SOME INTERBEDDED SHALE CLASTS	} 11"
2	φ				SMALL REGION OF HEMATITIC SOIL MEDIUM-FINE	} 7"
3	φ				WEATHERED SHALE UNIT W/DARK GREY TILL	} 18"
4	φ				MORE COMPETENT SHALE UNIT	
5	φ					

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #: TP4-6



# TEST PIT REPORT

TIME 17:30

ENGINEERING-SCIENCE, INC.	CLIENT: SEAD	TEST PIT #: TPA-7
PROJECT: SEAD 10 SWMU INVESTIGATION	JOB NUMBER: 720477-01000	EST. GROUND ELEV. _____
LOCATION: SEAD 4 CLAY PIPE TRACE	INSPECTOR: JWC	CONTRACTOR: ES/UXB
TEST PIT DATA		START DATE: 12/5/93
LENGTH: 6'	WIDTH: 3'	DEPTH: 5'
		EXCAVATION/SHORING METHOD: BACKHOE
		COMPLETION DATE: 12/5/93
		CHECKED BY: _____
		DATE CHECKED: _____

INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE
OVM-580B	10.0 $\phi$ EV	$\phi$	12/5/93
LEL/O <sub>2</sub> /H <sub>2</sub> S		—	12/5/93

COMMENTS:  
 ~ 200' NE of the POND  
 T.P. WAS EXCAVATED UNTIL  
 CLAY PIPE WAS DISCOVERED  
 Sample: TP4-7  
 TOTAL SAMPLES: [8]

SCALE (FT)	VOC/RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
1	$\phi$ BGD				TOPSOIL W/ROOT SYSTEM HIGH ORGANIC CONTENT EVIDENCE OF INTRUSIVE LIGHT BROWN - GREY SOILS SMALL SHALE FRAGMENTS	HIGH GROUND - ALMOST BERM-LIKE 22"
3	$\phi$ BGD	2 BOWL SAMPLES			DARK GREY SILTY CLAYEY SAND WITH SOME SHALE CLASTS  SURROUNDING SHALE UNIT WAS HIGHER THAN AREA OF PIPE! This implied that the pipe was trrenched into the OVERBURDEN SHALE UNIT!	21" →
4	$\phi$ BGD	2 BOWL SAMPLES			FINE LIGHT GREY SILTY SAND LAYER!	SAMPLED CLAY PIPE
5						

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #:

*[Faint, illegible text, possibly bleed-through from the reverse side of the page]*



# TEST PIT REPORT

TIME 12:15 PM

ENGINEERING-SCIENCE, INC.	CLIENT: SEAD	TEST PIT #: TP4-8
PROJECT: SEAD 10 SWMU INVESTIGATION	JOB NUMBER: 720477-0100	
LOCATION: SEAD 4	EST. GROUND ELEV. _____	
TEST PIT DATA		INSPECTOR: JWC
LENGTH: 6'	WIDTH: 3'	DEPTH: 3'
EXCAVATION/SHORING METHOD: BACKHOE		
		CONTRACTOR: SES/UXB
		START DATE: 12/5/93
		COMPLETION DATE: 12/5/93
		CHECKED BY: _____
		DATE CHECKED: _____

MONITORING DATA			
INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE
OVM-580B	10.0EV	Ø	12/5/93
LEZ/02/H2S		—	12/5/93

COMMENTS:  
 ~75' NE of the pond  
 T.P. WAS EXCAVATED UNTIL  
 CLAY PIPE WAS DISCOVERED

TOTAL SAMPLES: [8]

SCALE (FT)	VOC./RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
1	Ø BGD.				TOPSOIL WITH SMALL SHALE FRAGMENTS INTERBEDDED EVIDENCE OF INTRUSION LIGHT BROWN - GREY SOILS	12"
2	Ø				DRK. GREY SILTY CLAYEY SAND WITH SOME CLASTS OF SHALE	14"
					SHALE FRAGMENTS LARGE 4-6" PIECES	3"
3	Ø BGD.	4 BOWLS TAKEN AROUND PIPE	~32" Sample TP4-8		CLAY PIPE	7"
4					WATER FLOWING THROUGH TO THE POND	
5						

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #:

Year	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025																																																																																															
Population	150,000	155,000	160,000	165,000	170,000	175,000	180,000	185,000	190,000	195,000	200,000	205,000	210,000	215,000	220,000	225,000	230,000	235,000	240,000	245,000	250,000	255,000	260,000	265,000	270,000	275,000	280,000	285,000	290,000	295,000	300,000	305,000	310,000	315,000	320,000	325,000	330,000	335,000	340,000	345,000	350,000	355,000	360,000	365,000	370,000	375,000	380,000	385,000	390,000	395,000	400,000	405,000	410,000	415,000	420,000	425,000	430,000	435,000	440,000	445,000	450,000	455,000	460,000	465,000	470,000	475,000	480,000	485,000	490,000	495,000	500,000	505,000	510,000	515,000	520,000	525,000	530,000	535,000	540,000	545,000	550,000	555,000	560,000	565,000	570,000	575,000	580,000	585,000	590,000	595,000	600,000	605,000	610,000	615,000	620,000	625,000	630,000	635,000	640,000	645,000	650,000	655,000	660,000	665,000	670,000	675,000	680,000	685,000	690,000	695,000	700,000	705,000	710,000	715,000	720,000	725,000	730,000	735,000	740,000	745,000	750,000	755,000	760,000	765,000	770,000	775,000	780,000	785,000	790,000	795,000	800,000	805,000	810,000	815,000	820,000	825,000	830,000	835,000	840,000	845,000	850,000	855,000	860,000	865,000	870,000	875,000	880,000	885,000	890,000	895,000	900,000	905,000	910,000	915,000	920,000	925,000	930,000	935,000	940,000	945,000	950,000	955,000	960,000	965,000	970,000	975,000	980,000	985,000	990,000	995,000	1,000,000





# TEST PIT REPORT

ENGINEERING-SCIENCE, INC.	CLIENT:	TEST PIT #: TP26-1
PROJECT: <u>SENECA 7 SWMU INVESTIGATION</u>	LOCATION: <u>SEAD 26 TEST PIT #1</u>	JOB NUMBER: <u>720477-61000</u>
TEST PIT DATA		EST. GROUND ELEV.:
LENGTH: <u>13'</u>	WIDTH: <u>4'6"</u>	DEPTH: <u>7'4"</u>
EXCAVATION/SHORING METHOD: <u>BACK HEE</u>		
INSPECTOR: <u>QWC</u>		CONTRACTOR: <u>ES/UXB</u>
START DATE: <u>11/18/93</u>		COMPLETION DATE: <u>11/18/93</u>
CHECKED BY:		DATE CHECKED:

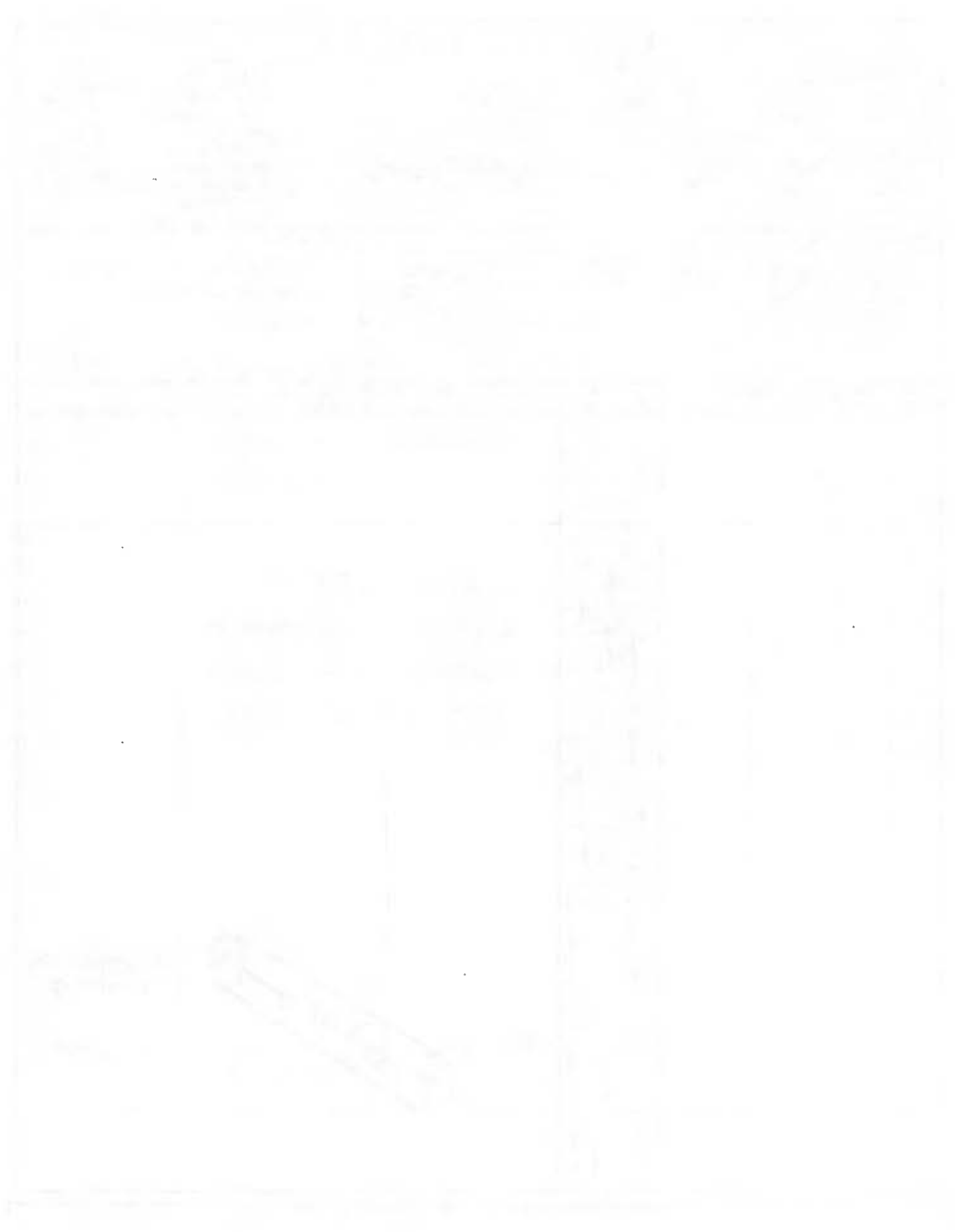
INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE
OVM-580B	10.0 <sup>EV</sup>	Ø	3:05 PM
LEL/O2/H2S		—	3:05 PM
RADIATION		—	3:05 PM

COMMENTS:  
 SEAD 26 - Level B  
 INVESTIGATION  
 SUNNY  
 TOTAL SAMPLES: [8] 2 sets

SCALE (FT)	VOC/RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
		TP26-1-1	0-8"		TOPSOIL w/ SHALE FRAGMENTS	
1					LARGE SHALE LAYERS w/ MEDIUM COARSE SAND BROWN-GREY (FILL) THEREIN	
2						
3						
4					4 1/2" Ø steel pipe	* Geophysical Anomaly See photo
5						

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #: TP26-1



# TEST PIT REPORT

ENGINEERING-SCIENCE, INC.		CLIENT: SEAD 7 SWMU		TEST PIT #: TP26-1	
MONITORING DATA				DATE START: 11/18/93	
INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE	DATE FINISH: 11/18/93	
AS ABOVE ON PAGE 1				INSPECTOR: JWC	
				CONTRACTOR: ES/UXB	

SCALE (FT)	VOC/RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
6					FILL AS ABOVE ↓	
7		TP26-1-2	6'6" - 7'		TILL @ 6'6" - 7' w/ some SHALE FRAGMENTS	Probable * TILL
					7'4" Bottom of TEST PIT	

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #: TP26-1

Date	Description	Debit	Credit	Balance
1/1/20	Opening Balance			100.00
1/5/20	Cash	50.00		150.00
1/10/20	Bank	20.00		130.00
1/15/20	Sales		75.00	205.00
1/20/20	Expenses	30.00		175.00
1/25/20	Cash	10.00		165.00
1/30/20	Bank	15.00		150.00
2/1/20	Sales		80.00	230.00
2/5/20	Expenses	40.00		190.00
2/10/20	Cash	25.00		215.00
2/15/20	Bank	10.00		205.00
2/20/20	Sales		90.00	295.00
2/25/20	Expenses	50.00		245.00
2/30/20	Cash	30.00		275.00
3/1/20	Bank	15.00		260.00
3/5/20	Sales		100.00	360.00
3/10/20	Expenses	60.00		300.00



# TEST PIT REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: SEAD	TEST PIT #: TP26-2
PROJECT: SENECA 7 SWMU INVESTIGATION	LOCATION: SEAD 26 TEST PIT #2	JOB NUMBER: 720477-01000
TEST PIT DATA		EST. GROUND ELEV.:
LENGTH: 11'	WIDTH: 2.5'-3'	DEPTH: 5.48'
EXCAVATION/SHORING METHOD: BACKHOE		INSPECTOR: A/N/C
		CONTRACTOR: ES/UXB
		START DATE: 11/18/93
		COMPLETION DATE: 11/18/93
		CHECKED BY:
		DATE CHECKED:

MONITORING DATA			
INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE
OVM-580B	10.0ev	—	1:30 PM
LEL/O <sub>2</sub> /H <sub>2</sub> S		—	1:30 PM
RADIATION		—	1:30 PM

**COMMENTS:**  
 SEAD 26 - Level B  
 INVESTIGATION  
 WEATHER WAS SUNNY

TOTAL SAMPLES: [8] 2 sets

SCALE (FT)	VOC/RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
		TP26-2-1	0-8"		TOPSOIL w/ SMALL FRACTURED SHALE LAYERS SOME SILT-FILL MATERIAL	
1					MEDIUM - SHALE PIECES - LAYERS (2" - 5") WITH med. - coarse SILTY SAND BROWN - Grey	
2					FILL	
3						* Geophysical proximity
4					SHALE LAYERS (1" - 3") FILL (AS ABOVE)	
5						

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #:

*[Faint, illegible text, possibly bleed-through from the reverse side of the page]*



# TEST PIT REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: SEAD	TEST PIT #: TP 26-2
MONITORING DATA		DATE START: 11/18/93
INSIRUMENT	DETECTOR	DATE FINISH: 11/18/93
AS	ABOVE ON PAGE 1	INSPECTOR: GWC
		CONTRACTOR: ES/UXB

SCALE (FT)	VOC/RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
5		TP26-22	5'6"		FILL ↓ TILL (composition) WATER TABLE	Probable TILL ZONE
6						

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #: TP 26-2





# TEST PIT REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: SEAD	TEST PIT #: TP26-3
PROJECT: SENECA ARMY DEPOT (7 SWMU Investigation)	JOB NUMBER: 720477-01000	
LOCATION: SEAD 26 LOCATION #3	EST. GROUND ELEV. _____	
TEST PIT DATA		
LENGTH: 17'	WIDTH: 2.5-3'	DEPTH: 7'2"
EXCAVATION/SHORING METHOD: BACK HOE		
INSPECTOR: JWC		CONTRACTOR: ES/UXB
START DATE: 11/17/93		COMPLETION DATE: 11/17/93
CHECKED BY: _____		DATE CHECKED: _____

MONITORING DATA			
INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE
OVM-580 B	10.0 $\mu$ ev	$\emptyset$	11/17/93 10:30 <sup>AM</sup>
LEL/O <sub>2</sub> /H <sub>2</sub> S			11/17/93 10:30 <sup>AM</sup>

COMMENTS:  
 SEAD 26 - Level B investigation  
 VOA (1) 40 mL SWOX, TPH, Pest./Pest  
 METAL (1) 40 mL Herbicides (1) 500 mL  
 CN, NITRATE (1) 500 mL  
 TOTAL SAMPLES: [8] (2 sets)

SCALE (FT)	VOC/RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
1		TP24-31 ↑ wasn't Designated	0-12"		TOPSOIL w/INTERBEDDED SHALE FRAGMENTS - Some FINE SILTY SAND	
2					SMALL FRAGMENTED SHALE UNITS w/some FILL MATERIAL  Two pieces OF WOOD  TEST PIT ANOMALY	* ANOMALY IN question
3					SHALE FRAGMENTS w/ FILL MED. Grey → BROWN SILT	
4						
5						

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #:

Date	Description	Debit	Credit	Balance
1/1/20	Opening Balance			100.00
1/5/20	Cash	50.00		150.00
1/10/20	Bank	20.00		130.00
1/15/20	Sales		75.00	205.00
1/20/20	Expenses	30.00		175.00
1/25/20	Cash	10.00		165.00
1/30/20	Bank	15.00		150.00
2/1/20	Sales		80.00	230.00
2/5/20	Expenses	25.00		205.00
2/10/20	Cash	15.00		190.00
2/15/20	Bank	10.00		180.00
2/20/20	Sales		90.00	270.00
2/25/20	Expenses	35.00		235.00
2/28/20	Cash	20.00		215.00
3/1/20	Bank	15.00		200.00
3/5/20	Sales		100.00	300.00
3/10/20	Expenses	40.00		260.00



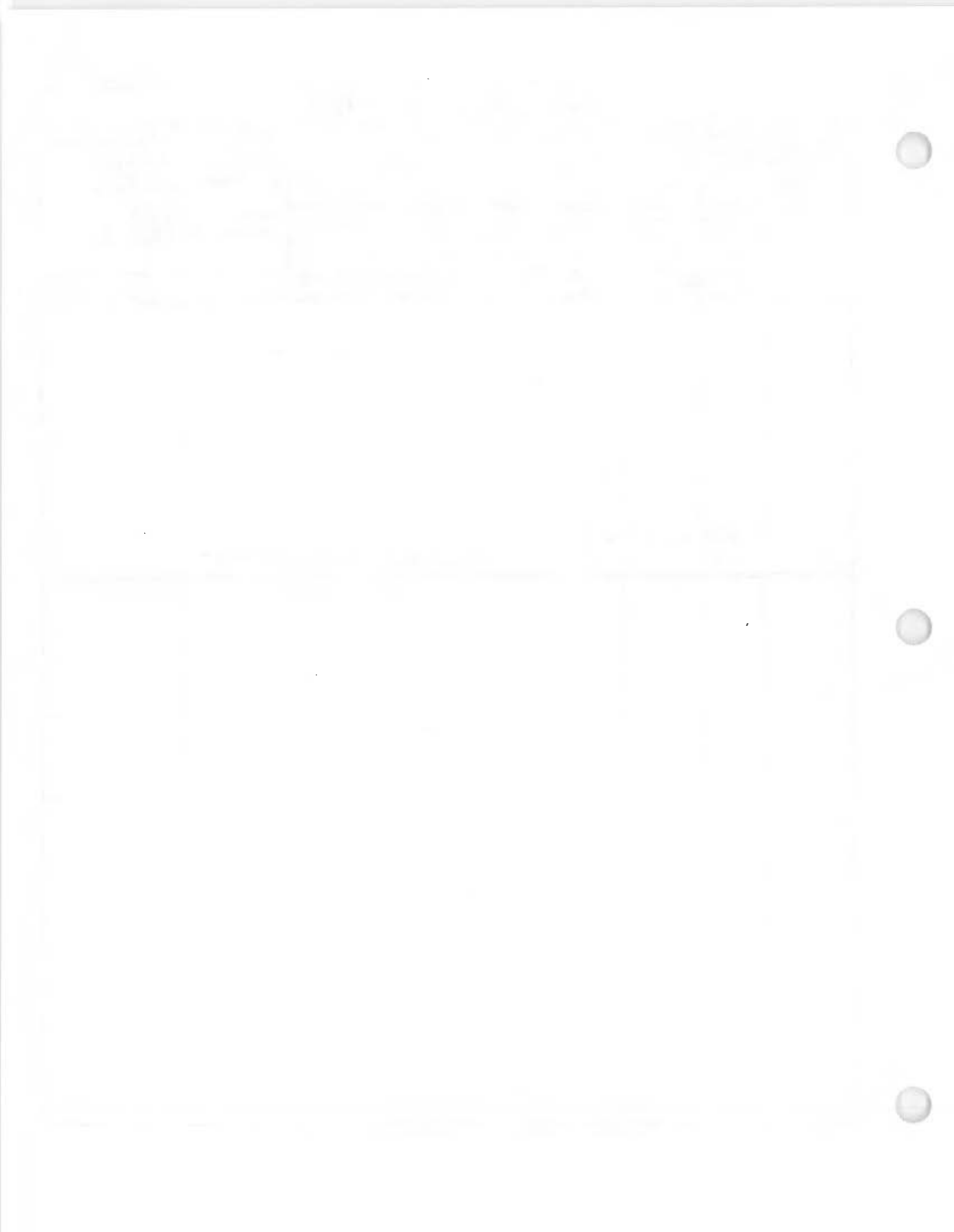
# TEST PIT REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: SEAD 7 SWMU	TEST PIT #: TP26-3		
MONITORING DATA		DATE START: 11/17/93 DATE FINISH: 11/17/93 INSPECTOR: JWC CONTRACTOR: ES/VXB		
INSTRUMENT	DETECTOR		BACKGROUND	TIME/DATE
← AS PREVIOUS →				

SCALE (FT)	VOC/RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
6					AS ABOVE	
7		TP26-32 NOT RE-SAMPLED	66"-72"		BOTTOM OF TEST PIT	
8						

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

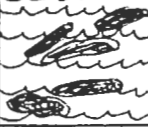
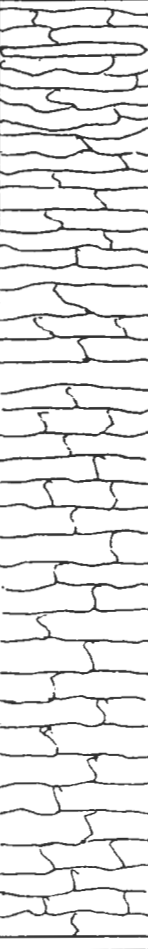
TEST PIT #:



# TEST PIT REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: SEAD '7 SWMU Investigation	TEST PIT #: 26-4
PROJECT: SEAD 26	SENECA ARMY DEPOT	JOB NUMBER: 720477-0100
LOCATION: SEAD 26	LOCATION 4	EST. GROUND ELEV.:
TEST PIT DATA		INSPECTOR: JWC
LENGTH: 11'	WIDTH: 35'	DEPTH: 5'
EXCAVATION / SHORING METHOD: BACKHOE		
		CONTRACTOR: ES/UXB
		START DATE: 11/17/93
		COMPLETION DATE: 11/17/93
		CHECKED BY:
		DATE CHECKED:

MONITORING DATA				COMMENTS:
INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE	
OVM-580B	10.0 ev	∅	11/17/93 9:30 AM	SEAD 26 - LEVEL B investigation WEATHER WAS POOR (RAINING)
LEL/O <sub>2</sub> /H <sub>2</sub> S			11/17/93 9:30 AM	
				TOTAL SAMPLES: [8] (2 sets)

SCALE (FT)	VOC./RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
		TP26-41 ↑ wasn't design	0-8"		VERY THIN TOPSOIL ZONE WITH BROKEN SHALE FRAGMENTS	
1					WELL SORTED LARGE 9"-20" SECTIONS OF SHALE (USED APPARENTLY AS FILL NATIVE)	
2					↓	
3						
4		TP26-42 ↑ wasn't design	46"		ANOMALY WAS NONMETALLIC AND PROBABLY THE DENSE SHALE COMPONENT	
					BOTTOM OF PIT 46"-5'	
5						

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #: TP26-4



# TEST PIT REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: <u>SEAD</u>	TEST PIT #: <u>TP26-5</u>
PROJECT: <u>SENECA 7 SWMU INVESTIGATION</u>	JOB NUMBER: <u>720477-0100</u>	
LOCATION: <u>SEAD 26 TEST PIT #5</u>	EST. GROUND ELEV. _____	
TEST PIT DATA		
LENGTH: <u>11'</u>	WIDTH: <u>2.5'</u>	DEPTH: <u>6'8"</u>
EXCAVATION/SHORING METHOD: <u>BACK HOE</u>		
INSPECTOR: <u>JWC</u>		
CONTRACTOR: <u>ES/UXB</u>		
START DATE: <u>11/17/93</u>		
COMPLETION DATE: <u>11/17/93</u>		
CHECKED BY: _____		
DATE CHECKED: _____		

MONITORING DATA	COMMENTS:
INSTRUMENT: <u>OVM-580B</u>	<p><u>SEAD 26 - LEVEL B INVESTIGATION</u></p> <p><u>WEATHER WAS POOR (RAINING)</u></p> <p>TOTAL SAMPLES: <u>[8]</u> 2 sets</p>
DETECTOR: <u>10.0 eV</u>	
BACKGROUND: <u>[Symbol]</u>	
TIME/DATE: <u>2:30 PM</u>	
LEL/O <sub>2</sub> /H <sub>2</sub> S RADIATION	

SCALE (FT)	VOC/RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
1		TP26-51	0-13"		<p>TOPSOIL UNIFORM W/SMALL LAYERS OF SHALE BUT NOT A SIGNIFICANT QUANTITY</p>	
2					<p>BROWN - GREY MEDIUM - COARSE SAND W/SOME SILT</p>	
3					<p style="writing-mode: vertical-rl; transform: rotate(180deg);">FILL</p>	
4					<p>BRICK LAYER BEGINS</p>	
5						

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

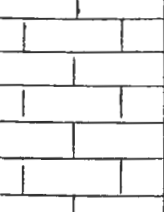

TEST PIT #:





# TEST PIT REPORT

ENGINEERING-SCIENCE, INC.		CLIENT: SEAD		TEST PIT #: TP26-5	
MONITORING DATA					
INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE		
AS ABOVE ON PAGE 1			DATE START: 11/17/93		
			DATE FINISH: 11/17/93		
			INSPECTOR: JWC		
			CONTRACTOR: ES/UXB		

SCALE (FT)	VOC/RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
6					Red-ORANGE BRICKS IN A LARGE CLUSTER 5'-6"	* probable Geophysical ANOMALY
		TP26-52	5'-6"		BOTTOM OF TEST PIT	6'8"
7						

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #:



# TEST PIT REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: SEAD	TEST PIT #: TP26-6
PROJECT: SENECA 7 SWIM Investigation	JOB NUMBER: 720477-0100	EST. GROUND ELEV.:
LOCATION: SEAD 26 TEST PIT #6	INSPECTOR: gml	CONTRACTOR: ES/VXB
TEST PIT DATA		START DATE: 11/18/93
LENGTH: 10'	WIDTH: 4'	DEPTH: 6'
EXCAVATION/SHORING METHOD: BACKHOE		
COMPLETION DATE: 11/18/93		CHECKED BY:
DATE CHECKED:		

MONITORING DATA				COMMENTS:
INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE	
OVM-5803	10.0eV	✓	9:15 AM	SEAD 26 - Level B INVESTIGATION! WEATHER WAS OVERCAST PARTLY SUNNY
			9:15 AM	
TOTAL SAMPLES: [8] 2 sets				

SCALE (FT)	VOC/RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
1		TP26-6-1	0-8"		ORGANIC TOPSOIL w/ MED-COARSE SAND SOME SILT	
2					Concrete SLAB BRICKS THROUGHOUT UNIT	
3					FILL MATERIAL CONSISTING OF MED-COARSE GREY SAND / SOME SILT	Determination of Geophysical Anomaly probably construction Debris from building
4					4"x6" piece of steel	
5					WET-MOIST	

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #:

Table with 4 columns and 10 rows. The text is extremely faint and illegible.

Column 1	Column 2	Column 3	Column 4






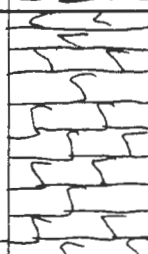

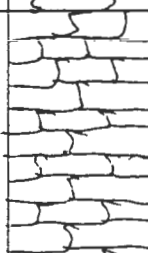
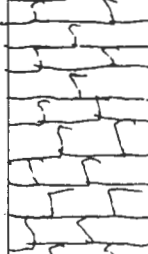



# TEST PIT REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: SEAD	TEST PIT #: TP26-7
PROJECT: SENECA 7 SWMU INVESTIGATION	JOB NUMBER: 720977-0100	EST. GROUND ELEV.
LOCATION:	INSPECTOR: JWL	CONTRACTOR: ES/NXB
TEST PIT DATA		START DATE: 11/18/03
LENGTH: 10'	WIDTH: 2.5-3'	DEPTH: 6'
EXCAVATION/SHORING METHOD: BACKHOE		
		COMPLETION DATE: 1/18/03
		CHECKED BY:
		DATE CHECKED:

MONITORING DATA			
INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE
OVM-580B	10 pEV	∅	11:05 AM
LEL/O <sub>2</sub> /H <sub>2</sub> S RAD		✓	11:05 AM 11:05 AM

COMMENTS:  
 SEAD 26 - Level B  
 INVESTIGATION  
 WEATHER WAS SUNNY  
 TOTAL SAMPLES: [8] 2 sets

SCALE (FT)	VOC/RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
		TP26-7-1	0-8"		TOPSOIL WITH SHALE FRAGMENTS	
1					LARGE SHALE UNITS WITH SOME FILL MATERIAL i.e. GRY MED-COARSE SAND w/some SILT	
2					3 GALLONS METAL BUCKET	* Geophysical ANOMALY
3					SHALE UNIT CONTINUES WITH FILL MATERIAL CONSISTING OF MED-COARSE SAND GREY w/some SILT	
4						
5						

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #:





# TEST PIT REPORT

ENGINEERING-SCIENCE, INC. CLIENT: SENEZA 7 SWMU TEST PIT #: TP26-7

MONITORING DATA			
INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE
AS	ABOVE	ON	PAGE 1

DATE START: 11/18/93  
 DATE FINISH: 11/18/93  
 INSPECTOR: JWC  
 CONTRACTOR: ES/UXB

SCALE (FT)	VOC/ RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
					5'4"  WATER TABLE	
		TP26-7-2	5'6"-6'		SHALE LAYERS WITH MED-FINE SILTY SAND	
6					BOTTOM OF TEST PIT	

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #:

Faint, illegible text at the top of the page, possibly a header or introductory paragraph.

Main body of faint, illegible text, appearing to be several paragraphs of a document.



# TEST PIT REPORT

ENGINEERING - SCIENCE, INC.	CLIENT:	TEST PIT #: <b>TP26-8</b>
PROJECT: <b>SENECA 7 SWMU</b>	LOCATION: <b>SEAD 26 TEST #8</b>	JOB NUMBER: <b>720477-0100</b>
TEST PIT DATA		EST. GROUND ELEV.:
LENGTH: <b>14'</b>	WIDTH: <b>2.5'</b>	DEPTH: <b>6'7"</b>
EXCAVATION/SHORING METHOD: <b>BACK HOE</b>		
INSPECTOR: <b>JWC</b>		CONTRACTOR: <b>ES/UXB</b>
START DATE: <b>11/19/93</b>		COMPLETION DATE: <b>11/19/93</b>
CHECKED BY:		DATE CHECKED:

MONITORING DATA				COMMENTS:
INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE	
<b>OVM-580B</b>	<b>10.0eV</b>		<b>9:00 AM</b>	<b>SEAD 26 - LEVEL B INVESTIGATION - OVERCAST -</b>
<b>LEL/O2/H2S</b>			<b>9:00 AM</b>	
<b>RADIATION</b>			<b>9:00 AM</b>	
TOTAL SAMPLES: <b>[8] 2 sets</b>				

SCALE (FT)	VOC/RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
		<b>TP26-81</b>	<b>0-8"</b>		<b>TOPSOIL W/ SHALE FRAGMENTS</b>	
1					<b>SPARSE BRICKS</b>	<b>FILL</b> 
2					<b>ROOT SYSTEM OF NEARBY &lt;10ft COTTONWOOD &gt; 18" in DIAMETER</b>	
3					<b>ENCOUNTERED RUBBER MATERIAL LIKE A BOOT OR BALL</b>	
4					<b>METAL PIECES</b>	
5					<b>Med - BROWN - GREY SILTY SAND</b>	<b>see photo</b>

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #:

Handwritten notes at the top of the page, including a date and a title. The text is very faint and difficult to read.

1	...
2	...
3	...
4	...
5	...
6	...
7	...
8	...
9	...
10	...

Handwritten notes at the bottom of the page, including a signature and a date. The text is very faint and difficult to read.

# TEST PIT REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: <b>SEAD</b>	TEST PIT #: <b>TP26-8</b>
MONITORING DATA		DATE START: <b>11/19/93</b>
INSTRUMENT	DETECTOR	BACKGROUND
<b>AS ABOVE ON PAGE 1</b>		
		DATE FINISH: <b>11/19/93</b>
		INSPECTOR: <b>JMC</b>
		CONTRACTOR: <b>ES/UXB</b>

SCALE (FT)	VOC/RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
6		TP26-82	6'-6.6"		TILL @ 5'5"  BOTTOM OF TEST PIT 6'7"	Probable TILL
7						

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #:

Faint, illegible text at the top of the page, possibly a header or title area.

Second section of faint, illegible text, appearing to be a list or table of contents.

Main body of faint, illegible text, likely the primary content of the document.

# TEST PIT REPORT

ENGINEERING--SCIENCE, INC.	CLIENT: <u>USACE</u>	TEST PIT #: <u>TP45-1</u>
PROJECT: <u>SEAD 10 SWMU ESE</u>	JOB NUMBER: _____	
LOCATION: <u>SWMU 45 - Berm</u>	EST. GROUND ELEV. _____	
TEST PIT DATA		INSPECTOR: <u>D. Kelmner</u>
LENGTH: <u>5'</u>	WIDTH: <u>3'</u>	DEPTH: <u>3'</u>
EXCAVATION/SHORING METHOD: <u>Backhoe / no shoring</u>		
CONTRACTOR: <u>UXB</u>		START DATE: <u>11/8</u>
CHECKED BY: _____		COMPLETION DATE: _____
DATE CHECKED: _____		

MONITORING DATA			
INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE
<u>DVM</u>	<u>PID</u>	<u>0</u>	
<u>Victoreen 190</u>		<u>0</u>	

COMMENTS:

TOTAL SAMPLES: \_\_\_\_\_

SCALE (FT)	VOC/RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
1						
2						
3	<u>o/c</u>	<u>TP45-1</u> <u>TP45-1MRP</u> <u>TP45-11</u> <u>11/3/93</u>	<u>3 ft</u>		<u>Dry-silt-clay</u> <u>medium brown</u> <u>some carbonate</u>	<u>Photo #2</u>
4		<u>1300</u> <u>(115 (TP45-11))</u>				
5						

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #: TP45-1





# TEST PIT REPORT

ENGINEERING—SCIENCE, INC.	CLIENT: <u>USACE</u>	TEST PIT #: <u>TP45-2</u>
PROJECT: <u>SEAD to SWMA ESE</u>	LOCATION: <u>SWMA 45 - Berm</u>	JOB NUMBER: _____
TEST PIT DATA		EST. GROUND ELEV. _____
LENGTH: <u>5'</u>	WIDTH: <u>3'</u>	INSPECTOR: <u>D.M.V.</u>
DEPTH: <u>3'</u>	EXCAVATION/SHORING METHOD: <u>Backhoe / no shoring</u>	CONTRACTOR: <u>WXB</u>
		START DATE: <u>11/3/93</u>
		COMPLETION DATE: <u>11/3/93</u>
		CHECKED BY: _____
		DATE CHECKED: _____

MONITORING DATA			
INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE
<u>UVM</u>	<u>PJD</u>	<u>0</u>	
<u>Victorinox 100</u>		<u>0</u>	

COMMENTS:

TOTAL SAMPLES: \_\_\_\_\_

SCALE (FT)	VOC/ RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
1						
2						
3	<u>0/0</u>	<u>TP45-2</u>	<u>3 ft</u>		<u>Dark-brown-clayey few small rocks some coarse</u>	<u>Pinote #1</u>
4						
5						

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #: TP45-2



# TEST PIT REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: <u>USACE</u>	TEST PIT #: <u>TP45-3</u>
PROJECT: <u>SEAD to SWMN EST</u>	JOB NUMBER: _____	EST. GROUND ELEV. _____
LOCATION: <u>SWMN 45 - Berm</u>	INSPECTOR: <u>DMK</u>	CONTRACTOR: <u>UXB</u>
TEST PIT DATA		START DATE: <u>11/8/93</u>
LENGTH: <u>5'</u>	WIDTH: <u>3'</u>	DEPTH: <u>3'</u>
EXCAVATION/SHORING METHOD: <u>Backhoe / no shoring</u>		
		COMPLETION DATE: <u>11/8/93</u>
		CHECKED BY: _____
		DATE CHECKED: _____

MONITORING DATA			
INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE
<u>GM</u>	<u>P10</u>	<u>0</u>	
<u>Victoreen 190</u>		<u>0</u>	

COMMENTS:

TOTAL SAMPLES:

SCALE (FT)	VOC/RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
1						
2						
3	<u>N/O</u>	<u>TP45-3 1415 11/8/93</u>	<u>3 FT</u>		<u>Dark brown - clay moist, clumpy some ordnance</u>	<u>Photo #3</u>
4						
5						

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #: TP45-3

Date	Description	Debit	Credit	Balance
1/1/20	Opening Balance			100.00
1/5/20	Cash	50.00		150.00
1/10/20	Bank	20.00		130.00
1/15/20	Sales		75.00	205.00
1/20/20	Expenses	30.00		175.00
1/25/20	Cash	10.00		165.00
1/30/20	Bank	15.00		150.00
2/1/20	Sales		80.00	230.00
2/5/20	Expenses	40.00		190.00
2/10/20	Cash	25.00		215.00
2/15/20	Bank	10.00		205.00
2/20/20	Sales		90.00	295.00
2/25/20	Expenses	50.00		245.00
2/30/20	Cash	30.00		275.00
3/1/20	Bank	15.00		260.00
3/5/20	Sales		100.00	360.00
3/10/20	Expenses	60.00		300.00
3/15/20	Cash	20.00		320.00

# TEST PIT REPORT

ENGINEERING-SCIENCE, INC.		CLIENT: <u>USACOE</u>		TEST PIT #: <u>TP 45-4</u>	
MONITORING DATA <u>Berm Excavation</u>					
INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE		
<u>OVM</u>	<u>PIU</u>	<u>0</u>	<u>0900</u>	<u>11/9/93</u>	
<u>Vickreem 190</u>		<u>0</u>	<u>0900</u>	<u>11/9/93</u>	
			DATE START: <u>11/9/93</u>		
			DATE FINISH: <u>11/9/93</u>		
			INSPECTOR: <u>OMK</u>		
			CONTRACTOR: <u>UXB</u>		

SCALE (FT)	VOC/RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
1						
2						
3	<u>0/0</u>	<u>TP45-4</u> <u>11/9/93</u> <u>1245</u>	<u>3 feet</u>		<u>Brown clay and silt</u> <u>East side is moist and</u> <u>very clayey. Rest is dry.</u> <u>No foreign material</u>	<u>Photo # 8</u> <u>Rinsate</u> <u>sample</u>
4						

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #: TP45-4

Date	Description	Debit	Credit	Balance
1998	Jan 1			
1998	Jan 1			
1998	Jan 1			
1998	Jan 1			
1998	Jan 1			
1998	Jan 1			
1998	Jan 1			
1998	Jan 1			
1998	Jan 1			
1998	Jan 1			
1998	Jan 1			
1998	Jan 1			
1998	Jan 1			
1998	Jan 1			
1998	Jan 1			
1998	Jan 1			
1998	Jan 1			
1998	Jan 1			
1998	Jan 1			
1998	Jan 1			
1998	Jan 1			
1998	Jan 1			



# TEST PIT REPORT

ENGINEERING—SCIENCE, INC.	CLIENT: <u>USACOE</u>	TEST PIT #: <u>TP45-5</u>		
MONITORING DATA <u>Berm Excavation</u>				
INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE	DATE START:
<u>01M</u>	<u>PFD</u>	<u>0</u>	<u>0900 11/9/93</u>	<u>11/9/93</u>
<u>Victorinox 190</u>		<u>0</u>	<u>0900 11/9/93</u>	DATE FINISH:
				INSPECTOR:
				<u>DMK</u>
				CONTRACTOR:
				<u>UXB</u>

SCALE (FT)	VOC/RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
1						
2						
3						
4	0/0	TP45-5 11/9/93 1315	3feet		Dark brown dry clay, silt no foreign material	Photo #9

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #: TP45-5





# TEST PIT REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: <u>US ACOE</u>	TEST PIT #: <u>TP45-1</u>
PROJECT: <u>Seneca Army Depot</u>	LOCATION: <u>Sead-45</u>	JOB NUMBER: _____
TEST PIT DATA		EST. GROUND ELEV. _____
LENGTH: <u>6'</u>	WIDTH: <u>1.5'</u>	DEPTH: <u>3.5'</u>
EXCAVATION/SHORING METHOD _____		
INSPECTOR: <u>SS/LB</u>		CONTRACTOR: _____
START DATE: <u>11/15/93</u>		COMPLETION DATE: <u>11/15/93</u>
CHECKED BY: _____		DATE CHECKED: _____

MONITORING DATA				COMMENTS:
INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE	
<u>GM</u>	<u>PED</u>	<u>0 ppm</u>	<u>11/15/93</u>	
<u>DUST</u>		<u>0</u>	<u>11/15/93</u>	
<u>11/15/93</u>		<u>5 ppm</u>	<u>11/15/93</u>	

SCALE (FT)	VOC/RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
	○		0-1'		<u>Core #1</u> <u>20 min. orange</u> <u>ash (black)</u> <u>CLAY sam. cut</u>	
1	○		1-2'		<u>rad = 8</u> <u>dust = .04</u>	
2	○				<u>rad = 8</u> <u>dust = .04</u> <u>more of same</u> <u>rad = 10</u> <u>dust = .04</u>	<u>Picture # 10</u>
3	○				<u>burn pits 2.5'</u> <u>radial material ceasing</u> <u>very stiff CLAY</u>	
4						
5						

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #: TP45-1



# TEST PIT REPORT

ENGINEERING-SCIENCE, INC. CLIENT: ARDE TEST PIT #: TP 45-2

PROJECT: 10 South JOB NUMBER: \_\_\_\_\_  
 LOCATION: SEAD 45 EST. GROUND ELEV. \_\_\_\_\_  
 INSPECTOR: S. B.

TEST PIT DATA				EXCAVATION/SHORING METHOD	CONTRACTOR:	START DATE: <u>11/15/93</u>	COMPLETION DATE: <u>11/15/93</u>	CHECKED BY: _____	DATE CHECKED: _____
LENGTH	WIDTH	DEPTH							
<u>4'</u>	<u>2'</u>	<u>1.5'</u>							

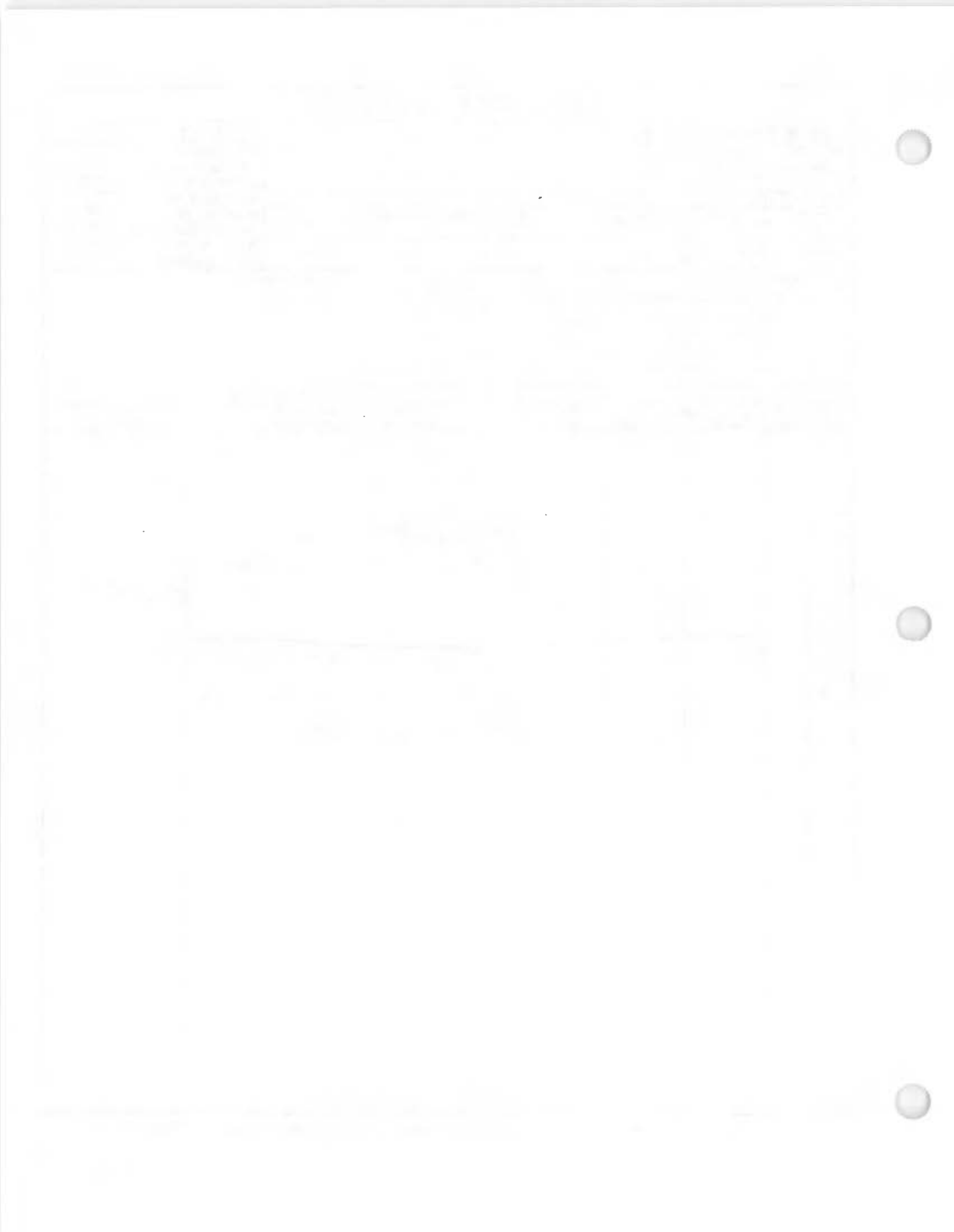
MONITORING DATA				
INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE	
<u>OVM</u>		<u>0 ppm</u>	<u>12:30</u>	<u>11/15/93</u>
<u>Min/Radi</u>		<u>0.04</u>	<u>12:30</u>	<u>"</u>
<u>Min/Radi</u>		<u>10 ppm</u>	<u>12:30</u>	<u>"</u>

COMMENTS:

TOTAL SAMPLES: \_\_\_\_\_

SCALE (FT)	VOC/RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
0			0-1'		Filled w/water CLAY silt sand 2 pipes at 6" steel pipes w/ electrical wires shale fragments, some ash 0.04 = dust 10 = Radiation	probe #9
1						
2					1.5' = end of test pit detection wire (not included) (use look 2 probes)	
3						
4						
5					dust + radiation meters	

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS TEST PIT #:



# TEST PIT REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: ACOE	TEST PIT #: 70-75-3
PROJECT: 10 SMWU	LOCATION: SEAD 45	JOB NUMBER:
TEST PIT DATA		EST. GROUND ELEV.:
LENGTH: 20'	WIDTH: 2'	DEPTH: 2.5'
EXCAVATION/SHORING METHOD:		INSPECTOR: 5/18
		CONTRACTOR:
		START DATE: 11/15/93
		COMPLETION DATE: 11/15/93
		CHECKED BY:
		DATE CHECKED:

INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE
OVN:		0	1300 11/15/93
Miniram		.04	1300 11/15/93
Radiation		10	1300 11/15/93

COMMENTS:

TOTAL SAMPLES:

SCALE (FT)	VOC/RAD.	SAMPLE NUMBER	DEPTH RANGE	STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
1	0		0-1		CLAY, shale fragments metal fragments wire mesh steel Rod monitoring debris VERY DISTURBED	
2	0		1-2		Very stiff CLAY rich glacial fill - shale fragments <del>CONDUIT AT 1.4'</del> rounded rocks shil disturbed VERY COMPACT 10 w/h - radiation .04 = dust end of pit 1" pipe - galvanize + *	protect # 8
3					NOTES Tan E to W tank 160N 28SE → 300E based on deeping soil 160N 28SE = Pipe head 11-3	
4						
5						

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #: 45-3

*[Faint, illegible text, possibly bleed-through from the reverse side of the page]*



# TEST PIT REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: <u>ACOE</u>	TEST PIT #: <u>75-4</u>
PROJECT: <u>10 SMWU</u>	LOCATION: <u>SEAD 45</u>	JOB NUMBER: _____
TEST PIT DATA		EST. GROUND ELEV. _____
LENGTH	WIDTH	DEPTH
EXCAVATION/SHORING METHOD		
CONTRACTOR:		INSPECTOR: <u>SS/LB</u>
START DATE:		COMPLETION DATE:
CHECKED BY:		DATE CHECKED:

MONITORING DATA					COMMENTS:
INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE		
<u>N/A</u>		<u>0 ppm</u>	<u>1445</u>	<u>11/15/93</u>	
<u>11.12EPM</u>		<u>0.14</u>	<u>1445</u>	<u>11/15/93</u>	
<u>11.12EPM</u>		<u>11 uR/h</u>	<u>1445</u>	<u>11/15/93</u>	
TOTAL SAMPLES:					

SCALE (FT)	VOC/ RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
0					hard clay w/ silt shale fragments, rounded pebbles metal fragments	
1					location 230N (PIT) 280-300 E E-W	
2					HARD CLAY shattered 100lb	
3				pipe x	sample #3 2-3' dust = 0.02 Rad = 18 uR/h	
4					* 230N pipe (2-3' down) 280E 2.5' down	pipe # 6
5					pipe runs N-S	

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #:





# TEST PIT REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: <u>ACO</u>	TEST PIT #: <u>45-5</u>
PROJECT: <u>10 SRIWU</u>	JOB NUMBER: _____	
LOCATION: <u>SE 115 47</u>	EST. GROUND ELEV. _____	
TEST PIT DATA		
LENGTH: <u>8'</u>	WIDTH: <u>1.5'</u>	DEPTH: <u>1.5'</u>
EXCAVATION/SHORING METHOD _____		
INSPECTOR: <u>SS/LB</u>		
CONTRACTOR: _____		
START DATE: <u>11/5/93</u>		
COMPLETION DATE: <u>11/15/93</u>		
CHECKED BY: _____		
DATE CHECKED: _____		

MONITORING DATA				COMMENTS:
INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE	
<u>OVM</u>		<u>0</u>	<u>1420 11/5/93</u>	
<u>MINI RAN</u>		<u>.04</u>		
<u>RADIATION</u>		<u>13</u>		
TOTAL SAMPLES: _____				

SCALE (FT)	VOC/RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
0					<p><u>CLAY</u></p> <p><u>1" pipe at 6" goes E to W</u></p> <p><u>pit 230 E</u></p> <p><u>loc 140 → 148 N</u></p> <p><u>metal fragments</u></p> <p><u>wood fragments</u></p> <p><u>wire</u></p> <p><u>radiation = 12</u></p> <p><u>dust = .04</u></p>	<p><u>photo #7</u></p>
1						
2						
3						
4						
5						

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #: 45-5



# TEST PIT REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: <b>SEAD</b>	TEST PIT #: <b>TP45-6</b>
PROJECT: <b>SENECA 7 SWMU Investigation</b>	JOB NUMBER: <b>720477-0100</b>	
LOCATION: _____	EST. GROUND ELEV. _____	
TEST PIT DATA		
LENGTH: <b>5'</b>	WIDTH: <b>2.5'</b>	DEPTH: <b>2'</b>
EXCAVATION/SHORING METHOD: <b>BACKHOE</b>		
INSPECTOR: <b>JMC</b>		
CONTRACTOR: <b>ES/UXB</b>		
START DATE: <b>11/16/99</b>		
COMPLETION DATE: <b>11/16/99</b>		
CHECKED BY: _____		
DATE CHECKED: _____		

MONITORING DATA	COMMENTS:
INSTRUMENT: <b>OVM-SB0B</b>	
DETECTOR: <b>10.0<sup>uV</sup></b>	
BACKGROUND: <b>∅</b>	
TIME/DATE: <b>9:30<sup>am</sup></b>	
TOTAL SAMPLES: <b>NO SAMPLES</b>	

SCALE (FT)	VOC/RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
1					<p><b>FILL UNIT</b></p> <p>FRAGMENTS OF SHRAPNAL AND AMMO ROUNDS</p> <p>LIGHT BROWN-GREY TILL</p> <div style="text-align: center;"> <p>1 1/8"</p> </div>	<p>★ Geophysical anomaly</p>
2					<p>BOTTOM OF TEST PIT</p>	
3						
4						
5						

Date	Description	Amount	Balance	Remarks
1998-01-01	Opening Balance	100.00	100.00	
1998-01-15	Cash Sale	50.00	150.00	
1998-01-20	Cash Sale	30.00	180.00	
1998-01-25	Cash Sale	20.00	200.00	
1998-01-30	Cash Sale	10.00	210.00	
1998-02-05	Cash Sale	10.00	220.00	
1998-02-10	Cash Sale	10.00	230.00	
1998-02-15	Cash Sale	10.00	240.00	
1998-02-20	Cash Sale	10.00	250.00	
1998-02-25	Cash Sale	10.00	260.00	
1998-03-01	Cash Sale	10.00	270.00	
1998-03-05	Cash Sale	10.00	280.00	
1998-03-10	Cash Sale	10.00	290.00	
1998-03-15	Cash Sale	10.00	300.00	
1998-03-20	Cash Sale	10.00	310.00	
1998-03-25	Cash Sale	10.00	320.00	
1998-03-31	Closing Balance	320.00	320.00	

## TEST PIT REPORT

ENGINEERING-SCIENCE, INC.		CLIENT: SEAD		TEST PIT #: TP45-7		
PROJECT: SEAD 7 SWMU Investigation		LOCATION: SEAD 45 TEST PIT # 7		JOB NUMBER: 720477-01000		
TEST PIT DATA		EST. GROUND ELEV.		INSPECTOR: JMC		
LENGTH	WIDTH	DEPTH	EXCAVATION/SHORING METHOD			
10'	2.5-3'	7'7"	BACKHOE			
MONITORING DATA				COMMENTS:		
INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE			
CMM-580B	10.0 <sup>RV</sup>		10:50 AM			
RADIATION			10:50 AM			
				TOTAL SAMPLES: NO SAMPLES		
SCALE (FT)	VOC/RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
1					TOPSOIL Light Brown - Grey SILTY SAND	
2					COMPACT SOIL LAYER	
3					FILL UNIT	
4					WOOD FRAGMENTS METAL Debris, Ammo Rounds, fuses	See photo Geophysical Anomaly
5					TILL	

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #: TP45-7



# TEST PIT REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: <u>SEAD</u>	TEST PIT #: <u>TP 45-7</u>	
MONITORING DATA			
INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE
<u>AS ABOVE ON PAGE 1</u>			
DATE START: <u>11/16/93</u>		DATE FINISH: <u>11/16/93</u>	
INSPECTOR: <u>JMC</u>		CONTRACTOR: <u>DES/UXB</u>	

SCALE (FT)	VOC/RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
6					TILL	
7					NICE CLAY UNIT	see photo
8					BOTTOM OF TEST PIT 7'7"	

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #: TP45-7





# TEST PIT REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: <u>SENECA ARMY DEPOT</u>	TEST PIT #: <u>TP45-8</u>	
PROJECT: <u>SENECA 10 SWMU INVESTIGATION</u>	JOB NUMBER: <u>720477-0100</u>		
LOCATION: <u>SEAD 46</u>	EST. GROUND ELEV.:		
TEST PIT DATA			
LENGTH	WIDTH	DEPTH	EXCAVATION/SHORING METHOD
9'	3'	7'8"	BACKHOE
INSPECTOR: <u>JWC</u>			CONTRACTOR: <u>JES/UXB</u>
START DATE: <u>11/16/94</u>			COMPLETION DATE: <u>11/16/94</u>
CHECKED BY:			DATE CHECKED:

MONITORING DATA			
INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE
OVM-580B	100 eV	φ	9:05 AM
RADIATION		3.43 <sup>mR/hr</sup>	9:05 AM

COMMENTS:  
*PURPOSE TO IDENTIFY  
 GEOPHYSICAL ANOMALIES*

TOTAL SAMPLES: *NO SAMPLES*

SCALE (FT)	VOC/RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
1					TOPSOIL (DISTURBED)  FILL MATERIAL  MED. BROWN-GREY  SILT	
2					GOOD INDICATION OF A BURN PIT  WOOD PALLETTE DeBRIS  metal Debris	
3					↓ ↓	
4						
5					↓ ↓	
					NAILS WIRE-TUBING	

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #: TP45-8



# TEST PIT REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: <i>SENECA ARMY DEPOT</i>	TEST PIT #: <i>TP45-8</i>		
MONITORING DATA		DATE START: <i>11/16/94</i> DATE FINISH: <i>11/16/94</i> INSPECTOR: <i>JWC</i> CONTRACTOR: <i>JES/VRB</i>		
INSTRUMENT	DETECTOR		BACKGROUND	TIME/DATE

SCALE (FT)	VOC/RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
6					<i>metal Debris @ 5'6"</i>	
7					<i>GROUNDWATER @ 7'</i>	
8					<i>Bottom of Pit 7'8"</i>	
9						
10						
11						

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #: *TP45-8*

TABLE 1

Date	Time	Location	Temperature	Remarks
1963-07-15	14:00	Station 1	25.0	Clear
1963-07-15	15:00	Station 2	26.5	Clear
1963-07-15	16:00	Station 3	28.0	Clear
1963-07-15	17:00	Station 4	29.5	Clear
1963-07-15	18:00	Station 5	31.0	Clear
1963-07-15	19:00	Station 6	32.5	Clear
1963-07-15	20:00	Station 7	34.0	Clear
1963-07-15	21:00	Station 8	35.5	Clear
1963-07-15	22:00	Station 9	37.0	Clear
1963-07-15	23:00	Station 10	38.5	Clear
1963-07-15	24:00	Station 11	40.0	Clear
1963-07-15	25:00	Station 12	41.5	Clear

# TEST PIT REPORT

ENGINEERING-SCIENCE, INC.		CLIENT: <u>ACE</u>		TEST PIT #: <u>45-E</u>	
MONITORING DATA					
		<u>105mm - 50 45</u>			
INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE		
<u>GVM</u>		<u>0</u>	<u>1600</u>	<u>11/15/93</u>	
<u>Mini Rad</u>		<u>0</u>	<u>1600</u>	<u>11/15/93</u>	
<u>Radiation</u>		<u>10</u>	<u>1600</u>	<u>11/15/93</u>	
			DATE START: <u>11/15/93</u>		
			DATE FINISH: <u>11/15/93</u>		
			INSPECTOR: <u>SS/LB</u>		
			CONTRACTOR: _____		

SCALE (FT)	VOC/RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
0					wire pieces of wood	dust 0 Radiation 15
1					CLAY shale fragments disturbed most	
2					more compact than above Part of clay with scattered wood, metal, rock fragments metal-rusted as above 1-2'	
3					debris to 4-4'	
4					↓ erosion	dust 02 Radiation 15
5						

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #:

Date	Description	Debit	Credit	



# TEST PIT REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: <u>SEAD</u>	TEST PIT #: <u>TP45-9</u>
PROJECT: <u>SENECA 7 SWMU</u>	JOB NUMBER: <u>720477-01000</u>	
LOCATION: <u>SEAD 45 TEST PIT #9</u>	EST. GROUND ELEV.:	
TEST PIT DATA		
LENGTH: <u>8'</u>	WIDTH: <u>2.5'</u>	DEPTH: <u>5'</u>
EXCAVATION/SHORING METHOD: <u>BACKHOE</u>		
INSPECTOR: <u>JWC</u>		CONTRACTOR: <u>ES/AXB</u>
START DATE: <u>11/16/93</u>		COMPLETION DATE: <u>11/16/93</u>
CHECKED BY:		DATE CHECKED:

MONITORING DATA			
INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE
<u>0vm-580 B</u>	<u>10.0 uV</u>	<u>∅</u>	<u>9:45 AM</u>

COMMENTS:  
ANOMALY - SHALE PILE (DOME)

TOTAL SAMPLES: NO SAMPLES

SCALE (FT)	VOC/RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
1					<p>↑ LIGHT GREY SILTY SAND with CLAYED (TILL) COMPOSITION</p> <p>SMALL SHALE FRAGMENTS</p> <p>possible FILL UNIT</p> <p>↓</p>	<p>See PHOTO</p>
2						
3					<p>DENSE SHALE DOME</p>	<p>★ Geophysical Anomaly</p>
4						
5					<p>Bottom of PIT @ 5'</p>	

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #: TP45-9

Date	Description	Debit	Credit	Balance
1952				
1953				
1954				
1955				
1956				
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# TEST PIT REPORT

ENGINEERING-SCIENCE, INC.	CLIENT: SEAD	TEST PIT #: TP45-10
PROJECT: <u>SENECA 7 SWMU</u>	LOCATION: <u>SEAD 45 TEST PIT #10</u>	JOB NUMBER: <u>720477-01000</u>
TEST PIT DATA		EST. GROUND ELEV. _____
LENGTH: <u>3'</u>	WIDTH: <u>2.5'</u>	DEPTH: <u>16"</u>
EXCAVATION/SHORING METHOD: <u>BACK HOE</u>		
		INSPECTOR: <u>JWC</u>
		CONTRACTOR: <u>ES/UXB</u>
		START DATE: <u>11/16/93</u>
		COMPLETION DATE: <u>11/16/93</u>
		CHECKED BY: _____
		DATE CHECKED: _____

MONITORING DATA				COMMENTS:
INSTRUMENT	DETECTOR	BACKGROUND	TIME/DATE	
<u>ovm-580B</u>	<u>190ev</u>	<u>φ</u>	<u>10:30 AM</u>	ASSUMED 3" pipe was anomaly, terminated pit  TOTAL SAMPLES: NO SAMPLES

SCALE (FT)	VOC/RAD.	SAMPLE		STRATA SCHEMATIC	DESCRIPTION OF MATERIALS (BURMEISTER METHODOLOGY)	REMARKS
		NUMBER	DEPTH RANGE			
1					TOPSOIL - Disturbed Light BROWN - Grey med- COARSE SAND	
					Bottom of PIT	See photo * Geophysical Anomaly
2						
3						
4						
5						

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS

TEST PIT #: TP45-10

Year	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025																																																																																																																																																																																																																																																																																																																																																																																																																
Population	150,000	155,000	160,000	165,000	170,000	175,000	180,000	185,000	190,000	195,000	200,000	205,000	210,000	215,000	220,000	225,000	230,000	235,000	240,000	245,000	250,000	255,000	260,000	265,000	270,000	275,000	280,000	285,000	290,000	295,000	300,000	305,000	310,000	315,000	320,000	325,000	330,000	335,000	340,000	345,000	350,000	355,000	360,000	365,000	370,000	375,000	380,000	385,000	390,000	395,000	400,000	405,000	410,000	415,000	420,000	425,000	430,000	435,000	440,000	445,000	450,000	455,000	460,000	465,000	470,000	475,000	480,000	485,000	490,000	495,000	500,000	505,000	510,000	515,000	520,000	525,000	530,000	535,000	540,000	545,000	550,000	555,000	560,000	565,000	570,000	575,000	580,000	585,000	590,000	595,000	600,000	605,000	610,000	615,000	620,000	625,000	630,000	635,000	640,000	645,000	650,000	655,000	660,000	665,000	670,000	675,000	680,000	685,000	690,000	695,000	700,000	705,000	710,000	715,000	720,000	725,000	730,000	735,000	740,000	745,000	750,000	755,000	760,000	765,000	770,000	775,000	780,000	785,000	790,000	795,000	800,000	805,000	810,000	815,000	820,000	825,000	830,000	835,000	840,000	845,000	850,000	855,000	860,000	865,000	870,000	875,000	880,000	885,000	890,000	895,000	900,000	905,000	910,000	915,000	920,000	925,000	930,000	935,000	940,000	945,000	950,000	955,000	960,000	965,000	970,000	975,000	980,000	985,000	990,000	995,000	1,000,000																																																																																																																																																																																																																																																																																																																	
GDP	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355	360	365	370	375	380	385	390	395	400	405	410	415	420	425	430	435	440	445	450	455	460	465	470	475	480	485	490	495	500	505	510	515	520	525	530	535	540	545	550	555	560	565	570	575	580	585	590	595	600	605	610	615	620	625	630	635	640	645	650	655	660	665	670	675	680	685	690	695	700	705	710	715	720	725	730	735	740	745	750	755	760	765	770	775	780	785	790	795	800	805	810	815	820	825	830	835	840	845	850	855	860	865	870	875	880	885	890	895	900	905	910	915	920	925	930	935	940	945	950	955	960	965	970	975	980	985	990	995	1,000																																																																																																																																																																																																																																																																																																							
Unemployment	5.0%	5.2%	5.4%	5.6%	5.8%	6.0%	6.2%	6.4%	6.6%	6.8%	7.0%	7.2%	7.4%	7.6%	7.8%	8.0%	8.2%	8.4%	8.6%	8.8%	9.0%	9.2%	9.4%	9.6%	9.8%	10.0%	10.2%	10.4%	10.6%	10.8%	11.0%	11.2%	11.4%	11.6%	11.8%	12.0%	12.2%	12.4%	12.6%	12.8%	13.0%	13.2%	13.4%	13.6%	13.8%	14.0%	14.2%	14.4%	14.6%	14.8%	15.0%	15.2%	15.4%	15.6%	15.8%	16.0%	16.2%	16.4%	16.6%	16.8%	17.0%	17.2%	17.4%	17.6%	17.8%	18.0%	18.2%	18.4%	18.6%	18.8%	19.0%	19.2%	19.4%	19.6%	19.8%	20.0%	20.2%	20.4%	20.6%	20.8%	21.0%	21.2%	21.4%	21.6%	21.8%	22.0%	22.2%	22.4%	22.6%	22.8%	23.0%	23.2%	23.4%	23.6%	23.8%	24.0%	24.2%	24.4%	24.6%	24.8%	25.0%	25.2%	25.4%	25.6%	25.8%	26.0%	26.2%	26.4%	26.6%	26.8%	27.0%	27.2%	27.4%	27.6%	27.8%	28.0%	28.2%	28.4%	28.6%	28.8%	29.0%	29.2%	29.4%	29.6%	29.8%	30.0%	30.2%	30.4%	30.6%	30.8%	31.0%	31.2%	31.4%	31.6%	31.8%	32.0%	32.2%	32.4%	32.6%	32.8%	33.0%	33.2%	33.4%	33.6%	33.8%	34.0%	34.2%	34.4%	34.6%	34.8%	35.0%	35.2%	35.4%	35.6%	35.8%	36.0%	36.2%	36.4%	36.6%	36.8%	37.0%	37.2%	37.4%	37.6%	37.8%	38.0%	38.2%	38.4%	38.6%	38.8%	39.0%	39.2%	39.4%	39.6%	39.8%	40.0%	40.2%	40.4%	40.6%	40.8%	41.0%	41.2%	41.4%	41.6%	41.8%	42.0%	42.2%	42.4%	42.6%	42.8%	43.0%	43.2%	43.4%	43.6%	43.8%	44.0%	44.2%	44.4%	44.6%	44.8%	45.0%	45.2%	45.4%	45.6%	45.8%	46.0%	46.2%	46.4%	46.6%	46.8%	47.0%	47.2%	47.4%	47.6%	47.8%	48.0%	48.2%	48.4%	48.6%	48.8%	49.0%	49.2%	49.4%	49.6%	49.8%	50.0%	50.2%	50.4%	50.6%	50.8%	51.0%	51.2%	51.4%	51.6%	51.8%	52.0%	52.2%	52.4%	52.6%	52.8%	53.0%	53.2%	53.4%	53.6%	53.8%	54.0%	54.2%	54.4%	54.6%	54.8%	55.0%	55.2%	55.4%	55.6%	55.8%	56.0%	56.2%	56.4%	56.6%	56.8%	57.0%	57.2%	57.4%	57.6%	57.8%	58.0%	58.2%	58.4%	58.6%	58.8%	59.0%	59.2%	59.4%	59.6%	59.8%	60.0%	60.2%	60.4%	60.6%	60.8%	61.0%	61.2%	61.4%	61.6%	61.8%	62.0%	62.2%	62.4%	62.6%	62.8%	63.0%	63.2%	63.4%	63.6%	63.8%	64.0%	64.2%	64.4%	64.6%	64.8%	65.0%	65.2%	65.4%	65.6%	65.8%	66.0%	66.2%	66.4%	66.6%	66.8%	67.0%	67.2%	67.4%	67.6%	67.8%	68.0%	68.2%	68.4%	68.6%	68.8%	69.0%	69.2%	69.4%	69.6%	69.8%	70.0%	70.2%	70.4%	70.6%	70.8%	71.0%	71.2%	71.4%	71.6%	71.8%	72.0%	72.2%	72.4%	72.6%	72.8%	73.0%	73.2%	73.4%	73.6%	73.8%	74.0%	74.2%	74.4%	74.6%	74.8%	75.0%	75.2%	75.4%	75.6%	75.8%	76.0%	76.2%	76.4%	76.6%	76.8%	77.0%	77.2%	77.4%	77.6%	77.8%	78.0%	78.2%	78.4%	78.6%	78.8%	79.0%	79.2%	79.4%	79.6%	79.8%	80.0%	80.2%	80.4%	80.6%	80.8%	81.0%	81.2%	81.4%	81.6%	81.8%	82.0%	82.2%	82.4%	82.6%	82.8%	83.0%	83.2%	83.4%	83.6%	83.8%	84.0%	84.2%	84.4%	84.6%	84.8%	85.0%	85.2%	85.4%	85.6%	85.8%	86.0%	86.2%	86.4%	86.6%	86.8%	87.0%	87.2%	87.4%	87.6%	87.8%	88.0%	88.2%	88.4%	88.6%	88.8%	89.0%	89.2%	89.4%	89.6%	89.8%	90.0%	90.2%	90.4%	90.6%	90.8%	91.0%	91.2%	91.4%	91.6%	91.8%	92.0%	92.2%	92.4%	92.6%	92.8%	93.0%	93.2%	93.4%	93.6%	93.8%	94.0%	94.2%	94.4%	94.6%	94.8%	95.0%	95.2%	95.4%	95.6%	95.8%	96.0%	96.2%	96.4%	96.6%	96.8%	97.0%	97.2%	97.4%	97.6%	97.8%	98.0%	98.2%	98.4%	98.6%	98.8%	99.0%	99.2%	99.4%	99.6%	99.8%	100.0%



**APPENDIX C**

**MONITORING WELL INSTALLATION DIAGRAMS**



# OVERBURDEN MONITORING WELL COMPLETION REPORT & INSTALLATION DETAIL PROTECTIVE RISER COMPLETION

ENGINEERING-SCIENCE, INC. CLIENT: <u>ACOE</u>		WELL #: <u>MW4-1</u>	
PROJECT: <u>10 SWMU</u>	PROJECT NO: <u>720477</u>		
LOCATION: <u>SEAD 4</u>	INSPECTOR: <u>ES/EB</u>		
		CHECKED BY: _____	
DRILLING CONTRACTOR: <u>Empire</u>	POW DEPTH: <u>10.5'</u>		
DRILLER: <u>Scott</u>	INSTALLATION STARTED: <u>12-6-93</u>		
DRILLING COMPLETED: <u>12-6-93</u>	INSTALLATION COMPLETED: <u>12-6-93</u>		
BORING DEPTH: <u>10.5'</u>	SURFACE COMPLETION DATE: <u>12-6-93</u>		
DRILLING METHOD(S): <u>HSA</u>	COMPLETION CONTRACTOR/CREW: <u>Empire</u>		
BORING DIAMETER(S): <u>8 1/2"</u>	BEDROCK CONFIRMED (Y/N?): <u>Y</u>		
ASSOCIATED SWMU/AOC: <u>4</u>	ESTIMATED GROUND ELEVATION: <u>698.392</u>		
PROTECTIVE SURFACE CASING:			
DIAMETER: <u>4" x 4" Steel</u>		LENGTH: _____	
RISER:			
TR: _____	TYPE: <u>PVC-40</u>	DIAMETER: <u>2"</u>	LENGTH: _____
SCREEN:			
TSC: <u>5.4'</u>	TYPE: <u>PVC 40</u>	DIAMETER: <u>2"</u>	LENGTH: <u>4'</u>
			SLOT SIZE: <u>0.01"</u>
POINT OF WELL: (SILT SUMP)			
TYPE: <u>PVC point</u>	BSC: <u>9.4'</u>	POW: <u>10.5'</u>	
GROUT:			
TG: <u>Ground</u>	TYPE: <u>Cement-bentonite</u>	LENGTH: <u>2.5'</u>	
SEAL:	TBS: <u>2.5'</u>	TYPE: <u>bentonite pellets</u>	LENGTH: <u>2'</u>
SAND PACK:	TSP: <u>4.5' #1 5.0' #1</u>	TYPE: <u>#39 #1</u>	LENGTH: <u>6.0'</u>
SURFACE COLLAR:			
TYPE: _____	RADIUS: <u>2' x 2'</u>	THICKNESS CENTER: <u>1'</u>	THICKNESS EDGE: <u>1'</u>
CENTRALIZER DEPTHS			
DEPTH 1: _____	DEPTH 2: _____	DEPTH 3: _____	DEPTH 4: _____
COMMENTS:			
* ALL DEPTH MEASUREMENTS REFERENCED TO GROUND SURFACE			

SEE PAGE 2 FOR SCHEMATIC

PAGE 1 OF 2

# OVERBURDEN MONITORING WELL PROTECTIVE RISER INSTALLATION DETAIL

ENGINEERING-SCIENCE, INC.

CLIENT:

WELL #: *MN4-1*

DATE: *12-6-83*

**DESCRIPTION**

(FROM BORING LOG)

DEPTH

STRATA

SCHEMATIC

TPC *700.516*

DEPTH ELEV.

TR

700.115

PIN

698.392

TG

*Top #3 Sand 5.0'*  
*Top #1 Sand 4.5'*

TBS

*2.5'*

TSP

*4.5'*

TSC

*5.4'*

BSC

*9.4'*

POW

*10.5'*

BOV

BEDROCK

BOD

\* NOT TO SCALE

# OVERBURDEN MONITORING WELL COMPLETION REPORT & INSTALLATION DETAIL ROADWAY BOX - SURFACE COMPLETION

ENGINEERING-SCIENCE, INC.		CLIENT: <u>ACOE</u>	WELL #: <u>MW 4-2</u>	
PROJECT: <u>10 SWMU</u>	LOCATION: <u>SEAD 4</u>		PROJECT NO: <u>720477</u>	INSPECTOR: <u>ES</u>
			CHECKED BY: _____	
DRILLING CONTRACTOR: <u>Empire</u>	DRILLER: <u>Bob</u>		POW DEPTH: <u>4.0'</u>	INSTALLATION STARTED: <u>11/10/93</u>
DRILLING COMPLETED: <u>11/10/93</u>	BORING DEPTH: <u>4.0'</u>		INSTALLATION COMPLETED: <u>11/10/93</u>	SURFACE COMPLETION DATE: <u>11/10/93</u>
DRILLING METHOD(S): <u>HSA</u>	BORING DIAMETER(S): <u>8 1/2"</u>		COMPLETION CONTRACTOR/CREW: <u>Empire</u>	BEDROCK CONFIRMED (Y/N?): <u>Y</u>
ASSOCIATED SWMU/AOC: <u>4</u>			ESTIMATED GROUND ELEVATION: <u>699.448</u>	
PROTECTIVE SURFACE CASING:				
DIAMETER: <u>4" x 4" Steel</u>		LENGTH: _____		
RISER:				
TR: _____	TYPE: <u>PVC 40</u>	DIAMETER: <u>2"</u>	LENGTH: _____	
SCREEN:				
TSC: <u>22</u>	TYPE: <u>PVC-40</u>	DIAMETER: <u>1 1/2"</u>	LENGTH: <u>1.0'</u>	SLOT SIZE: <u>0.01"</u>
POINT OF WELL: (SILT SUMP)				
TYPE: <u>PVC point</u>	BSC: <u>3.2'</u>	POW: <u>4.0'</u>		
GROUT:				
TG: <u>ground</u>	TYPE: <u>Cem.-bentonite</u>	LENGTH: _____		
SEAL:	TBS: <u>1.0'</u>	TYPE: <u>bentonite pellets</u>	LENGTH: <u>0.5'</u>	
SAND PACK:	TSP: <u>1.5' - #1 1.8' - #3</u>	TYPE: <u>#3 + #1</u>	LENGTH: <u>2.5'</u>	
SURFACE COLLAR:				
TYPE: <u>Cement</u>	RADIUS: <u>2' x 2'</u>	THICKNESS CENTER: <u>1'</u>	THICKNESS EDGE: <u>1'</u>	
CENTRALIZER DEPTHS				
DEPTH 1: _____	DEPTH 2: _____	DEPTH 3: _____	DEPTH 4: _____	
COMMENTS:				

\* ALL DEPTH MEASUREMENTS REFERENCED TO GROUND SURFACE

SEE PAGE 2 FOR SCHEMATIC

PAGE 1 OF 2

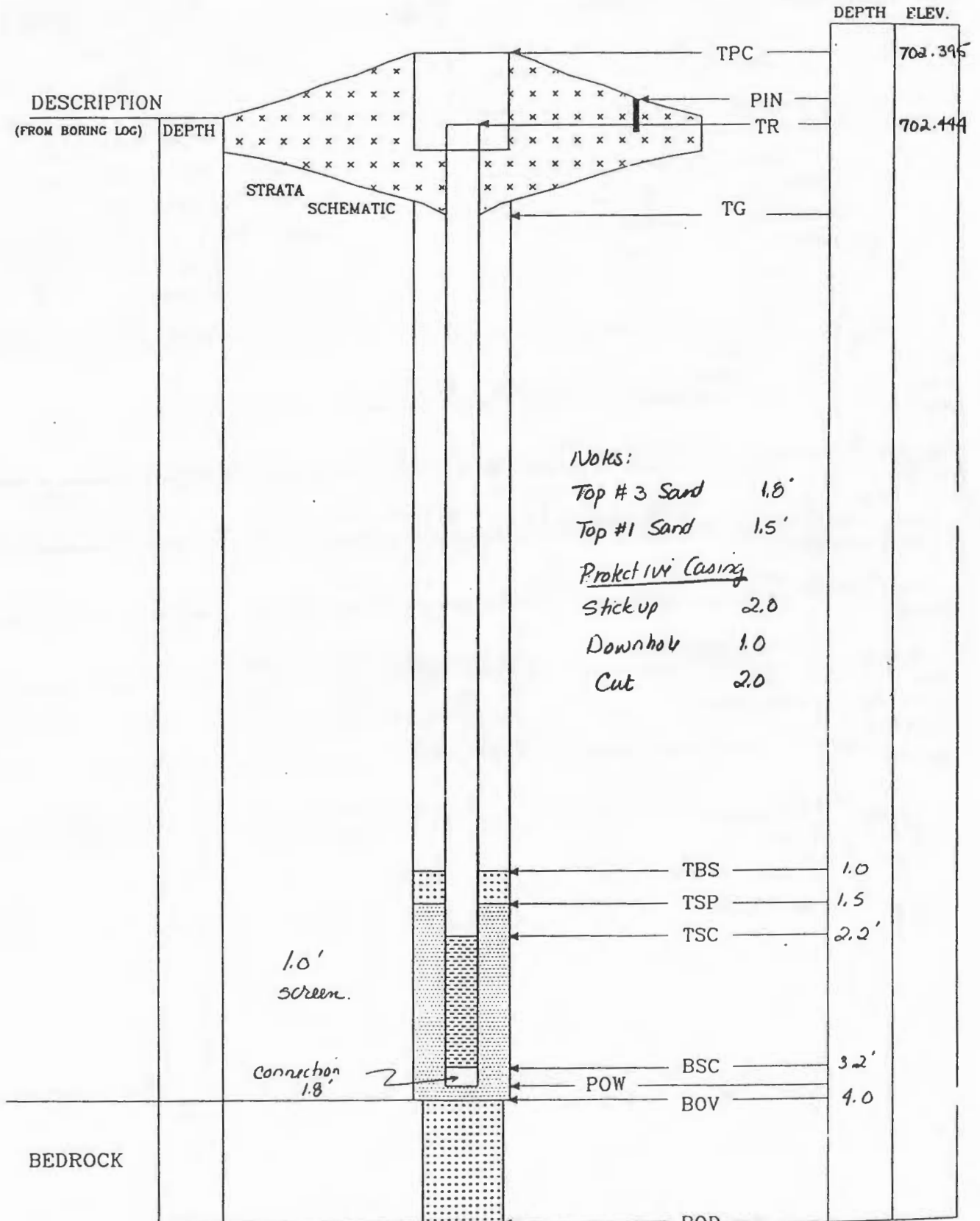
# OVERBURDEN MONITORING WELL ROADWAY BOX INSTALLATION DETAIL

ENGINEERING-SCIENCE, INC.

CLIENT: *ACOG*

WELL #: *MW4-2*

DATE *11/10/93*



*Notes:*

*Top #3 Sand 1.8'*

*Top #1 Sand 1.5'*

*Protective casing*

*Stick up 2.0*

*Downhole 1.0*

*Cut 2.0*

*1.0' screen.*

*Connection 1.8'*

BEDROCK

*Note: All depths meas. from ground surface \* NOT TO SCALE*



# OVERBURDEN MONITORING WELL COMPLETION REPORT & INSTALLATION DETAIL ROADWAY BOX - SURFACE COMPLETION

ENGINEERING-SCIENCE, INC.		CLIENT: <u>ACOE</u>	WELL #: <u>MW43</u>	
PROJECT: <u>10 SWMU</u>		PROJECT NO: <u>720477</u>		
LOCATION: <u>SEAD 4</u>		INSPECTOR: <u>ES</u>		
		CHECKED BY: _____		
DRILLING CONTRACTOR: <u>Empire</u>		POW DEPTH: <u>9.0'</u>		
DRILLER: <u>Bob</u>		INSTALLATION STARTED: <u>11/10/93</u>		
DRILLING COMPLETED: <u>11/10/93</u>		INSTALLATION COMPLETED: <u>11/10/93</u>		
BORING DEPTH: <u>9.0'</u>		SURFACE COMPLETION DATE: <u>11/10/93</u>		
DRILLING METHOD(S): <u>HSA</u>		COMPLETION CONTRACTOR/CREW: <u>Empire</u>		
BORING DIAMETER(S): <u>8 1/2"</u>		BEDROCK CONFIRMED (Y/N?): <u>Y</u>		
ASSOCIATED SWMU/AOC: <u>4</u>		ESTIMATED GROUND ELEVATION: <u>697.669</u>		
PROTECTIVE SURFACE CASING:				
DIAMETER: <u>4" x 4" Steel</u>		LENGTH: _____		
RISER:				
TR: _____	TYPE: <u>PVC-40</u>	DIAMETER: <u>2"</u>	LENGTH: _____	
SCREEN:				
TSC: <u>3.9'</u>	TYPE: <u>PVC-40</u>	DIAMETER: <u>1 1/2"</u>	LENGTH: <u>4.0'</u>	SLOT SIZE: <u>.01"</u>
POINT OF WELL: (SILT SUMP)				
TYPE: <u>PVC point</u>	BSC: <u>7.9'</u>	POW: <u>9.0'</u>		
GROUT:				
TG: <u>Ground</u>	TYPE: <u>Cem-bentonite</u>	LENGTH: <u>1.4'</u>		
SEAL:	TBS: <u>1.4</u>	TYPE: <u>bentonite pellets</u>	LENGTH: <u>1.0'</u>	
SAND PACK:	TSP: <u>#3-2.9'</u> <u>#1-2.9'</u>	TYPE: <u>#3 + #1</u>	LENGTH: <u>6.6'</u>	
SURFACE COLLAR:				
TYPE: <u>Cement</u>	RADIUS: <u>2' x 2'</u>	THICKNESS CENTER: <u>1'</u>	THICKNESS EDGE: <u>1'</u>	
CENTRALIZER DEPTHS				
DEPTH 1: _____	DEPTH 2: _____	DEPTH 3: _____	DEPTH 4: _____	
COMMENTS:				

\* ALL DEPTH MEASUREMENTS REFERENCED TO GROUND SURFACE

SEE PAGE 2 FOR SCHEMATIC

PAGE 1 OF 2

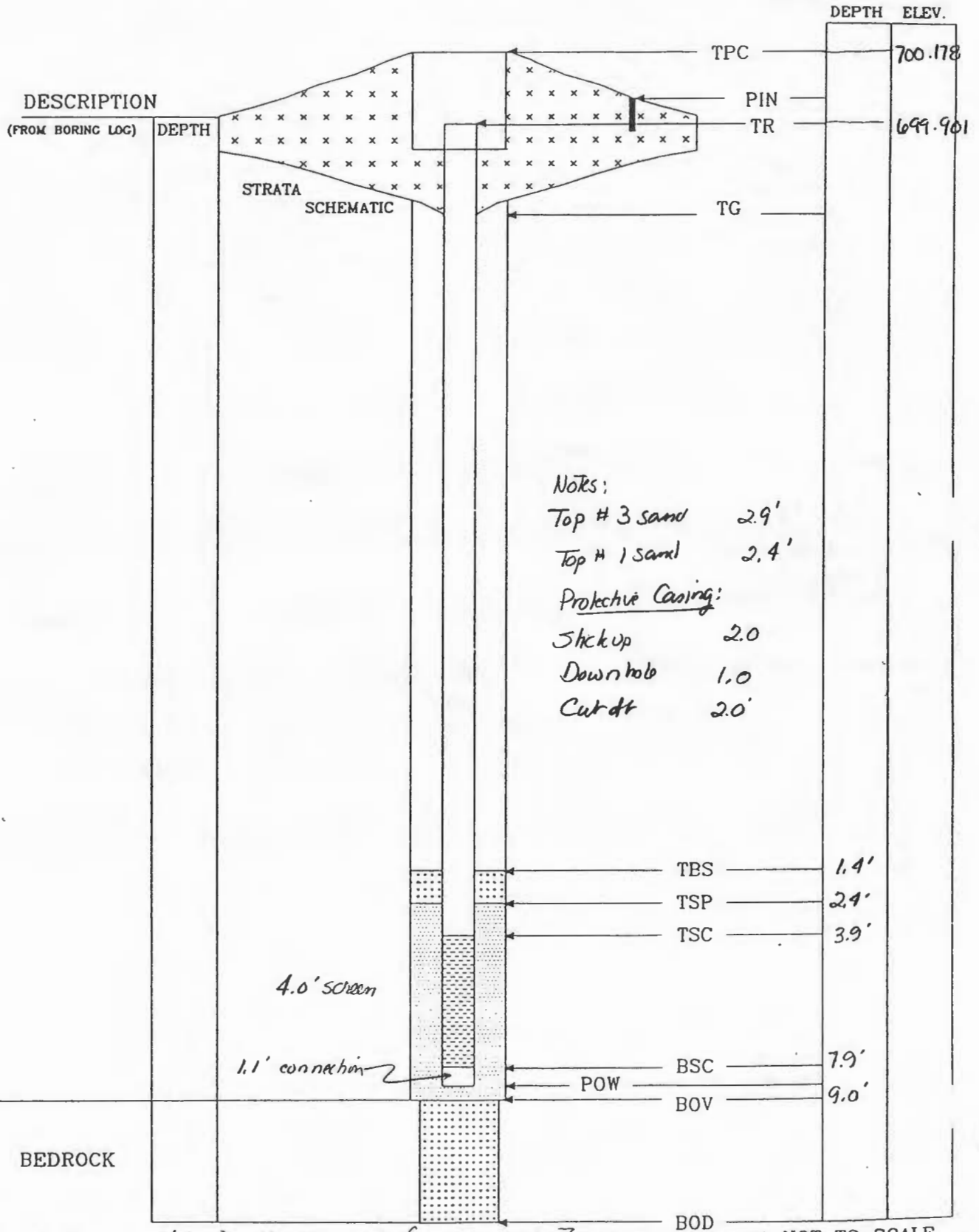
**OVERBURDEN MONITORING WELL  
ROADWAY BOX INSTALLATION DETAIL**

ENGINEERING-SCIENCE, INC.

CLIENT: *ACOE*

WELL #: *MW4-3*

DATE: *11/10/93*



*Notes:*  
 Top # 3 sand 2.9'  
 Top # 1 sand 2.4'  
Protective Casing:  
 Stickup 2.0  
 Downhole 1.0  
 Cut off 2.0'

*Note: Depths measured from ground surface* \* NOT TO SCALE

# OVERBURDEN MONITORING WELL COMPLETION REPORT & INSTALLATION DETAIL PROTECTIVE RISER COMPLETION

ENGINEERING-SCIENCE, INC.		CLIENT: <u>ACOE</u>	WELL #: <u>MW 4-4</u>	
PROJECT: <u>10 SWMU</u>	LOCATION: <u>SEAD 4</u>		PROJECT NO: <u>720477</u>	INSPECTOR: <u>ES</u>
			CHECKED BY: _____	
DRILLING CONTRACTOR: <u>Empire</u>	DRILLER: <u>Scott</u>		POW DEPTH: <u>10.0'</u>	INSTALLATION STARTED: <u>12-5-93</u>
DRILLING COMPLETED: <u>12-5-93</u>	BORING DEPTH: <u>10'</u>		INSTALLATION COMPLETED: <u>12-5-93</u>	SURFACE COMPLETION DATE: <u>12-5-93</u>
DRILLING METHOD(S): <u>ASA</u>	BORING DIAMETER(S): <u>8 1/2"</u>		COMPLETION CONTRACTOR/CREW: <u>Empire</u>	BEDROCK CONFIRMED (Y/N?): <u>Y</u>
ASSOCIATED SWMU/AOC: <u>4</u>			ESTIMATED GROUND ELEVATION: <u>678.217</u>	
PROTECTIVE SURFACE CASING:				
DIAMETER: <u>4" x 4" Steel</u>		LENGTH: _____		
RISER:				
TR: _____	TYPE: <u>PVC-40</u>	DIAMETER: <u>2"</u>	LENGTH: _____	
SCREEN:				
TSC: <u>4.9'</u>	TYPE: <u>PVC-40</u>	DIAMETER: <u>2"</u>	LENGTH: <u>4.0'</u>	SLOT SIZE: <u>0.01"</u>
POINT OF WELL: (SILT SUMP)				
TYPE: <u>PVC point</u>	BSC: <u>8.9'</u>	POW: <u>10.0'</u>		
GROUT:				
TG: <u>Ground</u>	TYPE: <u>Cement-bentonite</u>	LENGTH: <u>2.5'</u>		
SEAL:	TBS: <u>2.5'</u>	TYPE: <u>bentonite pellets</u>	LENGTH: <u>1.5'</u>	
SAND PACK:	TSP: <u>4.0' - #1 4.5' - #3</u>	TYPE: <u>#3 and #1</u>	LENGTH: <u>6.0'</u>	
SURFACE COLLAR:				
TYPE: <u>Cement</u>	RADIUS: <u>2' x 2'</u>	THICKNESS CENTER: <u>1'</u>	THICKNESS EDGE: <u>1'</u>	
CENTRALIZER DEPTHS				
DEPTH 1: _____	DEPTH 2: _____	DEPTH 3: _____	DEPTH 4: _____	
COMMENTS:				
* ALL DEPTH MEASUREMENTS REFERENCED TO GROUND SURFACE				

SEE PAGE 2 FOR SCHEMATIC

PAGE 1 OF 2

# OVERBURDEN MONITORING WELL PROTECTIVE RISER INSTALLATION DETAIL

ENGINEERING-SCIENCE, INC.

CLIENT:

WELL #: MW 4-4

DATE: 12-5-93

TPC 680.557 DEPTH ELEV.

680.374

DESCRIPTION

(FROM BORING LOG)

DEPTH

STRATA

SCHEMATIC

TR

PIN

TG

Top # 1 Sand 4.0  
Top # 3 Sand 4.5'

TBS

2.5'

TSP

4.0'

TSC

4.9'

BSC

8.9'

POW

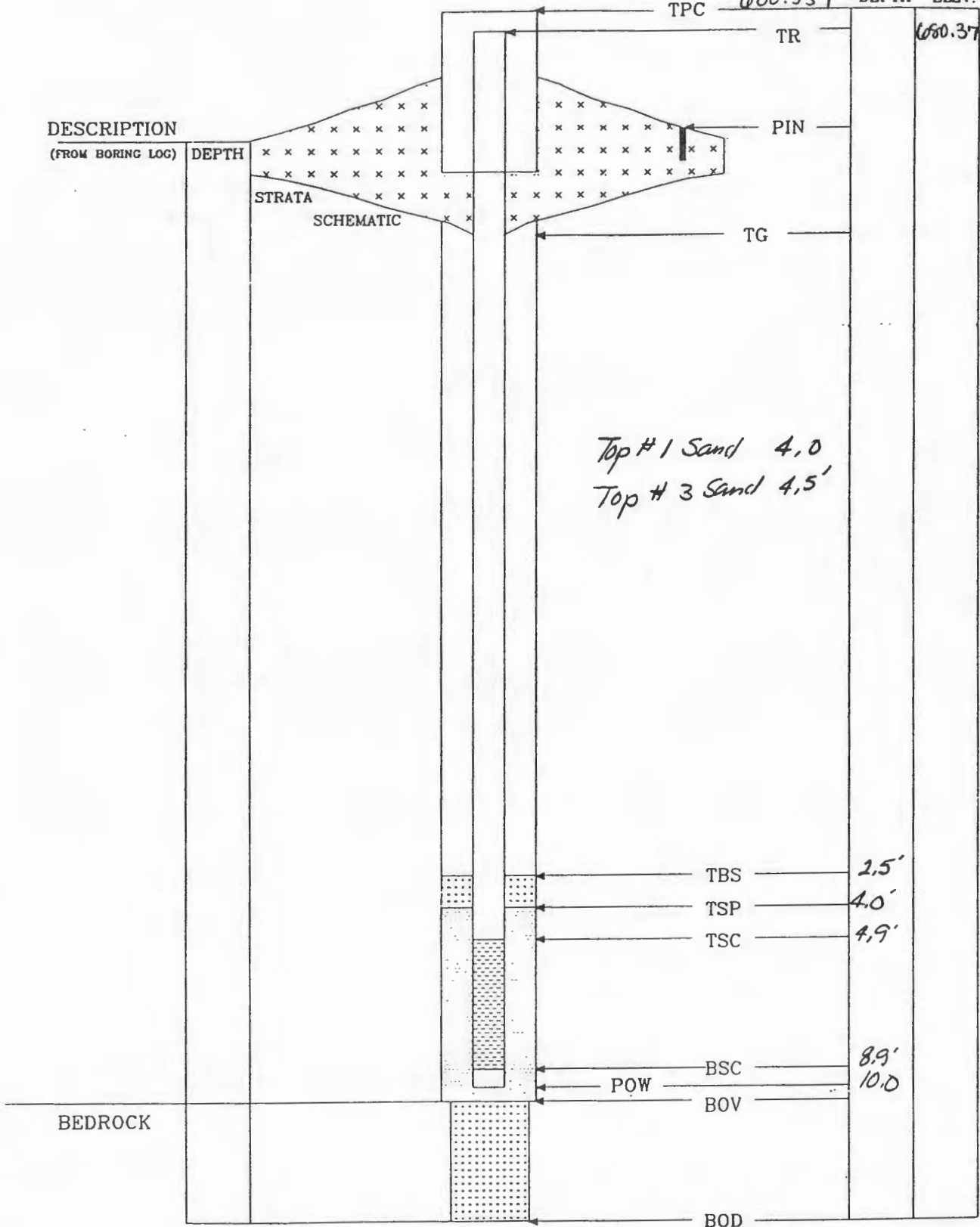
10.0'

BOV

BEDROCK

BOD

\* NOT TO SCALE



# OVERBURDEN MONITORING WELL COMPLETION REPORT & INSTALLATION DETAIL PROTECTIVE RISER COMPLETION

ENGINEERING-SCIENCE, INC.		CLIENT: <u>ACOE</u>	WELL #: <u>MW4-5</u>	
PROJECT: <u>10 SWMU</u>	LOCATION: <u>SEAD 4</u>		PROJECT NO: <u>720477</u>	INSPECTOR: <u>ES/LB</u>
			CHECKED BY: _____	
DRILLING CONTRACTOR: <u>Empire</u>	DRILLER: <u>John W.</u>		POW DEPTH: <u>6.0'</u>	INSTALLATION STARTED: <u>12/5/93</u>
DRILLING COMPLETED: <u>12-5-93</u>	BORING DEPTH: <u>6.0</u>		INSTALLATION COMPLETED: <u>12/5/93</u>	SURFACE COMPLETION DATE: <u>12/5/93</u>
DRILLING METHOD(S): <u>HSA</u>	BORING DIAMETER(S): <u>8 1/2"</u>		COMPLETION CONTRACTOR/CREW: <u>Empire</u>	BEDROCK CONFIRMED (Y/N?): <u>Y</u>
ASSOCIATED SWMU/AOC: <u>4</u>			ESTIMATED GROUND ELEVATION: <u>699.182</u>	
PROTECTIVE SURFACE CASING:				
DIAMETER: <u>4" x 4" Steel</u>		LENGTH: _____		
RISER:				
TR: _____	TYPE: <u>PVC-40</u>	DIAMETER: <u>2"</u>	LENGTH: _____	
SCREEN:				
TSC: <u>3.1</u>	TYPE: <u>PVC-40</u>	DIAMETER: <u>2"</u>	LENGTH: <u>20'</u>	SLOT SIZE: <u>0.01"</u>
POINT OF WELL: (SILT SUMP)				
TYPE: <u>PVC point</u>	BSC: <u>5.1</u>	POW: <u>6.0'</u>		
GROUT:				
TG: <u>Ground</u>	TYPE: <u>Cement-bentonite</u>	LENGTH: <u>1.3'</u>		
SEAL:	TBS: <u>1.3</u>	TYPE: <u>bentonite pellets</u>	LENGTH: <u>.7'</u>	
SAND PACK:	TSP: <u>2'-#1 2.5'-#3</u>	TYPE: <u>#3 and #1</u>	LENGTH: <u>4.0'</u>	
SURFACE COLLAR:				
TYPE: <u>Cement</u>	RADIUS: <u>2' x 2'</u>	THICKNESS CENTER: <u>1</u>	THICKNESS EDGE: <u>1'</u>	
CENTRALIZER DEPTHS				
DEPTH 1: _____	DEPTH 2: _____	DEPTH 3: _____	DEPTH 4: _____	
COMMENTS:				
* ALL DEPTH MEASUREMENTS REFERENCED TO GROUND SURFACE				

SEE PAGE 2 FOR SCHEMATIC

PAGE 1 OF 2

# OVERBURDEN MONITORING WELL PROTECTIVE RISER INSTALLATION DETAIL

ENGINEERING-SCIENCE, INC.

CLIENT:

WELL #: MW4-5

DATE: 12-5-93

TPC 700.548      DEPTH ELEV. 700.460

DESCRIPTION  
(FROM BORING LOG)

DEPTH

STRATA  
SCHEMATIC

TR

PIN

TG

*Top of #3 2.5'*  
*Top of H1 2.0'*

TBS 1.3

TSP 2.0

TSC 3.1

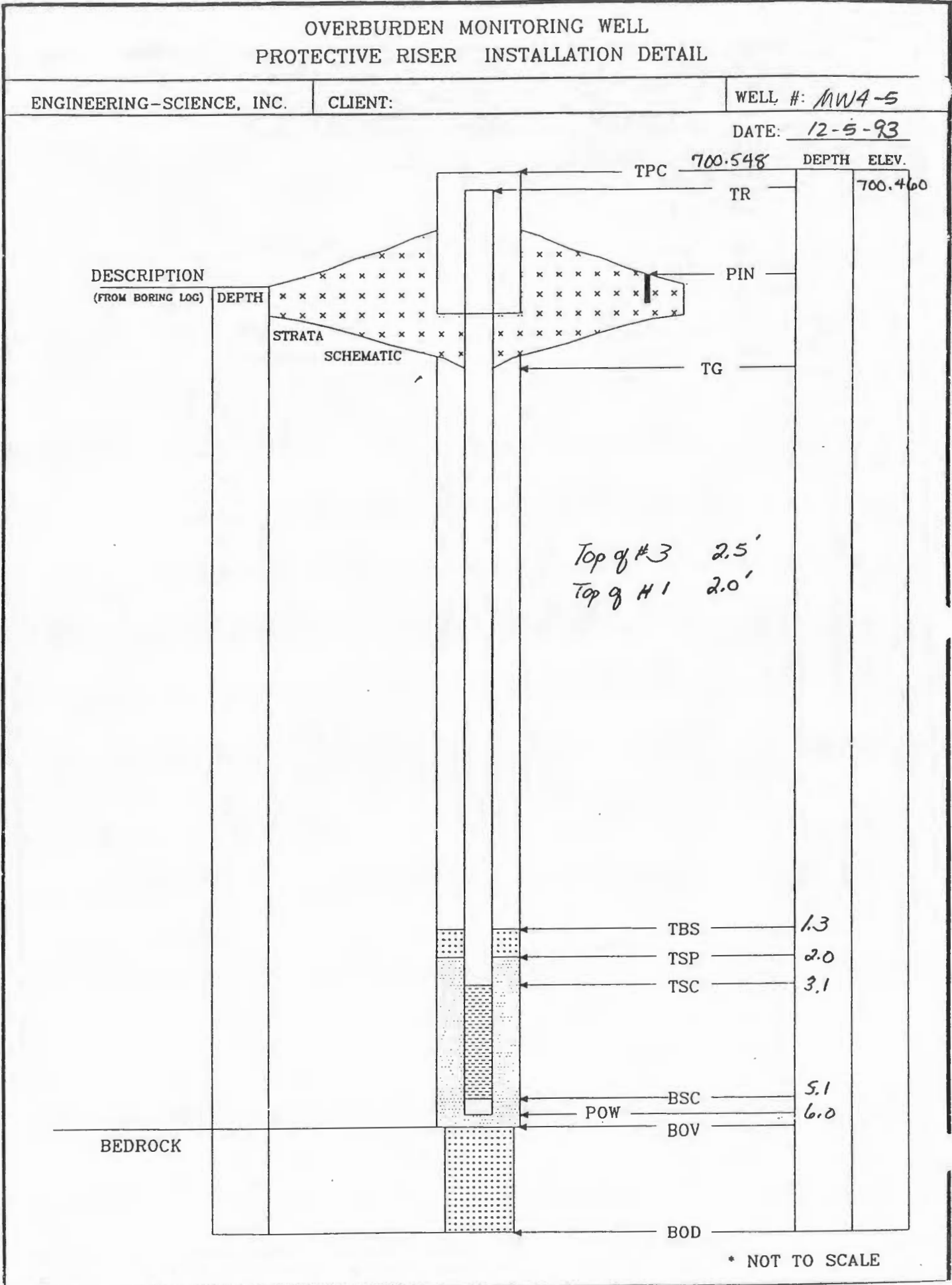
BSC 5.1

POW BOV 6.0

BOD

BEDROCK

\* NOT TO SCALE



# OVERBURDEN MONITORING WELL COMPLETION REPORT & INSTALLATION DETAIL PROTECTIVE RISER COMPLETION

ENGINEERING-SCIENCE, INC.		CLIENT: <u>ACOE</u>	WELL #: <u>MW16-1</u>	
PROJECT: <u>10 SWMU ESI</u>		PROJECT NO: <u>720477</u>		
LOCATION: <u>SEAD-16</u>		INSPECTOR: <u>Pfm</u>		
		CHECKED BY: _____		
DRILLING CONTRACTOR: <u>Empire</u>		POW DEPTH: _____		
DRILLER: <u>Alan</u>		INSTALLATION STARTED: <u>10/25/93</u>		
DRILLING COMPLETED: <u>10/25/93</u>		INSTALLATION COMPLETED: <u>10/26/93</u>		
BORING DEPTH: <u>6.0'</u>		SURFACE COMPLETION DATE: <u>10/26/93</u>		
DRILLING METHOD(S): <u>HSA</u>		COMPLETION CONTRACTOR/CREW: <u>Empire</u>		
BORING DIAMETER(S): <u>8 1/2" w/4 1/4" Augers</u>		BEDROCK CONFIRMED (Y/N?): <u>Y</u>		
ASSOCIATED SWMU/AOC: <u>SEAD-16</u>		ESTIMATED GROUND ELEVATION: <u>733.735</u>		
PROTECTIVE SURFACE CASING:				
		DIAMETER: <u>4x4" steel</u>	LENGTH: <u>5'</u>	
RISER: <u>and surface</u>				
TR: <u>sk-up</u>	TYPE: <u>PVC-40</u>	DIAMETER: <u>2"</u>	LENGTH: <u>5'</u>	
SCREEN: <u>(total length 2.4')</u>				
TSC: <u>3.3'</u>	TYPE: <u>PVC-40</u>	DIAMETER: <u>2"</u>	LENGTH: <u>2'</u>	SLOT SIZE: <u>0.01"</u>
POINT OF WELL: (SILT SUMP)				
TYPE: <u>PVC point</u>	BSC: <u>5.3'</u>	POW: <u>6.0'</u>	<u>(0.5' point)</u>	
GROUT:				
TG: <u>NA</u>	TYPE: <u>NA</u>	LENGTH: <u>NA</u>		
SEAL:				
TBS: <u>0.0'</u>	TYPE: <u>Bentonite pellets</u>	LENGTH: <u>2.2'</u>		
SAND PACK:				
TSP: <u>2.8' f-sand</u>	TYPE: <u>Perkley #3 Silica</u>	LENGTH: <u>3.2' / 3.8' f-sand</u>		
SURFACE COLLAR:				
TYPE: <u>Cement</u>	RADIUS: <u>2x2'</u>	THICKNESS CENTER: <u>1'</u>	THICKNESS EDGE: <u>1'</u>	
CENTRALIZER DEPTHS				
DEPTH 1: <u>-</u>	DEPTH 2: <u>-</u>	DEPTH 3: <u>-</u>	DEPTH 4: <u>-</u>	
COMMENTS:				
<p>→ Not enough room for grout in well - will bentonite to the surface</p> <p>→ bailed water from boring prior to installing well</p> <p style="text-align: center;">* ALL DEPTH MEASUREMENTS REFERENCED TO GROUND SURFACE</p>				

SEE PAGE 2 FOR SCHEMATIC

PAGE 1 OF 2

OVERBURDEN MONITORING WELL  
PROTECTIVE RISER INSTALLATION DETAIL

ENGINEERING-SCIENCE, INC. CLIENT: **ACOE** WELL #: **NW16-1**

DATE: **10/26/93**

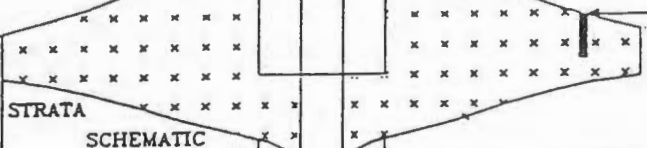
→ Set 3 ballards  
2' deep around  
well.

+3.1

TPC 736.359  
TR +1.9' 735.540

DESCRIPTION  
(FROM BORING LOG)

DEPTH



PIN  
11ft

TG 9.0'

TBS 0.0  
TSP 2.2  
TSC 3.3

BSC 5.0  
POW 5.0  
BOV 6.0

BEDROCK

BOD

• NOT TO SCALE



# OVERBURDEN MONITORING WELL COMPLETION REPORT & INSTALLATION DETAIL PROTECTIVE RISER COMPLETION

ENGINEERING-SCIENCE, INC. CLIENT: <u>ACOE</u>		WELL #: <u>MW16-2</u>	
PROJECT: <u>10 SWMN EST</u>		PROJECT NO: <u>720477</u>	
LOCATION: <u>SEAD-5</u>		INSPECTOR: <u>ifm</u>	
		CHECKED BY: _____	
DRILLING CONTRACTOR: <u>Empire</u>		POW DEPTH: _____	
DRILLER: <u>Alan</u>		INSTALLATION STARTED: <u>10/26/93</u>	
DRILLING COMPLETED: <u>10/26/93</u>		INSTALLATION COMPLETED: <u>10/26/93</u>	
BORING DEPTH: <u>4.1'</u>		SURFACE COMPLETION DATE: _____	
DRILLING METHOD(S): <u>HSA</u>		COMPLETION CONTRACTOR/CREW: <u>Empire</u>	
BORING DIAMETER(S): <u>8 1/2"</u>		BEDROCK CONFIRMED (Y/N)? <u>Y</u>	
ASSOCIATED SWMU/AOC: <u>SEAD-6</u>		ESTIMATED GROUND ELEVATION: <u>732.829</u>	
PROTECTIVE SURFACE CASING:			
DIAMETER: <u>4x4'</u>		LENGTH: <u>5' (with out it down)</u>	
RISER:			
TR: <u>+1.5</u>	TYPE: <u>PVC-40</u>	DIAMETER: <u>2"</u>	LENGTH: <u>2.7'</u>
SCREEN:			
TSC: <u>1.4</u>	TYPE: <u>PVC-40</u>	DIAMETER: <u>2"</u>	LENGTH: <u>2'</u>
		(with length <u>2.4'</u> )	SLOT SIZE: <u>0.01"</u>
POINT OF WELL: (SILT SUMP)			
TYPE: <u>PVC-40</u>	BSC: <u>3.4</u>	POW: <u>4.1'</u>	
GROUT:			
TG: <u>NF</u>	TYPE: <u>NF</u>	LENGTH: <u>NF</u>	
SEAL:			
TBS: <u>0.0</u>	TYPE: <u>Berkel</u>	LENGTH: <u>2.9'</u>	
SAND PACK:			
TSP: <u>0.9'</u>	TYPE: <u>Berkel #3 #1</u>	LENGTH: _____	
SURFACE COLLAR:			
TYPE: <u>Cement</u>	RADIUS: <u>2.52'</u>	THICKNESS CENTER: <u>6"</u>	THICKNESS EDGE: <u>0.5'</u>
CENTRALIZER DEPTHS			
DEPTH 1: <u>—</u>	DEPTH 2: <u>—</u>	DEPTH 3: <u>—</u>	DEPTH 4: <u>—</u>
COMMENTS:			
<u>Drill hole in 1.5' hole</u>			

\* ALL DEPTH MEASUREMENTS REFERENCED TO GROUND SURFACE

SEE PAGE 2 FOR SCHEMATIC

PAGE 1 OF 2

# OVERBURDEN MONITORING WELL PROTECTIVE RISER INSTALLATION DETAIL

ENGINEERING-SCIENCE, INC.

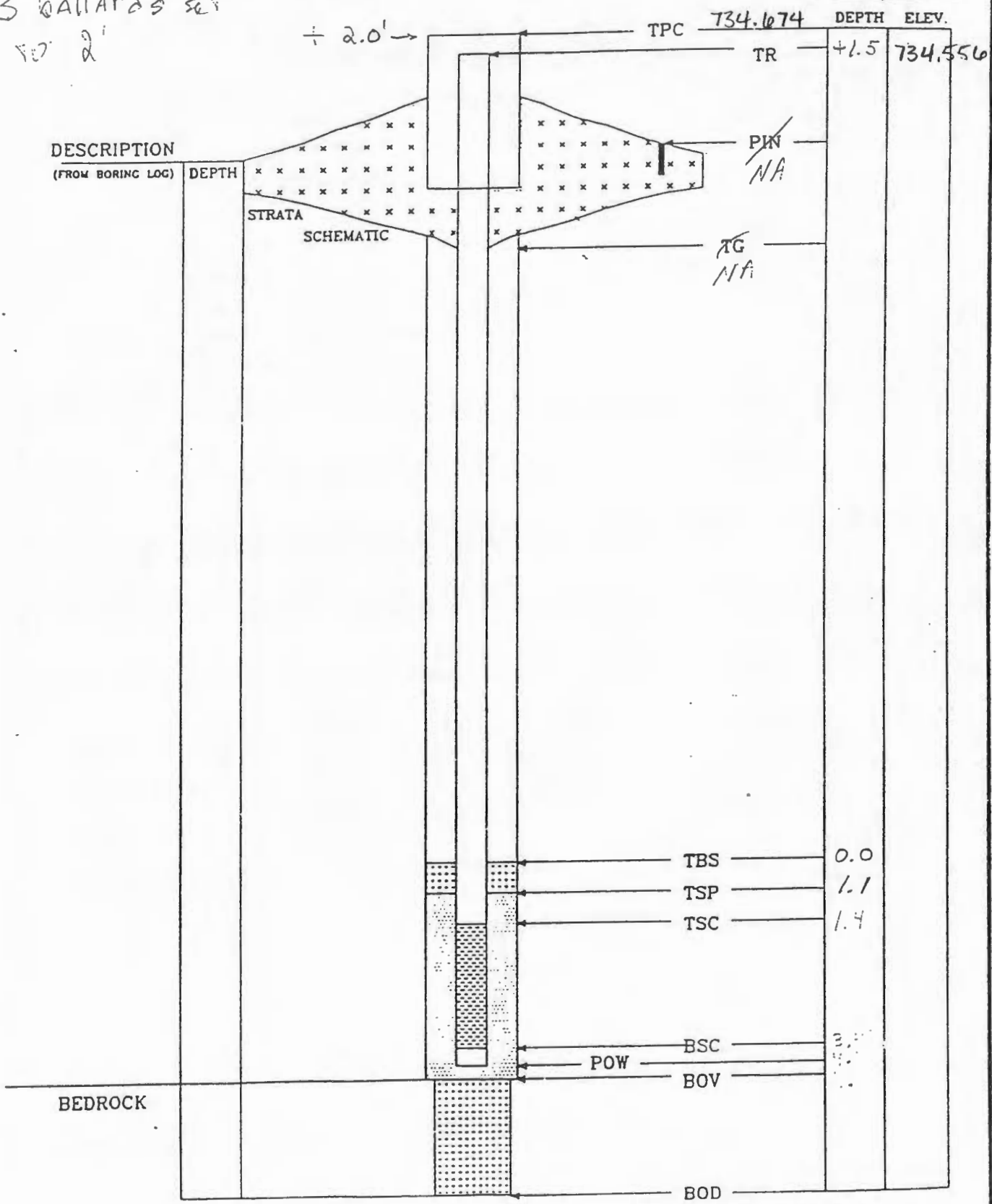
CLIENT: *ACDF*

WELL #: *MWS-2*

DATE: *10/26/02*

*3 ballards set  
50' 2'*

*+ 2.0'*



• NOT TO SCALE

# OVERBURDEN MONITORING WELL COMPLETION REPORT & INSTALLATION DETAIL PROTECTIVE RISER COMPLETION

ENGINEERING-SCIENCE, INC.		CLIENT: <u>ACOE</u>	WELL #: <u>MW16-3</u>
PROJECT: <u>10 SWMU</u>	PROJECT NO: _____		INSPECTOR: <u>ES/LE</u>
LOCATION: <u>SEAD 16</u>	CHECKED BY: _____		
DRILLING CONTRACTOR: <u>Empire</u>	POW DEPTH: <u>5.0'</u>		
DRILLER: <u>Alan</u>	INSTALLATION STARTED: <u>10/26/93</u>		
DRILLING COMPLETED: <u>10/26/93</u>	INSTALLATION COMPLETED: <u>10/26/93</u>		
BORING DEPTH: <u>5.0</u>	SURFACE COMPLETION DATE: <u>11/2/93</u>		
DRILLING METHOD(S): <u>HSA</u>	COMPLETION CONTRACTOR/CREW: <u>Empire</u>		
BORING DIAMETER(S): <u>8 1/2"</u>	BEDROCK CONFIRMED (Y/N?): <u>Y</u>		
ASSOCIATED SWMU/AOC: <u>SEAD 16</u>	ESTIMATED GROUND ELEVATION: <u>733.049</u>		
PROTECTIVE SURFACE CASING:			
DIAMETER: <u>4" x 4" Steel</u>		LENGTH: <u>4.0' total</u>	
RISER:			
TR: _____	TYPE: <u>PVC-40</u>	DIAMETER: <u>2"</u>	LENGTH: <u>2.5'</u>
SCREEN:			
TSC: _____	TYPE: <u>PVC-40</u>	DIAMETER: <u>2"</u>	LENGTH: <u>2.0'</u> SLOT SIZE: <u>.01"</u>
POINT OF WELL: (SILT SUMP)			
TYPE: <u>PVC point</u>	BSC: <u>4.3'</u>	POW: <u>5.0'</u>	
GROUT:			
TG: <u>NA</u>	TYPE: _____	LENGTH: _____	
SEAL:	TBS: <u>0.0'</u>	TYPE: <u>Bentonite pellets</u>	LENGTH: <u>1.3'</u>
SAND PACK:	TSP: <u>2.0' #2</u> <u>1.8' #1</u>	TYPE: <u>#1 and #3 silica</u>	LENGTH: <u>3.2'</u>
SURFACE COLLAR:			
TYPE: <u>Cement</u>	RADIUS: <u>2' x 2'</u>	THICKNESS CENTER: <u>1'</u>	THICKNESS EDGE: <u>1'</u>
CENTRALIZER DEPTHS			
DEPTH 1: <u>—</u>	DEPTH 2: _____	DEPTH 3: _____	DEPTH 4: _____
COMMENTS:			

\* ALL DEPTH MEASUREMENTS REFERENCED TO GROUND SURFACE

SEE PAGE 2 FOR SCHEMATIC

PAGE 1 OF 2

# OVERBURDEN MONITORING WELL PROTECTIVE RISER INSTALLATION DETAIL

ENGINEERING-SCIENCE, INC.

CLIENT:

WELL #: MW 16-3

DATE:

TPC 735.565 DEPTH ELEV.  
TR 735.481

DESCRIPTION  
(FROM BORING LOG)

DEPTH

STRATA  
SCHEMATIC

PIN

TC

Notes:

Top of #3 sand 2.5'

Top of #1 sand 1.5'

Prot. casing depth  
1.5'

Stickup = 2.5'

TBS to surface

TSP 1.3'

TSC 2.3'

BSC 4.3'

POW 5.0'

BOV

BEDROCK

BOD

• NOT TO SCALE

# OVERBURDEN MONITORING WELL COMPLETION REPORT & INSTALLATION DETAIL ROADWAY BOX - SURFACE COMPLETION

ENGINEERING-SCIENCE, INC.		CLIENT: <u>ACOE</u>	WELL #: <u>MW 17-1</u>	
PROJECT: <u>10 SMWW</u>	LOCATION: <u>SEAD 17</u>		PROJECT NO: <u>720477-01001</u>	INSPECTOR: <u>ES/LB</u>
DRILLING CONTRACTOR: <u>EMPIRE</u>			POW DEPTH: <u>8.5'</u>	
DRILLER: <u>BOB/JOHN</u>		INSTALLATION STARTED: <u>12-1-93</u>		
DRILLING COMPLETED: <u>12-1-93</u>		INSTALLATION COMPLETED: <u>12-1-93</u>		
BORING DEPTH: <u>8.5'</u>		SURFACE COMPLETION DATE: <u>12-2-93</u>		
DRILLING METHOD(S): <u>HSA</u>		COMPLETION CONTRACTOR/CREW: _____		
BORING DIAMETER(S): <u>8.5"</u>		BEDROCK CONFIRMED (Y/N?): _____		
ASSOCIATED SWMU/AOC: <u>SEAD 17</u>		ESTIMATED GROUND ELEVATION: <u>734.465</u>		
PROTECTIVE SURFACE CASING:				
DIAMETER: <u>4"x4" steel</u>		LENGTH: _____		
RISER:				
TR: _____	TYPE: <u>PVC 40</u>	DIAMETER: <u>2"</u>	LENGTH: _____	
SCREEN:				
TSC: <u>3.4'</u>	TYPE: <u>PVC 40</u>	DIAMETER: <u>2"</u>	LENGTH: <u>4'</u>	SLOT SIZE: <u>.01"</u>
POINT OF WELL: (SILT SUMP)				
TYPE: <u>PVC point</u>	BSC: <u>7.4'</u>	POW: <u>8.5'</u>		
GROUT:				
TG: <u>Ground</u>	TYPE: <u>Cement-Bentonite</u>	LENGTH: <u>1.5'</u>		
SEAL:	TBS: <u>1.5'</u>	TYPE: <u> Bentonite pellets</u>	LENGTH: <u>1.0</u>	
SAND PACK:	TSP: <u>2.5' #1</u> <u>3.0' #3</u>	TYPE: <u>#3, #1</u>	LENGTH: <u>1.5' #1</u> <u>4' #3</u>	
SURFACE COLLAR:				
TYPE: <u>Cement</u>	RADIUS: <u>2'x2'</u>	THICKNESS CENTER: <u>1'</u>	THICKNESS EDGE: <u>1'</u>	
CENTRALIZER DEPTHS				
DEPTH 1: _____	DEPTH 2: _____	DEPTH 3: _____	DEPTH 4: _____	
COMMENTS:				

\* ALL DEPTH MEASUREMENTS REFERENCED TO GROUND SURFACE

SEE PAGE 2 FOR SCHEMATIC

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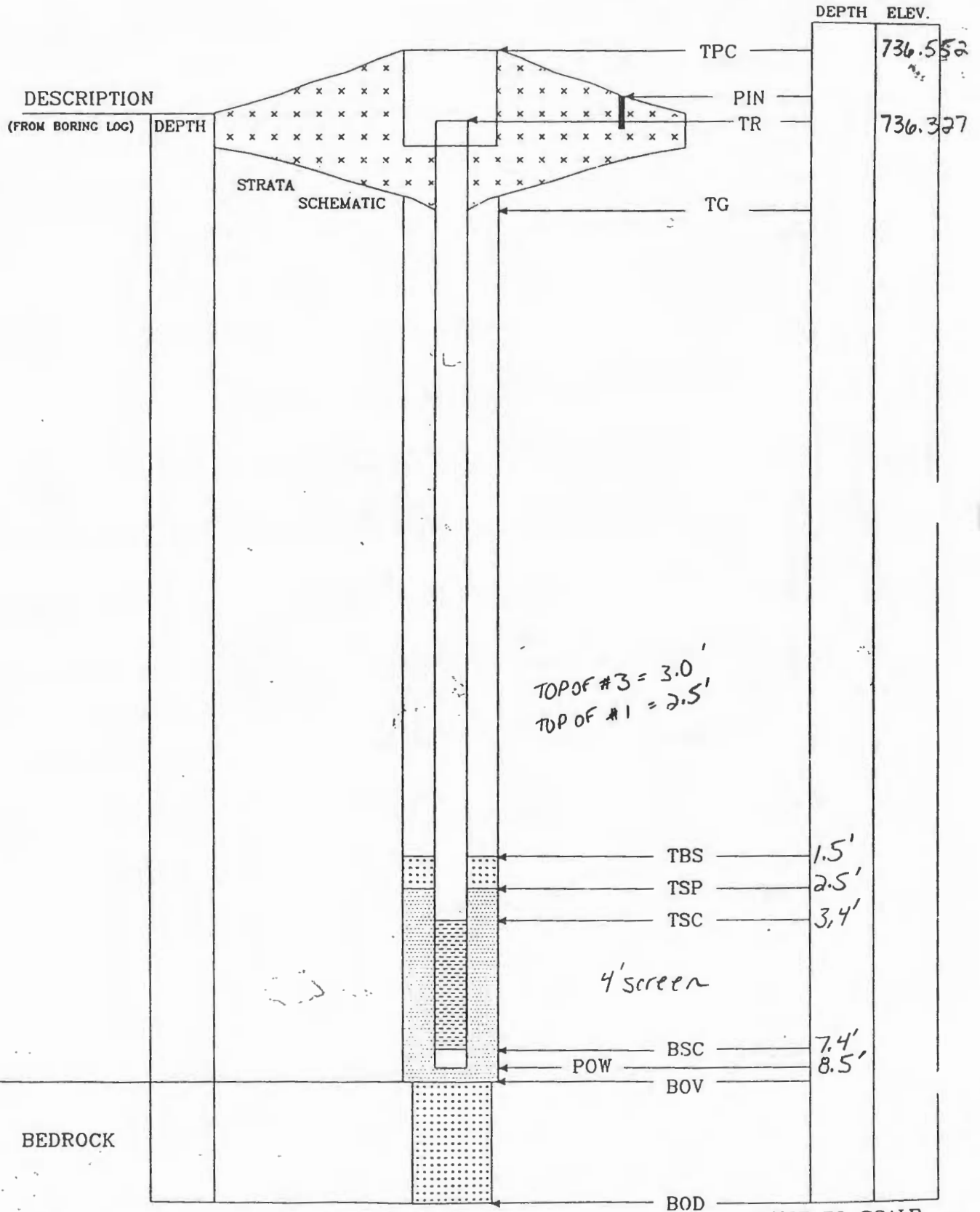
OVERBURDEN MONITORING WELL  
ROADWAY BOX INSTALLATION DETAIL

ENGINEERING-SCIENCE, INC.

CLIENT: **ADE**

WELL #: **MW 17-1**

DATE: **12-1-93**



\* NOT TO SCALE

# OVERBURDEN MONITORING WELL COMPLETION REPORT & INSTALLATION DETAIL ROADWAY BOX - SURFACE COMPLETION

ENGINEERING-SCIENCE, INC. CLIENT: <u>ACOE</u>		WELL #: <u>MNF-2</u>	
PROJECT: <u>10 SWMU</u>		PROJECT NO: <u>720477-01001</u>	
LOCATION: <u>SEAD 17</u>		INSPECTOR: <u>ES/LB</u>	
		CHECKED BY: _____	
DRILLING CONTRACTOR: <u>Empire</u>		POW DEPTH: <u>6.0'</u>	
DRILLER: <u>Alan</u>		INSTALLATION STARTED: <u>10/27/93</u>	
DRILLING COMPLETED: <u>11/2/93</u>		INSTALLATION COMPLETED: <u>11/2/93</u>	
BORING DEPTH: <u>6.0'</u>		SURFACE COMPLETION DATE: <u>11/2/93</u>	
DRILLING METHOD(S): <u>HSA</u>		COMPLETION CONTRACTOR/CREW: <u>Empire</u>	
BORING DIAMETER(S): <u>8 1/2"</u>		BEDROCK CONFIRMED (Y/N?): _____	
ASSOCIATED SWMU/AOC: _____		ESTIMATED GROUND ELEVATION: <u>731.649</u>	
PROTECTIVE SURFACE CASING:			
DIAMETER: <u>4"x4" Steel</u>		LENGTH: <u>4.3' total</u>	
RISER:			
TR: _____	TYPE: <u>PVC-40</u>	DIAMETER: <u>2"</u>	LENGTH: <u>2.5'</u>
SCREEN:			
TSC: <u>3.3'</u>	TYPE: <u>PVC-40</u>	DIAMETER: <u>1 1/2"</u>	LENGTH: <u>2.0'</u> SLOT SIZE: <u>0.01"</u>
POINT OF WELL: (SILT SUMP)			
TYPE: <u>PVC point</u>	BSC: <u>5.3'</u>	POW: <u>6.0'</u>	<u>0.5' point</u>
GROUT:			
TG: <u>0.0'</u>	TYPE: <u>Cem.-bentonite</u>	LENGTH: <u>2.0'</u>	
SEAL:	TBS: <u>2.0'</u>	TYPE: <u>bentonite pellets</u>	LENGTH: <u>0.3'</u>
SAND PACK:	TSP: <u>2.3'</u>	TYPE: <u>#3 and #1</u>	LENGTH: <u>3.7'</u>
SURFACE COLLAR:			
TYPE: <u>Cement</u>	RADIUS: <u>2x2'</u>	THICKNESS CENTER: <u>1'</u>	THICKNESS EDGE: <u>1'</u>
CENTRALIZER DEPTHS			
DEPTH 1: _____	DEPTH 2: _____	DEPTH 3: _____	DEPTH 4: _____
COMMENTS:			

\* ALL DEPTH MEASUREMENTS REFERENCED TO GROUND SURFACE

SEE PAGE 2 FOR SCHEMATIC

PAGE 1 OF 2





# OVERBURDEN MONITORING WELL COMPLETION REPORT & INSTALLATION DETAIL PROTECTIVE RISER COMPLETION

ENGINEERING—SCIENCE, INC.		CLIENT: <u>ACOE</u>	WELL #: <u>MN/17-3</u>	
PROJECT: <u>10 SNMU</u>	PROJECT NO: <u>720477-01001</u>		INSPECTOR: <u>ES/LB</u>	
LOCATION: <u>SEAD 17</u>	CHECKED BY: _____			
DRILLING CONTRACTOR: <u>Empire</u>	POW DEPTH: <u>6.0'</u>			
DRILLER: <u>John N.</u>	INSTALLATION STARTED: <u>11/30/93</u>			
DRILLING COMPLETED: <u>11/30/93</u>	INSTALLATION COMPLETED: <u>11/30/93</u>			
BORING DEPTH: <u>6.0'</u>	SURFACE COMPLETION DATE: _____			
DRILLING METHOD(S): <u>HSA</u>	COMPLETION CONTRACTOR/CREW: _____			
BORING DIAMETER(S): <u>8 1/2"</u>	BEDROCK CONFIRMED (Y/N?): _____			
ASSOCIATED SWMU/AOC: <u>17</u>	ESTIMATED GROUND ELEVATION: <u>730.188</u>			
PROTECTIVE SURFACE CASING:				
DIAMETER: <u>4" x 4" Steel</u>		LENGTH: _____		
RISER:				
TR: _____	TYPE: <u>PVC-40</u>	DIAMETER: <u>2"</u>	LENGTH: _____	
SCREEN:				
TSC: <u>3.1'</u>	TYPE: <u>PVC-40</u>	DIAMETER: <u>2"</u>	LENGTH: <u>2.0'</u>	SLOT SIZE: <u>0.01"</u>
POINT OF WELL: (SILT SUMP)				
TYPE: <u>PVC-point</u>	BSC: <u>5.1'</u>	POW: <u>6.0'</u>		
GROUT:				
TG: <u>Ground</u>	TYPE: <u>Cement-bentonite</u>	LENGTH: <u>1.3'</u>		
SEAL:	TBS: <u>1.3'</u>	TYPE: <u>bentonite pellets</u>	LENGTH: <u>0.7'</u>	
SAND PACK:	TSP: <u>2.0' #1 2.5' #3</u>	TYPE: <u>#3 # #1</u>	LENGTH: <u>4.0'</u>	
SURFACE COLLAR:				
TYPE: <u>Cement</u>	RADIUS: <u>2' x 2'</u>	THICKNESS CENTER: <u>1'</u>	THICKNESS EDGE: <u>1'</u>	
CENTRALIZER DEPTHS				
DEPTH 1: _____	DEPTH 2: _____	DEPTH 3: _____	DEPTH 4: _____	
COMMENTS:				
* ALL DEPTH MEASUREMENTS REFERENCED TO GROUND SURFACE				

SEE PAGE 2 FOR SCHEMATIC

PAGE 1 OF 2

# OVERBURDEN MONITORING WELL PROTECTIVE RISER INSTALLATION DETAIL

ENGINEERING-SCIENCE, INC.

CLIENT: *ACOG*

WELL #: *MW-17-3*

DATE: *11/30/93*

TPC *732.405* DEPTH ELEV.

DESCRIPTION  
(FROM BORING LOG)

DEPTH

STRATA

SCHEMATIC

TR

PIN

TG

*Ground.*

732.151

*Top # 3 Sand 2.5'  
Top # 1 Sand 2.0'*

TBS 1.3

TSP 2.0

TSC 3.1

BSC 5.1

POW 6.0'

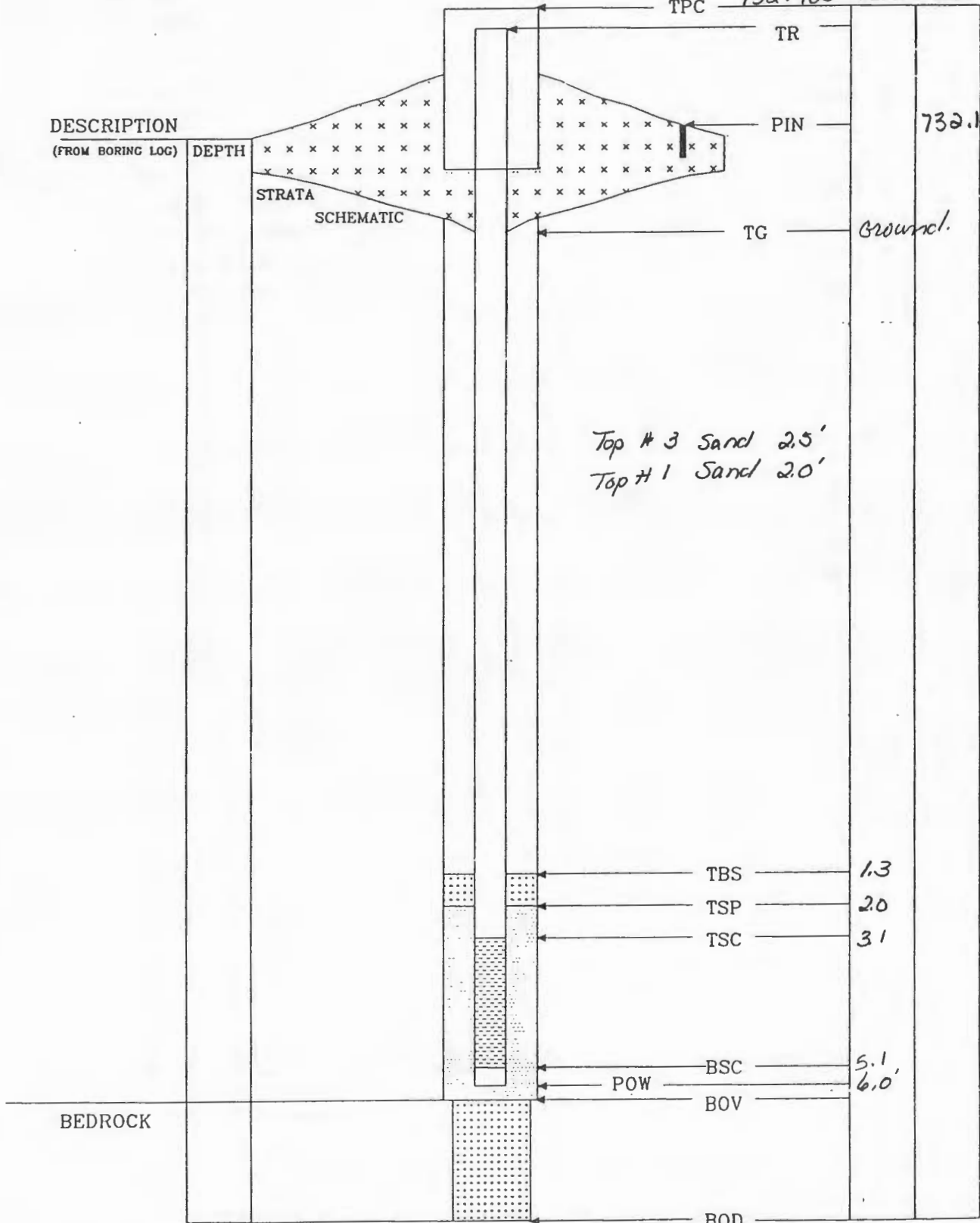
BOV

BOD

BEDROCK

*Depths measured from ground.*

\* NOT TO SCALE



# OVERBURDEN MONITORING WELL COMPLETION REPORT & INSTALLATION DETAIL PROTECTIVE RISER COMPLETION

ENGINEERING-SCIENCE, INC.		CLIENT: <u>ACOE</u>	WELL #: <u>MW17-4</u>	
PROJECT: <u>10 SWMU</u>	PROJECT NO: _____		INSPECTOR: _____	
LOCATION: <u>SEAD 17</u>	CHECKED BY: _____		_____	
DRILLING CONTRACTOR: <u>Empire</u>	POW DEPTH: <u>6.0'</u>		INSTALLATION STARTED: <u>11/30/93</u>	
DRILLER: <u>bhn w.</u>	INSTALLATION COMPLETED: <u>12/1/93</u>		SURFACE COMPLETION DATE: <u>12/2/93</u>	
DRILLING COMPLETED: <u>12/1/93</u>	BORING DEPTH: <u>6.0'</u>		COMPLETION CONTRACTOR/CREW: _____	
BORING METHOD(S): <u>HSA</u>	BORING DIAMETER(S): <u>8 1/2"</u>		BEDROCK CONFIRMED (Y/N?): _____	
ASSOCIATED SWMU/AOC: <u>17</u>	ESTIMATED GROUND ELEVATION: <u>732.453</u>		_____	
PROTECTIVE SURFACE CASING:				
DIAMETER: <u>4"x4" Steel</u>		LENGTH: _____		
RISER:				
TR: _____	TYPE: <u>PVC-40</u>	DIAMETER: <u>2"</u>	LENGTH: _____	
SCREEN:				
TSC: <u>3.1'</u>	TYPE: <u>PVC-40</u>	DIAMETER: <u>2"</u>	LENGTH: <u>2'</u>	SLOT SIZE: <u>0.01"</u>
POINT OF WELL: (SILT SUMP)				
TYPE: <u>PVC point</u>	BSC: <u>5.1'</u>	POW: <u>6.0'</u>		
GROUT:				
TG: <u>Ground</u>	TYPE: <u>Cement bentonite</u>	LENGTH: <u>13'</u>		
SEAL:	TBS: <u>1.3'</u>	TYPE: <u>bentonite pellets</u>	LENGTH: <u>0.7'</u>	
SAND PACK:	TSP: <u>20' #1 25' #3</u>	TYPE: <u>#3 + #1 silica</u>	LENGTH: <u>4.0'</u>	
SURFACE COLLAR:				
TYPE: <u>Cement</u>	RADIUS: <u>2'x2'</u>	THICKNESS CENTER: <u>1'</u>	THICKNESS EDGE: <u>1'</u>	
CENTRALIZER DEPTHS				
DEPTH 1: _____	DEPTH 2: _____	DEPTH 3: _____	DEPTH 4: _____	
COMMENTS: <u>sand removed</u>				

\* ALL DEPTH MEASUREMENTS REFERENCED TO GROUND SURFACE

SEE PAGE 2 FOR SCHEMATIC

PAGE 1 OF 2

# OVERBURDEN MONITORING WELL PROTECTIVE RISER INSTALLATION DETAIL

ENGINEERING-SCIENCE, INC.

CLIENT: *ACO*

WELL #: *MW/7-4*

DATE: *12-1-93*

TPC *734.875* DEPTH ELEV.

TR *734.587*

DESCRIPTION

(FROM BORING LOG)

DEPTH

STRATA

SCHEMATIC

PIN

TG

*Top of #3 Sand 2.5'*  
*Top of #1 Sand 2.0'*

TBS *1.3*

TSP *2.0*

TSC *3.1*

BSC *5.1*

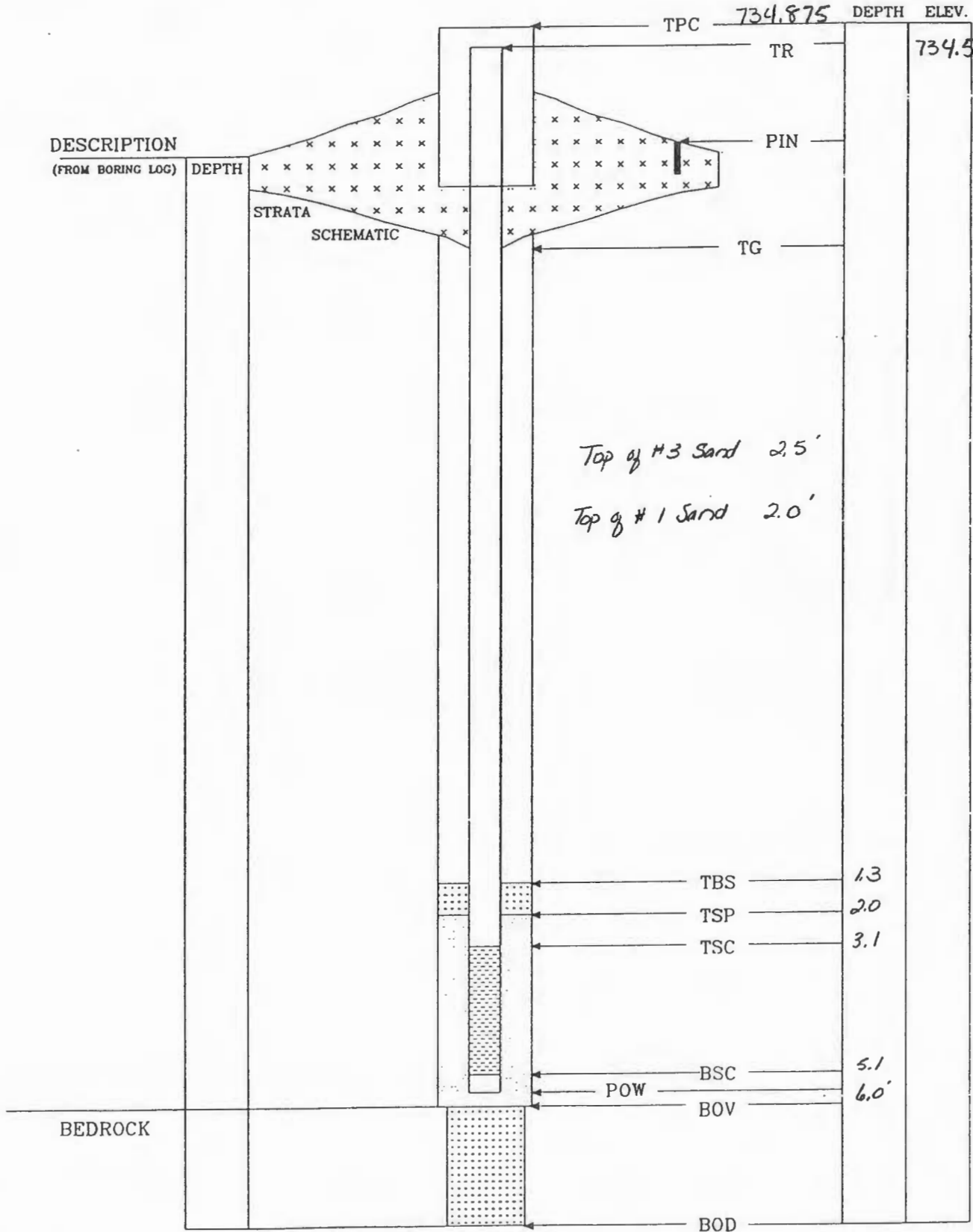
POW *6.0'*

BOV

BEDROCK

BOD

\* NOT TO SCALE



# OVERBURDEN MONITORING WELL COMPLETION REPORT & INSTALLATION DETAIL PROTECTIVE RISER COMPLETION

ENGINEERING-SCIENCE, INC.		CLIENT: <u>ACOE</u>	WELL #: <u>MW24-1</u>	
PROJECT: <u>10 SWMU</u>			PROJECT NO: <u>SB24-5</u>	
LOCATION: <u>SEAD 24</u>			INSPECTOR: _____	
			CHECKED BY: _____	
DRILLING CONTRACTOR: <u>Empire</u>			POW DEPTH: <u>10.0'</u>	
DRILLER: <u>Scott</u>			INSTALLATION STARTED: <u>12-1-93</u>	
DRILLING COMPLETED: <u>12-1-93</u>			INSTALLATION COMPLETED: <u>12-1-93</u>	
BORING DEPTH: <u>10.0'</u>			SURFACE COMPLETION DATE: _____	
DRILLING METHOD(S): <u>HSA</u>			COMPLETION CONTRACTOR/CREW: <u>Empire</u>	
BORING DIAMETER(S): <u>8 1/2"</u>			BEDROCK CONFIRMED (Y/N?): _____	
ASSOCIATED SWMU/AOC: <u>2A</u>			ESTIMATED GROUND ELEVATION: <u>635.374</u>	
PROTECTIVE SURFACE CASING:				
DIAMETER: <u>4" x 4" Steel</u>		LENGTH: _____		
RISER:				
TR: _____	TYPE: <u>PVC-40</u>	DIAMETER: <u>2"</u>	LENGTH: _____	
SCREEN:				
TSC: <u>4.9'</u>	TYPE: <u>PVC-40</u>	DIAMETER: <u>2"</u>	LENGTH: <u>4.0'</u>	SLOT SIZE: <u>0.01"</u>
POINT OF WELL: (SILT SUMP)				
TYPE: <u>PVC point</u>	BSC: <u>8.9'</u>	POW: <u>10.0</u>		
GROUT:				
TG: <u>Ground</u>	TYPE: <u>Cement-bentonite</u>	LENGTH: <u>1.5'</u>		
SEAL:	TBS: <u>1.5'</u>	TYPE: <u>bentonite pellets</u>	LENGTH: <u>1.9'</u>	
SAND PACK:	TSP: <u>3.4' #1 39 #3</u>	TYPE: <u>#3 #1</u>	LENGTH: <u>6.6'</u>	
SURFACE COLLAR:				
TYPE: <u>Cement</u>	RADIUS: <u>2' x 2'</u>	THICKNESS CENTER: <u>1'</u>	THICKNESS EDGE: <u>1'</u>	
CENTRALIZER DEPTHS				
DEPTH 1: _____	DEPTH 2: _____	DEPTH 3: _____	DEPTH 4: _____	
COMMENTS:				
* ALL DEPTH MEASUREMENTS REFERENCED TO GROUND SURFACE				

SEE PAGE 2 FOR SCHEMATIC

PAGE 1 OF 2

# OVERBURDEN MONITORING WELL PROTECTIVE RISER INSTALLATION DETAIL

ENGINEERING-SCIENCE, INC.

CLIENT:

WELL #: MW24-1

DATE: 12-1-93

TPC 638.047

DEPTH ELEV.

637.746

DESCRIPTION  
(FROM BORING LOG)

DEPTH

STRATA

SCHEMATIC

TR

PIN

TG

Top of #3 3.9'

Top of #1 34'

TBS 1.5'

TSP 3.4'

TSC 4.9'

BSC 8.9'

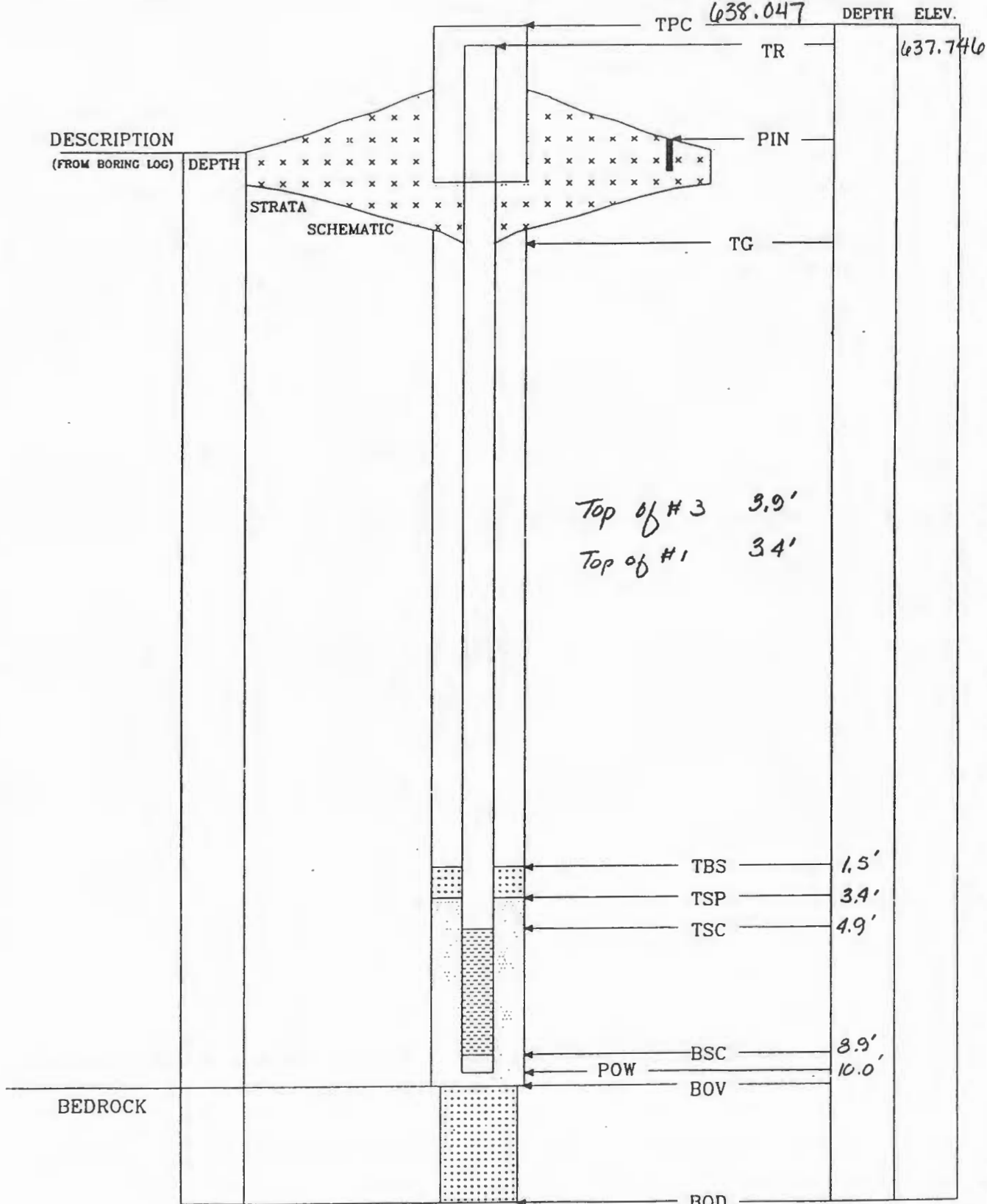
POW 10.0'

BOV

BEDROCK

BOD

\* NOT TO SCALE



# OVERBURDEN MONITORING WELL COMPLETION REPORT & INSTALLATION DETAIL ROADWAY BOX - SURFACE COMPLETION

ENGINEERING-SCIENCE, INC.		CLIENT: <u>ACOE</u>	WELL #: <u>MW 24-2</u>	
PROJECT: <u>10 SWMU</u>	LOCATION: <u>SEAD '24</u>		PROJECT NO: _____	INSPECTOR: <u>ES/LB</u>
			CHECKED BY: _____	
DRILLING CONTRACTOR: <u>Empire</u>	DRILLER: <u>A1</u>		POW DEPTH: <u>16.0</u>	INSTALLATION STARTED: <u>11/5/93</u>
DRILLING COMPLETED: <u>11/5/93</u>	BORING DEPTH: <u>16.0'</u>		INSTALLATION COMPLETED: <u>11/6/93</u>	SURFACE COMPLETION DATE: _____
DRILLING METHOD(S): <u>BSA</u>	BORING DIAMETER(S): <u>8"2"</u>		COMPLETION CONTRACTOR/CREW: <u>Empire</u>	BEDROCK CONFIRMED (Y/N?): _____
ASSOCIATED SWMU/AOC: <u>24</u>			ESTIMATED GROUND ELEVATION: <u>629.856</u>	
PROTECTIVE SURFACE CASING:				
DIAMETER: <u>4" x 4" Steel</u>		LENGTH: <u>5.0' total</u>		
RISER:				
TR: _____	TYPE: <u>PVC 40</u>	DIAMETER: <u>2"</u>	LENGTH: _____	
SCREEN:				
TSC: <u>5.9'</u>	TYPE: <u>PVC 40</u>	DIAMETER: <u>1 1/2"</u>	LENGTH: <u>9.0'</u>	SLOT SIZE: <u>0.01"</u>
POINT OF WELL: (SILT SUMP)				
TYPE: <u>PVC point</u>	BSC: <u>14.9'</u>	POW: <u>16.0</u>		
GROUT:				
TG: <u>Ground</u>	TYPE: <u>Cem-bentonite</u>	LENGTH: <u>3.0'</u>		
SEAL:	TBS: <u>3.0</u>	TYPE: <u>Bentonite pellets</u>	LENGTH: <u>14'</u>	
SAND PACK:	TSP: <u>44 #1 49-#3</u>	TYPE: <u>#3 and #1</u>	LENGTH: <u>11.6'</u>	
SURFACE COLLAR:				
TYPE: <u>Cement</u>	RADIUS: <u>2' x 2'</u>	THICKNESS CENTER: <u>1'</u>	THICKNESS EDGE: <u>1'</u>	
CENTRALIZER DEPTHS				
DEPTH 1: _____	DEPTH 2: _____	DEPTH 3: _____	DEPTH 4: _____	
COMMENTS:				

\* ALL DEPTH MEASUREMENTS REFERENCED TO GROUND SURFACE

SEE PAGE 2 FOR SCHEMATIC

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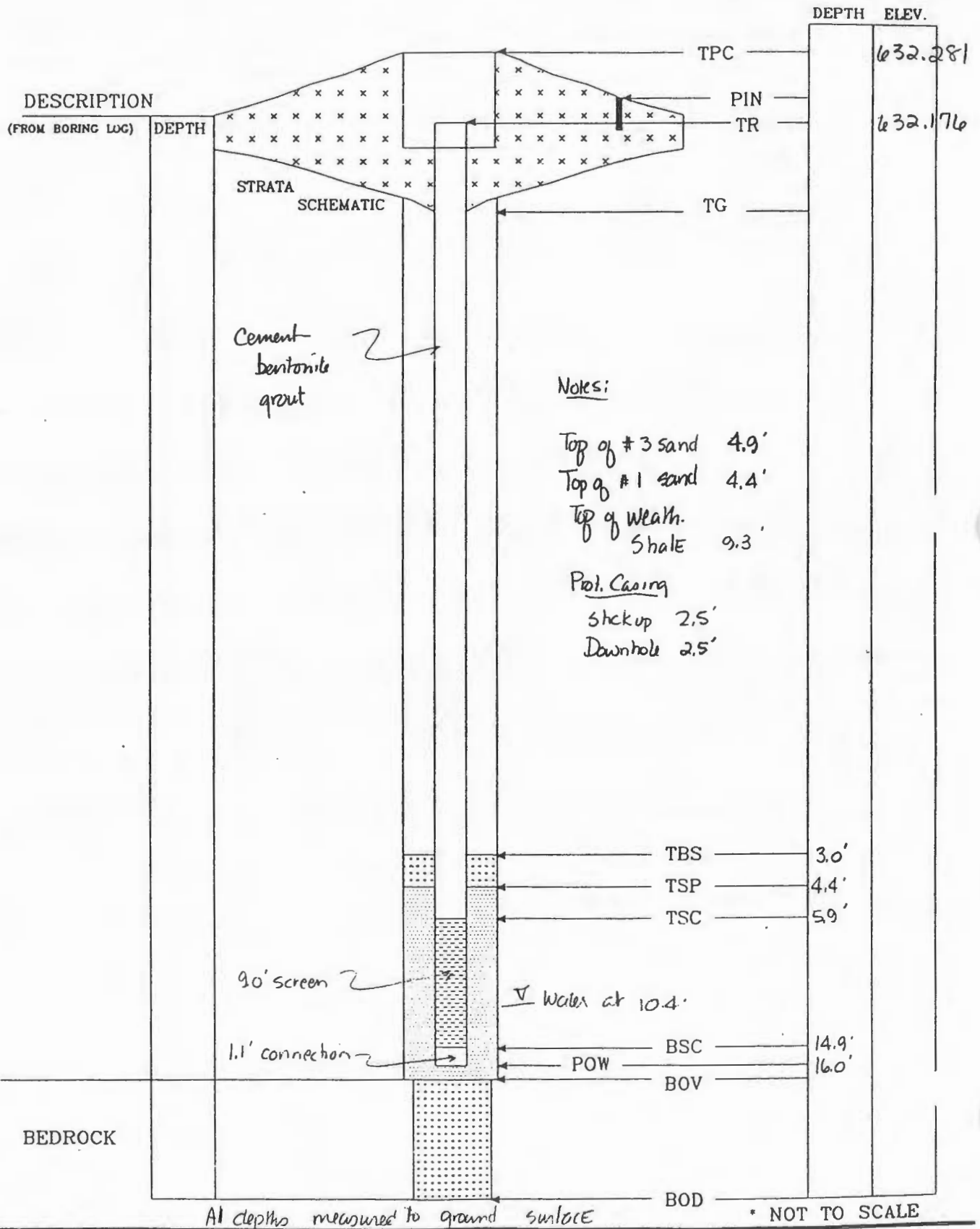
OVERBURDEN MONITORING WELL  
ROADWAY BOX INSTALLATION DETAIL

ENGINEERING-SCIENCE, INC.

CLIENT:

WELL #: MW24-2

DATE: \_\_\_\_\_





# OVERBURDEN MONITORING WELL COMPLETION REPORT & INSTALLATION DETAIL ROADWAY BOX - SURFACE COMPLETION

ENGINEERING-SCIENCE, INC. CLIENT:		WELL #: MW 24-3	
PROJECT: <u>10 SWMU</u>		PROJECT NO: <u>SB</u>	
LOCATION: <u>SEAD 24</u>		INSPECTOR: <u>ES</u>	
		CHECKED BY: _____	
DRILLING CONTRACTOR: <u>Empire</u>		POW DEPTH: <u>15.0'</u>	
DRILLER: <u>Al</u>		INSTALLATION STARTED: <u>11/6/93</u>	
DRILLING COMPLETED: <u>11/6/93</u>		INSTALLATION COMPLETED: <u>11/6/93</u>	
BORING DEPTH: <u>15'</u>		SURFACE COMPLETION DATE: _____	
DRILLING METHOD(S): <u>HSA</u>		COMPLETION CONTRACTOR/CREW: <u>Empire</u>	
BORING DIAMETER(S): <u>8 1/2"</u>		BEDROCK CONFIRMED (Y/N?): _____	
ASSOCIATED SWMU/AOC: <u>24</u>		ESTIMATED GROUND ELEVATION: <u>629.080</u>	
PROTECTIVE SURFACE CASING:			
DIAMETER: <u>4" x 4" Steel</u>		LENGTH: <u>5.0' total</u>	
RISER:			
TR: _____	TYPE: <u>Pvc 40</u>	DIAMETER: <u>2"</u>	LENGTH: _____
SCREEN:			
TSC: <u>4.9'</u>	TYPE: <u>Pvc 40</u>	DIAMETER: <u>11"</u>	LENGTH: <u>9'</u> SLOT SIZE: <u>0.01"</u>
POINT OF WELL: (SILT SUMP)			
TYPE: <u>Pvc point</u>	BSC: <u>13.9'</u>	POW: <u>15.0'</u>	
GROUT:			
TG: <u>Ground</u>	TYPE: <u>Cem-bentonite</u>	LENGTH: <u>28'</u>	
SEAL:	TBS: <u>2.8'</u>	TYPE: <u>Bentonite pellets</u>	LENGTH: <u>.6'</u>
SAND PACK:	TSP: <u>3.9' - #1</u> <u>3.4' - #3</u>	TYPE: <u>#3 &amp; #1 Silica</u>	LENGTH: <u>11.6'</u>
SURFACE COLLAR:			
TYPE: <u>Cement</u>	RADIUS: <u>2' x 2'</u>	THICKNESS CENTER: <u>1'</u>	THICKNESS EDGE: <u>1'</u>
CENTRALIZER DEPTHS			
DEPTH 1: _____	DEPTH 2: _____	DEPTH 3: _____	DEPTH 4: _____
COMMENTS:			

\* ALL DEPTH MEASUREMENTS REFERENCED TO GROUND SURFACE

SEE PAGE 2 FOR SCHEMATIC

PAGE 1 OF 2



# OVERBURDEN MONITORING WELL COMPLETION REPORT & INSTALLATION DETAIL

## ROADWAY BOX - SURFACE COMPLETION

ENGINEERING-SCIENCE, INC. CLIENT: <u>ACOE</u>		WELL #: <u>MW25-1</u>	
PROJECT: <u>SEAD 10.5 MWU</u>		PROJECT NO: <u>720477 5B25-4</u>	
LOCATION: <u>SEAD 25</u>		INSPECTOR: <u>ES/LB</u>	
		CHECKED BY: _____	
DRILLING CONTRACTOR: <u>EMPIRE SOILS</u>		POW DEPTH: <u>5.0'</u>	
DRILLER: <u>JOHN/BOB</u>		INSTALLATION STARTED: <u>12-3-93</u>	
DRILLING COMPLETED: <u>12-3-93</u>		INSTALLATION COMPLETED: <u>12-3-93</u>	
BORING DEPTH: <u>5'</u>		SURFACE COMPLETION DATE: _____	
DRILLING METHOD(S): <u>HSA</u>		COMPLETION CONTRACTOR/CREW: _____	
BORING DIAMETER(S): <u>8.5"</u>		BEDROCK CONFIRMED (Y/N?): _____	
ASSOCIATED SWMU/AOC: <u>25</u>		ESTIMATED GROUND ELEVATION: <u>740.261</u>	
PROTECTIVE SURFACE CASING:			
DIAMETER: <u>4"x4" steel</u>		LENGTH: _____	
RISER:			
TR: _____	TYPE: <u>PVC 40</u>	DIAMETER: <u>2"</u>	LENGTH: _____
SCREEN:			
TSC: <u>3.1'</u>	TYPE: <u>PVC 40</u>	DIAMETER: <u>2"</u>	LENGTH: <u>1'</u> SLOT SIZE: <u>.01"</u>
POINT OF WELL: (SILT SUMP)			
TYPE: <u>PVC point</u>	BSC: <u>4.1'</u>	POW: <u>5.0'</u>	
GROUT:			
TG: <u>Ground</u>	TYPE: <u>Cement-bentonite</u>	LENGTH: <u>1.3'</u>	
SEAL:			
TBS: <u>1.3'</u>	TYPE: <u>bentonite pellets</u>	LENGTH: <u>.7'</u>	
SAND PACK:			
TSP: <u>2.5' = #3</u> <u>2.0' = #1</u>	TYPE: _____	LENGTH: <u>.6' #3</u> <u>.5' #1</u>	
SURFACE COLLAR:			
TYPE: <u>Cement</u>	RADIUS: <u>2'x2'</u>	THICKNESS CENTER: <u>1'</u>	THICKNESS EDGE: <u>1'</u>
CENTRALIZER DEPTHS			
DEPTH 1: _____	DEPTH 2: _____	DEPTH 3: _____	DEPTH 4: _____
COMMENTS:			
<u>SAND was tremied.</u>			

\* ALL DEPTH MEASUREMENTS REFERENCED TO GROUND SURFACE

SEE PAGE 2 FOR SCHEMATIC

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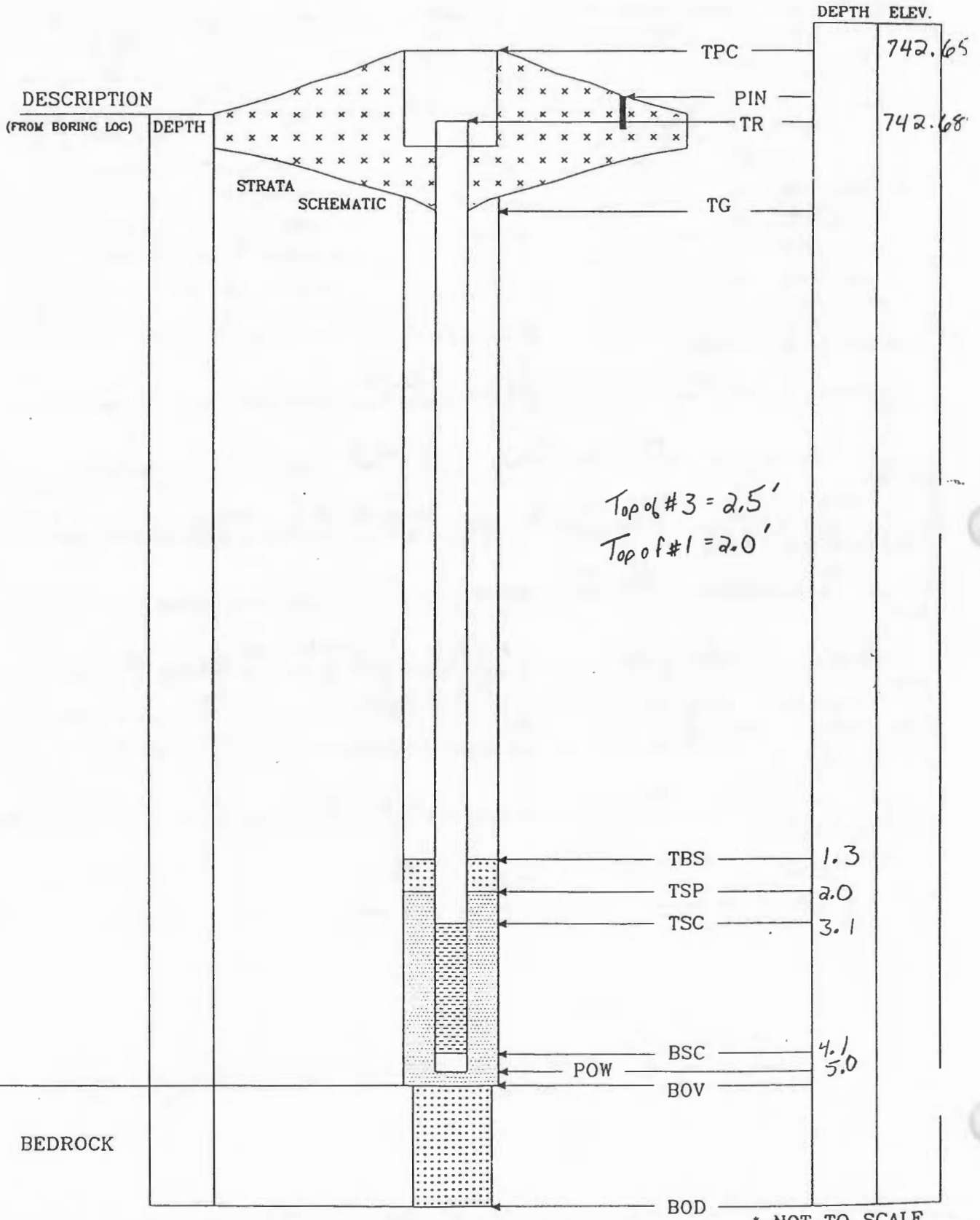
OVERBURDEN MONITORING WELL  
ROADWAY BOX INSTALLATION DETAIL

ENGINEERING-SCIENCE, INC.

CLIENT: *ACOE*

WELL #: *MW25*

DATE: \_\_\_\_\_



\* NOT TO SCALE

# OVERBURDEN MONITORING WELL COMPLETION REPORT & INSTALLATION DETAIL ROADWAY BOX - SURFACE COMPLETION

ENGINEERING-SCIENCE, INC.		CLIENT: <u>ACOE</u>	WELL #: <u>MW 25-2</u>	
PROJECT: <u>10 SWMU</u>	PROJECT NO: <u>720477</u>		INSPECTOR: <u>ES/LB</u>	
LOCATION: <u>SEAD 25</u>	CHECKED BY: _____			
DRILLING CONTRACTOR: <u>Empire</u>	POW DEPTH: <u>85'</u>			
DRILLER: <u>A1</u>	INSTALLATION STARTED: <u>11/7/93</u>			
DRILLING COMPLETED: <u>11/7/93</u>	INSTALLATION COMPLETED: <u>11/7/93</u>			
BORING DEPTH: <u>8.5'</u>	SURFACE COMPLETION DATE: _____			
DRILLING METHOD(S): <u>HSA</u>	COMPLETION CONTRACTOR/CREW: _____			
BORING DIAMETER(S): <u>8 1/2"</u>	BEDROCK CONFIRMED (Y/N?): _____			
ASSOCIATED SWMU/AOC: <u>25</u>	ESTIMATED GROUND ELEVATION: <u>743.815</u>			
PROTECTIVE SURFACE CASING:				
DIAMETER: <u>4" x 4" Steel</u>		LENGTH: _____		
RISER:				
TR: _____	TYPE: <u>PVC 40</u>	DIAMETER: <u>2"</u>	LENGTH: _____	
SCREEN:				
TSC: <u>34</u>	TYPE: <u>PVC 40</u>	DIAMETER: <u>1 1/2"</u>	LENGTH: <u>4.0'</u>	SLOT SIZE: <u>0.01"</u>
POINT OF WELL: (SILT SUMP)				
TYPE: <u>PVC point</u>	BSC: <u>7.4</u>	POW: <u>8.5'</u>		
GROUT:				
TG: <u>Ground</u>	TYPE: <u>Cement-bentonite</u>	LENGTH: <u>1.2'</u>		
SEAL:	TBS: <u>1.2</u>	TYPE: <u>bentonite pellets</u>	LENGTH: <u>0.8'</u>	
SAND PACK:	TSP: <u>2.0' #1 25-#3</u>	TYPE: <u>#3 and #1 silica</u>	LENGTH: <u>1.5'</u>	
SURFACE COLLAR:				
TYPE: <u>Cement</u>	RADIUS: <u>2' x 2'</u>	THICKNESS CENTER: <u>1'</u>	THICKNESS EDGE: <u>1'</u>	
CENTRALIZER DEPTHS				
DEPTH 1: _____	DEPTH 2: _____	DEPTH 3: _____	DEPTH 4: _____	
COMMENTS:				

\* ALL DEPTH MEASUREMENTS REFERENCED TO GROUND SURFACE

SEE PAGE 2 FOR SCHEMATIC

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# OVERBURDEN MONITORING WELL COMPLETION REPORT & INSTALLATION DETAIL PROTECTIVE RISER COMPLETION

ENGINEERING-SCIENCE, INC.		CLIENT: <u>ACOE</u>	WELL #: <u>MW25-3</u>	
PROJECT: <u>10 SWMU</u>	LOCATION: <u>SEAD 25</u>		PROJECT NO: <u>720477</u>	INSPECTOR: <u>ES/LB</u>
DRILLING CONTRACTOR: <u>Empire</u>		POW DEPTH: <u>6.5'</u>		
DRILLER: <u>A1</u>	INSTALLATION STARTED: <u>11/7/93</u>		INSTALLATION COMPLETED: <u>11/7/93</u>	
DRILLING COMPLETED: <u>11/7/93</u>	BORING DEPTH: <u>6.5'</u>		SURFACE COMPLETION DATE: _____	
BORING METHOD(S): <u>HSA</u>	COMPLETION CONTRACTOR/CREW: <u>Empire</u>		BEDROCK CONFIRMED (Y/N)? _____	
BORING DIAMETER(S): <u>8 1/2"</u>	ASSOCIATED SWMU/AOC: <u>25</u>		ESTIMATED GROUND ELEVATION: <u>743.270</u>	
PROTECTIVE SURFACE CASING:				
DIAMETER: <u>4" x 4" Steel</u>		LENGTH: _____		
RISER:				
TR: _____	TYPE: <u>PVC 40</u>	DIAMETER: <u>2"</u>	LENGTH: _____	
SCREEN:				
TSC: _____	TYPE: <u>PVC 40</u>	DIAMETER: <u>2"</u>	LENGTH: <u>2'</u>	SLOT SIZE: <u>0.01"</u>
POINT OF WELL: (SILT SUMP)				
TYPE: <u>PVC Cap</u>	BSC: _____	POW: <u>6.5'</u>		
GROUT:				
TG: <u>Ground</u>	TYPE: <u>Cement-bentonite</u>	LENGTH: _____		
SFAL: _____	TBS: _____	TYPE: <u>bentonite pellets</u>	LENGTH: _____	
SAND PACK: _____	TSP: <u>#3 - #1</u>	TYPE: <u>#3 + #1 silica</u>	LENGTH: _____	
SURFACE COLLAR:				
TYPE: <u>Cement</u>	RADIUS: <u>2' x 2'</u>	THICKNESS CENTER: <u>1'</u>	THICKNESS EDGE: <u>1'</u>	
CENTRALIZER DEPTHS				
DEPTH 1: _____	DEPTH 2: _____	DEPTH 3: _____	DEPTH 4: _____	
COMMENTS:				

\* ALL DEPTH MEASUREMENTS REFERENCED TO GROUND SURFACE

SEE PAGE 2 FOR SCHEMATIC

PAGE 1 OF 2

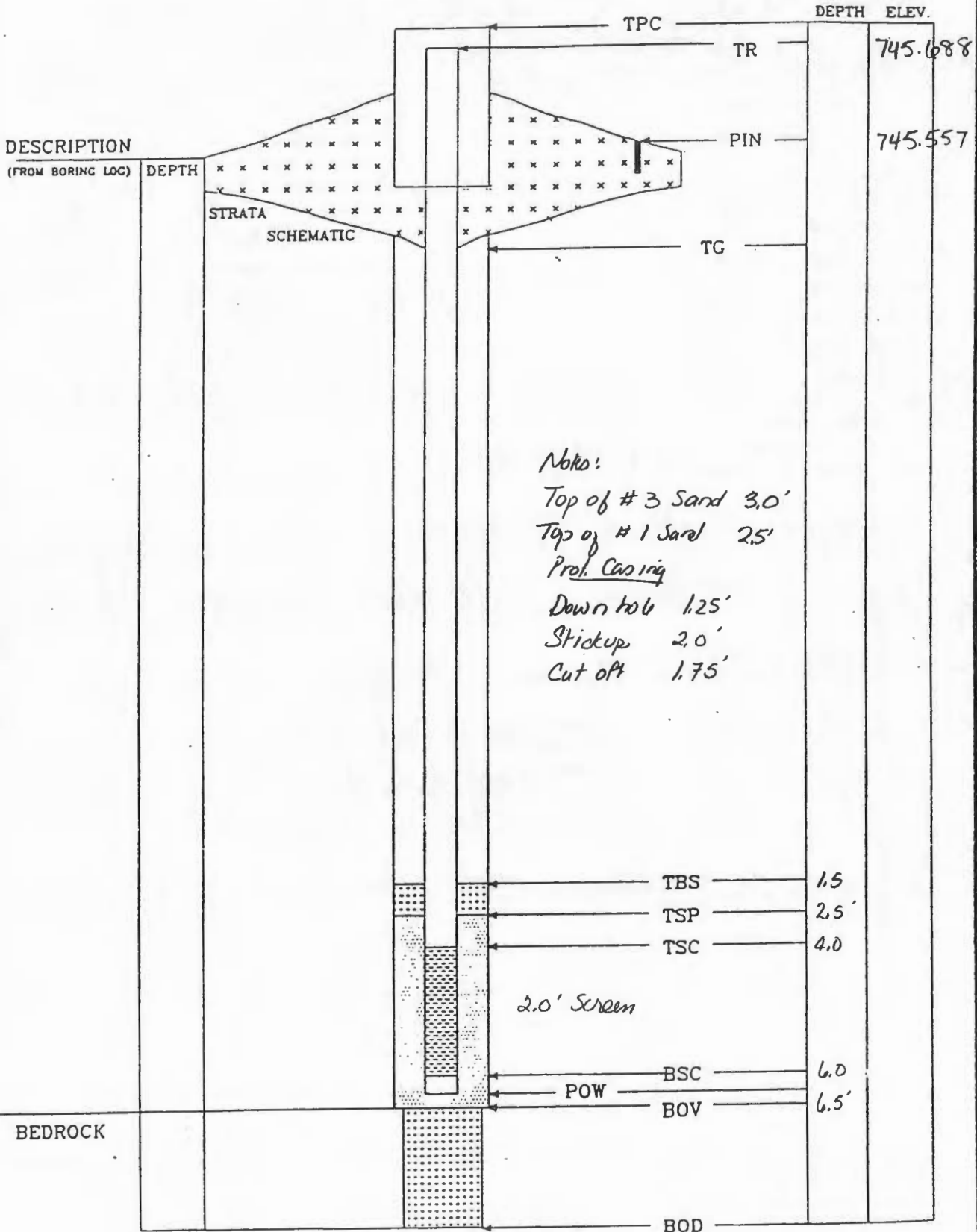
# OVERBURDEN MONITORING WELL PROTECTIVE RISER INSTALLATION DETAIL

ENGINEERING-SCIENCE, INC.

CLIENT:

WELL #: MW 25-3

DATE: 11-7-93



*Notes:*  
 Top of # 3 Sand 3.0'  
 Top of # 1 Sand 2.5'  
 Prot. Casing  
 Down hole 1.25'  
 Stickup 2.0'  
 Cut off 1.75'

• NOT TO SCALE



# OVERBURDEN MONITORING WELL COMPLETION REPORT & INSTALLATION DETAIL PROTECTIVE RISER COMPLETION

ENGINEERING-SCIENCE, INC. CLIENT: <u>ACOE</u>		WELL #: <u>MN26-1</u>	
PROJECT: <u>10 SWMU</u>		PROJECT NO: <u>720477</u>	
LOCATION: <u>SEAD 26</u>		INSPECTOR: <u>ES</u>	
		CHECKED BY: _____	
DRILLING CONTRACTOR: <u>Empire</u>		POW DEPTH: <u>6.0'</u>	
DRILLER: <u>bhn W.</u>		INSTALLATION STARTED: <u>11/17/93</u>	
DRILLING COMPLETED: <u>11/17/93</u>		INSTALLATION COMPLETED: <u>11/18/93</u>	
BORING DEPTH: <u>6.0'</u>		SURFACE COMPLETION DATE: _____	
DRILLING METHOD(S): <u>HSA</u>		COMPLETION CONTRACTOR/CREW: <u>Empire</u>	
BORING DIAMETER(S): <u>8 1/2"</u>		BEDROCK CONFIRMED (Y/N)? _____	
ASSOCIATED SWMU/AOC: <u>26</u>		ESTIMATED GROUND ELEVATION: <u>751.340</u>	
PROTECTIVE SURFACE CASING:			
DIAMETER: <u>4" x 4" Steel</u>		LENGTH: _____	
RISER:			
TR: _____	TYPE: <u>PVC-40</u>	DIAMETER: <u>2"</u>	LENGTH: _____
SCREEN:			
TSC: <u>3.3'</u>	TYPE: <u>PVC-40</u>	DIAMETER: <u>2"</u>	LENGTH: <u>2'</u>
			SLOT SIZE: <u>0.01"</u>
POINT OF WELL: (SILT SUMP)			
TYPE: <u>PVC-point</u>	BSC: <u>5.3'</u>	POW: <u>6.0'</u>	
GROUT:			
TG: <u>Ground</u>	TYPE: <u>Cement-bentonite</u>	LENGTH: <u>1.5'</u>	
SEAL:	TBS: <u>1.5'</u>	TYPE: <u>bentonite pellets</u>	LENGTH: <u>0.8'</u>
SAND PACK:	TSP: <u>2.3' - #1 28' - #3</u>	TYPE: <u>#3 + #1</u>	LENGTH: <u>3.7'</u>
SURFACE COLLAR:			
TYPE: <u>Cement</u>	RADIUS: <u>2' x 2'</u>	THICKNESS CENTER: <u>1'</u>	THICKNESS EDGE: <u>1'</u>
CENTRALIZER DEPTHS			
DEPTH 1: _____	DEPTH 2: _____	DEPTH 3: _____	DEPTH 4: _____
COMMENTS:			
<u>- Rain (heavy) at ≈ 11:00. Drilling stopped</u>			
* ALL DEPTH MEASUREMENTS REFERENCED TO GROUND SURFACE			

SEE PAGE 2 FOR SCHEMATIC

PAGE 1 OF 2

**OVERBURDEN MONITORING WELL  
PROTECTIVE RISER INSTALLATION DETAIL**

ENGINEERING-SCIENCE, INC.      CLIENT: *ACOE*      WELL #: *MW 26-1*

DATE: *11/7/93*

TPC *753.852*      DEPTH      ELEV.

*753.573*

DESCRIPTION  
(FROM BORING LOG)

DEPTH

STRATA  
SCHEMATIC

TR

PIN

TG

Notes:  
Top # 3: 2.8'  
Top # 1: 2.3'

TBS 1.5'  
TSP 2.3'  
TSC 3.3'

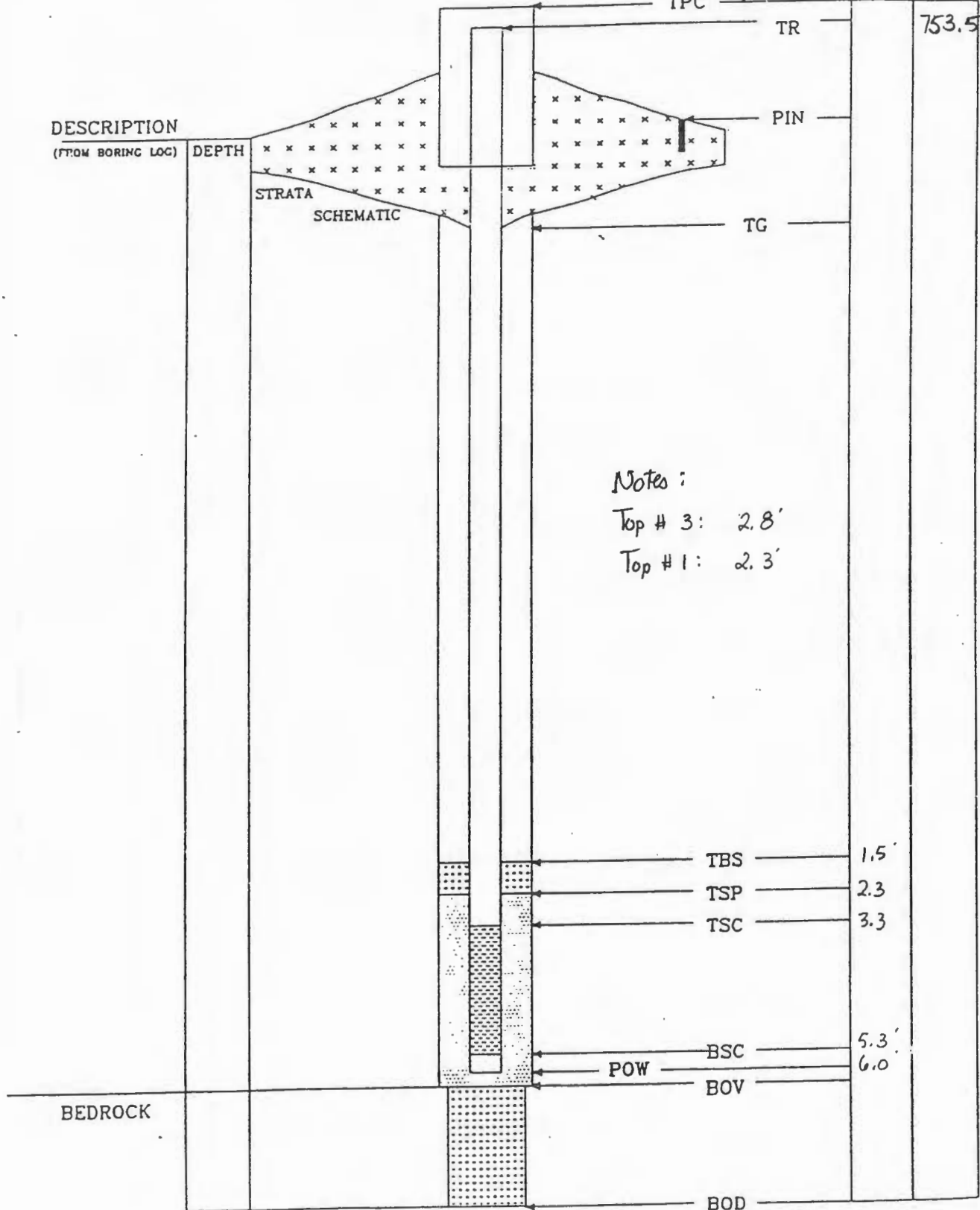
BSC 5.3'  
POW 6.0'  
BOV

BEDROCK

BOD

*Note: All depths measured from ground surface*

• NOT TO SCALE



# OVERBURDEN MONITORING WELL COMPLETION REPORT & INSTALLATION DETAIL ROADWAY BOX - SURFACE COMPLETION

ENGINEERING-SCIENCE, INC.		CLIENT: <u>ACOE</u>	WELL #: <u>MW26-2</u>	
PROJECT: <u>10 SWMU</u>		PROJECT NO: <u>720477</u>		
LOCATION: <u>SEAD 26</u>		INSPECTOR: <u>ES</u>		
		CHECKED BY: _____		
DRILLING CONTRACTOR: <u>Empire</u>		POW DEPTH: <u>14.0'</u>		
DRILLER: <u>John W.</u>		INSTALLATION STARTED: <u>11/18/93</u>		
DRILLING COMPLETED: <u>11/18/93</u>		INSTALLATION COMPLETED: <u>11/18/93</u>		
BORING DEPTH: <u>14.0'</u>		SURFACE COMPLETION DATE: _____		
DRILLING METHOD(S): <u>HSA</u>		COMPLETION CONTRACTOR/CREW: <u>Empire</u>		
BORING DIAMETER(S): <u>8 1/2"</u>		BEDROCK CONFIRMED (Y/N?): _____		
ASSOCIATED SWMU/AOC: <u>26</u>		ESTIMATED GROUND ELEVATION: <u>759.024</u>		
PROTECTIVE SURFACE CASING:				
DIAMETER: <u>4" x 4" Steel</u> LENGTH: _____				
RISER:				
TR: _____      TYPE: <u>PVC-40</u> DIAMETER: <u>2"</u> LENGTH: _____				
SCREEN:				
TSC: <u>3.9</u> TYPE: <u>PVC-40</u> DIAMETER: <u>1 1/2"</u> LENGTH: <u>9.0'</u> SLOT SIZE: <u>0.01"</u>				
POINT OF WELL: (SILT SUMP)				
TYPE: <u>PVC point</u> BSC: <u>12.9</u> POW: <u>14.0'</u> <u>0.5' point</u>				
GROUT:				
TG: <u>0.0</u> TYPE: <u>Cement-bentonite</u> LENGTH: <u>1.9'</u>				
SEAL:				
TBS: <u>1.9</u> TYPE: <u>bentonite pellets</u> LENGTH: <u>1.0'</u>				
SAND PACK:				
TSP: <u>29-#1 3.4-#3</u> TYPE: <u>#3 &amp; #1</u> LENGTH: <u>11.1'</u>				
SURFACE COLLAR:				
TYPE: <u>Cement</u> RADIUS: <u>2' x 2'</u> THICKNESS CENTER: <u>1'</u> THICKNESS EDGE: <u>1'</u>				
CENTRALIZER DEPTHS				
DEPTH 1: _____      DEPTH 2: _____      DEPTH 3: _____      DEPTH 4: _____				
COMMENTS:				
<u>OUM's are not working. No downwind monitoring done.</u>				
* ALL DEPTH MEASUREMENTS REFERENCED TO GROUND SURFACE				

SEE PAGE 2 FOR SCHEMATIC

PAGE 1 OF 2

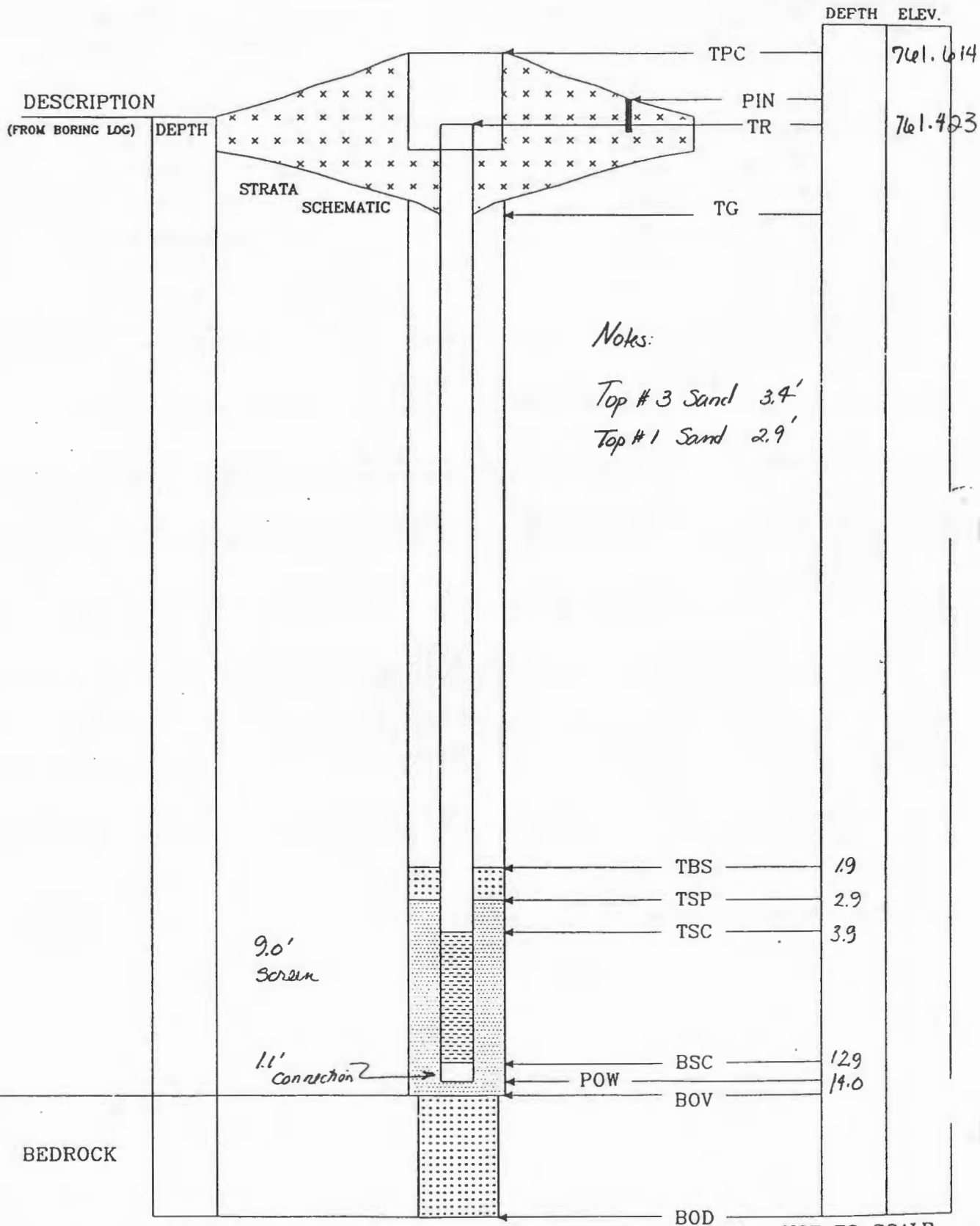
OVERBURDEN MONITORING WELL  
ROADWAY BOX INSTALLATION DETAIL

ENGINEERING-SCIENCE, INC.

CLIENT: *ACOE*

WELL #: *MW26-*

DATE: \_\_\_\_\_



\* NOT TO SCALE

# OVERBURDEN MONITORING WELL COMPLETION REPORT & INSTALLATION DETAIL PROTECTIVE RISER COMPLETION

ENGINEERING-SCIENCE, INC.		CLIENT: <u>ACOE</u>	WELL #: <u>MW26-3</u>	
PROJECT: <u>10 SWMU</u>	LOCATION: <u>SEAD 26</u>		PROJECT NO: <u>720477</u>	INSPECTOR: <u>ES/LB</u>
			CHECKED BY: _____	
DRILLING CONTRACTOR: <u>Empire</u>	DRILLER: <u>John W.</u>		POW DEPTH: <u>14.0'</u>	INSTALLATION STARTED: <u>11/18/93</u>
DRILLING COMPLETED: <u>11/19/93</u>	BORING DEPTH: <u>14.0'</u>		INSTALLATION COMPLETED: <u>11/19/93</u>	SURFACE COMPLETION DATE: _____
DRILLING METHOD(S): <u>HSA</u>	BORING DIAMETER(S): <u>8 1/2"</u>		COMPLETION CONTRACTOR/CREW: <u>Empire</u>	BEDROCK CONFIRMED (Y/N?): _____
ASSOCIATED SWMU/AOC: <u>26</u>			ESTIMATED GROUND ELEVATION: <u>751.567</u>	
PROTECTIVE SURFACE CASING:				
DIAMETER: <u>4" x 4" Steel</u>		LENGTH: _____		
RISER:				
TR: _____	TYPE: <u>PVC-40</u>	DIAMETER: <u>2"</u>	LENGTH: _____	
SCREEN:				
TSC: <u>4.3</u>	TYPE: <u>PVC-40</u>	DIAMETER: <u>2"</u>	LENGTH: <u>9.0'</u>	SLOT SIZE: <u>0.01"</u>
POINT OF WELL: (SILT SUMP)				
TYPE: <u>PVC</u>	BSC: <u>13.3</u>	POW: <u>14.0'</u>		
GROUT:				
TG: <u>Ground</u>	TYPE: <u>Cement-bentonite</u>	LENGTH: <u>1.8'</u>		
SEAL:	TBS: <u>1.8</u>	TYPE: <u>bentonite pellets</u>	LENGTH: <u>1'</u>	
SAND PACK:	TSP: <u>2.8-#1 3.3-#3</u>	TYPE: <u>#3 1 #1</u>	LENGTH: <u>11.2'</u>	
SURFACE COLLAR:				
TYPE: <u>Cement</u>	RADIUS: <u>2' x 2'</u>	THICKNESS CENTER: <u>1'</u>	THICKNESS EDGE: <u>1'</u>	
CENTRALIZER DEPTHS				
DEPTH 1: _____	DEPTH 2: _____	DEPTH 3: _____	DEPTH 4: _____	
COMMENTS:				
<u>No downwind monitoring.</u>				
* ALL DEPTH MEASUREMENTS REFERENCED TO GROUND SURFACE				

SEE PAGE 2 FOR SCHEMATIC

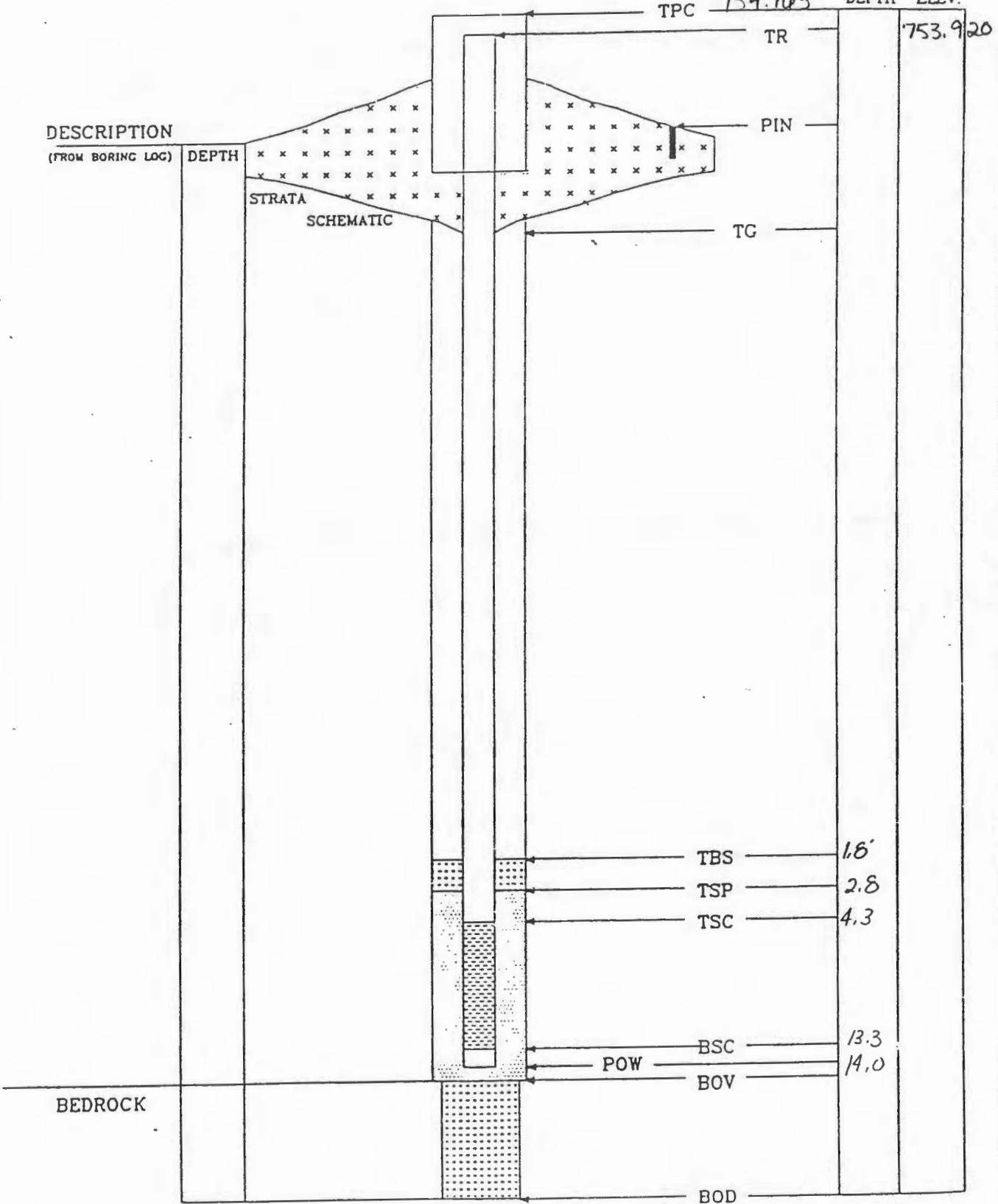
PAGE 1 OF 2

# OVERBURDEN MONITORING WELL PROTECTIVE RISER INSTALLATION DETAIL

ENGINEERING-SCIENCE, INC. | CLIENT: \_\_\_\_\_ | WELL #: MW26-3

DATE: 11/19/93

TPC 754.163      DEPTH ELEV. 753.920



*All depths measured from ground surface.*

• NOT TO SCALE

# OVERBURDEN MONITORING WELL COMPLETION REPORT & INSTALLATION DETAIL ROADWAY BOX - SURFACE COMPLETION

ENGINEERING-SCIENCE, INC.		CLIENT: <u>ADDE</u>	WELL #: <u>MW26-4</u>	
PROJECT: <u>10 SWMU</u>	PROJECT NO: <u>720477</u>		INSPECTOR: <u>ES</u>	
LOCATION: <u>SEAD 26</u>	CHECKED BY: _____			
DRILLING CONTRACTOR: <u>Empire</u>	POW DEPTH: <u>11.5'</u>			
DRILLER: <u>John W.</u>	INSTALLATION STARTED: <u>11/19/93</u>			
DRILLING COMPLETED: <u>11/19/93</u>	INSTALLATION COMPLETED: <u>11/19/93</u>			
BORING DEPTH: <u>11.5'</u>	SURFACE COMPLETION DATE: _____			
DRILLING METHOD(S): <u>HSA</u>	COMPLETION CONTRACTOR/CREW: <u>Empire</u>			
BORING DIAMETER(S): <u>8 1/2"</u>	BEDROCK CONFIRMED (Y/N?): _____			
ASSOCIATED SWMU/AOC: <u>26</u>	ESTIMATED GROUND ELEVATION: <u>750.012</u>			
PROTECTIVE SURFACE CASING:				
DIAMETER: <u>4" x 4" Steel</u>		LENGTH: _____		
RISER:				
TR: _____	TYPE: <u>PVC-40</u>	DIAMETER: <u>2"</u>	LENGTH: _____	
SCREEN:				
TSC: <u>6.9'</u>	TYPE: <u>PVC-40</u>	DIAMETER: <u>1 1/2"</u>	LENGTH: <u>4'</u>	SLOT SIZE: <u>0.01"</u>
POINT OF WELL: (SILT SUMP)				
TYPE: <u>PVC point</u>	BSC: <u>10.4'</u>	POW: <u>11.5'</u>		
GROUT:				
TG: <u>Ground</u>	TYPE: <u>Bentonite cement</u>	LENGTH: <u>3.0'</u>		
SEAL:	TBS: <u>3.0'</u>	TYPE: <u>bentonite pellets</u>	LENGTH: <u>1.5'</u>	
SAND PACK:	TSP: <u>4.5' #1 5.0' #3</u>	TYPE: <u>#3 and #1</u>	LENGTH: <u>7.0'</u>	
SURFACE COLLAR:				
TYPE: <u>Cement</u>	RADIUS: <u>2' x 2'</u>	THICKNESS CENTER: <u>1'</u>	THICKNESS EDGE: <u>1'</u>	
CENTRALIZER DEPTHS				
DEPTH 1: _____	DEPTH 2: _____	DEPTH 3: _____	DEPTH 4: _____	
COMMENTS:				
* ALL DEPTH MEASUREMENTS REFERENCED TO GROUND SURFACE				

SEE PAGE 2 FOR SCHEMATIC

PAGE 1 OF 2





# OVERBURDEN MONITORING WELL COMPLETION REPORT & INSTALLATION DETAIL PROTECTIVE RISER COMPLETION

ENGINEERING-SCIENCE, INC.		CLIENT: <u>ACOE</u>	WELL #: <u>MW-45-1</u>	
PROJECT: <u>10 SWMU</u>	PROJECT NO: <u>720477-01001</u>		INSPECTOR: <u>KS/AW</u>	
LOCATION: <u>SEAD-45</u>	CHECKED BY: _____			
DRILLING CONTRACTOR: <u>Empire</u>	POW DEPTH: <u>6.0'</u>			
DRILLER: <u>Bob / Scott</u>	INSTALLATION STARTED: <u>11/20/93</u>			
DRILLING COMPLETED: <u>11/20/93</u>	INSTALLATION COMPLETED: <u>11/21/93</u>			
BORING DEPTH: <u>6.0'</u>	SURFACE COMPLETION DATE: <u>11/21/93</u>			
DRILLING METHOD(S): <u>HSA</u>	COMPLETION CONTRACTOR/CREW: <u>Empire</u>			
BORING DIAMETER(S): <u>8 1/2"</u>	BEDROCK CONFIRMED (Y/N?): <u>Y</u>			
ASSOCIATED SWMU/AOC: <u>SEAD-45</u>	ESTIMATED GROUND ELEVATION: <u>622.794</u>			
PROTECTIVE SURFACE CASING:				
DIAMETER: <u>4"</u>		LENGTH: _____		
RISER:				
TR: _____	TYPE: <u>PVC-40</u>	DIAMETER: <u>2"</u>	LENGTH: _____	
SCREEN:				
TSC: <u>3.25'</u>	TYPE: <u>PVC-40</u>	DIAMETER: <u>2"</u>	LENGTH: <u>20'</u>	SLOT SIZE: <u>0.01"</u>
POINT OF WELL: (SILT SUMP)				
TYPE: <u>PVC point</u>	BSC: <u>5.25'</u>	POW: <u>6.0'</u>		
GROUT:				
TG: <u>Ground</u>	TYPE: <u>Quikrete BENTONITE SLURRY</u>	LENGTH: <u>1.5'</u>		
SEAL:				
TBS: <u>1.5'</u>	TYPE: <u>bentonite pellets</u>	LENGTH: <u>0.75'</u>		
SAND PACK:				
TSP: <u>2.25'</u>	TYPE: <u>#3 and #1</u>	LENGTH: <u>3.75'</u>		
SURFACE COLLAR:				
TYPE: <u>Cement</u>	RADIUS: <u>2'x2'</u>	THICKNESS CENTER: <u>1'</u>	THICKNESS EDGE: <u>1'</u>	
CENTRALIZER DEPTHS				
DEPTH 1: _____	DEPTH 2: _____	DEPTH 3: _____	DEPTH 4: _____	
COMMENTS:				
* ALL DEPTH MEASUREMENTS REFERENCED TO GROUND SURFACE				

SEE PAGE 2 FOR SCHEMATIC

PAGE 1 OF 2

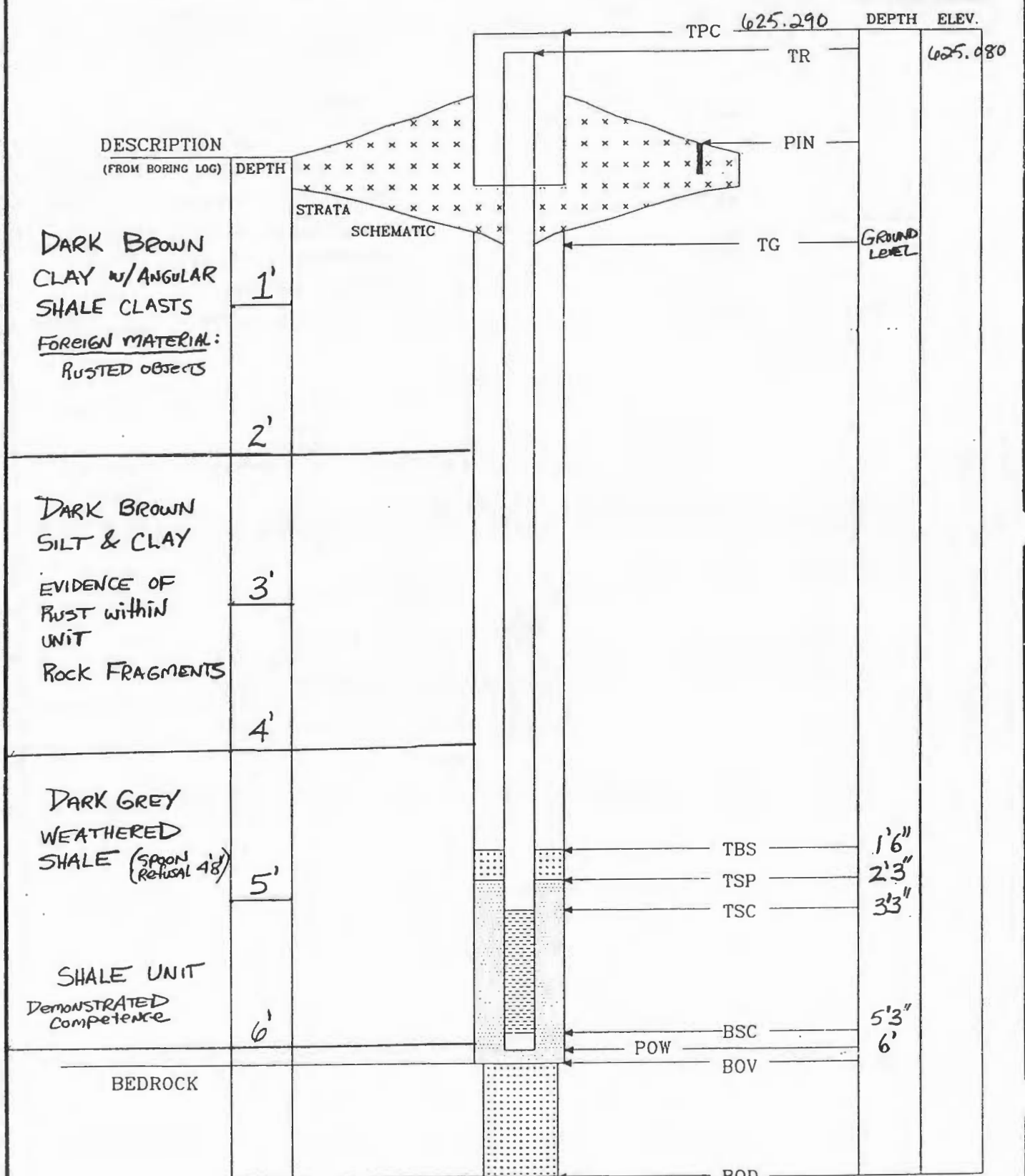
OVERBURDEN MONITORING WELL  
PROTECTIVE RISER INSTALLATION DETAIL

ENGINEERING-SCIENCE, INC.

CLIENT: SEAD 10 SWMU INVESTIGATION

WELL #: MW-45-1

DATE: \_\_\_\_\_



DESCRIPTION  
(FROM BORING LOG)

DEPTH

STRATA  
SCHEMATIC

TPC 625.290

DEPTH ELEV.

TR

625.080

PIN

TG

GROUND LEVEL

DARK BROWN  
CLAY w/ANGULAR  
SHALE CLASTS  
FOREIGN MATERIAL:  
RUSTED OBJECTS

1'

2'

DARK BROWN  
SILT & CLAY  
EVIDENCE OF  
RUST WITHIN  
UNIT  
ROCK FRAGMENTS

3'

4'

DARK GREY  
WEATHERED  
SHALE (SPOON  
REFUSAL 48')

5'

TBS

1'6"

TSP

2'3"

TSC

3'3"

SHALE UNIT  
Demonstrated  
Competence

6'

BSC

5'3"

POW

BOV

6'

BEDROCK

BOD

\* NOT TO SCALE

# OVERBURDEN MONITORING WELL COMPLETION REPORT & INSTALLATION DETAIL PROTECTIVE RISER COMPLETION

ENGINEERING-SCIENCE, INC. CLIENT:		WELL #: MW-45-2	
PROJECT: SEAD WELL INSTALLATION 10 SWMU		PROJECT NO: 720477-01001	
LOCATION: SEAD-45		INSPECTOR: JWC/AL	
		CHECKED BY:	
DRILLING CONTRACTOR: EMPIRE SOILS		POW DEPTH: 10'	
DRILLER: JOHN WARNER		INSTALLATION STARTED: 11/20/93	
DRILLING COMPLETED: 11/21/93		INSTALLATION COMPLETED: 11/21/93	
BORING DEPTH: 10'		SURFACE COMPLETION DATE: 11/21/93	
DRILLING METHOD(S): HOLLOW STEM AUGER		COMPLETION CONTRACTOR/CREW: EMPIRE/JW/BB	
BORING DIAMETER(S): 8'6"		BEDROCK CONFIRMED (Y/N?): Y	
ASSOCIATED SWMU/AOC: SWMU-45		ESTIMATED GROUND ELEVATION: 624.666	
PROTECTIVE SURFACE CASING:			
DIAMETER: 4" x 4" Steel		LENGTH: 4'4"	
RISER:			
TR: +2'6"		TYPE: PVC	
DIAMETER: 2"		LENGTH: 4'4"	
SCREEN:			
TSC: 4'4"		TYPE: 10-SLOT	
DIAMETER: 2"		LENGTH: 5'	
SLOT SIZE: 0.01"		<del>10</del>	
POINT OF WELL: (SILT SUMP) 10'			
TYPE:		BSC: 9'4"	
		POW: 10'	
GROUT:			
TG: <sup>GROUND</sup> ∅ (LEVEL)		TYPE: QUIKRETE w/ Bentonite Slurry	
		LENGTH: 2.0'	
SEAL:			
TBS: 2'		TYPE: BENTONITE	
		LENGTH: 1'2"	
SAND PACK:			
TSP: 3'2"		TYPE: #3 & #1	
		LENGTH: 1'2" 6'-10"	
SURFACE COLLAR:			
TYPE: Cement		RADIUS: 1'	
		THICKNESS CENTER: 1'9"	
		THICKNESS EDGE: 4"	
CENTRALIZER DEPTHS			
DEPTH 1:		DEPTH 2:	
		DEPTH 3:	
		DEPTH 4:	
COMMENTS: SLIGHT Problem when AUGER FLIGHTS WERE RAISED. MEASUREMENT Device BECAME JAMMED			
-Screen is 4.0' in length. PVC section is 5.0'!			
* ALL DEPTH MEASUREMENTS REFERENCED TO GROUND SURFACE			

SEE PAGE 2 FOR SCHEMATIC

PAGE 1 OF 2

**OVERBURDEN MONITORING WELL  
PROTECTIVE RISER INSTALLATION DETAIL**

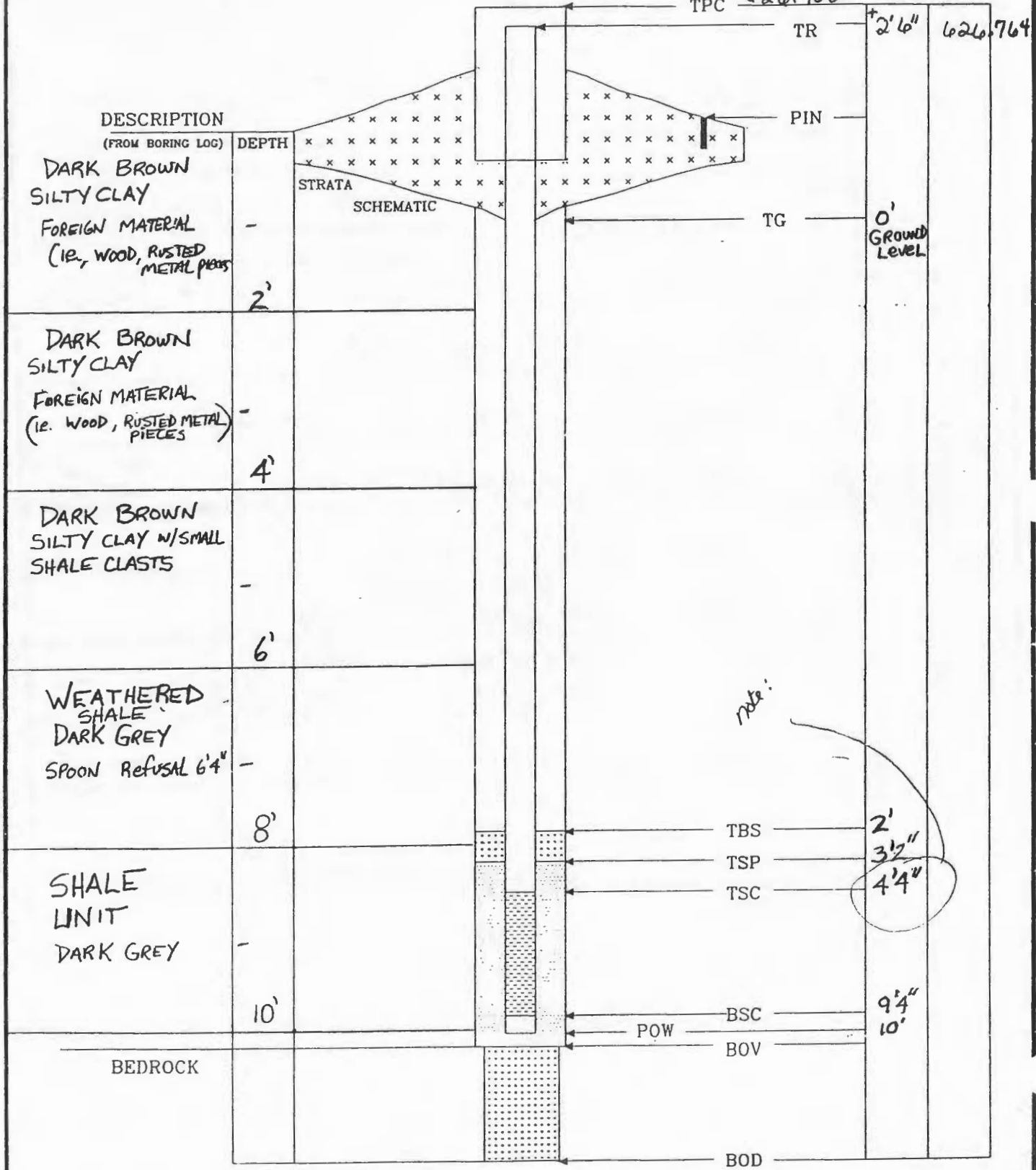
ENGINEERING-SCIENCE, INC.

CLIENT: SEAD

WELL #: MW-45-2

DATE: 11/21/93

TPC 626.702 DEPTH ELEV.



*Note:*

\* NOT TO SCALE

# OVERBURDEN MONITORING WELL COMPLETION REPORT & INSTALLATION DETAIL PROTECTIVE RISER COMPLETION

ENGINEERING-SCIENCE, INC.		CLIENT:	WELL #: MW45-3	
PROJECT: <u>SEAD 10 SWMU</u>	PROJECT NO: _____		INSPECTOR: _____	
LOCATION: <u>SEAD 45</u>	CHECKED BY: _____			
DRILLING CONTRACTOR: <u>Empire</u>	POW DEPTH: <u>11.33'</u>		INSTALLATION STARTED: <u>11/21/93</u>	
DRILLER: <u>John W.</u>	INSTALLATION COMPLETED: <u>11/22/93</u>		SURFACE COMPLETION DATE: _____	
DRILLING COMPLETED: <u>11/22/93</u>	COMPLETION CONTRACTOR/CREW: <u>Empire</u>		BEDROCK CONFIRMED (Y/N?): _____	
BORING DEPTH: <u>11.33'</u>	ESTIMATED GROUND ELEVATION: <u>623.991</u>			
DRILLING METHOD(S): <u>HSA</u>				
BORING DIAMETER(S): <u>8 1/2"</u>				
ASSOCIATED SWMU/AOC: <u>45</u>				
PROTECTIVE SURFACE CASING:				
DIAMETER: <u>4" x 4" Steel</u>		LENGTH: _____		
RISER:				
TR: _____	TYPE: <u>PVC-40</u>	DIAMETER: <u>2"</u>	LENGTH: _____	
SCREEN:				
TSC: <u>5'7"</u>	TYPE: <u>PVC 40</u>	DIAMETER: <u>2"</u>	LENGTH: <u>5'</u>	SLOT SIZE: <u>0.01"</u>
POINT OF WELL: (SILT SUMP)				
TYPE: <u>PVC Point</u>	BSC: <u>10'7"</u>	POW: <u>11'4"</u>		
GROUT:				
TG: <u>Ground</u>	TYPE: <u>Cement-bentonite</u>	LENGTH: <u>2'-9"</u>		
SEAL:	TBS: <u>2'-9"</u>	TYPE: _____	LENGTH: <u>1'-3"</u>	
SAND PACK:	TSP: <u>4"</u>	TYPE: <u>#3 and #1</u>	LENGTH: <u>7'-4"</u>	
SURFACE COLLAR:				
TYPE: <u>Cement</u>	RADIUS: <u>2' x 2'</u>	THICKNESS CENTER: <u>1'</u>	THICKNESS EDGE: <u>1'</u>	
CENTRALIZER DEPTHS				
DEPTH 1: _____	DEPTH 2: _____	DEPTH 3: _____	DEPTH 4: _____	
COMMENTS:				
<i>Note: Screen is actually 4.0'; PVC section is 5.0'!</i>				
* ALL DEPTH MEASUREMENTS REFERENCED TO GROUND SURFACE				

SEE PAGE 2 FOR SCHEMATIC

PAGE 1 OF 2

# OVERBURDEN MONITORING WELL PROTECTIVE RISER INSTALLATION DETAIL

ENGINEERING-SCIENCE, INC.

CLIENT: **SEAD**

WELL #: **MW45-3**

DATE: **11/21/93**

TPC **626.648** DEPTH ELEV.

**626.447**

DESCRIPTION

(FROM BORING LOG)

DEPTH

STRATA

SCHEMATIC

TPC

TR

PIN

TG

Ø  
GROUND  
LEVEL

TBS

TSP

TSC

BSC

POW

BOV

BOD

2'9"

4"

5'7"

10'7"

11'4"

BEDROCK

\* NOT TO SCALE

# OVERBURDEN MONITORING WELL COMPLETION REPORT & INSTALLATION DETAIL PROTECTIVE RISER COMPLETION

ENGINEERING-SCIENCE, INC.		CLIENT: <u>SEAD</u>	WELL #: <u>MW 45-4</u>	
PROJECT: <u>10 SWMU</u>	LOCATION: <u>SEAD - 45</u>		PROJECT NO: <u>720477-01001</u>	INSPECTOR: <u>JWC/LAS</u>
			CHECKED BY: _____	
DRILLING CONTRACTOR: <u>EMPIRE SOILS</u>		POW DEPTH: <u>7.0'</u>		
DRILLER: <u>BOB / GIEN</u>		INSTALLATION STARTED: <u>11-22-93</u>		
DRILLING COMPLETED: <u>11-22-93</u>		INSTALLATION COMPLETED: <u>11-22-93</u>		
BORING DEPTH: <u>7.0'</u>		SURFACE COMPLETION DATE: <u>11 - - 93</u>		
DRILLING METHOD(S): <u>HOLLOW STEM AUGER</u>		COMPLETION CONTRACTOR/CREW: <u>EMPIRE</u>		
BORING DIAMETER(S): <u>8 1/2"</u>		BEDROCK CONFIRMED (Y/N?): <u>Y</u>		
ASSOCIATED SWMU/AOC: <u>SEAD 45</u>		ESTIMATED GROUND ELEVATION: <u>630.896</u>		
PROTECTIVE SURFACE CASING:				
DIAMETER: <u>4"</u>		LENGTH: <u>2' 6"</u>		
RISER:				
TR: _____	TYPE: <u>PVC</u>	DIAMETER: <u>2"</u>	LENGTH: <u>2' 6"</u>	
SCREEN:				
TSC: <u>4' 3"</u>	TYPE: <u>PVC</u>	DIAMETER: <u>2"</u>	LENGTH: <u>2'</u>	SLOT SIZE: <u>0.01"</u>
POINT OF WELL: (SILT SUMP)				
TYPE: <u>PVC</u>	BSC: <u>6' 3"</u>	POW: <u>7' 00"</u>		
GROUT:				
TG: <u>0.0'</u>	TYPE: <u>QUIKRETE BENTONITE SLURRY</u>	LENGTH: <u>2' 9"</u>		
SEAL:	TBS: <u>2' 9"</u>	TYPE: <u>BENTONITE</u>	LENGTH: <u>0' 6"</u>	
SAND PACK:	TSP: <u>3' 3"</u>	TYPE: <u>#3, #1 SAND</u>	LENGTH: <u>3' 9"</u>	
SURFACE COLLAR:				
TYPE: <u>QUIKRETE - BENTONITE SLURRY</u>	RADIUS: <u>1'</u>	THICKNESS CENTER: <u>2' 9"</u>	THICKNESS EDGE: <u>4"</u>	
CENTRALIZER DEPTHS				
DEPTH 1: _____	DEPTH 2: _____	DEPTH 3: _____	DEPTH 4: _____	
COMMENTS:				
* ALL DEPTH MEASUREMENTS REFERENCED TO GROUND SURFACE				

SEE PAGE 2 FOR SCHEMATIC

PAGE 1 OF 2

**OVERBURDEN MONITORING WELL  
PROTECTIVE RISER INSTALLATION DETAIL**

ENGINEERING-SCIENCE, INC.

CLIENT: *SEAD*

WELL #: *MW45-4*

DATE: *11/22/93*

TPC *632.977*

DEPTH ELEV.

TR

+2'6"

633.035

PIN

TG

Ø  
GROUND  
LEVEL

DESCRIPTION

(FROM BORING LOG)

DEPTH

STRATA

SCHEMATIC

*Top Soil  
(SILT)*

*IRON STAINED AREA 1"*

*TILL UNIT w/  
SHALE FRAGMENTS  
INTERBEDDED  
THROUGHOUT  
DARK GREY*

*1*

*MEDIUM GREY  
TILL w/ SOME  
LIMESTONE CLASTS  
AND FRAGMENTED  
SHALE PIECES  
DISPERSED  
THROUGHOUT IN  
SMALL AMOUNTS*

*2*

*3*

*TILL w/ IN-  
CREASED SHALE  
CONTENT*

*4*

*WEATHERED  
SHALE UNIT*

*5*

*SHALE UNIT*

*6*

*BEDROCK*

*7*

TBS

*2'9"*

TSP

*3'3"*

TSC

*4'3"*

BSC

*6'3"*

POW

BOV

*7"*

BOD

\* NOT TO SCALE



**APPENDIX D**  
**WELL DEVELOPMENT REPORTS**



# WELL DEVELOPMENT REPORT

<b>ENGINEERING-SCIENCE, INC.</b>	<b>CLIENT:</b> USACOE	<b>WELL #:</b> MW4-1
<b>PROJECT :</b> 10 SWMU ESI SEAD-4	<b>DATE:</b> 12/16/93	
<b>LOCATION:</b> Seneca Army Depot, Romulus, NY	<b>PROJECT NO. :</b> 720477-01000	

<b>DRILLING METHOD (s):</b> Hollow Stem Auger <b>PUMP METHOD (s):</b> Peristaltic Pump <b>SURGE METHOD (s):</b> Teflon Bailer <b>INSTALLATION DATE:</b> 12/6/93	<b>INSPECTOR:</b> AS & KK <b>CONTRACTOR:</b> _____ <b>CREW:</b> _____ <b>START DEVELOPMENT DATE:</b> 12/16/93 <b>END DEVELOPMENT DATE:</b> 1/9/94
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<b>WATER DEPTH (TOC):</b> 6.44 ft <b>WELL DIA. (ID CASING):</b> 0.167 ft <b>BORING DIAMETER:</b> 0.708 ft	<b>INSTALLED POW DEPTH(TOC):</b> _____ ft <b>MEASURED POW DEPTH(TOC):</b> 12.97 ft <b>SILT THICKNESS:</b> _____ ft <b>POW AFTER DEVELOPMENT:</b> _____ ft
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**DIAMETER FACTORS (GAL/FT):**

<b>DIAMETER (IN):</b>	2	3	4	5	6	7	8	8.5	9	10	11	12
<b>GALLONS/FT:</b>	0.163	0.367	0.654	1.02	1.47	2.00	2.61	2.95	3.30	4.08	4.93	5.87

STANDING VOLUME INSIDE WELL = WATER COLUMN X WELL DIAMETER FACTOR = 1.0 GAL. = A  
 $A = 6.53 * 0.163$

STANDING WATER IN ANNULAR SPACE =  
 WATER COL. BELOW SEAL(ft) X (BORING DIAM. FACTOR - WELL DIAM. FACTOR) X 0.3 = 5.0 GAL. = B  
 $B = 6.0 * (2.95 - 0.163) * 0.3$

SINGLE STANDING WATER VOLUME = A + B = ..... 6.0 GAL. = C

MINIMUM VOLUME TO BE REMOVED = 5 X C ..... 30.0 GALS.

ACTIVITY	START TIME	END TIME	ELAPSED TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP °C	COLOR	Turbidity NTU	Water Depth (TOC) FT
12/16 SURGE 1st volume	1635	1650	15	3.5				silt	very silty	
12/19 Starting conditions	1130									6.7
PUMP 1st volume	1146	1158	12	2.5	7.5	820	9		silty	10.65
PUMP 2nd volume	1200	1207	7	1					clear	dry
12/20 PUMP 2nd volume	0904	0918	14	3.3	7.21	690	9.8	p. silty	56.0	dry
PUMP 2nd volume	1504	1530	26	1.7	7.23	690	9.0	clear	5.68	dry
1/8/94 PUMP 3rd volume	1030	1045	15	3.5	7.15	750	7.0	clear	1.27	dry
1/9/94 PUMP 3rd volume	1235	1250	15	3.0	7.24	700	-1.0	clear	1.95	11.30
<b>COMPLETE</b>										
<b>TOTALS/FINAL</b>			104	18.5	7.27	730	6.76	clear	1.95	11.30

**COMMENTS:** 12/19 1st volume, rate = 750 ml/min 12/20 (1504) water depth = 9.75, rate = 250 ml/min  
 12/19 (1200) recharging at 13 ml/min 1/8/94 rate = 500 to 900 ml/min  
 12/20 (0904) water depth = 5.97, rate = 920 ml/min 1/9/94 (1227) water depth = 5.71, rate = 600 ml/min

**SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS** WELL #: MW4-1



# WELL DEVELOPMENT REPORT

<b>ENGINEERING—SCIENCE, INC.</b>	CLIENT: <b>USACOE</b>	WELL #: <b>MW4-2</b>
PROJECT: <b>10 SWMU ESI SEAD-4</b>	DATE: <b>11/20/93</b>	PROJECT NO.: <b>720477-01000</b>
LOCATION: <b>Seneca Army Depot, Romulus, NY</b>		

DRILLING METHOD (s): <u>Hollow Stem Auger</u> PUMP METHOD (s): <u>Peristaltic Pump</u> SURGE METHOD (s): <u>Teflon Bailer</u> INSTALLATION DATE: <u>11/10/93</u>	INSPECTOR: <u>BH</u> CONTRACTOR: _____ CREW: _____ START DEVELOPMENT DATE: <u>11/20/93</u> END DEVELOPMENT DATE: <u>2/2/94</u>
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WATER DEPTH (TOC): <u>4.53</u> ft WELL DIA. (ID CASING): <u>0.167</u> ft BORING DIAMETER: <u>0.708</u> ft	INSTALLED POW DEPTH(TOC): _____ ft MEASURED POW DEPTH(TOC): <u>6.64</u> ft SILT THICKNESS: _____ ft POW AFTER DEVELOPMENT: _____ ft
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**DIAMETER FACTORS (GAL/FT):**

DIAMETER (IN):	2	3	4	5	6	7	8	8.5	9	10	11	12
GALLONS/ FT:	0.163	0.367	0.654	1.02	1.47	2.00	2.61	2.95	3.30	4.08	4.93	5.87

STANDING VOLUME INSIDE WELL = WATER COLUMN X WELL DIAMETER FACTOR = 0.34 GAL. = A  
 $A = 2.11 * 0.163$

STANDING WATER IN ANNULAR SPACE =  
 WATER COL. BELOW SEAL(ft) X (BORING DIAM. FACTOR - WELL DIAM. FACTOR) X 0.3 = 1.76 GAL. = B  
 $B = 2.11 * (2.95 - 0.163) * 0.3$

SINGLE STANDING WATER VOLUME = A + B = ..... 2.10 GAL. = C

MINIMUM VOLUME TO BE REMOVED = 5 X C ..... 10.5 GALS.

ACTIVITY	START TIME	END TIME	ELAPSED TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP °C	COLOR	Turbidity NTU	Water Depth (TOC) FT
11/20 SURGE 1st volume	0950	1000	10	0.34				silty		dry
PUMP 1st volume	1330	1340	10	0.30				lt brn		dry
PUMP 1st volume	1350	1400	10	0.30				lt brn		dry
11/22 PUMP 1st volume	1010	1020	10	0.30				clear		dry
11/23 PUMP 1st volume	0905	0910	5	0.30				clear		dry
12/18 PUMP 1st volume	1205	1207	2	0.30				clear	16.5	
Starting conditions	1235									5.08
12/19 PUMP 1st volume	1234	1235	1	0.30	8.04	550	5	clear		dry
PUMP 2nd volume	1604	1607	3	0.30	7.68	455	5	clear	3.31	dry
12/20 PUMP 2nd volume	1029	1031	2	0.30				clear		dry
PUMP 2nd volume	1450	1452	2	0.25				clear		dry
1/9/94 PUMP 2nd volume	1530	1535		0.30						dry
2/1 SURGE 2nd volume	1510	1530	20	1.0				dk brn	1000+	dry
2/2 SURGE 3rd volume	1530	1550	20	1.0				dk brn	1000+	dry
<b>TOTALS/FINAL</b>			95	5.29						

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS WELL #: MW4-2



# WELL DEVELOPMENT REPORT

page 2

<b>ENGINEERING-SCIENCE, INC.</b>		<b>CLIENT:</b> USACOE	<b>WELL #:</b> MW4-2
<b>PROJECT:</b> 10 SWMU ESI SEAD-4		<b>DATE:</b> 11/20/93	
<b>LOCATION:</b> Seneca Army Depot, Romulus, NY		<b>PROJECT NO.:</b> 720477-01000	
<b>DRILLING METHOD (s):</b> Hollow Stem Auger <b>PUMP METHOD (s):</b> Peristaltic Pump <b>SURGE METHOD (s):</b> Teflon Bailer <b>INSTALLATION DATE:</b> 11/10/93		<b>INSPECTOR:</b> BH <b>CONTRACTOR:</b> _____ <b>CREW:</b> _____ <b>START DEVELOPMENT DATE:</b> 11/20/93 <b>END DEVELOPMENT DATE:</b> _____	
<b>WATER DEPTH (TOC):</b> 4.53 ft <b>WELL DIA. (ID CASING):</b> 0.167 ft <b>BORING DIAMETER:</b> 0.708 ft		<b>INSTALLED POW DEPTH(TOC):</b> _____ ft <b>MEASURED POW DEPTH(TOC):</b> 6.64 ft <b>SILT THICKNESS:</b> _____ ft <b>POW AFTER DEVELOPMENT:</b> _____ ft	

**DIAMETER FACTORS (GAL/FT):**

DIAMETER (IN):	2	3	4	5	6	7	8	8.5	9	10	11	12
GALLONS/FT:	0.163	0.367	0.654	1.02	1.47	2.00	2.61	2.95	3.30	4.08	4.93	5.87

STANDING VOLUME INSIDE WELL = WATER COLUMN X WELL DIAMETER FACTOR = 0.34 GAL. = A  
 $A = 2.11 * 0.163$

STANDING WATER IN ANNULAR SPACE =  
 WATER COL. BELOW SEAL(ft) X (BORING DIAM. FACTOR - WELL DIAM. FACTOR) X 0.3 = 1.76 GAL. = B  
 $B = 2.11 * (2.95 - 0.163) * 0.3$

SINGLE STANDING WATER VOLUME = A + B = ..... 2.10 GAL. = C

MINIMUM VOLUME TO BE REMOVED = 5 X C ..... 10.5 GALS.

**COMMENTS:**

11/20 (1300) 4.86 ft.	11/23 (1350) 5.25 ft.	12/19 (1604) 5.04 ft.	2/2 Pre-PUMP depth is 4.56 ft.
11/21 (1350) 4.73 ft.	12/18 (1300) 4.66 ft.	12/20 (1029) 4.64 ft.	
11/22 (1005) 4.86 ft.	12/19 (0945) 6.12 ft.	12/20 (1450) 5.10 ft.	
11/22 (1600) 5.06 ft.	12/19 (1120) 5.37 ft.	1/9/94 Depth is 5.6 ft, rate is 600 ml/min.	
11/23 (0900) 4.96 ft.	12/19 (1235) 5.08 ft.	2/1 Pre-PUMP depth is 4.33 ft.	

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS      WELL #: MW4-2





# WELL DEVELOPMENT REPORT

<b>ENGINEERING-SCIENCE, INC.</b>	<b>CLIENT: USACOE</b>	<b>WELL #: MW4-3</b>
<b>PROJECT:</b> 10 SWMU ESI SEAD-4		<b>DATE:</b> 11/20/93
<b>LOCATION:</b> Seneca Army Depot Romulus, NY		<b>PROJECT NO.:</b> 720477-01001

<b>DRILLING METHOD (s):</b> Hollow Stem Auger <b>PUMP METHOD (s):</b> Peristaltic Pump <b>SURGE METHOD (s):</b> Bailer <b>INSTALLATION DATE:</b> 11/10/93	<b>INSPECTOR:</b> BH <b>CONTRACTOR:</b> <b>CREW:</b> <b>START DEVELOPMENT DATE:</b> 11/20/93 <b>END DEVELOPMENT DATE:</b> 11/20/93
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<b>WATER DEPTH (TOC):</b> 4.62 ft <b>WELL DIA. (ID CASING):</b> 0.167 ft <b>BORING DIAMETER:</b> 0.708 ft	<b>INSTALLED POW DEPTH(TOC):</b> _____ ft <b>MEASURED POW DEPTH(TOC):</b> 11.46 ft <b>SILT THICKNESS:</b> _____ ft <b>POW AFTER DEVELOPMENT:</b> _____ ft
---	--

### DIAMETER FACTORS (GAL/FT):

DIAMETER (IN):	2	3	4	5	6	7	8	8.5	9	10	11	12
GALLONS/FT:	0.163	0.367	0.654	1.02	1.47	2.00	2.61	2.95	3.30	4.08	4.93	5.87

STANDING VOLUME INSIDE WELL = WATER COLUMN X WELL DIAMETER FACTOR = 1.1 GAL. = A  
 $A = 6.84 * 0.163$

STANDING WATER IN ANNULAR SPACE =  
 WATER COL. BELOW SEAL(ft) X (BORING DIAM. FACTOR - WELL DIAM. FACTOR) X 0.3 = 0.91 GAL. = B  
 $B = 6.84 * (2.95 - 0.163) * 0.3$

SINGLE STANDING WATER VOLUME = A + B = ..... 2.01 GAL. = C

MINIMUM VOLUME TO BE REMOVED = 5 X C ..... 10.05 GALS.

ACTIVITY	START TIME	END TIME	ELAPSED TIME	GALLONS REMOVED	pH	CONDUCTIVITY	CELCIUS TEMP	COLOR	Turbidity NTU	Water Depth (TOC) FT
SURGE 1st Volume	1025	1035	10 min	2.0	7.31	650	10	clear	NA	8.8
PUMP 2nd Volume	1130	1140	10 min	2.0	7.30	650	10.5	clear	28.7	7.46
PUMP 3rd Volume	1150	1200	10 min	2.0	7.32	650	10	clear	NA	7.50
PUMP 4th Volume	1205	1215	10 min	2.0	7.21	650	9	clear	2.27	7.58
<b>COMPLETE</b>										
<b>TOTALS/FINAL</b>				8.0				clear	2.27	

**COMMENTS:** \* Need to Stamp Well Case.

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS      WELL #: MW4-3

*[The text in this section is extremely faint and illegible.]*

# WELL DEVELOPMENT REPORT

<b>ENGINEERING – SCIENCE, INC.</b>	<b>CLIENT:</b> USACOE	<b>WELL #:</b> MW4-4
<b>PROJECT :</b> 10 SWMU ESI SEAD-4	<b>DATE:</b> 12/18/93	
<b>LOCATION:</b> Seneca Army Depot, Romulus, NY	<b>PROJECT NO.:</b> 720477-01000	

<b>DRILLING METHOD (s):</b> Hollow Stem Auger <b>PUMP METHOD (s):</b> Peristaltic Pump <b>SURGE METHOD (s):</b> Teflon Bailer <b>INSTALLATION DATE:</b> 12/5/93	<b>INSPECTOR:</b> AS <b>CONTRACTOR:</b> <b>CREW:</b> <b>START DEVELOPMENT DATE:</b> 12/18/93 <b>END DEVELOPMENT DATE:</b> 12/18/93
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<b>WATER DEPTH (TOC):</b> 2.76 ft <b>WELL DIA. (ID CASING):</b> 0.167 ft <b>BORING DIAMETER:</b> 0.708 ft	<b>INSTALLED POW DEPTH(TOC):</b> _____ ft <b>MEASURED POW DEPTH(TOC):</b> 12.51 ft <b>SILT THICKNESS:</b> _____ ft <b>POW AFTER DEVELOPMENT:</b> _____ ft
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### DIAMETER FACTORS (GAL/FT):

<b>DIAMETER (IN):</b>	2	3	4	5	6	7	8	8.5	9	10	11	12
<b>GALLONS/ FT:</b>	0.163	0.367	0.654	1.02	1.47	2.00	2.61	2.95	3.30	4.08	4.93	5.87

STANDING VOLUME INSIDE WELL = WATER COLUMN X WELL DIAMETER FACTOR = 1.54 GAL. = A  
 $A = 9.75 * 0.163$

STANDING WATER IN ANNULAR SPACE =  
 WATER COL. BELOW SEAL(ft) X (BORING DIAM. FACTOR – WELL DIAM. FACTOR) X 0.3 = 5.0 GAL. = B  
 $B = 6.0 * (2.95 - 0.163) * 0.3$

SINGLE STANDING WATER VOLUME = A + B = ..... 6.54 GAL. = C

MINIMUM VOLUME TO BE REMOVED = 5 X C ..... 19.54 GALS.

ACTIVITY	START TIME	END TIME	ELAPSED TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP °C	COLOR	Turbidity NTU	Water Depth (TOC) FT
12/18 SURGE 1st volume	1541	1604	23	5.0	7.60	500	8.9	silt	NA	NA
12/19 PUMP 1st volume	1150	1204	14	1.5	7.23	465	7.5	lt silt	64.2	7.62
PUMP 2nd volume	1212	1232	20	3.9	7.47	490	8.7	silt	168	dry
PUMP 2nd volume	1458	1512	14	2.7	7.19	478	8.5	silt	240	9.99
PUMP 3rd volume	1521	1530	9	1.8	7.29	480	9.1	silt	294	dry
12/20 PUMP 3rd volume	1055	1243	108	4.9	7.28	462	8.2	clear	3.25	9.62
<b>COMPLETE</b>										
<b>TOTALS/FINAL</b>				19.8				clear	3.25	

**COMMENTS:** 12/19 (1206) water depth = 7.62 ft.  
 12/19 2nd volume recharge = 100 ml/min.  
 12/19 (1458) water depth = 4.88 ft, rate = 1000 ml/min.  
 12/19 (1521) water depth = 9.48 ft, rate = 1000 ml/min.  
 12/20 (1055) water depth = 2.80 ft, rate = 200 ml/min.

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS      WELL #: MW4-4

*[The text on this page is extremely faint and illegible. It appears to be a multi-paragraph document with several lines of text per paragraph. The content is not discernible.]*

# WELL DEVELOPMENT REPORT

<b>ENGINEERING – SCIENCE, INC.</b>	<b>CLIENT:</b> USACOE	<b>WELL #:</b> MW4-5
<b>PROJECT :</b> 10 SWMU ESI SEAD-4	<b>DATE:</b> 12/18/93	
<b>LOCATION:</b> Seneca Army Depot, Romulus, NY	<b>PROJECT NO. :</b> 720477-01000	

<b>DRILLING METHOD (s):</b> Hollow Stem Auger <b>PUMP METHOD (s):</b> Peristaltic Pump <b>SURGE METHOD (s):</b> Teflon Bailer <b>INSTALLATION DATE:</b> 12/5/93	<b>INSPECTOR:</b> KK & ND <b>CONTRACTOR:</b> _____ <b>CREW:</b> UXB <b>START DEVELOPMENT DATE:</b> 12/18/93 <b>END DEVELOPMENT DATE:</b> 1/8/94
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<b>WATER DEPTH (TOC):</b> 5.72 ft <b>WELL DIA. (ID CASING):</b> 0.167 ft <b>BORING DIAMETER:</b> 0.708 ft	<b>INSTALLED POW DEPTH(TOC):</b> _____ ft <b>MEASURED POW DEPTH(TOC):</b> 8.46 ft <b>SILT THICKNESS:</b> _____ ft <b>POW AFTER DEVELOPMENT:</b> _____ ft
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### DIAMETER FACTORS (GAL/FT):

DIAMETER (IN):	2	3	4	5	6	7	8	8.5	9	10	11	12
GALLONS/ FT:	0.163	0.367	0.654	1.02	1.47	2.00	2.61	2.95	3.30	4.08	4.93	5.87

STANDING VOLUME INSIDE WELL = WATER COLUMN X WELL DIAMETER FACTOR = 0.44 GAL. = A  
 $A = 2.74 * 0.163$

STANDING WATER IN ANNULAR SPACE =  
 WATER COL. BELOW SEAL(ft) X (BORING DIAM. FACTOR – WELL DIAM. FACTOR) X 0.3 = 2.29 GAL. = B  
 $B = 2.74 * (2.95 - 0.163) * 0.3$

SINGLE STANDING WATER VOLUME = A + B = ..... 2.73 GAL. = C

MINIMUM VOLUME TO BE REMOVED = 5 X C ..... 8.19 GALS.

ACTIVITY	START TIME	END TIME	ELAPSED TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP °C	COLOR	Turbidity NTU	Water Depth (TOC) FT
12/18 SURGE 1st volume	1347	1447	60	2.7	7.4		6.2	clears	119	dry
12/19 Starting conditions	0948									6.44
PUMP 2nd volume	0958	1005	7	1.0	7.6	600	6.2	clear	15.3	dry
PUMP 2nd volume	1019	1023	4	0.2						dry
Starting conditions	1500									6.93
PUMP 2nd volume	1502	1507	5	0.6				clear	5.33	dry
12/20 PUMP 2nd volume	0954	0958	4	1.0	7.23	580	7.0	clear	32.5	7.21
PUMP 3rd volume	1005	1008	3	0.7				p. silty	108 (last 3")	dry
PUMP 3rd volume	1409	1436	27	0.8	7.5	570	6.8	clear	7.72	dry
1/6/94 PUMP 3rd volume	1030	1045	15	1.0						dry
1/8/94 PUMP 3rd volume	1035	1050	15	1.0	7.3	550	2.0	clear	1.62	dry
<b>TOTALS/FINAL</b>				9.0				clear	1.62	

**COMMENTS:** 12/18 Initial opening of well, OVM reads 0.6. 12/20 (1005) depth = 7.14 ft, rate = 920 ml/min.  
 12/19 Initial opening of well, OVM reads 0.4. 12/20 (1409) depth = 6.9 ft, rate = 120 ml/min.  
 12/19 1st volume, rate = 1000 ml/min. 1/6/94 (1025) depth = 6.33 ft.  
 12/19 (1500) rate = 700 ml/min. 1/8 (1030) depth = 6.67 ft.  
 12/20 (0950) depth = 5.73 ft, rate = 920 ml/min.

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS WELL #: MW4-5

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# WELL DEVELOPMENT REPORT

<b>ENGINEERING-SCIENCE, INC.</b>	<b>CLIENT:</b> USACOE	<b>WELL #:</b> MW16-1
<b>PROJECT :</b> 10 SWMU ESI SEAD-16	<b>DATE:</b> 11/5/93	
<b>LOCATION:</b> Seneca Army Depot, Romulus, NY	<b>PROJECT NO. :</b> 720477-01000	

<b>DRILLING METHOD (s):</b> Hollow Stem Auger <b>PUMP METHOD (s):</b> Peristaltic Pump <b>SURGE METHOD (s):</b> Teflon Bailer <b>INSTALLATION DATE:</b> 10/26/93	<b>INSPECTOR:</b> DMK & BFH <b>CONTRACTOR:</b> _____ <b>CREW:</b> _____ <b>START DEVELOPMENT DATE:</b> 11/5/93 <b>END DEVELOPMENT DATE:</b> 11/5/93
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<b>WATER DEPTH (TOC):</b> 4.40 ft <b>WELL DIA. (ID CASING):</b> 0.167 ft <b>BORING DIAMETER:</b> 0.708 ft	<b>INSTALLED POW DEPTH(TOC):</b> 7.94 ft <b>MEASURED POW DEPTH(TOC):</b> _____ ft <b>SILT THICKNESS:</b> _____ ft <b>POW AFTER DEVELOPMENT:</b> _____ ft
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**DIAMETER FACTORS (GAL/FT):**

DIAMETER (IN):	2	3	4	5	6	7	8	8.5	9	10	11	12
GALLONS/FT:	0.163	0.367	0.654	1.02	1.47	2.00	2.61	2.95	3.30	4.08	4.93	5.87

STANDING VOLUME INSIDE WELL = WATER COLUMN X WELL DIAMETER FACTOR = 0.6 GAL. = A  
 $A = 3.54 * 0.163$

STANDING WATER IN ANNULAR SPACE =  
 WATER COL. BELOW SEAL(ft) X (BORING DIAM. FACTOR - WELL DIAM. FACTOR) X 0.3 = 3.0 GAL. = B  
 $B = 3.54 * (2.95 - 0.163) * 0.3$

SINGLE STANDING WATER VOLUME = A + B = ..... 3.6 GAL. = C

MINIMUM VOLUME TO BE REMOVED = 5 X C ..... 18 GALS.

ACTIVITY	START TIME	END TIME	ELAPSED TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP °C	COLOR	Turbidity NTU	Water Depth (TOC) FT
11/5 SURGE 1st volume	0825	0925	60	3.6	6.92	600	11.3	lt brn	750	4.2
PUMP 2nd volume	0927	1015	48	3.6	7.54	600	11.7	clear	2.5	4.28
PUMP 3rd volume	1016	1103	47	3.6	6.52	600	11.7	clear	1.1	4.28
PUMP 4th volume	1104	1146	42	3.6	6.71	600	12.0	clear	1.3	4.28
PUMP 5th volume	1147	1247	60	3.6	6.78	600	12.3	clear	6.9	4.28
COMPLETE										
<b>TOTALS/FINAL</b>				18				clear	6.9	

**COMMENTS:** 11/5 (0825) rate is about 250 ml/min.

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS WELL #: MW16-1

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# WELL DEVELOPMENT REPORT

<b>ENGINEERING—SCIENCE, INC.</b>	<b>CLIENT:</b> USACOE	<b>WELL #:</b> MW16-2
<b>PROJECT :</b> 10 SWMU ESI SEAD-16	<b>DATE:</b> 11/5/93	
<b>LOCATION:</b> Seneca Army Depot, Romulus, NY	<b>PROJECT NO. :</b> 720477-01000	

<b>DRILLING METHOD (s):</b> Hollow Stem Auger <b>PUMP METHOD (s):</b> Peristaltic Pump <b>SURGE METHOD (s):</b> Teflon Bailer <b>INSTALLATION DATE:</b> 10/26/93	<b>INSPECTOR:</b> DMK <b>CONTRACTOR:</b> _____ <b>CREW:</b> _____ <b>START DEVELOPMENT DATE:</b> 11/5/93 <b>END DEVELOPMENT DATE:</b> 11/5/93
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<b>WATER DEPTH (TOC):</b> 3.72 ft <b>WELL DIA. (ID CASING):</b> 0.167 ft <b>BORING DIAMETER:</b> 0.708 ft	<b>INSTALLED POW DEPTH(TOC):</b> 6.02 ft <b>MEASURED POW DEPTH(TOC):</b> _____ ft <b>SILT THICKNESS:</b> _____ ft <b>POW AFTER DEVELOPMENT:</b> _____ ft
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**DIAMETER FACTORS (GAL/FT):**

DIAMETER (IN):	2	3	4	5	6	7	8	8.5	9	10	11	12
GALLONS/FT:	0.163	0.367	0.654	1.02	1.47	2.00	2.61	2.95	3.30	4.08	4.93	5.87

STANDING VOLUME INSIDE WELL = WATER COLUMN X WELL DIAMETER FACTOR = 0.4 GAL. = A  
 $A = 2.3 * 0.163$

STANDING WATER IN ANNULAR SPACE =  
 WATER COL. BELOW SEAL(ft) X (BORING DIAM. FACTOR - WELL DIAM. FACTOR) X 0.3 = 1.9 GAL. = B  
 $B = 2.3 * (2.95 - 0.163) * 0.3$

SINGLE STANDING WATER VOLUME = A + B = ..... 2.3 GAL. = C

MINIMUM VOLUME TO BE REMOVED = 5 X C ..... 11.5 GALS.

ACTIVITY	START TIME	END TIME	ELAPSED TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP °C	COLOR	Turbidity NTU	Water Depth (TOC) FT	
11/5 SURGE 1st volume	1257	1325	28	2.3	7.03	500	9.6	lt brn	750	3.76	
PUMP 2nd volume	1325	1352	27	2.3	6.89	500	10.0	clear	2.3	3.76	
PUMP 3rd volume	1353	1422	29	2.3	7.20	500	9.9	clear	0.8	3.76	
PUMP 4th volume	1423	1453	30	2.3	6.86	490	9.6	clear	0.6	3.76	
PUMP 5th volume	1454	1423	29	2.3	6.90	490	9.8	clear	0.3	3.78	
<b>COMPLETE</b>											
<b>TOTALS/FINAL</b>				11.5				clear	0.3		

**COMMENTS:** 11/5 (1257) rate is about 1200 ml/min.

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS **WELL #:** MW16-2

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# WELL DEVELOPMENT REPORT

<b>ENGINEERING—SCIENCE, INC.</b>	<b>CLIENT:</b> USACOE	<b>WELL #:</b> MW16-3
<b>PROJECT :</b> 10 SWMU ESI SEAD-16		<b>DATE:</b> 11/4/93
<b>LOCATION:</b> Seneca Army Depot, Romulus, NY		<b>PROJECT NO.:</b> 720477-01000

<b>DRILLING METHOD (s):</b> Hollow Stem Auger <b>PUMP METHOD (s):</b> Peristaltic Pump <b>SURGE METHOD (s):</b> Teflon Bailer <b>INSTALLATION DATE:</b> 10/26/93	<b>INSPECTOR:</b> DMK <b>CONTRACTOR:</b> <b>CREW:</b> <b>START DEVELOPMENT DATE:</b> 11/4/93 <b>END DEVELOPMENT DATE:</b> 11/4/93
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<b>WATER DEPTH (TOC):</b> 4.52 ft <b>WELL DIA. (ID CASING):</b> 0.167 ft <b>BORING DIAMETER:</b> 0.708 ft	<b>INSTALLED POW DEPTH(TOC):</b> 7.38 ft <b>MEASURED POW DEPTH(TOC):</b> 7.38 ft <b>SILT THICKNESS:</b> ft <b>POW AFTER DEVELOPMENT:</b> ft
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**DIAMETER FACTORS (GAL/FT):**

DIAMETER (IN):	2	3	4	5	6	7	8	8.5	9	10	11	12
GALLONS/ FT:	0.163	0.367	0.654	1.02	1.47	2.00	2.61	2.95	3.30	4.08	4.93	5.87

STANDING VOLUME INSIDE WELL = WATER COLUMN X WELL DIAMETER FACTOR = 0.5 GAL. = A  
 $A = 2.86 * 0.163$

STANDING WATER IN ANNULAR SPACE =  
 WATER COL. BELOW SEAL(ft) X (BORING DIAM. FACTOR - WELL DIAM. FACTOR) X 0.3 = 2.3 GAL. = B  
 $B = 2.86 * (2.95 - 0.163) * 0.3$

SINGLE STANDING WATER VOLUME = A + B = ..... 2.8 GAL. = C

MINIMUM VOLUME TO BE REMOVED = 5 X C ..... 14 GALS.

ACTIVITY	START TIME	END TIME	ELAPSED TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP °C	COLOR	Turbidity NTU	Water Depth (TOC) FT
11/4 SURGE 1st volume		1425		2.7	6.56	315	10.5	brn	750	4.70
PUMP 2nd volume	1426	1437	11	2.7	6.83	295	9.7	lt brn		4.70
PUMP 3rd volume	1526	1537	11	2.8	7.13	290	9.5	clear	51	4.62
PUMP 4th volume	1539	1551	12	2.8	7.06	275	9.5	clear	11	4.64
PUMP 5th volume	1553	1607	14	2.8	6.07	265	9.4	clear	7.9	4.66
COMPLETE										
<b>TOTALS/FINAL</b>				13.8				clear	7.9	

**COMMENTS:** 11/4 (1426) rate is about 270 ml/min.

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS WELL #: MW16-3

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# WELL DEVELOPMENT REPORT

<b>ENGINEERING-SCIENCE, INC.</b>	<b>CLIENT:</b> USACOE	<b>WELL #:</b> MW17-1
<b>PROJECT :</b> 10 SWMU ESI SEAD-17	<b>DATE:</b> 1/6/94	
<b>LOCATION:</b> Seneca Army Depot, Romulus, NY	<b>PROJECT NO. :</b> 720477-01000	

<b>DRILLING METHOD (s):</b> Hollow Stem Auger <b>PUMP METHOD (s):</b> Peristaltic Pump <b>SURGE METHOD (s):</b> Teflon Bailer <b>INSTALLATION DATE:</b> 12/1/93	<b>INSPECTOR:</b> BH <b>CONTRACTOR:</b> _____ <b>CREW:</b> UXB <b>START DEVELOPMENT DATE:</b> 1/6/94 <b>END DEVELOPMENT DATE:</b> 1/7/94
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<b>WATER DEPTH (TOC):</b> 4.76 ft <b>WELL DIA. (ID CASING):</b> 0.167 ft <b>BORING DIAMETER:</b> 0.708 ft	<b>INSTALLED POW DEPTH(TOC):</b> _____ ft <b>MEASURED POW DEPTH(TOC):</b> 10.34 ft <b>SILT THICKNESS:</b> _____ ft <b>POW AFTER DEVELOPMENT:</b> _____ ft
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**DIAMETER FACTORS (GAL/FT):**

<b>DIAMETER (IN):</b>	2	3	4	5	6	7	8	8.5	9	10	11	12
<b>GALLONS/FT:</b>	0.163	0.367	0.654	1.02	1.47	2.00	2.61	2.95	3.30	4.08	4.93	5.87

STANDING VOLUME INSIDE WELL = WATER COLUMN X WELL DIAMETER FACTOR = 0.9 GAL. = A  
 $A = 5.58 * 0.163$

STANDING WATER IN ANNULAR SPACE =  
 WATER COL. BELOW SEAL(ft) X (BORING DIAM. FACTOR - WELL DIAM. FACTOR) X 0.3 = 4.66 GAL. = B  
 $B = 5.58 * (2.95 - 0.163) * 0.3$

SINGLE STANDING WATER VOLUME = A + B = ..... 5.56 GAL. = C

MINIMUM VOLUME TO BE REMOVED = 5 X C ..... 27.8 GALS.  
 = 3 X C ..... 16.68 GALS.

ACTIVITY	START TIME	END TIME	ELAPSED TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP °C	COLOR	Turbidity NTU	Water Depth (TOC) FT
1/6 SURGE 1st volume	1540	1615	35	5.0	7.12	400	5.0	dk brn	1000+	6.6
1/7 PUMP 2nd volume	1035	1048	13	5.0	7.16	405	6.0	silty	608	7.4
PUMP 3rd volume	1050	1112	22	5.0	7.10	380	6.0	clear	2.19	8.0
PUMP 4th volume	1115	1136	21	5.0	7.06	390	6.0	clear	4.48	8.3
PUMP 5th volume	1138	1205	27	5.0	7.00	390	6.0	clear	2.35	8.6
COMPLETE										
<b>TOTALS/FINAL</b>				25				clear	2.35	

**COMMENTS:** 1/7 2nd volume : rate of 780 ml/min, level dropping. 1/7 5th volume rate of 700 ml/min.  
 1/7 3rd volume : rate of 660 ml/min, level maintaining.  
 1/7 4th volume : rate of 700 ml/min, level dropping slightly.

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS **WELL #:** MW17-1

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# WELL DEVELOPMENT REPORT

<b>ENGINEERING – SCIENCE, INC.</b>	<b>CLIENT:</b> USACOE	<b>WELL #:</b> MW17-2
<b>PROJECT :</b> 10 SWMU ESI SEAD-17	<b>DATE:</b> 11/6/93	
<b>LOCATION:</b> Seneca Army Depot, Romulus, NY	<b>PROJECT NO.:</b> 720477-01000	

<b>DRILLING METHOD (s):</b> Hollow Stem Auger <b>PUMP METHOD (s):</b> Peristaltic Pump <b>SURGE METHOD (s):</b> Teflon Bailer <b>INSTALLATION DATE:</b> 11/2/93	<b>INSPECTOR:</b> DMK <b>CONTRACTOR:</b> _____ <b>CREW:</b> _____ <b>START DEVELOPMENT DATE:</b> 11/6/93 <b>END DEVELOPMENT DATE:</b> 11/6/93
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<b>WATER DEPTH (TOC):</b> 3.26 ft <b>WELL DIA. (ID CASING):</b> 0.167 ft <b>BORING DIAMETER:</b> 0.708 ft	<b>INSTALLED POW DEPTH(TOC):</b> _____ ft <b>MEASURED POW DEPTH(TOC):</b> 7.96 ft <b>SILT THICKNESS:</b> _____ ft <b>POW AFTER DEVELOPMENT:</b> _____ ft
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**DIAMETER FACTORS (GAL/FT):**

<b>DIAMETER (IN):</b>	2	3	4	5	6	7	8	8.5	9	10	11	12
<b>GALLONS/FT:</b>	0.163	0.367	0.654	1.02	1.47	2.00	2.61	2.95	3.30	4.08	4.93	5.87

STANDING VOLUME INSIDE WELL = WATER COLUMN X WELL DIAMETER FACTOR = 0.77 GAL. = A  
 $A = 4.7 * 0.163$

STANDING WATER IN ANNULAR SPACE =  
 WATER COL. BELOW SEAL(ft) X (BORING DIAM. FACTOR – WELL DIAM. FACTOR) X 0.3 = 3.09 GAL. = B  
 $B = * (2.95 - 0.163) * 0.3$

SINGLE STANDING WATER VOLUME = A + B = ..... 3.86 GAL. = C

MINIMUM VOLUME TO BE REMOVED = 5 X C ..... 19.5 GALS.

ACTIVITY	START TIME	END TIME	ELAPSED TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP °C	COLOR	Turbidity NTU	Water Depth (TOC) FT
11/6 SURGE 1st volume	0815	0915	60	3.9	7.60	500	9.6	lt brn		7.62
PUMP 2nd volume	0916	1135		3.9	7.15	550	9.0	clear	1.0	6.60
PUMP 3rd volume	1400	1500	60	3.9	6.54	600	9.2	clear	15.7	7.96
PUMP 4th volume	0842	0950	68	3.9	7.40	600	8.9	clear	3.5	7.18
PUMP 5th volume	1242	1250	68	3.9	6.50	600	9.6	clear	1.7	7.24
COMPLETE										
<b>TOTALS/FINAL</b>				19.5				clear	1.7	

**COMMENTS:** 11/6 (0935) Pump shut down to allow well to recharge.  
 11/6 (1010) depth = 6.28 ft.  
 11/6 (1400) depth = 3.32 ft.

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS      WELL #: MW17-2

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# WELL DEVELOPMENT REPORT

<b>ENGINEERING-SCIENCE, INC.</b>	<b>CLIENT:</b> USACOE	<b>WELL #:</b> MW17-3
<b>PROJECT :</b> 10 SWMU ESI SEAD-17	<b>DATE:</b> 1/6/94	
<b>LOCATION:</b> Seneca Army Depot, Romulus, NY	<b>PROJECT NO. :</b> 720477-01000	

<b>DRILLING METHOD (s):</b> Hollow Stem Auger <b>PUMP METHOD (s):</b> Peristaltic Pump <b>SURGE METHOD (s):</b> Teflon Bailer <b>INSTALLATION DATE:</b> 11/30/93	<b>INSPECTOR:</b> BH & KS <b>CONTRACTOR:</b> <b>CREW:</b> UXB <b>START DEVELOPMENT DATE:</b> 1/6/94 <b>END DEVELOPMENT DATE:</b> 1/9/94
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<b>WATER DEPTH (TOC):</b> 4.08 ft <b>WELL DIA. (ID CASING):</b> 0.167 ft <b>BORING DIAMETER:</b> 0.708 ft	<b>INSTALLED POW DEPTH(TOC):</b> _____ ft <b>MEASURED POW DEPTH(TOC):</b> 7.8 ft <b>SILT THICKNESS:</b> _____ ft <b>POW AFTER DEVELOPMENT:</b> _____ ft
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**DIAMETER FACTORS (GAL/FT):**

<b>DIAMETER (IN):</b>	2	3	4	5	6	7	8	8.5	9	10	11	12
<b>GALLONS/FT:</b>	0.163	0.367	0.654	1.02	1.47	2.00	2.61	2.95	3.30	4.08	4.93	5.87

STANDING VOLUME INSIDE WELL = WATER COLUMN X WELL DIAMETER FACTOR = 0.6 GAL. = A  
 $A = 3.72 * 0.163$

STANDING WATER IN ANNULAR SPACE =  
 WATER COL. BELOW SEAL(ft) X (BORING DIAM. FACTOR - WELL DIAM. FACTOR) X 0.3 = 3.11 GAL. = B  
 $B = 3.72 * (2.95 - 0.163) * 0.3$

SINGLE STANDING WATER VOLUME = A + B = ..... 3.71 GAL. = C

MINIMUM VOLUME TO BE REMOVED = 5 X C ..... 18.55 GALS.  
 = 3 X C ..... 11.13 GALS.

ACTIVITY	START TIME	END TIME	ELAPSED TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP °C	COLOR	Turbidity NTU	Water Depth (TOC) FT
1/6 SURGE 1st volume	1415	1430	15	1.5						
PUMP 1st volume	1455	1520	5	0.5						dry
1/7 PUMP 1st volume	0940	0955	15	1.5						dry
PUMP 1st volume	1040			0.25	7.5	400	0	clear	5.09	dry
1/8 PUMP 2nd volume	1110	1118	8	1.75						dry
1/9 PUMP 2nd volume	1345	1355	10	1.75	7.65	485	5.0	p. silty		
PUMP 2nd volume	1420	1421	1	0.25	7.60	420	4.0	clear	2.92	dry
COMPLETE										
<b>TOTALS/FINAL</b>				7.5				clear	2.92	

**COMMENTS:** 1/8 2nd volume rate = 1500ml/min.  
 1/9 (1345) depth = 4.90 ft.

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS **WELL #:** MW17-3

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# WELL DEVELOPMENT REPORT

<b>ENGINEERING—SCIENCE, INC.</b>	<b>CLIENT:</b> USACOE	<b>WELL #:</b> MW17-4
<b>PROJECT :</b> 10 SWMU ESI SEAD-17		<b>DATE:</b> 1/6/94
<b>LOCATION:</b> Seneca Army Depot, Romulus, NY		<b>PROJECT NO.:</b> 720477-01000

<b>DRILLING METHOD (s):</b> Hollow Stem Auger <b>PUMP METHOD (s):</b> Peristaltic Pump <b>SURGE METHOD (s):</b> Teflon Bailer <b>INSTALLATION DATE:</b> 11/30/93	<b>INSPECTOR:</b> KS <b>CONTRACTOR:</b> <b>CREW:</b> UXB <b>START DEVELOPMENT DATE:</b> 1/6/94 <b>END DEVELOPMENT DATE:</b> 1/6/94
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<b>WATER DEPTH (TOC):</b> 4.43 ft <b>WELL DIA. (ID CASING):</b> 0.167 ft <b>BORING DIAMETER:</b> 0.708 ft	<b>INSTALLED POW DEPTH(TOC):</b> 8.46 ft <b>MEASURED POW DEPTH(TOC):</b> 8.46 ft <b>SILT THICKNESS:</b> ft <b>POW AFTER DEVELOPMENT:</b> ft
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**DIAMETER FACTORS (GAL/FT):**

DIAMETER (IN):	2	3	4	5	6	7	8	8.5	9	10	11	12
GALLONS/ FT:	0.163	0.367	0.654	1.02	1.47	2.00	2.61	2.95	3.30	4.08	4.93	5.87

STANDING VOLUME INSIDE WELL = WATER COLUMN X WELL DIAMETER FACTOR = 0.65 GAL. = A  
 $A = 4.03 * 0.163$

STANDING WATER IN ANNULAR SPACE =  
 WATER COL. BELOW SEAL(ft) X (BORING DIAM. FACTOR - WELL DIAM. FACTOR) X 0.3 = 3.37 GAL. = B  
 $B = 4.03 * (2.95 - 0.163) * 0.3$

SINGLE STANDING WATER VOLUME = A + B = 4.05 GAL. = C

MINIMUM VOLUME TO BE REMOVED = 5 X C = 20 GALS.  
 = 3 X C = 12 GALS.

ACTIVITY	START TIME	END TIME	ELAPSED TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP °C	COLOR	Turbidity NTU	Water Depth (TOC) FT
1/6 SURGE 1st volume	1410	1500	50	4.0	7.45	370	3.0	dark		
PUMP 2nd volume	1503	1545	42	4.0	7.49	350	3.0	clear	8.3	7.5
PUMP 3rd volume	1548	1630	43	4.0	7.56	355	3.0	clear		
COMPLETE										
<b>TOTALS/FINAL</b>				12.0				clear		

**COMMENTS:** 1/6 2nd volume rate = 350 ml/min.

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS WELL #: MW17-4

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# WELL DEVELOPMENT REPORT

<b>ENGINEERING—SCIENCE, INC.</b>	<b>CLIENT:</b> USACOE	<b>WELL #:</b> MW24-1
<b>PROJECT :</b> 10 SWMU ESI SEAD-24	<b>DATE:</b> 1/10/94	
<b>LOCATION:</b> Seneca Army Depot, Romulus, NY	<b>PROJECT NO. :</b> 720477-01000	

<b>DRILLING METHOD (s):</b> Hollow Stem Auger <b>PUMP METHOD (s):</b> Peristaltic Pump <b>SURGE METHOD (s):</b> Teflon Bailer <b>INSTALLATION DATE:</b> 12/1/93	<b>INSPECTOR:</b> BH <b>CONTRACTOR:</b> <b>CREW:</b> UXB <b>START DEVELOPMENT DATE:</b> 1/10/94 <b>END DEVELOPMENT DATE:</b> 1/10/94
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<b>WATER DEPTH (TOC):</b> 4.36 ft <b>WELL DIA. (ID CASING):</b> 0.167 ft <b>BORING DIAMETER:</b> 0.708 ft	<b>INSTALLED POW DEPTH(TOC):</b> _____ ft <b>MEASURED POW DEPTH(TOC):</b> 12.06 ft <b>SILT THICKNESS:</b> _____ ft <b>POW AFTER DEVELOPMENT:</b> _____ ft
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**DIAMETER FACTORS (GAL/FT):**

<b>DIAMETER (IN):</b>	2	3	4	5	6	7	8	8.5	9	10	11	12
<b>GALLONS/ FT:</b>	0.163	0.367	0.654	1.02	1.47	2.00	2.61	2.95	3.30	4.08	4.93	5.87

STANDING VOLUME INSIDE WELL = WATER COLUMN X WELL DIAMETER FACTOR = 1.26 GAL. = A  
 $A = 7.7 * 0.163$

STANDING WATER IN ANNULAR SPACE =  
 WATER COL. BELOW SEAL(ft) X (BORING DIAM. FACTOR - WELL DIAM. FACTOR) X 0.3 = 6.43 GAL. = B  
 $B = 7.7 * (2.95 - 0.163) * 0.3$

SINGLE STANDING WATER VOLUME = A + B = ..... 7.69 GAL. = C

MINIMUM VOLUME TO BE REMOVED = 5 X C ..... 38.45 GALS.  
 = 3 X C ..... 23.07 GALS.

ACTIVITY	START TIME	END TIME	ELAPSED TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP °C	COLOR	Turbidity NTU	Water Depth (TOC) FT
1/10 SURGE 1st volume	1100	1135	35	7.7	7.20	460	5.5	cl. brn		11.10
PUMP 2nd volume	1310	1400	50	7.7	7.15	460	5.5	cloudy	1000+	10.3
PUMP 3rd volume	1405	1500	55	7.7	7.50	450	2.5	clear	8.72	11.88
PUMP 4th volume	1505	1517	12	2.0						
PUMP 4th volume	1530	1630	60	5.7	7.20	440	5.0	clear	39.8	9.80
COMPLETE										
<b>TOTALS/FINAL</b>				30.8				clear	39.8	

**COMMENTS:** 1/10 (1305) depth = 4.35 ft., rate = 400 ml/min to 660 ml/min. 1/10 4th volume rate = 475 ml/min.  
 1/10 3rd volume : NTU at 4 gals. is 275, at 5 gals. is 311. 1/10 (1517) Generator out of gas.  
 1/10 3rd volume rate = 475 ml/min.

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS **WELL #:** MW24-1

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# WELL DEVELOPMENT REPORT

<b>ENGINEERING—SCIENCE, INC.</b>	<b>CLIENT:</b> USACOE	<b>WELL #:</b> MW24-2
<b>PROJECT :</b> 10 SWMU ESI SEAD-24		<b>DATE:</b> 11/7/93
<b>LOCATION:</b> Seneca Army Depot, Romulus, NY		<b>PROJECT NO. :</b> 720477-01000

<b>DRILLING METHOD (s):</b> Hollow Stem Auger <b>PUMP METHOD (s):</b> Peristaltic Pump <b>SURGE METHOD (s):</b> Teflon Bailer <b>INSTALLATION DATE:</b> 11/6/93	<b>INSPECTOR:</b> BH & DMK <b>CONTRACTOR:</b> <b>CREW:</b> <b>START DEVELOPMENT DATE:</b> 11/7/93 <b>END DEVELOPMENT DATE:</b> 11/12/93
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<b>WATER DEPTH (TOC):</b> 10.44 ft <b>WELL DIA. (ID CASING):</b> 0.167 ft <b>BORING DIAMETER:</b> 0.708 ft	<b>INSTALLED POW DEPTH(TOC):</b> _____ ft <b>MEASURED POW DEPTH(TOC):</b> 18.52 ft <b>SILT THICKNESS:</b> _____ ft <b>POW AFTER DEVELOPMENT:</b> _____ ft
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**DIAMETER FACTORS (GAL/FT):**

<b>DIAMETER (IN):</b>	2	3	4	5	6	7	8	8.5	9	10	11	12
<b>GALLONS/FT:</b>	0.163	0.367	0.654	1.02	1.47	2.00	2.61	2.95	3.30	4.08	4.93	5.87

STANDING VOLUME INSIDE WELL = WATER COLUMN X WELL DIAMETER FACTOR = 1.3 GAL. = A  
 $A = 8.08 * 0.163$

STANDING WATER IN ANNULAR SPACE =  
 WATER COL. BELOW SEAL(ft) X (BORING DIAM. FACTOR - WELL DIAM. FACTOR) X 0.3 = 6.8 GAL. = B  
 $B = 8.08 * (2.95 - 0.163) * 0.3$

SINGLE STANDING WATER VOLUME = A + B = ..... 8.1 GAL. = C

MINIMUM VOLUME TO BE REMOVED = 5 X C ..... 40.5 GALS.

ACTIVITY	START TIME	END TIME	ELAPSED TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP °C	COLOR	Turbidity NTU	Water Depth (TOC) FT
11/7 SURGE 1st volume	1450	1525	35	8.1	6.5	700	12.5	silty		16.7
PUMP 2nd volume	1530			3.0						17.24
11/8 PUMP 2nd volume				5.1	7.50	650	12.1	silty		10.30
11/9 PUMP 3rd volume	1150			8.1	7.42	650	13.2	silty		17.42
11/10 PUMP 4th volume	1335	1435	60	8.1	7.79	650	13.0	cloudy	154	16.4
11/12 PUMP 5th volume	0800			7.0						
PUMP 5th volume	1230	1240	10	1.0	7.49	600	11.8	clear	50.6	12.8
PUMP 6th volume	1240			3.0					5.55	13.0
<b>COMPLETE</b>										
<b>TOTALS/FINAL</b>				43.4				clear	5.55	

**COMMENTS:** 11/8 depth = 10.30 ft. 11/12 (0808) depth = 10.04 ft., pump dies so bailed 7 gallons.  
 11/9 depth = 10.28 ft.  
 11/10 depth = 10.10 ft., rate = 300 ml/min.

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS WELL #: MW24-2

CONFIDENTIAL



# WELL DEVELOPMENT REPORT

<b>ENGINEERING—SCIENCE, INC.</b>	<b>CLIENT: USACOE</b>	<b>WELL #: MW24-3</b>
<b>PROJECT :</b> 10 SWMU ESI SEAD-24	<b>DATE:</b> 11/8/93	
<b>LOCATION:</b> Seneca Army Depot, Romulus, NY	<b>PROJECT NO. :</b> 720477-01000	

<b>DRILLING METHOD (s):</b> Hollow Stem Auger <b>PUMP METHOD (s):</b> Peristaltic Pump <b>SURGE METHOD (s):</b> Teflon Bailer <b>INSTALLATION DATE:</b> 11/6/93	<b>INSPECTOR:</b> BH <b>CONTRACTOR:</b> _____ <b>CREW:</b> _____ <b>START DEVELOPMENT DATE:</b> 11/8/93 <b>END DEVELOPMENT DATE:</b> 11/8/93
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<b>WATER DEPTH (TOC):</b> 7.55 ft <b>WELL DIA. (ID CASING):</b> 0.167 ft <b>BORING DIAMETER:</b> 0.708 ft	<b>INSTALLED POW DEPTH(TOC):</b> _____ ft <b>MEASURED POW DEPTH(TOC):</b> 17.25 ft <b>SILT THICKNESS:</b> _____ ft <b>POW AFTER DEVELOPMENT:</b> _____ ft
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**DIAMETER FACTORS (GAL/FT):**

DIAMETER (IN):	2	3	4	5	6	7	8	8.5	9	10	11	12
GALLONS/ FT:	0.163	0.367	0.654	1.02	1.47	2.00	2.61	2.95	3.30	4.08	4.93	5.87

STANDING VOLUME INSIDE WELL = WATER COLUMN X WELL DIAMETER FACTOR = 1.6 GAL. = A  
 $A = 9.70 * 0.163$

STANDING WATER IN ANNULAR SPACE =  
 WATER COL. BELOW SEAL(ft) X (BORING DIAM. FACTOR - WELL DIAM. FACTOR) X 0.3 = 8.1 GAL. = B  
 $B = 9.70 * (2.95 - 0.163) * 0.3$

SINGLE STANDING WATER VOLUME = A + B = ..... 9.7 GAL. = C

MINIMUM VOLUME TO BE REMOVED = 5 X C ..... 48.5 GALS.

ACTIVITY	START TIME	END TIME	ELAPSED TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP °C	COLOR	Turbidity NTU	Water Depth (TOC) FT
11/8 SURGE 1st volume	1430	1455	25	9.7	7.44	550	13.1	silty		9.65
PUMP 2nd volume	1505	1525	20	9.7	7.24	550	13.6	clear	106	10.80
PUMP 3rd volume	1535	1555	20	9.7	7.39	550	13.5	clear	16.9	11.30
PUMP 4th volume	1600	1618	18	9.7	7.55	550	13.1	clear	59.0	11.60
PUMP 5th volume	1621	1641	20	9.7	7.52	550	13.2	clear	58.4	11.90
COMPLETE										
<b>TOTALS/FINAL</b>				48.5				clear	58.4	

**COMMENTS:** 11/8 rate = 2 L/min.  
 The 4th volume and 5th volume water had a noticable cloudy film. OVM reading 0 ppm.

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS      WELL #: MW24-3

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# WELL DEVELOPMENT REPORT

<b>ENGINEERING – SCIENCE, INC.</b>	<b>CLIENT:</b> USACOE	<b>WELL #:</b> MW25–2
<b>PROJECT :</b> 10 SWMU ESI SEAD–25	<b>DATE:</b> 11/11/93	
<b>LOCATION:</b> Seneca Army Depot, Romulus, NY	<b>PROJECT NO. :</b> 720477–01000	

<b>DRILLING METHOD (s):</b> Hollow Stem Auger <b>PUMP METHOD (s):</b> Peristaltic Pump <b>SURGE METHOD (s):</b> Teflon Bailer <b>INSTALLATION DATE:</b> 11/7/93	<b>INSPECTOR:</b> BH <b>CONTRACTOR:</b> _____ <b>CREW:</b> _____ <b>START DEVELOPMENT DATE:</b> 11/11/93 <b>END DEVELOPMENT DATE:</b> 11/22/93
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<b>WATER DEPTH (TOC):</b> 5.12 ft <b>WELL DIA. (ID CASING):</b> 0.167 ft <b>BORING DIAMETER:</b> 0.708 ft	<b>INSTALLED POW DEPTH(TOC):</b> _____ ft <b>MEASURED POW DEPTH(TOC):</b> 11.2 ft <b>SILT THICKNESS:</b> _____ ft <b>POW AFTER DEVELOPMENT:</b> _____ ft
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**DIAMETER FACTORS (GAL/FT):**

<b>DIAMETER (IN):</b>	2	3	4	5	6	7	8	8.5	9	10	11	12
<b>GALLONS/FT:</b>	0.163	0.367	0.654	1.02	1.47	2.00	2.61	2.95	3.30	4.08	4.93	5.87

STANDING VOLUME INSIDE WELL = WATER COLUMN X WELL DIAMETER FACTOR = 0.99 GAL. = A  
 $A = 6.08 * 0.163$

STANDING WATER IN ANNULAR SPACE =  
 WATER COL. BELOW SEAL(ft) X (BORING DIAM. FACTOR – WELL DIAM. FACTOR) X 0.3 = 5.1 GAL. = B  
 $B = 6.08 * (2.95 - 0.163) * 0.3$

SINGLE STANDING WATER VOLUME = A + B = ..... 6.1 GAL. = C

MINIMUM VOLUME TO BE REMOVED = 5 X C ..... 30.5 GALS.

ACTIVITY	START TIME	END TIME	ELAPSED TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP °C	COLOR	Turbidity NTU	Water Depth (TOC) FT
11/11 SURGE 1st volume	1015			3.5						dry
PUMP 1st volume		1430		2.6	7.53	700	12.6	lt brn		10.24
11/12 PUMP 2nd volume	1400	1630		5.0	7.40	650	10.6	clear	3.03	dry
11/22 PUMP 3rd volume	1450	1535		6.1	7.19	700	12	clear	1.23	dry
COMPLETED										
<b>TOTALS/FINAL</b>				17.2				clear	1.23	

**COMMENTS:** 11/11 OVM reading of 44 ppm. 11/22 depth = 4.78 ft., OVM reading of 183 ppm (max),  
 11/12 OVM reading of 53 ppm. 0 ppm during development.  
 11/21 depth = 4.68 ft.

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS WELL #: MW25–2

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# WELL DEVELOPMENT REPORT

<b>ENGINEERING—SCIENCE, INC.</b>	<b>CLIENT:</b> USACOE	<b>WELL #:</b> MW25-3
<b>PROJECT :</b> 10 SWMU ESI SEAD-25	<b>DATE:</b> 11/9/93	
<b>LOCATION:</b> Seneca Army Depot, Romulus, NY	<b>PROJECT NO.:</b> 720477-01000	

<b>DRILLING METHOD (s):</b> Hollow Stem Auger <b>PUMP METHOD (s):</b> Peristaltic Pump <b>SURGE METHOD (s):</b> Teflon Bailer <b>INSTALLATION DATE:</b> 11/7/93	<b>INSPECTOR:</b> BH <b>CONTRACTOR:</b> <b>CREW:</b> <b>START DEVELOPMENT DATE:</b> 11/9/93 <b>END DEVELOPMENT DATE:</b> 11/11/93
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<b>WATER DEPTH (TOC):</b> 4.8 ft <b>WELL DIA. (ID CASING):</b> 0.167 ft <b>BORING DIAMETER:</b> 0.708 ft	<b>INSTALLED POW DEPTH(TOC):</b> _____ ft <b>MEASURED POW DEPTH(TOC):</b> 9.8 ft <b>SILT THICKNESS:</b> _____ ft <b>POW AFTER DEVELOPMENT:</b> _____ ft
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**DIAMETER FACTORS (GAL/FT):**

DIAMETER (IN):	2	3	4	5	6	7	8	8.5	9	10	11	12
GALLONS/FT:	0.163	0.367	0.654	1.02	1.47	2.00	2.61	2.95	3.30	4.08	4.93	5.87

STANDING VOLUME INSIDE WELL = WATER COLUMN X WELL DIAMETER FACTOR = 0.8 GAL. = A  
 $A = 5.0 * 0.163$

STANDING WATER IN ANNULAR SPACE =  
 WATER COL. BELOW SEAL(ft) X (BORING DIAM. FACTOR - WELL DIAM. FACTOR) X 0.3 = 3.3 GAL. = B  
 $B = 4.0 * (2.95 - 0.163) * 0.3$

SINGLE STANDING WATER VOLUME = A + B = ..... 4.1 GAL. = C

MINIMUM VOLUME TO BE REMOVED = 5 X C ..... 20.5 GALS.

ACTIVITY	START TIME	END TIME	ELAPSED TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP °C	COLOR	Turbidity NTU	Water Depth (TOC) FT
11/9 SURGE 1st volume	1345	1405	20	4.1	7.36	500	12.6	silty		9.50
11/11 PUMP 2nd volume	0935	1045	70	4.1	7.37	450	10.7	clear	1.13	7.90
PUMP 3rd volume	1045	1210	85	3.5						
PUMP 3rd volume		1410		0.6	7.42	500	12.2	clear	1.73	7.70
PUMP 4th volume	1425	1575	50	2.0						
COMPLETE										
<b>TOTALS/FINAL</b>				14.3				clear	1.73	

**COMMENTS:** 11/11 (0930) depth is 4.9 ft., rate of 1 L/min, OVM reading of 23 ppm.

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS **WELL #:** MW25-3

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# WELL DEVELOPMENT REPORT

<b>ENGINEERING—SCIENCE, INC.</b>	<b>CLIENT:</b> USACOE	<b>WELL #:</b> MW26-1
<b>PROJECT :</b> 10 SWMU ESI SEAD-26	<b>DATE:</b> 11/20/93	
<b>LOCATION:</b> Seneca Army Depot, Romulus, NY	<b>PROJECT NO. :</b> 720477-01000	

<b>DRILLING METHOD (s):</b> Hollow Stem Auger <b>PUMP METHOD (s):</b> Peristaltic Pump <b>SURGE METHOD (s):</b> Teflon Bailer <b>INSTALLATION DATE:</b> 11/17/93	<b>INSPECTOR:</b> BH <b>CONTRACTOR:</b> _____ <b>CREW:</b> _____ <b>START DEVELOPMENT DATE:</b> 11/20/93 <b>END DEVELOPMENT DATE:</b> 1/9/94
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<b>WATER DEPTH (TOC):</b> 4.76 ft <b>WELL DIA. (ID CASING):</b> 0.167 ft <b>BORING DIAMETER:</b> 0.708 ft	<b>INSTALLED POW DEPTH(TOC):</b> _____ ft <b>MEASURED POW DEPTH(TOC):</b> 8.22 ft <b>SILT THICKNESS:</b> _____ ft <b>POW AFTER DEVELOPMENT:</b> _____ ft
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### DIAMETER FACTORS (GAL/FT):

DIAMETER (IN):	2	3	4	5	6	7	8	8.5	9	10	11	12
GALLONS/ FT:	0.163	0.367	0.654	1.02	1.47	2.00	2.61	2.95	3.30	4.08	4.93	5.87

STANDING VOLUME INSIDE WELL = WATER COLUMN X WELL DIAMETER FACTOR = 0.6 GAL. = A  
 $A = 3.46 * 0.163$

STANDING WATER IN ANNULAR SPACE =  
 WATER COL. BELOW SEAL(ft) X (BORING DIAM. FACTOR - WELL DIAM. FACTOR) X 0.3 = 2.9 GAL. = B  
 $B = 3.46 * (2.95 - 0.163) * 0.3$

SINGLE STANDING WATER VOLUME = A + B = ..... 3.5 GAL. = C

MINIMUM VOLUME TO BE REMOVED = 5 X C ..... 17.5 GALS.

ACTIVITY	START TIME	END TIME	ELAPSED TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP °C	COLOR	Turbidity NTU	Water Depth (TOC) FT
11/20 SURGE 1st volume	1500	1510	10	1.8				silty		dry
11/21 PUMP 1st volume	1520	1540	10	1.5				clear		dry
11/22 PUMP 1st volume	0850	0905	15	1.0	7.62	550	10.5	clear	5.23	7.92
11/23 PUMP 2nd volume	0805	0820	15	1.0				clear		dry
1/7/94 PUMP 2nd volume	1135	1140	5	0.75						dry
1/8 PUMP 2nd volume	1400	1410	15	0.25						dry
1/9 PUMP 2nd volume	1105	1110	5	0.25				clear		dry
COMPLETE										
<b>TOTALS/FINAL</b>				6.55				clear		

**COMMENTS:** 11/21 (1340) depth = 6.6 ft. 11/23 (0800) depth = 6.39 ft., (1345) depth = 7.15 ft.  
 11/21 (1520) depth = 6.20 ft., rate = 700 ml/min. 1/7/94 (1130) depth = 6.85 ft., rate = 1 L/min.  
 11/22 (1430) depth = 7.09 ft. 1/8 (1400) depth = 7.20 ft., rate = 300 ml/min.  
 11/23 (0800) depth = 6.39 ft. 1/9 (1105) depth = 7.32 ft., rate = 300 ml/min.

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS WELL #: MW26-1

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# WELL DEVELOPMENT REPORT

<b>ENGINEERING-SCIENCE, INC.</b>	<b>CLIENT:</b> USACOE	<b>WELL #:</b> MW26-2
<b>PROJECT :</b> 10 SWMU ESI SEAD-26	<b>DATE:</b> 1/9/94	
<b>LOCATION:</b> Seneca Army Depot, Romulus, NY	<b>PROJECT NO. :</b> 720477-01000	

<b>DRILLING METHOD (s):</b> Hollow Stem Auger <b>PUMP METHOD (s):</b> Peristaltic Pump <b>SURGE METHOD (s):</b> Teflon Bailer <b>INSTALLATION DATE:</b> 11/18/93	<b>INSPECTOR:</b> BH <b>CONTRACTOR:</b> <b>CREW:</b> UXB <b>START DEVELOPMENT DATE:</b> 1/9/94 <b>END DEVELOPMENT DATE:</b> 1/12/94
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<b>WATER DEPTH (TOC):</b> 15.67 ft <b>WELL DIA. (ID CASING):</b> 0.167 ft <b>BORING DIAMETER:</b> 0.708 ft	<b>INSTALLED POW DEPTH(TOC):</b> _____ ft <b>MEASURED POW DEPTH(TOC):</b> 16.58 ft <b>SILT THICKNESS:</b> _____ ft <b>POW AFTER DEVELOPMENT:</b> _____ ft
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**DIAMETER FACTORS (GAL/FT):**

DIAMETER (IN):	2	3	4	5	6	7	8	8.5	9	10	11	12
GALLONS/FT:	0.163	0.367	0.654	1.02	1.47	2.00	2.61	2.95	3.30	4.08	4.93	5.87

STANDING VOLUME INSIDE WELL = WATER COLUMN X WELL DIAMETER FACTOR = 0.148 GAL. = A  
 $A = 0.91 * 0.163$

STANDING WATER IN ANNULAR SPACE =  
 WATER COL. BELOW SEAL(ft) X (BORING DIAM. FACTOR - WELL DIAM. FACTOR) X 0.3 = 0.76 GAL. = B  
 $B = 0.91 * (2.95 - 0.163) * 0.3$

SINGLE STANDING WATER VOLUME = A + B = ..... 0.91 GAL. = C

MINIMUM VOLUME TO BE REMOVED = 5 X C ..... 4.55 GALS.  
 = 3 X C ..... 2.73 GALS.

ACTIVITY	START TIME	END TIME	ELAPSED TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP °C	COLOR	Turbidity NTU	Water Depth (TOC) FT
1/9 SURGE 1st volume	1040	1045		0.03						dry
1/12 SURGE 1st volume	1400	1400		0.00						dry
<b>COMPLETE</b>										
<b>TOTALS/FINAL</b>				0.03						

**COMMENTS:** 11/21 depth = 15.48 ft.  
 11/22 depth = 15.64 ft.  
 1/9/94 depth = 15.67 ft.

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS **WELL #:** MW26-2

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# WELL DEVELOPMENT REPORT

<b>ENGINEERING—SCIENCE, INC.</b>	<b>CLIENT:</b> USACOE	<b>WELL #:</b> MW26-3
<b>PROJECT :</b> 10 SWMU ESI SEAD-26	<b>DATE:</b> 11/20/93	
<b>LOCATION:</b> Seneca Army Depot, Romulus, NY	<b>PROJECT NO. :</b> 720477-01000	

<b>DRILLING METHOD (s):</b> Hollow Stem Auger <b>PUMP METHOD (s):</b> Peristaltic Pump <b>SURGE METHOD (s):</b> Teflon Bailer <b>INSTALLATION DATE:</b> 11/18/93	<b>INSPECTOR:</b> BH <b>CONTRACTOR:</b> <b>CREW:</b> <b>START DEVELOPMENT DATE:</b> 11/20/93 <b>END DEVELOPMENT DATE:</b> 11/20/93
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<b>WATER DEPTH (TOC):</b> 11.42 ft <b>WELL DIA. (ID CASING):</b> 0.167 ft <b>BORING DIAMETER:</b> 0.708 ft	<b>INSTALLED POW DEPTH(TOC):</b> _____ ft <b>MEASURED POW DEPTH(TOC):</b> 16.42 ft <b>SILT THICKNESS:</b> _____ ft <b>POW AFTER DEVELOPMENT:</b> _____ ft
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**DIAMETER FACTORS (GAL/FT):**

<b>DIAMETER (IN):</b>	2	3	4	5	6	7	8	8.5	9	10	11	12
<b>GALLONS/ FT:</b>	0.163	0.367	0.654	1.02	1.47	2.00	2.61	2.95	3.30	4.08	4.93	5.87

STANDING VOLUME INSIDE WELL = WATER COLUMN X WELL DIAMETER FACTOR = 0.82 GAL. = A  
 $A = 5.0 * 0.163$

STANDING WATER IN ANNULAR SPACE =  
 WATER COL. BELOW SEAL(ft) X (BORING DIAM. FACTOR - WELL DIAM. FACTOR) X 0.3 = 4.2 GAL. = B  
 $B = 5.0 * (2.95 - 0.163) * 0.3$

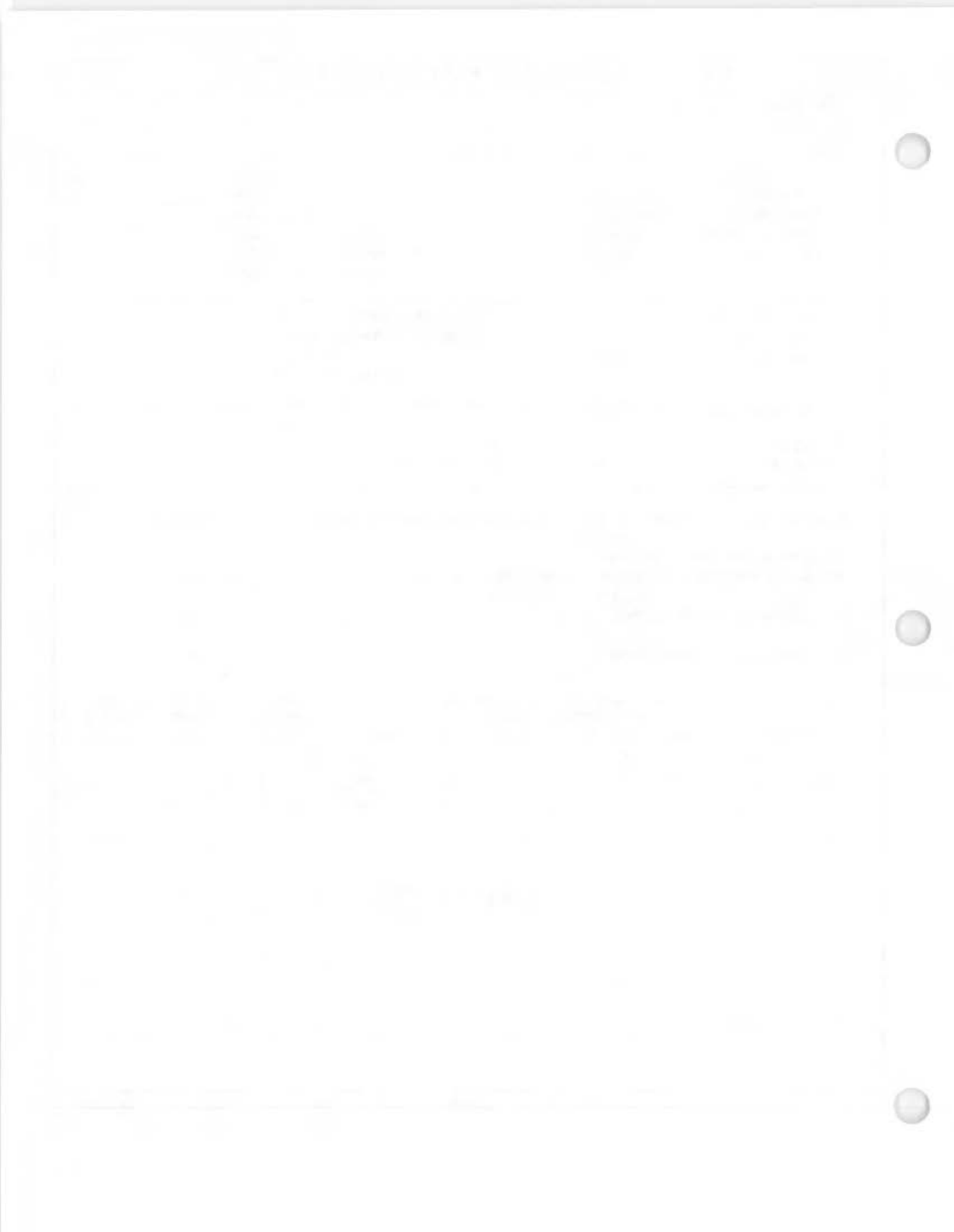
SINGLE STANDING WATER VOLUME = A + B = ..... 5.0 GAL. = C

MINIMUM VOLUME TO BE REMOVED = 5 X C ..... 25 GALS.  
 = 3 X C ..... 15 GALS.

ACTIVITY	START TIME	END TIME	ELAPSED TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP °C	COLOR	Turbidity NTU	Water Depth (TOC) FT
11/20 SURGE 1st volume	1550	1610	20	5.0	6.92	700	10.5	silty		11.90
PUMP 2nd volume	1625	1635	10	5.0	6.65	650	11.0	clear	37.7	11.78
PUMP 3rd volume	1635	1650	15	5.0	6.64	700	11.0	clear	5.32	11.68
COMPLETE										
<b>TOTALS/FINAL</b>				15.0				clear	5.32	

**COMMENTS:**

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS      WELL #: MW26-3



# WELL DEVELOPMENT REPORT

<b>ENGINEERING—SCIENCE, INC.</b>	<b>CLIENT:</b> USACOE	<b>WELL #:</b> MW26-4
<b>PROJECT :</b> 10 SWMU ESI SEAD-26	<b>DATE:</b> 12/6/93	
<b>LOCATION:</b> Seneca Army Depot, Romulus, NY	<b>PROJECT NO.:</b> 720477-01000	

<b>DRILLING METHOD (s):</b> Hollow Stem Auger <b>PUMP METHOD (s):</b> Peristaltic Pump <b>SURGE METHOD (s):</b> Teflon Bailer <b>INSTALLATION DATE:</b> 11/19/93	<b>INSPECTOR:</b> BH <b>CONTRACTOR:</b> <b>CREW:</b> <b>START DEVELOPMENT DATE:</b> 11/21/93 <b>END DEVELOPMENT DATE:</b> 11/21/93
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<b>WATER DEPTH (TOC):</b> 10.35 ft <b>WELL DIA. (ID CASING):</b> 0.167 ft <b>BORING DIAMETER:</b> 0.708 ft	<b>INSTALLED POW DEPTH(TOC):</b> ft <b>MEASURED POW DEPTH(TOC):</b> 13.80 ft <b>SILT THICKNESS:</b> ft <b>POW AFTER DEVELOPMENT:</b> ft
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**DIAMETER FACTORS (GAL/FT):**

<b>DIAMETER (IN):</b>	2	3	4	5	6	7	8	8.5	9	10	11	12
<b>GALLONS/FT:</b>	0.163	0.367	0.654	1.02	1.47	2.00	2.61	2.95	3.30	4.08	4.93	5.87

STANDING VOLUME INSIDE WELL = WATER COLUMN X WELL DIAMETER FACTOR = 0.56 GAL. = A  
 $A = 3.45 * 0.163$

STANDING WATER IN ANNULAR SPACE =  
 WATER COL. BELOW SEAL(ft) X (BORING DIAM. FACTOR - WELL DIAM. FACTOR) X 0.3 = 2.88 GAL. = B  
 $B = 3.45 * (2.95 - 0.163) * 0.3$

SINGLE STANDING WATER VOLUME = A + B = ..... 3.44 GAL. = C

MINIMUM VOLUME TO BE REMOVED = 5 X C ..... 17.2 GALS.  
 = 3 X C ..... 10.3 GALS.

ACTIVITY	START TIME	END TIME	ELAPSED TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP °C	COLOR	Turbidity NTU	Water Depth (TOC) FT
11/21 SURGE 1st volume	0930	0950	20	3.5	6.98	850	11.5	silty		11.4
PUMP 2nd volume	1015	1030	15	3.5	7.04	850	11.5	clear	5.95	10.74
PUMP 3rd volume	1130	1140	10	3.5	7.07	850	12	clear	20.0	11.10
PUMP 4th volume	1145	1155	10	3.5	7.07	850	12	clear	6.13	11.10
COMPLETE										
<b>TOTALS/FINAL</b>				14				clear	6.13	

**COMMENTS:** 2nd volume rate is 1 L/min.  
 At the 3rd volume, the hose was changed.

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS WELL #: MW26-4

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# WELL DEVELOPMENT REPORT

<b>ENGINEERING—SCIENCE, INC.</b>	<b>CLIENT:</b> USACOE	<b>WELL #:</b> MW45-1
<b>PROJECT:</b> 10 SWMU ESI SEAD-45	<b>DATE:</b> 1/17/94	
<b>LOCATION:</b> Seneca Army Depot, Romulus, NY	<b>PROJECT NO.:</b> 720477-01000	

<b>DRILLING METHOD (s):</b> Hollow Stem Auger <b>PUMP METHOD (s):</b> Peristaltic Pump <b>SURGE METHOD (s):</b> Teflon Bailer <b>INSTALLATION DATE:</b> 11/21/93	<b>INSPECTOR:</b> AW & KS <b>CONTRACTOR:</b> <b>CREW:</b> <b>START DEVELOPMENT DATE:</b> 1/17/94 <b>END DEVELOPMENT DATE:</b> NA
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<b>WATER DEPTH (TOC):</b> 7.87 ft <b>WELL DIA. (ID CASING):</b> 0.167 ft <b>BORING DIAMETER:</b> 0.708 ft	<b>INSTALLED POW DEPTH(TOC):</b> ft <b>MEASURED POW DEPTH(TOC):</b> 8.49 ft <b>SILT THICKNESS:</b> ft <b>POW AFTER DEVELOPMENT:</b> ft
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**DIAMETER FACTORS (GAL/FT):**

<b>DIAMETER (IN):</b>	2	3	4	5	6	7	8	8.5	9	10	11	12
<b>GALLONS/FT:</b>	0.163	0.367	0.654	1.02	1.47	2.00	2.61	2.95	3.30	4.08	4.93	5.87

STANDING VOLUME INSIDE WELL = WATER COLUMN X WELL DIAMETER FACTOR = 0.10 GAL. = A  
 $A = 0.62 * 0.163$

STANDING WATER IN ANNULAR SPACE =  
 WATER COL. BELOW SEAL(ft) X (BORING DIAM. FACTOR - WELL DIAM. FACTOR) X 0.3 = 0.52 GAL. = B  
 $B = 0.62 * (2.95 - 0.163) * 0.3$

SINGLE STANDING WATER VOLUME = A + B = ..... 0.62 GAL. = C

MINIMUM VOLUME TO BE REMOVED = 3 X C ..... 1.86 GALS.

ACTIVITY	START TIME	END TIME	ELAPSED TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP °C	COLOR	Turbidity NTU	Water Depth (TOC) FT
1/17 Check water depth										7.87
1/20 Check water depth	0910									7.85
3/4 Check water depth (KS,MB,BH)										7.87
<b>TOTALS/FINAL</b>										

**COMMENTS:** Well is dry and cannot be developed.

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# WELL DEVELOPMENT REPORT

<b>ENGINEERING—SCIENCE, INC.</b>	CLIENT: <b>USACOE</b>	WELL #: <b>MW45-2</b>
PROJECT : <b>10 SWMU ESI SEAD-45</b>	DATE: <b>1/17/94</b>	
LOCATION: <b>Seneca Army Depot, Romulus, NY</b>	PROJECT NO. : <b>720477-01000</b>	

DRILLING METHOD (s): <u>Hollow Stem Auger</u> PUMP METHOD (s): <u>Peristaltic Pump</u> SURGE METHOD (s): <u>Teflon Bailer</u> INSTALLATION DATE: <u>11/20/93</u>	INSPECTOR: <u>KS &amp; AW</u> CONTRACTOR: _____ CREW: <u>UXB (DI &amp; JK)</u> START DEVELOPMENT DATE: <u>1/17/94</u> END DEVELOPMENT DATE: <u>1/26/94</u>
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WATER DEPTH (TOC): <u>10.96</u> ft WELL DIA. (ID CASING): <u>0.167</u> ft BORING DIAMETER: <u>0.708</u> ft	INSTALLED POW DEPTH(TOC): _____ ft MEASURED POW DEPTH(TOC): <u>12.46</u> ft SILT THICKNESS: _____ ft POW AFTER DEVELOPMENT: _____ ft
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### DIAMETER FACTORS (GAL/FT):

DIAMETER (IN):	2	3	4	5	6	7	8	8.5	9	10	11	12
GALLONS/FT:	0.163	0.367	0.654	1.02	1.47	2.00	2.61	2.95	3.30	4.08	4.93	5.87

STANDING VOLUME INSIDE WELL = WATER COLUMN X WELL DIAMETER FACTOR = 0.25 GAL. = A  
 $A = 1.5 * 0.163$

STANDING WATER IN ANNULAR SPACE =  
 WATER COL. BELOW SEAL(ft) X (BORING DIAM. FACTOR - WELL DIAM. FACTOR) X 0.3 = 1.25 GAL. = B  
 $B = 1.5 * (2.95 - 0.163) * 0.3$

SINGLE STANDING WATER VOLUME = A + B = ..... 1.49 GAL. = C

MINIMUM VOLUME TO BE REMOVED = 5 X C ..... 20 GALS.  
 = 3 X C ..... 4.47 GALS.

ACTIVITY	START TIME	END TIME	ELAPSED TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP °C	COLOR	Turbidity NTU	Water Depth (TOC) FT
12/19/93 Check water depth										9.74
1/17/94 SURGE 1st volume	1000	1015	15	0.5						dry
1/20 SURGE 1st volume	0945	0948	3	0.2						dry
PUMP 1st volume	0949	0955	6	0.2						dry
1/23 PUMP 1st volume	1405	1410	5	0.2				clear		dry
1/25 PUMP 1st volume	0945	0950	5	0.2				clear		dry
1/26 PUMP 1st volume	0910	0912	2	0.1				clear	1.26	dry
COMPLETE										
<b>TOTALS/FINAL</b>				1.4				clear	1.26	

COMMENTS: 1/20 depth = 11.24 ft. 1/25 depth = 11.37 ft.  
 1/21 depth = 11.23 ft. 1/26 depth = 12.28 ft.  
 1/23 depth = 11.28 ft.

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS WELL #: MW45-2

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# WELL DEVELOPMENT REPORT

<b>ENGINEERING—SCIENCE, INC.</b>	<b>CLIENT:</b> USACOE	<b>WELL #:</b> MW45-3
<b>PROJECT :</b> 10 SWMU ESI SEAD--45	<b>DATE:</b> 1/17/94	
<b>LOCATION:</b> Seneca Army Depot, Romulus, NY	<b>PROJECT NO. :</b> 720477-01000	

<b>DRILLING METHOD (s):</b> Hollow Stem Auger <b>PUMP METHOD (s):</b> Peristaltic Pump <b>SURGE METHOD (s):</b> Teflon Bailer <b>INSTALLATION DATE:</b> 11/21/93	<b>INSPECTOR:</b> BH & KK <b>CONTRACTOR:</b> <b>CREW:</b> UXB (JK) <b>START DEVELOPMENT DATE:</b> 1/17/94 <b>END DEVELOPMENT DATE:</b> 1/26/94
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<b>WATER DEPTH (TOC):</b> 9.07 ft <b>WELL DIA. (ID CASING):</b> 0.167 ft <b>BORING DIAMETER:</b> 0.708 ft	<b>INSTALLED POW DEPTH(TOC):</b> _____ ft <b>MEASURED POW DEPTH(TOC):</b> 14.08 ft <b>SILT THICKNESS:</b> _____ ft <b>POW AFTER DEVELOPMENT:</b> _____ ft
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### DIAMETER FACTORS (GAL/FT):

DIAMETER (IN):	2	3	4	5	6	7	8	8.5	9	10	11	12
GALLONS/ FT:	0.163	0.367	0.654	1.02	1.47	2.00	2.61	2.95	3.30	4.08	4.93	5.87

STANDING VOLUME INSIDE WELL = WATER COLUMN X WELL DIAMETER FACTOR = 0.82 GAL. = A  
 $A = 5.01 * 0.163$

STANDING WATER IN ANNULAR SPACE =  
 WATER COL. BELOW SEAL(ft) X (BORING DIAM. FACTOR - WELL DIAM. FACTOR) X 0.3 = 4.19 GAL. = B  
 $B = 5.01 * (2.95 - 0.163) * 0.3$

SINGLE STANDING WATER VOLUME = A + B = ..... 5.01 GAL. = C

MINIMUM VOLUME TO BE REMOVED = 3 X C ..... 15.03 GALS.

ACTIVITY	START TIME	END TIME	ELAPSED TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP °C	COLOR	Turbidity NTU	Water Depth (TOC) FT
1/17 SURGE 1st volume	1005	1130	85	4.0				brn		dry
1/18 PUMP 1st volume	0935	0935	1	0.5						dry
1/20 PUMP 1st volume	0845	0847	2	0.5	7.10	750	2.0	clear	1.59	
1/21 PUMP 2nd volume	0915	0923	8	0.75				clear		dry
1/23 PUMP 2nd volume	1335	1347	12	1.3						dry
1/25 PUMP 2nd volume	0910	0923	13	1.2				clear		dry
1/26 Check water depth										12.28
1/26 PUMP 2nd volume	0912	0920	8	0.7	7.4	740	4.0	clear	3.16	dry
<b>COMPLETE</b>										
<b>TOTALS/FINAL</b>				8.95				clear	3.16	

**COMMENTS:** 1/17 (1400) depth = 12.90 ft. 1/21 (0913) depth = 12.19 ft., rate = 500 ml/min.  
 1/18 (0905) depth = 12.04 ft. 1/23 (1330) depth = 11.55 ft., rate = 300 ml/min.  
 1/20 (0838) depth = 11.65 ft. 1/25 (0900) depth = 11.75 ft., rate = 300 ml/min.

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS WELL #: MW45-3

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# WELL DEVELOPMENT REPORT

<b>ENGINEERING-SCIENCE, INC.</b>	<b>CLIENT:</b> USACOE	<b>WELL #:</b> MW45-4
<b>PROJECT :</b> 10 SWMU ESI SEAD-45	<b>DATE:</b> 11/12/93	
<b>LOCATION:</b> Seneca Army Depot, Romulus, NY	<b>PROJECT NO.:</b> 720477-01000	

<b>DRILLING METHOD (s):</b> Hollow Stem Auger <b>PUMP METHOD (s):</b> Peristaltic Pump <b>SURGE METHOD (s):</b> Teflon Bailer <b>INSTALLATION DATE:</b> 11/22/93	<b>INSPECTOR:</b> BH <b>CONTRACTOR:</b> <b>CREW:</b> UXB <b>START DEVELOPMENT DATE:</b> 11/12/93 <b>END DEVELOPMENT DATE:</b> 11/12/93
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<b>WATER DEPTH (TOC):</b> 6.64 ft <b>WELL DIA. (ID CASING):</b> 0.167 ft <b>BORING DIAMETER:</b> 0.708 ft	<b>INSTALLED POW DEPTH(TOC):</b> _____ ft <b>MEASURED POW DEPTH(TOC):</b> 9.74 ft <b>SILT THICKNESS:</b> _____ ft <b>POW AFTER DEVELOPMENT:</b> _____ ft
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**DIAMETER FACTORS (GAL/FT):**

DIAMETER (IN):	2	3	4	5	6	7	8	8.5	9	10	11	12
GALLONS/FT:	0.163	0.367	0.654	1.02	1.47	2.00	2.61	2.95	3.30	4.08	4.93	5.87

STANDING VOLUME INSIDE WELL = WATER COLUMN X WELL DIAMETER FACTOR = 0.5 GAL. = A  
 $A = 3.1 * 0.163$

STANDING WATER IN ANNULAR SPACE =  
 WATER COL. BELOW SEAL(ft) X (BORING DIAM. FACTOR - WELL DIAM. FACTOR) X 0.3 = 2.59 GAL. = B  
 $B = 3.1 * (2.95 - 0.163) * 0.3$

SINGLE STANDING WATER VOLUME = A + B = ..... 3.09 GAL. = C

MINIMUM VOLUME TO BE REMOVED = 5 X C ..... 15.45 GALS.  
 = 3 X C ..... 9.27 GALS.

ACTIVITY	START TIME	END TIME	ELAPSED TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP °C	COLOR	Turbidity NTU	Water Depth (TOC) FT
1/12 SURGE 1st volume	1030	1100	30	5.0	7.36	600	4.5	dk brn	NA	7.58
PUMP 2nd volume	1114	1125	16	3.11	7.28	600	5.5	p. clear	31.1	7.80
PUMP 3rd volume	1135	1150	15	4.0	7.37	650	6.0	cloudy	242	7.90
PUMP 4th volume	1153	1203	10	5.0	7.34	650	6.0	clear	26.0	7.80
PUMP 5th volume	1210	1220	10	3.5	7.27	650	6.0	clear	16.1	7.90
PUMP 6th volume	1220	1230	10	4.0	7.35	650	6.0	clear	2.29	7.80
COMPLETE										
<b>TOTALS/FINAL</b>				24.6				clear	2.29	

**COMMENTS:** 1/12 Well is very silty; probe is covered with mud. Bailed first volume. At 2.5 gallons, NTU = 326. SECOND volume flow rate = 575 ml/min, well maintained level. 3rd through 6th volume, rate = 1 L/min. FOURTH volume : clears after 2.5 gals.

SEE MASTER ACRONYM LIST FOR COMPLETE LISTING OF ABBREVIATIONS WELL #: MW45-4





## **APPENDIX E**

### **ANALYTICAL RESULTS**

- **SWMU-4**
- **SWMU-16**
- **SWMU-17**
- **SWMU-24**
- **SWMU-25**
- **SWMU-26**
- **SWMU-45**
- **QC Rinsates and Trip Blanks**

## **Data Qualifiers**

## DATA QUALIFIERS

- U - The analyte was not detected.
- UJ - The analyte was not detected; however, the associated reporting limit is approximate.
- J - The analyte was positively identified; however, QC results indicate that the reported concentration may not be accurate and is therefore an estimate.
- R - The analyte was rejected due to laboratory QC deficiencies, sample preservation problems, or holding time exceedance. The presence or absence of the analyte cannot be determined.

The following refer particularly to PCBs:

- UN - The analyte was unidentified. Peaks were found, but the laboratory was unable to identify the specific analyte. Therefore, the concentration was totalled under the analyte labeled with NJ.
- NJ - The analyte was tentatively identified.

**SEAD-4**

















SENECA ARMY DEPOT  
 SEAD-4 EXPANDED SITE INSPECTION  
 SOIL ANALYSIS RESULTS

MATRIX LOCATION DEPTH (FEET) SAMPLE DATE ES ID LAB ID UNITS	SOIL SEAD-4 4-6 12/05/93 SB4-4.2RE 206145	SOIL SEAD-4 6-8 12/05/93 SB4-4.3 206147	SOIL SEAD-4 8-8 12/05/93 SB4-4.3RE 206147	SOIL SEAD-4 0-2 12/05/93 SB4-5.1 206149	SOIL SEAD-4 0-2 12/05/93 SB4-5.1RE 206149	SOIL SEAD-4 2-4 12/05/93 SB4-5.2 206150	SOIL SEAD-4 2-4 12/05/93 SB4-5.2RE 206150	SOIL SEAD-4 2-4 12/05/93 SB4-5.2RE 206150	SOIL SEAD-4 0-2 12/05/93 SB4-6.1 206270
ND	11 U	11 U	NS	11 U	NS	11 U	NS	NS	13 U
	ug/Kg	ug/Kg	NS	NS	NS	NS	NS	NS	NS
	11 U	11 U	NS	NS	NS	NS	NS	NS	13 U
	ug/Kg	ug/Kg	NS	NS	NS	NS	NS	NS	NS
	11 U	11 U	NS	NS	NS	NS	NS	NS	13 U
	ug/Kg	ug/Kg	NS	NS	NS	NS	NS	NS	NS
	11 U	11 U	NS	NS	NS	NS	NS	NS	13 U
	ug/Kg	ug/Kg	NS	NS	NS	NS	NS	NS	NS
	11 U	11 U	NS	NS	NS	NS	NS	NS	13 U
	ug/Kg	ug/Kg	NS	NS	NS	NS	NS	NS	NS
	11 U	11 U	NS	NS	NS	NS	NS	NS	13 U
	ug/Kg	ug/Kg	NS	NS	NS	NS	NS	NS	NS
	11 U	11 U	NS	NS	NS	NS	NS	NS	13 U
	ug/Kg	ug/Kg	NS	NS	NS	NS	NS	NS	NS
	11 U	11 U	NS	NS	NS	NS	NS	NS	13 U
	ug/Kg	ug/Kg	NS	NS	NS	NS	NS	NS	NS
	11 U	11 U	NS	NS	NS	NS	NS	NS	13 U
	ug/Kg	ug/Kg	NS	NS	NS	NS	NS	NS	NS
	11 U	11 U	NS	NS	NS	NS	NS	NS	13 U
	ug/Kg	ug/Kg	NS	NS	NS	NS	NS	NS	NS
	11 U	11 U	NS	NS	NS	NS	NS	NS	13 U
	ug/Kg	ug/Kg	NS	NS	NS	NS	NS	NS	NS
	11 U	11 U	NS	NS	NS	NS	NS	NS	13 U
	ug/Kg	ug/Kg	NS	NS	NS	NS	NS	NS	NS
	11 U	11 U	NS	NS	NS	NS	NS	NS	13 U
	ug/Kg	ug/Kg	NS	NS	NS	NS	NS	NS	NS
	11 U	11 U	NS	NS	NS	NS	NS	NS	13 U
	ug/Kg	ug/Kg	NS	NS	NS	NS	NS	NS	NS
	NS	NS	NS	NS	NS	NS	NS	NS	NS
	54 U	55 U	NS	59 U	NS	56 U	NS	NS	67 U
	ug/Kg	ug/Kg	NS	ug/Kg	NS	ug/Kg	NS	NS	ug/Kg
	54 U	55 U	NS	59 U	NS	58 U	NS	NS	67 U
	ug/Kg	ug/Kg	NS	ug/Kg	NS	ug/Kg	NS	NS	ug/Kg
	5.4 U	5.5 U	NS	5.9 U	NS	5.6 U	NS	NS	6.7 U
	ug/Kg	ug/Kg	NS	ug/Kg	NS	ug/Kg	NS	NS	ug/Kg
	130 U	140 U	NS	150 U	NS	140 U	NS	NS	160 U
	ug/Kg	ug/Kg	NS	ug/Kg	NS	ug/Kg	NS	NS	ug/Kg
	5.4 U	5.5 U	NS	5.9 U	NS	5.8 U	NS	NS	6.7 U
	ug/Kg	ug/Kg	NS	ug/Kg	NS	ug/Kg	NS	NS	ug/Kg
	54 U	54 U	NS	59 U	NS	58 U	NS	NS	67 U
	ug/Kg	ug/Kg	NS	ug/Kg	NS	ug/Kg	NS	NS	ug/Kg
	27 U	28 U	NS	30 U	NS	29 U	NS	NS	34 U
	ug/Kg	ug/Kg	NS	ug/Kg	NS	ug/Kg	NS	NS	ug/Kg
	5400 U	5500 U	NS	5900 U	NS	5600 U	NS	NS	6700 U
	ug/Kg	ug/Kg	NS	ug/Kg	NS	ug/Kg	NS	NS	ug/Kg
	5400 U	5500 U	NS	5900 U	NS	5600 U	NS	NS	6700 U
	ug/Kg	ug/Kg	NS	ug/Kg	NS	ug/Kg	NS	NS	ug/Kg
	130 U	130 U	NS	130 U	NS	130 U	NS	NS	130 U
	ug/Kg	ug/Kg	NS	ug/Kg	NS	ug/Kg	NS	NS	ug/Kg
	130 U	130 U	NS	130 U	NS	130 U	NS	NS	130 U
	ug/Kg	ug/Kg	NS	ug/Kg	NS	ug/Kg	NS	NS	ug/Kg
	130 U	130 U	NS	130 U	NS	130 U	NS	NS	130 U
	ug/Kg	ug/Kg	NS	ug/Kg	NS	ug/Kg	NS	NS	ug/Kg
	130 U	130 U	NS	130 U	NS	130 U	NS	NS	130 U
	ug/Kg	ug/Kg	NS	ug/Kg	NS	ug/Kg	NS	NS	ug/Kg
	130 U	130 U	NS	130 U	NS	130 U	NS	NS	130 U
	ug/Kg	ug/Kg	NS	ug/Kg	NS	ug/Kg	NS	NS	ug/Kg
	130 U	130 U	NS	130 U	NS	130 U	NS	NS	130 U
	ug/Kg	ug/Kg	NS	ug/Kg	NS	ug/Kg	NS	NS	ug/Kg
	130 U	130 U	NS	130 U	NS	130 U	NS	NS	130 U
	ug/Kg	ug/Kg	NS	ug/Kg	NS	ug/Kg	NS	NS	ug/Kg
	130 U	130 U	NS	130 U	NS	130 U	NS	NS	130 U

trichloroethene  
 trichloroethene



**SENECA ARMY DEPOT  
SEAD-4 EXPANDED SITE INSPECTION  
SOIL ANALYSIS RESULTS**

MATRIX LOCATION DEPTH (FEET) SAMPLE DATE ES ID LAB ID UNITS	SOIL SEAD-4 4-6 12/05/93 SB4-4.2 206145	SOIL SEAD-4 4-8 12/05/93 SB4-4.3 206147	SOIL SEAD-4 0-2 12/05/93 SB4-5.1 206149	SOIL SEAD-4 2-4 12/05/93 SB4-5.2 206150	SOIL SEAD-4 2-4 12/05/93 SB4-5.2RE 206150	SOIL SEAD-4 0-2 12/06/93 SB4-6.1 206270
mg/Kg	1.8 U	1.9 U	9.8 U	2 U	2 U	2.3 UJ
mg/Kg	1.8 U	1.9 U	9.8 U	2 U	2 U	2.3 UJ
mg/Kg	1.8 U	1.9 U	9.8 U	2 U	2 U	2.3 UJ
mg/Kg	1.8 U	1.9 U	9.8 U	2 U	2 U	2.3 UJ
mg/Kg	1.8 U	1.9 U	9.8 U	2 U	2 U	2.3 UJ
mg/Kg	1.8 U	1.9 U	9.8 U	2 U	2 U	2.3 UJ
mg/Kg	3.6 U	3.7 U	19 U	3.6 U	3.6 U	4.4 UJ
mg/Kg	3.6 U	3.7 U	19 U	3.6 U	3.6 U	4.4 UJ
mg/Kg	3.6 U	3.7 U	19 U	3.6 U	3.6 U	4.4 UJ
mg/Kg	3.6 U	3.7 U	19 U	3.6 U	3.6 U	4.4 UJ
mg/Kg	3.6 U	3.7 U	19 U	3.6 U	3.6 U	4.4 UJ
mg/Kg	3.6 U	3.7 U	19 U	3.6 U	3.6 U	4.4 UJ
mg/Kg	3.6 U	3.7 U	19 U	3.6 U	3.6 U	4.4 UJ
mg/Kg	3.6 U	3.7 U	19 U	3.6 U	3.6 U	4.4 UJ
mg/Kg	3.6 U	3.7 U	19 U	3.6 U	3.6 U	4.4 UJ
mg/Kg	1.8 U	1.9 U	10 J	2 U	2 U	2.3 UJ
mg/Kg	1.8 U	1.9 U	9.8 U	2 U	2 U	2.3 UJ
mg/Kg	180 U	190 U	980 U	200 U	200 U	230 UJ
mg/Kg	36 U	37 U	190 U	36 U	36 U	44 UJ
mg/Kg	73 U	74 U	390 U	77 U	77 U	89 UJ
mg/Kg	36 U	37 U	190 U	38 U	38 U	44 UJ
mg/Kg	36 U	37 U	190 U	38 U	38 U	44 UJ
mg/Kg	36 U	37 U	190 U	38 U	38 U	44 UJ
mg/Kg	36 U	37 U	190 U	38 U	38 U	44 UJ
mg/Kg	36 U	37 U	190 U	38 U	38 U	44 UJ
mg/Kg	36 U	37 U	190 U	38 U	38 U	44 UJ
mg/Kg	9500	10200	15000	15700	15700	17100
mg/Kg	3.4 UJ	4.4 UJ	8.3 J	3.5 J	3.5 J	4.8 UJ
mg/Kg	4.5	5	3.3	6.9	6.9	7.3
mg/Kg	45.4	50.5	92.7	99.8	99.8	132
mg/Kg	0.37 J	0.36 J	0.65 J	0.65 J	0.65 J	0.96 J
mg/Kg	0.33 U	0.42 U	0.66 J	0.3 U	0.3 U	0.46 U
mg/Kg	63000	61300	42800	55000	55000	3750
mg/Kg	21.8	75.8	23.5	26.5	26.5	25.7
mg/Kg	10.5	9.8 J	12.3	9.5	9.5	12.5
mg/Kg	19.4 J	52.8 J	26.2 J	28.1 J	28.1 J	25.7
mg/Kg	20500	24400	27900	28700	28700	28600
mg/Kg	8.7 J	6.8 J	116	11.8 J	11.8 J	18.8 J
mg/Kg	11700	8390	10200	11800	11800	4560
mg/Kg	543	540	648	436	436	1260
mg/Kg	0.03 J	0.04 U	0.03 J	0.04 U	0.04 U	0.08 J
mg/Kg	24.6	27.2	34.9	32.4	32.4	35.2
mg/Kg	1040	1090	1720	1400	1400	2000
mg/Kg	0.1 UJ	0.23 J	0.32 J	0.45 J	0.45 J	0.86 J
mg/Kg	0.87 U	0.85 U	0.75 U	0.6 U	0.6 U	1 J
mg/Kg	116 J	132 J	90.1 J	108 J	108 J	43.7 U
mg/Kg	0.16 U	0.2 U	0.23 U	0.22 U	0.22 U	0.24 U
mg/Kg	13.1	14.4	23.8	24.4	24.4	29
mg/Kg	61.6	112	236	67.3	67.3	67.4
mg/Kg	0.82 U	0.54 U	0.59 U	0.58 U	0.58 U	0.6 U
mg/Kg	0.03	0.01	0.01	0.14	0.14	0.16
%W/W	92.2	89.9	85.1	86.4	86.4	75.3
mg/Kg	NS	NS	NS	NS	NS	NS
mg/Kg	NS	NS	NS	NS	NS	NS
mg/Kg	NS	NS	NS	NS	NS	NS
standard units	NS	NS	NS	NS	NS	NS







BENECIA ARMY DEPOT  
8EAD-4 EXPANDED SITE INSPECTION  
SOIL ANALYSIS RESULTS

MATRIX LOCATION DEPTH (FEET) SAMPLE DATE ES ID LAB ID UNITS	SOIL SEAD-4 0-2 12/05/93 SBA-7.1 206151	SOIL SEAD-4 4-6 12/05/93 SBA-7.3 206152	SOIL SEAD-4 4-8 12/05/93 SBA-7.3RE 206152	SOIL SEAD-4 6-8 12/05/93 SBA-7.4 206153	SOIL SEAD-4 6-8 12/05/93 SBA-7.4RE 206153	SOIL SEAD-4 0-2 12/05/93 SBA-8.1RE 206154	SOIL SEAD-4 0-2 12/05/93 SBA-8.1RE 206154	SOIL SEAD-4 2-4 12/05/93 SBA-8.2 206155
mg/Kg	14600	11400	8410	13300	16700	NS	NS	NS
mg/Kg	2.9 J	2.9 J	3 J	2.7 LU	4.2 LU	NS	NS	NS
mg/Kg	5.1	3.4	5.7	5.9	5.1	NS	NS	NS
mg/Kg	61.5	77.3	45.4	89.4	116	NS	NS	NS
mg/Kg	0.62 J	0.48 J	0.36 J	0.35	0.72 J	NS	NS	NS
mg/Kg	3636 U	0.27 U	0.28 U	0.27 J	0.41 U	NS	NS	NS
mg/Kg	3660	71600	87500	25200	9320	NS	NS	NS
mg/Kg	23.4	21.4	14	21.4	24.9	NS	NS	R
mg/Kg	12.7	9.1	8.3	11.7	15.3	NS	NS	NS
mg/Kg	27.5 J	21 J	19.5 J	25.6 J	21.6 J	NS	NS	NS
mg/Kg	29400	21800	19100	25900	29700	NS	NS	NS
mg/Kg	16.6 J	8.4 J	16.6 J	19.7 J	10.3 J	NS	NS	NS
mg/Kg	6650	12200	11900	6360	5670	NS	NS	NS
mg/Kg	622	423	383	418	1240	NS	NS	NS
mg/Kg	40.2	0.02 U	0.03 U	0.03 J	0.03 J	NS	NS	NS
mg/Kg	1420	28.3	22.3	31.7	37.3	NS	NS	NS
mg/Kg	0.36 J	1470	1030	1470	2090	NS	NS	NS
mg/Kg	0.79 U	0.11 LU	0.1 UJ	0.42 J	0.53 J	NS	NS	NS
mg/Kg	100 J	0.85 U	0.57 U	0.52 U	0.82 U	NS	NS	NS
mg/Kg	0.13 U	0.19 U	133 J	64.4 J	53.3 J	NS	NS	NS
mg/Kg	23.4	0.18 U	0.17 U	0.19 U	0.26 U	NS	NS	NS
mg/Kg	93.2	16.1	13	22	26.7	NS	NS	NS
mg/Kg	0.5 U	72.1	84	71.7	73.9	NS	NS	NS
mg/Kg		0.51 U	0.51 U	0.57 U	0.56 U	NS	NS	NS
mg/Kg	0.16	0.02	0.01	1	0.36	NS	NS	NS
%W/W	89.9	88.4	81.8	85.8	85.6	NS	NS	NS
mg/Kg	NS	NS	NS	NS	NS	NS	NS	NS
mg/Kg	NS	NS	NS	NS	NS	NS	NS	NS
mg/Kg	NS	NS	NS	NS	NS	NS	NS	NS
standard units	NS	NS	NS	NS	NS	NS	NS	NS

hydrocarbons





SENECA ARMY DEPOT  
BEAD-4 EXPANDED SITE INSPECTION  
SOIL ANALYSIS RESULTS

MATRIX LOCATION DEPTH (FEET) SAMPLE DATE ES ID LAB ID UNITS	SOIL SEAD-4 4-6 12/05/93 SB4-8.3 206158	SOIL SEAD-4 4-6 12/05/93 SB4-8.1RE 206157	SOIL SEAD-4 0-2 12/05/93 SB4-9.1 206157	SOIL SEAD-4 0-2 12/05/93 SB4-9.2RE 206158	SOIL SEAD-4 2-4 12/05/93 SB4-9.2RE 206158	SOIL SEAD-4 4-6 12/05/93 SB4-9.3RE 206159	SOIL SEAD-4 0-2 12/05/93 SB4-10.1 206272
	1.9 U	2 U	2.1 U	2.1 U	NS	1.8 U	2 U
	mg/Kg	NS	NS	NS	NS	NS	NS
	2.5 U	3.7 J	4.1 U	4 U	NS	3.8 U	2 U
	mg/Kg	NS	NS	NS	NS	NS	NS
	4.9	4.5	6.5	4 U	NS	3.9 U	2 U
	mg/Kg	NS	NS	NS	NS	NS	NS
	63.5	84.1	102	4 U	NS	3.9 U	2 U
	mg/Kg	NS	NS	NS	NS	NS	NS
	0.37 J	0.75 J	0.87	4 U	NS	3.5 U	2 U
	mg/Kg	NS	NS	NS	NS	NS	NS
	0.24 U	0.35 U	0.4 U	4 U	NS	3.5 U	2 U
	mg/Kg	NS	NS	NS	NS	NS	NS
	77000	3680	2770	21 U	NS	18 U	20 U
	mg/Kg	NS	NS	NS	NS	NS	NS
	14.1	17.6	33.2	4 U	NS	3.5 U	3.9 U
	mg/Kg	NS	NS	NS	NS	NS	NS
	7.9	9	17.3	4 U	NS	3.5 U	3.9 U
	mg/Kg	NS	NS	NS	NS	NS	NS
	21.1 J	13.1 J	24.9 J	2.1 U	NS	1.8 U	2 U
	mg/Kg	NS	NS	NS	NS	NS	NS
	18500	20500	39000	210 U	NS	180 U	200 U
	mg/Kg	NS	NS	NS	NS	NS	NS
	44.2	26.4 J	12.2 J	40 U	NS	35 U	39 U
	mg/Kg	NS	NS	NS	NS	NS	NS
	17700	3090	7870	82 U	NS	71 U	79 U
	mg/Kg	NS	NS	NS	NS	NS	NS
	420	784	633	40 U	NS	35 U	39 U
	mg/Kg	NS	NS	NS	NS	NS	NS
	0.01 U	0.07 J	0.03 U	40 U	NS	35 U	39 U
	mg/Kg	NS	NS	NS	NS	NS	NS
	23.1	16.3	57.1	40 U	NS	35 U	39 U
	mg/Kg	NS	NS	NS	NS	NS	NS
	1380	1020	1800	40 U	NS	35 U	39 U
	mg/Kg	NS	NS	NS	NS	NS	NS
	0.22 J	0.47 J	0.79 U	40 U	NS	35 U	39 U
	mg/Kg	NS	NS	NS	NS	NS	NS
	0.48 U	0.7 U	44.1 J	40 U	NS	35 U	39 U
	mg/Kg	NS	NS	NS	NS	NS	NS
	134 J	0.23 U	0.21 U	40 U	NS	35 U	39 U
	mg/Kg	NS	NS	NS	NS	NS	NS
	0.14 U	22.6	28.4	40 U	NS	35 U	39 U
	mg/Kg	NS	NS	NS	NS	NS	NS
	14.8	56.6	93.6	40 U	NS	35 U	39 U
	mg/Kg	NS	NS	NS	NS	NS	NS
	0.52 U	0.56 U	0.59 U	40 U	NS	35 U	39 U
	mg/Kg	NS	NS	NS	NS	NS	NS
	0.04	0.86	0.44	0.02	NS	0.02	0.13
Hydrogen	%W/W	89.1	81.6	92.9	NS	64.6	64.6
Hydrocarbons	mg/Kg	NS	NS	NS	NS	NS	NS
	standard Units	NS	NS	NS	NS	NS	NS

Hydrogen  
Hydrocarbons

BENECA ARMY DEPOT  
 SEAD-4 EXPANDED SITE INSPECTION  
 SOIL ANALYSIS RESULTS

MATRIX LOCATION DEPTH (FEET) SAMPLE DATE	SEAD-4 ES ID LAB ID UNITS	SOIL SEAD-4 TP4-1 204020- 204022	SOIL SEAD-4 TP4-2 204023- 204025	SOIL SEAD-4 TP4-3 206190	SOIL SEAD-4 TP4-4 206191	SOIL SEAD-4 TP4-5 206192	SOIL SEAD-4 TP4-6 206276	SOIL SEAD-4 TP4-7 206193	SOIL SEAD-4 TP4-8 206194
	ug/Kg	11 U	11 U	11 U	12 U	11 U	11 U	11 U	12 U
	ug/Kg	11 U	11 U	11 U	12 U	11 U	11 U	11 U	12 U
	ug/Kg	11 U	11 U	11 U	12 U	11 U	11 U	11 U	12 U
	ug/Kg	11 U	11 U	11 U	12 U	11 U	11 U	11 U	12 U
	ug/Kg	11 U	11 U	11 U	13 U	11 U	11 U	11 U	12 U
	ug/Kg	11 U	11 U	11 U	12 U	11 U	11 U	11 U	12 U
	ug/Kg	11 U	11 U	11 U	12 U	11 U	11 U	11 U	12 U
	ug/Kg	11 U	11 U	11 U	12 U	11 U	11 U	11 U	12 U
	ug/Kg	11 U	11 U	11 U	12 U	11 U	11 U	11 U	12 U
	ug/Kg	11 U	11 U	11 U	12 U	11 U	11 U	11 U	12 U
	ug/Kg	11 U	11 U	11 U	12 U	11 U	11 U	11 U	12 U
	ug/Kg	11 U	11 U	11 U	15	11 U	11 U	11 U	12 U
	ug/Kg	11 U	11 U	11 U	12 U	11 U	11 U	11 U	12 U
	ug/Kg	11 U	11 U	11 U	12 U	11 U	11 U	11 U	12 U
	ug/Kg	11 U	11 U	11 U	12 U	11 U	11 U	11 U	12 U
	ug/Kg	11 U	11 U	11 U	12 U	11 U	11 U	11 U	12 U
	ug/Kg	11 U	11 U	11 U	12 U	11 U	11 U	11 U	12 U
	ug/Kg	11 U	11 U	11 U	12 U	11 U	11 U	11 U	12 U
	ug/Kg	11 U	11 U	11 U	12 U	11 U	11 U	11 U	12 U
	ug/Kg	11 U	11 U	11 U	12 U	11 U	11 U	11 U	12 U
	ug/Kg	11 U	11 U	11 U	12 U	11 U	11 U	11 U	12 U
	ug/Kg	11 U	11 U	11 U	12 U	11 U	11 U	11 U	12 U
	ug/Kg	11 U	11 U	11 U	12 U	11 U	11 U	11 U	12 U
	ug/Kg	11 U	11 U	11 U	12 U	11 U	11 U	11 U	12 U
	ug/Kg	11 U	11 U	11 U	12 U	11 U	11 U	11 U	12 U
	ug/Kg	11 U	11 U	11 U	12 U	11 U	11 U	11 U	12 U
	ug/Kg	11 U	11 U	11 U	12 U	11 U	11 U	11 U	12 U
	ug/Kg	11 U	NS	NS	NS	NS	NS	NS	NS
	ug/Kg	54 U	56 U	59 U	56 U	56 U	55 U	56 U	60 U
	ug/Kg	54 U	56 U	59 U	59 U	56 U	55 U	56 U	60 U
	ug/Kg	5.4 U	5.6 U	5.9 U	5.9 U	5.6 U	5.5 U	5.6 U	6 U
	ug/Kg	130 U	140 U	140 U	140 U	140 U	140 U	140 U	150 U
	ug/Kg	5.4 U	5.6 U	5.9 U	5.9 U	5.6 U	5.5 U	5.6 U	6 U
	ug/Kg	27 U	29 U	29 U	29 U	26 U	28 U	26 U	30 U
	ug/Kg	5700 U	5700 U	5900 U	5900 U	5600 U	5500 U	5600 U	6000 U
	ug/Kg	5400 U	5600 U	5900 U	5900 U	5600 U	5500 U	5600 U	6000 U
	ug/Kg	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U
	ug/Kg	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U
	ug/Kg	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U
	ug/Kg	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U
	ug/Kg	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U
	ug/Kg	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U
	ug/Kg	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U
	ug/Kg	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U
	ug/Kg	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U
	ug/Kg	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U
	ug/Kg	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U

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SENECA ARMY DEPOT  
 READ-4 EXPANDED SITE INSPECTION  
 SOIL ANALYSIS RESULTS

MATRIX LOCATION DEPTH (FEET) SAMPLE DATE ES ID LAB ID UNITS	SOIL SEAD-4 4-6 12/06/93 SB4-10.3 206274	SOIL SEAD-4 3 11/10/93 TP4-1 204020-204022	SOIL SEAD-4 4 12/05/93 TP4-3 206180	SOIL SEAD-4 4 12/05/93 TP4-5 206192	SOIL SEAD-4 6 12/05/93 TP4-6 206276	SOIL SEAD-4 5 12/05/93 TP4-7 206193	SOIL SEAD-4 3 12/05/93 TP4-8 206194
DUNDB	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
GANICS	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
ether	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
ane	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
ene	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
ane	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
oropropane)	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
propylamine	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
d	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
yl methane	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
di	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
trazene	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
ane	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
ylphenol	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
ene	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
radiene	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
ncol	860 U	890 U	930 U	930 U	890 U	920 LU	940 U
ncol	860 U	890 U	930 U	930 U	890 U	920 LU	940 U
ane	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
phenyl ether	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
phenyl ether	860 U	890 U	930 U	930 U	890 U	920 LU	940 U
ethylphenol	860 U	890 U	930 U	930 U	890 U	920 LU	940 U
lamine	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
phenyl ether	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
	860 U	890 U	930 U	930 U	890 U	920 LU	940 U
	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
ate	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
	63 J	33 J	380 U	380 U	370 U	380 LU	390 U
ate	350 J	19 J	380 U	380 U	370 U	380 LU	390 U
ate	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
idne	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
ne	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
tritalate	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
ate	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
ene	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
ene	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
ylene	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
cene	350 U	370 U	380 U	380 U	370 U	380 LU	390 U
ene	350 U	370 U	380 U	380 U	370 U	380 LU	390 U

SENECA ARMY DEPOT  
SEAD-4 EXPANDED SITE INSPECTION  
SOIL ANALYSIS RESULTS

MATRIX LOCATION DEPTH (FEET) SAMPLE DATE ES ID LAB ID UNITS	SOIL SEAD-4 4-6 12/06/93 S84-10.3 206274	SOIL SEAD-4 3 11/10/93 TP4-1 204020- 204022	SOIL SEAD-4 3 11/10/93 TP4-2 204023- 204025	SOIL SEAD-4 4 12/05/93 TP4-3 206190	SOIL SEAD-4 4 12/05/93 TP4-4 206191	SOIL SEAD-4 4 12/05/93 TP4-5 206192	SOIL SEAD-4 6 12/05/93 TP4-6 206276	SOIL SEAD-4 5 12/05/93 TP4-7 206193	SOIL SEAD-4 3 12/05/93 TP4-8 206194
mg/Kg	18200	1900	1900	2000	2000	2000	2000	2000	2000
mg/Kg	11.1 U	1.9 U	1.9 U	2 U	2 U	2 U	1.9 U	2 U	2 U
mg/Kg	40.9 J	1.8 U	1.8 U	2 U	2 U	2 U	1.9 U	2 U	2 U
mg/Kg	8.4	1.8 U	1.8 U	2 U	2 U	2 U	1.9 U	2 U	2 U
mg/Kg	54.3	1.8 U	1.8 U	2 U	2 U	2 U	1.9 U	2 U	2 U
mg/Kg	0.83	1.8 U	1.8 U	2 U	2 U	2 U	1.9 U	2 U	2 U
mg/Kg	0.34 U	1.8 U	1.8 U	2 U	2 U	2 U	1.9 U	2 U	2 U
mg/Kg	2140	1.8 U	1.8 U	2 U	2 U	2 U	1.9 U	2 U	2 U
mg/Kg	2470	1.8 U	1.8 U	2 U	2 U	2 U	1.9 U	2 U	2 U
mg/Kg	14.7	3.7 U	3.7 U	3.8 U	3.8 U	3.8 U	3.7 U	3.8 U	3.9 U
mg/Kg	2030	3.7 U	3.7 U	3.8 U	3.8 U	3.8 U	3.7 U	3.8 U	3.9 U
mg/Kg	35100	3.7 U	3.7 U	3.8 U	3.8 U	3.8 U	3.7 U	3.8 U	3.9 U
mg/Kg	7530	3.7 U	3.7 U	3.8 U	3.8 U	3.8 U	3.7 U	3.8 U	3.9 U
mg/Kg	287	3.7 U	3.7 U	3.8 U	3.8 U	3.8 U	3.7 U	3.8 U	3.9 U
mg/Kg	0.02 J	3.7 U	3.7 U	3.8 U	3.8 U	3.8 U	3.7 U	3.8 U	3.9 U
mg/Kg	49.8	3.7 U	3.7 U	3.8 U	3.8 U	3.8 U	3.7 U	3.8 U	3.9 U
mg/Kg	1320	3.7 U	3.7 U	3.8 U	3.8 U	3.8 U	3.7 U	3.8 U	3.9 U
mg/Kg	0.21 J	3.7 U	3.7 U	3.8 U	3.8 U	3.8 U	3.7 U	3.8 U	3.9 U
mg/Kg	0.92 J	3.7 U	3.7 U	3.8 U	3.8 U	3.8 U	3.7 U	3.8 U	3.9 U
mg/Kg	57.6 J	3.7 U	3.7 U	3.8 U	3.8 U	3.8 U	3.7 U	3.8 U	3.9 U
mg/Kg	0.24 U	3.7 U	3.7 U	3.8 U	3.8 U	3.8 U	3.7 U	3.8 U	3.9 U
mg/Kg	25.1	3.7 U	3.7 U	3.8 U	3.8 U	3.8 U	3.7 U	3.8 U	3.9 U
mg/Kg	440	3.7 U	3.7 U	3.8 U	3.8 U	3.8 U	3.7 U	3.8 U	3.9 U
mg/Kg	0.52 U	3.7 U	3.7 U	3.8 U	3.8 U	3.8 U	3.7 U	3.8 U	3.9 U
mg/Kg	0.02	3.3	1.2	0.1	0.12	0.12	0.02	0.16	0.89
%W/W	95.9	88.3	89	86.4	85.9	85.9	89.8	87.3	84
mg/Kg	NS	NS	NS	NS	NS	NS	NS	NS	NS
mg/Kg	NS	NS	NS	NS	NS	NS	NS	NS	NS
mg/Kg	NS	NS	NS	NS	NS	NS	NS	NS	NS
standard units									

Gen  
hydrocarbons







BENECA ARMY DEPOT  
SEAD-4 EXPANDED SITE INSPECTION  
GROUNDWATER ANALYSIS RESULTS

MATRIX LOCATION	WATER SEAD-4	WATER SEAD-4	WATER SEAD-4	WATER SEAD-4	WATER SEAD-4	WATER SEAD-4
SAMPLE DATE	01/21/94	02/04/94	01/20/94	02/01/94	01/20/94	02/01/94
ES ID	MW4-1	MW4-2	MW4-3	MW4-3RE	MW4-4	MW4-5
LAB ID	209252	210478	209091	209091	210061	209092,
UNITS						209943
ug/L	0.054 U	0.064 LU	0.052 U	NS	0.062 U	0.058 LU
ug/L	0.054 U	0.064 LU	0.052 U	NS	0.062 U	0.058 LU
ug/L	0.054 U	0.064 LU	0.052 U	NS	0.062 U	0.058 LU
ug/L	0.054 U	0.064 LU	0.052 U	NS	0.062 U	0.058 LU
ug/L	0.054 U	0.064 LU	0.052 U	NS	0.062 U	0.058 LU
ug/L	0.054 U	0.064 LU	0.052 U	NS	0.062 U	0.058 LU
ug/L	0.11 U	0.13 LU	0.1 U	NS	0.12 U	0.12 LU
ug/L	0.11 U	0.13 LU	0.1 U	NS	0.12 U	0.12 LU
ug/L	0.11 U	0.13 LU	0.1 U	NS	0.12 U	0.12 LU
ug/L	0.11 U	0.13 LU	0.1 U	NS	0.12 U	0.12 LU
ug/L	0.11 U	0.13 LU	0.1 U	NS	0.12 U	0.12 LU
ug/L	0.54 U	0.84 LU	0.52 U	NS	0.62 U	0.58 LU
ug/L	0.11 U	0.13 LU	0.1 U	NS	0.12 U	0.12 LU
ug/L	0.054 U	0.064 LU	0.052 U	NS	0.062 U	0.058 LU
ug/L	0.054 U	0.064 LU	0.052 U	NS	0.062 U	0.058 LU
ug/L	5.4 U	6.4 LU	5.2 U	NS	6.2 U	5.8 LU
ug/L	1.1 U	1.3 LU	1 U	NS	1.2 U	1.2 LU
ug/L	2.2 U	2.5 LU	2.1 U	NS	2.5 U	2.3 LU
ug/L	1.1 U	1.3 LU	1 U	NS	1.2 U	1.2 LU
ug/L	1.1 U	1.3 LU	1 U	NS	1.2 U	1.2 LU
ug/L	1.1 U	1.3 LU	1 U	NS	1.2 U	1.2 LU
ug/L	1.1 U	1.3 LU	1 U	NS	1.2 U	1.2 LU
ug/L	41.8 U	435	725	NS	1240	108 J
ug/L	21.8 U	39.3 J	21.4 U	NS	33.8 J	21.4 U
ug/L	2.2 J	1.4 U	1 J	NS	1.4 U	0.8 U
ug/L	19.8 J	19.3 J	42.7 J	NS	46.7 J	36.1 J
ug/L	0.4 U	0.4 U	0.3	NS	0.4 U	0.4 U
ug/L	2.1 U	2.1 U	5.8	NS	2.1 U	2.1 U
ug/L	137000	66300	122000	NS	123000	147000
ug/L	2.6 U	2.6 U	5.6 J	NS	21.3	2.6 U
ug/L	4.6 J	4.4 U	8.2 J	NS	4.4 U	5.2 J
ug/L	3.1 U	3.1 U	6.6 J	NS	37.6	3.1 U
ug/L	332	471	745	NS	2270	143
ug/L	0.5 U	1.9 J	0.56 J	NS	2.2 J	0.5 U
ug/L	57600	10100	32800	NS	19100	31000
ug/L	346	80.5	229	NS	263	477
ug/L	0.04 U	0.04 U	0.04 J	NS	0.04 U	0.04 J
ug/L	4 U	4 U	4.4 J	NS	6.4 J	4 U
ug/L	7380	1840 J	5250	NS	4540 J	7320
ug/L	2.1 J	0.7 U	1.4 J	NS	0.7 U	0.9 J
ug/L	4.2 U	4.2 U	6.7 J	NS	4.2 U	4.2 U
ug/L	11700	12400	31100	NS	11200	14100
ug/L	1.2 U	1.2 U	1.2 U	NS	1.2 U	1.2 U
ug/L	3.7 U	3.7 U	7.7 J	NS	4.9 J	3.7 U
ug/L	19.1 J	15.2 J	17.7 J	NS	95	42.6
ug/L	5 U	5 U	5 U	NS	5 U	5 U
mg/L	0.12	0.23	0.25	NS	0.11	0.07
mg/L	NS	NS	NS	NS	NS	NS
mg/L	NS	NS	NS	NS	NS	NS
standard units	7.2	7.46	7.46	NS	7.76	7.57
umhos/cm	600	228	550	NS	400	480
NTU	3.1	72.7	12.4	NS	6.2	1.1





BENECA ARMY DEPOT  
SEAD-4 EXPANDED SITE INSPECTION  
SURFACE WATER ANALYSIS RESULTS

MATRIX LOCATION	WATER	WATER	WATER	WATER
SAMPLE DATE	SEAD-4	SEAD-4	SEAD-4	SEAD-4
ES ID	SW4-1	SW4-3	SW4-2	SW4-4
LAB ID	203210	203213	203212	206098
UNITS		SW4-1DUP		
ug/L	0.052 U	0.05 U	0.052 U	0.052 U
ug/L	0.052 U	0.05 U	0.052 U	0.052 U
ug/L	0.052 U	0.05 U	0.052 U	0.052 U
ug/L	0.052 U	0.05 U	0.052 U	0.052 U
ug/L	0.052 U	0.05 U	0.052 U	0.052 U
ug/L	0.052 U	0.05 U	0.052 U	0.052 U
ug/L	0.1 U	0.1 U	0.1 U	0.1 U
ug/L	0.1 U	0.1 U	0.1 U	0.1 U
ug/L	0.1 U	0.1 U	0.1 U	0.1 U
ug/L	0.1 U	0.1 U	0.1 U	0.1 U
ug/L	0.1 U	0.1 U	0.1 U	0.1 U
ug/L	0.1 U	0.1 U	0.1 U	0.1 U
ug/L	0.52 U	0.5 U	0.52 U	0.52 U
ug/L	0.1 U	0.1 U	0.1 U	0.1 U
ug/L	0.052 U	0.05 U	0.052 U	0.052 U
ug/L	0.052 U	0.05 U	0.052 U	0.052 U
ug/L	5.2 U	5 U	5.2 U	5.2 U
ug/L	1 U	1 U	1 U	1 U
ug/L	2.1 U	2 U	2.1 U	2.1 U
ug/L	1 U	1 U	1 U	1 U
ug/L	1 U	1 U	1 U	1 U
ug/L	1 U	1 U	1 U	1 U
ug/L	1 U	1 U	1 U	1 U
ug/L	1 U	1 U	1 U	1 U
ug/L	237	194 J	314	428 J
ug/L	52.8 U	52.4 U	52.4 U	21.8 U
ug/L	1.2 U	1.2 U	1.2 U	0.8 U
ug/L	21.3 J	21.5 J	24.9 J	49.6 J
ug/L	0.3 U	0.3 U	0.3 U	0.4 U
ug/L	3.3 U	3.3 U	3.3 U	2.1 U
ug/L	45800	48900	51200	115000
ug/L	19.2	19.7	44.8	2.6 U
ug/L	4.9 U	4.9 U	4.9 U	4.4 U
ug/L	47.3	50.8	88.8	6 J
ug/L	443 J	349 J	630 J	657
ug/L	0.79 UJ	10.7 J	3.1	5.7
ug/L	105U	10700	10800	21100
ug/L	28.1	25	45.6	1.6 J
ug/L	0.07 U	0.07 U	0.07 U	0.04 U
ug/L	4.1 U	4.1 U	4.1 U	4 U
ug/L	1680 J	1630 J	1720 J	1170 J
ug/L	1.1 U	1.1 U	1.1 U	0.7 U
ug/L	6.7 UJ	6.6 UJ	6.6 UJ	4.2 U
ug/L	12800	13300	13200	21700
ug/L	1.2 U	1.2 U	1.2 U	2.4 J
ug/L	3.3 U	3.3 U	3.3 U	3.7 U
ug/L	10.7 J	9.2 J	20.3	4 J
ug/L	8.3 U	8.3 U	8.3 U	5 U
mg/L	0.03	0.02	0.03	0.33
mg/L	NS	NS	NS	NS
mg/L	NS	NS	NS	NS
standard units	7.54	7.54	7.92	7.75
umhos/cm	220	220	290	485
NTU	NS	NS	NS	NS

Open hydrocarbons  
Specific Gravity





**SEAD-16**







BENECIA ARMY DEPOT  
SEAD-16 EXPANDED SITE INSPECTION  
SOIL ANALYSIS RESULTS

MATRIX LOCATION DEPTH (FEET) SAMPLE DATE ES ID LAB ID UNITS	SOIL SEAD-16 0-0.2 10/20/93 SS16-1 201880	SOIL SEAD-16 0-0.2 10/20/93 SS16-2 201881	SOIL SEAD-16 0-0.2 10/20/93 SS16-3 202032	SOIL SEAD-16 0-0.2 10/20/93 SS16-4 201882	SOIL SEAD-16 0-0.2 10/20/93 SS16-5 201883	SOIL SEAD-16 0-0.2 10/20/93 SS16-6 201884	SOIL SEAD-16 0-0.2 10/20/93 SS16-7 201885	SOIL SEAD-16 0-0.2 10/20/93 SS16-8 201886	SOIL SEAD-16 0-0.2 10/20/93 SS16-9 204033
µg/Kg	1.8 UU	2.1 U	2 UU	19 U	9.7 U	1.8 UU	1.8 U	3.6 U	1.8 UU
µg/Kg	1.8 UU	2.1 U	1.3 J	19 U	9.7 U	1.8 UU	1.8 U	3.6 U	1.8 UU
µg/Kg	1.8 UU	2.1 U	2 UU	19 U	9.7 U	1.8 UU	1.8 U	3.6 U	1.8 UU
µg/Kg	1.8 UU	2.1 U	2 UU	19 U	9.7 U	1.8 UU	1.8 U	3.6 U	1.6 UU
µg/Kg	1.8 UU	2.1 U	2 UU	19 U	9.7 U	1.8 UU	1.8 U	3.5 U	1.8 UU
µg/Kg	1.8 UU	2.1 U	2.8 J	19 U	9.7 U	1.8 UU	1.8 U	3.6 U	1.8 UU
µg/Kg	1.8 UU	2.1 U	2 UU	19 U	9.7 U	1.8 UU	1.8 U	3.6 U	1.8 UU
µg/Kg	1.8 UU	2.1 U	2 UU	19 U	6.2 J	1.8 UU	1.8 U	1.9 J	1.8 UU
µg/Kg	3.5 UU	4.1 U	3.9 UU	36 U	19 U	3.5 UU	3.5 U	7 U	3.5 UU
µg/Kg	19 J	9.4 J	32 J	1400	130	6.3	6.3	84 J	2.8 J
µg/Kg	3.5 UU	4.1 U	3.8 UU	36 U	19 U	3.5 UU	3.5 U	7 U	3.5 UU
µg/Kg	4.4 J	4.1 U	4.6 J	36 U	19 U	3.5 UU	2.2 J	7 U	3.5 UU
µg/Kg	5 J	4.1 U	3.9 UU	36 U	19 U	3.5 UU	3.5 U	7 U	3.5 UU
µg/Kg	3.5 UU	4.1 U	3.8 UU	36 U	19 U	3.5 UU	3.5 U	7 U	3.5 UU
µg/Kg	12 J	8.1 J	18 J	180	29	1.8 J	5.6	79 J	2.9 J
µg/Kg	18 UU	21 U	20 UU	190 U	97 U	18 UU	18 U	38 U	18 UU
µg/Kg	3 J	4.1 U	3.3 J	36 U	19 U	3.5 UU	3.5 U	7 U	3.5 UU
µg/Kg	3.4 J	4.1 U	3.9 UU	36 U	19 U	3.5 UU	3.5 U	7 U	3.5 UU
µg/Kg	1.8 UU	2.1 U	4.7 J	19 U	9.7 U	1.8 UU	6.1	7 U	1.8 UU
µg/Kg	1.8 UU	2.1 U	4.7 J	19 U	9.7 U	1.8 UU	7	3.6 U	1.8 UU
µg/Kg	160 UU	210 U	200 UU	1900 U	970 U	180 UU	160 U	380 U	160 UU
µg/Kg	35 UN	41 U	38 UU	390 U	180 U	35 UU	35 U	70 UN	35 UU
µg/Kg	72 UN	94 U	80 UU	740 U	360 U	71 UU	71 U	140 UN	72 UU
µg/Kg	35 UN	41 U	39 UU	360 U	180 U	35 UU	35 U	70 UN	35 UU
µg/Kg	35 UN	41 U	39 UU	360 U	180 U	35 UU	35 U	70 UN	35 UU
µg/Kg	30 NU	41 U	39 UU	360 U	180 U	35 UU	35 U	70 UN	35 UU
µg/Kg	35 UN	41 U	110 J	360 U	180 U	35 UU	35 U	57 NU	35 UU
mg/Kg	650	6940	7250	11900	13600	9650	8670	7600	10700
mg/Kg	17.1	55.6	121	26.3	27.3	7.9 U	8.8 U	8.2 U	7 U
mg/Kg	4.9	18.6	23.6	11.3	10.8	5.1	5	4.2 J	4.2 J
mg/Kg	102	1200	1540	227	630	45.1	41.2	72.2	53.8
mg/Kg	0.32 J	0.42 J	0.39 J	0.45 J	0.56 J	0.24 J	0.29 J	0.39 J	0.43 J
mg/Kg	0.44 U	1.6	2.5	0.55 U	2.8	0.48 U	0.55 U	0.52 U	0.43 U
mg/Kg	147000	117000	214000	550000	371000	250000	366000	1070000	354000
mg/Kg	12.6	18.5	33.3	24	43.3	12.9	11.9	15.9	17.6
mg/Kg	6.2 J	6.7 J	8.1	11.9	13.4	7.8	7.5 J	8.1	8.2
mg/Kg	44	911	1730	399	635	26.2	28.9	86.9	31.4 J
mg/Kg	12300	25900	25700	27700	36500	22100	20000	16700	22400
mg/Kg	289	3760	9140	2940	2860	81.2	81.2	1890	76.2
mg/Kg	34900	4400	4300	8690	7930	7710	13800	9940	15300
mg/Kg	355 J	176 J	4140	411 J	444 J	305 J	478 J	333 J	349
mg/Kg	0.2	4	11.4 J	0.21	0.99	0.03 U	0.04 U	0.08	0.05 J
mg/Kg	23	21.7	37.3	41.6	146	22.7	21.7	29.3	29.3
mg/Kg	1290	673 J	886	1250	1410	794 J	794 J	1150	1160
mg/Kg	0.15 UU	0.4 J	0.2 UU	0.2 UU	0.22 UU	0.13 UU	0.13 UU	0.21 UU	0.19 UU
mg/Kg	0.8 U	1.5 U	1.1 UU	1.1 U	1 U	1 U	1 U	1 U	0.88 UU
mg/Kg	213 J	121 J	147 J	128 J	132 J	79.6 J	109 J	170 J	125 J
mg/Kg	1.6 U	0.19 U	0.24 U	0.22 U	0.24 U	0.14 U	0.14 U	0.23 U	0.21 UU
mg/Kg	36.9	14.5	17.9	20.3	23.9	36.1	35.7	34.5	22.6
mg/Kg	219	478	929	418	562	65.8	66.1	105	76.8 J
mg/Kg	0.84 U	0.74 U	0.68 U	0.6 U	0.63 U	0.58 U	0.6 U	0.58 U	0.52 U
mg/Kg	0.05	0.9	0.26	0.45	0.5	0.42	0.05	0.23	0.01 U
%W/W	92.9	60.3	84.4	90.6	88.3	94.5	94.2	94.2	92.6
mg/Kg	NS	NS	NS	NS	NS	NS	NS	NS	NS
mg/Kg	NS	NS	NS	NS	NS	NS	NS	NS	NS
mg/Kg	NS	NS	NS	NS	NS	NS	NS	NS	NS
standard units	NS	NS	NS	NS	NS	NS	NS	NS	NS

Open  
hydrocarbons





GENECA ARMY DEPOT  
SEAD-16 EXPANDED SITE INSPECTION  
SOIL ANALYSIS RESULTS

MATRIX LOCATION: DEPTH (FEET) SAMPLE DATE ES ID LAB ID UNITS	SOIL SEAD-16 0-0.2 10/20/93 SS16-11 201889	SOIL SEAD-16 0-0.2 10/20/93 SS16-12 201890	SOIL SEAD-16 0-0.2 10/20/93 SS16-12PE 201890	SOIL SEAD-16 0-0.2 10/20/93 SS16-13 201891	SOIL SEAD-16 0-0.2 10/20/93 SS16-13RE 201891	SOIL SEAD-16 0-0.2 10/20/93 SS16-14 201892	SOIL SEAD-16 0-0.2 10/20/93 SS16-15RE 201893	SOIL SEAD-16 0-0.2 10/20/93 SS16-15RE 201893	SOIL SEAD-16 0-0.2 10/20/93 SS16-16 201894
mg/Kg	2.3 U	1.9 U	NS	NS	NS	3.8 U	1.2 U	NS	3.8 U
mg/Kg	2.3 U	1.9 U	NS	NS	NS	3.8 U	1.8 U	NS	3.8 U
mg/Kg	2.3 U	1.9 U	NS	NS	NS	3.8 U	1.8 U	NS	3.8 U
mg/Kg	2.3 U	1.9 U	NS	NS	NS	3.8 U	1.8 U	NS	3.8 U
mg/Kg	2.3 U	1.9 U	NS	NS	NS	3.8 U	1.8 U	NS	3.8 U
mg/Kg	2.3 U	1.9 U	NS	NS	NS	3.8 U	1.8 U	NS	3.8 U
mg/Kg	2.3 U	1.4 J	NS	NS	NS	3.8 U	0.96 J	NS	3.8 U
mg/Kg	2.3 U	3.6 U	NS	NS	NS	3.8 U	3.5 U	NS	3.8 U
mg/Kg	15 J	6	NS	NS	NS	58	28 J	NS	38
mg/Kg	4.4 U	3.8 U	NS	NS	NS	7.4 U	3.5 U	NS	7.4 U
mg/Kg	4.4 U	3.8 U	NS	NS	NS	7.3 U	3.5 U	NS	7.4 U
mg/Kg	4.4 U	3.8 U	NS	NS	NS	7.3 U	3.5 U	NS	7.4 U
mg/Kg	4.4 U	3.8 U	NS	NS	NS	7.3 U	3.5 U	NS	7.4 U
mg/Kg	6.3 J	5	NS	NS	NS	19	2.1 J	NS	69
mg/Kg	23 U	19 U	NS	NS	NS	38 U	18 U	NS	38 U
mg/Kg	4.4 U	3.8 U	NS	NS	NS	7.3 U	3.5 U	NS	7.4 U
mg/Kg	6.5 J	3.8 U	NS	NS	NS	7.3 U	3.5 U	NS	7.4 U
mg/Kg	2.3 U	1.9 U	NS	NS	NS	4.8	1.8 U	NS	3.8 U
mg/Kg	2.3 U	1.9 U	NS	NS	NS	3.4 J	1.8 U	NS	3.8 U
mg/Kg	230 U	190 U	NS	NS	NS	380 U	180 U	NS	380 U
mg/Kg	44 U	37 U	NS	NS	NS	73 U	35 U	NS	74 U
mg/Kg	89 U	74 U	NS	NS	NS	150 U	72 U	NS	150 U
mg/Kg	44 U	38 U	NS	NS	NS	73 U	35 U	NS	74 U
mg/Kg	44 U	38 U	NS	NS	NS	73 U	35 U	NS	74 U
mg/Kg	44 U	38 U	NS	NS	NS	73 U	35 U	NS	74 U
mg/Kg	44 U	38 U	NS	NS	NS	73 U	35 U	NS	74 U
mg/Kg	110	37 U	NS	NS	NS	73 U	22 J	NS	74 U
mg/Kg	17200	10400	NS	NS	NS	7680	7510	NS	6310
mg/Kg	13.9 U	6.8 U	NS	NS	NS	8.4	6.2 U	NS	9 U
mg/Kg	7.7	5.2	NS	NS	NS	9.8	4.8	NS	3.8
mg/Kg	195	52	NS	NS	NS	211	35.1	NS	56.8
mg/Kg	0.81 J	0.46 J	NS	NS	NS	0.41 J	0.34 J	NS	0.37 J
mg/Kg	0.87 U	0.41 U	NS	NS	NS	0.81 J	0.39 U	NS	0.58 U
mg/Kg	9820	30300	NS	NS	NS	178000	26800	NS	135000
mg/Kg	25.5	19.2	NS	NS	NS	14.4	15.6	NS	14.1
mg/Kg	16.7	10.8	NS	NS	NS	6.2	8.1	NS	10.4
mg/Kg	199	54.8	NS	NS	NS	183	42.6	NS	89.2
mg/Kg	30600	22700	NS	NS	NS	18500	17500	NS	11700
mg/Kg	616	195	NS	NS	NS	720	210	NS	643
mg/Kg	5200	5830	NS	NS	NS	5890	4770	NS	56000
mg/Kg	708 J	329 J	NS	NS	NS	270 J	227 J	NS	310 J
mg/Kg	0.73	0.24	NS	NS	NS	0.07 J	0.05 J	NS	0.04 J
mg/Kg	35.2	39.5	NS	NS	NS	29.4	30.5	NS	28.5
mg/Kg	1600	1080	NS	NS	NS	1100	802	NS	2300
mg/Kg	0.24 LU	0.25 J	NS	NS	NS	0.41 J	0.22 LU	NS	0.21 LU
mg/Kg	1.8 U	0.84 U	NS	NS	NS	0.83 U	0.78 U	NS	1.1 U
mg/Kg	72.2 J	108 U	NS	NS	NS	176 J	90.1	NS	240 U
mg/Kg	0.26 U	0.25 U	NS	NS	NS	0.14 U	0.24 U	NS	0.23 U
mg/Kg	28.8	15	NS	NS	NS	13.4	10.8	NS	81.8
mg/Kg	1270	89	NS	NS	NS	104	68.6	NS	93.6
mg/Kg	0.69 U	0.64 U	NS	NS	NS	0.64 U	0.63 U	NS	0.67 U
mg/Kg	0.23	0.04	NS	NS	NS	0.05	0.04	NS	0.2
%W/W	75	90.9	NS	NS	NS	90.5	93.4	NS	88.9
mg/Kg	NS	NS	NS	NS	NS	NS	NS	NS	NS
mg/Kg	NS	NS	NS	NS	NS	NS	NS	NS	NS
mg/Kg	NS	NS	NS	NS	NS	NS	NS	NS	NS
standard units	NS	NS	NS	NS	NS	NS	NS	NS	NS

gen  
hydrocarbons



























BENECA ARMY DEPOT  
 SEAD-16 EXPANDED SITE INSPECTION  
 STANDING WATER ANALYSIS RESULTS

MATRIX LOCATION	WATER	WATER
SAMPLE DATE	SEAD-16	SEAD-16
ES ID	SW16-1	SW16-2
LAB ID	206187	206188
UNITS		
ug/L	0.056 U	0.052 U
ug/L	0.058 U	0.052 U
ug/L	0.058 U	0.052 U
ug/L	0.058 U	0.052 U
ug/L	0.058 U	0.052 U
ug/L	0.056 U	0.052 U
ug/L	0.056 U	0.052 U
ug/L	0.11 U	0.1 U
ug/L	0.11 U	0.1 U
ug/L	0.11 U	0.1 U
ug/L	0.11 U	0.1 U
ug/L	0.11 U	0.1 U
ug/L	0.11 U	0.1 U
ug/L	0.11 U	0.1 U
ug/L	0.58 U	0.52 U
ug/L	0.11 U	0.1 U
ug/L	0.056 U	0.052 U
ug/L	0.056 U	0.052 U
ug/L	5.6 U	5.2 U
ug/L	1.1 U	1 U
ug/L	2.2 U	2.1 U
ug/L	1.1 U	1 U
ug/L	1.1 U	1 U
ug/L	1.1 U	1 U
ug/L	1.1 U	1 U
ug/L	1.1 U	1 U
ug/L	1.1 U	1 U
ug/L	152 J	261
ug/L	21.5 U	21.4 U
ug/L	0.8 U	0.8 U
ug/L	60.6 J	84.5 J
ug/L	0.4 U	0.4 U
ug/L	2.1 U	2.1 U
ug/L	71700	53400
ug/L	2.6 U	2.6 U
ug/L	4.4 U	4.4 U
ug/L	19.3 J	67.6
ug/L	281	551 R
ug/L	67.8	178
ug/L	9590	8170
ug/L	6.7 J	33.9
ug/L	0.1 U	0.18 J
ug/L	4 U	5.2 J
ug/L	2580 J	3120 J
ug/L	1.1 J	0.7 U
ug/L	4.2 U	5.2 J
ug/L	9220	8850
ug/L	1.2 U	1.2 U
ug/L	3.7 J	4.5 J
ug/L	34.7	380
ug/L	5 U	5 U

mg/L	1.27	1.77
mg/L	NS	NS
mg/L	NS	NS
standard units	NA	NA
lumines/cm	NA	NA
NTU	NA	NA

ogen  
 dcarbons  
 ity

**TABLE 4.2-4**  
**SENECA ARMY DEPOT**  
**SEAD-16 EXPANDED SITE INSPECTION**  
**BULK SAMPLE ASBESTOS ANALYSIS RESULTS**

ES Sample ID	Asbestos (% Type)	Other Material
AS16-1	15 – 25 % Chrysotile 35 – 45 % Amosite	Binder
AS16-2	Not Detected	25 – 35 % Cellulose Binder Carbonate
AS16-3	10 – 15 % Chrysotile 45 – 55 % Amosite	Binder
AS16-4	Not Detected	35 – 45 % Cellulose Binder Carbonate
AS16-5	25 – 35 % Chrysotile	Binder Carbonate
AS16-6	25 – 35 % Chrysotile	Binder Carbonate
AS16-7	5 – 10 % Chrysotile	10 – 15 % Cellulose Tar
AS16-8	Not Detected	< 1 % Cellulose Binder Quartz
AS16-9	Not Detected	< 1 % Fiberglass 10 – 15 % Cellulose Binder Quartz
AS16-10	Not Detected	75 – 85 % Fiberglass Binder
AS16-11	Not Detected	< 1 % Fiberglass Binder
AS16-12	Not Detected	25 – 35 % Cellulose Binder
AS16-13	Not Detected	10 – 15 % Cellulose Binder
AS16-14	Not Detected	25 – 35 % Cellulose Binder
AS16-15	Not Detected	25 – 35 % Cellulose Binder
AS16-16	Not Detected	15 – 25 % Cellulose Binder Carbonate

SEAD-17





BENECIA ARMY DEPOT  
SEAD-17 EXPANDED SITE INSPECTION  
SOIL ANALYSIS RESULTS

MATRIX LOCATION DEPTH (FEET)	SOIL SEAD-17	SOIL SEAD-17	SOIL SEAD-17	SOIL BEAD-17	SOIL SEAD-17	SOIL SEAD-17	SOIL SEAD-17	SOIL SEAD-17	SOIL SEAD-17
SAMPLE DATE	0-0.2	0-0.2	0-0.2	0-0.2	0-0.2	0-0.2	0-0.2	0-0.2	0-0.2
ES ID	SS17-1	SS17-2	SS17-3	SS17-4	SS17-5	SS17-6	SS17-7	SS17-8	SS17-9
LAB ID	202037	202038	202038	202040	202041	202042	202043	202044	201895
UNITS									
mg/Kg	2.1 U	2.3 U	2.2 U	2.1 U	2.2 U	1.8 U	2.1 U	2.1 U	1.8 U
mg/Kg	2.1 U	2.3 U	2.2 U	2.1 U	2.2 U	1.8 U	2.1 U	2.1 U	1.8 U
mg/Kg	2.1 U	2.3 U	2.2 U	2.1 U	2.2 U	1.8 U	2.1 U	2.1 U	1.8 U
mg/Kg	2.1 U	2.3 U	2.2 U	2.1 U	2.2 U	1.8 U	2.1 U	2.1 U	1.8 U
mg/Kg	2.1 U	2.3 U	2.2 U	2.1 U	2.2 U	1.8 U	2.1 U	2.1 U	1.8 U
mg/Kg	2.1 U	2.3 U	2.2 U	2.1 U	2.2 U	1.8 U	2.1 U	2.1 U	1.8 U
mg/Kg	4.1 U	4.4 U	4.3 U	4.1 U	4.3 U	3.4 U	4.1 U	4.1 U	3.4 U
mg/Kg	5.2 U	4.4 U	4.3 U	4.1 U	4.3 U	11	3.2 J	3.4 J	8.8
mg/Kg	4.1 U	4.4 U	4.3 U	4.1 U	4.3 U	3.4 U	4.1 U	4.1 U	3.4 U
mg/Kg	4.1 U	4.4 U	4.3 U	4.1 U	4.3 U	3.4 U	4.1 U	4.1 U	3.4 U
mg/Kg	4.1 U	4.4 U	4.3 U	4.1 U	4.3 U	3.4 U	4.1 U	4.1 U	3.4 U
mg/Kg	4.1 U	4.4 U	4.3 U	4.1 U	4.3 U	3.4 U	4.1 U	4.1 U	3.4 U
mg/Kg	4.1 U	4.4 U	4.3 U	4.1 U	4.3 U	3.4 U	4.1 U	4.1 U	3.4 U
mg/Kg	2.1 U	2.3 U	2.2 U	2.1 U	2.2 U	1.8 U	2.1 U	2.1 U	1.8 U
mg/Kg	2.1 U	2.3 U	2.2 U	2.1 U	2.2 U	1.8 U	2.1 U	2.1 U	1.8 U
mg/Kg	21 U	23 U	22 U	21 U	22 U	16 U	21 U	21 U	18 U
mg/Kg	4.1 U	4.4 U	4.3 U	4.1 U	4.3 U	3.4 U	4.1 U	4.1 U	3.4 U
mg/Kg	4.1 U	4.4 U	4.3 U	4.1 U	4.3 U	3.4 U	4.1 U	4.1 U	3.4 U
mg/Kg	2.1 U	2.3 U	2.2 U	2.1 U	2.2 U	1.8 U	2.1 U	2.1 U	1.8 U
mg/Kg	210 U	230 U	220 U	210 U	220 U	180 U	210 U	210 U	180 U
mg/Kg	41 U	44 U	43 U	41 U	43 U	34 U	41 U	41 U	34 U
mg/Kg	84 U	90 U	86 U	83 U	87 U	70 U	84 U	84 U	70 U
mg/Kg	41 U	44 U	43 U	41 U	43 U	34 U	41 U	41 U	34 U
mg/Kg	41 U	44 U	43 U	41 U	43 U	34 U	41 U	41 U	34 U
mg/Kg	41 U	44 U	43 U	41 U	43 U	34 U	41 U	41 U	34 U
mg/Kg	41 U	44 U	43 U	41 U	43 U	34 U	41 U	41 U	34 U
mg/Kg	11800	14800	15200	10800	17300	10800	16800	14300	3790
mg/Kg	12.9 U	10.4 U	13.6 U	12.5 U	10 U	12.9	8.2 U	7.4 J	4.7
mg/Kg	6	5.4	5	6.8	7.4	16.1	8.2	6.5	10.8
mg/Kg	102	122	102	102	148	352	447	337	78.7
mg/Kg	0.5 J	0.58 J	0.42 J	0.52 J	0.81 J	0.5 J	0.76 J	0.69	0.18 J
mg/Kg	2.3	1.6	2.2	4.8	3.7	9.9	7.3	5.1	6.3
mg/Kg	98300	2630	2180	117000	2740	89300	3780	110300	177000
mg/Kg	18.8	19	16.8	18.3	23.6	22.5	23.4	23.9	10
mg/Kg	6.1 J	6.4 J	5.7 J	8.6	9.6	11.3	14.7	13.6	4.7 J
mg/Kg	81	54.4	39.3	73	73	362	423	654	136
mg/Kg	16400	20600	19300	19400	25000	24300	28400	27600	8020
mg/Kg	594	371	375	1880	577	3150	2310	2190	1340
mg/Kg	7430	3110	2540	6860	3670	6940	4520	8380	17300
mg/Kg	430	319	277	431	737	399	431	590	270 J
mg/Kg	0.07 J	0.07 J	0.07 J	0.07 J	0.9 J	0.06 J	0.1 J	0.09 J	0.04 J
mg/Kg	1500	183	14.1	1390	24.9	37.7	29.1	43.7	18.4
mg/Kg	0.28 J	0.27 U	0.36 J	0.36 J	0.23 U	0.86 J	1370	1520	1110
mg/Kg	1.6 U	1.3 U	1.7 U	1.8 U	1.3 U	2.8 J	0.25 U	0.16 J	0.21 J
mg/Kg	147 J	33.7 J	33.5 J	144 J	166 J	86.9 J	1 U	4 J	5.5
mg/Kg	0.24 U	0.3 U	0.26 U	0.25 U	0.25 U	2 U	0.27 U	0.22 J	0.17 U
mg/Kg	21	26.6	25.2	17.5	29.7	16.3	28.6	22.2	8.9
mg/Kg	200	136	129	324	287	497	437	613	120
mg/Kg	0.74 U	0.79 U	0.75 U	0.68 U	0.78 U	0.46 U	0.61 U	0.59 U	0.59 U
mg/Kg	0.21	0.67	0.13	0.51	0.17	3.8	0.15	0.08	3.5
%W/W	79.5	73.7	76.8	81.3	76.9	95.7	80.9	79.8	98.5
mg/Kg	NS	NS	NS	NS	NS	NS	NS	NS	NS
hydrocarbons	NS	NS	NS	NS	NS	NS	NS	NS	NS
standard units	NS	NS	NS	NS	NS	NS	NS	NS	NS

gen  
drocarbons







SENECA ARMY DEPOT  
SEAD-17 EXPANDED SITE INSPECTION  
SOIL ANALYSIS RESULTS

MATRIX LOCATION DEPTH (FEET) SAMPLE DATE ES ID LAB ID UNITS	SOIL SEAD-17 0-0.2 11/09/93 SS17-10 204035	SOIL SEAD-17 0-0.2 10/21/93 SS17-11 204037	SOIL SEAD-17 0-0.2 10/21/93 SS17-12 202047	SOIL SEAD-17 0-0.2 10/20/93 SS17-13 201896	SOIL SEAD-17 0-0.2 10/21/93 SS17-14 202048	SOIL SEAD-17 0-0.2 10/20/93 SS17-15 201897	SOIL SEAD-17 0-0.2 10/21/93 SS17-16 202049	SOIL SEAD-17 0-0.2 10/21/93 SS17-17 202050	SOIL SEAD-17 0-0.2 10/22/93 SS17-18 202051
mp/Kg	18 U	2.2 U	2 U	1.8 LU	1.8 U	1.8 U	2.3 U	2.2 U	2.2 U
mp/Kg	1.8 U	1.8 LU	2 U	1.8 LU	1.8 U	1.8 U	2.3 U	2.2 U	2.2 U
mp/Kg	1.8 U	2.2 U	2 U	1.8 LU	1.8 U	1.8 U	2.3 U	2.2 U	2.2 U
mp/Kg	1.8 U	2.2 U	2 U	1.8 LU	1.8 U	1.8 U	2.3 U	2.2 U	2.2 U
mp/Kg	1.8 U	2.2 U	2 U	1.8 LU	1.8 U	1.8 U	2.3 U	2.2 U	2.2 U
mp/Kg	1.8 U	2.2 U	2 U	1.8 LU	1.8 U	1.8 U	2.3 U	2.2 U	2.2 U
mp/Kg	1.8 U	2.2 U	2 U	1.8 LU	1.8 U	1.8 U	2.3 U	2.2 U	2.2 U
mp/Kg	3.5 U	62	3.9 U	0.76 J	1.8 U	1.8 U	4.5 U	4.3 U	4.3 U
mp/Kg	37	4.2 U	2.9 J	11 J	2.7 J	3.5 U	4.5 U	4.3 U	17
mp/Kg	3.5 U	4.2 U	3.9 U	3.5 LU	3.5 U	3.5 U	4.5 U	4.3 U	4.3 U
mp/Kg	3.5 U	4.2 U	3.9 U	3.5 LU	3.5 U	3.5 U	4.5 U	4.3 U	4.3 U
mp/Kg	3.5 U	4.2 U	3.9 U	3.5 LU	3.5 U	3.5 U	4.5 U	4.3 U	4.3 U
mp/Kg	3.5 U	4.2 U	3.9 U	3.5 LU	3.5 U	3.5 U	4.5 U	4.3 U	4.3 U
mp/Kg	10	4.2 U	3.9 U	4.9 J	3.5 U	3.5 U	4.5 U	4.3 U	7
mp/Kg	18 U	2.2 U	20 U	1.8 LU	1.8 U	1.8 U	2.3 U	2.2 U	2.2 U
mp/Kg	3.5 U	4.2 U	3.9 U	3.5 LU	3.5 U	3.5 U	4.5 U	4.3 U	4.3 U
mp/Kg	3.5 U	4.2 U	3.9 U	3.5 LU	3.5 U	3.5 U	4.5 U	4.3 U	4.3 U
mp/Kg	1.8 U	2.2 U	2 U	1.8 LU	1.8 U	1.8 U	2.3 U	2.2 U	2.2 U
mp/Kg	1.8 U	2.2 U	2 U	1.8 LU	1.8 U	1.8 U	2.3 U	2.2 U	2.2 U
mp/Kg	18 U	220 U	200 U	180 LU	180 U	180 U	230 U	220 U	220 U
mp/Kg	35 U	42 U	39 U	35 LU	35 U	35 U	45 U	43 U	43 U
mp/Kg	71 U	85 U	79 U	72 LU	71 U	71 U	91 U	88 U	88 U
mp/Kg	35 U	42 U	39 U	35 LU	35 U	35 U	45 U	43 U	43 U
mp/Kg	35 U	42 U	39 U	35 LU	35 U	35 U	45 U	43 U	43 U
mp/Kg	35 U	42 U	39 U	35 LU	35 U	35 U	45 U	43 U	43 U
mp/Kg	35 U	42 U	39 U	35 LU	35 U	35 U	45 U	43 U	43 U
mp/Kg	35 U	42 U	39 U	35 LU	35 U	35 U	45 U	43 U	43 U
mp/Kg	35 U	42 U	39 U	35 LU	35 U	35 U	45 U	43 U	43 U
mp/Kg	9990 J	14200	13100	10700	4680	12800	17300	14100	14400
mp/Kg	52 J	12.4 U	10.3 U	39.2	11.4 J	9.8 U	12.4 U	11.6 U	15.3
mp/Kg	7 J	6.5	6.5	6.7	10.6	6.1	6.5	5.7	6.4
mp/Kg	357 J	189	203	343	199	122	210	132	452
mp/Kg	0.48 J	0.75 J	0.59 J	0.5 J	0.34 J	0.54 J	0.82 J	0.74 J	0.71
mp/Kg	21.7	1.2	4.5	8.3	10.8	0.83 J	2.3	2	14.3
mp/Kg	1130000 J	4870	384000	104000	208000	378000	4760	3400	39800
mp/Kg	21.3 J	19.7	20	23.8	9.8	23.1	23	19.7	23.9
mp/Kg	9.9 J	9.3 J	12.3	8 J	5.6 J	12	7.7 J	21.9	11.9
mp/Kg	546 J	60.7 J	202	404	489	94.5	182	47.8	409
mp/Kg	21600 J	23100	23600	19500	11100	27500	24200	23400	25300
mp/Kg	8340	329	1210	2940	1310	472	595	373	2780
mp/Kg	9830 J	3640	6600	8690	8330	8680	4170	3520	7590
mp/Kg	392 J	685	595	314 J	221	324 J	613	880	525
mp/Kg	0.03 LU	0.07 J	0.07 J	0.03 J	0.1 J	0.05 J	0.36 J	0.07 J	0.09 J
mp/Kg	34.6 J	21.3	33.9	31.9	28.5	43.5	25.2	23.5	39.5
mp/Kg	1350 J	1210	1260	1610	1370	1810	1810	1070 J	1570
mp/Kg	1.8 J	0.64 J	0.23 LU	0.47 J	0.34 J	0.2 J	0.25 LU	0.25 LU	0.19 J
mp/Kg	4.8 J	1.6 LU	1.4 LU	5.2	3.8 J	1.2 U	1.6 LU	1.5 LU	4.7 J
mp/Kg	187 J	49.8 J	121 J	249 J	179 J	187 J	56.8 J	71.3 J	109 J
mp/Kg	0.22 LU	0.22 LU	0.25 U	0.21 U	1.3 U	0.21 U	0.27 U	0.28 U	0.19 U
mp/Kg	15.3 J	25.9	20	17.7	10.2 J	16.3	28.8	25.5	23.8
mp/Kg	820 J	110 J	574	315	480	155	150	140	1590
mp/Kg	0.51 LU	0.6 U	0.58 U	0.82 U	0.53 U	0.82 U	0.64 U	0.85 U	0.63 U
mp/Kg	0.1	2.4	0.08	0.81	1.1	0.84	0.21	0.14	0.13
%W/W	93.7	78.6	85	92.6	93.8	94.2	73.5	75.7	76.2
mg/Kg	NS	NS	NS	NS	NS	NS	NS	NS	NS
mg/Kg	NS	NS	NS	NS	NS	NS	NS	NS	NS
mg/Kg	NS	NS	NS	NS	NS	NS	NS	NS	NS
standard units	NS	NS	NS	NS	NS	NS	NS	NS	NS

gen  
dcarbons











SENECA ARMY DEPOT  
SEAD-17 EXPANDED SITE INSPECTION  
SOIL ANALYSIS RESULTS

MATRIX LOCATION DEPTH (FEET) SAMPLE DATE ES ID	SOIL SEAD-17 0-2 SB17-2.1RE 202502	SOIL SEAD-17 2-4 10/27/93 SB17-2.2 202503	SOIL SEAD-17 2-4 10/27/93 SB17-2.10 202505 SS17-2.20UP	SOIL SEAD-17 0-2 SB17-3.1 205877	SOIL SEAD-17 2-4 SB17-3.2 205878	SOIL SEAD-17 0-2 SB17-4.1 205879	SOIL SEAD-17 2-4 SB17-4.2 205880
UN	NS	2U	1.9U	2.1U	2U	2U	1.8U
ug/Kg	NS	2U	1.9U	2.1U	2U	2U	1.8U
ug/Kg	NS	2U	1.9U	2.1U	2U	2U	1.8U
ug/Kg	NS	2U	1.9U	2.1U	2U	2U	1.8U
ug/Kg	NS	2U	1.9U	2.1U	2U	2U	1.8U
ug/Kg	NS	2U	1.9U	2.1U	2U	2U	1.8U
ug/Kg	NS	2U	1.9U	2.1U	2U	2U	1.8U
ug/Kg	NS	3.8U	3.8U	4U	3.9U	3.9U	3.6U
ug/Kg	NS	3.8U	3.8U	4U	3.9U	3.9U	3.6U
ug/Kg	NS	3.8U	3.8U	4U	3.9U	3.9U	3.6U
ug/Kg	NS	3.8U	3.8U	4U	3.9U	3.9U	3.6U
ug/Kg	NS	3.8U	3.8U	4U	3.9U	3.9U	3.6U
ug/Kg	NS	20U	19U	21U	20U	20U	18U
ug/Kg	NS	3.8U	3.8U	4U	3.9U	3.9U	3.6U
ug/Kg	NS	3.8U	3.8U	4U	3.9U	3.9U	3.6U
ug/Kg	NS	2U	1.9U	2.1U	2U	2U	1.8U
ug/Kg	NS	20U	19U	21U	20U	20U	18U
ug/Kg	NS	38U	38U	40U	39U	39U	36U
ug/Kg	NS	78U	77U	82U	79U	80U	73U
ug/Kg	NS	38U	38U	40U	39U	39U	36U
ug/Kg	NS	38U	38U	40U	39U	39U	36U
ug/Kg	NS	38U	38U	40U	39U	39U	36U
ug/Kg	NS	38U	38U	40U	39U	39U	36U
ug/Kg	NS	38U	38U	40U	39U	39U	36U
mg/Kg	NS	15800	14100	19300	13200	15100	11600
mg/Kg	NS	11.8UU	9.6UU	6.9UU	11.9UU	6.9UU	6.1UU
mg/Kg	NS	6.9	6.3	4.1	5.4	4.9	5.7
mg/Kg	NS	88.5	71.4	104	73.7	89.2	51.6
mg/Kg	NS	0.56J	0.56J	0.99	0.63J	0.72	0.56J
mg/Kg	NS	0.74U	0.6U	0.43U	0.74U	0.43U	0.38U
mg/Kg	NS	44200	115000	2620	4920	3640	18100
mg/Kg	NS	23.3	20.3	27.9	20.1	21.6	18.4
mg/Kg	NS	9.4J	9.6	21.7	9J	9.5	11
mg/Kg	NS	18.5	21.5	25.3	26.9	24	22.7
mg/Kg	NS	26700	24900	36100	25900	27700	25800
mg/Kg	NS	13	11.2	24.6J	21.2J	12J	11.7J
mg/Kg	NS	8380	8370	5820	4600	5170	7690
mg/Kg	NS	409	1190	1080	338	274	403
mg/Kg	NS	0.04J	0.04J	0.06J	0.04J	0.04U	0.03J
mg/Kg	NS	30.8	27.4	37.2	31.5	26.6	30.6
mg/Kg	NS	1720	1750	1540	1350	1220	960
mg/Kg	NS	0.21UU	0.25UU	0.26UU	0.17UU	0.18UU	0.23UU
mg/Kg	NS	1.5UU	1.2UU	0.86U	1.5U	0.87U	0.77U
mg/Kg	NS	177J	239J	70.6J	60.2J	65.6J	75.9J
mg/Kg	NS	0.23U	0.27U	0.26UU	0.16UU	0.2UU	0.25UU
mg/Kg	NS	23.9	21.8	30.7	21.1	26.1	18.6
mg/Kg	NS	63	76.7	66.7	69	64.2	85.1
mg/Kg	NS	0.67U	0.65U	0.58U	0.54U	0.57U	0.47U
gen	NS	0.05	0.01U	0.22	0.19	0.41	0.22
%H/W	NS	85.8	87.2	82	85.2	83.6	91.9
mg/Kg	NS	NS	NS	NS	NS	NS	NS
mg/Kg	NS	NS	NS	NS	NS	NS	NS
standard units	NS	NS	NS	NS	NS	NS	NS

gen  
hydrocarbons









SEAD-24













SENECA ARMY DEPOT  
SEAD-24 EXPANDED SITE INSPECTION  
SOIL ANALYSIS RESULTS

MATRIX LOCATION DEPTH (FEET) SAMPLE DATE	SOIL SEAD-24	SOIL SEAD-24	SOIL SEAD-24	SOIL SEAD-24	SOIL SEAD-24	SOIL SEAD-24	SOIL SEAD-24	SOIL SEAD-24	SOIL SEAD-24
ES ID	0-0.2	0-0.2	0-0.2	0-0.2	0-0.2	0-0.2	0-0.2	0-0.2	0-0.2
LAB ID	SS24-13	SS24-13RE	SS24-10	SS24-11	SS24-12	SS24-12RE	SS24-11	SS24-12RE	SS24-13
UNITS	SS24-9DUP	SS24-9DUP	SS24-10	SS24-11	SS24-12	SS24-12RE	SS24-11	SS24-12RE	SS24-13
ug/Kg	2.1 U	2.1 U	2.1 U	2.2 U	2.2 U	2.2 U	2.1 U	2.1 U	1.9 U
ug/Kg	2.1 U	2.1 U	2.1 U	2.2 U	2.2 U	2.2 U	2.1 U	2.1 U	1.9 U
ug/Kg	2.1 U	2.1 U	2.1 U	2.2 U	2.2 U	2.2 U	2.1 U	2.1 U	1.9 U
ug/Kg	2.1 U	2.1 U	2.1 U	2.2 U	2.2 U	2.2 U	2.1 U	2.1 U	1.9 U
ug/Kg	2.1 U	2.1 U	2.1 U	2.2 U	2.2 U	2.2 U	2.1 U	2.1 U	1.9 U
ug/Kg	2.3 J	3.6 U	3.6 U	4.3 U	4.3 U	4.3 U	4.0 U	4.0 U	3.7 U
ug/Kg	8.6 J	4.1 U	4.1 U	4.3 U	4.3 U	4.3 U	4.0 U	4.0 U	3.7 U
ug/Kg	4.0 U	4.1 U	4.1 U	4.3 U	4.3 U	4.3 U	4.0 U	4.0 U	3.7 U
ug/Kg	4.0 U	4.1 U	4.1 U	4.3 U	4.3 U	4.3 U	4.0 U	4.0 U	3.7 U
ug/Kg	4.0 U	4.1 U	4.1 U	4.3 U	4.3 U	4.3 U	4.0 U	4.0 U	3.7 U
ug/Kg	2.7 J	4.1 U	4.1 U	4.3 U	4.3 U	4.3 U	4.0 U	4.0 U	3.7 U
ug/Kg	21 U	19 U	19 U	22 U	22 U	22 U	21 U	21 U	19 U
ug/Kg	4.0 U	3.6 U	3.6 U	4.3 U	4.3 U	4.3 U	4.0 U	4.0 U	3.7 U
ug/Kg	4.0 U	4.1 U	4.1 U	4.3 U	4.3 U	4.3 U	4.0 U	4.0 U	3.7 U
ug/Kg	2.1 U	1.9 U	1.9 U	2.2 U	2.2 U	2.2 U	2.1 U	2.1 U	1.9 U
ug/Kg	210 U	190 U	190 U	220 U	220 U	220 U	210 U	210 U	190 U
ug/Kg	40 U	40 U	40 U	43 U	43 U	43 U	40 U	40 U	37 U
ug/Kg	81 U	74 U	74 U	87 U	87 U	87 U	82 U	82 U	75 U
ug/Kg	40 U	38 U	38 U	43 U	43 U	43 U	40 U	40 U	37 U
ug/Kg	40 U	40 U	40 U	43 U	43 U	43 U	40 U	40 U	37 U
ug/Kg	40 U	40 U	40 U	43 U	43 U	43 U	40 U	40 U	37 U
ug/Kg	40 U	40 U	40 U	43 U	43 U	43 U	40 U	40 U	37 U
mg/Kg	14300	25500	12900	15900	15900	15900	24000	11400	11400
mg/Kg	11.4 U	11.3 U	9.3 U	12.4 U	12.4 U	12.4 U	9.5 U	8.1 U	8.1 U
mg/Kg	38.6	6.4	6.4	8.1	8.1	8.1	5.2	3.9	3.9
mg/Kg	88.6	119	26.2 J	88.8	88.8	88.8	87.3	58.9	58.9
mg/Kg	0.67 J	1.2	0.57 J	0.81 J	0.81 J	0.81 J	0.9 J	0.5 J	0.5 J
mg/Kg	0.71 U	0.71 U	0.75 J	8.2	8.2	8.2	0.59 U	0.51 U	0.51 U
mg/Kg	8670	2770	13400	4660	4660	4660	4050	58500	58500
mg/Kg	23.8	35.1	25.1	23.8	23.8	23.8	32.2	17.6	17.6
mg/Kg	11	17.8	14.6	11.5 J	11.5 J	11.5 J	9.5	9.5	9.5
mg/Kg	34.5 J	32.6 J	34.6 J	24.4 J	24.4 J	24.4 J	26.4	26.4	26.4
mg/Kg	26300	30600	30600	27500	27500	27500	33200	22700	22700
mg/Kg	112	24.6	30.9	121	121	121	13.5 J	13.1 J	13.1 J
mg/Kg	5390	6680	6750	5000	5000	5000	6990	11300	11300
mg/Kg	519	612	293	512	512	512	438	397	397
mg/Kg	0.04 J	0.05 J	0.04 U	0.06 J	0.06 J	0.06 J	0.04 J	0.02 U	0.02 U
mg/Kg	35.4	46.6	52.4	535	535	535	43.4	30.8	30.8
mg/Kg	1410	2510	1200	1650	1650	1650	2120	1610	1610
mg/Kg	0.25 U	0.21 U	0.27 J	0.28 U	0.28 U	0.28 U	0.19 U	0.21 U	0.21 U
mg/Kg	1.4 U	1.4 U	1.2 U	1.6 U	1.6 U	1.6 U	1.2 U	1.0	1.0
mg/Kg	74.3 J	83 J	91.5 J	53.5 J	53.5 J	53.5 J	86.5 J	116 J	116 J
mg/Kg	0.28 U	0.23 U	0.23 U	0.28 U	0.28 U	0.28 U	0.21 U	0.23 U	0.23 U
mg/Kg	24	39.3	18.2	26.1	26.1	26.1	33	17	17
mg/Kg	182	108	236	1180	1180	1180	99.9	114	114
mg/Kg	0.1 U	0.1 U	0.09 U	0.1 U	0.1 U	0.1 U	NA	NA	NA
mg/Kg	0.37	0.3	0.05	0.14	0.14	0.14	0.01	0.02	0.02
%W/W	81.5	78.1	90.5	76.7	76.7	76.7	81	89.5	89.5
mg/Kg	156	47	38	87	87	87	32	86	86
mg/Kg	NS	NS	NS	NS	NS	NS	NS	NS	NS
mg/Kg	NS	NS	NS	NS	NS	NS	NS	NS	NS
standard units	NS	NS	NS	NS	NS	NS	NS	NS	NS

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hydrocarbons











SENECA ARMY DEPOT  
SEAD-24 EXPANDED SITE INSPECTION  
SOIL ANALYSIS RESULTS

MATRIX LOCATION DEPTH (FEET) SAMP LE DATE ES ID LAB ID UNITS	SOIL SEAD-24 8-10 SB24-3.5 206048	SOIL SEAD-24 0-2 12/01/93 SB24-4.1 205953	SOIL SEAD-24 6-8 12/01/93 SB24-4.4 205954	SOIL SEAD-24 12-14 12/02/93 SB24-4.7 205955	SOIL SEAD-24 12-14 12/02/93 SB24-4.7RE 205955	SOIL SEAD-24 0-2 12/02/93 SB24-5.1 206047	SOIL SEAD-24 4-6 12/02/93 SB24-5.3 206048	SOIL SEAD-24 8-10 12/02/93 SB24-5.5 206049
ug/kg	1.8 U	2 U	1.9 U	1.6 U	NS	2.1 U	1.8 U	1.9 U
ug/kg	1.8 U	2 U	1.9 U	1.8 U	NS	2.1 U	1.8 U	1.9 U
ug/kg	1.8 U	2 U	1.9 U	1.8 U	NS	2.1 U	1.8 U	1.9 U
ug/kg	1.8 U	2 U	1.9 U	1.8 U	NS	2.1 U	1.8 U	1.9 U
ug/kg	1.8 U	2 U	1.9 U	1.8 U	NS	2.1 U	1.8 U	1.9 U
ug/kg	1.8 U	2 U	1.9 U	1.8 U	NS	2.1 U	1.8 U	1.9 U
ug/kg	3.5 U	4 U	3.7 U	3.8 U	NS	4.1 U	3.5 U	3.7 U
ug/kg	3.5 U	4 U	3.7 U	3.8 U	NS	4.1 U	3.5 U	3.7 U
ug/kg	3.5 U	4 U	3.7 U	3.8 U	NS	4.1 U	3.5 U	3.7 U
ug/kg	3.5 U	4 U	3.7 U	3.8 U	NS	4.1 U	3.5 U	3.7 U
ug/kg	3.5 U	4 U	3.7 U	3.8 U	NS	4.1 U	3.5 U	3.7 U
ug/kg	18 U	20 U	19 U	18 U	NS	21 U	18 U	19 U
ug/kg	3.5 U	4 U	3.7 U	3.8 U	NS	4.1 U	3.5 U	3.7 U
ug/kg	3.5 U	4 U	3.7 U	3.8 U	NS	4.1 U	3.5 U	3.7 U
ug/kg	1.8 U	2 U	1.9 U	1.8 U	NS	2.1 U	1.8 U	1.9 U
ug/kg	1.8 U	2 U	1.9 U	1.8 U	NS	2.1 U	1.8 U	1.9 U
ug/kg	35 U	40 U	37 U	36 U	NS	41 U	35 U	37 U
ug/kg	35 U	40 U	37 U	36 U	NS	41 U	35 U	37 U
ug/kg	35 U	40 U	37 U	36 U	NS	41 U	35 U	37 U
ug/kg	35 U	40 U	37 U	36 U	NS	41 U	35 U	37 U
ug/kg	35 U	40 U	37 U	36 U	NS	41 U	35 U	37 U
mg/kg	5820	20700	7470	11300	NS	16200	10100	13700
mg/kg	10 U	7.2 U	8.3 U	6.5 U	NS	12.5 U	5.8 U	11.3 U
mg/kg	2.5	4.2	2.5	2.7	NS	4.2	3.3	5
mg/kg	40.5	115	73.8	47	NS	117	58.3	87.2
mg/kg	0.34 J	1.1	0.37 J	0.53 J	NS	0.98 J	0.48 J	0.82 J
mg/kg	0.83 U	0.45 U	0.52 U	0.41 U	NS	0.78 U	0.38 U	0.7 U
mg/kg	106000	3660	81400	30500	NS	4540	74200	48000
mg/kg	10.8	31	15.6	18.8	NS	24.5	16.8	23.1
mg/kg	6.7 J	20.5	5.7 J	10.3	NS	18	8.2	12
mg/kg	14.6	25.3	18.1	12.5	NS	28.4	20.9	22.2
mg/kg	33.8 J	37700	14800	22800	NS	33800	21300	26700
mg/kg	38700	6270	16800	7670	NS	45.5 J	6.7 J	7.9 J
mg/kg	349	802	409	400	NS	5150	12100	11400
mg/kg	0.03 J	0.07 J	0.08 J	0.05 J	NS	0.06 J	0.06 J	0.04 J
mg/kg	23.9	45.6	19.3	28.6	NS	37.3	28.4	35.2
mg/kg	1040	1520	1390	1140	NS	1170 J	993	1660
mg/kg	0.15 U	0.24 U	0.15 U	0.12 U	NS	0.15 U	0.23 U	0.22 U
mg/kg	1.3 U	0.91 U	1 U	0.83 U	NS	1.8 U	0.73 U	1.4 U
mg/kg	133 J	58.3 J	138 J	131 J	NS	50.9 J	153 J	139 J
mg/kg	0.16 U	0.27 U	0.85 U	0.14 J	NS	0.16 U	0.25 U	0.24 U
mg/kg	10.7	32.6	13.4	14.6	NS	29.9	14.4	19.5
mg/kg	39.8	209	58.7	30	NS	85.7	62.8	83.2
mg/kg	0.51 U	0.52 U	0.52 U	0.48 U	NS	0.6 U	0.51 U	0.57 U
mg/kg	0.2	0.29	0.07	0.13	NS	0.27	0.15	0.33
%W/W	93.2	83.5	88.2	92.1	NS	80.5	92.7	87.7
mg/kg	81	89	116	99	NS	89	52	94
mg/kg	NS	NS	NS	NS	NS	NS	NS	NS
standard units	NS	NS	NS	NS	NS	NS	NS	NS

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hydrocarbons







SENECA ARMY DEPOT  
SEAD-24 EXPANDED SITE INSPECTION  
GROUNDWATER ANALYSIS RESULTS

MATRIX LOCATION	WATER	WATER	WATER	WATER	WATER
SAMPLE DATE	SEAD-24	SEAD-24	SEAD-24	SEAD-24	SEAD-24
ES ID	01/23/94	11/19/93	11/19/93	11/19/93	11/19/93
LAB ID	MW24-1	MW24-1RE	MW24-2	MW24-3	MW24-3
UNITS	209254	209254	204857	204857	204857
ug/L	0.055 U	NS	0.053 U	0.055 U	0.055 U
ug/L	0.055 U	NS	0.053 U	0.055 U	0.055 U
ug/L	0.055 U	NS	0.053 U	0.055 U	0.055 U
ug/L	0.055 U	NS	0.053 U	0.055 U	0.055 U
ug/L	0.055 U	NS	0.053 U	0.055 U	0.055 U
ug/L	0.055 U	NS	0.053 U	0.055 U	0.055 U
ug/L	0.11 U	NS	0.11 U	0.11 U	0.11 U
ug/L	0.11 U	NS	0.11 U	0.11 U	0.11 U
ug/L	0.11 U	NS	0.11 U	0.11 U	0.11 U
ug/L	0.11 U	NS	0.11 U	0.11 U	0.11 U
ug/L	0.11 U	NS	0.11 U	0.11 U	0.11 U
ug/L	0.11 U	NS	0.11 U	0.11 U	0.11 U
ug/L	0.55 U	NS	0.53 U	0.55 U	0.55 U
ug/L	0.11 U	NS	0.11 U	0.11 U	0.11 U
ug/L	0.055 U	NS	0.053 U	0.055 U	0.055 U
ug/L	0.055 U	NS	0.053 U	0.055 U	0.055 U
ug/L	5.5 U	NS	5.3 U	5.5 U	5.5 U
ug/L	1.1 U	NS	1.1 U	1.1 U	1.1 U
ug/L	2.2 U	NS	2.1 U	2.2 U	2.2 U
ug/L	1.1 U	NS	1.1 U	1.1 U	1.1 U
ug/L	1.1 U	NS	1.1 U	1.1 U	1.1 U
ug/L	1.1 U	NS	1.1 U	1.1 U	1.1 U
ug/L	1.1 U	NS	1.1 U	1.1 U	1.1 U
ug/L	1.1 U	NS	1.1 U	1.1 U	1.1 U
ug/L	1.1 U	NS	1.1 U	1.1 U	1.1 U
ug/L	19100	NS	9550	18700	18700
ug/L	21.5 U	NS	52.4 U	52.3 U	52.3 U
ug/L	10	NS	5.5 J	6.7 J	6.7 J
ug/L	156 J	NS	82.1 J	177 J	177 J
ug/L	0.89 J	NS	0.82 J	0.86 J	0.86 J
ug/L	2.1 U	NS	3.3 U	3.3 U	3.3 U
ug/L	160000	NS	178000	133000	133000
ug/L	29.8	NS	18.1	32.6	32.6
ug/L	18.7 J	NS	14.5 J	11.8 J	11.8 J
ug/L	32.5	NS	8.2 J	16.4 J	16.4 J
ug/L	32000	NS	19800	29800	29800
ug/L	7	NS	3.1	3.9	3.9
ug/L	39800	NS	47700	43300	43300
ug/L	712	NS	787	528	528
ug/L	0.08 J	NS	0.07 LU	0.07 LU	0.07 LU
ug/L	41.4	NS	27.8 J	37.4 J	37.4 J
ug/L	7220	NS	6610	7550	7550
ug/L	2.5 J	NS	1 J	0.8 U	0.8 U
ug/L	4.2 U	NS	6.7 U	6.6 U	6.6 U
ug/L	5950	NS	6950	9510	9510
ug/L	1.2 U	NS	1.8 U	1.8 U	1.8 U
ug/L	30.9 J	NS	16.3 J	30.6 J	30.6 J
ug/L	107	NS	31.8	53	53
ug/L	5 U	NS	5 U	5 U	5 U
mg/L	0.11	NS	0.07	0.01	0.01
mg/L	0.4 U	NS	0.4 U	0.43 U	0.43 U
mg/L	NS	NS	NS	NS	NS
standard units	7.26	NS	7.45	6.95	6.95
umhos/cm	435	NS	700	560	560
NTU	150	NS	NA(Cloudy)	NA(Cloudy)	NA(Cloudy)

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SEAD-25













**SENECA ARMY DEPOT  
SEAD-25 EXPANDED SITE INSPECTION  
SOIL ANALYSIS RESULTS**

MATRIX LOCATION DEPTH (FEET) SAMPLE DATE	SOIL SEAD-25	SOIL SEAD-25	SOIL SEAD-25	SOIL SEAD-25	SOIL SEAD-25	SOIL SEAD-25	SOIL SEAD-25	SOIL SEAD-25	SOIL SEAD-25	SOIL SEAD-25	SOIL SEAD-25	SOIL SEAD-25
ES ID	0-2	0-2	0-2	0-2	0-2	0-2	2-4	4-6	12/03/93	12/03/93	12/03/93	12/03/93
LAB ID	206082	206083	206084	206085	206086	206087	206088	206089	SB25-4.1	SB25-5.1	SB25-5.2	SB25-5.3
UNITS	ug/g	ug/g	ug/g	ug/g	ug/g	ug/g	ug/g	ug/g	ug/g	ug/g	ug/g	ug/g
OUN	2 UU	1.9 U	2.2 U	1.8 UU	1.9 UU	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.8 U
	2 UU	1.9 U	2.2 U	1.8 UU	1.9 UU	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.8 U
	2 UU	1.9 U	2.2 U	1.8 UU	1.9 UU	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.8 U
	2 UU	1.9 U	2.2 U	1.8 UU	1.9 UU	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.8 U
	2 UU	1.9 U	2.2 U	1.8 UU	1.9 UU	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.8 U
	2 UU	1.9 U	2.2 U	1.8 UU	1.9 UU	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.8 U
	2 UU	1.9 U	2.2 U	1.8 UU	1.9 UU	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.8 U
	2 UU	1.9 U	2.2 U	1.8 UU	1.9 UU	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.8 U
	3.9 UU	3.7 U	4.3 U	3.5 UU	3.7 UU	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.6 U
	3.9 UU	3.7 U	4.3 U	3.5 UU	3.7 UU	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.6 U
	3.9 UU	3.7 U	4.3 U	3.5 UU	3.7 UU	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.6 U
	3.9 UU	3.7 U	4.3 U	3.5 UU	3.7 UU	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.6 U
	3.9 UU	3.7 U	4.3 U	3.5 UU	3.7 UU	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.6 U
	3.9 UU	3.7 U	4.3 U	3.5 UU	3.7 UU	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.6 U
	3.9 UU	3.7 U	4.3 U	3.5 UU	3.7 UU	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.6 U
	3.9 UU	3.7 U	4.3 U	3.5 UU	3.7 UU	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.6 U
	3.9 UU	3.7 U	4.3 U	3.5 UU	3.7 UU	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.6 U
	2 UU	19 U	22 U	16 UU	19 UU	19 U	19 U	19 U	19 U	19 U	19 U	18 U
	3.9 UU	3.7 U	4.3 U	3.5 UU	3.7 UU	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.6 U
	3.9 UU	3.7 U	4.3 U	3.5 UU	3.7 UU	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.6 U
	2 UU	1.9 U	2.2 U	1.8 UU	1.9 UU	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.8 U
	2 UU	1.9 U	2.2 U	1.8 UU	1.9 UU	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.8 U
	2 UU	1.9 U	2.2 U	1.8 UU	1.9 UU	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.8 U
	2 UU	1.9 U	2.2 U	1.8 UU	1.9 UU	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.8 U
	2 UU	1.9 U	2.2 U	1.8 UU	1.9 UU	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.8 U
	2 UU	1.9 U	2.2 U	1.8 UU	1.9 UU	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.8 U
	2 UU	1.9 U	2.2 U	1.8 UU	1.9 UU	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.8 U
	39 UU	37 U	43 U	35 UU	37 UU	37 U	37 U	37 U	37 U	37 U	37 U	36 U
	39 UU	37 U	43 U	35 UU	37 UU	37 U	37 U	37 U	37 U	37 U	37 U	36 U
	33 NU	37 U	43 U	35 UU	37 UU	37 U	37 U	37 U	37 U	37 U	37 U	36 U
	39 UU	37 U	43 U	35 UU	37 UU	37 U	37 U	37 U	37 U	37 U	37 U	36 U
	19700	16800	75900	13200	23800	11600	10600	7070	10600	7070	3 U	3 U
	4.2 U	4.5 U	4.6 U	2.5 J	3.8 U	4 U	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U
	12.2	7.4	9.1	5.1	8.3	8	8.3	8	8.3	8.3	8.3	8.3
	57.4	86.1	46.1	61.6	160	81.1	58.1	58.1	58.1	58.1	58.1	58.1
	0.86 J	0.82 J	0.76 J	0.57 J	1.1	0.54 J	0.48 J	0.48 J	0.48 J	0.48 J	0.48 J	0.35 J
	0.41 U	0.43 U	0.44 U	0.24 U	0.37 U	0.38 U	0.41 U	0.41 U	0.41 U	0.41 U	0.29 U	0.29 U
	5330	17800	128000	42600	5120	74200	82500	122000	82500	122000	122000	122000
	26.4	26.8	15.8	21.1	30.4	17.5	16.9	11.3	16.9	11.3	11.3	11.3
	11.5	16.8	10.8	14	14	8.5	11.2	6.6 J	11.2	6.6 J	6.6 J	6.6 J
	35.7 J	28.3 J	11.4 J	17.6 J	34 J	22 J	20.2 J	12 J	20.2 J	12 J	12 J	12 J
	38100	35200	14000	24400	31100	20700	21400	15800	21400	15800	15800	15800
	66.4	16.4	156	77.2	16	15.6	9.5	13.8	9.5	13.8	13.8	13.8
	5210	8550	21800	6590	6950	17800	19600	22800	19600	22800	22800	22800
	281 J	776 J	344 J	433 J	697 J	433 J	722 J	810 J	722 J	810 J	810 J	810 J
	0.04 J	0.04 J	0.04 U	0.03 U	0.96	0.04 U	0.03 J	0.04 U	0.03 J	0.04 U	0.04 U	0.04 U
	34.4	47.8	14.2	30.8	45.2	29.1	26.8	18	26.8	18	18	18
	1450	1410	1980	1790	3250	2090	1480	1060	1480	1060	1060	1060
	0.92 J	0.65 J	1.5 J	1 J	0.67 J	0.66 J	0.67 J	0.63 J	0.67 J	0.63 J	0.63 J	0.63 J
	0.81 U	0.87 U	0.89 U	0.48 U	0.73 U	0.76 U	0.82 U	0.59 U	0.82 U	0.59 U	0.59 U	0.59 U
	55.2 J	61.3 J	176 J	87.4 J	86.1 J	162 J	269 J	186 J	269 J	186 J	186 J	186 J
	0.91 J	0.48 J	0.79 J	0.55 J	0.62 J	0.23 J	0.24 UU	0.21 UU	0.24 UU	0.21 UU	0.21 UU	0.21 UU
	34.1	27.5	14.8	17.5	40.8	20.5	16.5	12	16.5	12	12	12
	72.9 J	210 J	87 J	51.9 J	60.5 J	76.6 J	71.6 J	40.6 J	71.6 J	40.6 J	40.6 J	40.6 J
	0.88 U	0.59 U	0.57 U	0.55 U	0.63 U	0.65 U	0.56 U	0.64 U	0.56 U	0.64 U	0.64 U	0.64 U
	0.01 U	0.01 U	0.01	0.01 U	0.01	0.02	0.17	0.01 U	0.17	0.01 U	0.01 U	0.01 U
	65.2	89.7	93	94.3	87.5	91.5	90	91.6	90	91.6	91.6	91.6
	5600	770	800	740	27000	2100	99	112	99	112	112	112
	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

S  
rogen  
hydrocarbons

standard units





**SENECA ARMY DEPOT  
SEAD-25 EXPANDED SITE INSPECTION  
GROUNDWATER ANALYSIS RESULTS**

MATRIX LOCATION SAMPLE DATE ES ID LAB ID UNITS	WATER SEAD-25 02/06/94 MW25-1 210541	WATER SEAD-25 02/06/94 MW25-4 210543 MW25-1DUP	WATER SEAD-25 02/05/94 MW25-2 210480	WATER SEAD-25 11/15/93 MW25-3 204633, 204658	WATER SEAD-25 11/15/93 MW25-3RE 204633		
GROUND	ug/L	0.05E U	0.06 U	0.06 U	0.053 U	NS	
	ug/L	0.056 U	0.06 U	0.06 U	0.053 U	NS	
	ug/L	0.056 U	0.06 U	0.06 U	0.053 U	NS	
	ropane)	ug/L	0.056 U	0.06 U	0.06 U	0.053 U	NS
		ug/L	0.056 U	0.06 U	0.06 U	0.053 U	NS
		ug/L	0.056 U	0.06 U	0.06 U	0.053 U	NS
		ug/L	0.056 U	0.06 U	0.06 U	0.053 U	NS
		ug/L	0.11 U	0.12 U	0.12 U	0.11 U	NS
		ug/L	0.11 U	0.12 U	0.12 U	0.11 U	NS
	e	ug/L	0.11 U	0.12 U	0.12 U	0.11 U	NS
		ug/L	0.11 U	0.12 U	0.12 U	0.11 U	NS
		ug/L	0.11 U	0.12 U	0.12 U	0.11 U	NS
	e	ug/L	0.11 U	0.12 U	0.12 U	0.11 U	NS
		ug/L	0.06 U	0.6 U	0.6 U	0.53 U	NS
		ug/L	0.11 U	0.12 U	0.12 U	0.11 U	NS
		ug/L	0.056 U	0.06 U	0.06 U	0.053 U	NS
		ug/L	0.056 U	0.06 U	0.06 U	0.053 U	NS
		ug/L	0.056 U	0.06 U	0.06 U	0.053 U	NS
		ug/L	0.056 U	0.06 U	0.06 U	0.053 U	NS
		ug/L	0.056 U	0.06 U	0.06 U	0.053 U	NS
		ug/L	0.056 U	0.06 U	0.06 U	0.053 U	NS
	e	ug/L	0.11 U	1.2 U	1.2 U	1.1 U	NS
		ug/L	2.2 U	2.4 U	2.4 U	2.1 U	NS
		ug/L	1.1 U	1.2 U	1.2 U	1.1 U	NS
		ug/L	1.1 U	1.2 U	1.2 U	1.1 U	NS
		ug/L	1.1 U	1.2 U	1.2 U	1.1 U	NS
		ug/L	1.1 U	1.2 U	1.2 U	1.1 U	NS
		ug/L	1.1 U	1.2 U	1.2 U	1.1 U	NS
		ug/L	1.1 U	1.2 U	1.2 U	1.1 U	NS
		ug/L	1.1 U	1.2 U	1.2 U	1.1 U	NS
		ug/L	1.1 U	1.2 U	1.2 U	1.1 U	NS
		ug/L	1.1 U	1.2 U	1.2 U	1.1 U	NS
		ug/L	1.1 U	1.2 U	1.2 U	1.1 U	NS
ug/L		1.1 U	1.2 U	1.2 U	1.1 U	NS	
ug/L		1.1 U	1.2 U	1.2 U	1.1 U	NS	
ug/L		1.1 U	1.2 U	1.2 U	1.1 U	NS	
rogen hydrocarbons	ug/L	89.4 J	187.0 J	53.3 J	228.0	NS	
	ug/L	24.9 J	36.3 J	22.4 J	52.7 U	NS	
	ug/L	1.4 U	1.4 U	3.5 J	1 U	NS	
	ug/L	115 J	121 J	74.1 J	54 J	NS	
	ug/L	0.4 U	0.4 U	0.4 U	0.31 J	NS	
	ug/L	2.1 U	2.1 U	2.1 U	3.3 U	NS	
	ug/L	142000	145000	143000	119000	NS	
	ug/L	2.8 J	2.6 U	2.6 U	5 J	NS	
	ug/L	4.4 U	4.4 U	4.4 U	7.9 J	NS	
	ug/L	3.1 U	3.1 U	3.1 U	4.4 J	NS	
	ug/L	1300 J	3200 J	3730	4150	NS	
	ug/L	3	2.7 J	2 J	3	NS	
	ug/L	26100	26900	48000	22000	NS	
	ug/L	213	241	1330	2440	NS	
	ug/L	0.05 J	0.05 J	0.04 U	0.07 LU	NS	
ug/L	4.4 J	6.8 J	4.7 J	11.5 J	NS		
phy	ug/L	906 U	1010 J	9550	4170 J	NS	
	ug/L	0.73 J	0.7 U	0.7 U	0.8 U	NS	
	ug/L	4.2 U	4.2 U	4.2 U	6.7 U	NS	
	ug/L	52900	54100	13100	11500	NS	
	ug/L	1.2 U	1.2 U	1.2 U	1.8 U	NS	
	ug/L	3.7 U	3.7 U	3.7 U	5.4 J	NS	
ug/L	12.4 J	20.2	31.3	20	NS		
ug/L	5 U	5 U	5 U	5 U	NS		
mg/L	0.16	0.17	0.01 U	0.07	NS		
mg/L	0.4 U	0.4 U	2	1.6	NS		
standard units	7.01	7.08	7.08	7.52	NS		
umhos/cm	600	600	600	510	NS		
NTU	58.4	58.4	3.6	2.2	NS		

SEAD-26







BENECIA ARMY DEPOT  
SEAD-26 EXPANDED SITE INSPECTION  
SOIL ANALYSIS RESULTS

MATRIX LOCATION DEPTH (FEET) SAMPLE DATE ES ID LAB ID UNITS	SOIL SEAD-26 0-0.2 10/25/93 SS26-1 202245	SOIL SEAD-26 0-0.2 10/25/93 SS26-1RE 202245	SOIL SEAD-26 0-0.2 10/25/93 SS26-2 202246	SOIL SEAD-26 0-0.2 10/25/93 SS26-2RE 202246	SOIL SEAD-26 0-0.2 10/25/93 SS26-3 202247	SOIL SEAD-26 0-0.2 10/25/93 SS26-4 202248	SOIL SEAD-26 0-0.2 10/25/93 SS26-5 202251	SOIL SEAD-26 0-0.2 10/25/93 SS26-6 202252
mg/Kg	9.4 U	NS	9.6 U	NS	3.8 U	1.8 U	1.6 U	3.5 U
mg/Kg	9.4 U	NS	9.6 U	NS	3.8 U	1.8 U	1.4 J	3.5 U
mg/Kg	9.4 U	NS	9.6 U	NS	3.8 U	1.8 U	1.6 U	3.5 U
mg/Kg	9.4 U	NS	9.6 U	NS	3.8 U	1.8 U	1.6 U	3.5 U
mg/Kg	9.4 U	NS	9.6 U	NS	3.8 U	1.8 U	1.6 U	3.5 U
mg/Kg	9.4 U	NS	9.6 U	NS	3.8 U	1.8 U	1.6 U	3.5 U
mg/Kg	18 U	NS	19 U	NS	5.3 J	1.8 U	1.6 U	3.5 U
mg/Kg	17 J	NS	14 J	NS	4.4 J	6 J	3.4 U	6.7 U
mg/Kg	18 U	NS	19 U	NS	7.4 U	3.6 U	3.4 U	6.7 U
mg/Kg	35 J	NS	60 J	NS	7.4 U	3.6 U	3.4 U	6.7 U
mg/Kg	22	NS	19 U	NS	7.4 U	3.6 U	3.4 U	6.7 U
mg/Kg	21 J	NS	23 J	NS	7.4 U	3.6 U	3.4 U	6.7 U
mg/Kg	18 U	NS	18 U	NS	7.4 U	3.6 U	3.4 U	6.7 U
mg/Kg	94 U	NS	96 U	NS	21 J	18 U	16 U	35 U
mg/Kg	18 U	NS	19 U	NS	7.4 U	3.6 U	3.4 U	6.7 U
mg/Kg	18 U	NS	23 J	NS	15 J	3.6 U	3.4 U	6.7 U
mg/Kg	9.4 U	NS	9.6 U	NS	3.8 U	1.6 U	1.6 U	3.5 U
mg/Kg	5.9 J	NS	7.8 J	NS	3.8 U	1.6 U	1.6 U	3.5 U
mg/Kg	94 U	NS	96 U	NS	97 U	18 U	18 U	35 U
mg/Kg	180 U	NS	180 U	NS	74 U	36 U	34 U	67 U
mg/Kg	370 U	NS	380 U	NS	74 U	73 U	70 U	140 U
mg/Kg	180 U	NS	180 U	NS	74 U	36 U	34 U	67 U
mg/Kg	180 U	NS	180 U	NS	74 U	36 U	34 U	67 U
mg/Kg	180 U	NS	180 U	NS	74 U	36 U	34 U	67 U
mg/Kg	180 U	NS	180 U	NS	74 U	36 U	34 U	67 U
mg/Kg	1750	NS	1580	NS	2050	10900	5630	2650
mg/Kg	6.9 U	NS	10.9 U	NS	7.4 U	6.1 U	7 U	8 U
mg/Kg	3.3	NS	6.5	NS	6	6.6	3.6	10.8
mg/Kg	73.9	NS	45.7	NS	18 J	70.1	21.5 J	25.8 J
mg/Kg	0.25 J	NS	0.2 J	NS	0.24 J	0.46 J	0.22 J	0.23 J
mg/Kg	0.56 J	NS	0.66 U	NS	0.47 U	0.51 U	0.44 U	0.5 U
mg/Kg	293000	NS	264000	NS	271000	48100	44200	213000
mg/Kg	3.8	NS	3.9	NS	3.5	17.6	8.8	31.1
mg/Kg	2.7 J	NS	3.6 J	NS	2.8 J	9.7	4.5 J	5.7 J
mg/Kg	12.8	NS	11.8	NS	10.5	19.3	16.5	25.9
mg/Kg	3510	NS	5970	NS	3270	22100	11900	70200
mg/Kg	6.8	NS	3.4	NS	3.2	20.8	8.7	522
mg/Kg	7980	NS	8180	NS	7810	7180	15500	12800
mg/Kg	213	NS	212	NS	198	398	264	536
mg/Kg	0.02 U	NS	0.87	NS	0.04 U	0.02 J	0.55	0.02 U
mg/Kg	12.2	NS	13.4	R	56	30.3	14.8	20.1
mg/Kg	1030	NS	849 J	NS	1170	1400	1050	1050
mg/Kg	0.23 U	NS	0.24 J	NS	0.35 J	0.19 U	0.19 U	0.19 U
mg/Kg	1.1 U	NS	1.4 U	NS	0.95 U	1 U	0.89 U	1 U
mg/Kg	224 J	NS	236 J	NS	216 J	125 J	104 J	212 J
mg/Kg	2.5 U	NS	2.6 U	NS	2.5 U	0.21 U	0.23 U	0.2 U
mg/Kg	12.2	NS	8.5 J	NS	10.5	17.3	12.4	11
mg/Kg	96.9	NS	35.5	R	105	75.9	51.5	164
mg/Kg	0.54 U	NS	0.56 U	NS	0.56	0.52 U	0.51 U	0.5 U
mg/Kg	0.85	NS	0.22	NS	0.05	0.07	0.14	0.04
%W/W	89.6	NS	88.4	NS	88.6	82.5	96.4	97.6
mg/Kg	78	NS	71	NS	21000	860	117	97
mg/Kg	NS	NS	NS	NS	NS	NS	NS	NS
mg/Kg	NS	NS	NS	NS	NS	NS	NS	NS
standard units	NS	NS	NS	NS	NS	NS	NS	NS

3  
open  
hydrocarbons

SENECA ARMY DEPOT  
SEAD-26 EXPANDED SITE INSPECTION  
SOIL ANALYSIS RESULTS

MATRIX LOCATION DEPTH (FEET) SAMPLE DATE ES ID LAB ID UNITS	SOIL SEAD-26 0-0.2 10/25/93 SS26-8 202254	SOIL SEAD-26 0-2 11/17/93 SB26-1.1 204829	SOIL SEAD-26 2-4 11/17/93 SB26-1.2 204830	SOIL SEAD-26 2-4 11/17/93 SB26-1.2RE 204830	SOIL SEAD-26 0-2 11/18/93 SB26-2.1 205095	SOIL SEAD-26 0-2 11/18/93 SB26-2.5 205096	SOIL SEAD-26 0-2 11/18/93 SB26-2.5RE 205096	SOIL SEAD-26 0-2 11/18/93 SB26-2.1DUP	SOIL SEAD-26 0-2 11/18/93 SB26-2.5RE 205096	SOIL SEAD-26 0-2 11/18/93 SB26-2.1DUP	SOIL SEAD-26 8-10 11/18/93 SB26-2.6 205097
GROUND UNITS	11 U	11 U	11 U	11 U	11 U	10 U	10 U	10 U	10 U	10 U	12 U
CS	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg
	54 U	55 U	55 LU	57 U	57 LU	53 U	53 U	53 U	53 U	53 U	63 U
	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg
	54 U	5.5 U	5.5 LU	5.7 U	5.7 LU	5.3 U	5.3 U	5.3 U	5.3 U	5.3 U	6.3 U
	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg
	130 U	140 U	140 LU	140 U	140 LU	130 U	130 U	130 U	130 U	130 U	150 U
	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg
	54 U	5.5 U	5.5 LU	5.7 U	5.7 LU	5.3 U	5.3 U	5.3 U	5.3 U	5.3 U	6.3 U
	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg
	27 U	28 U	28 LU	28 U	28 LU	27 U	27 U	27 U	27 U	27 U	32 U
	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg
	5400 U	5500 U	5500 LU	5700 U	5700 LU	5300 U	5300 U	5300 U	5300 U	5300 U	6300 U
	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg
	130 LU	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg
	130 LU	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg
	130 LU	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg
	130 LU	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg
	130 LU	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg
	130 LU	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg
	130 LU	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg
	130 LU	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg
	130 LU	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg
	130 LU	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg
	130 LU	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg	up/Kg
	130 LU	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS







SENECA ARMY DEPOT  
SEAD-28 EXPANDED SITE INSPECTION  
SOIL ANALYSIS RESULTS

MATRIX LOCATION DEPTH (FEET) SAMPLE DATE	SOIL SEAD-28	SOIL SEAD-28	SOIL SEAD-28	SOIL SEAD-28	SOIL SEAD-28	SOIL SEAD-28	SOIL SEAD-28	SOIL SEAD-28	SOIL SEAD-28
ES ID	11/18/93	11/18/93	11/18/93	11/18/93	11/18/93	11/18/93	11/18/93	11/18/93	11/18/93
LAB ID	SB28-3.1	SB28-3.4	SB28-3.6	SB28-4.1	SB28-4.2	SB28-4.4	SB28-4.1	SB28-4.1	SB28-4.1
UNITS	205099	205100	205101	205102	205103	205104	205105	205106	205113
DUNDS									
ORGANICS									
ether	380 U	400 U	380 LU	370 U	370 U	380 U	370 U	370 U	2400 U
ene	380 U	400 U	380 LU	370 U	370 U	380 U	370 U	370 U	2400 U
ene	380 U	400 U	380 LU	370 U	370 U	380 U	370 U	370 U	2400 U
ene	380 U	400 U	380 LU	370 U	370 U	380 U	370 U	370 U	2400 U
(oropropene)	380 U	400 U	380 LU	370 U	370 U	380 U	370 U	370 U	2400 U
propylamine	380 U	400 U	380 LU	370 U	370 U	380 U	370 U	370 U	2400 U
id	380 U	400 U	380 LU	370 U	370 U	380 U	370 U	370 U	2400 U
yl methane	380 U	400 U	380 LU	370 U	370 U	380 U	370 U	370 U	2400 U
yl	380 U	400 U	380 LU	370 U	370 U	380 U	370 U	370 U	2400 U
yl	380 U	400 U	380 LU	370 U	370 U	380 U	370 U	370 U	2400 U
zene	380 U	400 U	380 LU	370 U	370 U	380 U	370 U	370 U	2400 U
ene	380 U	400 U	380 LU	370 U	370 U	380 U	370 U	370 U	2400 U
nylphenol	380 U	400 U	380 LU	370 U	370 U	380 U	370 U	370 U	2400 U
ene	380 U	400 U	380 LU	370 U	370 U	380 U	370 U	370 U	2400 U
tradiene	380 U	400 U	380 LU	370 U	370 U	380 U	370 U	370 U	2400 U
enol	380 U	400 U	380 LU	370 U	370 U	380 U	370 U	370 U	2400 U
enol	380 U	400 U	380 LU	370 U	370 U	380 U	370 U	370 U	2400 U
ene	380 U	400 U	380 LU	370 U	370 U	380 U	370 U	370 U	2400 U
phenylether	380 U	400 U	380 LU	370 U	370 U	380 U	370 U	370 U	2400 U
ethylphenol	380 U	400 U	380 LU	370 U	370 U	380 U	370 U	370 U	2400 U
ylamine	380 U	400 U	380 LU	370 U	370 U	380 U	370 U	370 U	2400 U
phenylether	380 U	400 U	380 LU	370 U	370 U	380 U	370 U	370 U	2400 U
ene	380 U	400 U	380 LU	370 U	370 U	380 U	370 U	370 U	2400 U
ate	380 U	400 U	380 LU	370 U	370 U	380 U	370 U	370 U	2400 U
ite	380 U	400 U	380 LU	370 U	370 U	380 U	370 U	370 U	2400 U
ne	380 U	400 U	380 LU	370 U	370 U	380 U	370 U	370 U	2400 U
tritalate	380 U	400 U	380 LU	370 U	370 U	380 U	370 U	370 U	2400 U
ite	380 U	400 U	380 LU	370 U	370 U	380 U	370 U	370 U	2400 U
ene	380 U	400 U	380 LU	370 U	370 U	380 U	370 U	370 U	2400 U
ene	380 U	400 U	380 LU	370 U	370 U	380 U	370 U	370 U	2400 U
pyrene	380 U	400 U	380 LU	370 U	370 U	380 U	370 U	370 U	2400 U
ene	380 U	400 U	380 LU	370 U	370 U	380 U	370 U	370 U	2400 U

**BENNECA ARMY DEPOT  
BEAD-28 EXPANDED SITE INSPECTION  
SOIL ANALYSIS RESULTS**

MATRIX LOCATION DEPTH (FEET) SAMPLE DATE ES ID LAB ID UNITS	SOIL BEAD-26 0-2 11/18/93 SB26-3.1 205099	SOIL BEAD-26 6-8 11/18/93 SB26-3.4 205100	SOIL BEAD-26 10-12 11/18/93 SB26-3.6 205101	SOIL BEAD-26 0-2 11/18/93 SB26-4.1 205102	SOIL BEAD-26 2-4 11/18/93 SB26-4.2 205103	SOIL BEAD-26 6-8 11/18/93 SB26-4.4 205104	SOIL BEAD-26 0-0.7 11/18/93 TP26-1.1 205105	SOIL BEAD-26 5.0+ 11/18/93 TP26-1.2 205106	SOIL BEAD-26 0-0.7 11/18/93 TP26-2.1 205113
mg/Kg	2U	2.1U	2U	1.9U	1.9U	2U	1.9U	1.9U	1.8U
mg/Kg	2U	2.1U	2U	1.9U	1.9U	2U	1.9U	1.9U	1.8U
mg/Kg	2U	2.1U	2U	1.9U	1.9U	2U	1.9U	1.9U	1.8U
mg/Kg	2U	2.1U	2U	1.9U	1.9U	2U	1.9U	1.9U	1.8U
mg/Kg	2U	2.1U	2U	1.9U	1.9U	2U	1.9U	1.9U	1.8U
mg/Kg	3.8U	3.8U	3.8U	3.7U	3.7U	3.8U	3.7U	3.7U	3.8U
mg/Kg	3.8U	4U	3.8U	3.7U	3.7U	3.8U	3.7U	3.7U	3.8U
mg/Kg	3.8U	4U	3.8U	3.7U	3.7U	3.8U	3.7U	3.7U	3.8U
mg/Kg	3.8U	4U	3.8U	3.7U	3.7U	3.8U	3.7U	3.7U	3.8U
mg/Kg	3.8U	4U	3.8U	3.7U	3.7U	3.8U	3.7U	3.7U	3.8U
mg/Kg	3.8U	4U	3.8U	3.7U	3.7U	3.8U	3.7U	3.7U	3.8U
mg/Kg	3.8U	4U	3.8U	3.7U	3.7U	3.8U	3.7U	3.7U	3.8U
mg/Kg	3.8U	4U	3.8U	3.7U	3.7U	3.8U	3.7U	3.7U	3.8U
mg/Kg	3.8U	4U	3.8U	3.7U	3.7U	3.8U	3.7U	3.7U	3.8U
mg/Kg	3.8U	4U	3.8U	3.7U	3.7U	3.8U	3.7U	3.7U	3.8U
mg/Kg	200U	2.1U	2U	1.9U	1.9U	2U	1.9U	1.9U	1.8U
mg/Kg	38U	40U	38U	37U	37U	38U	37U	37U	38U
mg/Kg	78U	81U	78U	76U	75U	78U	76U	76U	73U
mg/Kg	38U	40U	38U	37U	37U	38U	37U	37U	38U
mg/Kg	38U	40U	38U	37U	37U	38U	37U	37U	38U
mg/Kg	38U	40U	38U	37U	37U	38U	37U	37U	38U
mg/Kg	38U	40U	38U	37U	37U	38U	37U	37U	38U
mg/Kg	38U	40U	38U	37U	37U	38U	37U	37U	38U
mg/Kg	13700	14400	12900	14300	13800	15300	13100	10000	10000
mg/Kg	10.4 UU	12.5 UU	6.8 UU	9.2 UU	8.3 UU	11.4 UU	8 UU	10.5 UU	9.1 UU
mg/Kg	8.3 J	8.4 J	6.7 J	13 J	10.3 J	10.2 J	6.8 J	5.9 J	10 J
mg/Kg	77.1	83.2	57.5	87.3	82.4	74.3	105	87.3	38.2
mg/Kg	0.88 U	0.66 J	0.81 J	0.87 J	0.81 J	0.73 J	0.82 J	0.47 J	0.46 J
mg/Kg	0.85 U	0.78 U	0.41 U	0.57 U	0.58 U	0.71 U	0.5 U	0.66 U	0.57 U
mg/Kg	25900	20100	26200	26000	17500	14500	18500	85400	9300
mg/Kg	20.7	20.9	21.4	22.7	22.2	23.5	20.2	15.2	16.5
mg/Kg	10.8	7.9 J	11.8	15.6	12	14.6	12.5	8.7 J	10
mg/Kg	20.6	18.3	23.2	28.8	18.9	24.1	18	23.5	13.8
mg/Kg	28400	25300	29600	31700	29000	33200	26300	20400	22200
mg/Kg	20.7	14.8	10.5	14.8	11.7	13.1	13.8	11.9	6.5
mg/Kg	8780	4810	5290	6910	6390	6290	5340	15300	4720
mg/Kg	468	561	488	696	541	888	814	433	461
mg/Kg	0.03 J	0.03 J	0.03 J	0.04 J	0.04 J	0.03 J	0.04 UU	0.01 UU	0.01 UU
mg/Kg	29.7	29.1	34.7	35.2	32.8	38.5	31.1	28.7	25.5
mg/Kg	1140	1130 J	1110	1370	1140	1390	950	1180	573 J
mg/Kg	0.48 J	0.79 J	0.16 UU	0.37 J	0.56 J	0.28 J	0.25 J	0.57 J	0.31 J
mg/Kg	1.3 U	1.6 U	1.2 U	1.2 U	1.2 U	1.4 U	1 U	1.3 U	1.1 U
mg/Kg	71.6 J	60.9 J	56.8 J	119 J	87.6 J	76 J	80.9 J	110 J	56.7 J
mg/Kg	0.21 U	0.26 U	0.27 U	0.23 U	0.14 U	0.26 U	0.25 U	0.25 U	0.23 U
mg/Kg	22.2	21.8	19.5	20.1	18.6	22.2	16.5	16.3	12.8
mg/Kg	64.9	78.2	72.5	64.9	72.4	115	80.7	60.1	59.8
mg/Kg	0.57 U	0.59 U	0.56 U	0.53 U	0.54 U	0.52 U	0.54 U	0.49 U	0.49 U
mg/Kg	0.14	1.06	0.07	0.75	0.37	1.55	0.32	0.72	0.03
%W/W	85.7	82	86.1	88.3	89	85.6	87.7	88.3	91.6
mg/Kg	69	71	74	90	65	66	67	71	72
mg/Kg	NS	NS	NS	NS	NS	NS	NS	NS	NS
mg/Kg	NS	NS	NS	NS	NS	NS	NS	NS	NS
mg/Kg	NS	NS	NS	NS	NS	NS	NS	NS	NS
mg/Kg	NS	NS	NS	NS	NS	NS	NS	NS	NS
mg/Kg	NS	NS	NS	NS	NS	NS	NS	NS	NS
mg/Kg	NS	NS	NS	NS	NS	NS	NS	NS	NS
mg/Kg	NS	NS	NS	NS	NS	NS	NS	NS	NS

OUND

(name)

gen

hydrocarbons

standard Units







SENECA ARMY DEPOT  
SEAD-26 EXPANDED SITE INSPECTION  
SOIL ANALYSIS RESULTS

MATRIX LOCATION DEPTH (FEET) SAMPLE DATE ES ID LAB ID UNITS	SOIL SEAD--26 0-1 11/17/93 TP26-3.1 204832	SOIL SEAD--26 0.5-7.2 11/17/93 TP26-3.2 204833	SOIL SEAD--26 0.5-7.2 11/17/93 TP26-3.2RE 204833	SOIL SEAD--26 SURFACE 11/17/93 TP26-4.1 204834	SOIL SEAD--26 SURFACE 11/17/93 TP26-4.1RE 204834	SOIL SEAD--26 FILL 11/17/93 TP26-4.2 204835	SOIL SEAD--26 FILL 11/17/93 TP26-4.2RE 204835	SOIL SEAD--26 SURFACE 11/17/93 TP26-4.1RE 204834	SOIL SEAD--26 SURFACE 11/17/93 TP26-4.1 204834	SOIL SEAD--26 FILL 11/17/93 TP26-4.2 204835	SOIL SEAD--26 FILL 11/17/93 TP26-4.2RE 204835
ug/Kg	2.1 U	2.1 U	NS	NS	NS	1.9 U	1.9 U	NS	2 U	NS	2 U
ug/Kg	2.1 U	2.1 U	NS	NS	NS	2.1 U	2.1 U	NS	2 U	NS	2 U
ug/Kg	2.1 U	2.1 U	NS	NS	NS	2.1 U	2.1 U	NS	2 U	NS	2 U
ug/Kg	2.1 U	2.1 U	NS	NS	NS	2.1 U	2.1 U	NS	2 U	NS	2 U
ug/Kg	2.1 U	2.1 U	NS	NS	NS	2.1 U	2.1 U	NS	2 U	NS	2 U
ug/Kg	2.1 U	2.1 U	NS	NS	NS	2.1 U	2.1 U	NS	2 U	NS	2 U
ug/Kg	4 U	4 U	NS	NS	NS	3.8 U	3.8 U	NS	3.9 U	NS	3.9 U
ug/Kg	4 U	4 U	NS	NS	NS	4 U	4 U	NS	3.9 U	NS	3.9 U
ug/Kg	4 U	4 U	NS	NS	NS	4 U	4 U	NS	3.9 U	NS	3.9 U
ug/Kg	4 U	4 U	NS	NS	NS	4 U	4 U	NS	3.9 U	NS	3.9 U
ug/Kg	4 U	4 U	NS	NS	NS	4 U	4 U	NS	3.9 U	NS	3.9 U
ug/Kg	4 U	4 U	NS	NS	NS	4 U	4 U	NS	3.9 U	NS	3.9 U
ug/Kg	21 U	21 U	NS	NS	NS	20 U	20 U	NS	20 U	NS	20 U
ug/Kg	4 U	4 U	NS	NS	NS	3.8 U	3.8 U	NS	3.9 U	NS	3.9 U
ug/Kg	4 U	4 U	NS	NS	NS	4 U	4 U	NS	3.9 U	NS	3.9 U
ug/Kg	2.1 U	2.1 U	NS	NS	NS	2.1 U	2.1 U	NS	2 U	NS	2 U
ug/Kg	2.1 U	2.1 U	NS	NS	NS	2.1 U	2.1 U	NS	2 U	NS	2 U
ug/Kg	210 U	210 U	NS	NS	NS	200 U	200 U	NS	200 U	NS	200 U
ug/Kg	40 U	40 U	NS	NS	NS	38 U	38 U	NS	39 U	NS	39 U
ug/Kg	82 U	82 U	NS	NS	NS	74 U	74 U	NS	80 U	NS	80 U
ug/Kg	40 U	40 U	NS	NS	NS	38 U	38 U	NS	39 U	NS	39 U
ug/Kg	40 U	40 U	NS	NS	NS	38 U	38 U	NS	39 U	NS	39 U
ug/Kg	40 U	40 U	NS	NS	NS	38 U	38 U	NS	39 U	NS	39 U
ug/Kg	40 U	40 U	NS	NS	NS	38 U	38 U	NS	39 U	NS	39 U
mg/Kg	4860	15000	NS	NS	NS	11000	11200	NS	15000	NS	15000
mg/Kg	6.4 UU	9.5 UU	NS	NS	NS	7 UU	6.8 UU	NS	12.4 UU	NS	12.4 UU
mg/Kg	5.8	5.6	NS	NS	NS	9	7.7	NS	5.6	NS	5.6
mg/Kg	48.5	94.8	NS	NS	NS	58.1	70.2	NS	94	NS	94
mg/Kg	0.28 J	0.76 J	NS	NS	NS	0.48 J	0.5 J	NS	0.73 J	NS	0.73 J
mg/Kg	0.4 U	0.59 U	NS	NS	NS	0.44 U	0.43 U	NS	0.77 U	NS	0.77 U
mg/Kg	227000	7500	NS	NS	NS	14100	18300	NS	5330	NS	5330
mg/Kg	6.9	22.1	NS	NS	NS	17.8	18.4	NS	23.4	NS	23.4
mg/Kg	3 J	10.6	NS	NS	NS	9.9	12	NS	13.3	NS	13.3
mg/Kg	8.6	18.6	NS	NS	NS	12.4	13.5	NS	23	NS	23
mg/Kg	12000	23800	NS	NS	NS	23200	23200	NS	28500	NS	28500
mg/Kg	17.4	18.4	NS	NS	NS	10.3	13.6	NS	19.5	NS	19.5
mg/Kg	120000	4480	NS	NS	NS	5020	5130	NS	5250	NS	5250
mg/Kg	0.18	0.02 U	NS	NS	NS	0.03 U	0.03 U	NS	0.06	NS	0.06
mg/Kg	7.8	27.3	NS	NS	NS	28.7	27.3	NS	34.9	NS	34.9
mg/Kg	867	1850	NS	NS	NS	1090	1220	NS	1740	NS	1740
mg/Kg	0.57 J	0.39 J	NS	NS	NS	0.37 J	0.31 J	NS	0.32 J	NS	0.32 J
mg/Kg	0.81 UU	1.2 UU	NS	NS	NS	0.89 UU	0.87 UU	NS	1.6 UU	NS	1.6 UU
mg/Kg	247.1	58.9 J	NS	NS	NS	56.4 J	74.8 J	NS	46.8 J	NS	46.8 J
mg/Kg	0.23 U	0.23 U	NS	NS	NS	0.25 U	0.26 U	NS	0.18 U	NS	0.18 U
mg/Kg	17.1	26.6	NS	NS	NS	16	16.6	NS	24.9	NS	24.9
mg/Kg	130	76	NS	NS	NS	80.7	69.2	NS	91.5	NS	91.5
mg/Kg	0.59 U	0.53 U	NS	NS	NS	0.56 U	0.46 U	NS	0.54 U	NS	0.54 U
mg/Kg	1.8	2.1	NS	NS	NS	0.06	0.03	NS	0.55	NS	0.55
%W/W	81.5	81.6	NS	NS	NS	85.6	90.3	NS	83.6	NS	83.6
mg/Kg	49	80	NS	NS	NS	68	76	NS	42	NS	42
mg/Kg	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
mg/Kg	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
standard units	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

S  
ogen  
hydrocarbons





SENECA ARMY DEPOT  
SEAD-28 EXPANDED SITE INSPECTION  
SOIL ANALYSIS RESULTS

MATRIX LOCATION DEPTH (FEET) SAMPLE DATE	SOIL SEAD-26 FILL	SOIL SEAD-26 FILL	SOIL SEAD-26 FILL	SOIL SEAD-26 FILL	SOIL SEAD-26 FILL	SOIL SEAD-26 FILL	SOIL SEAD-26 FILL	SOIL SEAD-26 FILL	SOIL SEAD-26 FILL
ES ID	TP26-5.2	TP26-6.1	TP26-6.2	TP26-7.1	TP26-7.2	TP26-8.1	TP26-8.2	TP26-8.1	TP26-8.2
LAB ID	204837	205107	205108	205109	205110	205115	205116	205115	205116
UNITS									
ug/Kg	2 U	1.9 U	2.1 U	1.9 U	2.1 U	1.9 U	2.1 U	1.9 U	2.1 U
ug/Kg	2 U	1.9 U	2.1 U	1.9 U	2.1 U	1.9 U	2.1 U	1.9 U	2.1 U
ug/Kg	2 U	1.9 U	2.1 U	1.9 U	2.1 U	1.9 U	2.1 U	1.9 U	2.1 U
ug/Kg	2 U	1.9 U	2.1 U	1.9 U	2.1 U	1.9 U	2.1 U	1.9 U	2.1 U
ug/Kg	2 U	1.9 U	2.1 U	1.9 U	2.1 U	1.9 U	2.1 U	1.9 U	2.1 U
ug/Kg	2 U	1.9 U	2.1 U	1.9 U	2.1 U	1.9 U	2.1 U	1.9 U	2.1 U
ug/Kg	3.9 U	3.7 U	4.1 U	3.7 U	4.1 U	3.7 U	4.1 U	3.7 U	4.1 U
ug/Kg	3.9 U	3.7 U	4.1 U	3.7 U	4.1 U	3.7 U	4.1 U	3.7 U	4.1 U
ug/Kg	3.9 U	3.7 U	4.1 U	3.7 U	4.1 U	3.7 U	4.1 U	3.7 U	4.1 U
ug/Kg	3.9 U	3.7 U	4.1 U	3.7 U	4.1 U	3.7 U	4.1 U	3.7 U	4.1 U
ug/Kg	3.9 U	3.7 U	4.1 U	3.7 U	4.1 U	3.7 U	4.1 U	3.7 U	4.1 U
ug/Kg	3.9 U	3.7 U	4.1 U	3.7 U	4.1 U	3.7 U	4.1 U	3.7 U	4.1 U
ug/Kg	3.9 U	3.7 U	4.1 U	3.7 U	4.1 U	3.7 U	4.1 U	3.7 U	4.1 U
ug/Kg	20 U	1.9 U	2.1 U	1.9 U	2.1 U	1.9 U	2.1 U	1.9 U	2.1 U
ug/Kg	2 U	1.9 U	2.1 U	1.9 U	2.1 U	1.9 U	2.1 U	1.9 U	2.1 U
ug/Kg	39 U	3.7 U	4.1 U	3.7 U	4.1 U	3.7 U	4.1 U	3.7 U	4.1 U
ug/Kg	79 U	3.7 U	4.1 U	3.7 U	4.1 U	3.7 U	4.1 U	3.7 U	4.1 U
ug/Kg	39 U	3.7 U	4.1 U	3.7 U	4.1 U	3.7 U	4.1 U	3.7 U	4.1 U
ug/Kg	39 U	3.7 U	4.1 U	3.7 U	4.1 U	3.7 U	4.1 U	3.7 U	4.1 U
ug/Kg	39 U	3.7 U	4.1 U	3.7 U	4.1 U	3.7 U	4.1 U	3.7 U	4.1 U
ug/Kg	39 U	3.7 U	4.1 U	3.7 U	4.1 U	3.7 U	4.1 U	3.7 U	4.1 U
ug/Kg	39 U	3.7 U	4.1 U	3.7 U	4.1 U	3.7 U	4.1 U	3.7 U	4.1 U
ug/Kg	39 U	3.7 U	4.1 U	3.7 U	4.1 U	3.7 U	4.1 U	3.7 U	4.1 U
mg/Kg	15700	8060	15900	8550	10900	13700	20500	13700	20500
mg/Kg	8.7	10.1 LU	10.1 LU	10.9 LU	12.4 LU	7. LU	12.5 LU	7. LU	12.5 LU
mg/Kg	6.7	6.6 J	9 J	8.1 J	7.6 J	6.4 J	5.4 J	6.4 J	5.4 J
mg/Kg	107	45.7	81.4	43.8	53	69.2	109	69.2	109
mg/Kg	0.81 J	0.46 J	0.77 J	0.44 J	0.58 J	0.59 J	0.96 J	0.59 J	0.96 J
mg/Kg	0.55 U	0.63 U	0.63 U	0.66 U	0.78 U	0.44 U	0.78 U	0.44 U	0.78 U
mg/Kg	9500	116000	6100	40600	79300	42100	4090	42100	4090
mg/Kg	24.2	12.1	25.1	13.2	14.3	21.7	26.3	21.7	26.3
mg/Kg	13.2	7.9 J	14.3	7.1 J	7.1 J	11.1	12.5	11.1	12.5
mg/Kg	27.3	14.5	28.1	17.1	13.1	21.3	21.8	21.3	21.8
mg/Kg	32500	17200	39100	18200	19600	27500	26900	27500	26900
mg/Kg	23.8	15	13.5	12	16.2	13.1	18	13.1	18
mg/Kg	5850	9160	6250	4760	26900	8260	4760	8260	4760
mg/Kg	821	487	507	596	573	594	1260	594	1260
mg/Kg	0.04 J	0.02 J	0.03 J	0.04 J	0.05 J	0.04 J	0.07 J	0.04 J	0.07 J
mg/Kg	34.2	23	40.6	19.8	20.3	35.4	32.1	35.4	32.1
mg/Kg	1330	1050	1570	721 J	964 J	1290	2090	1290	2090
mg/Kg	0.44 J	0.82 J	0.29 J	0.41 J	0.33 J	0.57 J	0.59 J	0.57 J	0.59 J
mg/Kg	1.1 LU	1.3 LU	1.3 LU	1.4 U	1.6 U	0.86 U	1.6 U	0.86 U	1.6 U
mg/Kg	55.2 J	101 J	52.6 J	90.7 J	117 J	117 J	64.2 J	117 J	64.2 J
mg/Kg	0.25 U	0.26 U	0.26 U	0.26 U	0.28 U	0.18 U	0.28 U	0.18 U	0.28 U
mg/Kg	28.1	13.1	25.4	12.3	15.4	19.6	31.1	19.6	31.1
mg/Kg	96.9	70.3	88.1	50.9	82.7	78	88.2	78	88.2
mg/Kg	0.58 U	0.53 U	0.54 U	0.54 U	0.52 U	0.54 U	0.55 U	0.54 U	0.55 U
mg/Kg	0.17	0.55	0.53	1.08	0.43	0.12	0.52	0.12	0.52
%W/W	84.9	90.1	78.9	88.4	80.9	88.6	82.3	88.6	82.3
mg/Kg	42	86	550	63	72	137	113	137	113
mg/Kg		NS	NS	NS	NS	NS	NS	NS	NS
mg/Kg		NS	NS	NS	NS	NS	NS	NS	NS
standard units									

S

rogen hydrocarbons





SENECA ARMY DEPOT  
SEAD-26 EXPANDED SITE INSPECTION  
GROUNDWATER ANALYSIS RESULTS

MATRIX LOCATION SAMPLE DATE	WATER SEAD-26 01/21/94 MW26-1 209256, 209945	WATER SEAD-26 01/22/94 MW26-3 209256	WATER SEAD-26 01/22/94 MW26-4 209260	
OUND	ug/L	0.054 UJ	0.055 UJ	0.055 UJ
	ug/L	0.054 UJ	0.055 UJ	0.055 UJ
(dane)	ug/L	0.054 UJ	0.055 UJ	0.055 UJ
	ug/L	0.054 UJ	0.055 UJ	0.055 UJ
	ug/L	0.062 UJ	0.054 UJ	0.055 UJ
	ug/L	0.062 UJ	0.054 UJ	0.055 UJ
	ug/L	0.062 UJ	0.054 UJ	0.055 UJ
	ug/L	0.12 UJ	0.11 UJ	0.11 UJ
	ug/L	0.12 UJ	0.11 UJ	0.11 UJ
	ug/L	0.12 UJ	0.11 UJ	0.11 UJ
	ug/L	0.12 UJ	0.11 UJ	0.11 UJ
	ug/L	0.12 UJ	0.11 UJ	0.11 UJ
	ug/L	0.12 UJ	0.11 UJ	0.11 UJ
	ug/L	0.12 UJ	0.11 UJ	0.11 UJ
	ug/L	0.062 UJ	0.054 UJ	0.055 UJ
	ug/L	0.062 UJ	0.054 UJ	0.055 UJ
	ug/L	0.2 UJ	5.4 UJ	5.3 UJ
	ug/L	1.2 UJ	1.1 UJ	1.1 UJ
	ug/L	2.5 UJ	2.2 UJ	2.2 UJ
	ug/L	1.2 UJ	1.1 UJ	1.1 UJ
	ug/L	1.2 UJ	1.1 UJ	1.1 UJ
	ug/L	1.2 UJ	1.1 UJ	1.1 UJ
	ug/L	1.2 UJ	1.1 UJ	1.1 UJ
	ug/L	1.2 UJ	1.1 UJ	1.1 UJ
	ug/L	1.2 UJ	1.1 UJ	1.1 UJ
	ug/L	1.2 UJ	1.1 UJ	1.1 UJ
	ug/L	0.062 UJ	0.054 UJ	0.055 UJ
	ug/L	0.062 UJ	0.054 UJ	0.055 UJ
	ug/L	115000	194000	199000
	ug/L	2.6 U	2.6 U	122
	ug/L	4.4 U	4.4 J	62.2
	ug/L	3.1 U	3.1 U	92
	ug/L	286	656	145000
	ug/L	0.5 U	0.61 J	32.9
	ug/L	16700	36500	60900
	ug/L	529	4280	2770
	ug/L	0.05 J	0.04 U	0.14 J
	ug/L	4	4.7 J	163
	ug/L	10200	4480 J	108000
	ug/L	0.7 U	0.85 J	2 J
	ug/L	4.2 U	4.2 U	4.2 U
	ug/L	30300	11600	14600
	ug/L	1.2 U	1.2 U	1.2 U
	ug/L	3.7 U	3.7 U	11C
	ug/L	267	13.9 J	355
	ug/L	5 U	5 U	5 U
S	mg/L	1.18	0.04	3.6
rogen	mg/L	0.41 U	0.41	0.37 U
ydrocarbons	mg/L	NS	NS	NS
	standard units	7.63	6.8	6.95
	umho/cm	400	650	775
ity	NTU	4.8	325	5000







BENECA ARMY DEPOT  
SEAD-28 EXPANDED SITE INSPECTION  
SURFACE WATER ANALYSIS RESULTS

COMPOUND	MATRIX LOCATION		WATER SEAD-28		WATER SEAD-28	
	SAMPLE DATE	ES ID	LOCATION	ES ID	LOCATION	ES ID
	UNITS	LAB ID	UNITS	LAB ID	UNITS	LAB ID
	ug/L		NS		NS	
	ug/L		0.05 UU		0.05 UU	
	ug/L		0.05 UU		0.05 UU	
	ug/L		0.05 UU		0.05 UU	
	ug/L		0.05 UU		0.05 UU	
	ug/L		0.05 UU		0.05 UU	
	ug/L		0.1 UU		0.1 UU	
	ug/L		0.1 UU		0.1 UU	
	ug/L		0.1 UU		0.1 UU	
	ug/L		0.1 UU		0.1 UU	
	ug/L		0.1 UU		0.1 UU	
	ug/L		0.5 UU		0.5 UU	
	ug/L		0.1 UU		0.1 UU	
	ug/L		0.072 J		0.072 J	
	ug/L		0.05 UU		0.05 UU	
	ug/L		0.05 UU		0.05 UU	
	ug/L		5 UU		5 UU	
	ug/L		1 UU		1 UU	
	ug/L		2 UU		2 UU	
	ug/L		1 UU		1 UU	
	ug/L		1 UU		1 UU	
	ug/L		1 UU		1 UU	
	ug/L		1 UU		1 UU	
	ug/L		1 UU		1 UU	
	ug/L		1 UU		1 UU	
	ug/L		44.5 U		44.5 U	
	ug/L		52.3 U		52.3 U	
	ug/L		7 J		7 J	
	ug/L		64.4 J		64.4 J	
	ug/L		0.3 U		0.3 U	
	ug/L		3.3 U		3.3 U	
	ug/L		61200		61200	
	ug/L		2.5 U		2.5 U	
	ug/L		4.9 U		4.9 U	
	ug/L		3.7 U		3.7 U	
	ug/L		2940 J		2940 J	
	ug/L		2.8 J		2.8 J	
	ug/L		4530 J		4530 J	
	ug/L		55.5		55.5	
	ug/L		0.07 U		0.07 U	
	ug/L		6.3 J		6.3 J	
	ug/L		2510 J		2510 J	
	ug/L		1.1 U		1.1 U	
	ug/L		6.6 UU		6.6 UU	
	ug/L		4870 J		4870 J	
	ug/L		1.2 U		1.2 U	
	ug/L		3.3 U		3.3 U	
	ug/L		7.1 J		7.1 J	
	ug/L		6.5		6.5	
SES	mg/L		0.03		0.03	
Hydrogen	mg/L		4		4	
Hydrocarbons	standard units		NS		NS	
	lumho/cm		NA		NA	
Activity	NTU		NA		NA	

SENECA ARMY DEPOT  
SEAD-26 EXPANDED SITE INSPECTION  
SEDIMENT ANALYSIS RESULTS

MATRIX LOCATION DEPTH (FEET) SAMPLE DATE ES ID LAB ID UNITS	SOIL SEAD-26 0-0.5 11/01/93 SD200 203000 SD26-1DUP	SOIL SEAD-26 0-0.5 11/01/93 SD26-1 202985	SOIL SEAD-26 0-0.5 11/01/93 SD200 203000 SD26-1DUP
PCBUNICS			
	ug/Kg	13 U	NS
	ug/Kg	13 U	NS
	ug/Kg	13 U	NS
	ug/Kg	13 U	NS
	ug/Kg	26	NS
	ug/Kg	13 U	NS
	ug/Kg	13 U	NS
	ug/Kg	13 U	NS
	ug/Kg	13 U	NS
	ug/Kg	13 U	NS
	ug/Kg	23	NS
	ug/Kg	13 U	NS
	ug/Kg	13 U	NS
	ug/Kg	13 U	NS
	ug/Kg	13 U	NS
	ug/Kg	13 U	NS
	ug/Kg	13 U	NS
	ug/Kg	13 U	NS
	ug/Kg	13 U	NS
	ug/Kg	13 U	NS
	ug/Kg	13 U	NS
	ug/Kg	13 U	NS
	ug/Kg	13 U	NS
	ug/Kg	13 U	NS
	ug/Kg	NA	NS
	ug/Kg	60 U	NS
	ug/Kg	60 U	NS
	ug/Kg	21	NS
	ug/Kg	6 U	NS
	ug/Kg	150 U	NS
	ug/Kg	6 U	NS
	ug/Kg	6 U	NS
	ug/Kg	60 U	NS
	ug/Kg	30 U	NS
	ug/Kg	6000 U	NS
	ug/Kg	6000 U	NS
	ug/Kg	72 J	NS
	ug/Kg	130 U	NS
	ug/Kg	130 U	NS
	ug/Kg	130 U	NS
	ug/Kg	130 U	NS
	ug/Kg	130 U	NS
	ug/Kg	130 U	NS
	ug/Kg	130 U	NS
	ug/Kg	130 U	NS
	ug/Kg	660 J	NS

NOTES:  
NS stands for NOT SAMPLED  
NA stands for NOT ANALYZED

CS  
Benzene  
Toluene  
Xylenes  
1,2-Dinitrotoluene  
1,4-Dinitrotoluene  
Triphenylene

SENECA ARMY DEPOT  
 SEAD-28 EXPANDED SITE INSPECTION  
 SEDIMENT ANALYSIS RESULTS

MATRIX	SOIL	SOIL	SOIL
LOCATION	SEAD--28	SEAD--28	SEAD--28
DEPTH (FEET)	0--0.5	0--0.5	0--0.5
SAMPLE DATE	11/01/93	11/01/93	11/01/93
ESL ID	SD200	SD26--1	SD26--1
LAB ID	203000	202995	202995
UNITS	SD28--1DUP		
	NS	7800 U	7800 U
ORGANICS	NS	7800 U	7800 U
(f) ether	NS	7800 U	7800 U
zene	NS	7800 U	7800 U
zene	NS	7800 U	7800 U
zene	NS	7800 U	7800 U
chloropropane)	NS	7800 U	7800 U
1-propylamine	NS	7800 U	7800 U
e	NS	7800 U	7800 U
enol	NS	7800 U	7800 U
oxy) methane	NS	7800 U	7800 U
ol	NS	7800 U	7800 U
enzene	NS	7800 U	7800 U
lene	NS	7800 U	7800 U
ethylphenol	NS	7800 U	7800 U
ylene	420 J	7800 U	7800 U
pentadiene	7800 U	7800 U	7800 U
henol	19000 U	7800 U	7800 U
phenol	7800 U	7800 U	7800 U
salene	19000 U	7800 U	7800 U
e	7800 U	7800 U	7800 U
e	7800 U	7800 U	7800 U
ne	NS	7800 U	7800 U
ol	NS	19000 U	19000 U
	NS	19000 U	19000 U
	NS	7800 U	7800 U
	NS	7800 U	7800 U
-phenyl) ether	NS	7800 U	7800 U
	NS	7800 U	7800 U
methylphenol	19000 U	19000 U	19000 U
nylamine	7800 U	7800 U	7800 U
-phenyl) ether	NS	7800 U	7800 U
ene	7800 U	7800 U	7800 U
ol	19000 U	19000 U	19000 U
	NS	420 J	420 J
	NS	7800 U	7800 U
alide	NS	7800 U	7800 U
	NS	7800 U	7800 U
alate	NS	7800 U	7800 U
alate	NS	7800 U	7800 U
tridazine	NS	7800 U	7800 U
ene	NS	7800 U	7800 U
(phtalab	NS	7800 U	7800 U
alate	NS	7800 U	7800 U
hene	NS	7800 U	7800 U
hene	NS	7800 U	7800 U
ol	NS	7800 U	7800 U
ol	NS	7800 U	7800 U
ol	NS	7800 U	7800 U
ol	NS	7800 U	7800 U
pyrene	NS	7800 U	7800 U
acene	NS	7800 U	7800 U
lene	NS	7800 U	7800 U

BENECA ARMY DEPOT  
 SEAD-26 EXPANDED SITE INSPECTION  
 SEDIMENT ANALYSIS RESULTS

MATRIX LOCATION DEPTH (FEET) SAMPLE DATE	SOIL SEAD-26 0--0.5 11/01/93	SOIL SEAD-26 0--0.5 11/01/93	SOIL SEAD-26 0--0.5 11/01/93
ES ID	SD26-1	SD26-1	SD26-1
LAB ID	203000	202895	203000
UNITS	UNITS	UNITS	UNITS
	2 U	2 U	NS
	ug/Kg	ug/Kg	NS
	2 U	2 U	NS
	ug/Kg	ug/Kg	NS
	2 U	2 U	NS
	ug/Kg	ug/Kg	NS
	2 U	2 U	NS
	ug/Kg	ug/Kg	NS
	6.4 J	6.4 J	NS
	ug/Kg	ug/Kg	NS
	2 U	2 U	NS
	ug/Kg	ug/Kg	NS
	3.8 J	3.8 J	NS
	ug/Kg	ug/Kg	NS
	13 J	13 J	NS
	ug/Kg	ug/Kg	NS
	6.5 J	6.5 J	NS
	ug/Kg	ug/Kg	NS
	4.4 J	4.4 J	NS
	ug/Kg	ug/Kg	NS
	3.9 U	3.9 U	NS
	ug/Kg	ug/Kg	NS
	3.9 U	3.9 U	NS
	ug/Kg	ug/Kg	NS
	20 U	20 U	NS
	ug/Kg	ug/Kg	NS
	3.9 U	3.9 U	NS
	ug/Kg	ug/Kg	NS
	3.9 U	3.9 U	NS
	ug/Kg	ug/Kg	NS
	2 U	2 U	NS
	ug/Kg	ug/Kg	NS
	200 U	200 U	NS
	ug/Kg	ug/Kg	NS
	39 U	39 U	NS
	ug/Kg	ug/Kg	NS
	60 U	60 U	NS
	ug/Kg	ug/Kg	NS
	39 U	39 U	NS
	ug/Kg	ug/Kg	NS
	39 U	39 U	NS
	ug/Kg	ug/Kg	NS
	39 U	39 U	NS
	ug/Kg	ug/Kg	NS
	39 U	39 U	NS
	ug/Kg	ug/Kg	NS
	39 U	39 U	NS
	ug/Kg	ug/Kg	NS
	39 U	39 U	NS
	ug/Kg	ug/Kg	NS
	1270	1270	NS
	mg/Kg	mg/Kg	NS
	9.6 U	9.6 U	NS
	mg/Kg	mg/Kg	NS
	14.8	14.8	NS
	mg/Kg	mg/Kg	NS
	26 J	26 J	NS
	mg/Kg	mg/Kg	NS
	0.15 J	0.15 J	NS
	mg/Kg	mg/Kg	NS
	0.6 U	0.6 U	NS
	mg/Kg	mg/Kg	NS
	313000	313000	NS
	mg/Kg	mg/Kg	NS
	2.5	2.5	NS
	mg/Kg	mg/Kg	NS
	2.5 J	2.5 J	NS
	mg/Kg	mg/Kg	NS
	10.9	10.9	NS
	mg/Kg	mg/Kg	NS
	3170	3170	NS
	mg/Kg	mg/Kg	NS
	8.3	8.3	NS
	mg/Kg	mg/Kg	NS
	7270	7270	NS
	mg/Kg	mg/Kg	NS
	180	180	NS
	mg/Kg	mg/Kg	NS
	0.01 J	0.01 J	NS
	mg/Kg	mg/Kg	NS
	10.5	10.5	NS
	mg/Kg	mg/Kg	NS
	784 J	784 J	NS
	mg/Kg	mg/Kg	NS
	0.37 J	0.37 J	NS
	mg/Kg	mg/Kg	NS
	1.2 U	1.2 U	NS
	mg/Kg	mg/Kg	NS
	231 J	231 J	NS
	mg/Kg	mg/Kg	NS
	2.3 U	2.3 U	NS
	mg/Kg	mg/Kg	NS
	7.6 J	7.6 J	NS
	mg/Kg	mg/Kg	NS
	34.3	34.3	NS
	mg/Kg	mg/Kg	NS
	0.59 U	0.59 U	NS
	mg/Kg	mg/Kg	NS
	0.02	0.02	NS
	mg/Kg	mg/Kg	NS
	%W/W	%W/W	NS
	20000	20000	22000
	mg/Kg	mg/Kg	NS
	standard	standard	NS
	unit/lite	unit/lite	NS

ES  
 nitrogen

hydrocarbons

SEAD-45







BENECA ARMY DEPOT  
SEAD-45 EXPANDED SITE INSPECTION  
SOIL ANALYSIS RESULTS

MATRIX LOCATION DEPTH (FEET) SAMPLE DATE ES ID LAB ID UNITS	SOIL SEAD-45 0-0.2 10/25/93 SS45-1 202506	SOIL SEAD-45 0-0.2 10/25/93 SS45-2 202507	SOIL SEAD-45 0-0.2 10/25/93 SS45-3 202508	SOIL SEAD-45 0-0.2 10/25/93 SS45-4 202509	SOIL SEAD-45 0-0.2 10/25/93 SS45-4RE 202509	SOIL SEAD-45 0-0.2 10/25/93 SS45-5 202512	SOIL SEAD-45 0-0.2 10/25/93 SS45-10 202517 SS45-5DUP	SOIL SEAD-45 0-0.2 10/25/93 SS45-6 202511	SOIL SEAD-45 0-0.2 10/25/93 SS45-7 202514
19000	2.1 U	2 U	2 U	1.8 U	NS	2 U	2 U	1.8 U	1.9 U
10 LU	2.1 U	2 U	2 U	1.8 U	NS	2 U	2 U	1.8 U	1.9 U
5	2.1 U	2 U	2 U	1.8 U	NS	2 U	2 U	1.8 U	1.9 U
122	2.1 U	2 U	2 U	1.8 U	NS	2 U	2 U	1.8 U	1.9 U
0.7 J	2.1 U	2 U	2 U	1.8 U	NS	2 U	2 U	1.8 U	1.9 U
2.8	2.1 U	2 U	2 U	1.8 U	NS	2 U	2 U	1.8 U	1.9 U
8510	2.1 U	2 U	2 U	1.8 U	NS	2 U	2 U	1.8 U	1.9 U
24.1	2.1 U	2 U	2 U	1.8 U	NS	1.8 J	2 U	1.8 U	1.9 U
10.8	2.1 U	2 U	2 U	1.8 U	NS	3.8 U	3.8 U	3.8 U	3.8 U
78.4	2.1 U	2 U	2 U	1.8 U	NS	3.4 J	3.4 J	3.4 J	3.4 J
25800	2.1 U	2 U	2 U	1.8 U	NS	3.8 U	3.8 U	3.8 U	3.8 U
5530	2.1 U	2 U	2 U	1.8 U	NS	3.8 U	3.8 U	3.8 U	3.8 U
552	2.1 U	2 U	2 U	1.8 U	NS	3.8 U	3.8 U	3.8 U	3.8 U
8.3	2.1 U	2 U	2 U	1.8 U	NS	3.8 U	3.8 U	3.8 U	3.8 U
41.3	2.1 U	2 U	2 U	1.8 U	NS	3.8 U	3.8 U	3.8 U	3.8 U
28.4	2.1 U	2 U	2 U	1.8 U	NS	3.8 U	3.8 U	3.8 U	3.8 U
0.27 U	2.1 U	2 U	2 U	1.8 U	NS	3.8 U	3.8 U	3.8 U	3.8 U
1.3 LU	2.1 U	2 U	2 U	1.8 U	NS	3.8 U	3.8 U	3.8 U	3.8 U
67.1 U	2.1 U	2 U	2 U	1.8 U	NS	3.8 U	3.8 U	3.8 U	3.8 U
0.23 LU	2.1 U	2 U	2 U	1.8 U	NS	3.8 U	3.8 U	3.8 U	3.8 U
28.6	2.1 U	2 U	2 U	1.8 U	NS	3.8 U	3.8 U	3.8 U	3.8 U
148	2.1 U	2 U	2 U	1.8 U	NS	3.8 U	3.8 U	3.8 U	3.8 U
0.58 U	2.1 U	2 U	2 U	1.8 U	NS	3.8 U	3.8 U	3.8 U	3.8 U
0.42	2.1 U	2 U	2 U	1.8 U	NS	3.8 U	3.8 U	3.8 U	3.8 U
80.4	2.1 U	2 U	2 U	1.8 U	NS	3.8 U	3.8 U	3.8 U	3.8 U
NS	2.1 U	2 U	2 U	1.8 U	NS	3.8 U	3.8 U	3.8 U	3.8 U
NS	2.1 U	2 U	2 U	1.8 U	NS	3.8 U	3.8 U	3.8 U	3.8 U
NS	2.1 U	2 U	2 U	1.8 U	NS	3.8 U	3.8 U	3.8 U	3.8 U
standard Units	2.1 U	2 U	2 U	1.8 U	NS	3.8 U	3.8 U	3.8 U	3.8 U
19000	17300	19400	18900	14900	17600	15900	16300	18000	18000
mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
10 LU	11.5 LU	10.8 LU	10.8 LU	7.9 LU	9.3 LU	10.1 LU	9.7 LU	9.7 LU	9.7 LU
5	5.5	5.1	5.1	5.1	6.2	6.4	5.5	6.8	6.8
122	194	115	115	143	161	151	160	163	163
0.7 J	0.7 J	0.63 J	0.63 J	0.83 J	0.72 J	0.7 J	0.71 J	0.82 J	0.82 J
2.8	2.4	1.1	1.1	3.9	8.5 J	9.5 J	8.8	1.8 J	1.8 J
8510	10300	21800	21800	47000	28000	47000	23400	8930	8930
24.1	39.3	27.4	27.4	22.9	26.9	23.8	24.2	24.8	24.8
10.8	24.3	14.1	14.1	12.4	12.2	12.2	11.7	13.1	13.1
78.4	192	55.8	55.8	155	538	405	491	89.8	89.8
25800	75700	30500	30500	28700	31400	30400	28100	29900	29900
5530	5950	6790	6790	6420	83.8	54.9	63.2	21.9	21.9
552	1150	627	627	530	7320	7000	6440	5170	5170
8.3	0.83	0.17	0.17	0.43	1.5 J	2.1 J	2.4	0.41 J	0.41 J
41.3	41.3	40.5	40.5	35.2	40.5	38.4	34.2	35.1	35.1
28.4	28.4	27.20	27.20	2100	2140	1980	2060	2060	2060
0.27 U	0.18 U	0.21 U	0.21 U	0.23 U	0.18 LU	0.22 LU	0.16 U	0.22 LU	0.22 LU
1.3 LU	1.5 LU	2.1	2.1	1 LU	2.7 J	4.3	4.3	1.2 LU	1.2 LU
67.1 U	100 J	114 J	114 J	142 J	110 J	104 J	112 J	136 J	136 J
0.23 LU	0.2 LU	0.23 LU	0.23 LU	0.25 LU	0.19 U	0.24 U	0.2 LU	0.24 U	0.24 U
28.6	35.4	30.3	30.3	23.7	27.9	25.8	27.3	32.5	32.5
148	122	115	115	208	427	381	347	128	128
0.58 U	0.57 U	0.58 U	0.58 U	0.54 U	0.72 U	0.67 U	0.52 U	0.66 U	0.66 U
0.38	0.38	0.05	0.05	1.34	0.13	0.08	11.9	6	6
85.7	85.7	82.6	82.6	91.9	84	84.2	91.6	87.4	87.4
NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
standard Units	standard Units	standard Units	standard Units	standard Units	standard Units	standard Units	standard Units	standard Units	standard Units

ES

Nitrogen

Hydrocarbons









SENECA ARMY DEPOT  
SEAD-45 EXPANDED SITE INSPECTION  
GROUNDWATER ANALYSIS RESULTS

MATRIX LOCATION SAMPLE DATE ES ID LAB ID	WATER SEAD-45 01/26/94 MW45-4 209413	WATER SEAD-45 02/03/94 MW45-3 210259	WATER SEAD-45 02/01/94 MW1 210059	WATER SEAD-45/00 02/01/94 MW1RE 210059	WATER SEAD-45/00 02/01/94 MW2 210193	WATER SEAD-45/00 02/01/94 MW3 210080	WATER SEAD-45/00 02/02/94 MW4 210194	WATER SEAD-45/00 02/02/94 MW5 210195
FOUND ORGANICS								
(f) ether	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
ene	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
ene	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
ene	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
(chloropropane)	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
-propylamine	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
ol	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
oxy methane	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
ol	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
ene	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
ethylphenol	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
ene	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
pentadiene	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
enol	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
enol	27 U	27 U	25 U	NS	28 U	26 U	26 U	26 U
ene	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
ene	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
ene	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
ene	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
phenylether	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
ethylphenol	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
ylamine	27 U	27 U	25 U	NS	28 U	26 U	26 U	26 U
-phenylether	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
ene	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
ol	27 U	27 U	25 U	NS	28 U	26 U	26 U	26 U
ol	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
ol	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
ate	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
ate	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
ate	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
azine	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
ene	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
phthalate	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
late	23	23	33	NS	11 U	12	11	10 U
late	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
ene	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
ene	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
ol	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
pyrene	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U
ene	11 U	11 U	10 U	NS	11 U	10 U	10 U	10 U

SENECA ARMY DEPOT  
SEAD-45 EXPANDED SITE INSPECTION  
GROUNDWATER ANALYSIS RESULTS

MATRIX LOCATION SAMPLE DATE	SEAD-45	SEAD-45/OD	SEAD-45/OD	SEAD-45/OD	SEAD-45/OD	SEAD-45/OD	SEAD-45/OD	SEAD-45/OD
ES ID	MW45-3	MW45-4	MW41	MW2	MW3	MW4	MW5	
LAB ID	210259	209413	MW1	MW2	MW3	MW4	MW5	
UNITS	210259	209413	210059	210193	210660	210194	210195	
	0.059 U	0.058 U	0.068 U	0.057 U	0.092 U	0.059 U	0.054 U	
	0.059 U	0.056 U	0.068 U	0.057 U	0.052 U	0.059 U	0.054 U	
	0.059 U	0.056 U	0.068 U	0.057 U	0.052 U	0.059 U	0.054 U	
	0.059 U	0.056 U	0.068 U	0.057 U	0.052 U	0.059 U	0.054 U	
	0.059 U	0.056 U	0.068 U	0.057 U	0.052 U	0.059 U	0.054 U	
	0.12 U	0.11 U	0.14 U	0.11 U	0.1 U	0.12 U	0.11 U	
	0.12 U	0.11 U	0.14 U	0.11 U	0.1 U	0.12 U	0.11 U	
	0.12 U	0.11 U	0.14 U	0.11 U	0.1 U	0.12 U	0.11 U	
	0.12 U	0.11 U	0.14 U	0.11 U	0.1 U	0.12 U	0.11 U	
	0.12 U	0.11 U	0.14 U	0.11 U	0.1 U	0.12 U	0.11 U	
	0.59 U	0.58 U	0.68 U	0.57 U	0.32 U	0.59 U	0.54 U	
	0.12 U	0.11 U	0.14 U	0.11 U	0.1 U	0.12 U	0.11 U	
	0.059 U	0.058 U	0.068 U	0.057 U	0.052 U	0.059 U	0.054 U	
	0.059 U	0.056 U	0.068 U	0.057 U	0.052 U	0.059 U	0.054 U	
	5.8 U	5.8 U	6.8 U	5.7 U	5.2 U	5.9 U	5.4 U	
	1.2 U	1.1 U	1.4 U	1.1 U	1 U	1.2 U	1.1 U	
	2.4 U	2.2 U	2.7 U	2.3 U	2.1 U	2.4 U	2.2 U	
	1.2 U	1.1 U	1.4 U	1.1 U	1 U	1.2 U	1.1 U	
	1.2 U	1.1 U	1.4 U	1.1 U	1 U	1.2 U	1.1 U	
	1.2 U	1.1 U	1.4 U	1.1 U	1 U	1.2 U	1.1 U	
	1.2 U	1.1 U	1.4 U	1.1 U	1 U	1.2 U	1.1 U	
	1.2 U	1.1 U	1.4 U	1.1 U	1 U	1.2 U	1.1 U	
	1.2 U	1.1 U	1.4 U	1.1 U	1 U	1.2 U	1.1 U	
	1.2 U	1.1 U	1.4 U	1.1 U	1 U	1.2 U	1.1 U	
	1.2 U	1.1 U	1.4 U	1.1 U	1 U	1.2 U	1.1 U	
	1.2 U	1.1 U	1.4 U	1.1 U	1 U	1.2 U	1.1 U	
	1.2 U	1.1 U	1.4 U	1.1 U	1 U	1.2 U	1.1 U	
	42 U	63300	124 J	828	835 J	17700	821	
	28.9 J	21.6 U	24.3 J	23.1 J	52.1 J	49.6 J	28.1 J	
	1.8 J	9.5 J	1.4 U	1.4 U	1.4 U	1.7 J	1.4 U	
	0.4 U	5	58.5 J	50.8 J	25.5 J	195 J	82.8 J	
	0.82 J	5	0.4 U	0.4 U	0.4 U	0.87 J	0.4 U	
	3.2 J	2.1 U	2.2 J	2.1 U	2.1 U	3.8 J	2.1 U	
	210000	690000	118000	946000	917000	1520000	1230000	
	2.8 U	108	2.6 U	4.1 J	2.6 U	28.9	2.6 J	
	4.4 U	94.4	4.4 U	5.3 J	4.4 U	11 J	4.4 U	
	3.1 U	123	3.1 U	7.2 J	3.9 J	79.2	3.1 U	
	48.5 J	113000	207	940	109	27500	1220	
	0.71 J	75.6	0.71 J	0.86 J	0.73 J	15.7	1.1 J	
	57800	73500	28400	15700	15800	31600	27700	
	1400	4640	4.4 J	23.7	2.9 J	384	55	
	0.04 U	0.29	0.04 U	0.04 U	0.04 U	1.8	0.04 U	
	30.7 J	209	4 U	4 U	4 U	43.9	4 U	
	18700	13900	910 U	1050 J	904 U	6540	807 U	
	2.5 J	19 J	4.2 U	4.2 U	4.2 U	1.9 J	4.2 U	
	40000	17300	10000	13100	3400 J	16100	16100	
	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	
	3.7 U	93.1	3.7 U	3.7 U	3.7 U	28.7 J	3.7 U	
	31.8	321	15.3 J	23	14 J	184	24.5	
	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
	0.41	0.12	1.23	0.06	0.15	0.13	8.7	
	NS	NS	NS	NS	NS	NS	NS	
	NS	NS	NS	NS	NS	NS	NS	
	NS	NS	NS	NS	NS	NS	NS	
	NR	7.5	7.5	7.49	7.53	7.43	7.54	
	NR	600	455	315	340	450	485	
	0.4	9860	9.4	4.4	3.4	193	107	
	NTU	NTU	NTU	NTU	NTU	NTU	NTU	

ES  
Nitrogen  
Hydrocarbons

mg/L  
mg/L  
standard units

uranium

umho/cm

NTU







SENECA ARMY DEPOT  
SEAD-45 EXPANDED SITE INSPECTION  
SURFACE WATER ANALYSIS RESULTS

MATRIX LOCATION SAMPLE DATE	WATER SEAD-45 11/01/93 SW45-1 202940	WATER SEAD-45 11/01/93 SW45-2 202941	WATER SEAD-45 11/01/93 SW45-3 202942	WATER SEAD-45 11/01/93 SW45-4 202943
ES ID	LAB ID	LAB ID	LAB ID	LAB ID
UNITS	UNITS	UNITS	UNITS	UNITS

MPOUND  
B

(indane)

ide

ite

ne

ane

ug/L	0.052 U	0.052 U	0.058 U	0.058 U
ug/L	0.052 U	0.052 U	0.058 U	0.058 U
ug/L	0.052 U	0.052 U	0.058 U	0.058 U
ug/L	0.052 U	0.052 U	0.058 U	0.058 U
ug/L	0.052 U	0.052 U	0.058 U	0.058 U
ug/L	0.052 U	0.052 U	0.058 U	0.058 U
ug/L	0.1 U	0.1 U	0.12 U	0.12 U
ug/L	0.1 U	0.1 U	0.12 U	0.12 U
ug/L	0.1 U	0.1 U	0.12 U	0.12 U
ug/L	0.1 U	0.1 U	0.12 U	0.12 U
ug/L	0.1 U	0.1 U	0.12 U	0.12 U
ug/L	0.1 U	0.1 U	0.12 U	0.12 U
ug/L	0.52 U	0.52 U	0.58 U	0.58 U
ug/L	0.1 U	0.1 U	0.12 U	0.12 U
ug/L	0.052 U	0.052 U	0.058 U	0.058 U
ug/L	0.052 U	0.052 U	0.058 U	0.058 U
ug/L	5.2 U	5.2 U	5.8 U	5.8 U
ug/L	1 U	1 U	1.2 U	1.2 U
ug/L	2.1 U	2.1 U	2.3 U	2.3 U
ug/L	1 U	1 U	1.2 U	1.2 U
ug/L	1 U	1 U	1.2 U	1.2 U
ug/L	1 U	1 U	1.2 U	1.2 U
ug/L	1 U	1 U	1.2 U	1.2 U
ug/L	1 U	1 U	1.2 U	1.2 U
ug/L	29000	4370	988	37500
ug/L	52.8 U	52.8 U	52.8 U	52.8 U
ug/L	1.2 U	1.2 U	1.2 U	2.3 J
ug/L	204	82.5 J	33.5 J	439
ug/L	1.3 J	0.3 U	0.3 U	1.5 J
ug/L	3.3 U	3.3 U	3.3 U	11.2
ug/L	194000	39500	33800	105000
ug/L	45.4	3.4 J	2.5 U	50.8
ug/L	15.2 J	4.9 U	4.9 U	18.2 J
ug/L	203	119	24.8 J	612
ug/L	47700 J	5920 J	1270 J	60400 J
ug/L	27.2	10.9	1.9 J	66.7
ug/L	24300	4880 J	3280 J	19300
ug/L	841	56.7	21.1	1250
ug/L	0.32	0.5	0.18 J	3
ug/L	72.7	8.1 J	4.2 J	74.2
ug/L	6650	5020	1530 J	9870
ug/L	5.5 U	1.1 U	1.1 U	5.5 U
ug/L	6.7 UU	6.6 UU	6.7 UU	6.7 UU
ug/L	2810 J	899 J	1080 J	4340 J
ug/L	1.2 U	1.2 U	1.2 U	1.2 U
ug/L	45.9 J	6.1 J	3.3 U	54.9
ug/L	228	98.9	23.3	883
ug/L	8.3 U	8.3 U	8.3 U	47.7

ES  
Nitrogen

Hydrocarbons

mg/L  
mg/L  
standard units

istance

0.01 NS  
8.26 NS  
40 NS  
0.03 NS  
8.14 NS  
110 NS  
1.06 NS  
8.06 NS  
100 NS  
0.04 NS  
6.75 NS  
175 NS

SENECA ARMY DEPOT  
SEAD-45 EXPANDED SITE INSPECTION  
SEDIMENT ANALYSIS RESULTS

MATRIX LOCATION DEPTH (FEET) SAMPLE DATE	SEAD-45 0-0.5 11/01/03 SD45-1 202398	SEAD-45 0-0.5 11/01/03 SD45-2 202397	SEAD-45 0-0.5 11/01/03 SD45-3 202398	SEAD-45 0-0.5 11/01/03 SD45-4 202399
LAB ID	SD45-1	SD45-2	SD45-3	SD45-4
UNITS	UNITS	UNITS	UNITS	UNITS
PFUND ANICS	13 U	14 U	15 U	13 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
	13 U	14 U	15 U	13 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
ide	13 U	14 U	15 U	13 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
	13 U	14 U	15 U	13 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
ene	13 U	14 U	15 U	13 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
ane	13 U	14 U	15 U	13 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
ene (total)	13 U	14 U	15 U	13 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
ane	13 U	14 U	15 U	13 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
ethane	13 U	14 U	15 U	13 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
loride	13 U	14 U	15 U	13 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
ethane	13 U	14 U	15 U	13 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
opane	13 U	14 U	15 U	13 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
propene	13 U	14 U	15 U	13 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
ethane	13 U	14 U	15 U	13 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
ethane	13 U	14 U	15 U	13 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
loropene	13 U	14 U	15 U	13 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
entane	13 U	14 U	15 U	13 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
ne	13 U	14 U	15 U	13 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
loroethane	13 U	14 U	15 U	13 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
	13 U	14 U	15 U	13 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
	13 U	14 U	15 U	13 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
	13 U	14 U	15 U	13 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
	13 U	14 U	15 U	13 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
	13 U	14 U	15 U	13 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
	64 U	80 U	76 U	66 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
	64 U	80 U	76 U	66 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
	64 U	80 U	76 U	66 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
	180 U	200 U	190 U	170 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
	64 U	80 U	76 U	66 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
	32 U	40 U	38 U	34 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
	8400 U	8000 U	7600 U	6800 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
	8400 U	8000 U	7600 U	6800 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
ICS	130 U	130 U	130 U	130 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
enzene	130 U	210 U	130 U	130 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
ane	130 U	130 U	130 U	130 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
uene	130 U	140 J	130 U	130 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Dinitrotoluene	130 U	130 U	130 U	130 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Dinitrotoluene	130 U	260	130 U	130 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
uene	130 U	130 U	130 U	130 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
uene	130 U	83 J	130 U	130 U
	ug/Kg	ug/Kg	ug/Kg	ug/Kg

NOTES:  
NS stands for NOT SAMPLED



SENECA ARMY DEPOT  
SEAD-45 EXPANDED SITE INSPECTION  
SEDIMENT ANALYSIS RESULTS

MATRIX LOCATION DEPTH (FEET) SAMPLE DATE	SOIL SEAD-45 0-0.5 11/01/93 SD45-1 202398	SOIL SEAD-45 0-0.5 11/01/93 SD45-2 202397	SOIL SEAD-45 0-0.5 11/01/93 SD45-3 202398	SOIL SEAD-45 0-0.5 11/01/93 SD45-4 202399
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POUND

3

ndane)

ide

e

a

mine

ug/Kg	2.2 U	2.7 U	2.6 U	2.3 U
ug/Kg	2.2 U	2.7 U	2.8 U	2.3 U
ug/Kg	2.2 U	2.7 U	2.8 U	2.3 U
ug/Kg	2.2 U	2.7 U	2.8 U	2.3 U
ug/Kg	2.2 U	2.7 U	2.8 U	2.2 J
ug/Kg	2.2 U	2.7 U	2.8 U	2.3 U
ug/Kg	2.2 U	2.7 U	2.8 U	2.3 U
ug/Kg	4.2 U	5.3 U	5 U	7.4 J
ug/Kg	4.2 U	5.3 U	5 U	12 J
ug/Kg	4.2 U	5.3 U	5 U	4.5 U
ug/Kg	4.2 U	5.3 U	5 U	4.5 U
ug/Kg	4.2 U	5.3 U	5 U	4.5 U
ug/Kg	4.2 U	5.3 U	5 U	4.5 U
ug/Kg	4.2 U	27 U	28 U	4.5 U
ug/Kg	4.2 U	5.3 U	5 U	4.5 U
ug/Kg	4.2 U	5.3 U	5 U	3.2 J
ug/Kg	2.2 U	2.7 U	2.8 U	5.7 J
ug/Kg	2.2 U	2.7 U	2.8 U	2.3 U
ug/Kg	220 U	270 U	250 U	230 U
ug/Kg	42 U	53 U	50 U	45 U
ug/Kg	85 U	110 U	100 U	91 U
ug/Kg	42 U	53 U	50 U	45 U
ug/Kg	42 U	53 U	50 U	45 U
ug/Kg	42 U	53 U	50 U	45 U
ug/Kg	42 U	74	50 U	580 J
ug/Kg	42 U	53 U	50 U	45 U
mg/Kg	14400	35000	22300	21100
mg/Kg	10.1 U	13.4 U	11.7 U	7.2 LU
mg/Kg	6.8	4.2	7.3	16.1
mg/Kg	85.4	308	187	176
mg/Kg	0.62 J	1.4	0.94 J	0.83
mg/Kg	0.76 J	14.9	5.8	25.6 J
mg/Kg	84400	21700	25100	25100
mg/Kg	22.5	48.4	31.4	31.8
mg/Kg	11.2	19.7	12.9	13.2
mg/Kg	63.9	814	323	241
mg/Kg	25800	50500	33600	33200
mg/Kg	19.8	101	52.8	72.9
mg/Kg	9720	10200	7650	7510
mg/Kg	459	692	616	935
mg/Kg	0.39	5.3	4.4	2.2 J
mg/Kg	40.1	87.7	41.8	44.8
mg/Kg	2590	4660	3360	2840
mg/Kg	0.18 U	0.35 U	0.24 U	0.28 LU
mg/Kg	1.3 U	5.8	3.1	2.5 J
mg/Kg	208 J	377 J	146 J	130 J
mg/Kg	0.21 U	0.38 U	0.26 U	0.31 U
mg/Kg	23.9	53.7	37.2	32.9
mg/Kg	104	755	312	329
mg/Kg	0.61 U	0.88 U	0.74 U	0.68 U
mg/Kg	0.04	0.08	0.13	0.12
%W/W	78.7	62	66.3	74.1
mg/Kg	NS	NS	NS	NS
mg/Kg	NS	NS	NS	NS
mg/Kg	NS	NS	NS	NS

ES

rogen

Hydrocarbons

standard units

**APPENDIX F**

**TENTATIVELY IDENTIFIED COMPOUNDS**

**SEAD-4**



TENATIVELY IDENTIFIED COMPOUNDS  
SEAD - 4

SDG FILE: temp\1E41203      DATE:              MATRIX:  
ES:      SS41  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
		TOTAL UNKNOWN TICS:		21
		TOTAL TICS		21

SDG FILE: temp\1E41203      DATE:              MATRIX:  
ES:      SS43  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS43	992-94-	SILANE, METHYL-	180	JX
		TOTAL UNKNOWN TICS:		0
		TOTAL TICS		180

SDG FILE: temp\1E41203      DATE:              MATRIX:  
ES:      SS44  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
		TOTAL UNKNOWN TICS:		120
		TOTAL TICS		120

SDG FILE: temp\1E41203      DATE:              MATRIX:  
ES:      SS45  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
		TOTAL UNKNOWN TICS:		19
		TOTAL TICS		19

SDG FILE: temp\1F41203 DATE: MATRIX:  
ES: SS41  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS41	123-42-2	2-Pentanone, 4-hydroxy-4-met	2600	NJ
SS41	593-49-7	Heptacosane	340	NJ
SS41	630-02-4	Octacosane	170	NJ
SS41	630-04-6	Hentriacontane	870	NJ
SS41	630-05-7	Trtriacontane	370	NJ
TOTAL UNKNOWN TICS:			10860	
TOTAL TICS			15210	

SDG FILE: temp\1F41203 DATE: MATRIX:  
ES: SS42  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS42	123-42-2	2-Pentanone, 4-hydroxy-4-met	2400	AB
SS42	1120-21-4	Undecane	190	NJ
SS42	57-10-3	Hexadecanoic acid	320	NJ
SS42	593-49-7	Heptacosane	280	NJ
SS42	630-03-5	Nonacosane	1100	NJ
SS42	630-04-6	Hentriacontane	1000	NJ
SS42	544-85-4	Dotriacontane	250	NJ
TOTAL UNKNOWN TICS:			8180	
TOTAL TICS			13720	

SDG FILE: temp\1F41203 DATE: MATRIX:  
ES: SS43  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS43	123-42-2	2-Pentanone, 4-hydroxy-4-met	2900	AB
SS43	57-10-3	Hexadecanoic acid	140	NJ
SS43	629-99-2	Pentacosane	98	NJ
SS43	593-49-7	Heptacosane	170	NJ
SS43	630-03-5	Nonacosane	420	NJ
SS43	630-04-6	Hentriacontane	290	NJ
TOTAL UNKNOWN TICS:			7670	
TOTAL TICS			11688	

SDG FILE: temp\1F41203 DATE: MATRIX:  
ES: SS44  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS44	123-42-2	2-Pentanone, 4-hydroxy-4-met	2700	AB
SS44	593-49-7	Heptacosane	310	NJ
SS44	630-03-5	Nonacosane	670	NJ
SS44	630-04-6	Hentriacontane	470	NJ
TOTAL UNKNOWN TICS:			4370	
TOTAL TICS			8520	

SDG FILE: temp\1F41203 DATE: MATRIX:  
ES: SS45  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS45	123-42-2	2-Pentanone, 4-hydroxy-4-met	2600	NJ
SS45	630-03-5	Nonacosane	1200	NJ
SS45	630-04-6	Hentriacontane	1600	NJ
SS45	83-48-7	Stigmasterol	530	NJ
TOTAL UNKNOWN TICS:			17340	
TOTAL TICS			23270	

SDG FILE: temp\1F41203 DATE: MATRIX:  
ES: SS46  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS46	123-42-2	2-Pentanone, 4-hydroxy-4-met	2800	NJ
SS46	57-10-3	Hexadecanoic acid	470	NJ
SS46	593-49-7	Heptacosane	870	NJ
SS46	630-03-5	Nonacosane	2800	NJ
SS46	630-04-6	Hentriacontane	1300	NJ
SS46	1058-61-3	Stigmast-4-en-3-one	680	NJ
TOTAL UNKNOWN TICS:			21600	
TOTAL TICS			30520	

SDG FILE: temp\1F41203 DATE: MATRIX:  
ES: SS47  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS47	123-42-2	2-Pentanone, 4-hydroxy-4-met	4600	NJ
SS47	57-10-3	Hexadecanoic acid	260	NJ
SS47	629-99-2	Pentacosane	300	NJ
SS47	593-49-7	Heptacosane	790	NJ
SS47	630-02-4	Octacosane	310	NJ
SS47	638-68-6	Triacosane	210	NJ
SS47	630-04-6	Hentriacontane	2000	NJ
SS47	630-05-7	Tritriacontane	620	NJ

TOTAL UNKNOWN TICS: 29030  
TOTAL TICS 38120

SDG FILE: temp\1E41136 DATE: MATRIX:  
ES: SB411  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB411	541-05-	CYCLOTRISILOXANE, HEXAMETHYL	7	BJ

TOTAL UNKNOWN TICS: 0  
TOTAL TICS 7

SDG FILE: temp\1E41136 DATE: MATRIX:  
ES: SB416  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB416	541-05-	CYCLOTRISILOXANE, HEXAMETHYL	12	BJ

TOTAL UNKNOWN TICS: 0  
TOTAL TICS 12

SDG FILE: temp\1E40693 DATE: MATRIX:  
ES: SB42-1  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
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TOTAL UNKNOWN TICS: 80  
TOTAL TICS 80

SDG FILE: temp\1E40693 DATE: MATRIX:  
ES: SB43-4  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB43-4	110-54-	HEXANE	5	JX
TOTAL UNKNOWN TICS:			0	
TOTAL TICS			5	

SDG FILE: temp\1E41135 DATE: MATRIX:  
ES: SB445  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB445	138-86-3	Limonene	8	NJ
TOTAL UNKNOWN TICS:			0	
TOTAL TICS			8	

SDG FILE: temp\1E41136 DATE: MATRIX:  
ES: SB462  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB462	541-05-	CYCLOTRISILOXANE, HEXAMETHYL	9	BJ
TOTAL UNKNOWN TICS:			0	
TOTAL TICS			9	

SDG FILE: temp\1E41136 DATE: MATRIX:  
ES: SB4101  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB4101	541-05-	CYCLOTRISILOXANE, HEXAMETHYL	8	BJ
TOTAL UNKNOWN TICS:			7	
TOTAL TICS			15	

SDG FILE: temp\1E41136 DATE: MATRIX:  
ES: SB4102  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB4102	541-05-	CYCLOTRISILOXANE, HEXAMETHYL	9	BJ
TOTAL UNKNOWN TICS:			0	
TOTAL TICS			9	

SDG FILE: temp\1E41136 DATE: MATRIX:  
ES: SB4103  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB4103	541-05-	CYCLOTRISILOXANE, HEXAMETHYL	9	BJ
TOTAL UNKNOWN TICS:			0	
TOTAL TICS			9	

SDG FILE: temp\1F41136 DATE: MATRIX:  
ES: SB411  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB411	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	3200	BJ
SB411	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	160	JX
SB411	57-10-	HEXADECANOIC ACID	380	JX
SB411	593-49-	HEPTACOSANE	160	JX
SB411	630-02-	OCTACOSANE W/ PHTHALATE	120	JX
SB411	630-03-	NONACOSANE	530	JX
SB411	630-04-	HENTRIACONTANE	470	JX
SB411	630-05-	TRITRIACONTANE	110	JX
TOTAL UNKNOWN TICS:			2210	
TOTAL TICS			7340	

SDG FILE: temp\1F41136 DATE: MATRIX:  
ES: SB413  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB413	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	4200	BJ
SB413	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	86	JX
SB413	123-28-	PROPANOIC ACID, 3,3'-THIOBIS	120	BJ
TOTAL UNKNOWN TICS:			692	
TOTAL TICS			5098	

SDG FILE: temp\1F41136 DATE: MATRIX:  
ES: SB415  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB415	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	4800	BJ
SB415	57-10-	HEXADECANOIC ACID	190	JX
SB415	593-49-	HEPTACOSANE	110	JX
SB415	630-02-	OCTACOSANE W/ PHTHALATE	95	JX
SB415	630-03-	NONACOSANE	290	JX
SB415	630-04-	HENTRIACONTANE	250	JX
TOTAL UNKNOWN TICS:			1500	
TOTAL TICS			7235	

SDG FILE: temp\1F41136 DATE: MATRIX:

ES: SB416

LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB416	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	4400	BJ
SB416	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	120	JX
SB416	123-28-	PROPANOIC ACID, 3,3'-THIOBIS	130	BJ

TOTAL UNKNOWN TICS: 2238  
TOTAL TICS 6888

SDG FILE: temp\1F40693 DATE: MATRIX:

ES: SB42\_1

LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB42_1	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	9300	BJ
SB42_1	57-10-	HEXADECANOIC ACID	270	JX
SB42_1	523-59-	2H, 8H-BENZO[1,2-B:3,4-B']DI	5100	JX
SB42_1	661-19-	1-DOCOSANOL W/PENTACOSANE	190	JX
SB42_1	55334-39-	2H, 8H-BENZO[1,2-B:5,4-B']DI	700	JX
SB42_1	593-49-	HEPTACOSANE	520	JX
SB42_1	506-51-	1-TETRACOSANOL	210	JX
SB42_1	630-02-	OCTACOSANE	170	JX
SB42_1	630-03-	NONACOSANE	3000	JX
SB42_1	506-52-	1-HEXACOSANOL	410	JX
SB42_1	630-04-	HENTRIACONTANE	1200	JX
SB42_1	630-05-	TRITRIACONTANE	220	JX
SB42_1	1058-61-	STIGMAST-4-EN-3-ONE	210	JX

TOTAL UNKNOWN TICS: 4810  
TOTAL TICS 26310

SDG FILE: temp\1F40693 DATE: MATRIX:

ES: SB42\_2

LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB42_2	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	4400	BJ
SB42_2	74367-33-	PROPANOIC ACID, 2-METHYL-, 2	73	JX
SB42_2	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	1600	JX
SB42_2	57-10-	HEXADECANOIC ACID	80	JX

TOTAL UNKNOWN TICS: 830  
TOTAL TICS 6983

SDG FILE: temp\1F40693 DATE: MATRIX:  
ES: SB43\_1  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB43_1	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	13000	BJ
SB43_1	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	790	JX
SB43_1	57-10-	HEXADECANOIC ACID	730	JX
SB43_1	57-11-	OCTADECANOIC ACID	110	JX
SB43_1	629-99-	PENTACOSANE	110	JX
SB43_1	593-49-	HEPTACOSANE	270	JX
SB43_1	630-02-	OCTACOSANE	180	JX
SB43_1	630-03-	NONACOSANE	1200	JX
SB43_1	506-52-	1-HEXACOSANOL	2100	JX
SB43_1	630-04-	HENTRIACONTANE	830	JX
SB43_1	630-05-	TRITRIACONTANE	120	JX
SB43_1	1058-61-	STIGMAST-4-EN-3-ONE	140	JX
TOTAL UNKNOWN TICS:			3300	
TOTAL TICS			22880	

SDG FILE: temp\1F40693 DATE: MATRIX:  
ES: SB43\_3  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB43_3	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	4600	BJ
SB43_3	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	480	JX
SB43_3	544-63-	TETRADECANOIC ACID	110	JX
SB43_3	57-10-	HEXADECANOIC ACID	86	JX
TOTAL UNKNOWN TICS:			751	
TOTAL TICS			6027	

SDG FILE: temp\1F40693 DATE: MATRIX:  
ES: SB43\_4  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB43_4	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	3500	BJ
SB43_4	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	670	JN
TOTAL UNKNOWN TICS:			670	
TOTAL TICS			4840	



SDG FILE: temp\1F41135 DATE: MATRIX:

ES: SB441

LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB441	123-42-2	2-Pentanone, 4-hydroxy-4-met	11000	NJ
SB441	1921-70-6	Pentadecane, 2,6,10,14-tetra	100	NJ
SB441	57-10-3	Hexadecanoic acid	120	NJ
SB441	638-67-5	Tricosane	100	NJ
SB441	629-99-2	Pentacosane	150	NJ
SB441	593-49-7	Heptacosane	270	NJ
SB441	630-03-5	Nonacosane	1000	NJ
SB441	630-04-6	Hentriacontane	670	NJ
SB441	630-05-7	Tritriacontane	170	NJ

TOTAL UNKNOWN TICS: 1036  
TOTAL TICS 14616

SDG FILE: temp\1F41135 DATE: MATRIX:

ES: SB441RE

LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB441RE	123-42-2	2-Pentanone, 4-hydroxy-4-met	7700	NJ
SB441RE	57-10-3	Hexadecanoic acid	270	NJ
SB441RE	629-99-2	Pentacosane	150	NJ
SB441RE	593-49-7	Heptacosane	240	NJ
SB441RE	630-03-5	Nonacosane	1400	NJ
SB441RE	630-04-6	Hentriacontane	970	NJ
SB441RE	630-05-7	Tritriacontane	190	NJ

TOTAL UNKNOWN TICS: 1511  
TOTAL TICS 12431

SDG FILE: temp\1F41135 DATE: MATRIX:

ES: SB442

LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB442	123-42-2	2-Pentanone, 4-hydroxy-4-met	9300	NJ
SB442	630-03-5	Nonacosane	100	NJ

TOTAL UNKNOWN TICS: 1110  
TOTAL TICS 10510

SDG FILE: temp\1F41135 DATE: MATRIX:

ES: SB442RE

LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB442RE	123-42-2	2-Pentanone, 4-hydroxy-4-met	6200	NJ
SB442RE	593-49-7	Heptacosane	76	NJ
SB442RE	630-03-5	Nonacosane	230	NJ
SB442RE	630-04-6	Hentriacontane	130	NJ

TOTAL UNKNOWN TICS: 855  
TOTAL TICS 7491

SDG FILE: temp\1F41135 DATE: MATRIX:  
ES: SB443  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB443	123-42-2	2-Pentanone, 4-hydroxy-4-met	9400	NJ
TOTAL UNKNOWN TICS:			1058	
TOTAL TICS			10458	

SDG FILE: temp\1F41135 DATE: MATRIX:  
ES: SB443RE  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TOTAL UNKNOWN TICS:			632	
TOTAL TICS			632	

SDG FILE: temp\1F41135 DATE: MATRIX:  
ES: SB445  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB445	123-42-2	2-Pentanone, 4-hydroxy-4-met	19000	NJ
SB445	91-64-5	2H-1-Benzopyran-2-one	5000	NJ
SB445	630-03-5	Nonacosane	740	NJ
SB445	630-04-6	Hentriacontane	530	NJ
TOTAL UNKNOWN TICS:			1100	
TOTAL TICS			26370	

SDG FILE: temp\1F41135 DATE: MATRIX:  
ES: SB445RE  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB445RE	123-42-2	2-Pentanone, 4-hydroxy-4-met	4800	NJ
SB445RE	541-02-6	Cyclopentasiloxane, decameth	340	NJ
SB445RE	57-10-3	Hexadecanoic acid	170	NJ
SB445RE	630-03-5	Nonacosane	420	NJ
SB445RE	630-04-6	Hentriacontane	300	NJ
SB445RE	630-05-7	Tritriacontane	84	NJ
TOTAL UNKNOWN TICS:			0	
TOTAL TICS			6114	

SDG FILE: temp\1F41136 DATE: MATRIX:  
ES: SB461  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB461	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	4000	BJ
SB461	57-10-	HEXADECANOIC ACID	480	JX
SB461	123-28-	PROPANOIC ACID, 3,3'-THIOBIS	110	BJ
SB461	629-99-	PENTACOSANE	120	JX
SB461	593-49-	HEPTACOSANE	570	JX
SB461	506-51-	1-TETRACOSANOL	110	JX
SB461	630-02-	OCTACOSANE	250	JX
SB461	630-03-	NONACOSANE	1500	JX
SB461	506-52-	1-HEXACOSANOL	320	JX
SB461	638-68-	TRIACONTANE	140	JX
SB461	630-04-	HENTRIACONTANE	1500	JX
SB461	630-05-	TRITRIACONTANE	460	JX

TOTAL UNKNOWN TICS: 2000  
TOTAL TICS 11560

SDG FILE: temp\1F41136 DATE: MATRIX:  
ES: SB462  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB462	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	3300	BJ
SB462	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	140	JX

TOTAL UNKNOWN TICS: 590  
TOTAL TICS 4030

SDG FILE: temp\1F41135 DATE: MATRIX:  
ES: SB471  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB471	123-42-2	2-Pentanone, 4-hydroxy-4-met	10000	NJ
SB471	630-03-5	Nonacosane	270	NJ
SB471	638-68-6	Triacontane	78	NJ
SB471	630-04-6	Hentriacontane	230	NJ

TOTAL UNKNOWN TICS: 1499  
TOTAL TICS 12077

SDG FILE: temp\1F41135 DATE: MATRIX:  
ES: SB471RE  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB471RE	123-42-2	2-Pentanone, 4-hydroxy-4-met	3500	NJ
SB471RE	630-03-5	Nonacosane	260	NJ
SB471RE	630-04-6	Hentriacontane	180	NJ
TOTAL UNKNOWN TICS:			463	
TOTAL TICS			4403	

SDG FILE: temp\1F41135 DATE: MATRIX:  
ES: SB473  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB473	123-42-2	2-Pentanone, 4-hydroxy-4-met	10000	NJ
TOTAL UNKNOWN TICS:			2157	
TOTAL TICS			12157	

SDG FILE: temp\1F41135 DATE: MATRIX:  
ES: SB473RE  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB473RE	123-42-2	2-Pentanone, 4-hydroxy-4-met	3700	NJ
TOTAL UNKNOWN TICS:			417	
TOTAL TICS			4117	

SDG FILE: temp\1F41135 DATE: MATRIX:  
ES: SB474  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB474	123-42-2	2-Pentanone, 4-hydroxy-4-met	9600	NJ
TOTAL UNKNOWN TICS:			1190	
TOTAL TICS			10790	

SDG FILE: temp\1F41135 DATE: MATRIX:  
ES: SB474RE  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB474RE	123-42-2	2-Pentanone, 4-hydroxy-4-met	4000	NJ
TOTAL UNKNOWN TICS:			360	
TOTAL TICS			4360	

SDG FILE: temp\1F41135 DATE: MATRIX:  
ES: SB481  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB481	123-42-2	2-Pentanone, 4-hydroxy-4-met	9800	NJ
SB481	630-03-5	Nonacosane	220	NJ
SB481	630-04-6	Hentriacontane	260	NJ
TOTAL UNKNOWN TICS:			1200	
TOTAL TICS			11480	

SDG FILE: temp\1F41135 DATE: MATRIX:  
ES: SB481RE  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB481RE	123-42-2	2-Pentanone, 4-hydroxy-4-met	3000	NJ
SB481RE	630-03-5	Nonacosane	130	NJ
SB481RE	630-04-6	Hentriacontane	89	NJ
TOTAL UNKNOWN TICS:			210	
TOTAL TICS			3429	

SDG FILE: temp\1F41135 DATE: MATRIX:  
ES: SB482  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB482	123-42-2	2-Pentanone, 4-hydroxy-4-met	9400	NJ
SB482	630-03-5	Nonacosane	140	NJ
SB482	630-04-6	Hentriacontane	170	NJ
TOTAL UNKNOWN TICS:			1010	
TOTAL TICS			10720	

SDG FILE: temp\1F41135 DATE: MATRIX:  
ES: SB482RE  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB482RE	123-42-2	2-Pentanone, 4-hydroxy-4-met	2500	NJ
SB482RE	111-46-6	Ethanol, 2,2'-oxybis-	98	NJ
TOTAL UNKNOWN TICS:			84	
TOTAL TICS			2682	

SDG FILE: temp\1F41135 DATE: MATRIX:  
ES: SB483  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB483	123-42-2	2-Pentanone, 4-hydroxy-4-met	9900	NJ
TOTAL UNKNOWN TICS:			1260	
TOTAL TICS			11160	

SDG FILE: temp\1F41135 DATE: MATRIX:  
ES: SB483RE  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB483RE	123-42-2	2-Pentanone, 4-hydroxy-4-met	2500	NJ
TOTAL UNKNOWN TICS:			360	
TOTAL TICS			2860	

SDG FILE: temp\1F41135 DATE: MATRIX:  
ES: SB491  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB491	123-42-2	2-Pentanone, 4-hydroxy-4-met	11000	NJ
SB491	832-71-3	Phenanthrene, 3-methyl-	310	NJ
SB491	203-64-5	4H-Cyclopenta[def]phenanthre	390	NJ
SB491	35465-71-5	2-Phenylnaphthalene	190	NJ
SB491	238-84-6	11H-Benzo[a]fluorene	530	NJ
SB491	2381-21-7	Pyrene, 1-methyl-	210	NJ
SB491	239-35-0	Benzo[b]naphtho[2,1-d]thioph	260	NJ
SB491	630-03-5	Nonacosane	770	NJ
SB491	192-97-2	Benzo[e]pyrene	1200	NJ
SB491	198-55-0	Perylene	610	NJ
SB491	630-04-6	Hentriacontane w/unknown	980	NJ
TOTAL UNKNOWN TICS:			2940	
TOTAL TICS			19390	

SDG FILE: temp\1F41135 DATE: MATRIX:  
ES: SB491RE  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB491RE	123-42-2	2-Pentanone, 4-hydroxy-4-met	3600	NJ
SB491RE	630-03-5	Nonacosane	140	NJ
SB491RE	630-04-6	Hentriacontane	170	NJ
TOTAL UNKNOWN TICS:			240	
TOTAL TICS			4150	

SDG FILE: temp\1F41135 DATE: MATRIX:  
ES: SB492  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB492	123-42-2	2-Pentanone, 4-hydroxy-4-met	10000	NJ
TOTAL UNKNOWN TICS:			2418	
TOTAL TICS			12418	

SDG FILE: temp\1F41135 DATE: MATRIX:  
ES: SB492RE  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB492RE	123-42-2	2-Pentanone, 4-hydroxy-4-met	3900	NJ
TOTAL UNKNOWN TICS:			506	
TOTAL TICS			4406	

SDG FILE: temp\1F41135 DATE: MATRIX:  
ES: SB493  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB493	123-42-2	2-Pentanone, 4-hydroxy-4-met	11000	NJ
TOTAL UNKNOWN TICS:			880	
TOTAL TICS			11880	

SDG FILE: temp\1F41135 DATE: MATRIX:  
ES: SB493RE  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB493RE	123-42-2	2-Pentanone, 4-hydroxy-4-met	3500	NJ
TOTAL UNKNOWN TICS:			540	
TOTAL TICS			4040	

SDG FILE: temp\1F41136 DATE: MATRIX:  
ES: SB4101  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB4101	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	5200	BJ
SB4101	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	200	JX
SB4101	57-10-	HEXADECANOIC ACID	120	JX
SB4101	123-28-	PROPANOIC ACID, 3,3'-THIOBIS	86	BJ
SB4101	593-49-	HEPTACOSANE	130	JX
SB4101	630-02-	OCTACOSANE	82	JX
SB4101	630-03-	NONACOSANE	330	JX
SB4101	506-52-	1-HEXACOSANOL	78	JX
SB4101	630-04-	HENTRIACONTANE	370	JX
SB4101	630-05-	TRITRIACONTANE	120	JX

TOTAL UNKNOWN TICS: 800  
TOTAL TICS 7516

SDG FILE: temp\1F41136 DATE: MATRIX:  
ES: SB4102  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB4102	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	3000	BJ
SB4102	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	140	JX
SB4102	123-28-	PROPANOIC ACID, 3,3'-THIOBIS	100	BJ
SB4102	630-04-	HENTRIACONTANE	75	JX

TOTAL UNKNOWN TICS: 1045  
TOTAL TICS 4360

SDG FILE: temp\1F41136 DATE: MATRIX:  
ES: SB4103  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB4103	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	2500	BJ
SB4103	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	97	JX
SB4103	123-28-	PROPANOIC ACID, 3,3'-THIOBIS	120	BJ

TOTAL UNKNOWN TICS: 803  
TOTAL TICS 3520



SDG FILE: temp\1E41136      DATE:      MATRIX:  
 ES: TP43  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP43	541-05-	CYCLOTRISILOXANE, HEXAMETHYL	9	BJ
TOTAL UNKNOWN TICS:			0	
TOTAL TICS			9	

SDG FILE: temp\1F40693      DATE:      MATRIX:  
 ES: TP41  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP41	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	2700	BJ
TP41	57-10-	HEXADECANOIC ACID	110	JX
TP41	661-19-	1-DOCOSANOL	200	JX
TP41	593-49-	HEPTACOSANE	180	JX
TP41	506-51-	1-TETRACOSANOL	220	JX
TP41	630-02-	OCTACOSANE	91	JX
TP41	630-03-	NONACOSANE	460	JX
TP41	506-52-	1-HEXACOSANOL	280	JX
TP41	630-04-	HENTRIACONTANE	500	JX
TP41	630-05-	TRITRIACONTANE	79	JX
TP41	123-28-	PROPANOIC ACID, 3,3'-THIOBIS	79	JX
TOTAL UNKNOWN TICS:			2236	
TOTAL TICS			7135	

SDG FILE: temp\1F40693      DATE:      MATRIX:  
 ES: TP42  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP42	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	4000	BJ
TP42	1921-70-	PENTADECANE, 2,6,10,14-TETRA	82	BJ
TP42	57-10-	HEXADECANOIC ACID	150	JX
TP42	661-19-	1-DOCOSANOL	170	JX
TP42	593-49-	HEPTACOSANE	180	JX
TP42	506-51-	1-TETRACOSANOL	160	JX
TP42	630-02-	OCTACOSANE	93	JX
TP42	630-03-	NONACOSANE	440	JX
TP42	506-52-	1-HEXACOSANOL	310	JX
TP42	630-04-	HENTRIACONTANE	310	JX
TOTAL UNKNOWN TICS:			2902	
TOTAL TICS			8797	

SDG FILE: temp\1F41136 DATE: MATRIX:  
ES: TP43  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP43	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	3700	BJ
TP43	128-37-	PHENOL, 2,6-BIS(1,1-DIMETHYL	170	JX
TP43	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	300	JX
TP43	57-10-	HEXADECANOIC ACID	180	JX
TP43	638-67-	TRICOSANE	240	JX
TP43	646-31-	TETRACOSANE	380	JX
TP43	629-99-	PENTACOSANE	530	JX
TP43	630-01-	HEXACOSANE	570	JX
TP43	593-49-	HEPTACOSANE	540	JX
TP43	630-02-	OCTACOSANE	430	JX
TP43	630-03-	NONACOSANE	480	JX
TP43	638-68-	TRIACONTANE	190	JX
TP43	630-04-	HENTRIACONTANE	190	JX

TOTAL UNKNOWN TICS: 3120  
TOTAL TICS 11020

SDG FILE: temp\1F41136 DATE: MATRIX:  
ES: TP44  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP44	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	2700	BJ
TP44	593-49-	HEPTACOSANE	100	JX
TP44	630-03-	NONACOSANE	560	JX
TP44	630-04-	HENTRIACONTANE	140	JX

TOTAL UNKNOWN TICS: 950  
TOTAL TICS 4450

SDG FILE: temp\1F41136 DATE: MATRIX:  
ES: TP45  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP45	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	2700	BJ
TP45	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	170	JX
TP45	57-10-	HEXADECANOIC ACID	81	JX
TP45	523-59-	2H, 8H-BENZO[1,2-B:3,4-B']DI	190	JX
TP45	593-49-	HEPTACOSANE	120	JX
TP45	630-03-	NONACOSANE	340	JX
TP45	630-04-	HENTRIACONTANE	230	JX

TOTAL UNKNOWN TICS: 795  
TOTAL TICS 4626

SDG FILE: temp\1F41136 DATE: MATRIX:  
ES: TP46  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP46	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	2700	JX
TP46	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	120	JX
TP46	123-28-	PROPANOIC ACID, 3,3'-THIOBIS	74	BJ
TOTAL UNKNOWN TICS:			700	
TOTAL TICS			3594	

SDG FILE: temp\1F41136 DATE: MATRIX:  
ES: TP47  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP47	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	3700	BJ
TP47	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	110	JX
TP47	630-03-	NONACOSANE	120	JX
TP47	630-04-	HENTRIACONTANE	110	JX
TOTAL UNKNOWN TICS:			240	
TOTAL TICS			4280	

SDG FILE: temp\1F41136 DATE: MATRIX:  
ES: TP48  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP48	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	4900	BJ
TP48	630-03-	NONACOSANE	200	JX
TP48	630-04-	HENTRIACONTANE	210	JX
TOTAL UNKNOWN TICS:			90	
TOTAL TICS			5400	

SDG FILE: temp\1E41203 DATE: MATRIX:  
ES: SD46  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SD46	1066-40-	SILANOL, TRIMETHYL-	14	JX
TOTAL UNKNOWN TICS:			0	
TOTAL TICS			14	

SDG FILE: temp\1E41315 DATE: MATRIX:  
ES: SD49  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SD49	1066-40-6	Silanol, trimethyl-	16	NJ
TOTAL UNKNOWN TICS:			0	
TOTAL TICS			16	

SDG FILE: temp\1F41203 DATE: MATRIX:  
ES: SD44  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SD44	123-42-2	2-Pentanone, 4-hydroxy-4-met	3500	NJ
SD44	57-10-3	Hexadecanoic acid	810	NJ
SD44	593-49-7	Heptacosane	700	NJ
SD44	630-04-6	Hentriacontane	1900	NJ
SD44	630-05-7	Tritriacontane	570	NJ
TOTAL UNKNOWN TICS:			18460	
TOTAL TICS			25940	

SDG FILE: temp\1F41203 DATE: MATRIX:  
ES: SD45  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SD45	123-42-2	2-Pentanone, 4-hydroxy-4-met	4800	NJ
SD45	593-49-7	Heptacosane	500	NJ
SD45	630-03-5	Nonacosane	1700	NJ
SD45	630-04-6	Hentriacontane	1800	NJ
SD45	630-05-7	Tritriacontane	630	NJ
SD45	1058-61-3	Stigmast-4-en-3-one	840	NJ
TOTAL UNKNOWN TICS:			10990	
TOTAL TICS			21260	

SDG FILE: temp\1F41203 DATE: MATRIX:  
ES: SD46  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SD46	123-42-2	2-Pentanone, 4-hydroxy-4-met	6100	NJ
SD46	593-49-7	Heptacosane	1000	NJ
SD46	630-04-6	Hentriacontane	2500	NJ
SD46	83-48-7	Stigmasterol	1800	NJ
SD46	1058-61-3	Stigmast-4-en-3-one	1800	NJ
TOTAL UNKNOWN TICS:			27950	
TOTAL TICS			41150	

SDG FILE: temp\1F40391 DATE: MATRIX:  
 ES: SD41  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SD41	123-42-2	2-Pentanone, 4-hydroxy-4-met	16000	NJ
SD41	629-78-7	Heptadecane	2600	NJ
SD41	57-10-3	Hexadecanoic acid	2000	NJ
SD41	629-99-2	Pentacosane	1800	NJ
SD41	593-49-7	Heptacosane	1800	NJ
SD41	630-03-5	Nonacosane	15000	NJ
SD41	630-04-6	Hentriacontane	8700	NJ
SD41	59-02-9	Vitamin E	5800	NJ
SD41	83-48-7	Stigmasterol	2100	NJ

TOTAL UNKNOWN TICS: 49900  
 TOTAL TICS 105700

SDG FILE: temp\1F40391 DATE: MATRIX:  
 ES: SD42  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SD42	123-42-2	2-Pentanone, 4-hydroxy-4-met	10000	NJ
SD42	629-78-7	Heptadecane	720	NJ
SD42	638-67-5	Tricosane	650	NJ
SD42	629-99-2	Pentacosane	790	NJ
SD42	593-049-7	Heptacosane	880	NJ
SD42	630-03-5	Nonacosane	6200	NJ
SD42	630-04-6	Hentriacontane	2800	NJ

TOTAL UNKNOWN TICS: 16400  
 TOTAL TICS 38440

SDG FILE: temp\1F40391 DATE: MATRIX:  
 ES: SD43  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SD43	123-42-2	2-Pentanone, 4-hydroxy-4-met	6700	NJ
SD43	629-50-5	Tridecane	150	NJ
SD43	629-59-4	Tetradecane	530	NJ
SD43	629-62-9	Pentadecane	810	NJ
SD43	544-76-3	Hexadecane	670	NJ
SD43	629-78-7	Heptadecane	460	NJ
SD43	1921-70-6	Pentadecane, 2,6,10,14-tetra	330	NJ
SD43	593-49-7	Heptacosane	130	NJ
SD43	630-03-5	Nonacosane	520	NJ
SD43	630-04-6	Hentriacontane	230	NJ

TOTAL UNKNOWN TICS: 3770  
 TOTAL TICS 14300

SDG FILE: temp\1F41315      DATE:      MATRIX:  
 ES: SD47  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SD47	123-42-2	2-Pentanone, 4-hydroxy-4-met	14000	NJ
SD47	629-78-7	Heptadecane	2600	NJ
SD47	593-45-3	Octadecane	1100	NJ
SD47	638-36-8	Hexadecane, 2,6,10,14-tetram	990	NJ
SD47	629-92-5	Nonadecane	1000	NJ
SD47	057-11-4	Octadecanoic acid	1100	NJ
SD47	638-67-5	Tricosane	1100	NJ
SD47	646-31-1	Tetracosane	1000	NJ
SD47	078-42-2	Phosphoric acid, tris(2-ethy	1600	NJ
SD47	629-99-2	Pentacosane	1100	NJ
SD47	630-01-3	Hexacosane	1100	NJ
SD47	593-49-7	Heptacosane	1400	NJ
SD47	630-02-4	Octacosane	1300	NJ
SD47	630-03-5	Nonacosane	3600	NJ
SD47	638-68-6	triacontane	1400	NJ
SD47	630-04-6	Hentriacontane	1600	NJ
TOTAL UNKNOWN TICS:			6300	
TOTAL TICS			42290	

SDG FILE: temp\1F41315      DATE:      MATRIX:  
 ES: SD48  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SD48	123-42-2	2-Pentanone, 4-hydroxy-4-met	25000	NJ
SD48	1921-70-6	Pentadecane, 2,6,10,14-tetra	5100	NJ
SD48	638-36-8	Hexadecane, 2,6,10,14-tetram	4700	NJ
SD48	630-01-3	Hexacosane	4400	NJ
SD48	593-49-7	Heptacosane	3500	NJ
SD48	630-03-5	Nonacosane	9400	NJ
SD48	630-04-6	Hentriacontane	4800	NJ
TOTAL UNKNOWN TICS:			80400	
TOTAL TICS			137300	

SDG FILE: temp\1F41315 DATE: MATRIX:  
ES: SD49  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SD49	123-42-2	2-Pentanone, 4-hydroxy-4-met	36000	NJ
SD49	629-99-2	Pentacosane	12000	NJ
SD49	593-49-7	Heptacosane	18000	NJ
SD49	630-03-5	Nonacosane	40000	NJ
SD49	638-68-6	Tricontane	14000	NJ
TOTAL UNKNOWN TICS:			163900	
TOTAL TICS			283900	

SDG FILE: temp\1F41315 DATE: MATRIX:  
ES: 4PIPE  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
4PIPE	123-42-2	2-Pentanone, 4-hydroxy-4-met	18	NJ
4PIPE	544-76-3	Hexadecane	3	NJ
4PIPE	629-78-7	Heptadecane	4	NJ
4PIPE	1921-70-6	Pentadecane, 2,6,10,14-tetra	2	NJ
4PIPE	593-45-3	Octadecane	4	NJ
4PIPE	638-36-8	Hexadecane, 2,6,10,14-tetram	2	NJ
4PIPE	629-92-5	Nonadecane	4	NJ
4PIPE	112-95-8	Eicosane	2	NJ
TOTAL UNKNOWN TICS:			0	
TOTAL TICS			39	

SDG FILE: temp\1F40477 DATE: MATRIX:  
ES: SW41  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SW41	123-42-2	2-Pentanone, 4-hydroxy-4-met	14	NJ
TOTAL UNKNOWN TICS:			2	
TOTAL TICS			16	

SDG FILE: temp\1F40477 DATE: MATRIX:  
ES: SW42  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SW42	123-42-2	2-Pentanone, 4-hydroxy-4-met	12	NJ
TOTAL UNKNOWN TICS:			2	
TOTAL TICS			14	

SDG FILE: temp\1F40477      DATE:      MATRIX:  
ES:      SW43  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SW43	123-42-2	2-Pentanone, 4-hydroxy-4-met	14	NJ
SW43	791-28-6	Phosphine oxide, triphenyl-	2	NJ
		TOTAL UNKNOWN TICS:	2	
		TOTAL TICS	18	



**SEAD-16**

TENTATIVELY IDENTIFIED COMPOUNDS  
SEAD - 16

SDG FILE: temp\1E40299 DATE: MATRIX:  
ES: SS1612  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS1612	2847-72-5	Decane, 4-methyl-	44	NJ

TOTAL UNKNOWN TICS: 136  
TOTAL TICS 180

SDG FILE: temp\1E40299 DATE: MATRIX:  
ES: SS1615  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS1615	95-36-3	1,2,4-Trimethylbenzene	6	NJ

TOTAL UNKNOWN TICS: 0  
TOTAL TICS 6

SDG FILE: temp\1E40299 DATE: MATRIX:  
ES: SS1615RE  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
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TOTAL UNKNOWN TICS: 53  
TOTAL TICS 53

SDG FILE: temp\1E40299 DATE: MATRIX:  
ES: SS1616  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
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TOTAL UNKNOWN TICS: 98  
TOTAL TICS 98

SDG FILE: temp\1E40299 DATE: MATRIX:  
ES: SS165  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS165	138-86-3	Limonene	12	NJ

TOTAL UNKNOWN TICS: 110  
TOTAL TICS 122

SDG FILE: temp\1E40299 DATE: MATRIX:  
ES: SS166  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
		TOTAL UNKNOWN TICS:	90	
		TOTAL TICS	90	

SDG FILE: temp\1E40299 DATE: MATRIX:  
ES: SS167  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS167	611-14-3	Benzene, 1-ethyl-2-methyl-	670	NJ
		TOTAL UNKNOWN TICS:	4640	
		TOTAL TICS	5310	

SDG FILE: temp\1E40693 DATE: MATRIX:  
ES: SS1610  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS1610	75-71-	METHANE, DICHLORODIFLUORO-	21	JX
SS1610	281-23-	TRICYCLO[3.3.1.13,7]DECANE	11	JX
		TOTAL UNKNOWN TICS:	23	
		TOTAL TICS	55	

SDG FILE: temp\1E40693 DATE: MATRIX:  
ES: SS169  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS169	75-71-	METHANE, DICHLORODIFLUORO-	29	JX
SS169	281-23-	TRICYCLO[3.3.1.13,7]DECANE	15	JX
		TOTAL UNKNOWN TICS:	26	
		TOTAL TICS	70	

SDG FILE: temp\1E40319 DATE: MATRIX:  
ES: SS163  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS163	95-13-	1H-INDENE	24	JX
		TOTAL UNKNOWN TICS:	49	
		TOTAL TICS	73	

SDG FILE: temp\1F40693 DATE: MATRIX:  
ES: SS1610  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS1610	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	19000	BJ
SS1610	26730-14-	TRIDECANE, 7-METHYL-	7500	JX
SS1610	74645-98-	DODECANE, 2,7,10-TRIMETHYL-	4700	JX
SS1610	1921-70-	PENTADECANE, 2,6,10,14-TETRA	2100	BJ
TOTAL UNKNOWN TICS:			38700	
TOTAL TICS			72000	

SDG FILE: temp\1F40693 DATE: MATRIX:  
ES: SS169  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS169	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	37000	BJ
SS169	112-40-	DODECANE	2900	JX
SS169	17301-23-	UNDECANE, 2,6-DIMETHYL-	6000	JX
SS169	26730-14-	TRIDECANE, 7-METHYL-	9100	JX
SS169	629-50-	TRIDECANE	3000	JX
SS169	74645-98-	DODECANE, 2,7,10-TRIMETHYL-	7000	JN
SS169	629-59-	TETRADECANE	3000	JX
SS169	1921-70-	PENTADECANE, 2,6,10,14-TETRA	3400	BJ
SS169	629-99-	PENTACOSANE	3000	JX
SS169	630-01-	HEXACOSANE	2800	JX
SS169	593-49-	HEPTACOSANE	2800	JX
SS169	630-02-	OCTACOSANE	2900	JX
SS169	630-03-	NONACOSANE	2800	JX
SS169	638-68-	TRIACONTANE	2700	JX
SS169	630-04-	HENTRIACONTANE	2900	JX
TOTAL UNKNOWN TICS:			33000	
TOTAL TICS			124300	

SDG FILE: temp\1F40319 DATE: MATRIX:  
 ES: SS163  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS163	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	21000	BJ
SS163	90-12-	NAPHTHALENE, 1-METHYL-	510	JX
SS163	575-41-	NAPHTHALENE, 1,3-DIMETHYL-	350	JX
SS163	629-78-	HEPTADECANE	510	JX
SS163	1921-70-	PENTADECANE, 2,6,10,14-TETRA	1200	JX
SS163	593-45-	OCTADECANE	620	JX
SS163	629-92-	NONADECANE	660	JX
SS163	112-95-	EICOSANE	660	JX
SS163	629-94-	HENEICOSANE W/ PAH	660	JX
SS163	629-97-	DOCOSANE	360	JX
SS163	638-67-	TRICOSANE	390	JX
SS163	646-31-	TETRACOSANE	390	JX
SS163	629-99-	PENTACOSANE	510	JX
SS163	630-01-	HEXACOSANE	430	JX
SS163	593-49-	HEPTACOSANE	610	JX
SS163	630-02-	OCTACOSANE	570	JX
SS163	630-03-	NONACOSANE	1400	JX
SS163	638-68-	TRIACONTANE	360	JX
SS163	630-04-	HENTRIACONTANE	690	JX

TOTAL UNKNOWN TICS: 1010  
 TOTAL TICS 32890

SDG FILE: temp\1F40299 DATE: MATRIX:  
 ES: SS161  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS161	123-42-2	2-Pentanone, 4-hydroxy-4-met	8800	NJ
SS161	544-76-3	Hexadecane	300	NJ
SS161	629-78-7	Heptadecane	380	NJ
SS161	593-45-3	Octadecane	320	NJ
SS161	629-97-0	Docosane w/unknown	440	NJ
SS161	646-31-1	Tetracosane w/unknown	330	NJ

TOTAL UNKNOWN TICS: 21900  
 TOTAL TICS 32470

SDG FILE: temp\1F40299 DATE: MATRIX:  
ES: SS1611  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS1611	123-42-2	2-Pentanone, 4-hydroxy-4-met	6300	NJ
SS1611	57-10-3	Hexadecanoic acid	610	NJ
SS1611	593-49-7	Heptacosane	250	NJ
SS1611	630-03-5	Nonacosane	1300	NJ
SS1611	638-68-6	Triacontane	190	NJ
SS1611	630-04-6	Hentriacontane	1700	NJ
SS1611	630-05-7	Tritriacontane	510	NJ

TOTAL UNKNOWN TICS: 5570  
TOTAL TICS 16430

SDG FILE: temp\1F40299 DATE: MATRIX:  
ES: SS1612  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS1612	123-42-2	2-Pentanone, 4-hydroxy-4-met	5500	NJ
SS1612	57-10-3	Hexadecanoic acid	400	NJ
SS1612	629-99-2	Pentacosane	80	NJ
SS1612	593-49-7	Heptacosane	130	NJ
SS1612	630-03-5	Nonacosane	480	NJ
SS1612	630-04-6	Hentriacontane	300	NJ

TOTAL UNKNOWN TICS: 3420  
TOTAL TICS 10310

SDG FILE: temp\1F40299 DATE: MATRIX:  
ES: SS1613  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS1613	123-42-2	2-Pentanone, 4-hydroxy-4-met	9800	NJ
SS1613	1120-21-4	Undecane	310	NJ
SS1613	57-10-3	Hexadecanoic acid	700	NJ
SS1613	629-99-2	Pentacosane	150	NJ
SS1613	593-49-7	Heptacosane	330	NJ
SS1613	630-03-5	Nonacosane	1100	NJ
SS1613	630-04-6	Hentriacontane	690	NJ

TOTAL UNKNOWN TICS: 5810  
TOTAL TICS 18890

SDG FILE: temp\1F40299 DATE: MATRIX:  
ES: SS1614  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS1614	123-42-2	2-Pentanone, 4-hydroxy-4-met	5900	NJ
SS1614	1120-21-4	Undecane	120	NJ
SS1614	629-62-9	Pentadecane	100	NJ
SS1614	544-76-3	Hexadecane	140	NJ
SS1614	629-78-7	Heptadecane	200	NJ
SS1614	1921-70-6	Pentadecane, 2,6,10,14-tetra	93	NJ
SS1614	593-45-3	Octadecane	170	NJ
SS1614	629-92-5	Nonadecane	170	NJ
SS1614	57-10-3	Hexadecanoic acid	190	NJ
SS1614	112-95-8	Eicosane	120	NJ
SS1614	629-94-7	Heneicosane	100	NJ
SS1614	646-31-1	Tetracosane	95	NJ
SS1614	629-99-2	Pentacosane	100	NJ
SS1614	593-49-7	Heptacosane	110	NJ
SS1614	630-03-5	Nonacosane	330	NJ
SS1614	630-04-6	Hentriacontane	290	NJ
TOTAL UNKNOWN TICS:			810	
TOTAL TICS			9038	

SDG FILE: temp\1F40299 DATE: MATRIX:  
ES: SS1615  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS1615	123-42-2	2-Pentanone, 4-hydroxy-4-met	5300	NJ
SS1615	57-10-3	Hexadecanoic acid	130	NJ
SS1615	629-99-2	Pentacosane	81	NJ
SS1615	593-49-7	Heptacosane	150	NJ
SS1615	630-03-5	Nonacosane	770	NJ
SS1615	630-04-6	Hentriacontane	340	NJ
TOTAL UNKNOWN TICS:			1426	
TOTAL TICS			8197	

SDG FILE: temp\1F40299 DATE: MATRIX:  
ES: SS1616  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS1616	123-42-2	2-Pentanone, 4-hydroxy-4-met	18000	NJ
TOTAL UNKNOWN TICS:			65510	
TOTAL TICS			83510	

SDG FILE: temp\1F40299 DATE: MATRIX:  
ES: SS1616RE  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS1616RE	123-42-2	2-Pentanone, 4-hydroxy-4-met	15000	NJ
TOTAL UNKNOWN TICS:			81060	
TOTAL TICS			96060	

SDG FILE: temp\1F40299 DATE: MATRIX:  
ES: SS161DL  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS161DL	123-42-2	2-Pentanone, 4-hydroxy-4-met	17000	NJ
SS161DL	544-76-3	Hexadecane	480	NJ
SS161DL	629-78-7	Heptadecane	570	NJ
SS161DL	593-49-3	Octadecane	560	NJ
SS161DL	629-92-5	Nonadecane	530	NJ
SS161DL	629-97-0	Docosane	440	NJ
SS161DL	638-67-5	Tricosane	520	NJ
TOTAL UNKNOWN TICS:			31110	
TOTAL TICS			51210	

SDG FILE: temp\1F40299 DATE: MATRIX:  
ES: SS162  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS162	123-42-2	2-Pentanone, 4-hydroxy-4-met	6200	NJ
SS162	1120-21-4	Undecane	360	NJ
SS162	90-12-0	Naphthalene, 1-methyl-	460	NJ
SS162	575-41-7	Naphthalene, 1,3-dimethyl-	340	NJ
SS162	1921-70-6	Pentadecane, 2,6,10,14-tetra	480	NJ
SS162	57-10-3	Hexadecanoic acid	240	NJ
SS162	2531-84-2	Phenanthrene, 2-methyl-	270	NJ
SS162	112-95-8	Eicosane	220	NJ
SS162	629-94-7	Heneicosane w/dimethylnaphth	260	NJ
SS162	629-97-0	Docosane	210	NJ
SS162	638-67-5	Tricosane	300	NJ
SS162	238-84-6	11H-Benzo[a]fluorene	310	NJ
SS162	646-31-1	Tetracosane w/C17H12 PAH	420	NJ
SS162	629-99-2	Pentacosane	270	NJ
SS162	239-35-0	Benzo[b]naphtho[2,1-d]thioph	220	NJ
SS162	629-78-7	Heptadecane	310	NJ
SS162	630-03-5	Nonacosane	1000	NJ
TOTAL UNKNOWN TICS:			1060	
TOTAL TICS			12930	



SDG FILE: temp\1F40299 DATE: MATRIX:  
ES: SS164  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS164	123-42-2	2-Pentanone, 4-hydroxy-4-met	30000	NJ
SS164	72-55-9	p,p'-DDE	3400	NJ
SS164	638-67-5	Tricosane w/unknown	7800	NJ
SS164	646-31-1	Tetracosane	3800	NJ
SS164	629-99-2	Pentacosane	4800	NJ
SS164	630-01-3	Hexacosane	5100	NJ

TOTAL UNKNOWN TICS: 84000  
TOTAL TICS 138900

SDG FILE: temp\1F40299 DATE: MATRIX:  
ES: SS165  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS165	123-42-2	2-Pentanone, 4-hydroxy-4-met	10000	NJ
SS165	629-59-4	Tetradecane	440	NJ
SS165	629-62-9	Pentadecane	680	NJ
SS165	544-76-3	Hexadecane	850	NJ
SS165	629-78-7	Heptadecane	1200	NJ
SS165	1921-70-6	Pentadecane, 2,6,10,14-tetra	440	NJ
SS165	593-45-3	Octadecane	1100	NJ
SS165	57-10-3	Hexadecanoic acid	460	NJ
SS165	112-95-8	Eicosane	760	NJ
SS165	629-94-7	Heneicosane	560	NJ
SS165	629-97-0	Docosane	480	NJ
SS165	638-67-5	Tricosane	480	NJ
SS165	593-49-7	Heptacosane	410	NJ
SS165	630-03-5	Nonacosane	1500	NJ
SS165	630-04-6	Hentriacontane	1100	NJ

TOTAL UNKNOWN TICS: 6720  
TOTAL TICS 27180

SDG FILE: temp\1F40299 DATE: MATRIX:  
ES: SS166  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS166	123-42-2	2-Pentanone, 4-hydroxy-4-met	15000	NJ

TOTAL UNKNOWN TICS: 189000  
TOTAL TICS 204000

SDG FILE: temp\1F40299 DATE: MATRIX:  
ES: SS167  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS167	123-42-2	2-Pentanone, 4-hydroxy-4-met	22000	NJ
SS167	575-41-7	Naphthalene, 1,3-dimethyl-	29000	NJ
SS167	629-62-9	Pentadecane	78000	NJ
TOTAL UNKNOWN TICS:			650000	
TOTAL TICS			779000	

SDG FILE: temp\1F40299 DATE: MATRIX:  
ES: SS168  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS168	123-42-2	2-Pentanone, 4-hydroxy-4-met	16000	NJ
SS168	638-67-5	Tricosane	710	NJ
SS168	646-31-1	Tetracosane	810	NJ
SS168	629-99-2	Pentacosane	820	NJ
SS168	630-03-5	Nonacosane	1200	NJ
TOTAL UNKNOWN TICS:			40310	
TOTAL TICS			59850	

SDG FILE: temp\1E41135 DATE: MATRIX:  
ES: FS167  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
FS167	75-18-3	Dimethyl sulfide	30	NJ
FS167	110-54-3	Hexane	13	NJ
TOTAL UNKNOWN TICS:			0	
TOTAL TICS			43	

SDG FILE: temp\1F41115 DATE: MATRIX:  
ES: FS161  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
FS161	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	3500	BJ
FS161	57-10-	HEXADECANOIC ACID	2700	JX
FS161	57-11-	OCTADECANOIC ACID	1300	JX
FS161	593-49-	HEPTACOSANE	1200	JX
FS161	630-03-	NONACOSANE	5300	JX
FS161	630-04-	HENTRIACONTANE	2700	JX
FS161	57-88-	CHOLESTEROL	4900	JX
FS161	630-05-	TRITRIACONTANE	750	JX
TOTAL UNKNOWN TICS:			15420	
TOTAL TICS			37770	

SDG FILE: temp\1F41115      DATE:      MATRIX:  
 ES:      FS162  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
FS162	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	3100	BJ
FS162	544-76-	HEXADECANE	240	JX
FS162	629-78-	HEPTADECANE	560	JX
FS162	1921-70-	PENTADECANE, 2,6,10,14-TETRA	380	JX
FS162	486-25-	9H-FLUOREN-9-ONE	870	JX
FS162	593-45-	OCTADECANE	950	JX
FS162	638-36-	HEXADECANE, 2,6,10,14-TETRAM	460	JX
FS162	629-92-	NONADECANE	1400	JX
FS162	832-71-	PHENANTHRENE, 3-METHYL-	280	JX
FS162	2531-84-	PHENANTHRENE, 2-METHYL- W/ A	500	JX
FS162	548-39-	1H-PHENALEN-1-ONE	260	JX
FS162	112-95-	EICOSANE	1400	JX
FS162	84-65-	9,10-ANTHRACENEDIONE	1000	JX
FS162	629-94-	HENEICOSANE W/ DIMETHYLPHENA	1300	JX
FS162	629-97-	DOCOSANE W/ BENZONAPHTHOFURA	730	JX
FS162	638-67-	TRICOSANE	490	JX
FS162	646-31-	TETRACOSANE	340	JX
FS162	27208-37-	CYCLOPENTA [CD] PYRENE W/ PENT	240	JX
FS162	630-03-	NONACOSANE	310	JX

TOTAL UNKNOWN TICS:      810  
 TOTAL TICS      15620

SDG FILE: temp\1F41115      DATE:      MATRIX:  
 ES:      FS163  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
FS163	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	11000	BJ
FS163	99-87-	BENZENE, 1-METHYL-4-(1-METHY	10000	JX
FS163	98-55-	3-CYCLOHEXENE-1-METHANOL, .AL	0	JX
FS163	90-12-	NAPHTHALENE, 1-METHYL-	27000	JX
FS163	939-27-	NAPHTHALENE, 2-ETHYL- W/ ALI	16000	JX
FS163	581-42-	NAPHTHALENE, 2,6,-DIMETHYL-	18000	JX
FS163	575-41-	NAPHTHALENE, 1,3-DIMETHYL-	28000	JX
FS163	575-43-	NAPHTHALENE, 1,6-DIMETHYL-	14000	JX
FS163	581-40-	NAPHTHALENE, 2,3-DIMETHYL-	13000	JX
FS163	573-98-	NAPHTHALENE, 1,2-DIMETHYL-	10000	JX
FS163	644-08-	1,1'-BIPHENYL, 4-METHYL-	8300	JX
FS163	832-71-	PHENANTHRENE, 3-METHYL-	14000	JX
FS163	2531-84-	PHENANTHRENE, 2-METHYL- W/ H	18000	JX
FS163	832-69-	PHENANTHRENE, 1-METHYL-	12000	JX

TOTAL UNKNOWN TICS:      86000  
 TOTAL TICS      285300

SDG FILE: temp\1F41115      DATE:      MATRIX:  
 ES: FS164  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
FS164	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	5200	BJ
FS164	629-78-	HEPTADECANE	1100	JX
FS164	1921-70-	PENTADECANE, 2,6,10,14-TETRA	1200	JX
FS164	593-45-	OCTADECANE	1800	JX
FS164	638-36-	HEXADECANE, 2,6,10,14-TETRAM	1500	JX
FS164	629-92-	NONADECANE	2600	JX
FS164	57-10-	HEXADECANOIC ACID	1100	JX
FS164	112-95-	EICOSANE	2700	JX
FS164	629-94-	HENEICOSANE	2400	JX
FS164	629-97-	DOCOSANE	1900	JX
FS164	638-67-	TRICOSANE	1700	JX
FS164	646-31-	TETRACOSANE	1100	JX
FS164	629-99-	PENTACOSANE	1000	JX
FS164	630-01-	HEXACOSANE	640	JX
FS164	593-49-	HEPTACOSANE	860	JX
FS164	630-03-	NONACOSANE	1700	JX
FS164	638-68-	TRIACONTANE	690	JX
FS164	630-04-	HENTRIACONTANE	960	JX

TOTAL UNKNOWN TICS: 2160  
 TOTAL TICS 32310

SDG FILE: temp\1F41135      DATE:      MATRIX:  
 ES: FS165  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
FS165	123-42-2	2-Pentanone, 4-hydroxy-4-met	13000	NJ
FS165	1921-70-6	Pentadecane, 2,6,10,14-tetra	310	NJ
FS165	638-36-8	Hexadecane, 2,6,10,14-tetram	290	NJ
FS165	629-92-5	Nonadecane	220	NJ
FS165	57-10-3	Hexadecanoic acid	700	NJ
FS165	629-97-0	Docosane	240	NJ
FS165	72-55-9	p,p'-DDE	720	NJ
FS165	638-67-5	Tricosane	350	NJ
FS165	646-31-1	Tetracosane w/unknowns	540	NJ
FS165	629-99-2	Pentacosane	400	NJ
FS165	593-49-7	Heptacosane	380	NJ
FS165	630-02-4	Octacosane	260	NJ
FS165	630-03-5	Nonacosane	890	NJ
FS165	638-68-6	Triacontane	450	NJ
FS165	630-04-6	Hentriacontane	860	NJ

TOTAL UNKNOWN TICS: 2860  
 TOTAL TICS 22470

SDG FILE: temp\1F41135      DATE:      MATRIX:  
 ES: FS165RE  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
FS165RE	123-42-2	2-Pentanone, 4-hydroxy-4-met	11000	NJ
FS165RE	1921-70-6	Pentadecane, 2,6,10,14-tetra	280	NJ
FS165RE	638-36-8	Hexadecane, 2,6,10,14-tetram	280	NJ
FS165RE	629-92-5	Nonadecane	210	NJ
FS165RE	57-10-3	Hexadecanoic acid	550	NJ
FS165RE	629-94-7	Heneicosane	220	NJ
FS165RE	629-97-0	Docosane	300	NJ
FS165RE	072-55-9	p,p'-DDE	600	NJ
FS165RE	638-67-5	Tricosane	360	NJ
FS165RE	646-31-1	Tetracosane w/unknowns	590	NJ
FS165RE	50-29-3	Chlorophenothane	320	NJ
FS165RE	629-99-2	Pentacosane w/C18H14 PAH	440	NJ
FS165RE	593-49-7	Heptacosane	390	NJ
FS165RE	630-02-4	Octacosane	270	NJ
FS165RE	630-03-5	Nonacosane	910	NJ
FS165RE	638-68-6	Triacontane	450	NJ
FS165RE	630-04-6	Hentriacontane	750	NJ

TOTAL UNKNOWN TICS: 2190  
 TOTAL TICS 20110

SDG FILE: temp\1F41135      DATE:      MATRIX:  
 ES: FS166  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
FS166	123-42-2	2-Pentanone, 4-hydroxy-4-met	9600	NJ
FS166	630-01-3	Tricosane w/unknowns	77	NJ
FS166	836-30-6	Benzenamine, 4-nitro-N-pheny	120	NJ
FS166	629-99-2	Pentacosane w/benz[de]anthra	87	NJ
FS166	630-03-5	Nonacosane	130	NJ
FS166	192-97-2	Benzo[e]pyrene	160	NJ
FS166	630-04-6	Hentriacontane	110	NJ

TOTAL UNKNOWN TICS: 464  
 TOTAL TICS 10748

SDG FILE: temp\1F41135      DATE:      MATRIX:  
 ES: FS166RE  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
FS166RE	123-42-2	2-Pentanone, 4-hydroxy-4-met	4000	NJ

TOTAL UNKNOWN TICS: 330  
 TOTAL TICS 4330

SDG FILE: temp\1F41135 DATE: MATRIX:  
 ES: FS167  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
FS167	123-42-2	2-Pentanone, 4-hydroxy-4-met	57000	NJ
FS167	57-10-3	Hexadecanoic acid	8000	NJ
FS167	638-67-5	Tricosane w/unknowns	1200	NJ
FS167	646-31-1	Tetracosane w/1-methylpyrene	1100	NJ
FS167	629-99-2	Pentacosane w/benz[de]anthra	2000	NJ
FS167	630-01-3	Hexacosane	1100	NJ
FS167	593-49-7	Heptacosane	2800	NJ
FS167	630-02-4	Octacosane	1500	NJ
FS167	630-03-5	Nonacosane	27000	NJ
FS167	638-68-6	Triacontane	11000	NJ
FS167	630-04-6	Hentriacontane	41000	NJ
FS167	544-85-4	Dotriacontane	4500	NJ
FS167	57-88-5	Cholesterol	31000	NJ
FS167	630-05-7	Tritriacontane	3500	NJ

TOTAL UNKNOWN TICS: 81900  
 TOTAL TICS 274600

SDG FILE: temp\1F41135 DATE: MATRIX:  
 ES: FS167RE  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
FS167RE	123-42-2	2-Pentanone, 4-hydroxy-4-met	38000	NJ
FS167RE	57-10-3	Hexadecanoic acid	6900	NJ
FS167RE	112-95-8	Tricosane w/C17H12 PAH	1100	NJ
FS167RE	646-31-1	Tetracosane	1200	NJ
FS167RE	629-99-2	Pentacosane	1600	NJ
FS167RE	630-01-3	Hexacosane	1000	NJ
FS167RE	593-49-7	Heptacosane	3000	NJ
FS167RE	630-02-4	Octacosane	1500	NJ
FS167RE	630-03-5	Nonacosane	37000	NJ
FS167RE	638-68-6	Triacontane	7800	NJ
FS167RE	630-04-6	Hentriacontane	30000	NJ
FS167RE	544-85-4	Dotriacontane w/polycyclic h	4200	NJ
FS167RE	57-88-5	Cholesterol	9800	NJ
FS167RE	630-05-7	Tritriacontane	3500	NJ

TOTAL UNKNOWN TICS: 29000  
 TOTAL TICS 175600

SDG FILE: temp\1F41135 DATE: MATRIX:  
ES: FS168  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
FS168	123-42-2	2-Pentanone, 4-hydroxy-4-met	58000	NJ
FS168	142-62-1	Hexanoic acid	1200	NJ
FS168	124-07-2	Octanoic Acid	1600	NJ
FS168	112-05-0	Nonanoic acid	2000	NJ
FS168	544-63-8	Tetradecanoic acid	2300	NJ
FS168	57-10-3	Hexadecanoic acid	21000	NJ
FS168	629-94-7	Heneicosane w/unknown	1100	NJ
FS168	57-11-4	Octadecanoic acid	16000	NJ
FS168	638-67-5	Tricosane	1200	NJ
FS168	629-99-2	Pentacosane w/benz[de]anthra	1800	NJ
FS168	593-49-7	Heptacosane	1800	NJ
FS168	630-03-5	Nonacosane	13000	NJ
FS168	630-04-6	Hentriacontane	7400	NJ

TOTAL UNKNOWN TICS: 19100  
TOTAL TICS 147500

SDG FILE: temp\1F41135 DATE: MATRIX:  
ES: FS168RE  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
FS168RE	123-42-2	2-Pentanone, 4-hydroxy-4-met	43000	NJ
FS168RE	112-05-0	Nonanoic acid	1000	NJ
FS168RE	544-63-8	Tetradecanoic acid	1200	NJ
FS168RE	57-10-3	Hexadecanoic acid	11000	NJ
FS168RE	630-03-5	Nonacosane	3400	NJ
FS168RE	630-04-6	Hentriacontane	1800	NJ

TOTAL UNKNOWN TICS: 14700  
TOTAL TICS 76100

SDG FILE: temp\1F40798 DATE: MATRIX:  
ES: MW161  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
MW161	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	13	BJ
MW161	57-10-	HEXADECANOIC ACID	3	BJ

TOTAL UNKNOWN TICS: 10  
TOTAL TICS 26

SDG FILE: temp\1F40798 DATE: MATRIX:  
ES: MW162  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
MW162	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	14	BJ
MW162	791-28-	PHOSPHINE OXIDE, TRIPHENYL-	3	JX
TOTAL UNKNOWN TICS:			3	
TOTAL TICS			20	

SDG FILE: temp\1F40798 DATE: MATRIX:  
ES: MW163  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
MW163	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	15	BJ
MW163	57-10-	HEXADECANOIC ACID	4	BJ
TOTAL UNKNOWN TICS:			8	
TOTAL TICS			27	

SDG FILE: temp\1F40798 DATE: MATRIX:  
ES: MW163RE  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
MW163RE	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	4	BJ
TOTAL UNKNOWN TICS:			2	
TOTAL TICS			6	

SDG FILE: temp\1F40798 DATE: MATRIX:  
ES: MW1641  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
MW1641	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	14	BJ
TOTAL UNKNOWN TICS:			11	
TOTAL TICS			25	

SDG FILE: temp\1F41136 DATE: MATRIX:  
ES: SW161  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SW161	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	49	BJ
TOTAL UNKNOWN TICS:			0	
TOTAL TICS			49	



SDG FILE: temp\1F41136      DATE:      MATRIX:  
ES: SW162  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SW162	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	51	BJ
		TOTAL UNKNOWN TICS:		2
		TOTAL TICS		53

SEAD-17

TENATIVELY IDENTIFIED COMPOUNDS  
SEAD - 17

SDG FILE: temp\1E40322 DATE: MATRIX:  
ES: SS1722  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
		TOTAL UNKNOWN TICS:	107	
		TOTAL TICS	107	

SDG FILE: temp\1E40299 DATE: MATRIX:  
ES: SS179RE  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
		TOTAL UNKNOWN TICS:	11	
		TOTAL TICS	11	

SDG FILE: temp\1E40693 DATE: MATRIX:  
ES: SS1710  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS1710	75-71-	METHANE, DICHLORODIFLUORO-	45	JX
		TOTAL UNKNOWN TICS:	0	
		TOTAL TICS	45	

SDG FILE: temp\1E40693 DATE: MATRIX:  
ES: SS1711  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS1711	75-71-	METHANE, DICHLORODIFLUORO-	23	JX
		TOTAL UNKNOWN TICS:	0	
		TOTAL TICS	23	

SDG FILE: temp\1E40319 DATE: MATRIX:  
ES: SS171  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS171	95-13-	1H-INDENE W/ ALKANE	12	JX
		TOTAL UNKNOWN TICS:	7	
		TOTAL TICS	19	

SDG FILE: temp\1E40319 DATE: MATRIX:  
ES: SS1719  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS1719	24524-58-	BICYCLO[3.1.0]HEXANE, 6-ISOP	33	JX
SS1719	470-82-	CINEOLE	19	JX

TOTAL UNKNOWN TICS: 931  
TOTAL TICS 983

SDG FILE: temp\1E40319 DATE: MATRIX:  
ES: SS172  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS172	565-80-	3-PENTANONE, 2,4-DIMETHYL-	11	JX

TOTAL UNKNOWN TICS: 56  
TOTAL TICS 67

SDG FILE: temp\1E40319 DATE: MATRIX:  
ES: SS173  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS173	106-68-	3-OCTANONE	16	JX

TOTAL UNKNOWN TICS: 0  
TOTAL TICS 16

SDG FILE: temp\1E40319 DATE: MATRIX:  
ES: SS178  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
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TOTAL UNKNOWN TICS: 7  
TOTAL TICS 7

SDG FILE: temp\1F40322 DATE: MATRIX:  
ES: SS1722  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS1722	123-42-2	2-Pentanone, 4-hydroxy-4-met	6900	NJ
SS1722	57-10-3	Hexadecanoic acid	200	NJ
SS1722	629-99-2	Pentacosane	240	NJ
SS1722	630-01-3	Hexacosane	96	NJ
SS1722	593-49-7	Heptacosane	1200	NJ
SS1722	630-02-4	Octacosane	100	NJ
SS1722	630-03-5	Nonacosane	1100	NJ
SS1722	630-04-6	Hentriacontane	350	NJ

TOTAL UNKNOWN TICS: 1085  
TOTAL TICS 11271

SDG FILE: temp\1F40322 DATE: MATRIX:  
ES: SS1723  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS1723	123-42-2	2-Pentanone, 4-hydroxy-4-met	6800	NJ
SS1723	57-10-3	Hexadecanoic acid	95	NJ
SS1723	629-99-2	Pentacosane	120	NJ
SS1723	593-49-7	Heptacosane	1300	NJ
SS1723	630-02-4	Octacosane	180	NJ
SS1723	630-03-5	Nonacosane	1200	NJ
SS1723	630-04-6	Hentriacontane	360	NJ

TOTAL UNKNOWN TICS: 2238  
TOTAL TICS 12293

SDG FILE: temp\1F40322 DATE: MATRIX:  
ES: SS1724  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS1724	123-42-2	2-Pentanone, 4-hydroxy-4-met	6500	NJ
SS1724	629-62-9	Pentadecane	94	NJ
SS1724	544-76-3	Hexadecane	110	NJ
SS1724	629-78-7	Heptadecane	190	NJ
SS1724	593-45-3	Octadecane	220	NJ
SS1724	629-92-5	Nonadecane	230	NJ
SS1724	112-95-8	Eicosane	200	NJ
SS1724	629-94-7	Heneicosane	170	NJ
SS1724	629-99-2	Pentacosane	130	NJ
SS1724	593-49-7	Heptacosane	1300	NJ
SS1724	630-03-5	Nonacosane	1200	NJ
SS1724	630-04-6	Hentriacontane	300	NJ

TOTAL UNKNOWN TICS: 660  
TOTAL TICS 11304

SDG FILE: temp\1F40693 DATE: MATRIX:  
ES: SS1710  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS1710	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	3300	BJ
SS1710	629-62-	PENTADECANE	120	JX
SS1710	544-76-	HEXADECANE	140	JX
SS1710	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	240	JX
SS1710	629-78-	HEPTADECANE	210	JX
SS1710	593-45-	OCTADECANE	230	JX
SS1710	638-36-	HEXADECANE, 2,6,10,14-TETRAM	130	JX
SS1710	629-92-	NONADECANE	270	JX
SS1710	57-10-	HEXADECANOIC ACID	130	JX
SS1710	314-40-	BROMACIL	230	JX
SS1710	112-95-	EICOSANE	240	JX
SS1710	629-94-	HENEICOSANE	250	JX
SS1710	629-97-	DOCOSANE	130	JX
SS1710	638-67-	TRICOSANE	130	JX
SS1710	629-99-	PENTACOSANE	220	JX
SS1710	593-49-	HEPTACOSANE	180	JX
SS1710	630-02-	OCTACOSANE	110	JX
SS1710	630-03-	NONACOSANE	320	JX
SS1710	630-04-	HENTRIACONTANE	220	JX

TOTAL UNKNOWN TICS: 290  
TOTAL TICS 7090

SDG FILE: temp\1F40693 DATE: MATRIX:  
ES: SS1711  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS1711	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	6800	BJ
SS1711	57-10-	HEXADECANOIC ACID	730	JX
SS1711	661-19-	1-DOCOSANOL W/PENTACOSANE	230	JX
SS1711	593-49-	HEPTACOSANE	250	JX
SS1711	506-51-	1-TETRACOSANOL	220	JX
SS1711	630-02-	OCTACOSANE	170	JX
SS1711	630-03-	NONACOSANE	1100	JX
SS1711	506-52-	1-HEXACOSANOL	630	JX
SS1711	630-04-	HENTRIACONTANE	1200	JX
SS1711	630-05-	TRITRIACONTANE	220	JX

TOTAL UNKNOWN TICS: 3760  
TOTAL TICS 15310

SDG FILE: temp\1F40319 DATE: MATRIX:  
ES: SS171  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS171	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	4600	BJ
SS171	138-86-	LIMONENE	1300	JX
SS171	57-10-	HEXADECANOIC ACID	2000	JX
SS171	593-49-	HEPTACOSANE	870	JX
SS171	630-03-	NONACOSANE	1800	JX
SS171	506-52-	1-HEXACOSANOL	2800	JX
SS171	630-04-	HENTRIACONTANE	2300	JX
SS171	1058-61-	STIGMAST-4-EN-3-ONE	670	JX

TOTAL UNKNOWN TICS: 23180  
TOTAL TICS 39520

SDG FILE: temp\1F40319 DATE: MATRIX:  
ES: SS1712  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS1712	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	10000	BJ
SS1712	57-10-	HEXADECANOIC ACID	200	JX
SS1712	593-49-	HEPTACOSANE	130	JX
SS1712	630-03-	NONACOSANE	300	JX
SS1712	506-52-	1-HEXACOSANOL	110	JX
SS1712	630-04-	HENTRIACONTANE	380	JX

TOTAL UNKNOWN TICS: 750  
TOTAL TICS 11870

SDG FILE: temp\1F40319 DATE: MATRIX:  
ES: SS1714  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS1714	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	3600	BJ
SS1714	630-03-	NONACOSANE	120	JX
SS1714	630-04-	HENTRIACONTANE	74	JX
SS1714	123-28-	PROPANOIC ACID, 3,3'-THIOBIS	110	BJ

TOTAL UNKNOWN TICS: 177  
TOTAL TICS 4081

SDG FILE: temp\1F40319      DATE:      MATRIX:  
 ES:      SS1716  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS1716	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	5100	BJ
SS1716	1002-84-	PENTADECANOIC ACID	660	JX
SS1716	5746-58-	TETRADECANOIC ACID, 12-METHY	540	JX
SS1716	57-10-	HEXADECANOIC ACID	1300	JX
SS1716	661-19-	1-DOCOSANOL	410	JX
SS1716	593-49-	HEPTACOSANE	610	JX
SS1716	630-02-	OCTACOSANE	440	JX
SS1716	630-03-	NONACOSANE	2200	JX
SS1716	506-52-	1-HEXACOSANOL	2000	JX
SS1716	630-04-	HENTRIACONTANE	2700	JX
SS1716	630-05-	TRITRIACONTANE	690	JX
SS1716	1058-61-	STIGMAST-4-EN-3-ONE	660	JX
SS1716	559-74-	FRIEDELIN	410	JX

TOTAL UNKNOWN TICS:      6180  
 TOTAL TICS      23900

SDG FILE: temp\1F40319      DATE:      MATRIX:  
 ES:      SS1717  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS1717	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	4600	BJ
SS1717	1002-84-	PENTADECANOIC ACID	450	JX
SS1717	5746-58-	TETRADECANOIC ACID, 12-METHY	460	JX
SS1717	57-10-	HEXADECANOIC ACID	1300	JX
SS1717	60-33-	9,12-OCTADECADIENOIC ACID	630	JX
SS1717	661-19-	1-DOCOSANOL W/ PENTACOSANE	290	JX
SS1717	630-03-	NONACOSANE	1100	JX
SS1717	506-52-	1-HEXACOSANOL	470	JX
SS1717	630-04-	HENTRIACONTANE	1700	JX
SS1717	630-05-	TRITRIACONTANE	350	JX

TOTAL UNKNOWN TICS:      5560  
 TOTAL TICS      16910



SDG FILE: temp\1F40319 DATE: MATRIX:  
 ES: SS1718  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS1718	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	4700	BJ
SS1718	593-45-	OCTADECANE	400	JX
SS1718	629-92-	NONADECANE	460	JX
SS1718	57-10-	HEXADECANOIC ACID	1100	JX
SS1718	112-95-	EICOSANE	500	JX
SS1718	629-94-	HENEICOSANE	420	JX
SS1718	60-33-	9,12-OCTADECADIENOIC ACID	500	JX
SS1718	629-99-	PENTACOSANE	500	JX
SS1718	593-49-	HEPTACOSANE	710	JX
SS1718	630-02-	OCTACOSANE	420	JX
SS1718	630-03-	NONACOSANE	1400	JX
SS1718	506-52-	1-HEXACOSANOL	1000	JX
SS1718	630-04-	HENTRIACONTANE	1600	JX
SS1718	83-48-	STIGMASTEROL	540	JX
SS1718	1058-61-	STGMAST-4-EN-3-ONE	690	JX
TOTAL UNKNOWN TICS:			5440	
TOTAL TICS			20380	

SDG FILE: temp\1F40319 DATE: MATRIX:  
 ES: SS1718R  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS1718R	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	9	BJ
SS1718R	74381-40-	PROPANOIC ACID, 2-METHYL-1-(	5	JX
TOTAL UNKNOWN TICS:			4	
TOTAL TICS			18	

SDG FILE: temp\1F40319 DATE: MATRIX:  
 ES: SS1719  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS1719	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	27000	BJ
SS1719	138-86-	LIMONENE	13000	JX
SS1719	57-10-	HEXADECANOIC ACID	1500	JX
SS1719	630-03-	NONACOSANE	1300	JX
SS1719	630-04-	HENTRIACONTANE	2100	JX
TOTAL UNKNOWN TICS:			48720	
TOTAL TICS			93620	

SDG FILE: temp\1F40319 DATE: MATRIX:  
ES: SS172  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS172	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	5400	BJ
SS172	5746-58-	TETRADECANOIC ACID, 12-METHY	700	JX
SS172	57-10-	HEXADECANOIC ACID	1800	JX
SS172	661-19-	1-DOCOSANOL	1200	JX
SS172	593-49-	HEPTACOSANE	640	JX
SS172	506-51-	1-TETRACOSANOL	920	JX
SS172	630-03-	NONACOSANE	2300	JX
SS172	506-52-	1-HEXACOSANOL	1800	JX
SS172	630-04-	HENTRIACONTANE	2900	JX
SS172	630-05-	TRITRIACONTANE	610	JX
SS172	1058-61-	STIGMAST-4-EN-3-ONE	570	JX
TOTAL UNKNOWN TICS:			7610	
TOTAL TICS			26450	

SDG FILE: temp\1F40319 DATE: MATRIX:  
ES: SS1720  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS1720	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	8300	BJ
SS1720	57-10-	HEXADECANOIC ACID	1100	JX
SS1720	593-49-	HEPTACOSANE	490	JX
SS1720	630-03-	NONACOSANE	1200	JX
SS1720	506-52-	1-HEXACOSANOL	990	JX
SS1720	630-04-	HENTRIACONTANE	980	JX
SS1720	83-48-	STIGMASTEROL	450	JX
SS1720	559-70-	BETA-AMYRIN	290	JX
TOTAL UNKNOWN TICS:			6890	
TOTAL TICS			20690	

SDG FILE: temp\1F40319 DATE: MATRIX:  
ES: SS1721  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS1721	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	4000	BJ
SS1721	57-10-	HEXADECANOIC ACID	1500	JX
SS1721	630-03-	NONACOSANE	1400	JX
SS1721	506-52-	1-HEXACOSANOL	980	JX
SS1721	630-04-	HENTRIACONTANE	1700	JX
SS1721	630-05-	TRITRIACONTANE	530	JX
SS1721	83-48-	STIGMASTEROL	420	JX
SS1721	559-70-	BETA-AMYRIN	450	JX
TOTAL UNKNOWN TICS:			10320	
TOTAL TICS			21300	

SDG FILE: temp\1F40319 DATE: MATRIX:  
ES: SS173  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS173	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	4600	BJ
SS173	57-10-	HEXADECANOIC ACID	900	JX
SS173	60-33-	9,12-OCTADECADIENOIC ACID	340	JX
SS173	661-19-	1-DOCOSANOL W/ PENTACOSANE	730	JX
SS173	593-49-	HEPTACOSANE	550	JX
SS173	506-51-	1-TETRACOSANOL	600	JX
SS173	630-03-	NONACOSANE	1600	JX
SS173	506-52-	1-HEXACOSANOL	410	JX
SS173	630-04-	HENTRIACONTANE	1300	JX
SS173	1058-61-	STIGMAST-4-EN-3-ONE	290	JX
TOTAL UNKNOWN TICS:			7160	
TOTAL TICS			18480	

SDG FILE: temp\1F40319 DATE: MATRIX:  
ES: SS174  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS174	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	6100	BJ
SS174	57-10-	HEXADECANOIC ACID	1000	JX
SS174	629-99-	PENTACOSANE	410	JX
SS174	593-49-	HEPTACOSANE	780	JX
SS174	630-02-	OCTACOSANE	390	JX
SS174	630-03-	NONACOSANE	1200	JX
SS174	506-52-	1-HEXACOSANOL	5400	JX
SS174	630-04-	HENTRIACONTANE	1300	JX
SS174	57-88-	CHOLESTEROL	280	JX
SS174	630-05-	TRITRIACONTANE	250	JX
SS174	83-48-	STIGMASTEROL	360	JX
SS174	1058-61-	STIGMAST-4-EN-3-ONE	940	JX
TOTAL UNKNOWN TICS:			6420	
TOTAL TICS			24830	

SDG FILE: temp\1F40319 DATE: MATRIX:  
ES: SS175  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS175	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	6900	BJ
SS175	57-10-	HEXADECANOIC ACID	1500	JX
SS175	661-19-	1-DOCOSANOL W/ PENTACOSANE	600	JX
SS175	593-49-	HEPTACOSANE	810	JX
SS175	630-02-	OCTACOSANE	580	JX
SS175	630-03-	NONACOSANE	2100	JX
SS175	506-52-	1-HEXACOSANOL	1200	JX
SS175	630-04-	HENTRIACONTANE	1800	JX
SS175	630-05-	TRITRIACONTANE	420	JX
SS175	83-48-	STIGMASTEROL	470	JX
SS175	1058-61-	STIGMAST-4-EN-3-ONE	1100	JX
TOTAL UNKNOWN TICS:			7610	
TOTAL TICS			25090	

SDG FILE: temp\1F40319 DATE: MATRIX:  
ES: SS176  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS176	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	8200	BJ
SS176	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	110	JX
SS176	629-78-	HEPTADECANE	87	JX
SS176	593-45-	OCTADECANE	100	JX
SS176	629-92-	NONADECANE	110	JX
SS176	112-95-	EICOSANE	110	JX
SS176	629-94-	HENEICOSANE	110	JX
SS176	629-99-	PENTACOSANE	140	JX
SS176	593-49-	HEPTACOSANE	160	JX
SS176	630-03-	NONACOSANE	270	JX
SS176	630-04-	HENTRIACONTANE	190	JX
TOTAL UNKNOWN TICS:			359	
TOTAL TICS			9946	

SDG FILE: temp\1F40319      DATE:      MATRIX:  
 ES:      SS177  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS177	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	4600	BJ
SS177	57-10-	HEXADECANOIC ACID	790	JX
SS177	629-99-	PENTACOSANE W/ 1-DOCOSANOL	390	JX
SS177	593-49-	HEPTACOSANE	470	JX
SS177	630-03-	NONACOSANE	940	JX
SS177	506-52-	1-HEXACOSANOL	780	JX
SS177	630-04-	HENTRIACONTANE	1100	JX
SS177	83-48-	STIGMASTEROL	310	JX
SS177	1058-61-	STIGMAST-4-EN-3-ONE	310	JX
TOTAL UNKNOWN TICS:			6590	
TOTAL TICS			16280	

SDG FILE: temp\1F40319      DATE:      MATRIX:  
 ES:      SS178  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS178	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	6900	BJ
SS178	57-10-	HEXADECANOIC ACID	790	JX
SS178	629-99-	PENTACOSANE W/ 1-DOCOSANOL	170	JX
SS178	593-49-	HEPTACOSANE	220	JX
SS178	630-03-	NONACOSANE	630	JX
SS178	506-52-	1-HEXACOSANOL	300	JX
SS178	630-04-	HENTRIACONTANE	780	JX
SS178	57-88-	CHOLESTEROL	170	JX
SS178	83-48-	STIGMASTEROL	160	JX
SS178	559-70-	BETA-AMYRIN	260	JX
SS178	559-74-	FRIEDELIN	150	JX
TOTAL UNKNOWN TICS:			3880	
TOTAL TICS			14410	

SDG FILE: temp\1F40299      DATE:      MATRIX:  
 ES:      SS1713  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS1713	123-42-2	2-Pentanone, 4-hydroxy-4-met	5400	NJ
SS1713	629-78-7	Heptadecane	75	NJ
SS1713	112-95-8	Eicosane w/halogenated compo	90	NJ
SS1713	646-31-1	Tetracosane	76	NJ
SS1713	593-49-7	Heptacosane	83	NJ
SS1713	630-03-5	Nonacosane	240	NJ
SS1713	630-04-6	Hentriacontane	180	NJ
TOTAL UNKNOWN TICS:			466	
TOTAL TICS			6610	

SDG FILE: temp\1F40299 DATE: MATRIX:  
ES: SS1715  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS1715	123-42-2	2-Pentanone, 4-hydroxy-4-met	5400	NJ
SS1715	630-03-5	Nonacosane	180	NJ
TOTAL UNKNOWN TICS:			1194	
TOTAL TICS			6774	

SDG FILE: temp\1F40299 DATE: MATRIX:  
ES: SS179  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS179	123-42-2	2-Pentanone, 4-hydroxy-4-met	5200	NJ
SS179	629-59-4	Tetradecane	74	NJ
SS179	629-62-9	Pentadecane	99	NJ
SS179	544-76-3	Hexadecane	98	NJ
SS179	629-78-7	Heptadecane	130	NJ
SS179	593-45-3	Octadecane	110	NJ
SS179	629-92-5	Nonadecane	110	NJ
SS179	112-95-8	Eicosane w/halogenated compo	120	NJ
SS179	629-94-7	Heneicosane	88	NJ
SS179	629-97-0	Docosane	120	NJ
SS179	638-67-5	Tricosane	120	NJ
SS179	646-31-1	Tetracosane	99	NJ
SS179	629-99-2	Pentacosane	140	NJ
SS179	593-49-7	Heptacosane	97	NJ
SS179	630-03-5	Nonacosane	220	NJ
SS179	630-04-6	Hentriacontane	130	NJ
TOTAL UNKNOWN TICS:			451	
TOTAL TICS			7406	

SDG FILE: temp\1E40339 DATE: MATRIX:  
ES: SB172.1  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TOTAL UNKNOWN TICS:			7	
TOTAL TICS			7	

SDG FILE: temp\1F40339 DATE: MATRIX:  
ES: SB172\_1  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
B172_1	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	5100	BJ
B172_1	661-19-	1-DOCOSANOL W/ PENTACOSANE	120	JX
B172_1	593-49-	HEPTACOSANE	100	JX
B172_1	506-51-	1-TETRACOSANOL	120	JX
B172_1	630-03-	NONACOSANE	520	JX
B172_1	506-52-	1-HEXACOSANOL	160	JX
B172_1	630-04-	HENTRIACONTANE	500	JX
B172_1	630-05-	TRITRIACONTANE	140	JX

TOTAL UNKNOWN TICS: 260  
TOTAL TICS 7020

SDG FILE: temp\1F40339 DATE: MATRIX:  
ES: SB172\_2  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
B172_2	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	6500	BJ

TOTAL UNKNOWN TICS: 523  
TOTAL TICS 7023

SDG FILE: temp\1F40907 DATE: MATRIX:  
ES: SB1711  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB1711	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	3400	BJ
SB1711	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	160	JX
SB1711	1002-84-	PENTADECANOIC ACID	130	JX
SB1711	57-10-	HEXADECANOIC ACID	420	JX
SB1711	629-99-	PENTACOSANE	180	BJ
SB1711	661-19-	1-DOCOSANOL	210	JX
SB1711	630-01-	HEXACOSANE	180	BJ
SB1711	593-49-	HEPTACOSANE	520	BJ
SB1711	506-51-	1-TETRACOSANOL	250	JX
SB1711	630-02-	OCTACOSANE	320	BJ
SB1711	630-03-	NONACOSANE	1400	BJ
SB1711	506-52-	1-HEXACOSANOL	180	JX
SB1711	638-68-	TRIACONTANE	270	BJ
SB1711	630-04-	HENTRIACONTANE	1300	BJ
SB1711	630-05-	TRITRIACONTANE	300	BJ

TOTAL UNKNOWN TICS: 1290  
TOTAL TICS 10510

SDG FILE: temp\1F40907 DATE: MATRIX:  
ES: SB1712  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB1712	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	5700	BJ
SB1712	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	150	JX
SB1712	629-99-	PENTACOSANE	80	BJ
SB1712	630-01-	HEXACOSANE	96	BJ
SB1712	593-49-	HEPTACOSANE	130	BJ
SB1712	630-02-	OCTACOSANE	110	BJ
SB1712	630-03-	NONACOSANE	190	BJ
SB1712	638-68-	TRIACONTANE	100	BJ
SB1712	630-04-	HENTRIACONTANE	110	BJ

TOTAL UNKNOWN TICS: 400  
TOTAL TICS 7066

SDG FILE: temp\1F40907 DATE: MATRIX:  
ES: SB1713  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB1713	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	2900	BJ
SB1713	646-31-	TETRACOSANE	76	BJ
SB1713	629-99-	PENTACOSANE	130	BJ
SB1713	630-01-	HEXACOSANE	160	BJ
SB1713	593-49-	HEPTACOSANE	190	BJ
SB1713	630-02-	OCTACOSANE	170	BJ
SB1713	630-03-	NONACOSANE	230	BJ
SB1713	638-68-	TRIACONTANE	160	BJ
SB1713	630-04-	HENTRIACONTANE	130	BJ

TOTAL UNKNOWN TICS: 186  
TOTAL TICS 4332

SDG FILE: temp\1F40907 DATE: MATRIX:  
ES: SB1731  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB1731	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	4400	BJ
SB1731	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	110	JX
SB1731	57-10-	HEXADECANOIC ACID	300	JX
SB1731	593-49-	HEPTACOSANE	230	JX
SB1731	506-51-	1-TETRACOSANOL	120	JX
SB1731	630-02-	OCTACOSANE	110	JX
SB1731	630-03-	NONACOSANE	550	JX
SB1731	506-52-	1-HEXACOSANOL	130	JX
SB1731	630-04-	HENTRIACONTANE	430	JX

TOTAL UNKNOWN TICS: 935  
TOTAL TICS 7315



SDG FILE: temp\1F40907      DATE:      MATRIX:  
 ES: SB1732  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB1732	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	4600	BJ
SB1732	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	94	JX
SB1732	629-99-	PENTACOSANE	130	JX
SB1732	630-01-	HEXACOSANE	230	JX
SB1732	593-49-	HEPTACOSANE	310	JX
SB1732	630-02-	OCTACOSANE	280	JX
SB1732	630-03-	NONACOSANE	370	JX
SB1732	638-68-	TRIACONTANE	180	JX
SB1732	630-04-	HENTRIACONTANE	160	JX
TOTAL UNKNOWN TICS:			450	
TOTAL TICS			6804	

SDG FILE: temp\1F40907      DATE:      MATRIX:  
 ES: SB1741  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB1741	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	4800	BJ
SB1741	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	130	JX
SB1741	57-10-	HEXADECANOIC ACID	99	JX
SB1741	638-67-	TRICOSANE	87	JX
SB1741	646-31-	TETRACOSANE W/ UNKNOWN	91	JX
SB1741	629-99-	PENTACOSANE	150	JX
SB1741	661-19-	1-DOCOSANOL	87	JX
SB1741	630-01-	HEXACOSANE	230	JX
SB1741	593-49-	HEPTACOSANE	350	JX
SB1741	506-51-	1-TETRACOSANOL	250	JX
SB1741	630-02-	OCTACOSANE	290	JX
SB1741	630-03-	NONACOSANE	460	JX
SB1741	638-68-	TRIACONTANE	190	JX
SB1741	630-04-	HENTRIACONTANE	230	JX
TOTAL UNKNOWN TICS:			810	
TOTAL TICS			8254	

SDG FILE: temp\1F40907      DATE:      MATRIX:  
 ES: SB1742  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB1742	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	3000	BJ
SB1742	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	170	JX
SB1742	57-10-	HEXADECANOIC ACID	100	JX
SB1742	646-31-	TETRACOSANE W/ UNKNOWN	98	JX
SB1742	629-99-	PENTACOSANE	190	JX
SB1742	630-01-	HEXACOSANE	360	JX
SB1742	593-49-	HEPTACOSANE	460	JX
SB1742	630-02-	OCTACOSANE	420	JX
SB1742	630-03-	NONACOSANE	530	JX
SB1742	638-68-	TRIACONTANE	250	JX
SB1742	630-04-	HENTRIACONTANE	320	JX
SB1742	630-05-	TRITRIACONTANE	94	JX

TOTAL UNKNOWN TICS: 680  
 TOTAL TICS 6672

SDG FILE: temp\1F40339      DATE:      MATRIX:  
 ES: SB172\_10  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
172_10	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	6400	BJ

TOTAL UNKNOWN TICS: 290  
 TOTAL TICS 6690

SDG FILE: temp\1F40798      DATE:      MATRIX:  
 ES: MW172  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
MW172	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	15	BJ
MW172	57-10-	HEXADECANOIC ACID	2	BJ
MW172	630-01-	HEXACOSANE	4	JX
MW172	593-49-	HEPTACOSANE	5	JX
MW172	630-02-	OCTACOSANE	5	JX
MW172	630-03-	NONACOSANE	8	JX
MW172	638-68-	TRIACONTANE	5	JX

TOTAL UNKNOWN TICS: 14  
 TOTAL TICS 58

**SEAD-24**

TENATIVELY IDENTIFIED COMPOUNDS  
SEAD - 24

SDG FILE: temp\1E40322 DATE: MATRIX:  
ES: SS2410  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS2410	80-56-8	.alpha.-Pinene	91	NJ
SS2410	127-91-3	.beta.-Pinene	35	NJ
SS2410	138-86-3	Limonene	58	NJ

TOTAL UNKNOWN TICS: 9  
TOTAL TICS 193

SDG FILE: temp\1E40322 DATE: MATRIX:  
ES: SS2411  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
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TOTAL UNKNOWN TICS: 43  
TOTAL TICS 43

SDG FILE: temp\1E40322 DATE: MATRIX:  
ES: SS2412  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
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TOTAL UNKNOWN TICS: 46  
TOTAL TICS 46

SDG FILE: temp\1E40322 DATE: MATRIX:  
ES: SS2413  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
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TOTAL UNKNOWN TICS: 45  
TOTAL TICS 45

SDG FILE: temp\1E40322 DATE: MATRIX:  
ES: SS246  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS246	75-18-3	Dimethyl sulfide	12	NJ

TOTAL UNKNOWN TICS: 44  
TOTAL TICS 56

SDG FILE: temp\1E40322      DATE:      MATRIX:  
 ES:      SS247  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
		TOTAL UNKNOWN TICS:	23	
		TOTAL TICS	23	

SDG FILE: temp\1F40322      DATE:      MATRIX:  
 ES:      SS241  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS241	123-42-2	2-Pentanone, 4-hydroxy-4-met	6400	NJ
SS241	57-10-3	Hexadecanoic acid	96	NJ
SS241	239-35-0	Benzo[b]naphtho[2,1-d]thioph	97	NJ
SS241	629-99-2	Pentacosane w/C12H14 PAH	190	NJ
SS241	593-49-7	Heptacosane	1900	NJ
SS241	192-97-2	Benzo[e]pyrene	460	NJ
SS241	630-03-5	Nonacosane	1600	NJ
SS241	630-06-8	Hentriacontane w/C22H14 PAH	480	NJ
		TOTAL UNKNOWN TICS:	1908	
		TOTAL TICS	13131	

SDG FILE: temp\1F40322      DATE:      MATRIX:  
 ES:      SS2410  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS2410	123-42-2	2-Pentanone, 4-hydroxy-4-met	7300	NJ
SS2410	80-56-8	.alpha.-Pinene	150	NJ
SS2410	127-91-3	.beta.-Pinene	190	NJ
SS2410	629-99-2	Pentacosane	160	NJ
SS2410	593-49-7	Heptacosane	1000	NJ
SS2410	630-03-5	Nonacosane	760	NJ
SS2410	630-04-6	Hentriacontane	120	NJ
		TOTAL UNKNOWN TICS:	928	
		TOTAL TICS	10608	

SDG FILE: temp\1F40322 DATE: MATRIX:  
ES: SS2411  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS2411	123-42-2	2-Pentanone, 4-hydroxy-4-met	6400	NJ
SS2411	646-31-1	Tetracosane	160	NJ
SS2411	629-99-2	Pentacosane	440	NJ
SS2411	630-01-3	Hexacosane	98	NJ
SS2411	593-49-7	Heptacosane	2300	NJ
SS2411	630-02-4	Octacosane	92	NJ
SS2411	630-03-5	Nonacosane	460	NJ
SS2411	630-04-6	Hentriacontane	95	NJ

TOTAL UNKNOWN TICS: 1994  
TOTAL TICS 12039

SDG FILE: temp\1F40322 DATE: MATRIX:  
ES: SS2412  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS2412	123-42-2	2-Pentanone, 4-hydroxy-4-met	8200	NJ
SS2412	127-91-3	.beta.-Pinene	120	NJ
SS2412	57-10-3	Hexadecanoic acid	190	NJ
SS2412	629-99-2	Pentacosane	180	NJ
SS2412	630-01-3	Hexacosane	1200	NJ
SS2412	630-02-4	Octacosane	140	NJ
SS2412	630-03-5	Nonacosane	1100	NJ
SS2412	630-04-6	Hentriacontane	340	NJ

TOTAL UNKNOWN TICS: 1760  
TOTAL TICS 13230

SDG FILE: temp\1F40322 DATE: MATRIX:  
ES: SS2413  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS2413	123-42-2	2-Pentanone, 4-hydroxy-4-met	18000	NJ
SS2413	593-49-7	Heptacosane	790	NJ
SS2413	630-03-5	Nonacosane	930	NJ

TOTAL UNKNOWN TICS: 3230  
TOTAL TICS 22950

SDG FILE: temp\1F40322 DATE: MATRIX:  
ES: SS242  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS242	123-42-2	2-Pentanone, 4-hydroxy-4-met	7000	NJ
SS242	593-49-7	Heptacosane	400	NJ
SS242	630-03-5	Nonacosane	310	NJ
SS242	630-04-6	Hentriacontane	92	NJ
TOTAL UNKNOWN TICS:			485	
TOTAL TICS			8287	

SDG FILE: temp\1F40322 DATE: MATRIX:  
ES: SS243  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS243	123-42-2	2-Pentanone, 4-hydroxy-4-met	5900	NJ
SS243	593-49-7	Heptacosane	550	NJ
SS243	630-03-5	Nonacosane	590	NJ
SS243	630-04-6	Hentriacontane	170	NJ
TOTAL UNKNOWN TICS:			252	
TOTAL TICS			7462	

SDG FILE: temp\1F40322 DATE: MATRIX:  
ES: SS244  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS244	123-42-2	2-Pentanone, 4-hydroxy-4-met	6600	NJ
SS244	5932-49-7	Heptacosane	500	NJ
TOTAL UNKNOWN TICS:			2902	
TOTAL TICS			10002	

SDG FILE: temp\1F40322 DATE: MATRIX:  
ES: SS245  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS245	123-42-2	2-Pentanone, 4-hydroxy-4-met	20000	NJ
SS245	593-49-7	Heptacosane	1300	NJ
SS245	630-03-5	Nonacosane	720	NJ
TOTAL UNKNOWN TICS:			840	
TOTAL TICS			22860	

SDG FILE: temp\1F40322 DATE: MATRIX:  
ES: SS246  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS246	123-42-2	2-Pentanone, 4-hydroxy-4-met	7300	NJ
SS246	57-10-3	Hexadecanoic acid	140	NJ
SS246	629-99-2	Pentacosane	160	NJ
SS246	593-49-7	Heptacosane	1200	NJ
SS246	630-02-4	Octacosane	120	NJ
SS246	630-03-5	Nonacosane	1100	NJ
SS246	630-04-6	Hentriacontane	320	NJ

TOTAL UNKNOWN TICS: 2008  
TOTAL TICS 12348

SDG FILE: temp\1F40322 DATE: MATRIX:  
ES: SS247  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS247	123-42-2	2-Pentanone, 4-hydroxy-4-met	6300	NJ
SS247	593-49-7	Heptacosane	190	NJ
SS247	630-03-05	Nonacosane	270	NJ

TOTAL UNKNOWN TICS: 1041  
TOTAL TICS 7801

SDG FILE: temp\1F40322 DATE: MATRIX:  
ES: SS248  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS248	123-42-2	2-Pentanone, 4-hydroxy-4-met	7100	NJ
SS248	629-99-2	Pentacosane w/unknown	110	NJ
SS248	593-49-7	Heptacosane	260	NJ
SS248	630-03-5	Nonacosane	320	NJ

TOTAL UNKNOWN TICS: 520  
TOTAL TICS 8310

SDG FILE: temp\1F40322 DATE: MATRIX:  
ES: SS249  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS249	123-42-2	2-Pentanone, 4-hydroxy-4-met	10000	NJ
SS249	593-49-7	Heptacosane	740	NJ
SS249	630-03-5	Nonacosane	660	NJ
SS249	630-04-6	Hentriacontane	170	NJ

TOTAL UNKNOWN TICS: 1210  
TOTAL TICS 12780



SDG FILE: temp\1F40907      DATE:              MATRIX:  
 ES:            SB2411  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2411	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	9	BJ
SB2411	791-28-	PHOSPHINE OXIDE, TRIPHENYL-	3	BJ
TOTAL UNKNOWN TICS:			4	
TOTAL TICS			16	

SDG FILE: temp\1F40907      DATE:              MATRIX:  
 ES:            SB2411  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2411	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	3800	BJ
SB2411	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	98	JX
SB2411	57-10-	HEXADECANOIC ACID	81	JX
SB2411	593-49-	HEPTACOSANE	130	BJ
SB2411	630-02-	OCTACOSANE	98	BJ
SB2411	630-03-	NONACOSANE	360	BJ
SB2411	638-68-	TRIACONTANE	160	BJ
SB2411	630-04-	HENTRIACONTANE	360	BJ
SB2411	544-85-	DOTRIACONTANE	170	BJ
SB2411	630-05-	TRITRIACONTANE	220	BJ
SB2411	14167-59-	TETRATRIACONTANE	130	BJ
SB2411	630-07-	PENTATRIACONTANE	130	BJ
TOTAL UNKNOWN TICS:			974	
TOTAL TICS			6711	

SDG FILE: temp\1F40907      DATE:              MATRIX:  
 ES:            SB2413  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2413	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	4600	BJ
SB2413	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	360	JX
SB2413	630-03-	NONACOSANE	150	BJ
SB2413	638-68-	TRIACONTANE W/ UNKNOWN	82	BJ
SB2413	630-04-	HENTRIACONTANE	120	BJ
TOTAL UNKNOWN TICS:			948	
TOTAL TICS			6260	

SDG FILE: temp\1F40907 DATE: MATRIX:  
ES: SB2415  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2415	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	2700	BJ
SB2415	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	130	JX
SB2415	646-31-	TETRACOSANE	85	BJ
SB2415	629-99-	PENTACOSANE	160	BJ
SB2415	630-01-	HEXACOSANE	270	BJ
SB2415	593-49-	HEPTACOSANE	360	BJ
SB2415	630-02-	OCTACOSANE	330	BJ
SB2415	630-03-	NONACOSANE	400	BJ
SB2415	638-68-	TRIACONTANE	230	BJ
SB2415	630-04-	HENTRIACONTANE	150	BJ

TOTAL UNKNOWN TICS: 390  
TOTAL TICS 5205

SDG FILE: temp\1F40907 DATE: MATRIX:  
ES: SB2417  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2417	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	6100	BJ
SB2417	593-49-	HEPTACOSANE	85	BJ
SB2417	630-03-	NONACOSANE	160	BJ
SB2417	638-68-	TRIACONTANE	120	BJ
SB2417	630-04-	HENTRIACONTANE	150	BJ
SB2417	544-85-	DOTRIACONTANE	130	BJ
SB2417	630-05-	TRITRIACONTANE	130	BJ
SB2417	14167-59-	TETRATRIACONTANE	100	BJ
SB2417	630-07-	PENTATRIACONTANE W/ UNKNOWN	82	BJ

TOTAL UNKNOWN TICS: 110  
TOTAL TICS 7167

SDG FILE: temp\1F40907 DATE: MATRIX:  
ES: SB2417RE  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2417RE	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	3800	BJ
SB2417RE	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	98	JX
SB2417RE	57-10-	HEXADECANOIC ACID	98	JX
SB2417RE	593-49-	HEPTACOSANE	98	JX
SB2417RE	630-03-	NONACOSANE	560	JX
SB2417RE	630-04-	HENTRIACONTANE	300	JX
SB2417RE	630-05-	TRITRIACONTANE	90	JX

TOTAL UNKNOWN TICS: 680  
TOTAL TICS 5724

SDG FILE: temp\1F40907 DATE: MATRIX:  
ES: SB2421  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2421	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	4200	BJ
SB2421	630-01-	HEXACOSANE	86	BJ
SB2421	593-49-	HEPTACOSANE	150	BJ
SB2421	630-02-	OCTACOSANE	86	BJ
SB2421	630-03-	NONACOSANE	140	BJ
TOTAL UNKNOWN TICS:			177	
TOTAL TICS			4839	

SDG FILE: temp\1F40907 DATE: MATRIX:  
ES: SB2421RE  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2421RE	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	5100	BJ
SB2421RE	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	130	JX
SB2421RE	57-10-	HEXADECANOIC ACID	160	JX
SB2421RE	629-99-	PENTACOSANE	110	JX
SB2421RE	630-01-	HEXACOSANE	160	JX
SB2421RE	593-49-	HEPTACOSANE	350	JX
SB2421RE	630-02-	OCTACOSANE	240	JX
SB2421RE	630-03-	NONACOSANE	620	JX
SB2421RE	638-68-	TRIACONTANE	180	JX
SB2421RE	630-04-	HENTRIACONTANE	280	JX
TOTAL UNKNOWN TICS:			770	
TOTAL TICS			8100	

SDG FILE: temp\1F40907 DATE: MATRIX:  
ES: SB2423  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2423	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	3500	BJ
SB2423	74781-40-	PROPANOIC ACID, 2-METHYL-, 1	96	JX
SB2423	638-67-	TRICOSANE	92	JX
SB2423	646-31-	TETRACOSANE	88	BJ
SB2423	629-99-	PENTACOSANE	120	BJ
SB2423	630-01-	HEXACOSANE	110	BJ
SB2423	593-49-	HEPTACOSANE	140	BJ
SB2423	630-02-	OCTACOSANE	77	BJ
SB2423	630-03-	NONACOSANE	100	BJ
TOTAL UNKNOWN TICS:			330	
TOTAL TICS			4653	

SDG FILE: temp\1F40907 DATE: MATRIX:  
ES: SB2423RE  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2423RE	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	3500	BJ
SB2423RE	123-28-	PROPANOIC ACID, 3,3'-THIOBIS	210	JX
SB2423RE	629-99-	PENTACOSANE	110	JX
SB2423RE	630-01-	HEXACOSANE	140	JX
SB2423RE	593-49-	HEPTACOSANE	180	JX
SB2423RE	630-02-	OCTACOSANE	150	JX
SB2423RE	630-03-	NONACOSANE	210	JX
SB2423RE	638-68-	TRIACONTANE W/ UNKNOWN ALIPH	81	JX
SB2423RE	630-04-	HENTRIACONTANE	92	JX

TOTAL UNKNOWN TICS: 560  
TOTAL TICS 5233

SDG FILE: temp\1F40197 DATE: MATRIX:  
ES: SB2424  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2424	123-42-2	2-Pentanone, 4-hydroxy-4-met	9400	NJ
SB2424	593-49-7	Heptacosane	75	NJ
SB2424	630-03-5	Nonacosane	160	NJ
SB2424	638-68-6	Triacontane	79	NJ

TOTAL UNKNOWN TICS: 90  
TOTAL TICS 9804

SDG FILE: temp\1F40197 DATE: MATRIX:  
ES: SB2431  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2431	123-42-2	2-Pentanone, 4-hydroxy-4-met	9600	NJ
SB2431	629-99-2	Pentacosane	140	NJ
SB2431	593-49-7	Heptacosane	300	NJ
SB2431	630-02-4	Octacosane	250	NJ
SB2431	630-03-5	Nonacosane	1000	NJ
SB2431	638-68-6	Triacontane	230	NJ
SB2431	630-04-6	Hentriacontane	950	NJ
SB2431	630-05-7	Tritriacontane	230	NJ

TOTAL UNKNOWN TICS: 220  
TOTAL TICS 12920

SDG FILE: temp\1F40197 DATE: MATRIX:  
ES: SB2433  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2433	123-42-2	2-Pentanone, 4-hydroxy-4-met	8400	NJ
SB2433	629-99-2	Pentacosane	82	NJ
SB2433	593-49-7	Heptacosane	140	NJ
SB2433	630-02-4	Octacosane	170	NJ
SB2433	630-03-5	Nonacosane	300	NJ
SB2433	638-68-6	triacontane	110	NJ
SB2433	630-04-6	Hentriacontane	230	NJ

TOTAL UNKNOWN TICS: 130  
TOTAL TICS 9562

SDG FILE: temp\1F40197 DATE: MATRIX:  
ES: SB2435  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2435	123-42-2	2-Pentanone, 4-hydroxy-4-met	7900	NJ
SB2435	646-31-1	Tetracosane	77	NJ
SB2435	629-99-2	Pentacosane	150	NJ
SB2435	593-49-7	Heptacosane	250	NJ
SB2435	630-02-4	Octacosane	250	NJ
SB2435	630-03-5	Nonacosane	500	NJ
SB2435	638-68-6	triacontane	250	NJ
SB2435	630-04-6	Hentriacontane	200	NJ

TOTAL UNKNOWN TICS: 170  
TOTAL TICS 9747

SDG FILE: temp\1F40197 DATE: MATRIX:  
ES: SB2441  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2441	3142-66-3	2-Pentanone, 4-hydroxy-4-met	9600	NJ
SB2441	630-03-5	Nonacosane	140	NJ

TOTAL UNKNOWN TICS: 236  
TOTAL TICS 9976

SDG FILE: temp\1F40197 DATE: MATRIX:  
ES: SB2444  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2444	123-42-2	2-Pentanone, 4-hydroxy-4-met	9700	NJ

TOTAL UNKNOWN TICS: 370  
TOTAL TICS 10070

SDG FILE: temp\1F40197 DATE: MATRIX:  
ES: SB2447  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2447	123-42-2	2-Pentanone, 4-hydroxy-4-met	8800	NJ
SB2447	646-31-1	Tetracosane	80	NJ
SB2447	629-99-2	Pentacosane	150	NJ
SB2447	630-01-3	Hexacosane	230	NJ
SB2447	593-49-7	Heptacosane	260	NJ
SB2447	630-02-4	Octacosane	210	NJ
SB2447	630-03-5	Nonacosane	470	NJ
SB2447	638-68-6	Triacontane	230	NJ
SB2447	630-04-6	Hentriacontane	140	NJ

TOTAL UNKNOWN TICS: 0  
TOTAL TICS 10570

SDG FILE: temp\1F40197 DATE: MATRIX:  
ES: SB2451  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2451	123-42-2	2-Pentanone, 4-hydroxy-4-met	9500	NJ
SB2451	593-49-7	Heptacosane	89	NJ
SB2451	630-02-4	Octacosane	120	NJ
SB2451	630-03-5	Nonacosane	180	NJ
SB2451	630-04-6	Hentriacontane	89	NJ

TOTAL UNKNOWN TICS: 500  
TOTAL TICS 10478

SDG FILE: temp\1F40197 DATE: MATRIX:  
ES: SB2453  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2453	123-42-2	2-Pentanone, 4-hydroxy-4-met	9000	NJ
SB2453	629-99-2	Pentacosane	88	NJ
SB2453	593-49-7	Heptacosane	150	NJ
SB2453	630-02-4	Octacosane	180	NJ
SB2453	630-03-5	Nonacosane	290	NJ
SB2453	638-68-6	Triacontane	120	NJ
SB2453	630-04-6	Hentriacontane	120	NJ

TOTAL UNKNOWN TICS: 708  
TOTAL TICS 10656

SDG FILE: temp\1F40197 DATE: MATRIX:  
ES: SB2455  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2455	123-42-2	2-Pentanone, 4-hydroxy-4-met	8400	NJ
SB2455	646-31-1	Tetracosane	86	NJ
SB2455	629-99-2	Pentacosane	160	NJ
SB2455	593-49-7	Heptacosane	280	NJ
SB2455	630-02-4	Octacosane	350	NJ
SB2455	630-03-5	Nonacosane	560	NJ
SB2455	638-68-6	triacontane	280	NJ
SB2455	630-04-6	Hentriacontane	190	NJ

TOTAL UNKNOWN TICS: 2600  
TOTAL TICS 12906

SDG FILE: temp\1F40798 DATE: MATRIX:  
ES: MW242  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
MW242	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	12	BJ
MW242	544-76-	HEXADECANE	4	JX
MW242	629-78-	HEPTADECANE	8	JX
MW242	1921-70-	PENTADECANE, 2,6,10,14-TETRA	3	JX
MW242	593-45-	OCTADECANE	10	JX
MW242	629-92-	NONADECANE	12	JX
MW242	112-95-	EICOSANE	7	JX

TOTAL UNKNOWN TICS: 54  
TOTAL TICS 110

SDG FILE: temp\1F40798 DATE: MATRIX:  
ES: MW243  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
MW243	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	9	BJ
MW243	629-99-	PENTACOSANE	8	JX
MW243	630-01-	HEXACOSANE	8	JX
MW243	593-49-	HEPTACOSANE	7	JX
MW243	630-02-	OCTACOSANE	5	JX
MW243	630-03-	NONACOSANE	7	JX

TOTAL UNKNOWN TICS: 79  
TOTAL TICS 123

SEAD-25



TENATIVELY IDENTIFIED COMPOUNDS  
SEAD - 25

SDG FILE: temp\1E41097 DATE: MATRIX:

ES: SB2522

LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2522	124-18-5	Decane	100	NJ
SB2522	108-67-8	Benzene, 1,3,5-trimethyl-	20	NJ
SB2522	611-14-3	Benzene, 1-ethyl-2-methyl-	18	NJ
SB2522	95-63-6	Benzene, 1,2,4-trimethyl-	63	NJ
SB2522	135-98-8	Benzene, (1-methylpropyl)- w	56	NJ

TOTAL UNKNOWN TICS: 141  
TOTAL TICS 398

SDG FILE: temp\1E41097 DATE: MATRIX:

ES: SB2523

LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2523	111-84-2	Nonane	56	NJ
SB2523	124-18-5	Decane	280	NJ
SB2523	108-67-8	Benzene, 1,3,5-trimethyl-	94	NJ
SB2523	611-14-3	Benzene, 1-ethyl-2-methyl-	65	NJ
SB2523	95-63-6	Benzene, 1,2,4-trimethyl-	240	NJ
SB2523	135-98-8	Benzene, (1-methylpropyl)- w	110	NJ

TOTAL UNKNOWN TICS: 317  
TOTAL TICS 1162

SDG FILE: temp\1E41097 DATE: MATRIX:

ES: SB2531

LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2531	111-84-2	Nonane	730	NJ
SB2531	124-18-5	Decane	2100	NJ
SB2531	95-63-6	Benzene, 1,2,4-trimethyl-	1400	NJ
SB2531	1678-93-9	Cyclohexane, butyl-	580	NJ

TOTAL UNKNOWN TICS: 3750  
TOTAL TICS 8560

SDG FILE: temp\1E41097 DATE: MATRIX:

ES: SB2532

LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2532	124-18-5	Decane	13	NJ
SB2532	108-67-8	Benzene, 1,3,5-trimethyl-	19	NJ
SB2532	611-14-3	Benzene, 1-ethyl-2-methyl-	13	NJ
SB2532	95-63-6	Benzene, 1,2,4-trimethyl-	61	NJ

TOTAL UNKNOWN TICS: 34  
TOTAL TICS 140

SDG FILE: temp\1E41115 DATE: MATRIX:  
ES: SB2533  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2533	96-37-	CYCLOPENTANE, METHYL-	36	JX
SB2533	107-83-	PENTANE, 2-METHYL-	30	JX
SB2533	110-54-	HEXANE	25	JX
SB2533	108-87-	CYCLOHEXANE, METHYL-	32	JX
SB2533	589-34-	HEXANE, 3-METHYL-	49	JX
SB2533	591-76-	HEXANE, 2-METHYL-	38	JX
SB2533	592-27-	HEPTANE, 2-METHYL-	19	JX
SB2533	1678-92-	CYCLOHEXANE, PROPYL- W/ UNKN	14	JX

TOTAL UNKNOWN TICS: 33  
TOTAL TICS 276

SDG FILE: temp\1E41115 DATE: MATRIX:  
ES: SB2541  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2541	589-81-	HEPTANE, 3-METHYL-	1300	JX
SB2541	592-27-	HEPTANE, 2-METHYL-	830	JX
SB2541	1678-92-	CYCLOHEXANE, PROPYL- W/ UNKN	1400	JX

TOTAL UNKNOWN TICS: 2500  
TOTAL TICS 6030

SDG FILE: temp\1E41115 DATE: MATRIX:  
ES: SB2542  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2542	107-83-	PENTANE, 2-METHYL-	7	JX
SB2542	565-59-	PENTANE, 2,3-DIMETHYL-	8	JX
SB2542	589-34-	HEXANE, 3-METHYL-	15	JX
SB2542	591-76-	HEXANE, 2-METHYL-	7	JX
SB2542	1186-53-	PENTANE, 2,2,3,4-TETRAMETHYL	12	JX
SB2542	589-81-	HEPTANE, 3-METHYL-	13	JX

TOTAL UNKNOWN TICS: 76  
TOTAL TICS 138

SDG FILE: temp\1E41115 DATE: MATRIX:  
ES: SB2543  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2543	107-83-	PENTANE, 2-METHYL-	21	JX
SB2543	108-87-	CYCLOHEXANE, METHYL-	18	JX
SB2543	589-34-	HEXANE, 3-METHYL-	28	JX
SB2543	591-76-	HEXANE, 2-METHYL-	15	JX
SB2543	589-81-	HEPTANE, 3-METHYL-	30	JN
SB2543	592-27-	HEPTANE, 2-METHYL-	13	JX

TOTAL UNKNOWN TICS: 78  
TOTAL TICS 203

SDG FILE: temp\1E41115 DATE: MATRIX:  
ES: SB2551  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2551	110-82-	CYCLOHEXANE	1600	JX
SB2551	96-37-	CYCLOPENTANE, METHYL-	3600	JX
SB2551	96-14-	PENTANE, 3-METHYL-	3300	JX
SB2551	107-83-	PENTANE, 2-METHYL-	4000	JX
SB2551	110-54-	HEXANE	4100	JX
SB2551	589-34-	HEXANE, 3-METHYL-	4500	JX
SB2551	591-76-	HEXANE, 2-METHYL-	3500	JX
SB2551	1186-53-	PENTANE, 2,2,3,4-TETRAMETHYL	2100	JX
SB2551	589-81-	HEPTANE, 3-METHYL- W/ TCL#35	4400	JX
SB2551	592-27-	HEPTANE, 2-METHYL-	3100	JX

TOTAL UNKNOWN TICS: 0  
TOTAL TICS 34200

SDG FILE: temp\1E41115 DATE: MATRIX:  
ES: SB2552  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2552	96-37-	CYCLOPENTANE, METHYL-	13000	JX
SB2552	96-14-	PENTANE, 3-METHYL-	14000	JX
SB2552	107-83-	PENTANE, 2-METHYL-	17000	JX
SB2552	110-54-	HEXANE	20000	JX
SB2552	589-34-	HEXANE, 3-METHYL-	21000	JX
SB2552	591-76-	HEXANE, 2-METHYL-	18000	JX
SB2552	142-82-	HEPTANE W/ TCL#33	24000	JX
SB2552	589-81-	HEPTANE, 3-METHYL- W/ TCL#35	34000	JX
SB2552	592-27-	HEPTANE, 2-METHYL-	19000	JX
SB2552	111-65-	OCTANE W/ SSTD BFB	27000	JX

TOTAL UNKNOWN TICS: 0  
TOTAL TICS 207000

SDG FILE: temp\1E41115 DATE: MATRIX:  
ES: SB2553  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2553	107-83-	PENTANE, 2-METHYL-	740	JX
SB2553	110-54-	HEXANE	970	JX
SB2553	589-34-	HEXANE, 3-METHYL-	1100	JX
SB2553	591-76-	HEXANE, 2-METHYL-	990	JX
SB2553	589-81-	HEPTANE, 3-METHYL- W/ TCL#35	2200	JX
SB2553	592-27-	HEPTANE, 2-METHYL-	1300	JX

TOTAL UNKNOWN TICS: 0  
TOTAL TICS 7300

SDG FILE: temp\1F40197 DATE: MATRIX:  
ES: SB2511  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2511	123-42-2	2-Pentanone, 4-hydroxy-4-met	13000	NJ
SB2511	629-50-5	Tridecane	1200	NJ
SB2511	629-59-4	Tetradecane	2200	NJ
SB2511	629-62-9	Pentadecane	3600	NJ
SB2511	544-76-3	Hexadecane	3300	NJ
SB2511	629-78-7	Heptadecane	2500	NJ
SB2511	1921-70-6	Pentadecane, 2,6,10,14-tetra	6800	NJ
SB2511	593-45-3	Octadecane	2300	NJ
SB2511	638-36-8	Hexadecane, 2,6,10,14-tetram	3400	NJ
SB2511	629-92-5	Nonadecane	2000	NJ
SB2511	112-95-8	Eicosane	1500	NJ
SB2511	629-94-7	Heneicosane	1000	NJ

TOTAL UNKNOWN TICS: 18080  
TOTAL TICS 60880

SDG FILE: temp\1F40197 DATE: MATRIX:  
ES: SB2513  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2513	123-42-2	2-Pentanone, 4-hydroxy-4-met	9200	NJ

TOTAL UNKNOWN TICS: 4734  
TOTAL TICS 13934

SDG FILE: temp\1F40197 DATE: MATRIX:  
ES: SB2514  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2514	123-42-2	2-Pentanone, 4-hydroxy-4-met	12000	NJ
TOTAL UNKNOWN TICS:			8780	
TOTAL TICS			20780	

SDG FILE: temp\1F40197 DATE: MATRIX:  
ES: SB2521  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2521	123-42-2	2-Pentanone, 4-hydroxy-4-met	11000	NJ
SB2521	629-50-5	Tridecane	480	NJ
SB2521	629-59-4	Tetradecane	780	J
SB2521	629-62-9	Pentadecane	1000	NJ
SB2521	544-76-3	Hexadecane	1000	NJ
SB2521	629-78-7	Heptadecane	930	NJ
SB2521	1921-70-6	Pentadecane, 2,6,10,14-tetra	1400	NJ
SB2521	593-45-3	Octadecane	770	NJ
SB2521	638-36-8	Hexadecane, 2,6,10,14-tetram	720	NJ
SB2521	629-92-5	Nonadecane	700	NJ
SB2521	112-95-8	Eicosane	600	NJ
SB2521	629-94-7	Heneicosane	430	NJ
TOTAL UNKNOWN TICS:			8250	
TOTAL TICS			28060	

SDG FILE: temp\1F40197 DATE: MATRIX:  
ES: SB2522  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2522	123-42-2	2-Pentanone, 4-hydroxy-4-met	39000	NJ
SB2522	1120-21-4	Undecane	6400	NJ
SB2522	112-40-3	Dodecane	6500	NJ
SB2522	629-50-5	Tridecane	6600	NJ
SB2522	90-12-0	Naphthalene, 1-methyl-	4800	NJ
SB2522	629-59-4	Tetradecane	6400	NJ
SB2522	575-41-7	Naphthalene, 1,3-dimethyl-	8000	NJ
SB2522	629-62-9	Pentadecane	7000	NJ
SB2522	544-76-3	Hexadecane	4500	NJ
SB2522	629-78-7	Heptadecane	4100	NJ
SB2522	1921-70-6	Pentadecane, 2,6,10,14-tetra	14000	NJ
SB2522	638-36-8	Hexadecane, 2,6,10,14-tetram	7000	NJ
TOTAL UNKNOWN TICS:			67400	
TOTAL TICS			181700	

SDG FILE: temp\1F40197 DATE: MATRIX:  
 ES: SB2523  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2523	123-42-2	2-Pentanone, 4-hydroxy-4-met	37000	NJ
SB2523	1120-21-4	Undecane	4300	NJ
SB2523	112-40-3	Dodecane	4200	NJ
SB2523	629-50-5	Tridecane	3400	NJ
SB2523	90-12-0	Naphthalene, 1-methyl-	3500	NJ
SB2523	575-41-7	Naphthalene, 1,3-dimethyl-	5700	NJ
SB2523	629-62-9	Pentadecane	2900	NJ
SB2523	1921-70-6	Pentadecane, 2,6,10,14-tetra	13000	NJ
SB2523	638-36-8	Hexadecane, 2,6,10,14-tetram	6300	NJ
TOTAL UNKNOWN TICS:			67300	
TOTAL TICS			147600	

SDG FILE: temp\1F40197 DATE: MATRIX:  
 ES: SB2524  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2524	123-42-2	2-Pentanone, 4-hydroxy-4-met	14000	NJ
SB2524	1120-21-4	Undecane	740	NJ
SB2524	112-40-3	Dodecane	720	NJ
SB2524	629-50-5	Tridecane	1200	NJ
SB2524	629-59-4	Tetradecane	1900	NJ
SB2524	629-62-9	Pentadecane	2600	NJ
SB2524	544-76-3	Hexadecane	2300	NJ
SB2524	629-78-7	Heptadecane	2000	NJ
SB2524	1921-70-6	Pentadecane, 2,6,10,14-tetra	2500	NJ
SB2524	593-45-3	Octadecane	1900	NJ
SB2524	638-36-8	Hexadecane, 2,6,10,14-tetram	1400	NJ
SB2524	629-92-5	Nonadecane	1700	NJ
SB2524	112-95-8	Eicosane	1400	NJ
SB2524	629-94-7	Heneicosane	960	NJ
TOTAL UNKNOWN TICS:			15930	
TOTAL TICS			51250	

SDG FILE: temp\1F40197 DATE: MATRIX:

ES: SB2531

LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2531	123-42-2	2-Pentanone, 4-hydroxy-4-met	48000	NJ
SB2531	1120-21-4	Undecane	13000	NJ
SB2531	112-40-3	Dodecane	12000	NJ
SB2531	629-50-5	Tridecane	18000	NJ
SB2531	629-59-4	Tetradecane	25000	NJ
SB2531	629-62-9	Pentadecane	32000	NJ
SB2531	544-76-3	Hexadecane	30000	NJ
SB2531	629-78-7	Heptadecane	37000	NJ
SB2531	1921-70-6	Pentadecane, 2,6,10,14-tetra	26000	NJ
SB2531	593-45-3	Octadecane	30000	NJ
SB2531	638-636-8	Hexadecane, 2,6,10,14-tetram	14000	NJ
SB2531	629-92-5	Nonadecane	29000	NJ
SB2531	112-95-8	Eicosane	25000	NJ
SB2531	629-94-7	Heneicosane	20000	NJ

TOTAL UNKNOWN TICS: 88700  
TOTAL TICS 447700

SDG FILE: temp\1F40197 DATE: MATRIX:

ES: SB2532

LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2532	123-42-2	2-Pentanone, 4-hydroxy-4-met	12000	NJ
SB2532	593-49-7	Heptadecane	89	NJ

TOTAL UNKNOWN TICS: 8200  
TOTAL TICS 20289

SDG FILE: temp\1F41115 DATE: MATRIX:

ES: SB2533

LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2533	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	3100	BJ
SB2533	112-40-	DODECANE W/ DIMETHYLINDAN	1300	JX
SB2533	629-50-	TRIDECAE	1900	JX
SB2533	629-59-	TETRADECAE	1900	JX
SB2533	629-62-	PENTADECAE	2400	JX
SB2533	544-76-	HEXADECAE	2400	JX
SB2533	629-78-	HEPTADECAE	3200	JX
SB2533	1921-70-	PENTADECAE, 2,6,10,14-TETRA	1900	JX
SB2533	593-45-	OCTADECAE	2700	JX
SB2533	638-36-	HEXADECAE, 2,6,10,14-TETRAM	1100	JX
SB2533	629-92-	NONADECAE	2700	JX
SB2533	112-95-	EICOSANE	2300	JX
SB2533	629-94-	HENEICOSANE	1900	JX
SB2533	629-97-	DOCOSANE	1300	JX

TOTAL UNKNOWN TICS: 9000  
TOTAL TICS 39100

SDG FILE: temp\1F41115 DATE: MATRIX:  
 ES: SB2541  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2541	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	3600	BJ
SB2541	95-63-	BENZENE, 1,2,4-TRIMETHYL-	12000	JX
SB2541	124-18-	DECANE	10000	JX
SB2541	1120-21-	UNDECANE	11000	JX
SB2541	488-23-	BENZENE, 1,2,3,4-TETRAMETHYL	9200	JX
SB2541	112-40-	DODECANE W/ DIMETHYLINDAN	11000	JX
SB2541	90-12-	NAPHTHALENE, 1-METHYL-	11000	JX
SB2541	581-42-	NAPHTHALENE, 2,6-DIMETHYL-	12000	JX
SB2541	575-41-	NAPHTHALENE, 1,3-DIMETHYL-	15000	JX
SB2541	544-76-	HEXADECANE W/ TRIMETHYLNAPHT	11000	JX
SB2541	629-78-	HEPTADECANE	11000	JX
SB2541	1921-70-	PENTADECANE, 2,6,10,14-TETRA	45000	JX
SB2541	638-36-	HEXADECANE, 2,6,10,14-TETRAM	26000	JX
TOTAL UNKNOWN TICS:			115800	
TOTAL TICS			303600	

SDG FILE: temp\1F41115 DATE: MATRIX:  
 ES: SB2542  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2542	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	9500	BJ
SB2542	90-12-	NAPHTHALENE, 1-METHYL-	830	JX
SB2542	581-42-	NAPHTHALENE, 2,6,-DIMETHYL-	1200	JX
SB2542	575-41-	NAPHTHALENE, 1,3-DIMETHYL-	1400	JX
SB2542	575-43-	NAPHTHALENE, 1,6-DIMETHYL-	840	JX
SB2542	629-78-	HEPTADECANE	830	JX
SB2542	1921-70-	PENTADECANE, 2,6,10,14-TETRA	5700	JX
SB2542	638-36-	HEXADECANE, 2,6,10,14-TETRAM	3100	JX
SB2542	629-99-	PENTACOSANE	770	JX
TOTAL UNKNOWN TICS:			22450	
TOTAL TICS			46620	



SDG FILE: temp\1F41115 DATE: MATRIX:  
ES: SB2543  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2543	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	8000	BJ
SB2543	1120-21-	UNDECANE	660	JX
SB2543	112-40-	DODECANE W/ DIMETHYLINDAN	680	JX
SB2543	90-12-	NAPHTHALENE, 1-METHYL-	620	JX
SB2543	629-59-	TETRADECANE	590	JX
SB2543	581-42-	NAPHTHALENE, 2,6-DIMETHYL-	760	JX
SB2543	575-41-	NAPHTHALENE, 1,3-DIMETHYL-	930	JX
SB2543	629-62-	PENTADECANE	750	JX
SB2543	544-76-	HEXADECANE	860	JX
SB2543	629-78-	HEPTADECANE	920	JX
SB2543	1921-70-	PENTADECANE, 2,6,10,14-TETRA	2500	JX
SB2543	593-45-	OCTADECANE	730	JX
SB2543	638-36-	HEXADECANE, 2,6,10,14-TETRAM	1400	JX
SB2543	629-92-	NONADECANE	710	JX

TOTAL UNKNOWN TICS: 6950  
TOTAL TICS 27060

SDG FILE: temp\1F41115 DATE: MATRIX:  
ES: SB2551  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2551	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	3500	BJ
SB2551	112-40-	DODECANE W/ DIMETHYLINDAN	32000	JX
SB2551	629-50-	TRIDECANE	49000	JX
SB2551	629-59-	TETRADECANE	54000	JX
SB2551	629-62-	PENTADECANE	69000	JX
SB2551	544-76-	HEXADECANE	69000	JX
SB2551	629-78-	HEPTADECANE	82000	JX
SB2551	1921-70-	PENTADECANE, 2,6,10,14-TETRA	63000	JX
SB2551	593-45-	OCTADECANE	61000	JX
SB2551	638-36-	HEXADECANE, 2,6,10,14-TETRAM	38000	JX
SB2551	629-92-	NONADECANE	59000	JX
SB2551	112-95-	EICOSANE	52000	JX
SB2551	629-94-	HENEICOSANE	43000	JX
SB2551	629-97-	DOCOSANE	29000	JX

TOTAL UNKNOWN TICS: 216000  
TOTAL TICS 919500

SDG FILE: temp\1F41115      DATE:      MATRIX:  
 ES: SB2552  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2552	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	5300	BJ
SB2552	620-14-	BENZENE, 1-ETHYL-3-METHYL-	1400	JX
SB2552	108-67-	BENZENE, 1,3,5-TRIMETHYL- W/	840	JX
SB2552	95-63-	BENZENE, 1,2,4-TRIMETHYL-	2400	JX
SB2552	526-73-	BENZENE, 1,2,3-TRIMETHYL-	730	JX
SB2552	1120-21-	UNDECANE	1400	JX
SB2552	112-40-	DODECANE W/ DIMETHYLINDAN	1700	JX
SB2552	629-50-	TRIDECANE	1800	JX
SB2552	629-59-	TETRADECANE	1400	JX
SB2552	629-62-	PENTADECANE	1400	JX
SB2552	544-76-	HEXADECANE	1300	JX
SB2552	629-78-	HEPTADECANE	1200	JX
SB2552	593-45-	OCTADECANE	890	JX
SB2552	629-92-	NONADECANE	920	JX
SB2552	112-95-	EICOSANE	840	JX
SB2552	629-94-	HENEICOSANE	740	JX

TOTAL UNKNOWN TICS: 6410  
 TOTAL TICS 30670

SDG FILE: temp\1F41115      DATE:      MATRIX:  
 ES: SB2553  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2553	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	3700	BJ
SB2553	620-14-	BENZENE, 1-ETHYL-3-METHYL-	19000	JX
SB2553	108-67-	BENZENE, 1,3,5-TRIMETHYL- W/	12000	JX
SB2553	95-63-	BENZENE, 1,2,4-TRIMETHYL-	35000	JX
SB2553	124-18-	DECANE	10000	JX
SB2553	526-73-	BENZENE, 1,2,3-TRIMETHYL-	10000	JX
SB2553	1120-21-	UNDECANE	17000	JX
SB2553	824-22-	1H-INDENE, 2,3-DIHYDRO-4-MET	9500	JX
SB2553	112-40-	DODECANE W/ DIMETHYLINDAN	20000	JX
SB2553	629-50-	TRIDECANE	20000	JX
SB2553	629-59-	TETRADECANE	18000	JX
SB2553	629-62-	PENTADECANE	19000	JX
SB2553	544-76-	HEXADECANE	19000	JX
SB2553	629-78-	HEPTADECANE	20000	JX
SB2553	1921-70-	PENTADECANE, 2,6,10,14-TETRA	11000	JX
SB2553	593-45-	OCTADECANE	15000	JX
SB2553	629-92-	NONDECANE	15000	JX
SB2553	112-95-	EICOSANE	13000	JX
SB2553	629-94-	HENEICOSANE	11000	JX

TOTAL UNKNOWN TICS: 20600  
 TOTAL TICS 317800

SDG FILE: temp\1F41115 DATE: MATRIX:  
ES: SB2561  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2561	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	2700	BJ
SB2561	832-71-	PHENANTHRENE, 3-METHYL- W/ H	240	JX
SB2561	2531-84-	PHENANTHRENE, 2-METHYL- W/ H	360	JX
SB2561	832-69-	PHENANTHRENE, 1-METHYL-	99	JX
SB2561	238-84-	11H-BENZO [A] FLUORENE	180	JX
SB2561	239-35-	BENZO [B] NAPHTHO [2,1-D] THIOPH	100	JX
SB2561	630-03-	NONACOSANE	180	JX
SB2561	192-97-	BENZO [E] PYRENE	330	JX
SB2561	630-04-	HENTRIACONTANE	320	JX
SB2561	630-05-	TRITRIACONTANE	96	JX

TOTAL UNKNOWN TICS: 1667  
TOTAL TICS 6272

SDG FILE: temp\1F41115 DATE: MATRIX:  
ES: SB2562  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2562	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	3100	BJ
SB2562	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	130	JX

TOTAL UNKNOWN TICS: 840  
TOTAL TICS 4070

SDG FILE: temp\1E40798 DATE: MATRIX:  
ES: MW253  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
MW253	78-78-	BUTANE, 2-METHYL-	56	JX
MW253	109-66-	PENTANE	36	JX
MW253	96-37-	CYCLOPENTANE, METHYL-	84	JX
MW253	79-29-	BUTANE, 2,3-DIMETHYL-	18	JX
MW253	107-83-	PENTANE, 2-METHYL-	39	JX
MW253	110-54-	HEXANE	18	JX
MW253	108-87-	CYCLOHEXANE, METHYL-	16	JX
MW253	589-34-	HEXANE, 3-METHYL-	20	JX

TOTAL UNKNOWN TICS: 62  
TOTAL TICS 349

SDG FILE: temp\1F40798      DATE:      MATRIX:  
 ES: MW253  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
MW253	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	12	BJ
MW253	611-14-	BENZENE, 1-ETHYL-2-METHYL-	8	JX
MW253	108-67-	BENZENE, 1,3,5-TRIMETHYL-	4	JX
MW253	1462-07-	CYCLOPENTENE, 1-(1-METHYLETH	7	JX
MW253	95-63-	BENZENE, 1,2,4-TRIMETHYL-	12	JX
MW253	496-11-	1H-INDENE, 2,3-DIHYDRO-	5	JX
MW253	95-93-	BENZENE, 1,2,4,5-TETRAMETHYL	3	JX
MW253	527-53-	BENZENE, 1,2,3,5-TETRAMETHYL	4	JX
MW253	824-22-	1H-INDENE, 2,3-DIHYDRO-4-MET	6	JX
MW253	544-63-	TETRADECANOIC ACID	2	JX
MW253	57-10-	HEXADECANOIC ACID	9	BJ
MW253	57-11-	OCTADECANOIC ACID	3	JX

TOTAL UNKNOWN TICS: 61  
 TOTAL TICS 136

SDG FILE: temp\1F40798      DATE:      MATRIX:  
 ES: MW253RE  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
MW253RE	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	7	BJ
MW253RE	1462-07-	CYCLOPENTENE, 1-(1-METHYLETH	10	JX
MW253RE	57-10-	HEXADECANOIC ACID	7	JX
MW253RE	57-11-	OCTADECANOIC ACID	3	JX

TOTAL UNKNOWN TICS: 13  
 TOTAL TICS 40

SEAD-26

TENATIVELY IDENTIFIED COMPOUNDS  
SEAD - 26

SDG FILE: temp\1E40339 DATE: MATRIX:  
ES: SS261  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS261	79-20-9	Acetic acid, methyl ester	10	NJ
TOTAL UNKNOWN TICS:			127	
TOTAL TICS			137	

SDG FILE: temp\1E40339 DATE: MATRIX:  
ES: SS261RE  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS261RE	79-20-9	Acetic acid, methyl ester	13	NJ
TOTAL UNKNOWN TICS:			114	
TOTAL TICS			127	

SDG FILE: temp\1E40339 DATE: MATRIX:  
ES: SS262  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TOTAL UNKNOWN TICS:			69	
TOTAL TICS			69	

SDG FILE: temp\1E40339 DATE: MATRIX:  
ES: SS262RE  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS262RE	75-18-3	Dimethyl sulfide	6	NJ
SS262RE	79-20-9	Acetic acid, methyl ester	7	NJ
TOTAL UNKNOWN TICS:			79	
TOTAL TICS			92	

SDG FILE: temp\1E40339 DATE: MATRIX:  
ES: SS263  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TOTAL UNKNOWN TICS:			1047	
TOTAL TICS			1047	

SDG FILE: temp\1E40339 DATE: MATRIX:  
 ES: SS269 LAB:  
 ESID CAS NO COMPOUND RESULT QUAL.

TOTAL UNKNOWN TICS: 1161  
 TOTAL TICS 1161

SDG FILE: temp\1E40339 DATE: MATRIX:  
 ES: SS269DL LAB:  
 ESID CAS NO COMPOUND RESULT QUAL.

TOTAL UNKNOWN TICS: 2880  
 TOTAL TICS 2880

SDG FILE: temp\1F40339 DATE: MATRIX:  
 ES: SS261 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS261	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	19000	BJ
SS261	629-59-	TETRADECANE	23000	JX
SS261	629-62-	PENTADECANE	19000	JX
SS261	544-76-	HEXADECANE	22000	JX
SS261	629-78-	HEPTADECANE	23000	JX
SS261	1921-70-	PENTADECANE, 2,6,10,14-TETRA	90000	JX
SS261	593-45-	OCTADECANE	21000	JX
SS261	638-36-	HEXADECANE, 2,6,10,14-TETRAM	50000	JX
SS261	629-92-	NONADECANE	22000	JX
SS261	112-95-	EICOSANE	28000	JX
SS261	629-94-	HENEICOSANE	19000	JX

TOTAL UNKNOWN TICS: 289000  
 TOTAL TICS 625000

SDG FILE: temp\1F40339 DATE: MATRIX:  
 ES: SS262 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS262	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	38000	BJ
SS262	629-50-	TRIDEDECANE	6000	JX
SS262	629-59-	TETRADECANE	8000	JX
SS262	629-62-	PENTADECANE	7400	JX
SS262	544-76-	HEXADECANE	10000	JX
SS262	629-78-	HEPTADECANE	12000	JX
SS262	1921-70-	PENTADECANE, 2,6,10,14-TETRA	53000	JX
SS262	593-45-	OCTADECANE	7700	JX
SS262	638-36-	HEXADECANE, 2,6,10,14-TETRAM	46000	JX
SS262	629-92-	NONADECANE	8900	JX
SS262	112-95-	EICOSANE	7800	JX
SS262	629-94-	HENEICOSANE	6400	JX

TOTAL UNKNOWN TICS: 73300  
 TOTAL TICS 284500

SDG FILE: temp\1F40339      DATE:      MATRIX:  
 ES:      SS263  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS263	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	11000	BJ
SS263	112-40-	DODECANE	91000	JX
SS263	629-50-	TRIDECANE	10000	JX
SS263	629-59-	TETRADECANE	70000	JX
SS263	629-62-	PENTADECANE	60000	JX
SS263	544-76-	HEXADECANE	70000	JX
SS263	629-78-	HEPTADECANE	60000	JX
SS263	1921-70-	PENTADECANE, 2,6,10,14-TETRA	20000	JX
SS263	593-45-	OCTADECANE	30000	JX
SS263	638-36-	HEXADECANE, 2,6,10,14-TETRAM	20000	JX
SS263	629-92-	NONADECANE	10000	JX
SS263	112-95-	EICOSANE	78000	JX
SS263	629-94-	HENEICOSANE	50000	JX

TOTAL UNKNOWN TICS:      463000  
 TOTAL TICS      1043000

SDG FILE: temp\1F40339      DATE:      MATRIX:  
 ES:      SS264  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS264	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	7200	BJ
SS264	544-76-	HEXADECANE	280	JX
SS264	629-78-	HEPTADECANE	480	JX
SS264	1921-70-	PENTADECANE, 2,6,10,14-TETRA	260	JX
SS264	593-45-	OCTADECANE	430	JX
SS264	638-36-	HEXADECANE, 2,6,10,14-TETRAM	340	JX
SS264	629-92-	NONADECANE	460	JX
SS264	203-64-	4H-CYCLOPENTA [DEF] PHENANTHRE	380	JX
SS264	112-95-	EICOSANE	420	JX
SS264	629-94-	HENEICOSANE	380	JX
SS264	629-97-	DOCOSANE	320	JX
SS264	638-67-	TRICOSANE	310	JX
SS264	238-84-	11H-BENZO [A] FLUORENE	430	JX
SS264	629-99-	PENTACOSANE W/ BENZO [C] PHENA	280	JX
SS264	593-49-	HEPTACOSANE W/ C19H14 PAH	370	JX
SS264	630-03-	NONACOSANE	350	JX
SS264	192-97-	BENZO [E] PYRENE	800	JX
SS264	198-55-	PERYLENE	310	JX

TOTAL UNKNOWN TICS:      910  
 TOTAL TICS      14710



SDG FILE: temp\1F40339 DATE: MATRIX:  
ES: SS265  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS265	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	7600	BJ
SS265	629-78-	HEPTADECANE	130	JX
SS265	629-99-	PENTACOSANE	90	JX
SS265	593-49-	HEPTACOSANE	270	JX
SS265	630-03-	NONACOSANE	620	JX
SS265	192-97-	BENZO [E] PYRENE	160	JX
SS265	630-04-	HENTRIACONTANE	80	JX

TOTAL UNKNOWN TICS: 3644  
TOTAL TICS 12594

SDG FILE: temp\1F40339 DATE: MATRIX:  
ES: SS266  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS266	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	12000	BJ
SS266	2531-84-	PHENANTHRENE, 2-METHYL-	730	JX
SS266	203-64-	4H-CYCLOPENTA [DEF] PHENANTHRE	1100	JX
SS266	243-42-	BENZO [B] NAPHTHO [2,3-D] FURAN	680	JX
SS266	238-84-	11H-BENZO [A] FLUORENE	1700	JX
SS266	243-17-	11H-BENZO [B] FLUORENE	780	JX
SS266	239-35-	BENZO [B] NAPHTHO [2,1-D] THIOPH	1000	JX
SS266	195-19-	BENZO [C] PHENANTHRENE	760	JX
SS266	27208-37-	CYCLOPENTA [CD] PYRENE W/ N-AR	790	JX
SS266	192-97-	BENZO [E] PYRENE	4200	JX
SS266	198-55-	PERYLENE	1200	JX

TOTAL UNKNOWN TICS: 9190  
TOTAL TICS 34130

SDG FILE: temp\1F40339 DATE: MATRIX:  
 ES: SS267  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS267	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	5900	BJ
SS267	112-40-	DODECANE	220	JX
SS267	629-50-	TRIDECANE	330	JX
SS267	629-59-	TETRADECANE	500	JX
SS267	629-62-	PENTADECANE	540	JX
SS267	544-76-	HEXADECANE	650	JX
SS267	629-78-	HEPTADECANE	870	JX
SS267	1921-70-	PENTADECANE, 2,6,10,14-TETRA	590	JX
SS267	593-45-	OCTADECANE	880	JX
SS267	638-36-	HEXADECANE, 2,6,10,14-TETRAM	470	JX
SS267	629-92-	NONADECANE	820	JX
SS267	112-95-	EICOSANE	730	JX
SS267	629-94-	HENEICOSANE	560	JX
SS267	629-97-	DOCOSANE	480	JX
SS267	638-67-	TRICOSANE	330	JX
SS267	646-31-	TETRACOSANE	200	JX
SS267	629-99-	PENTACOSANE	170	JX
SS267	630-03-	NONACOSANE	190	JX

TOTAL UNKNOWN TICS: 1040  
 TOTAL TICS 15470

SDG FILE: temp\1F40339 DATE: MATRIX:  
 ES: SS268  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS268	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	4700	BJ
SS268	629-78-	HEPTADECANE	160	JX
SS268	314-40-	BROMACIL	220	JX
SS268	638-67-	TRICOSANE	89	JX
SS268	629-99-	PENTACOSANE W/ BENZO[C]PHENA	140	JX
SS268	593-49-	HEPTACOSANE W/ C19H14 PAH	190	JX
SS268	630-03-	NONACOSANE	350	JX
SS268	192-97-	BENZO[E]PYRENE	190	JX
SS268	630-04-	HENTRIACONTANE	130	JX

TOTAL UNKNOWN TICS: 280  
 TOTAL TICS 6449

SDG FILE: temp\1F40339 DATE: MATRIX:  
ES: SS269  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS269	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	8700	BJ
SS269	112-40-	DODECANE	52000	JX
SS269	629-50-	TRIDECANE	73000	JX
SS269	629-59-	TETRADECANE	0	JX
SS269	629-62-	PENTADECANE	20000	JX
SS269	544-76-	HEXADECANE	10000	JX
SS269	629-78-	HEPTADECANE	40000	JX
SS269	1921-70-	PENTADECANE, 2,6,10,14-TETRA	10000	JX
SS269	593-45-	OCTADECANE	10000	JX
SS269	638-36-	HEXADECANE, 2,6,10,14-TETRAM	20000	JX
SS269	629-92-	NONADECANE	10000	JX
SS269	112-95-	EICOSANE	93000	JX
SS269	629-94-	HENEICOSANE	61000	JX

TOTAL UNKNOWN TICS: 381000  
TOTAL TICS 788700

SDG FILE: temp\1E40878 DATE: MATRIX:  
ES: SB2621  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2621	138-86-3	Limonene	11	NJ

TOTAL UNKNOWN TICS: 20  
TOTAL TICS 31

SDG FILE: temp\1E40878 DATE: MATRIX:  
ES: SB2644  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2644	556-67-2	Cyclotetrasiloxane, octameth	8	NJ

TOTAL UNKNOWN TICS: 0  
TOTAL TICS 8

SDG FILE: temp\1F40654 DATE: MATRIX:  
ES: SB2611  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2611	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	9900	BJ

TOTAL UNKNOWN TICS: 0  
TOTAL TICS 9900

SDG FILE: temp\1F40654 DATE: MATRIX:

ES: SB2612

LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2612	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	11000	BJ
SB2612	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	84	JX

TOTAL UNKNOWN TICS: 0  
TOTAL TICS 11084

SDG FILE: temp\1F40878 DATE: MATRIX:

ES: SB2621

LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2621	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	4800	BJ
SB2621	143-07-	DODECANOIC ACID	510	BJ
SB2621	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	300	JX
SB2621	629-78-	HEPTADECANE	220	JX
SB2621	593-45-	OCTADECANE	200	JX
SB2621	629-92-	NONADECANE	210	JX
SB2621	112-95-	EICOSANE	220	JX
SB2621	593-49-	HEPTACOSANE	260	JX
SB2621	630-03-	NONACOSANE	630	JX
SB2621	630-04-	HENTRIACONTANE	400	JX

TOTAL UNKNOWN TICS: 6390  
TOTAL TICS 14140

SDG FILE: temp\1F40878 DATE: MATRIX:

ES: SB2625

LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2625	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	7600	BJ
SB2625	629-59-	TETRADECANE	120	JX
SB2625	629-62-	PENTADECANE	130	JX
SB2625	143-07-	DODECANOIC ACID	220	BJ
SB2625	544-76-	HEXADECANE	140	JX
SB2625	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	230	JX
SB2625	629-78-	HEPTADECANE	160	JX
SB2625	593-45-	OCTADECANE	150	JX
SB2625	629-92-	NONADECANE	140	JX
SB2625	112-95-	EICOSANE	110	JX
SB2625	629-99-	PENTACOSANE	120	JX
SB2625	593-49-	HEPTACOSANE	220	JX
SB2625	630-02-	OCTACOSANE	110	JX
SB2625	630-03-	NONACOSANE	630	JX
SB2625	630-04-	HENTRIACONTANE	290	JX

TOTAL UNKNOWN TICS: 4510  
TOTAL TICS 14880

SDG FILE: temp\1F40878 DATE: MATRIX:  
ES: SB2626  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2626	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	5400	BJ
SB2626	143-07-	DODECANOIC ACID	400	BJ
SB2626	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	210	JX
SB2626	593-49-	HEPTACOSANE	140	JX
SB2626	630-03-	NONACOSANE	450	JX
SB2626	630-04-	HENTRIACONTANE	420	JX
SB2626	630-05-	TRITRIACONTANE	120	JX

TOTAL UNKNOWN TICS: 627  
TOTAL TICS 7767

SDG FILE: temp\1F40878 DATE: MATRIX:  
ES: SB2627  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2627	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	5200	BJ
SB2627	143-07-	DODECANOIC ACID	220	BJ
SB2627	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	82	JX
SB2627	630-03-	NONACOSANE	180	JX

TOTAL UNKNOWN TICS: 730  
TOTAL TICS 6412

SDG FILE: temp\1F40878 DATE: MATRIX:  
ES: SB2631  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2631	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	8000	BJ
SB2631	143-07-	DODECANOIC ACID	260	BJ
SB2631	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	160	JX
SB2631	593-49-	HEPTACOSANE	140	JX
SB2631	630-03-	NONACOSANE	500	JX
SB2631	630-04-	HENTRIACONTANE	360	JX
SB2631	630-05-	TRITRIACONTANE	110	JX

TOTAL UNKNOWN TICS: 1080  
TOTAL TICS 10610

SDG FILE: temp\1F40878 DATE: MATRIX:  
ES: SB2634  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2634	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	7000	BJ
SB2634	143-07-	DODECANOIC ACID	640	BJ
SB2634	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	150	JX
SB2634	593-49-	HEPTACOSANE	200	JX
SB2634	630-03-	NONACOSANE	870	JX
SB2634	638-68-	TRIACONTANE	98	JX
SB2634	630-04-	HENTRIACONTANE	810	JX
SB2634	630-05-	TRITRIACONTANE	160	JX

TOTAL UNKNOWN TICS: 379  
TOTAL TICS 10307

SDG FILE: temp\1F40878 DATE: MATRIX:  
ES: SB2636  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2636	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	5000	BJ
SB2636	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	380	BJ
SB2636	630-03-	NONACOSANE	150	JX
SB2636	630-04-	HENTRIACONTANE	130	JX

TOTAL UNKNOWN TICS: 310  
TOTAL TICS 5970

SDG FILE: temp\1F40878 DATE: MATRIX:  
ES: SB2641  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2641	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	6100	BJ
SB2641	143-07-	DODECANOIC ACID	300	BJ
SB2641	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	110	JX
SB2641	57-10-	HEXADECANOIC ACID	160	JX
SB2641	593-49-	HEPTACOSANE	280	JX
SB2641	630-02-	OCTACOSANE	100	JX
SB2641	630-03-	NONACOSANE	1700	JX
SB2641	630-04-	HENTRIACONTANE	840	JX
SB2641	541-01-	HEPTASILOXANE, HEXADECAMETHY	170	JX
SB2641	630-05-	TRITRIACONTANE	180	JX

TOTAL UNKNOWN TICS: 3390  
TOTAL TICS 13330

SDG FILE: temp\1F40878 DATE: MATRIX:  
ES: SB2642  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2642	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	4900	BJ
SB2642	143-07-	DODECANOIC ACID	120	BJ
SB2642	630-03-	NONACOSANE	220	JX
SB2642	630-04-	HENTRIACONTANE	160	JX
TOTAL UNKNOWN TICS:			1410	
TOTAL TICS			6810	

SDG FILE: temp\1F40878 DATE: MATRIX:  
ES: SB2644  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB2644	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	3800	BJ
SB2644	143-07-	DODECANOIC ACID	270	BJ
SB2644	638-36-	HEXADECANE, 2,6,10,14-TETRAM	150	BJ
SB2644	112-95-	EICOSANE	120	JX
SB2644	593-49-	HEPTACOSANE	120	JX
SB2644	630-03-	NONACOSANE	510	JX
SB2644	638-68-	TRIACONTANE	85	JX
SB2644	630-04-	HENTRIACONTANE	650	JX
SB2644	630-05-	TRITRIACONTANE	120	JX
TOTAL UNKNOWN TICS:			3431	
TOTAL TICS			9256	

SDG FILE: temp\1E40654 DATE: MATRIX:  
ES: TP2632  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TOTAL UNKNOWN TICS:			110	
TOTAL TICS			110	

SDG FILE: temp\1E40654 DATE: MATRIX:  
ES: TP2641  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP2641	992-94-	SILANE, METHYL-	68	JX
TOTAL UNKNOWN TICS:			0	
TOTAL TICS			68	

SDG FILE: temp\1E40654 DATE: MATRIX:  
ES: TP2642  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP2642	992-94-	SILANE, METHYL-	48	JX
TOTAL UNKNOWN TICS:			0	
TOTAL TICS			48	

SDG FILE: temp\1F40878 DATE: MATRIX:  
ES: TP2611  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP2611	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	15000	BJ
TP2611	630-03-	NONACOSANE	2900	JX
TP2611	630-04-	HENTRIACONTANE	1500	JX
TOTAL UNKNOWN TICS:			14760	
TOTAL TICS			34160	

SDG FILE: temp\1F40878 DATE: MATRIX:  
ES: TP2612  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP2612	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	3100	BJ
TP2612	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	110	JX
TP2612	630-03-	NONACOSANE	130	JX
TP2612	630-04-	HENTRIACONTANE	95	JX
TOTAL UNKNOWN TICS:			453	
TOTAL TICS			3888	

SDG FILE: temp\1F40878 DATE: MATRIX:  
ES: TP2621  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP2621	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	22000	BJ
TP2621	192-97-	BENZO [E] PYRENE	530	JX
TOTAL UNKNOWN TICS:			13600	
TOTAL TICS			36130	



SDG FILE: temp\1F40878      DATE:      MATRIX:  
ES: TP2622  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP2622	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	3700	BJ
TP2622	629-50-	TRIDECANE	230	JX
TP2622	629-62-	PENTADECANE	430	JX
TP2622	544-76-	HEXADECANE	440	JX
TP2622	629-78-	HEPTADECANE	420	JX
TP2622	1921-70-	PENTADECANE, 2,6,10,14-TETRA	330	JX
TP2622	593-45-	OCTADECANE	320	JX
TP2622	629-92-	NONADECANE	240	JX
TP2622	57-10-	HEXADECANOIC ACID	330	JX
TP2622	629-99-	PENTACOSANE	210	JX
TP2622	593-49-	HEPTACOSANE	510	JX
TP2622	630-02-	OCTACOSANE	230	JX
TP2622	630-03-	NONACOSANE	1700	JX
TP2622	506-52-	1-HEXACOSANOL	230	JX
TP2622	638-68-	TRIACONTANE	210	JX
TP2622	630-04-	HENTRIACONTANE	1900	JX
TP2622	630-05-	TRITRIACONTANE	320	JX

TOTAL UNKNOWN TICS: 770  
TOTAL TICS 12520

SDG FILE: temp\1F40654      DATE:      MATRIX:  
ES: TP2631  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP2631	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	6100	BJ
TP2631	630-03-	NONACOSANE	340	JX
TP2631	630-04-	HENTRIACONTANE	370	JX

TOTAL UNKNOWN TICS: 120  
TOTAL TICS 6930

SDG FILE: temp\1F40654      DATE:      MATRIX:  
ES: TP2632      LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP2632	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	6300	BJ
TP2632	57-10-	HEXADECANOIC ACID	98	JX
TP2632	593-49-	HEPTACOSANE	110	JX
TP2632	506-51-	1-TETRACOSANOL	89	JX
TP2632	630-02-	OCTACOSANE	110	JX
TP2632	630-03-	NONACOSANE	580	JX
TP2632	506-52-	1-HEXACOSANOL	370	JX
TP2632	630-04-	HENTRIACONTANE	550	JX
TP2632	630-05-	TRITRIACONTANE	110	JX
TP2632	123-28-	PROPANOIC ACID, 3,3'-THIOBIS	81	JX

TOTAL UNKNOWN TICS: 469  
TOTAL TICS 8867

SDG FILE: temp\1F40654 DATE: MATRIX:  
ES: TP2641  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP2641	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	3900	BJ
TP2641	87-44-	CHRYOPHYLLENE	1000	JX
TP2641	112-53-	1-DODECANOL	190	JX
TP2641	57-10-	HEXADECANOIC ACID	890	JX
TP2641	593-49-	HEPTACOSANE	220	JX
TP2641	630-03-	NONACOSANE	950	JX
TP2641	506-52-	1-HEXACOSANOL	210	JX
TP2641	630-04-	HENTRIACONTANE	550	JX
TP2641	83-48-	STIGMASTEROL	270	JX

TOTAL UNKNOWN TICS: 10130  
TOTAL TICS 18310

SDG FILE: temp\1F40654 DATE: MATRIX:  
ES: TP2642  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP2642	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	5300	BJ
TP2642	87-44-	CARYOPHYLLENE	1200	JX
TP2642	57-10-	HEXADECANOIC ACID	670	JX
TP2642	593-49-	HEPTACOSANE	350	JX
TP2642	630-02-	OCTACOSANE	170	JX
TP2642	630-03-	NONACOSANE	1100	JX
TP2642	506-52-	1-HEXACOSANOL	230	JX
TP2642	630-04-	HENTRIACONTANE	490	JX
TP2642	83-48-	STIGMASTEROL	310	JX

TOTAL UNKNOWN TICS: 8610  
TOTAL TICS 18430

SDG FILE: temp\1F40654 DATE: MATRIX:  
ES: TP2651  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP2651	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	3300	BJ
TP2651	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	83	JX
TP2651	57-10-	HEXADECANOIC ACID	130	JX
TP2651	593-49-	HEPTACOSANE	130	JX
TP2651	630-02-	OCTACOSANE	130	JX
TP2651	630-03-	NONACOSANE	450	JX
TP2651	506-52-	1-HEXACOSANOL	91	JX
TP2651	630-04-	HENTRIACONTANE	390	JX

TOTAL UNKNOWN TICS: 160  
TOTAL TICS 4864

SDG FILE: temp\1F40654 DATE: MATRIX:  
ES: TP2652  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP2652	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	3700	BJ
TP2652	57-10-	HEXADECANOIC ACID	110	JX
TP2652	629-99-	PENTACOSANE W/ 1-DOCOSANOL	98	JX
TP2652	506-51-	1-TETRACOSANOL	130	JX
TP2652	630-03-	NONACOSANE	290	JX
TP2652	506-52-	1-HEXACOSANOL	150	JX
TP2652	630-04-	HENTRIACONTANE	310	JX

TOTAL UNKNOWN TICS: 240  
TOTAL TICS 5028

SDG FILE: temp\1F40878 DATE: MATRIX:  
ES: TP2661  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP2661	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	3300	BJ
TP2661	143-07-	DODECANOIC ACID	130	BJ
TP2661	593-49-	HEPTACOSANE	210	JX
TP2661	630-02-	OCTACOSANE	120	JX
TP2661	630-03-	NONACOSANE	650	JX
TP2661	506-52-	1-HEXACOSANOL	81	JX
TP2661	192-97-	BENZO [E] PYRENE	140	JX
TP2661	638-68-	TRIACONTANE	74	JX
TP2661	630-04-	HENTRIACONTANE	380	JX
TP2661	630-05-	TRITRIACONTANE	93	JX

TOTAL UNKNOWN TICS: 1077  
TOTAL TICS 6255

SDG FILE: temp\1F40878 DATE: MATRIX:  
ES: TP2662  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP2662	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	4100	BJ
TP2662	143-07-	DODECANOIC ACID	120	BJ
TP2662	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	140	JX
TP2662	638-36-	HEXADECANE, 2,6,10,14-TETRAM	100	BJ
TP2662	593-49-	HEPTACOSANE	160	JX
TP2662	630-02-	OCTACOSANE	110	JX
TP2662	630-03-	NONACOSANE	280	JX
TP2662	638-68-	TRIACONTANE	89	JX
TP2662	630-04-	HENTRIACONTANE	240	JX

TOTAL UNKNOWN TICS: 2824  
TOTAL TICS 8163

SDG FILE: temp\1F40878      DATE:      MATRIX:  
 ES: TP2671  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP2671	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	3200	BJ
TP2671	143-07-	DODECANOIC ACID	190	BJ
TP2671	203-64-	4H-CYCLOPENTA [DEF] PHENANTHRE	110	JX
TP2671	238-84-	11H-BENZO [A] FLUORENE	140	JX
TP2671	593-49-	HEPTACOSANE	170	JX
TP2671	630-02-	OCTACOSANE	98	JX
TP2671	630-03-	NONACOSANE	480	JX
TP2671	192-97-	BENZO [E] PYRENE	290	JX
TP2671	198-55-	PERYLENE	100	JX
TP2671	630-04-	HENTRIACONTANE	300	JX
TOTAL UNKNOWN TICS:			2073	
TOTAL TICS			7151	

SDG FILE: temp\1F40878      DATE:      MATRIX:  
 ES: TP2672  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP2672	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	4500	BJ
TP2672	143-07-	DODECANOIC ACID	120	BJ
TP2672	630-03-	NONACOSANE	170	JX
TP2672	630-04-	HENTRIACONTANE	150	JX
TOTAL UNKNOWN TICS:			390	
TOTAL TICS			5330	

SDG FILE: temp\1F40878      DATE:      MATRIX:  
 ES: TP2681  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP2681	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	19000	BJ
TP2681	2531-84-	PHENANTHRENE, 2-METHYL-	670	JX
TP2681	203-64-	4H-CYCLOPENTA [DEF] PHENANTHRE	2000	JX
TP2681	238-84-	11H-BENZO [A] FLUORENE	2000	JX
TP2681	243-17-	11H-BENZO [B] FLUORENE	1200	JX
TP2681	239-35-	BENZO [B] NAPHTHO [2, 1-D] THIOPH	1000	JX
TP2681	195-19-	BENZO [C] PHENANTHRENE	650	JX
TP2681	27208-37-	CYCLOPENTA [CD] PYRENE	870	JX
TP2681	192-97-	BENZO [E] PYRENE	3500	JX
TP2681	198-55-	PERYLENE	1400	JX
TOTAL UNKNOWN TICS:			9770	
TOTAL TICS			42060	

SDG FILE: temp\1F40878      DATE:      MATRIX:  
 ES: TP2682  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP2682	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	6500	BJ
TP2682	74381-40-	PROPANOIC ACID, 2-METHYL-, 1	89	JX
TP2682	629-99-	PENTACOSANE	98	JX
TP2682	661-19-	1-DOCOSANOL	89	JX
TP2682	593-49-	HEPTACOSANE	330	JX
TP2682	506-51-	1-TETRACOSANOL	110	JX
TP2682	630-02-	OCTACOSANE	130	JX
TP2682	630-03-	NONACOSANE	1400	JX
TP2682	506-52-	1-HEXACOSANOL	190	JX
TP2682	192-97-	BENZO [E] PYRENE	93	JX
TP2682	638-68-	TRIACONTANE	150	JX
TP2682	630-04-	HENTRIACONTANE	1200	JX
TP2682	544-85-	DOTRIACONTANE	85	JX
TP2682	630-05-	TRITRIACONTANE	220	JX

TOTAL UNKNOWN TICS: 270  
 TOTAL TICS 10954

SDG FILE: temp\1E40391      DATE:      MATRIX:  
 ES: SD261  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SD261	75-18-	METHANE, THIOBIS-	26	JX

TOTAL UNKNOWN TICS: 18  
 TOTAL TICS 44

SDG FILE: temp\1F40391      DATE:      MATRIX:  
 ES: SD261  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SD261	123-42-2	2-Pentanone, 4-hydroxy-4-met	34000	NJ
SD261	1120-21-4	Undecane	8300	NJ
SD261	112-40-3	Dodecane	7800	NJ
SD261	629-50-5	Tridecane	7300	NJ
SD261	1921-70-6	Pentadecane, 2,6,10,14-tetra	62000	NJ
SD261	638-36-8	Hexadecane, 2,6,10,14-tetram	49000	NJ
SD261	629-92-5	Nonadecane	19000	NJ

TOTAL UNKNOWN TICS: 155100  
 TOTAL TICS 342500

SDG FILE: temp\1F40477      DATE:      MATRIX:  
ES: SW261  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SW261	123-42-2	2-Pentanone, 4-hydroxy-4-met	14	NJ
SW261	85-44-9	Phthalic anhydride w/unknown	12	NJ
SW261	271-89-6	Benzofuran w/unknown	24	NJ
SW261	5463-50-3	1,3-Isobenzofurandione, 4,7-	19	NJ
		TOTAL UNKNOWN TICS:	307	
		TOTAL TICS	376	

SEAD-45

TENATIVELY IDENTIFIED COMPOUNDS  
SEAD - 45

SDG FILE: temp\1E40339 DATE: MATRIX:  
ES: SS453  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TOTAL UNKNOWN TICS:			16	
TOTAL TICS			16	

SDG FILE: temp\1F40339 DATE: MATRIX:  
ES: SS451  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS451	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	6500	BJ
SS451	1120-21-	UNDECANE	800	JX
SS451	57-10-	HEXADECANOIC ACID	400	JX
SS451	629-99-	PENTACOSANE W/ 1-DOCOSANOL	320	JX
SS451	593-49-	HEPTACOSANE	490	JX
SS451	506-51-	1-TETRACOSANOL	220	JX
SS451	630-02-	OCTACOSANE	240	JX
SS451	630-03-	NONACOSANE	2000	JX
SS451	506-52-	1-HEXACOSANOL	1000	JX
SS451	638-68-	TRIACONTANE	220	JX
SS451	630-04-	HENTRIACONTANE	1400	JX
SS451	57-88-	CHOLESTEROL	240	JX
SS451	630-05-	TRITRIACONTANE	210	JX
TOTAL UNKNOWN TICS:			2500	
TOTAL TICS			16540	

SDG FILE: temp\1F40339 DATE: MATRIX:  
ES: SS452  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS452	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	6800	BJ
SS452	629-78-	HEPTADECANE	390	JX
SS452	629-99-	PENTACOSANE W/ 1-DOCOSANOL	170	JX
SS452	593-49-	HEPTACOSANE	230	JX
SS452	506-51-	1-TETRACOSANOL	120	JX
SS452	630-03-	NONACOSANE	790	JX
SS452	506-52-	1-HEXACOSANOL	250	JX
SS452	638-68-	TRIACONTANE W/ UNKNOWN	120	JX
SS452	630-04-	HENTRIACONTANE	720	JX
SS452	57-88-	CHOLESTEROL	110	JX
SS452	630-05-	TRITRIACONTANE	140	JX
TOTAL UNKNOWN TICS:			3680	
TOTAL TICS			13520	



SDG FILE: temp\1F40339 DATE: MATRIX:  
ES: SS453  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS453	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	5100	BJ
SS453	57-10-	HEXADECANOIC ACID	320	JX
SS453	629-99-	PENTACOSANE W/ 1-DOCOSANOL	140	JX
SS453	593-49-	HEPTACOSANE	240	JX
SS453	506-51-	1-TETRACOSANOL	84	JX
SS453	630-02-	OCTACOSANE	120	JX
SS453	630-03-	NONACOSANE	770	JX
SS453	506-52-	1-HEXACOSANOL	530	JX
SS453	638-68-	TRIACONTANE	100	JX
SS453	630-04-	HENTRIACONTANE	880	JX
SS453	630-05-	TRITRIACONTANE	120	JX
TOTAL UNKNOWN TICS:			3470	
TOTAL TICS			11874	

SDG FILE: temp\1F40339 DATE: MATRIX:  
ES: SS454  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS454	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	6800	BJ
SS454	629-99-	PENTACOSANE W/ 1-DOCOSANOL	130	JX
SS454	593-49-	HEPTACOSANE	200	JX
SS454	506-51-	1-TETRACOSANOL	98	JX
SS454	630-02-	OCTACOSANE	98	JX
SS454	630-03-	NONACOSANE	780	JX
SS454	506-52-	1-HEXACOSANOL	540	JX
SS454	638-68-	TRIACONTANE	87	JX
SS454	630-04-	HENTRIACONTANE	510	JX
SS454	630-05-	TRITRIACONTANE	83	JX
TOTAL UNKNOWN TICS:			1748	
TOTAL TICS			11074	

SDG FILE: temp\1F40339 DATE: MATRIX:  
 ES: SS456  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS456	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	7000	BJ
SS456	21368-68-	BICYCLO[2.2.1]HEPTAN-2-ONE,	330	JX
SS456	629-99-	PENTACOSANE W/ 1-DOCOSANOL	120	JX
SS456	593-49-	HEPTACOSANE W/ C19H14 PAH	180	JX
SS456	506-51-	1-TETRACOSANOL	94	JX
SS456	630-02-	OCTACOSANE	72	JX
SS456	630-03-	NONACOSANE	390	JX
SS456	506-52-	1-HEXACOSANOL	200	JX
SS456	192-97-	BENZO[E] PYRENE	110	JX
SS456	638-68-	TRIACONTANE	76	JX
SS456	630-04-	HENTRIACONTANE	310	JX
SS456	630-05-	TRITRIACONTANE	87	JX

TOTAL UNKNOWN TICS: 440  
 TOTAL TICS 9409

SDG FILE: temp\1F40391 DATE: MATRIX:  
 ES: SS4510  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS4510	123-42-2	2-Pentanone, 4-hydroxy-4-met	5000	NJ
SS4510	57-10-3	Hexadecanoic acid	140	NJ
SS4510	593-49-7	Heptacosane	130	NJ
SS4510	630-03-5	Nonacosane	1000	NJ
SS4510	630-04-6	Hentriacontane	590	NJ

TOTAL UNKNOWN TICS: 1641  
 TOTAL TICS 8501

SDG FILE: temp\1F40391 DATE: MATRIX:  
 ES: SS455  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS455	123-42-2	2-Pentanone, 4-hydroxy-4-met	5200	NJ
SS455	57-10-3	Hexadecanoic acid	190	NJ
SS455	593-49-7	Heptacosane	86	NJ
SS455	630-03-5	Nonacosane	1200	NJ
SS455	630-04-6	Hentriacontane	680	NJ
SS455	630-05-7	Tritriacontane	140	NJ

TOTAL UNKNOWN TICS: 2680  
 TOTAL TICS 10176

SDG FILE: temp\1F40391 DATE: MATRIX:  
ES: SS457  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS457	123-42-2	2-Pentanone, 4-hydroxy-4-met	4400	NJ
SS457	630-03-5	Nonacosane	440	NJ
SS457	630-04-6	Hentriacontane	330	NJ
SS457	630-05-7	Tritriacontane	92	NJ
TOTAL UNKNOWN TICS:			431	
TOTAL TICS			5693	

SDG FILE: temp\1F40391 DATE: MATRIX:  
ES: SS458  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS458	123-42-2	2-Pentanone, 4-hydroxy-4-met	5400	NJ
SS458	57-10-3	Hexadecanoic acid	150	NJ
SS458	593-49-7	Heptacosane	98	NJ
SS458	630-03-5	Nonacosane	600	NJ
SS458	630-04-6	Hentriacontane	430	NJ
TOTAL UNKNOWN TICS:			2967	
TOTAL TICS			9645	

SDG FILE: temp\1F40391 DATE: MATRIX:  
ES: SS459  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SS459	123-42-2	2-Pentanone, 4-hydroxy-4-met	5000	NJ
SS459	118-96-7	Benzene, 2-methyl-1,3,5-trin	180	NJ
SS459	593-49-7	Heptacosane	160	NJ
SS459	630-03-5	Nonacosane	1100	NJ
SS459	630-04-6	Hentriacontane	770	NJ
SS459	630-05-7	Tritriacontane	170	NJ
TOTAL UNKNOWN TICS:			1510	
TOTAL TICS			8890	

SDG FILE: temp\1F41135 DATE: MATRIX:  
ES: SB451  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB451	123-42-2	2-Pentanone, 4-hydroxy-4-met	12000	NJ
SB451	118-96-7	Benzene, 2-methyl-1,3,5-trin	92	NJ
SB451	57-10-3	Hexadecanoic acid	140	NJ
TOTAL UNKNOWN TICS:			5543	
TOTAL TICS			17775	

SDG FILE: temp\1F41135 DATE: MATRIX:  
ES: SB451RE  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB451RE	123-42-2	2-Pentanone, 4-hydroxy-4-met	4400	NJ
SB451RE	832-71-3	Phenanthrene, 3-methyl- w/he	220	NJ
SB451RE	2531-84-2	Phenanthrene, 2-methyl-	140	NJ
SB451RE	238-84-6	11H-Benzo[a]fluorene	160	NJ
SB451RE	630-03-5	Nonacosane	250	NJ
SB451RE	192-97-2	Benzo[e]pyrene	280	NJ
SB451RE	630-04-6	Hentriacontane	250	NJ

TOTAL UNKNOWN TICS: 3190  
TOTAL TICS 8890

SDG FILE: temp\1F41135 DATE: MATRIX:  
ES: SB452  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB452	123-42-2	2-Pentanone, 4-hydroxy-4-met	11000	NJ
SB452	629-99-2	Pentacosane	84	NJ
SB452	630-01-3	Hexacosane	97	NJ
SB452	593-49-7	Heptacosane	130	NJ
SB452	630-02-4	Octacosane	88	NJ
SB452	630-03-5	Nonacosane	360	NJ
SB452	638-68-6	Triacontane	120	NJ
SB452	630-04-6	Hentricontane	290	NJ

TOTAL UNKNOWN TICS: 563  
TOTAL TICS 12732

SDG FILE: temp\1F41135 DATE: MATRIX:  
ES: SB452RE  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SB452RE	123-42-2	2-Pentanone, 4-hydroxy-4-met	4300	NJ
SB452RE	593-49-7	Heptacosane	91	NJ
SB452RE	630-03-5	Nonacosane	180	NJ
SB452RE	630-04-6	Hentriacontane	94	NJ

TOTAL UNKNOWN TICS: 245  
TOTAL TICS 4910

SDG FILE: temp\1E40391 DATE: MATRIX:  
ES: TP453C  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP453C	1066-40-6	Silanol, trimethyl-	15	NJ

TOTAL UNKNOWN TICS: 12  
TOTAL TICS 27

SDG FILE: temp\1F40391 DATE: MATRIX:  
ES: TP451  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP451	123-42-2	2-Pentanone, 4-hydroxy-4-met	6900	NJ
TP451	118-96-7	Benzene, 2-methyl-1,3,5-trin	180	NJ
TP451	57-10-3	Hexadecanoic acid	75	NJ
TP451	35572-78-2	Benzenamine, 2-methyl-3,5-di	100	NJ
TP451	629-99-2	Pentacosane	100	NJ
TP451	593-49-7	Heptacosane	170	NJ
TP451	630-02-4	Octacosane	92	NJ
TP451	630-03-5	Nonacosane	630	NJ
TP451	638-68-6	Triacontane	120	NJ
TP451	630-04-6	Hentriacontane	500	NJ
TP451	630-05-7	Tritriacontane	140	NJ

TOTAL UNKNOWN TICS: 604  
TOTAL TICS 9611

SDG FILE: temp\1F40391 DATE: MATRIX:  
ES: TP4511  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP4511	123-42-2	2-Pentanone, 4-hydroxy-4-met	6400	NJ
TP4511	118-96-7	Benzene, 2-methyl-1,3,5-trin	110	NJ
TP4511	35572-78-2	Benzenamine, 2-methyl-3,5-di	90	NJ
TP4511	629-99-2	Pentacosane	84	NJ
TP4511	593-49-7	Heptacosane	130	NJ
TP4511	630-02-4	Octacosane	73	NJ
TP4511	630-03-5	Nonacosane	540	NJ
TP4511	638-68-6	Triacontane	120	NJ
TP4511	630-04-6	Hentriacontane	420	NJ
TP4511	630-05-7	Tritriacontane	120	NJ

TOTAL UNKNOWN TICS: 548  
TOTAL TICS 8635

SDG FILE: temp\1F40391 DATE: MATRIX:  
ES: TP452  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP452	123-42-2	2-Pentanone, 4-hydroxy-4-met	21000	NJ
TP452	630-03-5	Nonacosane	700	NJ
TP452	630-04-6	Hentriacontane	460	NJ

TOTAL UNKNOWN TICS: 920  
TOTAL TICS 23080

SDG FILE: temp\1F40391 DATE: MATRIX:  
ES: TP453  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP453	123-42-2	2-Pentanone, 4-hydroxy-4-met	7000	NJ
TP453	118-96-7	Benzene, 2-methyl-1,3,5-trin	130	NJ
TP453	35572-78-2	Benzenamine, 2-methyl-3,5-di	120	NJ
TP453	78-51-3	Ethanol, 2-butoxy-, phosphat	110	NJ
TP453	593-49-7	Heptacosane	110	NJ
TP453	630-03-5	Nonacosane	350	NJ
TP453	638-68-6	Triacontane	88	NJ
TP453	630-04-6	Hentriacontane	280	NJ

TOTAL UNKNOWN TICS: 350  
TOTAL TICS 8538

SDG FILE: temp\1F40693 DATE: MATRIX:  
ES: TP454  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP454	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	3600	BJ
TP454	118-96-	BENZENE, 2-METHYL-1,3,5-TRIN	120	JX
TP454	57-10-	HEXADECANOIC ACID	110	JX
TP454	629-99-	PENTACOSANE	180	JX
TP454	593-49-	HEPTACOSANE	180	JX
TP454	506-51-	1-TETRACOSANOL	97	JX
TP454	630-02-	OCTACOSANE	150	JX
TP454	630-03-	NONACOSANE	510	JX
TP454	506-52-	1-HEXACOSANOL	300	JX
TP454	630-04-	HENTRIACONTANE	440	JX
TP454	630-05-	TRITRIACONTANE	97	JX

TOTAL UNKNOWN TICS: 692  
TOTAL TICS 6476

SDG FILE: temp\1F40693      DATE:      MATRIX:  
 ES: TP455  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TP455	123-42-	2-PENTANONE, 4-HYDROXY-4-MET	3700	BJ
TP455	118-96-	BENZENE, 2-METHYL-1,3,5-TRIN	150	JX
TP455	57-10-	HEXADECANOIC ACID	82	JX
TP455	629-94-	HENEICOSANE W/ TETRACHLORONA	100	JX
TP455	629-99-	PENTACOSANE W/ 1-DOCOSANOL	230	JX
TP455	630-01-	HEXACOSANE	97	JX
TP455	593-49-	HEPTACOSANE	180	JN
TP455	506-51-	1-TETRACOSANOL	190	JX
TP455	630-02-	OCTACOSANE	160	JX
TP455	630-03-	NONACOSANE	530	JX
TP455	506-52-	1-HEXACOSANOL	310	JX
TP455	638-68-	TRIACONTANE	94	JX
TP455	630-04-	HENTRIACONTANE	450	JX
TP455	630-05-	TRITRIACONTANE	94	JX

TOTAL UNKNOWN TICS: 542  
 TOTAL TICS 6909

SDG FILE: temp\1E40391      DATE:      MATRIX:  
 ES: SD454  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
TOTAL UNKNOWN TICS:			13	
TOTAL TICS			13	

SDG FILE: temp\1F40391      DATE:      MATRIX:  
 ES: SD451  
 LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SD451	123-42-2	2-Pentanone, 4-hydroxy-4-met	6400	NJ
SD451	630-03-5	Nonacosane	650	NJ
SD451	630-04-6	Hentriacontane	210	NJ

TOTAL UNKNOWN TICS: 100  
 TOTAL TICS 7360

SDG FILE: temp\1F40391 DATE: MATRIX:  
ES: SD452  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SD452	123-42-2	2-Pentanone, 4-hydroxy-4-met	8700	NJ
SD452	629-78-7	Heptadecane	150	NJ
SD452	629-99-2	Pentacosane	140	NJ
SD452	593-49-7	Heptacosane	220	NJ
SD452	630-03-5	Nonacosane	910	NJ
SD452	638-68-6	Triacontane	170	NJ
SD452	630-04-6	Hentriacontane	770	NJ
SD452	544-85-4	Dotriacontane	130	NJ
SD452	14167-59-0	Tetratriacontane	240	NJ

TOTAL UNKNOWN TICS: 1030  
TOTAL TICS 12460

SDG FILE: temp\1F40391 DATE: MATRIX:  
ES: SD453  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SD453	123-42-2	2-Pentanone, 4-hydroxy-4-met	8100	NJ
SD453	629-78-7	Heptadecane	520	NJ
SD453	629-99-2	Pentacosane	100	NJ
SD453	593-49-7	Heptacosane	190	NJ
SD453	630-03-5	Nonacosane	840	NJ
SD453	630-04-6	Hentriacontane	650	NJ
SD453	630-05-7	Trtriacontane	180	NJ

TOTAL UNKNOWN TICS: 1020  
TOTAL TICS 11600

SDG FILE: temp\1F40391 DATE: MATRIX:  
ES: SD454  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SD454	123-42-2	2-Pentanone, 4-hydroxy-4-met	7300	NJ
SD454	629-99-2	Pentacosane	120	NJ
SD454	593-49-7	Heptacosane	170	NJ
SD454	630-03-5	Nonacosane	520	NJ
SD454	630-04-6	Hentriacontane	470	NJ

TOTAL UNKNOWN TICS: 2037  
TOTAL TICS 10617



SDG FILE: temp\1F40477 DATE: MATRIX:  
ES: SW451  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SW451	123-42-2	2-Pentanone, 4-hydroxy-4-met	15	NJ
SW451	76-22-2	Camphor	2	NJ
SW451	562-74-3	3-Cyclohexen-1-ol, 4-methyl-	6	NJ
SW451	630-03-5	Nonacosane	4	NJ
SW451	630-04-6	Hentriacontane	3	NJ

TOTAL UNKNOWN TICS: 5  
TOTAL TICS 35

SDG FILE: temp\1F40477 DATE: MATRIX:  
ES: SW452  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SW452	123-42-2	2-Pentanone, 4-hydroxy-4-met	15	NJ
SW452	149-57-5	Hexanoic acid, 2-ethyl-	2	NJ
SW452	791-28-6	Phosphine oxide, triphenyl-	6	NJ

TOTAL UNKNOWN TICS: 2  
TOTAL TICS 25

SDG FILE: temp\1F40477 DATE: MATRIX:  
ES: SW453  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SW453	123-42-2	2-Pentanone, 4-hydroxy-4-met	16	NJ
SW453	104-76-7	1-Hexanol, 2-ethyl-	3	NJ
SW453	149-57-5	Hexanoic acid, 2-ethyl-	3	NJ

TOTAL UNKNOWN TICS: 3  
TOTAL TICS 25

SDG FILE: temp\1F40477 DATE: MATRIX:  
ES: SW454  
LAB:

ESID	CAS NO	COMPOUND	RESULT	QUAL.
SW454	123-42-2	2-Pentanone, 4-hydroxy-4-met	16	NJ

TOTAL UNKNOWN TICS: 2  
TOTAL TICS 18

**APPENDIX G**  
**CONTRACT REQUIRED QUANTITATION LIMITS**

**TABLE C-2  
PARAMETER LIST FOR INORGANIC AND ORGANIC ANALYSES**

I. Soil and Sediment Analyses	<u>Preparation Method</u>	<u>Analytical Method</u>	<u>Reporting Limits</u> (ug/Kg)
<b>A. Inorganics (TAL)</b>			
i. Aluminum	NYSDEC CLP	NYSDEC CLP	20,000
ii. Antimony	NYSDEC CLP	NYSDEC CLP	6,000
iii. Arsenic	NYSDEC CLP	NYSDEC CLP	1,000
iv. Barium	NYSDEC CLP	NYSDEC CLP	20,000
v. Beryllium	NYSDEC CLP	NYSDEC CLP	500
vi. Cadmium	NYSDEC CLP	NYSDEC CLP	500
vii. Calcium	NYSDEC CLP	NYSDEC CLP	500,000
viii. Chromium	NYSDEC CLP	NYSDEC CLP	1,000
ix. Cobalt	NYSDEC CLP	NYSDEC CLP	5,000
x. Copper	NYSDEC CLP	NYSDEC CLP	2,500
xi. Iron	NYSDEC CLP	NYSDEC CLP	10,000
xii. Lead	NYSDEC CLP	NYSDEC CLP	300
xiii. Magnesium	NYSDEC CLP	NYSDEC CLP	500,000
xiv. Manganese	NYSDEC CLP	NYSDEC CLP	1,500
xv. Mercury	NYSDEC CLP	NYSDEC CLP	20
xvi. Nickel	NYSDEC CLP	NYSDEC CLP	4,000
xvii. Potassium	NYSDEC CLP	NYSDEC CLP	500,000
xviii. Selenium	NYSDEC CLP	NYSDEC CLP	500
xix. Silver	NYSDEC CLP	NYSDEC CLP	1,000
xx. Sodium	NYSDEC CLP	NYSDEC CLP	500,000
xxi. Thallium	NYSDEC CLP	NYSDEC CLP	1,000
xxii. Vanadium	NYSDEC CLP	NYSDEC CLP	5,000
xxiii. Zinc	NYSDEC CLP	NYSDEC CLP	2,000
xxiv. Cyanide, total	NYSDEC CLP	NYSDEC CLP	1,000
<b>B. Organics</b>			
i. TCL Volatile Organics	NYSDEC CLP	NYSDEC CLP	Table C-3
ii. TCL Semivolatile Organics	NYSDEC CLP	NYSDEC CLP	Table C-4
iii. TCL Pesticide/PCBs	NYSDEC CLP	NYSDEC CLP	Table C-5
iv. Explosives	8330	8330	Table C-6
v. Herbicides	8150	8150	Table C-7
vi. Volatile Organics	-	524.2	Table C-8
<b>C. Other Analytes</b>			
i. Fluoride	Extract <sup>1</sup>	340.2	500 µg/kg
ii. Nitrate	Extract <sup>1</sup>	353.2	100 µg/kg
iii. Total Petroleum Hydrocarbons	418.1	418.1	25 mg/kg

**TABLE C-2 (Continued)**  
**PARAMETER LIST FOR INORGANIC AND ORGANIC ANALYSES**

	<u>Preparation Method</u>	<u>Analytical Method</u>	<u>Reporting Limits</u>	
II. Groundwater and Surface Water Analyses			(ug/L)	
A. Inorganics (TAL)				
1.	Aluminum	NYSDEC CLP	NYSDEC CLP	200
2.	Antimony	NYSDEC CLP	NYSDEC CLP	60
3.	Arsenic	NYSDEC CLP	NYSDEC CLP	10
4.	Barium	NYSDEC CLP	NYSDEC CLP	200
5.	Beryllium	NYSDEC CLP	NYSDEC CLP	5
6.	Cadmium	NYSDEC CLP	NYSDEC CLP	5
7.	Calcium	NYSDEC CLP	NYSDEC CLP	5,000
8.	Chromium	NYSDEC CLP	NYSDEC CLP	10
9.	Cobalt	NYSDEC CLP	NYSDEC CLP	50
10.	Copper	NYSDEC CLP	NYSDEC CLP	25
11.	Iron	NYSDEC CLP	NYSDEC CLP	100
12.	Lead	NYSDEC CLP	NYSDEC CLP	3
13.	Magnesium	NYSDEC CLP	NYSDEC CLP	5,000
14.	Manganese	NYSDEC CLP	NYSDEC CLP	15
15.	Mercury	NYSDEC CLP	NYSDEC CLP	0.2
16.	Nickel	NYSDEC CLP	NYSDEC CLP	40
17.	Potassium	NYSDEC CLP	NYSDEC CLP	5,000
18.	Selenium	NYSDEC CLP	NYSDEC CLP	5
19.	Silver	NYSDEC CLP	NYSDEC CLP	10
20.	Sodium	NYSDEC CLP	NYSDEC CLP	5,000
21.	Thallium	NYSDEC CLP	NYSDEC CLP	10
22.	Vanadium	NYSDEC CLP	NYSDEC CLP	50
23.	Zinc	NYSDEC CLP	NYSDEC CLP	20
24.	Cyanide, total	NYSDEC CLP	NYSDEC CLP	10
B. Organics				
1.	TCL Volatile Organics	NYSDEC CLP	NYSDEC CLP	Table C-3
2.	TCL Semivolatile Organics	NYSDEC CLP	NYSDEC CLP	Table C-4
3.	TCL Pesticide/PCBs	NYSDEC CLP	NYSDEC CLP	Table C-5
4.	Explosives	8330	8330	Table C-6
5.	Herbicides	8150	8150	Table C-7
6.	Volatile Organics	-	524.2	Table C-8
C. Other Analytes				
1.	Nitrate	-	353.2	10
2.	Fluoride	-	340.2	100
3.	Total Petroleum Hydrocarbons	418.1	418.1	500
III. Oil Analyses				
1.	Oil Fingerprint Identification	NYSDOH Method 310-14	NYSDOH Method 310-14	Not Applicable
2.	PCBs	8080	8080	1 ug/kg <sup>3</sup>
3.	Herbicides	8150	8150	Table C-7
IV. Asbestos			PLM <sub>2</sub>	

1. Mix a known quantity of soil in known volume of water, stir, then filter to form aqueous extract.
2. Polarized light microscopy in EPA 600/M4-82-020.
3. Detection limit is 1 ug PCB per Kg oil for each of the following Aroclors: 1016, 1221, 1232, 1242, 1248, 1254, and 1260.

**TABLE C-3**  
**CONTRACT REQUIRED QUANTITATION LIMITS\***  
**FOR VOLATILE ORGANIC COMPOUNDS (VOCs)**

VOCs	Quantitation Limits**	
	Water (ug/L)	Low Soil/Sediment <sup>†</sup> (ug/Kg)
1. Chloromethane	10	10
2. Bromomethane	10	10
3. Vinyl Chloride	10	10
4. Chloroethane	10	10
5. Methylene Chloride	10	10
6. Acetone	10	10
7. Carbon Disulfide	10	10
8. 1,1-Dichloroethene	10	10
9. 1,1-Dichloroethane	10	10
10. 1,2-Dichloroethene (total)	10	10
11. Chloroform	10	10
12. 1,2-Dichloroethane	10	10
13. 2-Butanone	10	10
14. 1,1,1-Trichloroethane	10	10
15. Carbon Tetrachloride	10	10
16. Bromodichloromethane	10	10
17. 1,2-Dichloropropane	10	10
18. cis-1,3-Dichloropropene	10	10
19. Trichloroethene	10	10
20. Dibromochloromethane	10	10
21. 1,1,2-Trichloroethane	10	10
22. Benzene	10	10
23. trans-1,3-Dichloropropene	10	10
24. Bromoform	10	10
25. 4-Methyl-2-pentanone	10	10
26. 2-Hexanone	10	10
27. Tetrachloroethene	10	10
28. Toluene	10	10
29. 1,1,2,2-Tetrachloroethane	10	10
30. Chlorobenzene	10	10
31. Ethyl Benzene	10	10
32. Styrene	10	10
33. Xylenes (Total)	10	10
Methyl Tert-Butyl Ether	10	10

\* Medium Soil/Sediment Contract Required Quantitation Limits (CRQL) for volatile TCL Compounds are 125 times the individual Low Soil/Sediment CRQL.

† Specific quantitation limits are highly matrix dependent. The quantitation limits listed herein are provided for guidance and may not always be achievable.

\*\* Quantitation limits listed for soil/sediment are based on wet weight. The quantitation limits calculated by the laboratory for soil/sediment, calculated on dry weight based as required by the contract, will be higher.

TABLE C-4

CONTRACT REQUIRED QUANTTTATION LIMITS\*  
FOR SEMIVOLATILE COMPOUNDS (SVOs)

SVOs	Quantitation Limits**	
	<u>Water</u> (ug/L)	<u>Low Soil/Sediment<sup>a</sup></u> (ug/Kg)
34. Phenol	10	330
35. bis (2-Chloroethyl) ether	10	330
36. 2-Chlorophenol	10	330
37. 1,3-Dichlorobenzene	10	330
38. 1,4-Dichlorobenzene	10	330
39. 1,2-Dichlorobenzene	10	330
40. 2-Methylphenol	10	330
41. 2,2'-oxybis(1-Chloropropane)	10	330
42. 4-Methylphenol	10	330
43. N-Nitroso-di-n-dipropylamine	10	330
44. Hexachloroethane	10	330
45. Nitrobenzene	10	330
46. Isophorone	10	330
47. 2-Nitrophenol	10	330
48. 2,4-Dimethylphenol	10	330
49. bis (2-Chloroethoxy) methane	10	330
50. 2,4-Dichlorophenol	10	330
51. 1,2,4-Trichlorobenzene	10	330
52. Naphthalene	10	330
53. 4-Chloroaniline	10	330
54. Hexachlorobutadiene	10	330
55. 4-Chloro-3-methylphenol	10	330
56. 2-Methylnaphthalene	10	330
57. Hexachlorocyclopentadiene	10	330
58. 2,4,6-Trichlorophenol	10	330
59. 2,4,5-Trichlorophenol	25	800
60. 2-Chloronaphthaiene	10	330
61. 2-Nitroaniline	25	800
62. Dimethylphthalate	10	330
63. Acenaphthylene	10	330
64. 2,6-Dinitrotoluene	10	330
65. 3-Nitroaniline	25	800
66. Acenaphthene	10	330
67. 2,4-Dinitrophenol	25	800
68. 4-Nitrophenol	25	800
69. Dibenzofuran	10	330

TABLE C-4 (cont.)

CONTRACT REQUIRED QUANTITATION LIMITS\*  
FOR SEMIVOLATILE COMPOUNDS (SVOs)

SVOs	Quantitation Limits**	
	Water (ug/L)	Low Soil/Sediment <sup>a</sup> (ug/Kg)
70. 2,4-Dinitrotoluene	10	330
71. Diethylphthalate	10	330
72. 4-Chlorophenyl-phenyl ether	10	330
73. Fluorene	10	330
74. 4-Nitroaniline	25	800
75. 4,6-Dinitro-2-methylphenol	25	800
76. N-nitrosodiphenylamine	10	330
77. 4-Bromophenyl-phenyl ether	10	330
78. Hexachlorobenzene	10	330
79. Pentachlorophenol	25	800
80. Phenanthrene	10	330
81. Anthracene	10	330
82. Carbazole	10	330
83. Di-n-butylphthalate	10	330
84. Fluoranthene	10	330
85. Pyrene	10	330
86. Butyl benzyl phthalate	10	330
87. 3,3-Dichlorobenzidine	10	330
88. Benz(a)anthracene	10	330
89. Chrysene	10	330
90. bis(2-Ethylhexyl)phthalate	10	330
91. Di-n-octylphthalate	10	330
92. Benzo(b)fluoranthene	10	330
93. Benzo(k)fluoranthene	10	330
94. Benzo(a)pyrene	10	330
95. Indeno(1,2,3-cd)pyrene	10	330
96. Dibenz(a,h)anthracene	10	330
97. Benzo(g,h,i)perylene	10	330

\* Medium Soil/Sediment Contract Required Quantitation Limits (CRQL) for semivolatile TCL Compounds are 60 times the individual Low Soil/Sediment CRQL.

\*\* Specific quantitation limits are highly matrix dependent. The quantitation limits listed herein are provided for guidance and may not always be achievable.

\*\*\* Quantitation limits listed for soil/sediment are based on wet weight. The quantitation limits calculated by the laboratory for soil/sediment, calculated on dry weight based as required by the contract, will be higher.

TABLE C-5

CONTRACT REQUIRED QUANTITATION LIMITS\*  
FOR PESTICIDES AND POLYCHLORINATED BIPHENYLS (PCBs)

Pesticides/PCBs	Quantitation Limits**	
	Water (ug/L)	Low Soil/Sediment <sup>†</sup> (ug/Kg)
alpha-BHC	0.05	1.7
beta-BHC	0.05	1.7
delta-BHC	0.05	1.7
gamma-BHC (Lindane)	0.05	1.7
Heptachlor	0.05	1.7
Aldrin	0.05	1.7
Heptachlor epoxide	0.05	1.7
Endosulfan I	0.05	1.7
Dieldrin	0.10	3.3
4,4-DDE	0.10	3.3
Endrin	0.10	3.3
Endosulfan II	0.10	3.3
4,4-DDD	0.10	3.3
Endosulfan sulfate	0.10	3.3
4,4-DDT	0.10	3.3
Methoxychlor	0.5	17
Endrin Ketone	0.10	3.3
Endrin aldehyde	0.10	3.3
alpha-Chlordane	0.05	1.7
gamma-Chlordane	0.05	1.7
Toxaphene	5.0	170
Aroclor-1016	1.0	33
Aroclor-1221	2.0	67
Aroclor-1232	1.0	33
Aroclor-1242	1.0	33
Aroclor-1248	1.0	33
Aroclor-1254	1.0	33
Aroclor-1260	1.0	33

\* Medium Soil/Sediment Contract Required Quantitation Limits (CRQL) for pesticide/PCB TCL Compounds are 15 times the individual Low Soil/Sediment CRQL.

† Specific quantitation limits are highly matrix dependent. The quantitation limits listed herein are provided for guidance and may not always be achievable.

\*\* Quantitation limits listed for soil/sediment are based on wet weight. The quantitation limits calculated by the laboratory for soil/sediment, calculated on dry weight based as required by the contract, will be higher.



TABLE C-6  
METHOD 8330 QUANTITATION LIMITS  
FOR EXPLOSIVES

<u>Compound</u>	<u>Quantitation Limits**</u>	
	Water (ug/L)	Soil/Sediment <sup>a</sup> (ug/Kg)
HMX	0.13	130
RDX	0.13	130
1,3,5-TNB	0.13	130
1,3-DNB	0.13	130
Tetryl	0.13	130
2,4,6-TNT	0.13	130
4-AM-DNT*	0.13	130
2-AM-DNT*	0.13	130
2,6-DNT	0.13	130
2,4-DNT	0.13	130

<sup>a</sup> See Table C-3 for a discussion of Quantitation Limits

\*\* See Table C-3 for a discussion of Soil Quantitation Limits

\* Breakdown Degradation Products

**TABLE C-7**  
**METHOD 8150 QUANTITATION LIMITS**  
**FOR HERBICIDES**

Parameter	<u>Quantitation Limits</u>	
	Water (ug/L)	Soil/Sediment (ug/Kg)
2,4-D	0.94	47
2,4-DB	0.95	48
2,4,5-T	0.095	4.8
2,4,5-TP/Silvex + der.	0.095	4.8
Dicamba (banvel)	0.094	4.7
Dalapon	2.3	120
Dichlorprop	0.94	47
Dinoseb	0.47	24
MCPA	93	4700
MCPP	94	4700

QA/QC





















**COMMENTS BY  
ENVIRONMENTAL PROTECTION AGENCY (EPA) - REGION II  
THE REVISED DRAFT EXPANDED SITE INSPECTION (ESI)  
FOR  
THE SEVEN HIGH PRIORITY SOLID WASTE  
MANAGEMENT UNITS (SWMUS)  
SEADs 4, 16, 17, 24, 25, 26 AND 45**

**Comment #9**

Following is EPA's response to the issue regarding Antimony and demonstration of compliance to the set ARAR. Please note, acronyms used are defined as follows: IDL-Instrument Detection Limit used in inorganic analytical methods as the lowest concentration able to be quantified within set limits of precision and accuracy; CRDL-Contract Required Detection Limit specified as the reporting limit in the Inorganic Statements of Work for NYSDEC and EPA Contract Lab Program (CLP); and CRQL-Contract Required Quantitation Limit specified in the Organic Statement of Work for NYSDEC and EPA CLP, also the lowest concentration able to be quantified within set limits of precision and accuracy.

With regard to Antimony (Sb), for those results reported as non-detect, ARAR compliance is only demonstrated if the IDL reported is less than the ARARs. It is recommended that a method whose IDL is equal to or below the state and federal groundwater ARAR for Sb be used. This IDL can be achieved by using either GFAA (graphite furnace atomic absorption), ICP, or ICP-MS (Inductively Coupled Plasms-Mass Spectrometry) instruments. These instruments are specified for use in the NYSDEC CLP, EPA SW-846, EPA MCAWW, and EPA ORD methods. Note, the IDL obtained is laboratory, analyst, and matrix dependent. This logic applies to all metals, that is, the IDL should be specified and compared to the ARAR for compliance determinations.

This principle extends into any future investigation conducted at Seneca Army Depot. The current Generic Installation RI/FS Work Plan should be modified as follows. Appendix C, Chemical Data Acquisition Plan, Section 7.0 should state that SEDA will ensure that the contracted lab will produce data that achieves the established ARARs by utilizing correct analytical methods. Table C-2 currently lists analytical methods per analyte and their corresponding CRDLs for inorganics. However, these CRDLs (and associated IDLs) and CRQLs may change as analytical techniques improve. ARARs may also change as time elapses. Therefore, it is imperative that SEDA evaluate the ARARs and communicate them to the lab upfront in order to select an effective method whose IDLs (for inorganics) and CRQLs (for organics) are equal to or below the ARAR. Barring any unforeseen problems, compliance will then be demonstrated and project quantitative Data Quality Objectives fulfilled.

Effective communication with the laboratory regarding expected sample concentration ranges, required ARARs and thus, necessary IDLs and CRQLs, is essential to producing data of the required quality in a cost effective manner.

**Response #9** Agreed. Prior to beginning future RI work at SEDA, we will communicate with the laboratory about expected sample concentration ranges, required ARARs and necessary IDLs and CRQLs. Appendix C, Section 7, of the Generic Installation RI/FS Workplan will be revised to state that SEDA will ensure that the contracted lab will produce data that achieves the established ARARs, if possible.

#### General Risk Assessment Comments

**Comment #3** ES took exception to this comment, contending that the scope of the ESI does not include a full assessment of the exposure pathways and that the site has been recommended for further investigation and that a full assessment of the exposure pathways will be conducted during the RI/FS. We agree with this response and concur that a full assessment of the exposure pathways at the site should be conducted during the RI/FS process, including an assessment of the exposure to the subsurface soils.

#### SEAD-25

**Comment #1** It is still our contention that the contours presented for this site have little basis for their construction. A review of the topography does not indicate that the contours in the vicinity of MW25-3 should close as depicted. In addition, the contours drawn south of wells MW25-1 and MW25-2 should also be dashed.

**Response #1** Agreed. The contour lines south of MW25-1 and MW25-2 and the contour lines west of MW25-3 have been removed from Figure 3.5-1, Groundwater Contour Map.

This groundwater map will be refined during the RI/FS with groundwater elevation data from ten additional overburden monitoring wells which will be installed during the field investigation at this site.

#### SEAD-45

**Comment #1** While we agree with the rationale for not using data from monitoring well MW-5 to construct the potentiometric contour map, information is available for monitoring well MW-1 and this well should be used. In addition, during the RI/FS all available wells should be surveyed and their water levels used for the construction of a comprehensive potentiometric contour map for this SEAD.

**Response #1** Agreed. The groundwater contour map for SEAD-45 has been revised and incorporates data from monitoring well MW-1. A more comprehensive potentiometric contour map will be developed during the RI/FS for SEAD-45. The Project Scoping Plan for SEAD-45 states that groundwater elevations will be measured during each of the two groundwater sampling programs.

**COMMENTS BY  
ENVIRONMENTAL PROTECTION AGENCY (EPA) - REGION II  
THE REVISED DRAFT EXPANDED SITE INSPECTION (ESI)  
FOR  
THE SEVEN HIGH PRIORITY SOLID WASTE  
MANAGEMENT UNITS (SWMUS)  
SEADs 4, 16, 17, 24, 25, 26 AND 45**

**Comment #9**

Following is EPA's response to the issue regarding Antimony and demonstration of compliance to the set ARAR. Please note, acronyms used are defined as follows: IDL-Instrument Detection Limit used in inorganic analytical methods as the lowest concentration able to be quantified within set limits of precision and accuracy; CRDL-Contract Required Detection Limit specified as the reporting limit in the Inorganic Statements of Work for NYSDEC and EPA Contract Lab Program (CLP); and CRQL-Contract Required Quantitation Limit specified in the Organic Statement of Work for NYSDEC and EPA CLP, also the lowest concentration able to be quantified within set limits of precision and accuracy.

With regard to Antimony (Sb), for those results reported as non-detect, ARAR compliance is only demonstrated if the IDL reported is less than the ARARs. It is recommended that a method whose IDL is equal to or below the state and federal groundwater ARAR for Sb be used. This IDL can be achieved by using either GFAA (graphite furnace atomic absorption), ICP, or ICP-MS (Inductively Coupled Plasms-Mass Spectrometry) instruments. These instruments are specified for use in the NYSDEC CLP, EPA SW-846, EPA MCAWW, and EPA ORD methods. Note, the IDL obtained is laboratory, analyst, and matrix dependent. This logic applies to all metals, that is, the IDL should be specified and compared to the ARAR for compliance determinations.

This principle extends into any future investigation conducted at Seneca Army Depot. The current Generic Installation RI/FS Work Plan should be modified as follows. Appendix C, Chemical Data Acquisition Plan, Section 7.0 should state that SEDA will ensure that the contracted lab will produce data that achieves the established ARARs by utilizing correct analytical methods. Table C-2 currently lists analytical methods per analyte and their corresponding CRDLs for inorganics. However, these CRDLs (and associated IDLs) and CRQLs may change as analytical techniques improve. ARARs may also change as time elapses. Therefore, it is imperative that SEDA evaluate the ARARs and communicate them to the lab upfront in order to select an effective method whose IDLs (for inorganics) and CRQLs (for organics) are equal to or below the ARAR. Barring any unforeseen problems, compliance will then be demonstrated and project quantitative Data Quality Objectives fulfilled.

Effective communication with the laboratory regarding expected sample concentration ranges, required ARARs and thus, necessary IDLs and CRQLs, is essential to producing data of the required quality in a cost effective manner.

**Response #9**                   Agreed. Prior to beginning future RI work at SEDA, we will communicate with the laboratory about expected sample concentration ranges, required ARARs and necessary IDLs and CRQLs. Appendix C, Section 7, of the Generic Installation RI/FS Workplan will be revised to state that SEDA will ensure that the contracted lab will produce data that achieves the established ARARs, if possible.

General Risk Assessment Comments

**Comment #3**                   ES took exception to this comment, contending that the scope of the ESI does not include a full assessment of the exposure pathways and that the site has been recommended for further investigation and that a full assessment of the exposure pathways will be conducted during the RI/FS. We agree with this response and concur that a full assessment of the exposure pathways at the site should be conducted during the RI/FS process, including an assessment of the exposure to the subsurface soils.

SEAD-25

**Comment #1**                   It is still our contention that the contours presented for this site have little basis for their construction. A review of the topography does not indicate that the contours in the vicinity of MW25-3 should close as depicted. In addition, the contours drawn south of wells MW25-1 and MW25-2 should also be dashed.

**Response #1**                   Agreed. The contour lines south of MW25-1 and MW25-2 and the contour lines west of MW25-3 have been removed from Figure 3.5-1, Groundwater Contour Map.

This groundwater map will be refined during the RI/FS with groundwater elevation data from ten additional overburden monitoring wells which will be installed during the field investigation at this site.

SEAD-45

**Comment #1**                   While we agree with the rationale for not using data from monitoring well MW-5 to construct the potentiometric contour map, information is available for monitoring well MW-1 and this well should be used. In addition, during the RI/FS all available wells should be surveyed and their water levels used for the construction of a comprehensive potentiometric contour map for this SEAD.

**Response #1**                   Agreed. The groundwater contour map for SEAD-45 has been revised and incorporates data from monitoring well MW-1. A more comprehensive potentiometric contour map will be developed during the RI/FS for SEAD-45. The Project Scoping Plan for SEAD-45 states that groundwater elevations will be measured during each of the two groundwater sampling programs.



**COMMENTS BY  
ENVIRONMENTAL PROTECTION AGENCY (EPA) - REGION II  
THE DRAFT EXPANDED SITE INSPECTION (ESI) REPORT FOR  
THE SEVEN HIGH PRIORITY SOLID WASTE MANAGEMENT UNITS (SWMUs)  
SEAD 4,16,17,24,25,26AND 45**

General Comments

- Comment #1** Analyte concentration maps in the report were computer contoured. In many areas of the site, the contamination appears to be isolated to a specific area around a structure, rather than uniformly distributed across the area. The software used, however, does not consider isolated realizations (nugget effect) but rather interpolates and extrapolates the data as if they were uniformly distributed across the site. In these instances, such contouring codes are inappropriate and misleading. Due to the limited scope of sampling at many of these sites, it seems as if manual contouring of analytical data is appropriate. This forces one to evaluate the "reasonableness" of the contouring as it is conducted. In instances where the sparsity of data points do not justify contouring, it is acceptable to simply post the analytical result on the figure next to the sampling location.
- Response #1** Agreed. The data in the figures presented in Section 4 of the report have only been posted. Statistical analyses of the analytical data were performed by calculating variograms of the individual data sets for each analyte considered for plotting. The variograms showed the variance in the reported data as a function of distance from each individual sample location. All of the variograms produced showed irregular patterns in the variance of the individual data sets, and therefore, did not support data contouring.
- Comment #2** The discussion on the nature and extent of contamination should include a section which summarizes the Tentatively Identified Compounds (TICs) which were identified by media at each of the sites. This will allow the reader to better evaluate the appropriateness of the proposed action for each SWMU.
- Response #2** Agreed. Discussions summarizing tentatively identified compounds have been included in Section 4, Nature and Extents of Contamination.
- Comment #3** Analytical data which are cited in the text should also include any appropriate data validation qualifiers which are included in the data summary tables.
- Response #3** Agreed. The data validation qualifiers have been included with the analytical data cited in the text.
- Comment #4** The document commonly references reported concentrations to the NYSDEC TAGM. This is useful, however, the TAGM clearly indicates that the values are based on an assumed Total-Organic-Carbon (TOC) content of one percent. It is our understanding that TOC data have not been collected. For

clarity, this point should be mentioned in the text and in footnotes on appropriate tables.

**Response #4** Agreed. TOC data were not collected as part of this ESI investigation because it was not specified in the EPA approved workplan. In retrospect, it would have been useful to collect TOC information for inclusion in this report. Should further investigation or remedial activities be conducted at SEDA, TOC data will almost certainly be part of the scope of work.

**Comment #5** The groundwater contour maps for the sites should include the date on which the water levels were measured. The text which discusses the hydrogeology of each site should also discuss if significant variation in the water levels occurred between the three rounds of measurements and discuss potential seasonal changes. For site for which known or suspected source areas are available, it would be useful to identify them on the groundwater contour maps.

**Response #5** Agreed. The date on which the water levels were measured has been added to the groundwater contour maps.

**Comment #6** For sites at which surface and subsurface soil samples were collected and analyzed, the text should discuss these results separately instead of discussing soil results as a whole. Differentiating between surface and subsurface samples will aid in evaluating the necessary scope of any further investigative work at some sites. Also, it would be helpful to segregate data for surface and subsurface samples in the data tables.

**Response #6** Agreed. The results of the surface and subsurface soil analyses were revised and discussed as separate media. However, segregation of the analytical results in the data tables in Section 4 would provide no additional contribution to the reader's understanding of the information presented in the text. Therefore, the presentation format of the summary analytical tables has not been modified.

**Comment #7** The terms "till" and "overburden" seem to be used interchangeably in the text. These terms are not equivalent and one term should be adopted for clarity, if appropriate.

**Response #7** Agreed. The soils overlying bedrock at SEDA are glacial in origin and the term "till" has been adopted, when appropriate, in the text.

**Comment #8** The site plans in Section 1 have insufficient detail. The text under Physical Site Setting describes significant site features which were not included on the maps. The figures should be revised to enable the reader to locate the site features described in the text.

**Response #8** Agreed. The site plans in Section 1 have been revised to include the site features described in the text under Physical Site Settings.

**Comment #9** Section 4-Nature and Extent of Contamination - Groundwater Analysis Results Tables - All these tables should be revised to include Federal MCLs and action levels. The "Number Above Criteria" and corresponding text discussions should then be corrected. For example, SEAD-4 metals discussion should also include cadmium. The detection limit for antimony is shown to be greater than 50ppb, but the ARAR is 3ppb. An explanation should be given as to why an analytical method was not used that could detect below the criteria values.

**Response #9** A) Agreed. The Groundwater Analysis Results tables have been revised to include Federal MCLs and action levels. The "Number Above Criteria" and corresponding text discussions have been corrected.

B) Exception. The contract required quantitation limit for antimony in groundwater and surface water in the EPA approved workplan was 60 µg/L. The laboratory detection limit for this element is approximately 50 µg/L. However, should the EPA require a lower detection limit for this element in future sample analyses, more sensitive laboratory techniques can be utilized.

#### General Risk Assessment Comments

**Comment #1** While a quantitative exposure pathway analysis is a necessary complement to the evaluation of environmental sampling results in recommending appropriate future actions, many of the exposure route/receptor analyses conducted in Section 5.0 Health and Environmental Concerns are inappropriate and in some cases too general to support the site-specific recommendations for future action.

**Response #1** Agreed. However, the objective of this ESI was to determine whether or not a threat existed at the individual AOCs. As 6 of the 7 AOCs have been recommended for RI/FS investigations, (The 7th AOC, SEAD 24, is being recommended for a Removal Action) a more in-depth analysis of exposure route/receptor pathways will be completed for these sites.

**Comment #2** Discussion of the environmental sampling results with qualifiers such as "low" is subjective and inappropriate in an analysis of potential human and environmental health risks, particularly since seemingly "low" concentrations of certain chemicals (e.g., PCBs) can still pose health risks. Similarly, "low concentration and/or only a small number of samples exceed their respective TAGMs" are inappropriate bases for dismissing chemicals from consideration as chemicals of potential concern.

**Response #2** Agreed. The word "low" is subjective and has been removed from the majority of the text and all of the text in the discussion of affected media in Section 5 of the report. As stated in Response #1 of the general Risk Assessment comments, most of the 7 high AOCs are being recommended for RI/FS investigations. These investigations will include more in-depth analyses of minor TAGM exceedances as well as addressing them as chemicals of potential concern.

**Comment #3** Consideration should be given to the potential for human exposure with chemical contaminants in subsurface soil. Such exposure may be possible for utility or construction workers who may have to open shallow trenches in the course of their activities.

**Response #3** Exception. A pathway analysis such as human exposure with chemical contaminants in subsurface soils is beyond the scope of this ESI. Complete pathway analyses will be performed as part of the RIs being recommended for the majority of the 7 high priority AOCs.

**Comment #4** The source/release mechanism/pathway analyses provided in the Exposure Pathway Summary figures for each site should be reviewed and revised, as appropriated. For example:

- in Figure 5.2-1 "wind" seems to be the "release mechanism" while "dust" appears to be the potential exposure "pathway";and
- in Figure 5.3-1 and 5.4-1 "infiltration/percolation" and "runoff and erosion" seem to be secondary release mechanisms from soil is stack emissions from the Abandoned Deactivation Furnace is the "primary source".

**Response #4** Agreed. The source/release mechanism/pathway analyses provided in the Exposure Pathway Summary figures have been revised, as appropriate.

**Comment #5** Similarly, the exposure route/receptor analyses provided in the Exposure Pathway Summary figures (5.2-1 through 5.8-1) for each site should be reviewed and revised as appropriate. For example, in each of the figures, inadvertent "ingestion" of soil by site workers or visitors is as likely a potential exposure route as "dermal contact" with soil even though "adults do not normally eat soil". Both exposure routes should be considered.

**Response #5** Agreed. Ingestion of soil by site workers or visitors has been included as a potential exposure route.

Specific Comment Not Related to a Specific SWMU

**Comment #1** Table 1.1-3, Page 2-4 have no column which indicates the measured analyte.

**Response #1** Agreed. Table 1.1-3 has been revised to include measured analyte columns.

SEAD-4: Munition Washout Facility Leachfield:

**Comment #1** Figure 4.1-2: The report states that soil sampling was performed at locations that had the greatest potential to be sources of contamination. The data indicate that many "hot spots" are areas of isolated contamination, for example, next to a loading dock. However, the data were contoured as if the contamination was widespread, due to the nature of the contouring software.

An example of this is the copper concentration map Figure 4.1-2. The data indicates several areas of high copper concentrations; near the pond, at the water tank, and near former building T30. These areas could be isolated areas of surficial contamination. However, the data have been contoured to show widespread copper contamination (the extensive blue map areas) based on no apparent data. In addition, the map shows "blue" areas of the site that exceed cleanup standards for which no supporting data exists. If isolated areas of contamination exist (the nugget effect), such contouring efforts are inappropriate.

- Response #1**                    Agreed. As stated in General Comments response #1, statistical analyses of the variance in the analytical data, as a function of distance from individual sample points, did not support the contouring of these data. Therefore, the analytical data in Figure 4.1-2, as well as Figure 4.1-1, have only been posted. The Remedial Investigation being drafted for this site is utilizing the data presented in this report to locate sampling points which would provide sufficient spatial coverage of the "hot spots" to allow for a more meaningful contouring of the analytical data.
- Comment #2**                    Page 4-24, Section 4.1.4.7: The text discussed groundwater results in this section which is for surface water. The discussion in this Section is inconsistent with Section 4.1.3.7 which is for groundwater.
- Response #2**                    Agreed. The paragraph in Section 4.1.4.7, which discusses groundwater, has been moved to Section 4.1.3.7.
- Comment #3**                    Page 5-2, Section 5.2.1, 1st Paragraph: A statement should be added which clarifies that the Munitions Washout Facility is currently inactive.
- Response #3**                    Agreed. A statement has been added on page 5-2 clarifying the inactive status of the SEAD-4 Munitions Washout Facility.
- Comment #4**                    Page 5-2, Section 5.2.1, 2nd Paragraph: A conceptual discussion of groundwater/surface water interaction should be included. The basis for the statement that surface water is not expected to flow to Indian Creek should be provided.
- Response #4**                    Agreed. Section 5.2.1, 2nd paragraph was revised to include a discussion of groundwater interception into drainage swales in the area of SEAD-4 as well as a discussion of expected surface flow from SEAD-4 into Indian Creek.
- Comment #5**                    Page 5-4, Section 5.2.2.1, 2nd Paragraph: To some readers, the mention of "hunters" may appear to be inconsistent with the statement made earlier in Section 5.2.2, that "Within the boundaries of the SEDA, human and vehicular access to the site is restricted..." The status of hunting activities at SEDA should be clarified.

**Response #5** Agreed. Deerhunting is conducted during the fall season within the boundaries of the SEDA in a controlled manner at assigned locations that include this site. A sentence has been added in Section 5.2.2.1, page 5-4, clarifying this activity.

SEAD-16: Abandoned Deactivation Furnace (Bldg. S-311)

**Comment #1** Figure 4.2-2: The contouring of this data is misleading. The "blue" areas around the perimeter of the contouring grid indicate higher lead concentrations than are indicated by the data. These are edge effects produced by the software because the grid extends beyond the data and values are extrapolated beyond the data set. The data indicate that the lead concentrations decrease away from the furnace more rapidly than indicated in Figure 4.2-2.

**Response #1** Agreed. As stated in General Comments response #1, statistical analyses of the variance in the analytical data, as a function of distance from individual sample points, did not support the contouring of these data. Therefore, the analytical data in Figure 4.2-2, as well as Figure 4.2-1, have only been posted. The Remedial Investigation being drafted for this site is utilizing the data presented in this report to locate sampling points which would provide sufficient spatial coverage of the site to allow for a more meaningful contouring of the analytical data.

**Comment #2** Page 5-7, Section 5.3.1: A statement should be added to this section regarding the floor of the Abandoned Deactivation Furnace as infiltration into the ground is a possibility if the floor is dirt. It is not until Page 5-10 that it is mentioned that the floor is concrete.

**Response #2** Agreed. A statement has been added to page 5-8, Section 5.3.1, indicating that infiltration into the ground of the standing water within the building is not considered to be a release mechanism because the floor of the structure is concrete.

**Comment #3** Page 5-7, Section 5.3.1, 1st Paragraph: "There was not pollution control devices installed" should read "There were no...."

**Response #3** Agreed. The sentence has been revised on page 5-7, Section 5.3.1.

**Comment #4** Page 5-8, 1st Paragraph: Depending on the height of the Abandoned Deactivation Furnace stack, emissions may have been dispersed and deposited at some distance from the facility and not just "to the soil surrounding the building". A qualitative discussion of the likely area which may have been effected by the emissions should be provided.

**Response #4** Agreed. Dispersion and deposition of particulates may have occurred at an as yet undetermined distance from the building. The text has been revised to include the statement "...to the soils in the vicinity of SEAD-16.

**Comment #5** Page 5-11, Section 5.3.3, 3rd Paragraph: The term "sediment samples" should be clarified as it apparently refers to "soil samples collected from spoils present within the building" (1st Paragraph), perhaps underlying the standing water present in the building. Spoils is not a precise term. This material should be described.

**Response #5** Agreed. The term "sediment samples" has been changed to "soil samples". In addition, the term "spoils" has been revised to more accurately describe the material collected within the building.

**Comment #6** Page 5-12, Section 5.3.3, 5th Paragraph: it is stated that "No significant impacts were detected in the standing water samples..." "Chemical contaminants were measured in surface water, not "impacts".

**Response #6** Agreed. The sentence on page 5-12 has been changed to read that "No significant concentrations of contaminants were measured...".

SEAD-17: Existing Deactivation Furnace (Bldg 367):

**Comment #1** Although soil contamination appears to be concentrated around the furnace building, the extent of metals contamination, especially to the north and southeast, has not been adequately addressed.

**Response #1** Agreed. The extent of metals contamination to the North and Southeast of SEAD-17 is not adequately defined. The purpose of this ESI was to identify areas where contamination may have occurred. Based upon the results presented in this ESI report, additional surface soil sampling is being recommended for the northern and southeastern portions of SEAD-17 as part of an RI/FS which is being prepared for this site.

**Comment #2** Figure 5.4-1: "Volatile Emissions" is included as a primary release mechanism yet no mention of this mechanism is made in the text. Appropriate discussion of this primary release mechanism should be added to the text.

**Response #2** Agreed. The text has been revised to include Volatile Emissions as a primary release mechanism.

**Comment #3** Page 5-16, Section 5.4.3, 3rd Paragraph: The meaning of the parenthical values for cadmium, copper, lead and zinc is not clear, thus they should be described or eliminated. Be inference they may be the number of times the TAGM values were exceeded for each metal.

**Response #3** Agreed. The 3rd paragraph of page 5-16, Section 5.4.3 has been revised.

SEAD-24: Abandoned Powder Burning Pit

**Comment #1** Figure 3.4-3: A review of the available water level measurements indicates that the groundwater flow direction in the vicinity of this site varies and at times is more to the northwest, towards Kendaia Creek.

- Response #1**                    Agreed. However, the water level measurements reported from the well development and the groundwater sampling activities were collected over periods of more than two months. These data cannot be used for an accurate determination of variations in groundwater flow directions. The text has been revised to provide a qualitative discussion of the possible variations in groundwater flow directions.
- Comment #2**                    Page 3-26, Section 3.4.3,1st Paragraph: Kendaia Creek is approximately 150 feet north of the site, not east. The text should be corrected.
- Response #2**                    Agreed. The text has been revised on page 3-26, Section 3.4.3.
- Comment #3**                    Page 3-26, Section 3.4.3,2nd Paragraph: "the till aquifer" is referred to. This misrepresents the area's hydrogeology. This till is not an "aquifer".
- Response #3**                    Agreed. The intent of the text was to characterize the nature of the groundwater in the till portion of the till/weathered shale aquifer. The text has been revised to properly qualify the subject of the discussion.
- Comment #4**                    Figure 4.4-1: The extent of metals contamination in soils is over represented and improperly presented in the contour map of Figure 4.4-1. The map shows that the extent of arsenic contamination to the northeast is undefined.
- Response #4**                    Agreed. The extent of arsenic contamination to the northeast is undefined. In addition, a statistical analysis of the variance in the analytical data, as a function of distance from individual sample points, did not support the contouring of these data. Therefore, the analytical data in Figure 4.4-1 has only been posted.
- Comment #5**                    Page 5-17, Section 5.5.1,2nd Paragraph: it is stated that "Surface water, sediment, and groundwater are secondary release mechanisms". These environmental media may be sources or pathways but not "release mechanisms".
- Response #5**                    Agreed. The text has been revised in the 2nd paragraph of Section 5.5.1.
- Comment #6**                    Page 5-21, Section 5.5.3, 5th Paragraph: The statement that "...the distribution of the metals is limited to the surface soils at the site" seems inappropriate in that inorganic chemicals would be naturally occurring in both surface and subsurface soils at the site. As it seems that the reference is to "elevated" inorganic analyte concentrations in surface soil, the statement should be revised.
- Response #6**                    Agreed. The statement on page 5-21, Section 5.5.3,paragraph 5, has been revised.



SEAD-25: Fire Training and Demonstration Pad

**Comment #1** Figure 3.5-1: The groundwater contours shown in this figure are not supported by the available data. At the very least, the contours should be dashed because they are inferred. The other available water level measurements should be reviewed to determine if they support the inferred groundwater flow pattern proposed for this site.

**Response #1** Exception. A review of the data utilized for Figure 3.5-1 indicated that the majority of the groundwater contours are supported by these data. The southern and/or western portions of potentiometric contour lines 740, 741 and 742 have been dashed as they were based primarily on assumptions of groundwater flow direction and local topography.

**Comment #2** Page 7-3, Section 7.6: States that the BTEX contamination is limited to the western and central portions of the pad. However, no sampling was performed outside the pad to determine if any spills occurred off the pad. The presence of BTEX in groundwater outside the pad indicates that either BTEX was spilled outside the pad or that BTEX migrated through the pad to the groundwater. Therefore, further limited investigations are warranted, consisting of radial soil sampling outside the pad and additional monitoring wells. The absence of BTEX contamination at MW25-1 indicates that groundwater contamination may not be a widespread problem.

**Response #2** Agreed. The text has been revised to include the following: "Based upon the results of this ESI, BTEX contamination appears to be...". In addition, further investigations are being proposed as part of an RI/FS which is being prepared for this site.

SEAD-26: Fire Training Pit and Area

**Comment #1** Page 4-87, Section 4.6.1: Four monitoring wells were installed not three as stated.

**Response #1** Agreed. The sentence on page 4-87, Section 4.6.1 has been corrected.

**Comment #2** Table 4.6-2: Zinc was detected above ARARs and Nickel above the Federal MCL of 100 ppb, but the "maximum detected" column shows NA in both cases. The table should be corrected.

**Response #2** Agreed. Table 4.6-2 has been corrected.

**Comment #3** Cyanide was detected in surface water above an EPA standard. However, sediment or groundwater samples were not analyzed for cyanide to determine if cyanide migration is a concern.

**Response #3** Exception. All of the samples collected at SEAD-26 were analyzed for cyanide, including all sediment and groundwater samples. None of the

groundwater or sediment samples had detectable concentrations of cyanide, therefore, these results were not included in the analytical summary tables for these media in Section 4 of the report. The complete analysis results for SEAD-26 are presented in Appendix E.

#### SEAD-45: Open Detonation Facility

**Comment #1** Figure 3.7-5: If they are available, this figure should incorporate water level measurements from the existing, nearby monitoring wells identified in Figure 4.7-1.

**Response #1** Agreed. However, the only additional well shown in Figure 4.7-1 for which calculated groundwater elevations exist is MW-5 (Table 3.7-1). MW-5 is located to the west of a groundwater divide which was identified during an RI performed at the Open Burning Grounds located adjacent to SEAD-45. Therefore, this additional information could not be used in Figure 4.7-1. However, the groundwater contours shown in Figure 4.7-1 were found to be similar to those observed during the OB Grounds RI which was completed in September of 1994.

**Comment #2** Table 4.7.2 and the subsequent text do not mention that nickel was detected above the Federal MCL of 100 ppb. The corrections should be made.

**Response #2** Agreed. The corrections to Table 4.7.2 and the subsequent text have been made.

**Comment #3** Page 5-33, Section 5.8.2.2: The section heading should be revised to include volatile emissions as is the case for other sites where this potential exposure pathway is considered.

**Response #3** Agreed. The section headings have been revised where appropriate.

#### Recommendation for Future Actions

##### SEAD-4: Munitions Washout Facility Leachfield

**Comment #1** We concur with the conclusion that an RI/FS should be conducted for this SWMU. Based on the available information, the RI/FS scope of the RI can be focused to confirm that groundwater contamination is not present. Soil and sediment sampling should be focused on determining the volume of material which may require remediation. Antimony, beryllium, cadmium, and chromium have been detected above ARARs. Therefore, the statement "... little or no adverse impacts to the groundwater system has occurred." should be deleted from the text and a more accurate conclusion drawn from the groundwater results should be included in this section.

**Response #1** Agreed. The statement "little or no adverse impacts to the groundwater system has occurred" has been deleted from the text and a more accurate conclusion has been drawn from the groundwater results.

SEAD-16: Building S-311 Abandoned Deactivation Furnace

**Comment #1** We concur with the conclusion that an RI/FS should be conducted for this SWMU. Separate from the RI/FS, SEDA may wish to consider the removal of asbestos from the building and demolition and disposal of the structure.

**Response #1** Acknowledged. Removal of asbestos from the building and demolition and disposal of the structure are useful recommendations, especially in light of SEDA being placed on the Base Closure List. Should any or all of these actions be undertaken in the future, the EPA will be fully apprised of such actions well in advance of their being performed.

SEAD-17: Building 267 Existing Deactivation Furnace

**Comment #1** Our discussions with SEDA and the Army Corps of Engineer-Huntsville Division, indicate that an RI/FS is planned for this SWMU. The text should state this. Lead was detected in groundwater at 32.3 ppb, exceeding the ARAR of 15 ppb. Therefor the statement "...no adverse impacts to the groundwater have occurred." should be deleted from the text and a more accurate conclusion drawn from the groundwater results should be included in this section.

**Response #1** Agreed. The statement "...no adverse impacts to the groundwater have occurred." has been deleted from the text and a more accurate conclusion has been drawn from the groundwater results. In addition, the text now states that this site is being recommended for an RI/FS.

SEAD-24: Abandoned Powder Burning Pit

**Comment #1** We concur with the conclusion that this site is a candidate for a removal action. As part of this action, the extent of arsenic will need to be determined. We also recommend that groundwater quality and flow directions be confirmed with a focused groundwater investigation.

**Response #1** Acknowledge. Based upon the results of this ESI, a removal action of impacted surface soils has been drafted. As part of this removal action, surface soil samples and surface water and sediment samples will be collected following the removal action to confirm the absence of arsenic in surrounding surface soils. However, since the results of this ESI have demonstrated that no adverse impacts to the groundwater have occurred, additional groundwater studies are not warranted.

SEAD-25: Fire Training and Demonstration Pad

**Comment #1** We concur that an RI/FS should be conducted for this SWMU. Of the seven SWMUs, this site appears to be the highest priority for further investigation.

**Response #1** Agreed. The RI/FS scoping document for this site has been prepared and submitted to the EPA for review.

SEAD-26: Fire Training Pit and Area

**Comment #1** Since SEDA has been proposed for the 1995 Base Closure List, it is questionable whether or not the on-going use of the Fire Training Pit and Area is necessary for the operations of SEDA. It is also possible to conduct a remedial action at this time and construct an engineered fire training facility which would have lesser environmental effects. An on-going groundwater monitoring program for this facility would document what the effects are on groundwater quality in the future. Our discussions with SEDA and the Army Corps of Engineer-Huntsville Division, indicate that an RI/FS is planned for this SWMU. The text should state this. Arsenic, beryllium, chromium, lead, nickel and zinc have been detected above ARARs. Therefore, the statement "...no adverse impacts to the groundwater have occurred." should be deleted from the text and a more accurate conclusion drawn from the groundwater results should be included in this section.

**Response #1** A) Acknowledged. An RI/FS is currently being planned for this site and the text in Section 7.7 has been revised to reflect this action. Additionally, the comment suggests an engineered fire training facility will be constructed at SEDA. This may be a useful suggestion for the EPA to submit independently to SEDA.

B) Agreed. The statement "...no adverse impacts to the groundwater have occurred." has been deleted from the text and a more accurate conclusion has been drawn from the groundwater results.

SEAD-45: Open Detonation Facility

**Comment #1** Based on the ES, it is apparent that the Open Detonation Facility has released chemicals to the environment. It is unclear from the text in Section 7.8 if ES is proposing to conduct a removal action on the drainage channels leading from the mound. In the same vein, conducting a removal action on the drainage channels will not be a long-term remedy unless the on-going operation of the Open Detonation Facility includes measures to minimize recurring contamination of these drainage channels. Due to its proximity to Reeder Creek, addressing SEAD-45 should be a relatively high priority. Antimony, beryllium, chromium, lead and nickel were detected in groundwater samples above ARARs. Lead at 75.6 ppb (ARAR is 15 ppb) and antimony at 52.1 ppb (ARAR is 3 ppb). The statement "...no adverse impacts to the groundwater have occurred." is incorrect and should be deleted. An accurate conclusion drawn from the groundwater results should be included in this section.

**Response #1**

A) Agreed. A removal action for SEAD-45 is no longer being recommended. Based upon the extent of organic and inorganic constituent found above TAGM or federal standards in the various media of SEAD-45, this site is being recommended for a remedial investigation and a feasibility study.

B) Agreed. The statement "...no adverse impacts to the groundwater have occurred." has been deleted from the text and a more accurate conclusion has been drawn from the groundwater results.

**D#12**

**COMMENTS BY**

**THE NEW YORK STATE DEPARTMENT  
OF ENVIRONMENTAL CONSERVATION  
(NYSDEC)**

**AND**

**THE NEW YORK STATE DEPARTMENT  
OF HEALTH  
(NYSDOH)**

COMMENTS BY  
THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
(NYSDEC) AND  
THE NEW YORK STATE DEPARTMENT OF HEALTH (NYSDOH) FOR  
THE DRAFT EXPANDED SITE INSPECTION (ESI) REPORT FOR  
THE SEVEN HIGH PRIORITY SOLID WASTE MANAGEMENT UNITS (SWMUs)  
SEAD 4,16,17,24,25,26 AND 45

General Comments:

**Comment #1**            Site Plans need improvements: Items in the descriptive part of the site need to be indicated and labeled on the site plans. Features such as steam generation building, a berm, suspected leachfield, grassy field, concrete floor with drains, a broken concrete pad and rusted steel underground storage tank, a drainage pipe embedded in concrete berm, an open-top 4-inch vertical pipe and a 4-inch clay drainage pipe connecting the pond to the location of the former munition washout building, which are in the narrative of SEAD-4 must be shown and labeled on the site plan (Figure 1.1-12 SEAD-4). In addition, all man-made structures should be shown with lines bolder than topography lines and water bodies should be shown as shaded areas. This comment is applicable on all site plans.

**Response #1**            Agreed. The site plans in Section 1 have been revised to include the site features described in the text under Physical Site Settings. In addition site structures and features have been shown with line types other than that used for topographic contours.

**Comment #2**            Maps and tables should be placed immediately in the subsection for which they apply and not several pages later.

**Response #2**            Agreed. This ESI report was revised and the tables and maps were placed immediately after their reference in the text.

**Comment #3**            In regards to munitions and explosives, more information should be provided about munitions used at the site, their constituents and possible breakdown products.

**Response #3**            Acknowledged. However, the purpose of this ESI was to determine whether or not specific sites have been impacted by the release of organic or inorganic constituents. During the drafting of the 10 SWMU ESI workplan, the potential for specific groups of compounds (including nitroaromatics) to be present at these sites was evaluated from the known practices of SEDA activities and from the information contained in the SWMU Classification Report. A review of the specific types of munitions used, stored, and/or disposed of at SEDA was not required to achieve the goals of this ESI. Future work (i.e., remedial investigations and feasibility studies) at those sites where significant concentrations of nitroaromatic compounds were detected

may require such information in order to identify contaminant source areas as well as define contaminant migration patterns.

**Comment #4** List of Acronyms should include all the acronyms used in the report. Acronyms like, HMX, RDX, TNT, TPH, 2,4-DNT, 2,4-D, 2,4-DB, 2,4,5-T, 2,4,5-TP, MCPA and MCPP should be included in the list of acronyms.

**Response #4** Agreed. The acronyms listed above have been added to the list of acronyms in the report.

**Comment #5** Geophysical Investigation, GPR Survey: GPR surveys were done on all SWMUs and results were discussed in the appropriate section of the report. However, the report does not include the charts produced by the graphic recorder of the GPR and therefore the results could not be verified. Please include all the GPR produced charts in the appendices of the report.

**Response #5** Exception. Due to the format of the GPR data which was produced by the GPR instrument (i.e., continuous strip-charts on electrostatic paper), reproduction of these data for the purposes of review and/or interpretation is both time consuming and expensive. Inclusion of these data in the report would not contribute to the reader's understanding of the geophysical interpretations presented in Section 3 of this report. However, these data are maintained at the Boston office of Parsons Engineering Science, Inc. Should the NYSDEC require these data for additional examination, a written request for the original GPR chart data may be submitted to the USACOE, Huntsville division, or these data may be viewed at Parsons ES' Boston office.

**Comment #6** 4.0 Nature and Extent of Contamination: It is stated that an average water hardness value of 300 ppm was used for calculating hardness based surface water quality criteria. Please provide the source data and calculations.

**Response #6** Agreed. The source data and the calculations for determining the hardness of the surface water at the sites have been included in the text (pages 4-2, 4-26, 4-117, and 4-138). As discussed in the text, an average value of 300 mg/l was derived from calcium and magnesium concentrations at surface water locations at SEADs 4, 13, 26, and 45. These sites were part of the 10 SWMU ESI, with SEAD 13 included in the three moderately high priority sites.

#### Specific Comments

##### SEAD-4: Munition Washout Facility Leachfield:

**Comment #1** 1.1.2.1.1 Physical Site Setting: It is hard to follow the text without identification of all the features on the site plan (Please see comment number 1).

**Response #1** Agreed. The site plan has been revised to include all of the features discussed in the text.



**Comment #2**            1.1.2.1.2 Site History: It is mentioned that wastewater was processed through saw dust to remove any solid explosive residues prior to being discharged to an area where it leached into the ground or flowed into a nearby ditch. Please provide the historical disposal practices of the explosive laden saw dust. What specific explosive residues were involved in the filtering?

**Response #2**            Agreed. Based upon the information presented in the SWMU Classification Report (ES, 1994), it was assumed that the explosive laden sawdust was destroyed along with the solid explosives at the burning grounds (by thermal destruction). Specific disposal practices utilized at the former munitions washout facility are unknown. A complete list of the explosives which were suspected to have been removed from obsolete or unserviceable munitions at the former munitions washout facility was provided in the SWMU Classification Report (ES, 1994). Included in this list were TNT, RDX, HMX, Tetryl, DNT, and Trinitrobenzene. Presumably, any or all of these explosive compounds may have been filtered through the sawdust.

**Comment #3**            Figure 2.3-2: What is GW4-1 shown on the map?

**Response #3**            GW4-1 was the location of the vertical pipe located in the area suspected of being the leachfield for the former munitions washout facility. Water sample 4PIPE was collected from within this pipe.

SEAD-17: Building 367 Existing Deactivation Furnace:

**Comment #1**            Table 4.3-2: This table shows analytical results for lead and zinc in groundwater, yet the maximum concentration column of this table shows that results are not available (NA). Please correct this apparent error.

**Response #1**            Agreed. Table 4.3-2 has been revised to show maximum concentrations for lead and zinc.

SEAD-24: Abandoned Powder Burning Pit:

**Comment #1**            3.4.2.3 GPR Survey: It is stated that in follow-up GPR survey on the northeast side of the east berm and southeast portion of the bermed area, a possible pipe or culvert and several areas of disrupted or excavated soil were detected. No GPR profiles are included in this section. Please include in this section all GPR profiles, which shows these anomalies.

**Response #1**            Agreed. GPR records showing areas of disrupted or excavated soil and the possible pipe or culvert have been included in this report.

**Comment #2**            Section 7.5: It appears from the map on Figure 4.4-1 that the contamination from the site might have impacted the Kendaia Creek. No surface water or sediment samples were taken from the Kendaia Creek to assess the contamination. This should be considered while preparing the work plans for limited investigative work and removal action.

**Response #2** Exception. A review of the arsenic contamination in the surface soils at SEAD-24 (Figure 4.4-1) did not indicate that constituents from this site have impacted Kendaia Creek. However, future investigations being planned for this site should include limited sampling of Kendaia Creek in the vicinity of SEAD-24 in order to determine whether releases from this site have impacted the creek.

SEAD-25: Fire Training and Demonstration Pad:

**Comment #1** Figure 3.5-1: Potentiometric lines for groundwater contours 742, 741 and 740 are partially based on assumptions, such as overall groundwater flow direction in the area and topography. Figure 3.5-1 should be modified to show all assumed potentiometric lines as dashed lines. Contour lines based on actual groundwater elevations should be shown as continuous lines. Additional monitoring wells and groundwater level monitoring would be required to confirm the groundwater flow direction as described in Section 3.5.3, and this should be kept in mind in the development of the RI/FS work plan.

**Response #1** Agreed. All assumed portions of the potentiometric contours in Figure 3.5-1 have been shown as dashed lines. In addition, the installation of 16 additional wells has been included as part of the RI/FS workplan being prepared for this site.

SEAD-26: Fire Training Pit and Area:

**Comment #1** 7.7 Future Recommendation: It is concluded that the site poses a threat...but, because it has restricted access and is used only by trained personnel who are protected during fire training exercises, the site is recommended for no further action. The ESI report further states that the Army intends to continue fire training operations at this site. If the intended future use of this site changes, the Army will perform any necessary remedial actions necessary to meet the future intended use.

The NYSDEC could accept the above recommendations, provided that the Army assures us with an in-place mechanism, that would alert the future user(s) of the levels of contamination measures and reported, if no remedial action was undertaken upon change of use. Please provide us with details of the mechanism that the Army will establish that would alert the future user(s) of these conditions.

**Response #1** Acknowledged. However, recent discussions with the USACOE and further review of available information have led to the decision to perform a remedial investigation at this site. These investigations will provide for a better understanding of the nature and extent of contamination at SEAD-26. They will also address potential mechanisms to alert future site users of the levels of contamination present should the intended use of this site change with no remedial actions having been undertaken.

SEAD-45: Open Detonation Facility:

**Comment #1**            2.9.2 Media to be Investigated; Soils; Tests Pits: The first sentence of the first paragraph on page 2-58 is incomplete and should be corrected.

**Response #1**            Agreed. The text on page 2-58 has been corrected.

D#12

7 SWMM

**APPENDIX H**  
**RESPONSE TO COMMENTS**

**COMMENTS BY  
THE ENVIRONMENTAL PROTECTION AGENCY  
(EPA)**