



**BOUCHARD B120 RELEASE  
SHORELINE SEGMENT SUMMARY**

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GeoInsight Project Number 3871-002

SEGMENT IDENTIFICATION: **W1D-01**

SEGMENT NAME: **Aucoot Cove**

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

MAXIMUM DEGREE OF INITIAL OILING: Moderate (Oiling Score: 1.46)

SEGMENT INSPECTION STATUS: Passed IRAC inspection on 06/23/2003.

**SITE-SPECIFIC INFORMATION**

**PHYSICAL CHARACTERISTICS:**

Primary Shoreline Type/ Geology:

- 1F: Salt marshes.

Secondary Shoreline Type/ Geology:

- 1A: Heavily utilized, public recreational sand beaches; and
- 1C: Mixed sand and gravel (pebble to boulder) and rip rap groins (jetties).

Hydrogeology:

- The segment is located within Aucoot Cove and Buzzards Bay is located to the southeast. Most of the segment is wetlands and saltwater wetlands.

Bedrock Geology:

- The 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: 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: At segment and adjacent to segment: Buzzards Bay aquatic environment.

Estimated Habitats of Rare Wildlife: At segment and adjacent to segment: Buzzards Bay aquatic environment.

Floodplains: At segment: 100-year floodplain.

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

Segment Use: Public beach and marsh. Residential dwellings are located within 500 feet of the segment. A portion of segment is accessible via roadway. Portions of the segment (e.g., the middle portion and Haskel Island offshore) are only accessible via boat.

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
05/16/2003	Sporadic patches of oil observed on beaches and marsh on the southeast side of Aucoot Cove near Harbor Beach. Less than 1% surface oil coverage observed. Evidence of oil was not observed in the northern marsh areas. Haskel Island was not inspected.
05/24/2003	Wrack patties reportedly float to the shoreline every 1 to 2 days. Trace splatter (approximately 1 millimeter in diameter) was observed on escarpment. Less than 1% surface oil coverage observed. Cleanup crew on-site during inspection. Haskel Island was not inspected.

### **IRAC INSPECTIONS**

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

DATE	SUMMARY OF INFORMATION RECORDED BY INSPECTION TEAM
06/15/2003	Some oiled cobbles and oiled groin boulders were observed. Some oiled wrack recovered. Segment did not meet IRAC criteria endpoints and further treatment was feasible.
06/23/2003	Oiled rocks and wrack were addressed during cleanup activities. Some splatter remained on rock surfaces but did not easily come off to the touch. 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
01/21/2004	Phase I characterization activities. Evidence of oil was not observed. Marsh sediment samples (W1D01-M-01, -02, and -03) 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. Three grab samples were collected at each sample location and were composited in laboratory and analyzed for EPH fractions and PAHs by 8270C/SIM analysis.
06/22/2005	Site reconnaissance: Evidence of oil was not observed. Some algal mats and areas of yellowed grass, stunted vegetation (approximately 6 inches tall) was observed.
09/01/2005	Phase II characterization activities and visual marsh inspection. One wrack patty (approximately 2 inches in diameter) was removed above the intertidal zone at N41°40.8492' W70°45.542'. One tacky tarball (approximately 5 inches in diameter) was removed at N41°40.832' W70°45.380'. One splatter stain (approximately 2 inches in diameter) was observed at N41°40.618' W70°45.005'. The splatter was weathered and hardened and did not easily come off to the touch. Marsh sediment samples (W1D01-P2-M-01 and W1D01-P2-M-02) were collected from two sample locations in the intertidal zone. The samples were compiled of three

grab samples that were collected from within an approximate 15 foot radius of N41°40.822' W70°44.282' and N41°40.780' W70°45.360'. The grab samples at each sample location were composited in a laboratory and analyzed for EPH fractions and PAHs by 8270C/SIM analysis.

10/19/2005 Site reconnaissance: Small patches of pavement were observed in an isolated area on fringing marsh on the south side of Haskell Island. A marsh sediment sample (W1D01-P2-M-02) was collected from one sample location in the intertidal zone on the southern portion of the island. The sample was compiled of three grab samples that were collected from within an approximate 15 foot radius of N41°40.780' W70°45.360'. The grab samples were composited in a laboratory and analyzed for EPH fractions and PAHs by 8270C/SIM analysis.

Notes:

1. GeoInsight did not receive IRA citizen calls pertaining to this segment.
2. EPH = Extractable Petroleum Hydrocarbons.
3. PAH = Polynuclear Aromatic Hydrocarbons.
4. SIM = Selected Ion Monitoring.

**TABLE 1**  
**SAMPLE SUMMARY**  
**BUZZARDS BAY, MASSACHUSETTS**  
**SEGMENT: W1D-01**  
**Aucoot Cove, Marion**

Sample ID	Date Collected	Matrix	Analysis	Laboratory	Sampling Program	Sample Location Coordinates		Sample Location Description	Comments
						Latitude	Longitude		
W1D-01-M-01	1/21/2004	Sediment	PAH EPH	GAI	MCP- Phase I Site Assessment	N41°40.679'	W70°45.767'	Marsh Sediment	Composite Samples
W1D-01-M-02						N41°40.786'	W70°45.609'		
W1D-01-M-03						N41°41.851'	W70°45.303'		
W1D01-P2-M-01	9/1/2005	Sediment	PAH EPH	GAI	MCP- Phase II Site Assessment	N41°40.821'	W70°45.483'	Marsh Sediment	Composite Samples
W1D01-P2-M-02						N41°40.778'	W70°45.358'		
W1D01-P2-M-03	10/19/2005					N41°40.645'	W70°45.571'		

NOTES:

1. GAI: Groundwater Analytical, Inc.

**TABLE 2**  
**SUMMARY OF ANALYTICAL RESULTS**  
**BUZZARDS BAY, MASSACHUSETTS**  
**SEGMENT: W1D-01**  
**Aucoot Cove, Marion**

Analyte	W1D01-M-01	W1D01-M-02	W1D01-M-03	W1D01-P2-M-01	W1D01-P2-M-02	W1D01-P2-M-03	MCP Method 1 Standards			Effects Range-Low Benchmarks Marine Sediments
	Marsh Sediment	Marsh Sediment	Marsh Sediment	Marsh Sediment	Marsh Sediment	Marsh Sediment	S-1 / GW-1	S-1 / GW-2	S-1 / GW-3	
	1/21/2004	1/21/2004	1/21/2004	9/1/2005	9/1/2005	10/19/2005				ER-L
<b>EPH</b>										
C <sub>9</sub> -C <sub>18</sub> Aliphatic Hydrocarbons	ND(30)	ND(42)	ND(30)	ND(36)	ND(36)	ND(61)	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>	NA
C <sub>19</sub> -C <sub>36</sub> Aliphatic Hydrocarbons	ND(30)	ND(42)	ND(30)	ND(36)	ND(36)	ND(61)	<b>2,500</b>	<b>2,500</b>	<b>2,500</b>	NA
C <sub>11</sub> -C <sub>22</sub> Aromatic Hydrocarbons	ND(30)	ND(42)	ND(30)	ND(36)	ND(36)	ND(61)	<b>200</b>	<b>800</b>	<b>800</b>	NA
<b>PAH by GC/MS-SIM by method 8270C</b>										
Naphthalene	<b>0.008j</b>	<b>0.011j</b>	<b>0.009j</b>	<b>0.006j</b>	ND(0.012)	ND(0.020)	<b>4</b>	<b>40</b>	<b>500</b>	<b>0.160</b>
2-Methylnaphthalene	ND(0.010)	ND(0.014)	ND(0.010)	ND(0.012)	ND(0.012)	ND(0.020)	<b>4</b>	<b>500</b>	<b>500</b>	<b>0.070</b>
Acenaphthylene	ND(0.010)	ND(0.014)	ND(0.010)	ND(0.012)	ND(0.012)	ND(0.020)	<b>100</b>	<b>100</b>	<b>100</b>	<b>0.044</b>
Acenaphthene	ND(0.010)	ND(0.014)	ND(0.010)	ND(0.012)	ND(0.012)	ND(0.020)	<b>20</b>	<b>1,000</b>	<b>1,000</b>	<b>0.016</b>
Fluorene	ND(0.010)	ND(0.014)	ND(0.010)	ND(0.012)	ND(0.012)	ND(0.020)	<b>400</b>	<b>1,000</b>	<b>1,000</b>	<b>0.019</b>
Phenanthrene	ND(0.010)	ND(0.014)	ND(0.010)	ND(0.012)	ND(0.012)	ND(0.020)	<b>700</b>	<b>1,000</b>	<b>100</b>	<b>0.240</b>
Anthracene	ND(0.010)	ND(0.014)	ND(0.010)	ND(0.012)	<b>0.007j</b>	ND(0.020)	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>	<b>0.085</b>
Fluoranthene	ND(0.010)	ND(0.014)	ND(0.010)	ND(0.012)	<b>0.006j</b>	ND(0.020)	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>	<b>0.600</b>
Pyrene	ND(0.010)	ND(0.014)	ND(0.010)	ND(0.012)	<b>0.011j</b>	<b>0.011j</b>	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>	<b>0.665</b>
Benzo(a)anthracene	ND(0.010)	ND(0.014)	ND(0.010)	ND(0.012)	<b>0.010j</b>	ND(0.020)	<b>7</b>	<b>7</b>	<b>7</b>	<b>0.261</b>
Chrysene	ND(0.010)	ND(0.014)	ND(0.010)	ND(0.012)	<b>0.010j</b>	ND(0.020)	<b>7</b>	<b>7</b>	<b>7</b>	<b>0.384</b>
Benzo(b)fluoranthene	ND(0.010)	ND(0.014)	ND(0.010)	ND(0.012)	<b>0.010j</b>	ND(0.020)	<b>7</b>	<b>7</b>	<b>7</b>	NA
Benzo(k)fluoranthene	ND(0.010)	ND(0.014)	ND(0.010)	ND(0.012)	ND(0.012)	ND(0.020)	<b>70</b>	<b>70</b>	<b>70</b>	NA
Benzo(a)pyrene	ND(0.010)	ND(0.014)	ND(0.010)	ND(0.012)	<b>0.010j</b>	ND(0.020)	<b>2</b>	<b>2</b>	<b>2</b>	<b>0.430</b>
Indeno(1,2,3-c,d)pyrene	ND(0.010)	ND(0.014)	ND(0.010)	ND(0.012)	<b>0.013</b>	ND(0.020)	<b>7</b>	<b>7</b>	<b>7</b>	NA
Dibenzo(a,h)anthracene	ND(0.010)	ND(0.014)	ND(0.010)	ND(0.012)	<b>0.018</b>	ND(0.020)	<b>0.7</b>	<b>0.7</b>	<b>0.7</b>	<b>0.063</b>
Benzo(g,h,i)perylene	ND(0.010)	ND(0.014)	ND(0.010)	ND(0.012)	<b>0.008j</b>	ND(0.020)	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>	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. ER-L: Effects Range Low (Long and Morgan 1991).
7. NA: Not Applicable.
8. Bold values exceed laboratory PQL.
9. MCP: Massachusetts Contingency Plan.



W1D-01



0 500 1,000 2,000 Feet

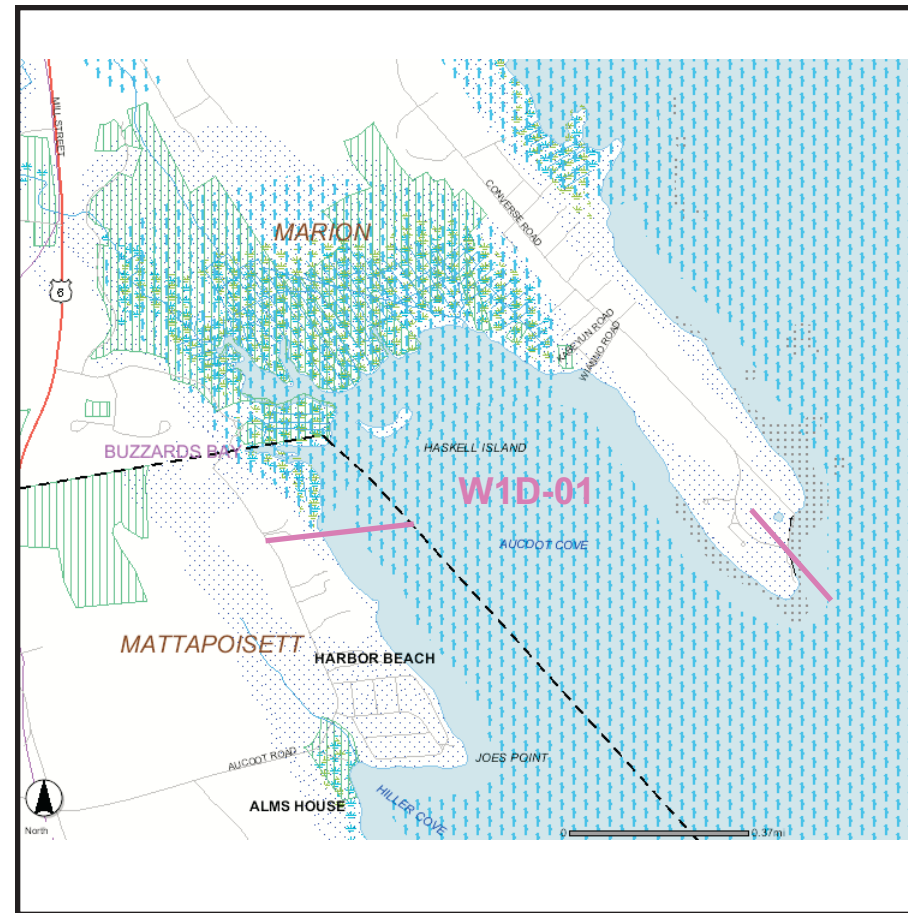


<b>E N T R I X</b>
<p><b>W1D-01</b>  <b>Aucoot Cove</b>  <b>Bouchard B No. 120 Oil Spill</b>  <b>Buzzards Bay, MA</b></p>

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
  -  HIGH YIELD
  -  MEDIUM YIELD
  -  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:		
		AUCOOT COVE BUZZARDS BAY, MA		
PHASE II SUPPORTING MAPS				
DESIGNED:	DRAWN:	CHECKED:	APPROVED:	FIGURE #:
LAC	JKB	KDT	MJW	
SCALE:	DATE:	FILE:	PROJECT #:	WID-01
AS SHOWN	01/25/06	3871WID-01	3871-002	



**Legend**

-  Intertidal Sampling Location
-  Marsh Sampling Location
-  Subtidal Sampling Location
-  Visual Inspection of Marsh Area

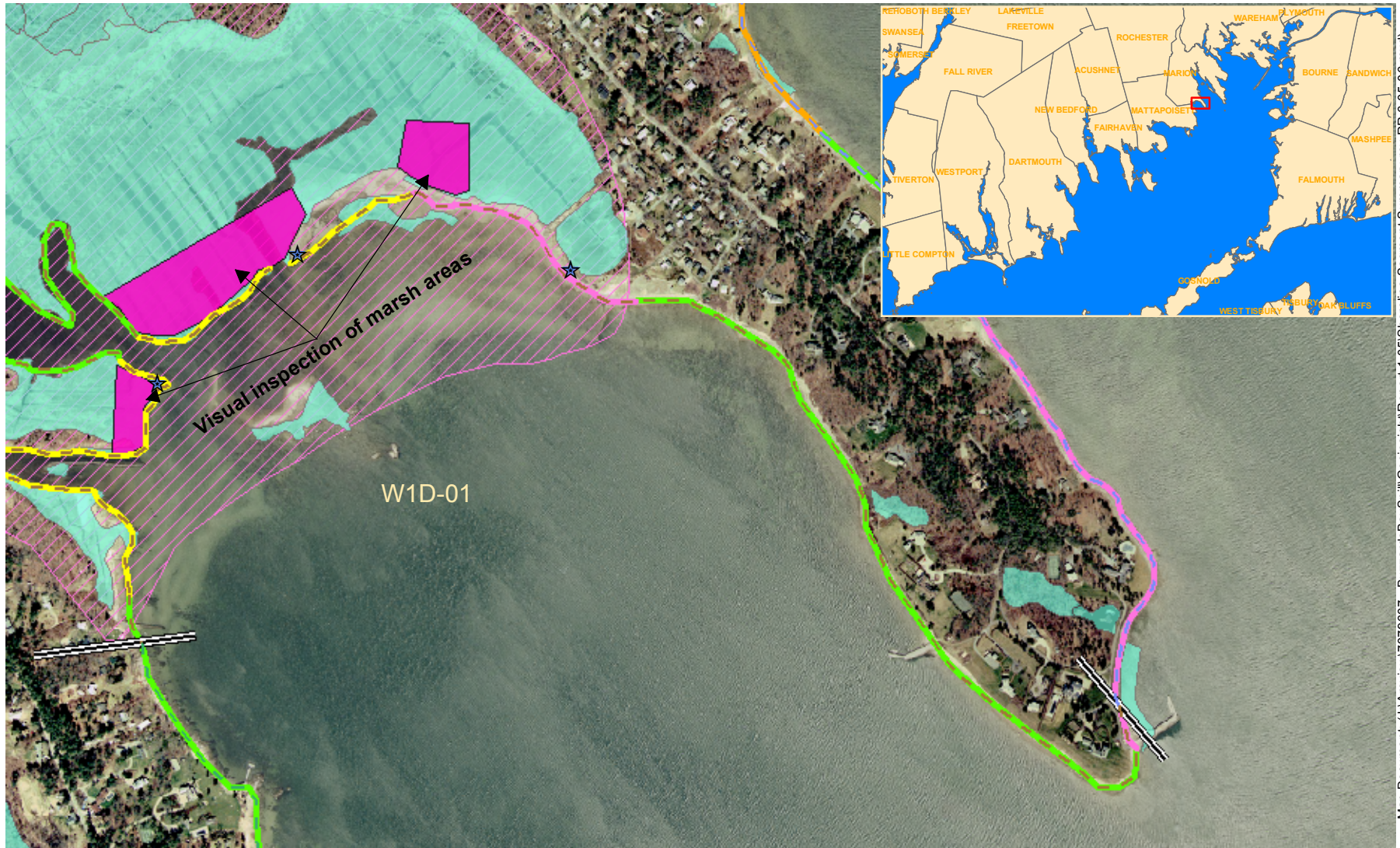
0 800 1,600 3,200 Feet



**E N T R I X**

**Phase II Sampling  
W1D-01  
Aucoot Cove  
Bouchard B No. 120 Oil Spill  
Buzzards Bay, MA**





Map Document: (J:\Ar\view\7079607 - BuzzardsBaySpill\GeoInsight\Report 1-05\Shoreline Segment Summary rev RR 6-06-06.mxd)

**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

0 500 1,000 Feet



ENTRIX

W1D-01  
Aucoot Cove, Mattapoissett  
Comprehensive Activities  
Bouchard B No. 120 Oil Spill  
Buzzards Bay, MA

Segment: W1D-01 Aucoot Cove  
Marion, MA  
Phase II Sampling: September 2, 2005



Photo 1: Overview of shoreline type.



Photo 2: Overview of shoreline type.

Segment: W1D-01 Aucoot Cove  
Marion, MA  
Phase II Sampling: September 2, 2005



Photo 3: Tar patty observed in intertidal zone.



Photo 4: Channels within segment.