

TABLE 1
SUMMARY OF WEATHERED OIL ANALYTICAL RESULTS
SHORELINE SEGMENT WIF-02
BARGE B120 SPILL
BUZZARDS BAY, MASSACHUSETTS

Sample ID: Sample Date:	Oiled Rock WIF-02-32707 03/27/07	Pavement WIF-02-071007-D 07/10/07	Oil on Snare W1F02-102507-S1 10/25/2007	Risk-Based Threshold Concentrations
MA DEP EPH				
EPH Fractions				
n-C9 to n-C18 Aliphatic Hydrocarbons	---	---	1,200	---
n-C19 to n-C36 Aliphatic Hydrocarbons	---	---	8,400	---
n-C11 to n-C22 Aromatic Hydrocarbons	---	---	15,000	---
Target PAH Analytes				
Naphthalene	---	---	---	---
2-Methylnaphthalene	---	---	---	---
Phenanthrene	---	---	---	---
Acenaphthene	---	---	---	---
Acenaphthylene	---	---	---	---
Fluorene	---	---	---	---
Anthracene	---	---	---	---
Fluoranthene	---	---	---	---
Pyrene	---	---	---	---
Benzo[a]anthracene	---	---	---	---
Chrysene	---	---	---	---
Benzo[b]fluoranthene	---	---	---	---
Benzo[k]fluoranthene	---	---	---	---
Benzo[a]pyrene	---	---	---	---
Indeno[1,2,3-c,d]pyrene	---	---	---	---
Dibenzo[a,h]anthracene	---	---	---	---
Benzo[g,h,i]perylene	---	---	---	---
Target PAH Analytes (Low-Level Detection Limits)				
Naphthalene	0.1	0.0056	ND(3.6)	---
C1-Naphthalenes	0.8	0.0275	---	---
C2-Naphthalenes	335	3.96	---	---
C3-Naphthalenes	1330	39.4	---	---
C4-Naphthalenes	1130	60.7	---	---
Benzo[thiophene]	ND(10)	0.388	---	---
C1-Benzo[thiophenes]	1.6	ND(0.0435)	---	---
C2-Benzo[thiophenes]	21.6	ND(0.0435)	---	---
C3-Benzo[thiophenes]	75.8	ND(0.0435)	---	---
Biphenyl	0.1	ND(0.0181)	---	---
Acenaphthylene	ND(10)	0.0771	ND(3.6)	---
Acenaphthene	30.9	0.742	8.20	---
Dibenzofuran	18.2	0.149	---	---
Fluorene	81.3	0.731	14.0	---
C1-Fluorenes	390	13.5	---	---
C2-Fluorenes	1060	48.5	---	---
C3-Fluorenes	1360	67.7	---	---
Carbazole	ND(10)	ND(0.049)	---	---
Anthracene	57.2	2.74	6.50	---
Phenanthrene	317	4.7	54.0	---
C1-Phenanthrene/Anthracenes	2330	91.1	---	---
C2-Phenanthrene/Anthracenes	4970	275.6	---	---
C3-Phenanthrene/Anthracenes	5240	315.2	---	---
C4-Phenanthrene/Anthracenes	2710	146.6	---	---
Dibenzothiophene	75.5	0.534	---	---
C1-Dibenzothiophenes	345	15.3	---	---
C2-Dibenzothiophenes	737	43.2	---	---
C3-Dibenzothiophenes	853	49.5	---	---
Fluoranthene	88.9	5.29	8.40	---
Pyrene	558	34.5	31.0	---
C1-Fluoranthenes/Pyrenes	2490	154.8	---	---
C2-Fluoranthenes/Pyrenes	3340	221	---	---
C3-Fluoranthenes/Pyrenes	2710	146.5	---	---
Naphthobenzothiophene	329	14.8	---	---
C1-Naphthobenzothiophenes	799	37.7	---	---
C2-Naphthobenzothiophenes	979	43.7	---	---
C3-Naphthobenzothiophenes	455	19.6	---	---
Benzo(a)anthracene	318	25.8	18.0	---
Chrysene	772	37.1	25.0	---
C1-Chrysenes	2950	177	---	---
C2-Chrysenes	3230	194.1	---	---
C3-Chrysenes	1360	81.4	---	---
C4-Chrysenes	42.8	2.11	---	---
Benzo(b)fluoranthene	138	7.07	7.00	---
Benzo(k)fluoranthene	18.4	1.05	ND(3.6)	---
Benzo(e)pyrene	148	7.56	---	---
Benzo(a)pyrene	278	13.8	13.0	---
Perylene	71.2	4.49	---	---
Indeno(1,2,3-c,d)pyrene	23.5	1.74	ND(3.6)	---
Dibenzo(a,h)anthracene	36.9	1.72	5.10	---
Benzo(g,h,i)perylene	45.8	2.38	ND(3.6)	---
2-Methylnaphthalene	0.3	0.0123	ND(3.6)	---
1-Methylnaphthalene	1.0	0.0277	---	---
2,6-Dimethylnaphthalene	63.3	0.822	---	---
1,6,7-Trimethylnaphthalene	206	4.93	---	---
1-Methylphenanthrene	326	16.9	---	---
C29-Hopane	71.2	3.12	---	---
18a-Oleanane	13.4	0.94	---	---
C30-Hopane	85.0	4.26	---	---
Comparison to RBTCs				
Total PAH + EPH Fractions	45,332.80	2,442.32	24,790.20	124,235
Total BaP Equivalents	446.58	23.91	20.85	757

Notes:

1. Results in milligrams per kilogram (mg/kg).
2. ND (X) = constituent not detected above detection limit noted in parentheses.
3. BOLD exceeds laboratory detection limits.
4. Shaded values exceed applicable standards.
5. EPH = Extractable Petroleum Hydrocarbons.
6. PAH = Polynuclear Aromatic Hydrocarbons.
7. --- = Constituent not analyzed.
8. BaP = Benzo(a)pyrene. Note that concentrations of carcinogenic PAH were converted into units equivalent to BaP to compare to RBTCs

**TABLE 2
SUMMARY OF SEDIMENT SAMPLE ANALYTICAL RESULTS
SHORELINE SEGMENT WIF-02
BARGE B120 SPILL
BUZZARDS BAY, MASSACHUSETTS**

Sample ID: Sample Date:	"Tire Track" Area					Cobble Beach Area	Test Pit Near "Tire Track" Area	Risk-Based Threshold Concentrations
	WIF-02-071007-A 7/10/2007	WIF-02-071007-B 7/10/2007	WIF-02-071807-S1 7/18/2007	WIF-02-071807-S2 7/18/2007	W1F02-081307-S1 8/13/2007	WIF-02-071007-C 07/10/07	W1F02-102507-S2 10/25/2007	
MA DEP EPH								
EPH Fractions								
n-C9 to n-C18 Aliphatic Hydrocarbons	---	---	ND (38)	ND (47)	ND (41)	---	ND(33)	---
n-C19 to n-C36 Aliphatic Hydrocarbons	---	---	46	110	ND (41)	---	ND(33)	---
n-C11 to n-C22 Aromatic Hydrocarbons	---	---	93	200	ND (41)	---	ND(33)	---
Target PAH Analytes								
Naphthalene	---	---	ND (0.63)	ND (0.7)	---	---	---	---
2-Methylnaphthalene	---	---	ND (0.63)	ND (0.7)	---	---	---	---
Phenanthrene	---	---	ND (0.63)	ND (0.7)	---	---	---	---
Acenaphthene	---	---	ND (0.63)	ND (0.7)	---	---	---	---
Acenaphthylene	---	---	ND (0.63)	ND (0.7)	---	---	---	---
Fluorene	---	---	ND (0.63)	ND (0.7)	---	---	---	---
Anthracene	---	---	ND (0.63)	ND (0.7)	---	---	---	---
Fluoranthene	---	---	ND (0.63)	ND (0.7)	---	---	---	---
Pyrene	---	---	ND (0.63)	ND (0.7)	---	---	---	---
Benzo[a]anthracene	---	---	ND (0.63)	0.79	---	---	---	---
Chrysene	---	---	ND (0.63)	ND (0.7)	---	---	---	---
Benzo[b]fluoranthene	---	---	ND (0.63)	ND (0.7)	---	---	---	---
Benzo[k]fluoranthene	---	---	ND (0.63)	ND (0.7)	---	---	---	---
Benzo[a]pyrene	---	---	ND (0.63)	ND (0.7)	---	---	---	---
Indeno[1,2,3-c,d]pyrene	---	---	ND (0.63)	ND (0.7)	---	---	---	---
Dibenzo[a,h]anthracene	---	---	ND (0.63)	ND (0.7)	---	---	---	---
Benzo[g,h,i]perylene	---	---	ND (0.63)	ND (0.7)	---	---	---	---
Target PAH Analytes (Low-Level Detection Limits)								
Naphthalene	0.0013	0.0011	ND (0.013)	ND (0.016)	ND (0.014)	0.0013	ND(0.011)	---
C1-Naphthalenes	0.0049	0.0075	---	---	---	0.0023	---	---
C2-Naphthalenes	4.32	0.0325	---	---	---	0.0707	---	---
C3-Naphthalenes	21.5	0.156	---	---	---	0.344	---	---
C4-Naphthalenes	19	0.225	---	---	---	0.343	---	---
Benzothiophene	0.113	0.0029	---	---	---	0.0088	---	---
C1-Benzothiophenes	0.0327	ND (0.0003)	---	---	---	ND(0.001)	---	---
C2-Benzothiophenes	0.256	ND (0.0003)	---	---	---	ND(0.001)	---	---
C3-Benzothiophenes	1.46	ND (0.0003)	---	---	---	ND(0.001)	---	---
Biphenyl	ND (0.0043)	0.0009	---	---	---	0.0006	---	---
Acenaphthylene	ND (0.0057)	0.0014	ND (0.013)	ND (0.016)	ND (0.014)	0.0014	ND(0.011)	---
Acenaphthene	0.409	0.0034	ND (0.013)	ND (0.016)	ND (0.014)	0.0081	ND(0.011)	---
Dibenzofuran	0.203	0.0024	---	---	---	0.003	---	---
Fluorene	1.06	0.0116	ND (0.013)	ND (0.016)	ND (0.014)	0.0061	ND(0.011)	---
C1-Fluorenes	5.76	0.0727	---	---	---	0.123	---	---
C2-Fluorenes	13.1	0.234	---	---	---	0.392	---	---
C3-Fluorenes	15.2	0.329	---	---	---	0.528	---	---
Carbazole	0.0862	0.0047	---	---	---	0.0048	---	---
Anthracene	1.14	0.0192	ND (0.013)	0.018	ND (0.014)	0.0459	ND(0.011)	---
Phenanthrene	0.845	0.0082	ND (0.013)	ND (0.016)	ND (0.014)	0.0576	ND(0.011)	---
C1-Phenanthrene/Anthracenes	24.8	0.373	---	---	---	0.789	---	---
C2-Phenanthrene/Anthracenes	60.5	1.34	---	---	---	2.32	---	---
C3-Phenanthrene/Anthracenes	60.2	1.66	---	---	---	2.82	---	---
C4-Phenanthrene/Anthracenes	24.7	0.884	---	---	---	1.31	---	---
Dibenzothiophene	1.49	0.0302	---	---	---	0.01	---	---
C1-Dibenzothiophenes	4.14	0.069	---	---	---	0.133	---	---
C2-Dibenzothiophenes	9.6	0.214	---	---	---	0.354	---	---
C3-Dibenzothiophenes	9.2	0.246	---	---	---	0.426	---	---
Fluoranthene	1.16	0.0412	ND (0.013)	0.033	0.022	0.115	ND(0.011)	---
Pyrene	6.01	0.167	0.029	0.099	0.073	0.321	ND(0.011)	---
C1-Fluoranthenes/Pyrenes	27.4	0.878	---	---	---	1.23	---	---
C2-Fluoranthenes/Pyrenes	35.3	1.45	---	---	---	1.95	---	---
C3-Fluoranthenes/Pyrenes	29.2	1.05	---	---	---	1.33	---	---
Naphthobenzothiophene	2.73	0.0839	---	---	---	0.141	---	---
C1-Naphthobenzothiophenes	6.36	0.199	---	---	---	0.308	---	---
C2-Naphthobenzothiophenes	7.11	0.264	---	---	---	0.388	---	---
C3-Naphthobenzothiophenes	3.66	0.145	---	---	---	0.174	---	---
Benzo(a)anthracene	4.49	0.153	0.033	0.061	0.045	0.223	ND(0.011)	---
Chrysene	6.99	0.219	0.042	0.074	0.056	0.362	ND(0.011)	---
C1-Chrysenes	30.5	1.04	---	---	---	1.55	---	---
C2-Chrysenes	32.1	1.21	---	---	---	1.79	---	---
C3-Chrysenes	13.8	0.558	---	---	---	0.792	---	---
C4-Chrysenes	0.449	0.0172	---	---	---	0.0222	---	---
Benzo(b)fluoranthene	1.15	0.0563	0.024	0.036	0.027	0.0876	ND(0.011)	---
Benzo(k)fluoranthene	0.18	0.0097	ND (0.013)	ND (0.016)	ND (0.014)	0.0178	ND(0.011)	---
Benzo(e)pyrene	1.25	0.0618	---	---	---	0.0789	---	---
Benzo(a)pyrene	2.27	0.104	0.039	0.052	0.043	0.155	ND(0.011)	---
Perylene	0.787	0.0358	---	---	---	0.0481	---	---
Indeno(1,2,3-c,d)pyrene	0.214	0.0186	ND (0.013)	ND (0.016)	ND (0.014)	0.0274	ND(0.011)	---
Dibenzo(a,h)anthracene	0.301	0.0147	ND (0.013)	ND (0.016)	ND (0.014)	0.0191	ND(0.011)	---
Benzo(g,h,i)perylene	0.45	0.0248	ND (0.013)	ND (0.016)	ND (0.014)	0.0325	ND(0.011)	---
2-Methylnaphthalene	0.0021	0.0077	ND (0.013)	ND (0.016)	ND (0.014)	0.0018	ND(0.011)	---
1-Methylnaphthalene	0.005	0.003	---	---	---	0.0016	---	---
2,6-Dimethylnaphthalene	2.5	0.0138	---	---	---	0.0147	---	---
1,6,7-Trimethylnaphthalene	1.49	0.0189	---	---	---	0.0422	---	---
1-Methylphenanthrene	4.58	0.205	---	---	---	0.173	---	---
C29-Hopane	0.463	0.0269	---	---	---	0.0364	---	---
18a-Oleanane	0.107	0.0071	---	---	---	0.0084	---	---
C30-Hopane	0.688	0.039	---	---	---	0.0411	---	---
Comparison to RBTCs								
Total PAH + EPH Fractions	492.98	13.73	139.17	311.16	0.27	21.27	ND	222
Total BaP Equivalents	4.00	0.17	0.05	0.06	0.05	0.25	ND	0.35

Notes:

- Results in milligrams per kilogram (mg/kg).
- ND (X) = constituent not detected above detection limit noted in parentheses.
- BOLD exceeds laboratory detection limits.
- Shaded values exceed applicable standards.
- EPH = Extractable Petroleum Hydrocarbons.
- PAH = Polynuclear Aromatic Hydrocarbons.
- = Constituent not analyzed.
- BaP = Benzo(a)pyrene. Note that concentrations of carcinogenic PAH were converted into units equivalent to BaP to compare to RBTCs

**TABLE 2
SUMMARY OF SEDIMENT SAMPLE ANALYTICAL RESULTS
SHORELINE SEGMENT WIF-02
BARGE B120 SPILL
BUZZARDS BAY, MASSACHUSETTS**

Post-Cleanup Sediment Samples Collected in and Near the "Tire Track" Area					
Sample ID:	HA-01 2'	HA-02 2.5'	HA-03 3'	HA-04 2.5'	Risk-Based Threshold Concentrations
Sample Date:	12/21/2007	12/21/2007	12/21/2007	12/21/2007	
MA DEP EPH					
EPH Fractions					
n-C9 to n-C18 Aliphatic Hydrocarbons	ND (37)	ND (41)	ND (33)	ND (36)	---
n-C19 to n-C36 Aliphatic Hydrocarbons	ND (37)	ND (41)	ND (33)	ND (36)	---
n-C11 to n-C22 Aromatic Hydrocarbons	ND (37)	ND (41)	ND (33)	ND (36)	---
Target PAH Analytes					
Naphthalene	---	---	---	---	---
2-Methylnaphthalene	---	---	---	---	---
Phenanthrene	---	---	---	---	---
Acenaphthene	---	---	---	---	---
Acenaphthylene	---	---	---	---	---
Fluorene	---	---	---	---	---
Anthracene	---	---	---	---	---
Fluoranthene	---	---	---	---	---
Pyrene	---	---	---	---	---
Benzo[a]anthracene	---	---	---	---	---
Chrysene	---	---	---	---	---
Benzo[b]fluoranthene	---	---	---	---	---
Benzo[k]fluoranthene	---	---	---	---	---
Benzo[a]pyrene	---	---	---	---	---
Indeno[1,2,3-c,d]pyrene	---	---	---	---	---
Dibenzo[a,h]anthracene	---	---	---	---	---
Benzo[g,h,i]perylene	---	---	---	---	---
Target PAH Analytes (Low-Level Detection Limits)					
Naphthalene	ND (0.012)	ND (0.014)	ND (0.011)	ND (0.012)	---
C1-Naphthalenes	---	---	---	---	---
C2-Naphthalenes	---	---	---	---	---
C3-Naphthalenes	---	---	---	---	---
C4-Naphthalenes	---	---	---	---	---
Benzo[thiophene]	---	---	---	---	---
C1-Benzo[thiophenes]	---	---	---	---	---
C2-Benzo[thiophenes]	---	---	---	---	---
C3-Benzo[thiophenes]	---	---	---	---	---
Biphenyl	---	---	---	---	---
Acenaphthylene	ND (0.012)	ND (0.014)	ND (0.011)	ND (0.012)	---
Acenaphthene	ND (0.012)	ND (0.014)	ND (0.011)	ND (0.012)	---
Dibenzofuran	---	---	---	---	---
Fluorene	ND (0.012)	ND (0.014)	ND (0.011)	ND (0.012)	---
C1-Fluorenes	---	---	---	---	---
C2-Fluorenes	---	---	---	---	---
C3-Fluorenes	---	---	---	---	---
Carbazole	---	---	---	---	---
Anthracene	ND (0.012)	ND (0.014)	ND (0.011)	ND (0.012)	---
Phenanthrene	ND (0.012)	ND (0.014)	ND (0.011)	0.021	---
C1-Phenanthrene/Anthracenes	---	---	---	---	---
C2-Phenanthrene/Anthracenes	---	---	---	---	---
C3-Phenanthrene/Anthracenes	---	---	---	---	---
C4-Phenanthrene/Anthracenes	---	---	---	---	---
Dibenzothiophene	---	---	---	---	---
C1-Dibenzothiophenes	---	---	---	---	---
C2-Dibenzothiophenes	---	---	---	---	---
C3-Dibenzothiophenes	---	---	---	---	---
Fluoranthene	ND (0.012)	ND (0.014)	ND (0.011)	0.025	---
Pyrene	ND (0.012)	ND (0.014)	ND (0.011)	0.025	---
C1-Fluoranthenes/Pyrenes	---	---	---	---	---
C2-Fluoranthenes/Pyrenes	---	---	---	---	---
C3-Fluoranthenes/Pyrenes	---	---	---	---	---
Naphthobenzothiophene	---	---	---	---	---
C1-Naphthobenzothiophenes	---	---	---	---	---
C2-Naphthobenzothiophenes	---	---	---	---	---
C3-Naphthobenzothiophenes	---	---	---	---	---
Benz(a)anthracene	ND (0.012)	ND (0.014)	ND (0.011)	0.013	---
Chrysene	ND (0.012)	ND (0.014)	ND (0.011)	ND (0.012)	---
C1-Chrysenes	---	---	---	---	---
C2-Chrysenes	---	---	---	---	---
C3-Chrysenes	---	---	---	---	---
C4-Chrysenes	---	---	---	---	---
Benzo(b)fluoranthene	ND (0.012)	ND (0.014)	ND (0.011)	0.013	---
Benzo(k)fluoranthene	ND (0.012)	ND (0.014)	ND (0.011)	ND (0.012)	---
Benzo(e)pyrene	---	---	---	---	---
Benzo(a)pyrene	ND (0.012)	ND (0.014)	ND (0.011)	ND (0.012)	---
Perylene	---	---	---	---	---
Indeno(1,2,3-c,d)pyrene	ND (0.012)	ND (0.014)	ND (0.011)	ND (0.012)	---
Dibenzo(a,h)anthracene	ND (0.012)	ND (0.014)	ND (0.011)	ND (0.012)	---
Benzo(g,h,i)perylene	ND (0.012)	ND (0.014)	ND (0.011)	ND (0.012)	---
2-Methylnaphthalene	ND (0.012)	ND (0.014)	ND (0.011)	ND (0.012)	---
1-Methylnaphthalene	---	---	---	---	---
2,6-Dimethylnaphthalene	---	---	---	---	---
1,6,7-Trimethylnaphthalene	---	---	---	---	---
1-Methylphenanthrene	---	---	---	---	---
C29-Hopane	---	---	---	---	---
18a-Oleanane	---	---	---	---	---
C30-Hopane	---	---	---	---	---
Comparison to RBTCs					
Total PAH + EPH Fractions	ND	ND	ND	0.10	222
Total BaP Equivalents	ND	ND	ND	0.00	0.35

Notes:

1. Results in milligrams per kilogram (mg/kg).
2. ND (X) = constituent not detected above detection limit noted in parentheses.
3. BOLD exceeds laboratory detection limits.
4. SHAD values exceed applicable standards.
5. EPH = Extractable Petroleum Hydrocarbons.
6. PAH = Polynuclear Aromatic Hydrocarbons.
7. --- = Constituent not analyzed.
8. BaP = Benzo(a)pyrene. Note that concentrations of carcinogenic PAH were converted into units equivalent to BaP to compare to RBTCs

TABLE 3
SUMMARY OF SEDIMENT SAMPLE ANALYTICAL RESULTS
SHORELINE SEGMENT W1F-02
BARGE B120 SPILL
BUZZARDS BAY, MASSACHUSETTS

Sample ID: Sample Date:	Brandt Island Road 1 10/26/2007	Brandt Island Road 2 10/26/2007	MA S-1/GW-1 Risk Characterization Standard	MA S-1/GW-2 Risk Characterization Standard	MA S-1/GW-3 Risk Characterization Standard
MA DEP EPH					
EPH Fractions					
n-C9 to n-C18 Aliphatic Hydrocarbons	ND(32)	ND(33)	1,000	1,000	1,000
n-C19 to n-C36 Aliphatic Hydrocarbons	ND(32)	ND(33)	2,500	2,500	2,500
n-C11 to n-C22 Aromatic Hydrocarbons	ND(32)	ND(33)	200	800	800
USEPA 8270C Modified Target PAH Analytes					
Naphthalene	ND(0.011)	ND(0.011)	4	40	500
2-Methylnaphthalene	ND(0.011)	ND(0.011)	4	500	500
Acenaphthylene	ND(0.011)	ND(0.011)	100	100	100
Acenaphthene	ND(0.011)	ND(0.011)	20	1,000	1,000
Fluorene	ND(0.011)	ND(0.011)	400	1,000	1,000
Phenanthrene	0.076	ND(0.011)	700	1,000	100
Anthracene	0.011	ND(0.011)	1,000	1,000	1,000
Fluoranthene	0.170	0.023	1,000	1,000	1,000
Pyrene	0.140	0.023	1,000	1,000	1,000
Benzo[a]anthracene	0.063	0.012	7	7	7
Chrysene	0.078	0.015	7	7	7
Benzo[b]fluoranthene	0.130	0.026	7	7	7
Benzo[k]fluoranthene	0.042	ND(0.011)	70	70	70
Benzo[a]pyrene	0.800	0.015	2	2	2
Indeno[1,2,3-c,d]pyrene	0.058	0.012	7	7	7
Dibenzo[a,h]anthracene	0.020	ND(0.011)	0.7	0.7	0.7
Benzo[g,h,i]perylene	0.053	0.011	1,000	1,000	1,000

Notes:

1. Results in milligrams per kilogram (mg/kg).
2. ND (X) = constituent not detected at practical quantitation limits noted in parentheses.
3. BOLD exceeds laboratory detection limits.
4. EPH = Extractable Petroleum Hydrocarbons.
5. PAH = Polynuclear Aromatic Hydrocarbons.
6. --- = Constituent not analyzed.
7. USEPA = United States Environmental Protection Agency.
8. NOAA = National Oceanic and Atmospheric Administration.

TABLE 4
SUMMARY OF TRENCH/TEST PIT OBSERVATIONS - COBBLE BEACH
SHORELINE SEGMENT W1F-02
BARGE B120 SPILL
BUZZARDS BAY, MASSACHUSETTS

Trench/Test Pit ID	Date	Observation Location ID	Field Observations
T1	9/10/2007	---	No evidence of oil observed in trench.
T2	9/10/2007	---	Four small (less than 1/8-inch diameter) particles ("flecks") and six sheens on water
T3	9/10/2007	---	Greater than 50 sheens observed, variable in area (generally 1.2-inch diameter or less) and faint.
T4	9/10/2007	---	No evidence of oil observed in trench.
T5	9/10/2007	---	Four sheens.
T6	9/10/2007	---	Observed approximately 75 to 100 sheens (100 to 150 sheens after sidewall collapse).
T7	9/10/2007	---	Three minor sheens.
T8	9/10/2007	---	Approximately 25 to 50 faint sheens.
T9	9/10/2007	---	Fewer than 10 faint sheens.
T10	9/10/2007	---	Approximately 25 to 50 faint sheens.
T11	9/10/2007	---	Observed one fleck (approximately 1 cm diameter) and fewer than five sheens.
T12	9/10/2007	---	Oily sediment observed on west side of trench and continuous sheen on water around oily sediment. Removed approximately 1.25 bucket of oily sediment.
T12	9/12/2007	25	A small test pit was dug at this location to investigate a sheen observed two days earlier at the water's edge. A small pocket of oily sand was observed in the test pit, and was removed and placed in a 5-gallon bucket.
T13	9/11/2007	1	Six-inch cobble with tar-like substance adhered to it. Tar was crumbly and did not leave residue on fingers. Sheen was visible on the wet cobble in some spots.
T13	9/11/2007	2	Dime-size black tar ball.
T13	9/11/2007	3	Three-inch thick, two-inch diameter layer of black sediment resembling ash or finely ground wood coal. The black sediment did not produce a sheen in clean water, did not have a noticeable petroleum odor, and washed off easily in water without leaving a residue.
T13	9/11/2007	4	Water begins coming into trench in this area, and flows down through the trench into the ocean.
T14	9/11/2007	5	Ash with oil, sand, and trace gravel. Petroleum odor, sheen, oily appearance present, and oil residue adhered to hands in small (one-quarter-inch) spots. Approximately 2.5 gallons of sediment surrounding the observed oil were removed and placed in a 5-gallon bucket.
T14	9/11/2007	6	Sand and ash with oil. Appeared to be very similar to conditions observed at location No. 5. Approximately 1.25 gallons of sediment surrounding the observed oil were removed and placed in a 5-gallon bucket.
T14	9/11/2007	7	Fine sand with traces of oil. Produced sheen but did not leave residue on hands.
T14	9/11/2007	General Note	Ground water coming into test pit within an area between 14 and 22 feet from the water's side of the test pit had some limited sheening.
T14	9/11/2007	11	Peat starts here, and continues uphill to the top of the trench. The trench depth was limited to avoid disturbing the peat.
T15		8	Fine sand and ash with some oil which produced a sheen, had an oily appearance, and left an oil residue on hands.
T15	9/11/2007	9	Water with sheen coming out of peat on bottom of trench.
T15	9/11/2007	10	Peat starts here, and continues uphill to the top of the trench. The trench depth was limited to avoid disturbing the peat.
T15	9/11/2007	12	Dime-sized tar ball present. Removed tar ball and placed it in a 5-gallon bucket.
T15	9/11/2007	General Note	Observed very slight sheening.
T16	9/11/2007	13	Black medium to coarse sand with some cobbles with black spots. No sheen, no odor.
T16	9/11/2007	14	Black medium to coarse soil similar to sediment observed at location No. 13. No sheen, no odor, will not come off on hands.
T16	9/11/2007	15	Encountered peat at approximately 10 inches, and limited depth of test pit to avoid disturbing peat.
T16	9/11/2007	16	Encountered peat at approximately 5 inches, and limited depth of test pit to avoid disturbing peat.
T16	9/11/2007	General Note	Observed very slight sheening, but less sheening than in test pit T15.
T17	9/11/2007	17	Black sediment present. No oil observed. Slight sheen observed on water in trench.
T17	9/11/2007	20A	Oiled 4-inch cobble observed in trench. Oil came off on hand. No other evidence of oil in trench.
T18	9/11/2007	18	Black soil and sheen on water.
T18	9/11/2007	19	Sheen on water in pit.
T19	9/11/2007	20	Area of black sediment observed which appeared to be approximately 2 to 3 feet in diameter and 8 inches deep. The black sediment did not produce a sheen in clean water, and did not come off on hands.
T19	9/11/2007	General Note	A very slight sheen was observed on water in trench T19 consisting of a few slivers of rainbow-colored areas approximately 1 mm wide and 2.5 cm long.
T20	9/12/2007	20B	Black fine to coarse sand. No petroleum odor, does not come off on hands.
T20	9/12/2007	---	Just one sheen
T20	9/12/2007	General Note	Some sheening (less than 25 sheens) visible on water in trench T20.
T21	9/12/2007	21	Some black sediment. No petroleum odor, however one fleck was observed floating on water.
T21	9/12/2007	---	Sheen with occasional pinhead-size flecks
T22	9/12/2007	22	Two oiled cobbles observed in the south end of the trench were removed and placed in a 5-gallon bucket. The trench was then extended 2 feet farther into the ocean to look for more signs of oil.
T22	9/12/2007	23	Encountered a pocket of oily coarse sand. Petroleum odor was present, oil came off on hands; flecks and sheen were visible on water in the trench.
T22	9/12/2007	24	A few sheens were present on water in the trench.
T22	9/12/2007	---	Floating oil globules up to approximately 1-inch diameter (removed)
T23	9/12/2007	26	Six-inch diameter area with oily coarse sand and gravel. Removed approximately 2 gallons of soil from the area. More than 100 sheens were visible and flecks were floating on water in the trench.
T23	9/12/2007	---	Found and removed approximately 1/3 bucket of oily sediment. Greater than 50 sheen after removing sediment and greater than 100 sheen and flecks approximately 1-2mm diameter after trench was allowed to stand open.
T24	9/12/2007	General Note	Some sheens (less than 10) observed on water in trench.
T24	9/12/2007	---	Observed 9 sheen and 2 flecks 2 mm diameter.
T25	9/12/2007	General Note	No evidence of oil observed in trench.
T25	9/12/2007	---	Observed approximately 20 flecks 1 mm diameter and one 1/4-inch diameter fleck (removed) Approximately 10 sheen 1-inch diameter.
T26	9/12/2007	28	Flecks observed on water in trench.
T26	9/12/2007	---	Observed 7 flecks 1-2 mm diameter in same location (suspected to be part of one larger particle originally) and two areas of sheen approximately 1-inch diameter.
T27	9/12/2007	27	Black sediment present in trench. No petroleum odor, no sheens, and no oil came off on hands.
T27	9/12/2007	---	Fewer than 10 small (<1 mm diameter) flecks, no sheen.
T28	9/12/2007	---	One oil "streamer" (composed of approximately 50 flecks) 1/2-inch wide and 7-inches long. Sheen around "streamer."
T29	9/12/2007	30	Sheen visible on water in trench.
T29	9/12/2007	---	No evidence of oil observed in trench. Organic sediment present.
T30	9/12/2007	29	Some sheens (10 to 20 sheens) and 5 to 10 flecks visible on water in trench T30
T30	9/12/2007	---	Very peat-rich soil. Flecks and sheen not observed at this time (flecks and sheen were observed in this trench earlier in the day)
T31	9/12/2007	General Note	Sheens (25 to 50) and flecks (10 to 20) visible on water.
T32	9/12/2007	---	No evidence of oil observed in trench.
T33	9/12/2007	---	No evidence of oil observed in trench.
T34	9/12/2007	---	Approximately 20 flecks ranging from 1 mm to 3/8-inch diameter. Sheen on water.
T34	9/12/2007	31	Observed 5 to 10 flecks with diameter of approximately 2 mm to 1 cm.
Test pit for cable #1	9/12/2007	---	No evidence of oil observed in trench.
Test pit for cable #2	9/12/2007	---	Observed and removed one 1/4-inch diameter and two smaller (1 mm) size flecks.

Notes:

1. --- = Specific location not recorded.
2. Shaded entries indicate areas which are candidates for further removal actions.

TABLE 5
SUMMARY OF TRENCH/TEST PIT OBSERVATIONS - NEAR CHANNEL AND FRINGING MARSH
SHORELINE SEGMENT W1F-02
BARGE B120 SPILL
BUZZARDS BAY, MASSACHUSETTS

Trench ID	Date	Observation Location ID	Field Observations
T1	9/13/2007	34	Oily sand and gravel.
T1	9/13/2007	35	Oily sand and gravel.
T2	9/13/2007	32	Oily sand and gravel.
T2	9/13/2007	33	Oily sand and gravel.
T3	9/13/2007	---	Two sheens about 1-inch diameter and one pinhead fleck observed when trench was excavated, but both the sheen and the fleck disappeared when the trench was allowed to stand.
T4	9/13/2007	---	No evidence of oil observed in trench.
T5	9/13/2007	---	No evidence of oil observed in trench.
T6	9/13/2007	---	No evidence of oil observed in trench.
T7	9/13/2007	---	No evidence of oil observed in trench.
T8	9/13/2007	---	No evidence of oil observed in trench.
T9	9/13/2007	---	No evidence of oil observed in trench.
T10	9/13/2007	---	No evidence of oil observed in trench.
T11	9/13/2007	---	No evidence of oil observed in trench.
T12	9/13/2007	---	No evidence of oil observed in trench.
T13	9/13/2007	---	No evidence of oil observed in trench.
T14	9/13/2007	---	No evidence of oil observed in trench.
T15	9/13/2007	---	No evidence of oil observed in trench.
T16	9/13/2007	---	No evidence of oil observed in trench.
T17	9/13/2007	---	No evidence of oil observed in trench.

Notes:

1. --- = Specific location not recorded.
2. Shaded entries indicate areas which are candidates for further removal actions.