



**BOUCHARD B120 RELEASE  
SHORELINE SEGMENT SUMMARY**

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GeoInsight Project Number 3871-002

SEGMENT IDENTIFICATION: **W1B-15**

SEGMENT NAME: **Wareham River East Shore**

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

MAXIMUM DEGREE OF INITIAL OILING: Moderate (Oiling Score: 1.80)

SEGMENT INSPECTION STATUS: Passed IRAC inspection on 06/17/2003.

**SITE-SPECIFIC INFORMATION**

**PHYSICAL CHARACTERISTICS:**

Primary Shoreline Type/ Geology:

- 1F: Salt marshes.

Secondary Shoreline Type/ Geology:

- 1B: Less utilized semi-public and private sand beaches;
- 1C: Mixed sand and gravel, gravel (pebble to boulder), and rip rap groins (jetties); and
- 1D: Rip rap seawalls, bulkheads, piers, docks, and pilings.

Hydrogeology:

- Wareham River is located to the west, Crooked River in the center of the segment, Crab Cove is located to the north, and Buzzards Bay to the south. A few portions of the segment are saltwater wetlands.

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: At segment: EPA-designated sole source and MADEP-designated medium yield potentially productive aquifer.

Protected Open Space: 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 beaches and marsh. Residential dwellings are located within 500 feet of the segment. A portion of 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.)

WRF inspections pertaining to this segment were not conducted.

### **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
05/05/2003	Shellfish tissue samples collected and analyzed.
05/12/2003	Evidence of oil was not observed at Parkwood Beach.
05/15/2003	Trace oil coating observed along the estuary and rocky shoreline. Some wrack patties and pea-sized splattering observed near Long Beach Point. Some splatter was observed on cobbles along rip rap seawall adjacent to New Gravel Road.
05/25/2003	Evidence of oil was not observed.
06/09/2003	Shellfish tissue samples collected and analyzed.

### **IRAC INSPECTIONS**

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

DATE	SUMMARY OF INFORMATION RECORDED BY INSPECTION TEAM
06/17/2003	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
09/09/2004	Site reconnaissance: Evidence of oil was not observed.

Note: GeoInsight did not receive IRA citizen calls pertaining to this segment.

**TABLE 1**  
**SAMPLE SUMMARY**  
**BUZZARDS BAY, MASSACHUSETTS**  
**SEGMENT: W1B-15**  
**Wareham River East Shore, Wareham**

Sample ID	Date Collected	Matrix	Analysis	Laboratory	Sampling Program	Sample Location Coordinates		Sample Location Description	Comments
						Latitude	Longitude		
LNGB -QH-1-A and B	5/5/2003	Tissue	PAH	B&B	NRDA Pre-Assessment	N41°43.971'	W70°42.547'	Long Beach Point, North side of Long Beach near Indian Neck - Reference Site	Shellfish - Quahog
LNGB -SS-1-A and B	5/5/2003					N41°43.932'	W70°42.554'		Shellfish - Soft Shell Clam
LNGB -SS-2-A and B	6/9/2003					N41°43.915'	W70°42.562'		Shellfish - Soft Shell Clam

NOTES:

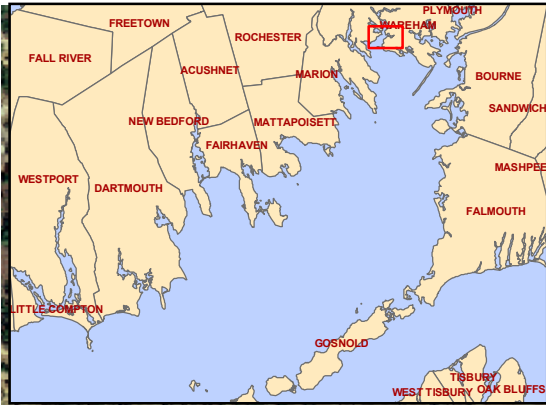
1. B&B: B&B Laboratories.

**TABLE 2**  
**SUMMARY OF ANALYTICAL RESULTS**  
**BUZZARDS BAY, MASSACHUSETTS**  
**SEGMENT: W1B-15**  
**Wareham River East Shore, Wareham**

Analyte	LNGB-QH-1-A and B	LNGB-SS-1-A and B	LNGB-SS-2-A, B, and C
	Quahog	Softshell Clam	Softshell Clam
	5/5/2003	5/5/2003	6/9/2003
<b>PAH by GC/MS-SIM by method 8270C</b>			
Naphthalene	<b>0.0013j</b>	<b>0.0028</b>	<b>0.0042</b>
2-Methylnaphthalene	<b>0.0015</b>	<b>0.0049</b>	<b>0.0029</b>
Acenaphthylene	<b>0.0001j</b>	<b>0.0002j</b>	<b>0.0001j</b>
Acenaphthene	<b>0.0003j</b>	<b>0.0006</b>	<b>0.0005</b>
Fluorene	<b>0.0002j</b>	<b>0.0006</b>	<b>0.0002j</b>
Phenanthrene	<b>0.0018</b>	<b>0.0061</b>	<b>0.0006</b>
Anthracene	<b>0.0001j</b>	<b>0.0002</b>	<b>0.0001j</b>
Fluoranthene	<b>0.0017</b>	<b>0.0056</b>	<b>0.0015j</b>
Pyrene	<b>0.0017</b>	<b>0.0105</b>	<b>0.0016</b>
Benzo(a)anthracene	<b>0.0003j</b>	<b>0.0048</b>	<b>0.0004j</b>
Chrysene	<b>0.0017</b>	<b>0.0165</b>	<b>0.0020</b>
Benzo(b)fluoranthene	<b>0.0005j</b>	<b>0.0027</b>	<b>0.0006j</b>
Benzo(k)fluoranthene	<b>0.0002j</b>	<b>0.0011</b>	<b>0.0007</b>
Benzo(a)pyrene	<b>0.0001j</b>	<b>0.0016</b>	<b>0.0002j</b>
Indeno(1,2,3-c,d)pyrene	<b>0.0001j</b>	<b>0.0006</b>	<b>0.0003j</b>
Dibenzo(a,h)anthracene	ND(0.0004)	<b>0.0002j</b>	<b>0.0001j</b>
Benzo(g,h,i)perylene	<b>0.0001j</b>	<b>0.0009</b>	<b>0.0006</b>
<b>Total PAH</b>	<b>0.0647</b>	<b>0.518</b>	<b>0.0427</b>

NOTES:

1. Results in mg/Kg (milligrams per kilogram).
2. ND(x): Constituent not detected at practical quantitation limits (PQL) noted in parentheses.
3. PAH by GC/MS-SIM: Polynuclear Aromatic Hydrocarbon analysis by Gas Chromatography/Mass Spectrometry with Selected Ion Monitoring.
4. j: Estimated concentration/ detected below standard laboratory reporting limits.
5. Bold values exceed laboratory PQL.



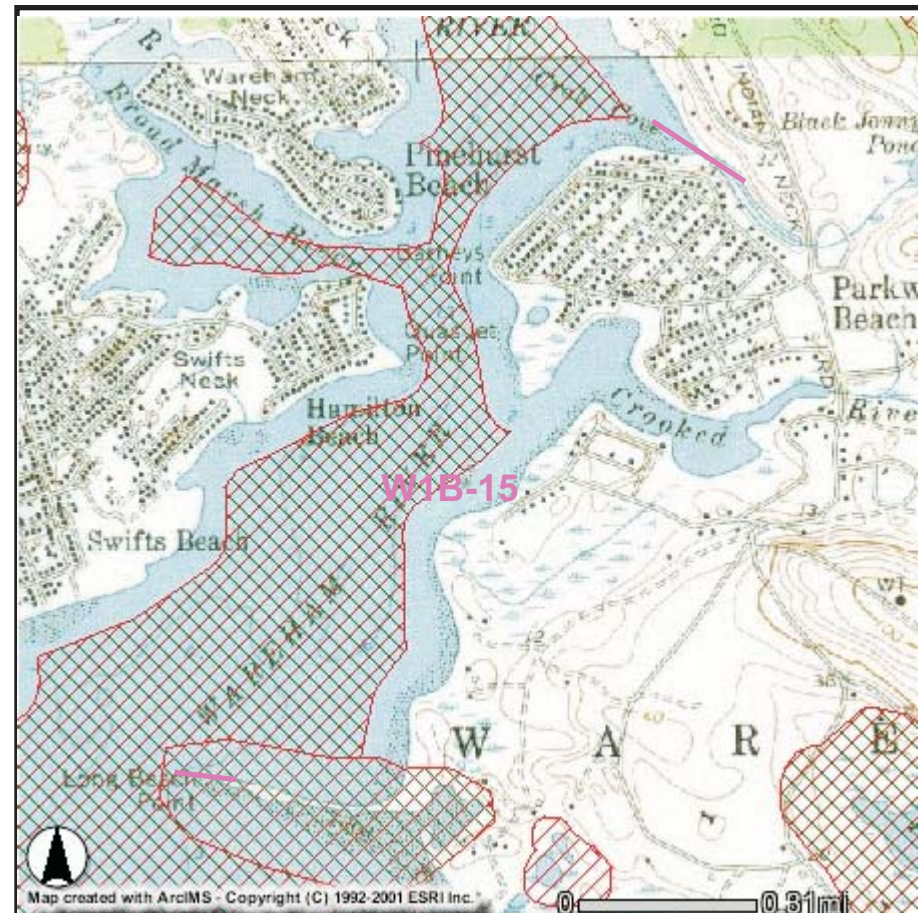
0 500 1,000 2,000 Feet



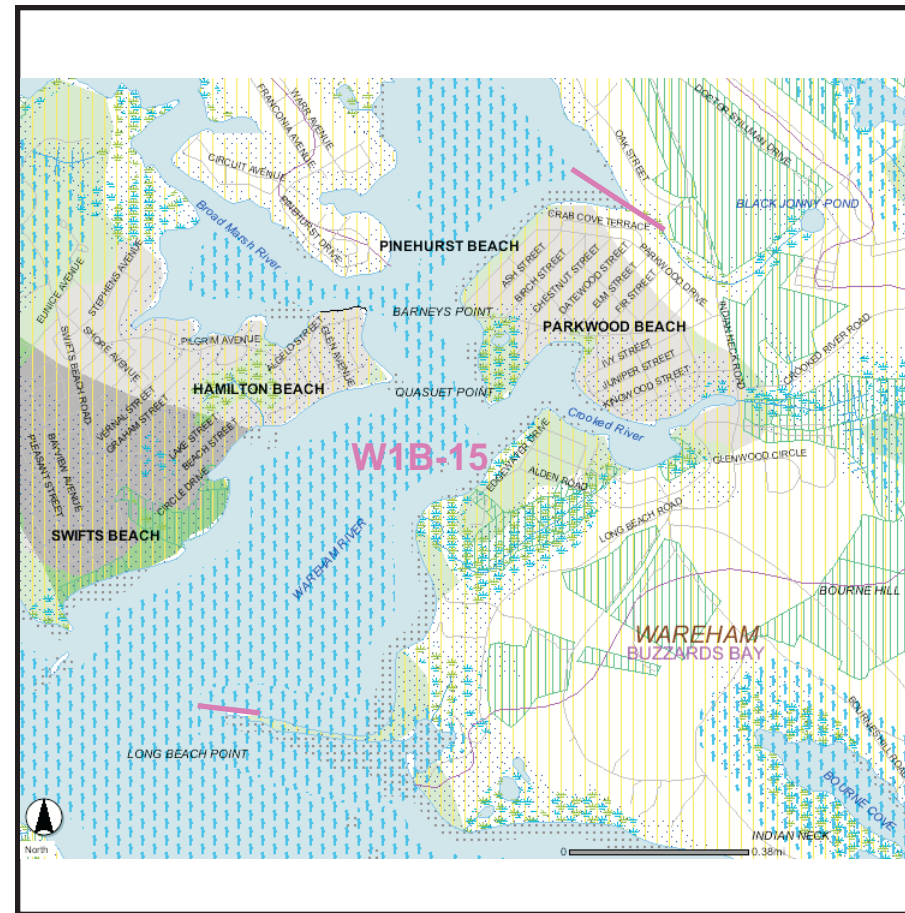
**E N T R I X**

**W1B-15**  
**Wareham River East Shore**  
**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

- |   |   |  |   |
|---|---|--|---|
| <ul style="list-style-type: none"> <li> Zone IIs</li> <li> IWPA's</li> <li> Zone A</li> <li> Sole Source Aquifers</li> <li> Solid Waste Sites</li> <li> Protected Openspace</li> <li> ACECs</li> <li> NHESP Estimated Habitat of Rare Wildlife in Wetland Areas</li> <li> Certified Vernal Pools 2003 NHESP</li> <li> Subbasins</li> <li> Mass Major Basins</li> <li> DEP Region</li> <li> Town Arcs</li> <li> County Boundaries</li> </ul> | <ul style="list-style-type: none"> <li> HIGH YIELD</li> <li> MEDIUM YIELD</li> <li> HIGH YIELD</li> <li> MEDIUM YIELD</li> <li> FEMA Floodplains</li> <li> 100 YEAR FLOODPLAIN</li> </ul> | <ul style="list-style-type: none"> <li> WATER</li> <li> RESERVOIR</li> <li> WETLANDS</li> <li> SALT WATER WETLANDS</li> <li> FLATS SHOALS</li> <li> PERENNIAL</li> <li> INTERMITTENT</li> <li> SHORELINE</li> <li> MAN MADE SHORE</li> <li> DAM</li> <li> AQUEDUCT</li> </ul> | <ul style="list-style-type: none"> <li> LIMITED ACCESS HIGHWAY</li> <li> MULTILANE HWY, NOT LIMITED ACCESS</li> <li> OTHER NUMBERED HWY</li> <li> MAJOR ROAD - COLLECTOR</li> <li> MINOR STREET OR ROAD, RAMP</li> <li> TRACK</li> <li> TRAIL</li> <li> PIPELINE</li> <li> POWERLINE</li> <li> TRAIN</li> </ul> |
|---|---|--|---|



		PROJECT:			B120 OIL SPILL LOCATION: WAREHAM RIVER EAST SHORE BUZZARDS BAY, MA
		TITLE:			
PHASE II SUPPORTING MAPS					
DESIGNED:	DRAWN:	CHECKED:	APPROVED:	FIGURE #:	
LAC	JKB	KDT	MJW		
SCALE:	DATE:	FILE:	PROJECT #:	<b>WIB-15</b>	
AS SHOWN	01/25/06	3871WIB-15	3871-002		



**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

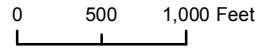
- 🌟 Shellfish Sampling Location
- 🚗 Chain Drag Location 2003
- 🚗 Chain Drag Location 2004
- 👤 Lobster Pot Sampling Location 2003
- 👤 Absorbent Pad Sampling Location 2003
- 🏍️ Dive Sites
- 🌿 Wetlands
- 🐣 Nests
- 🏠 Vernal Pool
- 🌿 NHESP 2003 Priority Habitats for State-Protected Rare Species

**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



**ENTRIX**

**W1B-15**  
**Wareham River**  
**East Shore, Wareham**  
**Comprehensive Activities**  
**Bouchard B No. 120 Oil Spill**  
**Buzzards Bay, MA**