

**APPENDIX B**  
**Segment Packages**



**BOUCHARD B120 RELEASE  
SHORELINE SEGMENT SUMMARY**

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GeoInsight Project Number 3871-002

SEGMENT IDENTIFICATION: **E1-11**

SEGMENT NAME: **Scraggy Neck South**

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

MAXIMUM DEGREE OF INITIAL OILING: Very Light (Oiling Score: <1.00)

SEGMENT INSPECTION STATUS: Did not pass IRAC inspection on 08/04/2003 with further treatment feasible. Passed MCP IRA Inspection on 11/11/2003.

**SITE-SPECIFIC INFORMATION**

**PHYSICAL CHARACTERISTICS:**

Primary Shoreline Type/ Geology:

- 1C: Mixed sand and gravel, gravel (pebble to boulder), and rip rap groins (jetties).

Secondary Shoreline Type/ Geology:

- 1B: Less utilized semi-public and private sand beaches.

Hydrogeology:

- Magansett Harbor is located to the south and Buzzards Bay to the southwest.

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: At segment and 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 public beach, rocky shore, piers, docks, and marsh. Residential Dwellings are located within 500 feet of the segment. Portions of the segment are accessible via roadway.

Frequency of Use: 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
05/01/2003	Shoreline inspection conducted between N41°39.797' W70°37.886' and N41°39.706' W70°38.895'. Oil observed on beach near N41°39.685' W70°38.867'.
05/07/2003	Shoreline inspection between N41°39.906' W70°38.112' and N41°39.709' W70°38.894'. Evidence of oil or wildlife was not observed.
05/14/2003	Shoreline inspection conducted between N41°39.816' W70°37.855' and N41°39.809' W70°37.873'. Oil was observed on a beach near the southwest corner of the island. A total of 37 birds (9 species) were observed, including two live oiled birds. Dead birds were not observed.
05/28/2003	Shoreline inspection conducted between N41°39.893' W70°38.091' and N41°39.560' W70°38.395'. Residual oil (including tarballs, oil-absorbent material, and light to moderately oiled vegetation) was observed in several locations on salt marsh. A total of 8 birds (5 species) were observed, including two live oiled birds. 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
05/06/2003	Shellfish tissue samples collected and analyzed.
05/19/2003	Tarballs, trace splatter, and some oiled debris were observed on exposed rocks. Two trenches excavated adjacent to a cove area where a few tarballs were found and removed from up to 6 inches deep.
05/20/2003	Area coated with oil (approximately 70 by 50 feet) was observed in the mid to upper intertidal zone near Seal Road. Approximately 1% to 10% surface oil distribution observed at the segment primarily in the mid to upper intertidal zone. Additional cleanup activities were warranted.
06/03/2003	Light sporadic staining and splatter observed on cobbles. Tar patties (approximately 2 to 4 inches in diameter) and oily wrack observed. Noted that oil coating is liquid-like, presumably due to warm weather. Evidence of newly-deposited oil was not observed. Evidence of buried oil was not observed.
06/05/2003	Shoreline inspection conducted via boat off Scraggy Neck. Evidence of oil could not be identified from a short distance offshore.

## IRAC INSPECTIONS

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

DATE	SUMMARY OF INFORMATION RECORDED BY INSPECTION TEAM
08/04/2003	Buried oil (approximately 2 inches in diameter) was found and removed. Moderate to heavy splatter observed on rocks. In addition, a weathered and hardened tar-like substance (non-B120) from a previous spill was observed along the rocky shoreline. Segment did not meet IRAC criteria endpoints and further treatment was feasible. Additional cleanup activities were warranted.

## 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
11/11/2003	Site reconnaissance and potential buried oil inspection: Buried oil was not observed. Hardened and dried splatter observed suspected to be from 1990 Bermuda Star accident (not related to B120 release).
01/20/2004	Site reconnaissance and potential buried oil inspection: Incomplete inspection due to unfeasible weather conditions. Evidence of oil was not observed.
03/03/2004	Site reconnaissance and potential buried oil inspection: Very sporadic, trace splatter scoured to stain on boulders observed on rocky shoreline. A total of 6 trenches were excavated and evidence of buried oil was not observed.
04/06/2004	Site reconnaissance and potential buried oil inspection: One small area (approximately 6 inches square) of tacky black oil (potentially non-B120) found and removed from grass along shoreline. One wrack patty (approximately 3 inches in diameter) removed from upper intertidal wrack line. A total of 12 trenches were excavated and evidence of buried oil was not observed.
07/29/2004	Site reconnaissance, potential buried oil inspection, and shellfish bed evaluation: Excavated 18 trenches (approximately 5 to 20 feet long and 3 to 12 inches deep), and 19 areas offshore were evaluated using shellfish surveys (qualitative shellfish surveys). Starting at N41°39.682' W70°38.863' and extending southward approximately 200 feet, a trace amount of hardened tar-like splatter (non-B120) was observed on cobbles and boulders (ranging between approximately 5 and 30 foot square areas). Evidence of B120 oil was not observed.

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

**TABLE 1**  
**SAMPLE SUMMARY**  
**BUZZARDS BAY, MASSACHUSETTS**  
**SEGMENT: E1-11**  
**Scraggy Neck South, Bourne**

Sample ID	Date Collected	Matrix	Analysis	Laboratory	Sampling Program	Sample Location Coordinates		Sample Location Description	Comments
						Latitude	Longitude		
MHRS-OY-1-A and B	5/6/2003	Tissue	PAH	B & B	NRDA Pre-Assessment	N41°39.412'	W71°22.714'	Megansett Harbor - Reference Site	Shellfish - Oyster
MHRS-QH-1-A and B						N41°39.471'	W71°22.436'		Shellfish - Quahog
MHRS-SS-1-A, B, and C						N41°39.430'	W71°22.442'		Shellfish - Soft Shell Clam
MHRS-SS-1-A, B, and C (Duplicate)						N41°39.430'	W71°22.442'		Shellfish - Soft Shell Clam

NOTES:

1. B&B: B&B Laboratories.

**TABLE 2**  
**SUMMARY OF ANALYTICAL RESULTS**  
**BUZZARDS BAY, MASSACHUSETTS**  
**SEGMENT: E1-11**  
**Scraggy Neck South, Bourne**

Analyte	MHRS-OY-1-A and B	MHRS-QH-1-A and B	MHRS-SS-1-A, B and C	MHRS-SS-1-A, B and C (Dup)
	Oyster	Quahog	Softshell Clam	Softshell Clam
	5/6/2003	5/6/2003	5/6/2003	5/6/2003
<b>PAH by GC/MS-SIM by method 8270C</b>				
Naphthalene	<b>0.0027</b>	<b>0.0017</b>	<b>0.0030</b>	<b>0.0032</b>
2-Methylnaphthalene	<b>0.0046</b>	<b>0.0021</b>	<b>0.0037</b>	<b>0.0042</b>
Acenaphthylene	<b>0.0002j</b>	<b>0.0001j</b>	<b>0.0002j</b>	<b>0.0001j</b>
Acenaphthene	<b>0.0006</b>	<b>0.0003j</b>	<b>0.0005</b>	<b>0.0006</b>
Fluorene	<b>0.0007</b>	<b>0.0003j</b>	<b>0.0006</b>	<b>0.0005</b>
Phenanthrene	<b>0.0066</b>	<b>0.0025</b>	<b>0.0051</b>	<b>0.0041</b>
Anthracene	<b>0.0003</b>	<b>0.0001j</b>	<b>0.0001j</b>	<b>0.0001j</b>
Fluoranthene	<b>0.0031</b>	<b>0.0013j</b>	<b>0.0044</b>	<b>0.0038</b>
Pyrene	<b>0.0012</b>	<b>0.0006j</b>	<b>0.0014</b>	<b>0.0012</b>
Benzo(a)anthracene	<b>0.0002j</b>	<b>0.0001j</b>	<b>0.0002j</b>	<b>0.0002j</b>
Chrysene	<b>0.0029</b>	<b>0.0008j</b>	<b>0.0023</b>	<b>0.0019</b>
Benzo(b)fluoranthene	<b>0.0004j</b>	ND(0.0007)	<b>0.0005j</b>	<b>0.0005j</b>
Benzo(k)fluoranthene	<b>0.0001j</b>	ND(0.0004)	<b>0.0003j</b>	<b>0.0002j</b>
Benzo(a)pyrene	<b>0.0001j</b>	ND(0.0003)	<b>0.0001j</b>	<b>0.0001j</b>
Indeno(1,2,3-c,d)pyrene	<b>0.0001j</b>	ND(0.0005)	<b>0.0001j</b>	<b>0.0001j</b>
Dibenzo(a,h)anthracene	ND(0.0004)	ND(0.0004)	ND(0.0004)	ND(0.0004)
Benzo(g,h,i)perylene	<b>0.0001j</b>	ND(0.0004)	<b>0.0004</b>	<b>0.0004</b>
<b>Total PAH</b>	<b>0.0968</b>	<b>0.047</b>	<b>0.100</b>	<b>0.0874</b>

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.





0 500 1,000 2,000 Feet

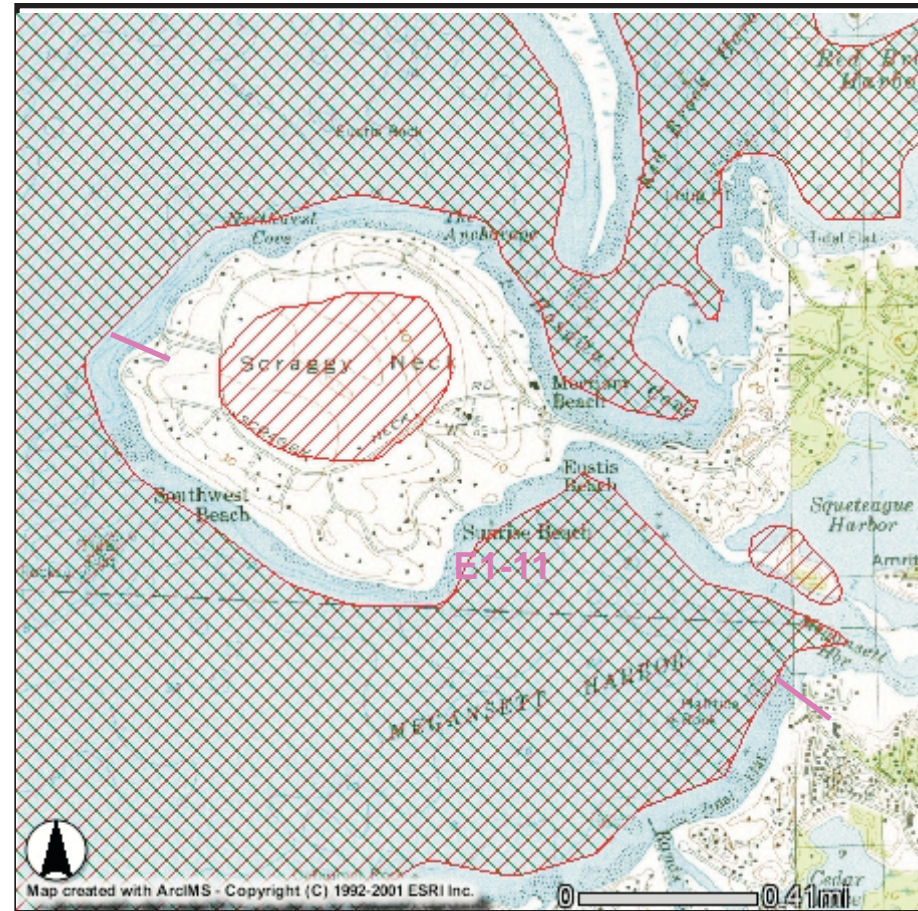


**E N T R I X**

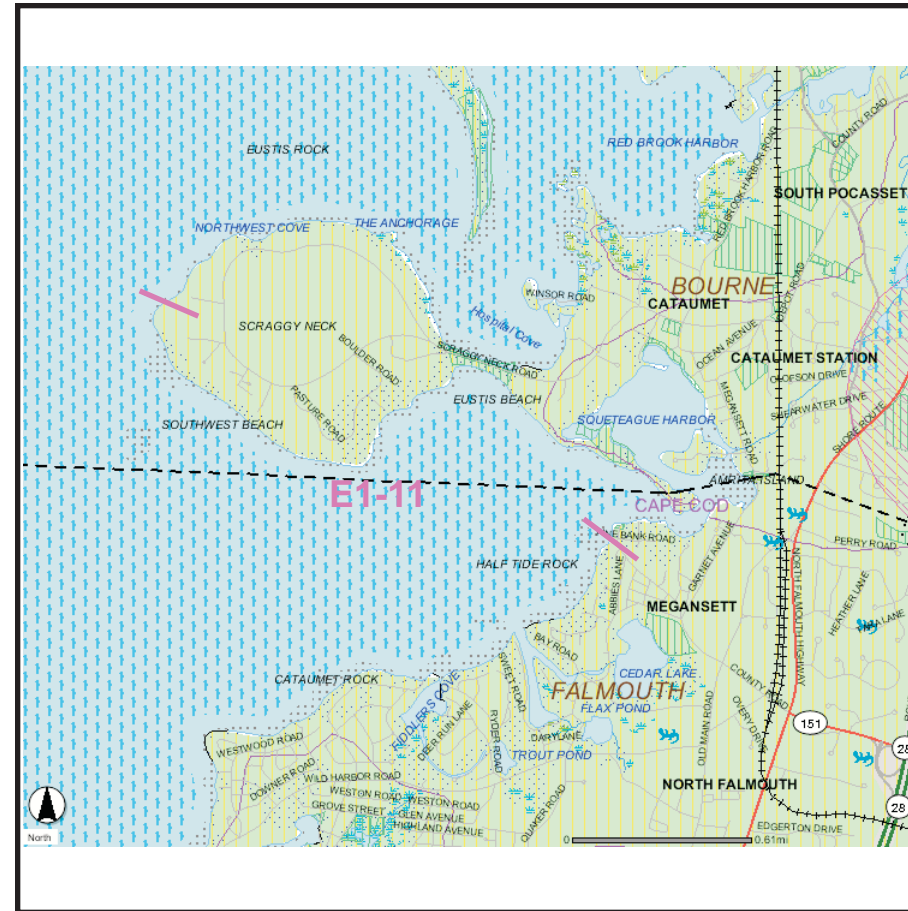
**E1-11**  
**Scraggy Neck South**  
**Bouchard B No. 120 Oil Spill**  
**Buzzards Bay, MA**



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

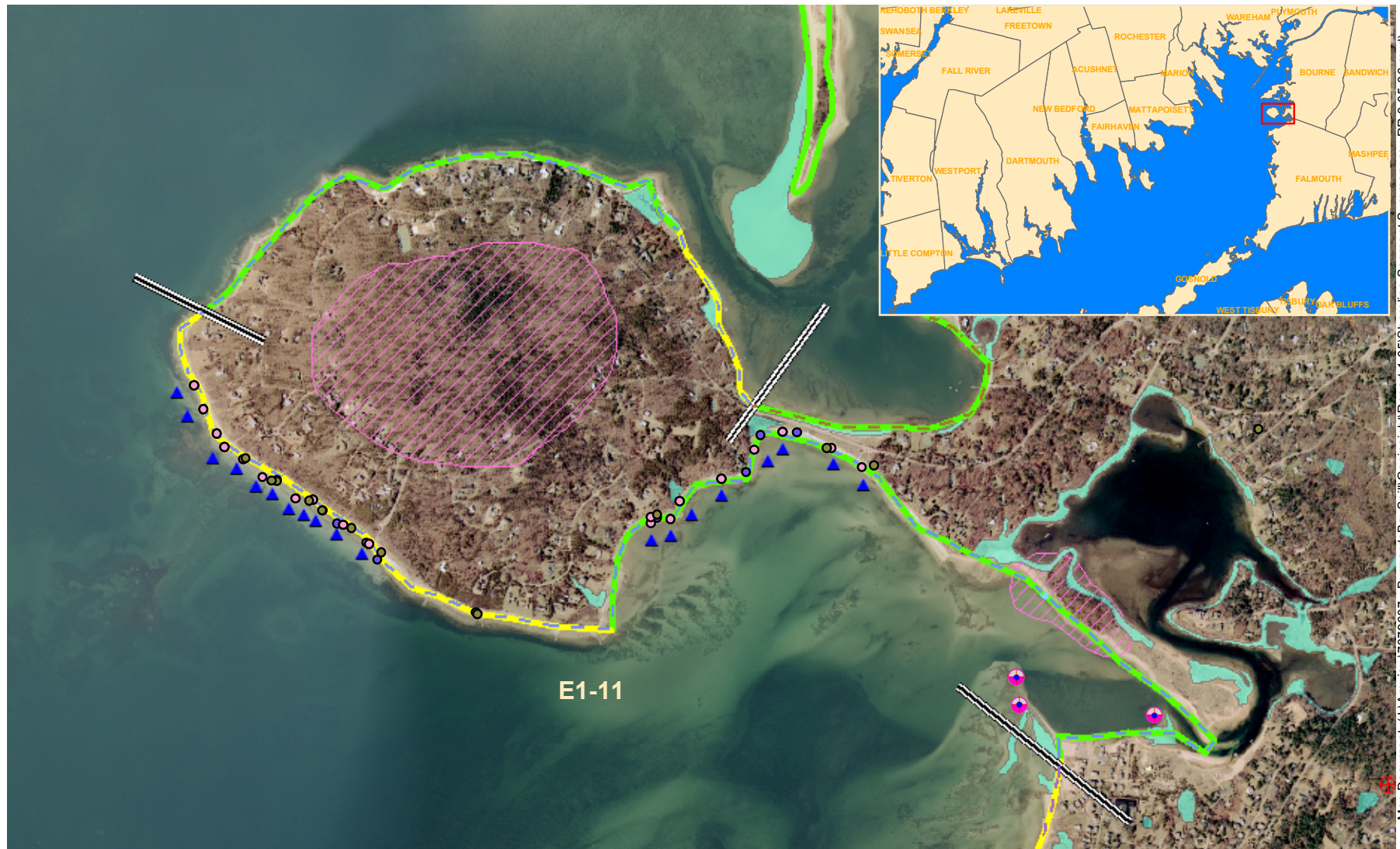
DEP MCP 21e Map Legend

-  Zone IIs
  -  IWPA's
  -  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:			BI20 OIL SPILL LOCATION: SCRAGGY NECK SOUTH BUZZARDS BAY, MA
		TITLE:			
PHASE II SUPPORTING MAPS					
DESIGNED:	DRAWN:	CHECKED:	APPROVED:	FIGURE #:	
LAC	JKB	KDT	MJW		
SCALE:	DATE:	FILE:	PROJECT #:	<b>EI-II</b>	
AS SHOWN	01/05/06	3871EI-II	3871-002		





Map Document: (J:\Arxiv\7079607 - BuzzardsBaySpill\Geoinsight\Report 1-05\Shoreline Segment Summary rev RR 6-05-06.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



**E N T R I X**

**E1-11**

**Scraggy Neck South, Bourne**

**Comprehensive Activities**

**Bouchard B No. 120 Oil Spill**

**Buzzards Bay, MA**