



**BOUCHARD B120 RELEASE
SHORELINE SEGMENT SUMMARY**

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GeoInsight Project Number 3871-002

SEGMENT IDENTIFICATION: **W1D-04**

SEGMENT NAME: **Holly Woods/ Peases Point**

SEGMENT LOCATION: **Mattapoissett, Massachusetts** (*Map attached*)

MAXIMUM DEGREE OF INITIAL OILING: Moderate (Oiling Score: 2.23)

SEGMENT INSPECTION STATUS: Passed IRAC inspection on 06/26/2003.

SITE-SPECIFIC INFORMATION

PHYSICAL CHARACTERISTICS:

Primary Shoreline Type/ Geology:

- 1D: Rip rap seawalls, bulkheads, piers, docks, and pilings.

Secondary Shoreline Type/ Geology:

- 1B: Less utilized semi-public and private sand beaches; and
- 1C: Mixed sand and gravel (pebble to boulder) and rip rap groins (jetties).

Hydrogeology:

- Hillers Cove is located to the north, Fresh Pond Cove to the southwest, and Buzzards Bay to the south and southeast.

Bedrock Geology:

- Bedrock underlying this segment is identified as undivided granite, gneiss, and schist (Zen, 1983).

ENVIRONMENTAL SENSITIVE RECEPTORS (Identified within 500 feet of segment):

Aquifer: None at segment.

Protected Open Space: None at segment.

Public Ground Water Supply Wells: None at segment.

Public Surface Water Supply Wells: None at segment.

Areas of Critical Environmental Concern (ACEC): None at segment.

Vernal Pools: None at segment.

Priority Habitats of Rare Species: Adjacent to segment: Buzzards Bay aquatic environment.

Estimated Habitats of Rare Wildlife: Adjacent to segment: Buzzards Bay aquatic environment.

Floodplains: At segment: 100-year floodplain.

HUMAN SENSITIVE RECEPTORS (Identified within 500 feet of segment):

Segment Use: Private and semi-public beach and marsh. Residential dwellings are located within 500 feet of the segment. A portion of the segment is accessible via roadway.

Frequency of Use: Presumably seasonal and year round residential use.

SUMMARY OF INSPECTION ACTIVITIES

WRF INSPECTIONS

(Wildlife Field Reconnaissance- Shoreline or On-Water Observations; Bird Transect Study.)

DATE	SUMMARY OF INFORMATION RECORDED BY INSPECTION TEAM
05/10/2003	Sporadic patches of oil were observed on beach area. Twenty-nine individual birds (14 different species) were observed. Dead or oiled birds were not observed.
05/13/2003	Sporadic patches of oil were observed on beach area. Fifteen individual birds (8 different species) were observed. Dead or oiled birds were not observed.
06/03/2003	North part of segment inspected from N41°39.167' W70°45.403' and N41°39.795' W70°45.636'. Eleven individual birds (6 different species) were observed. Three birds were oiled. Dead birds were not observed.

NRDA FIELD ACTIVITIES SUMMARY

(Natural Resource Damage Assessment)

Note: Includes Shoreline Cleanup Assessment Team (SCAT) inspections and activities. SCAT forms were completed by field inspection teams working under the direction of Unified Command.

DATE	SUMMARY OF INFORMATION RECORDED BY INSPECTION TEAM
05/16/2003	Moderate oiling conditions were observed near Pease's Point. Cleanup crew was on-site during the inspection.
05/31/2003	Some splatter observed along granite seawall. Tarballs and tar patties found mixed with and stuck to shells, including some buried shells approximately 2 inches in marsh sediment. Sheen was observed in tidal pools. The surface oil coverage was approximately 1% to 10%. Additional cleanup activities were warranted.
06/04/2003	Some splatter observed along granite seawall and jetties. A few small tarballs and tar patties (approximately 2 to 3 inches in diameter), and an area of pavement (approximately 10 inches in diameter) were observed near the seawall. Light staining on vegetation was observed east of Pease's Point. Cleanup crew was on-site during the inspection.

IRAC INSPECTIONS

(Unified Command Immediate Response Action Completion inspections and activities.)

DATE	SUMMARY OF INFORMATION RECORDED BY INSPECTION TEAM
06/25/2003	Trace splatter observed across the majority of the segment. A heavy concentration of splatter was observed near the Pease's Point. The segment did not meet IRAC criteria endpoints and further treatment was feasible. Additional cleanup activities were warranted.
06/26/2003	Cleanup crew was on-site during the inspection. Segment met IRAC criteria endpoints.

MCP FIELD ACTIVITIES SUMMARY

(Massachusetts Contingency Plan inspections and activities under the direction of the Licensed Site Professional-of-Record.)

DATE	SUMMARY OF INFORMATION RECORDED BY INSPECTION TEAM
01/22/2004	Phase I characterization activities: Evidence of oil was not observed. Intertidal sediment samples were collected from three sample locations (centered around N41°40.679' W70°45.767', N41°40.787' W70°45.609', and N41°40.772' W70°45.303', respectively) in the intertidal zone. Four samples were collected from the first two locations in the upper intertidal zone (W1D04-UIT-01 and W1D04-UIT-02) and from the lower intertidal zone (W1D-LIT-1 and W1D04-LIT-02). The samples from the first and second location were centered around N41°39.176' W70°45.482' and N41°39.161' W70°45.404', respectively. At the third location, three samples were collected from the upper intertidal zone (W1D04-UIT-03), middle intertidal zone (W1D04-MID-03), and from the lower intertidal zone (W1D04-LIT-03), and were centered around N41°39.425' W70°45.461'. Each sample consisted of three grab samples collected approximately 30 feet apart and parallel to the shoreline and were composited in a laboratory. The composite samples were analyzed for EPH fractions and PAH by 8270C/SIM analysis.
07/17/2004	IRA Citizen Report of Oil: A resident in Mattapoisett called GeoInsight to report possible residual B120 oil on the shoreline.
07/18/2004	IRA Citizen Call Field Response: GeoInsight visited the location of reported oil. Tacky (liquid-like) tar patties (approximately 1 to 5 inches in diameter) observed on the surface and partially buried in the sandy beach in the upper intertidal zone and weathered tar patties were observed in the supratidal zone. Due to the high tide at the time of inspection, the visibility of the petroleum-impacted area was limited.
07/19/2004	IRA Citizen Call Field Response: GeoInsight and Gallagher Marine visited the location of reported oil. The surficial tacky tar patties were removed from the sandy beach in the upper intertidal zone, and several test pits were excavated in the vicinity to determine the extent of buried oil in the localized area. The minimum extent of buried oil in the sandy beach was found to be in an area approximately 70 by 40 feet, and ranging 6 to 12 inches deep. Pavement (approximately 40 by 4 foot area) was observed along the edge of an eroding fringe marsh in the lower intertidal zone, and the pavement was creating some sheening. Tarballs and tar patties (approximately 1 to 6 inches in diameter) were sporadically found and removed within the segment borders, primarily from the shoreline marsh grass. Areas of concern were marked with GPS coordinates and flagged. Oil samples from both the sandy beach and marsh were collected and submitted for fingerprint analysis.
08/31/2004	IRA Citizen Call Field Response: GeoInsight and MADEP on-site. Two liquid oil patches (approximately 4 and 6 inches in diameter) were removed in the upper intertidal zone, and MADEP was shown the extent of pavement located on the shoreline fringe marsh. MADEP indicated that cleanup was conducted at this location in the summer of 2003 to remove non-B120 oil. This oiled area was later determined to be attributed to a different spill not related to the B120 oil release.

Notes:

1. EPH = Extractable Petroleum Hydrocarbons.
2. PAH = Polynuclear Aromatic Hydrocarbons.
3. SIM = Selected Ion Monitoring.
4. MADEP = Massachusetts Department of Environmental Protection.

TABLE 1
SAMPLE SUMMARY
BUZZARDS BAY, MASSACHUSETTS
SEGMENT: WID-04
Holly Woods/Peases Point, Mattapoisett

Sample ID	Date Collected	Matrix	Analysis	Laboratory	Sampling Program	Sample Location Coordinates		Sample Location Description	Comments	
						Latitude	Longitude			
PP-SED-UI-01	5/7/2003	Sediment	PAH , TPH, TOC EPH	B&B GAI	NRDA Pre- Assessment	N41°39.150'	W70°45.402'	Upper intertidal Zone	Composite Samples	
PP-SED-LI-01								Lower intertidal Zone		
W1D-04-UIT-01	1/22/2004	Sediment	PAH EPH	GAI	MCP- Phase I Site Assessment	N41°39.176'	W70°45.482'	Upper intertidal Zone	Composite Samples	
W1D-04-LIT-01								Lower intertidal Zone		
W1D-04-UIT-02								Upper intertidal Zone		
W1D-04-LIT-02								Lower intertidal Zone		
W1D-04-UIT-03								Upper intertidal Zone		
W1D-04-MID-03								Mid-Intertidal Zone		
W1D-04-LIT-03								Lower intertidal Zone		
DDD2-UIT-03								Upper intertidal Zone		Composite Samples (Duplicate:W1D-04- UIT-3, MID-03, LIT- 03)
DDD2-MID-03								Mid-Intertidal Zone		
DDD2-LIT-03								Lower intertidal Zone		

NOTES:

1. B&B: B&B Laboratories.
2. GAI: Groundwater Analytical, Inc.

TABLE 2
SUMMARY OF ANALYTICAL RESULTS
BUZZARDS BAY, MASSACHUSETTS
SEGMENT: W1D-04
Holly Woods/Peases Point, Mattapoisett

Analyte	PP-SED-UI-01	PP-SED-LI-01	WID04-UIT-01	WID04-LIT-01	WID04-UIT-02	WID04-LIT-02	MCP Method 1 Standards			Effects Range-Low Benchmarks Marine Sediments
	Upper Intertidal Sediment	Lower Intertidal Sediment	Upper Intertidal Sediment	Lower Intertidal Sediment	Upper Intertidal Sediment	Lower Intertidal Sediment	S-1 / GW-1	S-1 / GW-2	S-1 / GW-3	
	5/7/2003	5/7/2003	1/22/2004	1/22/2004	1/22/2004	1/22/2004				ER-L
EPH										
C ₉ -C ₁₈ Aliphatic Hydrocarbons	ND(32)	ND(36)	ND(34)	ND(34)	ND(33)	ND(32)	1,000	1,000	1,000	NA
C ₁₉ -C ₃₆ Aliphatic Hydrocarbons	ND(32)	ND(36)	ND(34)	ND(34)	ND(33)	ND(32)	2,500	2,500	2,500	NA
C ₁₁ -C ₂₂ Aromatic Hydrocarbons	ND(32)	ND(36)	ND(34)	ND(34)	ND(33)	ND(32)	200	800	800	NA
PAH by GC/MS-SIM by method 8270C										
Naphthalene	0.00120	0.0014	0.008 j	0.008 j	0.007 j	0.009 j	4	40	500	0.160
2-Methylnaphthalene	0.0006	0.0005	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	4	500	500	0.070
Acenaphthylene	0.0006	0.0007	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	100	100	100	0.044
Acenaphthene	0.0004	0.0004	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	20	1,000	1,000	0.016
Fluorene	0.0005	0.0007	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	400	1,000	1,000	0.019
Phenanthrene	0.0047	0.0040	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	700	1,000	100	0.240
Anthracene	0.0011	0.0042	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	1,000	1,000	1,000	0.085
Fluoranthene	0.0068	0.0078	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	1,000	1,000	1,000	0.600
Pyrene	0.0077	0.0085	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	1,000	1,000	1,000	0.665
Benzo(a)anthracene	0.0034	0.0040	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	7	7	7	0.261
Chrysene	0.0075	0.0061	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	7	7	7	0.384
Benzo(b)fluoranthene	0.0047	0.0036	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	7	7	7	NA
Benzo(k)fluoranthene	0.0028	0.0021	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	70	70	70	NA
Benzo(a)pyrene	0.0035	0.0031	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	2	2	2	0.430
Indeno(1,2,3-cd)pyrene	0.0036	0.0028	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	7	7	7	NA
Dibenzo(a,h)anthracene	0.0006	0.0006	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	0.7	0.7	0.7	0.063
Benzo(g,h,i)perylene	0.0026	0.0022	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	1,000	1,000	1,000	NA
Total Organic Carbon (%)	0.53	0.20	NS	NS	NS	NS	NA	NA	NA	NA
Total Petroleum Hydrocarbons	11	19	NS	NS	NS	NS	200	800	800	NA

NOTES:

1. Results in mg/Kg (milligrams per kilogram).
2. EPH: Extractable Petroleum Hydrocarbons.
3. ND(x): Constituent not detected at practical quantitation limits (PQL) noted in parentheses.
4. PAH by GC/MS-SIM: Polynuclear Aromatic Hydrocarbon analysis by Gas Chromatography/Mass Spectrometry with Selected Ion Monitoring.
5. j: Estimated concentration/ detected below standard laboratory reporting limits.
6. Bold values exceed laboratory PQL.
7. ER-L: Effects Range Low (Long and Morgan 1991).
8. NA: Not Applicable.
9. MCP: Massachusetts Contingency Plan.
10. NS: Not Sampled.

TABLE 2 (continued)
SUMMARY OF ANALYTICAL RESULTS
BUZZARDS BAY, MASSACHUSETTS
SEGMENT: W1D-04
Holly Woods/Peases Point, Mattapoisett

Analyte	WID04-UIT-03	WID04-MID-03	WID04-LIT-03	DDD2-UIT-03	DDD2-MID-03	DDD2-LIT-03	MCP Method 1 Standards			Effects Range-Low Benchmarks Marine Sediments
	Upper Intertidal Sediment	Middle Intertidal Sediment	Lower Intertidal Sediment	Upper Intertidal Sediment	Middle Intertidal Sediment	Lower Intertidal Sediment				
	1/22/2004	1/22/2004	1/22/2004	1/22/2004	1/22/2004	1/22/2004	S-1 / GW-1	S-1 / GW-2	S-1 / GW-3	ER-L
EPH										
C ₉ -C ₁₈ Aliphatic Hydrocarbons	ND(33)	ND(33)	ND(32)	ND(33)	ND(33)	ND(33)	1,000	1,000	1,000	NA
C ₁₉ -C ₃₆ Aliphatic Hydrocarbons	ND(33)	ND(33)	ND(32)	ND(33)	ND(33)	ND(33)	2,500	2,500	2,500	NA
C ₁₁ -C ₂₂ Aromatic Hydrocarbons	ND(33)	ND(33)	ND(32)	ND(33)	ND(33)	ND(33)	200	800	800	NA
PAH by GC/MS-SIM method 8270C										
Naphthalene	0.008 j	0.008 j	0.008 j	0.010 j	0.011	0.011	4	40	500	0.160
2-Methylnaphthalene	ND(0.011)	ND(0.011)	ND(0.011)	0.007 j	0.007 j	0.007 j	4	500	500	0.070
Acenaphthylene	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	100	100	100	0.044
Acenaphthene	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	20	1,000	1,000	0.016
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Phenanthrene	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	700	1,000	100	0.240
Anthracene	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	1,000	1,000	1,000	0.085
Fluoranthene	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	0.007 j	ND(0.011)	1,000	1,000	1,000	0.600
Pyrene	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	0.006 j	ND(0.011)	1,000	1,000	1,000	0.665
Benzo(a)anthracene	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	7	7	7	0.261
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Benzo(b)fluoranthene	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	7	7	7	NA
Benzo(k)fluoranthene	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	70	70	70	NA
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Benzo(g,h,i)perylene	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	ND(0.011)	1,000	1,000	1,000	NA
Total Organic Carbon (%)	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA
Total Petroleum Hydrocarbons	NS	NS	NS	NS	NS	NS	200	800	800	NA

NOTES:

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W1D-04

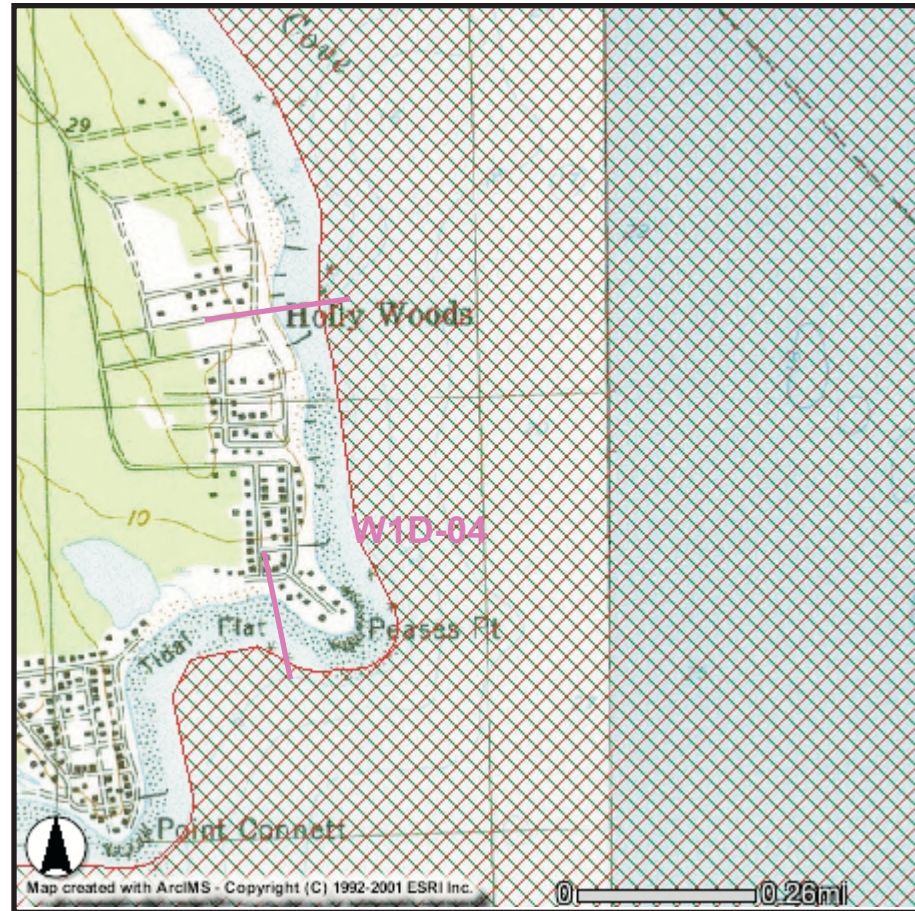


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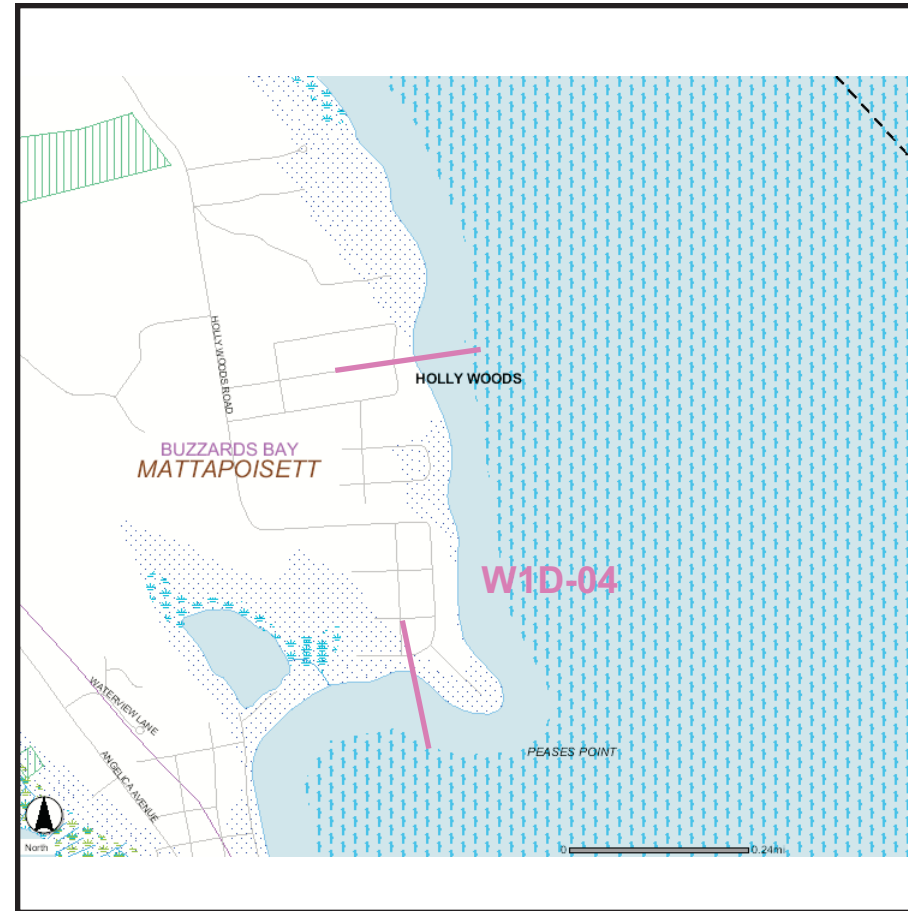


E N T R I X
W1D-04
Holly Woods/Peases Point
Bouchard B No. 120 Oil Spill
Buzzards Bay, MA

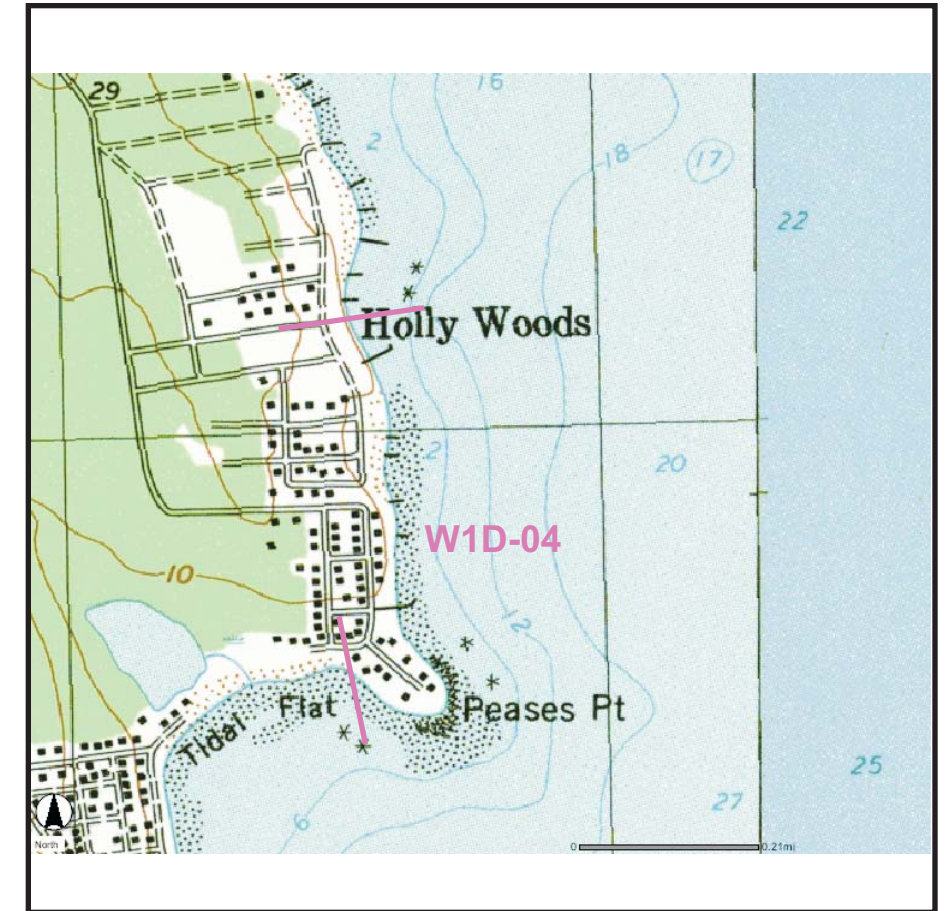
NATURAL HERITAGE AND ENDANGERED SPECIES MAP



2IE PRIORITY RESOURCE MAP



TOPOGRAPHIC MAP











































LEGEND


 NHESP 2005 MA PRIORITY HABITATS FOR STATE-PROTECTED RARE SPECIES

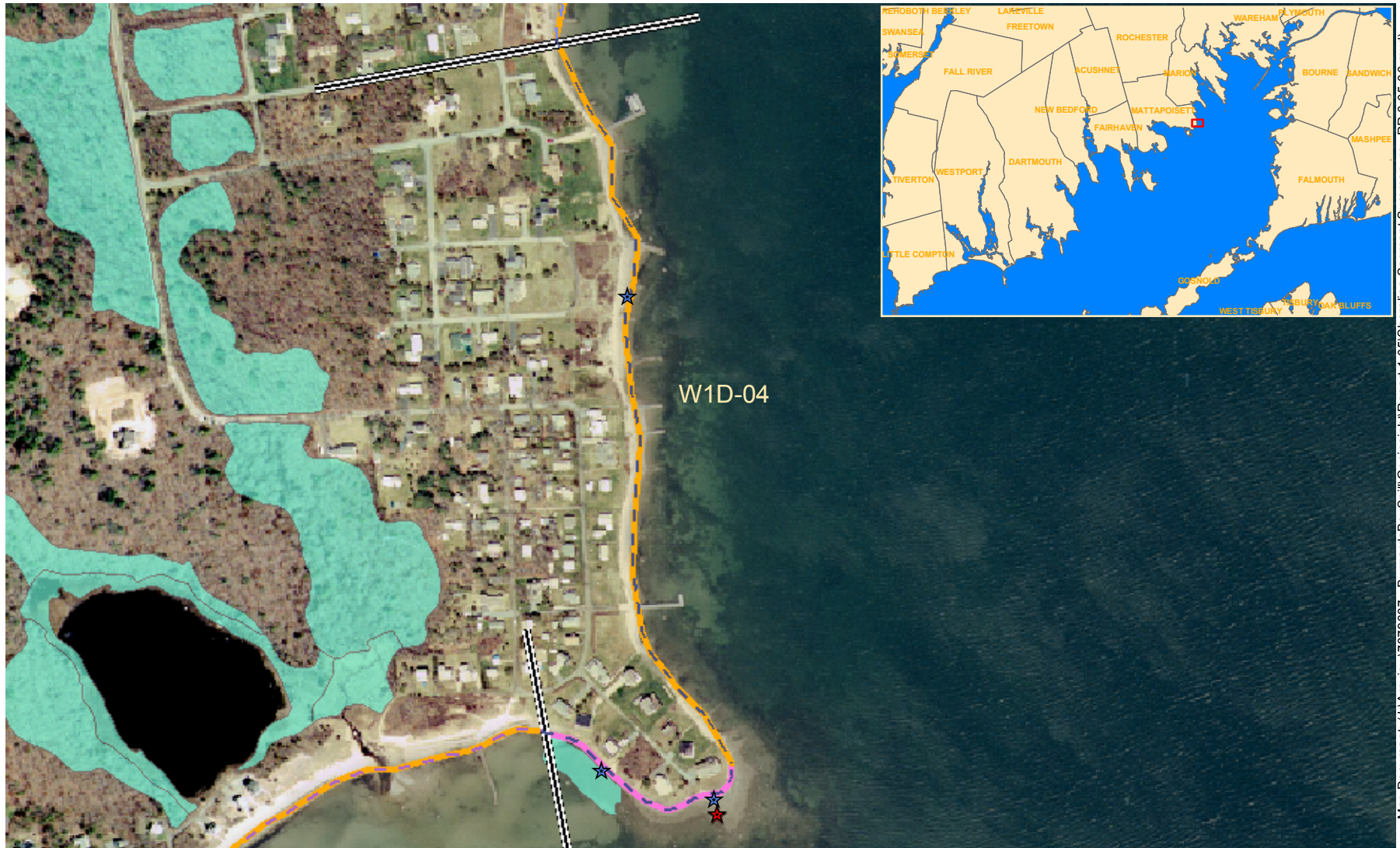
 NHESP 2005 MA ESTIMATED HABITATS OF RARE WILDLIFE

DEP MCP 21e Map Legend

-  Zone IIs
 -  IWPAs
 -  Zone A
 -  Sole Source Aquifers
 -  Solid Waste Sites
 -  Protected Openspace
 -  ACECs
 -  NHESP Estimated Habitat of Rare Wildlife in Wetland Areas
 -  Certified Vernal Pools 2003 NHESP
 -  Subbasins
 -  Mass Major Basins
 -  DEP Region
 - Town Arcs
 - County Boundaries
-  HIGH YIELD
 -  MEDIUM YIELD
 -  Non Potential Drinking Water Source Area
 -  HIGH YIELD
 -  MEDIUM YIELD
 -  FEMA Floodplains
 -  100 YEAR FLOODPLAIN
-  WATER
 -  RESERVOIR
 -  WETLANDS
 -  SALT WATER WETLANDS
 -  FLATS SHOALS
 -  PERENNIAL
 -  INTERMITTENT
 -  SHORELINE
 -  MAN MADE SHORE
 -  DAM
 -  AQUEDUCT
-  LIMITED ACCESS HIGHWAY
 -  MULTILANE HWY, NOT LIMITED ACCESS
 -  OTHER NUMBERED HWY
 -  MAJOR ROAD - COLLECTOR
 -  MINOR STREET OR ROAD, RAMP
 -  TRACK
 -  TRAIL
 -  PIPELINE
 -  POWERLINE
 -  TRAIN



		PROJECT:		
		B120 OIL SPILL		
TITLE:		LOCATION:		
		HOLLY WOODS / PEASES POINT BUZZARDS BAY, MA		
PHASE II SUPPORTING MAPS				
DESIGNED:	DRAWN:	CHECKED:	APPROVED:	FIGURE #:
LAC	JKB	KDT	MJW	
SCALE:	DATE:	FILE:	PROJECT #:	WID-04
AS SHOWN	01/25/06	3871WID-04	3871-002	



W1D-04

Trench Location

- 11/2004
- 10/2004
- 09/2004
- 08/2004
- 07/2004
- 06/2004
- 04/2004
- 03/2004
- 01/2004
- 12/2003
- 11/2003
- 10/2003
- 09/2003

- ✱ Nearshore Subtidal Sediment Sampling Location 2004
- ✱ Deep Subtidal Sediment Sampling Location 2004
- ✱ Subtidal Sediment Sampling Location 2003
- ▲ Qualitative Shellfish Surveys 2004
- ◆ Marsh Sampling Location 2004
- ◆ Marsh Core Sampling Location 2004
- Water Sampling Location 2004
- Water Sampling Location 2003
- ★ Intertidal Sediment Sampling Location 2003
- ★ Intertidal Sediment Sampling Location 2004

- ✱ Shellfish Sampling Location
- ▲ Chain Drag Location 2003
- ▲ Chain Drag Location 2004
- Lobster Pot Sampling Location 2003
- Absorbent Pad Sampling Location 2003
- Dive Sites
- Wetlands
- Nests
- Vernal Pool
- NHESP 2003 Priority Habitats for State-Protected Rare Species

OILING

- NO DATA
- CLEAN
- VERY LIGHT
- LIGHT
- MEDIUM
- HEAVY

IRAC ESI

- Public-Private Sand Beach (1A/1B)
- Mixed Sand and Gravel (1C)
- Marsh (1F)
- Rocky Shoreline (1E)
- Riprap, Groin, Jetty (1D)
- Visual Inspection of Marsh Area

0 250 500 Feet



E N T R I X

W1D-04
Holly Woods/Peases Point,
Mattapoissett
Comprehensive Activities
Bouchard B No. 120 Oil Spill
Buzzards Bay, MA