

OIL SPILL PUBLIC INFO. CENTER



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S42  
1991  
v.30

## **[Shoreline evaluations, 1991].**

Prince William Sound EB-09 to EL-14

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REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/EB-09

SUBDIVISIONS: A (1 OF 1)

SHORELINE EVALUATION

SEGMENT ST/ EB-09 SUBDIVISION A (1 OF 1) DATE 4/10/90

**SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:**

ADF&G anadromous stream no. 225-30-15070, 15130, 15140, 15165, 15163, 15150, and 15160.

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
- 1B Salmon stream mouth - spawning (7/10 to 8/31)
- 1E Main Bay Hatchery release (4/20 to 5/10)
- 1L Set net sites (6/11 to 7/25)
- 5T-3 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
- 6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

**SUBDIVISION ECOLOGICAL CONSTRAINTS:**

Avoid any unnecessary disturbance or damage to uncoiled biota and substrate.

**ARCHAEOLOGICAL CONSTRAINTS:**

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**OILING CATEGORIZATION:**

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 87 m: No Oil 1031 m  
Subsurface Oil Observed: Yes \_\_\_\_\_ No X Maximum Depth \_\_\_\_\_

**RECOMMENDATIONS:**

|                                                              |                                                        |
|--------------------------------------------------------------|--------------------------------------------------------|
| <input checked="" type="checkbox"/> No Treatment Recommended | <input type="checkbox"/> Snare/Absorbent Booms         |
| <input type="checkbox"/> Treatment Recommended               | <input type="checkbox"/> Oil Snares (pom poms)         |
| <input type="checkbox"/> Manual Pickup                       | <input type="checkbox"/> Absorbents (pads, rolls, etc) |
| <input type="checkbox"/> Bioremediation                      | <input type="checkbox"/> Spot Washing: _____ Wands     |
| <input type="checkbox"/> Tarmat: _____ Breakup               | <input type="checkbox"/> Beach Cleaner                 |
| <input type="checkbox"/> Removal                             | <input type="checkbox"/> Other (see comments)          |

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TAG COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TAG APPROVAL DATE: \_\_\_\_\_

ADEC \_\_\_\_\_  
EXXON \_\_\_\_\_  
NOAA \_\_\_\_\_  
USCG \_\_\_\_\_

FOSC: \_\_\_\_\_ DATE: \_\_\_\_\_

# PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)  
 1B Salmon stream mouth - spawning (7/10 to 8/31)  
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
- 1C Salmon fry nursery area (4/31 to 7/31)
- 1D Esther Hatchery release (4/15 to 6/1)
- 1E Main Bay Hatchery release (4/20 to 5/10)
- 1F Sawmill Bay Hatchery release (4/15 to 6/1)
- 1G Cannery Creek Hatchery release (4/21 to 6/1)
- 1H Remote release site
- 1I Gill net area (6/7 to 8/31)
- 1J Purse seine area (7/20 to 9/30)
- 1K Purse seine hook-off (7/20 to 9/30)
- 1L Set net sites (6/11 to 7/25)  
 For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
- 2M Herring spawning (4/1 to 6/15)  
 Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
- 3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)  
 3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)  
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
- 5R Seabird colony (5/1 to 9/1)  
 Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)  
 Restrict all activity to essential minimum, especially air traffic.
- 5T All Bald Eagle nests (3/1 to 6/1)  
 Active Bald Eagle nests (3/1 to 9/1)  
 Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
- 6U Recreation: Tent sites (6/1 to 9/15)
- 6V Anchorages (6/1 to 9/15)
- 6W Forest Service cabins (6/1 to 9/15)
- 6X Lodge (6/1 to 9/15)
- 6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
- 7HH Finfish harvesting
- 7H Deer harvesting (8/15 to 2/28)
- 7JJ Invertebrate harvesting  
 For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.



## FIELD SHORELINE COMMENT SHEET

(8)

COMMENT ST / EB-009 SUBDIVISION: A DATE 4-10-90

USCG

NAME Kenwin L. Drohe SIGNATURE CWO2 K. L. Drohe☒ NO TREATMENT RECOMMENDED  
COMMENTS☐ TREATMENT SUGGESTED

ADEC

NAME PATRICK ENDRES SIGNATURE Patrick J. Endres☒ NO TREATMENT RECOMMENDED  
COMMENTS☐ TREATMENT SUGGESTED

Because of very little oil, no treatment is suggested.

LAND MANAGER

NAME LARRY M. EVANOFF SIGNATURE [Signature]☐ NO TREATMENT RECOMMENDED  
COMMENTS☒ TREATMENT SUGGESTED

RECOMMEND PICK UP TAR BALLS.

## SHORELINE OILING SUMMARY

REVISION NO. 03/22/90

OG N. BIGGAR USCG K. DREHER SEGMENT STI ES-009  
 BIO K. COATES LAND REP L. EVANOFF SUBDIVISION A  
 EXXON G. STILES ADEC P. ENDRES TIME 7:50 to 9:00  
 TEAM NO.: 14 TIDE LEVEL: -1 to -0.5 DATE 4/10/90  
 EST. SUBDIVISION LENGTH: 1325 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow  
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock  
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: W to E  
 SURFACE SEDIMENTS: R 85 % B 0 % C 15 % P 0 % G 0 % S 0 % M 0 % V 0 %  
 SLOPE: Long 15 % Hang 65 % Vert 20 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High  
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 7 m NO 13/8 m

## SURFACE OIL

| CHARACTER           | DISTRIBUTION |    |    |    | OIL / FILM COLOR |           |          |           |     | IMPACTED ZONES |    |    |    |
|---------------------|--------------|----|----|----|------------------|-----------|----------|-----------|-----|----------------|----|----|----|
|                     | /C           | /B | /P | /S | SBL<br>BR        | DBL<br>RW | GY<br>SL | DLR<br>TL | LBR | SU             | UI | MI | LI |
| ASPHALT<br>PAVEMENT |              |    |    |    |                  |           |          |           |     |                |    |    |    |
| POOLED              |              |    |    |    |                  |           |          |           |     |                |    |    |    |
| COVER               |              |    |    |    |                  |           |          |           |     |                |    |    |    |
| COAT                |              |    |    | X  |                  | X         |          |           |     |                | X  |    |    |
| STAIN               |              |    |    |    |                  |           |          |           |     |                |    |    |    |
| MOUSSE              |              |    |    |    |                  |           |          |           |     |                |    |    |    |
| PATTIES             |              |    |    |    |                  |           |          |           |     |                |    |    |    |
| TARBALLS            |              |    |    | X  |                  | X         |          |           |     |                | X  |    |    |
| FILM                |              |    |    |    |                  |           |          |           |     |                |    |    |    |
| NO OIL              |              |    |    |    |                  |           |          |           |     | S              |    | X  | X  |

SNOW - COVERED

PAVEMENT: H F S 0 sq. m by 0 cmPATTIES / TARBALLS 0 BAGSNEAR SHORE SHEEN? (NO) BR RW SL TL

| OILED DEBRIS | AMOUNT |    |    |
|--------------|--------|----|----|
|              | SM     | MD | LG |
| Logs         |        |    |    |
| Vegetation   |        |    |    |
| Trash        |        |    |    |
| Debris       | X      |    |    |

DEBRIS COLLECTED  
☒ YES ☐ NOTYPE pom pom#BAGS 41

Photographs:

Roll No. —Frames —

## SUBSURFACE OIL

| PIT NO. | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER |    |    |    |    | OILED INTERVAL (CM-CM) | BELOW | OIL / FILM COLOR |    |           |           |          |           | PIT ZONE |    |    |    | A<br>N<br>A | SUBSURFACE SEDIMENTS |
|---------|----------------|--------------------------|----|----|----|----|------------------------|-------|------------------|----|-----------|-----------|----------|-----------|----------|----|----|----|-------------|----------------------|
|         |                | OP                       | OR | OL | OF | NO |                        |       | UO               | UC | SBL<br>BR | DBL<br>RW | GY<br>SL | DLR<br>TL | LRH      | SU | UI | MI |             |                      |
|         |                |                          |    |    |    |    | -                      |       |                  |    |           |           |          |           |          |    |    |    |             |                      |
|         |                |                          |    |    |    |    | -                      |       |                  |    |           |           |          |           |          |    |    |    |             |                      |
|         |                |                          |    |    |    |    | -                      |       |                  |    |           |           |          |           |          |    |    |    |             |                      |
|         |                |                          |    |    |    |    | -                      |       |                  |    |           |           |          |           |          |    |    |    |             |                      |
|         |                |                          |    |    |    |    | -                      |       |                  |    |           |           |          |           |          |    |    |    |             |                      |
|         |                |                          |    |    |    |    | -                      |       |                  |    |           |           |          |           |          |    |    |    |             |                      |
|         |                |                          |    |    |    |    | -                      |       |                  |    |           |           |          |           |          |    |    |    |             |                      |

## COMMENTS

Virtually no oil was observed in this subdivision of the segment. Fewer than a dozen tarballs were seen, as well as a thin, discontinuous deep line (about 5cm wide) over about a 7-m distance. These occurred in the U1T2; frane also grows up to the U1T2. Area very protected from wave action, with some fresh water stream.

OG

1166AR

SEGMENT ST/ EB-009SUBDIVISION ADATE 4/10 90

## SKETCH MAP

## CHECKLIST

- ☒ N Arrow  
☒ Approx. Scale  
☒ Seg/Sub Bndry  
☐ Oil Dist.  
☐ Width  
☐ Length  
☐ % Cover  
☐ Substrate Character  
☐ Est. HWL/LWL  
☐ SSL  
☐ Profile Location(s)  
☐ Profile(s)  
☐ Plt Location(s)  
☐ Photo Location(s)

## LEGEND

1  $\Delta$ 

Plt - No Subsurface Oil

2  $\Delta$ 

Plt - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

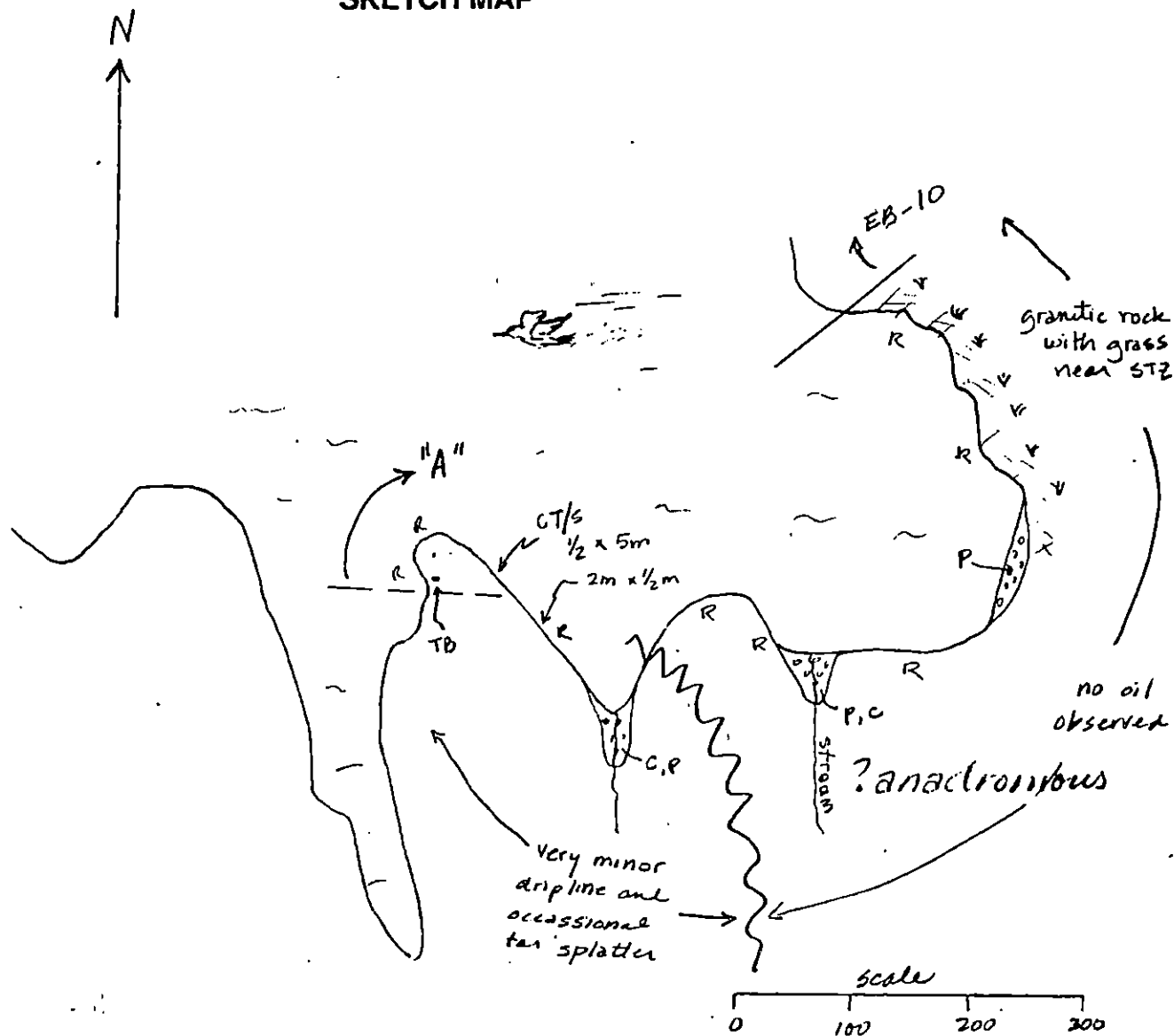
CT/S

Splashed Distribution

Oiled Vegetation

1  $\rightarrow$ 

Photo location, direction, and number

Oil Character Length (m): AP 0 PO 0 CV 0 CT 7 ST 0 MS 41 PT 0 TB 41 FL 0 NO 1317

REVISION: 03/24/90

## SHORELINE ECOLOGICAL SUMMARY

1043 (2)  
REVISION: 08/27/90Segment ST/ EB009 Subdivision A Date (mo/day/yr) 04.10.90(24 hr) 0750-0853 Biologist KA CoatesLower int. + below water

(A) Substrate type and % of segments:

(1) Bedrock 10 (2) Boulder 0 (3) Cobble 15 (4) Pebble 5 (5) Sand 5 (6) SR 5(B) Overall % cover of biota (% of segment): Dense 50 Moderate 30 Low 20

(C) Density, substrate preference (by number from A, above), &amp; vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles/adults (X), new settlement (3)

Photographs:

Roll No. ST-14-2Frames —

## BARNACLES

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    | NOT PRESENT |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|-------------|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |             |
| 2     | 2  | 2  | 2        | 2  | 2  | 2      | 2  | 2  | 2    | 2  | 2  |             |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |             |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |             |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |             |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  |             |

## MYTILUS

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    | NOT PRESENT |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|-------------|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |             |
| 2     | 2  | 2  | 2        | 2  | 2  | 2      | 2  | 2  | 2    | 2  | 2  |             |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |             |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |             |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |             |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  |             |

## GASTROPODS

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    | NOT PRESENT |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|-------------|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |             |
| 2     | 2  | 2  | 2        | 2  | 2  | 2      | 2  | 2  | 2    | 2  | 2  |             |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |             |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |             |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |             |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  |             |

## FUCUS

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    | NOT PRESENT |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|-------------|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |             |
| 2     | 2  | 2  | 2        | 2  | 2  | 2      | 2  | 2  | 2    | 2  | 2  |             |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |             |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |             |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |             |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  |             |

Wildlife Observations/ General Comments: Known sensitivities: eagles nests; not net sites; Main Bay hatchery; recreation - special destination. Observed sea otters in bay and obviously feeding frequently in low intertidal clam beds. 20-30 ducks nearshore. Eagle nest not seen on 10 April 1990.

## Ecological Considerations:

Stream in northeast bay on EB009 with 3 or 4 channels PSR running 10-15 cm deep at low tide - not a logged ROCK anadromous stream. Clam and mussel beds throughout lower intertidal of embayed area with overgrowing surf grass are apparently heavily used for feeding by sea otters.

(7)

3 of 3

ment: ST-EB009 Subdiv: A Date: 04.10.90  
Time: 0750-0853 Biologist: KA Coates

Notes: (cont'd)

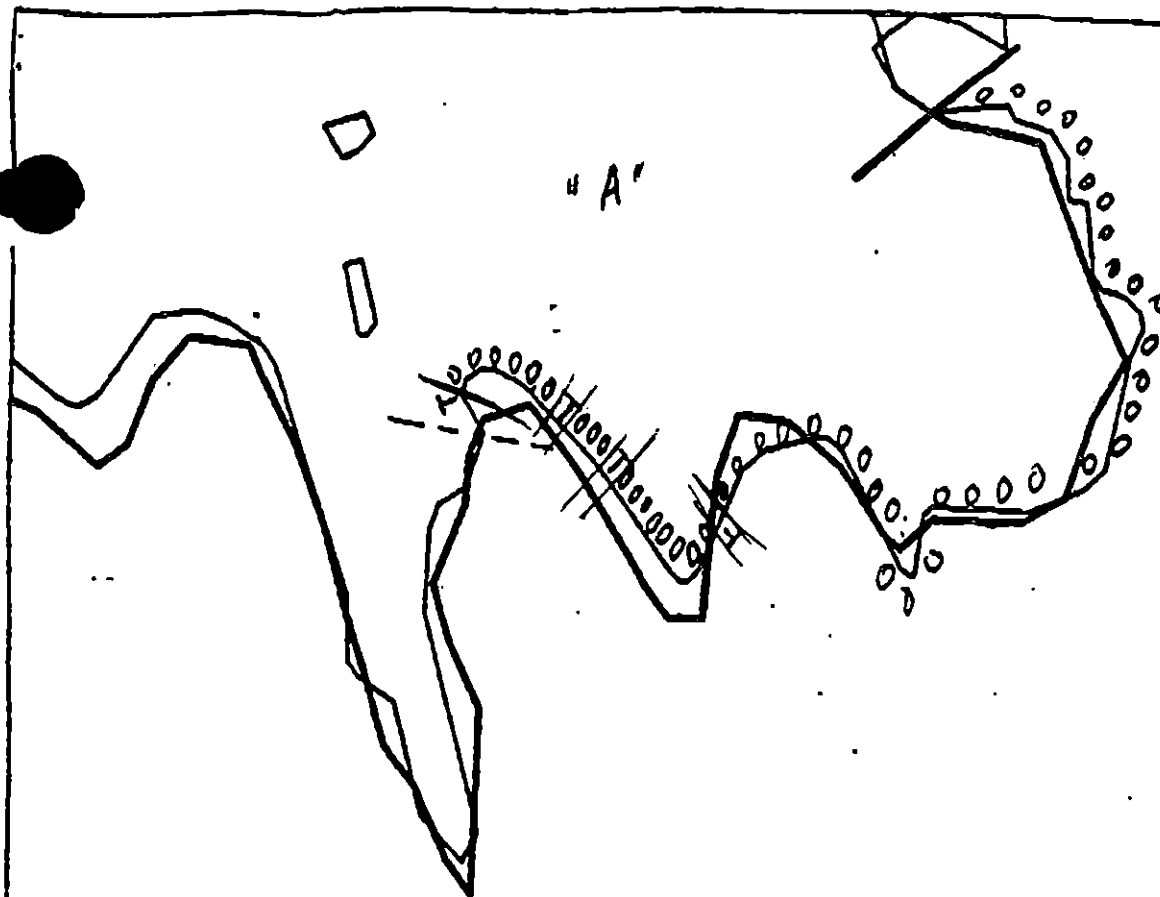
7. Barnacle settlement in area of 1-2 mm size but at a later stage than attached cyprid.

8. Additional lower intertidal animals:  
Pycnopodia and (10-15cm grey - 5 arms). \*

9. ? Stream - too small for <sup>salmon</sup> spawning; ADFG regulatory marker at northeast point of bay - in EB010.  
- closed bay in 1982 - on PWS Salmon Closed water Map - unofficial.

PTC  
ADEL

④



← PWS  
118A

XXX Wide  
/// Medium  
--- Narrow  
TTTT Very Light

EB-9A

ADEC Segment Length: 6717m

Map Key: PWS-118b

Name: N. BIGGAR

Date: 4/20/90

PTE  
ADEC

SHORELINE EVALUATION

SEGMENT ST/ EB-09 SUBDIVISION A (1 OF 1) DATE 4/10/90

**SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:**

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- 5T-3 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
- 6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

**SUBDIVISION ECOLOGICAL CONSTRAINTS:**

Avoid any unnecessary disturbance or damage to uncoiled biota and substrate.

**ARCHAEOLOGICAL CONSTRAINTS:**

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO SIGNATURE: Charles Z. Jones DATE: 4/28/90

**OILING CATEGORIZATION:**

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 87 m: No Oil 1031 m  
Subsurface Oil Observed: Yes      No X Maximum Depth     

**RECOMMENDATIONS:**

- |                                                              |                                                          |
|--------------------------------------------------------------|----------------------------------------------------------|
| <input checked="" type="checkbox"/> No Treatment Recommended | <input type="checkbox"/> Snare/Absorbent Booms           |
| <input type="checkbox"/> Treatment Recommended               | <input type="checkbox"/> Oil Snares (pom poms)           |
| <input type="checkbox"/> Manual Pickup                       | <input type="checkbox"/> Absorbents (pads, rolls, etc)   |
| <input type="checkbox"/> Bioremediation                      | <input type="checkbox"/> Spot Washing: <u>    </u> Wands |
| <input type="checkbox"/> Tarmat: <u>    </u> Breakup         | <input type="checkbox"/> <u>    </u> Beach Cleaner       |
| <input type="checkbox"/> <u>    </u> Removal                 | <input type="checkbox"/> Other (see comments)            |

COMMENTS:       
      
      
    

TAG COMMENTS:       
      
      
    

TAG APPROVAL DATE: 4/26/90  
ADEC John Bauer  
EXXON WVY Tech  
NOAA Gary Peter  
USCG Kenneth Hodge

FOSC: my L DATE: 5-8-90

OG MBIGLAL

SEGMENT ST EB-009

SUBDIVISION A

DATE 4 1 10 90

### CHECKLIST

- ☒ N Arrow
- ☒ Approx. Scale
- ☒ Seg/Sub Bndry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HWL/LWL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pit Location(s)
- ☐ Photo Location(s)

### LEGEND

1  $\Delta$

Pit - No Subsurface Oil

2  $\Delta$

Pit - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

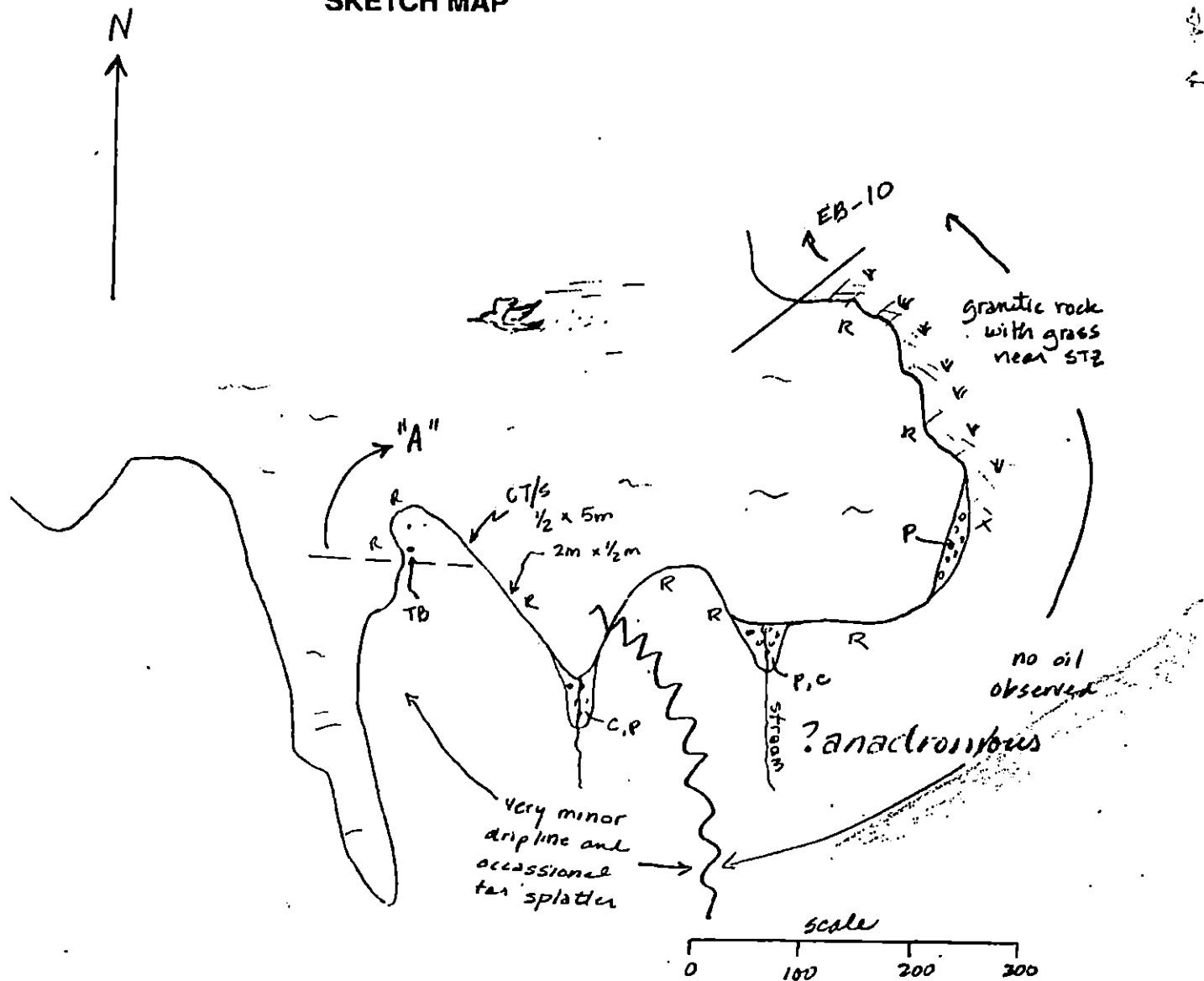
Splashed Distribution

Oiled Vegetation

1  $\rightarrow$

Photo location, direction,  
and number

### SKETCH MAP





④

"A"

← PWS  
118A

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

EB-9A

ADEC Segment Length: 6717m

Map Key: PWS-118b

Name: N. BIGGAR

Date: 4/10/90

PTE  
ADEC



**1991 MAYSAP EVALUATION**

**SEGMENT:** EB 009 **SUB:** A **REGION:** PWS **SURVEY DATE:** 4/29/91

**ENVIRONMENTAL SENSITIVITIES:**

Work Window(s) RESTRICTED 3/1 - 9/1

**Ecological/Constraints** (see page two for details) Eagle nest,  
Fish harvest area

**ARCHAEOLOGICAL CONSTRAINTS:**

If treatment is planned, a cultural resource evaluation is  
required prior to shoreline treatment.

**SHPO Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**RECOMMENDATIONS:**

**INITIAL**

**TAG**

**FOSC**

**TREATMENT REQUIRED (Y or N)**

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

**COMMENTS:**

**INITIAL:** \_\_\_\_\_

**TAG:** \_\_\_\_\_

**FOSC:** \_\_\_\_\_

**TAG APPROVAL DATE:** \_\_\_\_\_

**FOSC APPROVAL DATE:** \_\_\_\_\_

**ADEC** \_\_\_\_\_

**FOSC** \_\_\_\_\_

**EXXON** \_\_\_\_\_

**USCG** \_\_\_\_\_

**NOAA** \_\_\_\_\_

**ECOLOGICAL CONSTRAINTS  
1991 FIELD ACTIVITIES**

**Eagle Nest:** Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.

**Fish Harvest Area:** Unlimited treatment unless otherwise directed by ADF&G. Sheen containment/recovery procedures required for mechanical treatment.

# MAGAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 4 SEGMENT CA-009-A SUBDIVISION A DATE 29 APR 91

## ADEC

NAME Dianne Munson SIGNATURE Dianne Munson

☒ NTR ☐

A few tar balls were found and removed.

## EXXON

NAME LARRY D. OLSON SIGNATURE Larry D. Olson

☒ NTR

Very clean healthy area. No oil was observed or found.

## LANDMANAGER

NAME LARRY EVANOFF OF EVC SIGNATURE LE

☒ NTR ☐ TREATMENT RECOMMENDED

A FEW TAR BALLS AND AGED TAR SPLATTERS WERE FOUND AND REMOVED.

## USCG/NOAA

NAME JOE J. McMAHON SIGNATURE Joe McMahon

☒ NTR

Some TB were removed by team. Otherwise the segment was found to be clean and free of oil.

PAGE 1 OF 15

DATE 29 / Apr / 91

EST. OIL CATEGORY LENGTH: W\_\_\_\_m M\_\_\_\_m N\_\_\_\_m VL\_\_\_\_m NO ~~7~~<sup>3</sup> m US\_\_\_\_m

SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE PHOTO ROLL # MAYSAP-\_\_\_\_\_ - \_\_\_\_\_ FRAMES

SHEEN COLOR: B = BROWN; R = RAINBOW; S = SILVER; N = NONE

COMMENTS: A sheltered cove. No oil was found other than a few tar "balls" which were picked up and a few old looking tarry splatters that were removed.

REVISOR: 5/3/91 MC

# og sketch map

EB009.A

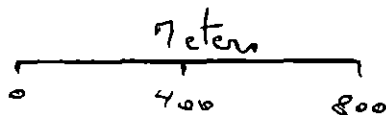
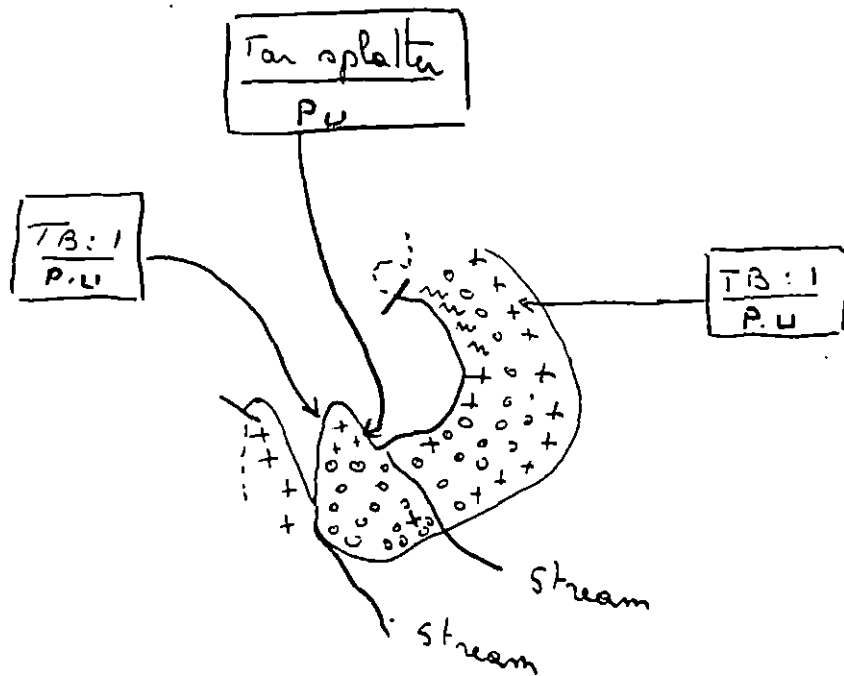
FM SEMPELS

29 April 91

0852 R - 10.00 R.

## Legend

- [+ ] Bedrock
- [o ] cb / Bd
- [w ] mud / sand / cb



reviewed 5/1  
REVIEWED. 5/5/91 MC.

# **MAYSAP BIOLOGICAL SUMMARY FORM**

|             |                |                      |                             |
|-------------|----------------|----------------------|-----------------------------|
| TEAM #      | 4              | DATE/TIME            | April 29, 1991 0830 => 1000 |
| SEGMENT #   | EB009          | TIDAL HEIGHT (Range) | -2.0 => 0.0                 |
| SUBDIVISION | A              | BIOLOGIST            | JIM BARRY                   |
| SEA STATE   | Calm to Choppy | WIND SPEED/DIRECTION | NW 20-25 kt./ Rain          |

## **COMMENTS / OBSERVATIONS - OILED SUBDIVISIONS**

A,B All of the oiled locations on this subdivision were located in the high intertidal zone on angular cobble. The dominant organisms near the oil are black lichen and scattered barnacles, littorines, and limpets. The middle to lower intertidal zones throughout most of this subdivision are composed of extensive eel grass and clam beds. This area is utilized extensively for otter foraging. The middle and lower zones of cobble beaches are covered by Fucus, with dense barnacles and moderately dense mussel beds. Clam beds include several species of clams, as well as infaunal worms, holothurians, and crustaceans. This is a very rich habitat.

All oil found during the survey was removed manually.

## **Summary of Segment EB009-A**

The primary habitat of the segment is the low zone eel grass and clam bed. This habitat is very rich in species common to quiet bays. The upper zones are cobble beaches with sparse barnacles, Fucus, littorines, and mussels. These species become very dense towards the lower intertidal. At the lowest zones, the substratum is sand, peat, and/or cobbles and pebbles. Mud habitats are common. Butter clams, soft-shelled clams, and several other species are common throughout the region. Otter foraging pits are abundant in many sites. Two or three streams flow into the subdivision. These streams have, at their mouths, dense cover of Ulva and filamentous brown algae, in addition to Fucus, barnacles, and littorine snails.

(Continued)

## **WILDLIFE OBSERVATIONS - Completed on all subdivisions**

| BIRDS            | # OF SPECIES | TOTAL BIRDS | FISH OBSERVED<br>SPECIES PRESENT |
|------------------|--------------|-------------|----------------------------------|
| Eagles           | 1            | 1           |                                  |
| Seabirds         |              |             |                                  |
| Waterfowl        | 2            | 6           |                                  |
| Gulls/Kittiwakes | 2            | 13          |                                  |
| Shorebirds       | 1            | 2           |                                  |
| Corvids          |              |             |                                  |
| Other Birds      |              |             |                                  |

| MARINE MAMMALS      | # OBSERVED | LAND MAMMALS<br>SPECIES | # OBSERVED |
|---------------------|------------|-------------------------|------------|
| Sea Otters          |            |                         |            |
| Pinnipeds (specify) |            |                         |            |
| Sea Lion            | 1          |                         |            |
| Whales (specify)    |            |                         |            |

Shoreline subdivision map showing important biological features attached.

EB009-A Biology Report (continued)

Common Species in EB009-A

A. Marine Plants

1. Diatoms, Blue Greens
2. Green Algae - Chlorophyta  
Enteromorpha sp., Ulva sp., Urospora sp., Unknown crustose green algae,  
Unknown filamentous green
3. Brown Algae - Phaeophyta  
Agarum fimbriatum, Costaria costata, Fucus distichus, Hildenbrandia sp.,  
Laminaria saccharina, Ralfsia sp., Syctosiphon lomentaria
4. Red Algae - Rhodophyta  
Membranoptera dimorpha, Odonthalia floccosa, Petrocelis sp., Rhodomela larix,  
Unknown bladelike red algae, Unknown filamentous red algae
5. Higher Plants  
Zostera marina (eel grass), Leymus mollis (beach rye grass)

II. Marine Animals

2. Anemones - Anthopleura artemesia
3. Hydroids - Sertularidae - Sertularella?
5. Flatworms - Platyhelminthes - Polyclads
6. Nemertean Worms - Ribbon Worms - Euplectonema gracile
8. Polychaete worms  
Nereidae - Nereis spp.  
Spirorbidae - Spirorbis sp.
9. Peanut worms - Sipunculids - Phascolosoma agassizii
10. Crustaceans
  - a. Amphipods - Orchestia sp.?
  - b. Barnacles  
Balanus glandula, Chthamalus dalli
  - c. Crabs  
Paguridae (hermit crabs),
  - d. Isopods - Gnorimorsphaeroma oregonensis
11. Mollusca
  - a. Chitons  
Mopalia mucosa, Tonicella lineata,
  - b. Snails - Gastropods  
Littorina scutulata, L. sitkana, Natica clausa, Nucella lamellosa, N.  
lima
  - c. Limpets  
Lottia digitalis, L. persona, Siphonaria thersites,
  - e. Mussels and Clams  
Clinocardium sp., C. nuttalli, Macoma balthica, Macoma nasuta, Mya  
arenaria (soft-shell clam), Mytilus edulis, Prototheca staminea,  
Saxidomus giganteus
12. Echinoderms
  - b. Sea stars  
Dermasterias imbricata, Evasterias truscheli, Leptasterias hexactis,  
Pisaster ochraceus, Pycnopoda helianthoides, Solaster sp.
  - c. Sea Cucumbers - Holothurians - Leptosynapta sp.
13. Bryozoans  
Membranipora sp., Schizoporella sp.
15. Fishes -  
Cottidae  
Stichaeidae - Xiphister atropurpureus, X. mucosus



# Sketch Map

EB009.A

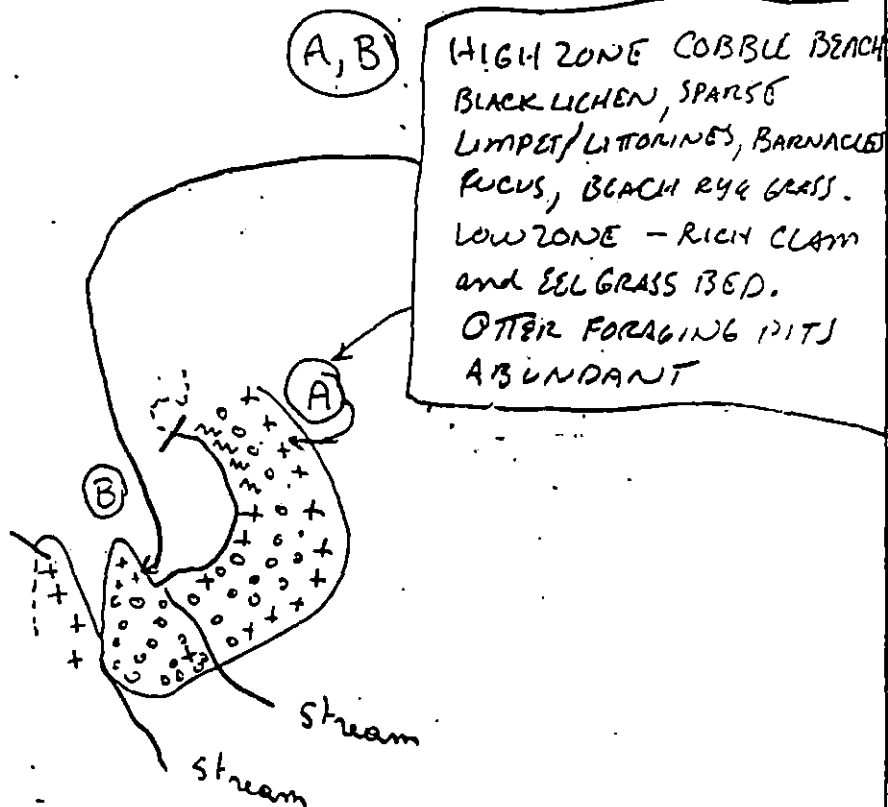
JM SEMPELS

29 April 91

0852 R - 10.00 R

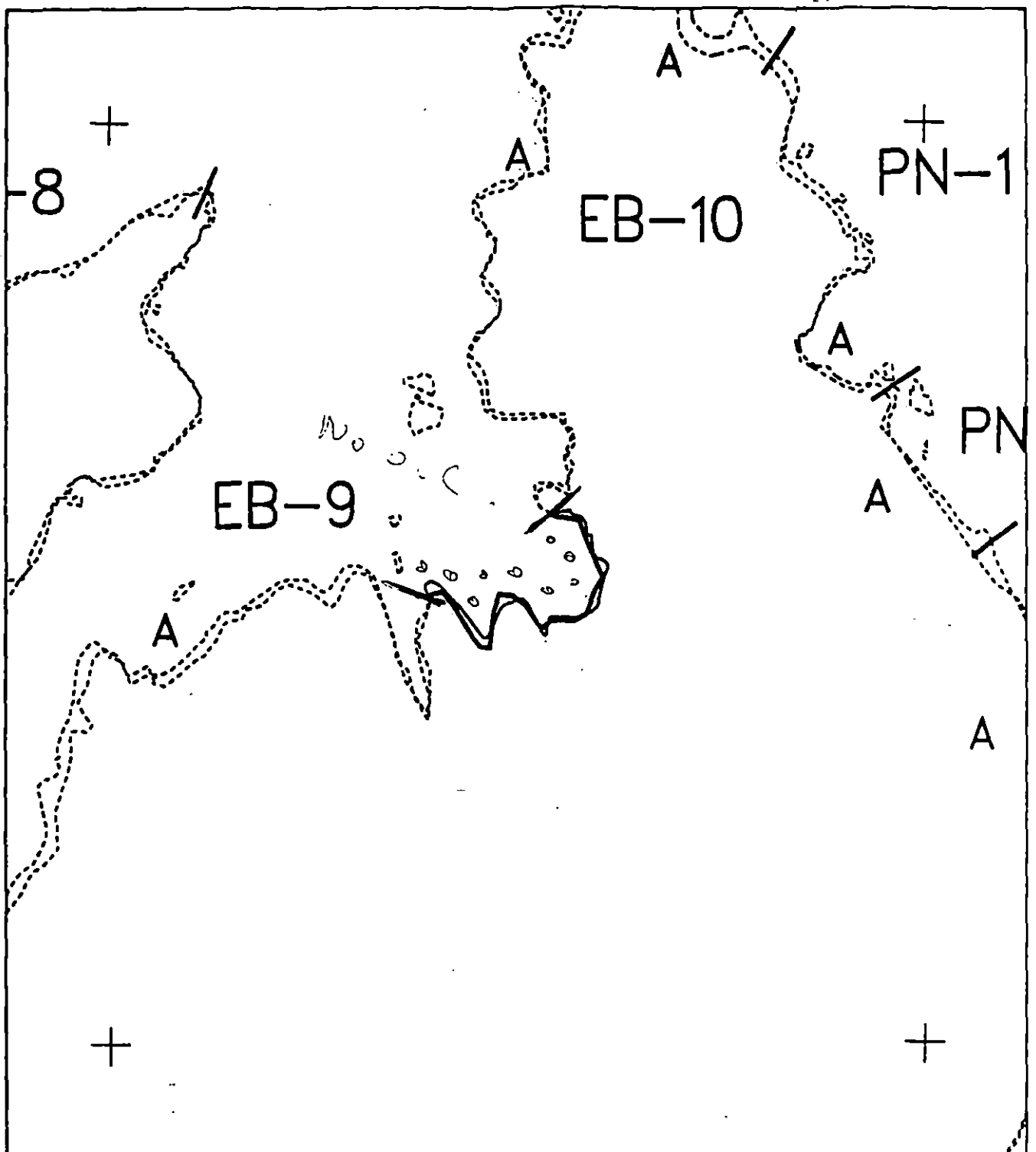
## Legend

- [+] Bedrock
- [o] cb / Ad -
- [~] mud / sand / cb



HIGH ZONE COBBLE BEACH  
BLACK LICHEN, SPARSE  
LIMPET/LITTORINES, BARNACLES  
FUCUS, BEACH RYE GRASS.  
LOW ZONE - RICH CLAM  
AND EEL GRASS BED.  
OTTER FORAGING PITS  
ABUNDANT

7eters  
0 400 800



|      |            |                                                                                                                                                 |                                                                                                                                               |
|------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| XXXX | Wide       | <p align="center"><b>EB009 A</b></p> <p>ADEC Subsegment Length: 1118m</p> <p align="center">METERS</p> <p>AK State Plane Zone 4<br/>pab009a</p> | <p>Subdivision Field Map</p> <p>Map Key: PWSEB009A</p> <p>Name: <i>J. M. Sempine</i></p> <p>Date: <i>28 / Apr 91</i></p> <p>Date Entered:</p> |
| //// | Medium     |                                                                                                                                                 |                                                                                                                                               |
| ---- | Narrow     |                                                                                                                                                 |                                                                                                                                               |
| TTTT | Very Light |                                                                                                                                                 |                                                                                                                                               |
| 0000 | No Oil     |                                                                                                                                                 |                                                                                                                                               |

Reviewed 5/3/91  
 Reviewed: 5/3/91 MC

# 1991 MAYSAP EVALUATION

SEGMENT: EB 009 SUB: A REGION: PWS SURVEY DATE: 4/29/91

## ENVIRONMENTAL SENSITIVITIES:

Work Window(s) RESTRICTED 3/1 - 9/1

Ecological/Constraints (see page two for details) Eagle nest, Fish harvest area

## ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO Signature: Charles E. Holmes Date: 5/10/91

## RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

## COMMENTS:

INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: MAY 10 1991

FOSC APPROVAL DATE: 5/15/91

ADEC

FOSC

EXXON

E. E. PAGE CDR, USCG  
CHIEF OF STAFF, FOSC

USCG

NOAA

**ECOLOGICAL CONSTRAINTS  
1991 FIELD ACTIVITIES**

**Eagle Nest:** Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.

**Fish Harvest Area:** Unlimited treatment unless otherwise directed by ADF&G. Sheen containment/recovery procedures required for mechanical treatment.

## MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 4 SEGMENT EA-009-A SUBDIVISION A DATE 29 APR 91

## ADEC

NAME Dianne Munson SIGNATURE Dianne Munson☒ NTR ☐

A few tar balls were found and removed.

## EXXON

NAME LARRY D. OLSON SIGNATURE Larry D. Olson☒ NTR

Very clean healthy area. No oil was observed or found.

## LANDMANAGER

NAME LARRY EVANOFF OF EVC SIGNATURE LE☒ NTR☐ TREATMENT RECOMMENDED

A FEW TAR BALLS AND AGED TAR SPLATTERS WERE FOUND AND REMOVED.

## USCG/NOAA

NAME CWO2 J. MC NATION SIGNATURE J. Mc Nation☒ NTR

Some TB were removed by team. Determined the segment was found to be clean and free of oil.

PAGE 1 OF

SEGMENT EA009-A

SUBDIVISION A

DATE 29 / Am / 91

ENERGY LEVEL: ☐ H ☐ M ☒ L

WEATHER: ☐ SUN ☒ CLOUDS ☐ FOG ☒ RAIN ☐ SNOW

NEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONE

EST. OIL CATEGORY LENGTH: W \_\_\_\_\_ m M \_\_\_\_\_ m N \_\_\_\_\_ m VL \_\_\_\_\_ m NO ~~780~~ m US \_\_\_\_\_ m

DISTRIBUTION: C = 91-100%; B = 51-90%; P = 11-50%; S = 1-10%; T = <1%

**SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE**

**PHOTO ROLL # MAYSAP-**

## FRAMES

SHEEN COLOR: B = BROWN: R = RAINBOW: S = SILVER: N = NONE

COMMENTS: A sheltered cove. No oil was found other than a few tar "balls" which were picked up and a few old looking tarry splatters that were removed.

reviewed 5/3/91 KG  
 REVIEWED: 5/3/91 MC

# og sketch map

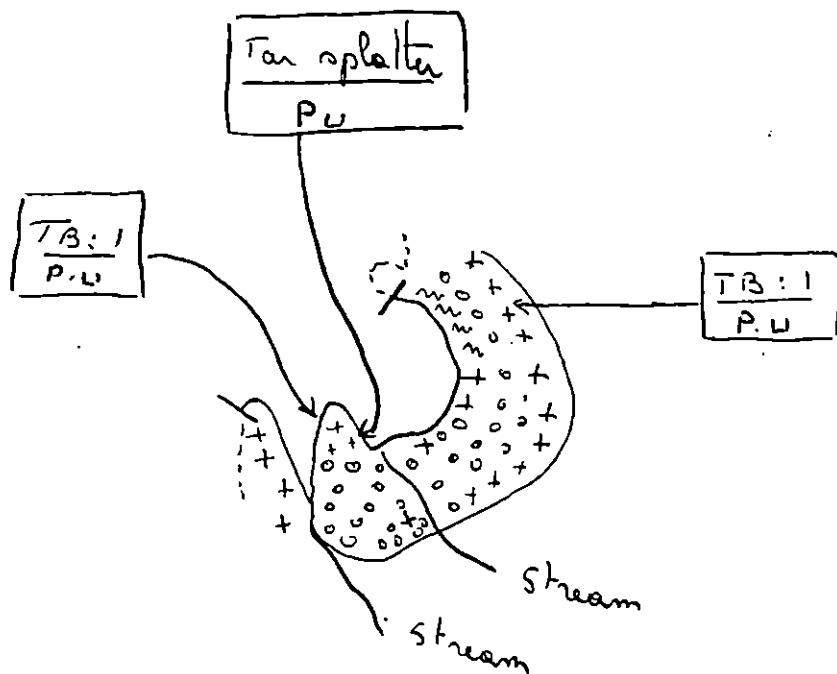
EB009.A  
FM SEMPELS

29 April 91

0852 R - 10.00 R.

## Legend

- [+] Bedrock
- [o] cb / Bd
- [~] mud / sand / cb



7eters  
0 400 800

reviewed 5/3/91 RG  
REVIEWED: 5/5/91 MC

# **NAVSAP BIOLOGICAL SUMMARY FORM**

|             |                |                      |                             |
|-------------|----------------|----------------------|-----------------------------|
| TEAM #      | 4              | DATE/TIME            | April 29, 1991 0850 => 1000 |
| SEGMENT #   | EB009          | TIDAL HEIGHT (Range) | -2.0 => 0.0                 |
| SUBDIVISION | A              | BIOLOGIST            | JIM BARRY                   |
| SEA STATE   | Calm to Choppy | WIND SPEED/DIRECTION | NW 20-25 kt./ Rain          |

## **COMMENTS / OBSERVATIONS - OILED SUBDIVISIONS**

A,B All of the oiled locations on this subdivision were located in the high intertidal zone on angular cobble. The dominant organisms near the oil are black lichen and scattered barnacles, littorines, and limpets. The middle to lower intertidal zones throughout most of this subdivision are composed of extensive eel grass and clam beds. This area is utilized extensively for otter foraging. The middle and lower zones of cobble beaches are covered by Fucus, with dense barnacles and moderately dense mussel beds. Clam beds include several species of clams, as well as infaunal worms, holothurians, and crustaceans. This is a very rich habitat.

All oil found during the survey was removed manually.

## **Summary of Segment EB009-A**

The primary habitat of the segment is the low zone eel grass and clam bed. This habitat is very rich in species common to quiet bays. The upper zones are cobble beaches with sparse barnacles, Fucus, littorines, and mussels. These species become very dense towards the lower intertidal. At the lowest zones, the substratum is sand, peat, and/or cobbles and pebbles. Mud habitats are common. Butter clams, soft-shelled clams, and several other species are common throughout the region. Otter foraging pits are abundant in many sites. Two or three streams flow into the subdivision. These streams have, at their mouths, dense cover of Ulva and filamentous brown algae, in addition to Fucus, barnacles, and littorine snails.

(Continued)

## **WILDLIFE OBSERVATIONS - Completed on all subdivisions**

| BIRDS            | # OF SPECIES | TOTAL BIRDS | FISH OBSERVED<br>SPECIES PRESENT |
|------------------|--------------|-------------|----------------------------------|
| Eagles           | 1            | 1           |                                  |
| Seabirds         |              |             |                                  |
| Waterfowl        | 2            | 6           |                                  |
| Gulls/Kittiwakes | 2            | 15          |                                  |
| Shorebirds       | 1            | 2           |                                  |
| Corvids          |              |             |                                  |
| Other Birds      |              |             |                                  |

| MARINE MAMMALS      | # OBSERVED | LAND MAMMALS<br>SPECIES | # OBSERVED |
|---------------------|------------|-------------------------|------------|
| Sea Otters          |            |                         |            |
| Pinnipeds (specify) |            |                         |            |
| Sea Lion            | 1          |                         |            |
| Whales (specify)    |            |                         |            |

Shoreline subdivision map showing important biological features attached.



EB009-A Biology Report (continued)

Common Species in EB009-A

A. Marine Plants

1. Diatoms, Blue Greens
2. Green Algae - Chlorophyta  
Enteromorpha sp., Ulva sp., Urospora sp., Unknown crustose green algae,  
Unknown filamentous green
3. Brown Algae - Phaeophyta  
Agarum fimbriatum, Costaria costata, Fucus distichus, Hildenbrandia sp.,  
Laminaria saccharina, Ralfsia sp., Syctosiphon lomentaria
4. Red Algae - Rhodophyta  
Membranoptera dimorpha, Odonthalia floccosa, Petrocelis sp., Rhodomela larix,  
Unknown bladelike red algae, Unknown filamentous red algae
5. Higher Plants  
Zostera marina (eel grass), Leymus mollis (beach rye grass)

II. Marine Animals

2. Anemones - Anthopleura artemesia
3. Hydroids - Sertularidae - Sertularella?
5. Flatworms - Platyhelminthes - Polyclads
6. Nemertean Worms - Ribbon Worms - Emplectonema gracile
8. Polychaete worms  
Nereidae - Nereis spp.  
Spirorbidae - Spirorbis sp.
9. Peanut worms - Sipunculids - Phascolosoma agassizii
10. Crustaceans
  - a. Amphipods - Orchestia sp.?
  - b. Barnacles  
Balanus glandula, Chthamalus dalli
  - c. Crabs  
Paguridae (hermit crabs).
  - d. Isopods - Gnorimorsphaeroma oregonensis
11. Mollusca
  - a. Chitons  
Mopalia mucosa, Tonicella lineata,
  - b. Snails - Gastropods  
Littorina scutulata, L. sitkana, Natica clausa, Nucella lamellosa, N.  
lima
  - c. Limpets  
Lottia digitalis, L. persona, Siphonaria thersites,
  - e. Mussels and Clams  
Clinocardium sp., C. nuttalli, Macoma balthica, Macoma nasuta, Mya  
arenaria (soft-shell clam), Mytilus edulis, Prototheca staminea,  
Saxidomus giganteus
12. Echinoderms
  - b. Sea stars  
Dermasterias imbricata, Evasterias truscheli, Leptasterias hexactis,  
Pisaster ochraceus, Pycnopoda helianthoides, Solaster sp.
  - c. Sea Cucumbers - Holothurians - Leptosynapta sp.
13. Bryozoans -  
Membranipora sp., Schizoporella sp.
15. Fishes -  
Cottidae  
Stichaeidae - Xiphister atropurpureus, X. mucosus

# Sketch Map

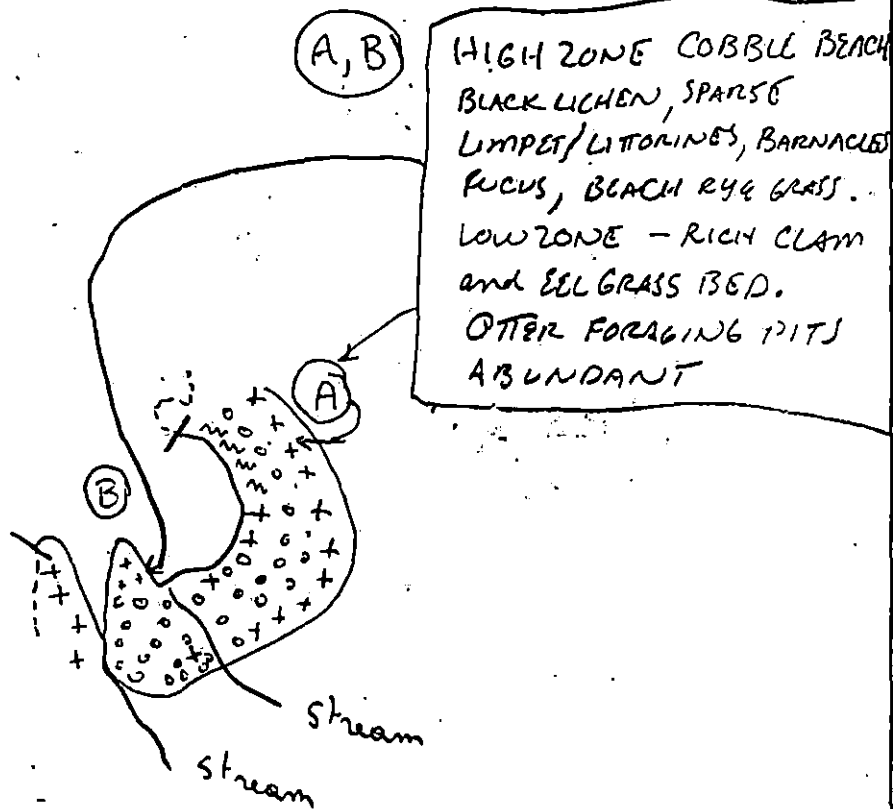
EB009.A  
fM SEMPELS

29 April 91

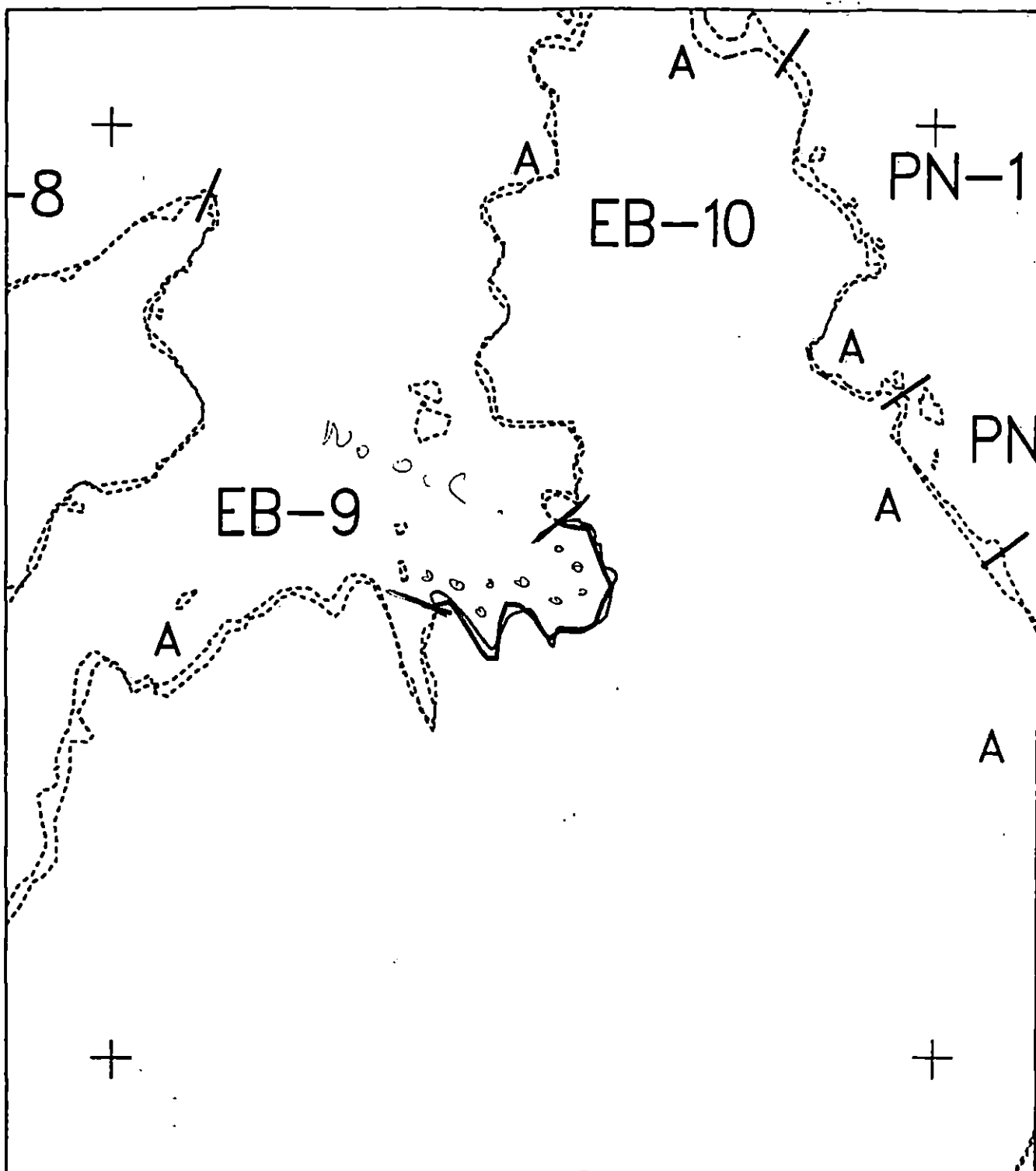
0852 R - 10.00 R

## Legend

- [+] Bedrock
- [o] cb / Bd -
- [wavy] mud / sand / cb



7eters  
0 400 800



XXXX Wide  
 //// Medium  
 ---- Narrow  
 TTTT Very Light  
 0000 No Oil

EB009 A

ADEC Subsegment Length: 1116m

METERS

0 400 800

AK State Plane Zone 4  
pub000a



Subdivision Field Map

Map Key: PWSE000A

Name: *John Sempala*

Date: *28/Apr/91*

Date Entered:

reviewed 5/3/91 KG  
 REVIEWED: 5/3/91 MC

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/EB-10

SUBDIVISIONS: A (1 OF 1)

SHORELINE EVALUATION

SEGMENT ST/ EB-10 SUBDIVISION A (1 OF 1) DATE 4/9/90

**SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:**

1E Main Bay Hatchery release (4/20 to 5/10)  
1L Set net sites (6/11 to 7/25)  
5T-2 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)  
6Y Recreation: Special use destination  
See attached Ecological Constraint sheet for specific constraints and contacts.

**SUBDIVISION ECOLOGICAL CONSTRAINTS:**

Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

**ARCHAEOLOGICAL CONSTRAINTS:**

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**OILING CATEGORIZATION:**

Wide 0 m: Medium 0 m: Narrow 30 m: V.Light 638 m: No Oil 1830 m  
Subsurface Oil Observed: Yes \_\_\_\_\_ No X Maximum Depth \_\_\_\_\_

**RECOMMENDATIONS:**

|                                                           |                                                        |
|-----------------------------------------------------------|--------------------------------------------------------|
| <input type="checkbox"/> No Treatment Recommended         | <input type="checkbox"/> Snare/Absorbent Booms         |
| <input checked="" type="checkbox"/> Treatment Recommended | <input type="checkbox"/> Oil Snares (pom poms)         |
| <input type="checkbox"/> Manual Pickup                    | <input type="checkbox"/> Absorbents (pads, rolls, etc) |
| <input checked="" type="checkbox"/> Bioremediation        | <input type="checkbox"/> Spot Washing: _____ Wands     |
| <input type="checkbox"/> Tarmat: _____ Breakup            | <input type="checkbox"/> Beach Cleaner                 |
| <input type="checkbox"/> Removal                          | <input type="checkbox"/> Other (see comments)          |

COMMENTS: Recommend bioremediation of oil cover and coat areas. Work should be conducted after 6/1 with USFWS permission due to eagle nest constraint.

TAG COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TAG APPROVAL DATE: \_\_\_\_\_

ADEC \_\_\_\_\_  
EXXON \_\_\_\_\_  
NOAA \_\_\_\_\_  
USCG \_\_\_\_\_

FOSC: \_\_\_\_\_ DATE: \_\_\_\_\_

# PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)  
 1B Salmon stream mouth - spawning (7/10 to 8/31)  
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
- 1C Salmon fry nursery area (4/31 to 7/31)  
 1D Esther Hatchery release (4/15 to 6/1)  
 1E Main Bay Hatchery release (4/20 to 5/10)  
 1F Sawmill Bay Hatchery release (4/15 to 6/1)  
 1G Cannery Creek Hatchery release (4/21 to 6/1)  
 1H Remote release site  
 1I Gill net area (6/7 to 8/31)  
 1J Purse seine area (7/20 to 9/30)  
 1K Purse seine hook-off (7/20 to 9/30)  
 1L Set net sites (6/11 to 7/25)  
 For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
- 2M Herring spawning (4/1 to 6/15)  
 Restrict boat traffic to essential minimum. Avoid damage to unopened intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
- 3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)  
 3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)  
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
- 5R Seabird colony (5/1 to 9/1)  
 Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)  
 Restrict all activity to essential minimum, especially air traffic.
- 5T All Bald Eagle nests (3/1 to 6/1)  
 Active Bald Eagle nests (3/1 to 9/1)  
 Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
- 6U Recreation: Tent sites (6/1 to 9/15)  
 6V Anchorages (6/1 to 9/15)  
 6W Forest Service cabins (6/1 to 9/15)  
 6X Lodge (6/1 to 9/15)  
 6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)  
 7HH Finfish harvesting  
 7II Deer harvesting (8/15 to 2/28)  
 7JJ Invertebrate harvesting  
 For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

## FIELD SHORELINE COMMENT SHEET

(15)

SEGMENT ST EB-010 SUBDIVISION: A DATE 4/9/90

USCG

NAME Kerwin L. Dreher SIGNATURE CWO2 K. L. Dreher☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

## COMMENTS

On eastern edge of segment is a quantity of oiled surface material that should be removed manually. The remainder of the subsection would not necessitate any organized clean up effort. There are a minimum of tar like splatters perhaps 4-6 mm thick and 7-10 cm diameter that should not pose a problem to the ecosys.

ADEC

NAME PATRICK J. ENDRES SIGNATURE Patrick J. Endres☐ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED☒ PERHAPS

## COMMENTS

Overall, oiling is very light with tar bands and splatters in discontinuous fashion along headlands. On the Eastern most portion of the segment on a pocket beach, there is oiling in the form of soft asphalt and fine sediment saturation of the initial 1-4 cm. It exists in the upper mite to Hitz sporadically. (see map for details) If this is removed concerns should be given to the mussel beds and other biota in the Litz - that they are not damaged by human traffic. A crew of a few people could effectively remove this oil with shovels or small shovels. I have some hesitations about recommending treatment primarily centered around the more harm than good issue?

LAND MANAGER

NAME LARRY M. EVANOFF SIGNATURE LM☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

## COMMENTS

RECOMMEND MANUAL REMOVAL. NO BIOREMEDIATION

## SHORELINE OILING SUMMARY

REVISION NO. COVERED

OG N. BIGGAR USCG K. DREYER SEGMENT ST/ EB-10  
K. COATES LAND REP L. BLANDOFF (CVC) SUBDIVISION A (1051)  
G. STILES ADEC P. ENDRIS TIME 16:45 to 18:00  
 TEAM NO.: 14 TIDE LEVEL: +5.0' to 0.0' S.C. DATE 4/9/90 4/10:  
 EST. SUBDIVISION LENGTH: 2024 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow 9:00-11:30  
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock  
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: E to W  
 SURFACE SEDIMENTS: R 70 % B 15 % C 15 % P 0 % G 0 % S 0 % M 0 % V 0 %  
 SLOPE: Long 30 % Hang 30 % Vert 4:0 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High  
 OIL CATEGORY LENGTH: W 0 m M 0 m N 30 m VL 648 m NO 2146 m

## SURFACE OIL

| CHARACTER        | DISTRIBUTION |   |   |   | OIL / FILM COLOR |   |   |   | IMPACTED ZONES |   |   |   |
|------------------|--------------|---|---|---|------------------|---|---|---|----------------|---|---|---|
|                  | C            | B | P | N | 1                | 2 | 3 | 4 | SU             | U | M | V |
| ASPHALT PAVEMENT |              |   |   |   |                  |   |   |   |                |   |   |   |
| POOLED           |              |   |   |   |                  |   |   |   |                |   |   |   |
| COVER            | X            |   |   | X | X                |   |   |   |                | X |   |   |
| COAT             | X            | X | X | X | X                |   |   |   |                | X |   |   |
| STAIN            |              |   |   | X | X                |   |   |   |                | X |   |   |
| MOUSSE           | X            |   |   | X |                  |   |   |   | X              | X |   |   |
| PATTIES          |              |   |   |   |                  |   |   |   |                |   |   |   |
| TARBALLS         |              |   |   |   |                  |   |   |   |                |   |   |   |
| FILM             |              |   |   |   |                  |   |   |   |                |   |   |   |
| NO OIL           |              |   |   |   |                  |   |   |   | 5              |   | X | X |

PAVEMENT: H F S 0 sq. m by 0 cmPATTIES / TARBALLS 21 BAGSNEAR SHORE SHEEN? ☒ NO BR RW SL TL

| OILED DEBRIS | AMOUNT |    |    |
|--------------|--------|----|----|
|              | SM     | MD | LG |
| Logs         |        |    |    |
| Vegetation   |        |    |    |
| Trash        |        |    |    |
| Debris       | X      |    |    |

DEBRIS COLLECTED  
☒ YES ☐ NOTYPE polymers#BAGS <1

Photographs:

Roll No. 2Frames 24, 25, 26

## SUBSURFACE OIL

| PIT NO. | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER |    |    |    |    | OILED INTERVAL (CM) | BELOW |    | OIL / FILM COLOR |   |   |   | PIT ZONE |   |   |   | A N A | SUBSURFACE SEDIMENTS |
|---------|----------------|--------------------------|----|----|----|----|---------------------|-------|----|------------------|---|---|---|----------|---|---|---|-------|----------------------|
|         |                | OP                       | OR | OL | OF | NO |                     | UO    | VO | 1                | 2 | 3 | 4 | SU       | U | M | V |       |                      |
| 1       | 20             |                          | X  |    |    |    | 0-2                 |       | X  | X                |   | X |   |          | X |   |   |       | S.P.C.               |
| 2       | 20             |                          |    |    |    | X  | -                   |       | X  |                  |   |   |   |          | X |   |   |       | S.P.C.               |
| 3       | 20             |                          |    |    |    | X  | -                   |       | X  |                  |   |   |   |          | X |   |   |       | C.P.                 |
| 4       | 20             |                          |    |    |    | X  | -                   |       | X  |                  |   |   |   |          | X |   |   |       | S.P.C.               |
|         |                |                          |    |    |    |    | -                   |       |    |                  |   |   |   |          |   |   |   |       |                      |
|         |                |                          |    |    |    |    | -                   |       |    |                  |   |   |   |          |   |   |   |       |                      |

## COMMENTS

Oiling was concentrated on N end of point. The only evidence of oil observed along S 1/2 of segment was a tar ball at the extreme S end. Coastline is protected and consists in large part of granite exposures with few cobbles and boulder beaches. Tuwa grows up into UITE, from low to moderate angled beaches, UITE was covered with up to 4 feet of snow.

ADEC  
RTE

REVIEWER

DATE

TW

4/12/90



1 of 2 (13)  
REVISION: 03/22/90

## SHORELINE ECOLOGICAL SUMMARY

Segment ST-1 E8010 Subdivision A Date (mo / day / yr) 04.09.90Time (24 hr) 0900-1025  
1600-1802 Biologist KA Coates04.10.90

(A) Substrate type and % of segments:

(1) Bedrock 70 (2) Boulder 15 (3) Cobble 15 (4) Pebble + (5) Sand + (6) Silt +

lowest intertidal &amp; just subtidal

(B) Overall % cover of biota (% of segment): Dense 60 Moderate 20 Low 20

(C) Density, substrate preference (by number from A, above), &amp; vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs:

Roll No. ST-14-2Frames 24-26

## BARNACLES

| Dense    | Moderate | Sparse   | Rare     |
|----------|----------|----------|----------|
| 1U 1M 1L | 1U 1M 1L | 1U 1M 1L | 1U 1M 1L |
| 2 2 2    | 2 2 2    | 2 2 2    | 2 2 2    |
| 3 3 3    | 3 3 3    | 3 3 3    | 3 3 3    |
| 4 4 4    | 4 4 4    | 4 4 4    | 4 4 4    |
| 5 5 5    | 5 5 5    | 5 5 5    | 5 5 5    |
| 6 6 6    | 6 6 6    | 6 6 6    | 6 6 6    |

NOT PRESENT

## MYTILUS

| Dense    | Moderate | Sparse   | Rare     |
|----------|----------|----------|----------|
| 1U 1M 1L | 1U 1M 1L | 1U 1M 1L | 1U 1M 1L |
| 2 2 2    | 2 2 2    | 2 2 2    | 2 2 2    |
| 3 3 3    | 3 3 3    | 3 3 3    | 3 3 3    |
| 4 4 4    | 4 4 4    | 4 4 4    | 4 4 4    |
| 5 5 5    | 5 5 5    | 5 5 5    | 5 5 5    |
| 6 6 6    | 6 6 6    | 6 6 6    | 6 6 6    |

NOT PRESENT

## GASTROPODS

| Dense    | Moderate | Sparse   | Rare     |
|----------|----------|----------|----------|
| 1U 1M 1L | 1U 1M 1L | 1U 1M 1L | 1U 1M 1L |
| 2 2 2    | 2 2 2    | 2 2 2    | 2 2 2    |
| 3 3 3    | 3 3 3    | 3 3 3    | 3 3 3    |
| 4 4 4    | 4 4 4    | 4 4 4    | 4 4 4    |
| 5 5 5    | 5 5 5    | 5 5 5    | 5 5 5    |
| 6 6 6    | 6 6 6    | 6 6 6    | 6 6 6    |

NOT PRESENT

## FUCUS

| Dense    | Moderate | Sparse   | Rare     |
|----------|----------|----------|----------|
| 1U 1M 1L | 1U 1M 1L | 1U 1M 1L | 1U 1M 1L |
| 2 2 2    | 2 2 2    | 2 2 2    | 2 2 2    |
| 3 3 3    | 3 3 3    | 3 3 3    | 3 3 3    |
| 4 4 4    | 4 4 4    | 4 4 4    | 4 4 4    |
| 5 5 5    | 5 5 5    | 5 5 5    | 5 5 5    |
| 6 6 6    | 6 6 6    | 6 6 6    | 6 6 6    |

NOT PRESENT

Wildlife Observations/ General Comments: Known sensitivities: recreation - special destination; Main Bay hatchery; set net site; <sup>observed</sup> pair mature eagles roosting at northeast point + juvenile; seal just offshore; 3 pairs harlequins; sea otter in area.

Ecological Considerations:

Sea otter "clawing" area in south bay; productive surf grass pools with mussels in northeast. Complex, productive subhabitats and lower intertidal zone should not be disturbed.

ADL  
PDE

(14)

2 of 2

Stent: ST-EB010 Subdivision: A Date: 04.09.90 Time: 1015-1025  
1640-1802

Biologist: KA Coates

04.10.90

0855-1025

### Notes:

1. Northeast beach: and outcrop - Littorines, limpets and oligochaetes moderate to abundant on lower surface and under upper intertidal boulders over oiled sediments. In adjacent, lower mid intertidal shallow pools with Phyllospadix, mussels moderately abundant as well as around cobbles in gravel and sand adjacent to pool.
2. Other moderate to dense organisms in pool: hermit crabs and sculpins, Littorina; shells of Saxidomus, small Macoma, rare Modiolus; branching stage of Lithothamnium, Endocladia, washed Laminaria saccharina, Ulva and higher over saturated sediments. Littorina scutulata laying communal egg masses at lower intertidal, on underside of cobbles.
3. Notoacmea and hermit crabs moderate under cobble into mid intertidal. On low energy beach with small cobbles, barnacles sparse to moderate into upper intertidal.
4. Bedrock community more or less "usual" with relatively denser Fucus and fewer barnacles barnacles although with moderate to dense new settlement of metamorphosed but only 1-2 mm. Nucella lamellosa moderate up to upper mid intertidal.
5. Mussel-sand tombolo in southeast with Hiatella Clinocardium; Protothaca shells; live Nucella lamellosa unid. d.
6. Pycnopodia and (5-armed grey seastar)\* just subtidal. ROSE RISE



BIC-MAP

PWS  
105 B

(12)

Surveyed by  
helicopter  
no visible oil

EB-10

pg. 2

Edge Nest

XXXX Wide  
//// Medium  
--- Narrow  
TTTT Very Light  
0000 No Oil

EB-10

ADEC Segment Length: 2498m



Map Key: PWS-1050

Name: N. BIGGAR

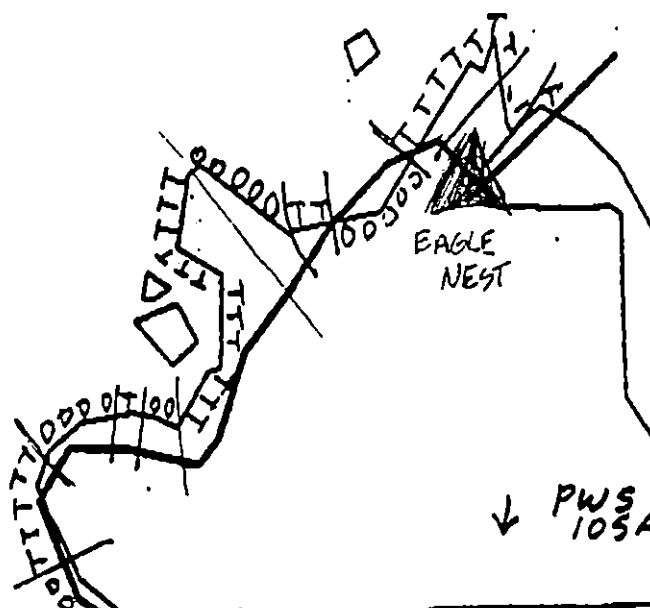
Date: 4/9/10/90

Date Entered:

ADEC  
RCE

BIC-MAP

EB-10 pg. 1



XXXX Wide  
//// Medium  
--- Narrow  
TTTT Very Light  
0000 No Oil

EB-10

ADEC Segment Length: 2498m



Map Key: PWS-105b

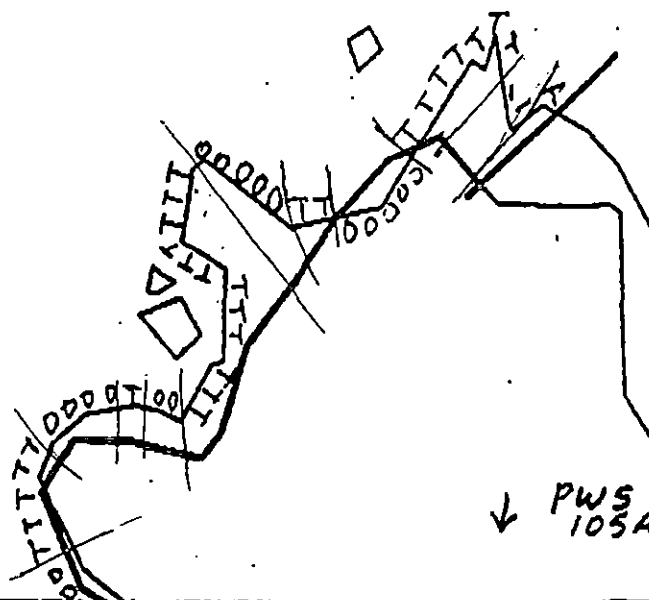
Name: N. BIGGAR

Date: 4/9/10/90

Date Entered:

(11)

EB-10 pg. 1



XXXX Wide  
 /// Medium  
 --- Narrow  
 TTTT Very Light  
 OOOO No Oil

EB-10

ADEC Segment Length: 2498m



Map Key: PWS-105b

Name: N. BIGGAR

Date: 4/9/90

Date Entered:

PWS  
1058

(12)

Surveyed by  
helicopter  
no visible oil

EB-10.

pg. 2



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

EB-10

ADEC Segment Length: 2498m

0 100 200 300  
METERS

Map Key: PWS-105a

Name: N. BIGGARDate: 4/9, 10/90

Data Entered:

ADEC  
FILE

## ADDENDUM: SUBDIVISION CONSTRAINTS

### SEGMENT EB-10 SUBDIVISION A (1 of 1)

#### WORK WINDOW

|                                         |                |
|-----------------------------------------|----------------|
| Manual Pickup Less Than 400m From Nest  | CLOSED         |
| Manual Pickup More Than 400m From Nest  | OPEN           |
| Bioremediation Less Than 400m From Nest | CLOSED         |
| Bioremediation More Than 400m from Nest | WORK 6/4 - 6/7 |

#### ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

#### APPLICABLE ECOLOGICAL TIME CONSTRAINTS

- |    |                           |                                                                                                                                                                                                                      |
|----|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1E | Main Bay Hatchery Release | No constraint to manual pickup. Subdivision open to bioremediation 6/4 to 6/8 per verbal authorization from Larry Peltz/ADF&G to Tom Monihan/Exxon on 5/24/90. No constraint to bioremediation after 6/15.           |
| 1L | Set Net Sites             | No constraint to manual pickup. Closed to bioremediation from 6/11 to 7/25.                                                                                                                                          |
| 5T | Bald Eagle Nest           | USFWS bald eagle impact assessment completed on 5/15/90 by Mike Lockhart indicates an active bald eagle nest in Subdivision A. Subdivision is closed to manual pickup and bioremediation within 400m of active nest. |
| 1I | Gill Net Area             | No constraint to manual pickup. Closed to bioremediation after 6/7.                                                                                                                                                  |

#### OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic and all disturbance to essential minimum. No personnel or boat traffic within 400m of active nests. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from active nests. Avoid any unnecessary disturbance or damage to uncolled biota and substrate. Avoid dense mussel beds.

400m  
Ann 43

TAG APPROVAL DATE 6/04/90  
ADEC Ran Morris  
EXXON Andrew  
NOAA Joseph Tuller  
USCG G.A. Britten

FOSC

Date

6/7/90

Prepared by

Anda Meyer PP

Date

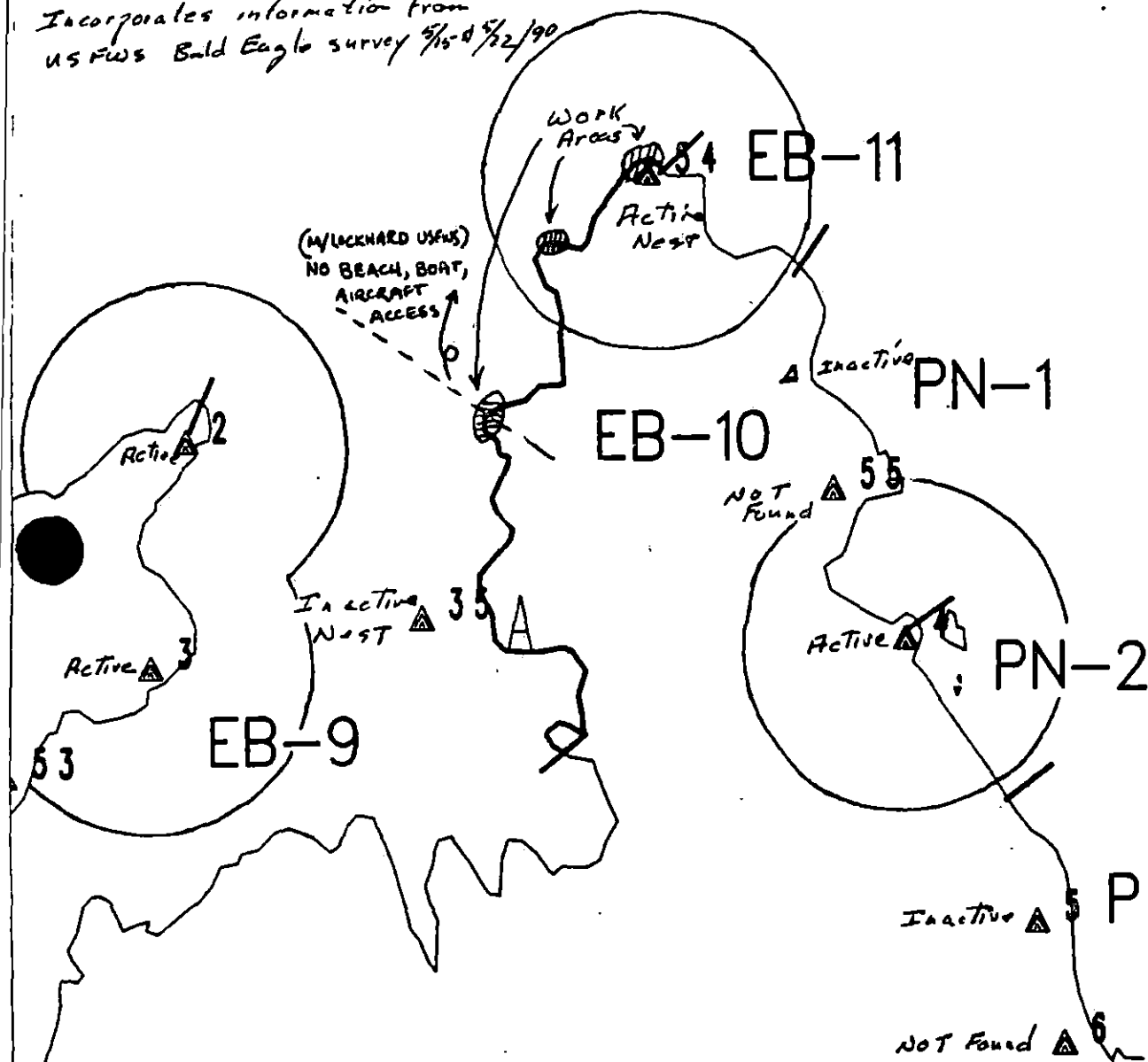
6/3/90



EB-5

EB-6

Incorporates information from  
USFWS Bald Eagle survey 5/10-5/12/90



Exxon Company, USA  
Map Keys: PMS-EB-10  
May 11, 1990



**ECOLOGY MAP** 5/28  
SEGMENT EB-10  
SUBDIVISION A (1 of 1)  
METERS  
0 418 831

★ Seabird Colony  
▲ Eagle Nest

1 inch = 1364 feet

# SHORELINE EVALUATION

SEGMENT ST/ EB-10 SUBDIVISION A (1 OF 1) DATE 4/9/90

## SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1E Main Bay Hatchery release (4/20 to 5/10)  
1L Set net sites (6/11 to 7/25)  
5T-2 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)  
6Y Recreation: Special use destination  
See attached Ecological Constraint sheet for specific constraints and contacts.

## SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

## ARCHAEOLOGICAL CONSTRAINTS:

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: [Signature]

DATE: 4/23/90

## OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 30 m: V.Light 638 m: No Oil 1830 m  
Subsurface Oil Observed: Yes      No X Maximum Depth     

## RECOMMENDATIONS:

|                                                                   |                                                          |
|-------------------------------------------------------------------|----------------------------------------------------------|
| <input type="checkbox"/> No Treatment Recommended                 | <input type="checkbox"/> Snare/Absorbent Booms           |
| <input checked="" type="checkbox"/> Treatment Recommended         | <input type="checkbox"/> Oil Snares (pom poms)           |
| <input checked="" type="checkbox"/> Manual Pickup                 | <input type="checkbox"/> Absorbents (pads, rolls, etc)   |
| <input checked="" type="checkbox"/> Bioremediation                | <input type="checkbox"/> Spot Washing: <u>    </u> Wands |
| <input type="checkbox"/> Tarmat: <input type="checkbox"/> Breakup | <input type="checkbox"/> Beach Cleaner                   |
| <input type="checkbox"/> Removal                                  | <input type="checkbox"/> Other (see comments)            |

COMMENTS: Recommend bioremediation of oil cover and coat areas. Work should be conducted after 6/1 with USFWS permission due to eagle nest constraint.

MANUAL PICKUP OF OIL PRIOR TO BIOREMEDIATION AVOID DENSE MUSSEL BEDS  
SEE Addendum dated 6/3/90 [PP]

TAG COMMENTS:     

TAG APPROVAL DATE: 4/23/90

ADEC ART WEINER  
EXXON ANDY TAYLOR  
NOAA JOSEPH TALBOT  
USCG KENNETH KEANE

FOSC: [Signature] DATE: 5-18-90

NOTIFY CVC PRIOR 24 HRS PRIOR  
TO TREATMENT

# SHORELINE EVALUATION

SEGMENT ST/ EB-10 SUBDIVISION A (1 OF 1) DATE 4/9/90

## SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1E Main Bay Hatchery release (4/20 to 5/10)  
1L Set net sites (6/11 to 7/25)  
5T-2 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)  
6Y Recreation: Special use destination  
See attached Ecological Constraint sheet for specific constraints and contacts.

## SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

## ARCHAEOLOGICAL CONSTRAINTS:

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: J. Daniel McManis DATE: 4/23/90

## OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 30 m: V.Light 638 m: No Oil 1830 m  
Subsurface Oil Observed: Yes        No X Maximum Depth       

## RECOMMENDATIONS:

|                                             |                                                 |
|---------------------------------------------|-------------------------------------------------|
| <u>      </u> No Treatment Recommended      | <u>      </u> Snare/Absorbent Booms             |
| <u>X</u> Treatment Recommended              | <u>      </u> Oil Snares (pom poms)             |
| <u>X</u> Manual Pickup                      | <u>      </u> Absorbents (pads, rolls, etc)     |
| <u>X</u> Bioremediation                     | <u>      </u> Spot Washing: <u>      </u> Wands |
| <u>      </u> Tarmat: <u>      </u> Breakup | <u>      </u> Beach Cleaner                     |
| <u>      </u> Removal                       | <u>      </u> Other (see comments)              |

COMMENTS: Recommend bioremediation of oil cover and coat areas. Work should be conducted after 6/1 with USFWS permission due to eagle nest constraint.

MANUAL PICKUP OF OIL PRIOR TO BIOREMEDIATION AVOID OILY MUSSEL BEDS

TAG COMMENTS:       

TAG APPROVAL DATE: 4/23/90

ADEC ART WEINER  
EXXON ANDY TEE  
NOAA JOSEPH TALLANT  
USCG KENNETH KEANE

FOSC: W L DATE: 5-18-90

NOTIFY CVC 24 HRS PRIOR TO WORK.

OG N. BIGGAR

SEGMENT STI EB-010

SUBDIVISION A

DATE 4 19, 10 90

### CHECKLIST

- ☒ N Area
- ☒ Approx. Scale
- ☒ Seg/Sub Entry
- ☒ Oil Dist.
- ☒ Width
- ☒ Length
- ☒ % Cover
- ☒ Substrate Character
- ☒ Est. NWLA/WL
- ☒ SSI
- ☒ Profile Location(s)
- ☒ Profile(s)
- ☒ Photo Location(s)
- ☒ Photo Location(s)

### LEGEND

1 Δ  
PR - No Subsurface Oil

2 Δ  
PR - Subsurface Oil

CT/C  
Continuous Distribution

CT/B  
Broken Distribution

CT/P  
Patchy Distribution

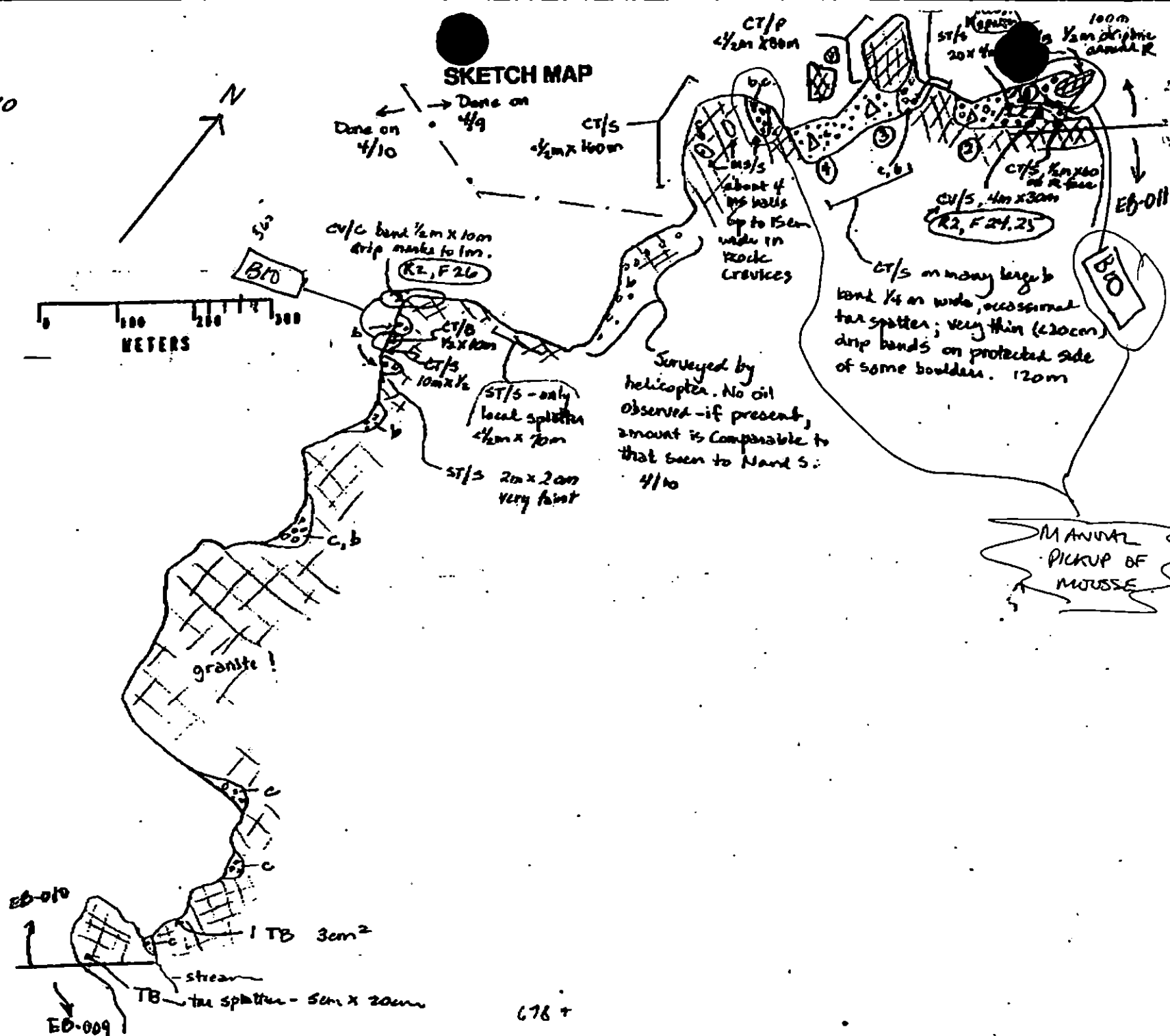
CT/S  
Splashed Distribution

Oil Vegetation

Photo location, direction, and number

REC  
KTE

### SKETCH MAP



Oil Character Length (m): AP 0 PO 0 CV 40 CT 544 ST 92 MS <1 PT 0 TB <1 FL 0 NO 2146

REVISION: 03/2000

BIC-MAP

PWS  
1058

(12)

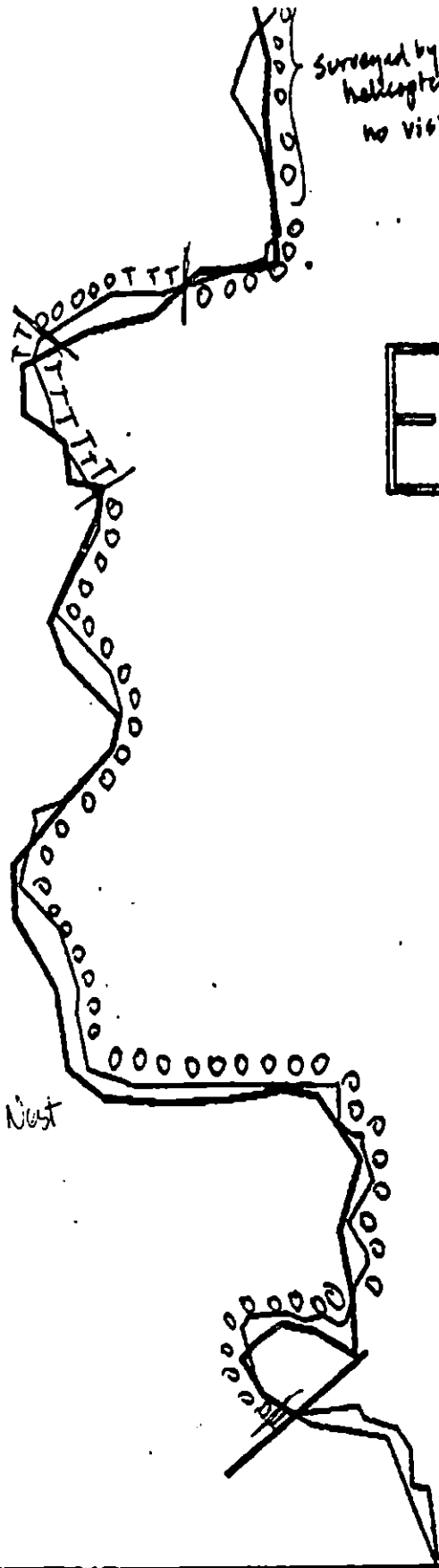
Surveyed by  
helicopter  
no visible oil

EB-10.

pg. 2



Eagle Nest



ADEC  
RTR

XXXX Wide  
//// Medium  
--- Narrow  
TTTT Very Light  
0000 No Oil

EB-10

ADEC Segment Length: 2498m

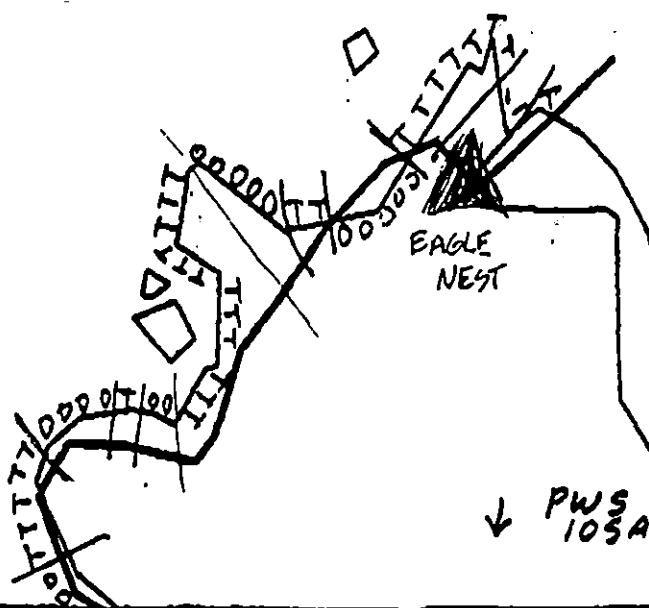


Map Key: PWS-1030  
Name: N. BIGGAR  
Date: 4/9.10/90  
Date Entered:

BIC-MA<sup>2</sup>

(11)

EB-10 pg. 1



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

EB-10

ADEC Segment Length: 2498m



Map Key: PWS-105b

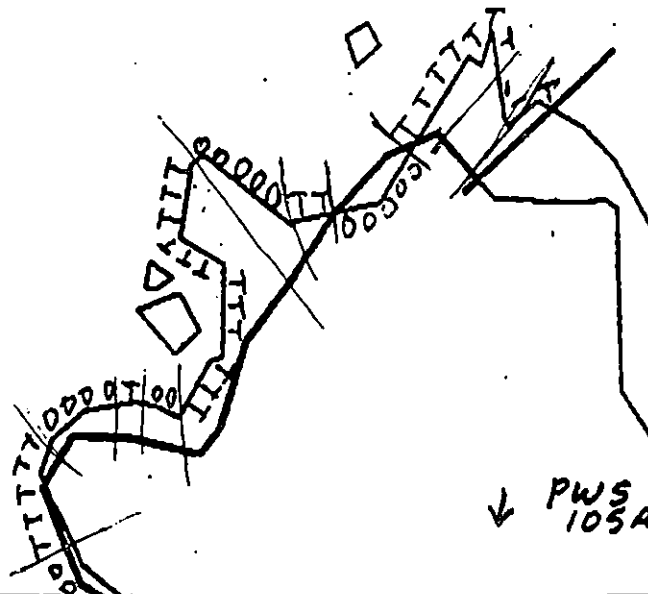
Name: N. BIGGAR

Date: 4/9/10/90

Date Entered:

(11)

EB-10 pg. 1



ANEX  
PUE

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

EB-10

ADEC Segment Length: 2498m



Map Key: PWS-105b

Name: N. BIGGAR

Date: 4/9/10/90

Date Entered:



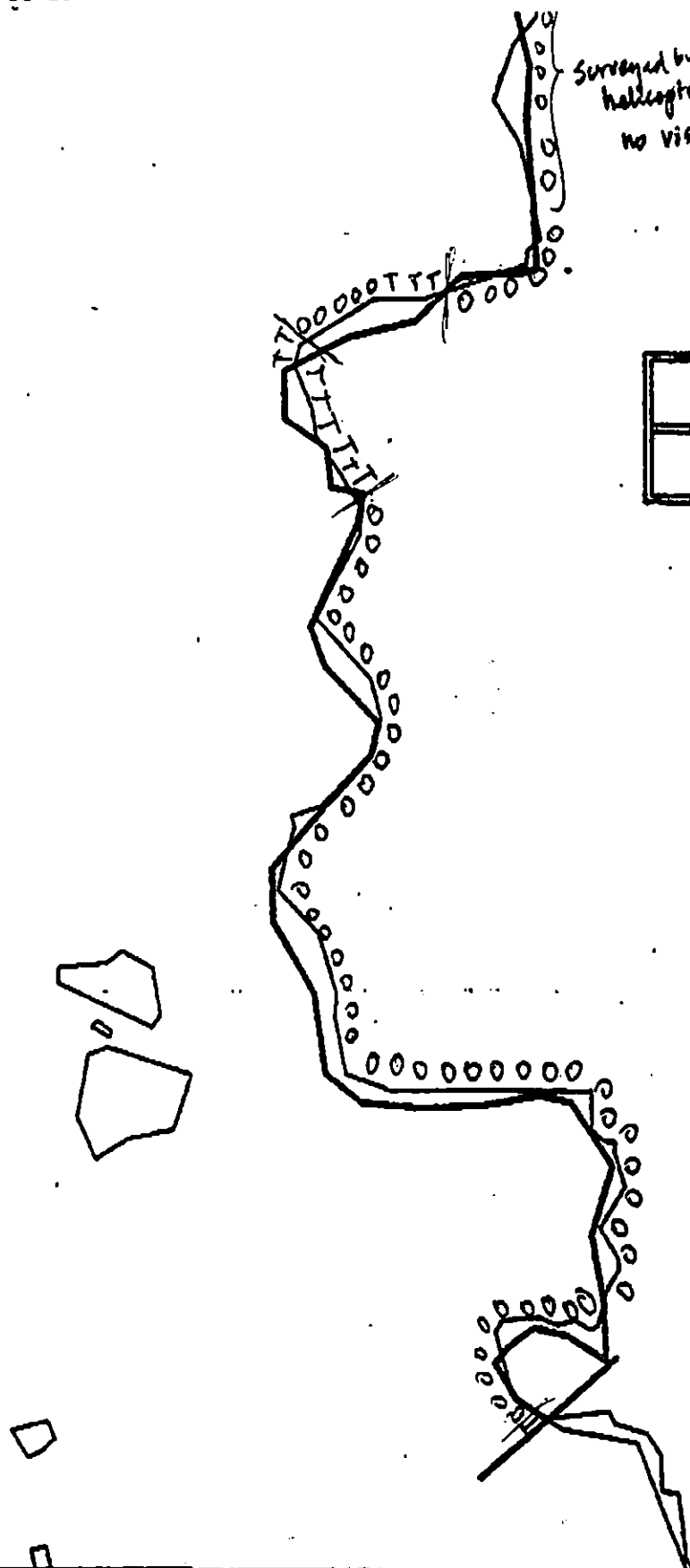
PWS  
1058

(12)

Surveyed by  
helicopter  
no visible oil

EB-10

pg. 2



ADEK  
FILE

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

EB-10

ADEC Segment Length: 2498m



Map Key: PWS-105a

Name: N. BIGGAR

Date: 4/9/10/90

Date Entered:



1991 MAYSAP EVALUATION

SEGMENT: EB 010 SUB: A REGION: PWS SURVEY DATE: 4/29/91

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) RESTRICTED 3/1 - 9/1

Ecological/Constraints (see page two for details) Eagle nest,  
Fry release, Fish harvest area

ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is  
required prior to shoreline treatment.

SHPO Signature: \_\_\_\_\_ Date: \_\_\_\_\_

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL: \_\_\_\_\_

TAG: \_\_\_\_\_

FOSC: \_\_\_\_\_

TAG APPROVAL DATE: \_\_\_\_\_

FOSC APPROVAL DATE: \_\_\_\_\_

ADEC \_\_\_\_\_

FOSC \_\_\_\_\_

EXXON \_\_\_\_\_

USCG \_\_\_\_\_

NOAA \_\_\_\_\_

**ECOLOGICAL CONSTRAINTS  
1991 FIELD ACTIVITIES**

**Eagle Nest:** Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.

**Fry Release:** Unlimited treatment unless otherwise directed by ADF&G. Sheen containment/recovery procedures required for mechanical treatment.

**Fish Harvest Area:** Unlimited treatment unless otherwise directed by ADF&G. Sheen containment/recovery procedures required for mechanical treatment.

## MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 4 SEGMENT EB01D SUBDIVISION A DATE 28 APR 91

## ADEC

NAME Dianne Munsen SIGNATURE Dianne Munsen

☒ NTR ☐ Treatment Recommended

This is a high priority resource site due to being a set net fisheries site. Several areas of tar/mat/AP and HSCR surface ciling. Recommend manual removal. Part of the segment was not surveyed due to previous surveys showing no oiling. was informed by Exxon that veco crew picked up significantly oiled areas but did not return to confirm.

## EXXON

NAME LARRY D. OLSON SIGNATURE Larry D. Olson

☒ NTR Segment showed tar patches and blue tar Balls at northern tip of segment. Veco Crew removed 8 bags of oiled material. Remainder of segment was clean.

## LANDMANAGER

NAME LARRY EVANOFF OF CVC SIGNATURE Larry Evanoff

☐ NTR ☒ TREATMENT RECOMMENDED

MANUAL REMOVAL OF TARMAT/AP. APPROXIMATELY 2/3 OF SEGMENT WAS NOT SURVEYED BECAUSE PREVIOUS SURVEYS SHOWED NO OIL. NO BIOREMEDIATION RECOMMENDED.

## USCG/NOAA

NAME Terry Galt NOAA SIGNATURE Terry Galt

☒ NTR No areas of concentrated or mobile oil.

SEGMENT E B 010

SUBDIVISION A

DATE 4 129 191

ENERGY LEVEL: ☐ H ☒ M ☒ L

WEATHER: ☐ SUN ☒ CLOUDS ☐ FOG ☒ RAIN ☐ SNOW

NEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONE

EST. OIL CATEGORY LENGTH: W — m M 90 m N — m VL 10 m NO 837 m US 1600 m

[illegible]

DISTRIBUTION: C = 91-100%; B = 51-90%; P = 11-50%; S = 1-10%; T = <1%

SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE PHOTO ROLL # MAYSAP-\_\_\_\_\_ -\_\_\_\_\_ FRAMES

| PIT NO. | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER |     |     |     |    |    |    | OILED ZONE<br>cm-cm | CLEAN BELOW<br>Y/N | H2O LEVEL<br>(cm) | SHEEN COLOR<br>B R S N | PIT ZONE |    |    |      | SURFACE-SUBSURFACE<br>SEDIMENTS | NOTES |
|---------|----------------|--------------------------|-----|-----|-----|----|----|----|---------------------|--------------------|-------------------|------------------------|----------|----|----|------|---------------------------------|-------|
|         |                | OP                       | HOR | MOR | LOR | OF | TR | NO |                     |                    |                   |                        | S        | UI | MI | LI   |                                 |       |
| 1       | 10             |                          |     |     |     |    |    |    | -                   | Y                  |                   |                        |          |    |    | S, G |                                 |       |
| 2       | 10             |                          |     |     |     |    |    |    | -                   | Y                  |                   |                        |          |    |    | S, G |                                 |       |
| 3       | 10             |                          |     |     |     |    |    |    | -                   | Y                  |                   |                        |          |    |    | S, G |                                 |       |
| 4       | 20             |                          |     |     |     |    |    |    | -                   | Y                  |                   |                        |          |    |    | S    |                                 |       |
| 5       | 15             |                          |     |     |     |    |    |    | -                   | Y                  |                   |                        |          |    |    | S, G |                                 |       |
|         |                |                          |     |     |     |    |    |    | -                   |                    |                   |                        |          |    |    |      |                                 |       |
|         |                |                          |     |     |     |    |    |    | -                   |                    |                   |                        |          |    |    |      |                                 |       |
|         |                |                          |     |     |     |    |    |    | -                   |                    |                   |                        |          |    |    |      |                                 |       |

**SHEEN COLOR: B = BROWN: R = RAINBOW: S = SILVER: N = NONE**

**OG COMMENTS:** To the north, the segment includes bedrock intertidal outcrops and ramps covered with angular bd/cl. The remnant of an eroding pavement can be seen at A1. Small pocket beach alternate with bedrock headlands further south. O.C. is present as a narrow band at WITZ on bedrock surfaces, and on the undersides of coarse sediments at Location 1.

revised 5.2 94  
Reviews: 5/3/91 mc

# Og Sketch Map

JM Samples

EB010-A

29 April 91

0700 - 0840

## Legend

- [+] Bedrock
- [X] Bd/cb
- [o] pb/cb/gv

4 areas  
10 x 20 cm  
HSOR 0m  
Bedrock  
P.U.

ct .10 cm<sup>2</sup>  
underside  
pb in LITZ  
P.U.

Zodiac

Few splatters  
on bedrock outcrop  
P.U.

Zodiac

← note previous survey all indicate  
no oil, so we moved to the  
next segment.

N

A1  
HSOR 20%  
4 x 20

A2  
HSOR 5%  
3 x 10

A3  
HSOR 50%  
2 x 3

HSOR 10%  
0.1 x 0.2

P.U.

CT 50%  
0.02 x 28  
A4

Location 1

P.U.

reviewed 5-2-74  
REVIEWED: MC 5/3/91

# **MAYSAP BIOLOGICAL SUMMARY FORM**

|             |                |                      |                     |              |
|-------------|----------------|----------------------|---------------------|--------------|
| TEAM #      | 4              | DATE/TIME            | April 29, 1991      | 0700 => 0846 |
| SEGMENT #   | EB010          | TIDAL HEIGHT (Range) | 0.0 => -2.0         |              |
| SUBDIVISION | A              | BIOLOGIST            | JIM BARRY           |              |
| SEA STATE   | Calm to Choppy | WIND SPEED/DIRECTION | ENE 20-25 kt./ Rain |              |

## **COMMENTS / OBSERVATIONS - OILED SUBDIVISIONS**

A Oiled area (HSOR) is in the high zone. Biota of immediate vicinity include high sparse high to supra intertidal fauna - black lichen, scattered barnacles (*Balanus*), littorines (juveniles and adults), and sparse limpets. Lower intertidal below oiled site has greater cover and densities of *Fucus*, barnacles, limpets, and littorines. In the low to middle zone there also is a patchy eel grass bed with a rich clam bed, *Fucus*, and a mussel bed amongst the cobble above the clam bed. Within 30m to the south, the clam/eel grass bed is much denser. Otter foraging pits are evident. No visible impacts of the remaining oil were evident.

Some oil at this site was removed by manual pick-up during the survey. More intrusive methods may have negative impacts to low zone eel grass and clam bed habitats.

B The oil coat at this site is weathered, with little evidence of recent impact to the intertidal biota. This coat is located in the high zone, where black lichen, and sparse littorines and barnacles occur. A few barnacles were living on the weathered oil. The lower intertidal fauna and flora below this site is a rich bedrock fauna of a medium exposure coast. Moderate to dense *Fucus*, barnacles, littorines. Sparse to dense mussels in patches. A soft sediment cove is adjacent to this site and described in A (above). Clean-up activities, if necessary, should be restricted to impacts in the immediate vicinity of the oil coat.

C Oil located in high zone on broken cobble. Black lichen, scattered barnacles, littorines, limpets. Lower zones have denser *Fucus*, barnacles, mussels, littorines and other snails (whelks), limpets, chitons, anemones, sea stars. Juveniles, eggs masses, or young of whelks, limpets, chitons, sea stars, littorines, mussels, barnacles, *Fucus*, and other species. No evidence of recent adverse oil related effects on biota. Oiled site was cleaned manually during survey.

(continued)

## **WILDLIFE OBSERVATIONS - Completed on all subdivisions**

| BIRDS            | # OF SPECIES | TOTAL BIRDS | FISH OBSERVED<br>SPECIES PRESENT |
|------------------|--------------|-------------|----------------------------------|
| Eagles           | 1            | 3           |                                  |
| Seabirds         |              |             |                                  |
| Waterfowl        | 2            | 12          |                                  |
| Gulls/Kittiwakes | 2            | 20          |                                  |
| Shorebirds       | 1            | 2           |                                  |
| Corvids          |              |             |                                  |
| Other Birds      |              |             |                                  |

| MARINE MAMMALS      | # OBSERVED | LAND MAMMALS<br>SPECIES | # OBSERVED |
|---------------------|------------|-------------------------|------------|
| Sea Otters          | 2          |                         |            |
| Pinnipeds (specify) |            |                         |            |
| Sea Lion            | 1          |                         |            |
| Whales (specify)    |            |                         |            |

## EB010-A Biology Report (continued)

### Biological Summary of Subdivision EB010-A

This segment has several habitat types, owing to the high relief and variable wave exposures of the site. Habitat types include bedrock cliffs, high angle boulder and cobble beaches (medium and low exposure), protected coves with low wave action, and cobble and large angular pebble beaches. Biotic assemblages are similarly diverse, with characteristic fauna and flora of exposed sites on the bedrock cliffs, and eel grass and clam beds in the soft sediments of the coves and shallow beaches.

**Headlands:** Rich diverse fauna and flora on exposed bedrock and boulder habitats. Dense *Fucus*, barnacles and mussels, with a diverse assemblage of invertebrates. Several high angle beaches are contiguous with the low intertidal and subtidal clam and eel grass beds. Thus, the fauna and flora characteristic of both result in high diversity. Some species of highly exposed beaches, such as *Alaria marginata* are absent or low in abundance. Other species of brown algae (e.g. *Agarum fenestrata*) are abundant in this low zone.

**Eel Grass** The low zone eel grass and clam beds are very rich in biota. Several species of clams are abundant or common (see species list). Slightly above the clam bed, the cobble beaches are consolidated by moderate to dense mussels. Slightly higher, *Fucus* and barnacles (*Balanus glandula*) is abundant in a zone. Infaunal clams, worms, and crustaceans, as well as a few holothurians (*Leptosynapta* sp.) are abundant in the eel grass beds.

### List of Common Species on EB010-A

#### A. Marine Plants

1. Diatoms, Blue Greens
2. Green Algae - Chlorophyta  
*Enteromorpha* sp., *Ulva* sp., *Urospora* sp., Unknown crustose green algae, Unknown filamentous green
3. Brown Algae - Phaeophyta  
*Agarum fimbriatum*, *Costaria costata*, *Ectocarpus* spp., *Fucus distichus*, *Hildenbrandia* sp., *Laminaria saccharina*, *Ralfsia* sp., *Syctosiphon lomentaria*
4. Red Algae - Rhodophyta  
*Corallina* sp., *Endocladia muricata*, *Halosaccion glandiforme*, *Iridaea* sp., *Lithothamnion* sp., *Membranoptera dimorpha*, *Odonthalia floccosa*, *Palmaria palmata*, *Petrocelis* sp., *Rhodomela larix*, Unknown blade-like red algae, Unknown filamentous red algae
5. Higher Plants  
*Zostera marina* (eel grass), *Leymus mollis* (beach rye grass)

#### II. Marine Animals

2. Anemones  
*Anthopleura artemesia*, *Urticina crassicornis*,
3. Hydroids - Sertularidae - *Sertularella*?
5. Flatworms - Platyhelminthes - Polyclads
6. Nemertean Worms - Ribbon Worms - *Euplectonema gracile*
8. Polychaetes  
*Nephtyidae* - *Nereidae* - *Nereis* spp.  
*Serpulidae* - *Serpula* sp.  
*Spirorbidae* - *Spirorbis* sp.
9. Peanut worms - Sipunculids - *Phascolosoma agassizii*

10. Crustaceans
  - a. Amphipods - *Orchestia* sp.?
  - b. Barnacles  
*Balanus glandula*, *Chthamalus dalli*, *Semibalanus cariosus*
  - c. Crabs  
*Haplogaster* sp., *Paquridae* (hermit crabs), *Pugettia* sp.,
  - d. Isopods - *Gnorimorsphaeroma oregonensis*
11. Mollusca
  - a. Chitons  
*Mopalia mucosa*, *Tonicella lineata*.
  - b. Snails - Gastropods  
*Littorina scutulata*, *L. sitkana*, *Natica clausa*, *Nucella lamellosa*, *N. lima*
  - c. Limpets  
*Lottia digitalis*, *L. persona*,
  - e. Mussels and Clams  
*Clinocardium nuttalli*, *Macoma balthica*, *Macoma nasuta*, *Mya arenaria* (soft-shell clam), *Mytilus edulis*, *Pododesmus cepio*, *Prototheca staminea*, *Saxidomus giganteus*,
12. Echinoderms
  - a. Brittle Stars - *Ophiolus* sp., ?
  - b. Sea stars  
*Dermasterias imbricata*, *Evasterias truscheli*, *Leptasterias hexactis*, *Orthasterias keohleri*, *Pisaster ochraceus*, *Pycnopoda helianthoides*
  - c. Sea Cucumbers - *Holothurians* - *Leptosynapta* sp.
  - d. Urchins  
*Strongylocentrotus droebachiensis*
13. Bryozoans  
*Membranipora* sp., *Schizoporella* sp.
15. Fishes
  - Cottidae
  - Stichaeidae  
*Xiphister atropurpureus*, *X. mucosus*



# Og Sketch Map

J M Samples

EB010-A

29 April 91

0700 - 0840

## Legend

- [+ ] Bedrock
- [X] Bd/cb
- [o] pb/cb/gv

HIGH ZONE: BLACK LICHEN, SPARSE BARNACLES, LIMPETS, LITTORINES.  
LOWER ZONE: FUCUS, RED, GREEN ALGAE, MUSSELS, EEL GRASS/CLAM BED IN LOWEST ZONE

Oiled area in  
HIGH ZONE - SPARSE BIOTA - BLACK LICHEN, BARNACLES, LITTORINES, LIMPETS.  
LOWER ZONE - DENSER FUCUS, BARNACLES, LITTORINES, LIMPETS RED & BROWN ALGAE, SEA STARS, ANEMONES

HIGH ZONE COBBLE - BLACK LICHEN BARNACLES, LITTORINES SPARSE LIMPETS.  
LOWER ZONE - FUCUS, MUSSELS LITTORINES, BARNACLES, EEL GRASS BED LOCATED IN LOW ZONE, CLAM BED OTHER FORAGING SITE

Zodiac

Zodiac

← Note previous survey all indicate no oil, so we moved to the next segment.

BTA  
PU

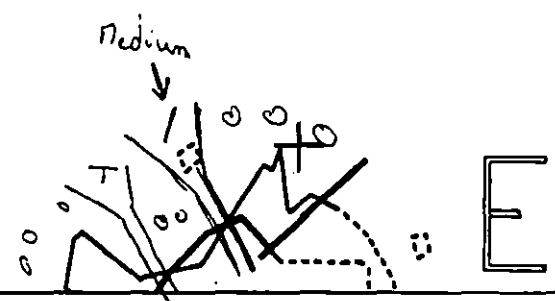
A

+

EB-5

+

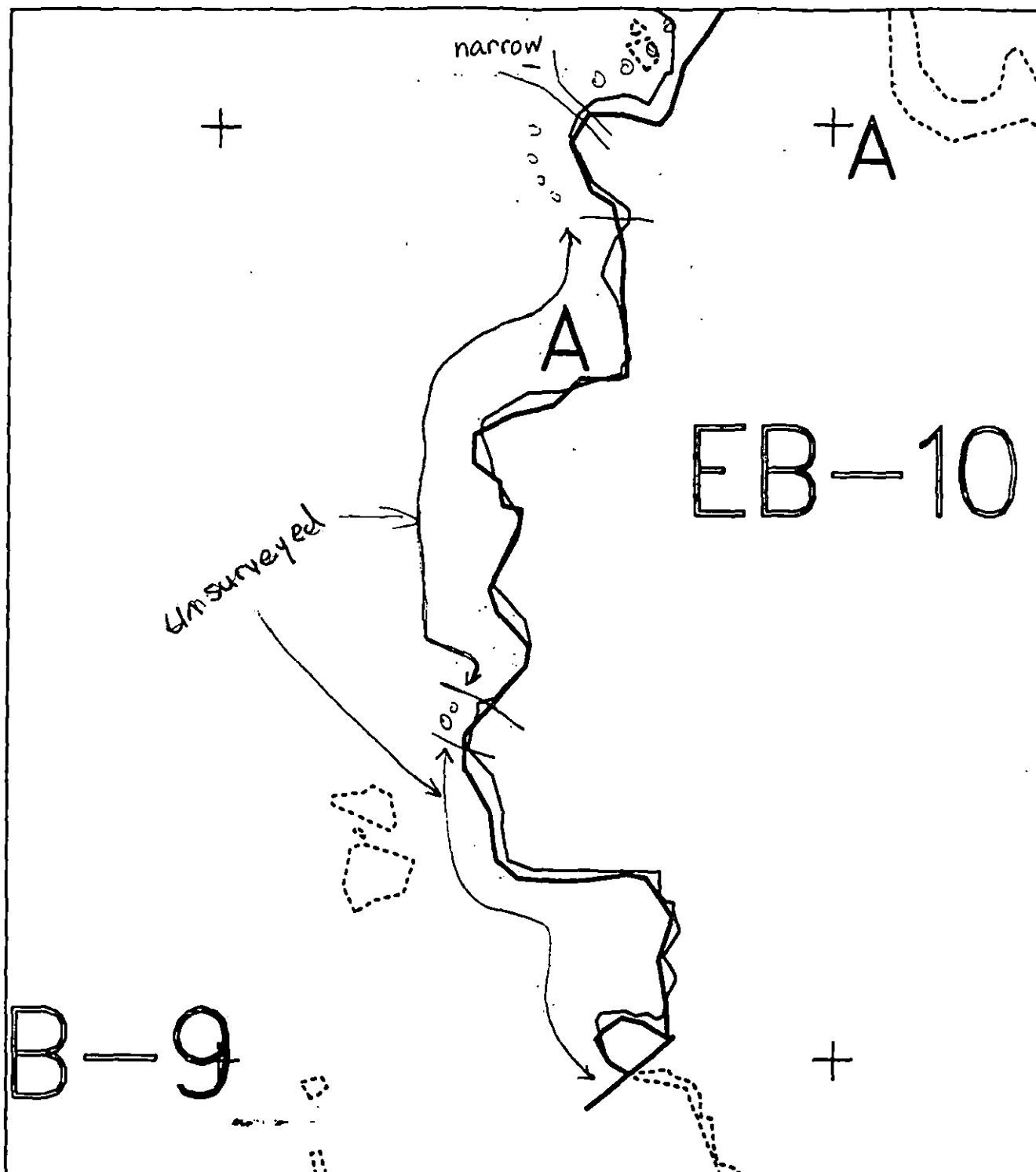
+



|      |            |                                   |                            |
|------|------------|-----------------------------------|----------------------------|
| XXXX | Wide       | EB010 A                           | Subdivision Field Map      |
| //// | Medium     | ADEC Subsegment Length: 2498m     | Map Key: PWSEB010Ab        |
| ---- | Narrow     | METERS                            | Name: <u>J. M. Simpson</u> |
| TTTT | Very Light | 0 200 400                         | Date: <u>29 / APR / 0</u>  |
| 0000 | No Oil     | AK State Plane Zone 4<br>pub010ab | Date Entered:              |



reviewed 5.2 AG  
Reviewed: 5/3/91 MC



XXXX Wide  
 //// Medium  
 ---- Narrow  
 TTTT Very Light  
 0000 No Oil

EB010 A  
 ADEC Subsegment Length: 2498m  
 METERS  
 0 200 400  
 AK State Plane Zone 4  
 projection



Subdivision Field Map  
 Map Key: PWSEB010Ac  
 Name: JM [unclear]  
 Date: 24 Apr 91  
 Data Entered:

Reviewed 5-2 94  
 Reviews: MC - 5/3/91

# 1991 MAYSAP EVALUATION

SEGMENT: EB 010 SUB: A REGION: PWS SURVEY DATE: 4/29/91

## ENVIRONMENTAL SENSITIVITIES:

Work Window(s) RESTRICTED 3/1 - 9/1

Ecological/Constraints (see page two for details) Eagle nest,  
Fry release, Fish harvest area

## ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is  
required prior to shoreline treatment.

SHPO Signature: Charles Z. Holmes Date: 5/10/91

## RECOMMENDATIONS:

|                               | INITIAL  | TAG | FOSC     |
|-------------------------------|----------|-----|----------|
| TREATMENT REQUIRED (Y or N)   | <u>N</u> |     | <u>N</u> |
| Manual Pickup (Check as Req.) |          |     |          |
| Spot Washing                  |          |     |          |
| Bio-Customblen Only           |          |     |          |
| Bio-Inipol/Customblen         |          |     |          |
| Other                         |          |     |          |
| Other                         |          |     |          |

## COMMENTS:

INITIAL: \_\_\_\_\_

TAG: \_\_\_\_\_

FOSC: \_\_\_\_\_

TAG APPROVAL DATE: May 10 1991

FOSC APPROVAL DATE: 5/10/91

ADEC [Signature]

FOSC [Signature]

EXXON [Signature]

E. E. PAGE, CDR, USCG  
CHIEF OF STAFF, FOSC

USCG [Signature]

NOAA [Signature]

**ECOLOGICAL CONSTRAINTS  
1991 FIELD ACTIVITIES**

**Eagle Nest:** Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.

**Fry Release:** Unlimited treatment unless otherwise directed by ADF&G. Sheen containment/recovery procedures required for mechanical treatment.

**Fish Harvest Area:** Unlimited treatment unless otherwise directed by ADF&G. Sheen containment/recovery procedures required for mechanical treatment.

# MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 4 SEGMENT EB 010 SUBDIVISION A DATE 28 APR 91

## ADEC

NAME Dianne Mussen SIGNATURE Dianne Mussen

☒ NTR ☐ Treatment Recommended

This is a high priority resource site due to being a set net fisheries site. Several areas of tarmat/AP and HSCR surface oiling. Recommend manual removal. Part of the segment was not surveyed due to previous surveys showing no oiling. was informed by Exxon that VECO crew picked up significantly oiled areas but did not return to confirm.

## EXXON

NAME LARRY D. OLSON SIGNATURE Larry D. Olson

☒ NTR Segment showed tar patches and flu-tar Balls at northern tip of segment. VECO crew removed 8 bags of oiled material. Remainder of segment was clean.

## LANDMANAGER

NAME LARRY EVANOFF OF CVC SIGNATURE LE

☐ NTR ☒ TREATMENT RECOMMENDED

MANUAL REMOVAL OF TARMAT/AP. APPROXIMATELY 2/3 OF SEGMENT WAS NOT SURVEYED BECAUSE PREVIOUS SURVEYS SHOWED NO OIL. NO BIOREMEDIATION RECOMMENDED.

## USCG/NOAA

NAME Ferry Galt NOAA SIGNATURE Ferry Galt

☒ NTR No areas of concentrated or mobile oil.

revised 5.2 94  
Reviews: 5/3/91 me

# Og Sketch Map

J M Samples

EB010 - A

29 April 91

0700 - 0840

## Legend

[+] Bedrock

[X] Bd/cb

[o] pb/cb/gv

4 areas  
10 x 20 cm  
HSOR 0m  
Bedrock

[P.U.]

ct 10cm<sup>2</sup>  
underside  
pb in LITZ

[P.U.]

Zodiac

Location 1

Few splatters  
on bedrock outcrop

[P.U.]

Zodiac

← Note previous survey all indicate  
no oil, so we moved to the  
next segment.

↑  
N

A1  
HSOR 20%  
4 x 20

A2  
HSOR 5%  
3 x 10

A3  
QSOR 50%  
2 x 3



# MAYSAP BIOLOGICAL SUMMARY FORM

|             |                |                      |                     |              |
|-------------|----------------|----------------------|---------------------|--------------|
| TEAM #      | 4              | DATE/TIME            | April 29, 1991      | 0700 => 0846 |
| SEGMENT #   | EB010          | TIDAL HEIGHT (Range) | 0.0 => -2.0         |              |
| SUBDIVISION | A              | BIOLOGIST            | JIM BARRY           |              |
| SEA STATE   | Calm to Choppy | WIND SPEED/DIRECTION | ENE 20-25 kt./ Rain |              |

## COMMENTS / OBSERVATIONS - OILED SUBDIVISIONS

A Oiled area (HSOR) is in the high zone. Biota of immediate vicinity include high sparse high to supra intertidal fauna - black lichen, scattered barnacles (Balanus), littorines (juveniles and adults), and sparse limpets. Lower intertidal below oiled site has greater cover and densities of Fucus, barnacles, limpets, and littorines. In the low to middle zone there also is a patchy eel grass bed with a rich clam bed, Fucus, and a mussel bed amongst the cobble above the clam bed. Within 30m to the south, the clam/eel grass bed is much denser. Otter foraging pits are evident. No visible impacts of the remaining oil were evident.

Some oil at this site was removed by manual pick-up during the survey. More intrusive methods may have negative impacts to low zone eel grass and clam bed habitats.

B The oil coat at this site is weathered, with little evidence of recent impact to the intertidal biota. This coat is located in the high zone, where black lichen, and sparse littorines and barnacles occur. A few barnacles were living on the weathered oil. The lower intertidal fauna and flora below this site is a rich bedrock fauna of a medium exposure coast. Moderate to dense Fucus, barnacles, littorines. Sparse to dense mussels in patches. A soft sediment cove is adjacent to this site and described in A (above). Clean-up activities, if necessary, should be restricted to impacts in the immediate vicinity of the oil coat.

C Oil located in high zone on broken cobble. Black lichen, scattered barnacles, littorines, limpets. Lower zones have denser Fucus, barnacles, mussels, littorines and other snails (whelks), limpets, chitons, anemones, sea stars. Juveniles, eggs masses, or young of whelks, limpets, chitons, sea stars, littorines, mussels, barnacles, Fucus, and other species. No evidence of recent adverse oil related effects on biota. Oiled site was cleaned manually during survey.

(continued)

## WILDLIFE OBSERVATIONS - Completed on all subdivisions

| BIRDS            | # OF SPECIES | TOTAL BIRDS | FISH OBSERVED<br>SPECIES PRESENT |
|------------------|--------------|-------------|----------------------------------|
| Eagles           | 1            | 3           |                                  |
| Seabirds         |              |             |                                  |
| Waterfowl        | 2            | 12          |                                  |
| Gulls/Kittiwakes | 2            | 20          |                                  |
| Shorebirds       | 1            | 2           |                                  |
| Corvids          |              |             |                                  |
| Other Birds      |              |             |                                  |

| MARINE MAMMALS      | # OBSERVED | LAND MAMMALS<br>SPECIES | # OBSERVED |
|---------------------|------------|-------------------------|------------|
| Sea Otters          | 2          |                         |            |
| Pinnipeds (specify) |            |                         |            |
| Sea Lion            | 1          |                         |            |
| Whales (specify)    |            |                         |            |

## EB010-A Biology Report (continued)

### Biological Summary of Subdivision EB010-A

This segment has several habitat types, owing to the high relief and variable wave exposures of the site. Habitat types include bedrock cliffs, high angle boulder and cobble beaches (medium and low exposure), protected coves with low wave action, and cobble and large angular pebble beaches. Biotic assemblages are similarly diverse, with characteristic fauna and flora of exposed sites on the bedrock cliffs, and eel grass and clam beds in the soft sediments of the coves and shallow beaches.

**Headlands:** Rich diverse fauna and flora on exposed bedrock and boulder habitats. Dense *Fucus*, barnacles and mussels, with a diverse assemblage of invertebrates. Several high angle beaches are contiguous with the low intertidal and subtidal clam and eel grass beds. Thus, the fauna and flora characteristic of both result in high diversity. Some species of highly exposed beaches, such as *Alaria marginata* are absent or low in abundance. Other species of brown algae (e.g. *Agarum fenestrata*) are abundant in this low zone.

**Eel Grass** The low zone eel grass and clam beds are very rich in biota. Several species of clams are abundant or common (see species list). Slightly above the clam bed, the cobble beaches are consolidated by moderate to dense mussels. Slightly higher, *Fucus* and barnacles (*Balanus glandula*) is abundant in a zone. Infaunal clams, worms, and crustaceans, as well as a few holothurians (*Leptosynapta* sp.) are abundant in the eel grass beds.

### List of Common Species on EB010-A

#### A. Marine Plants

1. Diatoms. Blue Greens
2. Green Algae - Chlorophyta  
*Enteromorpha* sp., *Ulva* sp., *Urospora* sp., Unknown crustose green algae, Unknown filamentous green
3. Brown Algae - Phaeophyta  
*Agarum fimbriatum*, *Costaria costata*, *Ectocarpus* spp., *Fucus distichus*, *Hildenbrandia* sp., *Laminaria saccharina*, *Ralfsia* sp., *Syctosiphon lomentaria*
4. Red Algae - Rhodophyta  
*Corallina* sp., *Endocladia muricata*, *Halosaccion glandiforme*, *Iridaea* sp., *Lithothamnion* sp., *Membranoptera dimorpha*, *Odonthalia floccosa*, *Palmaria palmata*, *Petrocelis* sp., *Rhodomela larix*, Unknown bladeliike red algae, Unknown filamentous red algae
5. Higher Plants  
*Zostera marina* (eel grass), *Leymus mollis* (beach rye grass)

#### II. Marine Animals

2. Anemones  
*Anthopleura artemesia*, *Urticina crassicornis*,
3. Hydroids - Sertularidae - *Sertularella*?
5. Flatworms - Platyhelminthes - Polyclads
6. Nemertean Worms - Ribbon Worms - *Emplectonema gracile*
8. Polychaetes  
*Nepthyidae* - *Nereidae* - *Nereis* spp.  
*Serpulidae* - *Serpula* sp.  
*Spirorbidae* - *Spirorbis* sp.
9. Peanut worms - Sipunculids - *Phascolosoma agassizii*

10. Crustaceans
  - a. Amphipods - *Orchestia* sp.?
  - b. Barnacles  
*Balanus glandula*, *Chthamalus dalli*, *Semibalanus cariosus*
  - c. Crabs  
*Haplogaster* sp., Paguridae (hermit crabs), *Pugettia* sp.,
  - d. Isopods - *Gnorimorsphaeroma oregonensis*
11. Mollusca
  - a. Chitons  
*Mopalia mucosa*, *Tonicella lineata*,
  - b. Snails - Gastropods  
*Littorina scutulata*, *L. sitkana*, *Natica clausa*, *Nucella lamellosa*, *N. lima*
  - c. Limpets  
*Lottia digitalis*, *L. persona*,
  - e. Mussels and Clams  
*Clinocardium nuttalli*, *Macoma balthica*, *Macoma nasuta*, *Mya arenaria* (soft-shell clam), *Mytilus edulis*, *Pododesmus cepio*, *Prototheca staminea*, *Saxidomus giganteus*,
12. Echinoderms
  - a. Brittle Stars - *Ophiolus* sp., ?
  - b. Sea stars  
*Dermasterias imbricata*, *Evasterias truscheli*, *Leptasterias hexactis*, *Orthasterias keohleri*, *Pisaster ochraceus*, *Pycnopoda helianthoides*
  - c. Sea Cucumbers - Holothurians - *Leptosynapta* sp.
  - d. Urchins  
*Strongylocentrotus droebachiensis*
13. Bryozoans  
*Membranipora* sp., *Schizoporella* sp.
15. Fishes  
Cottidae  
Stichaeidae  
*Xiphister atropurpureus*, *X. mucosus*

# Og Sketch Map

J M Samples

EB010-A

29 April 91

0700 - 0840

## Legend

- [+] Bedrock
- [X] Bd/cb
- [o] pb/cb/gv

HIGH ZONE: BLACK LICHEN, SPARSE BARNACLES, LIMPETS, LITTORINES.  
LOWER ZONE: FUCUS, RED, GREEN ALGAE, MUSSELS, EEL GRASS/CLAM BED IN LOWEST ZONE

HIGH ZONE COBBLE - BLACK LICHEN BARNACLES, LITTORINES SPARSE LIMPETS.  
LOWER ZONES - FUCUS, MUSSELS LITTORINES, BARNACLES, EEL GRASS BED LOCATED IN LOW ZONE, CLAM BED OTTER FORAGING SITE

Oiled area in HIGH ZONE - SPARSE BIOTA - BLACK LICHEN, BARNACLES, LITTORINES, LIMPETS.  
LOWER ZONE - DENSER FUCUS, BARNACLES, LITTORINES, LIMPETS RED & BROWN ALGAE, SEA STARS, ANEMONES

Zodiac

Zodiac

← Note previous survey all indicate no oil, so we moved to the next segment.

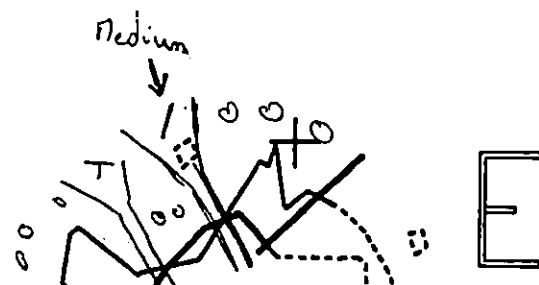
A

+

EB-5

+

+



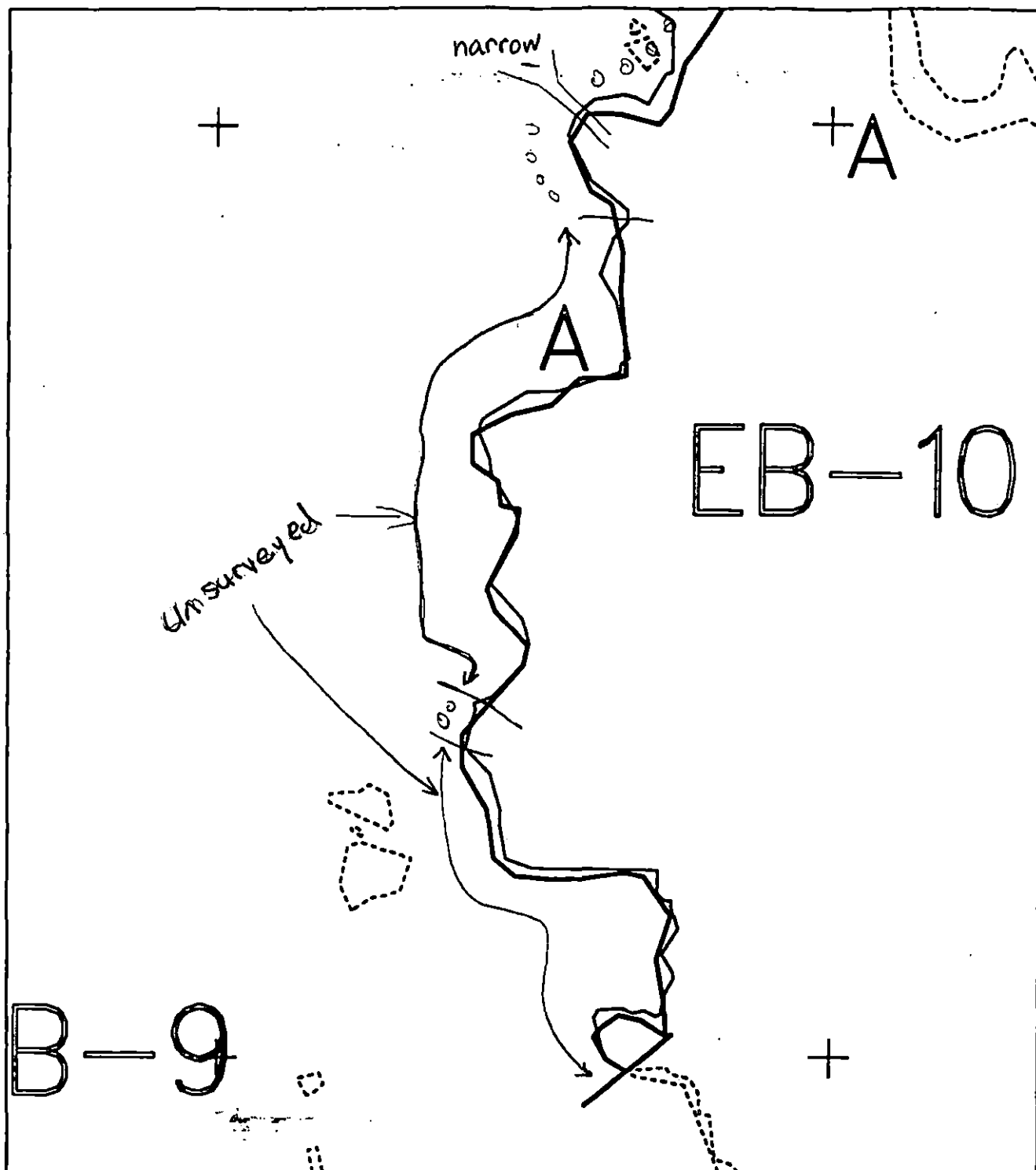
XXXX Wide  
 /// Medium  
 --- Narrow  
 TTTT Very Light  
 0000 No Oil

EB010 A  
 ADEC Subsegment Length: 2498m  
 METERS  
 0 200 400  
 AZ State Plane Zone 4  
 98010ab



Subdivision Field Map  
 Map Key: PWSEB010Ab  
 Name: J. Sempala  
 Date: 29 APR 10  
 Date Entered:

reviewed 5.2 98  
 Reviewed: 5/5/91 MC



|      |            |                                  |  |                        |
|------|------------|----------------------------------|--|------------------------|
| XXXX | Wide       | EB010 A                          |  | Subdivision Field Map  |
| //// | Medium     | ADEC Subsegment Length: 2488m    |  | Map Key: PWSEB010Aa    |
| ---- | Narrow     | METERS                           |  | Name: <u>JM Sempie</u> |
| TTTT | Very Light | 0 200 400                        |  | Date: <u>29 Apr 92</u> |
| 0000 | No Oil     | AK State Plane Zone 4<br>psb010a |  | Date Entered:          |

Reviewed 5-2 94  
 Reviewers: MC - 5/3/91

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/EB-11

SUBDIVISIONS: A (1 OF 1)

SHORELINE EVALUATION

SEGMENT ST/ EB-11 SUBDIVISION A (1 OF 1) DATE 4/9/90

**SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:**

1E Main Bay Hatchery release (4/20 to 5/10)

1L Set net sites (6/11 to 7/25)

6V Recreation: Anchorages (6/1 to 9/15)

See attached Ecological Constraint sheet for specific constraints and contacts.

**SUBDIVISION ECOLOGICAL CONSTRAINTS:**

Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

**ARCHAEOLOGICAL CONSTRAINTS:**

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**OILING CATEGORIZATION:**

Wide 0 m: Medium 0 m: Narrow 395 m: V.Light 64 m: No Oil 125 m  
Subsurface Oil Observed: Yes X No \_\_\_\_\_ Maximum Depth 10 cm

**RECOMMENDATIONS:**

|                                                           |                                                        |
|-----------------------------------------------------------|--------------------------------------------------------|
| <input type="checkbox"/> No Treatment Recommended         | <input type="checkbox"/> Snare/Absorbent Booms         |
| <input checked="" type="checkbox"/> Treatment Recommended | <input type="checkbox"/> Oil Snares (pom poms)         |
| <input checked="" type="checkbox"/> Manual Pickup         | <input type="checkbox"/> Absorbents (pads, rolls, etc) |
| <input checked="" type="checkbox"/> Bioremediation        | <input type="checkbox"/> Spot Washing: _____ Wands     |
| <input checked="" type="checkbox"/> Tarmat: _____ Breakup | <input type="checkbox"/> Beach Cleaner                 |
| <input checked="" type="checkbox"/> Removal               | <input type="checkbox"/> Other (see comments)          |

COMMENTS: Recommended treatment includes 1) manual removal of tarmat, 2) manual pick up of oiled debris (pom poms), 3) bioremediation of surface and sub-surface oil in areas shown on attached sketch map. Work should be conducted between 5/10 and 6/1 based on hatchery release and set net constraints.

TAG COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TAG APPROVAL DATE: \_\_\_\_\_

ADEC \_\_\_\_\_  
EXXON \_\_\_\_\_  
NOAA \_\_\_\_\_  
USCG \_\_\_\_\_

FOSC: \_\_\_\_\_ DATE: \_\_\_\_\_



# PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)  
 1B Salmon stream mouth - spawning (7/10 to 8/31)  
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
- 1C Salmon fry nursery area (4/31 to 7/31)
- 1D Esther Hatchery release (4/15 to 6/1)
- 1E Main Bay Hatchery release (4/20 to 5/10)
- 1F Sawmill Bay Hatchery release (4/15 to 6/1)
- 1G Cannery Creek Hatchery release (4/21 to 6/1)
- 1H Remote release site
- 1I Gill net area (6/7 to 8/31)
- 1J Purse seine area (7/20 to 9/30)
- 1K Purse seine hook-off (7/20 to 9/30)
- 1L Set net sites (6/11 to 7/25)  
 For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
- 2M Herring spawning (4/1 to 6/15)  
 Restrict boat-traffic to essential minimum. Avoid damage to unopened intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
- 3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)  
 3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)  
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
- 5R Seabird colony (5/1 to 9/1)  
 Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)  
 Restrict all activity to essential minimum, especially air traffic.
- 5T All Bald Eagle nests (3/1 to 6/1)  
 Active Bald Eagle nests (3/1 to 9/1)  
 Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
- 6U Recreation: Tent sites (6/1 to 9/15)
- 6V Anchorages (6/1 to 9/15)
- 6W Forest Service cabins (6/1 to 9/15)
- 6X Lodge (6/1 to 9/15)
- 6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
- 7HH Finfish harvesting
- 7II Deer harvesting (8/15 to 2/28)
- 7JJ Invertebrate harvesting  
 For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

## FIELD SHORELINE COMMENT SHEET

(21)

SEGMENT ST / EB-11 ~~EB-001~~ SUBDIVISION: A DATE 4-9-90

USCG

NAME Kerwin L. Dreher SIGNATURE CWO2 K. L. Dreher☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Due to minuteness of any appreciable oil I suggest no clean up necessary.  
 Natural weathering will remove and clean the area without man cleanup.

ADEC

NAME PATRICK J. ENDRES SIGNATURE Patrick J. Endres☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED - pending biological considerations

COMMENTS (Note: Location of seg. is near mouth of Eshamy Bay)

The degree of oiling varied on EB-011. The dominant characteristic was a tar coat/cover on headlands, widening on gradual sloping pocket beaches. One pocket beach had areas of soft asphalt of primarily finer sediments that surrounded boulders and cobbles. This was sporadic and mostly in the Hitz where little intertidal life existed. A few isolated areas of pooled black oil existed in the first 5cm of pebble substrate. Other areas had shiny black oil retained in the first 2cm of fine textured substrate. Manual removal is possible and could be accomplished at an +8 or +9 ft. tidal height. Natural remediation seems to be cleaning the other areas of this segment, but this particular pocket beach is protected by offshore islands. If cleaning occurs, I suggest a (small crew) If bioremediation is proven effective, I think this site would be a candidate.

LAND MANAGER

NAME LARRY M. EVANOFF SIGNATURE LM☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

RECOMMEND MANUAL PICK-UP, TRIM/SCRAPE OIL SURFACES AND WASH.  
 POM POM NEEDS TO BE PICKED UP, TILL AND WASH IN SOME AREAS.  
 NO BIOREMEDIATION RECOMMENDED.

# SHORELINE OILING SUMMARY

REVISION NO. 02/20/88

OG K. Biggs USCG K. Drake SEGMENT ST/ EB-011  
K. Galt LAND REP L. Evans (CVC) SUBDIVISION A (1 of 1)  
G. Skiles ADEC P. Andres TIME 10:10 to 13:10  
 TEAM NO.: 14 TIDE LEVEL: +2 to +3.5 DATE 4/9/90  
 EST. SUBDIVISION LENGTH: 600 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow  
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock  
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: N to S  
 SURFACE SEDIMENTS: R 25 % B 40 % C 35 % P 0 % G 0 % S 0 % M 0 % V 0 %  
 SLOPE: Lang 0 % Hang 0 % Vert 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High  
 OIL CATEGORY LENGTH: W 0 m M 0 m N 300 m VL 94 m NO 206 m

## SURFACE OIL

| CHARACTER        | DISTRIBUTION |    |    |    | OIL / FILM COLOR |   |   |   | IMPACTED ZONES |    |    |   |
|------------------|--------------|----|----|----|------------------|---|---|---|----------------|----|----|---|
|                  | TC           | TS | TP | TR | 1                | 2 | 3 | 4 | SU             | UI | ME | U |
| ASPHALT PAVEMENT |              |    |    | X  | X                |   |   |   |                | X  |    |   |
| POOLED           |              |    |    |    |                  |   |   |   |                |    |    |   |
| COVER            | +            | X  | 0  |    | X                |   |   |   |                |    |    |   |
| COAT             |              |    |    | X  | X                |   |   |   |                |    |    |   |
| STAIN            |              |    |    | X  | X                |   |   |   |                |    |    |   |
| MOUSSE           |              |    |    |    |                  |   |   |   |                |    |    |   |
| PATTIES          |              |    |    |    |                  |   |   |   |                |    |    |   |
| TARBALLS         |              |    |    |    |                  |   |   |   |                |    |    |   |
| FILM             |              |    |    |    |                  |   |   |   |                |    |    |   |
| NO OIL           |              |    |    |    |                  |   |   |   | S              |    | X  | X |

PAVEMENT: H F (S) 2 sq. m by 4 cm

PATTIES / TARBALLS 4/2 0 BAGS

NEAR SHORE SHEEN? (NO) BR RW SL TL

| OILED DEBRIS | AMOUNT |    |    |
|--------------|--------|----|----|
|              | SM     | MD | LG |
| Logs         |        |    |    |
| Vegetation   |        |    |    |
| Trash        |        |    |    |
| Debris       | X      |    |    |

DEBRIS COLLECTED ☐ YES ☒ NO

TYPE 0

#BAGS 0

Photographs: Pump

Roll No. ST-14-2

Frames 22-23

## SUBSURFACE OIL \* Pit 3 <sup>over 10% q</sup> oiled interval 5 cm does not constitute subsurface oil.

| PIT NO. | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER |    |    |    |    | OILED INTERVAL (cm) | BELOW |    | OIL / FILM COLOR |   |   |   | PIT ZONE |    |    |   | A N A | SUBSURFACE SEDIMENTS |
|---------|----------------|--------------------------|----|----|----|----|---------------------|-------|----|------------------|---|---|---|----------|----|----|---|-------|----------------------|
|         |                | OP                       | OR | OL | OF | NO |                     | VO    | UO | 1                | 2 | 3 | 4 | SU       | UI | ME | U |       |                      |
| 1       | 8              |                          |    |    | X  |    | -                   |       | X  |                  |   | X |   |          |    | X  |   |       | C, P                 |
| 2       | 8              |                          | X  |    |    |    | 0-1                 |       | X  |                  | X |   |   |          | X  |    |   |       |                      |
| 3       | 5              |                          | X  |    |    |    | 0-2                 |       | X  |                  | X |   |   |          |    |    | X |       | P, G                 |
| 4       | 7              |                          | X  |    |    |    | 0-3                 |       | X  |                  | X |   |   |          |    |    | X |       |                      |
| 5       | 10             |                          | X  |    |    |    | 2-5                 |       | X  |                  | X |   |   |          |    |    | X |       | b, p, g c            |
| 6       | 10             | X                        |    |    |    |    | 0-10                | X     | X  | X                |   |   |   |          |    |    | X |       | b, p, c              |

## COMMENTS

Due to very shallow beach, oil appears in several narrow bands in cobbles / boulder beach. There's a concentrated band of surface oil (CV) in about a 2-m wide band in center of spatter zone. Oil penetrated to 5cm in subsurface (fine material beneath cobbles beach) on S. end of Regiments, oil covering is concentrated in protected side of granite outcrop. The more concentrated oil band was categorized as "CV" on maps; it is borderline soft asphalt.

7W 4/12/90

1077 (19)  
REVISION: 03/2/90

# SHORELINE ECOLOGICAL SUMMARY

Segment ST/EB011 Subdivision A Date (mo/day/yr) 04.09.90

Time (24 hr) 1025-1140 Biologist KA Coates

(A) Substrate type and % of segments:  
(1) Bedrock 25 (2) Boulder 40 (3) Cobble 35 (4) Pebble + (5) Sand + (6) Silt +  
*little s & l - mixed sediments.*

(B) Overall % cover of biota (% of segment): Dense 15% Moderate 65% Low 20%

(C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L);  
\*\*\* juveniles / adults (X), new settlement (3)

Photographs:  
Roll No. ST-14-2

Frames 22-23

*major note ← sent to Fred Wehrenberg*

## BARNACLES

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |
| 2     | X  | 2  | 2        | X  | 2  | 2      | X  | 2  | 2    | 2  | 2  |
| 3     | X  | 3  | 3        | X  | 3  | 3      | X  | 3  | 3    | 3  | 3  |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  |

NOT PRESENT

## MYTILUS

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |
| 2     | 2  | 2  | 2        | X  | 2  | 2      | X  | 2  | 2    | 2  | 2  |
| 3     | 3  | 3  | 3        | X  | 3  | 3      | X  | 3  | 3    | 3  | 3  |
| 4     | 4  | 4  | 4        | X  | 4  | 4      | X  | 4  | 4    | 4  | 4  |
| 5     | 5  | 5  | 5        | X  | 5  | 5      | X  | 5  | 5    | 5  | 5  |
| 6     | 6  | 6  | 6        | X  | 6  | 6      | X  | 6  | 6    | 6  | 6  |

NOT PRESENT

## GASTROPODS

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |
| 2     | 2  | 2  | 2        | X  | 2  | 2      | X  | 2  | 2    | 2  | 2  |
| 3     | 3  | 3  | 3        | X  | 3  | 3      | X  | 3  | 3    | 3  | 3  |
| 4     | 4  | 4  | 4        | X  | 4  | 4      | X  | 4  | 4    | 4  | 4  |
| 5     | 5  | 5  | 5        | X  | 5  | 5      | X  | 5  | 5    | 5  | 5  |
| 6     | 6  | 6  | 6        | X  | 6  | 6      | X  | 6  | 6    | 6  | 6  |

NOT PRESENT

## FUCUS

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |
| 2     | 2  | 2  | 2        | X  | 2  | 2      | X  | 2  | 2    | 2  | 2  |
| 3     | 3  | 3  | 3        | X  | 3  | 3      | X  | 3  | 3    | 3  | 3  |
| 4     | 4  | 4  | 4        | X  | 4  | 4      | X  | 4  | 4    | 4  | 4  |
| 5     | 5  | 5  | 5        | X  | 5  | 5      | X  | 5  | 5    | 5  | 5  |
| 6     | 6  | 6  | 6        | X  | 6  | 6      | X  | 6  | 6    | 6  | 6  |

NOT PRESENT

Wildlife Observations/ General Comments: Most of lower intertidal not observed - superficial observations through water. 3 seals just offshore; oyster catchers on small islets; white-winged scoter pair; arctic loon offshore; small brown wren in upper fucus; juvenile eagles nest not seen.  
Known sensitivities: recreation-special; eagle's nest; Main Bay hatchery; set net sites.  
Ecological Considerations:

Remaining oil coat in upper intertidal with sparse, live adult barnacles. Some patches already overgrown with filamentous green algae, with live thorines in this area. Bedrock areas contiguous with remaining oiled sections are densely and diversely populated. Mussel beds are moderate to dense throughout segment both on cobble beaches and in bedrock areas, especially low aspect shelves in the latter. Possible use for subsistence invertebrate harvesting and other casual use. Renewed contamination and/or heavy traffic could retard the duration of recovery and spatial

2 of 2

(30)

Segment: EBo11 Subdivision: A Date: 04.09.90  
Time: 1025-1140 Biologist: KAlcoates

## Notes:

1. Upper intertidal pools in bedrock with Endocladia, dense mussels around and dense Littorina scutulata and L. sitkana on alga. Balanus cariosus moderately abundant at mid to lower intertidal on bedrock. Palmeria also sparse but common at mid intertidal in pools.
2. On cobble-pebble-boulder beaches, serpulids abundant at lower-mid to lower intertidal on undersides of cobbles. Mussels moderately abundant in pebbles between cobbles; at southeast end of beach mussel bed dense in pebble-sand-silt at mid tide. Amphipods moderate under rocks at water line. Hermit crabs, Littorina spp and Notoacmea spp, including persona and scutum moderately abundant from mid to lower-upper intertidal. From upshore or longshore at a distance, major cobble beach appeared very sparsely populated, however invertebrate community inhabiting interstices among boulders and pebbles and undersides of cobbles is dense to moderately abundant as well as diverse.
3. Moderate amounts of wash algae on beach includes Nereocystis, Laminaria saccharina, Agarum cribrosum and other laminarians, Palmeria, F. ? Rhodomella, flattened leafy red and Fucus.

P17  
R00X

OG N. B11

SKETCH MAP

SEGMENT ST/20-011

SUBDIVISION A

DATE 4/9/90

# CHECKLIST

- ☒ N Arrow
- ☒ Approx. Scale
- ☒ Seg/Sub Bndy
- ☒ Oil Dist.
- ☒ Width
- ☒ Length
- ☒ % Cover
- ☒ Substrate Character
- ☒ Est. HAWAII
- ☒ SSL
- ☒ Profile Location(s)
- ☒ Profile(s)
- ☒ Pit Location(s)
- ☒ Photo Location(s)

## LEGEND

1 Δ  
Pit - No Subsurface Oil

2 Δ  
Pit - Subsurface Oil

CT/C  
Continuous Distribution

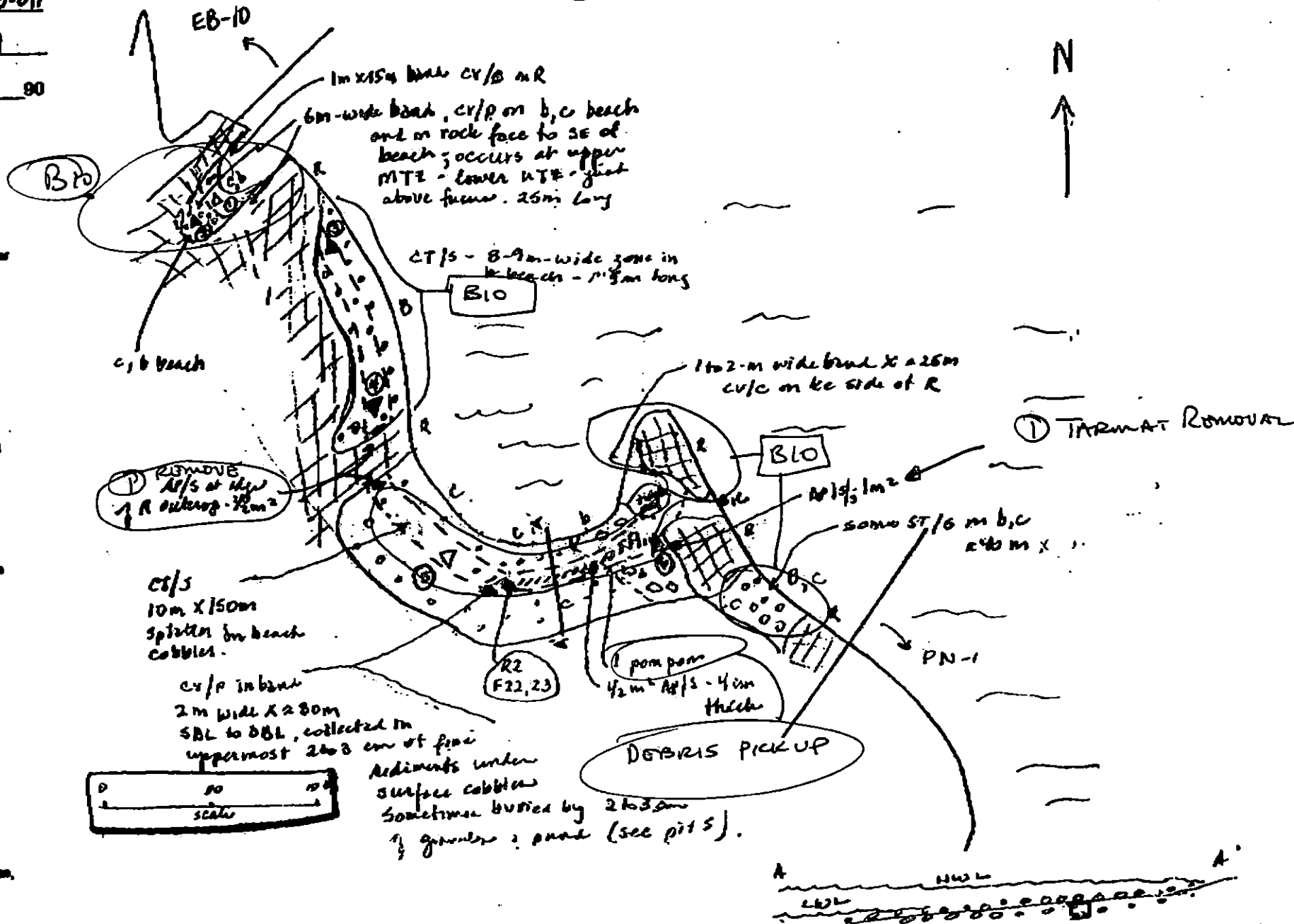
CT/B  
Broken Distribution

CT/P  
Patchy Distribution

CT/S  
Splotched Distribution

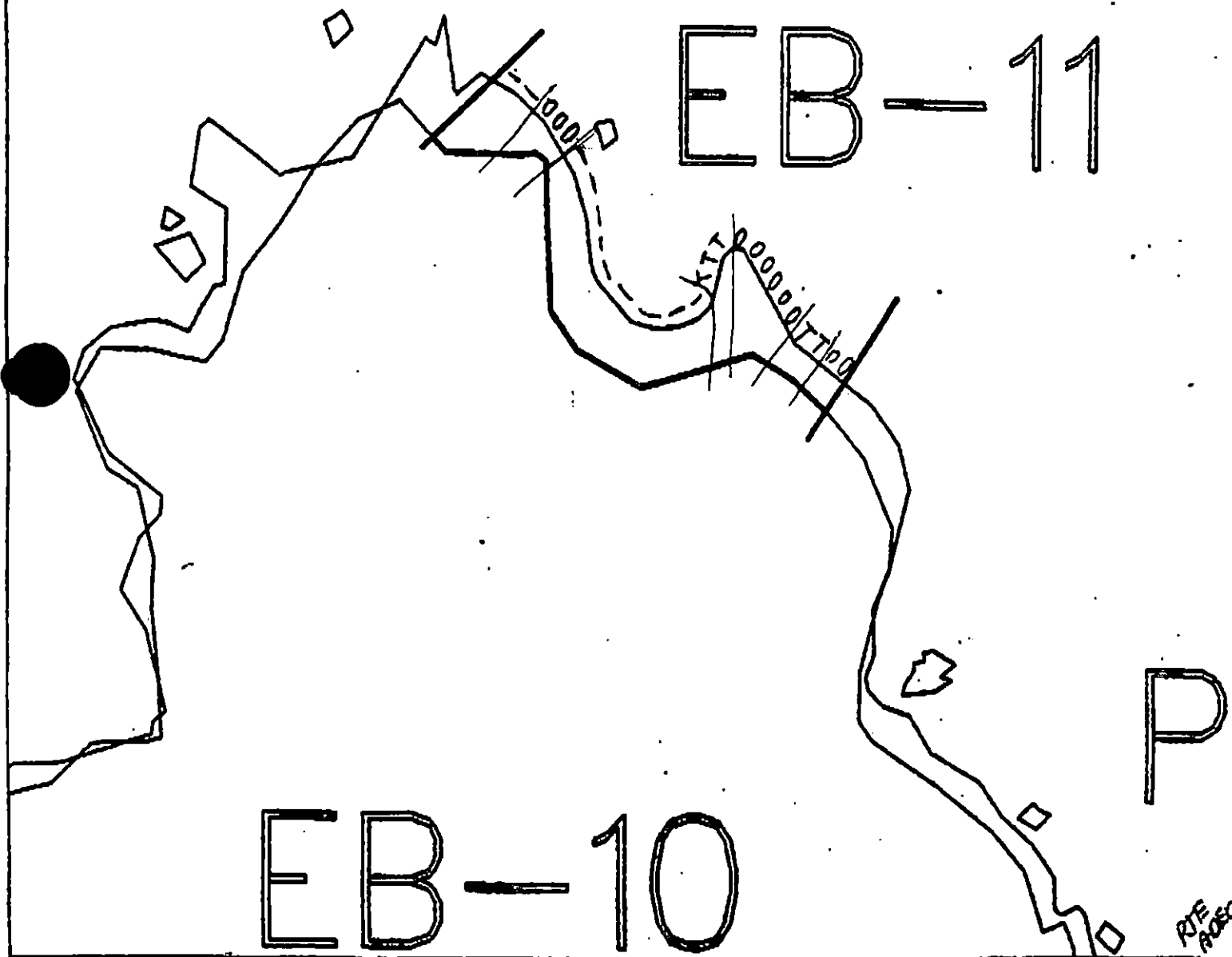
Oil Vegetation

Photo location, direction, and number



Oil Character Length (m): AP 2 PO 0 CV 135 CT 260 ST 40 MS 0 PT 0 TB 0 FL 0 NO 173

(18)



XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

EB-11

ADEC Segment Length: 583m

0 100 200 300  
METERS

Map Key: PWS-106

Name: N. BiggsDate: 4/9/90

Data Entered:

## ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT EB-11 SUBDIVISION A (1 of 1)

| WORK WINDOW                                                  |                |
|--------------------------------------------------------------|----------------|
| Manual Pickup and Tarmat Removal<br>Less Than 400m From Nest | CLOSED         |
| Manual Pickup and Tarmat Removal<br>More Than 400m From Nest | OPEN           |
| Bioremediation Less Than 400m From Nest                      | CLOSED         |
| Bioremediation More Than 400m From Nest                      | WORK 6/4 - 6/7 |

### ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

### APPLICABLE ECOLOGICAL TIME CONSTRAINTS

|    |                           |                                                                                                                                                                                                                               |
|----|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1E | Main Bay Hatchery Release | No constraint to manual pickup and tarmat removal. Subdivision open to bioremediation 6/4 to 6/8 per verbal authorization from Larry Peltz/ADF&G to Tom Monihan/Exxon on 5/24/90. No constraint to bioremediation after 6/15. |
| 1I | Gill Net Area             | No constraint to manual pickup and tarmat removal. Closed to bioremediation after 6/7.                                                                                                                                        |
| 1L | Set Net Sites             | No constraint to manual pickup and tarmat removal. Closed to bioremediation from 6/11 to 7/25.                                                                                                                                |
| 5T | Bald Eagle Nest           | Closed to manual pickup, tarmat removal, and bioremediation less than 400m from active nest. No constraint more than 400m from nest.                                                                                          |

### OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic and all disturbance to essential minimum. No personnel or boat traffic within 400m of active nests. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from active nests. Avoid any unnecessary disturbance or damage to uncollected biota and substrate.

TAG APPROVAL DATE 6/04/90  
ADEC Ray Morris  
EXXON Ann T. Earl  
NOAA Joseph T. Gault  
USCG Ed. J. Gault

FOSC

Date

6/5/90

Prepared by

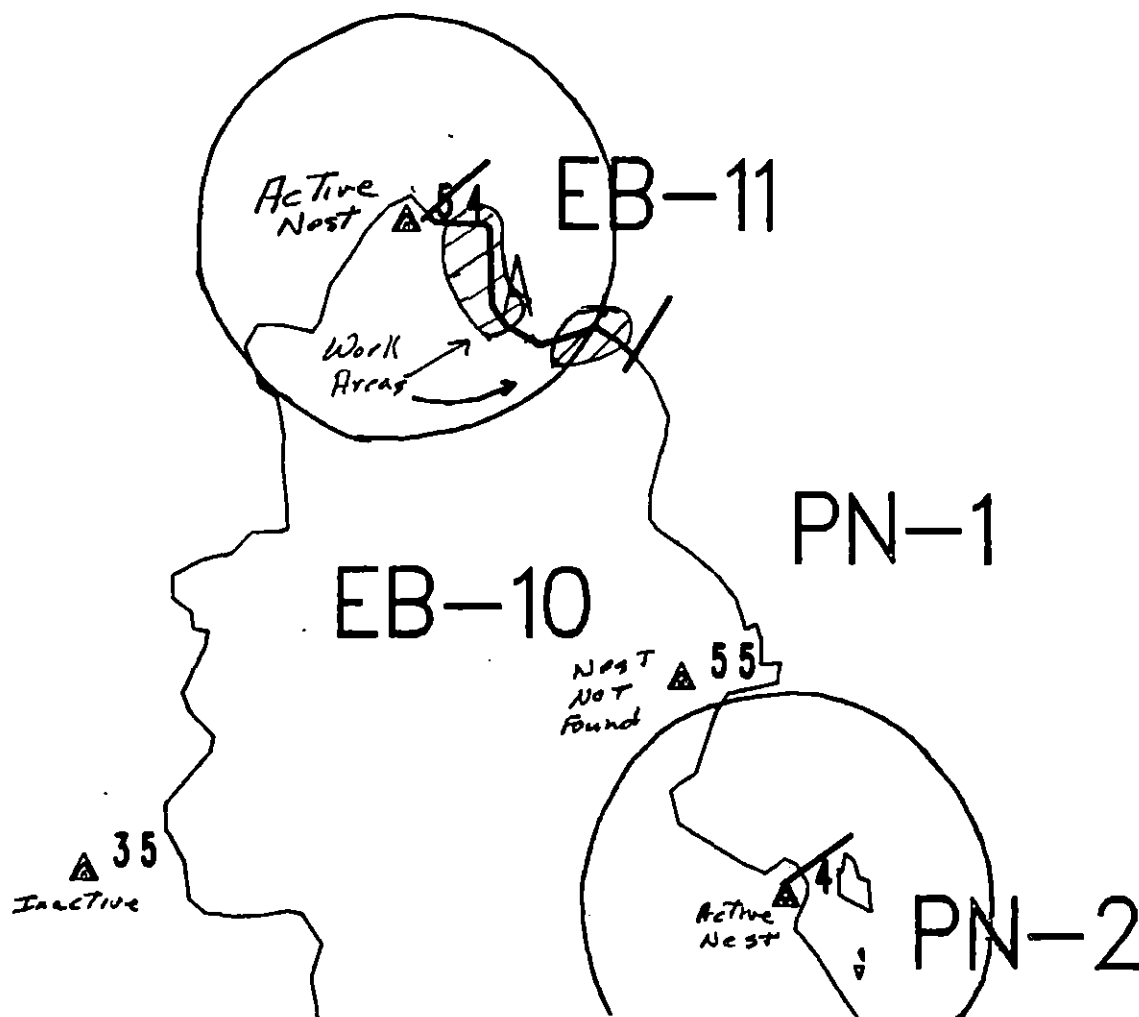
Anders Mann

Date

5/31/90



Incorporates information from  
USFWS Bald Eagle survey 5/24, 5/25/90

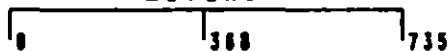


Exxon Company, USA  
Map Key: PMS-EB-11  
May 11, 1990

# ECOLOGY MAP 5/28 SEGMENT EB-11

SUBDIVISION A ( 1 of 1 )

METERS



- ★ Seabird Colony
- ▲ Eagle Nest

1 inch = 1206 feet

## SHORELINE EVALUATION

SEGMENT ST/ EB-11 SUBDIVISION A (1 OF 1) DATE 4/9/90

### SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1E Main Bay Hatchery release (4/20 to 5/10)

1L Set net sites (6/11 to 7/25)

### 6V Recreation: Anchorages (6/1 to 9/15)

See attached Ecological Constraint sheet for specific constraints and contacts.

**SUBDIVISION ECOLOGICAL CONSTRAINTS:**

**Avoid any unnecessary disturbance or damage to uncoiled biota and substrate.**

### ARCHAEOLOGICAL CONSTRAINTS:

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

**SHPO SIGNATURE:**

**DATE:**

**OILING CATEGORIZATION:**

Wide 0 m: Medium 0 m: Narrow 395 m: V.Light 64 m: No Oil 125 m  
Subsurface Oil Observed: Yes X No Maximum Depth 10 cm

**RECOMMENDATIONS:**

**No Treatment Recommended**

| X | Treatment Recommended |
|---|-----------------------|
|---|-----------------------|

**X Manual Pickup**

**X Bioremediation**

X Tarmat: Breakup

**X Removal**

## Snare/Absorbent Booms

Oil Snares (pom poms)

**Absorbents (pads, rolls, etc)**

**Spot Washing:                      Wands**

## Beach Cleaner

Other (see comments)

COMMENTS: Recommended treatment includes 1) manual removal of tarmat, 2) manual pick up of oiled debris (pom poms), 3) bioremediation of surface and sub-surface oil in areas shown on attached sketch map. Work should be conducted between (5/10 and 6/1) based on hatchery release and set net constraints. SEE Addendum dated 5/31/90/PP

**TAG COMMENTS:**

**TAG APPROVAL DATE:**

**ADEC**

**EXXON**

**NOAA**

USCG

**FOSC:**

DATE:

NOTIFY CVC 24Hrs. in advance of work

## 1991 MAYSAP EVALUATION

SEGMENT: EB 011 SUB: A REGION: PWS SURVEY DATE: 4/28/91ENVIRONMENTAL SENSITIVITIES:Work Window(s) RESTRICTED 3/1 - 9/1Ecological/Constraints (see page two for details) Eagle nest, Fry release, Fish harvest area

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find, and contact Exxon's Cultural Resource Program immediately: 564-3276; 564-3657; (Anchorage) or 229-1514 (24 hrs.). *Red*

SHPO Signature: Rachel Don Owen Date: 5/13/91RECOMMENDATIONS:

|                               | INITIAL       | TAG           | FOSC          |
|-------------------------------|---------------|---------------|---------------|
| TREATMENT REQUIRED (Y or N)   | <u>Y</u>      | <u>Y</u>      | <u>Y</u>      |
| Manual Pickup (Check as Req.) | <u>X</u>      | <u>X</u>      | <u>X</u>      |
| Spot Washing                  | <u>      </u> | <u>      </u> | <u>      </u> |
| Bio-Customblen Only           | <u>      </u> | <u>      </u> | <u>      </u> |
| Bio-Inipol/Customblen         | <u>X</u>      | <u>X</u>      | <u>X</u>      |
| Other                         | <u>      </u> | <u>      </u> | <u>      </u> |
| Other                         | <u>      </u> | <u>      </u> | <u>      </u> |

COMMENTS:

INITIAL: Customblen and Inipol as required following manual removal of tarballs and SOR at locations A5, A6, A7, A8 and A9.

*B.* TAG: SEE ATTACHED STATE SKETCH FOR DETAILED LOCATION

NOTE: CHECK COMMERCIAL FISHERIES TIME CONSTRAINTS FOR OPTIMAL TIMING

FOSC:       TAG APPROVAL DATE: MAY 13 1991FOSC APPROVAL DATE: 5/20/91ADEC [Signature]FOSC [Signature]EXXON [Signature]

E. E. PAGE, CDR, USCG  
CHIEF OF STAFF, FOSC

USCG [Signature]NOAA [Signature]

**ECOLOGICAL CONSTRAINTS  
1991 FIELD ACTIVITIES**

**Eagle Nest:** Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.

**Fry Release:** Unlimited treatment unless otherwise directed by ADF&G. Sheen containment/recovery procedures required for mechanical treatment.

**Fish Harvest Area:** Unlimited treatment unless otherwise directed by ADF&G. Sheen containment/recovery procedures required for mechanical treatment.

## MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 4 SEGMENT EB 011 - A SUBDIVISION A DATE 28 / APR / 91

## ADEC

NAME Dianne MunsonSIGNATURE Dianne Munson

☐ NTR ☒ TREATMENT RECOMMENDED North facing cove has fairly extensive tarmats/AP and OR oil from the surface to 5cm. A large number of clean angular cobbles and small boulders will need to be relocated to access AP and OR oil. A manual crew could accomplish this task but would require a substantially longer period of time. Mechanical treatment is recommended to remove layer of clean cobbles/small boulders to expose AP and oil to 5 cm. manual crew can then remove oiled sediments. This segment is a priority resource due to set net fisheries site. Site had been closed for fishing in 1990 by ADFG due to amount of oil.

## EXXON

NAME LARRY D. OLSONSIGNATURE Larry D. Olson

☐ NTR Beach on this segment has good growth vegetation and appears healthy. Survey on this beach showed tar patties in upper tide zone. Vaco crew removed 22 B.O. Bags from segment. This beach would be a good area for CVC clean up crew to remove remaining tar patties as Vaco crew from survey could not complete in time allowed.

## LANDMANAGER

NAME LARRY EVANOFF OF CVCSIGNATURE Larry Evanoff

☐ NTR ☒ TREATMENT RECOMMENDED  
MANUAL REMOVAL OF TARMAT/AP AND OILED RESIDUE. SCRAP WITH TROWELS OIL DEBRIS FROM ROCKS. ESHAMY BAY HAS NUMEROUS SET NET SITES. NO BIOREMEDIATION RECOMMENDED.

## USCG/NOAA

NAME CWO2 J. MC MAHONSIGNATURE J. McMahon

☐ NTR ☒ TREATMENT RECOMMENDED

Small area right of A7  $\pm$  200 m by storm berm - manual pick-up of TB, possibly by CVC crew. Reson picked up 22 bags which left remaining segment fairly clean.

TEAM NO. 7SEGMENT EB-011OG J. M. ScarpelsBIO Jim BarrySUBDIVISION AADEC D. MinsonLANDMANAGER L. Evanoff for CVCDATE 28 APR 1991EXXON L. OlsonUSCG/NOAA J. McMahon / J. GaltTIME 06:35 to 7:58TIDE LEVEL 0.0 ft. to -1.8 ft.ENERGY LEVEL: ☐ H ☒ M ☐ LSURVEYED FROM: ☒ FOOT ☐ BOAT ☐ HELOWEATHER: ☐ SUN ☒ CLOUDS ☐ FOG ☒ RAIN ☐ SNOWTOTAL LENGTH SHORELINE SURVEYED: 583 mNEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONE

EST. OIL CATEGORY LENGTH:

W 0 m M <sup>165</sup>245 m N 0 m VL 0 m NO <sup>418</sup>338 m US 0 m

| L<br>O<br>C | SURFACE OIL CHARACTER |    |    |    |    |    |    |    |    |    | SURFACE<br>SEDIMENT<br>TYPE | SHORE<br>SLOPE<br>VHML | AREA       |             | ZONE |    |    |    | NOTES      |
|-------------|-----------------------|----|----|----|----|----|----|----|----|----|-----------------------------|------------------------|------------|-------------|------|----|----|----|------------|
|             | AP                    | MS | TB | SB | CV | CT | ST | FL | DB | NO |                             |                        | WIDTH<br>m | LENGTH<br>m | S    | UI | MI | LI |            |
| A1          |                       |    |    | P  |    |    |    |    |    |    | B/C                         | M                      | 5          | 5           |      | X  |    |    |            |
| A2          |                       |    |    | P  |    |    |    |    |    |    | "                           | M                      | 6          | 40          |      | X  |    |    |            |
| A3          |                       |    |    |    |    |    | S  |    |    |    | "                           | M                      | 6          | 40          |      | X  |    |    | Same as A2 |
| A4          |                       |    |    |    |    | S  |    |    |    |    | "                           | M                      | 6          | 40          |      | X  |    |    | Same as A2 |
| A5          |                       |    | 6  |    |    |    |    |    |    |    | "                           | M                      |            |             |      | X  |    |    | Picked up  |
| A6          |                       |    | 3  |    |    |    |    |    |    |    | "                           | M                      |            |             |      | X  |    |    | " "        |
| A7          |                       |    |    | P  |    |    |    |    |    |    | "                           | M                      | 5          | 50          |      | X  |    |    |            |
| A8          |                       |    |    | S  |    |    |    |    |    |    | "                           | M                      | 5          | 70          |      | X  |    |    |            |
| A9          |                       |    | 6  |    |    |    |    |    |    |    | "                           | M                      |            |             |      | X  |    |    | Picked up  |

DISTRIBUTION: C = 91-100%; B = 51-90%; P = 11-50%; S = 1-10%; T = &lt;1%

SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE

PHOTO ROLL # MAYSAP-

FRAMES

| PIT<br>NO. | PIT<br>DEPTH<br>(cm) | SUBSURFACE<br>OIL CHARACTER |     |     |     |    |    |    | OILED<br>ZONE<br>cm-cm | CLEAN<br>BELOW<br>Y/N | H2O<br>LEVEL<br>(cm) | SHEEN<br>COLOR<br>B R S N | PIT<br>ZONE |    |    |    | SURFACE-<br>SUBSURFACE<br>SEDIMENTS | NOTES |
|------------|----------------------|-----------------------------|-----|-----|-----|----|----|----|------------------------|-----------------------|----------------------|---------------------------|-------------|----|----|----|-------------------------------------|-------|
|            |                      | OP                          | HOR | MOR | LOR | OF | TR | NO |                        |                       |                      |                           | S           | UI | MI | LI |                                     |       |
| 1          | 10                   |                             |     |     |     |    |    |    | 0-5                    | Y                     |                      |                           |             |    |    |    | P, G, S                             |       |
|            |                      |                             |     |     |     |    |    |    |                        |                       |                      |                           |             |    |    |    |                                     |       |
|            |                      |                             |     |     |     |    |    |    |                        |                       |                      |                           |             |    |    |    |                                     |       |
|            |                      |                             |     |     |     |    |    |    |                        |                       |                      |                           |             |    |    |    |                                     |       |
|            |                      |                             |     |     |     |    |    |    |                        |                       |                      |                           |             |    |    |    |                                     |       |
|            |                      |                             |     |     |     |    |    |    |                        |                       |                      |                           |             |    |    |    |                                     |       |
|            |                      |                             |     |     |     |    |    |    |                        |                       |                      |                           |             |    |    |    |                                     |       |
|            |                      |                             |     |     |     |    |    |    |                        |                       |                      |                           |             |    |    |    |                                     |       |
|            |                      |                             |     |     |     |    |    |    |                        |                       |                      |                           |             |    |    |    |                                     |       |
|            |                      |                             |     |     |     |    |    |    |                        |                       |                      |                           |             |    |    |    |                                     |       |

SHEEN COLOR: B = BROWN; R = RAINBOW; S = SILVER; N = NONE

OG COMMENTS:

revised 5/3/91 KL

Revised: 5/4/91 \*MC

CHANGES BACK TO ORIGINAL NOS.)

# 09 Sketch Map

EB 011-A

17 Samples

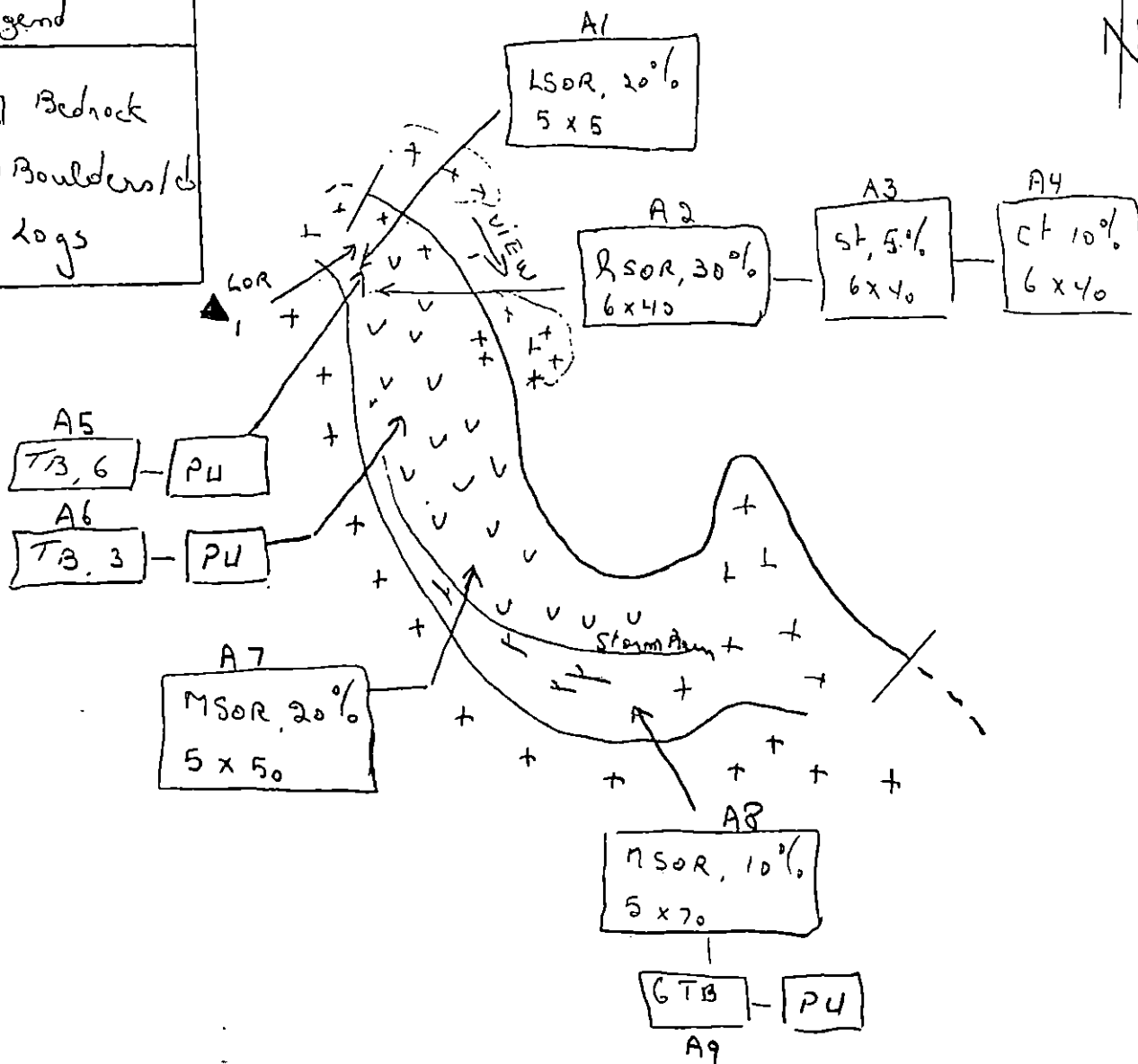
28 April 91 0635R - 0758R

## Legend

[+] Bedrock

[V] Boulders/cb

[V] Logs



reviewed 5/3/91 KG  
REVIEWED: 5/4/91 MC

Og Sketch Map.

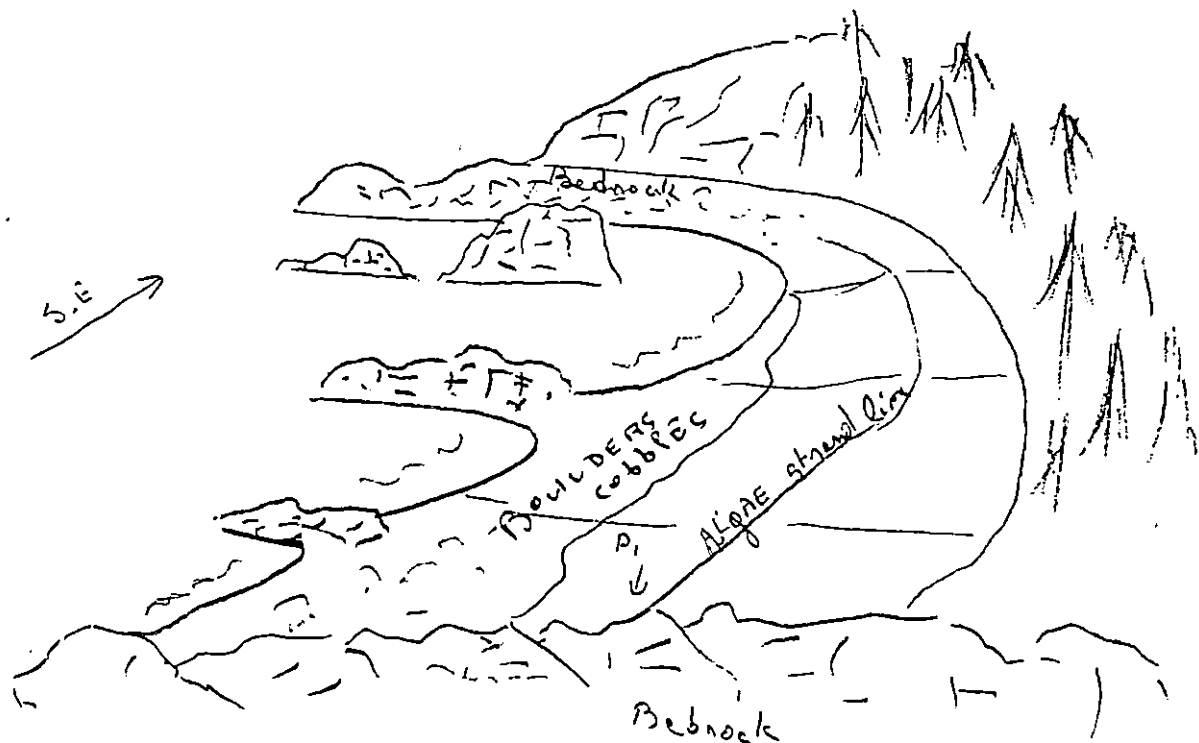
EB 011 - A

JM Samples

28 April 91

0635 R-0758 R.

View of EB 011 - A to the South east



reviewed 5/3/91 KG  
REVIEWED: 5/4/91 MC



# MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 4 DATE/TIME April 27, 1991 0635 => 0745  
 SEGMENT # EB011 TIDAL HEIGHT (Range) 0.0 => -1.8  
 SUBDIVISION A BIOLOGIST JIM BARRY  
 SEA STATE Calm WIND SPEED/DIRECTION Variable 0-5 kt.

## COMMENTS / OBSERVATIONS - OILED SUBDIVISIONS

A1-A5 The oiled areas are located on the upper zone near the supratidal zone. Black lichen, some rye grass, and mosses occur slightly above the oiled spots. Other biota on this medium to low exposure beach at the oiled area are sparse barnacles and littorines. The middle and lower zones below the oiled area are very rich. The cobble and boulders along the beach have fairly high cover of Fucus, with very abundant barnacles, littorines, and limpets. The adjacent headlands have very diverse and rich biotic cover. Many species of red, green, and brown algae, as well as a rich invertebrate community covers most of the headland along this segment.

AG-A8 The oiled zone is located in the upper intertidal on a cobble beach with a medium exposure. Very little biota is present on the cobble in the upper zone. The lower and middle zone cobble and bordering boulders have much greater abundances of organisms similar to A above. In addition, the low intertidal flat below the cobble beach is covered by a patchy eel grass bed with the associated invertebrate fauna. Fucus also is abundant in this low zone. Slightly above the eel grass bed, a mussel zone occurs in the cobble beach. Clams are abundant throughout these lower zones. Otter foraging pits are common in the low zone.

The intertidal communities along this segment generally are extremely rich and diverse. Several habitat types occur, including bedrock cliffs exposed to high waves, protected pocket beaches, semi-protected cobble beaches, and sand and cobble flats covered by eel grass and clam beds.

Clean up operations should be restricted to activities that will not disturb the sand/cobble flats where eel grass and clams are abundant, or the bedrock cliffs. Thus, heavy equipment should be excluded unless access is restricted to the upper zone cobble beach. Manual pickup operations will not adversely impact the biotic communities.

(Continued)

## WILDLIFE OBSERVATIONS - Completed on all subdivisions

| BIRDS            | # OF SPECIES | TOTAL BIRDS     | FISH OBSERVED   |
|------------------|--------------|-----------------|-----------------|
|                  |              |                 | SPECIES PRESENT |
| Eagles           | 1            | 2 (not in nest) |                 |
| Seabirds         |              |                 |                 |
| Waterfowl        | 2            | 5               |                 |
| Gulls/Kittiwakes | 1            | 8               |                 |
| Shorebirds       |              |                 |                 |
| Corvids          | 1            | 1               |                 |
| Other Birds      |              |                 |                 |

| MARINE MAMMALS      | # OBSERVED | LAND MAMMALS | # OBSERVED |
|---------------------|------------|--------------|------------|
|                     |            | SPECIES      |            |
| Sea Otters          |            |              |            |
| Pinnipeds (specify) |            |              |            |
| Whales (specify)    |            |              |            |

Shoreline subdivision map showing important biological features attached.

REVIEWED: 5/4/91

## Summary of Intertidal Biota along Segment EB011-A

This segment has several distinct habitat types, including cobble beaches exposed to low and moderate swell, large boulders and bedrock cliffs exposed to medium and high swell, and protected coves with shallow flat sand and cobble flats. The exposed cliff and high angle beach habitats have quite high cover of the key species, with even greater abundance and diversity of biota in the lower zones, where many species of sea stars, macroalgae, clams and mussels, anemones, worms, snails, and barnacles exist. The boulder and cobble beaches in the low intertidal, especially behind the wave barrier of the large outcrops, also have rich biotic communities. The sand/cobble flat in the small cove at the center of the segment is a rich eel grass and clam bed habitat. Otter (sea otter and/or river otter) foraging pits are visible in many locations along this sand/cobble flat. Sparse scat deposits on the headland at the southern end of the segment indicate that it might be a haul out location for otters. The lower intertidal and subtidal zones have a high cover of kelps.

Juveniles or spat of many species were present along the segment. Littorine juveniles and egg cases were abundant throughout, as were juvenile mussels. Egg cases of other gastropods also were found. Juvenile barnacles (spat) and juvenile sea urchins were present.

An eagle nest is mapped at the northern end of the segment, but was not observed from the beach or during the survey. Two bald eagles were roosting in a tree near the nest site during the survey.

## List of Common Species along EB011-A

### A. Marine Plants

1. Diatoms, Blue Greens
2. Green Algae - Chlorophyta  
Cladophora sp., Enteromorpha sp., Ulva sp., Urospora sp., Unknown crustose green algae, Unknown filamentous green
3. Brown Algae - Phaeophyta  
Alaria marginata, Agarum fimbriatum, Costaria costata, Ectocarpus spp., Fucus distichus, Hildenbrandia sp., Laminaria ?dentigera, Ralfsia sp., Syctosiphon lomentaria
4. Red Algae - Rhodophyta  
Calliarthron sp., Corallina sp., Endocladia muricata,, Halosaccion glandiforme, Iridaea sp., Lithothamnion sp., Mastocarpus sp., Membranoptera dimorpha, Odonthalia floccosa, Palmaria palmata, Petrocelis sp., Porphyra sp., Rhodomela larix, Unknown bladeliike red algae, Unknown filamentous red algae
5. Higher Plants  
Zostera marina (eel grass), Leymus mollis (beach rye grass)

### II. Marine Animals

1. Sponges - Porifera - Halichondria? sp.
2. Anemones  
Anthopleura artemesia, A. elegantissima, A. xanthogrammica, Epiactis Ritteri, Urticina crassicornis,
3. Flatworms - Platyhelminthes - Polyclads
6. Nemertean Worms - Ribbon Worms  
Emplectonema gracile, Tubulanus polymorphus
7. Polychaete worms  
Glyceridae  
Nephtyidae  
Nereidae - Nereis spp.  
Serpulidae  
Serpula sp., Crucigera sp., Eudistylia polymorpha  
Spirorbidae - Spirorbis sp.

*Phascolosoma agassizii*

9. Crustaceans

- a. Amphipods - *Orchestia* sp.?
- b. Barnacles

*Balanus glandula*, *Chthamalus dalli*, *Semibalanus cariosus*

- c. Crabs - *Paguridae* (hermit crabs), *Pugettia* sp.,
- d. Isopods - *Gnorimorsphaeroma oregonensis*

10. Mollusca

a. Chitons

*Mopalia* sp., *M. mucosa*, *Katharina tunicata*, *Tonicella lineata*,

b. Snails - Gastropods

*Littorina scutulata*, *L. sitkana*, *Natica clausa*, *Nucella lamellosa*, *N. lima*

c. Limpets

*Acmaea mitra*, *Lottia digitalis*, *L. persona*, *T. scutum*,

d. Nudibranches - *Melibe leonina*

e. Mussels and Clams

*Clinocardium* sp., *Macoma balthica*, *M. nasuta*, *M. edulis*, *Pododesmus cepio*, *Prototheca staminea*, *Saxidomus giganteus*,

11. Echinoderms

a. Brittle Stars - *Ophiolus* sp., ?

b. Sea stars

*Dermasterias imbricata*, *Evasterias truscheli*, *Henricia leviuscula*, *H. sanguinolenta*, *Leptasterias hexactis*, *Orthaasterias keohleri*, *Pisaster ochraceus*, *Pycnopoda helianthoides*, *Solaster* sp.

d. Urchins - *Strongylocentrotus droebachiensis*

12. Bryozoans - *Schizoporella* sp.

13. Fishes

Cottidae

*Artedius harringtoni*, *Oligocottus* sp.

Liparidae - *Liparis callyodon*

Stichaeidae

*Xiphister atropurpureus*, *X. mucosus*

# og sketch map

EB 011-A

17 Sempels

28 April 91 0635R - 0758R

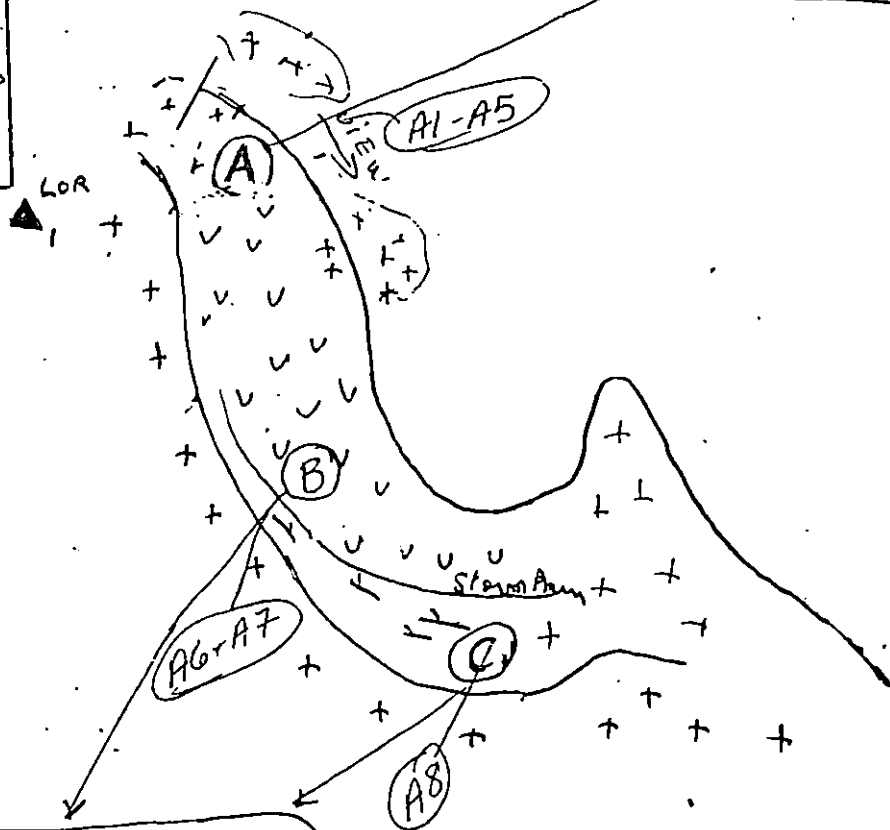
## Legend

[+] Bedrock

[v] Boulders/cb

[x] Logs

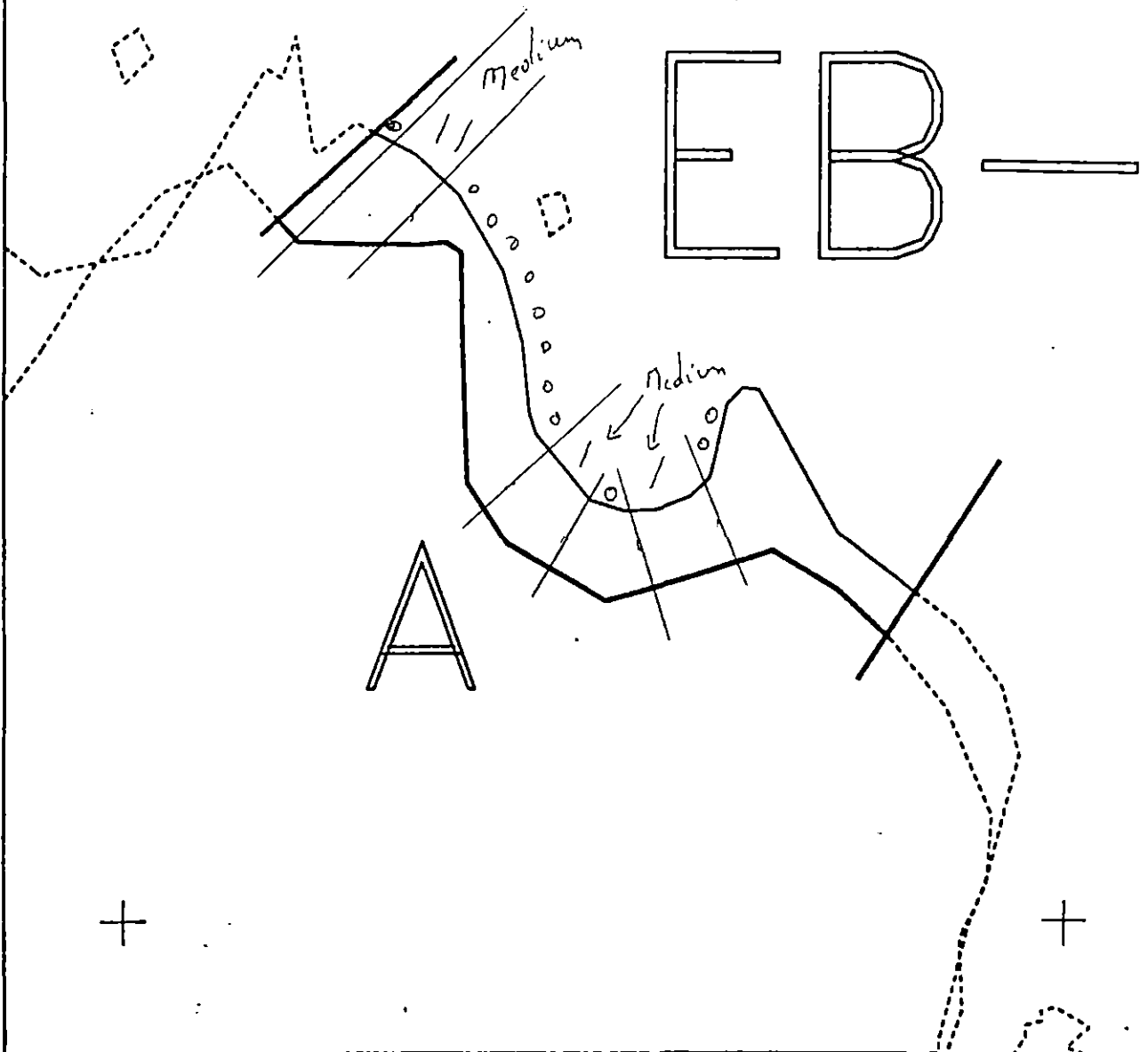
High Zone Outing - Sparse  
biota - Littorines/Barnacles  
Low in IT, Biota very rich -  
Fucus, mussels, Chironomids,  
Anemone, Red algae, Sea urchins



Little biota in cobble beach.  
Below oiled area - Fucus, Mytilus  
Barnacles, Littorines, & a rich clam  
& mussel bed with eel grass.

METERS

0 100 200



XXXX Wide  
 //// Medium  
 ---- Narrow  
 TTTT Very Light  
 0000 No Oil

EB011 A  
 ADEC Subsegment Length: 583m  
 METERS  
 0 100 200  
 AK State Plane Zone 4  
 840110

Subdivision Field Map  
 Map Key: PWSEB011A  
 Name: JM Samples  
 Date: 28 April 91  
 Date Entered:

reviewed 5/3/91 KG  
 REVIEWERS: 5/4/91 MC

PROVIDED BY DEC MAY 13, 1991

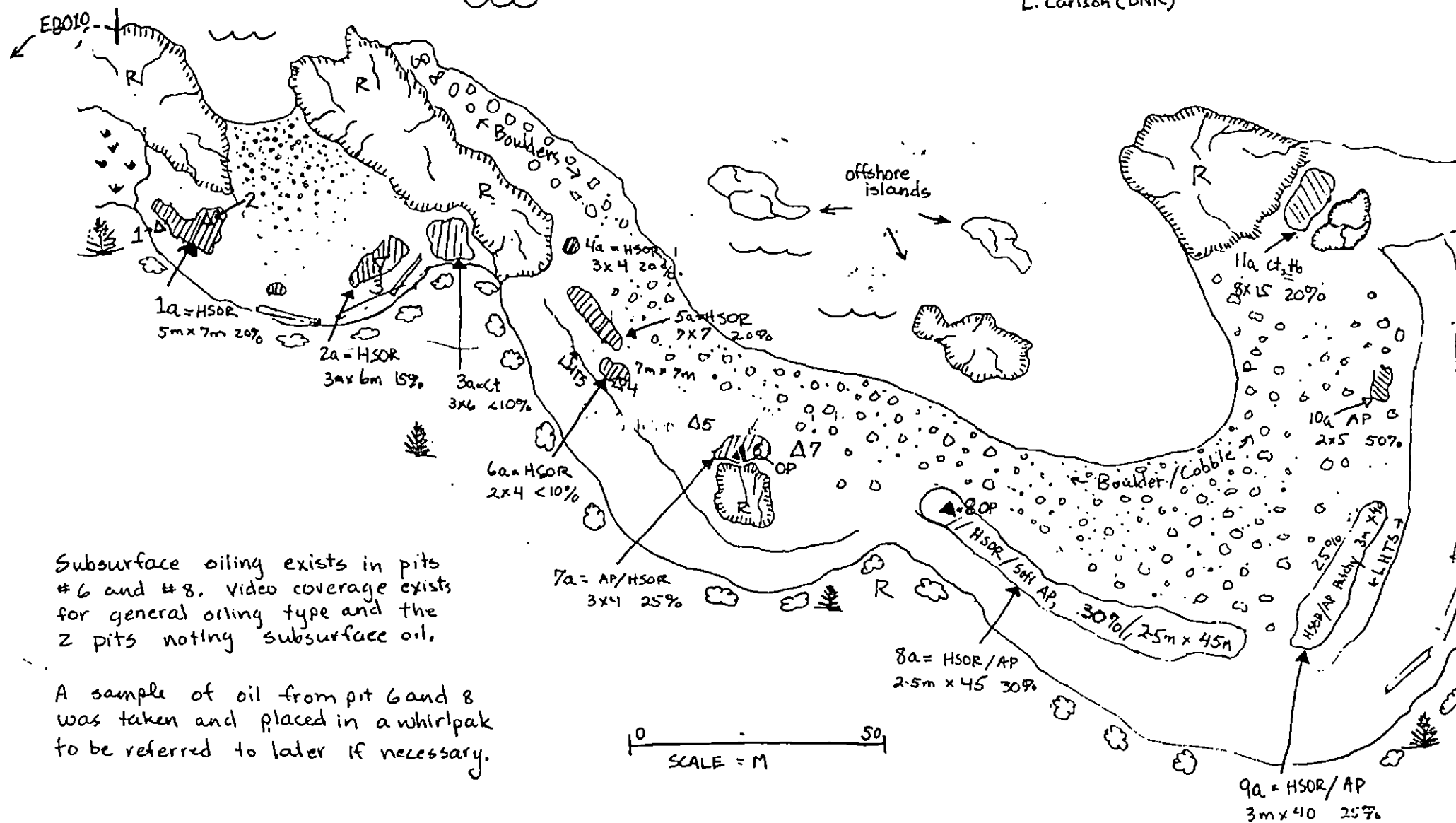
Date: 5-2-91  
Start - 0753  
End - 0917

EB011-A

Site has special concern due to its location within the set net fishing zone.

P. Endres (DEC) - sketch  
D. Gardner (DEC)  
L. Carlson (DNR)

WATER



Subsurface oiling exists in pits #6 and #8. Video coverage exists for general oiling type and the 2 pits noting subsurface oil.

A sample of oil from pit 6 and 8 was taken and placed in a whirlpak to be referred to later if necessary.

## WORK PLAN MODIFICATION RECOMMENDATION

ASAP

SEGMENT EB-11SUBDIVISION A (up)DATED 8-3-90

## MODIFICATION

## 1. REASON FOR MODIFICATION:

2 areas on EB-11 will require further treatment in 1990. Moving N→S, on second prominent point encountered is an area approx. 2.5x4.5m of weathered interstitial mouse, AP, and OP/OR subsurface oil (3-5cm penetration). Area 2 is North facing cone in middle of segment. From MITZ-HITZ the evidence indicates that bioremediation <sup>has</sup> removed clean surface layer of cobble/5m. boulder side to expose tar mats. These tar mats/AP were then bioremediated. AP and subsurf. OP and OR oil still exist however and will require re-treatment in 1990.

## 2. SUGGESTED ADJUSTMENT TO WORK PLAN:

TAB should <sup>cross segment to</sup> determine potential effectiveness of mechanical treatment. A large number of clean cobbles and small boulders will need to be relocated to access AP and subsurface oil. A manual crew could accomplish this task, but would require a substantially longer period of time. The next step is to remove AP and subsurface oil prior to bioremediation (Both Snigel and Custombar).

## 3. TIMING ISSUES:

Treatment required in 1990

## 4. ADDITIONAL COMMENTS:

ADEC Bob McCready Robert G. McCreadyEXXON Donald K. BoyerUSCG Donald USCGLAND MANAGER Shelley (If field rep is on scene)

SEGMENT AS1 EB-11 SUBDIVISION: A SITE: 1 DATE 8/3/90

## USCG

NAME David A. NOAA  
DON ORUE (USCG)SIGNATURE David A. NOAA☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

## REASON:

Oiling is widespread in these coves. 1990 treatment is recommended, as much oil is found between boulders & cobbles & will not be fully effected by winter waves. Definite 1991 reassessment recommended  
Concur Bio

## ADEC

NAME BOB McCREADYSIGNATURE Robert B. McC☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

## REASON:

Work Order Mod. Recommendation has been submitted recommending cleanup to resume in 1990. North facing cove has fairly extensive tarballs/AP and OP/OR subsurface oil. Mechanical treatment is recommended to remove layer of clean cobbles/sm. boulders to expose AP and subsurface oil. Manual bison then remove oiled sediments which could be followed by the application of Snigal or Custombler. Priority reassessment for '91 following treatment in '90

## LAND MANAGER

NAME Steve LAM CUCSIGNATURE Steve LAM☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

## REASON:

needs more 90 work. check for Sub Surface Again  
needs Re Bio.

## EXXON

NAME RANDALL E. BOYCESIGNATURE Randall E. Boyce☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

## REASON:

THIS AREA APPEARED TO HAVE BEEN BIOD BEFORE MANUAL TREATMENT WAS INITIATED OR COMPLETED. A WORK MODIFICATION HAS BEEN FILED FOR PICKUP AND Re-BIO. THE AP/P AND M5/P WOULD JUSTIFY ANOTHER LOOK IN 1991.



| SURFACE OIL              |              |    |     | SITE 1 |             |    |     | SITE 2 |  |              |    | SITE 3 |    |             |    |    |    |  |
|--------------------------|--------------|----|-----|--------|-------------|----|-----|--------|--|--------------|----|--------|----|-------------|----|----|----|--|
| CHARACTER<br>DESCRIPTION | DISTRIBUTION |    |     |        | OILED ZONES |    |     |        |  | DISTRIBUTION |    |        |    | OILED ZONES |    |    |    |  |
|                          | /C           | /B | /P  | /S     | SU          | UI | MI  | LI     |  | /C           | /B | /P     | /S | SU          | UI | MI | LI |  |
| ASPHALT                  |              |    | I I |        | X           |    |     |        |  |              |    |        |    |             |    |    |    |  |
| S.O.R.                   |              |    |     |        |             |    |     |        |  |              |    |        |    |             |    |    |    |  |
| POOLED                   |              |    |     |        |             |    |     |        |  |              |    |        |    |             |    |    |    |  |
| COVER                    |              |    | X   |        | X           |    |     |        |  |              |    |        |    |             |    |    |    |  |
| COAT                     |              |    | X X |        | X           |    |     |        |  |              |    |        |    |             |    |    |    |  |
| STAIN                    |              |    | X X |        | X           |    |     |        |  |              |    |        |    |             |    |    |    |  |
| MOUSSE                   |              |    | I   |        | X           |    |     |        |  |              |    |        |    |             |    |    |    |  |
| PATTIES/T.B.             |              |    |     |        |             |    |     |        |  |              |    |        |    |             |    |    |    |  |
| FILM                     |              |    |     |        |             |    |     |        |  |              |    |        |    |             |    |    |    |  |
| NO OIL                   |              |    |     |        | X           |    | X X |        |  |              |    |        |    |             |    |    |    |  |
| EST. SITE LENGTH         |              |    |     |        | 583         |    |     |        |  |              |    |        |    |             |    |    |    |  |

## SUBSURFACE OIL

[illegible]

**Photographs:**

Roll No: 06062

Frames 64

REVIEWED  
8/6/90 JIU

## COMMENTS

WAS LOCATED IN THE FLANKS OF AN EMBAYMENT COMPOSED OF BOULDER &  
BEDROCK

BEAROCK  
→ SMALL AREAS OF CU/CY/ST/MS WERE LOCATED IN THE UPPER INTERTIDAL ZONE

→ FIELD CLEANUP WAS INITIATED AT THREE AREAS

PREVIOUS NO. 7/57/00

## CH MAP

५०५

8/3/90

N  
↑

## CHECKLIST

- ☒ 14 Areas
- ☒ Appraisal Grade
- ☒ English Grade
- ☒ CR Desc.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☒ Substrate Character
- ☐ Est. MPA, A, B, C
- ☐ SCL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ FE Location(s)
- ☐ Photo Location(s)

## LEGEND

- 1 Δ  
FBI - New Orleans Office
- 2 Δ  
FBI - New Orleans Office

CT/C

**0**

**CTA**

[illegible]

**CTA**

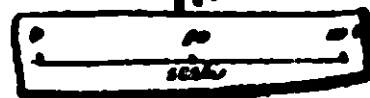
**Project Overview**

**ST2**

**Abstract**

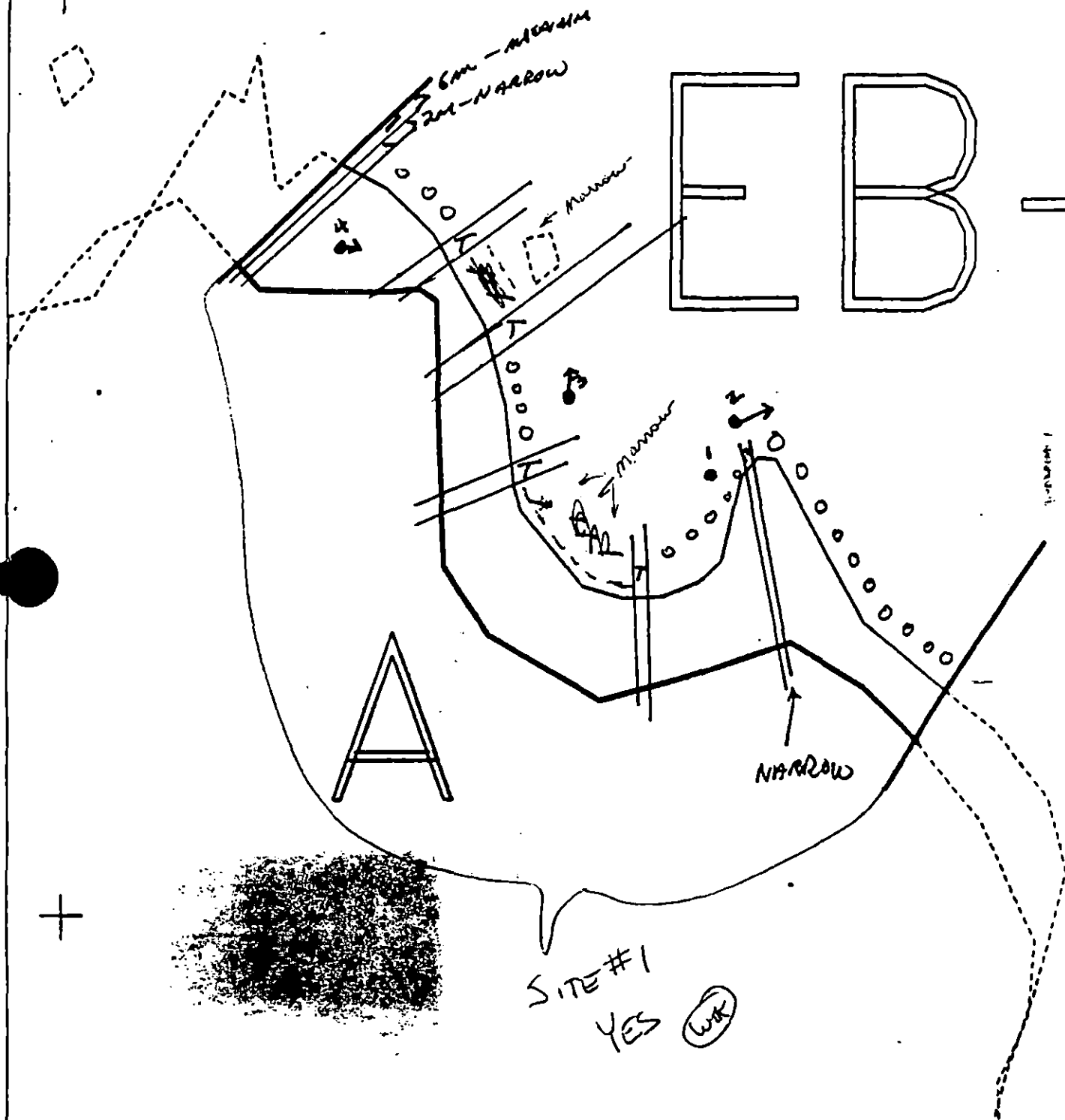
### Other Vegetation

- Photo location, elevation,
- 
- and number



Oil Character Length (in): AP 2 PO 0 CV 135 CT 260 ST 40 MS 0 PT 0 TB 0 FL 0 NO 173

\_\_\_\_\_



XXXX  
//  
----  
TTTT  
0000

Wide  
Medium  
Narrow  
Very Light  
No Oil

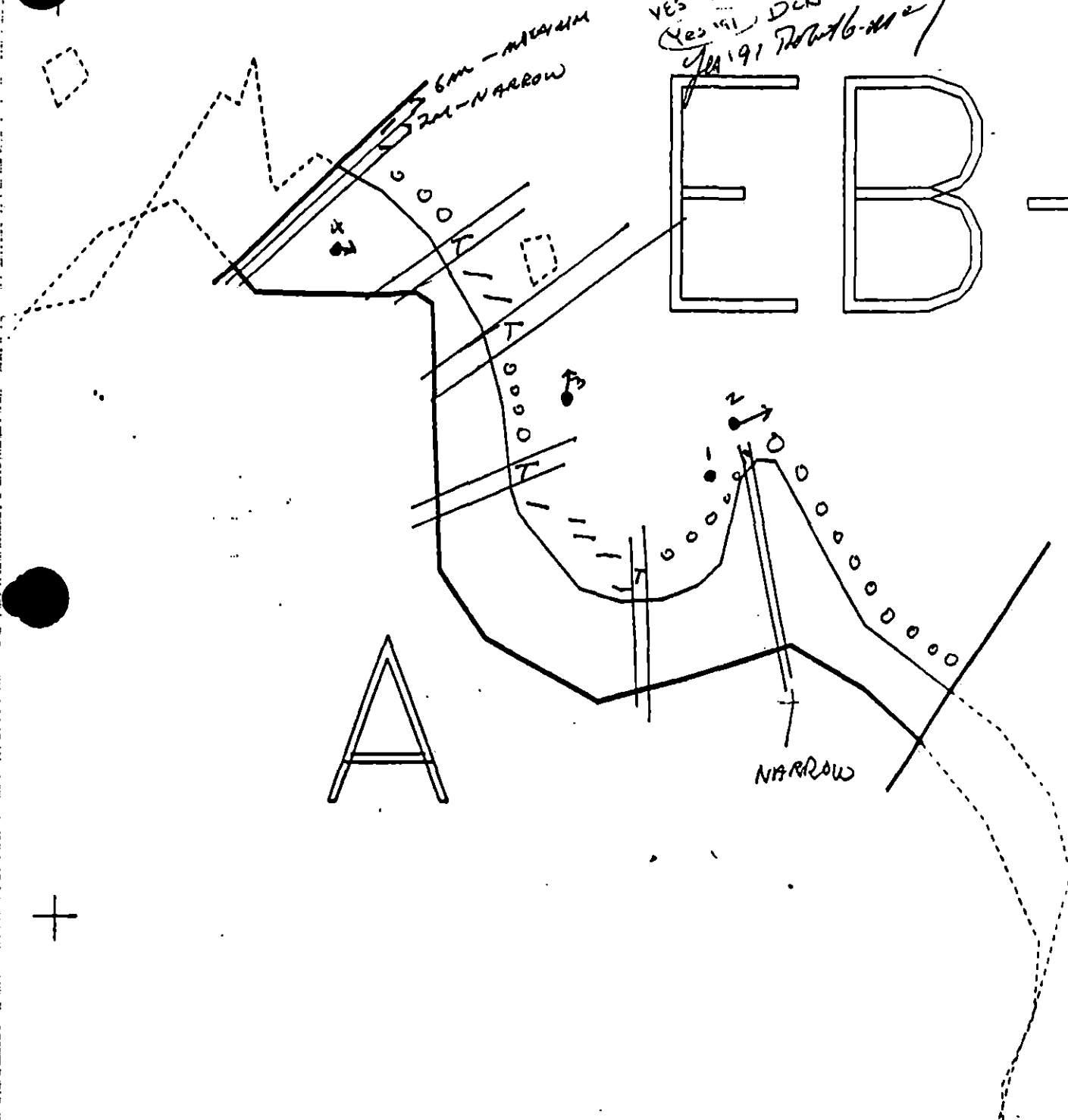
EB-11 A

ADEC Subsegment Length: 583m  
METERS

AK State Plane Zone 4 1:3200  
feb-110



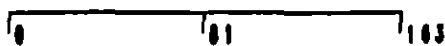
Subdivision Field Map  
Map Key: PWSEB-11A  
Name: NAKASHIMA  
Date: 8/3/90  
Date Entered:



|      |            |
|------|------------|
| XXXX | Wide       |
| ///  | Medium     |
| -    | Narrow     |
| TTTT | Very Light |
| 0000 | No Oil     |

**EB-11A**

ADEC Subsegment Length: 583m  
METERS



AK State Plane Zone 4 1:3200  
pub-11a



Subdivision Field Map  
Map Key: PWSEB-11A  
Name: NAKASHIMA  
Date: 8/3/90  
Data Entered:

GENERAL DATA

SEG ID: EB-11 SBOV: A SITE: 1 TEAM: 3 DATE: 8-3-90  
SITE LGTH 583 OIL CATEGORIES: W - M 6 N 218 VL 40 NO 331 U -  
1991 REASSESSMENT: USCG: Y ADEC: Y LDMGR: Y EXXON: Y

SURFACE DATA

CHAR #: 1 OIL CHAR: AP OIL DIST: CONT - BRKN - PTCH I SPLH I  
TIDAL ZONE: SU - UI X MI - LI -

CHAR #: 2 OIL CHAR: CV OIL DIST: CONT - BRKN - PTCH X SPLH -  
TIDAL ZONE: SU - UI X MI - LI -

CHAR #: 3 OIL CHAR: CT OIL DIST: CONT - BRKN - PTCH X SPLH X  
TIDAL ZONE: SU - UI X MI - LI -

CHAR #: 4 OIL CHAR: ST OIL DIST: CONT - BRKN - PTCH X SPLH X  
TIDAL ZONE: SU - UI X MI - LI -

CHAR #: 5 OIL CHAR: MS OIL DIST: CONT - BRKN - PTCH I SPLH -  
TIDAL ZONE: SU - UI X MI - LI -

CHAR #: 6 OIL CHAR: NO OIL DIST: CONT - BRKN - PTCH - SPLH -  
TIDAL ZONE: SU X UI - MI X LI X

CHAR #: 7 OIL CHAR: - OIL DIST: CONT - BRKN - PTCH - SPLH -  
TIDAL ZONE: SU - UI - MI - LI -

CHAR #: 8 OIL CHAR: - OIL DIST: CONT - BRKN - PTCH - SPLH -  
TIDAL ZONE: SU - UI - MI - LI -

CHAR #: 9 OIL CHAR: - OIL DIST: CONT - BRKN - PTCH - SPLH -  
TIDAL ZONE: SU - UI - MI - LI -

CHAR #: 10 OIL CHAR: - OIL DIST: CONT - BRKN - PTCH - SPLH -  
TIDAL ZONE: SU - UI - MI - LI -

ASAP DATA ENTRY FORM

SUBSURFACE DATA

PAGE 2 OF 2

SEGMENT ID: EB-11 SUBDIV: A SITE: 1

PIT # 0 PIT DEPTH        OIL CHARACTER        OIL INTVAL: FROM        TO         
 CLEAN BELOW:        PIT ZONE: SU        UI        MI        LI       

SUBSURF SEDIMENT: BRK        BLD        COB        PEB        GRN        SAN        MUD        VEG       

PIT #        PIT DEPTH        OIL CHARACTER        OIL INTVAL: FROM        TO       

CLEAN BELOW:        PIT ZONE: SU        UI        MI        LI       

SUBSURF SEDIMENT: BRK        BLD        COB        PEB        GRN        SAN        MUD        VEG       

PIT #        PIT DEPTH        OIL CHARACTER        OIL INTVAL: FROM        TO       

CLEAN BELOW:        PIT ZONE: SU        UI        MI        LI       

SUBSURF SEDIMENT: BRK        BLD        COB        PEB        GRN        SAN        MUD        VEG       

PIT #        PIT DEPTH        OIL CHARACTER        OIL INTVAL: FROM        TO       

CLEAN BELOW:        PIT ZONE: SU        UI        MI        LI       

SUBSURF SEDIMENT: BRK        BLD        COB        PEB        GRN        SAN        MUD        VEG       

PIT #        PIT DEPTH        OIL CHARACTER        OIL INTVAL: FROM        TO       

CLEAN BELOW:        PIT ZONE: SU        UI        MI        LI       

SUBSURF SEDIMENT: BRK        BLD        COB        PEB        GRN        SAN        MUD        VEG       

PIT #        PIT DEPTH        OIL CHARACTER        OIL INTVAL: FROM        TO       

CLEAN BELOW:        PIT ZONE: SU        UI        MI        LI       

SUBSURF SEDIMENT: BRK        BLD        COB        PEB        GRN        SAN        MUD        VEG       

PIT #        PIT DEPTH        OIL CHARACTER        OIL INTVAL: FROM        TO       

CLEAN BELOW:        PIT ZONE: SU        UI        MI        LI       

SUBSURF SEDIMENT: BRK        BLD        COB        PEB        GRN        SAN        MUD        VEG       

PIT #        PIT DEPTH        OIL CHARACTER        OIL INTVAL: FROM        TO       

CLEAN BELOW:        PIT ZONE: SU        UI        MI        LI       

SUBSURF SEDIMENT: BRK        BLD        COB        PEB        GRN        SAN        MUD        VEG       

PIT #        PIT DEPTH        OIL CHARACTER        OIL INTVAL: FROM        TO       

CLEAN BELOW:        PIT ZONE: SU        UI        MI        LI       

SUBSURF SEDIMENT: BRK        BLD        COB        PEB        GRN        SAN        MUD        VEG

## SHORELINE EVALUATION

SEGMENT ST/ EB-11 SUBDIVISION A (1 OF 1) DATE 4/9/90

### **SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:**

1E Main Bay Hatchery release (4/20 to 5/10)

1L Set net sites (6/11 to 7/25)

6V Recreation: Anchorages (6/1 to 9/15)

See attached Ecological Constraint sheet for specific constraints and contacts.

**SUBDIVISION ECOLOGICAL CONSTRAINTS:**

Avoid any unnecessary disturbance or damage to uncoiled biota and substrate.

**ARCHAEOLOGICAL CONSTRAINTS:**

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

**SHPO SIGNATURE:**

**DATE:**

**OILING CATEGORIZATION:**

Wide 0 m: Medium 0 m: Narrow 395 m: V.Light 64 m: No Oil 125 m  
Subsurface Oil Observed: Yes X No Maximum Depth 10 cm

**RECOMMENDATIONS:**

           No Treatment Recommended

| X | Treatment Recommended |
|---|-----------------------|
|---|-----------------------|

X Manual Pickup

## X Bioremediation

  X   Tarmat:            Breakup

### X Removal

\_\_\_\_\_ Snare/Absorbent Booms

Oil Snares (pom poms)

\_\_\_\_\_ Absorbents (pads, rolls, etc)

Spot Washing: \_\_\_\_\_ Wands \_\_\_\_\_

                     Beach Cleaner

\_\_\_\_ Other (see comments)

COMMENTS: Recommended treatment includes 1) manual removal of tarmat, 2) manual pick up of oiled debris (pom poms), 3) bioremediation of surface and sub-surface oil in areas shown on attached sketch map. Work should be conducted between 5/10 and 6/1 based on hatchery release and set net constraints.

**TAG COMMENTS:**

TAG APPROVAL DATE:

**ADEC**

**EXXON**

NOAA

USCG

**FOSC:**

DATE :

NOTIFY CVC 24 HRS. IN ADVANCE OF WORK

OG N. B1SEGMENT ST/ EB-011SUBDIVISION ADATE 4/9/90

## CHECKLIST

- ☒ N Arrow  
☒ Approx. Scale  
☒ Seg/Sub Entry  
☒ Oil Dist.  
 Width  
 Length  
 % Cover  
☒ Substrate Character  
 Est. HML/LWL  
 SSL  
 Profile Location(s)  
 Profile(s)  
 Pit Location(s)  
 Photo Location(s)

## LEGEND

1  $\Delta$ 

Pit - No Subsurface Oil

2  $\Delta$ 

Pit - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patched Distribution

CT/S

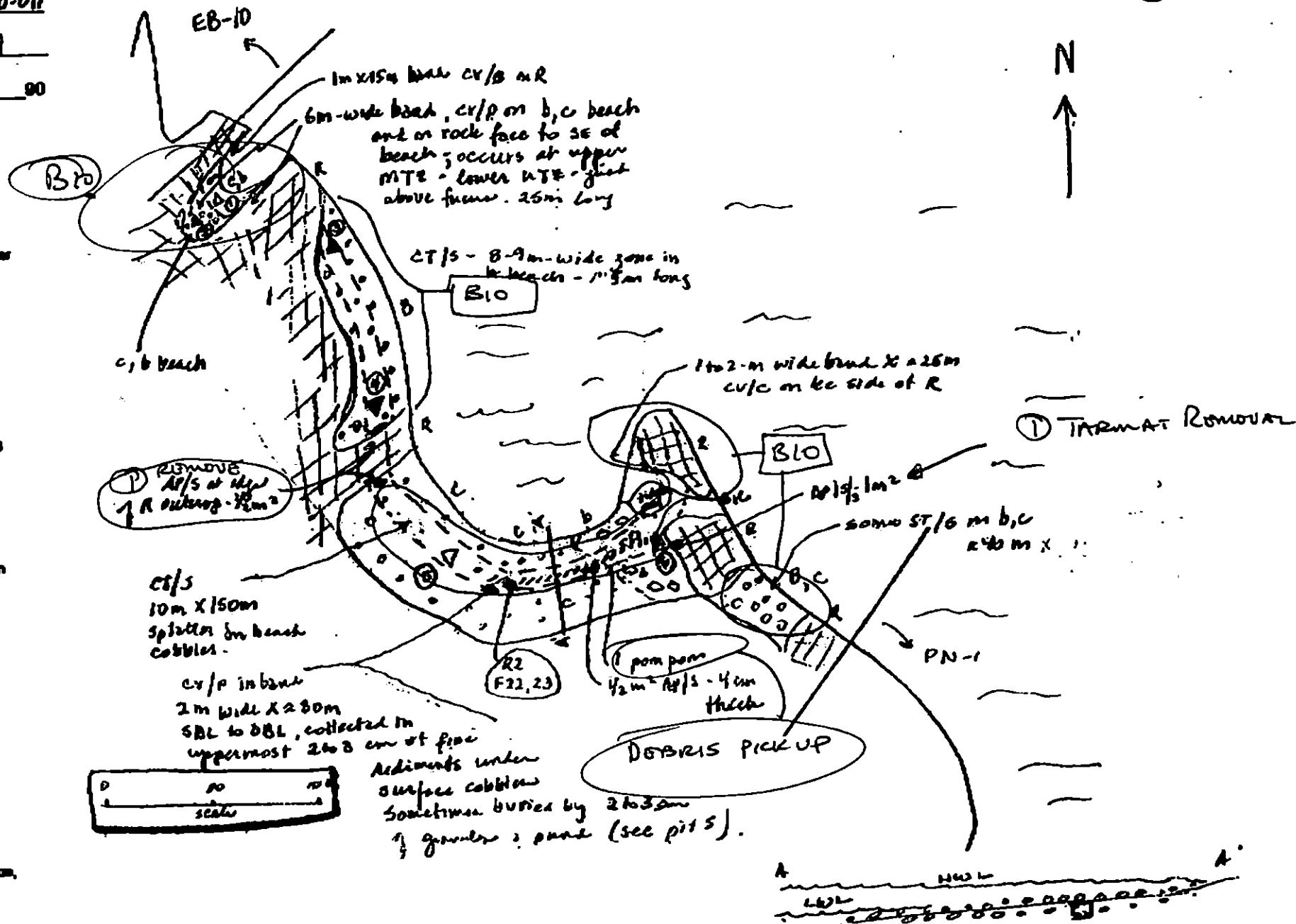
Spotted Distribution

Oil Vegetation

1  $\Rightarrow$ 

Photo location, direction, and number

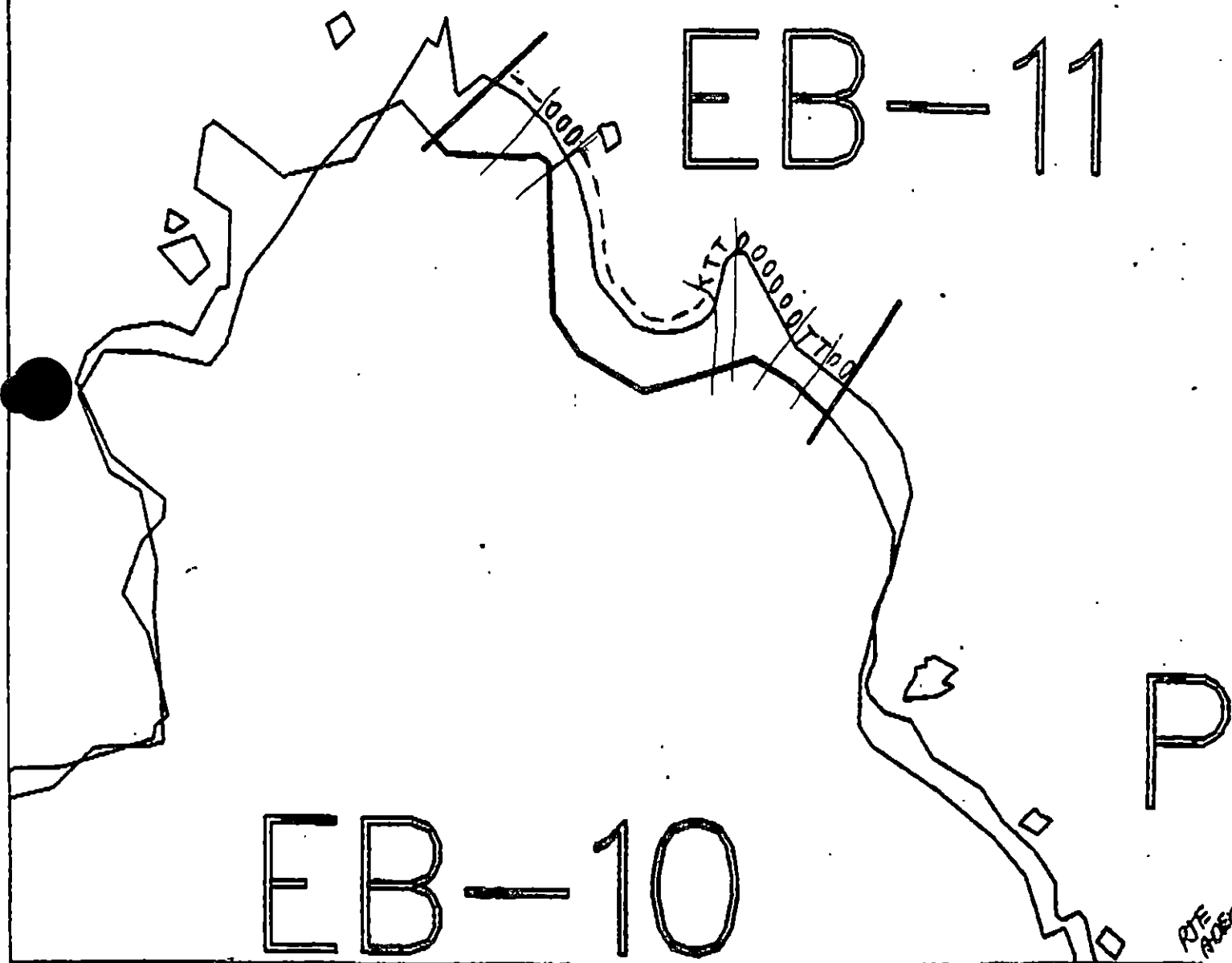
## SEARCH MAP

Oil Character Length (m): AP 2 PO 0 CV 135 CT 260 ST 40 MS 0 PT 0 TB 0 FL 0 NO 173

REVISIONS



18



XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

EB-11

ADEC Segment Length: 583m



Map Key: PWS-106

Name: N. Bigger

Date: 4/9/90

Date Entered:

**1991 MAYSAP EVALUATION**

**SEGMENT:** EB 011 **SUB:** A **REGION:** PWS **SURVEY DATE:** 4/28/91

**ENVIRONMENTAL SENSITIVITIES:**

Work Window(s) RESTRICTED 3/1 - 9/1

Ecological/Constraints (see page two for details) **Eagle nest,**  
**Fry release, Fish harvest area**

**ARCHAEOLOGICAL CONSTRAINTS:**

If treatment is planned, a cultural resource evaluation is  
required prior to shoreline treatment.

SHPO Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**RECOMMENDATIONS:**

**INITIAL**

**TAG**

**FOSC**

**TREATMENT REQUIRED (Y or N)**

Y

Manual Pickup (Check as Req.)

X

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

X

Other \_\_\_\_\_

Other \_\_\_\_\_

**COMMENTS:**

INITIAL: Customblen and Inipol as required following manual  
removal of tarballs and SOR at locations A5, A6, A7, A8 and A9.

**TAG:** \_\_\_\_\_

**FOSC:** \_\_\_\_\_

**TAG APPROVAL DATE:** \_\_\_\_\_ **FOSC APPROVAL DATE:** \_\_\_\_\_

**ADEC** \_\_\_\_\_

**FOSC** \_\_\_\_\_

**EXXON** \_\_\_\_\_

**USCG** \_\_\_\_\_

**NOAA** \_\_\_\_\_

**ECOLOGICAL CONSTRAINTS  
1991 FIELD ACTIVITIES**

**Eagle Nest:** Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.

**Fry Release:** Unlimited treatment unless otherwise directed by ADF&G. Sheen containment/recovery procedures required for mechanical treatment.

**Fish Harvest Area:** Unlimited treatment unless otherwise directed by ADF&G. Sheen containment/recovery procedures required for mechanical treatment.

## MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 4 SEGMENT EB 011 - A SUBDIVISION A DATE 28 / APR / 91

## ADEC

NAME Dianne MunsonSIGNATURE Dianne Munson

☐ NTR ☒ TREATMENT RECOMMENDED North facing cove has fairly extensive tarmats/AP and OR oil from the surface to 5cm. A large number of clean angular cobbles and small boulders will need to be relocated to access AP and OR oil. A manual crew could accomplish this task but would require a substantially longer period of time. Mechanical treatment is recommended to remove layer of clean cobbles/small boulders to expose AP and oil to 5 cm. manual crew can then remove oiled sediments. This segment is a priority resource due to set net fisheries site. Site had been closed for fishing in 1990 by ADFG due to amount of oil.

## EXXON

NAME LARRY D. OLSONSIGNATURE Larry D. Olson

☐ NTR Beach on this segment has good growth vegetation and appears healthy. Survey on this beach showed tar patties in upper tide zone. Vico crew removed 22 B.O. Bags from segment. This beach would be a good area for CVC clean up crew to remove remaining tar patties as Vico crew from survey could not complete in time allowed.

## LANDMANAGER

NAME LARRY EVANOFF OF CVCSIGNATURE Larry Evanoff☐ NTR ☒ TREATMENT RECOMMENDED

MANUAL REMOVAL OF TARMAT/AP AND OILED RESIDUE. SCRAP WITH TROWELS OIL DEBRIS FROM ROCKS. ESHAMU BAY HAS NUMEROUS SET NET SITES. NO BIOREMEDIATION RECOMMENDED.

## USCG/NOAA

NAME CWO2 J. MC MAHONSIGNATURE J. McMahon☐ NTR ☒ TREATMENT RECOMMENDED

Small area right of A7  $\pm$  200 m by storm berm - manual pick-up of TB, possibly by CVC crew. Reson picked up 22 bags which left remaining segment fairly clean.

DATE 28 APR 1971

USCG/NOAA J. McMahon / J. Galt

ENERGY LEVEL: ☐ H ☒ M ☐ L

WEATHER: ☐ SUN ☒ CLOUDS ☐ FOG ☒ RAIN ☐ SNOW

NEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONE

EST. OIL CATEGORY LENGTH: W 0 m M 245 m N 0 m VL 0 m NO 338 m US 0 m

DISTRIBUTION: C = 91-100%; B = 51-80%; P = 11-50%; S = 1-10%; T = <1%

**SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE      PHOTO ROLL # MAYSAP-**

## FRAMES

**SHEEN CODE: B = BROWN; R = RAINBOW; S = SILVER; N = NONE**

revised 5/3/91

Revised: 5/4/91 ^MC

(CHANGES BACK TO ORIGINAL NOB.)

og sketch map

EB 011-A

for Samples

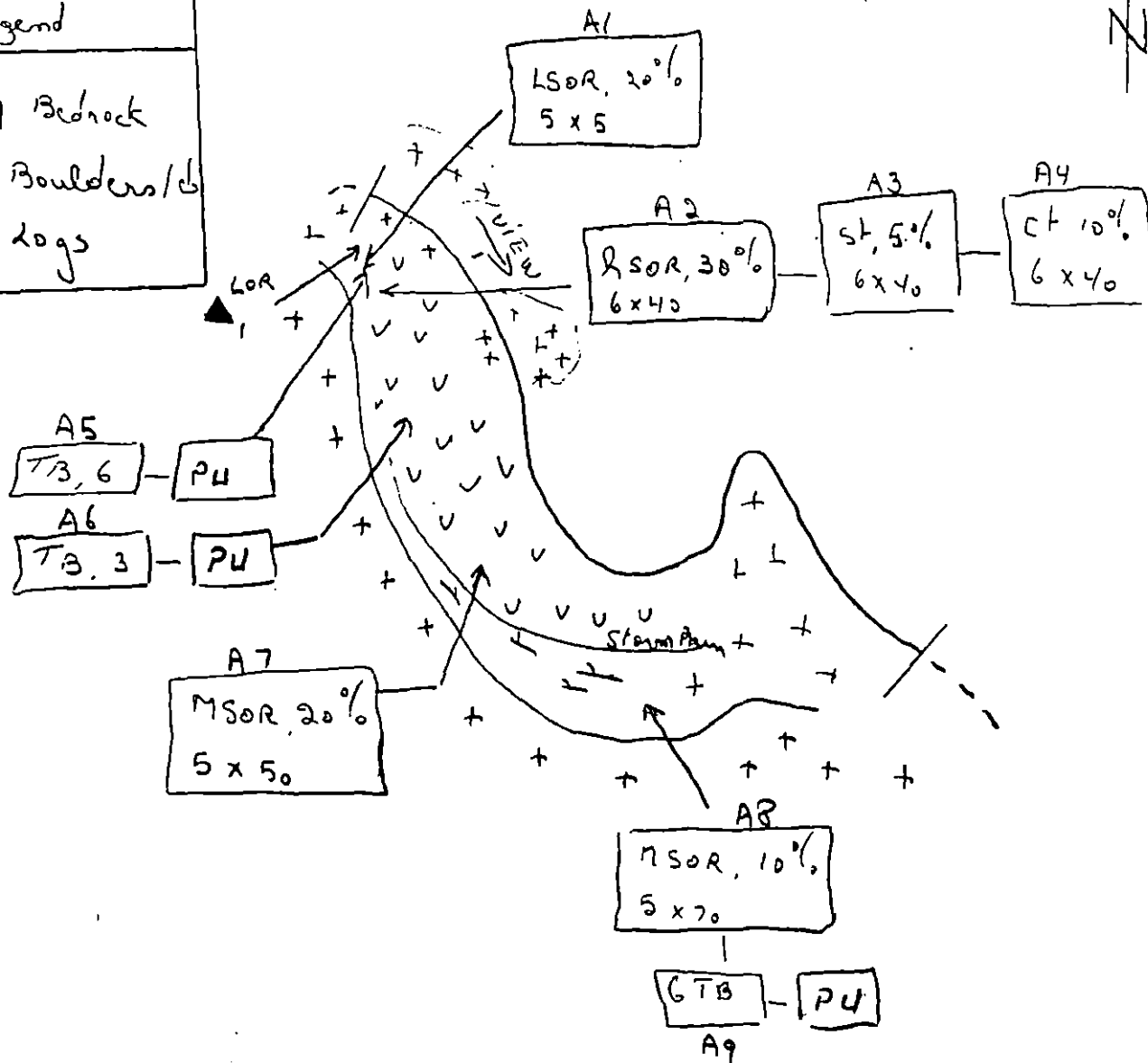
28 April 91 0635R - 0758R

Legend

[+] Bedrock

[V] Boulders/b

[Y] Logs



reviewed si  
REVIEWED: 5/4/91 MC

OG Sketch Map.

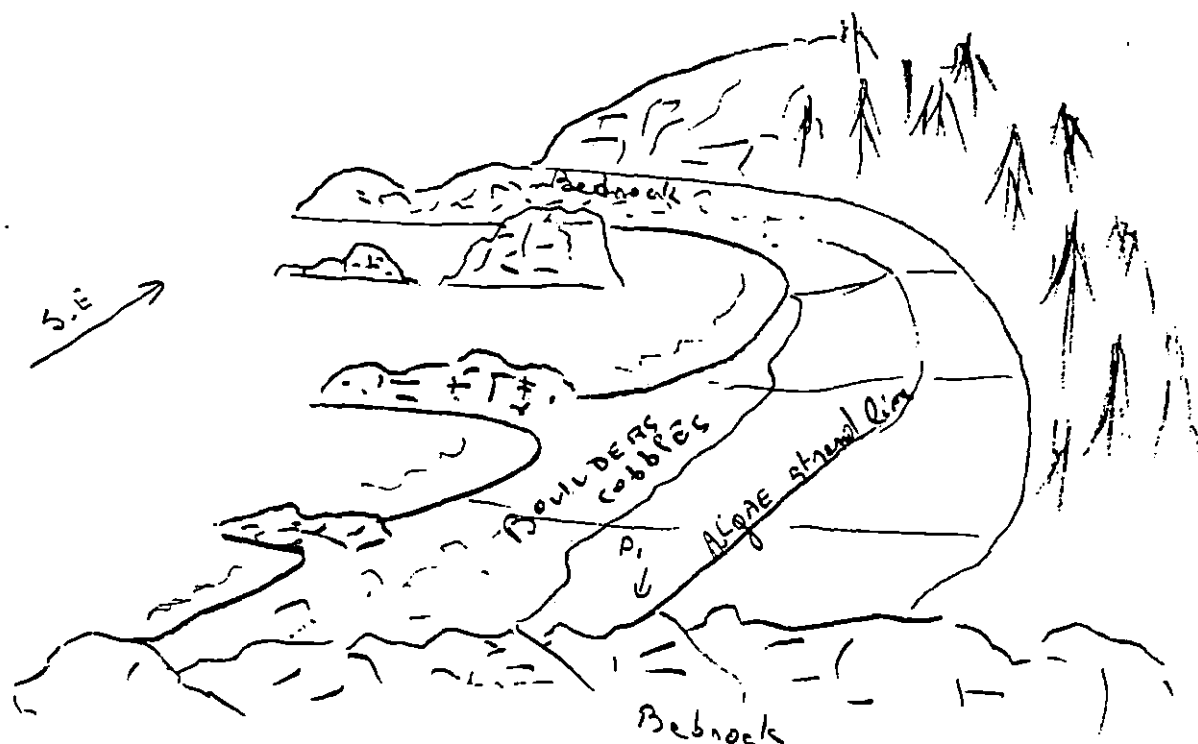
EB 011 - A

JM Samples

28 April 91

0635 R-0758 R.

View of EB 011 - A to IR South east



reviewed 5/1/91  
REVIEWED: 5/4/91 MC

9

**MAYSAP BIOLOGICAL SUMMARY FORM**

TEAM # 4 DATE/TIME April 27, 1991 0635 => 0745  
 SEGMENT # ED011 TIDAL HEIGHT (Range) 0.0 => -1.8  
 SUBDIVISION A BIOLOGIST JIM BARRY  
 SEA STATE Calm WIND SPEED/DIRECTION Variable 0-5 kt.

**COMMENTS / OBSERVATIONS - OILED SUBDIVISIONS**

*p1-A5* ~~A~~ The oiled areas are located on the upper zone near the supratidal zone. Black lichen, some rye grass, and mosses occur slightly above the oiled spots. Other biota on this medium to low exposure beach at the oiled area are sparse barnacles and littorines. The middle and lower zones below the oiled area are very rich. The cobble and boulders along the beach have fairly high cover of Fucus, with very abundant barnacles, littorines, and limpets. The adjacent headlands have very diverse and rich biotic cover. Many species of red, green, and brown algae, as well as a rich invertebrate community covers most of the headland along this segment.

*AG-A5* ~~BTC~~ The oiled zone is located in the upper intertidal on a cobble beach with a medium exposure. Very little biota is present on the cobble in the upper zone. The lower and middle zone cobble and bordering boulders have much greater abundances of organisms similar to A above. In addition, the low intertidal flat below the cobble beach is covered by a patchy eel grass bed with the associated invertebrate fauna. Fucus also is abundant in this low zone. Slightly above the eel grass bed, a mussel zone occurs in the cobble beach. Clams are abundant throughout these lower zones. Otter foraging pits are common in the low zone.

The intertidal communities along this segment generally are extremely rich and diverse. Several habitat types occur, including bedrock cliffs exposed to high waves, protected pocket beaches, semi-protected cobble beaches, and sand and cobble flats covered by eel grass and clam beds.

Clean up operations should be restricted to activities that will not disturb the sand/cobble flats where eel grass and clams are abundant, or the bedrock cliffs. Thus, heavy equipment should be excluded unless access is restricted to the upper zone cobble beach. Manual pickup operations will not adversely impact the biotic communities.

(Continued)

**WILDLIFE OBSERVATIONS - Completed on all subdivisions**

| BIRDS            | # OF SPECIES | TOTAL BIRDS     | FISH OBSERVED   |
|------------------|--------------|-----------------|-----------------|
|                  |              |                 | SPECIES PRESENT |
| Eagles           | 1            | 2 (not in nest) |                 |
| Seabirds         |              |                 |                 |
| Waterfowl        | 2            | 5               |                 |
| Gulls/Kittiwakes | 1            | 8               |                 |
| Shorebirds       |              |                 |                 |
| Corvids          | 1            | 1               |                 |
| Other Birds      |              |                 |                 |

| MARINE MAMMALS      | # OBSERVED | LAND MAMMALS | # OBSERVED |
|---------------------|------------|--------------|------------|
|                     |            | SPECIES      |            |
| Sea Otters          |            |              |            |
| Pinnipeds (specify) |            |              |            |
| Whales (specify)    |            |              |            |

Shoreline subdivision map showing important biological features attached.

REVIEWED: 5/4/91



## Summary of Intertidal Biota along Segment EB011-A

This segment has several distinct habitat types, including cobble beaches exposed to low and moderate swell, large boulders and bedrock cliffs exposed to medium and high swell, and protected coves with shallow flat sand and cobble flats. The exposed cliff and high angle beach habitats have quite high cover of the key species, with even greater abundance and diversity of biota in the lower zones, where many species of sea stars, macroalgae, clams and mussels, anemones, worms, snails, and barnacles exist. The boulder and cobble beaches in the low intertidal, especially behind the wave barrier of the large outcrops, also have rich biotic communities. The sand/cobble flat in the small cove at the center of the segment is a rich eel grass and clam bed habitat. Otter (sea otter and/or river otter) foraging pits are visible in many locations along this sand/cobble flat. Sparse scat deposits on the headland at the southern end of the segment indicate that it might be a haul out location for otters. The lower intertidal and subtidal zones have a high cover of kelps.

Juveniles or spat of many species were present along the segment. Littorine juveniles and egg cases were abundant throughout, as were juvenile mussels. Egg cases of other gastropods also were found. Juvenile barnacles (spat) and juvenile sea urchins were present.

An eagle nest is mapped at the northern end of the segment, but was not observed from the beach or during the survey. Two bald eagles were roosting in a tree near the nest site during the survey.

## List of Common Species along EB011-A

### A. Marine Plants

1. Diatoms, Blue Greens
2. Green Algae - Chlorophyta  
Cladophora sp., Enteromorpha sp., Ulva sp., Urospora sp., Unknown crustose green algae, Unknown filamentous green
3. Brown Algae - Phaeophyta  
Alaria marginata, Agarum fimbriatum, Costaria costata, Ectocarpus spp., Fucus distichus, Hildenbrandia sp., Laminaria ?dentigera, Ralfsia sp., Syctosiphon lomentaria
4. Red Algae - Rhodophyta  
Calliarthron sp., Corallina sp., Endocladia muricata,, Halosaccion glandiforme, Iridaea sp., Lithothamnion sp., Mastocarpus sp., Membranoptera dimorpha, Odonthalia floccosa, Palmaria palmata, Petrocelis sp., Porphyra sp., Rhodomela larix, Unknown bladelike red algae, Unknown filamentous red algae
5. Higher Plants  
Zostera marina (eel grass), Leymus mollis (beach rye grass)

### II. Marine Animals

1. Sponges - Porifera - Halichondria? sp.
2. Anemones  
Anthopleura artemesia, A. elegantissima, A. xanthogrammica, Epiactis Ritteri, Urticina crassicornis,
3. Flatworms - Platyhelminthes - Polyclads
6. Nemertean Worms - Ribbon Worms  
Emplectonema gracile, Tubulanus polymorphus
7. Polychaete worms  
Glyceridae  
Nephtyidae  
Nereidae - Nereis spp.  
Serpulidae  
Serpula sp., Crucigera sp., Eudistylia polymorpha  
Spirorbidae - Spirorbis sp.

*Phascolosoma agassizii*

9. Crustaceans

a. Amphipods - *Orchestia* sp.?

b. Barnacles

*Balanus glandula*, *Chthamalus dalli*, *Semibalanus cariosus*

c. Crabs - *Paguridae* (hermit crabs), *Pugettia* sp.,

d. Isopods - *Gnorimorsphaeroma oregonensis*

10. Mollusca

a. Chitons

*Mopalia* sp., *M. mucosa*, *Katharina tunicata*, *Tonicella lineata*,

b. Snails - *Gastropods*

*Littorina scutulata*, *L. sitkana*, *Natica clausa*, *Nucella lamellosa*, *N. lima*

c. Limpets

*Acmaea mitra*, *Lottia digitalis*, *L. persona*, *T. scutum*,

d. Nudibranches - *Melibe leonina*

e. Mussels and Clams

*Clinocardium* sp., *Macoma balthica*, *M. nasuta*, *M. edulis*, *Pododesmus cepio*, *Prototheca staminea*, *Saxidomus giganteus*,

11. Echinoderms

a. Brittle Stars - *Ophiolus* sp., ?

b. Sea stars

*Dermasterias imbricata*, *Evasterias truscheli*, *Henricia leviuscula*, *H. sanguinolenta*, *Leptasterias hexactis*, *Orthaasterias keohleri*, *Pisaster ochraceus*, *Pycnopoda helianthoides*, *Solaster* sp.

d. Urchins - *Strongylocentrotus droebachiensis*

12. Bryozoans - *Schizoporella* sp.

13. Fishes

*Cottidae*

*Artedius harringtoni*, *Oligocottus* sp.

*Liparidae* - *Liparis callyodon*

*Stichaeidae*

*Xiphister atropurpureus*, *X. mucosus*

# og sketch map

EB 011-A

17 Sempels

28 April 91 0635R - 0758R

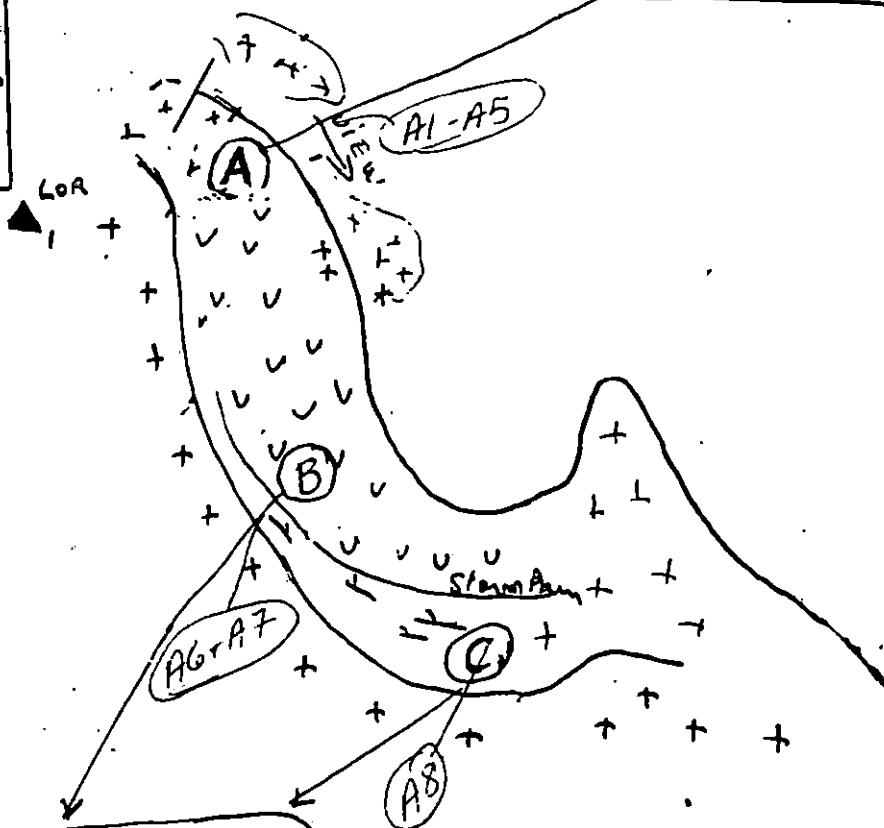
## Legend

[+] Bedrock

[v] Boulders/cb

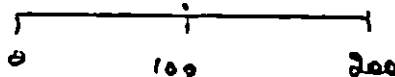
[x] Logs

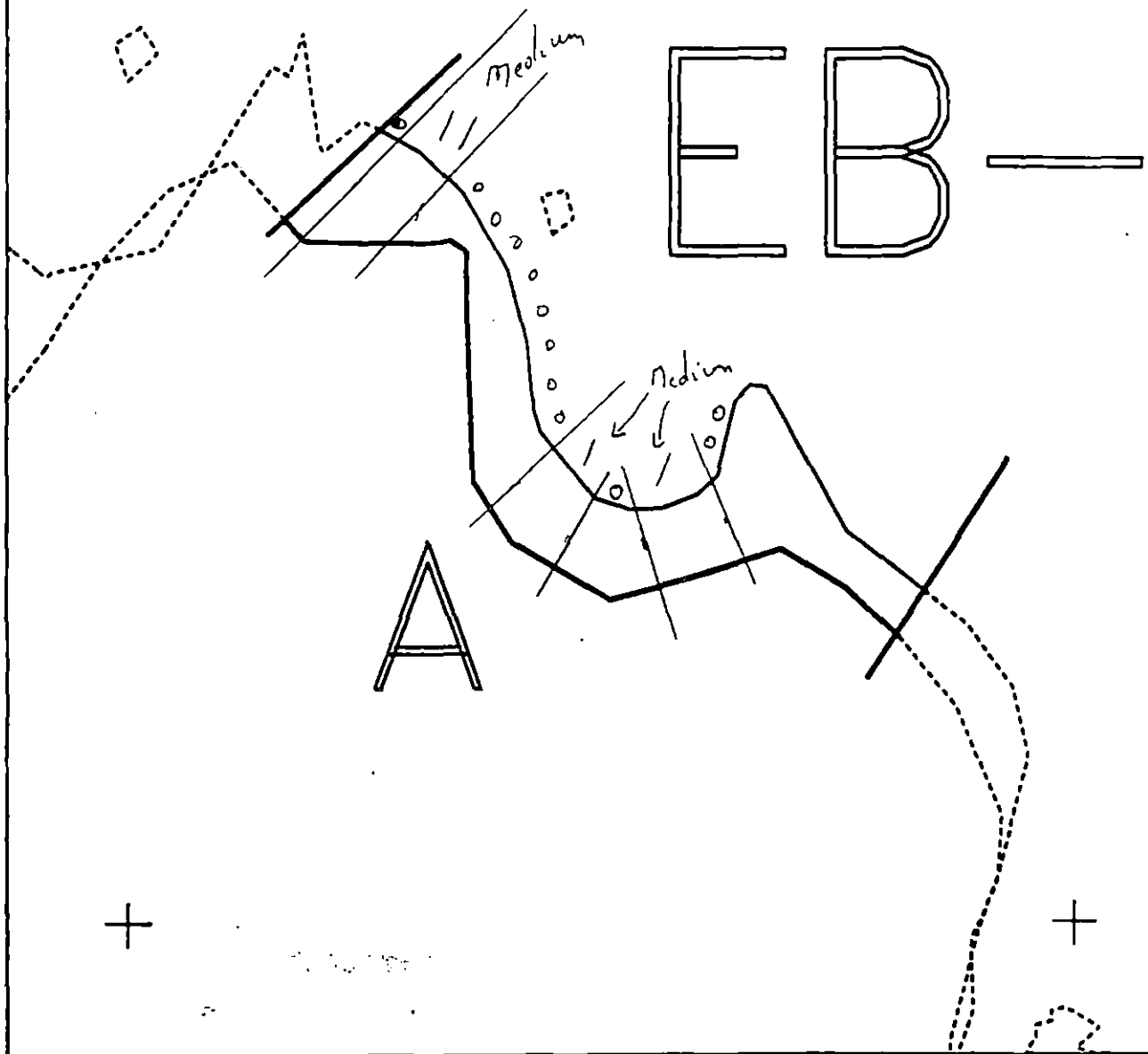
High Zone Outing - Sparse  
biota - Littorines/Barnacles  
Low in IT, Biota very rich -  
Fucus, mussels, Corals, etc.,  
Brown, Red algae, sea urchins



Little biota in cobble beach.  
Below oiled area - Fucus, Mytilus  
Barnacles, Littorines, & a rich clam  
& mussel bed with eel grass.

METERS





|      |            |                                                                                                                                                                           |                                                                                                                                         |
|------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| XXXX | Wide       | <p align="center"><b>EB011 A</b></p> <p>ADEC Subsegment Length: 583m</p> <p align="center">METERS</p> <p>0      100      200</p> <p>AK State Plane Zone 4<br/>pub011a</p> | <p>Subdivision Field Map</p> <p>Map Key: PWSE011A</p> <p>Name: <u>JM Sempels</u></p> <p>Date: <u>28 Apr 91</u></p> <p>Date Entered:</p> |
| //// | Medium     |                                                                                                                                                                           |                                                                                                                                         |
| ---- | Narrow     |                                                                                                                                                                           |                                                                                                                                         |
| TTTT | Very Light |                                                                                                                                                                           |                                                                                                                                         |
| 0000 | No Oil     |                                                                                                                                                                           |                                                                                                                                         |

reviewed 5/3/91 LG  
 REVIEWERS: 5/4/91 MC

**REGION: PRINCE WILLIAM SOUND**

**SEGMENT: ST/EB-12**

**SUBDIVISIONS: A (1 OF 1)**

SHORELINE EVALUATION

SEGMENT ST/ EB-12 SUBDIVISION A (1 OF 1) DATE 4/24/90

**SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:**

1E Main Bay Hatchery release (4/20 to 6/15)  
5T-2 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)  
Note eagle nest in adjacent segment EB-13.  
6Y Recreation: Special use destination  
6V Recreation: Anchorages (6/1 to 9/15)  
See attached Ecological Constraint sheet for specific constraints and contacts.

**SUBDIVISION ECOLOGICAL CONSTRAINTS:**

Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

**ARCHAEOLOGICAL CONSTRAINTS:**

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**OILING CATEGORIZATION:**

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 64 m: No Oil 1391 m  
Subsurface Oil Observed: Yes \_\_\_\_\_ No X Maximum Depth \_\_\_\_\_

**RECOMMENDATIONS:**

|                                   |                                     |
|-----------------------------------|-------------------------------------|
| <u>X</u> No Treatment Recommended | _____ Snare/Absorbent Booms         |
| _____ Treatment Recommended       | _____ Oil Snares (pom poms)         |
| _____ Manual Pickup               | _____ Absorbents (pads, rolls, etc) |
| _____ Bioremediation              | _____ Spot Washing: _____ Wands     |
| _____ Tarmat Removal              | _____ Beach Cleaner                 |
|                                   | _____ Other (see comments)          |

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TAG COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TAG APPROVAL DATE: \_\_\_\_\_

ADEC \_\_\_\_\_  
EXXON \_\_\_\_\_  
NOAA \_\_\_\_\_  
USCG \_\_\_\_\_

FOSC: \_\_\_\_\_ DATE: \_\_\_\_\_

# PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)  
1B Salmon stream mouth - spawning (7/10 to 8/31)  
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.  
AGENCY CONTACT PERSON: ADF&G John Morison 267-2324
- 1C Salmon fry nursery area (4/31 to 7/31)  
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.  
AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1D Esther Hatchery release (4/15 to 6/15)  
1E Main Bay Hatchery release (4/20 to 6/15)  
1F Sawmill Bay Hatchery release (4/15 to 6/1)  
1G Cannery Creek Hatchery release (4/21 to 6/1)  
1H Remote release site  
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.  
AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214  
1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511
- 1I Gill net area (6/7 to 8/31)  
1J Purse seine area (7/20 to 9/30)  
1K Purse seine hook-off (7/20 to 9/30)  
1L Set net sites (6/11 to 7/25)  
Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.  
AGENCY CONTACT PERSON: ADF&G James Brady 424-3212
- 2M Herring spawning (4/1 to 6/15)  
Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to unopened intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.  
AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
- 30, 3Q Harbor seal and sea lion pupping (5/15 to 7/1)  
Harbor seal and sea lion molting (8/15 to 9/15)  
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.  
AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235  
ADF&G Don Calkins 267-2403
- 5R Seabird colony (5/1 to 9/1)  
Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.  
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)  
Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.  
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377  
ADF&G Tom Roth 267-2206
- 5T All Bald Eagle nests (3/1 to 6/1)  
Active Bald Eagle nests (3/1 to 9/1)  
Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.  
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 6U Recreation: Tent sites (6/1 to 9/15)  
6V Anchorages (6/1 to 9/15)  
6W Forest Service cabins (6/1 to 9/15)  
6X Lodge (6/1 to 9/15)  
6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)  
7HH Finfish harvesting  
7II Deer harvesting (8/15 to 2/28)  
Invertebrate harvesting  
Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.  
AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359

# FIELD SHORELINE COMMENT SHEET

SEGMENT ST / EB-12 SUBDIVISION: NO DATE 24 April 90

NAME James C. Gombil SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

## COMMENTS

This AREA is pretty much unaffected except for one small AREA at the North end, consisting of mousse mixed with Pine needles located in the dune. The size is 1-3 cm. The density of mousse is 1 every 5-10 p.meter. (manually). See Efton sketch map.

ADEC NAME Brian K. FitzSimons SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

## COMMENTS

Only very light oiling of widely seperated mousse patches at HIT 2..

NO Treatment.

## LAND MANAGER

NAME Steve Wingo - CVC SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

## COMMENTS

manual clean up Recommended



## SHORELINE OILING SUMMARY

REVISION NO. 001/3/88

OG B. Berglund USCG J. Gambill SEGMENT ST/ EB-12  
 BIO S. Selvester LAND REP S. Ward (C.V.) SUBDIVISION A (1 OF 1)  
 EXXON C. Levine ADEC B. Fritzeimans TIME 6:35 to 8:00  
 TEAM NO. 1 TIDE LEVEL -1.5 to -2 DATE 4/24/90  
 ST. SUBDIVISION LENGTH: 1695 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow  
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock  
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: S to N  
 SURFACE SEDIMENTS: R 60 % B 25 % C 10 % P 3 % G 2 % S — % M — % V — %  
 SLOPE: Long 30 % Hang 60 % Vert 10 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High  
 OIL CATEGORY LENGTH: W — m M — m N — m VL 65 m NO 1630 m

## SURFACE OIL

| CHARACTER | DISTRIBUTION |   |   |   | OIL / FILM COLOR |   |   |   | IMPACTED ZONES |   |   |   |
|-----------|--------------|---|---|---|------------------|---|---|---|----------------|---|---|---|
|           | C            | B | P | R | 1                | 2 | 3 | 4 | SW             | W | M | U |
| ASPHALT   |              |   |   |   |                  |   |   |   |                |   |   |   |
| PAVEMENT  |              |   |   |   |                  |   |   |   |                |   |   |   |
| POOLED    |              |   |   |   |                  |   |   |   |                |   |   |   |
| COVER     |              |   |   |   |                  |   |   |   |                |   |   |   |
| COAT      |              |   |   |   |                  |   |   |   |                |   |   |   |
| STAIN     |              |   |   |   |                  |   |   |   |                |   |   |   |
| MOUSSE    |              |   |   |   |                  |   |   |   |                |   |   |   |
| PATTIES   |              |   |   |   |                  |   |   |   |                |   |   |   |
| TARBALLS  |              |   |   |   |                  |   |   |   |                |   |   |   |
| LM        |              |   |   |   |                  |   |   |   |                |   |   |   |
| NO OIL    |              |   |   |   |                  |   |   |   | X              | X | X |   |

PAVEMENT H F S No sq. m by — cmPATTIES / TARBALLS 1 BAGSNEAR SHORE SHEEN? ☒ NO BR RW SL TL

| OILED DEBRIS | AMOUNT |    |    | DID YOU COLLECT DEBRIS?                                             |
|--------------|--------|----|----|---------------------------------------------------------------------|
|              | SM     | MD | LG |                                                                     |
| Logs         |        |    |    | YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> |
| Vegetation   |        |    |    |                                                                     |
| Trash        |        |    |    |                                                                     |
| Debris       |        |    |    |                                                                     |
|              |        |    |    | TYPE <u>—</u>                                                       |
|              |        |    |    | #BAGS <u>—</u>                                                      |

Photographs:

Roll No. ST-1-5Frames 1-4

## SUBSURFACE OIL

| PIT NO. | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER |    |    |    |    | OILED INTERVAL (cm) | BELOW |    | OIL / FILM COLOR |   |   |   | PIT ZONE |   |   |   | A N A | SHEEN (Y/N) | ↓ | SURFACE - SUBSURFACE SEDIMENTS |
|---------|----------------|--------------------------|----|----|----|----|---------------------|-------|----|------------------|---|---|---|----------|---|---|---|-------|-------------|---|--------------------------------|
|         |                | OP                       | OR | OL | OF | NO |                     | UO    | UC | 1                | 2 | 3 | 4 | SW       | W | M | U |       |             |   |                                |
| 1       | 25             |                          |    |    |    | /  | -                   | /     |    |                  |   |   |   | /        |   |   |   |       | N           |   | E/G                            |
| 2       | 30             |                          |    |    |    | /  | -                   | /     |    |                  |   |   |   | /        |   |   |   |       |             |   | C/G                            |
|         |                |                          |    |    |    |    |                     |       |    |                  |   |   |   |          |   |   |   |       |             |   |                                |
|         |                |                          |    |    |    |    |                     |       |    |                  |   |   |   |          |   |   |   |       |             |   |                                |
|         |                |                          |    |    |    |    |                     |       |    |                  |   |   |   |          |   |   |   |       |             |   |                                |
|         |                |                          |    |    |    |    |                     |       |    |                  |   |   |   |          |   |   |   |       |             |   |                                |
|         |                |                          |    |    |    |    |                     |       |    |                  |   |   |   |          |   |   |   |       |             |   |                                |

## COMMENTS

The segment consists of a bedrock shoreline (high angle slope) with a few scattered pocket benches. The segment is unoiled except for a small area at the North end. The oiling consists of very scattered "blobs" of Mousse mixed with pine needles, located along the HWL. The density of "blobs" is very low, one every 5 to 8 meters (each blob 1-3 cm<sup>2</sup>).

REVIEWED MF DATE 4-25

OG B. Bengtson

SEGMENT EB-12

SUBDIVISION A

DATE 4/24/80

# CHECKLIST

☐ N Arrow  
☐ Approx. Scale  
☐ Seg. Sub. Study  
☐ Oil Dist.  
☐ Width  
☐ Length  
☐ % Cover  
☐ Substrate Character  
☐ Est. HWL/LWL  
☐ SSL  
☐ Profile Location(s)  
☐ Profile(s)  
☐ PI Location(s)  
☐ Photo Location(s)

## LEGEND

1  $\Delta$   
 PR - No Subsurface Oil

2  $\Delta$   
 PR - Subsurface Oil

CT/C  
 Continuous Distribution

CT/B  
 Broken Distribution

CT/P  
 Patchy Distribution

CT/S  
 Splashed Distribution

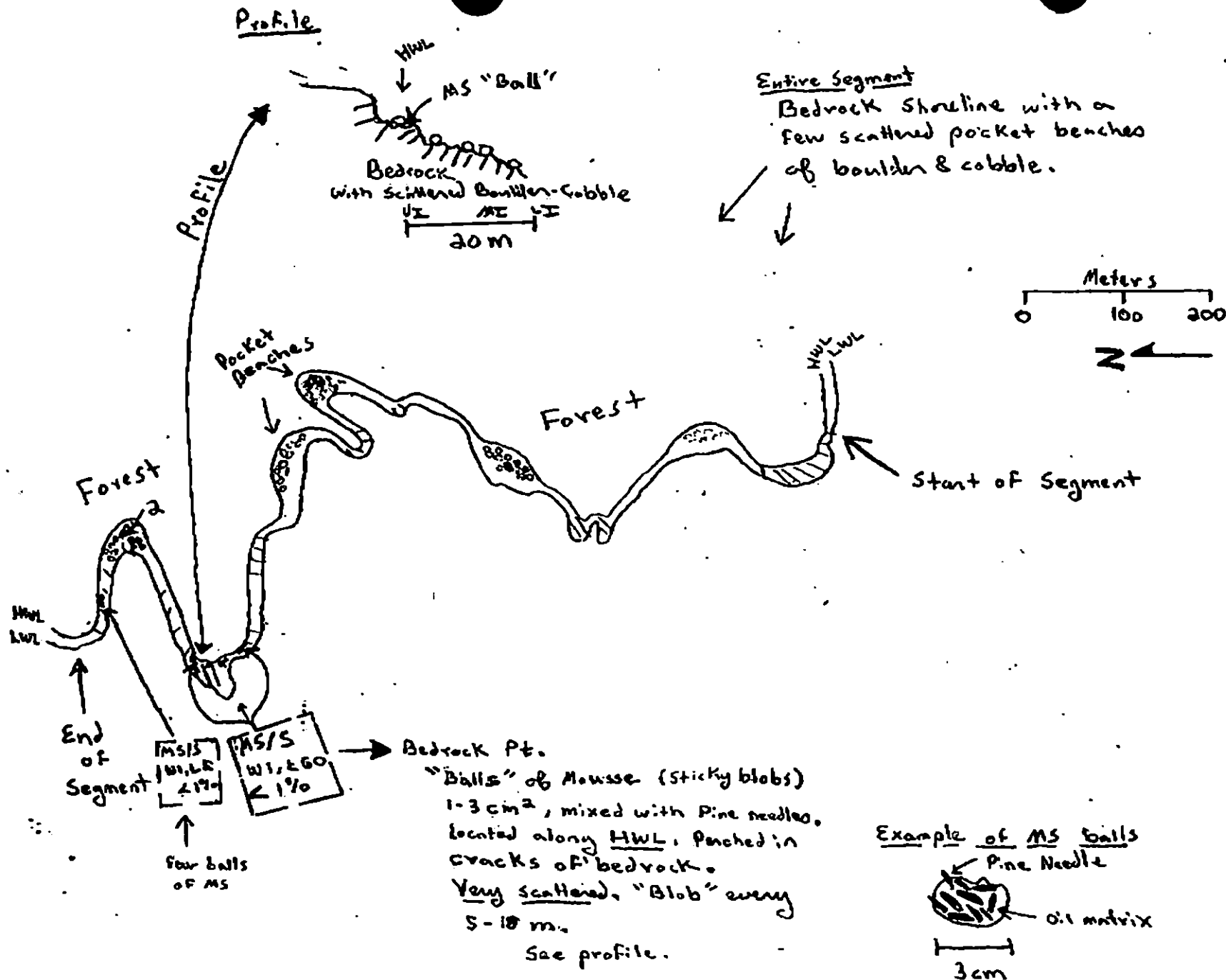
eee  
 Oiled Vegetation

1  $\bullet$   
 Photo location, direction,  
 and number

pro = oiled zones  
 (approximate)

Oil Character Length (m): AP \_\_\_\_\_ PO \_\_\_\_\_ CV \_\_\_\_\_ CT \_\_\_\_\_ ST \_\_\_\_\_ MS 65 PT \_\_\_\_\_ TB \_\_\_\_\_ FL \_\_\_\_\_ NO 1630

## ETCH MAP



# SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / EB-12 Subdivision A Date (mo / day / yr) 4/24/90

Time (24 hr) 0635-0800 Biologist S. Schroeter Tidal: START: -1.5  
END: -1.9  
Low: -1.9

(A) Substrate type and % of segments:  
 (1) Bedrock 55 (2) Boulder 15 (3) Cobble 10 (4) Pebble 10 (5) Sand 5 (6) Silt 5

(B) Overall % cover of biota (% of segment): Dense 22 Moderate 23 Low 55

(C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (O)  
 Photographs: Roll No. ST-1-5  
 Frames 1-4

## BARNACLES

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    | NOT PRESENT |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|-------------|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |             |
| 2     | 2  | 2  | 2        | 2  | 2  | 2      | 2  | 2  | 2    | 2  | 2  |             |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |             |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |             |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |             |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  |             |

## MYTILUS

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    | NOT PRESENT |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|-------------|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |             |
| 2     | 2  | 2  | 2        | 2  | 2  | 2      | 2  | 2  | 2    | 2  | 2  |             |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |             |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |             |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |             |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  |             |

## GASTROPODS

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    | NOT PRESENT |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|-------------|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |             |
| 2     | 2  | 2  | 2        | 2  | 2  | 2      | 2  | 2  | 2    | 2  | 2  |             |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |             |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |             |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |             |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  |             |

## FUCUS

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    | NOT PRESENT |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|-------------|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |             |
| 2     | 2  | 2  | 2        | 2  | 2  | 2      | 2  | 2  | 2    | 2  | 2  |             |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |             |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |             |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |             |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  |             |

Wildlife Observations/ General Comments: ST-2C No bald angles seen in segment; IE  
1B; 6Y

Ecological Considerations: ① Dense algal populations LITZ including Alaria, Laminaria saccharina, Costaria, Palmaria. ② Zostera along much of segment in subtidal. ③ Colonial diatom mats cover much of substrate + biota M.L.T.Z. ④ High densities of Darwinulids in LITZ + Darwinulids in M.L.T.Z. along most of segment; fair numbers of small individuals. Star densities > 2/m<sup>2</sup> near several

7/12

ECOLOGICAL  
MAP

ST(2)

1E

EY, EV

EB-12

BALD EAGLE NESTS

XXXX Wide

/// Medium

-- Narrow

TTTT Very Light

0000 No Oil

EB-12

ADEC Segment Length: 1454m



Map Key: PWS-107

Name: B. Berglund

Date: 4/24/90

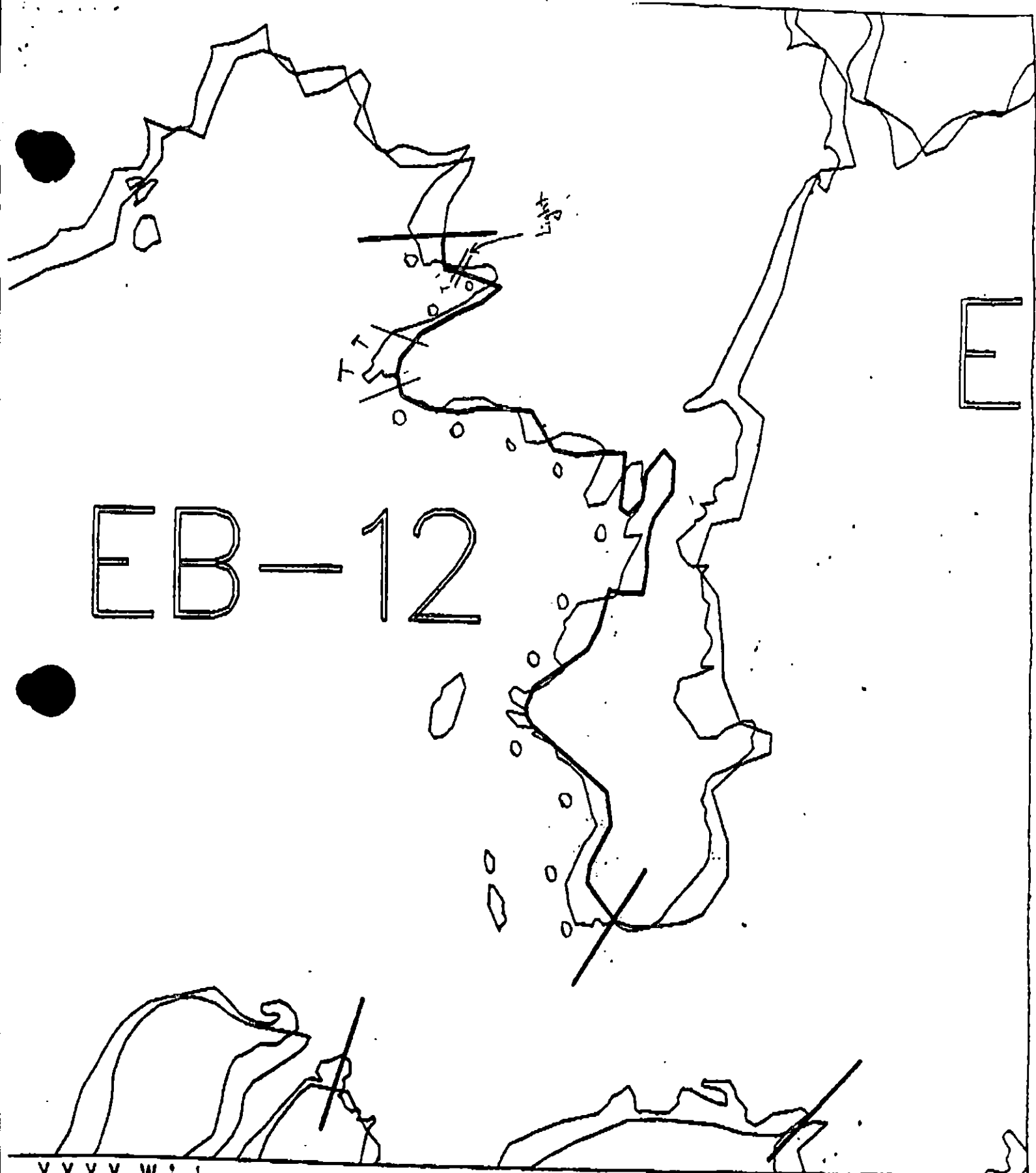
Date Entered:

|               |               |                     |
|---------------|---------------|---------------------|
| Segment:EB-12 | Subdivision:A | Date:April 24, 1990 |
| Schroeter     | Time          | Tide                |
| Start         | 0635          | -1.5                |
| meters        |               | Segment Length:     |
|               |               | 1695m               |
| End           | 0800          | -1.9                |
| Low           | 0800          | -1.9                |

The segment consisted of 3 kinds of shorelines: predominantly steep bedrock cliffs (29%), (2) boulder, cobble, and pebble pocket beaches (29%) and (3) pocket beaches with boulder, cobble, and pebble in the LITZ and MITZ and bedrock in the UITZ (42%). Shorelines on the segment are sheltered from wave energy.

Salient ecological observations include: (1) no bald eagles observed, despite previous observations of a nesting site; (2) 2 sea otters observed offshore and numerous sites with otter scat. A river otter was also observed. (3) Dense *Zostera* beds lie offshore along the entire segment. (4) ~~*Alaria marginata*~~ and ~~*Laminaria saccharina*~~ are dense in the LITZ along the bedrock shorelines and extend into the subtidal; (5) Barnacles, mussels, gastropods, and *Eucus* are abundant along most of the segment. (6) Gastropods are comprised primarily of littorines, ~~*N. persona*~~, and ~~*N. scutum*~~. ~~*Littorina scutulata*~~ and ~~*N. persona*~~ dominate in the upper MITZ and UITZ, whereas ~~*L. scutulata*~~, ~~*N. scutum*~~ and ~~*N. pelta*~~ dominate in the middle and lower MITZ and upper LITZ. (7) Barnacle spat (probably *B. glandula*) were abundant in the MITZ and lower UITZ on bedrock, boulders and cobbles

throughout the segment. (8) Two species of sea stars, ~~Dermasterias imbricata~~ and ~~Pycnopodia helianthoides~~, were remarkably abundant in the low MITZ and LITZ both under and on top of boulders. ~~Pycnopodia~~-excavated pits were abundant in the LITZ in several of the boulder/cobble/pebble pocket beaches. The large numbers of small individuals of both species suggests high recruitment over the past several years. ~~Leptasterias hexactis~~ and ~~Evasterias trochellii~~ were present, but rare in the MITZ and LITZ. (8) Clams and an echiuroid (*Urechis* spp. as a guess) was abundant in the LITZ in many of the boulder/cobble/pebble pocket beaches. (9) Filamentous greens (*Ulva* and ~~Enteromorpha~~) were abundant in tidepools in the UITZ and MITZ, and on boulders and cobbles in the lower MITZ and LITZ. (10) Small green urchins (~~Strongylocentrotus drobachiensis~~) were common under boulders and cobbles in the LITZ.



EB-12

E

XXXX Wide

/// Medium

-- Narrow

TTTT Very Light

0000 No Oil

EB-12

ADEC Segment Length: 1454m



Map Key: PWS-107

Name: B. Berglund

Date: 4/24/90

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ EB-12 SUBDIVISION A (1 OF 1) DATE 4/24/90

**SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:**

1E Main Bay Hatchery release (4/20 to 6/15)  
5T-2 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)  
Note eagle nest in adjacent segment EB-13.  
6Y Recreation: Special use destination  
6V Recreation: Anchorages (6/1 to 9/15)  
See attached Ecological Constraint sheet for specific constraints and contacts.

**SUBDIVISION ECOLOGICAL CONSTRAINTS:**

Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

**ARCHAEOLOGICAL CONSTRAINTS:**

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO SIGNATURE: Charles J. [Signature] DATE: 5/5/90

**OILING CATEGORIZATION:**

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 64 m: No Oil 1391 m  
Subsurface Oil Observed: Yes      No X Maximum Depth     

**RECOMMENDATIONS:**

|                                                              |                                                          |
|--------------------------------------------------------------|----------------------------------------------------------|
| <input checked="" type="checkbox"/> No Treatment Recommended | <input type="checkbox"/> Snare/Absorbent Booms           |
| <input type="checkbox"/> Treatment Recommended               | <input type="checkbox"/> Oil Snares (pom poms)           |
| <input type="checkbox"/> Manual Pickup                       | <input type="checkbox"/> Absorbents (pads, rolls, etc)   |
| <input type="checkbox"/> Bioremediation                      | <input type="checkbox"/> Spot Washing: <u>    </u> Wands |
| <input type="checkbox"/> Tarmat Removal                      | <input type="checkbox"/> Beach Cleaner                   |
|                                                              | <input type="checkbox"/> Other (see comments)            |

COMMENTS:       
      
      
    

TAG COMMENTS: MONITORS TO ASSESS SIGNIFICANCE + ACCESSABILITY  
OF OIL + NEED FOR REMOVAL  
      
      
    

TAG APPROVAL DATE: 5/4/90  
ADEC ART WEINER Art Weiner  
EXXON ANDY TEAL Andy Teal FOSC: my l DATE: 5-18-90  
NOAA GARY PETRAE Gary Petrae  
USCG G.A. REITER G.A. Reiter NOTIFY CMC 24 HRS IN ADVANCE OF WORK



OG B. Bengtson

SEGMENT EB-12

SUBDIVISION A

DATE 4/24/90

# CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Chk Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HWL/LWL
- ☐ SCL
- ☐ Profile Location(s)
- ☐ Photo(s)
- ☐ Photo Location(s)

## LEGEND

1  $\Delta$   
PT - No Subsurface Oil

2  $\Delta$   
PT - Subsurface Oil

CT/C  
Continuous Distribution

CT/B  
Broken Distribution

CT/P  
Patchy Distribution

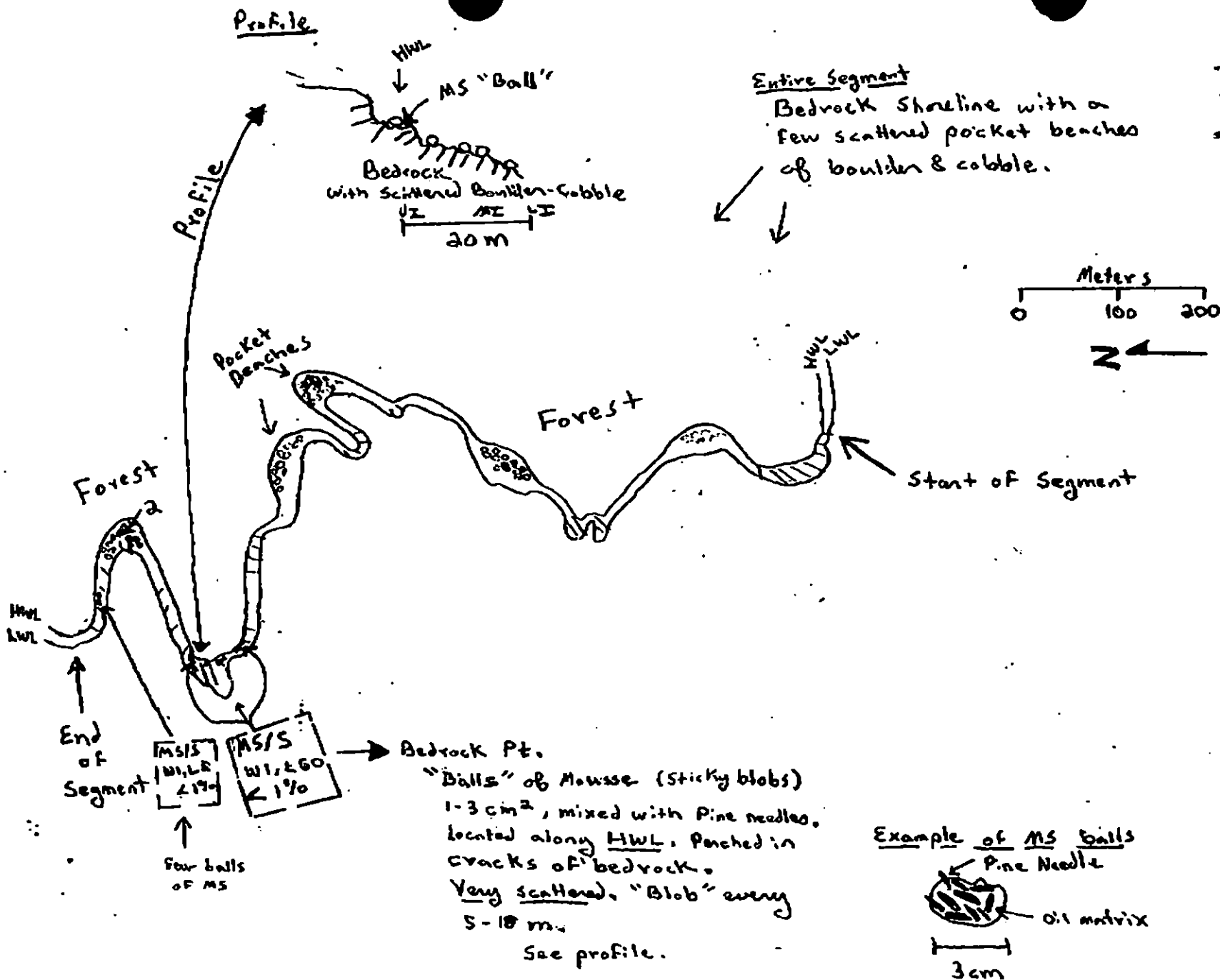
CT/S  
Scattered Distribution

Oil Vegetation

1  $\odot$   
Photo location, direction, and number

pre = oiled zones (approximate)

## SKETCH MAP



Oil Character Length (m): AP \_\_\_\_\_ PO \_\_\_\_\_ CV \_\_\_\_\_ CT \_\_\_\_\_ ST \_\_\_\_\_ MS 65 PT \_\_\_\_\_ TB \_\_\_\_\_ FL \_\_\_\_\_ NO 1630

REVISION: 02/09/90

APR 25 1990 10:51 FROM SAN JOSE/INER LICE  
SCH. P. 02

ECOLOGICAL  
MAP

5T(2)

1E

6Y, 6V

EB-12

BALD EAGLE NESTS

XXXX Wide

● / Medium

--- Narrow

TTTT Very Light

0000 No Oil

EB-12

ADEC Segment Length: 1454m

0 100 200 300  
METERS

Map Key: PWS-107

Name: B. Berglund

Date: 4/24/90

Date Entered:

EB-12

E

XXXX Wide

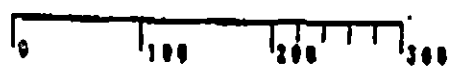
EB-12

●// Medium

--- Narrow ADEC Segment Length: 1454m

TTTT Very Light

0000 No Oil

  
METERS

Map Key: PWS-107

Name: B. BerglundDate: 4/24/90

Data Entered:

## ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT EB-13 SUBDIVISION A (1 of 1)

| WORK WINDOW   |      |
|---------------|------|
| Manual Pickup | OPEN |

### ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

### APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

NO CONSTRAINT. ADF&G catalogued stream (225-30-15080) is more than 100m from work area.

1E Main Bay Hatchery Release

No constraint to manual pickup.

5T Bald Eagle Nest

NO CONSTRAINT. USFWS bald eagle impact assessment completed on 5/22/90 by Mike Lockhart indicates no active nests within 400m of the work area.

### OTHER ECOLOGICAL CONSIDERATIONS

Avoid any unnecessary disturbance or damage to unrolled biota and substrate.

TAG APPROVAL DATE 5/29/90  
ADEC Art Weiner Art Weiner  
EXXON Art Weiner Art Weiner  
NOAA B. Wescott B. Wescott  
USCG G.A. Reiter G.A. Reiter

FOSC [Signature] Date 7/22/90

Prepared by Arden May wx Date 5/20/90

Incorporates information from  
USFWS Bald Eagle 5/22/90.

Anadromous  
Stream  
225-30-15080

EB-13

Work  
Areas

EB-12

EB-7

EB-8

EB-15

EB-14

No Nest  
Found



Seabird Colony

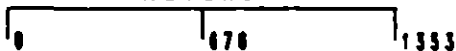


Eagle Nest

# ECOLOGY MAP <sup>5/28</sup> SEGMENT EB-13

SUBDIVISION A (1 of 1)

METERS



1 inch = 2219 feet



Exxon Company, USA

Map Key: PMS-EB-13

May 11, 1990

# SHORELINE EVALUATION

SEGMENT ST/ EB-13 SUBDIVISION A (1 OF 1) DATE 4/24/90

## SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 225-30-15080 (2/90, P)  
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)  
1B Salmon stream mouth - spawning (7/10 to 8/31)  
1E Main Bay Hatchery release (4/20 to 6/15)  
5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)  
Also two eagle nests in adjacent segment (1 within 400M)  
6Y Recreation: Special use destination  
6V Recreation: Anchorages (6/1 to 9/15)  
See attached Ecological Constraint sheet for specific constraints and contacts.

## SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

## ARCHAEOLOGICAL CONSTRAINTS:

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: Charles E. Holmes DATE: 5/5/90

## OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 41 m: V.Light 1749 m: No Oil 2902 m  
Subsurface Oil Observed: Yes        No X Maximum Depth       

## RECOMMENDATIONS:

|                                        |                                                 |
|----------------------------------------|-------------------------------------------------|
| <u>      </u> No Treatment Recommended | <u>      </u> Snare/Absorbent Booms             |
| <u>X</u> Treatment Recommended         | <u>      </u> Oil Snares (pom poms)             |
| <u>X</u> Manual Pickup                 | <u>      </u> Absorbents (pads, rolls, etc)     |
| <u>      </u> Bioremediation           | <u>      </u> Spot Washing: <u>      </u> Wands |
| <u>      </u> Tarmat Removal           | <u>      </u> Beach Cleaner                     |
|                                        | <u>      </u> Other (see comments)              |

COMMENTS: Recommend manual pickup of mousse tarballs. Work should be  
conducted after 6/1 with USFWS approval based on eagle nest con-  
straints. See Constraint Addendum 5/28/90 wmk

TAG COMMENTS: Monitors to assess western end of subd. - 1 CG Present  
during sunset

TAG APPROVAL DATE: 5/4/90

ADEC Art Weiner Dot Weiner

EXXON Andy Teal Paul

NOAA Gary Petras Jay Petras

USCG G.A. Teitel G.A. Reiter

FOSC: W L DATE: 5-18-90

NOTIFY CVC 24 HRS. IN ADVANCE OF ABA

# SHORELINE EVALUATION

SEGMENT ST/ EB-13 SUBDIVISION A (1 OF 1) DATE 4/24/90

## SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 225-30-15080 (2/90, P)  
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)  
1B Salmon stream mouth - spawning (7/10 to 8/31)  
1E Main Bay Hatchery release (4/20 to 6/15)  
5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)  
Also two eagle nests in adjacent segment (1 within 400M)  
6Y Recreation: Special use destination  
6V Recreation: Anchorages (6/1 to 9/15)  
See attached Ecological Constraint sheet for specific constraints and contacts.

## SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

## ARCHAEOLOGICAL CONSTRAINTS:

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: Charles E. Jones DATE: 5/5/90

## OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 41 m: V.Light 1749 m: No Oil 2902 m  
Subsurface Oil Observed: Yes      No X Maximum Depth     

## RECOMMENDATIONS:

|                                      |                                             |
|--------------------------------------|---------------------------------------------|
| <u>    </u> No Treatment Recommended | <u>    </u> Snare/Absorbent Booms           |
| <u>X</u> Treatment Recommended       | <u>    </u> Oil Snares (pom poms)           |
| <u>X</u> Manual Pickup               | <u>    </u> Absorbents (pads, rolls, etc)   |
| <u>    </u> Bioremediation           | <u>    </u> Spot Washing: <u>    </u> Wands |
| <u>    </u> Tarmat Removal           | <u>    </u> Beach Cleaner                   |
|                                      | <u>    </u> Other (see comments)            |

COMMENTS: Recommend manual pickup of mousse tarballs. Work should be conducted after 6/1 with USFWS approval based on eagle nest constraints.

TAG COMMENTS: MONITORING TO ASSESS WESTERN END OF SUBD. - ICC PRESENT DURING SURVEY

TAG APPROVAL DATE: 5/4/90

ADEC ART WAGNER Det Weimer

EXXON ANDY TEAL

NOAA GARY PETRAE

USCG G.A. REITER

FOSC: W L DATE: 5-18-90

NOTIFY CVC 24 HRS. IN ADVANCE OF WORK

OG 13.15 English

SEGMENT E13-13

SUBDIVISION A

DATE 4/24/90

# CHECKLIST

- ☐ M Arrow
- ☐ Approx. Scale
- ☐ Significant Data
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HWL/LWL
- ☐ SCL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ PT Location(s)
- ☐ Photo Location(s)

## LEGEND

1 Δ  
PH - No Subsurface Oil

2 Δ  
PH - Subsurface Oil

CT/C  
Continuous Distribution

CT/B  
Broken Distribution

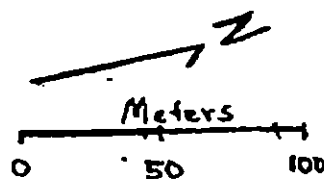
CT/P  
Peculiar Distribution

CT/S  
Splashed Distribution

eee  
Oiled Vegetation

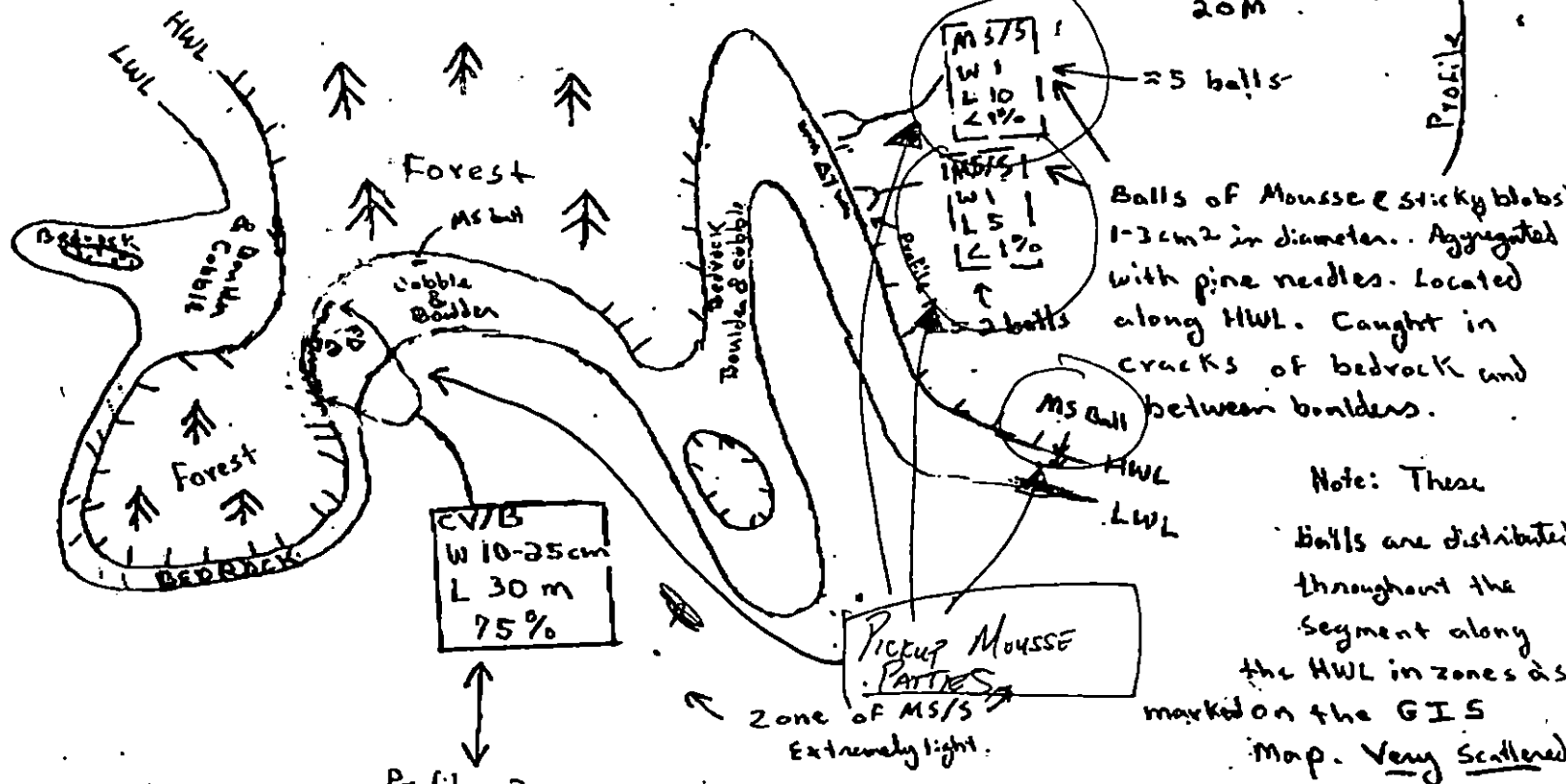
1 →  
Photo location, direction, and number

ω = oiled zone



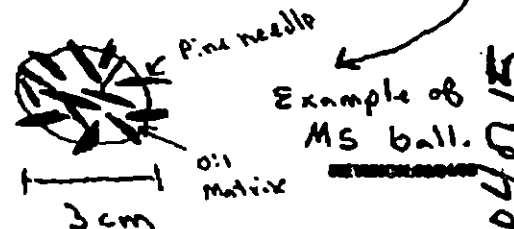
Oil Character Length (m): AP PO CV 30 CT ST MS 336 PT TB FL NO 240

## SKETCH MAP



Profile 2

CV/B ← Mix of oil and pine needles (or matted)  
Similar to "mousse" balls along other portions of segment. However, it forms a broken band along the HWL rather than discrete balls.



Note: These balls are distributed throughout the segment along the HWL in zones as marked on the GIS Map. Very Scattered

↑ This sketch map



# ECOLOGICAL MAP (Sheet 1 of 4)

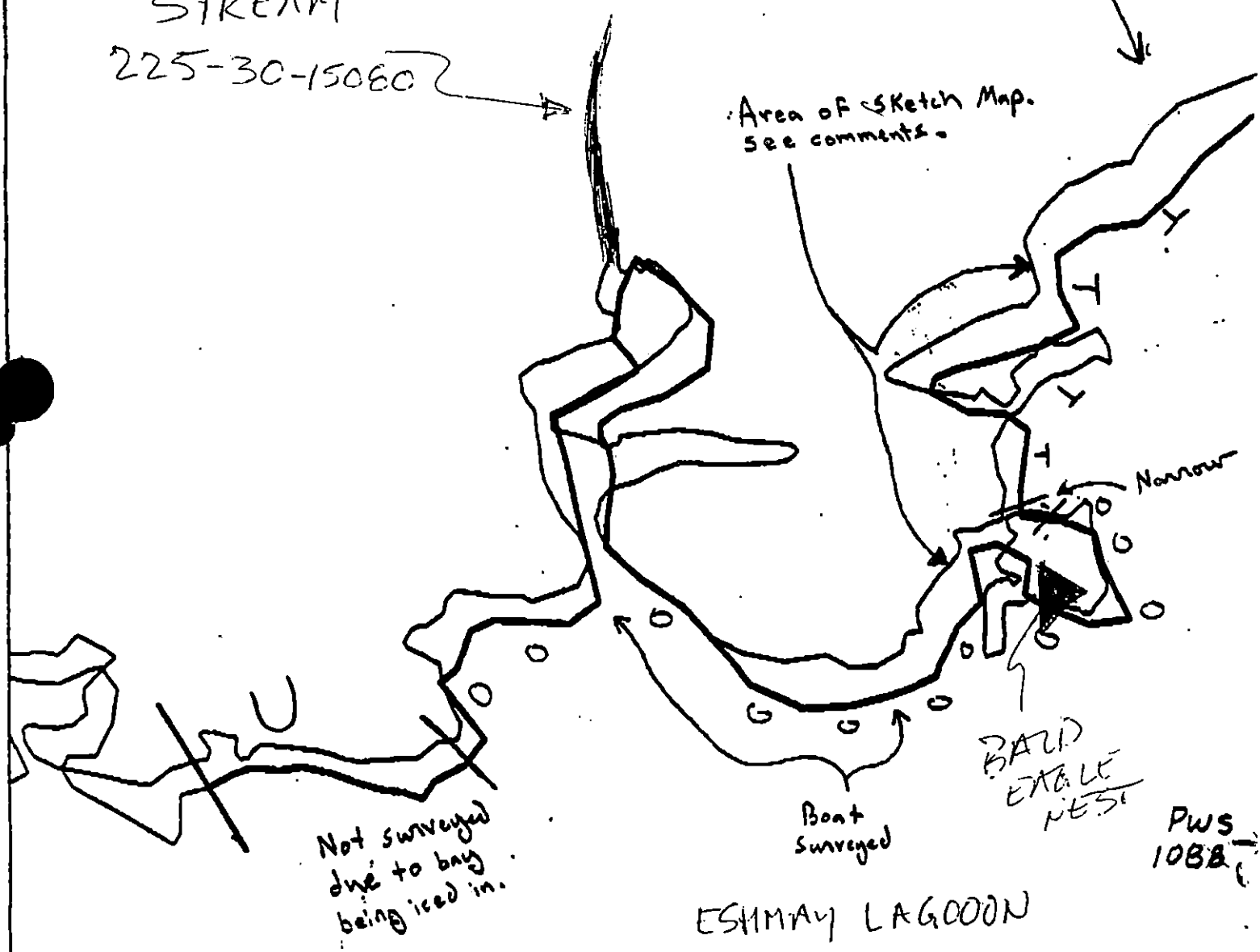
|    |           |
|----|-----------|
| 1A | ST-1      |
| 1B | 1E 6Y, 6V |

EE

ANADROMOUS  
STREAM  
225-30-15060

See note on  
area of very light oil  
pg. C.

Area of Sketch Map.  
See comments.



XXXX Wide  
//// Medium  
---- Narrow  
TTTT Very Light  
0000 No Oil

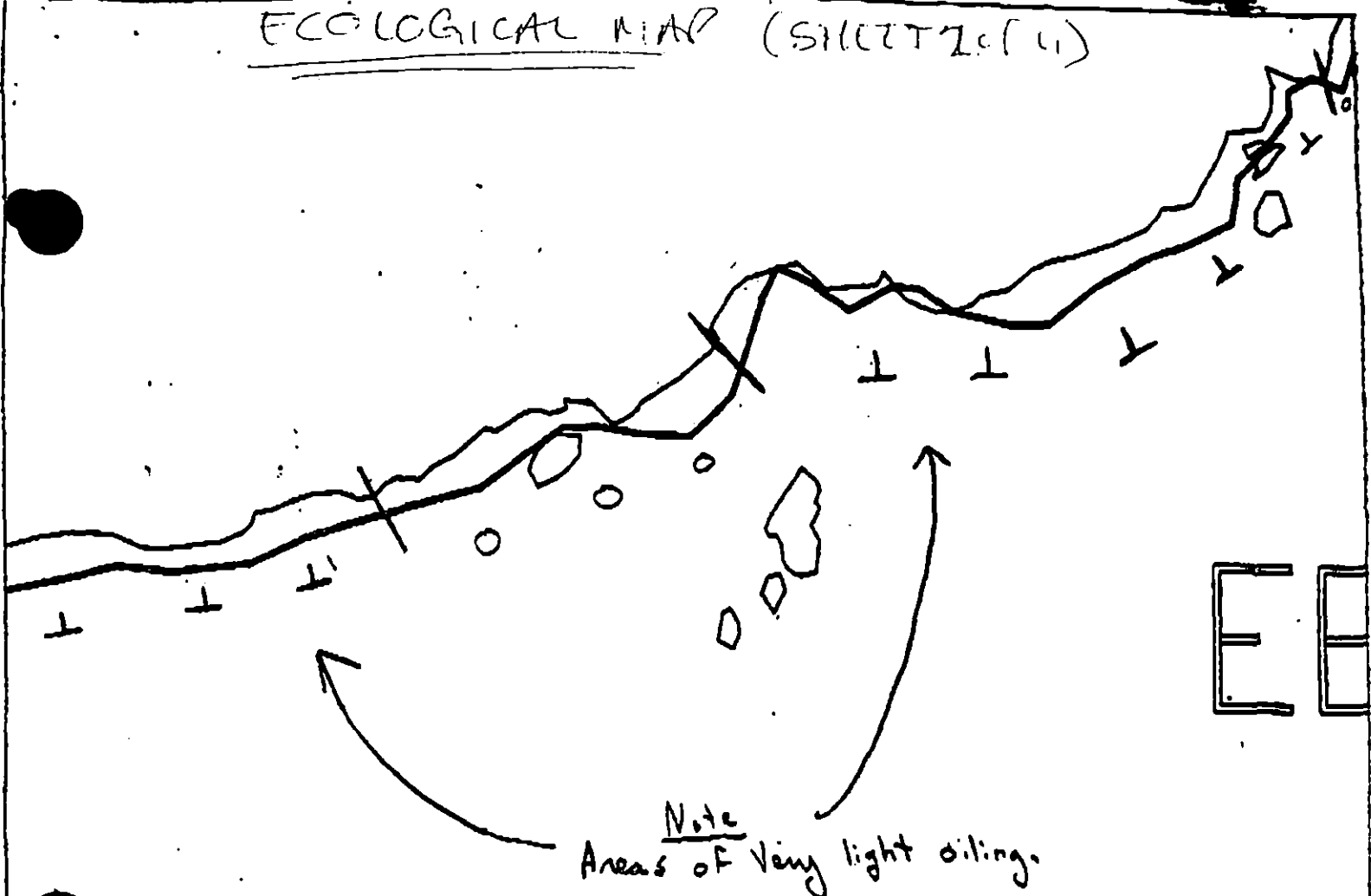
EB-13 (pg D)

ADEC Segment Length: 4966m



Map Key: PWS-108a  
Name: B. Benglund  
Date: 4/24/90  
Date Entered:

# ECOLOGICAL MAP (SHEET 1 of 1)



Note  
Areas of Very light oiling.

These areas have extremely light oiling consisting of Mousse balls - (see sketch map for description) which are sporadically distributed, approximately 1 every 50 to 150 meters. All the balls are located along the H/W in the cracks of bedrock or in between boulders.

← PWS  
108A

PWS  
108C →

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No. Oil

EB-13 cpgc)

ADEC Segment Length: 4986m



METERS



Map Key: PWS-108b

Name: B. Bengland

Date: 4/24/90

Date Entered:

D 70815

↑ PWS  
108F

ECOLOGICAL VINTAGE  
(SHEET 3 of 4)

EB-

BALD EAGLE  
NESTS  
(ADJACENT  
SEGMENT)

EB-

← 108B

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

EB-13 (pg. A)

ADEC Segment Length: 4986m

0 100 200 300  
METERS

Map Key: PWS-108c

Name: B. Benglund

Date: 4/04/90

Date Entered:

↓ PWS 108C

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

EB-13 (pg 6)

ADEC Segment Length: 4966m



METERS



Map Key: PWS-1081

Name: B. Duglund

Date: 4/24/90

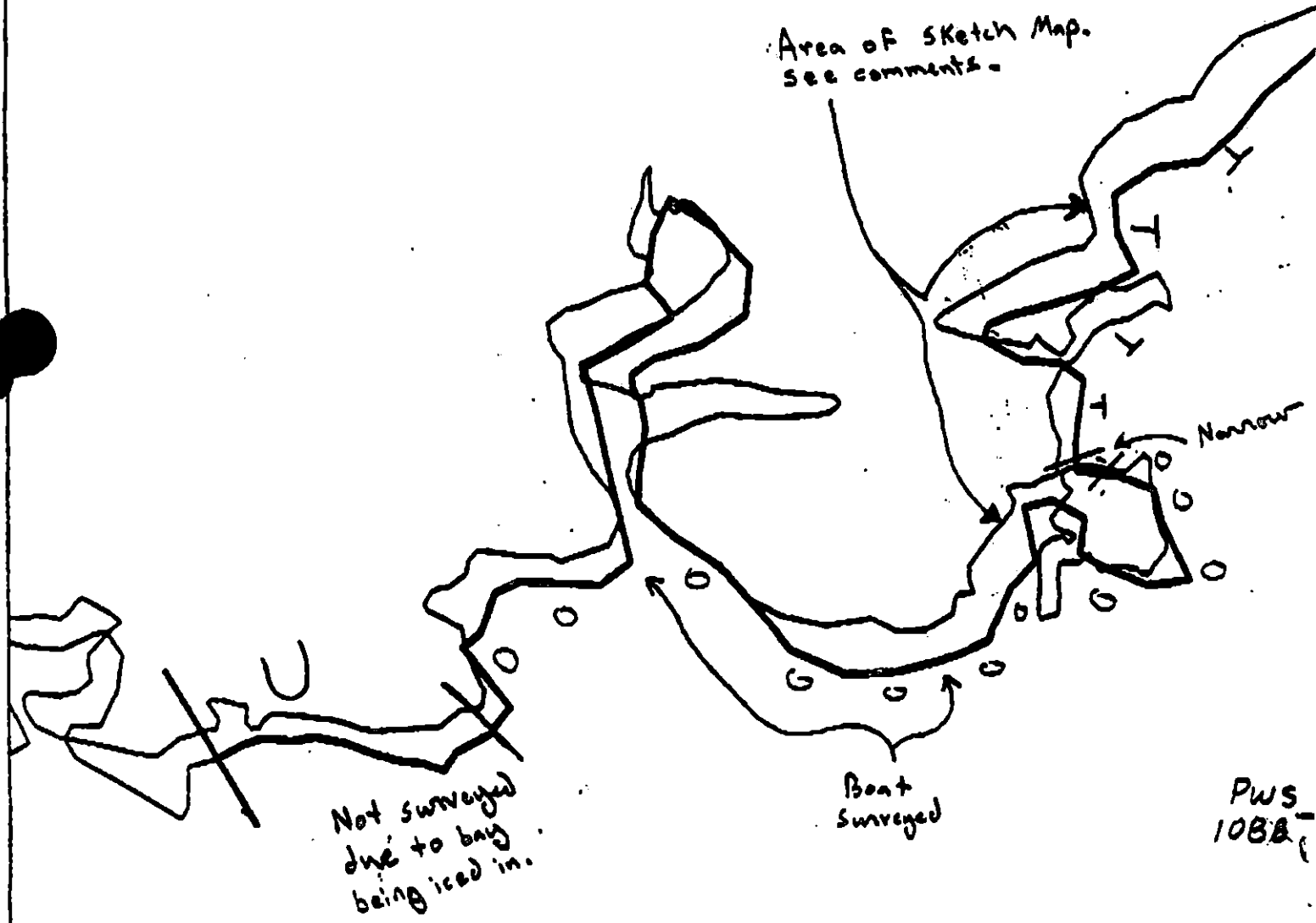
Date Entered:

060K15

EE

See note on  
area of very light oil  
pg. C.

Area of sketch Map.  
see comments.



PWS-108a

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

EB-13 (pg D)

ADEC Segment Length: 4966m

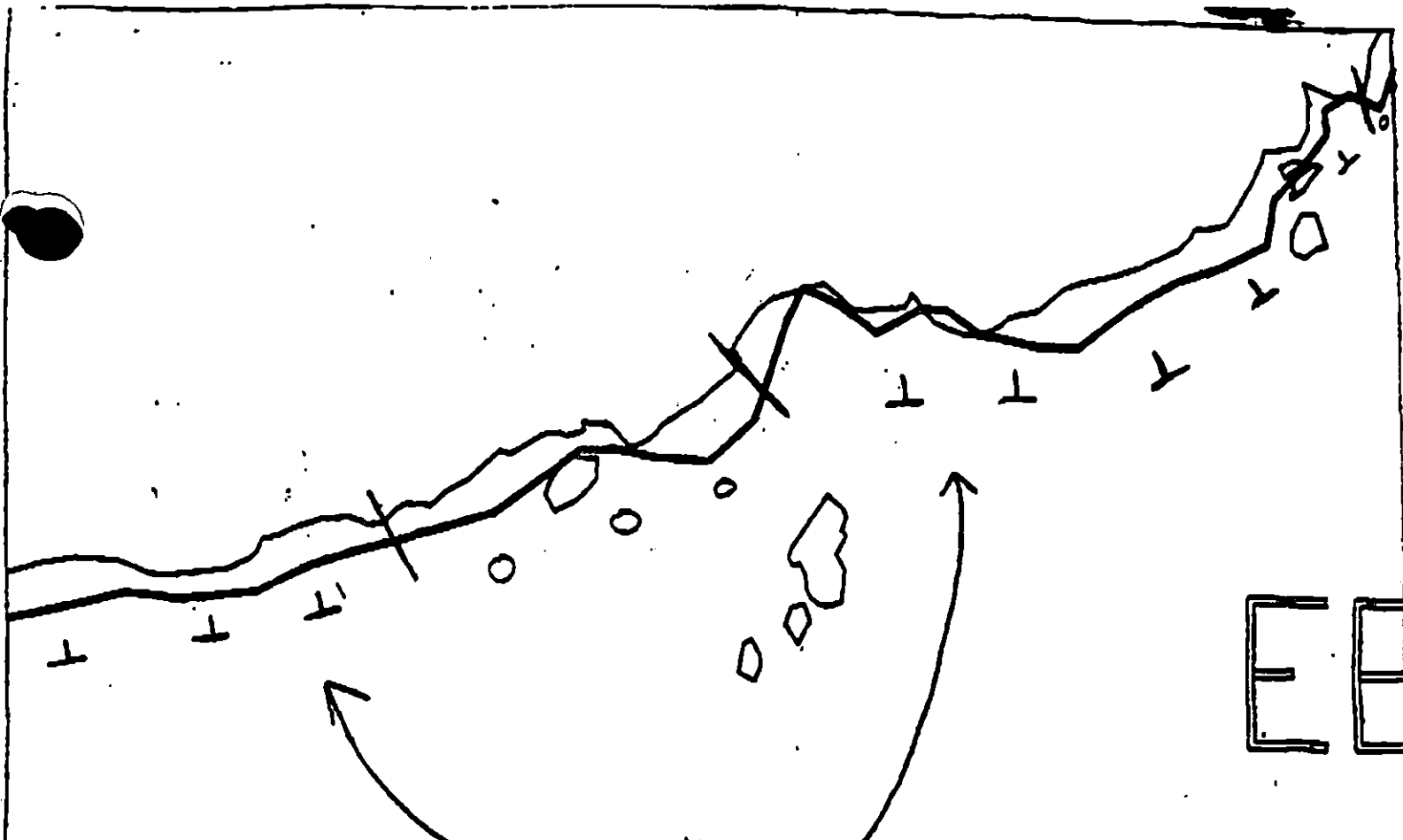


Map Key: PWS-108a

Name: B. Beaglund

Date: 4/24/90

Date Entered:



Note  
Areas of Very light oiling.

These areas have extremely light oiling consisting of Mousse balls. (see sketch map for description) which are sporadically distributed, approximately 1 every 50 to 150 meters. All the balls are located along the H/W in the cracks of bedrock or in between boulders.

← PWS  
108A

PWS  
108C →

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

EB-13 cpgc)

ADEC Segment Length: 4966m



Map Key: PWS-108b

Name: B. Benglund

Date: 4/24/90

Date Entered:

↓ PWS 108C

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

EB.-13 (pg 6)

ADEC Segment Length: 4966m



Map Key: PWS-1081

Name: D. Anglin

Date: 4/24/90

Date Entered:

P 6 0615

**1991 MAYSAP EVALUATION**

SEGMENT: EB 013 SUB: A REGION: PWS SURVEY DATE: 5/3/91

**ENVIRONMENTAL SENSITIVITIES:**

Work Window(s) RESTRICTED 3/1 - 9/15

Ecological/Constraints (see page two for details) Eagle nest, Fry release, Anadromous stream

**ARCHAEOLOGICAL CONSTRAINTS:**

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**RECOMMENDATIONS:**

**INITIAL**

**TAG**

**FOSC**

TREATMENT REQUIRED (Y or N)

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

**COMMENTS:**

INITIAL: \_\_\_\_\_

TAG: \_\_\_\_\_

FOSC: \_\_\_\_\_

TAG APPROVAL DATE: \_\_\_\_\_

FOSC APPROVAL DATE: \_\_\_\_\_

ADEC

FOSC

EXXON

USCG

NOAA



**ECOLOGICAL CONSTRAINTS  
1991 FIELD ACTIVITIES**

**Eagle Nest:** Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.

**Fry Release:** Unlimited treatment unless otherwise directed by ADF&G. Sheen containment/recovery procedures required for mechanical treatment.

**Anadromous Stream:** Unlimited treatment up to stream bank between May 15 and July 10. ADF&G approval required for work after July 10. Fish Habitat Permit required for instream work. ADF&G approval required for bioremediation within 100 meters of anadromous stream after July 10.

## MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 4 SEGMENT E13013 SUBDIVISION A DATE 30 Apr 91

## ADEC

NAME Dianne MunsonSIGNATURE Dianne Munson☒ NTR ☐ Treatment Recommended

Majority of segment not surveyed due to previous surveys showing oiling and time constraints. Tarballs and Patties were found and removed by both the survey and veco teams.

## EXXON

NAME LARRY D. OLSONSIGNATURE Larry D. Olson

☒ NTR Area surveyed showed no oiling of a large degree. Veco crew removed 4 bags with assistance from survey team. Area is heavily with very good biological growth throughout segment.

## LANDMANAGER

NAME LARRY EVANOFF OF CVCSIGNATURE LM☒ NTR ☐ TREATMENT RECOMMENDED

MAJORITY OF SEGMENT NOT SURVEYED DUE PREVIOUS SURVEYS SHOWED NO OIL. TAR BALLS/PATTIES WERE FOUND AND PICKED UP BY SURVEY CREW AND VECO CREW. ~~NO~~ OILED AREA NOT RE-SURVEYED DUE TO TIME CONSTRAINTS.

## USCG/NOAA

NAME John Galt USCGSIGNATURE John Galt

☒ NTR Area surveyed (previous surveys) did not show any significant concentrations

reviewed 5/2/91 -  
REVISOR 5/3/91 MC

# 09 sketch Map

EB 013 A

77 SAMPLES

30 April 91

092.1 - 1041

## Legend

(+/-) Bedrock

(V) Angular cb/pb

LSOR 10%  
1 x 3  
Few tar balls  
in supra-ltz  
gran and at  
head of cave  
near stream

PLU

Stream

Stream

2 tar balls

PLU

Angular cb/pb in  
front of bedrock. Part  
under wide vent. del. behind  
island.  
No oil.

Zodiac

Angular cb/pb. Lots of  
bedrock outcrops + nearshore  
rocks.

Zodiac

A1

HSOR 20%  
1.5 x 8

Washed on

behind island in WITZ

Zodiac

Meters

0 400 800

reviewed SL

Reviews: MC 5/3/91

# MAYSAP BIOLOGICAL SUMMARY FORM

|             |       |                      |                             |              |
|-------------|-------|----------------------|-----------------------------|--------------|
| TEAM #      | 4     | DATE/TIME            | April <sup>30</sup> 3, 1991 | 0920 => 1045 |
| SEGMENT #   | EB013 | TIDAL HEIGHT (Range) | -2.0 => +1.0                |              |
| SUBDIVISION | A     | BIOLOGIST            | JIM BARRY                   |              |
| SEA STATE   | CALM  | WIND SPEED/DIRECTION | NE 5-15 Rain                |              |

## COMMENTS / OBSERVATIONS - OILED SUBDIVISIONS

This is a long segment with several habitat types. Our survey visited sites previously reported with oiled areas. Three main areas were visited.

**B NO OIL FOUND.** This was a small shingle covered beach with an extensive upper and middle zone with a shallow slope and high peat content. The site is protected from swell. A clam bed is present at the site, along with a middle intertidal mussel bed, and moderate Fucus cover.

**C** The oiled location is a high angle shingle beach protected from waves. Oiled locations (tar balls) are in the high intertidal zone. Biota at oiled area include black lichen, sparse densities of barnacles, limpets, and littorines. The lower zones below the oiled area are much richer. The middle zone has moderate densities of mussels, littorines, limpets, and barnacles, as well as hermit crabs, sea stars, and clams (several species). Algal cover is high, with Fucus as the dominant species, and high cover of filamentous green and brown algae. The subtidal area adjacent to this beach has an eel grass and clam bed. One river otter entered and exited the water at this location during the survey. No evidence of oil-related impacts to the local biota are evident.

**MANUAL PICK-UP PERFORMED DURING SURVEY.** Additional clean-up operations, if performed, should consist of manual pick-up only, with caution used to prevent extended visits of site which may impact otter activities, or disturbance to the subtidal eel grass and clam bed.

## WILDLIFE OBSERVATIONS - Completed on all subdivisions

| BIRDS            | # OF SPECIES | TOTAL BIRDS | FISH OBSERVED<br>SPECIES PRESENT |
|------------------|--------------|-------------|----------------------------------|
| Eagles           | 1            | 3           |                                  |
| Seabirds         |              |             |                                  |
| Waterfowl        | 2            | 8           |                                  |
| Gulls/Kittiwakes | 2            | 5           |                                  |
| Shorebirds       | 1            | 2           |                                  |
| Corvids          | 1            | 1           |                                  |
| Other Birds      |              |             |                                  |

| MARINE MAMMALS      | # OBSERVED | LAND MAMMALS<br>SPECIES | # OBSERVED |
|---------------------|------------|-------------------------|------------|
| Sea Otters          |            | River Otter             | 1          |
| Pinnipeds (specify) |            |                         |            |
| Sea Lions           | 4          |                         |            |
| Whales (specify)    |            |                         |            |

Shoreline subdivision map showing important biological features attached.

Reviewed 5/1/91 JMB

## EB013-A Biology Report (continued)

8. **A** The oiled area (HSOR) includes the upper intertidal zone and the supratidal zone. This site is a shingle beach. The oiled site biota include a sparsely populated mussel bed with moderate barnacles and littorine densities, as well as a higher zone with black lichen, sparse barnacles and littorines, and little else. A dense *Fucus* zone exists in the middle intertidal zone below the oiled area. Still lower in the intertidal, an eel grass and clam bed occur. This is a moderately dense clam bed, with scattered otter foraging pits present at the site. No oil related impacts to biota were evident.

**MANUAL PICK-UP PERFORMED DURING SURVEY.** Addition clean-up operations, if required, should prevent impact to the low zone and subtidal eel grass and clam bed.

**D** Oiled location (LSOR) is at the upper drift line near the supratidal zone. Black lichen and drift algae are the most common biota. A small shingle beach with a small stream is located below this area, with moderately dense cover of *Fucus*, scattered barnacles and mussels, and associated biota. An eel grass and clam bed sparsely populates the subtidal areas below the site. No oil-related impacts to the biota were observed.

**MANUAL PICK-UP PERFORMED DURING SURVEY.** Addition clean-up, if required, should be restricted to manual pickup to prevent negative impacts to the subtidal eel grass and clam bed.

One eagle nest was marked on the segment map, but was not observed during the survey. Two eagle were observed near the marked site, roosting in trees.

### List of Common Species from EB013-A

#### A. Marine Plants

1. Diatoms, Blue Greens
2. Green Algae - Chlorophyta  
*Acrosiphonia* sp., *Enteromorpha* sp., *Ulva* sp., *Urospora* sp.
3. Brown Algae - Phaeophyta  
*Ectocarpus* spp., *Fucus distichus*, *Ralfsia* sp.
4. Red Algae - Rhodophyta  
*Ahnfeltia plicata*, *Calliarthron* sp., *Lithothamnion* sp., *Membranoptera dimorpha*, *Odonthalia floccosa*, *Rhodomela larix*
5. Higher Plants  
*Zostera marina* (eel grass), *Leymus mollis* (beach rye grass)

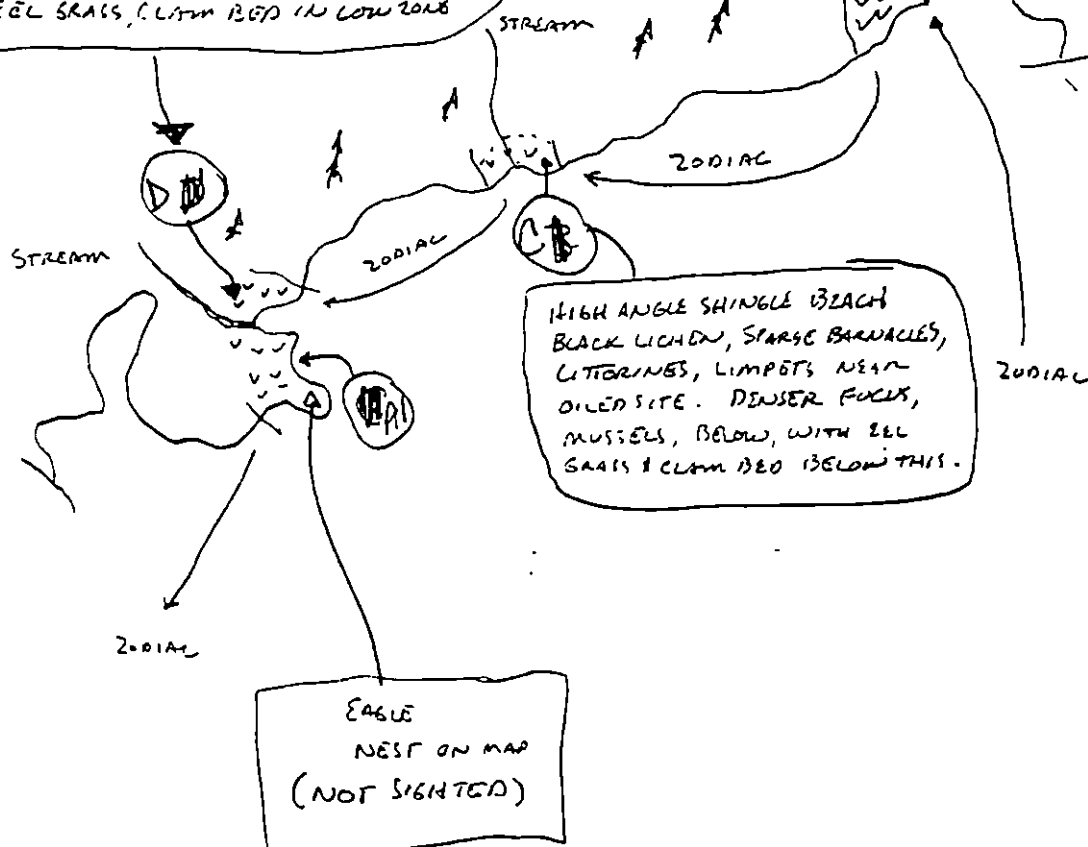
#### II. Marine Animals

1. Sponges - Porifera - *Halichondria* sp.
2. Anemones - *Anthopleura artemesia*,
3. Hydroids - Sertularidae - *Sertularella*?
5. Flatworms - Platyhelminthes - Polyclads
6. Nemertean Worms - Ribbon Worms - *Emplectonema gracile*
8. Polychaete Worms -  
*Nereidae* - *Nereis* spp.,  
*Spirorbidae* - *Spirorbis* sp.
9. Peanut worms - Sipunculids - *Phascolosoma agassizii*, *Golfingia* sp.
10. Crustaceans
  - a. Amphipods - *Orchestia* sp.?
  - b. Barnacles - *Balanus glandula*
  - c. Crabs  
*Hemigrapsus oregonensis*, Paguridae (hermit crabs), *Oregonia gracilis*
  - d. Isopods - *Gnorimorsphaeroma oregonense*
11. Mollusca

- a. Chitons
  - Mopalia mucosa, Tonicella lineata
- b. Snails - Gastropods
  - Littorina scutulata, L. sitkana, Natica clausa, Nucella lamellosa, N. lima, Margarites sp.
- c. Limpets
  - Lottia digitalis, L. persona
- e. Mussels and Clams
  - Clinocardium sp., C. nuttalli, Macoma balthica, Macoma nasuta, Mya arenaria (soft-shell clam), Mytilus edulis, Prototheca staminea, Saxidomus giganteus
- 12. Echinoderms
  - a. Brittle Stars - Ophiolus sp., ?
  - b. Sea stars
    - Dermasterias imbricata, Evasterias truscheli, Leptasterias hexactis, Pycnopoda helianthoides
  - c. Sea Cucumbers - Holothurians - Leptosynapta sp.
  - d. Urchins - Strongylocentrotus droebachiensis
- 13. Bryozoans - Membranipora sp., Schizoporella sp.
- 15. Fishes
  - Cottidae
  - Stichaeidae - Xiphister atropurpureus, X. mucosus

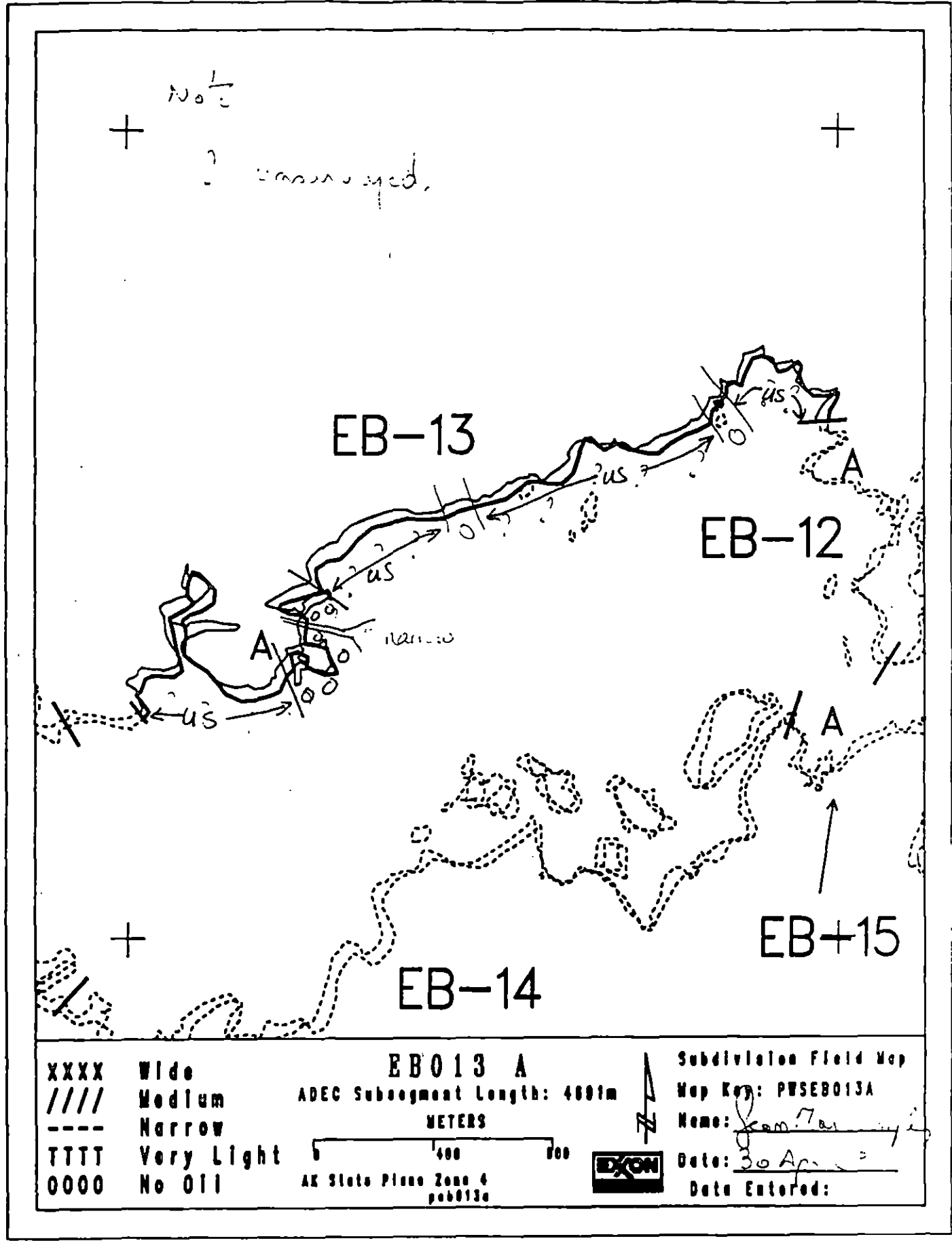
OILED SITE:  
SPARSELY POPULATED MUSSEL BED IN UPPER ZONE.  
SUPERFICIAL MARETT LINE w/ BLACK LICHEN,  
FEW BARNACLES AND LITTORINES.  
BELOW: HIGH COVER OF FUCUS IN MIDDLE  
ZONE EEL GRASS, CLAM BED IN LOW ZONE

NO OIL  
PEAT CONTAINING SEDIMENT  
UNDER SHINGLE BEACH



Meters  
0 400 800





revised 5/2/91  
Revises 5/3/91 m.c.

**REGION: PRINCE WILLIAM SOUND**

**SEGMENT: ST/EB-13**

**SUBDIVISIONS: A (1 OF 1)**

# SHORELINE EVALUATION

SEGMENT ST/ EB-13 SUBDIVISION A (1 OF 1) DATE 4/24/90

## SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 225-30-15080 (2/90, P)  
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)  
1B Salmon stream mouth - spawning (7/10 to 8/31)  
1E Main Bay Hatchery release (4/20 to 6/15)  
5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)  
Also two eagle nests in adjacent segment (1 within 400M)  
6Y Recreation: Special use destination  
6V Recreation: Anchorages (6/1 to 9/15)  
See attached Ecological Constraint sheet for specific constraints and contacts.

## SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

## ARCHAEOLOGICAL CONSTRAINTS:

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

## OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 41 m: V.Light 1749 m: No Oil 2902 m  
Subsurface Oil Observed: Yes \_\_\_\_\_ No X Maximum Depth \_\_\_\_\_

## RECOMMENDATIONS:

|                                                           |                                                        |
|-----------------------------------------------------------|--------------------------------------------------------|
| <input type="checkbox"/> No Treatment Recommended         | <input type="checkbox"/> Snare/Absorbent Booms         |
| <input checked="" type="checkbox"/> Treatment Recommended | <input type="checkbox"/> Oil Snares (pom poms)         |
| <input checked="" type="checkbox"/> Manual Pickup         | <input type="checkbox"/> Absorbents (pads, rolls, etc) |
| <input type="checkbox"/> Bioremediation                   | <input type="checkbox"/> Spot Washing: _____ Wands     |
| <input type="checkbox"/> Tarmat Removal                   | <input type="checkbox"/> Beach Cleaner                 |
|                                                           | <input type="checkbox"/> Other (see comments)          |

COMMENTS: Recommend manual pickup of mousse tarballs. Work should be conducted after 6/1 with USFWS approval based on eagle nest constraints.

TAG COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TAG APPROVAL DATE: \_\_\_\_\_

ADEC \_\_\_\_\_  
EXXON \_\_\_\_\_  
NOAA \_\_\_\_\_  
USCG \_\_\_\_\_

FOSC: \_\_\_\_\_ DATE: \_\_\_\_\_

# PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

## Salmon stream mouth - fry outmigration (3/1 to 5/15)

### Salmon stream mouth - spawning (7/10 to 8/31)

No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.

AGENCY CONTACT PERSON: ADF&G John Morison 267-2324

## Salmon fry nursery area (4/31 to 7/31)

No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.

AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214

## 1D Esther Hatchery release (4/15 to 6/15)

### 1E Main Bay Hatchery release (4/20 to 6/15)

### 1F Sawmill Bay Hatchery release (4/15 to 6/1)

### 1G Cannery Creek Hatchery release (4/21 to 6/1)

### 1H Remote release site

No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.

AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214

1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511

## 1I Gill net area (6/7 to 8/31)

### 1J Purse seine area (7/20 to 9/30)

### 1K Purse seine hook-off (7/20 to 9/30)

### 1L Set net sites (6/11 to 7/25)

Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

AGENCY CONTACT PERSON: ADF&G James Brady 424-3212

## 2M Herring spawning (4/1 to 6/15)

Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235

## Harbor seal and sea lion pupping (5/15 to 7/1)

### Harbor seal and sea lion molting (8/15 to 9/15)

Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.

AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235

ADF&G Don Calkins 267-2403

## Seabird colony (5/1 to 9/1)

Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

## Shorebird/waterfowl concentration (4/1 to 5/15)

Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

ADF&G Tom Roth 267-2206

## All Bald Eagle nests (3/1 to 8/1)

### Active Bald Eagle nests (3/1 to 9/1)

Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

## Recreation:

Tent sites (6/1 to 9/15)

Anchorage (6/1 to 9/15)

Forest Service cabins (6/1 to 9/15)

Lodge (6/1 to 9/15)

Special use destination

## Subsistence area: Salmon harvesting (5/1 to 9/30)

Finfish harvesting

Deer harvesting (8/15 to 2/28)

Invertebrate harvesting

Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation

Contact List for each Native Corporation's contact person.

AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359

# FIELD SHORELINE COMMENT SHEET

SEGMENT ST / ~~FB-13A~~ FB-13A SUBDIVISION: ND DATE 24 APR 80

SCG

James C. Campbell SIGNATURE James C. Campbell

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

## COMMENTS

A BAND of MOUSSE on EAST side of segment towards western end of segment.  
Manually: Due To The fact The bay is A Salmon fishery. Part of The segment  
was unobserved because There was Ice on water unable To get Thru and  
Snow on shore. Mousse was in NW  
SEE EXTON sketch map.

ADEC

NAME Brian K. Fitz-Simone SIGNATURE Brian K. Fitz-Simone

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

## COMMENTS

I concur with OG sketch maps and comments.  
observed narrow band of mousse on east side of peninsula towards western  
end of segment: Hand removal of oiled sediments - necessary due to  
fishery -

Inspect remainder of western end of segment following breakup -  
unobserved due to bay ice and snow on shore.

AND MANAGER

NAME Steve Dwyer - CUC SIGNATURE Steve Dwyer

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

## COMMENTS

Manual - clean up

## SHORELINE OILING SUMMARY

REVISION NO. 04/13/90

OG B. Bevaland USCG J. Gambill SEGMENT ST/ EB-13  
 BIO S. Schreiner LAND REP S. Wood. (C.V.) SUBDIVISION A (1 OF 1)  
 EXXON C. Levine ADEC B. Fritzsims TIME 8:00 to 11:00  
 TEAM NO. 1 TIDE LEVEL -2 to +6 DATE 4/24/90  
 ST. SUBDIVISION LENGTH: 4120 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow  
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock  
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: W to E  
 SURFACE SEDIMENTS: R 25 % B 00 % C 10 % P 5 % G — % S — % M — % V — %  
 SLOPE: Long 25 % Hang 55 % Vert 20 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High  
 OIL CATEGORY LENGTH: W — m M — m N 30 m VL 1620 m NO 2470 m

## SURFACE OIL

| CHARACTER        | DISTRIBUTION |   |   |   | OIL / FILM COLOR |   |   |   |   | IMPACTED ZONES |   |   |   |
|------------------|--------------|---|---|---|------------------|---|---|---|---|----------------|---|---|---|
|                  | 1            | 2 | 3 | 4 | 5                | 6 | 7 | 8 | 9 | EU             | U | M | U |
| ASPHALT PAVEMENT |              |   |   |   |                  |   |   |   |   |                |   |   |   |
| POOLED           |              |   |   |   |                  |   |   |   |   |                |   |   |   |
| COVER            |              |   |   |   |                  |   |   |   |   |                |   |   |   |
| COAT             |              |   |   |   |                  |   |   |   |   |                |   |   |   |
| STAIN            |              |   |   |   |                  |   |   |   |   |                |   |   |   |
| MOUSSE           |              |   |   |   |                  |   |   |   |   |                |   |   |   |
| PATTIES          |              |   |   |   |                  |   |   |   |   |                |   |   |   |
| TARBALLS         |              |   |   |   |                  |   |   |   |   |                |   |   |   |
| NO OIL           |              |   |   |   |                  |   |   |   |   | X              | X | X | X |

PAVEMENT H F S No sq. m by cm

PATTIES / TARBALLS No BAGS

NEAR SHORE SHEEN? ☒ NO BR RW SL TL

| OILED DEBRIS | AMOUNT |    |    |
|--------------|--------|----|----|
|              | SM     | MD | LG |
| Logs         |        |    |    |
| Vegetation   |        |    |    |
| Trash        |        |    |    |
| Debris       |        |    |    |

DID YOU COLLECT DEBRIS?

YES ☐ NO ☒

TYPE

#BAGS

Photographs:

Roll No. ST-1-5Frames 5

## SUBSURFACE OIL

| PIT NO. | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER |    |    |    |    | BELOW | OIL / FILM COLOR |    |   |   |   | PIT ZONE |   |    |   | A N A | SHEEN (Y/N) | SURFACE - SUBSURFACE SEDIMENTS |
|---------|----------------|--------------------------|----|----|----|----|-------|------------------|----|---|---|---|----------|---|----|---|-------|-------------|--------------------------------|
|         |                | OP                       | OR | OL | OF | NO |       | VO               | UC | 5 | 6 | 7 | 8        | 9 | EU | U | M     | U           |                                |
| 1       | 10             |                          |    |    |    | /  |       | /                |    |   |   |   |          |   |    |   |       |             | C/G                            |
| 2       | 15             |                          |    |    |    | /  |       | /                |    |   |   |   |          |   |    |   |       |             | C/G                            |
| 3       | 20             |                          |    |    |    | /  |       | /                |    |   |   |   |          |   |    |   |       |             | B/C/G                          |
|         |                |                          |    |    |    |    |       |                  |    |   |   |   |          |   |    |   |       |             |                                |
|         |                |                          |    |    |    |    |       |                  |    |   |   |   |          |   |    |   |       |             |                                |
|         |                |                          |    |    |    |    |       |                  |    |   |   |   |          |   |    |   |       |             |                                |

COMMENTS Most of this segment consists of a high angle boulder and cobble beach face with shallow or exposed bedrock. There are a scattered pocket beaches. The segment has over 30 length of concentrated oiling (C/V/broken) is indicated on the sketch map. The other lightly oiled sectors of the segment have a very sporadic occurrence of sticky mousse balls located along the HWL (Approx. 1 ball every 50 to 100 m). Over half the segment is uniled. A short section at the west end was not surveyed due to ice blocking the bay.

REVIEWED MEDATE 4-25-90

OG 13 Bengland

SEGMENT E13-13

SUBDIVISION A

DATE 4/24/90

# CHECKLIST

- ☐ M Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HWL/LWL
- ☐ SSI
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ PR Location(s)
- ☐ Photo Location(s)

## LEGEND

1 Δ  
P1 - No Subsurface Oil

2 Δ  
P1 - Subsurface Oil

CT/C  
Continuous Distribution

CT/B  
Broken Distribution

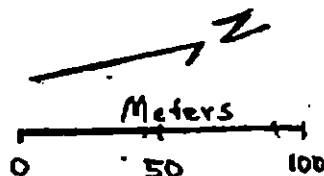
CT/P  
Patched Distribution  
\* See GIS map for location of sketch map.

CT/S  
Splashed Distribution

eee  
Oiled Vegetation

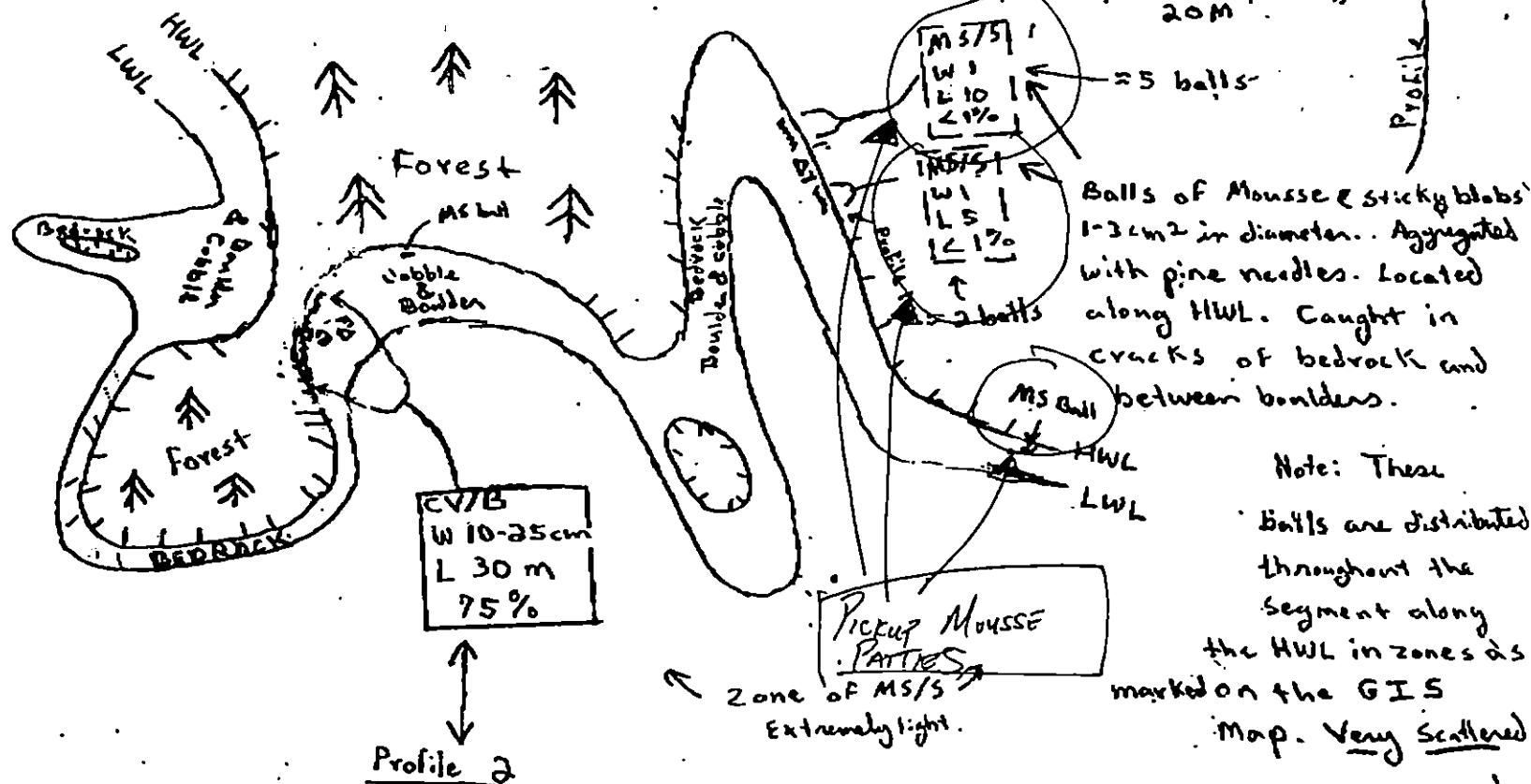
1 →  
Photo location, direction, and number

☞ = Oiled Zone

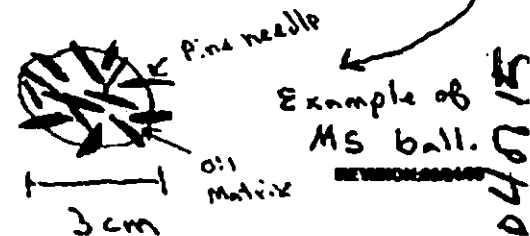


Oil Character Length (m): AP PO CV 30 CT ST MS 336 PT TB FL NO 240

## SKETCH MAP



CV/B ← Mix of oil and pine needles (or matted)  
Similar to mousse "balls" along other portions of segment. However, it forms a broken band along the HWL rather than discrete balls.



# SHORELINE ECOLOGICAL SUMMARY

REVISION: 10/22/88

Segment ST / EB-13 Subdivision A Date (mo / day / yr) 4/24/90

Time (24 hr) 0800-1000 Biologist S. Schroeter Tide: Start: -2  
END: +6  
Low: -2

Substrate type and % of segments:

(1) Bedrock 25 (2) Boulder 5 (3) Cobble 10 (4) Pebble 5 (5) Sand 5 (6) Silt 5

(B) Overall % cover of biota (% of segment): Dense 22 Moderate 18 Low 60

(C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (O)

Photographs: ST-1-5

Roll No. ST-1-5

Frames N/A

## BARNACLES

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    |             |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|-------------|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |             |
| 2     | 2  | 2  | 2        | 2  | 2  | 2      | 2  | 2  | 2    | 2  | 2  |             |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |             |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |             |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |             |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  | NOT PRESENT |

## MYTILUS

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    |             |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|-------------|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |             |
| 2     | 2  | 2  | 2        | 2  | 2  | 2      | 2  | 2  | 2    | 2  | 2  |             |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |             |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |             |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |             |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  | NOT PRESENT |

## GASTROPODS

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    |             |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|-------------|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |             |
| 2     | 2  | 2  | 2        | 2  | 2  | 2      | 2  | 2  | 2    | 2  | 2  |             |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |             |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |             |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |             |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  | NOT PRESENT |

## FUCUS

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    |             |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|-------------|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |             |
| 2     | 2  | 2  | 2        | 2  | 2  | 2      | 2  | 2  | 2    | 2  | 2  |             |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |             |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |             |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |             |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  | NOT PRESENT |

Wildlife Observations/ General Comments: 1A, B-1; ST-1 (2 bold eagles seen on segment 1E; 6Y, Y; 3 sea otters + 1 land otter seen; other birds abundant in bed rock areas.

Ecological Considerations: (1) Dense algal populations LITZ, including *Alaripa* *Laminaria saccharum*; (2) Zostera subtidally along much of segment; (3) Colonial diatom mat covers much of substrate + biota MITZ; (4) High densities of *Dermasterias imbricata* + *Pycnopus* low-MITZ + LITZ; *Leptasterias* present but rare. (5) *B. glandula* sp. noted on BOK/B/C/G in low-MITZ + MITZ, along most of segment, dense in patches.



Segment: EB-13

Subdivision: A

Date: April 24, 1990

|       |      |      |                         |
|-------|------|------|-------------------------|
|       | Time | Tide | Biologist: B. Schroeter |
| Start | 0800 | -2.0 | Segment Length: 4420 m  |
| End   | 1050 | +6.0 |                         |
| Low   | 0800 | -2.0 |                         |

The segment is very similar with regard to substrate and biota to EB-12A. It consisted of 4 kinds of shorelines: predominantly steep bedrock cliffs (27%), (2) boulder, cobble, and pebble pocket beaches without freshwater (28%); beaches similar to type (2), but with fresh water running through them (31%), and (4) pocket beaches with boulder, cobble, and pebble in the LITZ and MITZ and bedrock in the UITZ (15%). Shorelines on the segment are sheltered from wave energy.

Salient ecological observations include: (1) 2 bald eagles observed; (2) 1 sea otter observed offshore and numerous sites with otter scat. A river otter was also observed. (3) Dense *Zostera* beds lie offshore along the entire segment. (4) *Alaria marginata* and *Laminaria saccharina* are dense in the LITZ along the bedrock shorelines and extend into the subtidal; (5) Barnacles, mussels, gastropods, and *Eucus* are abundant along most of the segment, but particularly so on the pocket beaches with freshwater running over them. (6) Gastropods are comprised primarily of littorines, *N. persana*, and *N. acutum*. *Littorina acutulata* and *N. persana* dominate in the upper MITZ and UITZ, whereas *L. acutulata*, *N. acutum* and *N. palta* dominate in the middle and lower MITZ and upper LITZ. (7) Barnacle spat (probably *B. glandula*) were abundant in the MITZ and lower UITZ on bedrock, boulders and cobbles throughout the segment. This segment and segment EB-12A had the highest density of barnacle spat seen by me during both phases. (8) Two species of sea stars, *Dermasterias imbricata* and *Pycnopodia helianthoides*, were remarkably abundant in the low MITZ and LITZ both

under and on top of boulders. Echinopodia-excavated pits were abundant in the LITZ in several of the boulder/cobble/pebble pocket beaches. The large numbers of small individuals of both species suggests high recruitment over the past several years. No other species of sea stars were seen on the segment (8) Clams and an echiuroid (*Urechis* spp. as a guess) was abundant in the LITZ in many of the boulder/cobble/pebble pocket beaches. (9) Filamentous greens (*Ulva* and *Enteromorpha*) were abundant in tidepools in the UITZ and MITZ, and on boulders and cobbles in the lower MITZ and LITZ. (10) *Mopalia lignosa* and *M. ciliata* were common beneath boulders and cobbles in the low MITZ and upper LITZ.

# ECCOLOGICAL MAP (Sheet 1 of 4)

|      |           |
|------|-----------|
| 1, A | ST-1      |
| 1, B | 1E 6Y, 6V |

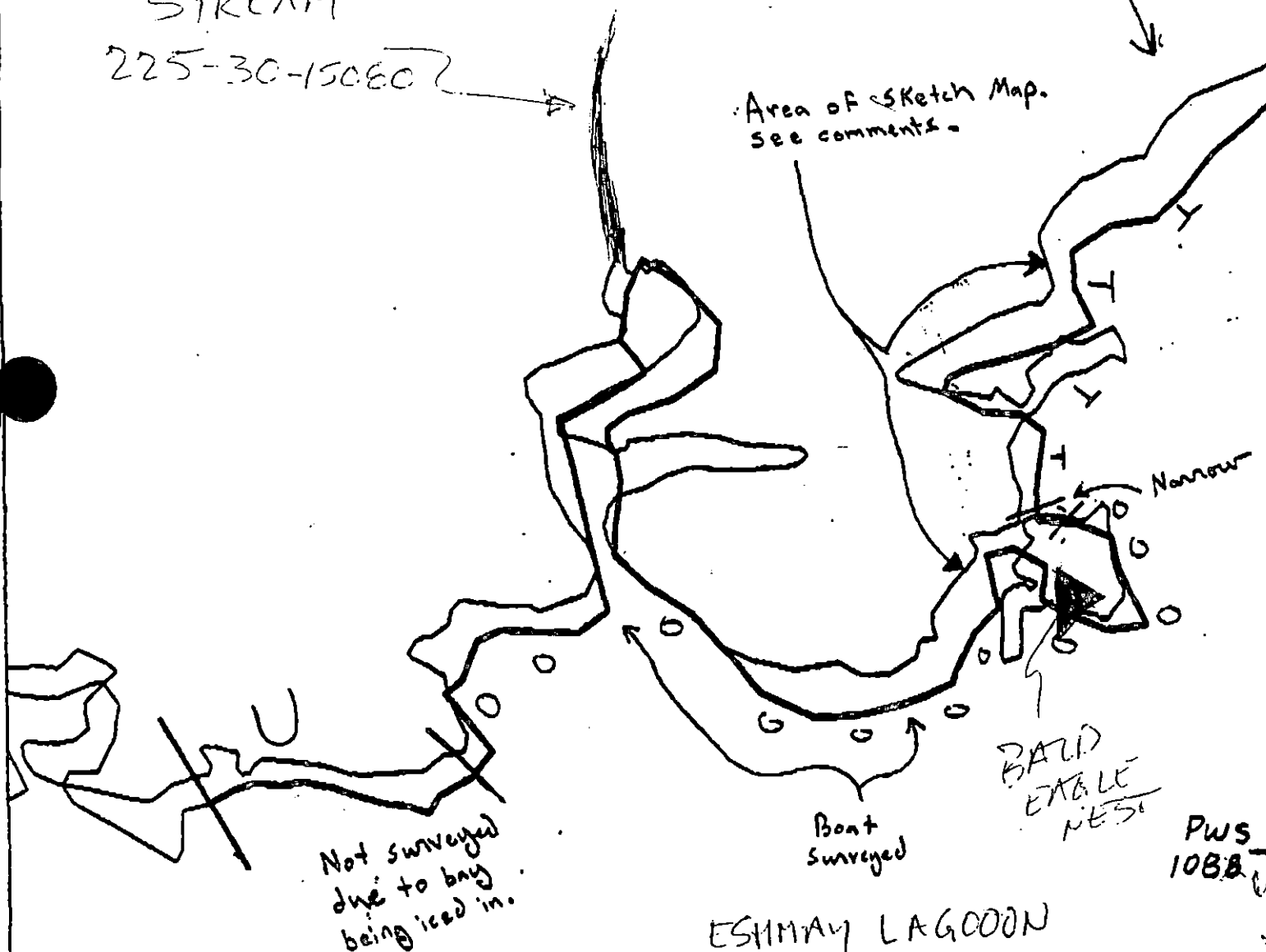
EE

See note on  
area of very light oiling  
pg. C.

ANADROMOUS  
STREAM

225-30-15000

Area of Sketch Map.  
See comments.



PWS  
108B

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

EB-13 (pg D)

ADEC Segment Length: 4966m



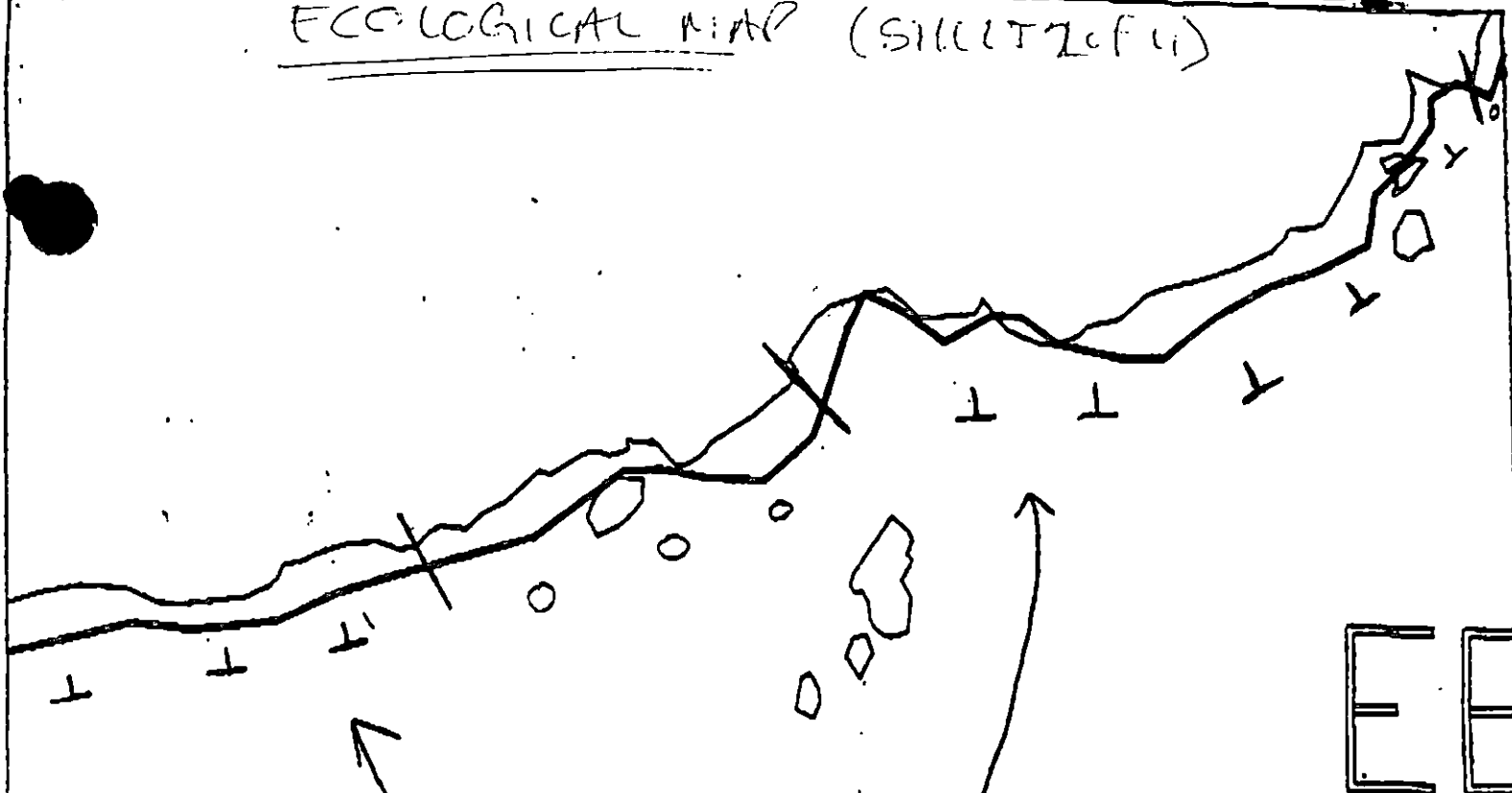
Map Key: PWS-108a

Name: B. Benglund

Date: 4/24/90

Date Entered:

# ECCOLOGICAL MAP (SILTZOFU)



Note  
Areas of Very light oiling.

These areas have extremely light oiling consisting of Mousse balls - (see sketch map for description) which are sporadically distributed, approximately 1 every 50 to 150 meters. All the balls are located along the H/W in the cracks of bedrock or in between boulders.

← PWS  
108A

PWS  
108C →

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No. Oil

EB-13 (pg 1)

ADEC Segment Length: 4966m



METERS

Map Key: PWS-108b

Name: B. Benglund

Date: 4/24/90

Date Entered:

↑ PWS  
108F

ECCOLOGICAL UNIT  
(STILLT 3 of 4)

EB-

BALD EAGLE  
NESTS  
(ADJACENT  
SEGMENT)

EB-

← 108B

XXXX Wide

EB-13 (pg. A)

/// Medium

---- Narrow

ADEC Segment Length: 4966m

TTTT Very Light

0000 No Oil

0 100 200 300  
METERS



Map Key: PWS-108c

Name: B. Berglund

Date: 4/04/90

Date Entered:

DE 11E

↓ PWS 108C

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

EB-13 (pg 6)

ADEC Segment Length: 4966m

0 100 200 300

METERS

Map Key: PWS-1081

Name: B. England

Date: 4/24/90

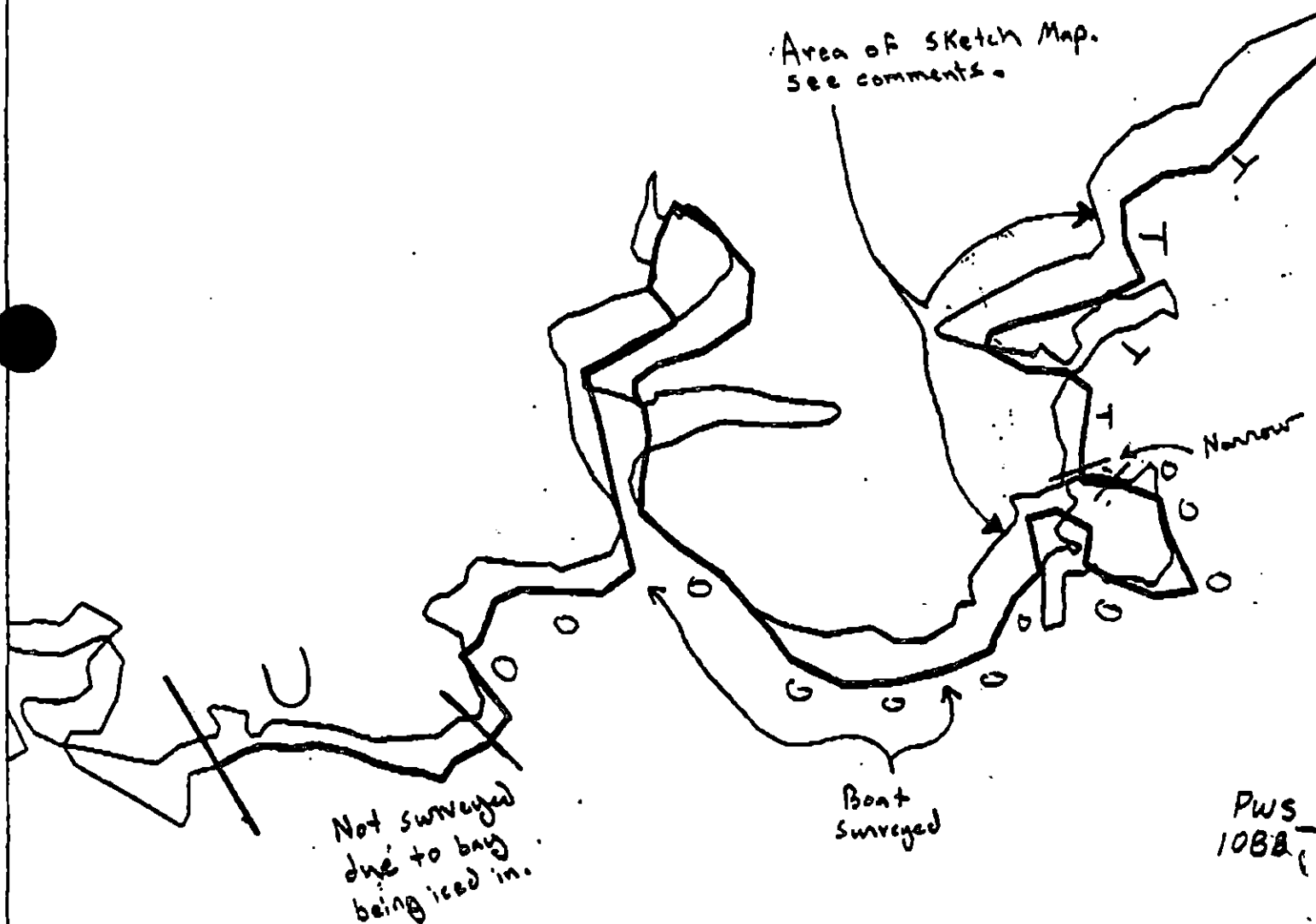
Date Entered:

060K15

EE

See note on  
area of very light oil  
pg. C.

Area of SKetch Map.  
See comments.



PWS  
108A

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

EB-13 (pg D)

ADEC Segment Length: 4966m

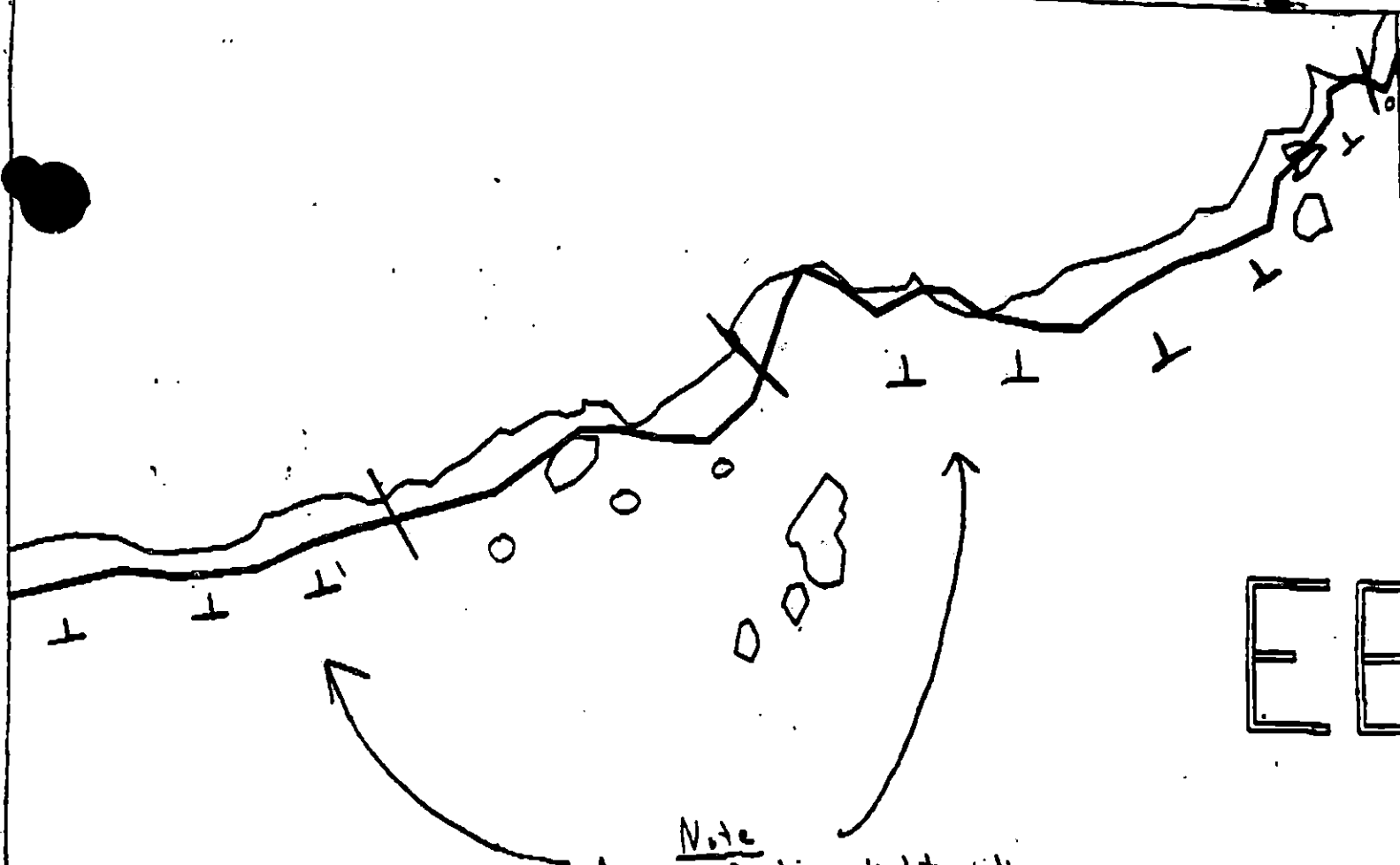


Map Key: PWS-108a

Name: B. Desglund

Date: 4/24/90

Date Entered:



Note  
Areas of Very light oiling.

These areas have extremely light oiling consisting of Mousse balls - (see sketch map for description) which are sporadically distributed, approximately 1 every 50 to 150 meters. All the balls are located along the HWW in the cracks of bedrock or in between boulders.

← PWS 108A

PWS 108C →

XXXX Wide  
 /// Medium  
 --- Narrow  
 TTTT Very Light  
 0000 No Oil

EB-13 (pg 2)

ADEC Segment Length: 4966m



Map Key: PWS-108b  
 Name: B. Bengland  
 Date: 4/24/90  
 Date Entered:



T PWS  
108F

EB-

EB-

← 108B

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

EB-13 (Pg. A)

ADEC Segment Length: 4966m



METERS

Map Key: PWS-108c

Name: B. Benglund

Date: 4/04/90

Date Entered:

P5015

↓ PWS 108C

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

EB-13(pg 6)

ADEC Segment Length: 4966m

0 100 200 300  
METERS

Map Key: PWS-1081

Name: D. England

Date: 4/24/90

Date Entered:

P 6 0615

SHORELINE EVALUATION

SEGMENT ST/ EV-19 SUBDIVISION A (1 OF 1) DATE 4/7/90

**SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:**

5T All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)  
7II Subsistence area: Deer harvesting (8/15 to 2/28)  
See attached Ecological Constraint sheet for specific constraints and contacts.

**SUBDIVISION ECOLOGICAL CONSTRAINTS:**

Avoid any unnecessary disturbance or damage to uncoiled biota and substrate.

**ARCHAEOLOGICAL CONSTRAINTS:**

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO SIGNATURE: Charles E. [Signature] DATE: 4/20/90

**OILING CATEGORIZATION:**

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 93 m: No Oil 1337 m  
Subsurface Oil Observed: Yes      No X Maximum Depth     

**RECOMMENDATIONS:**

|                                         |                                             |
|-----------------------------------------|---------------------------------------------|
| <u>X</u> No Treatment Recommended       | <u>    </u> Snare/Absorbent Booms           |
| <u>    </u> Treatment Recommended       | <u>    </u> Oil Snares (pom poms)           |
| <u>    </u> Manual Pickup               | <u>    </u> Absorbents (pads, rolls, etc)   |
| <u>    </u> Bioremediation              | <u>    </u> Spot Washing: <u>    </u> Wands |
| <u>    </u> Tarmat: <u>    </u> Breakup | <u>    </u> Beach Cleaner                   |
| <u>    </u> Removal                     | <u>    </u> Other (see comments)            |

COMMENTS:       
      
      
    

TAG COMMENTS:       
      
      
    

TAG APPROVAL DATE: 4/20/90.  
ADEC ART WEINER Art Weiner  
EXXON ANDY TAT Andy Tat  
NOAA Burt Wescott Burt Wescott  
USCG KENNETH KEANE Kenneth Keane

FOSC: [Signature] DATE: 5-1-90

OG Mip get

SEGMENT ST/ EV-19

SUBDIVISION A

DATE 4 / 7 90

### CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Bdry
- ☐ Oil Dist.
- ☐ Wash
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HWA/LWA
- ☐ SST
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ P/L Location(s)
- ☐ Photo Location(s)

### LEGEND

1  $\Delta$   
Pc - No Subsurface Oil

2  $\Delta$   
Pc - Subsurface Oil

$\square$  CT/C  
Continuous Distribution

$\square$  CT/B  
Broken Distribution

$\square$  CT/P  
Patchy Distribution

$\square$  CT/S  
Splashed Distribution

Clad Vegetation

1  $\rightarrow$   
Photo location, direction,  
and number

### SKETCH MAP

Very light CT/S stain HITZ

Very light CT/S  
10m x 5m stain  
on protected side  
of rock, HITZ

Very light CT/S stain HITZ  
0.5m x 5m on protected  
side of rock outcrop

Very light CT/S stain HITZ  
1m x 10m on protected  
side of rock outcrop

Very light CT/S  
stain HITZ 0.5m x 5m  
on protected side of  
rock outcrop



scale  
100 m

### Legend

|||| - snow covered supra ITZ  
/// - Rock/Powder shore zone

Oil Character Length (m): AP     PO     CV     CT     ST 35 MS     PT     TB     FL     NO 1379

REVISION 03/04/00

EV-19A

EV-18

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

EV-19A

ADEC Segment Length: 1430m



Map Key: PWS-187

Name: Mike Foyet

Date: 4/7/90

Data Entered:

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/EB-15

SUBDIVISIONS: A (1 OF 1)

SHORELINE EVALUATION

SEGMENT ST/ EB-15 SUBDIVISION A (1 OF 1) DATE 4/25/90

**SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:**

1E Main Bay Hatchery release (4/20 to 6/15)

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

**SUBDIVISION ECOLOGICAL CONSTRAINTS:**

Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

**ARCHAEOLOGICAL CONSTRAINTS:**

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact Exxon's Cultural Resource Program immediately (564-3274 (Anchorage) or 229-1508 (24 hrs.)).

SHPO SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**OILING CATEGORIZATION:**

Wide 0 m: Medium 187 m: Narrow 0 m: V.Light 149 m: No Oil 496 m  
Subsurface Oil Observed: Yes \_\_\_\_\_ No X Maximum Depth \_\_\_\_\_

**RECOMMENDATIONS:**

|                                                           |                                                        |
|-----------------------------------------------------------|--------------------------------------------------------|
| <input type="checkbox"/> No Treatment Recommended         | <input type="checkbox"/> Snare/Absorbent Booms         |
| <input checked="" type="checkbox"/> Treatment Recommended | <input type="checkbox"/> Oil Snares (pom poms)         |
| <input checked="" type="checkbox"/> Manual Pickup         | <input type="checkbox"/> Absorbents (pads, rolls, etc) |
| <input checked="" type="checkbox"/> Bioremediation        | <input type="checkbox"/> Spot Washing: _____ Wands     |
| <input type="checkbox"/> Tarmat Removal                   | <input type="checkbox"/> Beach Cleaner                 |
|                                                           | <input type="checkbox"/> Other (see comments)          |

COMMENTS: Recommended treatment includes 1) manual pickup of tarballs and oiled sediments (adjacent to anadromous stream) in areas indicated on sketch map, and 2) bioremediation of areas indicated on sketch map. Work should be conducted after 6/15.

TAG COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TAG APPROVAL DATE: \_\_\_\_\_

ADEC \_\_\_\_\_

EXXON \_\_\_\_\_

NOAA \_\_\_\_\_

USCG \_\_\_\_\_

FOSC: \_\_\_\_\_ DATE: \_\_\_\_\_

# PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)  
1B Salmon stream mouth - spawning (7/10 to 8/31)  
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.  
AGENCY CONTACT PERSON: ADF&G John Morison 267-2324
- 1C Salmon fry nursery area (4/31 to 7/31)  
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.  
AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1D Esther Hatchery release (4/15 to 6/15)  
1E Main Bay Hatchery release (4/20 to 6/15)  
1F Sawmill Bay Hatchery release (4/15 to 6/1)  
1G Cannery Creek Hatchery release (4/21 to 6/1)  
1H Remote release site  
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.  
AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214  
1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511
- 1I Gill net area (5/7 to 6/31)  
1J Purse seine area (7/20 to 9/30)  
1K Purse seine hook-off (7/20 to 9/30)  
1L Set net sites (5/11 to 7/25)  
Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.  
AGENCY CONTACT PERSON: ADF&G James Brady 424-3212
- 2M Herring spawning (4/1 to 6/15)  
Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to unrolled intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.  
AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
- 3Q Harbor seal and sea lion pupping (5/15 to 7/1)  
Harbor seal and sea lion molting (5/15 to 9/15)  
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31).  
Contact ADF&G and USFWS prior to treatment for confirmation.  
AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235  
ADF&G Don Calkins 267-2403
- 5R Seabird colony (5/1 to 9/1)  
Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.  
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)  
Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.  
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377  
ADF&G Tom Roth 267-2206
- 5T All Bald Eagle nests (3/1 to 6/1)  
Active Bald Eagle nests (3/1 to 6/1)  
Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.  
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 6U Recreation: Tent sites (5/1 to 9/15)  
6V Anchorages (5/1 to 9/15)  
6W Forest Service cabins (5/1 to 9/15)  
6X Lodge (5/1 to 9/15)  
6Y Special use destination
- 7Z Subistence area: Salmon harvesting (5/1 to 9/30)  
7H Finfish harvesting  
7I Deer harvesting (5/15 to 2/28)  
Invertebrate harvesting  
Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.  
AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359



# FIELD SHORELINE COMMENT SHEET

SEGMENT ST / EB-15 SUBDIVISION: \_\_\_\_\_ DATE 4-25-90

USCG

James C. Gambill SIGNATURE James C. Gambill

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

A CTP at mid segment band approx 20 cm wide x approx 35 m long HWL along with oil debris in stream berm. (manually) Salmon stream mid segment also Salmon fishing bay. All east of Salmon stream.

ADEC

NAME Brian K. Fitz-Simons SIGNATURE Brian K. Fitz-Simons

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

I concur with OG sketch maps & comments. Manual removal of oiled sediments located both sides of mouth of Anadramous stream and the band of CTP. HITZ of pocket beach adjacent to and to the east of Salmon stream.

LAND MANAGER

NAME Steve WARD - CVC

SIGNATURE Steve Ward

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

manual clean-up-

## SHORELINE OILING SUMMARY

REVISION NO. 06/12/90

OG T3, Bevaland USCG J. Gambill SEGMENT ST/ EB-15  
 BIO S. Schreder LAND REP S. Wood (S.V.) SUBDIVISION A (1 OF 1)  
 EXXON C. Levine ADEC B. Fritzsims TIME 7:00 to 8:40  
 TEAM NO. 1 TIDE LEVEL -1.9 to -3.3 DATE 4/25/90  
 EST. SUBDIVISION LENGTH: 900 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow  
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock  
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: E to W  
 SURFACE SEDIMENTS: R 25 % B 40 % C 20 % P 10 % G 5 % S ~ % M ~ % V ~ %  
 SLOPE: Long 35 % Hang 50 % Vert 15 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High  
 OIL CATEGORY LENGTH: W ~ m M 100 m N ~ m VL 120 m NO 600 m

## SURFACE OIL

| CHARACTER        | DISTRIBUTION |    |    |    | OIL / FILM COLOR |     |    |    | IMPACTED ZONES |   |     |   |
|------------------|--------------|----|----|----|------------------|-----|----|----|----------------|---|-----|---|
|                  | 10           | 15 | 20 | 25 | 30               | 35  | 40 | 45 | SW             | U | M   | N |
| ASPHALT PAVEMENT |              |    |    |    |                  |     |    |    |                |   |     |   |
| POOLED           |              |    |    |    |                  |     |    |    |                |   |     |   |
| COVER            |              |    |    |    |                  |     |    |    |                |   |     |   |
| COAT             |              |    | 1  | 2  |                  | 1-2 |    |    |                |   | 1-2 |   |
| STAIN            |              |    |    |    |                  |     |    |    |                |   |     |   |
| MOUSSE           |              |    |    |    |                  |     |    |    |                |   |     |   |
| PATTIES          |              |    |    |    |                  |     |    |    |                |   |     |   |
| TARBALLS         |              |    |    | 1  |                  | 1   |    |    |                |   | 1   |   |
| FILM             |              |    |    |    |                  |     |    |    |                |   |     |   |
| NO OIL           |              |    |    |    |                  |     |    |    | X              |   | X   | X |

PAVEMENT H F S No ~ sq. m by ~ cmPATTIES / TARBALLS 2 BAGSNEAR SHORE SHEEN? ☒ BR RW SL TL

| OILED DEBRIS | AMOUNT |    |    | DID YOU COLLECT DEBRIS?                                             |
|--------------|--------|----|----|---------------------------------------------------------------------|
|              | SM     | MD | LG |                                                                     |
| Logs         | 1      |    |    | YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> |
| Vegetation   | 1      |    |    |                                                                     |
| Trash        |        |    |    |                                                                     |
| Debris       |        |    |    |                                                                     |
|              |        |    |    | TYPE <u>Paint Film</u>                                              |
|              |        |    |    | #BAGS <u>1</u>                                                      |

Photographs:

Roll No. ST-1-5Frames 6-8

## SUBSURFACE OIL

| PIT NO. | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER |    |    |    |    | OILED INTERVAL (cm) | BELOW |    | OIL / FILM COLOR |    |    |    | PIT ZONE |   |   |   | A N A | SEER (VNS) | V | SURFACE-SUBSURFACE SEDIMENTS |
|---------|----------------|--------------------------|----|----|----|----|---------------------|-------|----|------------------|----|----|----|----------|---|---|---|-------|------------|---|------------------------------|
|         |                | OP                       | OR | OL | OF | NO |                     | UO    | UC | 30               | 35 | 40 | 45 | SW       | U | M | N |       |            |   |                              |
| 1       | 40             |                          |    |    |    | /  | .                   | /     |    |                  |    |    |    | /        |   |   |   |       |            |   | C/G                          |
| 2       | 20             |                          |    |    |    | /  | .                   | /     |    |                  |    |    |    | /        |   |   |   |       |            |   | C/G                          |
| 3       | 45             |                          |    |    |    | /  | .                   | /     |    |                  |    |    |    | /        |   |   |   |       |            |   | C/G                          |
| 4       | 20             |                          |    |    |    | /  | .                   | /     |    |                  |    |    |    | /        |   |   |   |       |            |   | B/C/G                        |
|         |                |                          |    |    |    |    | .                   |       |    |                  |    |    |    |          |   |   |   |       |            |   |                              |
|         |                |                          |    |    |    |    | .                   |       |    |                  |    |    |    |          |   |   |   |       |            |   |                              |

COMMENTS The segment consists of a bedrock and boulder shoreline (moderate to high angle) with a few pocket beaches. The majority of the segment has very light oiling (CT/S) or no oiling. The large west central pocket beach has medium oiling (CT/P). Associated with the zones of oil coat are sticky tar balls (aggregated with pine needles). Their distribution is feathered, approximately 1 every 2-5 m (see sketch map for details). Subsurface penetration of oil does not appear present.

REVIEWED X/HDATE 4-26-90

# CHECKLIST

- Map Area
- Approx. Scale
- Seg/Sub Entry
- Oil Dist.
- Width
- Length
- % Cover
- Substrate Character
- Est. HWR/LWR
- SSI
- Profile Location(s)
- Photo(s)
- PR Location(s)
- Photo Location(s)

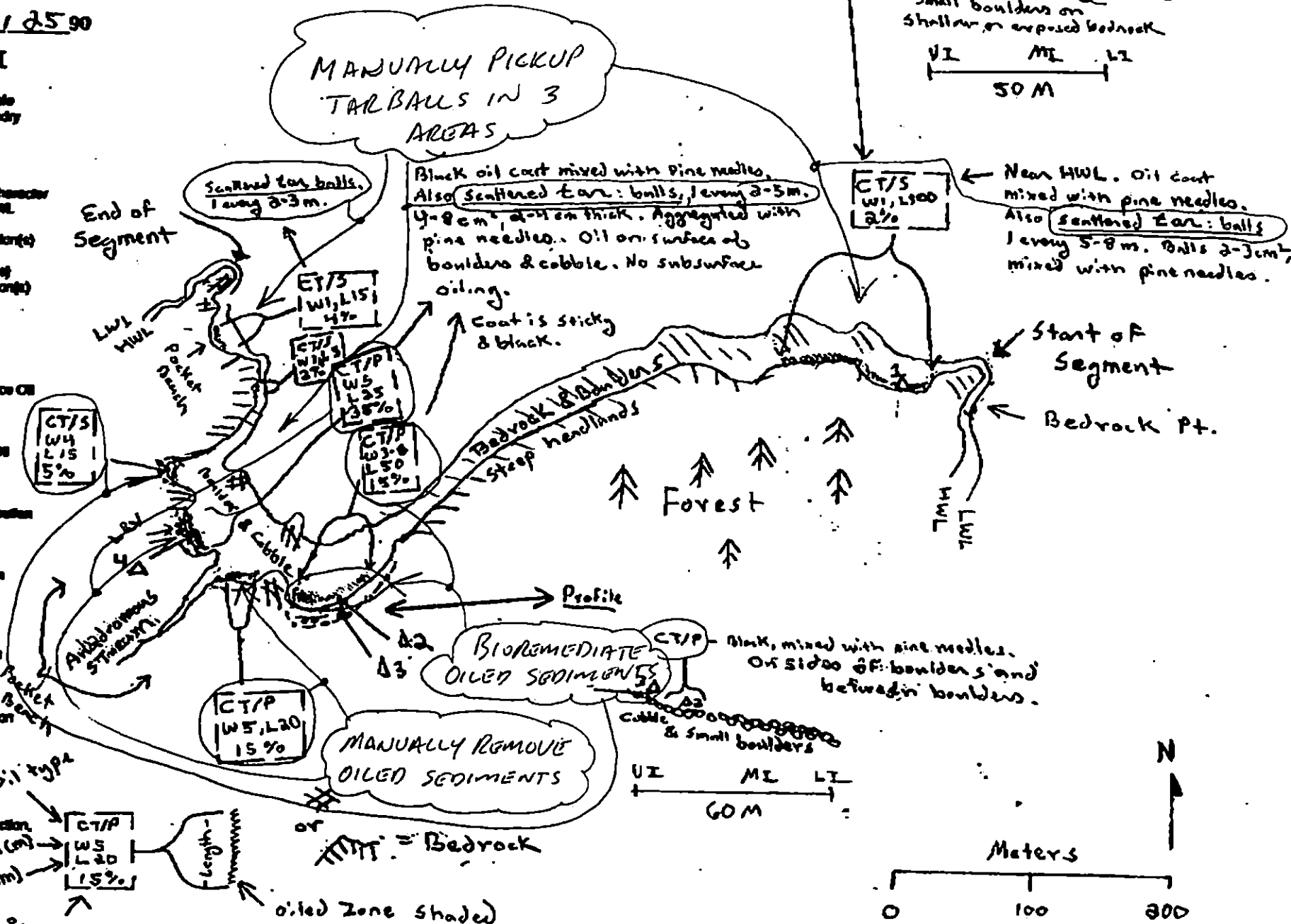
## LEGEND

- 1  $\Delta$   
PR - No Subsurface Oil
- 2  $\Delta$   
PR - Subsurface Oil
- CT/C  
Continuous Distribution
- CT/B  
Broken Distribution
- CT/P  
Patchy Distribution
- CT/S  
Splashed Distribution
- Oil Vegetation

- Oil type
- Photo location, direction, and number
- Width (m)
- Length (m)
- % cover

Oil Character Length (m): AP PO CV CT 300 ST MS 300 PT TB FL NO

Total of zones where scattered MS balls occur.



# SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/82/90

Segment ST / EB-15 Subdivision A Date (mo / day / yr) 4-25-90

Time (24 hr) 0700-0800 Biologist S. Schmeider Tide: Start: -1.9  
End: -2.9  
Low: -3.3

(A) Substrate type and % of segments:  
(1) Bedrock 68 (2) Boulder 14 (3) Cobble 12 (4) Pebble 4 (5) Sand 2 (6) Silt 0

(B) Overall % cover of biota (% of segment): Dense 38 Moderate 15 Low 47

(C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (O)  
Photographs: ST-1-5  
Roll No. ST-1-5  
Frames 6-8

## BARNACLES

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    | NOT PRESENT |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|-------------|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |             |
| 2     | 2  | 2  | 2        | 2  | 2  | 2      | 2  | 2  | 2    | 2  | 2  |             |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |             |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |             |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |             |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  |             |

## MYTILUS

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    | NOT PRESENT |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|-------------|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |             |
| 2     | 2  | 2  | 2        | 2  | 2  | 2      | 2  | 2  | 2    | 2  | 2  |             |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |             |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |             |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |             |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  |             |

## GASTROPODS

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    | NOT PRESENT |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|-------------|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |             |
| 2     | 2  | 2  | 2        | 2  | 2  | 2      | 2  | 2  | 2    | 2  | 2  |             |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |             |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |             |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |             |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  |             |

## FUCUS

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    | NOT PRESENT |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|-------------|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |             |
| 2     | 2  | 2  | 2        | 2  | 2  | 2      | 2  | 2  | 2    | 2  | 2  |             |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |             |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |             |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |             |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  |             |

Wildlife Observations/ General Comments: 1E; 6Y; 5-10 eggs often - 2 females w/ pups  
sands on ice west of segment; many ducks;

Ecological Considerations: ① Barnacle spat occurred on B/K/3/C/G on all  
ranks 2nd of all segments SCATTERED in Phases I & II; ② Mopalia ligata  
+ M. ciliata common (Sparse) under B/K in LITZ; ③ Pygospio  
desmarestii extremely dense on and under B/K in LITZ; Eastern  
in pocket beaches in LITZ + subtidally; ④ Laminaria + Alaria  
extremely dense LITZ; ⑤ Laminaria + Agardhim from very dense beds

Segment: EB-15

Subdivision: A

Date: April 25, 1990

|       |      |      |                                 |
|-------|------|------|---------------------------------|
| Start | Time | Tide | Biologist: S. Schroeter         |
| End   | 0700 | -1.9 | Segment Length: $\approx 900$ m |
| Low   | 0840 | -2.9 |                                 |
|       | 0830 | -3.3 |                                 |

The segment consists of 2 kinds of shorelines: predominantly steep bedrock cliffs (75%), (2) boulder, cobble, and pebble pocket beaches (25%). Fresh water flows over about 50% of the pocket beaches at low tide.

Salient ecological observations include: (1) No bald eagles observed; (2) 5-10 sea otters observed offshore, 2 were females with pups. (3) *Zostera* beds occur in the LITZ in pocket beaches with freshwater drainage and extend into the subtidal. There is substantial recruitment of *Zostera* in the LITZ in the pocket beaches. (4) *Alaria marginata*, *Laminaria saccharina*, and *Agarum cribosum* are dense in the LITZ along the entire segment and form dense beds in the subtidal. (5) Barnacle spat (probably *B. glandula*) were abundant in the MITZ and lower UITZ on bedrock, boulders and cobbles throughout the segment. This segment ranks third behind EB-12A and EB-13A in the density of barnacle spat seen during phases I and II. (6) Two species of sea stars, *Dermasterias imbricata* and *Pycnopodia helianthoides*, were remarkably abundant in the low MITZ and LITZ both under and on top of boulders. *Pycnopodia*-excavated pits were abundant in the LITZ in several of the boulder/cobble/pebble pocket beaches. The large numbers of small individuals of both species suggests high recruitment over the past several years. No other species of sea stars were seen on the segment. The sea star assemblage on this segment was very similar to those observed on EB-12A and EB-13A. (7) Clams were abundant in the LITZ in the boulder/cobble/pebble pocket beaches. (8) Filamentous greens

(*Ulva* and *Enteromorpha*) were abundant in tidepools in the UITZ and MITZ, and on boulders and cobbles in the lower MITZ and LITZ. (9) *Mopalia lignosa* and *M. ciliata* were common beneath boulders and cobbles in the low MITZ and upper LITZ. (10) *Strongylocentrotus droebachiensis* were abundant under boulders and cobbles in the LITZ. Individuals ranged from 2-3 cm in test diameter. Abundances at this site are the highest observed in Phases I and II. (11) *Desmarestia kurilensis* was abundant on boulders and bedrock in the LITZ and in the subtidal. This is the only occurrence of this species I've noted in Phases I and II.

ECOLOGY MAP (of)  
Resource Codes For  
Entire Segment

1E  
6Y

EB-15

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

EB-15

ADEC Segment Length: 1468m

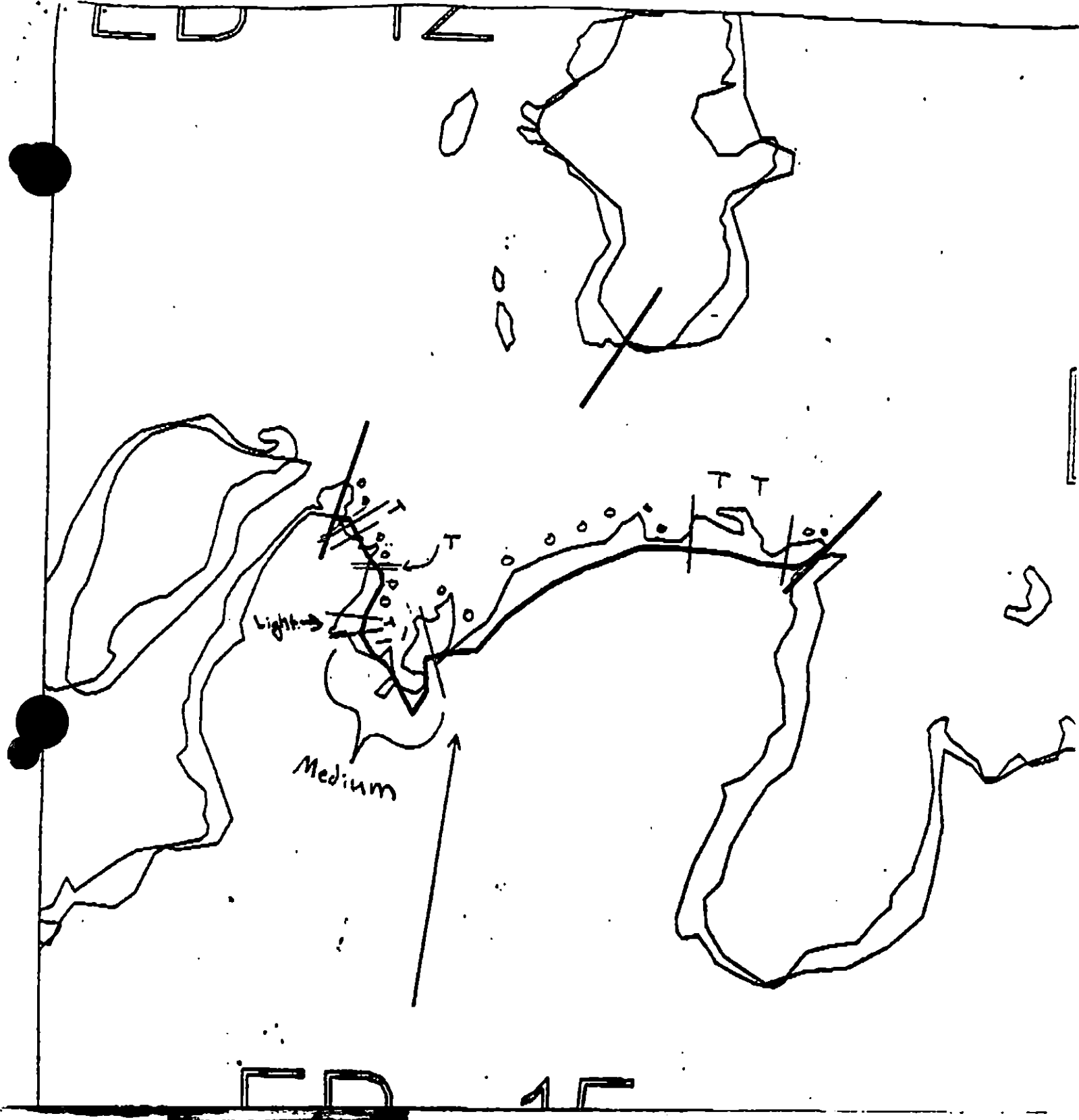
0 100 200 300  
METERS

Map Key: PWS-152

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Data Entered: \_\_\_\_\_





## ADDENDUM: SUBDIVISION CONSTRAINTS

### SEGMENT EB-15 SUBDIVISION A (1 of 1)

| WORK WINDOW   |      |
|---------------|------|
| Manual Pickup | OPEN |

#### ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

#### APPLICABLE ECOLOGICAL TIME CONSTRAINTS

##### 1A,1B Salmon Stream

NO CONSTRAINT. The stream in this subdivision is not an ADF&G catalogued anadromous stream.

##### 1E Main Bay Hatchery Release

No constraint to manual pickup.

##### 5T Bald Eagle Nest

NO CONSTRAINT. USFWS Bald Eagle Survey was completed on 5/22/90 by Mike Lockhart. The work areas are outside the buffer zone established by USFWS.

#### OTHER ECOLOGICAL CONSIDERATIONS

Avoid any unnecessary disturbance or damage to unrolled biota and substrate.

TAG APPROVAL DATE 5/29/90.  
ADEC Art Weiner Art Weiner  
EXXON ANDY TEAR  
NOAA B. G. Scott B. G. Scott  
USCG G. A. Reiter G. A. Reiter

FOSC

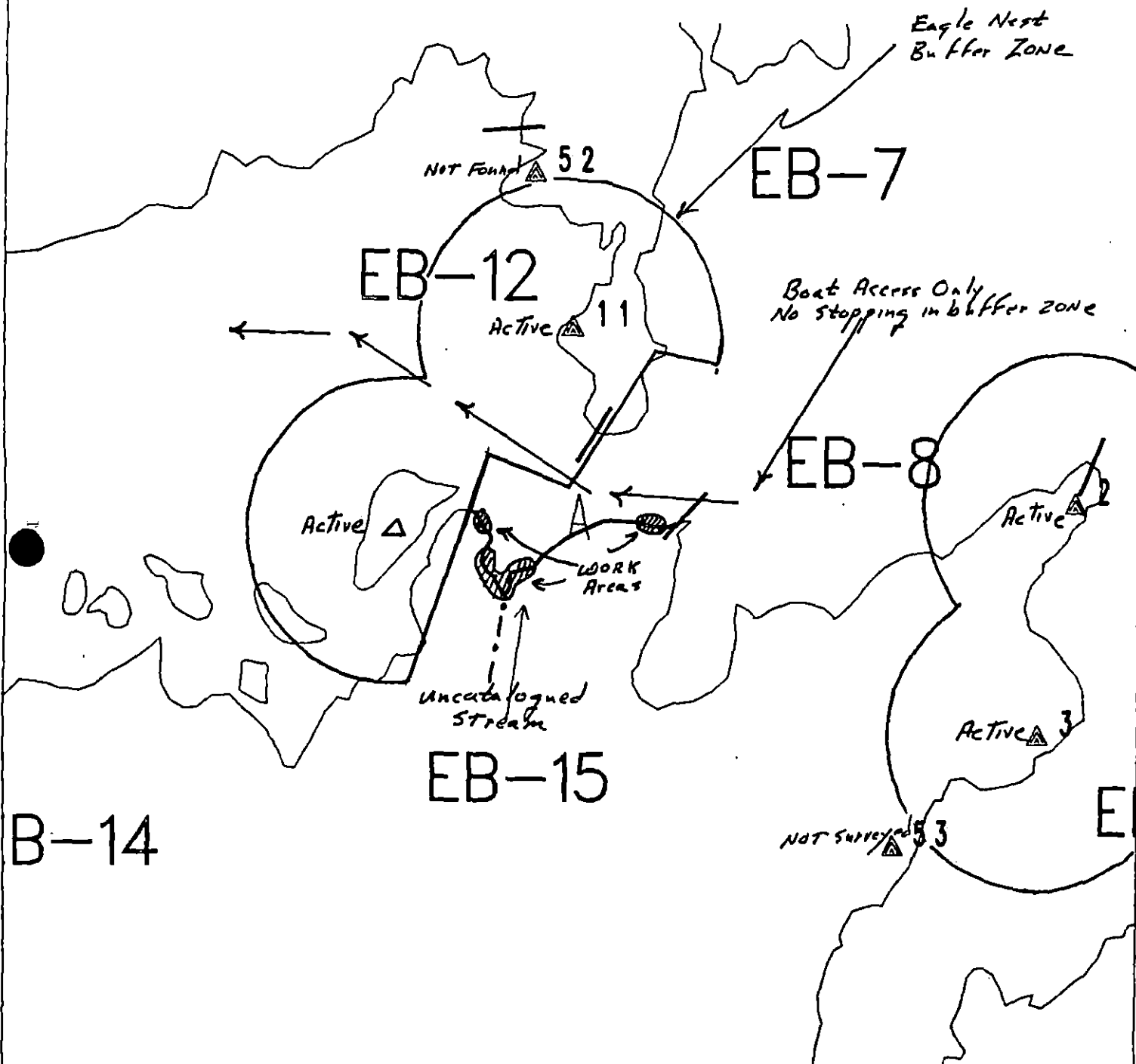
DATE

Prepared By:

Date

Anders Meyer WKS 5/28/90

Incorporates information from  
USFWS Bald Eagle survey 5/22/90



Exxon Company, USA  
Map Key: PWS-EB-15  
May 11, 1990



**ECOLOGY MAP 5/28**  
**SEGMENT EB-15**  
SUBDIVISION A (1 of 1)  
METERS  
0 392 783

★ Seabird Colony  
△ Eagle Nest

1 inch = 1285 feet

SHORELINE EVALUATION

SEGMENT ST/ EB-15 SUBDIVISION A (1 OF 1) DATE 4/25/90

**SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:**

1E Main Bay Hatchery release (4/20 to 6/15)

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

**SUBDIVISION ECOLOGICAL CONSTRAINTS:**

Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

**ARCHAEOLOGICAL CONSTRAINTS:**

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact Exxon's Cultural Resource Program immediately (564-3274 (Anchorage) or 229-1508 (24 hrs.)).

SHPO SIGNATURE: [Signature]

DATE: 5/11/90

**OILING CATEGORIZATION:**

Wide 0 m: Medium 187 m: Narrow 0 m: V.Light 149 m: No Oil 496 m  
Subsurface Oil Observed: Yes      No X Maximum Depth     

**RECOMMENDATIONS:**

     No Treatment Recommended

X Treatment Recommended

X Manual Pickup

   Bioremediation

     Tarmat Removal

     Snare/Absorbent Booms

     Oil Snares (pom poms)

     Absorbents (pads, rolls, etc)

     Spot Washing:      Wands

     Beach Cleaner

     Other (see comments)

COMMENTS: Recommended treatment includes 1) manual pickup of tarballs and oiled sediments (adjacent to anadromous stream) in areas indicated on sketch map, and 2) bioremediation of areas indicated on sketch map. Work should be conducted after 6/15.

See Addendum Dated 5/28/90 WKK

TAG COMMENTS: NO BIOREMEDIATION NECESSARY. MANUAL PICKUP OF DEBRIS + TARBALLS

TAG APPROVAL DATE: 5/11/90.

ADEC Art WEINER Art Weiner

EXXON Amey Tetz Amey

NOAA Joseph Talbot Joseph Talbot

USCG D.D. Rome D.D. Rome

FOSC: [Signature]

DATE: 5-15-90

SHORELINE EVALUATION

SEGMENT ST/ EB-15 SUBDIVISION A (1 OF 1) DATE 4/25/90

**SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:**

1E Main Bay Hatchery release (4/20 to 6/15)

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

**SUBDIVISION ECOLOGICAL CONSTRAINTS:**

Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

**ARCHAEOLOGICAL CONSTRAINTS:**

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact Exxon's Cultural Resource Program immediately (564-3274 (Anchorage) or 229-1508 (24 hrs.)).

SHPO SIGNATURE: J. David M. Mahan DATE: 5/11/90

**OILING CATEGORIZATION:**

Wide 0 m: Medium 187 m: Narrow 0 m: V. Light 149 m: No Oil 496 m  
Subsurface Oil Observed: Yes        No X Maximum Depth       

**RECOMMENDATIONS:**

|                                        |                                                 |
|----------------------------------------|-------------------------------------------------|
| <u>      </u> No Treatment Recommended | <u>      </u> Snare/Absorbent Booms             |
| <u>X</u> Treatment Recommended         | <u>      </u> Oil Snares (pom poms)             |
| <u>X</u> Manual Pickup                 | <u>      </u> Absorbents (pads, rolls, etc)     |
| <u>X</u> Bioremediation                | <u>      </u> Spot Washing: <u>      </u> Wands |
| <u>      </u> Tarmat Removal           | <u>      </u> Beach Cleaner                     |
|                                        | <u>      </u> Other (see comments)              |

COMMENTS: Recommended treatment includes 1) manual pickup of tarballs and oiled sediments (adjacent to anadromous stream) in areas indicated on sketch map, and 2) bioremediation of areas indicated on sketch map. Work should be conducted after 6/15.

TAG COMMENTS: NO BIOREMEDIATION NECESSARY. MANUAL PICKUP OF DEBRIS + TARBALLS

TAG APPROVAL DATE: 5/11/90.

ADEC Art Weiner

EXXON Amy Ter

NOAA Joseph Talbot

USCG D. D. Rome

FOSC: Hy L DATE: 5-15-90

SEGMENT CT/ EB-15

SUBDIVISION A

DATE 4 / 25 90

## SKETCH MAP

## CHECKLIST

☐ N Area  
☐ Approx. Scale  
☐ Seg/Sub Entry  
☐ Oil Dist.  
☐ Width  
☐ Length  
☐ % Cover  
☐ Substrate Character  
☐ Ext. HWL/LWL  
☐ SSL  
☐ Profile Location(s)  
☐ Profile(s)  
☐ PR Location(s)  
☐ Photo Location(s)

## LEGEND

1  $\Delta$   
 PR - No Subsurface Oil  
 2  $\Delta$   
 PR - Subsurface Oil  
 CT/C  
 Continuous Distribution  
 CT/B  
 Broken Distribution  
 CT/P  
 Patchy Distribution  
 CT/S  
 Splashed Distribution  
 Oil Vegetation

Photo location, direction, and number

Width (m)

Length (m)

% cover

Oil Character Length (m): AP PO CV CT 300 ST MS 300 PT TB FL NO

Total of zones where scattered MS balls occur.

MANUALLY PICKUP  
TARBALLS IN 3  
AREAS

Scattered tar balls.  
Leaving 2-3 m.

Black oil coat mixed with pine needles.  
Also scattered tar: balls, leaving 2-5 m.  
4-8 cm, 2-10 cm thick. Aggregated with  
pine needles. Oil on surface of  
boulders & cobble. No subsurface  
oiling.

Coat is sticky  
& black.

CT/S + scattered tar balls.  
Small boulders on  
shallow or exposed bedrock  
VI MI LI  
50 M

Near HWL. Oil coat  
mixed with pine needles.  
Also scattered tar: balls  
leaving 5-8 m. Balls 2-3 cm,  
mixed with pine needles.

End of Segment

Start of Segment

Bedrock Pt.

Forest

Profile

BIOREMEDIATE  
OILED SEDIMENTS

MANUALLY REMOVE  
OILED SEDIMENTS

||||| = Bedrock

oiled zone shaded

VI MI LI  
60 M

Meters

0 100 200

N

ECOLOGY MAP (1 of 1)  
Resource Codes For  
Entire Segment

1E  
6Y

EB-15

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

EB-15

ADEC Segment Length: 1468m

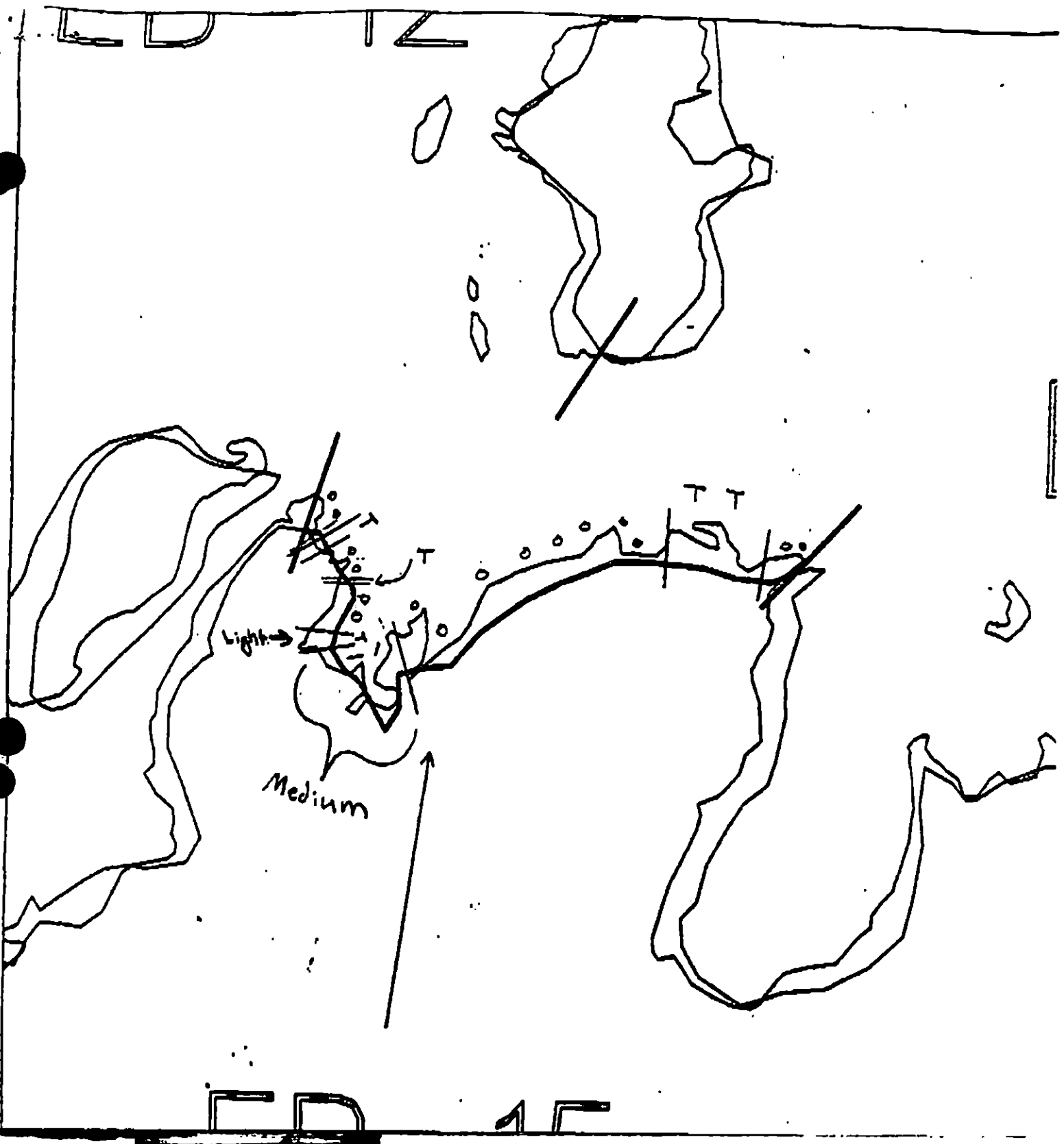
0 100 200 300  
METERS

Map Key: PWS-152

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Date Entered: \_\_\_\_\_



1991 MAYSAP EVALUATION

SEGMENT: EI 001 SUB: A REGION: HOM SURVEY DATE: 5/11/91

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) RESTRICTED 3/1 - 9/15

Ecological/Constraints (see page two for details) Seabird colony,  
Pinniped haulout, Eagle nest, Anadromous stream

ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is  
required prior to shoreline treatment.

SHPO Signature: \_\_\_\_\_ Date: \_\_\_\_\_

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL: \_\_\_\_\_

TAG: \_\_\_\_\_

FOSC: \_\_\_\_\_

TAG APPROVAL DATE: \_\_\_\_\_

FOSC APPROVAL DATE: \_\_\_\_\_

ADEC \_\_\_\_\_

FOSC \_\_\_\_\_

EXXON \_\_\_\_\_

USCG \_\_\_\_\_

NOAA \_\_\_\_\_



**ECOLOGICAL CONSTRAINTS  
1991 FIELD ACTIVITIES**

**Seabird Colony:** Access restricted. USF&WS authorization required after 5/15. Maintain 1000' vertical and 1/2 mile horizontal buffer.

**Pinniped Haulout:** Access restricted from 5/15 to 6/30 and 8/15 to 9/15 unless approved by NMFS. Maintain 1000' vertical and 1/2 mile (3 mile for sea lions at all times) horizontal buffer.

**Eagle Nest:** Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.

**Anadromous Stream:** Unlimited treatment up to stream bank between May 15 and July 10. ADF&G approval required for work after July 10. Fish Habitat Permit required for instream work. ADF&G approval required for bioremediation within 100 meters of anadromous stream after July 10.

# MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 6-Helo SEGMENT EI-1 SUBDIVISION A DATE 11 May 1991

ADEC

NAME DOUG HILL (ADFG) SIGNATURE Douglas Hill

☐ NTR ☐ TR A valid survey was conducted <sup>only</sup> on the beach portion of this segment. A valid and thorough survey of the anadromous fish system within segment EI-1 was not conducted due to excessive water level. I would recommend no treatment of the beach portion of this segment. With regards to the anadromous system, in '89 & '90 the water level did not drop to a point where the majority of the oil could be observed and removed until July. Oil has been observed throughout the lake and stream in the form of MS, TB, TP, ST, CT, CV, AP. A proper survey can not be conducted until the water level drops. Nonetheless, a preliminary survey of the north shore of the creek up to the lake was conducted on this date. Oil in the form of TB, AP, CV, CT & ST was observed within the stream and on the bank from the beach up to the lake (oil in "small quantities"). Treatment recommendation(s) can not be made until a valid survey is conducted of the ~~and~~ anadromous portion. In 1989 & 1990 tarballs & patties with "little" sediment ~~were~~ found in the lake and stream.

EXXON

NAME R. Coulter SIGNATURE Ray R. Coulter

☒ NTR WE REMOVED EVERYTHING WE FOUND HERE. THE TAR PATTIES WERE COMPOSED OF PRIMARILY FINE GRAIN SEDIMENTS WITH VERY LITTLE WEATHERED OIL HOLDING THEM TOGETHER. WE DID FIND ONE SMALL (12-15 cm<sup>2</sup>) PATTY WHICH WAS SOFT "MOUSSEY" AND DURABLE. IT ALSO CONTAINED A VERY HIGH PERCENTAGE OF SEDIMENTS. ADEC REP INDICATED THAT IT WAS SIMILAR TO THOSE THAT WERE UNDERWATER IN THE SMALL POND. EVERYTHING WAS VERY WEATHERED. CONSIDERING THAT THE POND BOTTOM APPEARS TO BE COMPOSED OF VERY FINE GRAIN SEDIMENTS, REMOVAL (OR ATTEMPT AT REMOVING) OF ANY PATTIES WOULD BE DIFFICULT AND PROBABLY FORCE SEDIMENT FINES INTO THE WATER COLUMN. FOUND

LANDMANAGER

NAME JEFF JOHNSON OF ADNR

SIGNATURE Jeff Johnson (See signature)

☐ NTR Was not on the survey team for this survey. However, I was briefed by Steve Ferguson (DEC) and Doug Hill (ADFG). Having worked with Doug and Steve on other surveys, I will concur with Hill's comments. I will not be able to make a treatment recommendation until the small tidal lagoon is able to be surveyed.

John DEC REP FERGUSON → AGREE WITH STATEMENTS MADE BY DO. HILL (ADFG)

USCG/NOAA

NAME JENSEN / G. SHIGENAKA SIGNATURE G. Shigenaka

☐ NTR "NTR" on beach part of this segment. There is no longer any detectable oil present on the water, adjoining shorelines, or places where it is likely to reach the water again. Walked up the anadromous stream to the mouth of the lake but didn't complete the survey of the lake due to the high water level. Found a few very small mouse patties along bank. Water clear in stream and mouth of lake. I wouldn't recommend any cleanup if the rest of the lake banks continue to be similar to what we observed. SEGMENT IS BISECTED BY ANADROMOUS STREAM FLOWING DOWN FROM NEARBY SMALL LAKE. TO THE NORTH OF THE STREAM, THE BEACH IS A PEBBLE-GRAIN BEACH THAT BECOMES ROCKIER TO THE NORTH. NO OIL WAS OBSERVED NORTH OF THE STREAM. SOUTH OF THE STREAM, THE BEACH IS CHARACTERIZED BY BOULDERS. A FEW SMALL PATCHES OF COAT WERE OBSERVED ON SHOREWARD FACES OF BOULDERS BUT THESE WERE MINOR OCCURRENCES. TIME AND WEATHER PERMITTED EXAMINATION OF THE STREAM BANK (PARTICULARLY ON THE NORTH SIDE) AND THE EDGE OF THE LAKE. PATCHES OF WEATHERED MOUSSE AND MOUSSE/SAND CONGLOMERATES WERE OBSERVED ALONG THE STREAM AND REMOVED BY VECO CREW. (PREVIOUSLY COLLECTED OIL DEBRIS ALSO REMOVED BY VECO CREW). ALTHOUGH THIS AREA STILL CONTAINS OIL, FURTHER REMOVAL BEYOND SIMPLE MANUAL PICKUP WOULD LIKELY BE HIGHLY DISRUPTIVE.

PAGE 1 OF 1

SEGMENT EI-1

SUBDIVISION A

DATE 11 MAY 191

ENERGY LEVEL: ☒ H ☐ M ☐ L

WEATHER: ☐ SUN ☒ CLOUDS ☐ FOG ☐ RAIN ☐ SNOW

NEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONE

EST. OIL CATEGORY LENGTH: W - m M - m N - m VL 151 m NO 1019 m US 818 m

\*

**SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE**

SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE PHOTO ROLL # MAYSAP- 6 - 11 FRAMES 1 - 11

[illegible]

**SHEEN COLOR: B = BROWN: R = RAINBOW: S = SILVER: N = NONE**

**OG COMMENTS:** Site is a pocket sand, pebble, cobble beach with boulders and bedrock outcrops toward the headland areas. In the center of the beach an anadromous stream drains a nearby shallow pond. Oiling of this beach consists of 1. stains on vertical bedrock at the northern end of beach, 2. very sporadic coats and stains along 150m length shoreline in cracks of bedrock and boulders, and 3. some infrequent tar patties along the creek bank and channel. For the most part, these patties have a very high sediment content. All the patties found by the team were picked up. In addition, a pail of oil and bag of oiled sediment left behind by a former cleanup effort, were removed.

revised 5/14/01 k.c.

-  ALGAE
-  Bedrock cliff
-  GRASSY AREA
-  Drowned Forest
-  PHOTO SITES

Sketch 9P (06)  
EI-1-A  
D. FITE GERALD  
11 MAY 1991  
845-950

\* P.U. - 3 bags  
Removed including  
5 gallon bucket of  
mousse and 30lb  
bag of oiled  
sediment.

C. TB/CT  
1 by 200 m, < 1%  
Along creek bank  
All seen was P.U.

B. CT/ST  
2 by 150 m, < 1%  
Very discontinuous  
Behind boulder and  
in shelter areas

A. ST  
1 m < 1%  
drip marks on  
bedrock and boulders

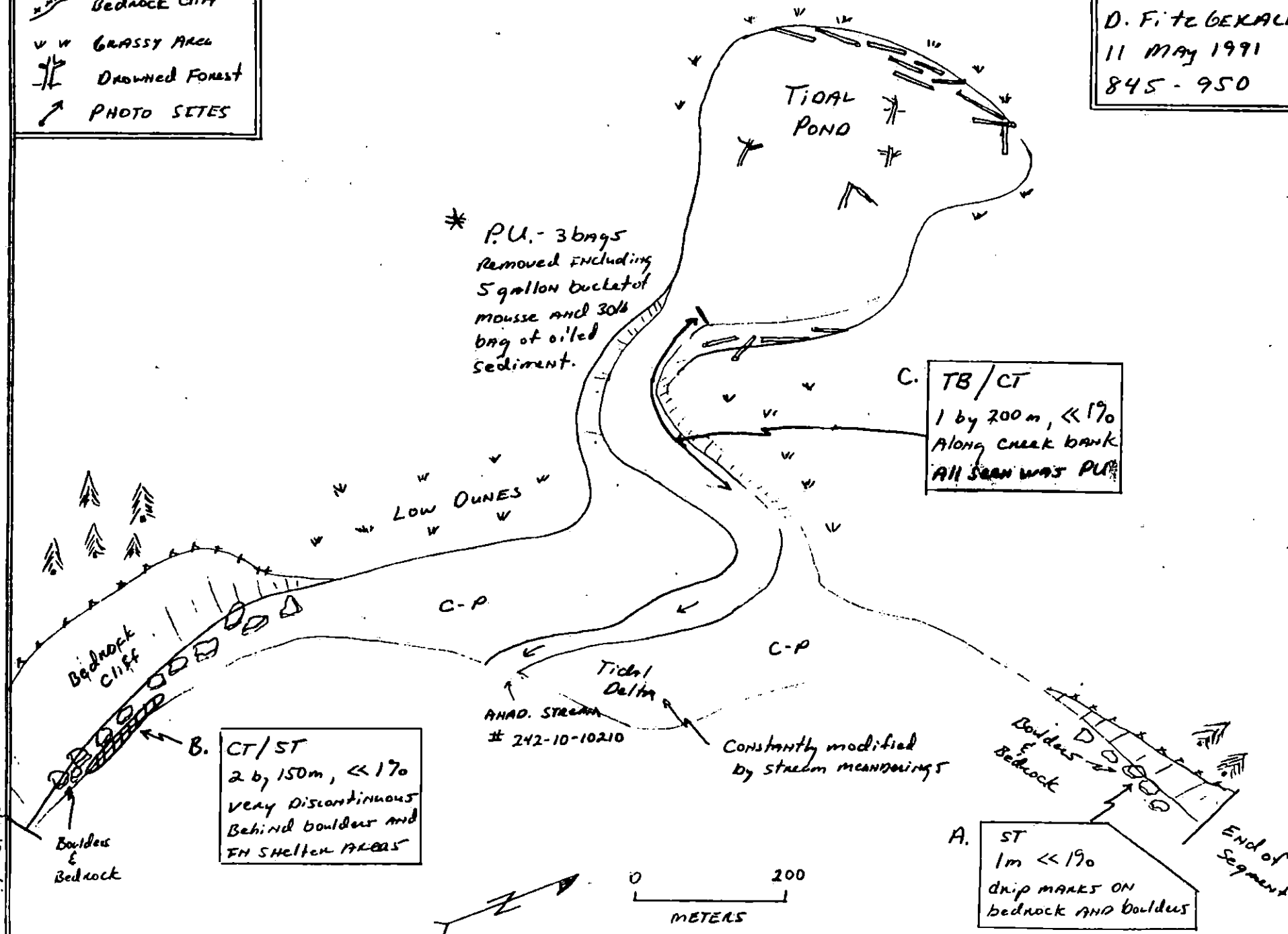
ANAD. STREAM  
# 242-10-10210

Constantly modified  
by stream meandering



0 200  
METERS

Reviewed 5/14/91 KCS  
Reviewed 6/14/91





Evergreen



Bedrock cliff



Grassy Area



Drowned Forest



PHOTO SITES

Photo sites,

FRAMES 6 THRU 11  
ROLL 6-11

Sketch MAP (06)

EI-1-A

D. FITZGERALD

11 May 1991

845-950

\* P.U. - 3 bags  
Removed including  
5 gallon bucket of  
mousse and 30lb  
bag of oiled  
sediment.

C. TB/CT

1 by 200m, < 170  
Along creek bank  
All seen was P.U.

LOW DUNES

#8  
C-P

C-P

Bedrock  
Cliff

#10

B.

CT/ST

2 by 150m, < 170  
Very discontinuous  
Behind boulders and  
EN shelter areas

Boulders  
&  
Bedrock

ANAD. STREAM  
# 242-10-10210

Tidal  
Delta

Constantly modified  
by stream meanderings

Boulders  
&  
Bedrock

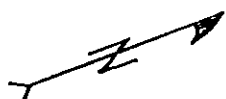
A.

ST

1m < 170

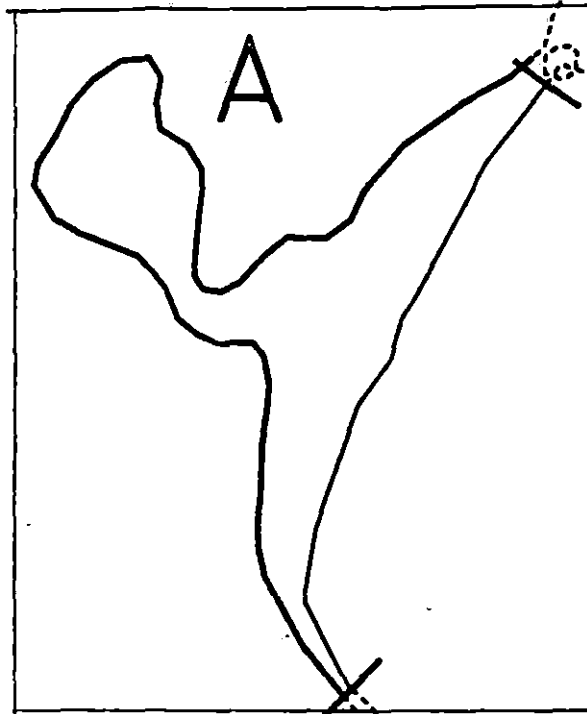
drip MARKS ON  
bedrock AND boulders

End of  
Segment



0 200  
METERS

MAP # 1



E1001 A

METERS



AK State Plane Zone 4  
NAD83

Subdivision Field Map

Map Key: E1001A

Name: D. Fitzgerald

Date: 11 May 1991

# **HAYSAP BIOLOGICAL SUMMARY FORM**

**TEAM #** 6 Helo

**DATE** May 11 1991

**SEGMENT #** EC-01

**TIDAL HEIGHT (Range)** 3ft - 5ft (CS-45 - CS-52)

**SUBDIVISION** A

**BIOLOGIST** H. Davis

**SEA STATE** 2 ft

**WIND SPEED/DIRECTION** 0-5 mph

**PHOTOGRAPHS: ROLL #** 6-11

**FRAME #** 6-11

## **COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):**

A. The drops are in the supratidal zone on boulders with verrucaria and a few littorina. Below this area is the UITZ which has a sparse biota of Barnacles, littorina, porphyria, entomomorpha, mussels (rare), and some spots of Fucus.

B. Side B is in the UITZ. Most of the biota is sparse and growing in a near crevices on the boulders. Mussels are sparse and small. Barnacles are sparse, littorina moderately dense.

Below the SITZ and UITZ at each end of the surveyed segment is a darker MITZ. Fucus, Endocladia, Halosaccion, (brides?), coralline algae, Matsumia, Epigastria and Rhodamela. Laminaria, Alaria and anthopleura can be seen in the LITZ.

C. TB/CT along the creek bank. Coho salmon spawn in this stream. River Otter tracks were seen along the banks.

There was a fresh bird kill on the western side of the creek. The small mammal (Probably River Otter. The tracks were blurry) left only blood and brown pattern.

Mallards (2) Winter Wren (1)

Cormorants (3) Kittiwakes (2) Glaucous winged Gulls (2)

## **WILDLIFE OBSERVATIONS**

**TO BE COMPLETED IN ALL SUBDIVISIONS**

| BIRDS                                  | # OF SPECIES | TOTAL BIRDS | FISH OBSERVED<br>SPECIES PRESENT |
|----------------------------------------|--------------|-------------|----------------------------------|
| Eagles                                 | 1            | 2 adults*   | Sculpin                          |
| Seabirds                               | 1            | 3           | * Coho not seen                  |
| Waterfowl                              | 1            | 2           | Supposed to be in stream         |
| Gulls/Kittiwakes                       | 2            | 4           |                                  |
| Shorebirds                             | 0            | -           |                                  |
| Corvids                                | 0            | -           |                                  |
| Other Birds <small>Winter Wren</small> | 1            | 1           |                                  |

\* Both were seen during an aborted previous visit. No nest was seen.

## **LAND MAMMALS**

| MARINE MAMMALS      | # OBSERVED | SPECIES            | # OBSERVED |
|---------------------|------------|--------------------|------------|
| Sea Otters          | 0          | River Otter tracks |            |
| Pinnipeds (specify) | 0          |                    |            |
| Whales (specify)    | 0          |                    |            |

Shoreline subdivision map showing important biological features attached.



ALGAL REEF



Bedrock Cliff



Grassy Area



Drowned Forest



PHOTO SITES

Bio Map

H. Davis

Sketch 9P (06)

EI-1-A

D. FITZGERALD

11 May 1991

845-950

TIDAL  
PONDRiver  
often  
trucks

C. This stream/pond is anadromous. A family of river otters has been reported here and other tracks were found. The TB/CT is below the level of the grassland in among the drift along the banks.

C.

TB/CT

1 by 200 m,  $\ll 1\%$   
Along creek bank  
All seen was PU

A. There was vermicorn in the vicinity of the drops and some littorina. Below this was a zone of sparse biota (Barnacles, littorina, limpets, and a few mytilus) the METZ was richer in diversity but only moderately dense.

A.

ST  
1 m  $\ll 1\%$   
drip makes on  
bedrock and boulders

End of  
Segment

\*

P.U. - 3 bags  
Removed including  
5 gallon bucket of  
mousse and 30 lb  
bag of oiled  
sediment.

B. The discontinuous CT/ST at site B. is in an area of sparse biota. Barnacles, littorina, and mussels are in the crevices of boulders. Patches of Porphyra and Enteromorpha are on the tops and sides of the rocks. Lower down are areas of denser algal growth

LOW DUNES

C-P

C-P

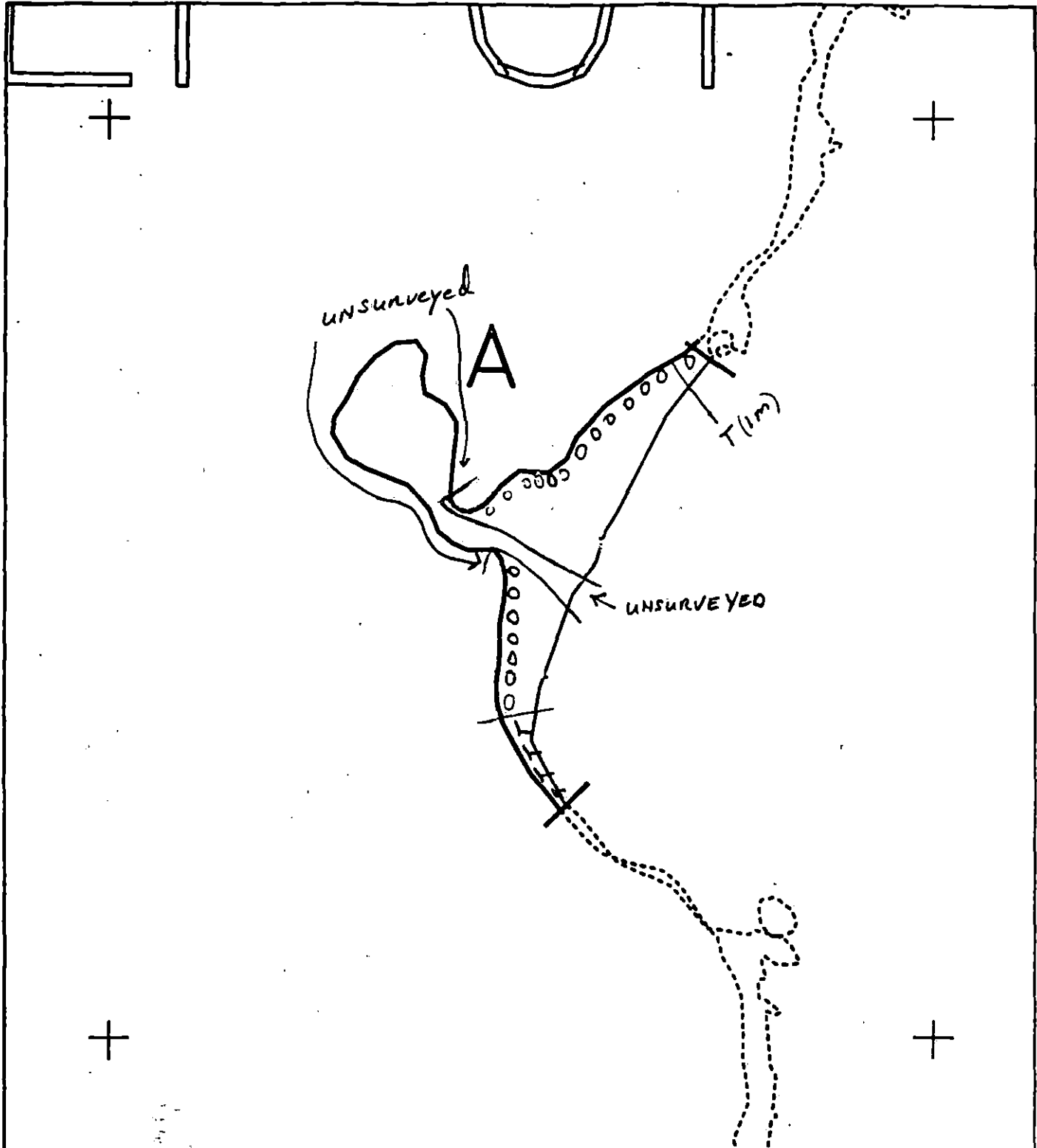
Bedrock  
Cliff

B.

CT/ST  
2 by 150 m,  $\ll 1\%$   
Very discontinuous  
Behind boulder and  
FH shelter areas

Boulders  
&  
BedrockANAD. STREAM  
# 242-10-10210Tidal  
DeltaConstantly modified  
by stream meanderingBoulders  
Bedrock0 200  
METERS





XXXX Wide  
 //// Medium  
 ---- Narrow  
 TTTT Very Light  
 0000 No Oil

**E1001 A**  
 ADEC Subsegment Length: 1638m  
 METERS

0 200 400  
 AK State Plane Zone 4  
 NAD83



Subdivision Field Map  
 Map Key: KENE1001A  
 Name: D. Fitzgerald  
 Date: 11 May 1991  
 Date Entered:

revised 5/14/91 KG  
 REVIEWED CB 14 MAY

# 1991 MAYSAP EVALUATION

SEGMENT: EI 001 SUB: A REGION: HOM SURVEY DATE: 5/11/91

## ENVIRONMENTAL SENSITIVITIES:

Work Window(s) RESTRICTED 3/1 - 9/15

Ecological/Constraints (see page two for details) Seabird colony, Pinniped haulout, Eagle nest, Anadromous stream

## ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO Signature: Rebel Dan Dan

Date: 5/21/91

## RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

N

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

## COMMENTS:

INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: MAY 21 1991

FOSC APPROVAL DATE: 5/26/91

ADEC

FOSC

EXXON

USCG

NOAA

The state will consider a resurvey of this site.

**ECOLOGICAL CONSTRAINTS  
1991 FIELD ACTIVITIES**

**Seabird Colony:** Access restricted. USF&WS authorization required after 5/15. Maintain 1000' vertical and 1/2 mile horizontal buffer.

**Pinniped Haulout:** Access restricted from 5/15 to 6/30 and 8/15 to 9/15 unless approved by NMFS. Maintain 1000' vertical and 1/2 mile (3 mile for sea lions at all times) horizontal buffer.

**Eagle Nest:** Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.

**Anadromous Stream:** Unlimited treatment up to stream bank between May 15 and July 10. ADF&G approval required for work after July 10. Fish Habitat Permit required for instream work. ADF&G approval required for bioremediation within 100 meters of anadromous stream after July 10.

# MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 6-Helo SEGMENT EI-1 SUBDIVISION A DATE 11/10/91

## ADEC

NAME DOUG HILL (ADFG) SIGNATURE Douglas Hill

☐ NTR ☐ TR A valid survey was conducted <sup>only</sup> on the beach portion of this segment. A valid and thorough survey of the anadromous fish system within segment EI-1 was not conducted due to excessive water level. I would recommend no treatment on the beach portion of this segment. With regards to the Anadromous system, in 1989 & 90 the water level did not drop to a point where the majority of the oil could be observed and removed until July. Oil has been observed throughout the lake and stream in the form of MS, TB, TP, ST, CT, CV, AP. A proper survey can not be conducted until the water level drops. Nonetheless, a preliminary survey of the north shore of the creek up to the lake was conducted on this date. Oil in the form of TB, APCV, CT & ST was observed within the stream and on the bank from the beach up to the lake (oil in "small quantities"). Treatment recommendations can not be made until a valid survey is conducted of the ~~anadromous portion~~. In 1989 & 1990 tarballs & patties with "little sediment" were found in the lake and stream.

## EXXON

NAME R. Coulter SIGNATURE Ray R. Coulter

☒ NTR WE REMOVED EVERYTHING WE FOUND HERE. THE TAR PATTIES WERE COMPOSED OF PRIMARILY FINE GRAIN SEDIMENTS WITH VERY LITTLE WEATHERED OIL HOLDING THEM TOGETHER. WE DID FIND ONE SMALL (12-15 cm<sup>2</sup>) PATTY WHICH WAS SOFT "MOUSSEY" AND PLIABLE. IT ALSO CONTAINED A VERY HIGH PERCENTAGE OF SEDIMENTS. ADEC REP. INDICATED THAT IT WAS SIMILAR TO THOSE THAT WERE UNDERWATER IN THE SMALL POND. EVERYTHING WAS VERY WEATHERED. CONSIDERING THAT THE POND BOTTOM APPEARS TO BE COMPOSED OF VERY FINE GRAIN SEDIMENTS, REMOVAL (OR ATTEMPT AT REMOVING) OF ANY PATTIES WOULD BE DIFFICULT AND PROBABLY FORCE SEDIMENT FINES INTO THE WATER COLUMN. FOUND

## LANDMANAGER

NAME JEFF JOHNSON OF ADNR

SIGNATURE Jeff Johnson (See signature)

☐ NTR Was not on the survey team for this survey. However, I was briefed by Steve Ferguson (DEC) and Doug Hill (ADFG). Having worked with Doug and Steve on other surveys, I will concur with Hill's comments. I will not be able to make a treatment recommendation until the small tidal lagoon is able to be surveyed.

Jeff DEC Rep FERGUSON → AGREE WITH STATEMENTS MADE BY DO. HILL (ADFG)

## USCG/NOAA

NAME JENSEN / G. SHIGENAKA SIGNATURE Gary Shigenaka

☐ NTR "NTR" on beach part of this segment. There is no longer any detectable oil present on the water, adjoining shoreline, or places where it is likely to reach the water again. Walked up the Anadromous stream to the mouth of the lake but didn't complete the survey of the lake due to the high water level. Found a few very small mousse patties along bank. Water clear in stream and mouth of lake. I wouldn't recommend any cleanup if the rest of the lake banks continue to be similar to what we observed.

SEGMENT IS BISECTED BY ANADROMOUS STREAM FLOWING DOWN FROM NEARBY SMALL LAKE. TO THE NORTH OF THE STREAM, THE BEACH IS A PEBBLE-GRAVILE BEACH THAT BECOMES ROCKIER TO THE NORTH. NO OIL WAS OBSERVED NORTH OF THE STREAM. SOUTH OF THE STREAM, THE BEACH IS CHARACTERIZED BY BOULDERS. A FEW SMALL PATCHES OF COAT WERE OBSERVED ON SHOREWARD FACES OF BOULDERS BUT THESE WERE MINOR OCCURRENCES. TIME AND WEATHER PERMITTED EXAMINATION OF THE STREAM BANK (PARTICULARLY ON THE NORTH SIDE) AND THE EDGE OF THE LAKE. PATCHES OF WEATHERED MOUSSE AND MOUSSE/SAND CONGLOMERATES WERE OBSERVED ALONG THE STREAM AND REMOVED BY VECO CREW. (PREVIOUSLY COLLECTED OIL DEBRIS ALSO REMOVED BY VECO CREW). ALTHOUGH THIS AREA STILL CONTAINS OIL, FURTHER REMOVAL BEYOND SIMPLE MANUAL PICKUP WOULD LIKELY BE HIGHLY DISRUPTIVE.

PAGE 1 OF 1

DATE 11 / MAY / 91

ENERGY LEVEL: ☒ H ☐ M ☐ L

WEATHER: ☐ SUN ☒ CLOUDS ☐ FOG ☐ RAIN ☐ SNOW

NEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONE

EST. OIL CATEGORY LENGTH: W    m M    m N    m VL 151 m NO 1669 m US 818 m

DISTRIBUTION: C = 91-100%; B = 51-90%; P = 11-50%; S = 1-10%; T = <1%

**SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE**

SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE PHOTO ROLL # MAYSAP- 6 - 11 FRAMES 6 - 11

SHEEN COLOR: B - BROWN: R - RAINBOW: S - SILVER: N - NONE

**OG COMMENTS:** Site is a pocket sand, pebble, cobble beach with boulders and bedrock outcrops toward the headland areas. In the center of the beach an anadromous stream drains a nearby shallow pond. Oiling of this beach consists of 1. stains on vertical bedrock at the northern end of beach, 2. very sporadic coats and stains along 150m length shoreline in cracks of bedrock and boulders, and 3. some infrequent tar patties along the creek bank and channel. For the most part, these patties have a very high sediment content. All the patties found by the team were picked up. In addition, a pair of 5 gal. of oil and bag of oiled sediment left behind by a former cleanup effort, were removed.

revised 5/14/91.KG

REVIEWED CA 14 MAY



CR. GREEK



Bedrock cliff



GRASSY AREA



Drowned Forest



PHOTO SITES

Sketch 9P (06)

EI-1-A

D. FITE GERALD

11 May 1991

845-950

\* P.U. - 3 bags removed including 5 gallon bucket of mousse and 30lb bag of oiled sediment.

C. TB/CT

1 by 200 m, < 1%  
Along creek bank  
All seen was PU

LOW DUNES

C-P

C-P

Tidal Delta

ANAD. STREAM  
# 242-10-10210

Constantly modified  
by stream meandering

B. CT/ST

2 by 150 m, < 1%  
Very discontinuous  
Behind boulder and  
in sheltered areas

A.

ST  
1 m < 1%  
drip marks on  
bedrock and boulders

END of  
Segment



0 200  
METERS

Reviewed 5/14/91  
Reviewed 6/14/91

- ↗ PHOTO SITES

Photo sites,

FRAMES 6 THRU 11  
ROLL 6-11

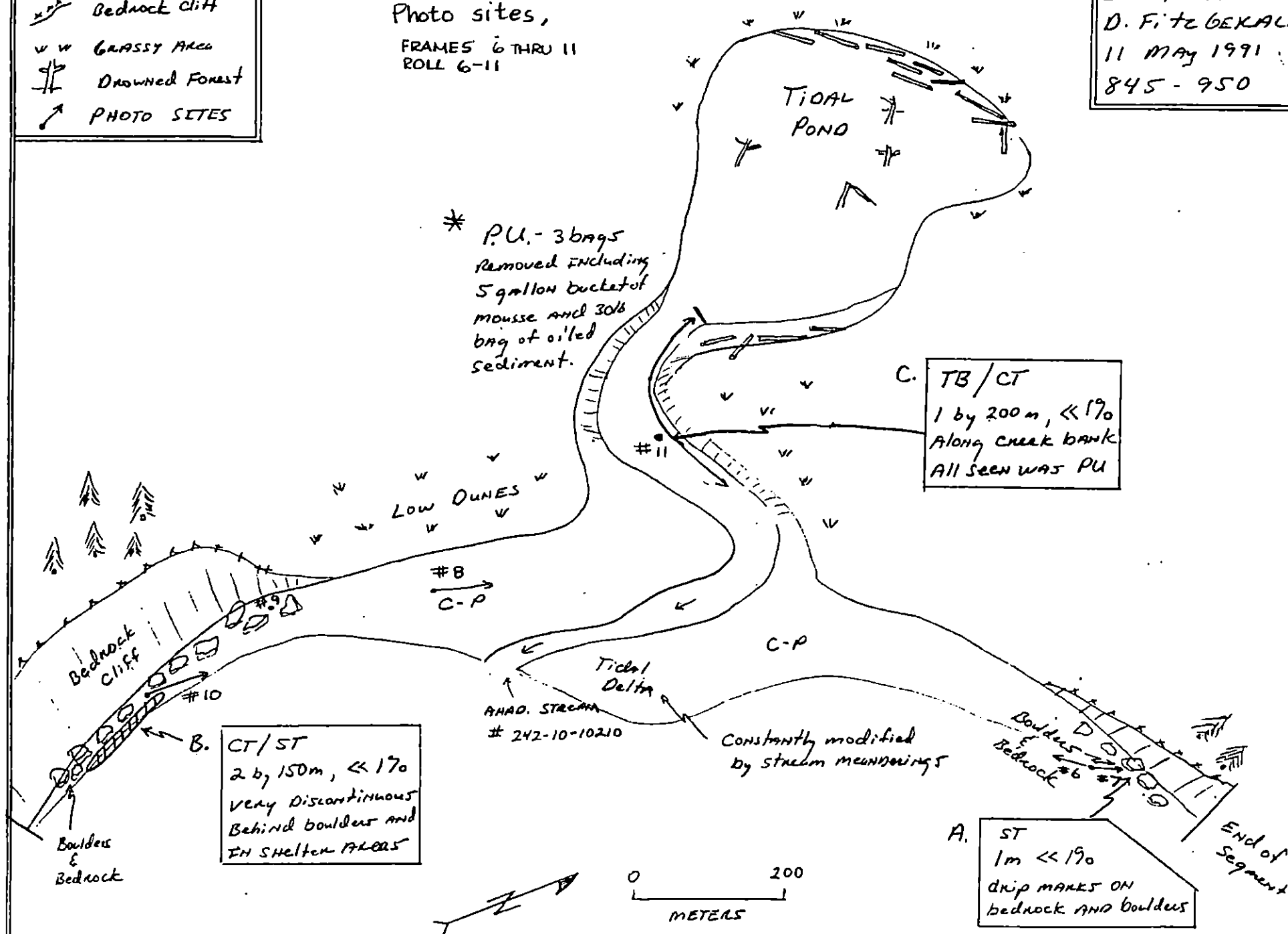
Sketched MAP (06)

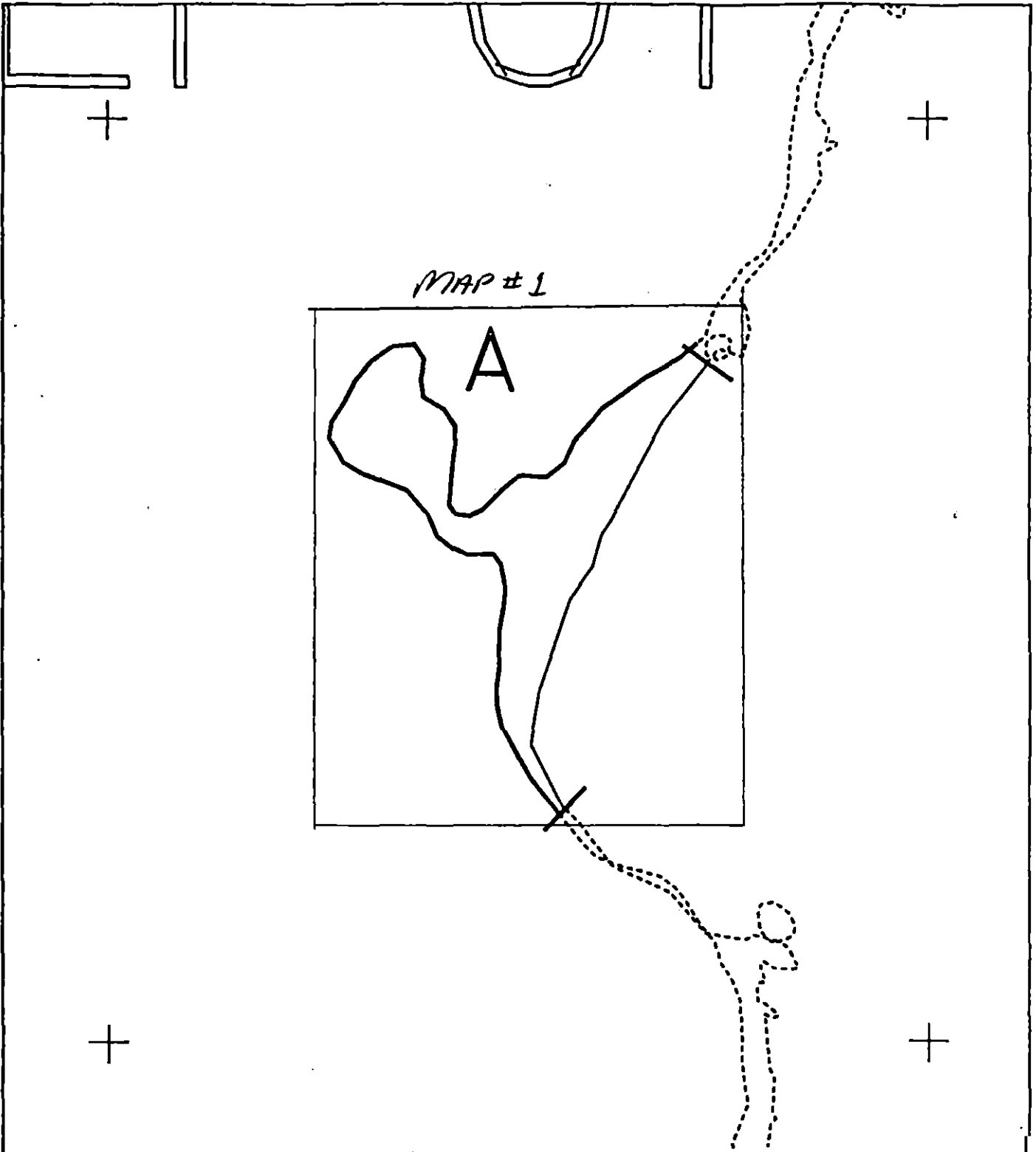
EI-1-A

D. FITZGERALD

11 May 1991

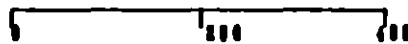
845 - 950



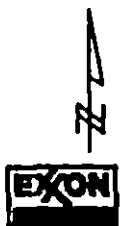


E1001 A

METERS



AS State Plans, Spec 4  
00100100



Subdivision Field Map

Map Key: KEN21001AB

Name: D. Fitzgerald

Date: 11 May 1991



# MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 6 Helo

DATE May 11 1991

SEGMENT # EI-01

TIDAL HEIGHT (Range) 3ft - 5ft (LS 45 - C4:52)

SUBDIVISION A

BIOLOGIST H. Davis

SEA STATE 2 ft

WIND SPEED/DIRECTION 0-5 mph

PHOTOGRAPHS: ROLL # 6-11

FRAME # 6-11

## COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):

A. The drops are in the supratidal zone on boulders with verrucaria and a few littorina. Below this area is the LITZ which has a sparse biota of Barnacles, littorina, porphyria, entomomorpha, mussels (Rare), and some spots of Fucus.

B. Sea B is in the LITZ. Most of the biota is sparse and growing in a few crevices on the boulders. Mussels are sparse and small. Barnacles are sparse, littorina moderately dense.

Below the SITZ and LITZ at each end of the surveyed segment is a richer MITZ. Fucus, Endocladia, Halosaccion, (Ardea?) coralline algae, Kattarian, Epiactus and Rhodocela, laminaria, Alaria and anthopleura can be seen in the LITZ.

C. TB/CT along the creek bank. Coho salmon spawn in this stream. River Otter tracks were seen along the banks.

There was a fresh bird kill on the western side of the creek. The smallest mammal (Possibly River Otter. The tracks were blurry) left only blood and brown feather.

Mallards (2) Winter Wren (1)

Cormorants (3) Kittiwakes (2) Glaucous winged Gulls (2)

## WILDLIFE OBSERVATIONS

### TO BE COMPLETED IN ALL SUBDIVISIONS

| BIRDS                                  | # OF SPECIES | TOTAL BIRDS | FISH OBSERVED SPECIES PRESENT |
|----------------------------------------|--------------|-------------|-------------------------------|
| Eagles                                 | 1            | 2 adults*   | Sculpin                       |
| Seabirds                               | 1            | 3           | * Coho not seen               |
| Waterfowl                              | 1            | 2           | Supposed to be in stream      |
| Gulls/kittiwakes                       | 2            | 4           |                               |
| Shorebirds                             | 0            | -           |                               |
| Corvids                                | 0            | -           |                               |
| Other Birds <small>Winter Wren</small> | 1            | 1           |                               |

\* Both were seen during an aborted previous visit. No nest was seen.

## LAND MAMMALS

| MARINE MAMMALS      | # OBSERVED | SPECIES            | # OBSERVED |
|---------------------|------------|--------------------|------------|
| Sea Otters          | 0          | River Otter tracks |            |
| Pinnipeds (specify) | 0          |                    |            |
| Whales (specify)    | 0          |                    |            |

Shoreline subdivision map showing important biological features attached.



CGREEX



Bedrock cliff



GRASSY AREA



Drowned Forest



PHOTO SITES

Bio Map  
H. Davis

Sketch 1 P (06)

EI-1-A

D. F. T. GERALD

11 May 1991

845-950

\* P.U. - 3 bags  
Removed including  
5 gallon bucket of  
mousse and 30lb  
bag of oiled  
sediment.

B. The discontinuous CT/ST at site B.  
is in an area of sparse biota. Barnacles,  
littorina, and mussels are in the crevices  
of boulders. Patches of Porphyra and  
Enteromorpha are on the tops and sides  
of the rocks. Lower down are areas of  
denser algal growth.

C. This stream/pond is anadromous. A family  
of river otters has been reported here and  
otter tracks were found. The TB/CT is  
below the level of the grassland in  
among the drift along the bank.

C. TB/CT  
1 by 200 m, < 1%  
Along creek bank  
All seen was PU

A. There was vermicorn in the vicinity  
of the drips and some lettering.  
Below this was a zone of sparse biota  
(Barnacles, littorina, limpets, and a few  
mussels) the METZ was richer in diversity  
but only moderately dense.

C-P

C-P

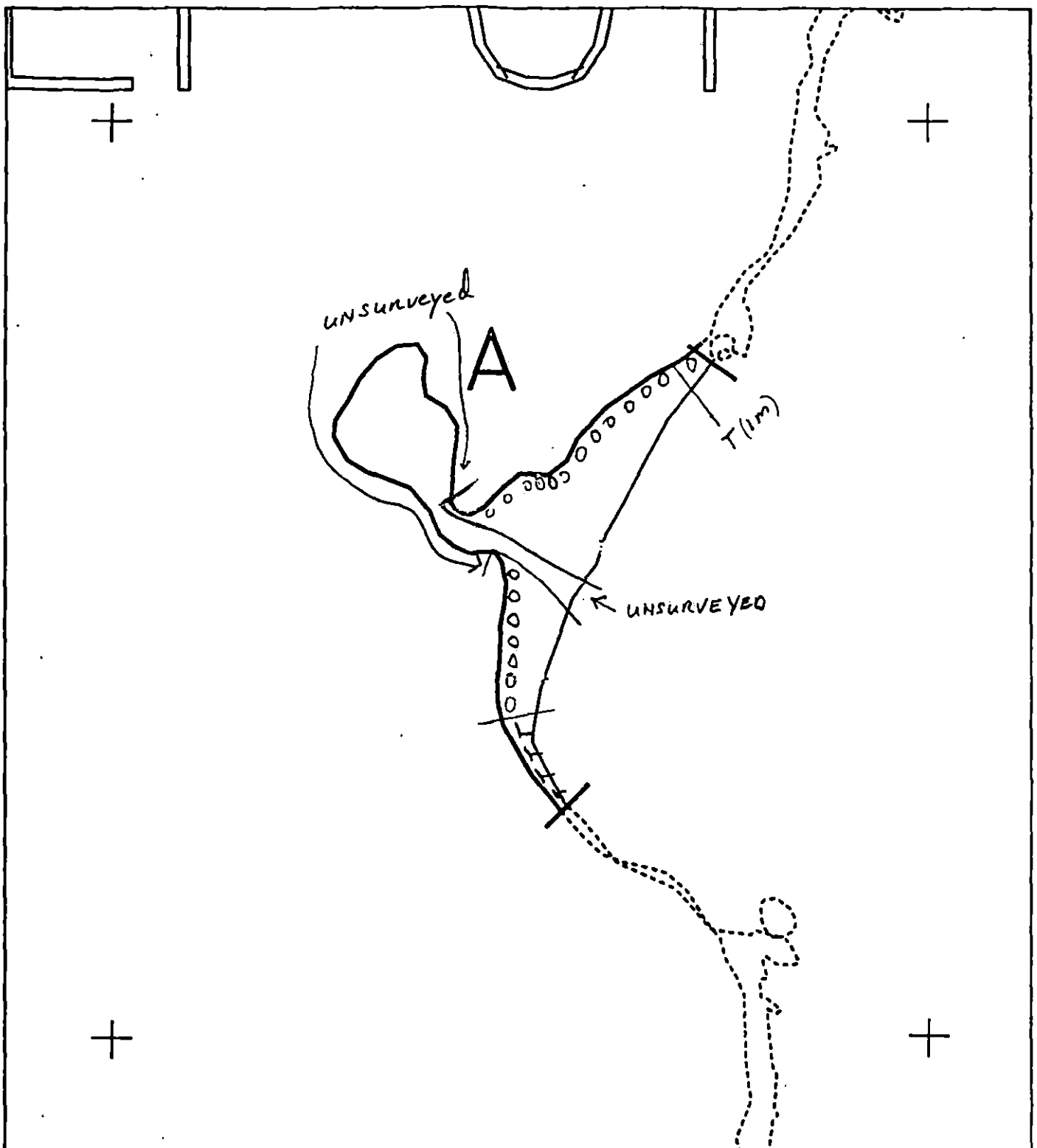
Tidal  
DeltaANAD. STREAM  
# 242-10-10210Constantly modified  
by stream meanderingsBoulders  
Bedrock

B. CT/ST  
2 by 150 m, < 1%  
Very discontinuous  
Behind boulder and  
EN shelter areas

Boulders  
BedrockN. vegetation  
Red S.

A. ST  
1 m < 1%  
drip marks on  
bedrock and boulders

End of  
Segment0 200  
METERS



XXXX Wide  
 //// Medium  
 ---- Narrow  
 TTTT Very Light  
 0000 No Oil

**E1001 A**  
 ADEC Subsegment Length: 1038m  
 METERS  
 0 200 400  
 AK State Plane Zone 6  
 601001a



Subdivision Field Map  
 Map Key: KENE1001A  
 Name: D. Fitzgerald  
 Date: 11 May 1991  
 Date Entered:

revised 5/14/91 KG  
 REVIEWED CD 14 MAY

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/EL-52

SUBDIVISIONS: A (1 OF 2)

SHORELINE EVALUATION

SEGMENT ST/ EL-52 SUBDIVISION A (1 OF 2) DATE 3/31/90

**SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:**

Salmon stream mouth (ADF&G catalogue no. 226-10-16902 Rev. 12/89) - fry outmigration (1A) - 3/1 to 5/15 and spawning (1B) - 7/10 to 8/31; Recreation tent sites (6U) - anchorages (6V) and special use destination (6Y) - 6/1 to 9/15; Subsistence area for deer harvesting (7II) - 8/15 to 2/28).

**SUBDIVISION ECOLOGICAL CONSTRAINTS:**

(1A)(1B) No disturbance of stream bed or banks unless authorized by ADF&G. Contact ADF&G Habitat Division prior to treatment for permits.

**ARCHAEOLOGICAL CONSTRAINTS:**

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**OILING CATEGORIZATION:**

Wide 0 m: Medium 100 m: Narrow 37 m: V.Light 451 m: No Oil 9 m  
Subsurface Oil Observed: Yes X No \_\_\_\_\_ Maximum Depth 15 cm

**RECOMMENDATIONS:**

|                                                                   |                                                        |
|-------------------------------------------------------------------|--------------------------------------------------------|
| <input type="checkbox"/> No Treatment Recommended                 | <input type="checkbox"/> Snare/Absorbent Booms         |
| <input checked="" type="checkbox"/> Treatment Recommended         | <input type="checkbox"/> Oil Snares (pom poms)         |
| <input checked="" type="checkbox"/> Manual Pickup                 | <input type="checkbox"/> Absorbents (pads, rolls, etc) |
| <input checked="" type="checkbox"/> Bioremediation                | <input type="checkbox"/> Spot Washing: _____ Wands     |
| <input type="checkbox"/> Tarmat: <input type="checkbox"/> Breakup | <input type="checkbox"/> Beach Cleaner                 |
| <input type="checkbox"/> Removal                                  | <input type="checkbox"/> Other (see comments)          |

COMMENTS: Recommend manual pick up of tar balls and oiled logs if oiled more than splash and 10% coverage, and bioremediate coat and stain and subsurface oil as shown on attached sketch map. Work should be conducted between 5/16 and 7/9 based on above salmon constraints.

TAG COMMENTS:

TAG APPROVAL DATE: \_\_\_\_\_

ADEC \_\_\_\_\_  
EXXON \_\_\_\_\_  
NOAA \_\_\_\_\_  
USCG \_\_\_\_\_

FOSC: \_\_\_\_\_ DATE: \_\_\_\_\_

## FIELD SHORELINE COMMENT SHEET

REVISED  
4/4/90SEGMENT ST/ 52.A  
EL-53-B SUBDIVISION: B A DATE 4/1/90

USCG

NAME

DAVID A. SCHNEIDER

SIGNATURE

David A. Schneider

783/USCGP

☐ NO TREATMENT RECOMMENDED  
COMMENTS☒ TREATMENT SUGGESTED

MANUAL TREATMENT APPROPRIATE FOR THIS SUBDIVISION. TAR SPLATTERS, SPOTS AND OIL COATING ON EXPOSED BOULDERS & ROCK FACES AND IN BOULDER SHADOWS SHOULD BE WIRE BRUSHED AND SCRUBBED BY MANUAL WORK CREW. BEACH AT SOUTH END OF SUBDIV WARRANTS CONSIDERATION AS A POTENTIAL SITE FOR RECREATION. LARGE TIDE POOLS ALONG WITH TIDAL FLATS SHOULD NOT BE DISRUPTED. ~~EFFORT~~ EFFORT SHOULD BE MADE BY WORKERS TO AVOID MUSSEL BEDS AND EELGRASS BEDS ALONG THESE FLATS DUE TO THEIR BEING POTENTIAL SPAWNING AREAS FOR HERRING.

ADEC

NAME

Peter Montesano

SIGNATURE

Peter Montesano☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

The central area of "B" has an extended rich intertidal community which should be considered/protected relative to treatment. This area showed stringy sheens at low tide. Brown oil droplets appeared in the Penetration pits. The "Boulder Shadow Oiling" and penetration type makes Bioremediation not practical, except on the S beach of "B". This beach has 5cm Penetration, OR, under the clean ~~sediments~~ sediments at the extreme surface. Hand scraping/removal ~~practical~~ practical along "B" of trapped coating and random tar splatters. Additionally, the oiled, felled tree toward the S end and oiled debris (nets) should be removed.

LAND MANAGER

NAME

Janet Pritchard

SIGNATURE

Janet Pritchard☐ NO TREATMENT RECOMMENDED  
COMMENTS☒ TREATMENT SUGGESTED

Concur with USCG and ADEC. I'd like to reemphasize the need to protect the tidal flats during the clean up.

OG C. DILLON USCG D. SCHNEIDER SEGMENT STI EL-5352  
 BIO ST. BARRY LAND REP J. PRITCHARD SUBDIVISION B A (1 of 2)  
 EXXON A. SNOOK ADEC P. MONTESANO TIME 10:00 to 13:45  
 TEAM NO.: 6 TIDE LEVEL: -1 to +5 DATE 03/31/90  
 EST. SUBDIVISION LENGTH: 160 m 690 ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☒ Snow  
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock  
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: N to S  
 SURFACE SEDIMENTS: R 15 % B 50 % C 25 % P 10 % G 0 % S 0 % M 0 % V 0 %  
 SLOPE: Lang 80 % Hang 20 % Vert 0 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High  
 OIL CATEGORY LENGTH: W 0 m M 70 m N 15 m VL 40 m NO 5 m  
600

### SURFACE OIL

| CHARACTER        | DISTRIBUTION         |   |   |   | OIL / FILM COLOR |              |              |              |              | IMPACTED ZONES |   |   |   |  |
|------------------|----------------------|---|---|---|------------------|--------------|--------------|--------------|--------------|----------------|---|---|---|--|
|                  | N                    | R | P | R | <del>1</del>     | <del>2</del> | <del>3</del> | <del>4</del> | <del>5</del> | SU             | U | M | U |  |
| ASPHALT PAVEMENT |                      |   |   |   |                  |              |              |              |              |                |   |   |   |  |
| POOLED           |                      |   |   |   |                  |              |              |              |              |                |   |   |   |  |
| COVER            |                      |   |   |   |                  |              |              |              |              |                |   |   |   |  |
| COAT             |                      | X | X | X |                  |              |              | X            |              |                | X | X |   |  |
| STAIN            |                      |   | X | X |                  |              |              | X            |              |                | X |   |   |  |
| MOUSSE           |                      |   |   |   |                  |              |              |              |              |                |   |   |   |  |
| PATTIES          |                      |   |   |   |                  |              |              |              |              |                |   |   |   |  |
| TARBALLS         |                      |   |   | X | X                |              |              |              |              |                | X |   |   |  |
| FILM             |                      |   |   | X | X                |              |              | X            |              |                |   |   | X |  |
| NO OIL           | Snow on S'most beach |   |   |   |                  |              |              |              |              |                | S |   |   |  |

PAVEMENT: H F S 0 sq. m by 0

PATTIES / TARBALLS 0 BAGS

NEAR SHORE SHEEN? ☒ BR RW SL TL

| OILED DEBRIS | AMOUNT |    |    |
|--------------|--------|----|----|
|              | SM     | MD | LG |
| Logs         |        | X  |    |
| Vegetation   |        |    |    |
| Trash        | X      |    |    |
| Debris       |        |    |    |

DEBRIS COLLECTED  
☒ YES ☐ NO

TYPE Small trash

#BAGS < 1

Photographs:

Roll No. ST-6-2

Frames 15-16

### SUBSURFACE OIL

| PIT NO. | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER |    |    |    |    | OILED INTERVAL (cm) | BELOW |    | OIL / FILM COLOR |              |              |              |              | PIT ZONE |   |   |   | A<br>N<br>A | SUBSURFACE SEDIMENTS |
|---------|----------------|--------------------------|----|----|----|----|---------------------|-------|----|------------------|--------------|--------------|--------------|--------------|----------|---|---|---|-------------|----------------------|
|         |                | OP                       | OR | OL | OF | NO |                     | UD    | UC | <del>1</del>     | <del>2</del> | <del>3</del> | <del>4</del> | <del>5</del> | SU       | M | M | U |             |                      |
| 1       | 10             |                          |    |    |    | X  | 0-0                 |       |    |                  |              |              |              |              | X        |   |   |   |             | P/G/S                |
| 1       | 10             |                          | X  |    |    |    | 5-10                |       | X  |                  |              |              | X            |              | X        |   |   |   |             | S/m                  |
| 2       | 15             |                          | X  |    |    |    | 5-10                |       |    |                  |              |              | X            |              |          | X |   |   |             | P/G/S                |
| 2       | 15             |                          |    |    | X  |    | 10-15               |       | X  | X                |              |              |              |              |          | X |   |   |             | P/G/S                |
|         |                |                          |    |    |    |    | .                   |       |    |                  |              |              |              |              |          |   |   |   |             |                      |
|         |                |                          |    |    |    |    | .                   |       |    |                  |              |              |              |              |          |   |   |   |             |                      |

COMMENTS N'most PORTION BEGINS WITH HANG B/C/R SLOPE GRADING INTO A  
 LANG, WIDE B/C/P BEACH AND TIDAL POOL IN THE CENTER, THEN TO A  
 LANG C/P/B BEACH AT THE SOUTH END OF THE SUBDIVISION. THE N'mos  
 15m HAS A PATCHY STAIN AND COAT WITH SPORADIC TAR SPOTS ALONG THE LITZ.  
 WIDENING TO 5-6m WIDE IN THE MITZ AND A SPORADIC FILM AT THE TOP OF THE LI.  
 FOR 60m. SUBSURFACE OILING VARIES HERE BETWEEN 5 AND 15 CM. THE R/B OF  
 THE LITZ ALONG THE CENTER 125m OF SUBDIV. HAS A VL SPORADIC AND PATCHY  
 COAT AND STAIN. S'most C/P/B BEACH HAS 6m WIDE X 10m LONG BROWN AND  
 TRANSLUCENT FILM ON TOP 5cm OF MITZ. REVIEWED MT DATE 4-7-90  
 BROKEN COAT

# SHORELINE ECOLOGICAL SUMMARY

1250  
4/14/90

REVISION: 10/23/90

Segment ST/ ELO 52 Subdivision B A Date (mo/day/yr) March 31, 1990

Time (24 hr) 1010 - 1330 Biologist Jim Barry

160 m length  
690

(A) Substrate type and % of segments:  
(1) Bedrock 15 (2) Boulder 50 (3) Cobble 25 (4) Pebble 10 (5) Sand      (6) Silt     

(B) Overall % cover of biota (% of segment): Dense 60 Moderate 30 Low 10

(C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs:  
Roll No. ST-6-2

Frames 12, 13, 17

## BARNACLES

| Dense | 61-100% | 26-60    | 5-25   | 45   |
|-------|---------|----------|--------|------|
| 1M    | 1L      | Moderate | Sparse | Rare |
| 1U    | 1L      | 1L       | 1U     | 1U   |
| 2     | 2       | 2        | 1M     | 1M   |
| 3     | 3       | 3        | 2      | 2    |
| 4     | 4       | 4        | 3      | 3    |
| 5     | 5       | 5        | 4      | 4    |
| 6     | 6       | 6        | 5      | 5    |
|       |         |          | 6      | 6    |

NOT PRESENT

## MYTILUS

| Dense | Moderate | Sparse | Rare |
|-------|----------|--------|------|
| 1U    | 1M       | 1L     | 1U   |
| 2     | 2        | 2      | 2    |
| 3     | 3        | 3      | 3    |
| 4     | 4        | 4      | 4    |
| 5     | 5        | 5      | 5    |
| 6     | 6        | 6      | 6    |

NOT PRESENT

## GASTROPODS

| Dense | Moderate | Sparse | Rare |
|-------|----------|--------|------|
| 1U    | 1M       | 1L     | 1U   |
| 2     | 2        | 2      | 2    |
| 3     | 3        | 3      | 3    |
| 4     | 4        | 4      | 4    |
| 5     | 5        | 5      | 5    |
| 6     | 6        | 6      | 6    |

NOT PRESENT

## FUCUS

| Dense | Moderate | Sparse | Rare |
|-------|----------|--------|------|
| 1U    | 1M       | 1L     | 1U   |
| 2     | 2        | 2      | 2    |
| 3     | 3        | 3      | 3    |
| 4     | 4        | 4      | 4    |
| 5     | 5        | 5      | 5    |
| 6     | 6        | 6      | 6    |

NOT PRESENT

Wildlife Observations/ General Comments: TIDE WINDOW -1.0 → +5

Ecological Considerations: 6V, 7 II, 5-T2, 2M

See attached pages



ELOS3-B  
52-A

MARCH 31, 1990

1CEU1207  
4/4/90

1/6

START TIME: 1010

TIDE WINDOW - -1.0 → +5.0

STOP TIME: 1330

## ADDITIONAL COMMENTS

### MAJOR SPECIES

I BARNACLES — same comments as ELOS3-A

II MYTILUS —

A. Generally the same comments as ELOS3-B, ~~except~~.

B. Mussel Beds are present on 2 or 3 sand/cobble flats. Important characteristics are:

1) Beds contain large numbers of dead mussels, many with small holes indicating that predatory gastropods contribute a large portion of their mortality.

2) Beds are discontinuous / "broken", with large & small gaps between ~~and~~ groups.

3) Juveniles are abundant and spat are dense ~~in~~ at the base of juveniles & adults.

C. Mussel beds appear to be developing ~~to~~ in a cobble beach where recruiting mussels (dense spat & ~~moderate~~ moderate juveniles) are consolidating the rock ~~as~~ & filling in gaps.

III Gastropods — same comment as ELOS3-A, plus

1) Nucella lamellosa appear to prey heavily on mussels.

IV Fucus — same as ELOS3-A

V Other species.

Most or all of the species listed in ELOS3-A are present, plus several species found on the sand flat detailed below

EL 053-B  
52-A

MARCH 31, 1990

REVISED  
4/4/90

## VI SAND/COBBLE FLAT.

1) This subdivision included a sand/cobble flat ~ 100 m long x 30 m containing a mussel bed, eel grass bed, and sand/pebble flat.

### 2) Important Characteristics

a) Mussel Bed - described above

b) Eel grass bed (*Zostera marina*) - This plant forms a small "marsh-like" plant association containing clams, worms & other sediment-dwelling species.

Eel grass is an important plant on which herring deposit eggs during spawning. This small isolated bed should not be heavily disturbed.

### c) Sand Flat Community.

Several species of clams & other worms are present, including,

- \* Benthic Clams (*Macoma* spp.)
- \* Steamer Clams (*Protothaca staminea*)
- \* *Hiatella* sp.
- ? Butter Clams (*Saxidomus giganteus*)
- \* Moon trails (*Natica clausa*)
- ? Cockles ..... (*Chorocardium mitchellii*)

\* indicates juveniles or eggs present  
? " probably present.

Worms (*Echiura echiura*)  
Nereidae

## VII WILDLIFE

River Otter - on bank adjacent to sand flat  
- dropping adjacent to beach - contain clam shells.

Barrow Goldeneye - 2      Bald Eagle  
Sea Otter - 2              Raven  
Pelagic Cormorant - 1  
White winged Scoter - 1

### Ecological Considerations

- 1) Eel grass community may be important (locally) for herring spawn & should not be destroyed.
- 2) Mussel beds show evidence of disturbance on sand flat & cobble beach  
this disturbance appears to be recovering, as indicated by dense or moderate recruitment of new individuals
- 3) Sand/cobble flat appears to be recovering (see above)

2053-B  
52-A

APR-05-1990 21:55 FROM ARCTIC SALVOR

TO

SSHT P.01

2053-B  
52-A

PU TO 15 PO on Beach 1  
PIT 1

LOW ZONE UNDER ROCK

Crabbing Community

75% Spirochids

7 Bryozoans

Small sponges

Juvenile Priapoda ~ 25cm

NO Barnacles

WITHERED FUCUS STORM

a little regrowth

+ lots of acantharians in

High zone

Can find Mytilus

Barnacles recruits + juveniles  
in mid to high

Gastropods sparse in mid

> Scapharia

LITTORINES moderate to high

crabbing community sparse to rare in  
mid to high zone

Any to two in percent as juveniles

& sparse in upper zone  
crabbing

BALANCE density - mod (5)  
- mod (5)

Rocky

SANDY BEACH

ROCKS

moderate to sparse

Littorines under rubble moderate  
moderate to sparse  
few to no adults

G FUCUS

mid zone

moderate to high

Small beach - NOT too  
much in sand - 0

2053-B  
4/4/90

EL 52-A

EUCUS regrowth

tidal zone sand under rock

TEMPERATURE

Macoma 7 live in sand

SAND ROBBIE FLAT

near outlet stream

ZOSTERA BED -

EMPHYROID Bed in flat

Macoma { NO large - ~ 2cm  
? Clam - ~ 3cm

Mussel bed is patchy & broken,  
but has dense Littorina  
& Nereis - > Dead (A)

- also Littorina, longia, Nerita  
in bed

Headlands nearby - Nerita Nerita  
> Dead (A)

Barnacles too (B.P. = 5)

EL 52-A

Eastern at about  
same level as a nearby  
Fucus bed

Red flat has many small eggs  
Case ~ 5-10 / 50m

PHOTO 11 - Recruitment  
of Mytilus on headland

PHOTO 12 - Recruitment of STARS  
Larvae on underside  
of rock from sand  
piddle flat

STILL near outlet Stream  
> Fucus A

Upper to mid Macoma  
Boulders of Nerita/Barnacles

River otter tracks, Seal = Clam  
shells

Old tracks on beach

MACOMA 3cm live

Revised 4/4/90

ELOS3-B  
53-A

6 pricklybacks under  
1 sec 0.5m dense rock  
Plantations

Not a c. area section

PHOTO TAKEN OF ROCK

BOULDERS AT EOE OF  
BEACH

- Dense Barnacles  
- SPAT, juveniles (Ad.)

Mytilus Spat JUV  
Limpets moderate  
L. Horreum dense

Fucus regrowth, recent

NOT TOO much Fucus recruiting  
on Beach Flat cobbles.

LUNCH

ELOS3-B  
52-A

FLAT - mussels dead  
mostly de-doubled - 8/10

Black P 5 and 11 segment  
(small core + black)

> Mussels JUV - spat Moderate  
Beach coming back

> Nuclea

> P. p. p.

> P. p. p.

> B. p. p.

Upper -

Red Rocks

> Fucus plants

Dense spat (Mytilus)

Moderate juveniles

Dense Limpets

new Dense L. Horn Spat JUV.

Boulders/Cobbles

> Fucus sporings on cobbles

> Limpets spat

> Barnacles (B.S.)

SANDY BEACH

EPICRIS-7

CLAMS - Antler

Revised 4/14/80

OG C.D. ON

SEGMENT ST/ CL-5352

SUBDIVISION BA

DATE 31 Apr 90

# CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HML/VL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pit Location(s)
- ☐ Photo Location(s)

## LEGEND

1   
 Pit - No Subsurface Oil

2   
 Pit - Subsurface Oil

CT/C   
 Continuous Distribution

CT/B   
 Broken Distribution

CT/P   
 Patchy Distribution

CT/S   
 Splashed Distribution

Oiled Vegetation

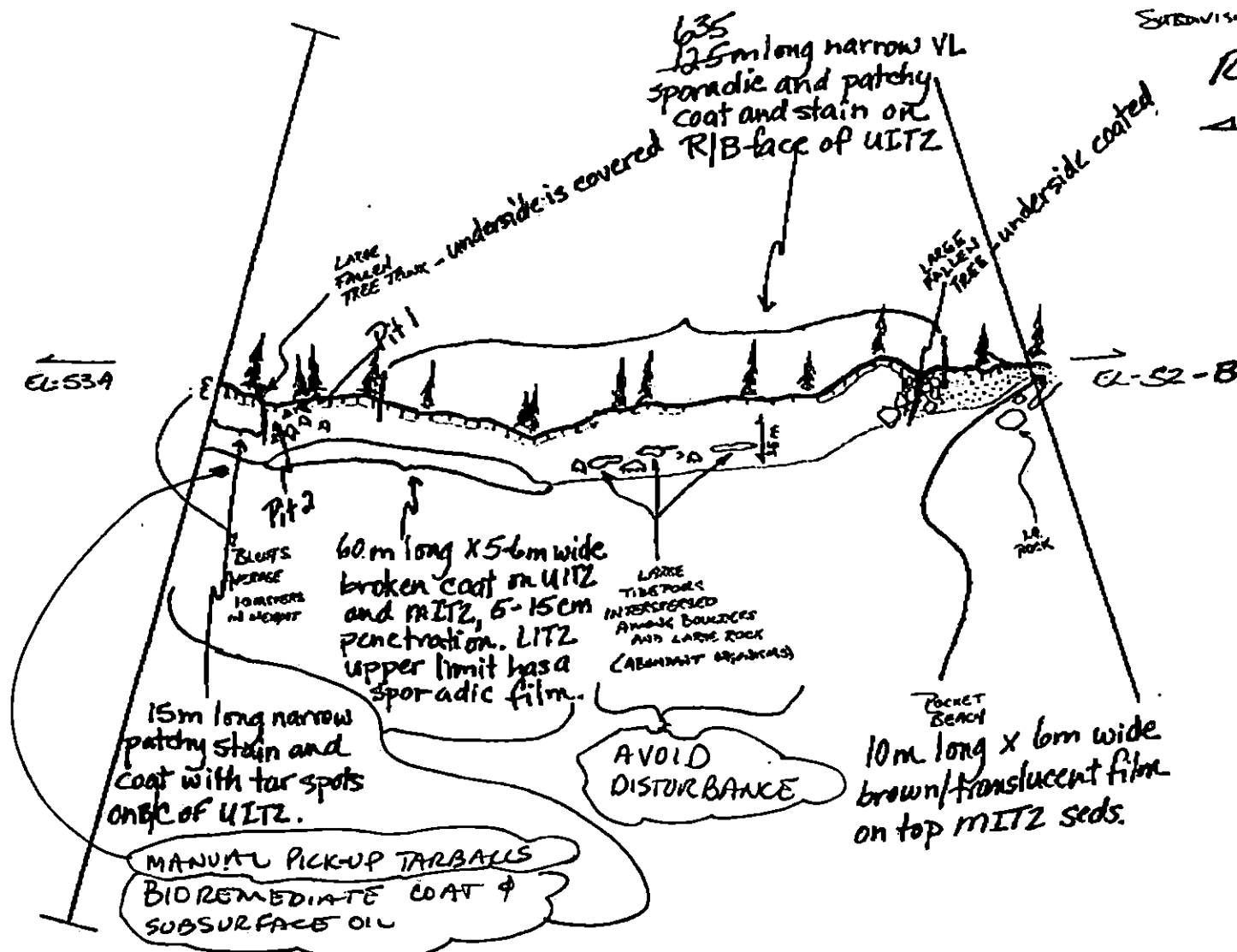
1   
 Photo location, direction,   
 and number

## SKETCH MAP

SEGMENT CL-5352 <sup>52</sup>   
 SUBDIVISION BA   
 SUBDIVISION LENGTH 160m

REVISOR 4/14/90

N



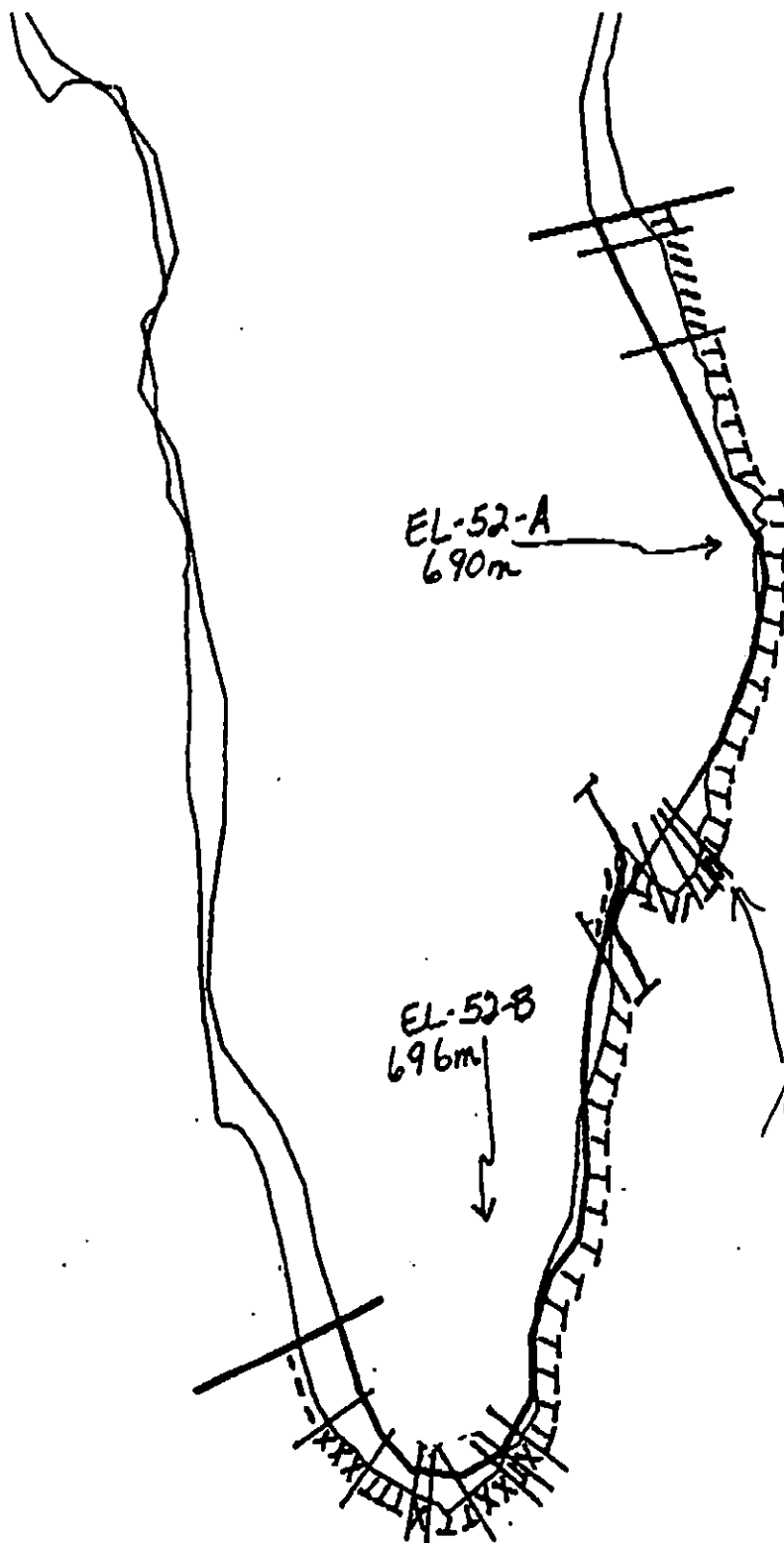
SCHWEIDER

Oil Character Length (m): AP 130 PO 635 CV 3 CT 10 ST 5 MS 3 PT 10 TB 5 FL 5 NO 5

REVISION 533498

Pg. 2 of 2

EL-



EL-

No oil ~5m

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

EL-52

ADEC Segment Length: 1224m



Map Key: PWS-135

Name: C. DILLON

EL-52-A 3/31/90

Date: EL-52-B 4/4/90

Data Entered:



# ASAP TAG REVIEW SHEET

Segment: EL52 Subd: B Site: 1 Date  
PRE-Review 11 AUG 90

Priority For Addressing In 1990

HIGH MEDIUM LOW ~~NTR~~

Treatment  
Recommended:

~~NTR~~ based on OG & SKETCH

Rec Sheet  
indicates high

Recommendation / Comments Sheets  
do not agree with OG & SKETCH.  
which indicates Pooled Oil / SOR (high)  
ANAD. STREAM present.

Priority Site For Reassessment In 1991

YES NO YES NO YES NO YES NO  
CG ~~X~~ ADEC EXXON ~~X~~ LAND MGR

TAG 13 AUG

Manual Rake and BIO after Removal of Pooled Oil.

Remove HIGH SOR, & LOW ITZ. in VICINITY OF  
ANAD STREAM.

see sketch

## ASAP FOLLOWUP RECOMMENDATIONS

Segment: AS/ EL-52 Subd: B Site: 1 Date: 8/8 1990Also includes ANAD Stream # 221-10-16902

Conditions Observed: Pooled oil present at the LITZ along boulder/cobble beach on the East side of bay. Subsurface oil extends up to 50cm  
Continuities at the LITZ. SOR sediments present in stream area.  
SNEENING OBSERVED.

Followup Recommendations: Pooled oil present thru-out LITZ should be  
manually removed. Work will have to be delayed at either minus  
tide or very low tide due to the location of the oil. String snare boom along  
entire shore to contain oil. Remove SOR sediments from stream  
area, manually till and custom blend. Remove oiled log around  
stream. No evidence of custom blend is present in work site.

Completed by Pickup Crew:

☐ YES ☒ NOPriority for Addressing in 1990: ☒ High ☐ Mod. ☐ Low

ADIC

Wesley GihormleyWesley Gihormley

(Signature)

Comments: I totally agree with above recommendation. Most important  
is snare boom must be used - due to the condition of the oil.

ECHO

REY SOTELORey Sotel

(Signature)

Comments: I don't agree with these recommendations, instead I suggest  
the area be exposed by raising and applying custoblend. This should  
be a low priority problem for 90.

USCG

PSL Leo BersalonaLeo Bersalona

NOAA

Art WEINERArt WeinerComments: AGREE w Recommendations

This is a low priority problem for 1990.

Lead Rep

John EbelJohn Ebel

(Signature)

Comments: Shore observed along traverse. Salmon spawning & outmigration scheduled & water  
for work plans. Skin off top armor (thin coat 95). Remove oiled sediments.  
Minimize operational schedule. Recommend mechanical & manual removal  
of oil due to tide zone.

# ASAP SHORELINE OILING SUMMARY

PAGE 02

TEAM NO. ASAP #2 EXXON SOTELO SEGMENT AS EL 52  
 OG CHAVEY USCG WEINER/BERNALONA SUBDIVISION B  
 ADEC G HORMLEY LAND REP EREL, JOHN (DNA) TOTAL NO. SITES 1  
 DATE Aug 18 190 TIME 07:25:03:55 TIDE LEVEL 2.510 - 0.3  
 TOTAL EST. LENGTH OF SHORELINE SURVEYED: 627 m  
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WEATHER: ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow  
 OIL CATEGORY LENGTH: W 15 m M 100 m N - m VL 512 m NO - m US 0 m

## SURFACE OIL

### SITE 1

| CHARACTER        | DISTRIBUTION |    |    |    | OILED ZONES |    |    |    |
|------------------|--------------|----|----|----|-------------|----|----|----|
|                  | IC           | IB | IP | IS | SU          | UI | MI | LI |
| ASPHALT          |              |    |    |    |             |    |    |    |
| S.O.R.           |              | X  | X  |    |             | X  | X  |    |
| POOLED           |              |    |    |    |             |    |    |    |
| COVER            |              |    |    | X  |             | X  |    |    |
| COAT             |              |    | X  | X  |             | X  |    |    |
| STAIN            |              |    | X  | X  |             | X  | X  |    |
| MOUSSE           |              |    |    |    |             |    |    |    |
| PATTIES/T.B.     |              |    |    |    |             |    |    |    |
| FILM             |              |    |    | X  |             |    | X  |    |
| NO OIL           |              |    |    |    | X           |    |    | X  |
| EST. SITE LENGTH |              |    |    |    | 627         |    |    |    |

### SITE 2

| CHARACTER        | DISTRIBUTION |    |    |    | OILED ZONES |    |    |    |
|------------------|--------------|----|----|----|-------------|----|----|----|
|                  | IC           | IB | IP | IS | SU          | UI | MI | LI |
| ASPHALT          |              |    |    |    |             |    |    |    |
| S.O.R.           |              |    |    |    |             |    |    |    |
| POOLED           |              |    |    |    |             |    |    |    |
| COVER            |              |    |    |    |             |    |    |    |
| COAT             |              |    |    |    |             |    |    |    |
| STAIN            |              |    |    |    |             |    |    |    |
| MOUSSE           |              |    |    |    |             |    |    |    |
| PATTIES/T.B.     |              |    |    |    |             |    |    |    |
| FILM             |              |    |    |    |             |    |    |    |
| NO OIL           |              |    |    |    |             |    |    |    |
| EST. SITE LENGTH |              |    |    |    |             |    |    |    |

### SITE 3

| CHARACTER        | DISTRIBUTION |    |    |    | OILED ZONES |    |    |    |
|------------------|--------------|----|----|----|-------------|----|----|----|
|                  | IC           | IB | IP | IS | SU          | UI | MI | LI |
| ASPHALT          |              |    |    |    |             |    |    |    |
| S.O.R.           |              |    |    |    |             |    |    |    |
| POOLED           |              |    |    |    |             |    |    |    |
| COVER            |              |    |    |    |             |    |    |    |
| COAT             |              |    |    |    |             |    |    |    |
| STAIN            |              |    |    |    |             |    |    |    |
| MOUSSE           |              |    |    |    |             |    |    |    |
| PATTIES/T.B.     |              |    |    |    |             |    |    |    |
| FILM             |              |    |    |    |             |    |    |    |
| NO OIL           |              |    |    |    |             |    |    |    |
| EST. SITE LENGTH |              |    |    |    |             |    |    |    |

## SUBSURFACE OIL

| SITE NO. | PIT NO. | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER |    |    |    | OILED INTERVAL | CLEAN BELOW (Y/N) | PIT ZONE |    |    |    | SURFACE-SUBSURFACE SEDIMENTS |
|----------|---------|----------------|--------------------------|----|----|----|----------------|-------------------|----------|----|----|----|------------------------------|
|          |         |                | OP                       | OR | OF | NO |                |                   | SU       | UI | MI | LI |                              |
| 1        | 1       | 30             |                          |    |    | X  | .              | Y                 |          |    | X  |    | GPM-GPM                      |
| 1        | 2       | 25             | X                        | X  |    |    | 0-10           | Y                 |          |    | X  |    | GPM-GPM                      |
| 1        | 3       | 20             |                          | X  | X  |    | 0-10           | Y                 |          |    | X  |    | GPM-GPM                      |
| 1        | 4       | 30             |                          |    | X  |    | 5-10           | Y                 |          | X  |    |    | GP-GP                        |
| 1        | 5       | 15             |                          |    |    | X  | .              | Y                 |          |    | X  |    | GP-GP                        |
| 1        | 6       | 15             |                          | X  |    |    | 0-10           | Y                 |          | X  |    |    | BPG-BPG                      |
| 1        | 7       | 20             |                          | X  | X  |    | 5-10           | Y                 |          |    | X  |    | BPG-BPG                      |
| 1        | 8       | 20             |                          | X  |    |    | 0-20           | N                 |          | X  |    |    | GP-GPB                       |
|          |         |                |                          |    |    |    | .              |                   |          |    |    |    |                              |
|          |         |                |                          |    |    |    | .              |                   |          |    |    |    |                              |
|          |         |                |                          |    |    |    | .              |                   |          |    |    |    |                              |
|          |         |                |                          |    |    |    | .              |                   |          |    |    |    |                              |

Photographs:

Roll No. NONE

Frames \_\_\_\_\_

Dark Sheen w/ Brown Oil Drops

COMMENTS The region within 200 meters of the stream retained most of the surface oil however the low angle beach on the subdivision's NE side holds the majority of the region's mobile subsurface oil. Black oil observed at

00 C.D. ON

SEGMENT ST/ EL-52

SUBDIVISION B

DATE 04 APRIL 90

STILL VALID, NO MODIFICATION WAS MADE

ETCH MAP

MAP #2  
AUG 8 1990  
FROM SSAT  
MAP  
CHANEY

# CHECKLIST

- Area
- Approx. Scale
- Seg/Sub Div
- Ch Dist
- Width
- Length
- % Cover
- Substrate Character
- EOL MATERIAL
- SSA
- Photo Location(s)
- Photology
- Photo Location(s)
- Photo Location

## LEGEND

1 A  
No Substrate CI

2 A  
Substrate CI

CT/C  
Common Distribution

CT/B  
Common Distribution

CT/D  
Patchy Distribution

CT/S  
Spotted Distribution

CT/S  
Spotted Distribution

CT/S  
Spotted Distribution

CT/S  
Spotted Distribution

CT/S  
Spotted Distribution

CT/S  
Spotted Distribution

M-UITZ B/C/P  
patchy coat with tar spots  
20m wide by  
25m long

Less Than 1%  
Splattered  
& CT/S/U

DAMES  
& MOORE

CUSTOM BLEND

LARGE  
STREAM

NOAA  
STUDY  
#14

UITZ 2m wide  
x 8m long  
broken shell

NOT OBSERVED

CUSTOM BLEND  
IN AREA

ALSO  
CT/S  
UITZ 6m wide  
x 8m long area  
with sporadic spots  
of consolidated clay/pebble  
cement. May have inclusive oil film

SITE 1  
WHOLE  
BEACH

No customblen over majority  
of area. Rainbow sheen  
on MITZ flats. Black oil  
film up to 10cm deep

MANUAL  
REMOVAL  
HAS TAKEN  
PLACE

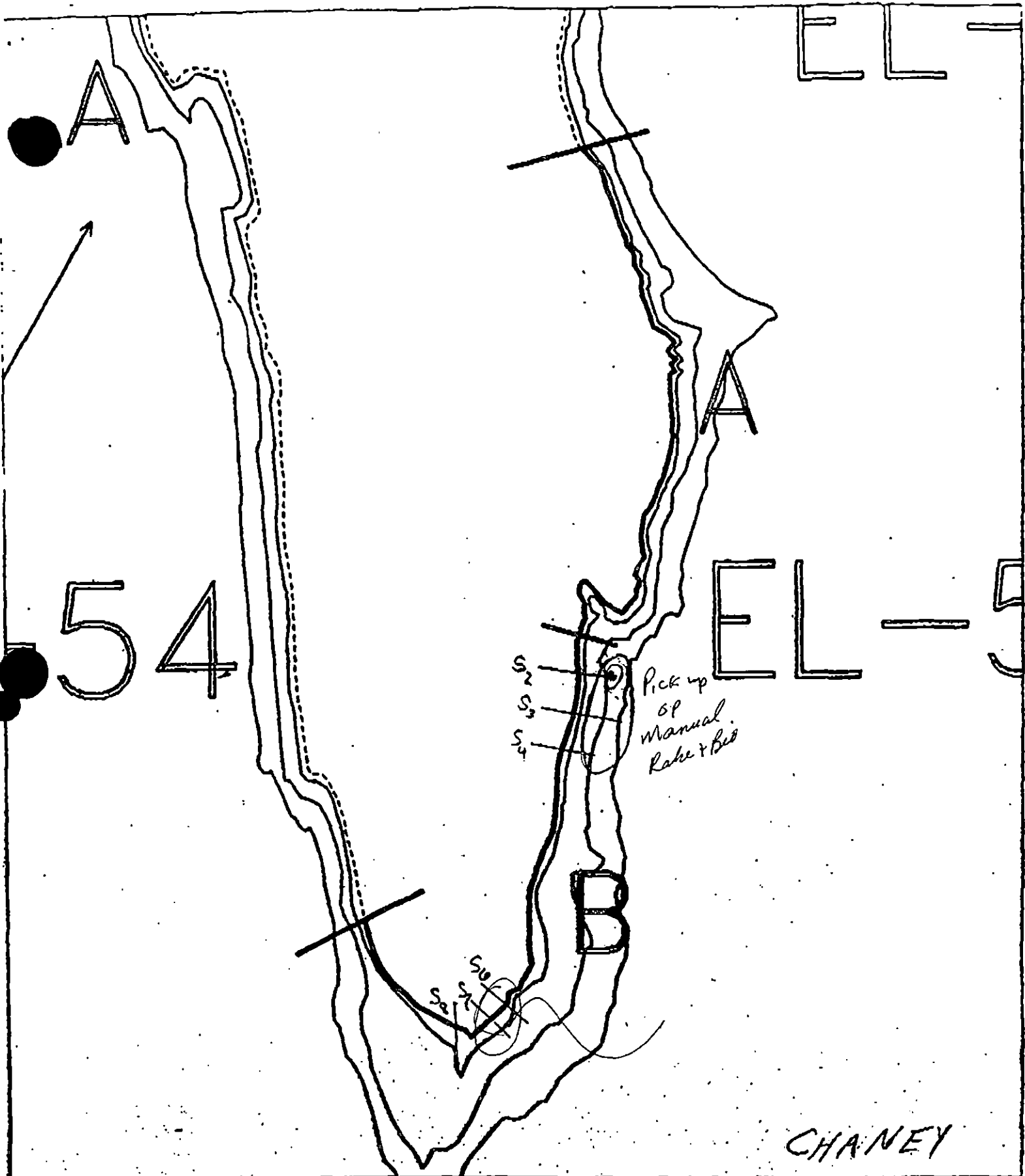
SHEEN TAPERS OUT

EL-52

SCHNEIDER

OB Character Length Int: AP 8 PO CV CT 73 ST 365 MS FT TB 50 FL NO 310

REVISION 20714



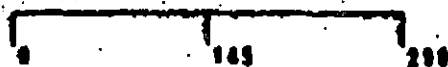
SEGMENT EL-52

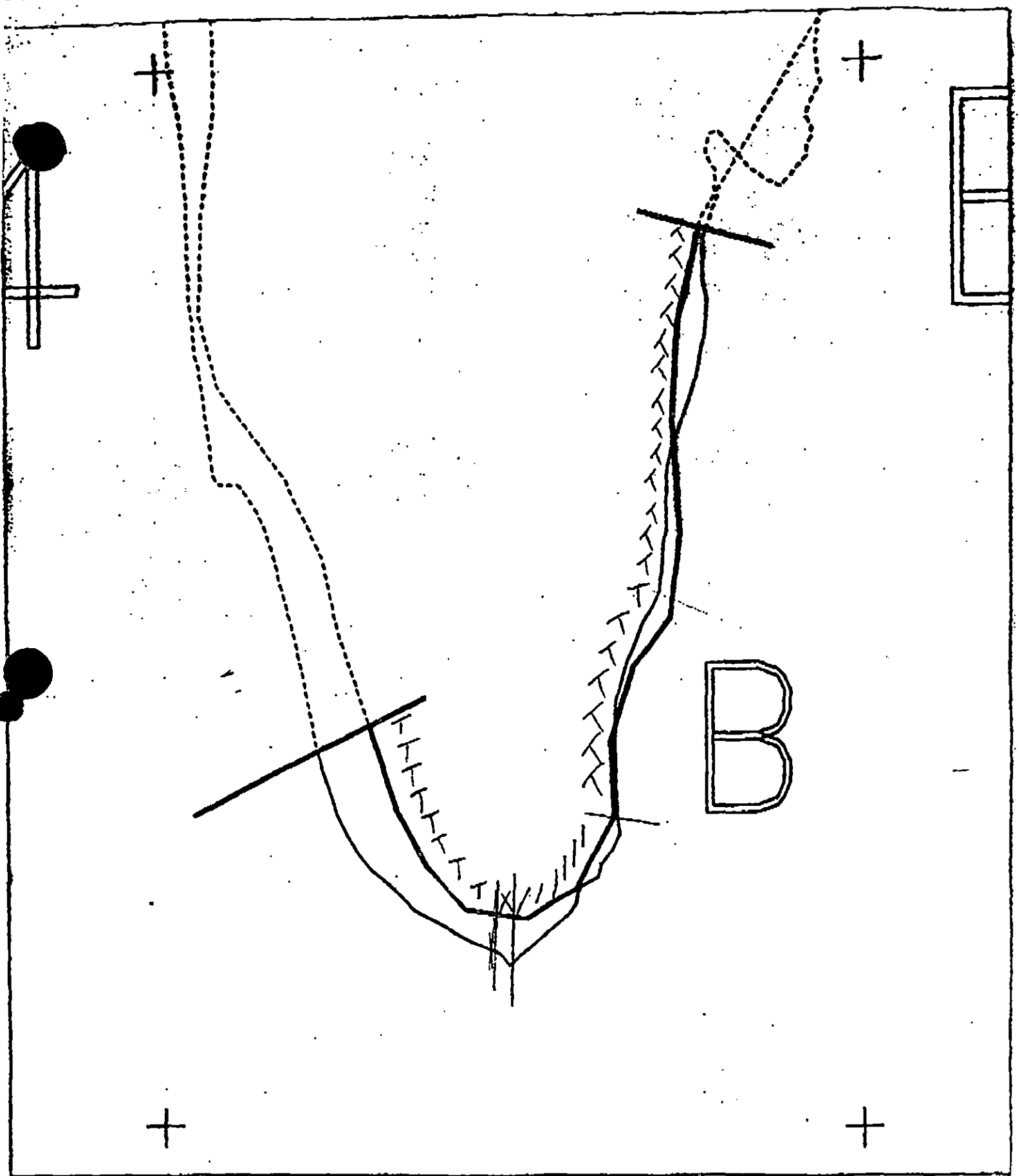
Segment Location Map  
Map Key: KNIEL-52

July 19, 1990

1:5787

METERS





XXX Wide  
 //// Medium  
 --- Narrow  
 TTTT Very Light  
 OOOO

**EL-52 B**  
 ADEC Subsegment Length: 627m  
 METERS  
 0 50 100  
 AK State Plane Zone 4 1:3103

Subdivision Field Map  
 Map Key: KNIEL-52B  
 Name: CHANEY  
 Date: AUG 8 1990  
 EXON

# SHORELINE EVALUATION

SEGMENT ST/ EL-52 SUBDIVISION A (1 OF 2) DATE 3/31/90

## SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Salmon stream mouth (ADF&G catalogue no. 226-10-16902 Rev. 12/89) - fry outmigration (1A) - 3/1 to 5/15 and spawning (1B) - 7/10 to 8/31; Recreation tent sites (6U) - anchorages (6V) and special use destination (6Y) - 6/1 to 9/15; Subsistence area for deer harvesting (7II) - 8/15 to 2/28).

## SUBDIVISION ECOLOGICAL CONSTRAINTS:

(1A)(1B) No disturbance of stream bed or banks unless authorized by ADF&G. Contact ADF&G Habitat Division prior to treatment for permits.

## ARCHAEOLOGICAL CONSTRAINTS:

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: Charles E. Adams DATE: 4/12/90

## OILING CATEGORIZATION:

Wide 0 m: Medium 100 m: Narrow 37 m: V.Light 451 m: No Oil 9 m  
Subsurface Oil Observed: Yes X No      Maximum Depth 15 cm

## RECOMMENDATIONS:

|                                         |                                             |
|-----------------------------------------|---------------------------------------------|
| <u>    </u> No Treatment Recommended    | <u>    </u> Snare/Absorbent Booms           |
| <u>X</u> Treatment Recommended          | <u>    </u> Oil Snares (pom poms)           |
| <u>X</u> Manual Pickup                  | <u>    </u> Absorbents (pads, rolls, etc)   |
| <u>X</u> Bioremediation                 | <u>    </u> Spot Washing: <u>    </u> Wands |
| <u>    </u> Tarmat: <u>    </u> Breakup | <u>    </u> Beach Cleaner                   |
| <u>    </u> Removal                     | <u>    </u> Other (see comments)            |

COMMENTS: Recommend manual pick up of tar balls, and oiled logs if oiled more than splash and 10% coverage, and bioremediate coat and stain and subsurface oil as shown on attached sketch map. Work should be conducted between 5/16 and 7/9 based on above salmon constraints.

RAKE IN AREA OF TEST PITS AS SHOWN ON SKETCH.

## TAG COMMENTS:

TAG APPROVAL DATE: 4/17/90  
ADEC Art Weiner Dix Lerner  
EXXON ANN TATL Paul FOSC: Y L DATE: 4-22-90  
NOAA Burl Wescott Burl Wescott  
USCG James W. Moore Kenneth Korne

OG C. D. DON

SEGMENT ST/ EL-5352

SUBDIVISION BA

DATE 31 APR 90

# CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ Oil Dkt.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HML/VML
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ PR Location(s)
- ☐ Photo Location(s)

## LEGEND

- 1  $\Delta$   
PH - No Subsurface Oil
- 2  $\Delta$   
PR - Subsurface Oil
- CT/C

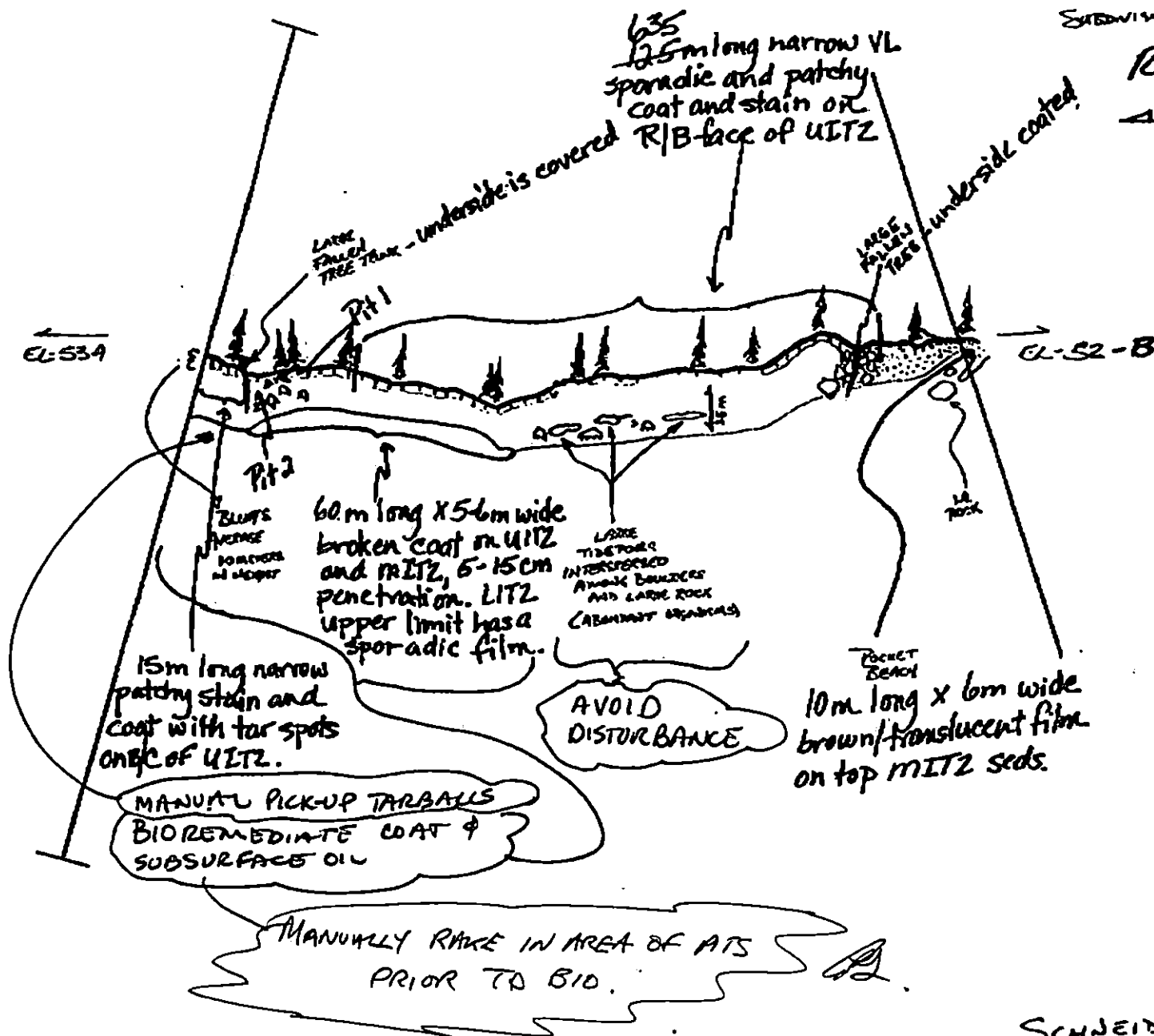
  
Continuous Distribution
- CT/B

  
Broken Distribution
- CT/P

  
Patchy Distribution
- CT/S

  
Splashed Distribution
- $\odot$   
Oiled Vegetation
- 1  $\odot$   
Photo location, direction, and number

## SKETCH MAP



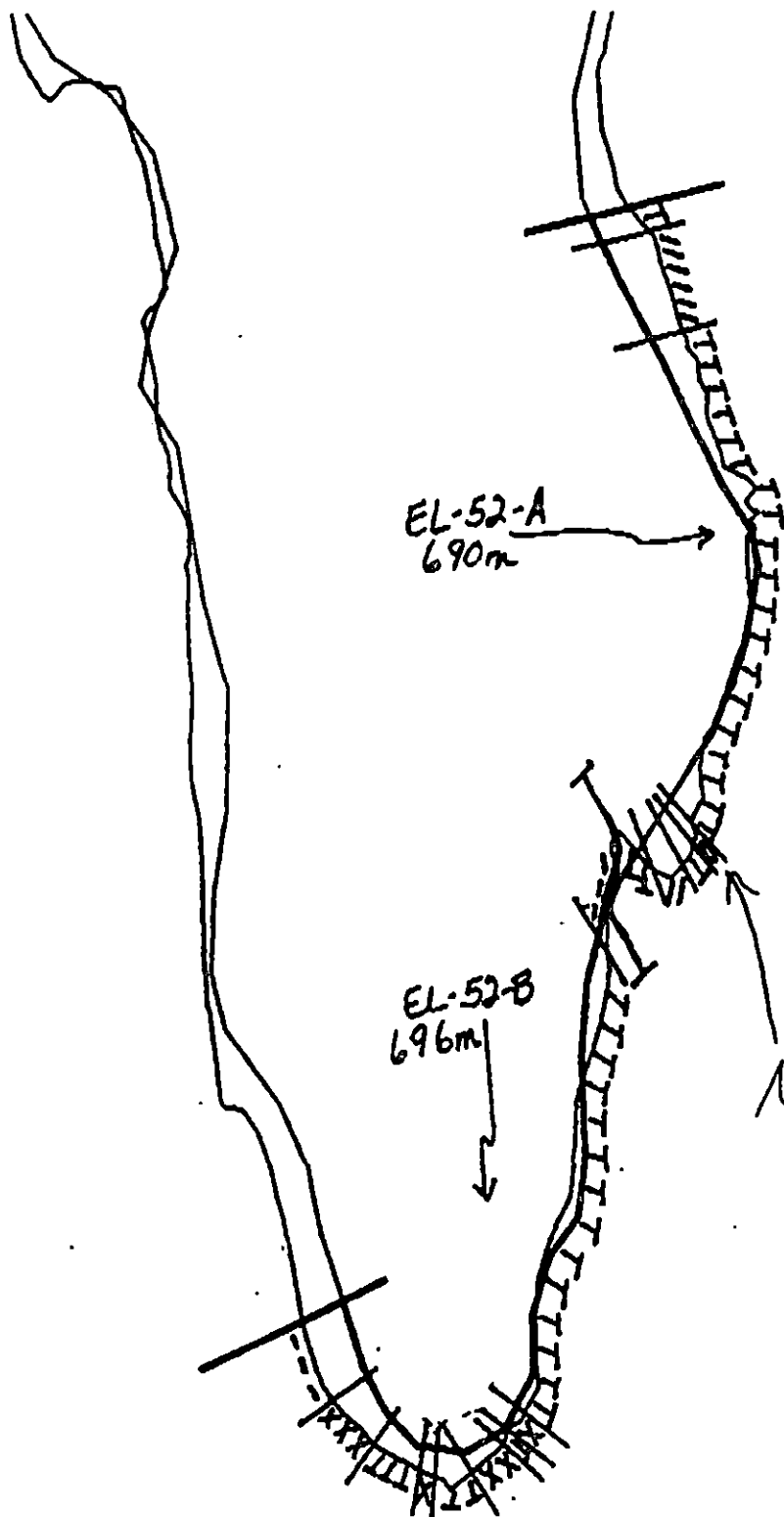
SCHNEIDER

Oil Character Length (m): AP 130 PO 635 CV MS ST PT TB 3 FL 10 NO 5

REVISION: 000000



EL-



EL-

No oil ~5m

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

EL-52

ADEC Segment Length: 1224m



Map Key: PWS-135

Name: C. DILLON

Date: EL-52-A 3/31/90  
EL-52-B 4/4/90

Data Entered:

# SHORELINE EVALUATION

SEGMENT ST/ EL-52 SUBDIVISION B (2 OF 2) DATE 3/31/90

## SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-10-16902

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)

1B Salmon stream mouth - spawning (7/10 to 8/31)

6U Recreation: Tent sites (6/1 to 9/15)

6V Anchorages (6/1 to 9/15)

6Y Special use destination

7II Subsistence area: Deer harvesting

See attached Ecological Constraint Sheet for specific constraints and contacts.

## SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled substrate and biota.

## ARCHAEOLOGICAL CONSTRAINTS:

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: Charles E. Adner DATE: 4/12/90

## OILING CATEGORIZATION:

Wide 98 m: Medium 16 m: Narrow 59 m: V.Light 454 m: No Oil 0 m  
Subsurface Oil Observed: Yes X No      Maximum Depth 20 cm

## RECOMMENDATIONS:

|                                      |                                             |
|--------------------------------------|---------------------------------------------|
| <u>    </u> No Treatment Recommended | <u>    </u> Snare/Absorbent Booms           |
| <u>X</u> Treatment Recommended       | <u>    </u> Oil Snares (pom poms)           |
| <u>X</u> Manual Pickup               | <u>    </u> Absorbents (pads, rolls, etc)   |
| <u>X</u> Bioremediation              | <u>    </u> Spot Washing: <u>    </u> Wands |
| <u>X</u> Tarmat: <u>    </u> Breakup | <u>    </u> Beach Cleaner                   |
| <u>    </u> <u>X</u> Removal         | <u>    </u> Other (see comments)            |

COMMENTS: Recommend break up and removal of tarmat, pick up of tar balls, and Bioremediation of areas shown on sketch map, ~~but not within 100m of stream~~. Work should be conducted from 5/16 to 7/9 based on above salmon constraints.

BIOREMEDIATION UP TO THE STREAM BANK. SUBJECT TO ADF&G CLARIFICATION.  
TAG COMMENTS:

TAG APPROVAL DATE: 4/17/90.

ADEC Aet Weimer Aet Weimer

EXXON AMY TEAL AMY TEAL

NOAA Burt Wescott Burt Wescott

USCG KENNETH KEANE Kenneth Keane

FOSC: Daryl L DATE: 4-22-90

OG C. DILLON

SEGMENT ST/ EL-52

SUBDIVISION B

DATE 04 APRIL 90

# CHECKLIST

- ☐ N Area
- ☐ Apprx. Scale
- ☐ Seg/Sub Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HYAL/VOL
- ☐ SSZ
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pit Location(s)
- ☐ Photo Location(s)

## LEGEND

1  $\Delta$   
P2 - No Subsurface Oil

2  $\Delta$   
P1 - Subsurface Oil

☐ CT/C  
Continuous Distribution

☐ CT/B  
Broken Distribution

☐ CT/P  
Patched Distribution

☐ CT/S  
Splashed Distribution

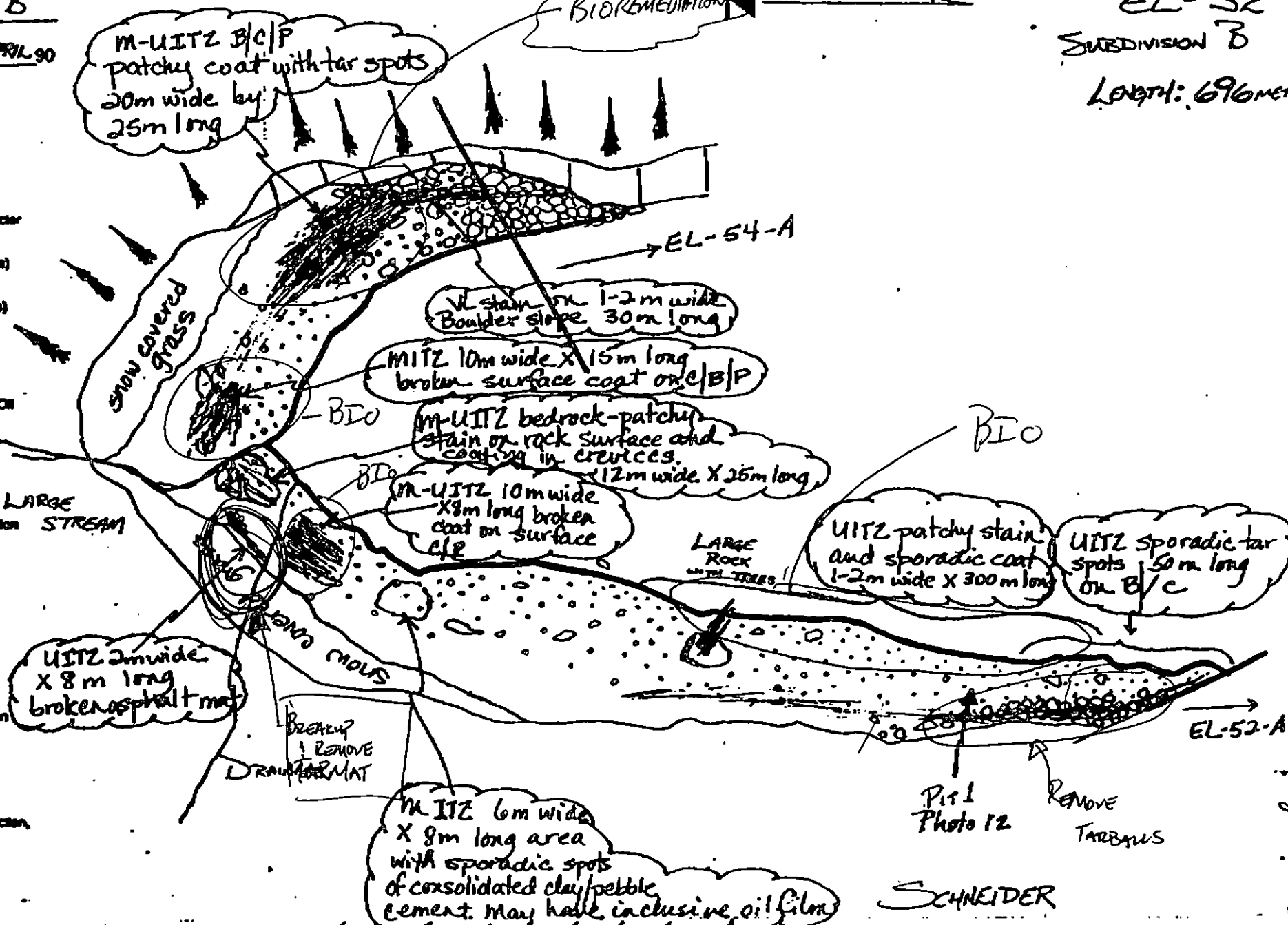
Oiled Vegetation

1  $\Rightarrow$   
Photo location, direction, and number

## SKETCH MAP

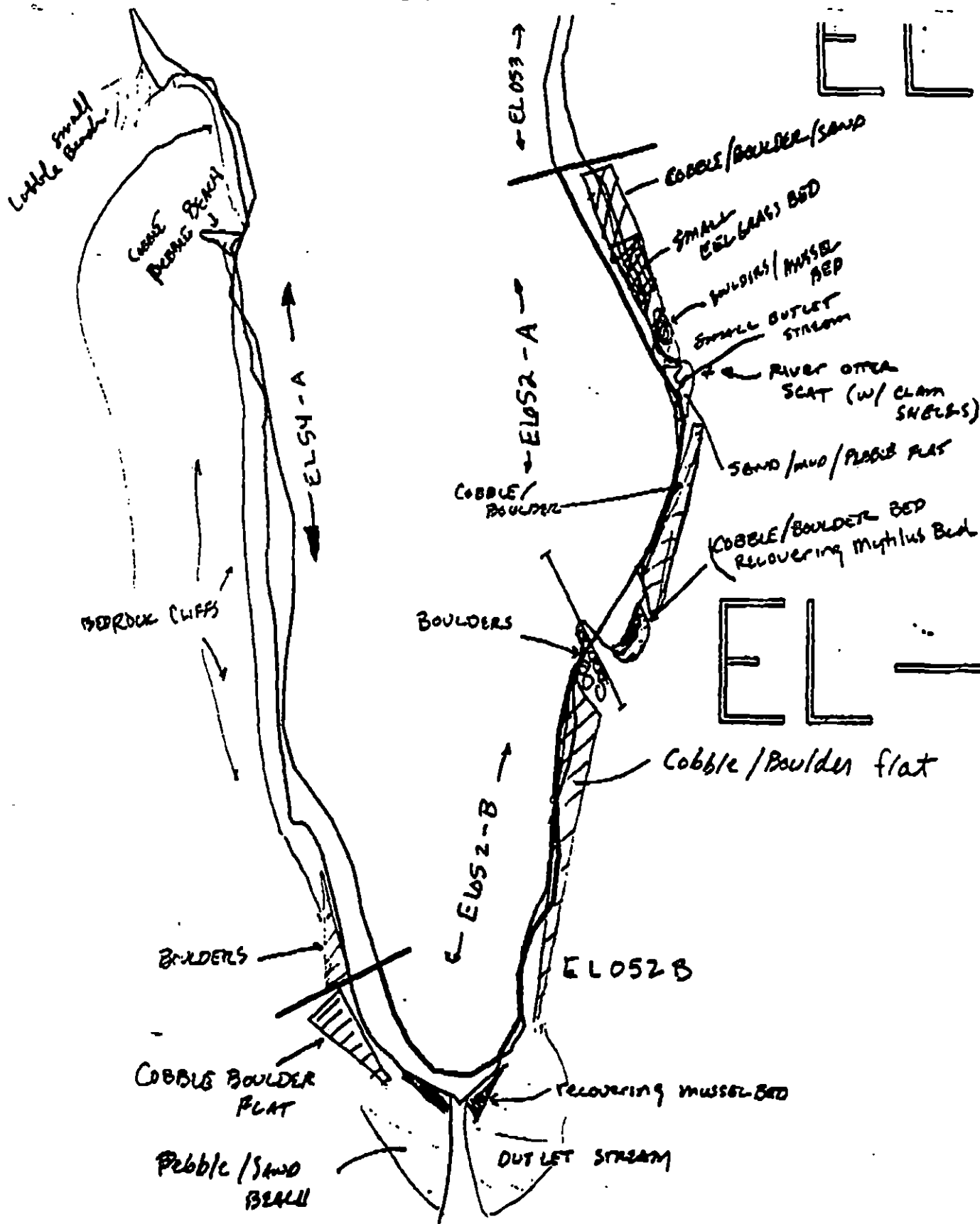
SEGMENT  
EL-52  
SUBDIVISION B

Length: 696m



Oil Character Length (m): AP 8 PO 0 CV 0 CT 73 ST 365 MS 0 PT 0 TB 50 FL 0 NO 210

REVISION: 0001-00



XXXX Wide  
 /// Medium  
 --- Narrow  
 TTTT Very Light  
 OOOO No Oil

EL-52

ADEC Segment Length: 1224m

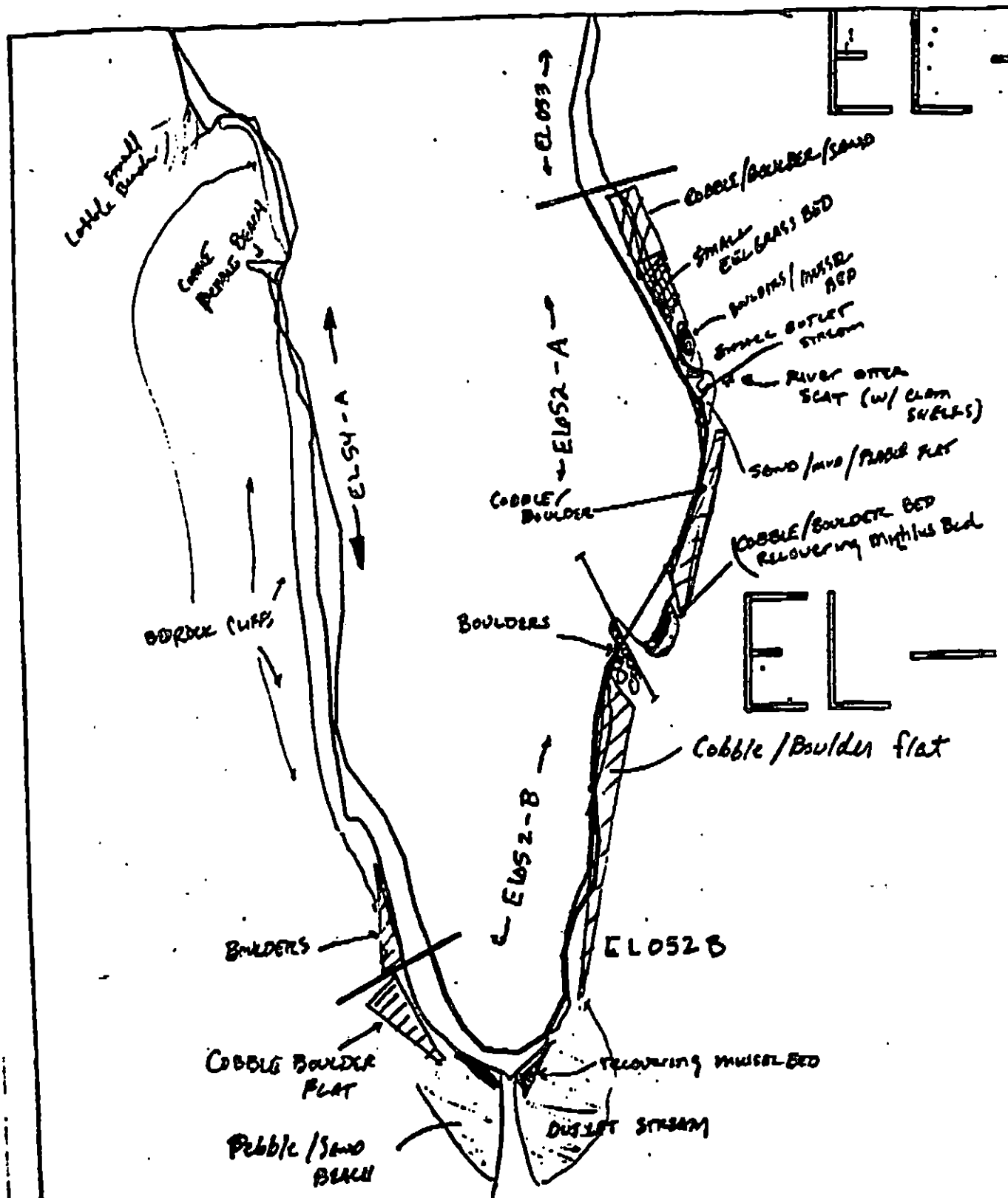


Map Key: PWS-135

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Date Entered: \_\_\_\_\_



XXXX Wide  
 /// Medium  
 --- Narrow  
 TTTT Very Light  
 OOOO No Oil

EL-52

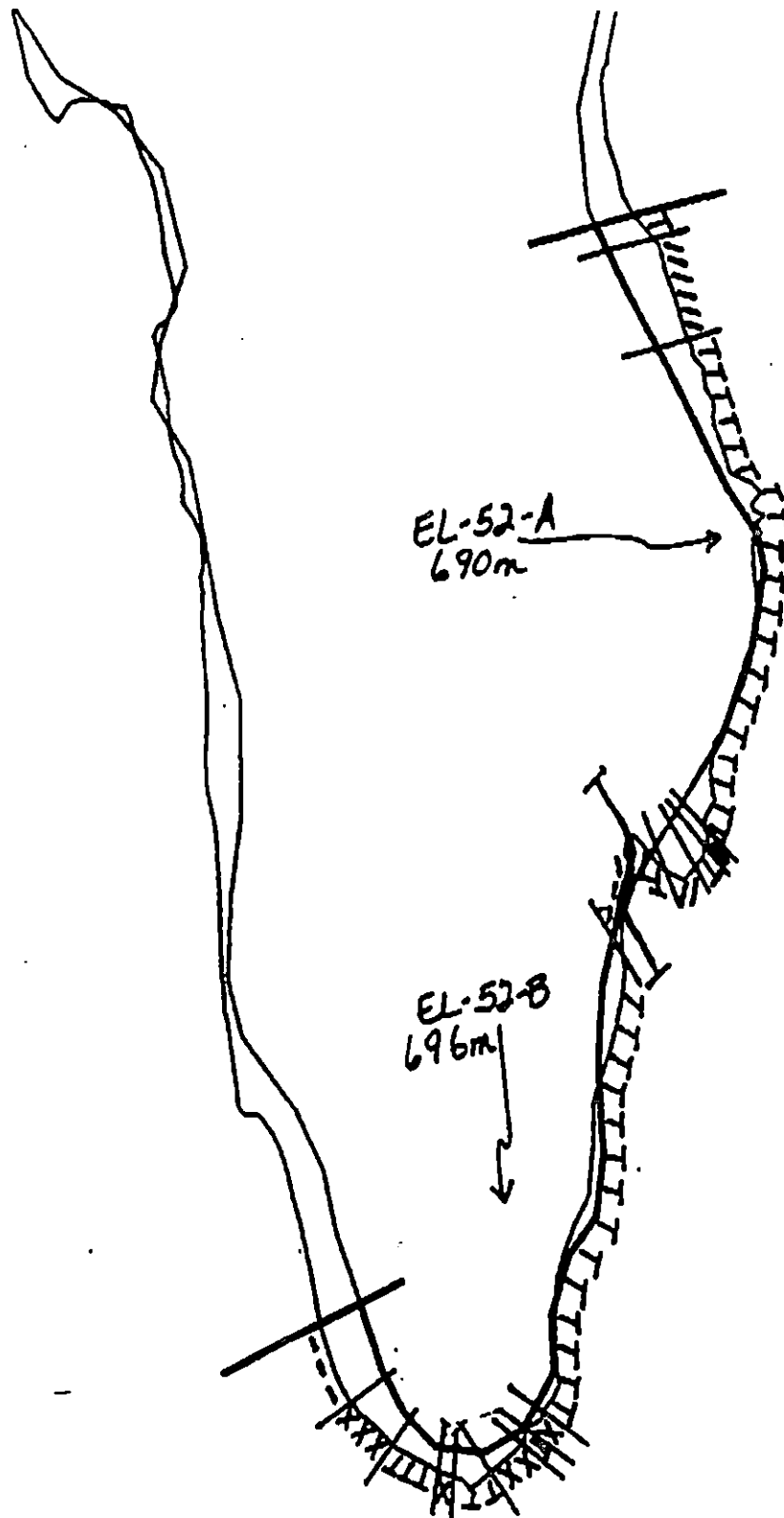
APCC Segment Length: 1224m

0 100 200 300  
 METERS

Map Key: PUS-135  
 Name: E. D. Drake  
 Date: 4/4/85  
 Date Entered: .

EL -

page 3 of 3



EL -

XXXX Wide  
 //// Medium  
 --- Narrow  
 TTTT Very Light  
 OOOO No Oil

EL-52

ADEC Segment Length: 1224m



Map Key: PWS-135

Name: C. DILLON

Date: EL-52-A 3/31/90

Date: EL-52-B 4/4/90

Date Entered:

ANADROMOUS FISH STREAM EVALUATION

6  
SEGMENT ST/ EL-52 STREAM NO: 226-10-16902 DATE 4/24/90

**SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:**

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)  
1B Salmon stream mouth - spawning (7/10 to 8/31)  
6Y Recreation: Special use destination  
6U Recreation: Tent sites (6/1 to 9/15)  
6V Recreation: Anchorages (6/1 to 9/15)  
7II Subsistence area: Deer harvesting (8/15 to 2/28)  
See attached Ecological Constraint sheet for specific constraints and contacts.

**SUBDIVISION ECOLOGICAL CONSTRAINTS:**

Avoid any unnecessary disturbance or damage to unoiiled biota and substrate. Subject stream is located in Subdivision B (2 of 2).

**ARCHAEOLOGICAL CONSTRAINTS:**

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: J. David McManis DATE: 5/10/90

Subsurface Oil Observed: Yes X No        Maximum Depth 10 cm

**RECOMMENDATIONS:**

|                                        |                                                 |
|----------------------------------------|-------------------------------------------------|
| <u>      </u> No Treatment Recommended | <u>      </u> Snare/Absorbent Booms             |
| <u>X</u> Treatment Recommended         | <u>      </u> Oil Snares (pom poms)             |
| <u>      </u> Manual Pickup            | <u>      </u> Absorbents (pads, rolls, etc)     |
| <u>X</u> Bioremediation                | <u>      </u> Spot Washing: <u>      </u> Wands |
| <u>      </u> Tarmat Removal           | <u>      </u> Beach Cleaner                     |
|                                        | <u>      </u> Other (see comments)              |

COMMENTS: Recommended treatment includes bioremediation of area of surface cover shown on attached sketch map. Work should be conducted between 7/10 and 8/15 based on salmon constraints with approval of ADF&G regarding bioremediation of stream banks.

TAG COMMENTS: MINORLY RAKE PRIOR TO BIO.

TAG APPROVAL DATE: 5/10/90.

ADEC Art Wagner  
EXXON Andy En  
NOAA Barb Wescott  
USCG D. D. Rome

FOSC:        DATE: 5-15-90





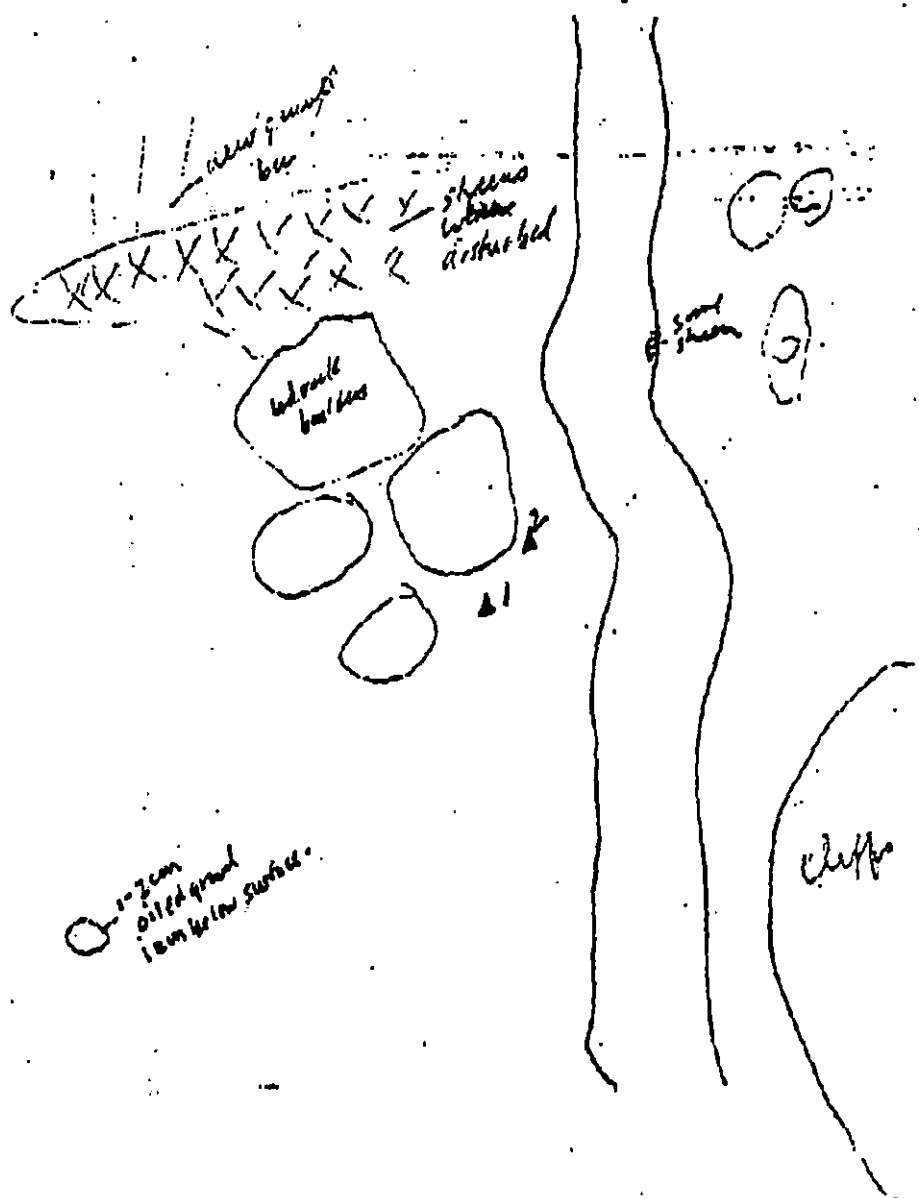
FRAME(S)

DESCRIPTION

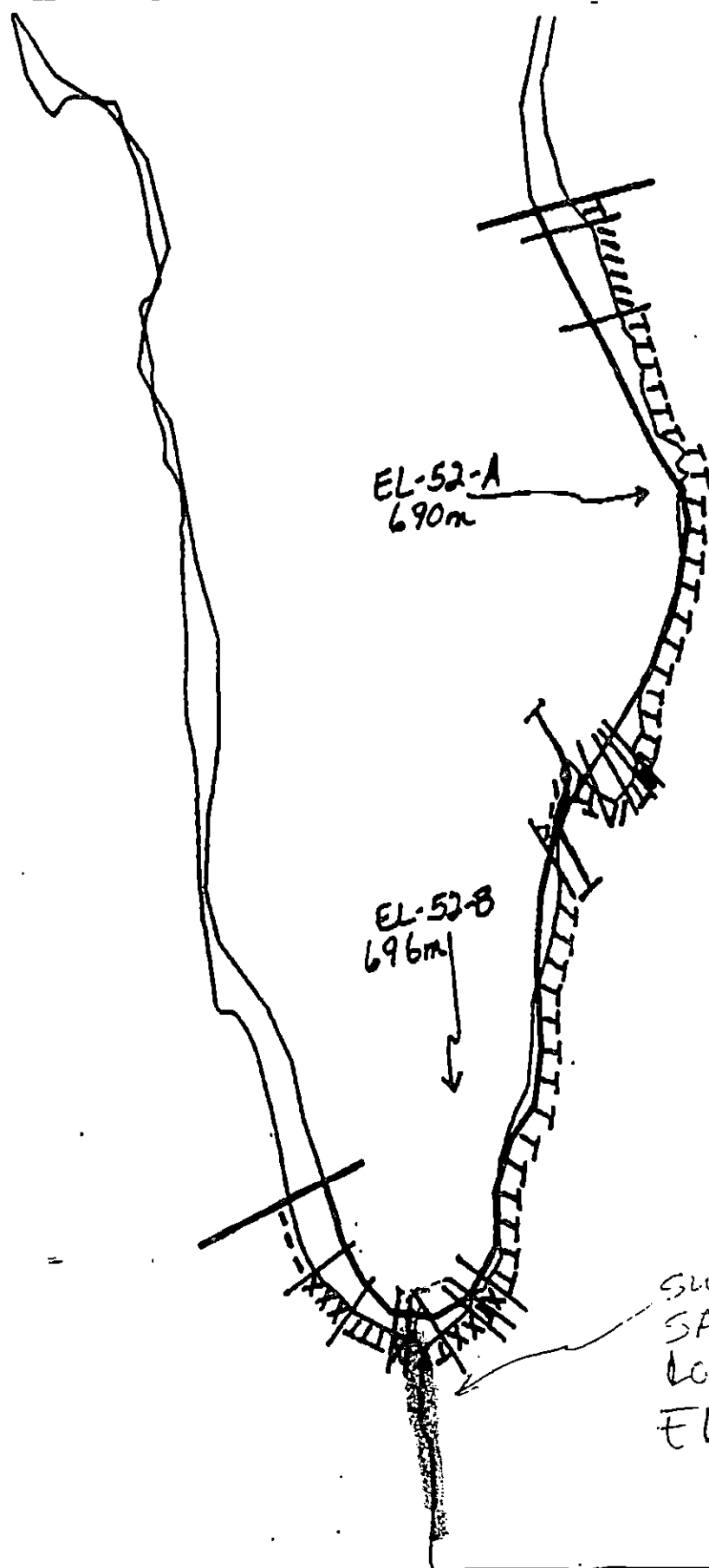
Pit 1 16 cm Surface to 1 cm oil  
Pit 2 22 cm deep 1 cm oil from bottom (5 cm to 10 cm deep oil)

The single largest pipe trailing in the middle of the tide zone. It is a large pipe with a large hole in the middle. It appears a large amount of oil was deposited here and has been at least 100 years old. The oil appears to be highly volatile and is distributed in pits at heavy stream. Its reaction is to the surface of the ground is cause for concern.

46 OIL DISTRIBUTION DIAGRAM



Sample taken  
from frame 1 and  
shot direction.



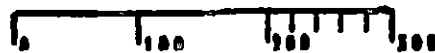
EL-1

SUBJECT  
SALMON STREAM  
LOCATED IN  
EL-52-B (2 of 2)

XXXX Wide  
//// Medium  
--- Narrow  
TTTT Very Light

EL-52

ADEC Segment Length: 1224m



Map Key: PWS-135

Name: C. DILLON  
 Date: EL-52-A 3/31/90  
EL-52-B 4/4/90

# ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 226-10-16902

SEGMENT EL-52 SUBDIVISION B

## WORK WINDOW

Bioremediation and Manual Raking  
Less Than 100m From Stream

WORK PRIOR TO 7/10  
(ADF&G MONITOR REQ.)

Bioremediation and Manual Raking  
More Than 100m From Stream

WORK PRIOR TO 8/15

## ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

## APPLICABLE ECOLOGICAL TIME CONSTRAINTS

### 1A,1B Salmon Stream

ADF&G catalogued anadromous stream (226-10-16902) is in Subdivision B. This subdivision is closed to bioremediation and manual raking less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation and manual raking are permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation and manual raking more than 100m from stream.

### 7II Subsistence: Deer Harvesting

Closed to manual raking and bioremediation after 8/15.

## OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or banks. No flushing of pollutants or sediments into stream drainage; do not allow Inpol to enter stream flow. On-site examination and consultation by ADF&G monitor is required prior to bioremediation in order to authorize a setback distance from the stream during chemical application; if ADF&G monitor's presence is impossible, authorization may be given by the ADEC monitor. Restrict boat and air traffic and beach disturbance to essential minimum after 8/15. Avoid any unnecessary disturbance or damage to uncollected biota and substrate.

SEE SUBDIVISION CONSTRAINT ADDENDUM EL-52B  
FOR ADDITIONAL CONSTRAINT INFORMATION.

FOSC

*[Signature]*

Date

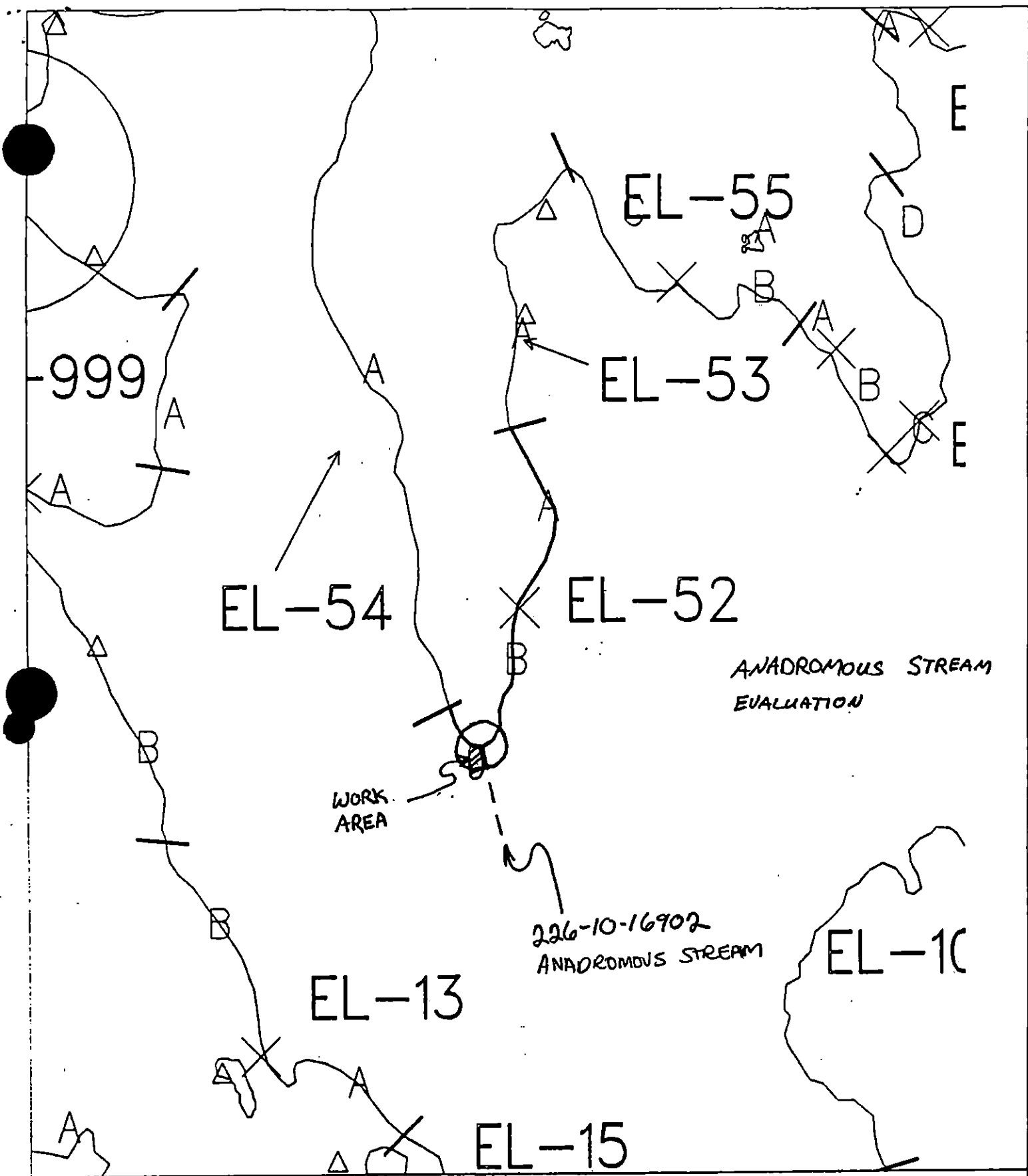
6-16-90

Prepared by

*[Signature]*

Date

6/15/90

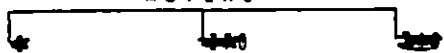


Exxon Company, USA  
 Map Key: PWS-EL-52  
 June 04, 1990



ECOLOGY MAP  
 SEGMENT EL-52  
 SUBDIVISION B (2 of 2)

METERS



- ★ Seabird Colony
- △ Active Eagle Nest
- △ Inactive Eagle Nest

~~1:100,000 Scale~~

# ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ EL-52 <sup>6</sup> STREAM NO: 226-10-16902 DATE 4/24/90

## SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)  
 1B Salmon stream mouth - spawning (7/10 to 8/31)  
 6Y Recreation: Special use destination  
 6U Recreation: Tent sites (6/1 to 9/15)  
 6V Recreation: Anchorages (6/1 to 9/15)  
 7II Subsistence area: Deer harvesting (8/15 to 2/28)  
 See attached Ecological Constraint sheet for specific constraints and contacts.

## SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Subject stream is located in Subdivision B (2 of 2).

## ARCHAEOLOGICAL CONSTRAINTS:

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: [Signature] DATE: 5/10/90

Subsurface Oil Observed: Yes X No        Maximum Depth 10 cm

## RECOMMENDATIONS:

|                                        |                                                 |
|----------------------------------------|-------------------------------------------------|
| <u>      </u> No Treatment Recommended | <u>      </u> Snare/Absorbent Booms             |
| <u>X</u> Treatment Recommended         | <u>      </u> Oil Snares (pom poms)             |
| <u>      </u> Manual Pickup            | <u>      </u> Absorbents (pads, rolls, etc)     |
| <u>X</u> Bioremediation                | <u>      </u> Spot Washing: <u>      </u> Wands |
| <u>      </u> Tarmat Removal           | <u>      </u> Beach Cleaner                     |
|                                        | <u>      </u> Other (see comments)              |

COMMENTS: Recommended treatment includes bioremediation of area of surface cover shown on attached sketch map. Work should be conducted between 7/10 and 8/15 based on salmon constraints with approval of ADF&G regarding bioremediation of stream banks.

SEE CONSTRAINTS ADDENDUM (date)  
6/15/90

TAG COMMENTS: MINUTELY RAKE PRIOR TO BIO.

TAG APPROVAL DATE: 5/10/90  
 ADEC Art Warner  
 EXXON [Signature]  
 NOAA [Signature]  
 USCG D.O. Rome

FOSC: [Signature] DATE: 5-15-90

ANADROMOUS FISH STREAM ASSESSMENT

REGION: PRINCE WILLIAM SOUND

SEGMENT: EL-52

STREAM NO: 226-10-16902

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ EL-52 A STREAM NO: 226-10-16902 DATE 4/24/90

**SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:**

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)  
1B Salmon stream mouth - spawning (7/10 to 8/31)  
6Y Recreation: Special use destination  
6U Recreation: Tent sites (6/1 to 9/15)  
6V Recreation: Anchorages (6/1 to 9/15)  
7II Subsistence area: Deer harvesting (8/15 to 2/28)

See attached Ecological Constraint sheet for specific constraints and contacts.

**SUBDIVISION ECOLOGICAL CONSTRAINTS:**

Avoid any unnecessary disturbance or damage to uncoiled biota and substrate. Subject stream is located in Subdivision B (2 of 2).

**ARCHAEOLOGICAL CONSTRAINTS:**

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

Subsurface Oil Observed: Yes X No \_\_\_\_\_ Maximum Depth 10 cm

**RECOMMENDATIONS:**

|                                                           |                                                        |
|-----------------------------------------------------------|--------------------------------------------------------|
| <input type="checkbox"/> No Treatment Recommended         | <input type="checkbox"/> Snare/Absorbent Booms         |
| <input checked="" type="checkbox"/> Treatment Recommended | <input type="checkbox"/> Oil Snares (pom poms)         |
| <input type="checkbox"/> Manual Pickup                    | <input type="checkbox"/> Absorbents (pads, rolls, etc) |
| <input checked="" type="checkbox"/> Bioremediation        | <input type="checkbox"/> Spot Washing: _____ Wands     |
| <input type="checkbox"/> Tarmat Removal                   | <input type="checkbox"/> Beach Cleaner                 |
|                                                           | <input type="checkbox"/> Other (see comments)          |

COMMENTS: Recommended treatment includes bioremediation of area of surface cover shown on attached sketch map. Work should be conducted between 7/10 and 8/15 based on salmon constraints with approval of ADF&G regarding bioremediation of stream banks.

TAG COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TAG APPROVAL DATE: \_\_\_\_\_

ADEC \_\_\_\_\_  
EXXON \_\_\_\_\_  
NOAA \_\_\_\_\_  
USCG \_\_\_\_\_

FOSC: \_\_\_\_\_ DATE: \_\_\_\_\_

# PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

Salmon stream mouth - fry outmigration (3/1 to 5/15)

Salmon stream mouth - spawning (7/10 to 8/31)

No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.

AGENCY CONTACT PERSON: ADF&G John Morison 267-2324

1C Salmon fry nursery area (4/31 to 7/31)

No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.

AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214

1D Esther Hatchery release (4/15 to 6/15)

1E Main Bay Hatchery release (4/20 to 6/15)

1F Sawmill Bay Hatchery release (4/15 to 6/1)

1G Cannery Creek Hatchery release (4/21 to 6/1)

1H Remote release site

No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.

AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214

1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511

1I Gill net area (6/7 to 8/31)

1J Purse seine area (7/20 to 9/30)

1K Purse seine hook-off (7/20 to 9/30)

1L Set net sites (6/11 to 7/25)

Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

AGENCY CONTACT PERSON: ADF&G James Brady 424-3212

2M Herring spawning (4/1 to 6/15)

Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to unopened intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235

3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)

3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)

Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.

AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235

ADF&G Don Calkins 267-2403

5R Seabird colony (5/1 to 9/1)

Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

5S Shorebird/waterfowl concentration (4/1 to 5/15)

Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

ADF&G Tom Roth 267-2206

5T All Bald Eagle nests (3/1 to 6/1)

Active Bald Eagle nests (3/1 to 9/1)

Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

Recreation:

Tent sites (6/1 to 9/15)

Anchorage (6/1 to 9/15)

Forest Service cabins (6/1 to 9/15)

Lodge (6/1 to 9/15)

Special use destination

7Z Subsistence area: Salmon harvesting (5/1 to 9/30)

Finfish harvesting

Deer harvesting (8/15 to 2/28)

Invertebrate harvesting

Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.

AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359



## FIELD SHORELINE COMMENT SHEET

3A/46

SEGMENT ST/ FL-052 SUBDIVISION: <sup>ASC #</sup> 226-10-16902 DATE 24 APR 90

USCG

NAME Kevin L. Disher

SIGNATURE

Kevin L. Disher☐ NO TREATMENT RECOMMENDED  
COMMENTS☒ TREATMENT SUGGESTED~~ADPC~~ <sup>ADPC</sup>NAME Rick Gustin

SIGNATURE

Rick Gustin☐ NO TREATMENT RECOMMENDED  
COMMENTS☒ TREATMENT SUGGESTED

Perform work using proper tidal window (0-1.5)  
Remove oiled sediments in heavily oiled section  
west of stream channel near bed rock boulders in  
lower 1/2 of middle I.T.Z., and upper 1/2 of lower I.T.Z.  
Survey and remove any other sporadic oiled sediments

~~LAND MANAGER~~ <sup>NONE</sup>NAME Rick Gustin

SIGNATURE

Rick Gustin☐ NO TREATMENT RECOMMENDED  
COMMENTS☒ TREATMENT SUGGESTED

Found in the Upper ITZ or middle, lower ITZ.  
After removal fill these areas and apply Bolson  
Process.  
Remove sediments, gravels - any where sheering is  
noted.

cover →

ADF:G  
COMMENTS  
CONT.

Remove oiled sediments in heavily oiled section west of stream channel near bedrock boulders in Lower & middle I.T.Z., and upper & L.I.T.Z.

32/48

Survey & remove any other sporadic oiled segments found in Upper I.T.Z. or middle, lower I.T.Z. After removal fill these areas and apply Bolting Process.

Remove sediments, gravels - anywhere sheening is noted.

Remove any oiled debris or vegetation found.

Oiled sediments / gravels can be hauled to whither for composting (Bolting process) for use in road maintenance.

## SHORELINE OILING SUMMARY (ANAO)

REVISION NO. 04/25/90

OG CAL LARSON USOG ROTHNER, CME SEGMENT BT/ EL 52 21/42  
 BIO REN CRITCHLOW LAND REP STREAM 120-10-16402 ( OF )  
 EXXON DARRELL YESS ADE 2.4 KANTON-ALICE WESSEMAN TIME 11:00 1011:30  
 TEAM NO. 14 TIDE LEVEL 1.4 ft DATE 4/24/90  
 EST. SUBDIVISION LENGTH: 20 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow  
 UPLANDS DESCRIPTION: ☐ Grass ☐ Forest ☐ Rock  
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo  
 SURFACE SEDIMENTS: R 100 % B 10 % O 50 % P 90 % G 50 % S 10 % M 10 % V 10 %  
 SLOPE: Long 100 % Hang 10 % Vert 10 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High  
 OIL CATEGORY LENGTH: W 10 m M 10 m N 4 m VL 10 m NO 20 m

## SURFACE OIL

| CHARACTER        | DISTRIBUTION |   |   |   | OIL / FILM COLOR |   |   |   | IMPACTED ZONES |    |    |   |
|------------------|--------------|---|---|---|------------------|---|---|---|----------------|----|----|---|
|                  | S            | E | P | N | 1                | 2 | 3 | 4 | SW             | SE | NE | U |
| ASPHALT PAVEMENT |              |   |   |   |                  |   |   |   |                |    |    |   |
| POOLED           |              |   |   |   |                  |   |   |   |                |    |    |   |
| COVER            |              |   |   |   |                  |   |   |   |                |    |    |   |
| COAT             |              |   |   |   |                  |   |   |   |                |    |    |   |
| STAIN            |              |   |   |   |                  |   |   |   |                |    |    |   |
| MOUSSE           |              |   |   |   |                  |   |   |   |                |    |    |   |
| PATTIES          |              |   |   |   |                  |   |   |   |                |    |    |   |
| TARBALLS         |              |   |   |   |                  |   |   |   |                |    |    |   |
| FILM             |              |   |   |   |                  |   |   |   |                |    |    |   |
| NO OIL           |              |   |   |   |                  |   |   |   |                |    |    |   |

PAVEMENT H P S 14 sq m by 1 cmPATTIES/TARBALLS 1 BAGS

NEAR SHORE SHEEN? NO BR (RW) SL TL

| OILED DEBRIS | AMOUNT |    |    |
|--------------|--------|----|----|
|              | SM     | MD | LG |
| Logs         |        |    |    |
| Vegetation   |        |    |    |
| Trash        |        |    |    |
| Debris       |        |    |    |

Did You Collect  
 DEBRIS ☐ YES ☒ NO

TYPE 1#BAGS 1

Photographs:

Roll No. 1Frames 1

## SUBSURFACE OIL

| PIT NO. | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER |    |    |    |    | OILED INTERNAL | BELOW |    | OIL / FILM COLOR |   |   |   | PIT ZONE |    |    |   | A N A | OIL DEBRIS (CM) | Y | SURFACE SUBSURFACE SEDIMENTS |
|---------|----------------|--------------------------|----|----|----|----|----------------|-------|----|------------------|---|---|---|----------|----|----|---|-------|-----------------|---|------------------------------|
|         |                | OF                       | ON | CL | OF | NO |                | US    | US | 1                | 2 | 3 | 4 | SW       | SE | NE | U |       |                 |   |                              |
| 1       | 16             |                          |    |    |    |    |                |       |    |                  |   |   |   |          |    |    |   |       |                 |   | CB, GR 50                    |
| 2       | 22             |                          |    |    |    |    |                |       |    |                  |   |   |   |          |    |    |   |       |                 |   | CB, GR 50                    |
|         |                |                          |    |    |    |    |                |       |    |                  |   |   |   |          |    |    |   |       |                 |   | CB, GR 50                    |
|         |                |                          |    |    |    |    |                |       |    |                  |   |   |   |          |    |    |   |       |                 |   |                              |
|         |                |                          |    |    |    |    |                |       |    |                  |   |   |   |          |    |    |   |       |                 |   |                              |
|         |                |                          |    |    |    |    |                |       |    |                  |   |   |   |          |    |    |   |       |                 |   |                              |
|         |                |                          |    |    |    |    |                |       |    |                  |   |   |   |          |    |    |   |       |                 |   |                              |
|         |                |                          |    |    |    |    |                |       |    |                  |   |   |   |          |    |    |   |       |                 |   |                              |

COMMENTS Swamped on incoming tide / did not see any lower tidal zone / standing in lower mid tidal zone / I walked out into water - sheening when sediment were disturbed.

REVIEWED SW DATE 4-25-90







18/40

Seg ID: EL-052 Subdiv: 226-10-16902  
Survey Date: 4/24/90  
Comments by: Ken Critchlow

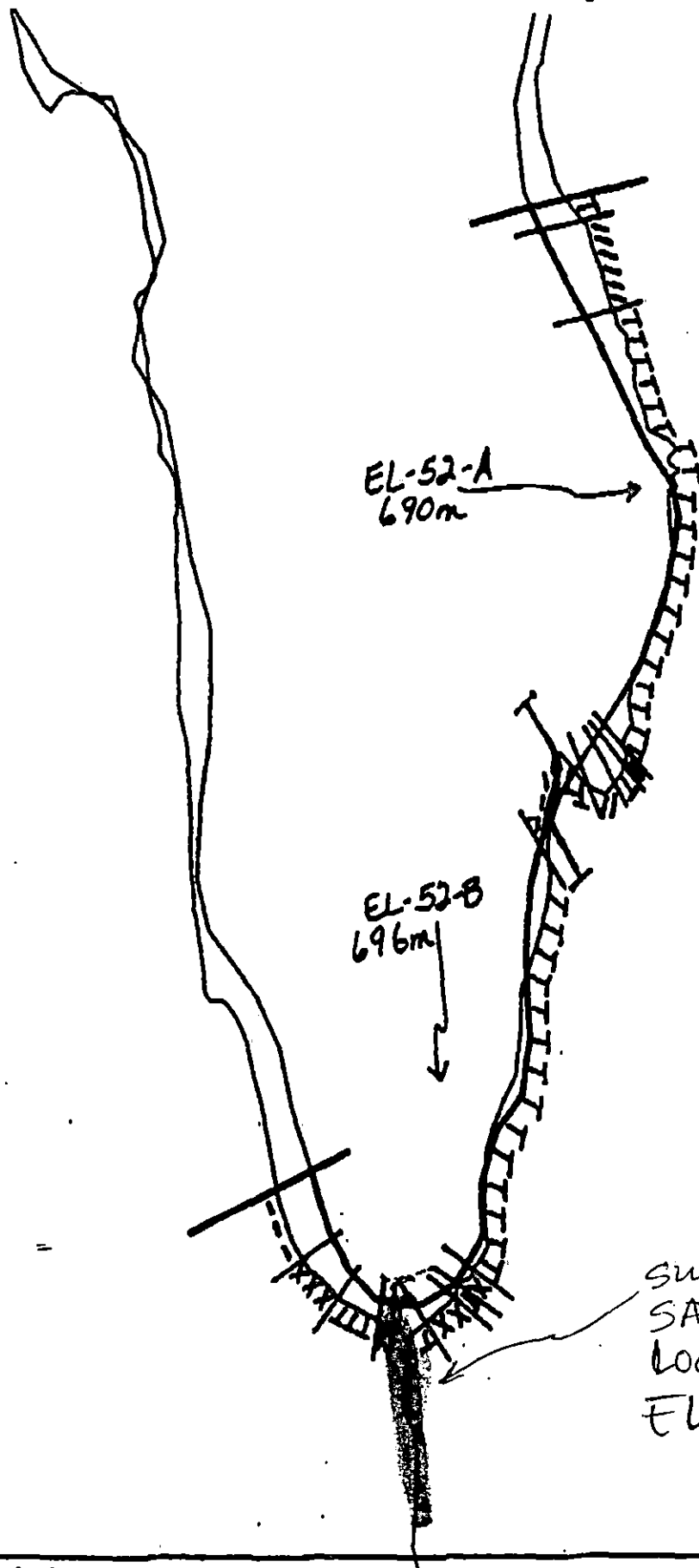
Oil cover was observed in a small area near the right stream bank in the upper LITZ and sheen was seen along the left bank in the MITZ. Subsurface oil was present in one pit in the upper LITZ.

Oiled sediments can be removed by a small crew using shovels. It may be necessary to fill the subsurface sediments in the oiled LITZ followed by application of Inipol. The stream should be protected from contamination using snare booms.

KR Critchlow

EL -

page 3 of 3



EL -

XXXX Wide  
 //// Medium  
 --- Narrow  
 TTTT Very Light  
 OOOO No Oil

EL-52

ADEC Segment Length: 1224m



Map Key: PWS-135

Name: C. DILLON

Date: EL-52-A 3/31/90  
EL-52-B 4/4/90

Date Entered:



**SEGMENT EL-52 SUBDIVISION B ( 2 of 2 )**

| WORK WINDOW                               |                    |
|-------------------------------------------|--------------------|
| Manual Pickup<br>Tarmat Removal           | OPEN               |
| Bioremediation over 100m from stream      | WORK PRIOR TO 8/15 |
| Bioremediation less than 100m from stream | CLOSED             |

### ARCHAEOLOGICAL STANDARD CONSTRAINT

**If cultural resources are uncovered. PHONE 564-3274.**

### APPLICABLE ECOLOGICAL TIME CONSTRAINTS

### 1A.1B Salmon stream

ADF&G catalogued anadromous stream is present in Subdivision (226-10-16902). Subdivision is closed to Bloremediation less than 100m from stream without ADF&G authorization. No constraint to bloremediation more than 100m from stream. No constraint to Manual Pickup and Tarmat Removal.

711 **Subsistence: Deer harvesting** No constraint to Manual Pickup and Tarmat Removal;  
closed to Bioremediation after 8/15.

### OTHER ECOLOGICAL CONSIDERATIONS

**No disturbance of stream bed or banks. No flushing of pollutants or sediments into stream drainage. Restrict boat and air traffic to essential minimum after 8/15. Avoid any unnecessary disturbance or damage to unrolled substrate and biota.**

TAG ADDENDUM DATE 5/18/90  
ADEC Art Wolkowicz Art Weismann  
EXXON ARMY TEAM Real FOSC M L DATE 5-18-90  
NOAA Joseph Talbot  
USCG B.A. Breiter

Prepared by: Arden Momen WRK

Date: 5/17/90

## SHORELINE EVALUATION

SEGMENT ST/ EL-52 SUBDIVISION B (2 OF 2) DATE 3/31/90

### SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-10-16902

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)

1B Salmon stream mouth - spawning (7/10 to 8/31)

6U Recreation: Tent sites (6/1 to 9/15)

6V Anchorages (6/1 to 9/15)

6Y Special use destination

7II Subsistence area: Deer harvesting

See attached Ecological Constraint Sheet for specific constraints and contacts.

### SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to uncoiled substrate and biota.

### ARCHAEOLOGICAL CONSTRAINTS:

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: Charles E. Adams DATE: 4/17/90

### OILING CATEGORIZATION:

Wide 98 m: Medium 16 m: Narrow 59 m: V.Light 454 m: No Oil 0 m  
Subsurface Oil Observed: Yes X No      Maximum Depth 20 cm

### RECOMMENDATIONS:

     No Treatment Recommended

X Treatment Recommended

X Manual Pickup

X Bioremediation

X Tarmat:      Breakup

X Removal

     Snare/Absorbent Booms

     Oil Snares (pom poms)

     Absorbents (pads, rolls, etc)

     Spot Washing:      Wands

     Beach Cleaner

     Other (see comments)

COMMENTS: Recommend break up and removal of tarmat, pick up of tar balls, and Bioremediation of areas shown on sketch map, ~~but not within 100m of stream.~~ Work should be conducted from 5/16 to 7/9 based on above salmon constraints.

BIOREMEDIATION UP TO THE STREAM BANK. SUBJECT TO ADF&G CLARIFICATION.  
TAG COMMENTS:

TAG APPROVAL DATE: 4/17/90.

ADEC Aet Weiner Dot Weiner

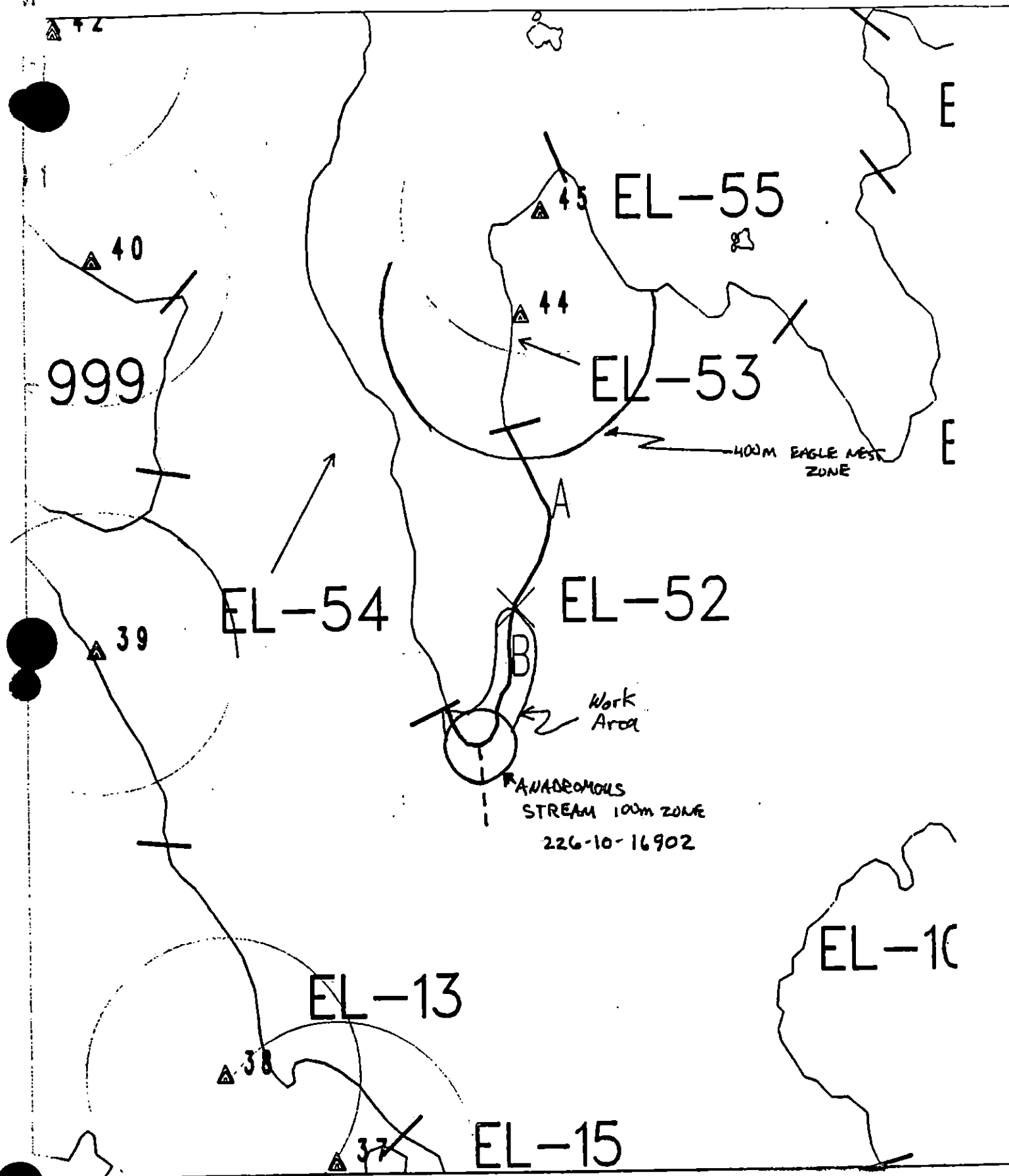
EXXON Shury Bell Paul

NOAA Bruce Wescott Bruce Wescott

USCG KENNETH KEANE Kenneth Keane

FOSC: Ray L DATE: 4-23-90

Revised, See Addendum dated 5/17/90, wjk



Exxon Company, USA  
Map Key: KNI-EL-52

**ECOLOGY MAP**  
SEGMENT EL-52  
SUBDIVISION B (2 of 2)  
METERS

- |   |                |
|---|----------------|
| ★ | Seabird Colony |
| △ | Eagle Nest     |

1:25,000 = 1914 Feet

## ADDENDUM: SUBDIVISION CONSTRAINTS

- SEGMENT EL-52 SUBDIVISION A ( 1 of 2 )

| WORK WINDOW                     |                    |
|---------------------------------|--------------------|
| Manual Pickup                   | OPEN               |
| Bioremediation<br>Manual Raking | WORK PRIOR TO 8/15 |

### ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

### APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

NO CONSTRAINT. ADF&G catalogued anadromous stream (226-10-16902) is located in adjacent Subdivision B more than 100m from work area.

5T Bald Eagle Nest

NO CONSTRAINT. USFWS bald eagle impact assessment completed on 5/19/90 by Mike Lockhart indicates no active nests within 400m of the work area.

7II Subsistence: Deer Harvesting

No constraint to manual pickup. Closed to bioremediation and manual raking after 8/15.

### OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic and beach disturbance to essential minimum after 8/15. Avoid any unnecessary disturbance or damage to unrolled blots and substrate.

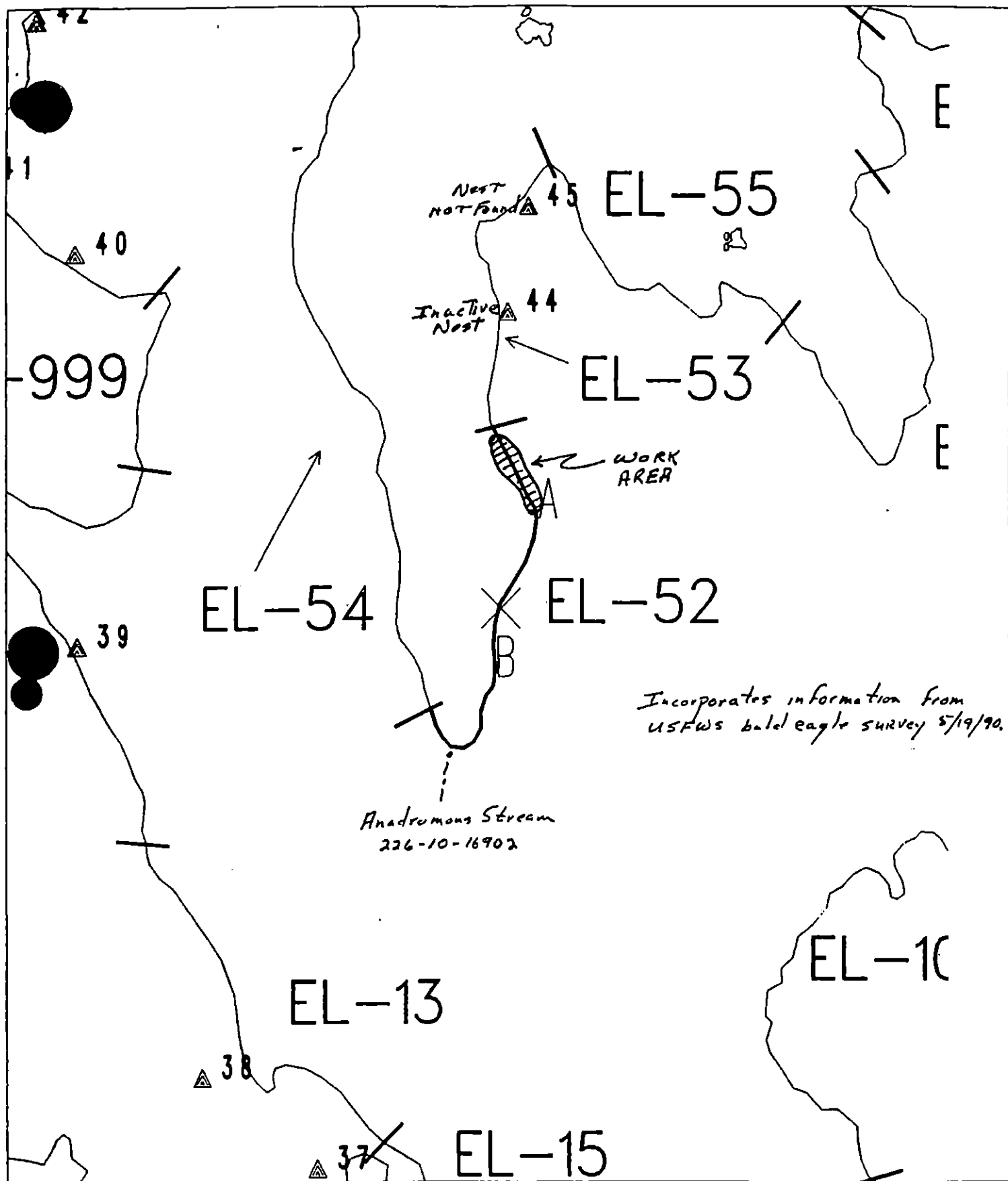
FOSC

DATE 6-10-90

Prepared By:

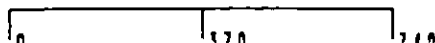
Date

6/9/90



Exxon Company, USA  
Map Key: KNI-EL-52  
May 11, 1990

ECOLOGY MAP 5/30  
SEGMENT EL-52  
SUBDIVISION A (1 of 2)  
METERS



- ★ Seabird Colony
- △ Eagle Nest

1 inch = 1014 feet

# SHORELINE EVALUATION

SEGMENT ST/ EL-52 SUBDIVISION A (1 OF 2) DATE 3/31/90

## SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Salmon stream mouth (ADF&G catalogue no. 226-10-16902 Rev. 12/89) - fry outmigration (1A) - 3/1 to 5/15 and spawning (1B) - 7/10 to 8/31; Recreation tent sites (6U) - anchorages (6V) and special use destination (6Y) - 6/1 to 9/15; Subsistence area for deer harvesting (7II) - 8/15 to 2/28).

## SUBDIVISION ECOLOGICAL CONSTRAINTS:

(1A)(1B) No disturbance of stream bed or banks unless authorized by ADF&G. Contact ADF&G Habitat Division prior to treatment for permits.

## ARCHAEOLOGICAL CONSTRAINTS:

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: Charles E. Adams

DATE: 4/12/90

## OILING CATEGORIZATION:

Wide 0 m: Medium 100 m: Narrow 37 m: V. Light 451 m: No Oil 9 m  
Subsurface Oil Observed: Yes X No      Maximum Depth 15 cm

## RECOMMENDATIONS:

|                                                                   |                                                          |
|-------------------------------------------------------------------|----------------------------------------------------------|
| <input type="checkbox"/> No Treatment Recommended                 | <input type="checkbox"/> Snare/Absorbent Booms           |
| <input checked="" type="checkbox"/> Treatment Recommended         | <input type="checkbox"/> Oil Snares (pom poms)           |
| <input checked="" type="checkbox"/> Manual Pickup                 | <input type="checkbox"/> Absorbents (pads, rolls, etc)   |
| <input checked="" type="checkbox"/> Bioremediation                | <input type="checkbox"/> Spot Washing: <u>    </u> Wands |
| <input type="checkbox"/> Tarmat: <input type="checkbox"/> Breakup | <input type="checkbox"/> Beach Cleaner                   |
| <input type="checkbox"/> Removal                                  | <input type="checkbox"/> Other (see comments)            |

COMMENTS: Recommend manual pick up of tar balls and oiled logs if oiled more than splash and 10% coverage, and bioremediate coat and stain and subsurface oil as shown on attached sketch map. Work should be conducted between 5/16 and 7/9 based on above salmon constraints.

RAKE IN AREA OF TEST PITS AS SHOWN ON SKETCH.

TAG COMMENTS:

See Constraint Addendum Dated 6/9/90 LHK

TAG APPROVAL DATE: 4/17/90

ADEC Art Wenzel  
EXXON ANN TATE  
NOAA Burl Wescott  
USCG James H. Hickey

FOSC: Y

DATE: 4-21-90

1991 MAYSAP EVALUATION

SEGMENT: EL 052 SUB: A REGION: PWS SURVEY DATE: 5/21/91

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) RESTRICTED 3/1 - 9/15

Ecological/Constraints (see page two for details) Eagle nest,  
Subsistence - Deer harvesting

ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is  
required prior to shoreline treatment.

SHPO Signature: Timothy A Smith

Date: 6/07/91

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

N

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: JUNE 6 1991

FOSC APPROVAL DATE: 6/10/91

ADEC

FOSC

EXXON

E. E. PAGE, CDR, USCG  
CHIEF OF STAFF, FOSC

USCG

NOAA

**ECOLOGICAL CONSTRAINTS  
1991 FIELD ACTIVITIES**

**Eagle Nest:** Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.

**Subsistence - Deer Harvesting:** Unlimited treatment prior to 8/15.



## MAYSAP FIELD SHORELINE COMMENT SHEET

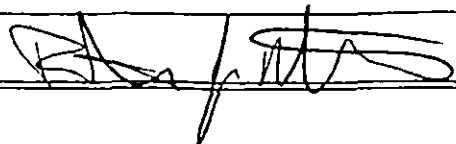
TEAM NO. 2 SEGMENT E1 52 SUBDIVISION A DATE 5/2/91

## ADEC

NAME

Peter Montesano

SIGNATURE



NTR



TREATMENT RECOMMENDED

This Subdivision has an extended, low slope tidal zone with a green zone high up the beach. Oil persists, as during SSAT, throughout the green zone along the north end of E-52A. This is a minimum energy area and does not seem to be flushing visible. The oil, largely 56/BR mobile, is trapped in the fine sediments. Accessing the oil would cause disturbance to the five ITZ.

## EXXON

NAME

FRANK BOY

SIGNATURE



NTR

Not enough oil to warrant clean up activity.

## LANDMANAGER

NAME

DENNIS S. KENNEDY OF USFS

SIGNATURE



NTR

Rocky shoreline with good bio. habitat throughout. Most sub-surface oiling is found around healthy coral life. This area receives some recreational use. More clean up work is not recommended.

## USCG/NOAA NOAA D. SMYGER-BENTT J. Linnell-Koate

NAME

BRI M. P. ZENONE USCG

SIGNATURE



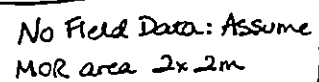
NTR

Very small amounts of surface and subsurface oil was found on this segment. The one area that contained soil was removed by MASAP team members. No treatment recommended D-B

CG - NO TREATMENT RECOMMENDED

REVIEWED: MC 5/30/91





OG SKETCH  
EL 52 A  
MAY 21, 1991  
14:00 - 15:00  
Doug Reimer

Rock VITZ **A**  
CT < 1% BTR  
1/2 x 30m

VERY minor  
Silver Sheen  
in Run off by  
STream

CT/CV 10%  
1 X 25m (BTR)  
Rock U I T Z

CT 5% (BTR)  
1 x 10m  
Rock Unit 2

CT/CV 5% E  
3 x 30m BTR  
ROCK/BLDS UITS

LOW SLOPE BEACH.  
C/B over PG-S (Peat)

CT 5-10% LF  
under Boulders  
3-5 x 60

CT 5% B  
1 x 10m  
Rock Uitz

SOR (Heavy) 40%  
1 x 2m

Removed

Beach widths  $\approx 30$  meters

Reviewed: MC 5/30/91  
Reviewed: STEPH KG

# MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 2 DATE 21 May 91  
 SEGMENT # EL 52 TIDAL HEIGHT (Range) 1 ft  
 SUBDIVISION A BIOLOGIST Sm Bw  
 SEA STATE calm WIND SPEED/DIRECTION calm  
 PHOTOGRAPHS: ROLL # — FRAME # —

## COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):

A+B: CT/BTR high in ITZ on rock face - within & above lichen zone. Dense algae, recent spitz, limpets, limpets & mussels on boulders in mid to lower ITZ. A peanut worm (sipunculid) was found when digging pit # 7.

C+D: CT/CV/BTR within and above lichen zone. Tidal flats seaward of "A B C + D" support large clam beds. Numerous Protothaca & Saxidomus shells littered the surface. Siphon holes were also numerous indicating dense living clams sub-surface. This is a high use area for otters as indicated by the many otter pits. Larger, old barnacles were also observed on boulders immediately adjacent to the clam beds.

E: Also high in ITZ in lichen zone. Additional clam beds seaward (above description applies here). Dense sea grass beds (Phyllospadix) observed sub-totally.

The SOR was removed from a naturally depauperate area.

## WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

| BIRDS            | # OF SPECIES | TOTAL BIRDS | FISH OBSERVED<br>SPECIES PRESENT |
|------------------|--------------|-------------|----------------------------------|
| Eagles           |              |             |                                  |
| Seabirds         |              |             |                                  |
| Waterfowl        |              |             |                                  |
| Gulls/kittiwakes |              |             |                                  |
| Shorebirds       |              |             |                                  |
| Corvids          |              |             |                                  |
| Other Birds      |              |             |                                  |

| MARINE MAMMALS      | # OBSERVED | LAND MAMMALS<br>SPECIES | # OBSERVED |
|---------------------|------------|-------------------------|------------|
| Sea Otters          |            |                         |            |
| Pinnipeds (specify) |            |                         |            |
| Bales (specify)     |            |                         |            |

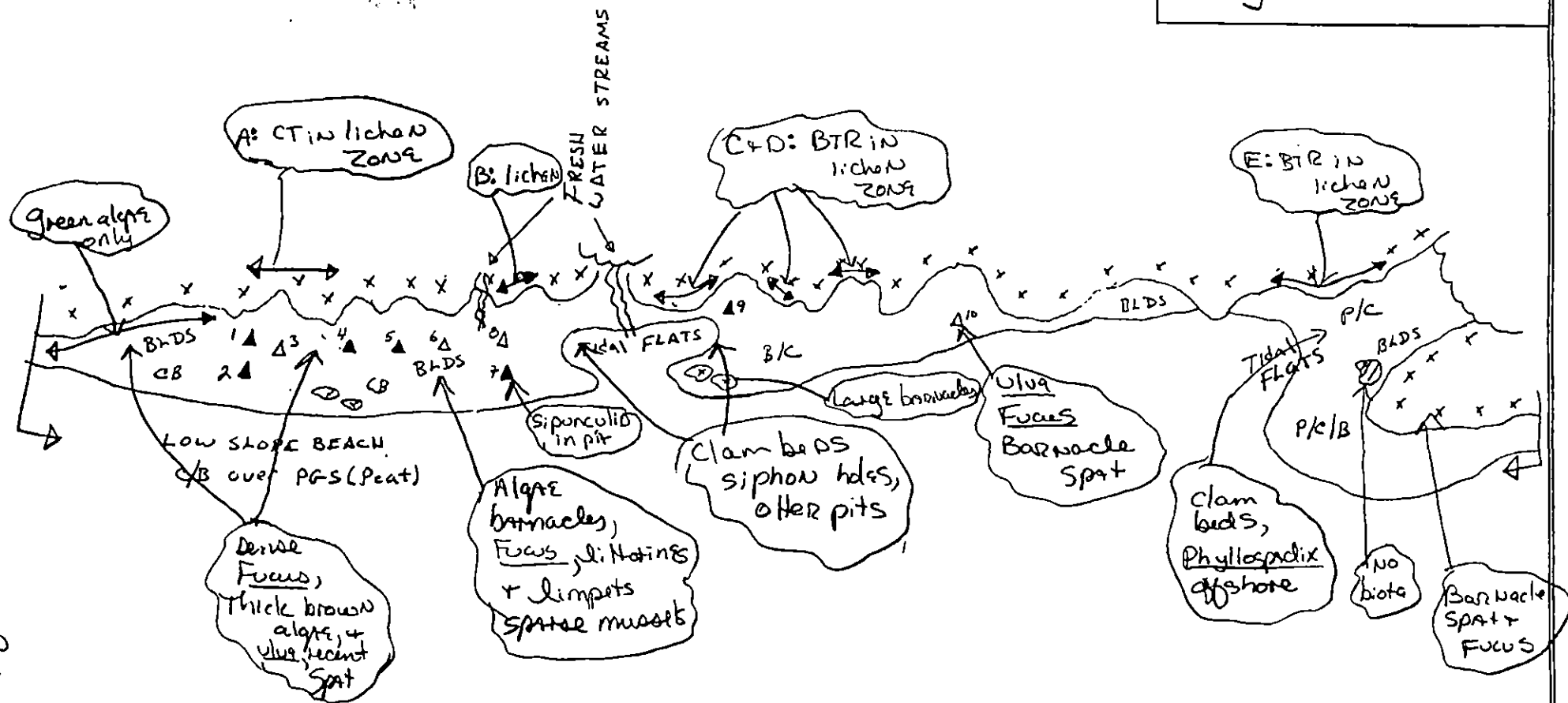
Shoreline subdivision map showing important biological features attached.

Reviewed M.B. 5/29/91

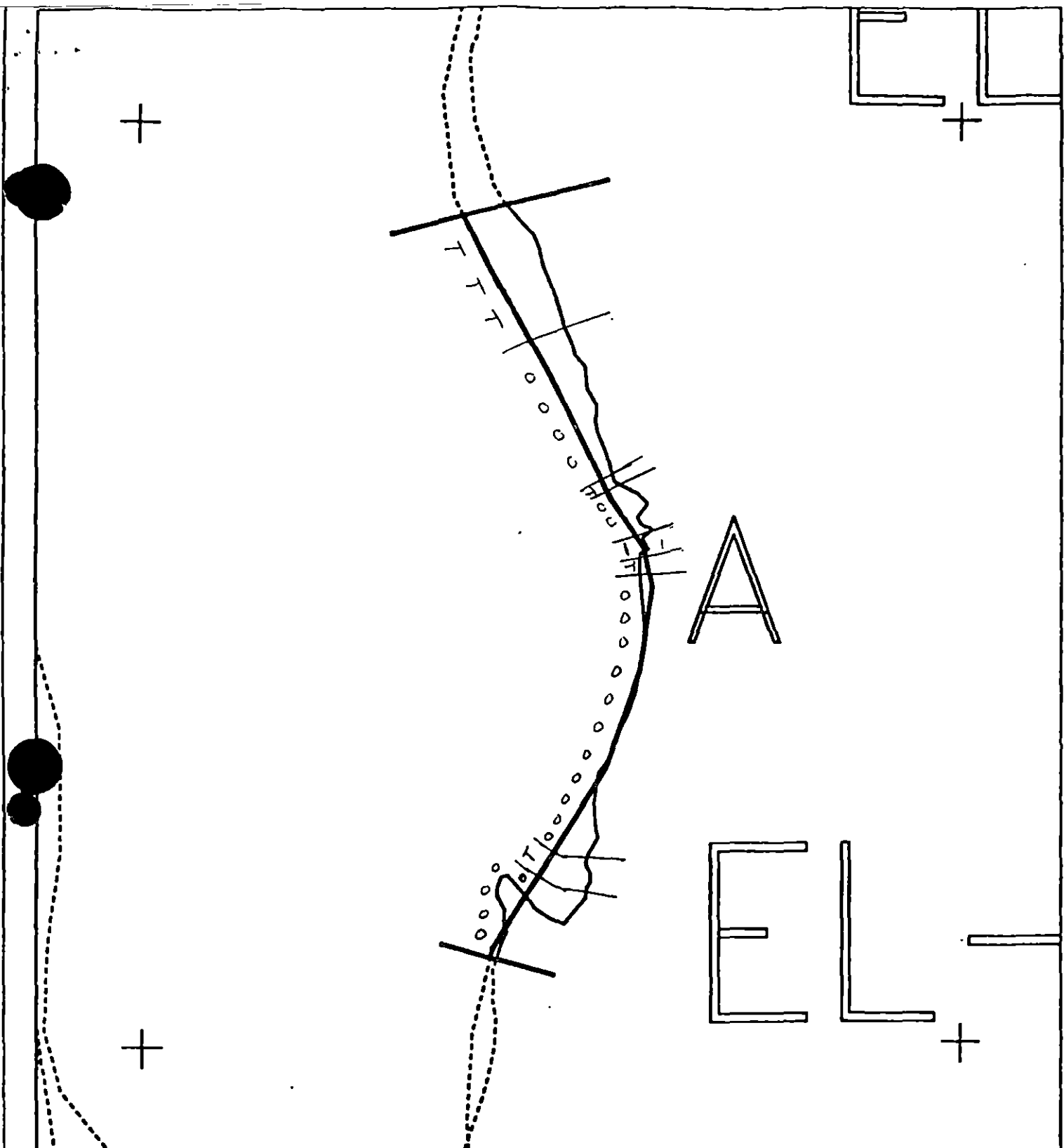


SWB 21 May  
91

OG SKETCH  
EL 52 A  
MAY 20, 1991  
14:00 - 15:00  
Doug Reimer



Revised M.B. 5/21/91



XXXX Wide  
 //// Medium  
 --- Narrow  
 TTTT Very Light  
 OOOO No Oil

EL052 A

ADEC Subsegment Length: 506m  
 METERS

0 100 200  
 AK State Plane Zone 4  
 601052a



Subdivision Field Map  
 Map Key: KNELO52A  
 Name: Reimer  
 Date: 5/21/91  
 Date Entered:

REVIEWED: MC 5/30/91  
 reviewed 5/28/91 KG

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/EL-52

SUBDIVISIONS: B (2 OF 2)



SHORELINE EVALUATION

SEGMENT ST/ EL-52 SUBDIVISION B (2 OF 2) DATE 3/31/90

**SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:**

ADF&G anadromous stream no. 226-10-16902

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)

1B Salmon stream mouth - spawning (7/10 to 8/31)

6U Recreation: Tent sites (6/1 to 9/15)

6V Anchorages (6/1 to 9/15)

6Y Special use destination

7II Subsistence area: Deer harvesting

See attached Ecological Constraint Sheet for specific constraints and contacts.

**SUBDIVISION ECOLOGICAL CONSTRAINTS:**

Avoid any unnecessary disturbance or damage to unoiled substrate and biota.

**ARCHAEOLOGICAL CONSTRAINTS:**

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**OILING CATEGORIZATION:**

Wide 98 m: Medium 16 m: Narrow 59 m: V.Light 454 m: No Oil 0 m  
Subsurface Oil Observed: Yes X No \_\_\_\_\_ Maximum Depth 20 cm

**RECOMMENDATIONS:**

|                                                                                         |                                                        |
|-----------------------------------------------------------------------------------------|--------------------------------------------------------|
| <input type="checkbox"/> No Treatment Recommended                                       | <input type="checkbox"/> Snare/Absorbent Booms         |
| <input checked="" type="checkbox"/> Treatment Recommended                               | <input type="checkbox"/> Oil Snares (pom poms)         |
| <input checked="" type="checkbox"/> Manual Pickup                                       | <input type="checkbox"/> Absorbents (pads, rolls, etc) |
| <input type="checkbox"/> Bioremediation                                                 | <input type="checkbox"/> Spot Washing: _____ Wands     |
| <input checked="" type="checkbox"/> Tarmat: <input checked="" type="checkbox"/> Breakup | <input type="checkbox"/> Beach Cleaner                 |
| <input type="checkbox"/> <input checked="" type="checkbox"/> Removal                    | <input type="checkbox"/> Other (see comments)          |

COMMENTS: Recommend break up and removal of tarmat, pick up of tar balls, and Bioremediation of areas shown on sketch map, but not within 100m of stream. Work should be conducted from 5/16 to 7/9 based on above salmon constraints.

**TAG COMMENTS:**

TAG APPROVAL DATE: \_\_\_\_\_

ADEC \_\_\_\_\_

EXXON \_\_\_\_\_

NOAA \_\_\_\_\_

USCG \_\_\_\_\_

FOSC: \_\_\_\_\_ DATE: \_\_\_\_\_

# FIELD SHORELINE COMMENT SHEET

SEGMENT ST / EL-52-B SUBDIVISION: B DATE 4/6/90

USCG NAME David A. Schneider SIGNATURE David A. Schneider

☐ NO TREATMENT RECOMMENDED  
COMMENTS

☒ TREATMENT SUGGESTED

Manual breakup and removal of tar/asphalt mat in UITE.  
Manual scrapping and removal of tar spots and coat in MITE and  
UITE along eastern stretch of subdivision and in MITE & UITE  
along south western corner of subdivision. SITE reassessed  
after snowmelt.

ADEC NAME Peter Montesano SIGNATURE Peter Montesano

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS OF CONCERN to ADFG is a 2x8m patch of Asphalt to west side of  
The Small drainage in the South East corner of B. This should be manually removed.  
Seemap.

There is some additional Asphaltting to the North (on map) and some cementing which  
appears to be oil related. These should be broken and/or removed.

The Rock outcrop at the Southern has oil in cracks to be wiped &  
removed.

The area is not bro'able due to the primary clean surface sediments. I  
recommend that ADFG examine the stream at the Southern end, and to  
check the Supratidal, snow covered grasses and if necessary dig additional  
Pits by stream.

## LAND MANAGER

NAME JANETTA PRITCHARD SIGNATURE Janetta Pritchard

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Nice recreational beach. Overall treatment recommendation  
is manual clean up of tar & asphalt, hand wiping  
by oilid devices. Possible removal of some cobbles  
adjacent to stream. Care needs to be taken to not  
disturb the mouth of the stream used by spawning  
salmon. Reassess the SUPRA after the snow melt.

OG C. DILLON USCG D. SCHNEIDER SEGMENT ST/ EL-52  
 BIO ST. BARRY LAND REP J. PRITCHARD (PS) SUBDIVISION B (242)  
 EXXON A. SNOOK ADEC P. MONTESANO TIME 15:45 to 17:00  
 TEAM NO.: 6 TIDE LEVEL: +1.75 to +1.5 DATE 04/04/90  
 EST. SUBDIVISION LENGTH: 696 m ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☒ Snow  
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☐ Rock  
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: NW to SE  
 SURFACE SEDIMENTS: R 5 % B 30 % C 40 % P 20 % G 5 % S C % M C % V C  
 SLOPE: Long 100 % Hang 0 % Vert C % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High  
 OIL CATEGORY LENGTH: W 75 m M C m N 150 m VL 261 m NO 210

### SURFACE OIL

| CHARACTER        | DISTRIBUTION |    |    |    | OIL / FILM COLOR |    |    |    |    | IMPACTED ZONES |   |   |   |
|------------------|--------------|----|----|----|------------------|----|----|----|----|----------------|---|---|---|
|                  | 10           | 15 | 17 | 18 | 20               | 25 | 30 | 35 | 40 | SU             | U | M | U |
| ASPHALT PAVEMENT |              | X  |    |    |                  |    |    |    | X  |                | X |   |   |
| POOLED           |              |    |    |    |                  |    |    |    |    |                |   |   |   |
| COVER            |              |    |    |    |                  |    |    |    |    |                |   |   |   |
| COAT             |              | X  |    | ✓  |                  |    |    | X  | ✓  | X              | ✓ | ✓ | ✓ |
| STAIN            |              | ✓  | X  |    |                  |    |    |    | X  | X              | ✓ | ✓ | ✓ |
| MOUSSE           |              |    |    |    |                  |    |    |    |    |                |   |   |   |
| PATTIES          |              |    |    |    |                  |    |    |    |    |                |   |   |   |
| TARBALLS         |              |    |    | X  | X                |    |    |    |    | X              |   |   |   |
| FILM             |              |    |    |    |                  |    |    |    |    |                |   |   |   |
| NO OIL           |              |    |    |    |                  |    |    |    |    | S              |   |   | X |

PAVEMENT: H (F) S 6 sq. m by 2

PATTIES (TARBALLS) 1 BAC

NEAR SHORE SHEEN? NO BR RW (SL) (T)

| OILED DEBRIS | AMOUNT |    |    |
|--------------|--------|----|----|
|              | SM     | MD | LG |
| Logs         |        |    |    |
| Vegetation   |        |    |    |
| Trash        |        |    |    |
| Debris       |        |    |    |

DEBRIS COLLECT ☐ YES ☒ NO

TYPE C

#BAGS C

Photographs:

Roll No. ST-64

Frames 12

### SUBSURFACE OIL

| PIT NO. | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER |    |    |    |    | OILED INTERVAL (cm) | BELOW |    | OIL / FILM COLOR |    |    |    |    | PIT ZONE |   |   |   | A N A | SUBSURFACE SEDIMENTS |
|---------|----------------|--------------------------|----|----|----|----|---------------------|-------|----|------------------|----|----|----|----|----------|---|---|---|-------|----------------------|
|         |                | OP                       | OR | OL | OF | NO |                     | VO    | UC | 20               | 25 | 30 | 35 | 40 | SU       | U | M | U |       |                      |
| 1       | 30             | X                        |    |    |    |    | 0-12                |       |    |                  |    |    |    | X  | X        |   |   |   |       | C/P/G                |
| 1       | 30             | X                        |    |    |    |    | 12-20               | X     |    |                  |    | X  |    |    | X        |   |   |   |       | P/G                  |
|         |                |                          |    |    |    |    | .                   |       |    |                  |    |    |    |    |          |   |   |   |       |                      |
|         |                |                          |    |    |    |    | .                   |       |    |                  |    |    |    |    |          |   |   |   |       |                      |
|         |                |                          |    |    |    |    | .                   |       |    |                  |    |    |    |    |          |   |   |   |       |                      |
|         |                |                          |    |    |    |    | .                   |       |    |                  |    |    |    |    |          |   |   |   |       |                      |

COMMENTS

# SHORELINE ECOLOGICAL SUMMARY

REVISION: 05/22/90

Segment ST/EL052 Subdivision B Date (mo/day/yr) April 4 1990

Time (24 hr) 1445 Biologist JIM BARRY Length 69L

(A) Substrate type and % of segments:  
(1) Bedrock 5 (2) Boulder 30 (3) Cobble 40 (4) Pebble 20 (5) Sand 5 (6) Silt

(B) Overall % cover of biota (% of segment): Dense 20 Moderate 70 Low 10

(C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles/adults (X), new settlement (3)

Photographs: Roll No. ST-6-4

Frames 13-17

## BARNACLES

| Dense    | Moderate | Sparse   | Rare     |             |
|----------|----------|----------|----------|-------------|
| 1U 1M 1L | 1U 1M 1L | 1U 1M 1L | 1U 1M 1L |             |
| 2 2 2    | 2 2 2    | 2 2 2    | 2 2 2    |             |
| 3 3 3    | 3 3 3    | 3 3 3    | 3 3 3    |             |
| 4 4 4    | 4 4 4    | 4 4 4    | 4 4 4    |             |
| 5 5 5    | 5 5 5    | 5 5 5    | 5 5 5    |             |
| 6 6 6    | 6 6 6    | 6 6 6    | 6 6 6    | NOT PRESENT |

## MYTILUS

| Dense    | Moderate | Sparse   | Rare     |             |
|----------|----------|----------|----------|-------------|
| 1U 1M 1L | 1U 1M 1L | 1U 1M 1L | 1U 1M 1L |             |
| 2 2 2    | 2 2 2    | 2 2 2    | 2 2 2    |             |
| 3 3 3    | 3 3 3    | 3 3 3    | 3 3 3    |             |
| 4 4 4    | 4 4 4    | 4 4 4    | 4 4 4    |             |
| 5 5 5    | 5 5 5    | 5 5 5    | 5 5 5    |             |
| 6 6 6    | 6 6 6    | 6 6 6    | 6 6 6    | NOT PRESENT |

## GASTROPODS

| Dense    | Moderate | Sparse   | Rare     |             |
|----------|----------|----------|----------|-------------|
| 1U 1M 1L | 1U 1M 1L | 1U 1M 1L | 1U 1M 1L |             |
| 2 2 2    | 2 2 2    | 2 2 2    | 2 2 2    |             |
| 3 3 3    | 3 3 3    | 3 3 3    | 3 3 3    |             |
| 4 4 4    | 4 4 4    | 4 4 4    | 4 4 4    |             |
| 5 5 5    | 5 5 5    | 5 5 5    | 5 5 5    |             |
| 6 6 6    | 6 6 6    | 6 6 6    | 6 6 6    | NOT PRESENT |

## FUCUS

| Dense    | Moderate | Sparse   | Rare     |             |
|----------|----------|----------|----------|-------------|
| 1U 1M 1L | 1U 1M 1L | 1U 1M 1L | 1U 1M 1L |             |
| 2 2 2    | 2 2 2    | 2 2 2    | 2 2 2    |             |
| 3 3 3    | 3 3 3    | 3 3 3    | 3 3 3    |             |
| 4 4 4    | 4 4 4    | 4 4 4    | 4 4 4    |             |
| 5 5 5    | 5 5 5    | 5 5 5    | 5 5 5    |             |
| 6 6 6    | 6 6 6    | 6 6 6    | 6 6 6    | NOT PRESENT |

## Wildlife Observations/ General Comments:

SEAL TAGS DEAD SEA OTTER ON BEACH - NO OIL, HEAVILY DECOMPOSED.  
PLAGIC CORMORANT  
BARROW'S GOLDFINCH  
RAVEN.

## Ecological Considerations: 1B, 644V 711

- 1) Salmon Spawning Stream mouth (1A). Clean up activities should avoid this area stream mouth due to salmon spawning.
- 2) SANDY/PEBBLE BEACH HAS AREAS WITH RECOVERING MUSSEL BEDS - AVOID HEAVY foot traffic or machinery.

## PWS ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)  
 1B Salmon stream mouth - spawning (7/10 to 8/31)  
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
- 1C Salmon fry nursery area (4/31 to 7/31)
- 1D Esther Hatchery release (4/15 to 6/1)
- 1E Main Bay Hatchery release (4/20 to 5/10)
- 1F Sawmill Bay Hatchery release (4/20 to 5/10)
- 1G Cannery Creek Hatchery release (4/21 to 6/1)
- 1H Remote release site
- 1I Gill net area (6/7 to 8/31)
- 1J Purse seine area (7/21 to 9/30)
- 1K Purse seine hook-off (7/20 to 9/30)
- 1L Set net sites (6/11 to 7/25)  
 For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
- 2M Herring spawning (4/1 to 6/15)  
 Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
- 3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)  
 3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)  
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
- 5R Seabird colony (5/1 to 9/1)  
 Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)  
 Restrict all activity to essential minimum, especially air traffic.
- 5T All Bald Eagle nests (3/1 to 6/1)  
 Active Bald Eagle nests (3/1 to 9/1)  
 Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
- 6U Recreation: Tent sites (6/1 to 9/15)
- 6V Anchorages (6/1 to 9/15)
- 6W Forest Service cabins (6/1 to 9/15)
- 6X Lodge (6/1 to 9/15)
- 6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
- 7HH Finfish harvesting
- 7II Deer harvesting (8/15 to 2/28)
- 7JJ Invertebrate harvesting  
 For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

April 6 1990

3/5

## II MAJOR SPECIES

- A. BARNACLES - MODERATE densities were found overall, as would be expected in this habitat. *Balanus glandula* was the primary species.
- B. MYTILUS - Mussels were moderate to sparse overall, but were very patchy, with occasionally high densities. Boulders and cobble on the flat frequently had patches of mussels. Spat or small juveniles also were found in most areas. On the beach (pebbles), mussels were scarce overall, but were dense in patches where mussel beds were developing.
- C. GASTROPODS - Rare or occasionally dense on the pebble beach, and otherwise moderate.
- D: FUCUS. Except on the pebble beach, where fucus was absent, fucus was dense on cobble & boulders in the mid to low zones.

## III Species List.

## A. MARINE PLANTS

## 1) DIATOMS / BLUE GREEN ALGAE

## 2) Green algae - CHLOROPHYTA

SPERMATOPHYTES / ACROSPHONIA D12

ULVA M12

ULOSPORA M12

CLADOPHORA S12

ENTEROMORPHA S12

## 3) RED ALGAE - RHODOPHYTA

PORPHYRA S12

PETROCELIS S1

RHODOMELA LARIX S1

RHODYMENIA palmata M12

BOSSIELLA spp R1

CALLIANTHUS R1

CORALLINA R1

EUDOCLEA R1

HALOSACCION S12 \*

IRIDARIA S12

\* SPAT OR JUVENILES PRESENT

D Dense

M Moderate

S Sparse

R Rare

1 Bedrock

2 Boulder

3 Cobble

4 Pebble

5 Sand

START : 7 AM 10' 00"  
STOP

TIDEAL WINDOW

## I GENERAL COMMENTS.

THIS subdivision has 2 major features, 1) a stream mouth/beach and 2) a cobble/boulder flat.

1) The stream mouth/beach has important biological features. First this is a spawning stream for salmon (designated by special sensitivities). As such care should be taken to avoid disturbance to the stream bed outlet area during and after the salmon spawn. In addition, the pebble beach has a patchy cover of mussels, some areas appear to be forming mussel beds. Heavy foot traffic or machinery traffic could disrupt this recovery and should be avoided.

2) The Cobble/Boulder flat, or low angle beach, has a large proportion of sands and pebbles used by infaunal species such as clams and worms. Several species of clam shells are found on this beach, but I was unable to find live individuals of each species.

| Clam Shells                        | Live Clams      |
|------------------------------------|-----------------|
| Scallop ( <i>Chlamys</i> spp.)     | NO              |
| Winger ( <i>Pododemus</i> spp)     | YES (juveniles) |
| Cockle ( <i>Clinocardium</i> spp)  | NO              |
| Clam ( <i>Macoma</i> spp)          | YES (juveniles) |
| Steamer Clam ( <i>Protothaca</i> ) | YES (juveniles) |
| Butter Clam ( <i>Saxidomus</i> )   | NO              |
| ? Clam ( <i>Hiatella</i> )         | YES - juveniles |

The "missing species" may have been present, but undelisted, or may live in slightly deeper water and wash ashore as empty shells, or may have been killed by oil and have yet to recover.

Other species found on the flat that are typical and important in sand flat habitats are the weenie worm (*Eteone* spp), large infaunal worms (*Nephtyidae*, *Urechidae*), and crabs (*Hemigrapsus oregonensis*).

Overall, this a cobble/sand flat appears to be healthy, or

3) Red Algae (cont)

Lithothamnion R1

MEMBRANOPTERA S12

CRYPTOSIPHONIA S12

MICROCLADIA/PTEROCADIA (S12)

MASTOCARPUS S1

4) BROWN ALGAE - PHAEOPHYTA

FUCUS DISTICUS - D12

LAMINARIA spp - S12

HILDEBRANDIA - S1

RALFIA S1

COSTARIA S1

ALARIA S12

SYTOSIPHON S12

5) ANIMALS

A. BARNACLES

Semibalanus cariosus \* S1

Balanus glandula \* M12

ORTHOMALUS DALLI \* M12

2) Crabs

PAGURIDAE - Hermit Crabs - \* M123

Hemigrapsus oregonensis \* M123

HAPLOGASTER R23

3) Amphipods

Orchestra? spp. M-D 23

Anonyx spp.? R2

4) BEACH HOPPERS - ISOPODA - S12

5) MUSSELS - Mytilus edulis M12 \*

6) SNAILS

Littorina scutulata M123 \*

L. sitkana \* M123

Nucella lamellosa S12 \*

N. emarginata S12

Scarlesia dira S12 \*

7) Limpets

Tectura laevis S123 \*

T. persana S12

Siphonaria R12

7) Centinurus - Linguals

Lottia persana S12 \*

L. digitalis S12 \*

8) CHITONS

Katharina tunicata R12 \*

9) Sea Stars

Pyrenopoda spp. S12 \*

Leptasterias M123 \*

Orthasterias S12

10) Scallop / Clams

Pododesmus S123 \*

Hiatella spp S123 \*

Prototheca spp S23 \*

Macoma spp S23

11) Worms

ECHINURAN WORMS

Echinurus echinurus M3.

SIPHONURIOS

Phascolosoma spp. M3 \*

POLYCHAETES

Nereidae S34

Caprellidae S34

Others

Spionidae M23 \*

12) Anemones

Antheopsis spp R12

13) FISH

PHOLIDAE M123 \*

COTTIDAE R23.



CG C. DILLON

SKETCH MAP

SEGMENT ST/ EL-52

SUBDIVISION B

DATE 04 APRIL 90

CHECKLIST

- N Arrow
- Approx. Scale
- Seg/Sub Entry
- Oil Dist.
- Width
- Length
- % Cover
- Substrate Character
- Est. HML/LML
- SSL
- Profile Location(s)
- Photo(s)
- PR Location(s)
- Photo Location(s)

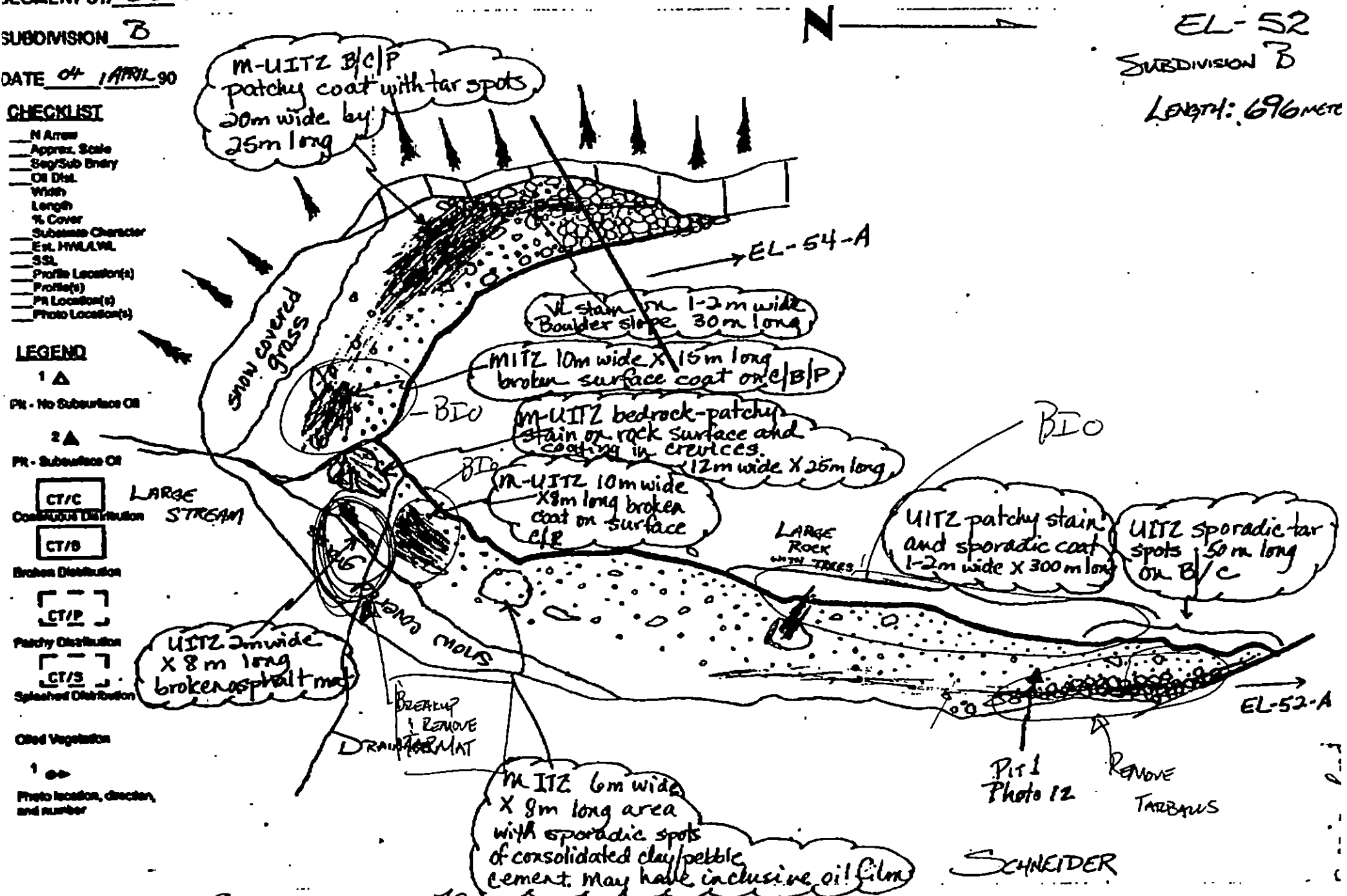
LEGEND

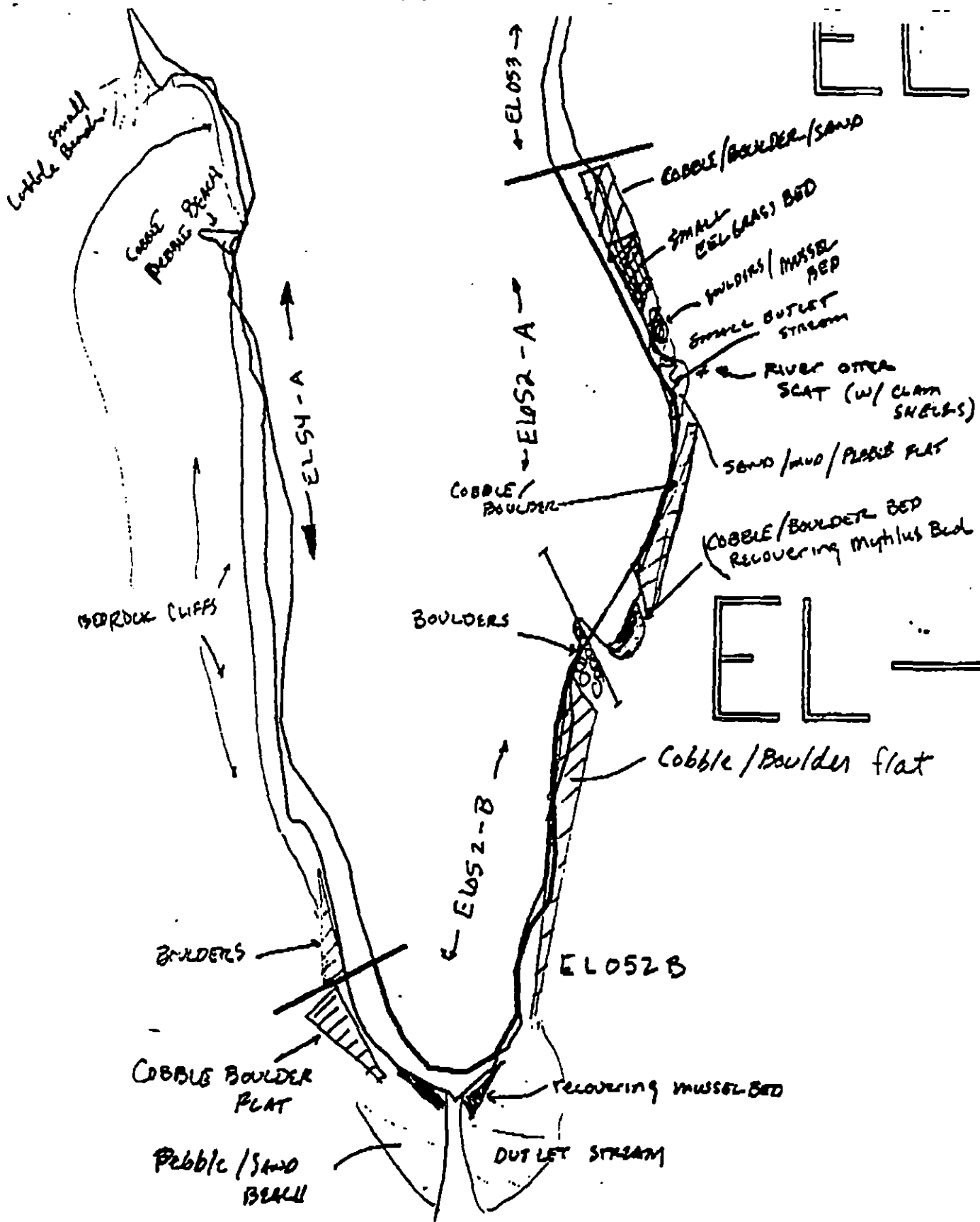
- 1 Δ  
Pk - No Subsurface Oil
- 2 Δ  
PR - Subsurface Oil
- CT/C  
Continuous Distribution
- CT/B  
Broken Distribution
- CT/P  
Patched Distribution
- CT/S  
Splashed Distribution
- 1 ●  
Photo location, direction, and number

Oil Character Length (m): AP 8 PO C CV C CT 73 ST 365 MS C PT C TB 50 FL C NO 310

SEGMENT  
EL-52  
SUBDIVISION B

Length: 696m





XXXX Wide  
 /// Medium  
 --- Narrow  
 TTTT Very Light  
 OOOO No Oil

EL-52

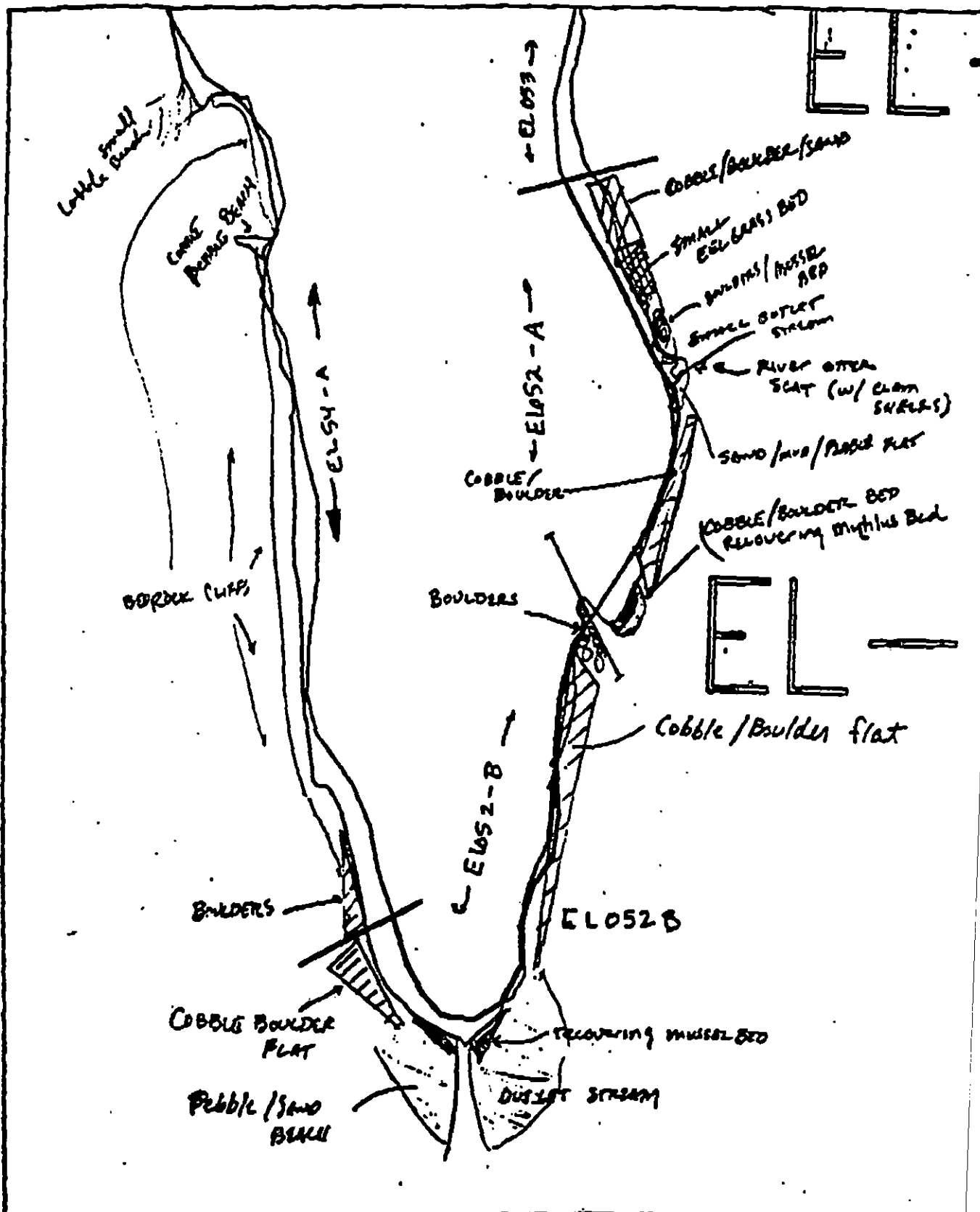
ADEC Segment Length: 1224m

Map Key: PWS-135

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Date Entered: \_\_\_\_\_



XXXX Wide  
 /// Medium  
 --- Narrow  
 TTTT Very Light  
 OOOO No Oil

EL-52

AVC Segment Length: 1220m

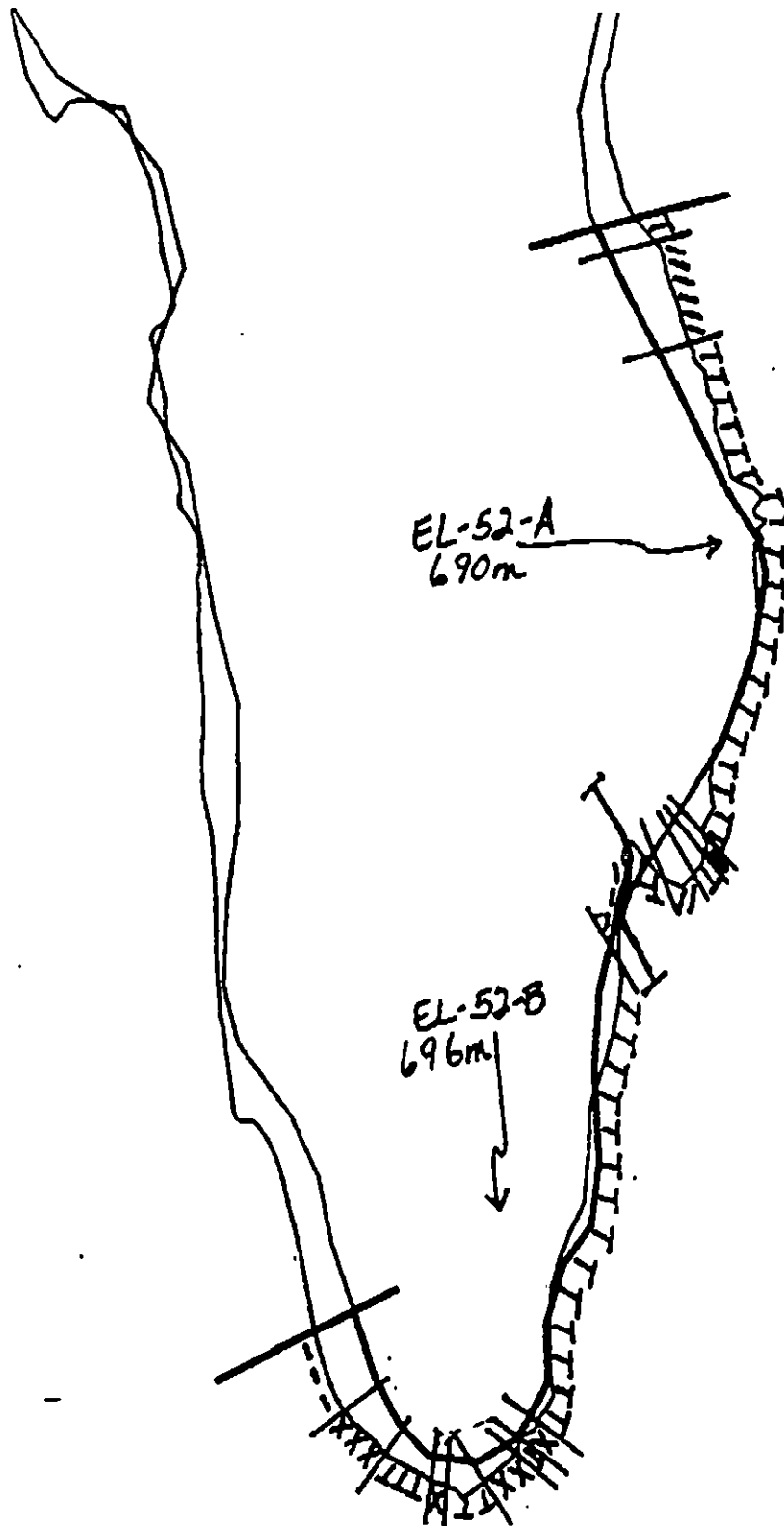
0 100 200 300  
 METERS

Map Key: PWS-135

Name: L. Dixon

Date: 4/4/95

Date Entered: .

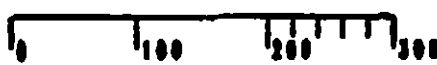


EL-

XXXX Wide  
 //// Medium  
 --- Narrow  
 TTTT Very Light  
 OOOO No Oil

EL-52

ADEC Segment Length: 1224m



Map Key: PWS-135

Name: C. DILLON

Date: EL-52-A 3/31/90

Date: EL-52-B 4/4/90

Date Entered:

**ADDENDUM: SUBDIVISION CONSTRAINTS****SEGMENT EL-52 SUBDIVISION B (2 of 2)****WORK WINDOW**Manual Pickup  
Tarmat Removal**OPEN**Bioremediation More Than 100m From Stream **WORK PRIOR TO 8/15**Bioremediation Less Than 100m From Stream **WORK PRIOR TO 7/10**  
**(ADF&G MONITOR REQ.)****ARCHAEOLOGICAL STANDARD CONSTRAINT**

If cultural resources are uncovered, PHONE 564-3274.

**APPLICABLE ECOLOGICAL TIME CONSTRAINTS****1A,1B Salmon stream**

ADF&amp;G catalogued anadromous stream is present in Subdivision (226-10-16902). This subdivision is closed to bioremediation less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation is permitted less than 100m from stream with on-site ADF&amp;G monitor or ADEC alternate present. No constraint to bioremediation more than 100m from stream. No constraint to manual pickup and tarmat removal.

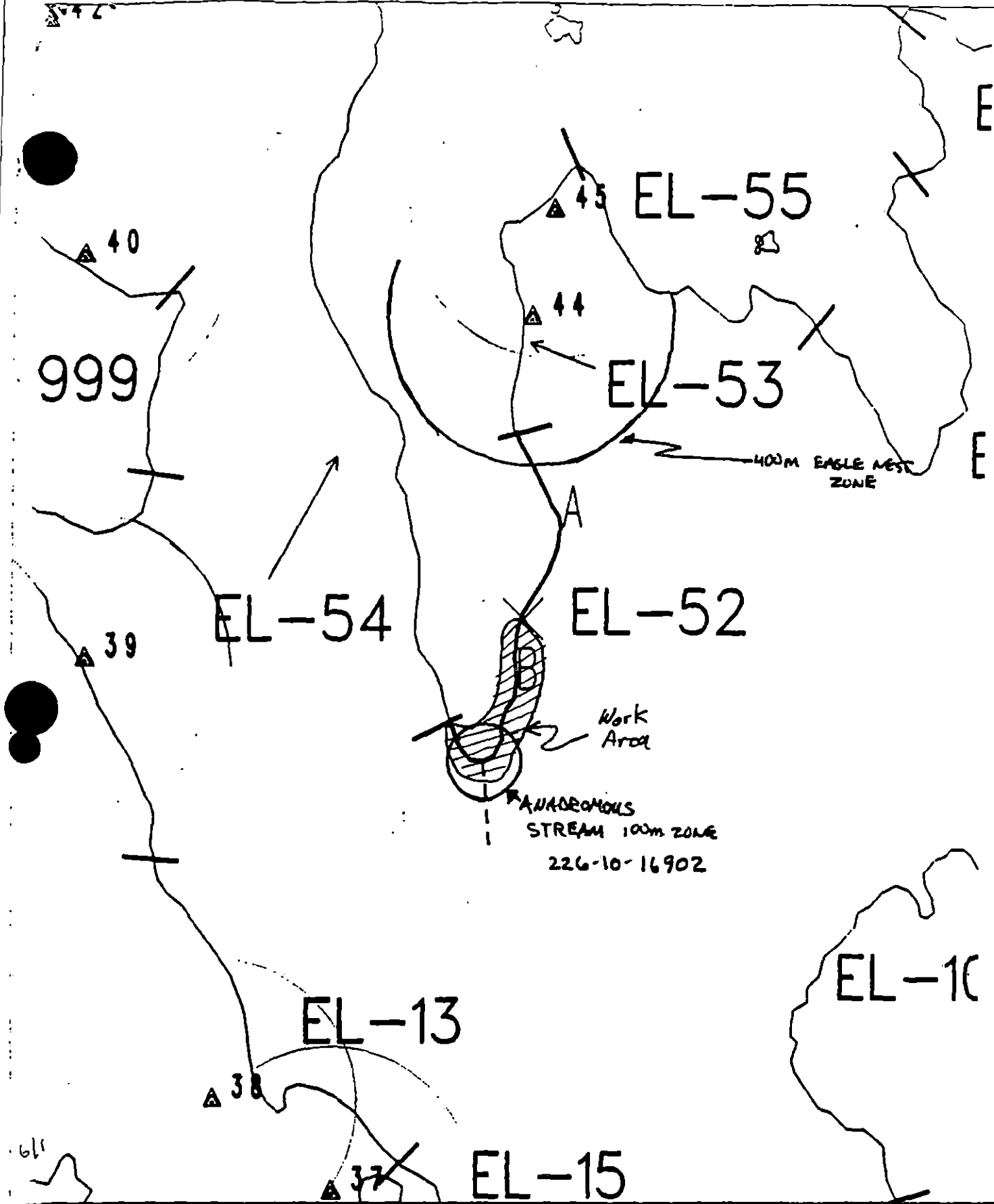
**7II Subsistence: Deer  
Harvesting**

No constraint to manual pickup and tarmat removal; closed to Bioremediation after 8/15.

**OTHER ECOLOGICAL CONSIDERATIONS**

No disturbance of stream bed or banks. No flushing of pollutants or sediments into stream drainage. Restrict boat and air traffic to essential minimum after 8/15. Avoid any unnecessary disturbance or damage to unrolled substrate and blots.

**SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM (STREAM NO. 226-10-16902)  
FOR ADDITIONAL CONSTRAINT INFORMATION**TAG ADDENDUM DATE 6/04/90ADEC Rau MonnesEXXON AMY TALLNOAA Joseph KilgoreUSCG G. J. B. B. B.FOSC D. J. J. J.DATE 6/7/90Prepared by: Andie MeyerDate: 6/4/90

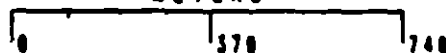


Exxon Company, USA  
Map Key: KNI-EL-52  
May 11, 1990

# ECOLOGY MAP SEGMENT EL-52

SUBDIVISION B (2 of 2)

METERS



- ★ Seabird Colony
- ▲ Eagle Nest

1 inch = 1214 feet

SHORELINE EVALUATION

SEGMENT ST/ EL-52 SUBDIVISION B (2 OF 2) DATE 3/31/90

**SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:**

ADF&G anadromous stream no. 226-10-16902

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)

1B Salmon stream mouth - spawning (7/10 to 8/31)

6U Recreation: Tent sites (6/1 to 9/15)

6V Anchorages (6/1 to 9/15)

6Y Special use destination

7II Subsistence area: Deer harvesting

See attached Ecological Constraint Sheet for specific constraints and contacts.

**SUBDIVISION ECOLOGICAL CONSTRAINTS:**

Avoid any unnecessary disturbance or damage to unoiled substrate and biota.

**ARCHAEOLOGICAL CONSTRAINTS:**

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: Charles E. Adams DATE: 4/12/90

**OILING CATEGORIZATION:**

Wide 98 m: Medium 16 m: Narrow 59 m: V.Light 454 m: No Oil 0 m  
Subsurface Oil Observed: Yes X No      Maximum Depth 20 cm

**RECOMMENDATIONS:**

|                                      |                                             |
|--------------------------------------|---------------------------------------------|
| <u>    </u> No Treatment Recommended | <u>    </u> Snare/Absorbent Booms           |
| <u>X</u> Treatment Recommended       | <u>    </u> Oil Snares (pom poms)           |
| <u>X</u> Manual Pickup               | <u>    </u> Absorbents (pads, rolls, etc)   |
| <u>X</u> Bioremediation              | <u>    </u> Spot Washing: <u>    </u> Wands |
| <u>X</u> Tarmat: <u>    </u> Breakup | <u>    </u> Beach Cleaner                   |
| <u>    </u> <u>X</u> Removal         | <u>    </u> Other (see comments)            |

COMMENTS: Recommend break up and removal of tarmat, pick up of tar balls, and Bioremediation of areas shown on sketch map, ~~but not within 100m of stream~~. Work should be conducted from 5/16 to 7/9 based on above salmon constraints.

BIOREMEDIATION UP TO THE STREAM BANK. SUBJECT TO ADF&G CLARIFICATION  
TAG COMMENTS:

TAG APPROVAL DATE: 4/17/90.

ADEC Aet Weiler  
EXXON AMT TBL  
NOAA Bull Wescott  
USCG KENNETH KEANE

FOSC: D-L DATE: 4-22-90

Revised, See Addendum dated 5/17/90, wmk  
See REVISION 1. Addendum dated 7/2/90, wmk

1991 MAYSAP EVALUATION

SEGMENT: EL 052 SUB: B REGION: PWS SURVEY DATE: 4/30/91

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) OPEN 5/1 - 7/10 (EXCEPT STREAM BED); RESTRICTED 7/10 - 9/15

Ecological/Constraints (see page two for details) Anadromous stream, Subsistence - deer harvesting

ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO Signature: \_\_\_\_\_ Date: \_\_\_\_\_

RECOMMENDATIONS:

|                               | INITIAL  | TAG   | FOSC  |
|-------------------------------|----------|-------|-------|
| TREATMENT REQUIRED (Y or N)   | <u>N</u> | _____ | _____ |
| Manual Pickup (Check as Req.) | _____    | _____ | _____ |
| Spot Washing                  | _____    | _____ | _____ |
| Bio-Customblen Only           | _____    | _____ | _____ |
| Bio-Inipol/Customblen         | _____    | _____ | _____ |
| Other _____                   | _____    | _____ | _____ |
| Other _____                   | _____    | _____ | _____ |

COMMENTS:

INITIAL: \_\_\_\_\_

TAG: \_\_\_\_\_

FOSC: \_\_\_\_\_

TAG APPROVAL DATE: \_\_\_\_\_ FOSC APPROVAL DATE: \_\_\_\_\_

ADEC \_\_\_\_\_ FOSC \_\_\_\_\_

EXXON \_\_\_\_\_

USCG \_\_\_\_\_

NOAA \_\_\_\_\_



**ECOLOGICAL CONSTRAINTS  
1991 FIELD ACTIVITIES**

**Anadromous Stream:** Unlimited treatment up to stream bank between May 15 and July 10. ADF&G approval required for work after July 10. Fish Habitat Permit required for instream work. ADF&G approval required for bioremediation within 100 meters of anadromous stream after July 10.

**Subsistence - Deer Harvesting:** Unlimited treatment prior to 8/15.

ADEC & USFS

NAME Aimee Weseman SIGNATURE Aimee Weseman

☐ NTR ☒ Treatment Recommended

Commercial Fishing, Commercial Tourism & Recreation, Anchorage  
This popular Anadromous fish stream area warrants a final manual  
tilling to expose heavy OR sediments in area A & pits #5,8,9

EXXON

NAME Scott A. Nauman SIGNATURE Scott A. Nauman

☒ NTR

The vast majority of this segment shows no surface or subsurface oil. Where it  
does occur, surface oiling is very patch and limited in extent (SOR). Subsurface  
oil has been reduced since last year and is now extremely limited. This  
subdivision has areas of good fucus and barnacle growth. Wildlife is also  
evident at this location (eagle, seal). Having watch this site improve over the  
past two years, I don't feel that additional treatments would be of a net. environ.  
benefit

LANDMANAGER

NAME TOM CROWB OF ADFG SIGNATURE Tom Crowb

☐ NTR ☒ TREATMENT RECOMMENDED

MANUAL TILLING OF HOR AND SOR SEDIMENTS NEAR ANADROMOUS  
STREAM. A SMALL CREW CAN TAKE CARE OF THIS TASK EASILY IN 1/2 DAY  
USING PICKS & SHOVELS TO EXPOSE THE OIL GRAVEL SEDIMENTS

USCG/NOAA

NAME CWO R. SPURR / Rebecca Hoff SIGNATURE R.P. Spurr / Rebecca Hoff

☐ NTR

Remaining surface oil could potentially provide a source of oil to stream  
but the risk does not seem great. Lower intertidal areas are recovering  
well, mussel <sup>algae</sup> growth is extensive, so these areas should not be disturbed.  
If any tilling is recommended for area B, it should be restricted to mid + upper  
zones & care should be taken to not impact areas with biota. Only light  
manual activity should be done, if indeed any treatment is deemed necessary.

TEAM NO. 5

OG D. I. LITTLE

BIO TOM SCHROEDER

SEGMENT FL-052

ADEC TOM CROWB

LANDMANAGER AIMET WESEMAN for ADF & G

SUBDIVISION B

EXXON SCOTT NAVMAN

USCG/NOAA CWO SPURR/REBECCA HOFF

DATE 04 / 27 / 91  
cont'd 30th

TIME 20:15 to 20:45

TIDE LEVEL 2 ft. to 3 ft.

ENERGY LEVEL: ☐ H ☒ M ☐ L

→ 11 30 12 50  
SURVEYED FROM: ☒ FOOT ☐ BOAT ☐ HELO

WEATHER: ☐ SUN ☒ CLOUDS ☐ FOG ☒ RAIN ☐ SNOW

TOTAL LENGTH SHORELINE SURVEYED: 627 m

NEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONE

EST. OIL CATEGORY LENGTH: W      m M      m N      m VL 17 m NO 610 m US      m

[illegible]

DISTRIBUTION: C = 91-100%; B = 51-90%; P = 11-50%; S = 1-10%; T = <1%

SLOPE: V = VERTICAL: H = HIGH ANGLE: M = MEDIUM ANGLE: L = LOW ANGLE

PHOTO ROLL # MAYSAP- 1a - 02 FRAMES 1-4

| PIT NO. | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER |     |     |     |    |    |    | OILED ZONE<br>cm-cm | CLEAN BELOW<br>Y/N | H2O LEVEL<br>(cm) | SHEEN COLOR<br>B R S N | PIT ZONE |    |    |    | SURFACE-SUBSURFACE<br>SEDIMENTS | NOTES |
|---------|----------------|--------------------------|-----|-----|-----|----|----|----|---------------------|--------------------|-------------------|------------------------|----------|----|----|----|---------------------------------|-------|
|         |                | OP                       | HOR | MOR | LOR | OF | TR | NO |                     |                    |                   |                        | S        | UI | MI | LI |                                 |       |
| 1       | 40             |                          |     |     |     |    |    | X  | —                   | Y                  | 30                | N                      |          |    |    | X  | Pg                              |       |
| 2       | 30             |                          |     |     |     |    |    | X  | —                   | Y                  | 25                | N                      |          |    |    | X  | Pg                              |       |
| 3       | 35             |                          |     |     |     |    |    | X  | —                   | V                  | 30                | N                      |          |    | X  |    | Pg c                            |       |
| 4       | 40             |                          |     | X   |     |    |    |    | 25-30               | Y                  | 35                |                        |          |    | X  |    | Pg                              |       |
| 5       | 25             |                          |     | X   |     |    |    |    | 0-15                | Y                  | 20                |                        |          |    |    | X  | Pg                              |       |
| 6       | 25             |                          |     |     |     |    |    | X  | —                   | Y                  | 20                |                        |          |    |    | X  | Pg c                            |       |
| 7       | 25             |                          |     |     |     |    |    | X  | -                   | Y                  | 25                |                        |          |    | X  |    | Pg                              |       |
| 8       | 30             |                          | X   |     |     |    |    |    | 0-10                | N                  | 15                | B                      |          |    | X  |    | cPg                             |       |
| 9       | 20             |                          | X   |     |     |    |    |    | 0-10                | N                  | 15                | B                      |          |    | X  |    | cPg                             |       |

cont'd.

**SHEEN COLOR: B = BROWN; R = RAINBOW; S = SILVER; N = NONE**

**OG COMMENTS:**

Surface oil residue in (A) borderline AP. In location (B) SOR is found in pebble mussel beds, just between pebbles and slightly under the surface, but not  $> 5$  cm, so not qualifying as subsurface oil. Location C was a small ( $< \frac{1}{2} \text{ m}^2$ ) AP which was picked up.

Subsurface oil was found on both sides of the main ANAD. stream > 20m away as a heavy OR in front of DEM marker and as an OF in front of NORA marker. One patch of (m)OR was found in LTZ but was not fully delineated due to lite. The former two patches were each about 10 x 15 m. in size. / Note Location C is in ET. 05.

REVIEWED: MC 5/2/91

reviewed 7/15/91



2015-2045

1130 - 1250

Ben. 1702

 Study Marker Signs

NORTHWEST  
BAY

1st  
10) 15 DF C-10 100% prob  
2nd 15 CFE " 100% pg 5  
3rd 15 CFE " 100% "

(21) NO Form Form 51

22 25cm No oil

EL-54A

start of  
subdivision

HOR  
10 x 15m

mobile  
Swash ridges

No Field Data  
Assume)

10-5 MAR  
20 25 cm

$\hat{\kappa}$  — Bedrock

turn of  
cheese

DEM

No Filled DATA  
Assume \_\_\_\_\_

## ANADROMOUS STREAM

pit (4) 25 cm - 30 cm TR (1 cm of TR) Y  
- D 40 cm

pit (g) HOR 0-10cm N below TD 50 : 1st 15 cm  
pit (g) HOR 0-10 " TD 20 : 2nd 15 cm

OR resting on red silt

15cm C P 9 NO 5m  
 25cm P 9  
 30cm NO. wr. 25cm  
 30cm NO. wr. 25cm

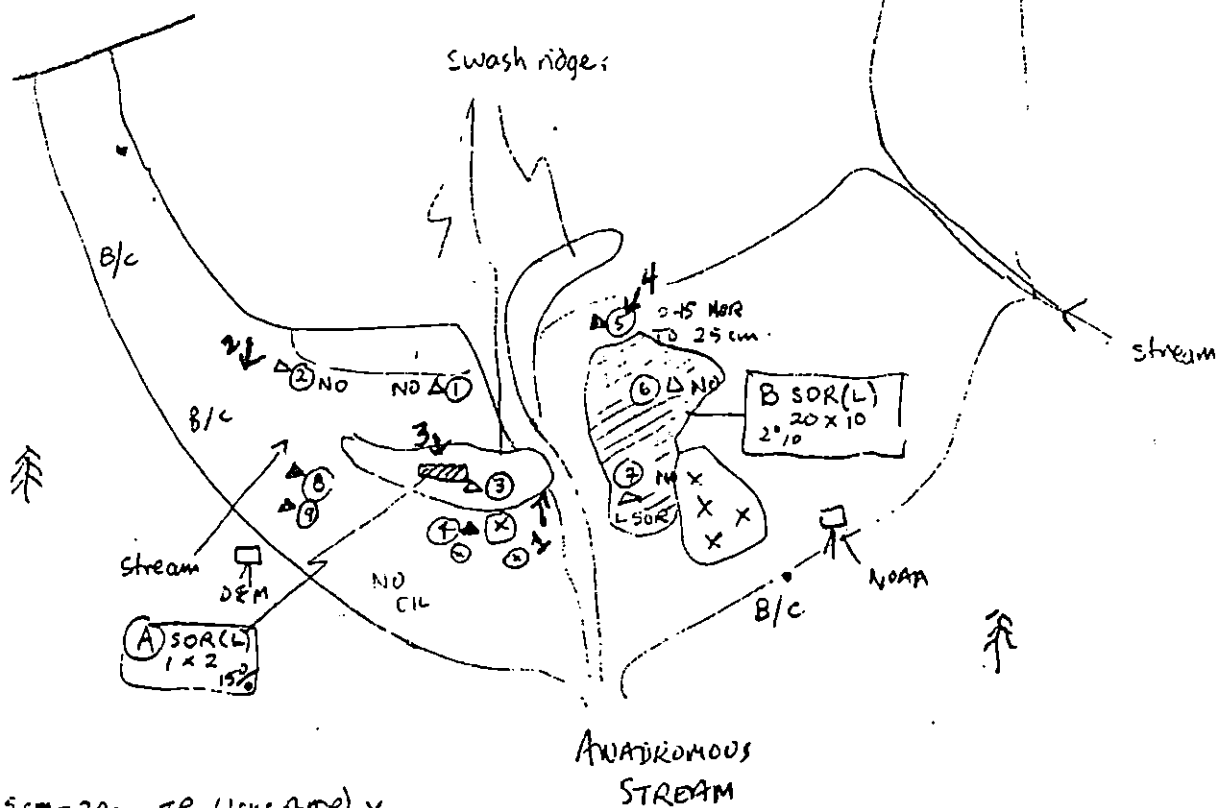
Revised: MC 5/2/91

04/27/91  
D.I. Little  
2015-2045

Photo Location



NORTHWEST  
BAY



pit (+) 25cm - 30cm TR (lens of DR) y  
TD 40cm.

pit ⑧ HOR 0-10 cm. (N)  $\alpha_{10}^{10}$  TD 30 } W/T at 15 cm  
 pit ⑨ HOR 0-10 " " TD 20 }

Reviewed: MC 5/2/91  
Reviewed: 5/2

## MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 6

DATE 4/27/91 &amp; 4/30/91

SEGMENT # EL-53

TIDAL HEIGHT (Range) +2 to +3 ft and

SUBDIVISION B

BIOLOGIST TR Schroeder

SEA STATE Calm to choppy

WIND SPEED/DIRECTION NE 10 and NE 25

PHOTOGRAPHS: ROLL #

FRAME #

## COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):

(A & B) = Central portion of beach near anadromous stream appears very sterile and unproductive. Part of this appears to be due to shifting small grains and stream. In larger area paralleling the outside of the stream has good regrowth of fucus and mussels.

Subsurface 8 & 9 = Fucus help and mussel regrowth is evident in intertidal area. Refuse pits with MOR. Does not appear to be affecting benthos. Any removal efforts would greatly impact these communities.

Subsurface 4 = MOR located in generally non-productive area.

Subsurface 5 = MOR located in and adjacent to very productive intertidal area. Fucus help, forams, flat, hermit crabs, littorine snails extremely abundant.

(D) = Located in a very dense mussel bed with fucus help and red/brown algae present.

## WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

| BIRDS            | # OF SPECIES | TOTAL BIRDS | FISH OBSERVED<br>SPECIES PRESENT |
|------------------|--------------|-------------|----------------------------------|
| Eagles           | 1            | 1           |                                  |
| Seabirds         |              |             |                                  |
| Waterfowl        | 1            | 4           |                                  |
| Gulls/kittiwakes | 1            | 12          |                                  |
| Shorebirds       |              |             |                                  |
| Corvids          |              |             |                                  |
| Other Birds      | 1            | 1           |                                  |

| MARINE MAMMALS      | # OBSERVED    | LAND MAMMALS<br>SPECIES | # OBSERVED |
|---------------------|---------------|-------------------------|------------|
| Sea Otters          |               |                         |            |
| Pinnipeds (specify) | 1 Harbor Seal |                         |            |
| Whales (specify)    |               |                         |            |
|                     |               |                         |            |

Shoreline subdivision map showing important biological features attached.

REVIEWED: MC 5/2/91

EL-52-B

4/27/91

Bio. Map

T.R. Schroeder

2015-2045

Continued 4/30/91

1530-1230

North west  
Bay

0 25 50  
meters



AP  
0.250.2  
P.C.

Good fucus regrowth in  
LITZ. Barnacles thriving  
on rocks, limpets and  
littorine snails very plentiful  
on barnacled rocks.

Dense mussel beds  
throughout rocks.  
Fucus and brown  
algae present.

SOR 1x5  
5% mussel

Fucus, barnacles and  
mussel and limpet  
present along entire  
shoreline MITZ to  
LITZ. Pile up  
present and littorine  
snails abundant

Good fucus kelp  
regrowth and mussel  
regrowth.

Swash  
ridges

Subsurface  
909

Stream

A SOR(L)  
1x2 15%

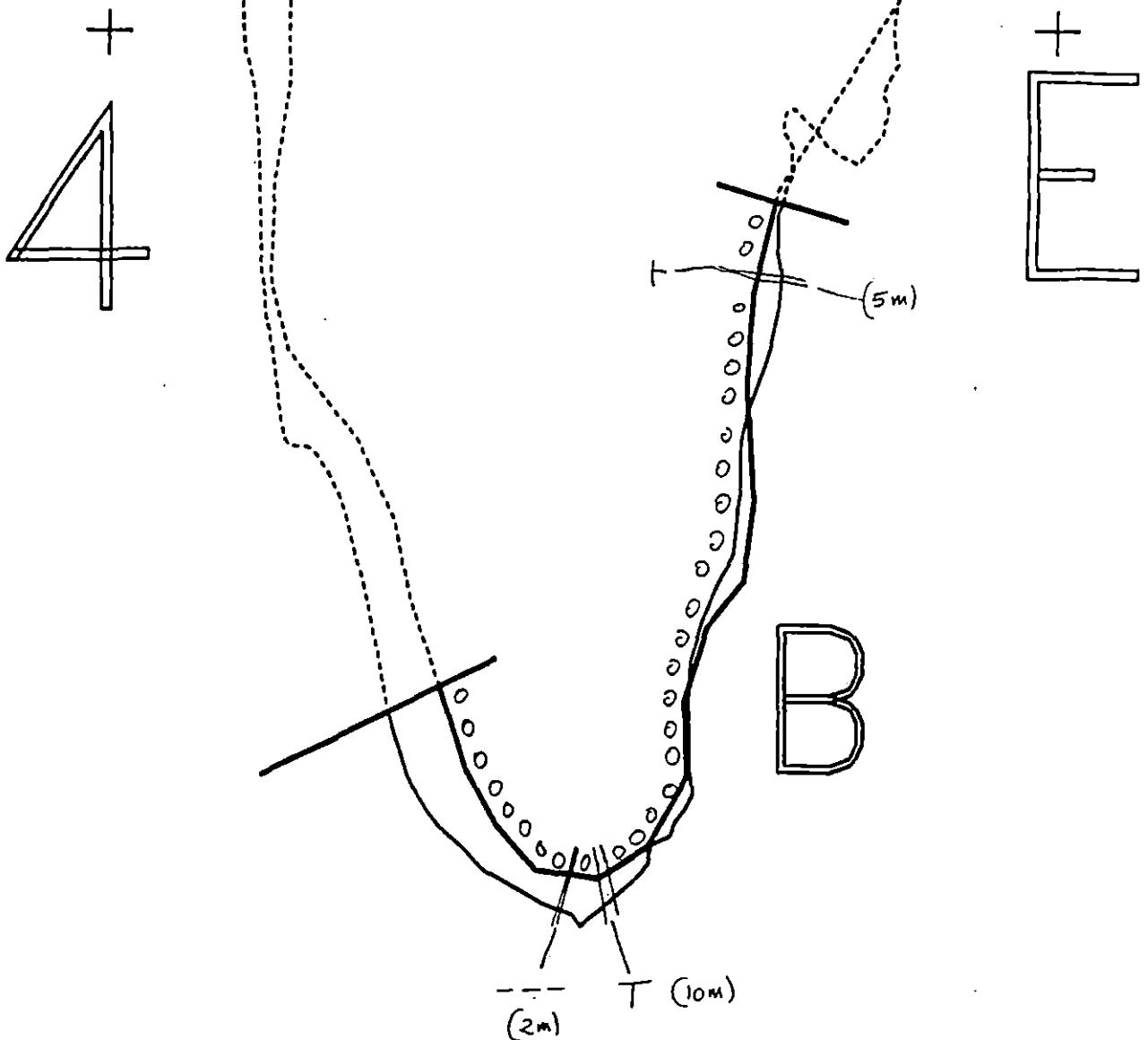
axad.  
Stream

B SOR(L)  
20x10  
2%

Stream

REVIEWED: MC 5/2/91





|      |            |                              |                       |
|------|------------|------------------------------|-----------------------|
| XXXX | Wide       | EL052 B                      | Subdivision Field Map |
| //// | Medium     | ADEC Subsegment Length: 627m | Map Key: KNIEL052B    |
| ---- | Narrow     | METERS                       | Name: D.I. LITTLE     |
| TTTT | Very Light | 0 100 200                    | Date: 04/27/91        |
| 0000 | No Oil     | AK State Plane Zone 4        | Date Entered:         |
|      |            | 6010525                      |                       |

REVIEWED: MC 5/2/91

Revised  
5.1.91

## 1991 MAYSAP EVALUATION

SEGMENT: EL 052 SUB: B REGION: PWS SURVEY DATE: 4/30/91ENVIRONMENTAL SENSITIVITIES:Work Window(s) OPEN 5/1 - 7/10 (EXCEPT STREAM BED); RESTRICTED 7/10 - 9/15Ecological/Constraints (see page two for details) Anadromous stream, Subsistence - deer harvestingARCHAEOLOGICAL CONSTRAINTS:

- 1 If cultural resources are uncovered during shoreline  
1 treatment, stop work in the vicinity, mark the location of the  
 - find, and contact Exxon's Cultural Resource Program immediately:  
 564-3276; 564-3657; (Anchorage) or 229-1514 (24 hrs.). *pro*

*Rachel Lee Owe**5/14/91*RECOMMENDATIONS:

|                                 | INITIAL       | TAG           | FOSC          |
|---------------------------------|---------------|---------------|---------------|
| TREATMENT REQUIRED (Y or N)     | <u>N</u>      | <u>Y</u>      | <u>Y</u>      |
| Manual Pickup (Check as Req.)   | <u>      </u> | <u>X</u>      | <u>      </u> |
| Spot Washing                    | <u>      </u> | <u>      </u> | <u>      </u> |
| Bio-Customblen Only             | <u>      </u> | <u>      </u> | <u>      </u> |
| Bio-Inipol/Customblen           | <u>      </u> | <u>      </u> | <u>      </u> |
| Other <u>MANUALLY RAKE/TILL</u> | <u>      </u> | <u>X</u>      | <u>      </u> |
| Other <u>      </u>             | <u>      </u> | <u>      </u> | <u>      </u> |

COMMENTS:

INITIAL: EXXON DOES NOT AGREE THAT THIS TREATMENT  
IS REQUIRED BASED ON A NET ENVIRONMENTAL BENEFIT  
ANALYSIS. HOWEVER AT THE REQUEST OF ADF+G + USCG  
TREATMENT WAS RECOMMENDED BY TAG.

TAG: MANUAL PICKUP OF HSOR AT LOCATION A, MANUAL  
RAKE/TILL AT PITS 4 + 5 + 8 + 9.

FOSC:       TAG APPROVAL DATE: MAY 14 1991FOSC APPROVAL DATE: 5/20/91ADEC *[Signature]*FOSC *[Signature]*EXXON *[Signature]*E. E. PAGE, CDR, USCG  
CHIEF OF STAFF, FOSCUSCG *[Signature]*NOAA *[Signature]*

**ECOLOGICAL CONSTRAINTS  
1991 FIELD ACTIVITIES**

**Anadromous Stream:** Unlimited treatment up to stream bank between May 15 and July 10. ADF&G approval required for work after July 10. Fish Habitat Permit required for instream work. ADF&G approval required for bioremediation within 100 meters of anadromous stream after July 10.

**Subsistence - Deer Harvesting:** Unlimited treatment prior to 8/15.

## MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 6 SEGMENT EL-052 SUBDIVISION B DATE 04/30/91 04 27

ADEC &amp; USFS.

NAME Aimee Weseman SIGNATURE Aimee Weseman

☐ NTR ☒ Treatment Recommended

Commercial Fishing, Commercial Tourism & Recreation, Anchorage  
This popular Anadromous fish stream area warrants a final manual  
tilling to expose heavy OR sediments in area A & pits #5, 8, 9

EXXON

NAME Scott A. Nauman SIGNATURE Scott A. Nauman

☒ NTR

The vast majority of this segment shows no surface or subsurface oil. Where it does occur, surface oiling is very patch and limited in extent (SOR). Subsurface oil has been reduced since last year and is now extremely limited. This subdivision has areas of good fucus and barnacle growth. Wildlife is also evident at this location (eagle, seal). Having watch this site improve over the past two years, I don't feel that additional treatments would be of a net. <sup>environmental</sup> benefit.

LANDMANAGER

NAME TOM CROOK OF ADFG SIGNATURE Tom Crook

☐ NTR ☒ TREATMENT RECOMMENDED

MANUAL TILLING OF HOR AND SOR SEDIMENTS NEAR ANADROMOUS  
STREAM. A SMALL CREW CAN TAKE CARE OF THIS TASK EASILY IN 1/2 DAY  
USING PICKS & SHOVELS TO EXPOSE THE OIL GRAVEL SEDIMENTS

USCG/NOAA

NAME CWO R. SPURR / Rebecca Hoff SIGNATURE R. Spurr / Rebecca Hoff

☐ NTR

Remaining surface oil could potentially provide a source of oil to stream but the risk does not seem great. Lower intertidal areas are recovering well, mussel <sup>radial</sup> growth is extensive, so these areas should not be disturbed. If any tilling is recommended for area B, it should be restricted to mid & upper zones & care should be taken to not impact areas with biota. Only light manual activity should be done, if indeed any treatment is deemed necessary.

PAGE 1 OF 2

DATE 04 / 27 / 91  
cont'd 30th

ENERGY LEVEL: ☐ H ☒ M ☐ L

WEATHER: ☐ SUN ☒ CLOUDS ☐ FOG ☒ RAIN ☐ SNOW

NEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONE

EST. OIL CATEGORY LENGTH: W — m M — m N — m VL 17 m NO 610 m US — m

DISTRIBUTION: C = 91-100%; B = 51-90%; P = 11-50%; S = 1-10%; T = <1%

**SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE**

SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE PHOTO ROLL # MAYSAP- 16 - 02 FRAMES 1-4

cont'd.

SHEEN COLOR: B = BROWN: R = RAINBOW: S = SILVER: N = NONE

Surface oil residue in (A) borderline AP. In location (B) SOR is found in pebble mussel beds, just between pebbles and slightly under the surface, but not  $> 5$  cm, so not qualifying as subsurface oil. Location C was a small ( $< 1/2 \text{ m}^2$ ) AP which was picked up.

Subsurface oil was found on both sides of the main ANAD. stream >20m away. as a heavy OR in front of DEM marker and as an OF in front of NOAA marker. One patch of (M)OR was found in LTZ but was not fully delineated due to tide. The former two patches were each about 10x15m. in size. [Note Locatoin c is in EL-052-A]

REVIEWED: MC 5/2/91

reviewed by 5/2/91

## MAYSAP SHORELINE OILING SUMMARY (cont.)

PAGE 2 OF 2

TEAM NO. 6

SEGMENT EL-052-B

SUBDIVISION B

DATE 4 / 30 / 91

[illegible]

SHEEN COLOR: B = BROWN; R = RAINBOW; S = SILVER; N = NONE

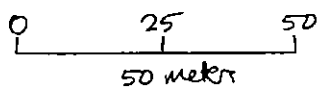
**OG COMMENTS:**

Note pgs 17 and 18 are in 2h-052-A.

Reviewed: M.C. 5/2/91  
reviewed 7/1/5/2

EL-052-B 04/27/91  
OG Map D.I. L.H. 2015-2045

continued 04/30/91  
1130-1250



- Bedrock
- Trees
- Study Marker Signs



CI  
AP 0.2 x 0.2  
PU

NORTHWEST BAY

- 15 OF 0-10 cm put
- 16 OF " " 10 pgs
- 21 NO 30cm down
- 22 25cm NO oil

EL-54A

start of subdivision

mobile swash ridges

No Field Data Assume

A SOR(L) 1x2 15%

HOR 10x15m

B SOR(L) 20x10 2% 10

8x15m OF

ANADROMOUS STREAM

pit 1 25cm-30cm TR (11cm after) Y TD 40cm

pit 2 HOR 0-10cm N/A oil TD 50 1st at 15cm  
pit 3 HOR 0-10 " TD 20

- 10-12 15cm C P 9 NO OIL
- 13 NO 25cm PG
- 14 } 30cm NO. } WD - 25cm
- 15 }
- 16 }
- 17 }

OR resting on red silt

Revised 5/1/91  
Revised: MC 5/2/91

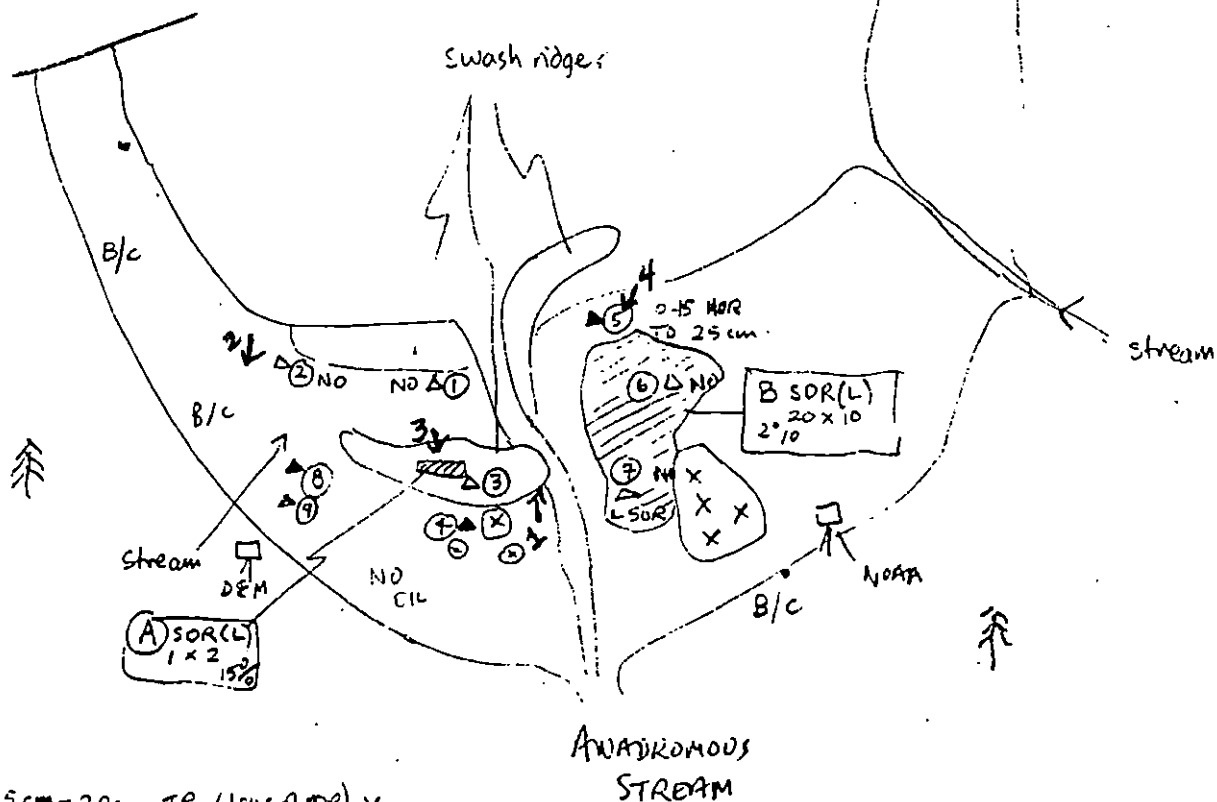
94

04/27/91  
D.I. Little  
2015-2045

## Photo Locations



NORTHWEST  
BAY



pit ④ 25 cm - 30 cm TR (1 cm of TR) y  
TD 40 cm.

pit ⑧ HOR 0-10 cm. (N) oil bed TD 30 } W/T pit 15 cm.  
 pit ⑨ HOR 0-10 " " TD 20

Reviewed: MC 5/2/91  
reviewed JY 5.2



## MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 6

DATE 4/27/91 &amp; 4/30/91

SEGMENT # E1-52

TIDAL HEIGHT (Range) +2.5 +3.0 ft and

SUBDIVISION B

BIOLOGIST TR Schroeder

SEA STATE Calm to choppy

WIND SPEED/DIRECTION NE 10 and NE 25

PHOTOGRAPHS: ROLL #

FRAME #

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):

(A+B) = Central portion of beach near anadromous stream, appears very sterile and unproductive. Part of this appears to be due to shifting small gravel and stream. One large area paralleling the east side of the stream has good regrowth of fucus and mussels.

Subsurface 8 & 9 = Fucus belt and mussel regrowth is excellent in intertidal area. Below pits with HOB. Does not appear to be affecting bivalves. Any removal efforts would greatly impact these communities.

Subsurface 4 = MOR located in generally non-productive area.

Subsurface 5 = MOR located in and adjacent to very productive intertidal area. Fucus belt, kelp, kelp, kelp, hermit crabs, littorine snails extremely abundant.

(D) = Located in a very dense mussel bed with fucus belt and red/brown algae present.

## WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

| BIRDS            | # OF SPECIES | TOTAL BIRDS | FISH OBSERVED<br>SPECIES PRESENT |
|------------------|--------------|-------------|----------------------------------|
| Eagles           | 1            | 1           |                                  |
| Seabirds         |              |             |                                  |
| Waterfowl        | 1            | 4           |                                  |
| Gulls/kittiwakes | 1            | 12          |                                  |
| Shorebirds       |              |             |                                  |
| Corvids          |              |             |                                  |
| Other Birds      | 1            | 1           |                                  |

| MARINE MAMMALS      | # OBSERVED    | LAND MAMMALS<br>SPECIES | # OBSERVED |
|---------------------|---------------|-------------------------|------------|
| Sea Otters          |               |                         |            |
| Pinnipeds (specify) | 1 Harbor Seal |                         |            |
| Whales (specify)    |               |                         |            |
|                     |               |                         |            |

Shoreline subdivision map showing important biological features attached.

REVIEWED: MC 5/2/91

EL-52-B

4/27/91

Bio. Map

T.R. Schroeder

7015-7045

Continued 4/30/91

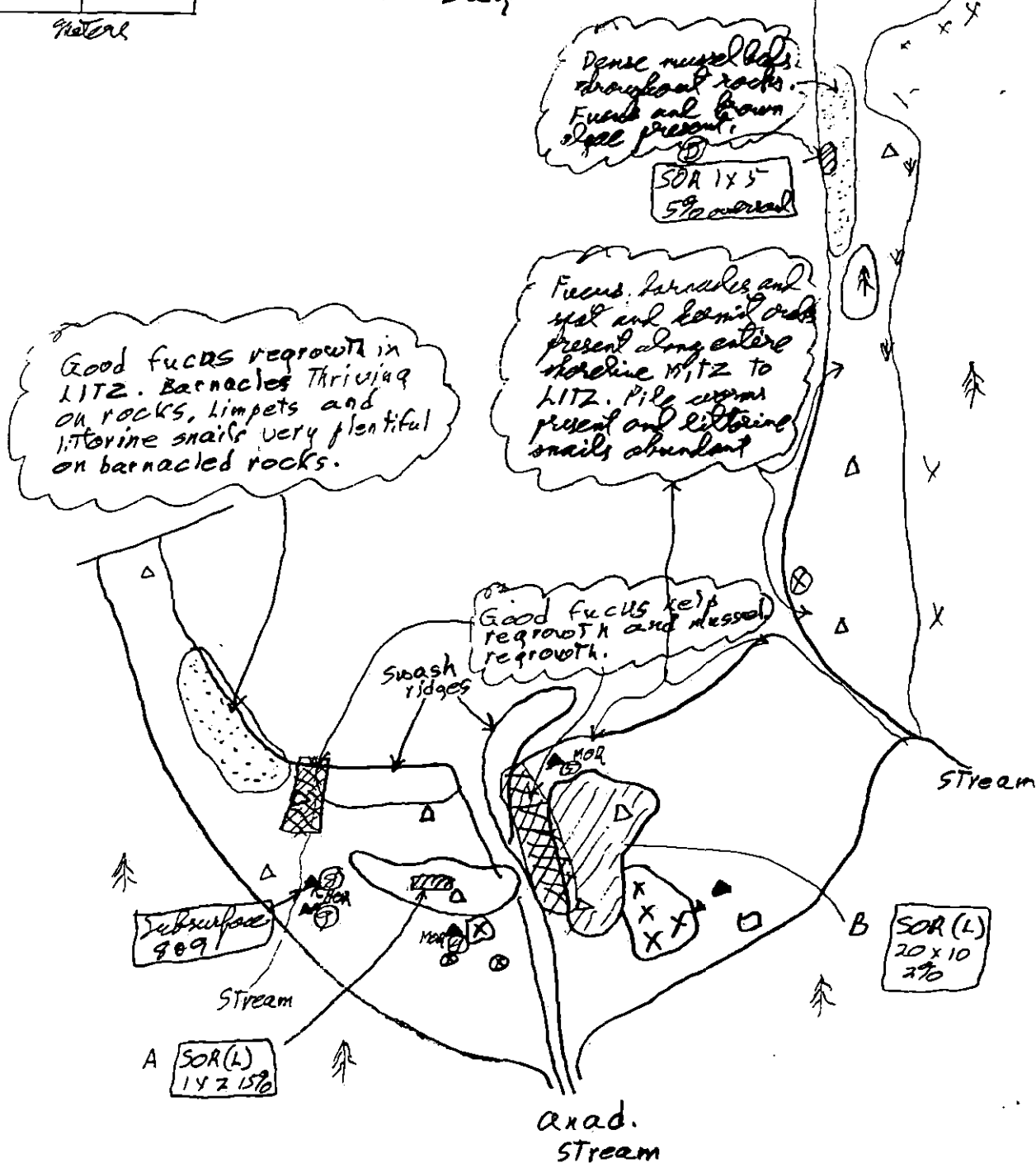
1530-1590



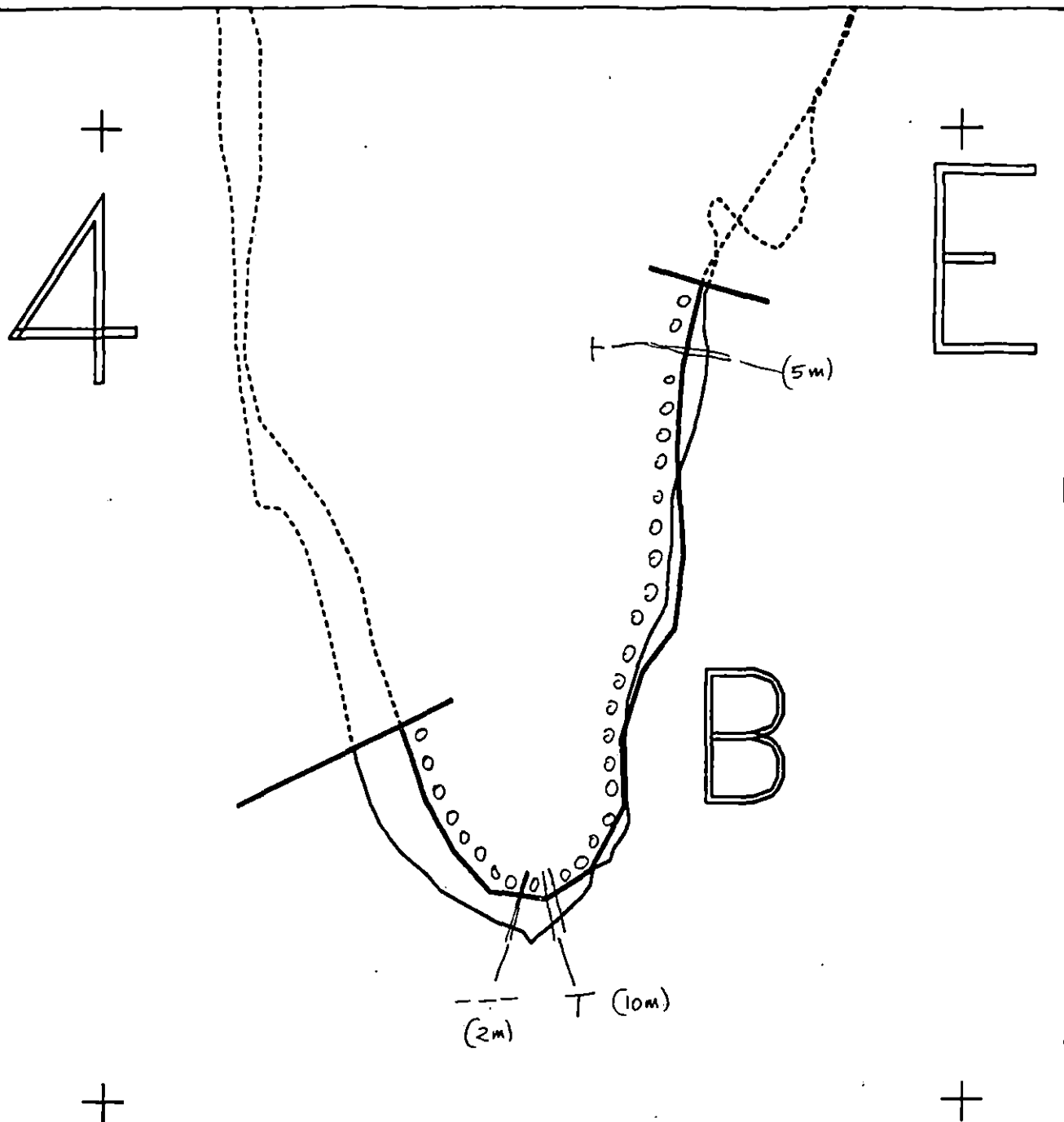
0 25 50  
meters

North west  
Bay

AP  
0.2 x 0.2  
P.R.



REVIEWED: MC 5/2/91



XXXX Wide  
 //// Medium  
 ---- Narrow  
 TTTT Very Light  
 0000 No Oil

EL052 B  
 ADEC Subsegment Length: 627m  
 METERS  
 0 100 200  
 AK State Plane Zone 6  
 6010525

Subdivision Field Map  
 Map Key: KNIEL052B  
 Name: D.I. LITTLE  
 Date: 04/27/91  
 Data Entered:

REVIEWED: MC 5/2/91

Revised  
 5.1.91 gy

## 1991 MAYSAP EVALUATION

SEGMENT: EL 052 SUB: A REGION: PWS SURVEY DATE: 5/21/91ENVIRONMENTAL SENSITIVITIES:Work Window(s) RESTRICTED 3/1 - 9/15Ecological/Constraints (see page two for details) Eagle nest,  
Subsistence - Deer harvestingARCHAEOLOGICAL CONSTRAINTS:If treatment is planned, a cultural resource evaluation is  
required prior to shoreline treatment.

SHPO Signature: \_\_\_\_\_ Date: \_\_\_\_\_

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL: \_\_\_\_\_

TAG: \_\_\_\_\_

FOSC: \_\_\_\_\_

TAG APPROVAL DATE: \_\_\_\_\_

FOSC APPROVAL DATE: \_\_\_\_\_

ADEC \_\_\_\_\_

FOSC \_\_\_\_\_

EXXON \_\_\_\_\_

USCG \_\_\_\_\_

NOAA \_\_\_\_\_

**ECOLOGICAL CONSTRAINTS  
1991 FIELD ACTIVITIES**

**Eagle Nest:** Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.

**Subsistence - Deer Harvesting:** Unlimited treatment prior to 8/15.

**ADEC**

NAME Peter Montesano

SIGNATURE [Signature]



NTR



TREATMENT RECOMMENDED

This Subdivision has an extended, low slope tidal zone with a green zone high up the beach. Oil persists, as during SSAT, throughout the green zone along the north end of E-52A. This is a minimum energy area and does not seem to flush out. The oil, largely EL/BR mobile, is trapped in the fine sediment. Accessing the oil would cause disturbance to the fine ITZ.

**EXXON**

NAME EXXON Box

SIGNATURE [Signature]



NTR

Not enough oil to warrant clean-up activity.

**LANDMANAGER**

NAME DENNIS S. Kennedy OF USFS

SIGNATURE [Signature]



NTR

Rocky shoreline with good bio. habitat throughout. Most subsurface oiling is found around healthy coral life. This area receives some recreational use. More clean up work is not recommended.

**USCG/NOAA WMA D. SPACER-BENITT**

NAME BRI M. P. ZENONE USCG

SIGNATURE [Signature]



NTR

Very small amounts of surface and subsurface oil was found within segment. The one area that contained soil was removed by MASAP team members. No treatment recommended D-3

CG - NO TREATMENT RECOMMENDED

REVIEWED: MC 5/30/91

DATE 5, 21, 1991

[illegible]

SHEEN COLOR: B = BROWN; R = RAINBOW; S = SILVER; N = NONE

**OG COMMENTS:**

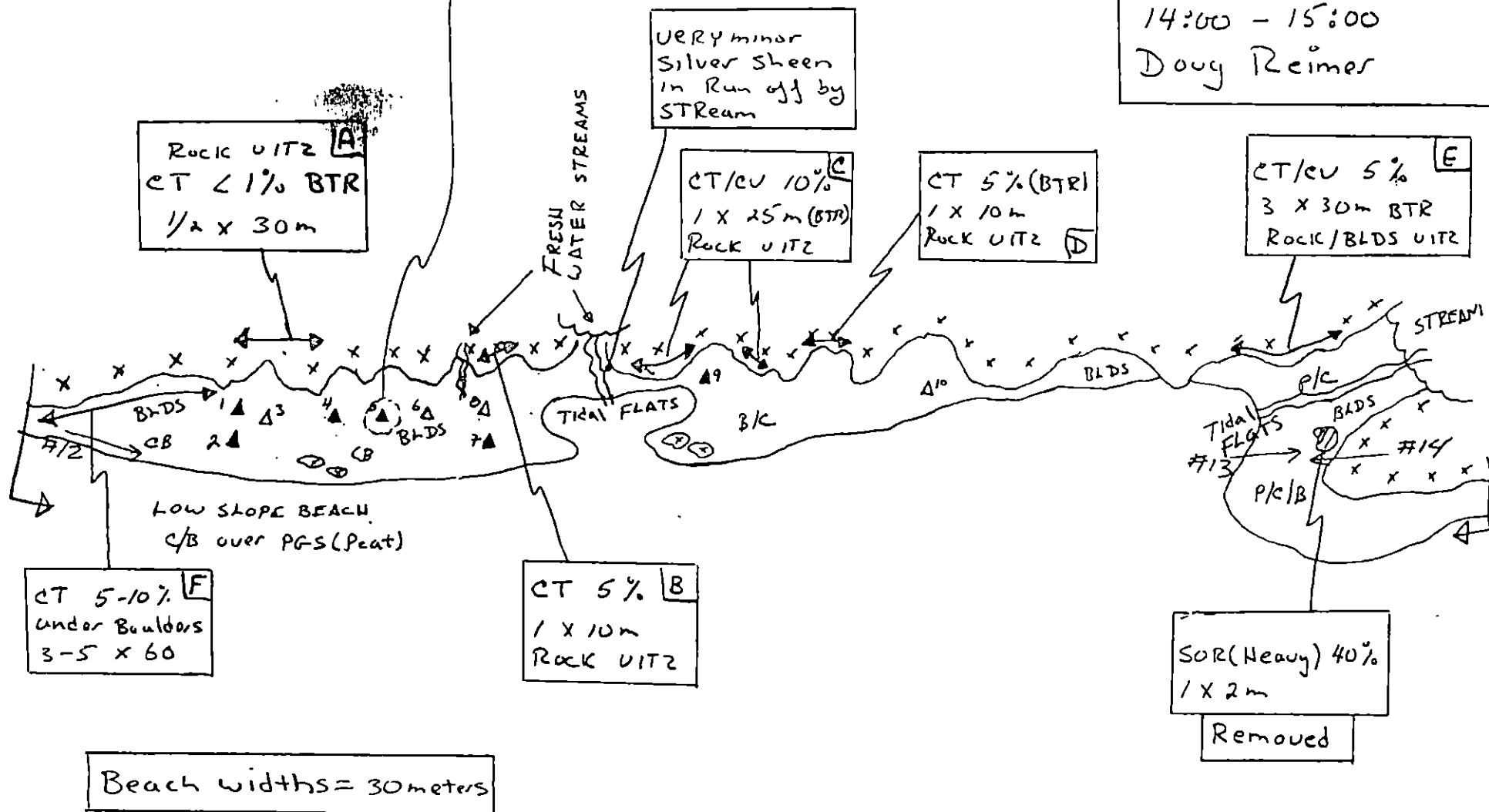
REVIEWERS: MC 5/30/91  
reviewed 5/28/91 RG





No Field Data: Assume  
MOR area 2x2m

OG SKETCH  
EL 52 A  
MAY 21, 1991  
14:00 - 15:00  
Doug Reimer



# MAISAP BIOLOGICAL SUMMARY FORM

TEAM # 2 DATE 21 May 91  
 SEGMENT # EL 52 TIDAL HEIGHT (Range) 1 Gt  
 SUBDIVISION A BIOLOGIST SM Bm  
 SEA STATE calm WIND SPEED/DIRECTION calm  
 PHOTOGRAPHS: ROLL # — FRAME # —

## COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):

A+B: CT/BIR high in ITZ on rock face - within & above lichen zone. Dense algae, recent spatz, limpets, limpets + mussels on boulders in mid to lower ITZ. A peanut worm (sipunculid) was found when digging pit # 7

C+D: CT/CU/BIR within and above lichen zone. Tidal flats seaward of "A B C + D" support large clam beds. Numerous Protothaca & Saxidomus shells littered the surface. Siphon holes were also numerous indicating dense living clams subsurface. This is a high use area for otters as indicated by the many otter pits. Harger, old barnacles were also observed on boulders immediately adjacent to the clam beds.

E: Also high in ITZ in lichen zone. Additional clam beds seaward (above description applies here) Dense sea grass beds (Phyllospora) observed subtidally.

The SOR was removed from a naturally depauperate area

## WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

| BIRDS            | # OF SPECIES | TOTAL BIRDS | FISH OBSERVED<br>SPECIES PRESENT |
|------------------|--------------|-------------|----------------------------------|
| Eagles           |              |             |                                  |
| Seabirds         |              |             |                                  |
| Waterfowl        |              |             |                                  |
| Gulls/kittiwakes |              |             |                                  |
| Shorebirds       |              |             |                                  |
| Corvids          |              |             |                                  |
| Other Birds      |              |             |                                  |

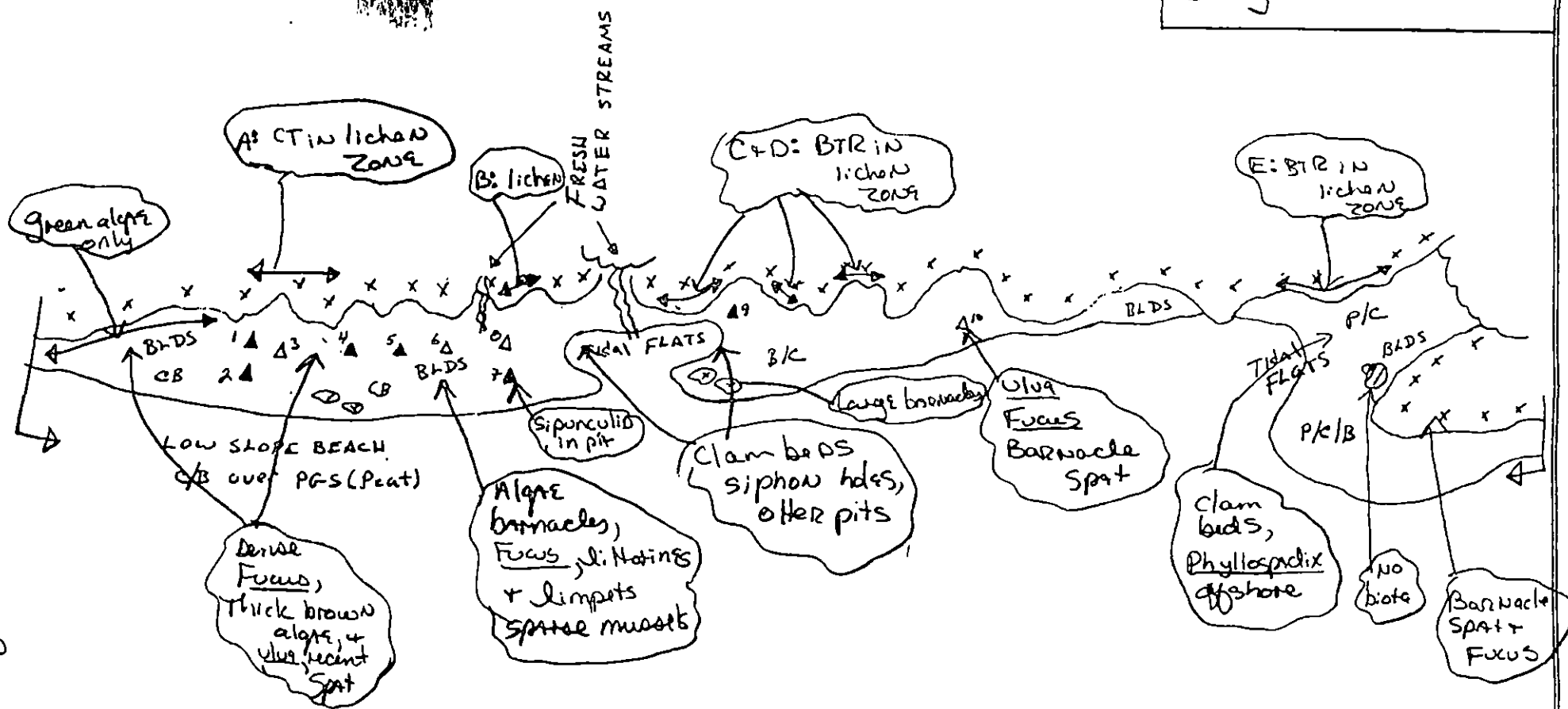
| MARINE MAMMALS      | # OBSERVED | LAND MAMMALS<br>SPECIES | # OBSERVED |
|---------------------|------------|-------------------------|------------|
| Sea Otters          |            |                         |            |
| Pinnipeds (specify) |            |                         |            |
| Whales (specify)    |            |                         |            |

Shoreline subdivision map showing important biological features attached.

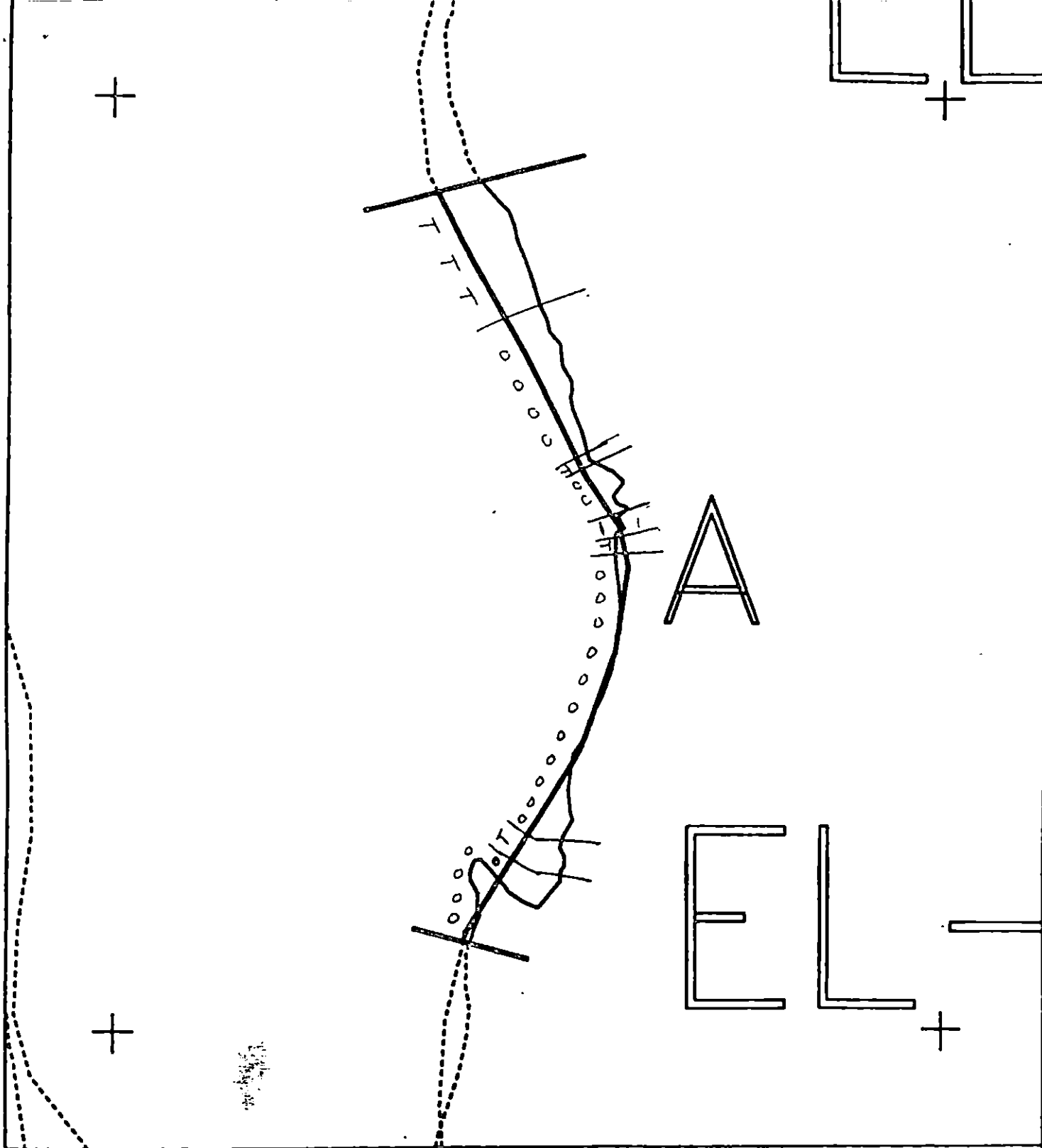
Reviewed M.B. 5/29/91

SWB 21 May  
91

OG SKETCH  
EL 52 A  
MAY 20, 1991  
14:00 - 15:00  
Doug Reimer



Reviewed M.B. 5/24/91



|      |            |                              |  |                                  |                      |
|------|------------|------------------------------|--|----------------------------------|----------------------|
| XXXX | Wide       | <b>EL052 A</b>               |  | Subdivision Field Map            |                      |
| //// | Medium     | ADEC Subsegment Length: 500m |  |                                  |                      |
| ---- | Narrow     | METERS                       |  | Map Key: KNIEL052A               |                      |
| TTTT | Very Light |                              |  | Name: <u>Reimer</u>              |                      |
| 0000 | No Oil     |                              |  | AK State Plane Zone 4<br>601052a | Date: <u>5/21/91</u> |
|      |            |                              |  |                                  | Date Entered:        |

Reviewed: MC 5/30/91  
 reviewed 5/28/91 KG

OILING LENGTHS

TO BE PROVIDED

AT A LATER DATE

ST/EL-11-A

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/EL-11

SUBDIVISIONS: A (1 OF 1)

# SHORELINE EVALUATION

SEGMENT ST/ EL-11 SUBDIVISION A (1 OF 1) DATE 4/7/90

## SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

6Y Recreation: Special use destination

7II Subsistence area: Deer harvesting (8/15 to 2/28)

See attached Ecological Constraint sheet for specific constraints and contacts.

## SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

## ARCHAEOLOGICAL CONSTRAINTS:

Consultation and inspection with an Exxon archaeologist is required prior to treatment. Specific on-site monitoring requirements will be determined at that time.

SHPO SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

## OILING CATEGORIZATION:

Wide \_\_\_\_\_ m: Medium \_\_\_\_\_ m: Narrow \_\_\_\_\_ m: V.Light \_\_\_\_\_ m: No Oil \_\_\_\_\_ m  
Subsurface Oil Observed: Yes X No \_\_\_\_\_ Maximum Depth 80+ cm

## RECOMMENDATIONS:

|                                                                                         |                                                           |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------|
| <input type="checkbox"/> No Treatment Recommended                                       | <input checked="" type="checkbox"/> Snare/Absorbent Booms |
| <input checked="" type="checkbox"/> Treatment Recommended                               | <input type="checkbox"/> Oil Snares (pom poms)            |
| <input checked="" type="checkbox"/> Manual Pickup                                       | <input type="checkbox"/> Absorbents (pads, rolls, etc)    |
| <input checked="" type="checkbox"/> Bioremediation                                      | <input type="checkbox"/> Spot Washing: _____ Wands        |
| <input checked="" type="checkbox"/> Tarmat: <input checked="" type="checkbox"/> Removal | <input type="checkbox"/> Beach Cleaner                    |
|                                                                                         | <input type="checkbox"/> Other (see comments)             |

COMMENTS: Recommended treatment includes 1) manual tarmat removal, 2) manual pick up of pooled oil, oiled debris, 3) manual relocation of storm berm to MITZ using hand tools and snare boom to control sheen in area shown on attached sketch map, 4) bioremediation of surface and sub-surface oil in areas shown on attached sketch map. Work should be conducted before 8/15 due to deer harvesting constraints.

TAG COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TAG APPROVAL DATE: \_\_\_\_\_

ADEC \_\_\_\_\_  
EXXON \_\_\_\_\_  
NOAA \_\_\_\_\_  
USCG \_\_\_\_\_

FOSC: \_\_\_\_\_ DATE: \_\_\_\_\_

# FIELD SHORELINE COMMENT SHEET

SEGMENT ST EL-11 SUBDIVISION: A DATE 4/8/90

USCG

NAME CWO2 J. MC MATHEW SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

1. There are three areas for treatment:
  - a) pooled oil at northern end of segment.
  - b) pooled oil at pit #10 area
  - c) pooled oil at southern end of segment.
  - d) also oily debris is moderate (see map)
2. recommend ref a, b + c be bioremediation and debris be manually removed
3. All other areas do not warrant clean-up, weathered oil in most areas.

ADEC

NAME GREG WINTER

SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

GRAVEL REMOVAL/WASH AND REPLACE IS RECOMMENDED FOR THE TWO NORTHEAST BEACHES. THE POOLED OIL, COVER, AND ASPHALT SHOULD BE MANUALLY REMOVED W/ BOULDERS WERE TURNED OVER AND WIPED. THERE IS ALOT OF OILED DEBRIS VISIBLE ON THE TWO NORTHEAST BEACHES - THIS SHOULD BE REMOVED. WORK CREWS SHOULD BE ESPECIALLY CAREFUL AROUND OF THE TIDAL FLAT THAT IS IN FRONT OF THE SOUTHERN BEACH

LAND MANAGER

NAME Mike Bennett

SIGNATURE [Signature]

ADNR

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Concur with USCG treatment recommendation as above for manual removal and bioremediation. Note that this is a priority segment with presence of marine mammals, waterfowl + eagles. Human use appears to be minimal with no campsites noted, although beaches are generally mixtures of cobble, pebbles + boulders. No active nest sites for eagles referenced but noted a pairs presence in the area.



## SHORELINE OILING SUMMARY

REVISION NO. 03/23/90

OG D. Fitzgerald USCG J. McMahon SEGMENT ST/ EL-11  
 BIO D. Rader LAND REP M. Bennett SUBDIVISION A  
 EXXON S. Neuman ADEC G. Winkler TIME 16:55 to 19:00  
 TEAM NO.: #15 TIDE LEVEL: 90 to 20m DATE Apr 17 /90  
 EST. SUBDIVISION LENGTH: 573 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow  
 UPLANDS DESCRIPTION: ☒ Grass ☐ Forest ☐ Rock  
 SURVEYED FROM: ☐ Foot ☐ Boat ☐ Helo WORKING DIRECTION: Southwest to Northeast  
 SURFACE SEDIMENTS: R 10 % B 30 % C 40 % P 10 % G 5 % S 5 % M 0 % V 0 %  
 SLOPE: Lang 10 % Hang 60 % Vert 30 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High  
 OIL CATEGORY LENGTH: W 24 m M 155 m N 75 m VL 145 m NO 94 m

## SURFACE OIL

| CHARACTER        | DISTRIBUTION |   |   |   | OIL / FILM COLOR |   |   |   |   | IMPACTED ZONES |   |   |   |
|------------------|--------------|---|---|---|------------------|---|---|---|---|----------------|---|---|---|
|                  | R            | B | P | M | 1                | 2 | 3 | 4 | 5 | SU             | U | M | V |
| ASPHALT PAVEMENT |              |   | X |   |                  |   |   |   | X |                | X |   |   |
| POOLED           |              | X | X |   |                  | X |   | X |   |                | X | X |   |
| COVER            |              |   | X |   |                  | X |   |   |   |                | X |   |   |
| COAT             |              | X | X |   |                  | X |   |   |   |                | X | X |   |
| STAIN            |              |   | X |   |                  | X |   |   |   |                | X |   |   |
| MOUSSE           |              |   |   |   |                  |   |   |   |   |                |   |   |   |
| PATTIES          |              |   |   |   |                  |   |   |   |   |                |   |   |   |
| TARBALLS         |              |   |   |   |                  |   |   |   |   |                |   |   |   |
| FILM             |              |   |   | X |                  | X |   | X |   |                |   | X | X |
| NO OIL           |              |   |   |   |                  |   |   |   |   | X              |   |   | X |

PAVEMENT: H (F) S 15 sq. m by 3 cmPATTIES / TARBALLS 0 BAGSNEAR SHORE SHEEN? NO BR (RW) (SL) (TL)

| OILED DEBRIS | AMOUNT |    |                                     |
|--------------|--------|----|-------------------------------------|
|              | SM     | MD | LG                                  |
| Logs         |        |    | <input checked="" type="checkbox"/> |
| Vegetation   |        |    | <input checked="" type="checkbox"/> |
| Trash        |        |    |                                     |
| Debris       |        |    |                                     |

DEBRIS COLLECTED  
☐ YES ☒ NOTYPE -#BAGS 0

Photographs:

Roll No. 7Frames 1-7

## SUBSURFACE OIL

| PIT NO. | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER |    |    |    |    | OILED INTERVAL (cm) | BELOW |    | OIL / FILM COLOR |   |   |   |   | PIT ZONE |   |   |   | A N A | SUBSURFACE SEDIMENTS |
|---------|----------------|--------------------------|----|----|----|----|---------------------|-------|----|------------------|---|---|---|---|----------|---|---|---|-------|----------------------|
|         |                | OP                       | OR | OL | OF | NO |                     | DO    | UC | 1                | 2 | 3 | 4 | 5 | SU       | U | M | V |       |                      |
| 1       | 25             |                          | X  |    |    |    | 5-25                | X     |    | X                | X |   |   |   |          |   |   | X |       | Cob / Peb / Boulder  |
| 2       | 25             |                          |    |    |    | X  | -                   |       |    |                  |   |   |   |   |          |   | X |   |       | Cob / Peb / Gravel   |
| 3       | 35             |                          |    |    | X  |    | 5-35                | X     |    | X                |   |   |   |   |          | X |   |   |       | Peb / Cob / Gravel   |
| 4       | 20             |                          |    |    | X  |    | 5-20                | X     |    | X                | X |   |   |   | X        |   |   |   |       | Cob / Peb            |
| 5       | 80             |                          | X  |    |    |    | 5-80                | X     |    |                  |   | X |   |   | X        |   |   |   |       | Peb / Gravel / Cob   |
| 6       | 25             |                          |    |    |    | X  | -                   |       |    |                  |   |   |   |   |          | X |   |   |       | Peb / Cob / Gravel   |

## COMMENTS

Priority 1

- This segment is oiled along most of its length and subsurface oil was found at the first pocket beach at the southwest end.
- Most of the cobbles, boulders and bedrock are stained or coated with oil (patchy coverage) along the upper high tide zone with greater concentrations occurring as pools below boulders and in cracks of bedrock, as asphalt pavement and as small covers.
- Pit #4 had oil residue on upper pebbles, Pit #5 oil concentrated at 30cm

ADEC  
60

JRH 16 Apr 90

## SHORELINE OILING SUMMARY (PAGE 2 of 2)

REVISION 03/22/90

SEGMENT ST/ EL-11 SUBDIVISION 17

## SUBSURFACE OIL (CONTINUED)

| PIT NO. | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER |    |    |    |    | OILED INTERVAL (CM) | BELOW |    | OIL / FILM COLOR |     |    |    |    | PIT ZONE |    |    |    | A<br>N<br>A | SUBSURFACE SEDIMENTS      |
|---------|----------------|--------------------------|----|----|----|----|---------------------|-------|----|------------------|-----|----|----|----|----------|----|----|----|-------------|---------------------------|
|         |                | OP                       | OR | OL | OF | NO |                     | UO    | UD | 1/2              | 3/4 | SL | SL | SL | SU       | UI | MI | LI |             |                           |
| 7       | 30             |                          |    |    |    | X  | .                   |       |    |                  |     |    |    |    |          |    |    | X  |             | Peb Green Cbk             |
| 8       | 25             |                          | X  |    |    |    | 5-15                | X     |    |                  |     | X  |    |    |          |    |    | X  |             | Peb / Green.              |
| 9       | 30             |                          | X  |    |    |    | 7-15                | X     |    |                  |     | X  |    |    |          |    | X  |    |             | Peb / Cbk / sand          |
| 10      | 40             |                          | X  |    |    |    | 5-8                 | X     |    |                  |     | X  |    |    |          | X  |    |    |             | Peb / Cbk. / Green / sand |
|         |                |                          |    |    |    |    | .                   |       |    |                  |     |    |    |    |          |    |    |    |             |                           |
|         |                |                          |    |    |    |    | .                   |       |    |                  |     |    |    |    |          |    |    |    |             |                           |
|         |                |                          |    |    |    |    | .                   |       |    |                  |     |    |    |    |          |    |    |    |             |                           |
|         |                |                          |    |    |    |    | .                   |       |    |                  |     |    |    |    |          |    |    |    |             |                           |
|         |                |                          |    |    |    |    | .                   |       |    |                  |     |    |    |    |          |    |    |    |             |                           |
|         |                |                          |    |    |    |    | .                   |       |    |                  |     |    |    |    |          |    |    |    |             |                           |
|         |                |                          |    |    |    |    | .                   |       |    |                  |     |    |    |    |          |    |    |    |             |                           |
|         |                |                          |    |    |    |    | .                   |       |    |                  |     |    |    |    |          |    |    |    |             |                           |
|         |                |                          |    |    |    |    | .                   |       |    |                  |     |    |    |    |          |    |    |    |             |                           |
|         |                |                          |    |    |    |    | .                   |       |    |                  |     |    |    |    |          |    |    |    |             |                           |
|         |                |                          |    |    |    |    | .                   |       |    |                  |     |    |    |    |          |    |    |    |             |                           |
|         |                |                          |    |    |    |    | .                   |       |    |                  |     |    |    |    |          |    |    |    |             |                           |

COMMENTS

ADEC  
(w)

REVIEWED

JRH

DATE

16 Apr 90

# SHORELINE ECOLOGICAL SUMMARY

REVISION: 08/22/90

Segment ST/ EL-11 Subdivision A Date (mo / day / yr) 4 / 7 / 90

Time (24 hr) 15:15 Biologist DANIEL RAISER

(A) Substrate type and % of segments:  
(1) Bedrock 10 (2) Boulder 30 (3) Cobble 40 (4) Pebble 15 (5) Sand 5 (6) Silt       

(B) Overall % cover of biota ( % of segment ): Dense 15 Moderate 10 Low 75  
↳ to zone

(C) Density, substrate preference ( by number from A, above ), & vertical zonation of major taxa: ( upper-U; mid-M; low tidal-L ); juveniles / adults (X) , new settlement (3)

Photographs: Roll No. 7

Frames 1-7

## BARNACLES

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |
| 2     | 2  | 2  | 2        | 2  | 2  | 2      | 2  | 2  | 2    | 2  | 2  |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  |

NOT PRESENT

## MYTILUS

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |
| 2     | 2  | 2  | 2        | 2  | 2  | 2      | 2  | 2  | 2    | 2  | 2  |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  |

NOT PRESENT

## GASTROPODS

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |
| 2     | 2  | 2  | 2        | 2  | 2  | 2      | 2  | 2  | 2    | 2  | 2  |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  |

NOT PRESENT

## FUCUS

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |
| 2     | 2  | 2  | 2        | 2  | 2  | 2      | 2  | 2  | 2    | 2  | 2  |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  |

NOT PRESENT

## Wildlife Observations/ General Comments:

- Eagle (startled by helicopter, 2)

## Ecological Considerations: PRIORITY 3

- 6Y 4/1 - 7/15 Special Use Designation
- 7Y 2/15 - 3/1 Deer Harvesting

EL-11, 7 APRIL

TEAM 15

1310-COMMENTS

DANIEL RAIDER

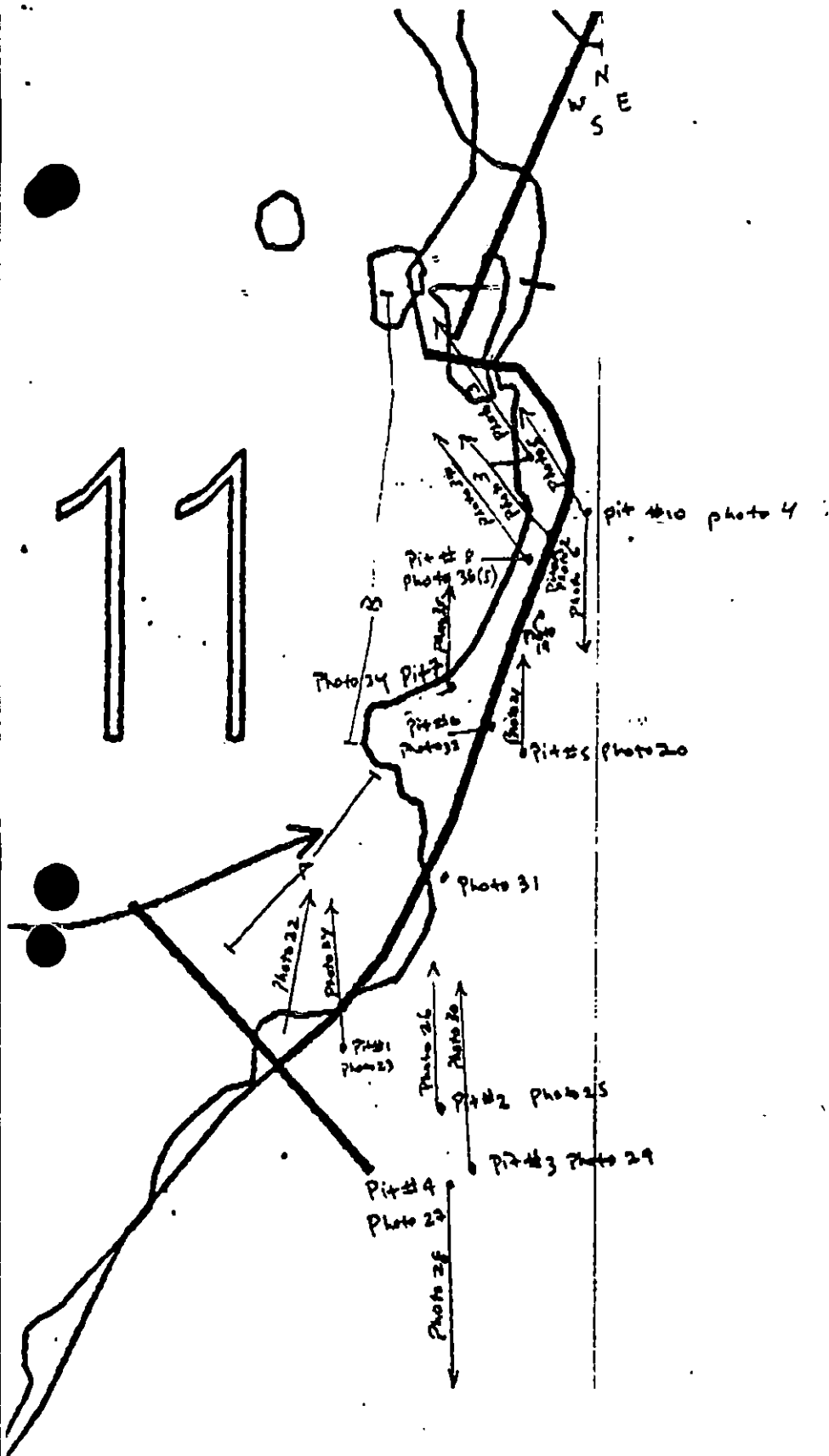
A) - DENSE RED ALGAE ON BEDROCK

- DENSE GREEN FILAMENTOUS ALGAE IN U.I.T. 2 AND M.I.T. 2 ON CORALS / PEAGLES & BOULDERS
- MUCH GREEN FILAMENTOUS ALGAE IN OILED AREA
- SPARSE BARNACLES U.I.T. 2 ON BOULDERS, ALTHOUGH COVERED WITH OIL
- ANTHROP

B) - DENSE RED & GREEN ALGAE ON BEDROCK IN LOWER M.I.T. 2

- DENSE MYTILUS BOWLS IN U.I.T. 2 ON BEDROCK, ALIVE THOUGH COVERED WITH OIL
- EVIDENCE OF MUCH DEAD BARNACLES IN U.I.T. 2, ALTHOUGH NOT COVERED IN OIL.
- MOSS (DENSE) ON BEDROCK ABOVE U.I.T. 2

EL-11, 7 APRIL 1990  
DANIEL RAISON  
BIOLOGY SKETCH



## PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)  
 1B Salmon stream mouth - spawning (7/10 to 8/31)  
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
- 1C Salmon fry nursery area (4/31 to 7/31)
- 1D Esther Hatchery release (4/15 to 6/1)
- 1E Main Bay Hatchery release (4/20 to 5/10)
- 1F Sawmill Bay Hatchery release (4/15 to 6/1)
- 1G Cannery Creek Hatchery release (4/21 to 6/1)
- 1H Remote release site
- 1I Gill net area (8/7 to 8/31)
- 1J Purse seine area (7/20 to 9/30)
- 1K Purse seine hook-off (7/20 to 9/30)
- 1L Set net sites (6/11 to 7/25)  
 For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
- 2M Herring spawning (4/1 to 6/15)  
 Restrict boat traffic to essential minimum. Avoid damage to unopened intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
- 3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)  
 3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)  
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
- 5R Seabird colony (5/1 to 9/1)  
 Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)  
 Restrict all activity to essential minimum, especially air traffic.
- 5T All Bald Eagle nests (3/1 to 6/1)  
 Active Bald Eagle nests (3/1 to 9/1)  
 Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
- 6U Recreation: Tent sites (8/1 to 9/15)
- 6V Anchorages (6/1 to 9/15)
- 6W Forest Service cabins (6/1 to 9/15)
- 6X Lodge (6/1 to 9/15)
- 6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
- 7HH Finfish harvesting
- 7I Deer harvesting (8/15 to 2/28)
- 7JJ Invertebrate harvesting  
 For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

OG Fitz

# SKETCH MAP

SEGMENT ST/ EL-11

SUBDIVISION A

DATE Apr 17 90

## CHECKLIST

- ☐ M Area
- ☐ Approx. Scale
- ☐ Seg/Sub Bndy
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. FOM/LMR
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pit Location(s)
- ☐ Photo Location(s)

## LEGEND

1 Δ

Pit - No Subsurface Oil

2 Δ

Pit - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

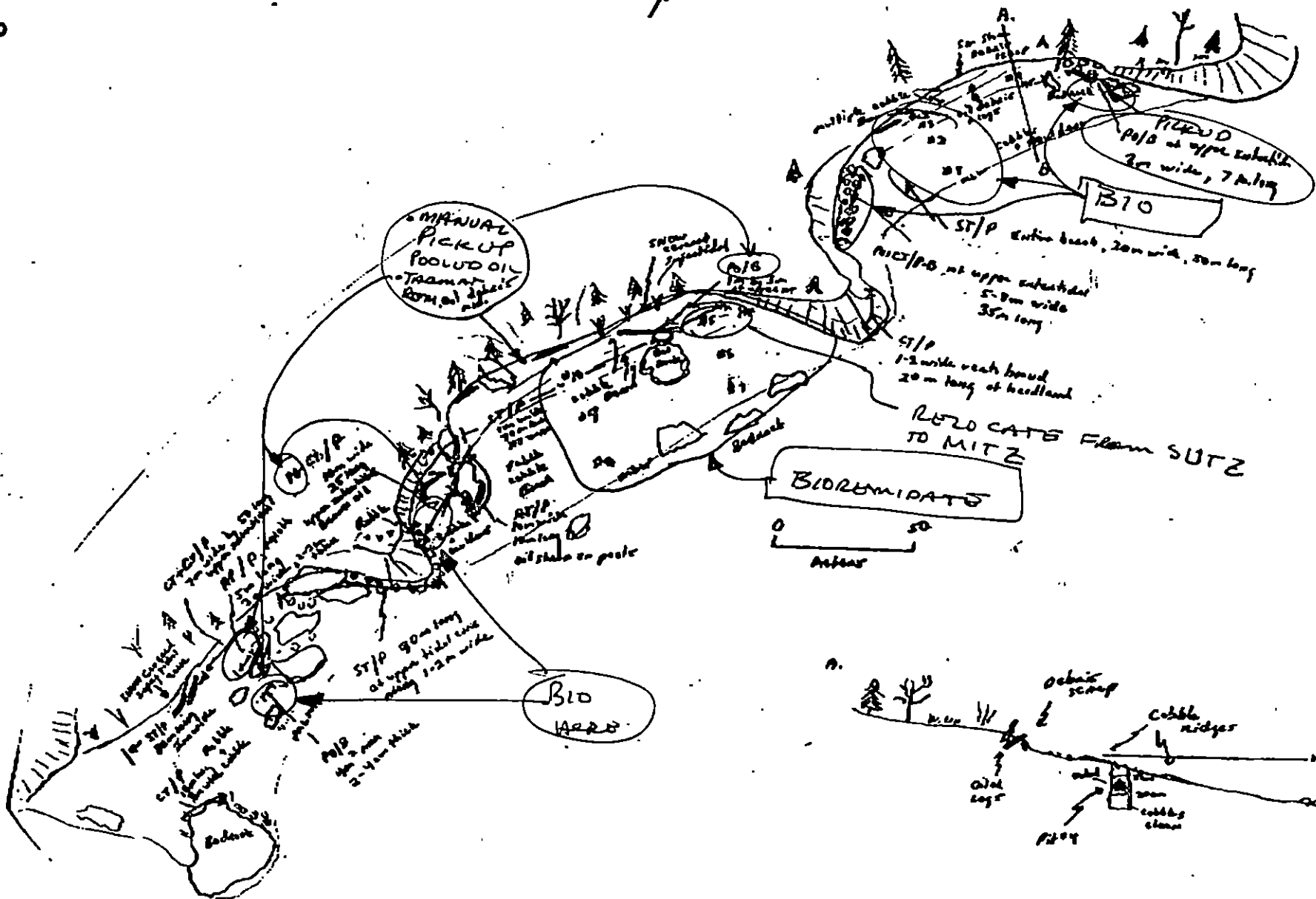
CT/S

Splashed Distribution

Old Vegetation

1 ●→

Photo location, direction, and number



Oil Character Length (m): AP 5 PO 44 CV 25 CT 90 ST 290 MS PT TB FL NO 59

ADEC  
NEWBORN 030490

EL-  
EL-11

ADEC

XXXX Wide  
 /// Medium  
 --- Narrow  
 TTTT Very Light  
 0000 No Oil

EL-11

ADEC Segment Length: 402m

0 100 200 300  
 METERS

Map Key: PWS-130

Name: Fitzgerald

Date: 7 Apr 1990

Date Entered:



## ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT EL-11 SUBDIVISION A (1 of 1)

| WORK WINDOW                                                                     |                    |
|---------------------------------------------------------------------------------|--------------------|
| Manual Pickup<br>Tarmat Removal                                                 | OPEN               |
| Bioremediation<br>Spot Washing<br>Manual Relocation<br>Other Approved treatment | WORK PRIOR TO 8/15 |

### ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

>>> PHONE 564-3274 (Anchorage) OR 229-1508 (24 hrs.) <<<

#### APPLICABLE ECOLOGICAL TIME CONSTRAINTS

7II Subsistence: Deer Harvesting

Closed to bioremediation, spot washing, manual relocation and other approved treatment after 8/15. No constraint to manual pickup and tarmat removal.

5T Bald Eagle Nests

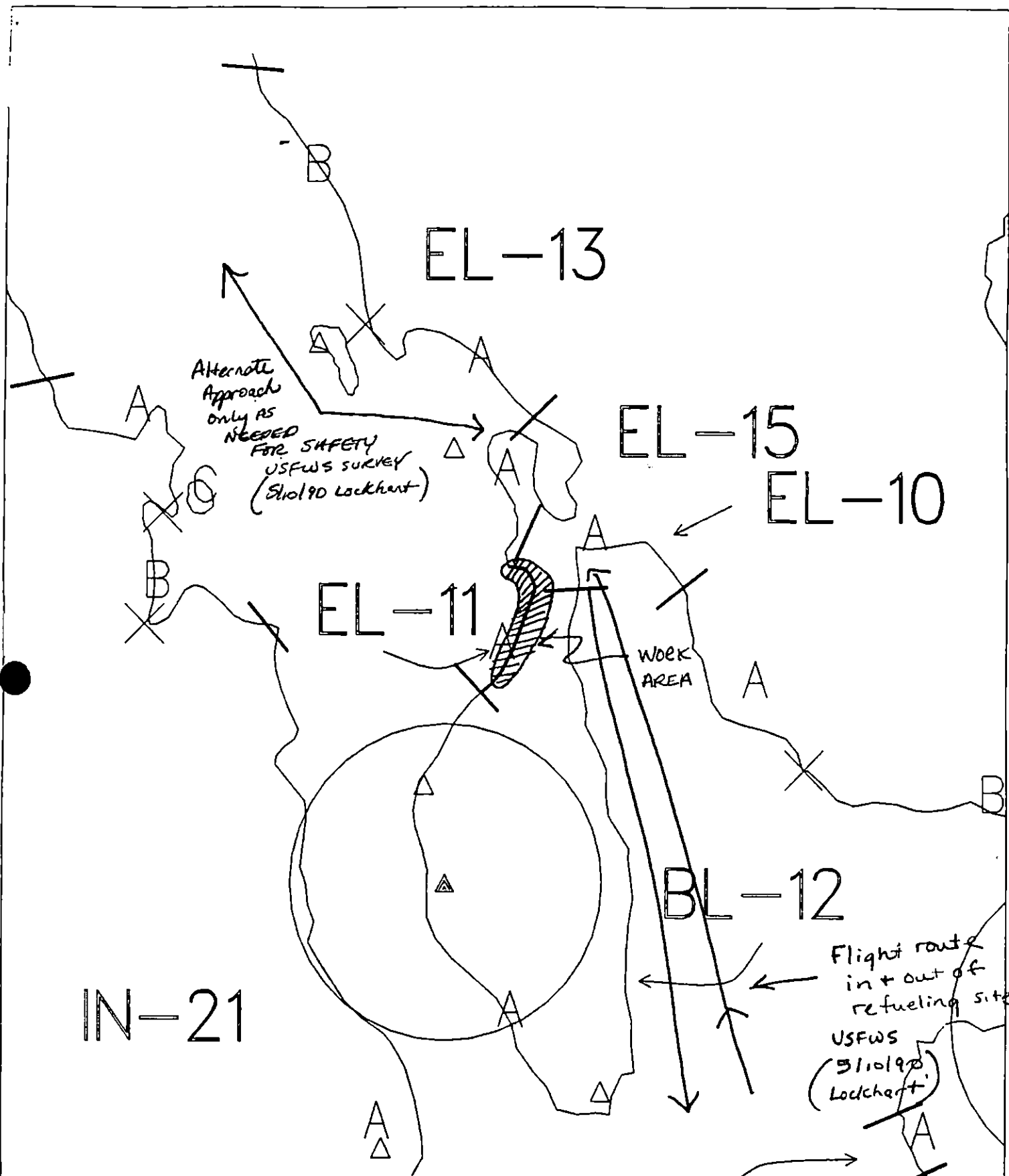
NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision A work site.

#### OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic and beach disturbance to essential minimum after 8/15. Avoid any unnecessary disturbance or damage to unrolled biota and substrate.

FOSC [Signature] Date 6-10-90

Prepared by [Signature] Date 6/9/90



Exxon Company, USA

Map Key: PWS-EL-11

ECOLOGY MAP  
SEGMENT EL-11  
SUBDIVISION A (1 of 1)  
METERS

- ★ Seabird Colony
- ▲ Active Eagle Nest
- △ Inactive Eagle Nest

# SHORELINE EVALUATION

SEGMENT ST/ EL-11 SUBDIVISION A (1 OF 1) DATE 4/7/90

## SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

6I Recreation: Special use destination

7II Subsistence area: Deer harvesting (8/15 to 2/28)

See attached Ecological Constraint sheet for specific constraints and contacts.

## SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

## ARCHAEOLOGICAL CONSTRAINTS:

Consultation and inspection with an Exxon archaeologist is required prior to treatment. Specific on-site monitoring requirements will be determined at that time.

SHPO SIGNATURE: [Signature]

DATE: 4/28/90

## OILING CATEGORIZATION:

Wide 0 m: Medium 232 m: Narrow 126 m: V. Light 44 m: No Oil 0 m  
Subsurface Oil Observed: Yes X No      Maximum Depth 80+ cm

## RECOMMENDATIONS:

     No Treatment Recommended

X Treatment Recommended

X Manual Pickup

X Bioremediation

X Tarmat: X Removal

X Snare/Absorbent Booms

     Oil Snares (pom poms)

     Absorbents (pads, rolls, etc)

X Spot Washing: X Wands

     Beach Cleaner

     Other (see comments)

COMMENTS: Recommended treatment includes 1) manual tarmat removal, 2) manual pick up of pooled oil, oiled debris, 3) manual relocation of storm berm to MITZ using hand tools and snare boom to control sheen in area shown on attached sketch map, 4) bioremediation of surface and sub-surface oil in areas shown on attached sketch map. Work should be conducted before 8/15 due to deer harvesting constraints.

See Constraint Addendum Dated 6/9/90 wtk

TAG COMMENTS:

SPOT WASH AS REQUIRED IN AREA OF POOLED OIL

TAG APPROVAL DATE: 4/26

ADEC

JOHN BAUER

EXXON

ANDY FAN

NOAA

GARY PETERSON

USCG

KENNETH KIRBY

FOSC: WJL

DATE: 5-9-90

SHORELINE EVALUATION

SEGMENT ST/ EL-11 SUBDIVISION A (1 OF 1) DATE 4/7/90

**SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:**

6Y Recreation: Special use destination

7II Subsistence area: Deer harvesting (8/15 to 2/28)

See attached Ecological Constraint sheet for specific constraints and contacts.

**SUBDIVISION ECOLOGICAL CONSTRAINTS: ---**

Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

**ARCHAEOLOGICAL CONSTRAINTS:**

Consultation and inspection with an Exxon archaeologist is required prior to treatment. Specific on-site monitoring requirements will be determined at that time.

SHPO SIGNATURE: [Signature] DATE: 4/28/90

**OILING CATEGORIZATION:**

Wide 0 m: Medium 232 m: Narrow 126 m: V.Light 44 m: No Oil 0 m  
Subsurface Oil Observed: Yes X No      Maximum Depth 80+ cm

**RECOMMENDATIONS:**

|                                      |                                           |
|--------------------------------------|-------------------------------------------|
| <u>    </u> No Treatment Recommended | <u>    </u> Snare/Absorbent Booms         |
| <u>X</u> Treatment Recommended       | <u>    </u> Oil Snares (pom poms)         |
| <u>X</u> Manual Pickup               | <u>    </u> Absorbents (pads, rolls, etc) |
| <u>X</u> Bioremediation              | <u>X</u> Spot Washing: <u>X</u> Wands     |
| <u>X</u> Tarmat: <u>X</u> Removal    | <u>    </u> Beach Cleaner                 |
|                                      | <u>    </u> Other (see comments)          |

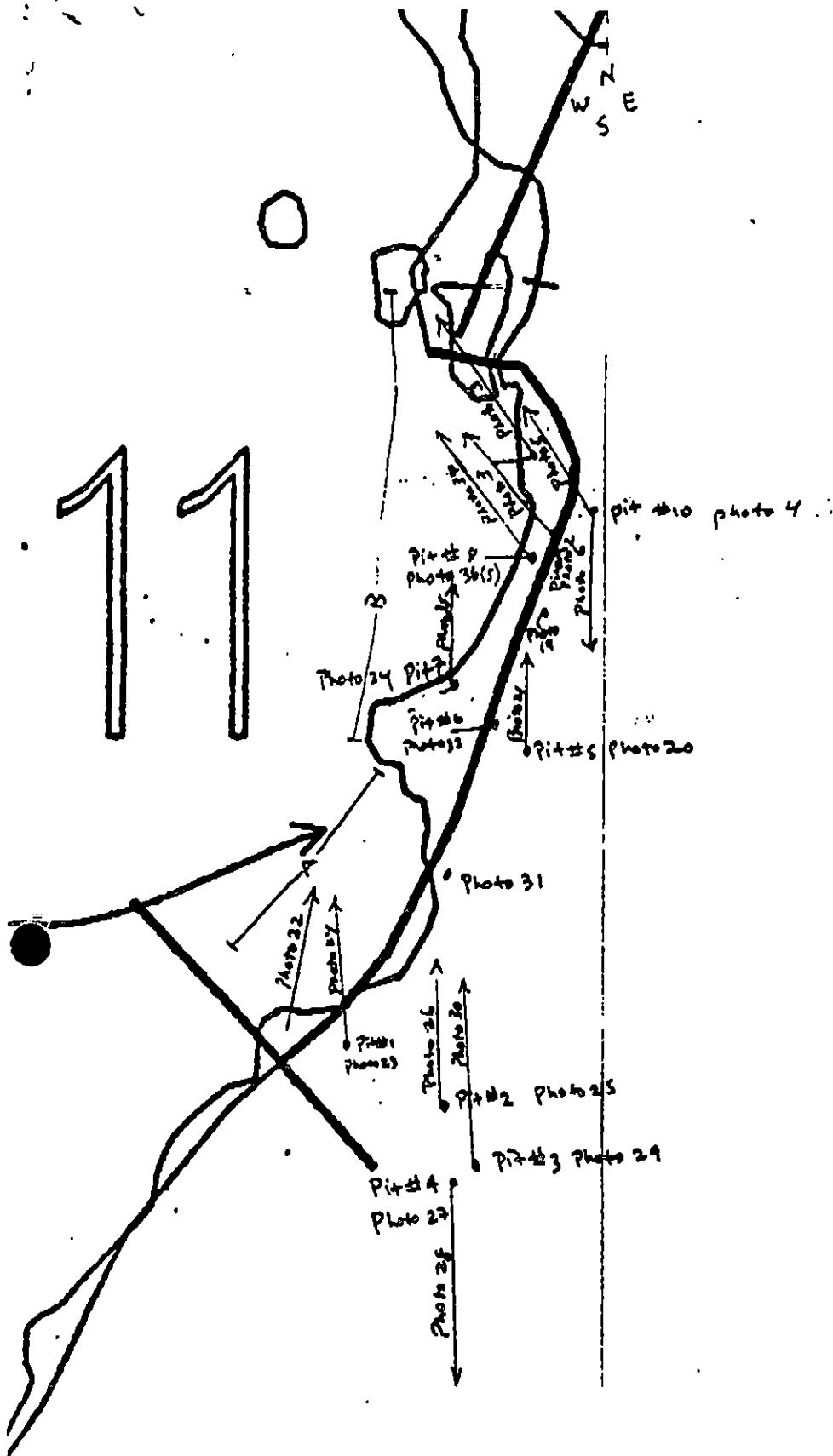
COMMENTS: Recommended treatment includes 1) manual tarmat removal, 2) manual pick up of pooled oil, oiled debris, 3) manual relocation of storm berm to MITZ using hand tools and snare boom to control sheen in area shown on attached sketch map, 4) bioremediation of surface and subsurface oil in areas shown on attached sketch map. Work should be conducted before 8/15 due to deer harvesting constraints.

TAG COMMENTS: SPOT WASH AS REQUIRED IN AREA OF POOLED OIL

TAG APPROVAL DATE: 4/26  
ADEC JOHN BAUER  
EXXON ANDY TEAL  
NOAA GARY PETERSON  
USCG KEVIN KELLY

FOSC: [Signature] DATE: 5-9-90

EL-11, 7 APRIL 1990  
DANIEL RAIVER  
BIOLOGY SKETCH



OG Fitzgerald

SEGMENT STI EL-11

SUBDIVISION A

DATE Apr 17 90

# CHECKLIST

- ☐ N Area
- ☐ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. > 0.01 M/L/L
- ☐ BSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pit Location(s)
- ☐ Photo Location(s)

## LEGEND

1 Δ  
PH - No Subsurface Oil

2 Δ  
PH - Subsurface Oil

CT/C  
Continuous Distribution

CT/B  
Broken Distribution

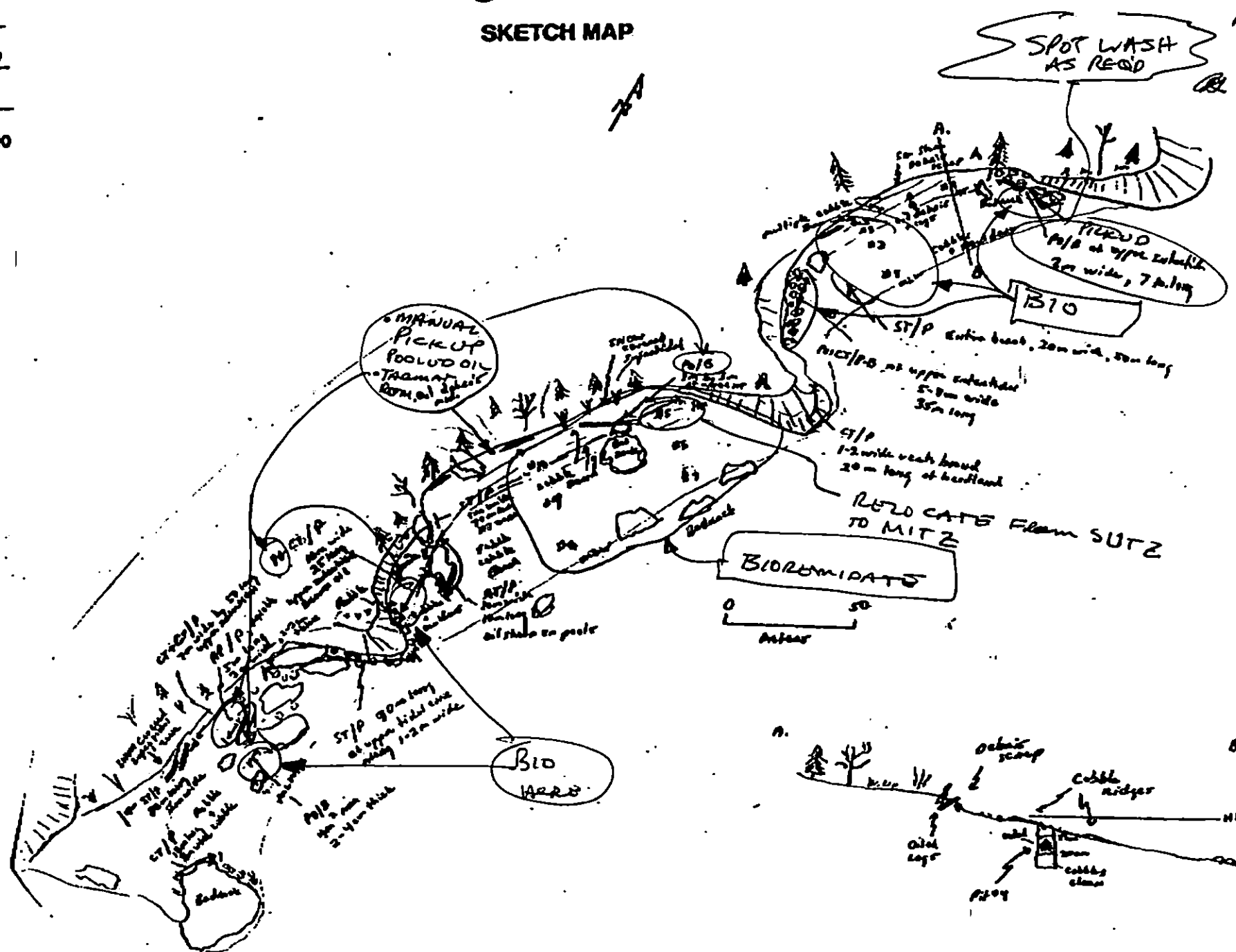
CT/P  
Patchy Distribution

CT/S  
Splashed Distribution

Oil Vegetation

1 ●  
Photo location, direction, and number

## SKETCH MAP



Oil Character Length (m): AP 5 PO 44 CV 25 CT 90 ST 290 MS      PT      TB      FL      NO 59

DEC  
REVISION 33000

EL-  
EL-11

ADEC  
62

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

EL-11

ADEC Segment Length: 402m

0 100 200 300  
METERS

Map Key: PWS-130

Name: Fitzgerald

Date: 7 Apr 1990

Data Entered:

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/EL-13

SUBDIVISIONS: A (1 OF 2)



# SHORELINE EVALUATION

SEGMENT ST/ EL-13 SUBDIVISION A (1 OF 2) DATE 4/8/90

## SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)  
6U Recreation: Tent sites (6/1 to 9/15)  
7II Subsistence area: Deer harvesting (8/15 to 2/28)  
See attached Ecological Constraint sheet for specific constraints and contacts.

## SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. 2 eagle nests on small islands just offshore of Subdivision (see map). Do not damage mussel bed. Small stream shown on sketch is not identified as an anadromous fish stream.

## ARCHAEOLOGICAL CONSTRAINTS:

Cultural resource survey in progress. Shoreline treatment cannot proceed until field data have been assessed and a formal archaeological constraint entered on the shoreline evaluation form.

SHPO SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

## OILING CATEGORIZATION:

Wide 0 m: Medium 23 m: Narrow 0 m: V.Light 604 m: No Oil 0 m  
Subsurface Oil Observed: Yes X No \_\_\_\_\_ Maximum Depth 15 cm

## RECOMMENDATIONS:

|                                                           |                                                        |
|-----------------------------------------------------------|--------------------------------------------------------|
| <input type="checkbox"/> No Treatment Recommended         | <input type="checkbox"/> Snare/Absorbent Booms         |
| <input checked="" type="checkbox"/> Treatment Recommended | <input type="checkbox"/> Oil Snares (pom poms)         |
| <input checked="" type="checkbox"/> Manual Pickup         | <input type="checkbox"/> Absorbents (pads, rolls, etc) |
| <input checked="" type="checkbox"/> Bioremediation        | <input type="checkbox"/> Spot Washing: _____ Wands     |
| <input checked="" type="checkbox"/> Tarmat: _____ Breakup | <input type="checkbox"/> Beach Cleaner                 |
| <input checked="" type="checkbox"/> Removal               | <input type="checkbox"/> Other (see comments)          |

COMMENTS: Recommended treatment includes 1) manual removal of tarmat and pooled oil, 2) bioremediation of area shown on attached sketch map. Treatment should be conducted in such a way as to avoid treatment or damage to mussel bed. Work should be conducted after 6/1 and with approval of USFWS due to eagle nest constraint.

TAG COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TAG APPROVAL DATE: \_\_\_\_\_

ADEC \_\_\_\_\_  
EXXON \_\_\_\_\_  
NOAA \_\_\_\_\_  
USCG \_\_\_\_\_

FOSC: \_\_\_\_\_ DATE: \_\_\_\_\_

# PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)  
 1B Salmon stream mouth - spawning (7/10 to 8/31)  
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
- 1C Salmon fry nursery area (4/31 to 7/31)  
 1D Esther Hatchery release (4/15 to 6/1)  
 1E Main Bay Hatchery release (4/20 to 5/10)  
 1F Sawmill Bay Hatchery release (4/15 to 6/1)  
 1G Cannery Creek Hatchery release (4/21 to 6/1)  
 1H Remote release site  
 1I Gill net area (6/7 to 8/31)  
 1J Purse seine area (7/20 to 9/30)  
 1K Purse seine hook-off (7/20 to 9/30)  
 1L Set net sites (6/11 to 7/25)  
 For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
- 2M Herring spawning (4/1 to 6/15)  
 Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
- 3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)  
 3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)  
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
- 5R Seabird colony (5/1 to 9/1)  
 Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)  
 Restrict all activity to essential minimum, especially air traffic.
- 5T All Bald Eagle nests (3/1 to 6/1)  
 Active Bald Eagle nests (3/1 to 9/1)  
 Restrict air traffic to essential minimum. No personnel within 400m. 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
- 6U Recreation: Tent sites (6/1 to 9/15)  
 6V Anchorages (6/1 to 9/15)  
 6W Forest Service cabins (6/1 to 9/15)  
 6X Lodge (6/1 to 9/15)  
 6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)  
 7HH Finfish harvesting  
 7II Deer harvesting (8/15 to 2/28)  
 7JJ Invertebrate harvesting  
 For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

# FIELD SHORELINE COMMENT SHEET

SEGMENT ST / EL-13

SUBDIVISION: A

DATE 4/8/90

**JSCG**

NAME CWO2 J. Mc NATION

SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

## COMMENTS

1. There is a growing controversy with the mussel bed on to treat or not.
2. Area of concern is west of pit 5 and between pit 6.
3. Treatment of this sensitive area can be done either:
  - a. protecting mussel bed and treat polluted area (bio)
  - or
  - b. let the treatment lapse - area looks strong & healthy.

**ADEC**

NAME GREG WINTER

SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

## COMMENTS

REMOVE SMALL AREA OF BROKEN OIL COVER (MAP A).

ON MAP B SHOWS A TOMBOLA, VISIBLE & VISABLE @ LOW TIDE, THAT HAS A RICH MUSSEL BED ESP. ON WEST SIDE, THERE IS CONSIDERABLE SURFACE AND SUBSURFACE OIL IN THE FORM OF A FRIABLE ASPHALT. THIS OCCURS JUST BELOW THE SURFACE.

DUE TO THE SENSITIVITY AND DEGREE OF OILING - I RECOMMEND STAG AND TEAM VISIT.

**LAND MANAGER**

NAME Mike Bennett

SIGNATURE [Signature]

ADNR

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

## COMMENTS

Treatment suggested on that portion of the saddle beach located on sketch map B that does not include the mussel bed. The existing bed should be protected - appears to be highly productive, and any treatment too close to the bed could cause more harm than good. If bio remediation can be used, its application should be selective ensuring a buffer between the bed. If bio would destroy the adjoining bed, then would recommend to perform no treatment w/ harm vs. good. Saw marine mammals w/ waterfowl & eegs in immediate area.

## SHORELINE OILING SUMMARY

REVISION NO. 03/25/88

OG D. Fitzgerald USCG J. McMahon SEGMENT ST/ EL-13  
 BIO D. Reider LAND REP M. Bennett SUBDIVISION A  
 EXXON S. Nauman ADEC G. Winters TIME 9:00 to 10:30  
 TEAM NO.: B15 TIDE LEVEL: to DATE Apr 18 1980  
 EST. SUBDIVISION LENGTH: 750 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow  
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock  
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: South to North  
 SURFACE SEDIMENTS: R 10 % B 30 % C 20 % P 20 % G 5 % S 5 % M - % V - %  
 SLOPE: Long 20 % Hang 60 % Vert 20 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High  
 OIL CATEGORY LENGTH: W 7 m M 48 m N 7 m VL 702 m NO 214 m  
702 702 0

## SURFACE OIL

| CHARACTER        | DISTRIBUTION |   |   |   | OIL / FILM COLOR |   |   |   |   |   |   |   | IMPACTED ZONES |   |   |   |
|------------------|--------------|---|---|---|------------------|---|---|---|---|---|---|---|----------------|---|---|---|
|                  | C            | R | P | B | 1                | 2 | 3 | 4 | 5 | 6 | 7 | 8 | SU             | U | M | L |
| ASPHALT PAVEMENT |              |   |   | X |                  |   |   |   |   |   | X |   |                | X |   |   |
| POOLED           |              |   |   | X |                  |   |   |   |   |   | X |   |                | X |   |   |
| COVER            | X            | X |   |   |                  |   |   |   |   |   | X |   |                | X |   |   |
| COAT             |              |   | X | X |                  |   |   |   |   |   | X |   |                | X |   |   |
| STAIN            |              |   |   |   |                  |   |   |   |   |   |   |   |                |   |   |   |
| MOUSSE           |              |   |   |   |                  |   |   |   |   |   |   |   |                |   |   |   |
| PATTIES          |              |   |   |   |                  |   |   |   |   |   |   |   |                |   |   |   |
| TARBALLS         |              |   |   | X |                  | X |   |   |   |   |   |   | X              |   |   |   |
| FILM             |              |   |   |   |                  |   |   |   |   |   |   |   |                |   |   |   |
| NO OIL           |              |   |   |   |                  |   |   |   |   |   |   |   | X              |   | X | X |

PAVEMENT: H (F) S 800 sq. m by 3 cm.PATTIES / TARBALLS < 1/4 bag BAGS

NEAR SHORE SHEEN? (NO) BR RW SL TL

| OILED DEBRIS | AMOUNT |    |    |
|--------------|--------|----|----|
|              | SM     | MD | LG |
| Logs         |        |    |    |
| Vegetation   |        |    |    |
| Trash        |        |    |    |
| Debris       |        |    |    |

DEBRIS COLLECTED  
☐ YES ☒ NO

TYPE \_\_\_\_\_

#BAGS 0

Photographs:

Roll No. 7Frames 16-33

## SUBSURFACE OIL

| PIT NO. | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER |    |    |    |    | OILED INTERVAL (CM-CH) | BELOW |    | OIL / FILM COLOR |   |   |   |   |   |   |   | PIT ZONE |   |   |   | A N A | SUBSURFACE SEDIMENTS    |
|---------|----------------|--------------------------|----|----|----|----|------------------------|-------|----|------------------|---|---|---|---|---|---|---|----------|---|---|---|-------|-------------------------|
|         |                | OP                       | OR | OL | OF | NO |                        | VO    | UC | 1                | 2 | 3 | 4 | 5 | 6 | 7 | 8 | SU       | U | M | L |       |                         |
| 1       | 20             |                          |    |    |    | X  | -                      |       |    |                  |   |   |   |   |   |   |   | X        |   |   |   |       | Grav / Peb / Cob        |
| 2       | 25             |                          |    |    |    | X  | -                      |       |    |                  |   |   |   |   |   |   |   | X        |   |   |   |       | Grav / Peb / Cob / Sand |
| 3       | 25             |                          | X  |    |    |    | 5-7                    | X     |    | X                |   |   |   |   |   |   |   | X        |   |   |   |       | Peb / Grav / Cob / Sand |
| 4       | 25             |                          | X  |    |    |    | 5-7                    | X     |    | X                |   |   |   |   |   |   |   | X        |   |   |   |       | Cob / Peb / Grav / Sand |
| 5       | 25             |                          | X  |    |    |    | 5-15                   | X     |    | X                |   |   |   |   |   |   |   |          | X |   |   |       | Grav / Peb / Sand       |
| 6       | 40             |                          |    |    |    | X  | -                      |       |    |                  |   |   |   |   |   |   |   |          | X |   |   |       | Peb / Grav / Sand       |

## COMMENTS

Priority 1.

- Most of the oiling of this beach occurs along the upper intertidal zone and consists of splacky coats and tar balls on boulders and bedrock.
- An exception to this trend is the asphalt pavement that occurs on the eastern portions of the tumbolo area consisting of friable asphalt 2cm thick. Beneath the asphalt is subsurface oil residues from 7-15cm.

... adjacent to the asphalt

GM 4/18/82

ADEC  
62

# SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/2/78

Segment ST / EL 13 Subdivision A Date (mo / day / yr) 4 / 8 / 90

Time (24 hr) 8:45 Biologist DANIEL BAIDER

(A) Substrate type and % of segments:  
(1) Bedrock 10 (2) Boulder 30 (3) Cobble 30 (4) Pebble 25 (5) Sand 5 (6) Silt

(B) Overall % cover of biota (% of segment): Dense 40 Moderate 20 Low 40  
LD to none

(C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs: Roll No. 7

Frames 16-33

## BARNACLES

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    |             |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|-------------|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |             |
| 2     | 2  | 2  | 2        | 2  | 2  | 2      | 2  | 2  | 2    | 2  | 2  |             |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |             |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  | NOT PRESENT |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |             |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  |             |

## MYTILUS

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    |             |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|-------------|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |             |
| 2     | 2  | 2  | 2        | 2  | 2  | 2      | 2  | 2  | 2    | 2  | 2  |             |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |             |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  | NOT PRESENT |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |             |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  |             |

## GASTROPODS

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    |             |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|-------------|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |             |
| 2     | 2  | 2  | 2        | 2  | 2  | 2      | 2  | 2  | 2    | 2  | 2  |             |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |             |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  | NOT PRESENT |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |             |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  |             |

## FUCUS

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    |             |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|-------------|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |             |
| 2     | 2  | 2  | 2        | 2  | 2  | 2      | 2  | 2  | 2    | 2  | 2  |             |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |             |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  | NOT PRESENT |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |             |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  |             |

## Wildlife Observations/ General Comments:

- Dense coverage of vegetation around the lagoon leads it to be quite sensitive; there are sections with a great amount of oil, especially near those Mytilus edulis beds in northern eastern part of lagoon which should be cleaned up carefully. Areas through must be given to the police brown sandy the lagoon and acting as a food source for the ocean tide over just beyond the lagoon.

## Ecological Considerations:

### Priority 1

6U Tent site 6/1 - 9/15

7II Deer Harvesting 8/15 - 3/1

1B Stream mouth spawning (salmon) 7/10 - 9/1

ADCC

OG Eitz

SEGMENT ST/ FL-13

SUBDIVISION A

DATE Apr 18 90

# CHECKLIST

- ☐ M Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Body
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ E.H. H.W.L./V.L.
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pit Location(s)
- ☐ Photo Location(s)

## LEGEND

1 Δ

Pit - No Subsurface Oil

2 Δ

Pit - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

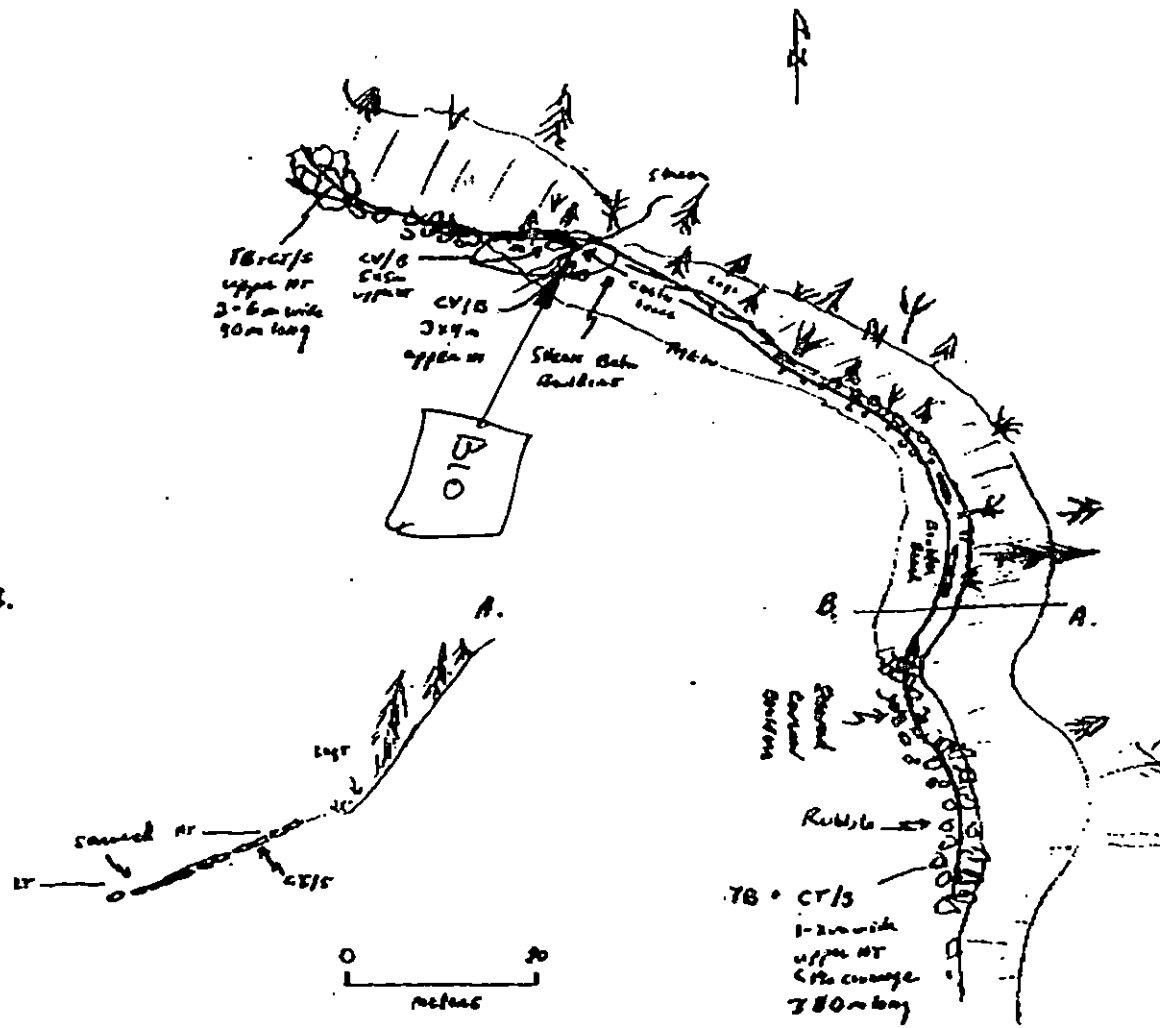
Splashed Distribution

Cilled Vegetation

1 →

Photo location, direction, and number

## SKETCH MAP A.



Oil Character Length (m): AP \_\_\_\_\_ PO \_\_\_\_\_ CV 8 CT 280 ST \_\_\_\_\_ MS \_\_\_\_\_ PT \_\_\_\_\_ TB 140 FL \_\_\_\_\_ NO 102

ADFC 60  
REVISED 3/2/88

OG Fk  
 SEGMENT ST/ EL-13  
 SUBDIVISION A  
 DATE Apr 18 90

# SKETCH MAP B.

## CHECKLIST

☐ N Area  
☐ Approx. Scale  
☐ Seg/Sub Bndry  
☐ Oil Dist.  
☐ Width  
☐ Length  
☐ % Cover  
☐ Substrate Character  
☐ Est. NWL/VL  
☐ SST  
☐ Profile Location(s)  
☐ Profile(s)  
☐ PN Location(s)  
☐ Photo Location(s)

## LEGEND

1 ▲

PN - No Subsurface Oil

2 ▲

PN - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

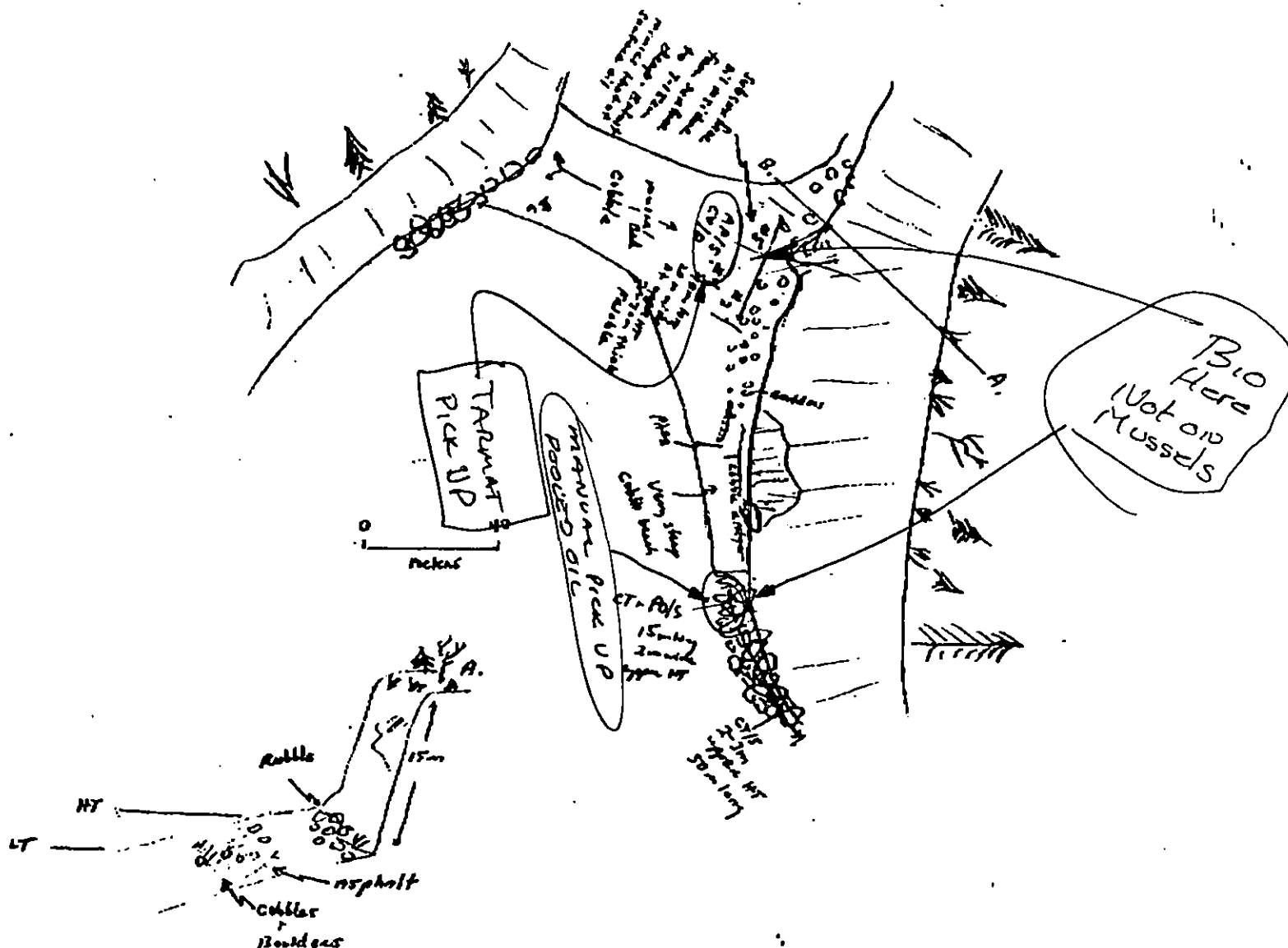
CT/S

Splashed Distribution

Oiled Vegetation

1 ●→

Photo location, direction, and number



Oil Character Length (m): AP 30 PO 10 CV 10 CT 55 ST      MS      PT      TB      FL      NO 115

REVISION 230399

1390W

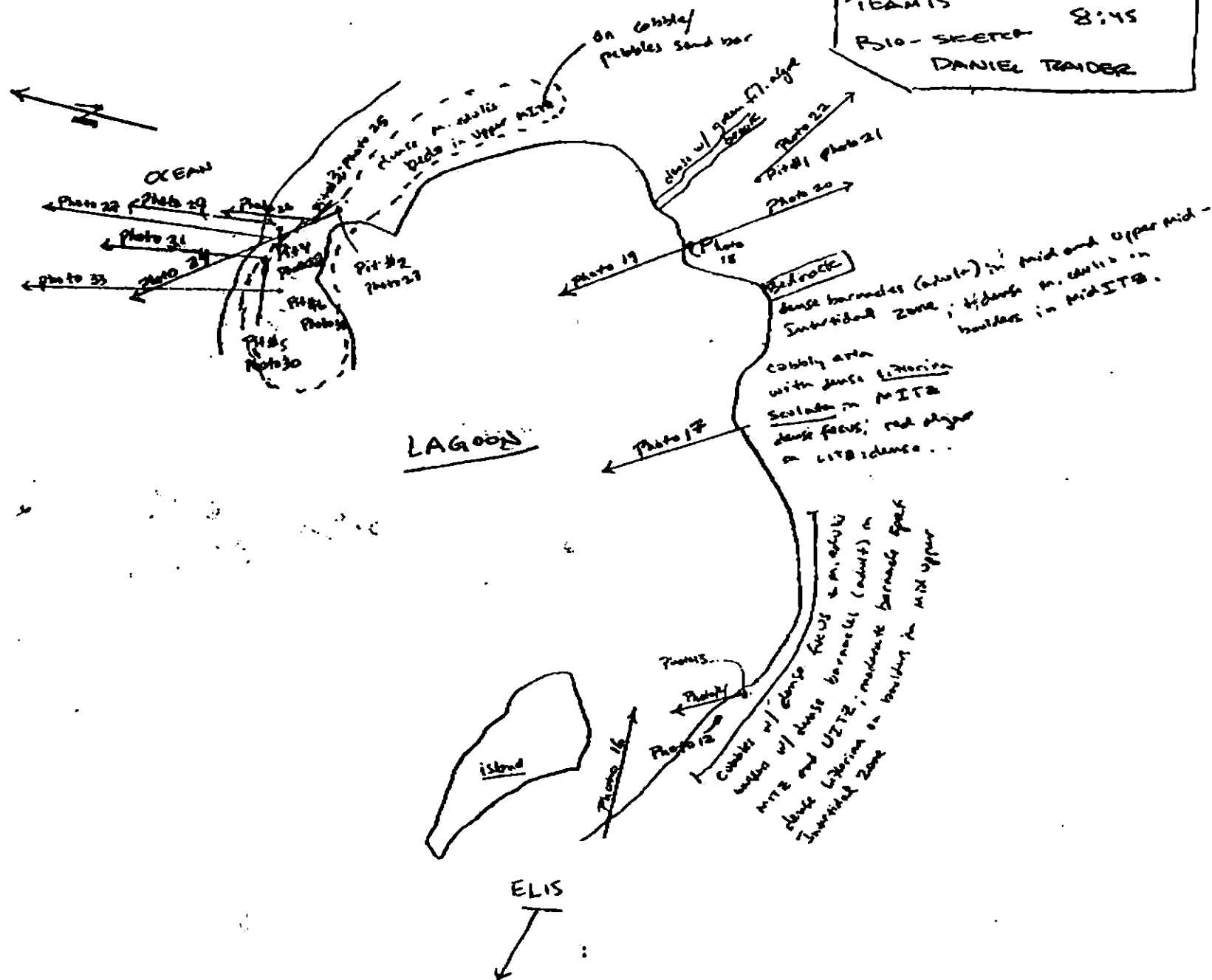
EL-13 8 APRIL 1990

TEAM 15

8:45

RS10 - SKETCH

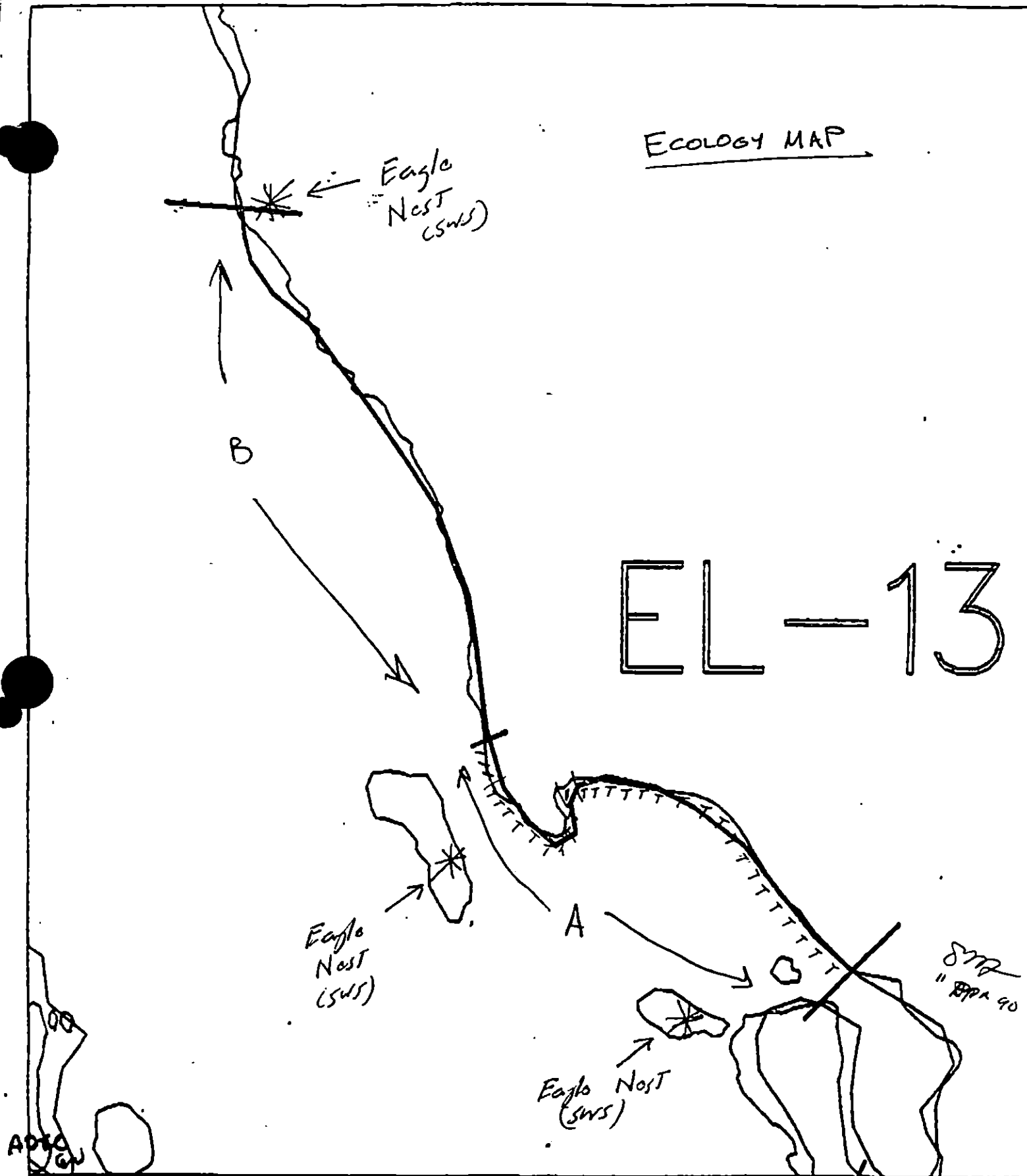
DANIEL TRAUBER





# ECOLOGY MAP

## EL-13



XXXX Wide  
 /// Medium  
 --- Narrow  
 TTTT Very Light  
 OOOO No Oil

EL-13

ADEC Segment Length: 1359m



Map Key: PWS-132

Name: Fitzgerald

Date: 8 Apr 1990

Date Entered:

MAP LOCATIONS FOR EL-13-A

EL-13



EL-13

ADEC Segment Length: 1359m



ADEC  
60

EL-13

ADEC  
60

SM  
"BPA 90"

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

EL-13

ADEC Segment Length: 1359m



Map Key: PWS-132

Name: FitzGerald

Date: 8 Apr 1990

Data Entered:

1991 MAYSAP EVALUATION

SEGMENT: EB 013 SUB: A REGION: PWS SURVEY DATE: 5/3/91

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) RESTRICTED 3/1 - 9/15

Ecological/Constraints (see page two for details) Eagle nest, Fry release, Anadromous stream

ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO Signature: [Signature] Date: 5/10/91

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: 5/14/91

FOSC APPROVAL DATE: 5/15/91

ADEC

FOSC

EXXON

E. E. PAGE, CDR, USCG  
CHIEF OF STAFF, FOSC

USCG

NOAA

**ECOLOGICAL CONSTRAINTS  
1991 FIELD ACTIVITIES**

**Eagle Nest:** Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.

**Fry Release:** Unlimited treatment unless otherwise directed by ADF&G. Sheen containment/recovery procedures required for mechanical treatment.

**Anadromous Stream:** Unlimited treatment up to stream bank between May 15 and July 10. ADF&G approval required for work after July 10. Fish Habitat Permit required for instream work. ADF&G approval required for bioremediation within 100 meters of anadromous stream after July 10.

## MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 4 SEGMENT E13013 SUBDIVISION A DATE 30 Apr 91

## ADEC

NAME Dianne Munson SIGNATURE Dianne Munson☒ NTR ☐ Treatment Recommended

Majority of segment not surveyed due to previous surveys showing oiling and time constraints. Tarballs and Patties were found and removed by both the survey and veco teams.

## EXXON

NAME LARRY D OLSON SIGNATURE Larry D. Olson

☒ NTR Area surveyed showed no oiling of a large dipper. Veco crew removed 4 bags with assistance from survey team. Area is healthy with very good biological growth throughout segment.

## LANDMANAGER

NAME LARRY EVANOFF OF CVC SIGNATURE LE☒ NTR ☐ TREATMENT RECOMMENDED

MAJORITY OF SEGMENT NOT SURVEYED DUE PREVIOUS SURVEYS SHOWED NO OIL. TAR BALLS/PATTIES WERE FOUND AND PICKED UP BY SURVEY CREW AND VECO CREW. ~~NO~~ OILED AREA NOT RE-SURVEYED DUE TO TIME CONSTRAINTS.

## USCG/NOAA

NAME TERRA GALT APP APP SIGNATURE T. Galt

☒ NTR Area monitored (on previous survey) did not show any significant concentrations



# Sketch Map

EB 013 A

27 SAMPLES

30 April 91

0921 - 1041

## Legend

[Hatched Box] Bedrock

[Box with 'V'] Angular cb/pb

LSOR 10%  
1 x 3  
Further balls  
in Supra itz  
grass and at  
base of cave  
near stream

PLI

Stream

Stream

2 tan balls

PLI

Angular cb/pb in  
front of bedrock. Put  
under wide intertidal behind  
island.  
No oil.

Zodiac

Angular cb/pb. Lots of  
bedrock outcrops & nearshore  
reefs.

Zodiac

A1

HSOR 20%  
1.5 x 8

Worked on

behind island in WITZ

Zodiac

Meters

0 400 800

reviewed 5/2/91 KLG  
Reviews: MC 5/3/91



## HAYSAP BIOLOGICAL SUMMARY FORM

|             |       |                      |                                                      |
|-------------|-------|----------------------|------------------------------------------------------|
| TEAM #      | 4     | DATE/TIME            | April <del>2</del> <sup>30</sup> , 1991 0920 => 1045 |
| SEGMENT #   | EB013 | TIDAL HEIGHT (Range) | -2.0 => +1.0                                         |
| SUBDIVISION | A     | BIOLOGIST            | JIM BARRY                                            |
| SEA STATE   | CALM  | WIND SPEED/DIRECTION | NE 5-15 Rain                                         |

## COMMENTS / OBSERVATIONS - OILED SUBDIVISIONS

This is a long segment with several habitat types. Our survey visited sites previously reported with oiled areas. Three main areas were visited.

# B **NO OIL FOUND.** This was a small shingle covered beach with an extensive upper and middle zone with a shallow slope and high peat content. The site is protected from swell. A clam bed is present at the site, along with a middle intertidal mussel bed, and moderate Fucus cover.

# C The oiled location is a high angle shingle beach protected from waves. Oiled locations (tar balls) are in the high intertidal zone. Biota at oiled area include black lichen, sparse densities of barnacles, limpets, and littorines. The lower zones below the oiled area are much richer. The middle zone has moderate densities of mussels, littorines, limpets, and barnacles, as well as hermit crabs, sea stars, and clams (several species). Algal cover is high, with Fucus as the dominant species, and high cover of filamentous green and brown algae. The subtidal area adjacent to this beach has an eel grass and clam bed. One river otter entered and exited the water at this location during the survey. No evidence of oil-related impacts to the local biota are evident.

**MANUAL PICK-UP PERFORMED DURING SURVEY.** Additional clean-up operations, if performed, should consist of manual pick-up only, with caution used to prevent extended visits of site which may impact otter activities, or disturbance to the subtidal eel grass and clam bed.

## WILDLIFE OBSERVATIONS - Completed on all subdivisions

| BIRDS            | # OF SPECIES | TOTAL BIRDS | FISH OBSERVED<br>SPECIES PRESENT |
|------------------|--------------|-------------|----------------------------------|
| Eagles           | 1            | 3           |                                  |
| Seabirds         |              |             |                                  |
| Waterfowl        | 2            | 8           |                                  |
| Gulls/Kittiwakes | 2            | 5           |                                  |
| Shorebirds       | 1            | 2           |                                  |
| Corvids          | 1            | 1           |                                  |
| Other Birds      |              |             |                                  |

| MARINE MAMMALS      | # OBSERVED | LAND MAMMALS<br>SPECIES | # OBSERVED |
|---------------------|------------|-------------------------|------------|
| Sea Otters          |            | River Otter             | 1          |
| Pinnipeds (specify) |            |                         |            |
| Sea Lions           | 4          |                         |            |
| Whales (specify)    |            |                         |            |

Shoreline subdivision map showing important biological features attached.

## EB013-A Biology Report (continued)

§A| The oiled area (HSOR) includes the upper intertidal zone and the supratidal zone. This site is a shingle beach. The oiled site biota include a sparsely populated mussel bed with moderate barnacles and littorine densities, as well as a higher zone with black lichen, sparse barnacles and littorines, and little else. A dense *Fucus* zone exists in the middle intertidal zone below the oiled area. Still lower in the intertidal, an eel grass and clam bed occur. This is a moderately dense clam bed, with scattered otter foraging pits present at the site. No oil related impacts to biota were evident.

**MANUAL PICK-UP PERFORMED DURING SURVEY.** Addition clean-up operations, if required, should prevent impact to the low zone and subtidal eel grass and clam bed.

D Oiled location (LSOR) is at the upper drift line near the supratidal zone. Black lichen and drift algae are the most common biota. A small shingle beach with a small stream is located below this area, with moderately dense cover of *Fucus*, scattered barnacles and mussels, and associated biota. An eel grass and clam bed sparsely populates the subtidal areas below the site. No oil-related impacts to the biota were observed.

**MANUAL PICK-UP PERFORMED DURING SURVEY.** Addition clean-up, if required, should be restricted to manual pickup to prevent negative impacts to the subtidal eel grass and clam bed.

One eagle nest was marked on the segment map, but was not observed during the survey. Two eagle were observed near the marked site, roosting in trees.

### List of Common Species from EB013-A

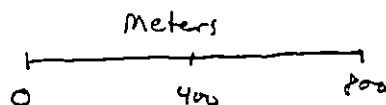
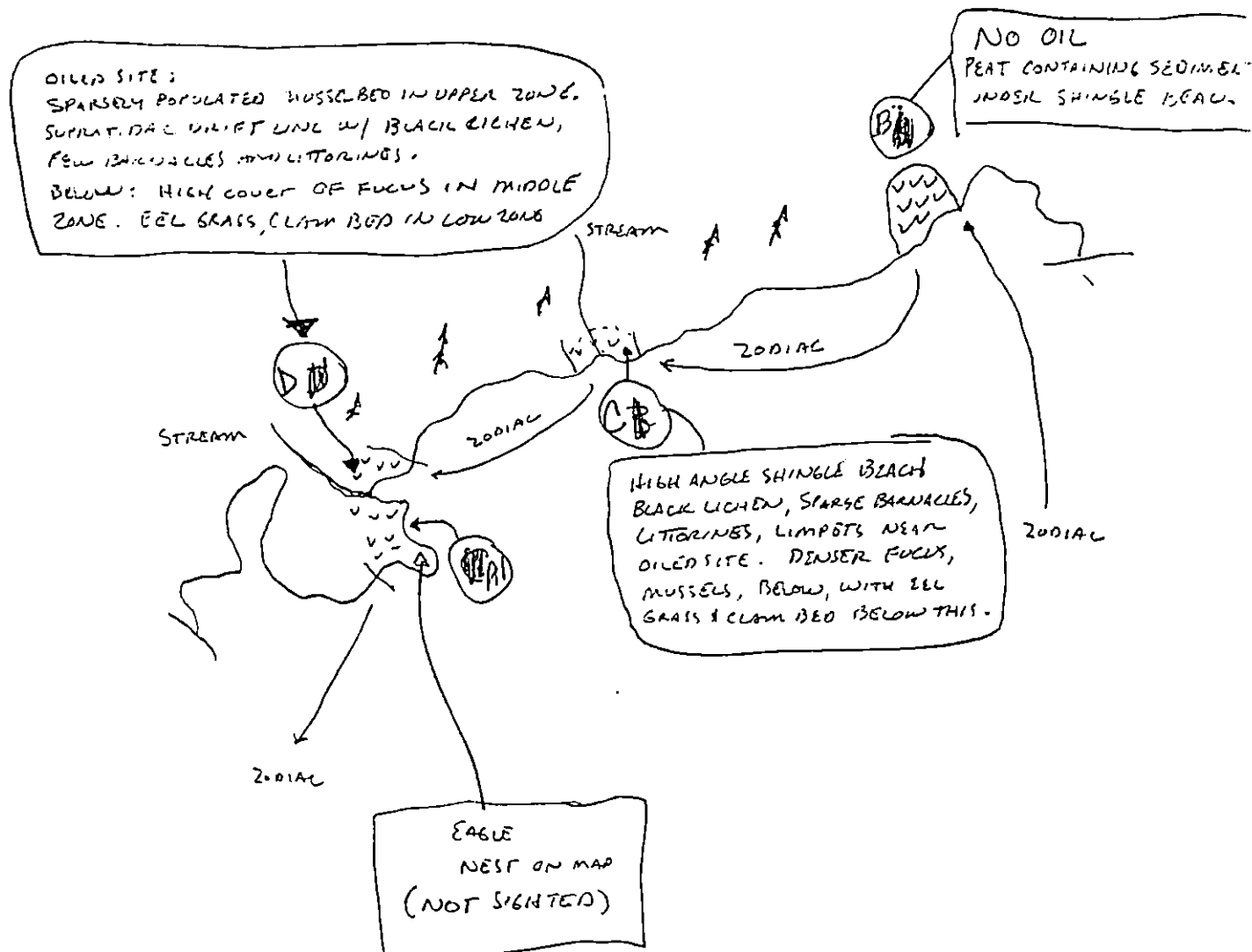
#### A. Marine Plants

1. Diatoms, Blue Greens
2. Green Algae - Chlorophyta  
*Acrosiphonia* sp., *Enteromorpha* sp., *Ulva* sp., *Urospora* sp.
3. Brown Algae - Phaeophyta  
*Ectocarpus* spp., *Fucus distichus*, *Ralfsia* sp.
4. Red Algae - Rhodophyta  
*Ahnfeltia plicata*, *Calliarthron* sp., *Lithothamnion* sp., *Membranoptera dimorpha*, *Odonthalia floccosa*, *Rhodomela larix*
5. Higher Plants  
*Zostera marina* (eel grass), *Leymus mollis* (beach rye grass)

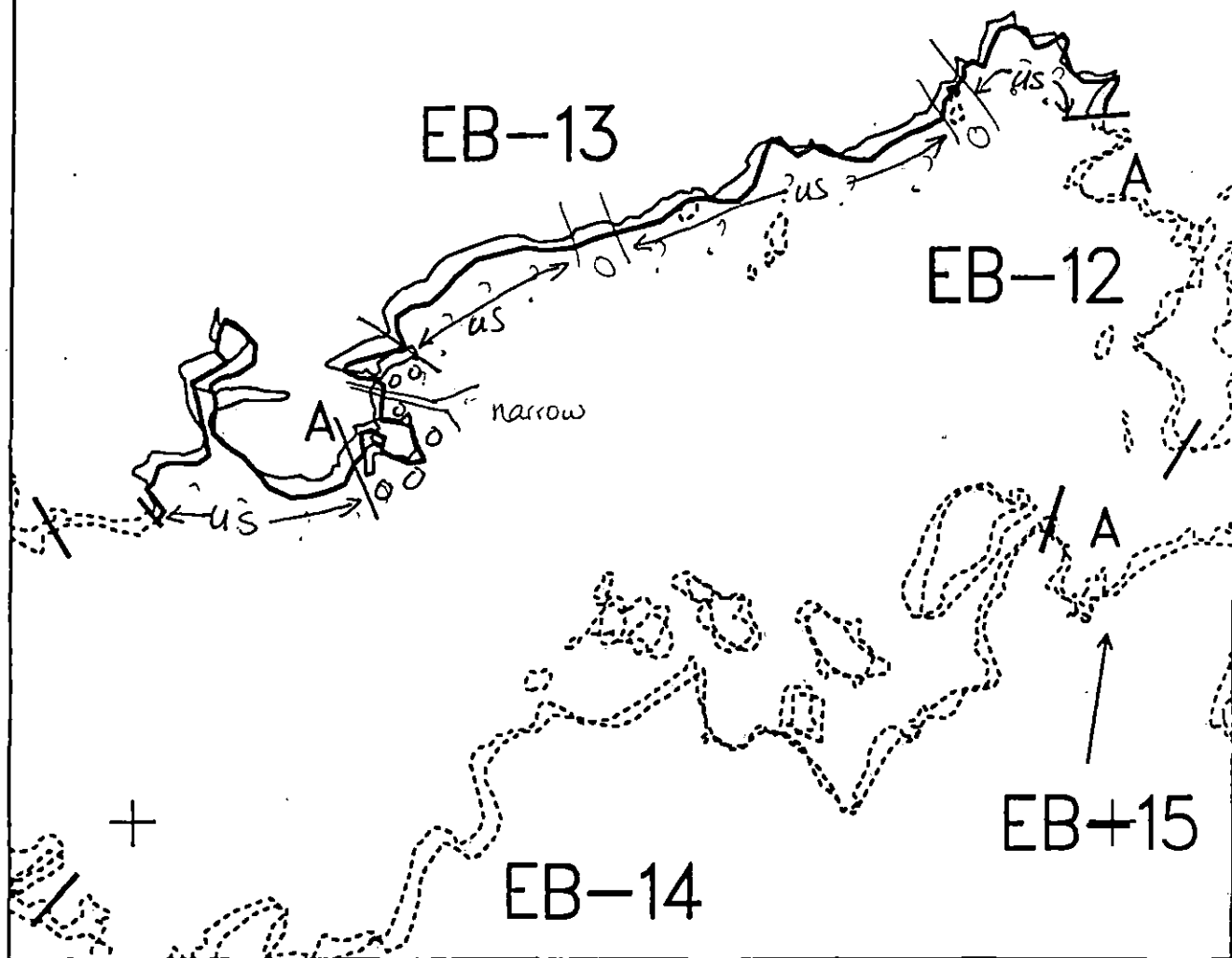
#### II. Marine Animals

1. Sponges - Porifera - *Halichondria* sp.
2. Anemones - *Anthopleura artemesia*,
3. Hydroids - Sertularidae - *Sertularella*?
5. Flatworms - Platyhelminthes - Polyclads
6. Nemertean Worms - Ribbon Worms - *Emplectonema gracile*
8. Polychaete Worms -  
*Nereidae* - *Nereis* spp.,  
*Spirorbidae* - *Spirorbis* sp.
9. Peanut worms - Sipunculids - *Phascolosoma agassizii*, *Golfingia* sp.
10. Crustaceans
  - a. Amphipods - *Orchestia* sp.?
  - b. Barnacles - *Balanus glandula*
  - c. Crabs  
*Hemigrapsus oregonensis*, Paguridae (hermit crabs), *Oregonia gracilis*
  - d. Isopods - *Gnorimorsphaeroma oregonense*
11. Mollusca

- a. Chitons
  - Mopalia mucosa, Tonicella lineata
- b. Snails - Gastropods
  - Littorina scutulata, L. sitkana, Natica clausa, Nucella lamellosa, N. lima, Margarites sp.
- c. Limpets
  - Lottia digitalis, L. persona
- e. Mussels and Clams
  - Clinocardium sp., C. nuttalli, Macoma balthica, Macoma nasuta, Mya arenaria (soft-shell clam), Mytilus edulis, Prototheca staminea, Saxidomus giganteus
- 12. Echinoderms
  - a. Brittle Stars - Ophiolus sp., ?
  - b. Sea stars
    - Dermasterias imbricata, Evasterias truscheli, Leptasterias hexactis, Pycnopoda helianthoides
  - c. Sea Cucumbers - Holothurians - Leptosynapta sp.
  - d. Urchins - Strongylocentrotus droebachiensis
- 13. Bryozoans - Membranipora sp., Schizoporella sp.
- 15. Fishes
  - Cottidae
  - Stichaeidae - Xiphister atropurpureus, X. mucosus



+ No 1/2  
 ? unsurveyed.



|      |            |                                  |                            |
|------|------------|----------------------------------|----------------------------|
| XXXX | Wide       | EB013 A                          | Subdivision Field Map      |
| //// | Medium     | ADEC Subsegment Length: 4881m    | Map Key: PWSEB013A         |
| ---- | Narrow     | METERS                           | Name: <i>Ken Fairchild</i> |
| TTTT | Very Light | 0 400 800                        | Date: <i>30 Apr 91</i>     |
| 0000 | No Oil     | AK State Plane Zone 4<br>psb013a | Date Entered:              |

revised 5/2/91 KG  
 Revises 5/3/91 MC.

ANADROMOUS FISH STREAM ASSESSMENT

REGION: PRINCE WILLIAM SOUND

SEGMENT: EL-13

STREAM NO: 226-10-16906

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ EL-13 STREAM NO: 226-10-16906 DATE 4/23/90

**SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:**

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)  
1B Salmon stream mouth - spawning (7/10 to 8/31)  
5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)  
See attached Ecological Constraint sheet for specific constraints and contacts.

**SUBDIVISION ECOLOGICAL CONSTRAINTS:**

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Subject stream exists at boundary of EL-13 and EL-15. [EL-13; Subdivision A (1 of 2)].

**ARCHAEOLOGICAL CONSTRAINTS:**

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

Subsurface Oil Observed: Yes \_\_\_\_\_ No X Maximum Depth \_\_\_\_\_

**RECOMMENDATIONS:**

|                                                           |                                                        |
|-----------------------------------------------------------|--------------------------------------------------------|
| <input type="checkbox"/> No Treatment Recommended         | <input type="checkbox"/> Snare/Absorbent Booms         |
| <input checked="" type="checkbox"/> Treatment Recommended | <input type="checkbox"/> Oil Snares (pom poms)         |
| <input checked="" type="checkbox"/> Manual Pickup         | <input type="checkbox"/> Absorbents (pads, rolls, etc) |
| <input type="checkbox"/> Bioremediation                   | <input type="checkbox"/> Spot Washing: _____ Wands     |
| <input checked="" type="checkbox"/> Tarmat Removal        | <input type="checkbox"/> Beach Cleaner                 |
|                                                           | <input type="checkbox"/> Other (see comments)          |

COMMENTS: Recommended treatment includes 1) manual pickup of oiled vegetation and cleanup debris, and 2) manual removal of tarmats in areas indicated on sketch maps. Work should be conducted between 6/1 and 7/10 with USFWS approval regarding eagle nest constraints.

TAG COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TAG APPROVAL DATE: \_\_\_\_\_

ADEC \_\_\_\_\_  
EXXON \_\_\_\_\_  
NOAA \_\_\_\_\_  
USCG \_\_\_\_\_

FOSC: \_\_\_\_\_ DATE: \_\_\_\_\_

# PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)  
 1B Salmon stream mouth - spawning (7/10 to 8/31)  
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.  
 AGENCY CONTACT PERSON: ADF&G John Morison 267-2324
- 1C Salmon fry nursery area (4/31 to 7/31)  
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.  
 AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1D Esther Hatchery release (4/15 to 6/15)  
 1E Main Bay Hatchery release (4/20 to 6/15)  
 1F Sawmill Bay Hatchery release (4/15 to 6/1)  
 1G Cannery Creek Hatchery release (4/21 to 6/1)  
 1H Remote release site  
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.  
 AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214  
 1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511
- 1I Gill net area (6/7 to 8/31)  
 1J Purse seine area (7/20 to 9/30)  
 1K Purse seine hook-off (7/20 to 9/30)  
 1L Set net sites (6/11 to 7/25)  
 Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.  
 AGENCY CONTACT PERSON: ADF&G James Brady 424-3212
- 2M Herring spawning (4/1 to 6/15)  
 Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to unopened intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.  
 AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
- 3P Harbor seal and sea lion pupping (5/15 to 7/1)  
 3Q Harbor seal and sea lion molting (8/15 to 9/15)  
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.  
 AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235  
 ADF&G Don Calkins 267-2403
- 5R Seabird colony (5/1 to 9/1)  
 Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.  
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)  
 Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.  
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377  
 ADF&G Tom Roth 267-2206
- 5T All Bald Eagle nests (3/1 to 6/1)  
 Active Bald Eagle nests (3/1 to 9/1)  
 Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.  
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 6U Recreation: Tent sites (6/1 to 9/15)  
 6V Anchorages (6/1 to 9/15)  
 6W Forest Service cabins (6/1 to 9/15)  
 6X Lodge (6/1 to 9/15)  
 6Y Special use destination
- 7Z Subistence area: Salmon harvesting (5/1 to 9/30)  
 Finfish harvesting  
 Deer harvesting (8/15 to 2/28)  
 Invertebrate harvesting  
 Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.  
 AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359



276

## FIELD SHORELINE COMMENT SHEET

SEGMENT ST / EL-013 <sup>NAS</sup> SUBDIVISION: 226-10-16906 <sup>ASC#</sup> DATE 23 APR 90

USCG  
NAME Kerwin L. Dreher SIGNATURE CWO 2 K. L. Dreher

☐ NO TREATMENT RECOMMENDED  
COMMENTS

☒ TREATMENT SUGGESTED

Agree.

~~ADFG~~ → ADFG  
NAME Aimee Weseman SIGNATURE Aimee Weseman

☐ NO TREATMENT RECOMMENDED  
COMMENTS

☒ TREATMENT SUGGESTED

North side of stream - manual removal of intermittent tar patties  
in the UITZ

South side of stream - manual removal of intermittent tar patties  
removal of oiled organic debris - including spruce needles, grass  
and log in supra ITZ.

Removal of oiled sausage boom on North side in supra ITZ

~~LAND MANAGER~~ → NONE  
NAME

SIGNATURE

☐ NO TREATMENT RECOMMENDED  
COMMENTS

☐ TREATMENT SUGGESTED

## REVISION 10-94-02

32/

## SURFACE OIL

| CHARACTER        | DISTRIBUTION |   |   |   | OIL / FILM COLOR |   |   |   |   |   | IMPACTED ZONES |   |   |   |
|------------------|--------------|---|---|---|------------------|---|---|---|---|---|----------------|---|---|---|
|                  | G            | B | P | S | 1                | 2 | 3 | 4 | 5 | 6 | SU             | M | W | U |
| ASPHALT PAVEMENT |              | ✓ |   |   | ✓                |   |   |   |   |   |                | ✓ |   |   |
| POOLED           |              |   |   |   |                  |   |   |   |   |   |                |   |   |   |
| COVER            |              |   | ✓ |   | ✓                |   |   |   |   |   |                | ✓ |   |   |
| COAT             | ✓            |   |   |   | ✓                |   |   |   |   |   |                | ✓ |   |   |
| STAIN            |              |   |   |   |                  |   |   |   |   |   |                |   |   |   |
| MOUSSE           |              |   |   |   |                  |   |   |   |   |   |                |   |   |   |
| PATTIES          |              |   |   |   |                  |   |   |   |   |   |                |   |   |   |
| TARBALLS         |              |   |   |   |                  |   |   |   |   |   |                |   |   |   |
| FILM             |              |   |   |   |                  |   |   |   |   |   |                |   |   |   |
| NO OIL           |              |   |   |   |                  |   |   |   |   |   | ✓              |   | ✓ | ✓ |

NEAR SHORE SHEEN? (NO) BR RW SL TL

| OILED<br>DEBRIS | AMOUNT |    |    |
|-----------------|--------|----|----|
|                 | SM     | MD | LG |
| Logs            |        | ✓  |    |
| Vegetation      | ✓      |    |    |
| Trash           | ✓      |    |    |
| Debris          | ✓      |    |    |

Did You Collect  
DEBRIS  
☐ YES ☒ NO

TYPE \_\_\_\_\_

**\$BAGS****Photographs:**

Roll No. \_\_\_\_\_

### Frames

## SUBSURFACE OIL

[illegible]

COMMENTS NO PITS DUG DUE TO LACK OF OIL PENETRATION.

REVIEWED

DATE 4-26-90

SEGMENT ST/ELL3

STATION 226+10-10906

DATE 4/23/90

CHECKLIST

- Map
- Area, State
- County, City
- CR Data
- Notes
- Length
- Survey
- Survey
- CR Data
- SR
- Profile Location
- Profile
- Profile Location
- Profile Location

LEGEND

1 A 1M

1 A 1M

1 A

1 A 1M

1 A 1M

1 A 1M

1 A 1M

1 A 1M

1 A 1M

1 A 1M

1 A 1M

1 A 1M

1 A 1M

1 A 1M

1 A 1M

1 A 1M

1 A 1M

1 A 1M

1 A 1M

1 A 1M

1 A 1M

1 A 1M

SKETCH MAP

OILED SPRUCE NEEDLES, LEAF, SMALL BRANCHES  
1/6/CT 18MAK20CM

OILED DEAD FALL

1/8/CV  
10KA

GRASS TURF

OILED DEAD FALL AND DEBRIS

SAUSAGE BOOM OILED

1/8/AP  
8X2X1K1R

1/8/AP  
4X1M

MANUALLY PICKUP & REMOVE OILED GRASS, OILED SAUSAGE BOOM, OILED VEGETATION DEBRIS, AND TARMATS

GOM

WATER LINE

40M

12

Character Length (m): AP 12 PO CV 10 CT 18 ST MS PT TB FL NO

REVISIONS

24/41  
Seg. ID: EL-013 Subdiv: 226-10-16906

Survey Date: 4/23/90

Comments of: Ken Critchlow

The UITZ on each side of this stream was coated, covered or had asphalt pavement. Exploratory scraping of surface sediments failed to reveal penetration of oil into sub-surface sediments.

This stream site can be cleaned by a small crew using shovels to remove asphalt pavement in the UITZ. Oiled debris in the UITZ can be picked-up and bagged. Oiled logs on east side may need to be removed or burned on-site. Oiled log across stream is best left in place and oiled surface scraped to remove coat/cover.

KR Critchlow

# ECOLOGICAL MAP

1A, 1B  
ST(1)  
1E  
6Y, 6V

SUBDIVISION  
B

## EL-13

SUBDIVISION  
A

BALD  
EAGLE  
NESTS

ANONYMOUS STREAM  
# 226-10-16906

EL-15A

### EL-13

ADEC Segment Length: 1359m



ADEC  
62



25/41

ADPAG MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: ES (SS) TS AVS SCM PHS PTA 2 REGION: (PVS) KP,CI K,AP  
 METHOD: Aerial (Ground) Boat  
 3 DATE: 4-23-90 15 HIGH TIDE TIMES: 1 21 TEAM RECORDER: Aimee Wesema  
 4 START TIME: 1800 16 HIGH TIDE HTS: 1 22 OBSERVERS: Pick Gustin  
 5 STOP TIME: 1830 17 LOW TIDE TIMES: 1 23 AGENCY: ADFG  
 6 SEGMENT #: EL013 18 LOW TIDE HTS: 1 24 PHOTOS TAKEN: Y (N)  
 7 STATION #: \_\_\_\_\_ 19 TIDE HT AT SURVEY: \_\_\_\_\_ Roll #: \_\_\_\_\_ Frame: \_\_\_\_\_  
 8 K-UNIT: \_\_\_\_\_ 20b Slack Flood Slack 25 VIDEO TAKEN: (Y) N TAPES: 90AJW00  
 9 STAT AREA: \_\_\_\_\_ 20 USCG QUAD: \_\_\_\_\_ Starts: 0 Ends: 10  
 10 LAT: \_\_\_\_\_ 11 LONG: \_\_\_\_\_ 26 SAMPLES TAKEN: Y (N) NUMBER  
 12 SOURCE: (Map) Loran 011 \_\_\_\_\_  
 13 LOCATION: Eleanor Island Sediment \_\_\_\_\_  
 14 DESCRIPTION: SW side near Block I Biological \_\_\_\_\_  
 Water \_\_\_\_\_

EXTENT OF OIL

27 SURFACE COVERAGE: 

|   |    |   |   |   |   |   |   |
|---|----|---|---|---|---|---|---|
| L | W  | N | S | L | W | N | S |
|   | 1m |   |   |   |   |   |   |

 36 CATALOGED ANAD. FISH SKELETS (Y) N  
 28 SURFACE THICKNESS: 

|     |     |  |  |  |  |  |  |
|-----|-----|--|--|--|--|--|--|
| 1cm | 2cm |  |  |  |  |  |  |
|-----|-----|--|--|--|--|--|--|

 37 CATALOG #: 226-10-16906  
 29 PENETRATION: 

|  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|

 38 STREAM NAME: \_\_\_\_\_  
 30 OVERALL OIL IMPACT: N VL (B) N N 39 OIL IN STREAM BED? Y (N)  
 31 OIL TYPE: Pooled Messy Tar (Asphalt) Sticky Seeps 40 OIL ON STREAM BANKS? (Y) N  
 32 OILED DEBRIS (B) N 41 OIL ON BEACH ADJACENT TO MOUTH? (Y) N  
 33 SHORELINE TYPE: Headland Low-lying Rocks Beach (Cove) (within 50 meters)  
 Lagoon Marsh 42 OIL WITHIN 1 MILE OF STREAM? (Y) N  
 34 WAVE EXPOSURE: High Moderate Low Where: \_\_\_\_\_  
 35 SUBSTRATE TYPE: Bedrock Boulder Cobble (Y) 43 ANADROMOUS FISH PRESENT? Y N  
 Gravel (Y) Sand (Y) Mud/silt (Y) 44 ANADROMOUS FISH OBSERVATION  
 Species Aerial Ground

| Species | Aerial | Ground |
|---------|--------|--------|
|         |        |        |
|         |        |        |
|         |        |        |
|         |        |        |

oil present includes  
 COMMENTS: a 100m x 1 meter wide band of intermittent tar patches running  
the length of the UT TZ on North side of stream  
a 2m wide lightly oiled band in m&u TZ on south side of stream  
oiled organic debris on south side in wash zone, oiled log

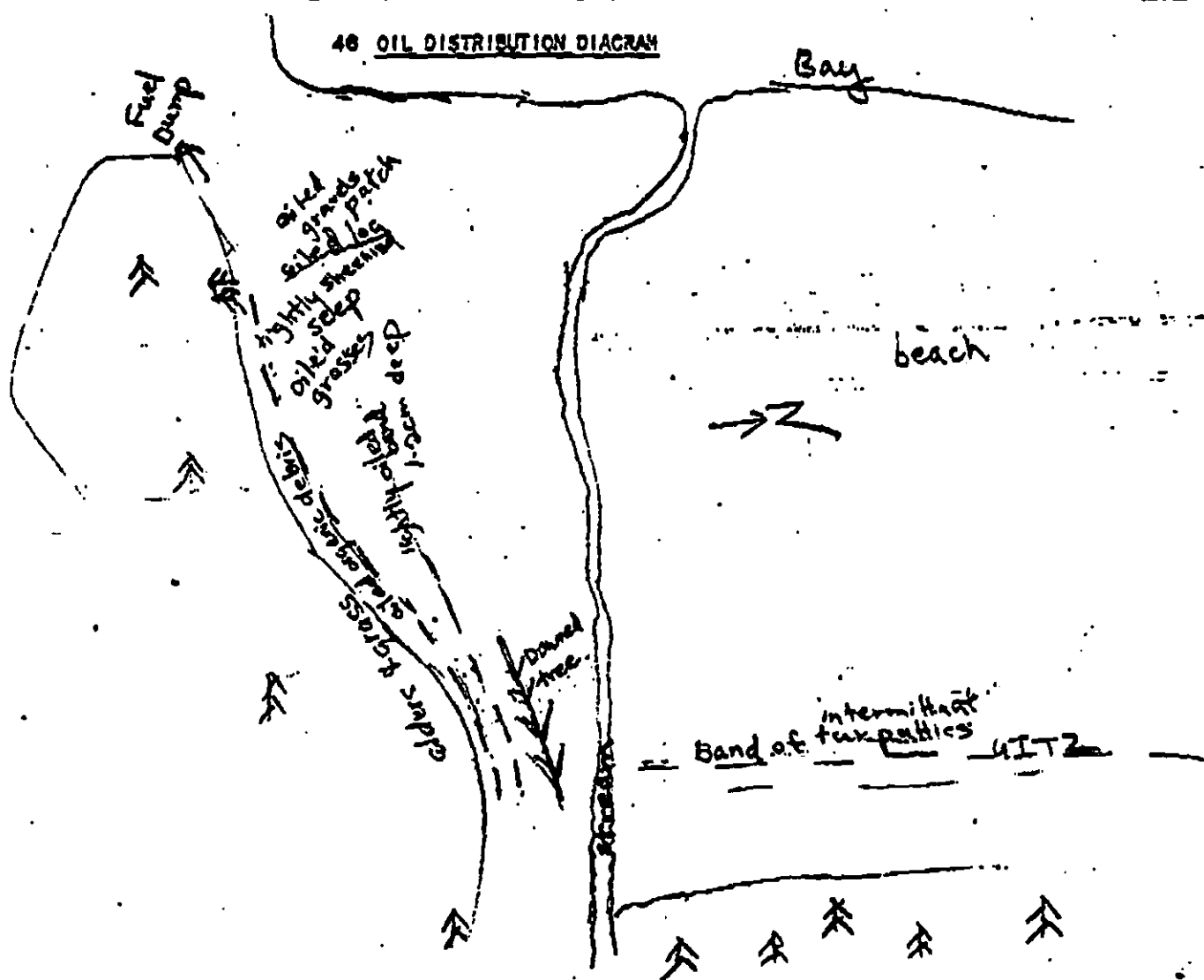
26/41

48 PHOTOLOG

NAME(S)

DESCRIPTION

48 OIL DISTRIBUTION DIAGRAM



treatment recommendations

Manual removal of intermittent tar patties in UITZ on north side of stream  
RSFDS and on south side of stream in M4UITZ

Removal of oiled organic debris including spruce needles & oiled log in swash zone on south bank and oiled grasses

Removal of oiled sausage boom on north side of stream in swash zone

Sample taken

Photo frame # and

**REGION: PRINCE WILLIAM SOUND**

**SEGMENT: ST/EL-13**

**SUBDIVISIONS: B (2 OF 2)**



SHORELINE EVALUATION

SEGMENT ST/ EL-13 SUBDIVISION B (2 OF 2) DATE 4/8/90

**SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:**

5T-1 All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)  
6U Recreation: Tent sites (6/1 to 9/15)  
7II Subsistence area: Deer harvesting (8/15 to 2/28)  
Eagle nest on or near border with EL-14. See attached Ecological  
Constraint sheet for specific constraints and contacts.

**SUBDIVISION ECOLOGICAL CONSTRAINTS:**

Avoid any unnecessary disturbance or damage to unoiled biota and  
substrate.

**ARCHAEOLOGICAL CONSTRAINTS:**

Cultural resource survey in progress. Shoreline treatment cannot proceed  
until field data have been assessed and a formal archaeological  
constraint entered on the shoreline evaluation form.

SHPO SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**OILING CATEGORIZATION:**

Wide 24 m: Medium 709 m: Narrow 0 m: V. Light 0 m: No Oil 0 m  
Subsurface Oil Observed: Yes \_\_\_\_\_ No X Maximum Depth \_\_\_\_\_

**RECOMMENDATIONS:**

|                                                                   |                                                        |
|-------------------------------------------------------------------|--------------------------------------------------------|
| <input type="checkbox"/> No Treatment Recommended                 | <input type="checkbox"/> Snare/Absorbent Booms         |
| <input checked="" type="checkbox"/> Treatment Recommended         | <input type="checkbox"/> Oil Snares (pom poms)         |
| <input checked="" type="checkbox"/> Manual Pickup                 | <input type="checkbox"/> Absorbents (pads, rolls, etc) |
| <input checked="" type="checkbox"/> Bioremediation                | <input type="checkbox"/> Spot Washing: _____ Wands     |
| <input type="checkbox"/> Tarmat: <input type="checkbox"/> Breakup | <input type="checkbox"/> Beach Cleaner                 |
| <input type="checkbox"/> Removal                                  | <input type="checkbox"/> Other (see comments)          |

COMMENTS: Recommend manual pick up of tarballs, oiled logs, and mousse  
in areas indicated on sketch map. Bioremediation of surface oil in area  
shown on attached sketch map. Work should be conducted after 6/1 and  
with permission of USFWS due to eagle nesting constraint.

TAG COMMENTS: \_\_\_\_\_

TAG APPROVAL DATE: \_\_\_\_\_

ADEC \_\_\_\_\_  
EXXON \_\_\_\_\_  
NOAA \_\_\_\_\_  
USCG \_\_\_\_\_

FOSC: \_\_\_\_\_ DATE: \_\_\_\_\_

# PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)  
 1B Salmon stream mouth - spawning (7/10 to 8/31)  
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
- 1C Salmon fry nursery area (4/31 to 7/31)  
 1D Esther Hatchery release (4/15 to 6/1)  
 1E Main Bay Hatchery release (4/20 to 5/10)  
 1F Sawmill Bay Hatchery release (4/15 to 6/1)  
 1G Cannery Creek Hatchery release (4/21 to 6/1)  
 1H Remote release site  
 1I Gill net area (6/7 to 8/31)  
 1J Purse seine area (7/20 to 9/30)  
 1K Purse seine hook-off (7/20 to 9/30)  
 1L Set net sites (6/11 to 7/25)  
 For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
- 2M Herring spawning (4/1 to 6/15)  
 Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
- 3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)  
 3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)  
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
- 5R Seabird colony (5/1 to 9/1)  
 Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)  
 Restrict all activity to essential minimum, especially air traffic.
- 5T All Bald Eagle nests (3/1 to 6/1)  
 Active Bald Eagle nests (3/1 to 9/1)  
 Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
- 6U Recreation: Tent sites (6/1 to 9/15)  
 6V Anchorages (6/1 to 9/15)  
 6W Forest Service cabins (6/1 to 9/15)  
 6X Lodge (6/1 to 9/15)  
 6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)  
 7HH Finfish harvesting  
 7J Deer harvesting (8/15 to 2/28)  
 7JJ Invertebrate harvesting  
 For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

## FIELD SHORELINE COMMENT SHEET

(Helicopter did section A)

SEGMENT ST 1 ELO13 SUBDIVISION: B DATE 04-08-90

USCG

NAME AEC Vandepels SIGNATURE AEC Vandepels☐ NO TREATMENT RECOMMENDED  
COMMENTS☒ TREATMENT SUGGESTED

I suggest manual pick up <sup>of</sup> mousse patties and asphalt patches along sub B. I observed enough patties & patches along entire sub. that they should be removed.

ADEC

NAME Michelle Baer SIGNATURE M Baer☐ NO TREATMENT RECOMMENDED  
COMMENTS☒ TREATMENT SUGGESTED

Most of sub-segment-B is B beaches with a B,C,P beach at the Southend. Manually remove the TBs, AP patches, and MS patties, in areas behind B's that have cover a CV on the pebbles or in underneath fs. spray fertilizer. To remove the CT's off the B's use hot water wash, also remove the old logs. The pits revealed NO and the area is low energy.

LAND MANAGER

NAME DAN LOGAN SIGNATURE D Logan☐ NO TREATMENT RECOMMENDED  
COMMENTS☒ TREATMENT SUGGESTED

I RECOMMEND MANUALLY REMOVING THE TB'S AND ASPHALT PATCHES INDICATED ON SKETCH MAP. FERTILIZER SHOULD BE APPLIED TO THE PEBBLES/COBBLES UNDERLYING THE ROCKS AND BOULDERS ON THE SM BAND.

## SHORELINE OILING SUMMARY

REVISION NO. 08/22/90

OG J. Springer USCG R. Vandepels SEGMENT ST/ EL-13  
 BIO P. Clark LAND REP D. Logan SUBDIVISION B (2 of 2) \*  
 EXXON T. Tomblin ADEC M. Baer TIME 17:20 to 18:45  
 TEAM NO.: T TIDE LEVEL: +3 to +1 DATE 04/08/90  
 EST. SUBDIVISION LENGTH: 742m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow  
 UPLANDS DESCRIPTION: ☐ Grass ☐ Forest ☒ Rock Pillow lava & aa lava.  
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: SE to NW  
 SURFACE SEDIMENTS: R 5 % B 70 % C 15 % P 10 % G    % S    % M    % V    %  
 SLOPE: Lang 60 % Hang 40 % Vert    % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High  
 OIL CATEGORY LENGTH: W 40 m M 700 m N    m VL    m NO    m

## SURFACE OIL

| CHARACTER        | DISTRIBUTION |   |   |   | OIL / FILM COLOR |    |    |    |    |    |    | IMPACTED ZONES |   |   |   |
|------------------|--------------|---|---|---|------------------|----|----|----|----|----|----|----------------|---|---|---|
|                  | C            | R | P | B | SP               | OR | OL | OP | NO | TL | LT | SU             | U | M | L |
| ASPHALT PAVEMENT |              |   |   |   |                  |    |    |    |    |    |    |                |   |   |   |
| POOLED           |              |   |   |   |                  |    |    |    |    |    |    |                |   |   |   |
| COVER            |              |   |   |   |                  |    |    |    |    |    |    |                |   |   |   |
| COAT             |              | X | ✓ |   |                  |    |    |    |    |    |    | X              | X | ✓ |   |
| STAIN            |              |   |   |   |                  |    |    |    |    |    |    |                |   |   |   |
| MOUSSE           |              |   |   | X |                  |    |    |    |    |    |    | X              | X |   |   |
| PATTIES          |              |   |   |   |                  |    |    |    |    |    |    |                |   |   |   |
| TARBALLS         |              |   |   |   |                  |    |    |    |    |    |    |                |   |   |   |
| FILM             |              |   |   |   |                  |    |    |    |    |    |    |                |   |   |   |
| NO OIL           |              |   |   |   |                  |    |    |    |    |    |    | X              |   |   | X |

PAVEMENT: H F S    sq. m by    cmPATTIES / TARBALLS 15 BAGSNEAR SHORE SHEEN? (NO) BR RW SL TL

| OILED DEBRIS | AMOUNT |    |    |
|--------------|--------|----|----|
|              | SM     | MD | LG |
| Logs         | X      |    |    |
| Vegetation   |        |    |    |
| Trash        |        |    |    |
| Debris       |        |    |    |

DEBRIS COLLECTED

☐ YES ☒ NOTYPE   #BAGS   

Photographs:

Roll No.   Frames   

## SUBSURFACE OIL

| PIT NO. | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER |    |    |    |    | OILED INTERVAL (CM-CH) | BELOW |    | OIL / FILM COLOR |    |    |    |    |    |    | PIT ZONE |   |   |   | A N A | SUBSURFACE SEDIMENTS |
|---------|----------------|--------------------------|----|----|----|----|------------------------|-------|----|------------------|----|----|----|----|----|----|----------|---|---|---|-------|----------------------|
|         |                | OP                       | OR | OL | OP | NO |                        | UC    | UC | SP               | OR | OL | OP | NO | TL | LT | SU       | U | M | L |       |                      |
| 1       | 20             |                          |    |    |    | X  | .                      |       | X  |                  |    |    |    |    |    |    |          |   | X |   |       | CPG                  |
| 2       | 15             |                          |    |    |    | X  | .                      |       | X  |                  |    |    |    |    |    |    |          | X |   |   |       | P                    |
| 3       | 20             |                          |    |    |    | X  | .                      |       | X  |                  |    |    |    |    |    |    |          | X |   |   |       | PG                   |
| 4       | 40             |                          |    |    |    | X  | .                      |       | X  |                  |    |    |    |    |    |    |          | X |   |   |       | P                    |
| 5       | 15             |                          |    |    |    | X  | .                      |       | X  |                  |    |    |    |    |    |    |          |   | X |   |       | CP                   |
| 6       | 30             |                          |    |    |    | X  | .                      |       | X  |                  |    |    |    |    |    |    |          | X |   |   |       | P                    |

COMMENTS \* EL-13/A was done by the Helo team on 4/7/90.

## REVISION 09/22/09

### SUBSURFACE OIL (CONTINUED)

[illegible]

### COMMENTS

REVIEWED \_\_\_\_\_ DATE \_\_\_\_\_



## SHORELINE ECOLOGICAL SUMMARY

pg: 1 of 3 REVISION: 03/22/90

Segment ST / EL13 Subdivision B Date (mo / day / yr) 4/8/90  
 Time (24 hr) 1730-1845 Biologist Crank Length 740 m  
 Tide Height +3 to +1 ft

- (A) Substrate type and % of segments:  
 (1) Bedrock 5 (2) Boulder 70 (3) Cobble 15 (4) Pebble 10 (5) Sand      (6) Silt
- (B) Overall % cover of biota (% of segment): Dense 20 Moderate 30 Low 50
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (O)

Photographs:

Roll No. ST-5-5Frames 1

## BARNACLES

| Dense       |             |    | Moderate     |              |              | Sparse |    |    | Rare         |              |              |
|-------------|-------------|----|--------------|--------------|--------------|--------|----|----|--------------|--------------|--------------|
| 1U          | 1M          | 1L | 1U           | 1M           | 1L           | 1U     | 1M | 1L | 1U           | 1M           | 1L           |
| <u>(11)</u> | <u>(11)</u> |    | <del>X</del> | <del>X</del> | <del>X</del> |        |    |    |              |              |              |
| <u>(2)</u>  | <u>(2)</u>  |    | <del>X</del> | <del>X</del> | <del>X</del> |        |    |    | <u>(2)</u>   | <u>(2)</u>   | <u>(2)</u>   |
| 3           | 3           | 3  | 3            | 3            | 3            | 2      | 2  | 2  | <del>3</del> | <del>3</del> | <del>3</del> |
| 4           | 4           | 4  | 4            | 4            | 4            | 3      | 3  | 3  | 4            | 4            | 4            |
| 5           | 5           | 5  | 5            | 5            | 5            | 4      | 4  | 4  | 5            | 5            | 5            |
| 6           | 6           | 6  | 6            | 6            | 6            | 5      | 5  | 5  | 6            | 6            | 6            |

NOT PRESENT

## MYTILUS

| Dense |    |    | Moderate |    |    | Sparse       |              |              | Rare       |              |              |
|-------|----|----|----------|----|----|--------------|--------------|--------------|------------|--------------|--------------|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U           | 1M           | 1L           | 1U         | 1M           | 1L           |
| 2     | 2  | 2  | 2        | 2  | 2  | <del>X</del> | <del>X</del> | <del>X</del> | <u>(2)</u> | <u>(2)</u>   | <u>(2)</u>   |
| 3     | 3  | 3  | 3        | 3  | 3  | 3            | 3            | 3            | 3          | <del>3</del> | <del>3</del> |
| 4     | 4  | 4  | 4        | 4  | 4  | 4            | 4            | 4            | 4          | 4            | 4            |
| 5     | 5  | 5  | 5        | 5  | 5  | 5            | 5            | 5            | 5          | 5            | 5            |
| 6     | 6  | 6  | 6        | 6  | 6  | 6            | 6            | 6            | 6          | 6            | 6            |

NOT PRESENT

## GASTROPODS

| Dense |    |    | Moderate     |              |              | Sparse       |              |              | Rare |    |    |
|-------|----|----|--------------|--------------|--------------|--------------|--------------|--------------|------|----|----|
| 1U    | 1M | 1L | 1U           | 1M           | 1L           | 1U           | 1M           | 1L           | 1U   | 1M | 1L |
| 2     | 2  | 2  | <del>X</del> | <del>X</del> | <del>X</del> | <del>X</del> | <del>X</del> | <del>X</del> | 2    | 2  | 2  |
| 3     | 3  | 3  | <del>X</del> | 3            | 3            | 3            | <del>X</del> | <del>X</del> | 3    | 3  | 3  |
| 4     | 4  | 4  | 4            | 4            | 4            | 4            | 4            | 4            | 4    | 4  | 4  |
| 5     | 5  | 5  | 5            | 5            | 5            | 5            | 5            | 5            | 5    | 5  | 5  |
| 6     | 6  | 6  | 6            | 6            | 6            | 6            | 6            | 6            | 6    | 6  | 6  |

NOT PRESENT

## FUCUS

| Dense |    |    | Moderate |              |    | Sparse       |              |              | Rare |    |    |
|-------|----|----|----------|--------------|----|--------------|--------------|--------------|------|----|----|
| 1U    | 1M | 1L | 1U       | 1M           | 1L | 1U           | 1M           | 1L           | 1U   | 1M | 1L |
| 2     | 2  | 2  | 2        | <del>X</del> | 2  | <del>X</del> | 2            | <del>X</del> | 2    | 2  | 2  |
| 3     | 3  | 3  | 3        | <del>X</del> | 3  | 3            | <del>X</del> | <del>X</del> | 3    | 3  | 3  |
| 4     | 4  | 4  | 4        | 4            | 4  | 4            | 4            | 4            | 4    | 4  | 4  |
| 5     | 5  | 5  | 5        | 5            | 5  | 5            | 5            | 5            | 5    | 5  | 5  |
| 6     | 6  | 6  | 6        | 6            | 6  | 6            | 6            | 6            | 6    | 6  | 6  |

NOT PRESENT

## Wildlife Observations/ General Comments:

Observations from Lewis Bay to EL13:  
 8 Glaucous-winged Gulls - 4000  
 2 Mergansers  
 7 Cormorants  
 3 Marbled Murrelets  
 7 Crows  
 Bear Tracks in snow up to EL13

## Ecological Considerations:

711 - Deer Harvesting

(64 - Tent sites: 16 - Salmon Steamer are in EL13A)

## Observations at EL13:

3 Tufted Puffins  
 1 Salmon Jumping  
 1 Bald Eagle - Adult  
 1 Harbor Seal

## Observations from EL13 to Lewis Bay:

3 Glaucous-winged Gulls  
 2 Mergansers  
 1 Cormorant?  
 2 Bald Eagles - Adults over Inupat  
 1 Harbor Seal

**SUBDIVISION 13**

DATE 08 / 1 / 90

## CHECKLIST

☒ Approx. Scale  
☒ Log Scale Entry  
☒ For Date

15

~~Section Chief~~

7-15

**Pratt & Whitney**  
**(NYSE)**

Photo Location

4

## LEGEND

Δ

**PH - No Subsurface**

2

### Fit - Surfactants On

**CT/**

**Continued on D-10**

C7/8

Broken Distribution

71

CT/2

**Pacific Enterprises**

CR/S

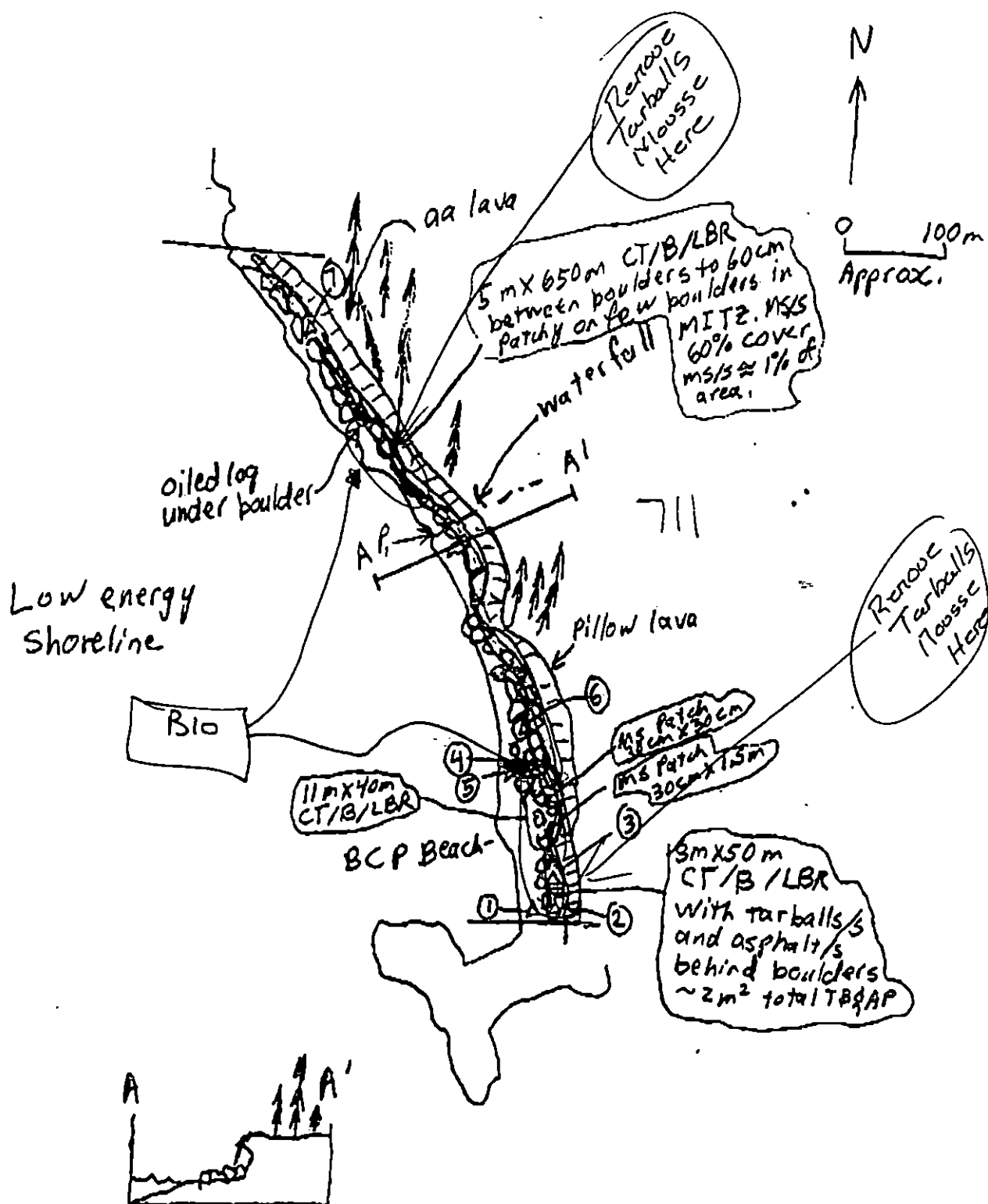
**Scanned On: 10/10/2019**

**Chief Minister**

1

100

**THE UNIVERSITY OF CHICAGO**

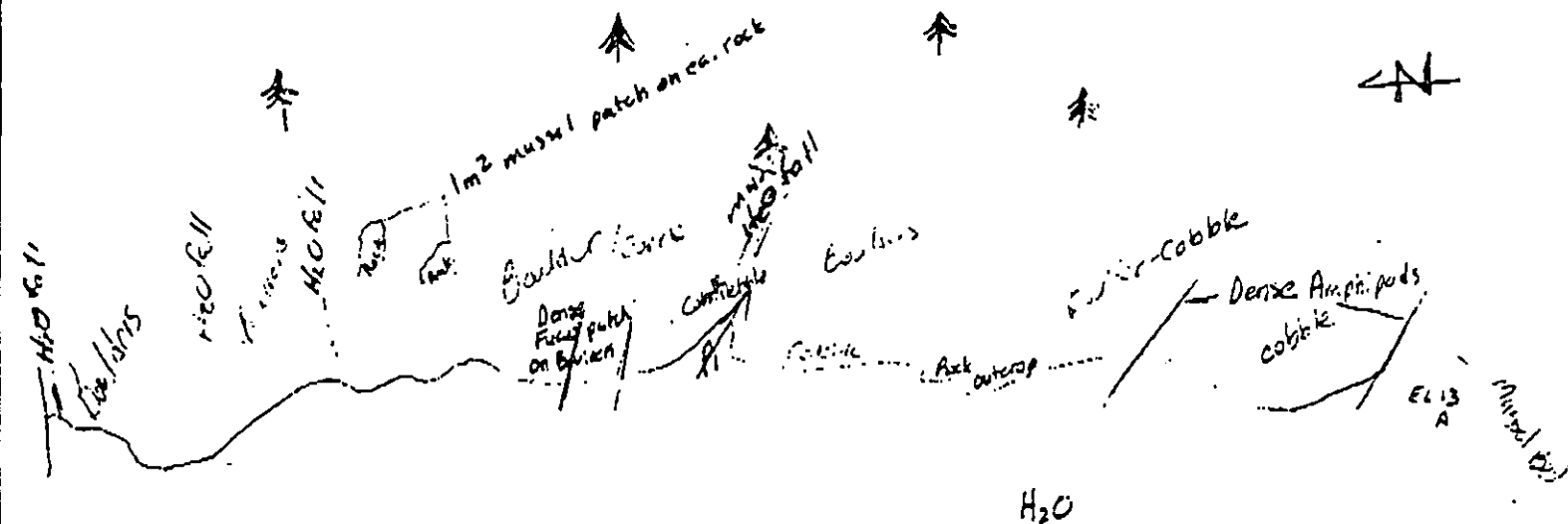
Oil Character Length (m): AP PO CV CT 740 ST MS PT TB FL NO



Segment: ST/EL 13 B Length:  
Date: 4/8/90 Time: 1730-1845

Biologist: Crank  
Tide Height:

pg 3 of 3

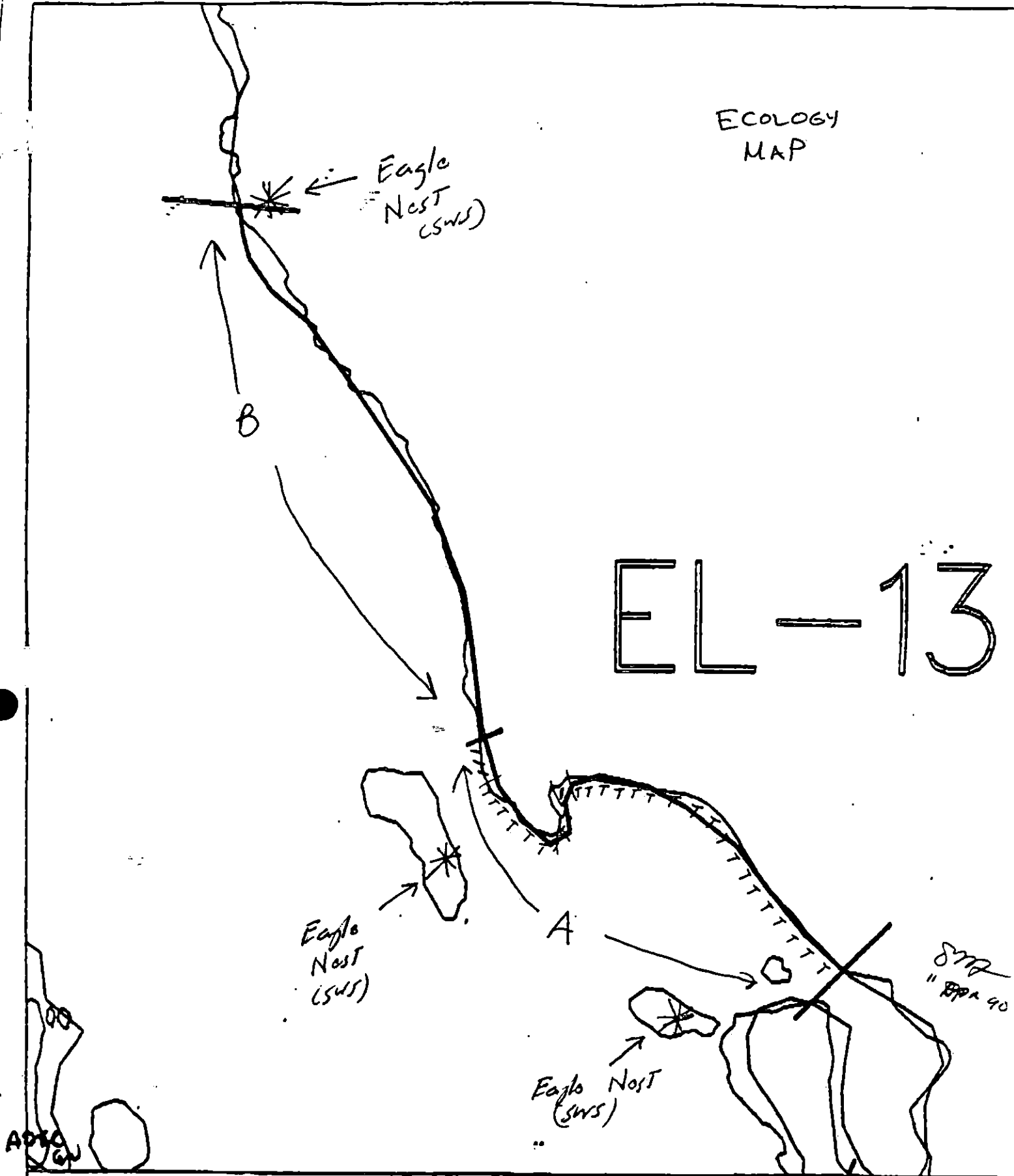


### Comments -

- MITZ cobble on the southern end of subdivision; filamentous green algae and dictyota cover the substrate. Under this, cobble are dense concentrations of amphipods. Fucus, dictyota and limpets are sparse; Agardhi and Mytilus are rare. There were no visible barnacles.
- In MITZ southern end cobble, filamentous green still dominant, gastropods are moderate; no barnacles. On boulders, Mytilus and Fucus are sparse; gastropods moderate. On bedrock barnacles are rare. Barnacle occurring in present. Mation barnacle are also present in rare concentrations - on MITZ rock, however spat is dense.
- MITZ remained unexposed; through H2O with Knodocera pulvinata, filamentous green and sparse barnacles are present.
- Throughout the rest of the subdivision, filamentous green are present at moderate concentrations, gastropods are moderate with sparse amphipods. Barnacle concentrations increase with barnacle spat, the most abundant faunal species.
- There is a small dense Fucus bed on the boulders south of major waterfall. (~15m x 3m)
- Mussels are sparse throughout the segment. There are two 1m<sup>2</sup> patches on separate boulders, the remaining mussels are found occasionally on the underside of boulders and rarely under cobble.
- Recruitment for subdivision is low, except for barnacles which is high.

ECOLOGY  
MAP

EL-13



XXXX Wide  
 /// Medium  
 --- Narrow  
 TTTT Very Light  
 OOOO No Oil

EL-13

ADEC Segment Length: 1359m

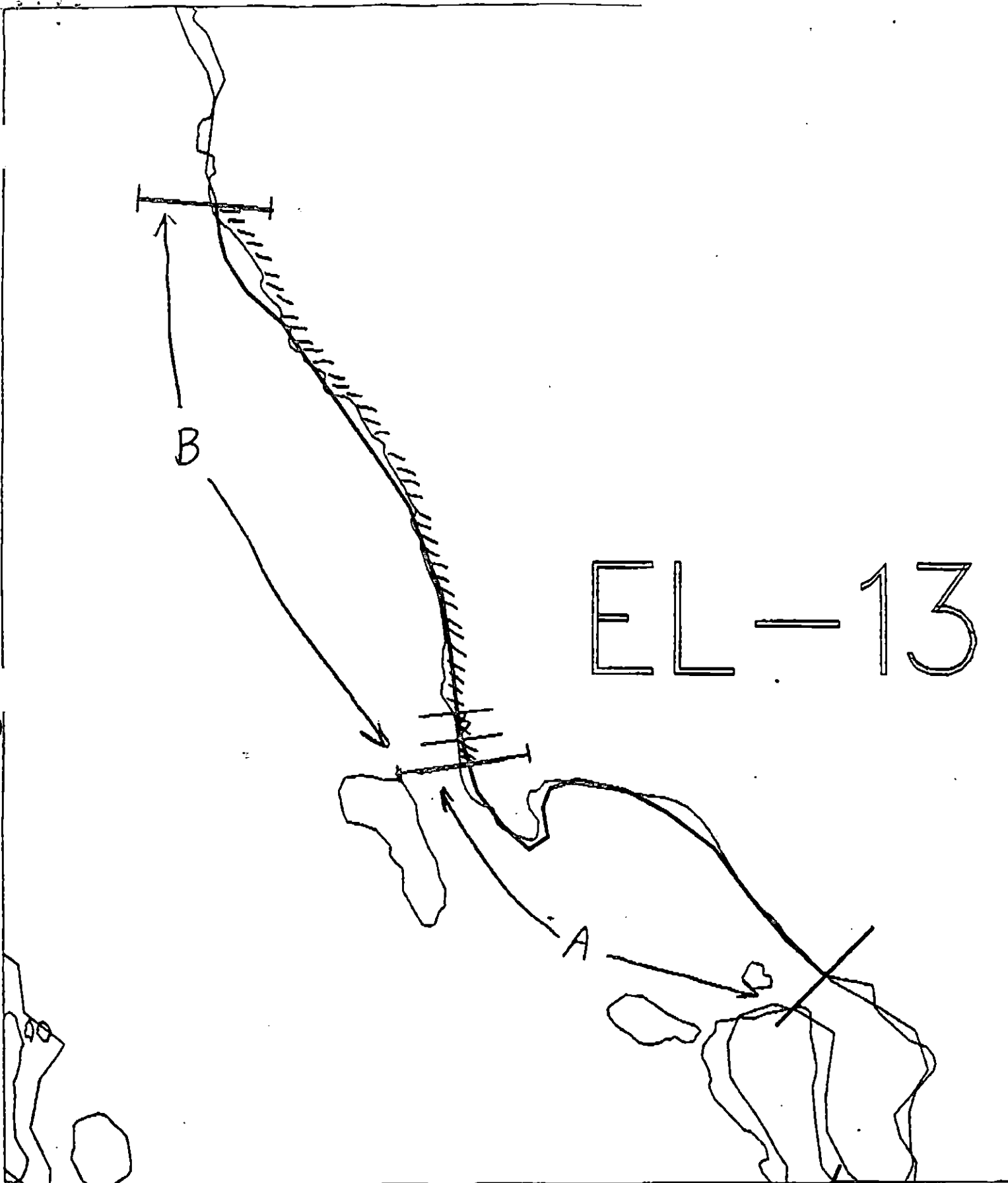


Map Key: PWS-132

Name: FitzGerald

Date: 8 Apr 1990

Data Entered:



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

EL-13

ADEC Segment Length: 1359m



Map Key: PWS-132

Name: James Springs

Date: 4/8/90

Data Entered:

# SHORELINE EVALUATION

SEGMENT ST/ EL-13 SUBDIVISION A (1 OF 2) DATE 4/8/90

## SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)  
6U Recreation: Tent sites (6/1 to 9/15)  
7II Subsistence area: Deer harvesting (8/15 to 2/28)  
See attached Ecological Constraint sheet for specific constraints and contacts.

## SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. 2 eagle nests on small islands just offshore of Subdivision (see map). Do not damage mussel bed. Small stream shown on sketch is not identified as an anadromous fish stream.

ARCHAEOLOGICAL CONSTRAINT: If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact Exxon's Cultural Resource Program immediately (564-3274 (Anchorage) or 229-1508 (24 hrs.)). ed  
al

SHPO SIGNATURE: Lachlan Darr DATE: 5/25/90

## OILING CATEGORIZATION:

Wide 0 m: Medium 23 m: Narrow 0 m: V.Light 604 m: No Oil 0 m  
Subsurface Oil Observed: Yes X No      Maximum Depth 15 cm

## RECOMMENDATIONS:

|                                      |                                             |
|--------------------------------------|---------------------------------------------|
| <u>    </u> No Treatment Recommended | <u>    </u> Snare/Absorbent Booms           |
| <u>X</u> Treatment Recommended       | <u>    </u> Oil Snares (pom poms)           |
| <u>X</u> Manual Pickup               | <u>    </u> Absorbents (pads, rolls, etc)   |
| <u>X</u> Bioremediation              | <u>    </u> Spot Washing: <u>    </u> Wands |
| <u>X</u> Tarmat: <u>    </u> Breakup | <u>    </u> Beach Cleaner                   |
| <u>    </u> <u>X</u> Removal         | <u>    </u> Other (see comments)            |

COMMENTS: Recommended treatment includes 1) manual removal of tarmat and pooled oil, 2) bioremediation of area shown on attached sketch map. Treatment should be conducted in such a way as to avoid treatment or damage to mussel bed. Work should be conducted after 6/1 and with approval of USFWS due to eagle nest constraint.

TAG COMMENTS: Avoid mussel beds

TAG APPROVAL DATE: 4/25/90  
ADEC Art Weiner  
EXXON Amey  
NOAA Joseph Talbot  
USCG Kenneth Keane  
FOSC:      DATE: 6-17-90

Fitzgerald

# SKETCH MAP A.

MENT ST/ FL-13

DIVISION A

IE Apr 18 90

## CHECKLIST

N Arrow  
 Approx. Scale  
 Seg/Sub Body  
 Oil Dist.  
 Width  
 Length  
 % Cover  
 Substrate Character  
 Est. HML/LVL  
 SSL  
 Profile Location(s)  
 Profile(s)  
 Pt Location(s)  
 Photo Location(s)

## GEND

1 Δ  
 No Subsurface Oil

2 Δ  
 Subsurface Oil

CT/C  
 reval Distribution

CT/B  
 re Distribution

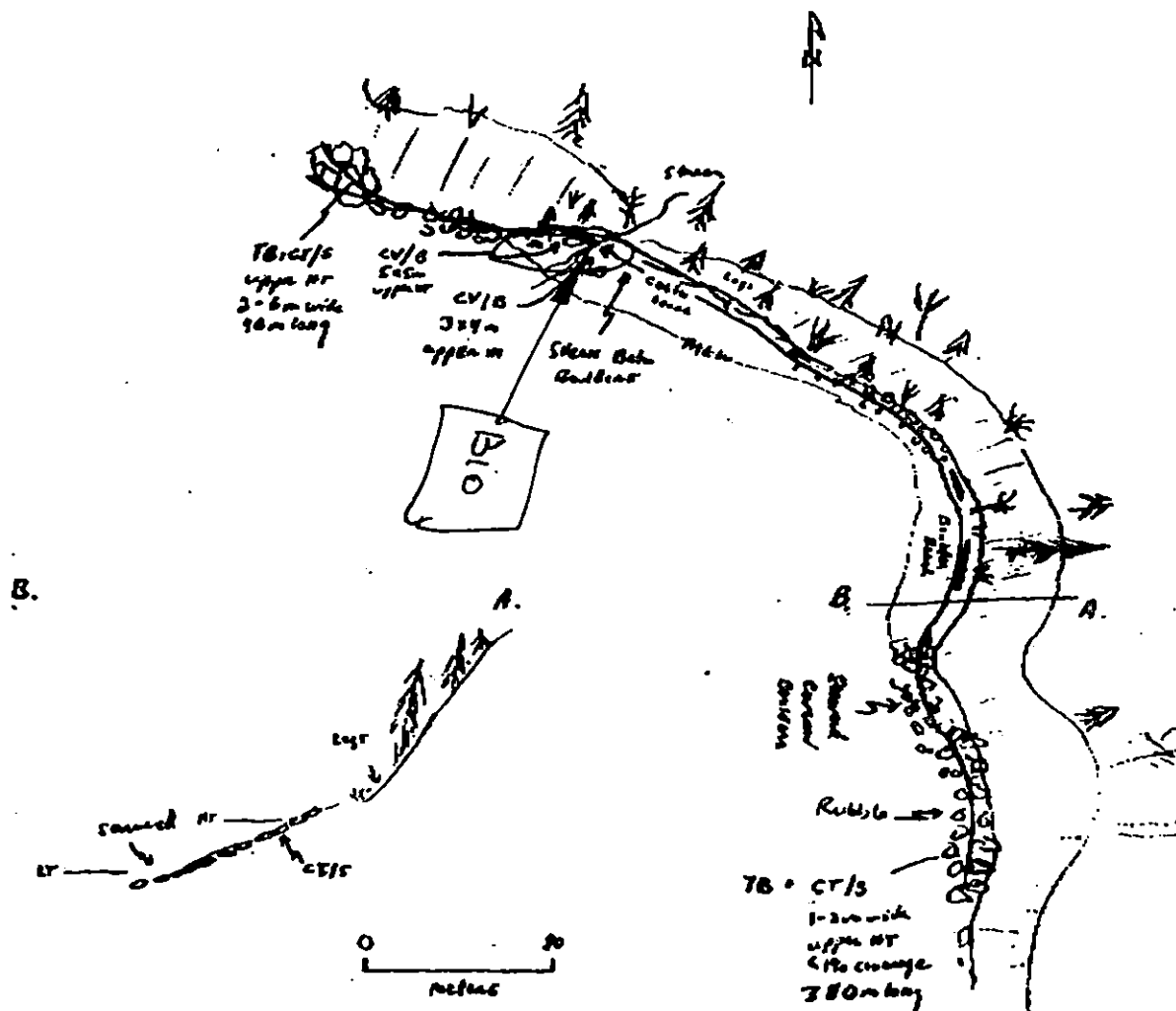
CT/P

ry Distribution

CT/S  
 shed Distribution

Vegetation

location, direction,  
 number



Character Length (m): AP \_\_\_\_\_ PO \_\_\_\_\_ CV 8 CT 280 ST \_\_\_\_\_ MS \_\_\_\_\_ PT \_\_\_\_\_ TB 140 FL \_\_\_\_\_ NO 102

ADEC GW  
 REVISION 03/2000

3. FILGERAL

# SKETCH MAP B.

MENT STI EL-13

DIVISION A

TE Apr 18 80

## CHECKLIST

☐ N Area  
☐ Approx. Scale  
☐ Seg/Sub Entry  
☐ Oil Dist.  
☐ Width  
☐ Length  
☐ % Cover  
☐ Substrate Character  
☐ Est. HYPLAWL  
☐ SST  
☐ Profile Location(s)  
☐ Profile(s)  
☐ PM Location(s)  
☐ Photo Location(s)

## LEGEND

1  $\Delta$   
 No Subsurface Oil

2  $\Delta$   
 Subsurface Oil

CT/C  
 Cruise Distribution

CT/B  
 Cruise Distribution

CT/P  
 Cruise Distribution

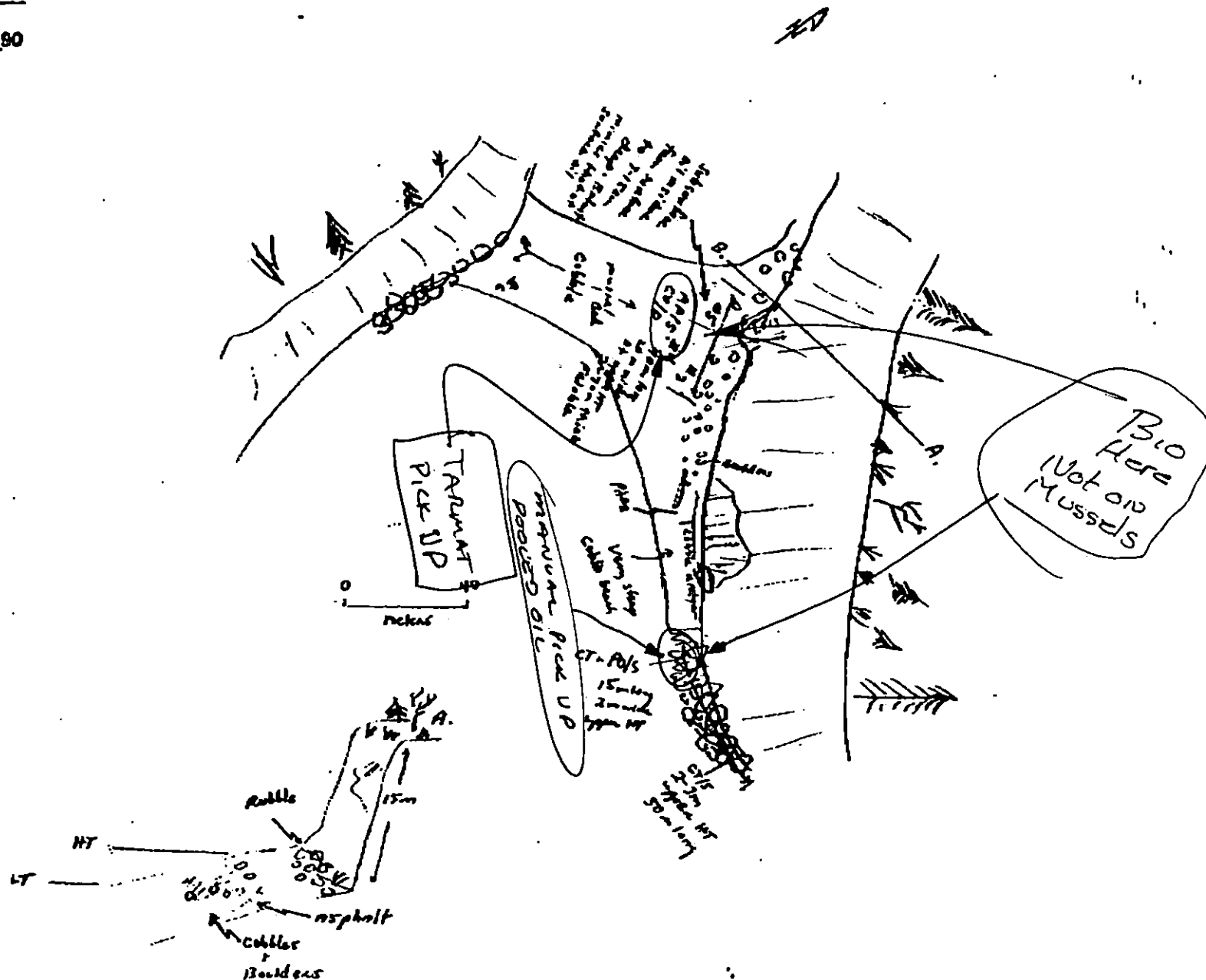
CT/P  
 Cruise Distribution

CT/S  
 Cruise Distribution

CT/S  
 Cruise Distribution

d Vegetation

to location, direction,  
 number



Character Length (m): AP 30 PO 10 CV 10 CT 55 ST      MS      PT      TB      FL      NO 115

REVISION 230000



# ECOLOGY MAP

## EL-13

Eagle  
Nest  
(SWS)

B

Eagle  
Nest  
(SWS)

A

Eagle  
Nest  
(SWS)

877  
"BPA 90"

XXXX Wide

//// Medium

--- Narrow

TTTT Very light

EL-13

ADEC Segment Length: 1359m

Map Key: PWS-132

Name: Fitzgerald

Date: 8 Apr 1990



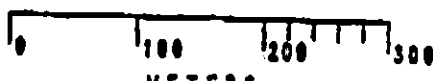
MAP LOCATIONS FOR EL-13-A

EL-13



EL-13

ADEC Segment Length: 1359m



EL-13

872  
"BPA 90"

ADIC

XXXX Wide

//// Medium

--- Narrow

TTTT Very light

EL-13

ADEC Segment Length: 1359m

Map Key: PWS-132

Name: Fitzgerald

Date: 8 Apr 1990

## 1991 MAYSAP EVALUATION

SEGMENT: EL 013 SUB: A REGION: PWS SURVEY DATE: 4/30/91ENVIRONMENTAL SENSITIVITIES:Work Window(s) RESTRICTED 3/1 - 9/15Ecological/Constraints (see page two for details) Eagle nest,  
Subsistence - Deer harvesting

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find, and contact Exxon's Cultural Resource Program immediately: 564-3276; 564-3657; (Anchorage) or 229-1514 (24 hrs.).

SHPO Signature: Charles Z. Hansen Date: 5/10/91RECOMMENDATIONS:

|                               | INITIAL      | TAG          | FOSC         |
|-------------------------------|--------------|--------------|--------------|
| TREATMENT REQUIRED (Y or N)   | <u>Y</u>     | <u>Y</u>     | <u>Y</u>     |
| Manual Pickup (Check as Req.) | <u>_____</u> | <u>X</u>     | <u>X</u>     |
| Spot Washing                  | <u>_____</u> | <u>_____</u> | <u>_____</u> |
| Bio-Customblen Only           | <u>_____</u> | <u>_____</u> | <u>_____</u> |
| Bio-Inipol/Customblen         | <u>X</u>     | <u>X</u>     | <u>X</u>     |
| Other                         | <u>_____</u> | <u>_____</u> | <u>_____</u> |
| Other                         | <u>_____</u> | <u>_____</u> | <u>_____</u> |

COMMENTS:

INITIAL: Apply Customblen & Inipol at location C1. Avoid  
mussel bed west of location.

TAG: MANUAL RAKE + TILL - MOVING SURFACE COBBLE IN THE  
2 X 60 M BAND AT LOCATION C. PICKUP SURFACE AP IF ENCOUNTERED  
RAGE IN CUSTOMBLEN FOLLOWED BY INIPOL  
ASSESS B3 PICKUP HIGH SOR IF FOUND.

FOSC: \_\_\_\_\_

TAG APPROVAL DATE: MAY 10 1991FOSC APPROVAL DATE: 8/14/91ADEC [Signature]FOSC [Signature]EXXON [Signature]

E. E. PAGE, CDR, USCG  
CHIEF OF STAFF, FOSC

USCG [Signature]NOAA [Signature]

ECOLOGICAL CONSTRAINTS  
1991 FIELD ACTIVITIES

Eagle Nest: Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.

Subsistence - Deer Harvesting: Unlimited treatment prior to 8/15.

## MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 2 SEGMENT EL-013 SUBDIVISION A DATE 4/30/91

ADEC

NAME PETER MONTESANOSIGNATURE [Signature]☐ NTR☒ TREATMENT RECOMMENDED☒ INADEQUATE SURVEY

THE SCR W/IN AREA "B" IS EASILY RECOVERABLE WITH SHOVELS. THIS SCR FALLS INTO WHAT WAS ONCE KNOWN AS SOFT MP.

THE TOMBOLO SPIT, AREA "C", WAS NOT THOROUGHLY SURVEYED AND TREATMENT MUST WAIT ACCORDINGLY. THE AREA HAS AN EXTENSIVE (60M) SUB + NEAR SURFACE LENS FROM M TO HOR. THIS LENS MUST BE DEFINED PRIOR TO TAG REVIEW.

EXXON

NAME C.M. KATSIMPALISSIGNATURE [Signature]☐ NTR

OG & BIO REPORTS DESCRIBE CONDITIONS OF THIS SEGMENT ~~IN~~ ACCURATELY. POSSIBLE TREATMENT IN AREA "C" MIGHT PROVE TO BE QUITE INTRUSIVE.

LANDMANAGER

NAME DENNIS S. KENNEDY OF USFSSIGNATURE [Signature]☐ NTR

There is an eagle nest located on the tombolo. Sea otters were feeding on the mussel bed. Large numbers of amphipods were found in area B. I was not aware of the discussion on an inadequate survey while on site. This segment seems to be bio-sensitive and should consider giving it a rest.

USCG/NOAA

NAME MICHEL(N)SIGNATURE [Signature]☐ NTR

Residual oil occurs in two discrete areas: 1) LOC B, on both sides of a stream which is in a sheltered, east-facing embayment. It should be noted that unusually large numbers of amphipods (a very oil-sensitive species) were in close proximity and in the light to heavy SOR. 2) LOC C1 - on the east side of tombolo spit. The MOR/HOR was at most 10-15 cm thick, although it extended for 60m. The area is exposed to moderate wave/tidal current energy, and surface sediments are clean. Michel

TEAM NO. 2 SEGMENT EL-013 SUBDIVISION A DATE 4/130/91

## ADEC

NAME \_\_\_\_\_ SIGNATURE \_\_\_\_\_

☐ NTR

## EXXON

NAME \_\_\_\_\_ SIGNATURE \_\_\_\_\_

☐ NTR

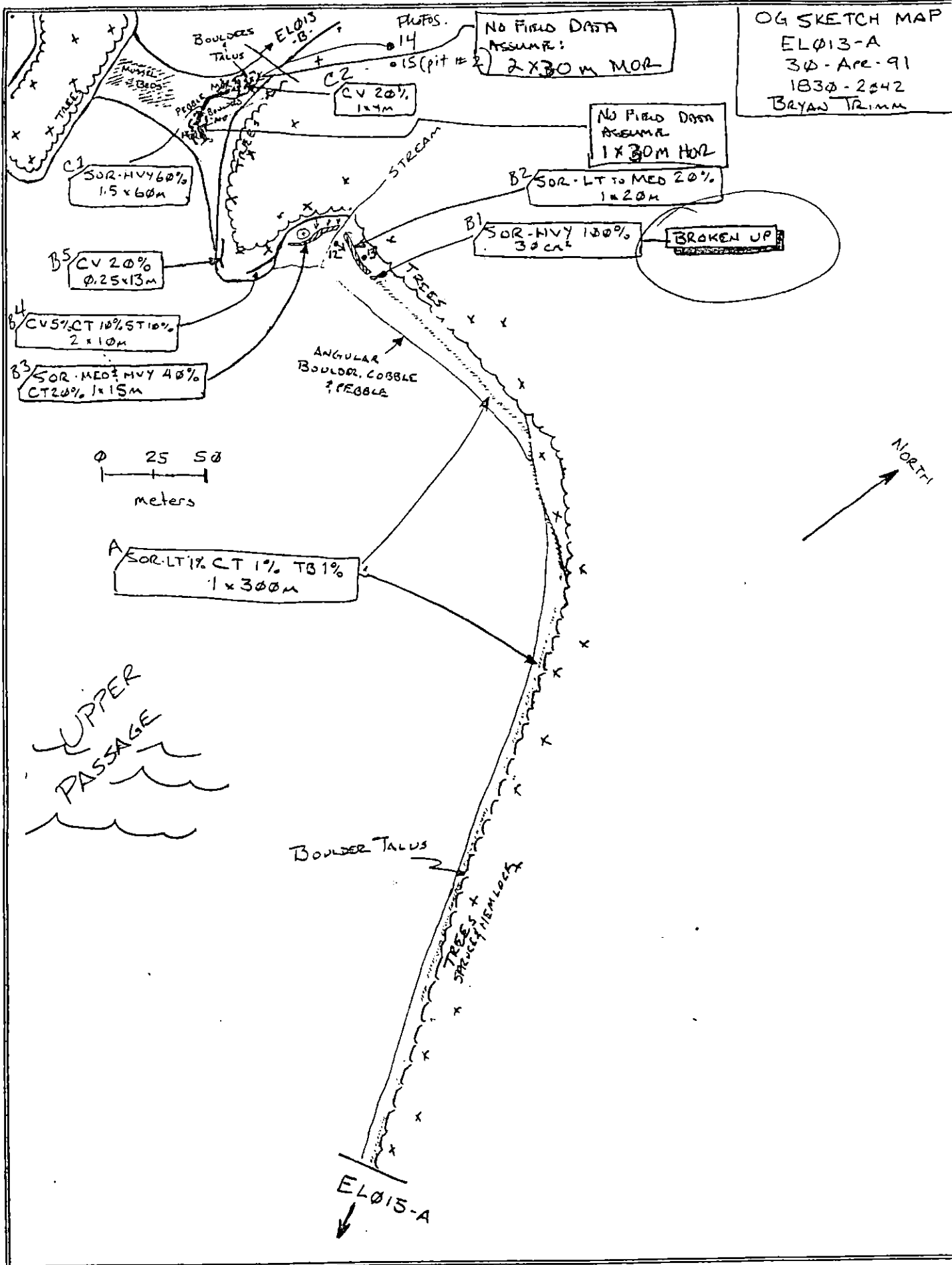
## LANDMANAGER

NAME \_\_\_\_\_ OF \_\_\_\_\_ SIGNATURE \_\_\_\_\_

☐ NTRUSCG/~~NOAA~~NAME BMI ZENONE USCG SIGNATURE Bmi M. Zenone☒ NTR

SURVEY OF THIS SEGMENT WAS EXTENSIVE AND COMPLETE. OG REPORT ACCURATELY DEPICTS THE OILING IN THIS AREA. BIO REPORT DEPICTS AN AREA UNDER GOOD BIOLOGICAL RECONSTRUCTION. FURTHER REMOVAL OPERATIONS COULD CAUSE MORE ENVIRONMENTAL HARM THAN THE OIL TO BE REMOVED





revised.. 5/4/91 KG  
REVISOR: B/S/H/ MC



## HAYSAP BIOLOGICAL SUMMARY FORM

|                     |      |                      |             |
|---------------------|------|----------------------|-------------|
| TEAM #              | 2    | DATE                 | 30 Apr 1991 |
| SEGMENT #           | EL13 | TIDAL HEIGHT(Range)  | +6' to +3'  |
| SUBDIVISION         | A    | BIOLOGIST            | Benson      |
| SEA STATE           | 1'   | WIND SPEED/DIRECTION | calm        |
| PHOTOGRAPHS: ROLL # | —    | FRAME #              | —           |

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):

I was unable to observe the LITZ.

(A) - This long stretch of boulder talus is characterized by low-to-moderate species diversity & moderate % cover. Compared to most nearby subdivisions, filamentous green algae is rare. Other common, strong-recruiting species are here in low-to-moderate abundance on boulders; *Mytilus*, barnacles, limpets, *Fucus*, *Odenthalia* & *Verrucaria*. ✓

(B1) & (B2) - The biotic % cover of the pebbles is low, as usual, especially on the east side of the stream. Also on the east side of the stream, at ~ +13', just below the log, a large number of amphipods were found under cobbles that had oil on them. This phenomenon was localized to this tide level only. In the MITZ, on both sides of the stream (see Bio Sketch Map), *Mytilus* grows in the cobbles at a sparse-to-moderate density and up to the 10' tide level. This mussel bed would be susceptible to damage from substrate disturbance and foot traffic in the event of cleanup activities there.

(B3), (B4), (B5) - *Fucus* is dense on the bedrock & moderately dense on the boulders below. The diversity in this area is low to moderate. *Nucella* egg capsules were found under cobbles.

## WILDLIFE OBSERVATIONS

(continued on next page)

TO BE COMPLETED IN ALL SUBDIVISIONS

| BIRDS            | # OF SPECIES | TOTAL BIRDS | FISH OBSERVED<br>SPECIES PRESENT |
|------------------|--------------|-------------|----------------------------------|
| Eagles           | 1            | 2           | —                                |
| Seabirds         | —            | —           | —                                |
| Waterfowl        | —            | —           | —                                |
| Gulls/Kittiwakes | 1            | 4           | —                                |
| Shorebirds       | —            | —           | —                                |
| Corvids          | —            | —           | —                                |
| Other Birds      | —            | —           | —                                |

| MARINE MAMMALS      | # OBSERVED | LAND MAMMALS<br>SPECIES | # OBSERVED |
|---------------------|------------|-------------------------|------------|
| Sea Otters          | 2          | —                       | —          |
| Pinnipeds (specify) | —          | —                       | —          |
| Whales (specify)    | —          | —                       | —          |
|                     |            |                         |            |

Shoreline subdivision map showing important biological features attached.

REVIEWED MC 5/5/91

REVIEWED MB 5/4/91

Subdivision: EL 13 A

Team: 2

Bio: Benson

Comments (cont.) —

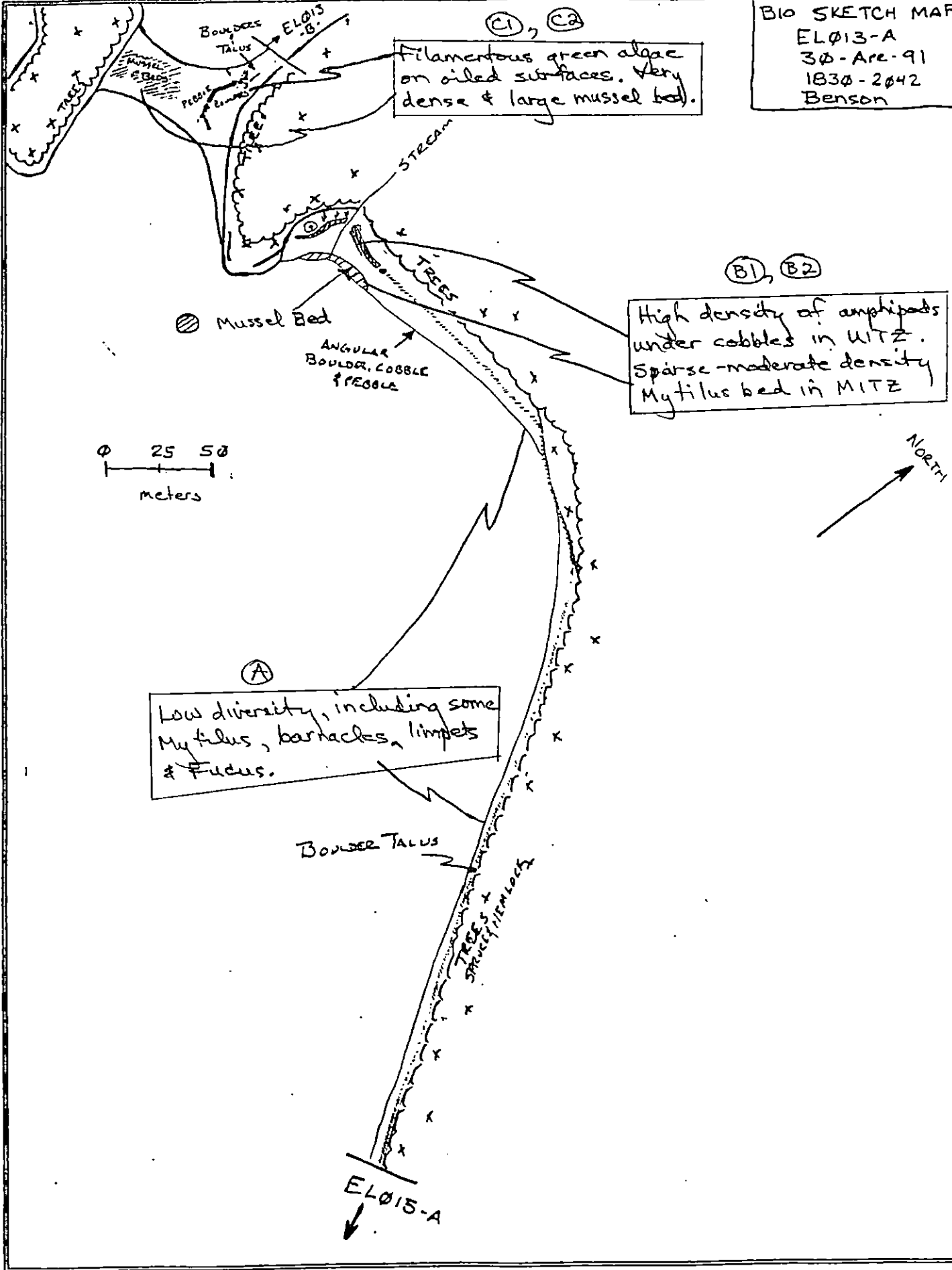
Ⓒ1 & Ⓒ2 — Although it falls just outside this subdivision, a large mussel bed here must be noted. It lies in pebbles on the west side of the saddle that connects the tombolo to EL 13 A. We saw 2 sea otters on the north side of the bed as we approached; they may have been eating the mussels. As in Ⓔ, these mussels, not visible at high tide, are susceptible to damage from foot traffic and substrate disturbance.

Locations Ⓒ1 & Ⓒ2 are higher in the intertidal zone than the mussels. Only filamentous green algae was found on the oiled surfaces, and low densities of *Littorina* (with egg masses) and barnacles were found nearby. These species are very likely to recruit back into this location in the event that they are damaged by cleanup activities.

The presence of an eagle nest on the tombolo was confirmed.

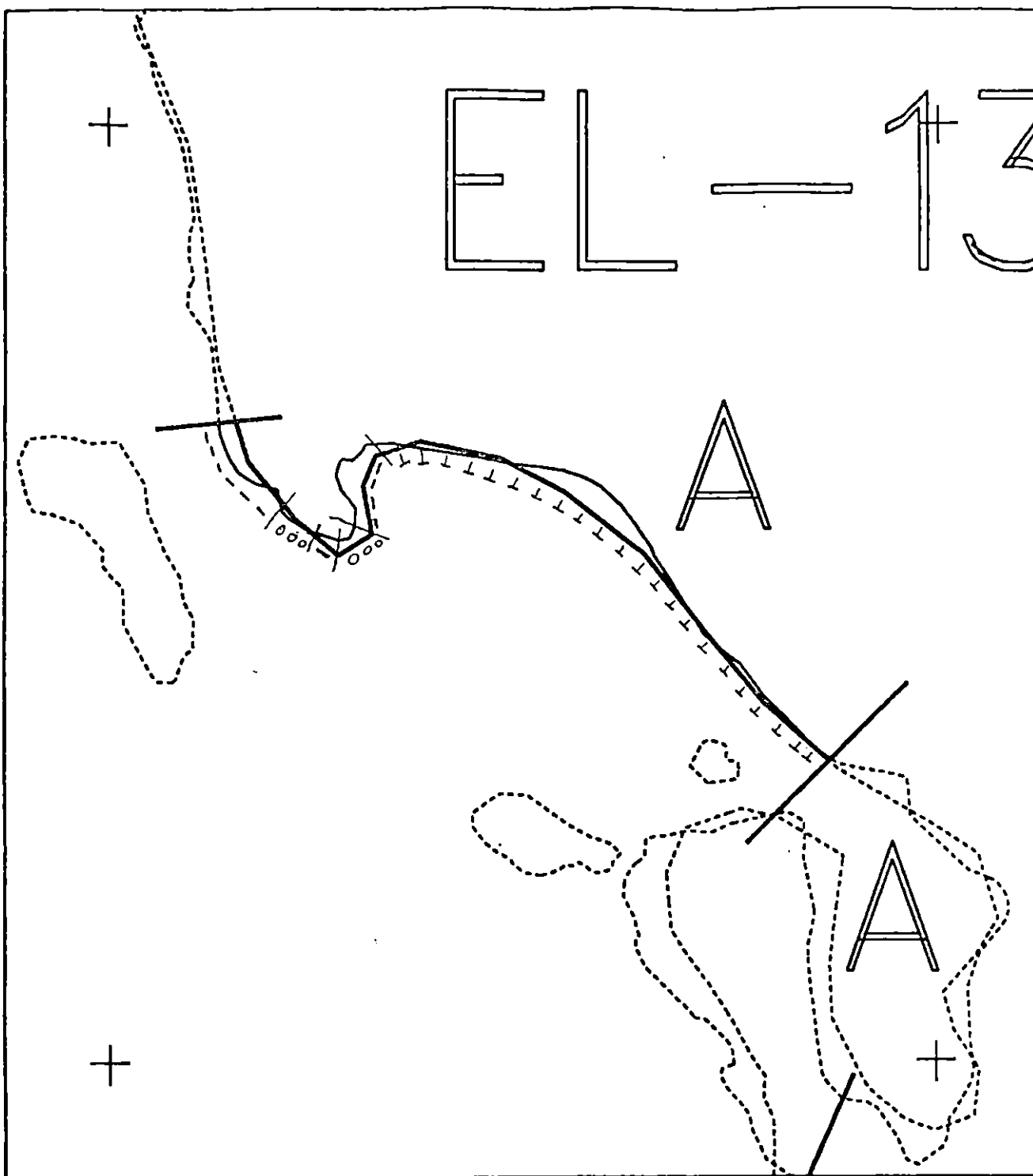
Overall, this subdivision contains biotic communities characterized by low species diversity and low % cover. Several sensitive locations, however, were identified: mussel beds in the northern cove & tombolo saddle, an eagle nest on the tombolo, and possibly an amphipod mating site in the upper intertidal of the cove.

BIO SKETCH MAP  
 EL013-A  
 30-Are-91  
 1830-2042  
 Benson



Reviewed ME 5/5/91  
 Reviewed MB 5/4/91

# EL-13



|      |            |                                                                                                                                                                           |  |                        |
|------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------|
| XXXX | Wide       | <p align="center"><b>EL013 A</b></p> <p>ADEC Subsegment Length: 620m</p> <p align="center">METERS</p> <p>0      100      200</p> <p>AK State Plane Zone 4<br/>841013a</p> |  | Subdivision Field Map  |
| //// | Medium     |                                                                                                                                                                           |  | Map Key: KNIEL013A     |
| ---- | Narrow     |                                                                                                                                                                           |  | Name: <u>TRIMM</u>     |
| TTTT | Very Light |                                                                                                                                                                           |  | Date: <u>30 Apr 91</u> |
| 0000 | No Oil     |                                                                                                                                                                           |  | Date Entered:          |

SURFACE OIL CATEGORY MAP

reviewed 5/4/91 KG  
 REVIEWED: 5/5/91 MC

# 1991 MAYSAP EVALUATION

SEGMENT: EL 011 SUB: A REGION: PWS SURVEY DATE: 4/30/91

## ENVIRONMENTAL SENSITIVITIES:

Work Window(s) RESTRICTED 3/1 - 9/15

Ecological/Constraints (see page two for details) Eagle nest, Herring spawning

## ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## RECOMMENDATIONS:

|                               | INITIAL  | TAG   | FOSC  |
|-------------------------------|----------|-------|-------|
| TREATMENT REQUIRED (Y or N)   | <u>Y</u> | _____ | _____ |
| Manual Pickup (Check as Req.) | <u>X</u> | _____ | _____ |
| Spot Washing                  | _____    | _____ | _____ |
| Bio-Customblen Only           | _____    | _____ | _____ |
| Bio-Inipol/Customblen         | <u>X</u> | _____ | _____ |
| Other Manually rake           | <u>X</u> | _____ | _____ |
| Other                         | _____    | _____ | _____ |

## COMMENTS:

INITIAL: Remove asphalt at location C4. Rake and bioremediate locations C1 and C4 and in the area of pits 14 and 15.

TAG: \_\_\_\_\_

FOSC: \_\_\_\_\_

TAG APPROVAL DATE: \_\_\_\_\_

FOSC APPROVAL DATE: \_\_\_\_\_

ADEC \_\_\_\_\_

FOSC \_\_\_\_\_

EXXON \_\_\_\_\_

USCG \_\_\_\_\_

NOAA \_\_\_\_\_

**ECOLOGICAL CONSTRAINTS  
1991 FIELD ACTIVITIES**

**Eagle Nest:** Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.

**Herring Spawning:** No treatment before June 1. Avoid disturbance to kelp and eelgrass.

TEAM NO. 2 SEGMENT EL 011 SUBDIVISION A DATE 4/30/91

ADEC

NAME

PETER MONTESANO

SIGNATURE

[Signature]☐ NTR☒ TREATMENT RECOMMENDED

MANUALLY REMOVE THE "SOR"/SOFTAP AND MOR IN AREAS "A" THROUGH "G". MOST OF THIS IS EASILY RECOVERABLE AND WILL NOT ADVERSELY IMPACT AREA BIOTA. THE TERM SOR TENDS TO UNDER CHARACTERIZE THE SURFACE OILING IN THIS SEGMENT.

THE MOR IN AREA "B1" IS ON AN EXTENDED TIDAL FLAT WITH PEAT + MUSSELS. IF CAREFULLY DONE, THE AREA COULD BE MANUALLY RAKED W/O HARM. RAKING INSIDE SNARE W/ MINIMUM PER...

EXXON

NAME

C.M. Totsunakis

SIGNATURE

[Signature]☐ NTR

THERE ARE SCATTERED AREAS WITHIN THIS SEGMENT WHERE TREATMENT WOULD BE BENEFICIAL. (I.E. AREA C1) OG & BIO REPORTS PROVIDE ACCURATE INFO.

LANDMANAGER

NAME

D.S. KennedyOF USFS

SIGNATURE

[Signature]☐ NTR

Hand treatment is possible in this subdivision. It would be advisable to stay out of area B, as this has been identified as a very sensitive area by the bio.

USCG/NOAA

NAME

MICHEL(N)BMI ZENONE (CS)

SIGNATURE

[Signature][Signature]☐ NTR

We did a detailed survey of this subdivision, and the map/OG forms accurately document the oil distribution. There are many sheltered sub-environments along this moderately exposed shoreline, and most of the residual oil occurs in wave shadows behind tombolos, large boulders, etc. Very little subsurface oil remains. The oil on the tidal flat (Loc B1) is highly patchy (90 NOAA data range from 200-20,000 ppm TPH) and has improved since 90. [Signature]

- AREA B-1 IS HIGHLY SENSITIVE AREA. I SEE NO WAY A WORK CREW COULD REMOVE ANY OIL AND NOT CAUSE MORE DAMAGE THAN WHAT GOOD THEY WOULD BE TRYING TO ACCOMPLISH. THIS IS NOT THE CASE IN AREA C-4 WHERE A CONSIDERABLE AMOUNT OF PROGRESS COULD BE MADE BY MANUAL REMOVAL OR OTHER TREATMENT. 3

TEAM NO. 4OG B. TRIMMBIO J. BensonSEGMENT EL011ADEC P. MONTESANOLANDMANAGER D. Kennedy for USFSSUBDIVISION AEXXON C. KATSIMPALISBMT ZENON  
USCG/NOAA JACQUI MICHEL/NOAADATE APR 1, 30, 1991TIME 08:20 to 09:30TIDE LEVEL -1.28 ft. to -1.41 ft.ENERGY LEVEL: ☐ H ☒ M ☐ LSURVEYED FROM: ☒ FOOT ☐ BOAT ☐ HELOWEATHER: ☐ SUN ☐ CLOUDS ☐ FOG ☒ RAIN ☐ SNOWTOTAL LENGTH SHORELINE SURVEYED: 402 mNEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONEEST. OIL CATEGORY LENGTH: W 0 m M 50 m N 119 m VL 50 m NO 183 m US 0 m

| L<br>O<br>C | SURFACE OIL CHARACTER |    |    |     |    |    |    |    |    |    | SURFACE<br>SEDIMENT<br>TYPE | SHORE<br>SLOPE<br>VHML | AREA       |             | ZONE |    |    |    | NOTES                    |
|-------------|-----------------------|----|----|-----|----|----|----|----|----|----|-----------------------------|------------------------|------------|-------------|------|----|----|----|--------------------------|
|             | AP                    | MS | TB | SOR | CV | CT | ST | FL | DB | NO |                             |                        | WIDTH<br>m | LENGTH<br>m | S    | UI | MI | LI |                          |
| A2          |                       |    |    |     | S  |    |    |    |    |    | B.C                         | M                      | 1          | 30          | X    |    |    |    | BEHIND BOULDERS          |
| A3          |                       |    |    |     |    | S  |    |    |    |    | B.C                         | M                      | 1          | 20          |      | X  |    |    | BEHIND BOULDERS          |
| B1          |                       |    |    |     |    |    |    | P  |    |    | PCG-PEAT                    | L                      | 12         | 20          |      |    | X  |    | WATER ON SURFACE RAINBOW |
| B2          |                       |    |    | P   |    | S  | S  |    |    |    | PCG                         | L                      | 3          | 5           |      |    | X  |    | LIGHT SOR                |
| C1          |                       |    |    | P   |    |    |    |    |    |    | PC                          | M                      | 7          | 15          |      | X  | X  |    | HUY SOR                  |
| C2          |                       |    |    | S   |    |    |    |    |    |    | PCR                         | M                      | 7          | 10          |      |    | X  |    | LIGHT SOR BEHIND OUTCROP |
| C3          |                       |    |    |     |    | P  |    |    |    |    | C-R                         | M                      | 2          | 30          |      | X  |    |    |                          |
| C4          | B                     |    |    |     |    |    |    |    |    |    | B.C                         | M                      | 1          | 2           | X    |    |    |    |                          |
| C6          |                       |    |    | P   |    |    |    |    |    |    | PG                          | M                      | 1          | 10          | X    |    |    |    | BEHIND ROCK - LT SOR     |
| C7          |                       |    |    | P   |    |    |    |    |    |    | PG                          | M                      | 1          | 3           | X    |    |    |    | HUY SOR                  |
| C8          |                       |    |    | P   |    |    |    |    |    |    | PG                          | M                      | 1          | 8           | X    |    |    |    | HUY SOR                  |
| D           |                       |    |    | C   |    |    |    |    |    |    | PG                          | M                      | 0.25       | 1           | X    |    |    |    | HUY SOR w/ ROOTS         |
| E           |                       |    |    |     |    | P  |    |    |    |    | R                           | V                      | 1          | 4           | X    | X  |    |    |                          |
| F           |                       |    |    |     |    |    | B  |    |    |    | R                           | V                      | 1          | 40          | X    | X  |    |    |                          |
| G           |                       |    |    | B   |    |    |    |    |    |    | B.C                         | M                      | 1          | 10          |      | X  |    |    | HUY SOR                  |
| H           |                       |    |    | P   |    | P  |    |    |    |    | B.C.R                       | M                      | 1.5        | 4           | X    | X  |    |    | MED SOR AT OUTCROP BASE  |

DISTRIBUTION: C = 91-100%; B = 51-90%; P = 11-50%; S = 1-10%; T = &lt;1%

SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE PHOTO ROLL # MAYSAP- 2-3 FRAMES 6-9

| PIT<br>NO. | PIT<br>DEPTH<br>(cm) | SUBSURFACE<br>OIL CHARACTER |     |     |     |    |    |    | OILED<br>ZONE<br>cm-cm | CLEAN<br>BELOW<br>Y/N | H2O<br>LEVEL<br>(cm) | SHEEN<br>COLOR<br>B/R/S/N | PIT<br>ZONE |    |    |    | SURFACE-<br>SUBSURFACE<br>SEDIMENTS | NOTES           |
|------------|----------------------|-----------------------------|-----|-----|-----|----|----|----|------------------------|-----------------------|----------------------|---------------------------|-------------|----|----|----|-------------------------------------|-----------------|
|            |                      | OP                          | HOR | MOR | LOR | OF | TR | NO |                        |                       |                      |                           | S           | UI | MI | LI |                                     |                 |
| 1          | 15                   |                             |     |     |     |    |    | X  | —                      | Y                     | —                    | —                         | X           |    |    |    | PCB-GSP                             | SPOT BEHIND     |
| 2          | 6                    |                             |     |     |     |    | X  |    | 0-5                    | Y                     | 3                    | 3                         |             | X  |    |    | PCG-PEAT                            |                 |
| 3          | 4                    |                             |     |     |     |    |    | X  | —                      | Y                     | —                    | —                         |             | X  |    |    | PCG-PEAT                            | HUY SOR on TOP  |
| 4          | 20                   |                             |     |     | X   |    |    |    | 0-8                    | Y                     | 8                    | B                         |             |    | X  |    | PGCS-PGCS                           | Brown S-SP-T-cc |
| 5          | 55                   |                             |     |     |     |    |    | X  | —                      | Y                     | 53                   | N                         |             | X  |    |    | PG-GSP                              |                 |
| 6          | 35                   |                             |     |     |     | X  |    |    | 15-22                  | Y                     | —                    | —                         |             |    | X  |    | PG-GS                               |                 |
| 7          | 52                   |                             |     |     |     |    |    | X  | —                      | Y                     | —                    | —                         |             | X  |    |    | PGS-PGS                             |                 |
| 8          | 45                   |                             |     |     |     |    |    | X  | —                      | Y                     | —                    | —                         |             |    | X  |    | GPS-GPS                             |                 |
| 9          | 20                   |                             |     |     |     |    |    | X  | —                      | Y                     | 19                   | N                         |             |    | X  |    | CPB-GP                              |                 |

SHEEN COLOR: B = BROWN; R = RAINBOW; S = SILVER; N = NONE

## OG COMMENTS:

- OILING IS DISCONTINUED
- LOCATION ON '31' IS FLAT & WATER POOLS ON THIS MID-INTERTIDAL TRENCH. A THIN LAYER OF PEBBLE-GRAVELS-COBBLETS CO. OF PEAT DELICATE AREA 'MOR' WAS FOUND ON THE LEE SIDE OF ROCK OUTCROP
- RECOVERED NOTED DEBRIS

REVIEWED: 5/5/91 MC

REVISED 5/4/91



~~SECRET~~

**B19** \_\_\_\_\_

SEGMENT EL011

**ADEC**

LANDMANAGER \_\_\_\_\_ for \_\_\_\_\_

SUBDIVISION A

EXXON \_\_\_\_\_

USCG/NOAA \_\_\_\_\_

DATE Apr 30 / 91

TIME \_\_\_\_\_ : \_\_\_\_\_ to \_\_\_\_\_ : \_\_\_\_\_

~~TIDE LEVEL~~ \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

~~ENERGY LEVEL:~~ ☐ H ☐ M ☐ L

SURVEYED FROM: ☐ FOOT ☐ BOAT ☐ HELO

WEATHER: ☒ SUN ☐ CLOUDS ☐ FOG ☐ RAIN ☐ SNOW

~~TOTAL LENGTH SHORELINE SURVEYED: \_\_\_\_\_ m~~

NEAR SHORE SHEEN: ☒ BR ☐ RB ☐ SL ☐ NONE

EST. OIL CATEGORY LENGTH: W          m M          m N          m VL          m NO          m US          m

DISTRIBUTION: C = 91-100%; B = 51-90%; P = 11-50%; S = 1-10%; T = <1%

SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE PHOTO ROLL # MAYSAP-\_\_\_\_\_ - \_\_\_\_\_ FRAMES

SHEEN COLOR: B = BROWN: R = RAINBOW: S = SILVER: N = NONE

**OG COMMENTS:**

Reviewed: 5/5/91 MK  
revised 5/4/91

DATE Apr / 30 / 91

15 {

**OG COMMENTS:**

REVIEWED 5/5/91 MC  
revised 5/4/91 .

OG SKETCH MAP  
 EL011-A  
 30 Apr 91  
 0820-0938  
 Bryon Trimm Team 2

EL015-A  
 DB-POM-POM  
 CV 5% 1x30m  
 CT 2% 1x20m

No Field Data  
 Assume:  
 2x2m HOR

NORTH

0 25 50  
 Metres

B1 WATER ON SURFACE  
 FL-RAINBOW 30%  
 12 x 20m  
 POSSIBLE EXTENT OF  
 MOR SUBSURFACE  
 OILING

B4 DB POM-POM-PU  
 NOAA TRANSECT  
 B3 DB POM-POM-PU

B2 SOR-LT 30% CT 10% CV 5%  
 3x5m

C2 SOR-LT 10%  
 7x10m

C3 SOR-HVY 30%  
 7x15m

C3 CT 20%  
 2x30m

C4 AP 70%  
 1x2m

C9 CT 35% CV 35%  
 1x4m

C5 DB POM-POM-PU

C7 SOR-HVY 40%  
 1x3m

C6 SOR-LT 40%  
 1x10m

C8 SOR-HVY 40%  
 1x8m

D SOR-HVY WITH ROOTS 100%  
 0.25 x 1m

E CT 50%  
 1x4m

PALLETS

STORM BERM RELOCATION STAKES

F ST 65%  
 1x40m

G1 SOR-HVY 70%  
 1x10m

G2 SOR-MED 40% CT 20%  
 1.5x4m

H SOR-LT 80%  
 0.25 x 3m

Revised: 5/5/91 MC  
 revised 5/4/91

PASSAGE  
 UPPER

MID-ITZ  
 BEACH  
 PEBBLE  
 'PEAT' VENEER

GRAVULE-SAND-PEBBLE  
 ALDERS + SPRUCE

BOULDER TRAIL  
 NO OH

POSSIBLE STORM BERM RELOCATION STAKE

# MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 2 DATE 30 Apr 1991  
 SEGMENT # EL 11 TIDAL HEIGHT(Range) AM: -2' to -1' PM: +3'  
 SUBDIVISION A BIOLOGIST Benson  
 SEA STATE 1' (AM & PM) WIND SPEED/DIRECTION AM: calm PM: 5/5  
 PHOTOGRAPHS: ROLL # — FRAME # —

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):

(A)-3 Filamentous green algae (FGA) are dense on boulders near the oiled surfaces in the MITZ. This area has a moderate diversity. This is because FGA dominates the intertidal above +3', but tidepools in the MITZ enhance diversity somewhat by supporting Anthopleura (anemones), Ulva & large numbers of Littorina (with egg masses).

(D)-2 The area inshore of the tombolo is unusual in its large size and predominance of fine sediments in the MITZ. It is surrounded by substantial surface areas of bedrock, boulders, pebbles & cobbles. This high substrate heterogeneity offers a wide variety of habitat types in close proximity to one another, and supports a diverse community. The MITZ bench harbors a Mytilus - Fucus - Odonthalia - Littorina assemblage that is sensitive to disturbance. Just north of this region is more fine sediment overlaid by dense FGA (see diagram). The MITZ to the east consists of pebbles covered by FGA and occasional boulders bearing Verrucaria. The LITZ is highly diverse, including diverse algae (Laminaria, Costaria, Ulva, Palmaria, Halosaccus, etc.) on bedrock tombolo and Palitipes ("moon snail") egg cases and Matridium (anemone) on pebbly and finer sediments. Tidepools further diversify the biota.

## WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

(Continued on next page)

| BIRDS            | # OF SPECIES | TOTAL BIRDS | FISH OBSERVED<br>SPECIES PRESENT |
|------------------|--------------|-------------|----------------------------------|
| Eagles           | 1            | 1           |                                  |
| Seabirds         | —            |             |                                  |
| Waterfowl        | —            |             |                                  |
| Gulls/kittiwakes | 1            | 5           |                                  |
| Shorebirds       | 2            | 8           |                                  |
| Corvids          |              |             |                                  |
| Other Birds      |              |             |                                  |

| MARINE MAMMALS      | # OBSERVED | LAND MAMMALS<br>SPECIES | # OBSERVED |
|---------------------|------------|-------------------------|------------|
| Sea Otters          | —          | —                       |            |
| Pinnipeds (specify) |            |                         |            |
| Harbor Seal         | 1          |                         |            |
| Seals (specify)     | —          |                         |            |

Shoreline subdivision map showing important biological features attached.

REVIEWED: 5/5/91 ML

Subdivision: EL II A

Team: 2

Bio: Benson

Comments (cont)

③ - Verrucaria is common on the tops of oiled rocks. C1-8 FGA is common here also. Boulders & bedrock here also bear sparse barnacles. In the MITZ, boulders bear barnacles & dense Fucus on the tops and the cobbles bear dense FGA, moderate barnacles and sparse Fucus. These areas would not be sensitive to disturbances caused by treatment activities.

④ - The pebbles in the UITZ bear no macrobiota. Sparse FGA are found on the MITZ pebbles, while MITZ outcrops bear dense Fucus, Chthamalus (barnacle) & Littorina and sparse Scytosiphon. Moon snail (Policipes) egg cases found in LITZ.

⑤, ⑥, ⑦, ⑧ - FGA on oiled bedrock surfaces in UITZ. Below these locations, some large barnacles (Semibalanus cariculus), sparse Fucus & dense Chthamalus can be found on MITZ pebbles & cobbles, and dense FGA & moderate Fucus on the boulders south of the bedrock outcrop (⑤). The LITZ boulders & bedrock bear a diverse algal assemblage at minus tide levels, and dense barnacles & Littorina, & moderate & dense limpets in the upper LITZ & lower MITZ.

This subdivision offers a very diverse array of habitat types & species: soft sediment MITZ bench, tombolo, pebble beaches, & boulder slopes. The only truly sensitive species assemblage here is the fine sediment, Mytilus - Fucus - ultra-Littorina - barnacle assemblage (which probably extends into the subtidal as a Saxidomus bed), which could easily be damaged by overturning sediments & by foot traffic.

REVIEWED 5/5/91 me

BIO. SKETCH MAP  
 EL011-A  
 30 APR 91  
 0820-0938  
 Benson-Team 2

NORTH

0 25 50  
 metres

FGA dominates  
 upper rock surfaces;  
 tidepools in MITZ  
 harbor additional  
 species.

Dense *Mytilus* with  
*Fucus*, *Littorina* &  
 many ephemeral (eg. *Fa*)  
 macroalgae on unusual  
 fine sediment substrate.  
 Diverse algae on tombolo LITZ

Verrucaria on oiled rocks.  
 FGA dominates cobbles &  
 pebbles, and *Fucus* found  
 on occasional outcrops.

Very low diversity &  
 biotic % cover on fine  
 smaller beach sediments.

FGA on oiled surfaces in MITZ.  
 FGA, *Fucus* & barnacles found on  
 pebbles & cobbles below bedrock.  
 Diverse algae & invertebrates  
 on boulders & bedrock, in LITZ  
 & MITZ.

REVIEWED 5/5/91 ML

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/EL-14

SUBDIVISIONS: B (2 OF 2)

SHORELINE EVALUATION

SEGMENT ST/ EL-14 SUBDIVISION B (2 OF 2) DATE 4/24/90

**SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:**

5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)  
6Y Recreation: Special use destination  
7II Subsistence area: Deer harvesting (8/15 to 2/28)  
See attached Ecological Constraint sheet for specific constraints and contacts.

**SUBDIVISION ECOLOGICAL CONSTRAINTS:**

Avoid any unnecessary disturbance or damage to uncoiled biota and substrate.

**ARCHAEOLOGICAL CONSTRAINTS:**

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**OILING CATEGORIZATION:**

Wide 0 m: Medium 0 m: Narrow 26 m: V.Light 619 m: No Oil 557 m  
Subsurface Oil Observed: Yes \_\_\_\_\_ No X Maximum Depth \_\_\_\_\_

**RECOMMENDATIONS:**

|                                                              |                                     |
|--------------------------------------------------------------|-------------------------------------|
| <input checked="" type="checkbox"/> No Treatment Recommended | _____ Snare/Absorbent Booms         |
| _____ Treatment Recommended                                  | _____ Oil Snares (pom poms)         |
| _____ Manual Pickup                                          | _____ Absorbents (pads, rolls, etc) |
| _____ Bioremediation                                         | _____ Spot Washing: _____ Wands     |
| _____ Tarmat Removal                                         | _____ Beach Cleaner                 |
|                                                              | _____ Other (see comments)          |

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TAG COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TAG APPROVAL DATE: \_\_\_\_\_

ADEC \_\_\_\_\_  
EXXON \_\_\_\_\_  
NOAA \_\_\_\_\_  
USCG \_\_\_\_\_

FOSC: \_\_\_\_\_ DATE: \_\_\_\_\_



# PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)  
 1B Salmon stream mouth - spawning (7/10 to 8/31)  
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.  
 AGENCY CONTACT PERSON: ADF&G John Morison 267-2324
- 1C Salmon fry nursery area (4/31 to 7/31)  
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.  
 AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1D Esther Hatchery release (4/15 to 6/15)  
 1E Main Bay Hatchery release (4/20 to 6/15)  
 1F Sawmill Bay Hatchery release (4/15 to 6/1)  
 1G Cannery Creek Hatchery release (4/21 to 6/1)  
 1H Remote release site  
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.  
 AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214  
 1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511
- 1I Gill net area (6/7 to 8/31)  
 1J Purse seine area (7/20 to 9/30)  
 1K Purse seine hook-off (7/20 to 9/30)  
 1L Set net sites (6/11 to 7/25)  
 Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.  
 AGENCY CONTACT PERSON: ADF&G James Brady 424-3212
- 2M Herring spawning (4/1 to 6/15)  
 Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to unopened intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.  
 AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
- 3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)  
 3Q Harbor seal and sea lion molting (8/15 to 9/15)  
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.  
 AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235  
 ADF&G Don Calkins 267-2403
- 5R Seabird colony (5/1 to 9/1)  
 Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.  
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)  
 Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.  
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377  
 ADF&G Tom Roth 267-2206
- ✓ 5T All Bald Eagle nests (3/1 to 6/1)  
 Active Bald Eagle nests (3/1 to 9/1)  
 Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.  
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 6U Recreation: Tent sites (6/1 to 9/15)  
 6V Anchorages (6/1 to 9/15)  
 6W Forest Service cabins (6/1 to 9/15)  
 6X Lodge (6/1 to 9/15)  
 ✓ 6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)  
 7HH Finfish harvesting  
 7J Deer harvesting (8/15 to 2/28)  
 7JJ Invertebrate harvesting  
 Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.  
 AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359

# FIELD SHORELINE COMMENT SHEET

SEGMENT ST / EL-14 SUBDIVISION: B DATE 4-24-92

**USCG**

NAME AEC Vandepels SIGNATURE AEC Vandepels

☒ NO TREATMENT RECOMMENDED  
COMMENTS

☐ TREATMENT SUGGESTED

**ADEC**

NAME Michele Baer SIGNATURE M Baer

☒ NO TREATMENT RECOMMENDED  
COMMENTS

☐ TREATMENT SUGGESTED

*Area is headland and small boulder fields.  
Difficult access throughout.*

**LAND MANAGER**

NAME Carol S Huber SIGNATURE Carol S Huber

☐ NO TREATMENT RECOMMENDED  
COMMENTS

☐ TREATMENT SUGGESTED

*Recommend continued natural cleansing.  
Oil on rocky headlands not distinctive and  
appears stable (inert). No sharp oil line.*

OG J. Springer USCG R. Vandepels SEGMENT ST/ EL-14  
 BIO P. Crook LAND REP C. Huber SUBDIVISION B 12 OF 2  
 EXXON T. Tenblin ADEC M. Boel TIME 10:05 to 10:25  
 TEAM NO. 5 TIDE LEVEL +3 TO +5 DATE 04/24/90  
 EST. SUBDIVISION LENGTH: 1300m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow  
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock  
 SURVEYED FROM: ☐ Foot ☒ Boat ☐ Helo WORKING DIRECTION: N to S  
 SURFACE SEDIMENTS: R 75 % B 25 % C 0 % P 0 % G 0 % S 0 % M 0 % V 0  
 SLOPE: Long 0 % Hang 20 % Vert 80 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High  
 OIL CATEGORY LENGTH: W 0 m M 0 m N 70 m VL 520 m NO 710

### SURFACE OIL

| CHARACTER        | DISTRIBUTION |   |   |   | OIL / FILM COLOR |   |   |   |   | IMPACTED ZONES |   |   |   |
|------------------|--------------|---|---|---|------------------|---|---|---|---|----------------|---|---|---|
|                  | C            | R | P | B | 1                | 2 | 3 | 4 | 5 | SU             | M | M | U |
| ASPHALT PAVEMENT |              |   |   |   |                  |   |   |   |   |                |   |   |   |
| POOLED           |              |   |   |   |                  |   |   |   |   |                |   |   |   |
| COVER            |              |   |   |   |                  |   |   |   |   |                |   |   |   |
| COAT             |              |   | X |   |                  | X |   |   |   |                | X |   |   |
| STAIN            |              |   | ✓ | X |                  | ✓ | X |   |   |                | X |   |   |
| MOUSSE           |              |   |   |   |                  |   |   |   |   |                |   |   |   |
| PATTIES          |              |   |   |   |                  |   |   |   |   |                |   |   |   |
| TARBALLS         |              |   |   |   |                  |   |   |   |   |                |   |   |   |
| FILM             |              |   |   |   |                  |   |   |   |   |                |   |   |   |
| NO OIL           |              |   |   |   |                  |   |   |   |   | X              |   | X | X |

PAVEMENT H F S 0 sq. m by 0

PATTIES / TARBALLS 0 BA

NEAR SHORE SHEEN? (NO) BR RW SL

| OILED DEBRIS | AMOUNT |    |    | DID YOU COLLECT DEBRIS?                                             |
|--------------|--------|----|----|---------------------------------------------------------------------|
|              | SM     | MD | LG |                                                                     |
| Logs         |        |    |    | YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> |
| Vegetation   |        |    |    |                                                                     |
| Trash        |        |    |    |                                                                     |
| Debris       |        |    |    |                                                                     |
|              |        |    |    | TYPE <u>0</u>                                                       |
|              |        |    |    | #BAGS <u>0</u>                                                      |

Photographs:

Roll No. ---

Frames ---

### SUBSURFACE OIL

| PIT NO. | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER |    |    |    |    | OILED INTERVAL | BELOW |    | OIL / FILM COLOR |   |   |   |   | PIT ZONE |   |   |   | A N A | SHEEN (Y/N) | ↓ | SURFA SUBSUR SEDIME |
|---------|----------------|--------------------------|----|----|----|----|----------------|-------|----|------------------|---|---|---|---|----------|---|---|---|-------|-------------|---|---------------------|
|         |                | OP                       | OR | OL | OF | NO |                | NO    | UC | 1                | 2 | 3 | 4 | 5 | SU       | M | M | U |       |             |   |                     |
|         |                |                          |    |    |    |    |                |       |    |                  |   |   |   |   |          |   |   |   |       |             |   |                     |
|         |                |                          |    |    |    |    |                |       |    |                  |   |   |   |   |          |   |   |   |       |             |   |                     |
|         |                |                          |    |    |    |    |                |       |    |                  |   |   |   |   |          |   |   |   |       |             |   |                     |
|         |                |                          |    |    |    |    |                |       |    |                  |   |   |   |   |          |   |   |   |       |             |   |                     |
|         |                |                          |    |    |    |    |                |       |    |                  |   |   |   |   |          |   |   |   |       |             |   |                     |
|         |                |                          |    |    |    |    |                |       |    |                  |   |   |   |   |          |   |   |   |       |             |   |                     |
|         |                |                          |    |    |    |    |                |       |    |                  |   |   |   |   |          |   |   |   |       |             |   |                     |
|         |                |                          |    |    |    |    |                |       |    |                  |   |   |   |   |          |   |   |   |       |             |   |                     |
|         |                |                          |    |    |    |    |                |       |    |                  |   |   |   |   |          |   |   |   |       |             |   |                     |

COMMENTS No pits dug - rock face drive-by - No access.

REVIEWED ML

4-25-90  
DATE

00 J. Springer

SEGMENT ST/EL-14

SUBDIVISION B

DATE 04/24/90

### CHECKLIST

- ☐ H Area
- ☐ Approx. Scale
- ☐ Beg/End Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. H/W/L/V/L
- ☐ SCL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ PI Location(s)
- ☐ Photo Location(s)

### LEGEND

1 Δ

PI - No Subsurface Oil

2 Δ

PI - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Spaced Distribution

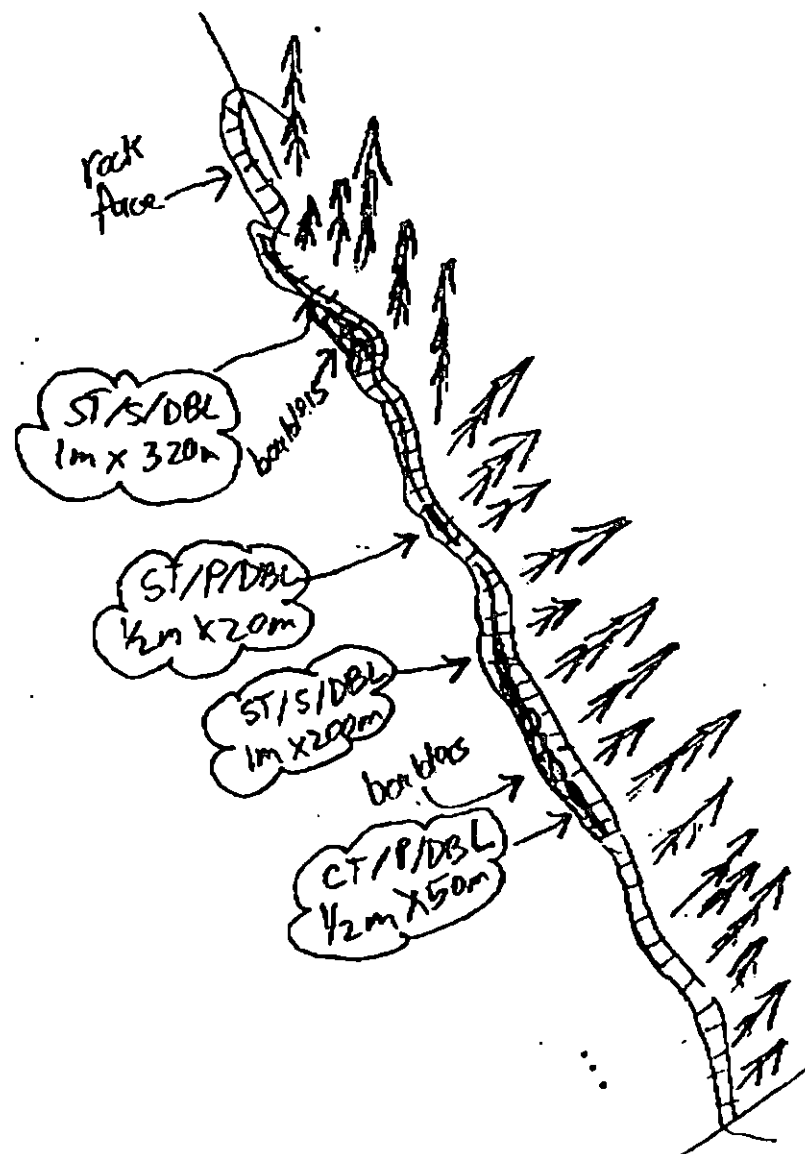
lll

Cold Vegetation

1 Δ

Photo location, direction,  
and number

### SKETCH MAP



Oil Character Length (m): AP \_\_\_\_\_ PO \_\_\_\_\_ CV \_\_\_\_\_ CT 50 ST 540 MS \_\_\_\_\_ PT \_\_\_\_\_ TB \_\_\_\_\_ FL \_\_\_\_\_ NO 710

NEW 10/20/90

# SHORELINE ECOLOGICAL SUMMARY

Revised 10/22

Segment ST EL 14 Subdivision B Date (mo/day/yr) 4/24/90  
 Time (24 hr) 1005-1025 Biologist Crank Length: 1300 m  
 Tide Height +3 → +5

- (A) Substrate type and % of segments:  
 (1) Bedrock 75 (2) Boulder 25 (3) Cobble      (4) Pebble      (5) Sand      (6) Silt
- (B) Overall % cover of biota (% of segment): Dense 5 Moderate 30 Low 65
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles/adults (X), new settlement (3)  
 Photographs: No photos  
 Roll No.       
 Frames

## BARNACLES

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |
| 2     | 2  | 2  | 2        | 2  | 2  | 2      | 2  | 2  | 2    | 2  | 2  |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  |

NOT PRESEN

## MYTILUS

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |
| 2     | 2  | 2  | 2        | 2  | 2  | 2      | 2  | 2  | 2    | 2  | 2  |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  |

NOT PRESEN

## GASTROPODS

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |
| 2     | 2  | 2  | 2        | 2  | 2  | 2      | 2  | 2  | 2    | 2  | 2  |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  |

NOT PRESEN

## FUCUS

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |
| 2     | 2  | 2  | 2        | 2  | 2  | 2      | 2  | 2  | 2    | 2  | 2  |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  |

NOT PRESEN

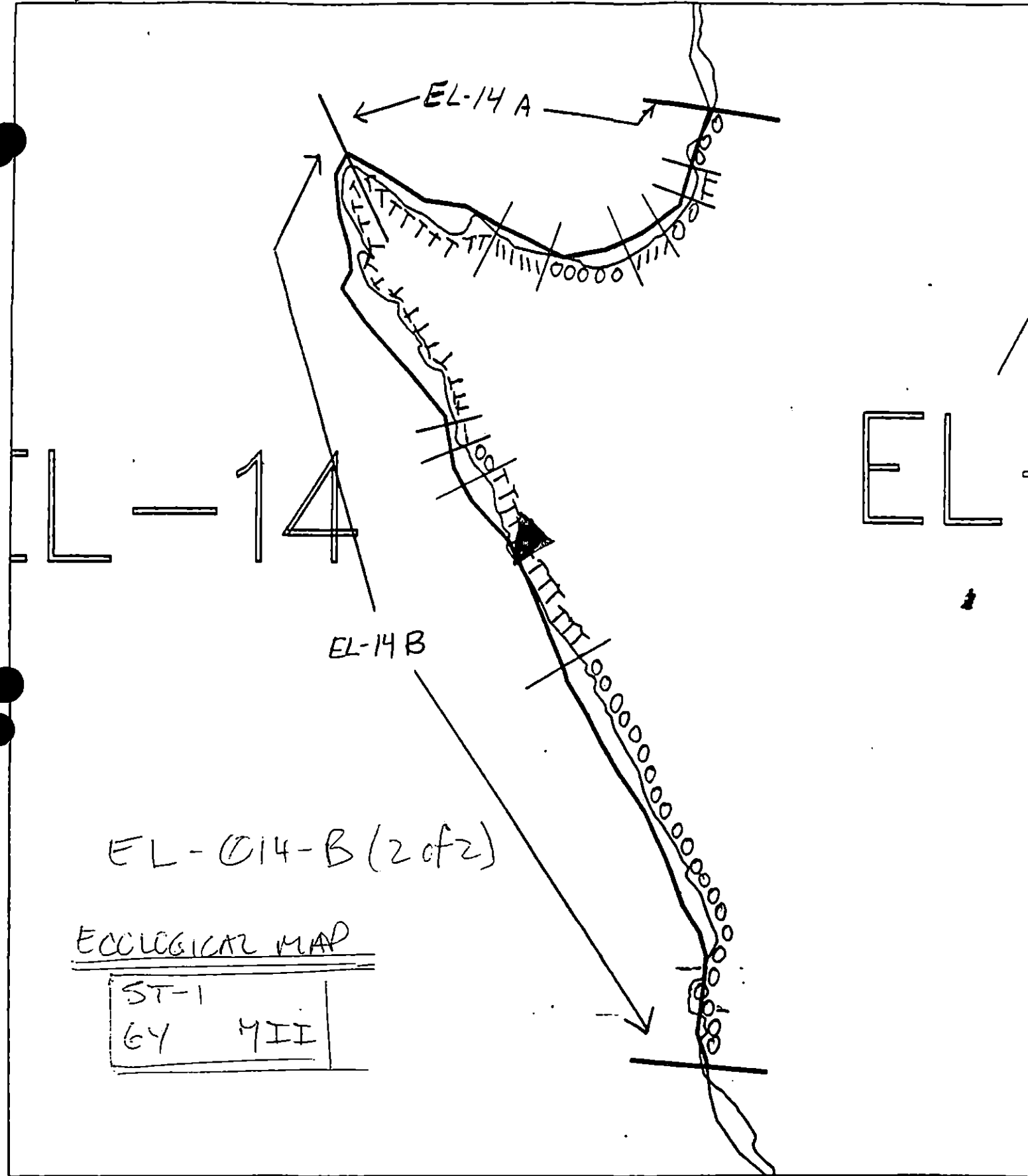
## Wildlife Observations/ General Comments:

3 Schools of fish: 1 Bald Eagle  
 ~250 pinks  
 ~600 herring?  
 ~100 herring?

## Ecological Considerations:

711 Deer Harvesting  
 6Y Special Use Destination

- Entire subdivision surveyed from skiff
- Fucus in discontinuous 1m band with moderate sporling and sparse m
- Where Fucus is absent barnacles are dense in MITZ.
- Pollen layer of water surface
- Endocladia and Odontostria in MITZ.
- Moderate cond. sea stars Leptasterias Pilearia and Pycnopodia.
- Decorates crab floating on H<sub>2</sub>O surface
- Occasional Nucella congregation - Neothorax solvatus may be in as Nucella only visible from skiff.



XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

EL-14

ADEC Segment Length: 1759m

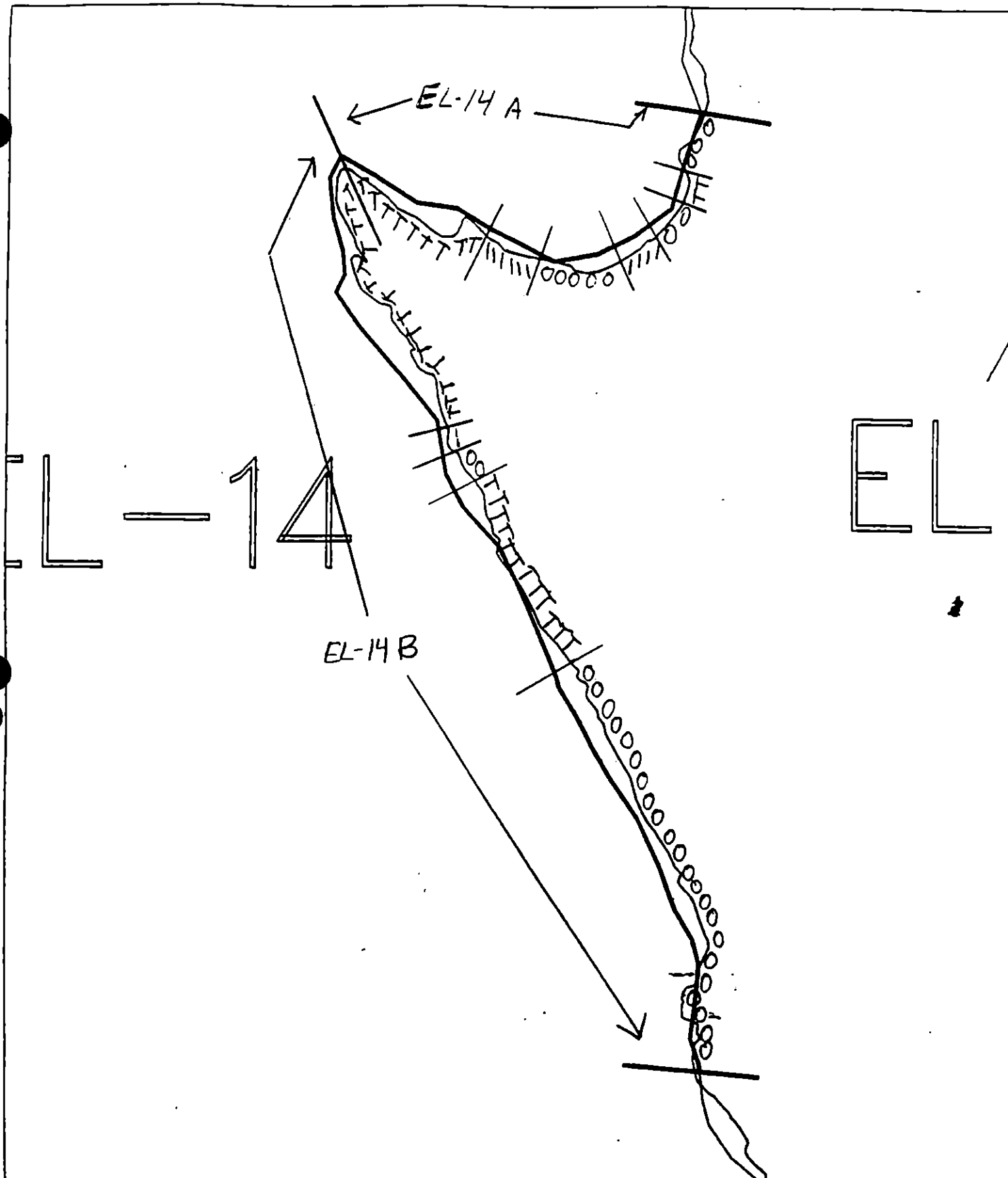


Map Key: PWS-133

Name: James Springer

Date: 4/27/90

Data Entered:



XXXX Wide  
 /// Medium  
 --- Narrow  
 TTTT Very Light  
 OOOO No Oil

EL-14

ADEC Segment Length: 1759m



Map Key: PWS-133  
 Name: James Springer  
 Date: 4/27/90  
 Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ EL-14 SUBDIVISION B (2 OF 2) DATE 4/24/90

**SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:**

5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)  
6Y Recreation: Special use destination  
7II Subsistence area: Deer harvesting (8/15 to 2/28)  
See attached Ecological Constraint sheet for specific constraints and contacts.

**SUBDIVISION ECOLOGICAL CONSTRAINTS:**

Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

**ARCHAEOLOGICAL CONSTRAINTS:**

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO SIGNATURE: J. David McElhannon DATE: 5/11/90

**OILING CATEGORIZATION:**

Wide 0 m: Medium 0 m: Narrow 26 m: V.Light 619 m: No Oil 557 m  
Subsurface Oil Observed: Yes      No X Maximum Depth     

**RECOMMENDATIONS:**

|                                   |                                             |
|-----------------------------------|---------------------------------------------|
| <u>X</u> No Treatment Recommended | <u>    </u> Snare/Absorbent Booms           |
| <u>    </u> Treatment Recommended | <u>    </u> Oil Snares (pom poms)           |
| <u>    </u> Manual Pickup         | <u>    </u> Absorbents (pads, rolls, etc)   |
| <u>    </u> Bioremediation        | <u>    </u> Spot Washing: <u>    </u> Wands |
| <u>    </u> Tarmat Removal        | <u>    </u> Beach Cleaner                   |
|                                   | <u>    </u> Other (see comments)            |

COMMENTS:       
      
      
      
    

TAG COMMENTS:       
      
      
      
    

TAG APPROVAL DATE: 5/11/90  
ADEC ART WEAVER Art Weaver  
EXXON ANDY TEAL Andy Teal  
NOAA Joseph Valboit Joseph Valboit  
USCG D. D. ROME D.D. Rome

FOSC: W L DATE: 5-15-90



00 J. Springer

SEGMENT ST/EL-14

SUBDIVISION B

DATE 04/24/90

### CHECKLIST

- ☐ W Angle
- ☐ Approx. Scale
- ☐ Edge/End Entry
- ☐ CR Data
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ EOL H/W/L/V/L
- ☐ SCL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ PR Location(s)
- ☐ Photo Location(s)

### LEGEND

1 Δ

PR - No Subsurface CR

2 Δ

PR - Subsurface CR

CT/C

Continuous Distribution

CT/D

Broken Distribution

CT/P

Patchy Distribution

CT/S

Spotted Distribution

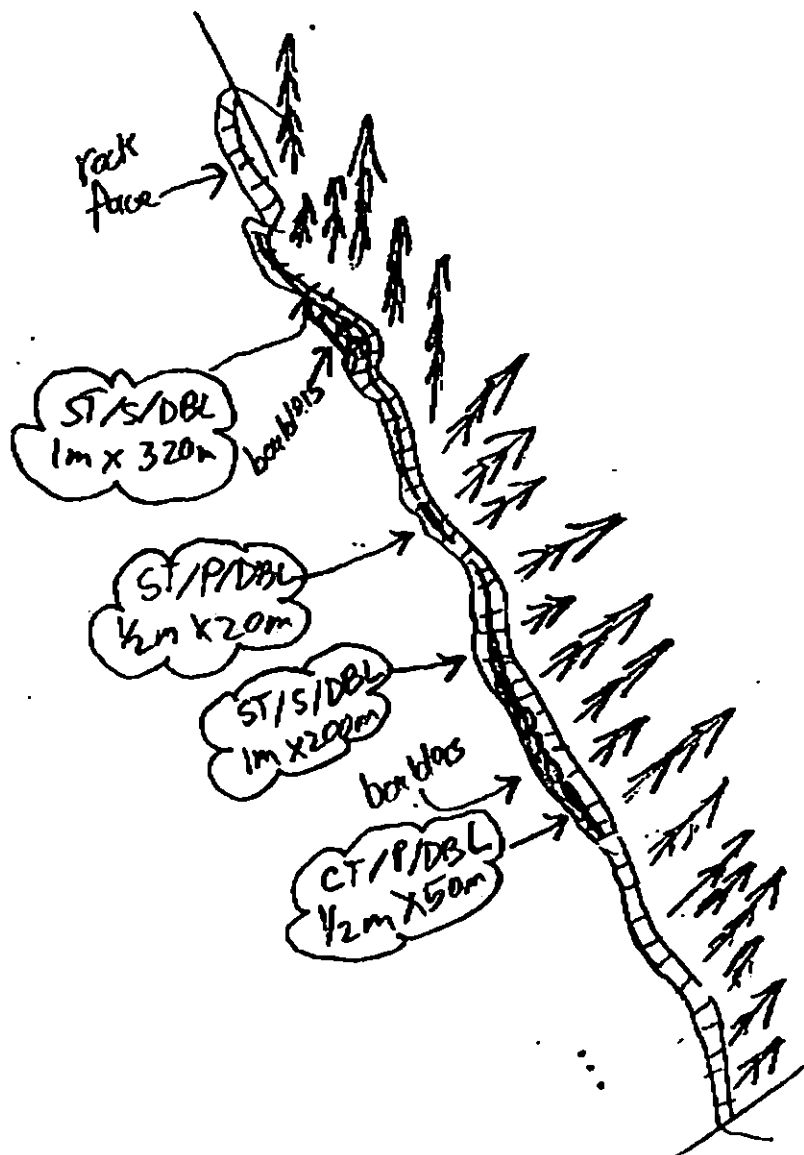
lll

Clad Vegetation

1 Δ

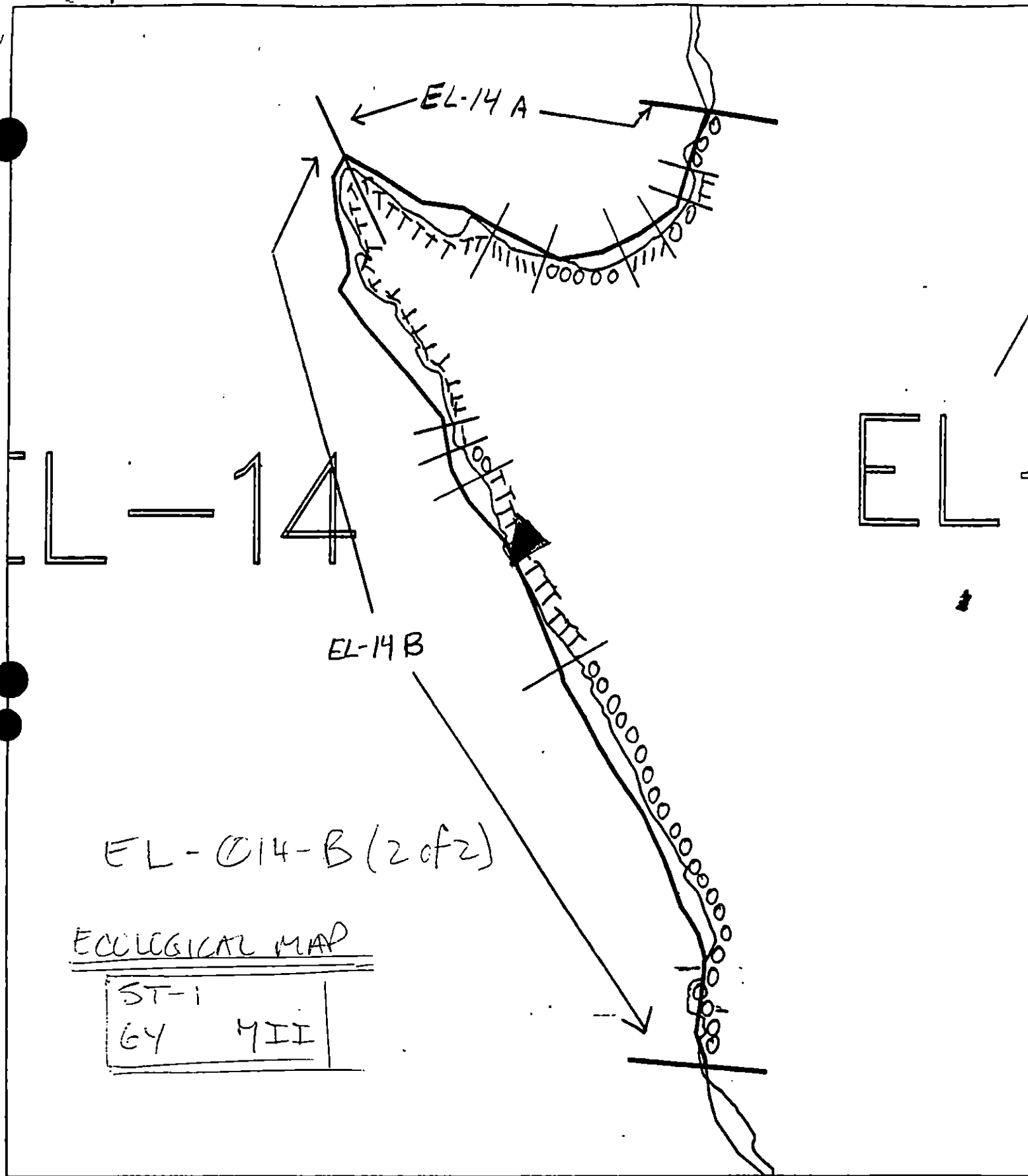
Photo location, direction,  
and number

### SKETCH MAP



Oil Character Length (m): AP \_\_\_\_\_ PO \_\_\_\_\_ CV \_\_\_\_\_ CT 50 ST 540 MS \_\_\_\_\_ PT \_\_\_\_\_ TB \_\_\_\_\_ FL \_\_\_\_\_ NO 710

REVISIONS



XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

EL-14

ADEC Segment Length: 1759m

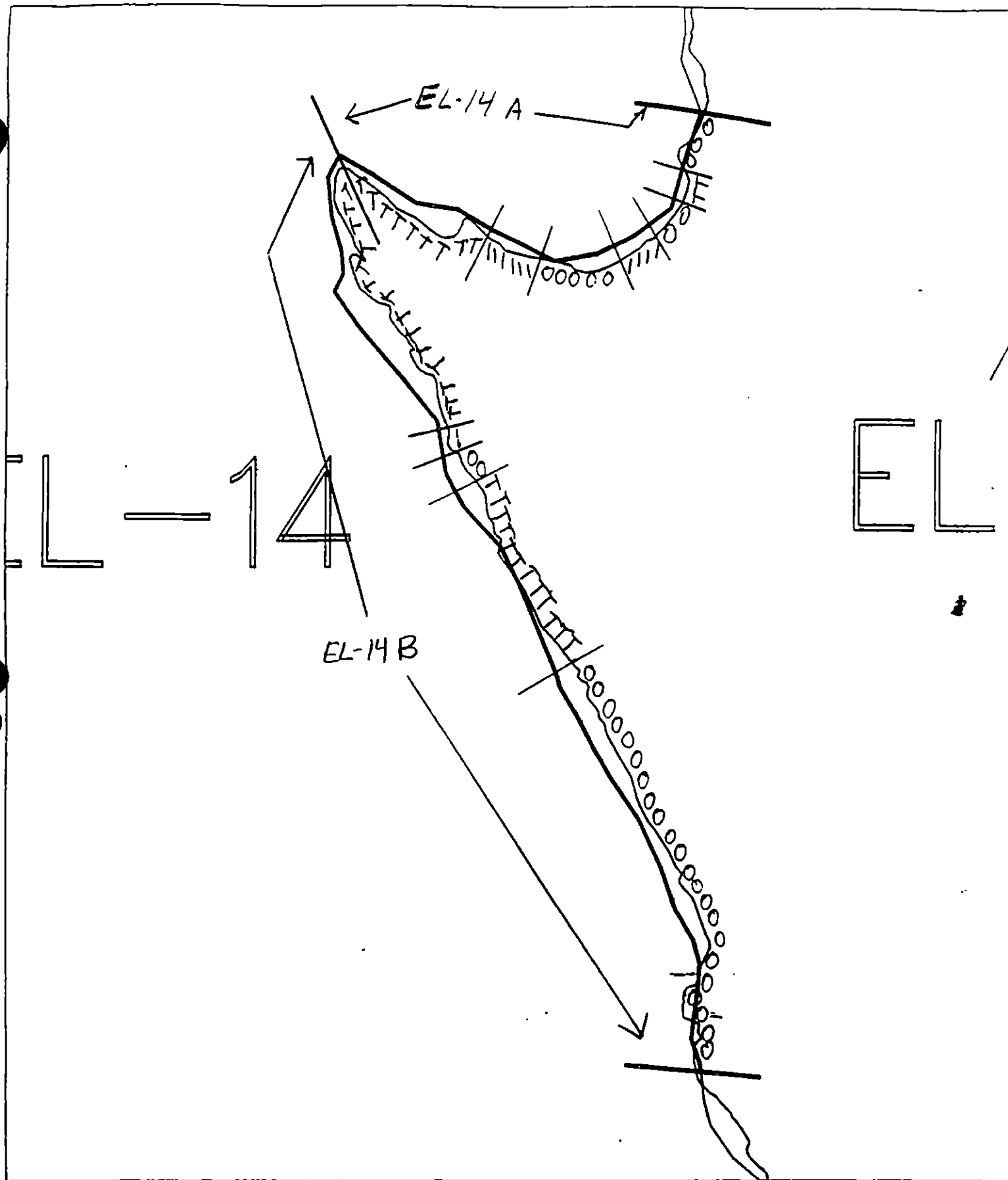


Map Key: PWS-133

Name: James Springer

Date: 4/27/90

Data Entered:



XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

EL-14

ADEC Segment Length: 1759m



Map Key: PWS-133

Name: James Springer

Date: 4/27/90

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ EL-14 SUBDIVISION A (1 OF 2) DATE 4/24/90

**SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:**

5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)  
6Y Recreation: Special use destination  
7II Subsistence area: Deer harvesting (8/15 to 2/28)  
See attached Ecological Constraint sheet for specific constraints and contacts.

**SUBDIVISION ECOLOGICAL CONSTRAINTS:**

Avoid any unnecessary disturbance or damage to uncoiled biota and substrate.

**ARCHAEOLOGICAL CONSTRAINTS:**

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO SIGNATURE: J. David McManis DATE: 5/11/90

**OILING CATEGORIZATION:**

Wide 0 m: Medium 112 m: Narrow 0 m: V.Light 228 m: No Oil 216 m  
Subsurface Oil Observed: Yes      No X Maximum Depth     

**RECOMMENDATIONS:**

|                                   |                                             |
|-----------------------------------|---------------------------------------------|
| <u>X</u> No Treatment Recommended | <u>    </u> Snare/Absorbent Booms           |
| <u>    </u> Treatment Recommended | <u>    </u> Oil Snares (pom poms)           |
| <u>    </u> Manual Pickup         | <u>    </u> Absorbents (pads, rolls, etc)   |
| <u>    </u> Bioremediation        | <u>    </u> Spot Washing: <u>    </u> Wands |
| <u>    </u> Tarmat Removal        | <u>    </u> Beach Cleaner                   |
|                                   | <u>    </u> Other (see comments)            |

COMMENTS:       
      
      
    

TAG COMMENTS:       
      
      
    

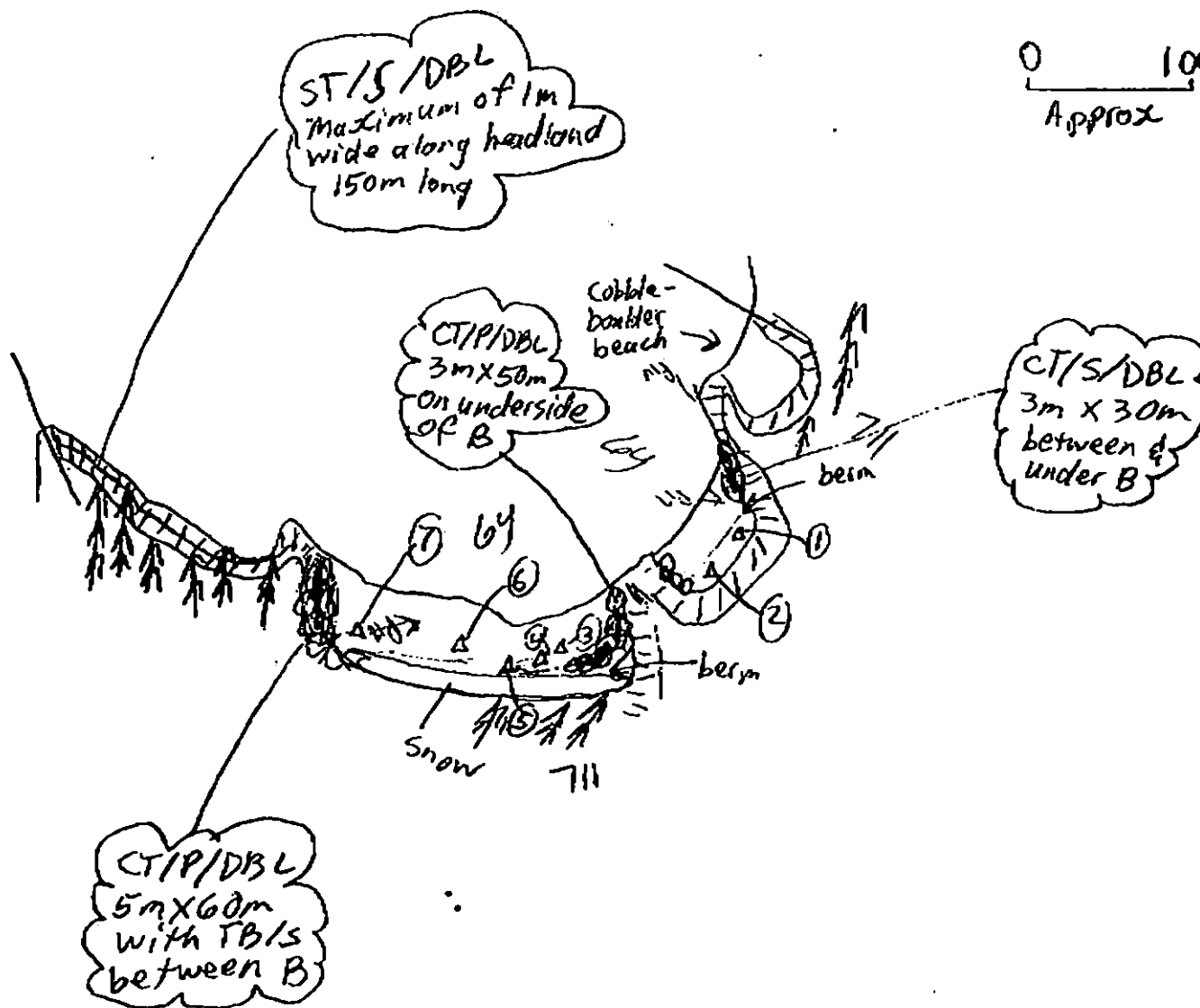
TAG APPROVAL DATE: 5/11/90  
ADEC Art Weems  
EXXON Andy Ted  
NOAA Joseph Talbot  
USCG D.D. Rome

FOSC: My L DATE: 5-15-90

SK SH MAP



0 100m  
Approx



00 J. Springer  
SEGMENT ST/ EL-14  
SUBDIVISION A  
DATE 04 / 24 / 90

# CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. NW/SE/VL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Photo(s)
- ☐ Photo Location(s)
- ☐ Photo Location(s)

## LEGEND

1   
Pit - No Subsurface Oil

2   
Pit - Subsurface Oil

Continuous Distribution

Broken Distribution

Patchy Distribution

Splashed Distribution

Oiled Vegetation

1   
Photo location, direction, and number

Oil Character Length (m): AP \_\_\_\_\_ PO \_\_\_\_\_ CV \_\_\_\_\_ CT 140 ST 150 MS \_\_\_\_\_ PT \_\_\_\_\_ TB \_\_\_\_\_ FL \_\_\_\_\_ NO 305

REVISION 000000

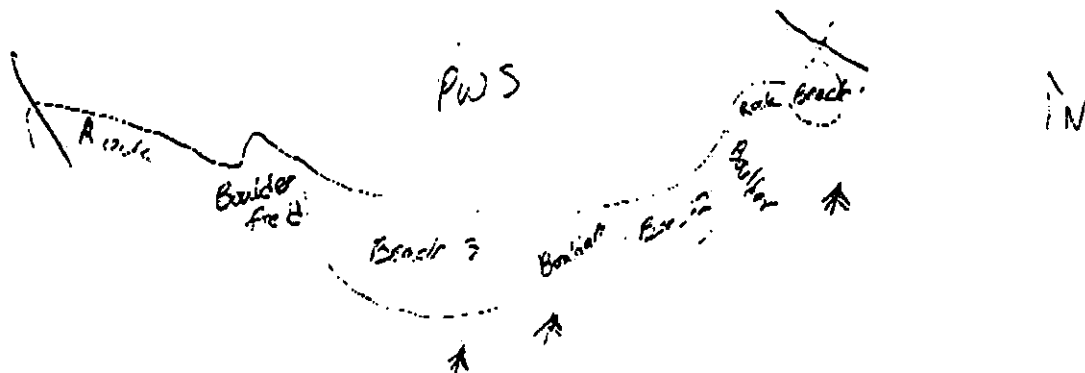
Segment ST/EL14A Length 595m

Biologist: Crank

pg 5 of 2

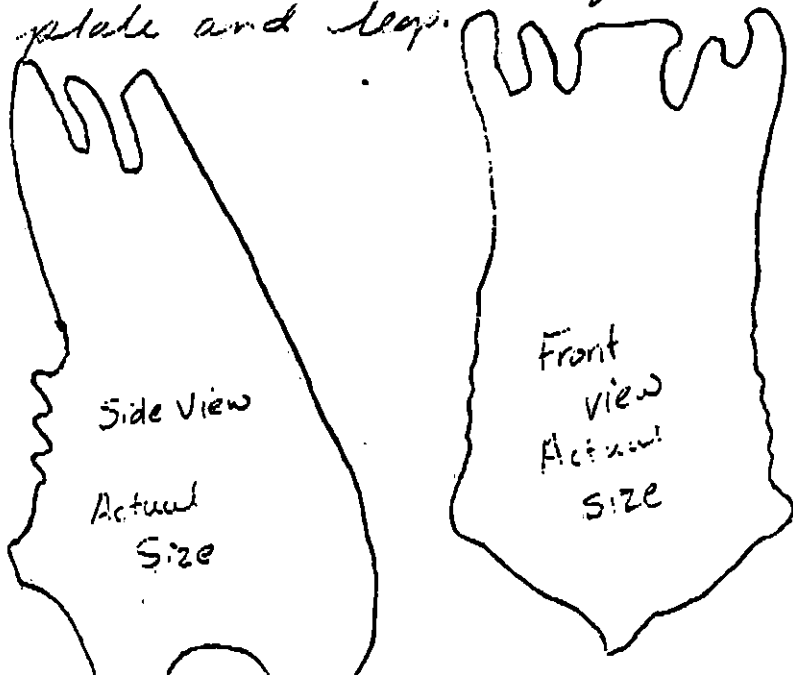
Date: 4/24/90 Time: 0830-1005

Tide Height: -1 → +3 ft



### General Comments

- On first beach cobbles/boulders were 80% covered with green and brown filamentous algae in LITZ. Rounded cobbles with low biota.
- On second beach: Mussels were in moderate clusters on east boulders. Other gastropods were rare in LITZ, sparse in MITZ and moderate in UITZ. Mussel patches on East bounding rock w/ 60% mature animals, 40% recruits and <1% mortality. New set of barnacles (plates still) on both unailed surfaces and on tar. 10% mature barnacle mortality on oiled surfaces and 5% on unailed. Scouring in <1% of surface.
- Coastguard personnel found bird bones, breast plate and leg.



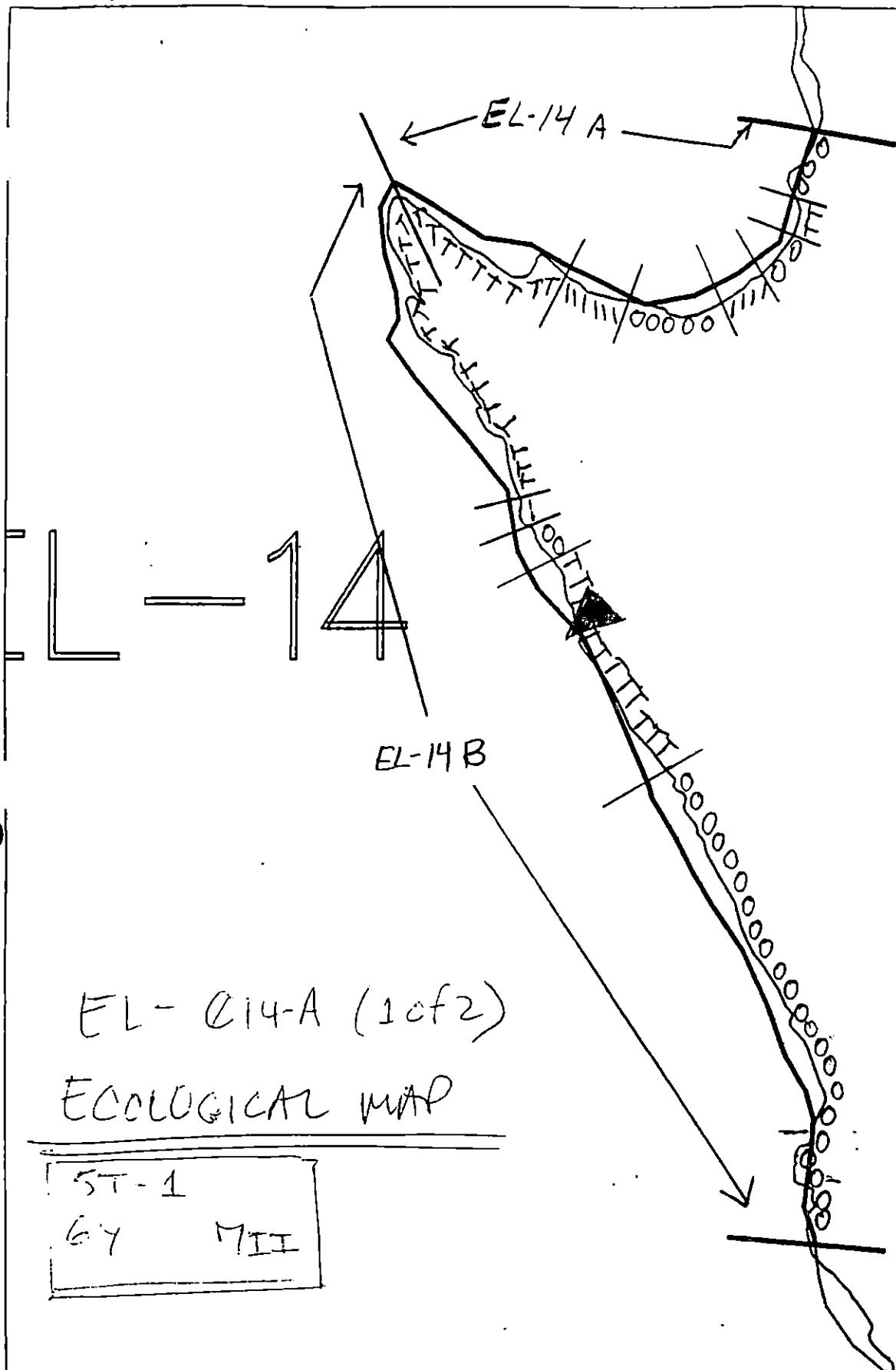
Leg bones  
Approx 12cm long.

Segment ST/EL 14 A Length: 595 m Biol: Crunk pg 4 of 4  
Date: 4/24/90 Time: 0830-1005 Tide Height: -1 to +3 cm

### General Command (continued)

Beach 3:

- Again <sup>since</sup> new barnacle set on turned and unturned boulders, bearing 40% of surface.
- On cobble there is less filamentous green in LITZ and more Littorina than on beach 2. There are white 2-3 cm long segmented worms under cobble.
- In West End Boulder field:
  - Filamentous algae cover 80%
  - Littorines are dense in LITZ (under cobble); dense in MITZ (on cobble & boulder); sparse in UITZ
  - Barnacles are rare on cobbles and boulders in LITZ, moderate in MITZ and sparse in UITZ
  - There is a white band along the boulders in UITZ; appears to at least partially be dead filamentous green algae.
- Skiff survey. steep boulders and vertical rock face on west end.
  - Moderate algal coverage
  - Moderate barnacle in all zones
  - Moderate Fucus band with 37% stipes.



EL

EL-014-A (1 of 2)

ECOLOGICAL MAP

ST-1  
67 7II

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

EL-14

ADEC Segment Length: 1759m



METERS

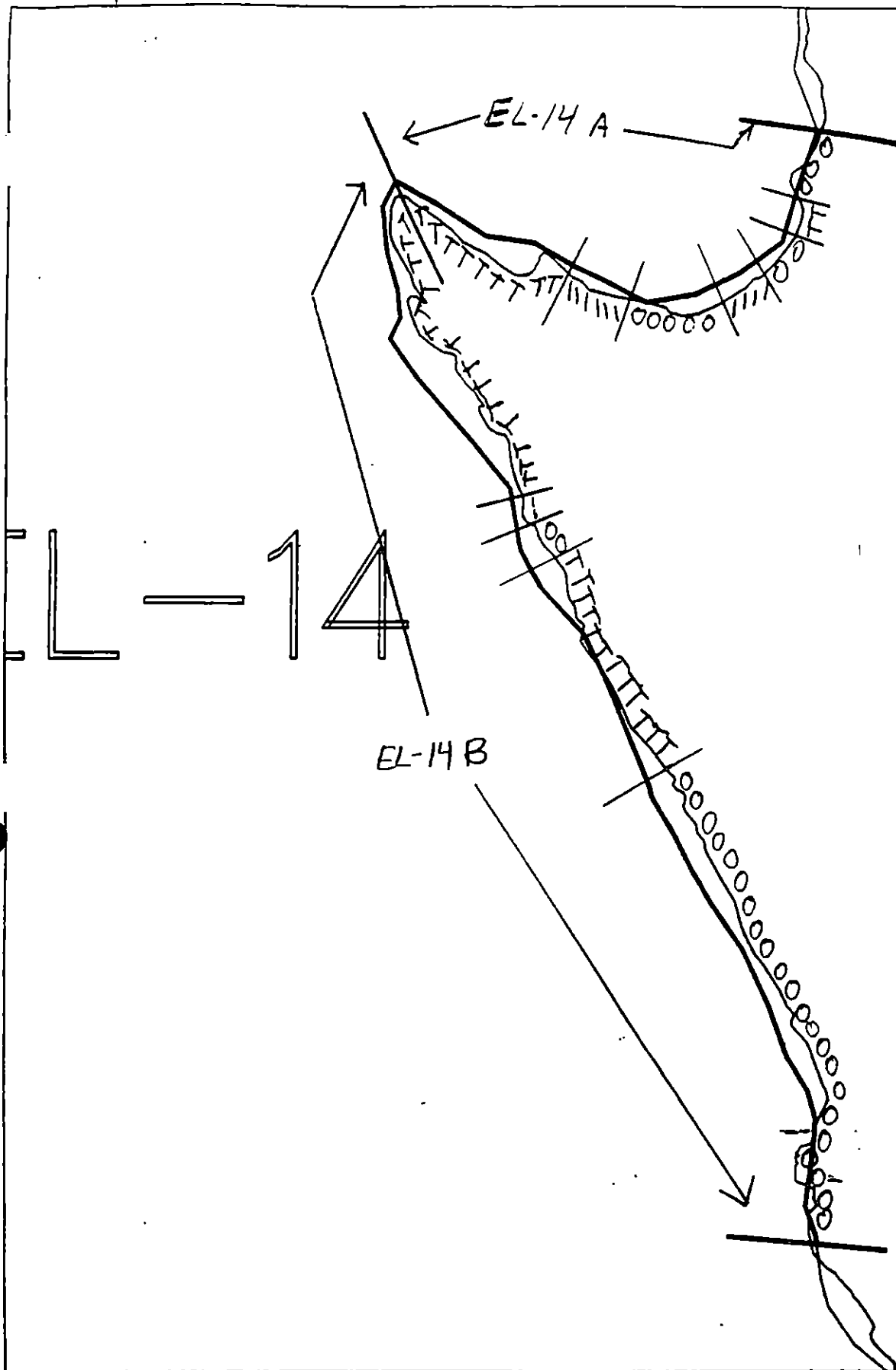
Map Key: PWS-133

Name: James Springer

Date: 4/27/90

Data Entered:





XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

EL-14A

ADEC Segment Length: 1759m



Map Key: PWS-133

Name: James Springer

Date: 4/27/90

Data Entered:

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/EL-14

SUBDIVISIONS: A (1 OF 2)

SHORELINE EVALUATION

SEGMENT ST/ EL-14 SUBDIVISION A (1 OF 2) DATE 4/24/90

**SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:**

5T-1 All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)  
6Y Recreation: Special use destination  
7II Subsistence area: Deer harvesting (8/15 to 2/28)  
See attached Ecological Constraint sheet for specific constraints and contacts.

**SUBDIVISION ECOLOGICAL CONSTRAINTS:**

Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

**ARCHAEOLOGICAL CONSTRAINTS:**

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**OILING CATEGORIZATION:**

Wide 0 m: Medium 112 m: Narrow 0 m: V. Light 228 m: No Oil 216 m  
Subsurface Oil Observed: Yes \_\_\_\_\_ No X Maximum Depth \_\_\_\_\_

**RECOMMENDATIONS:**

|                                                              |                                                        |
|--------------------------------------------------------------|--------------------------------------------------------|
| <input checked="" type="checkbox"/> No Treatment Recommended | <input type="checkbox"/> Snare/Absorbent Booms         |
| <input type="checkbox"/> Treatment Recommended               | <input type="checkbox"/> Oil Snares (pom poms)         |
| <input type="checkbox"/> Manual Pickup                       | <input type="checkbox"/> Absorbents (pads, rolls, etc) |
| <input type="checkbox"/> Bioremediation                      | <input type="checkbox"/> Spot Washing: _____ Wands     |
| <input type="checkbox"/> Tarmat Removal                      | <input type="checkbox"/> Beach Cleaner                 |
|                                                              | <input type="checkbox"/> Other (see comments)          |

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TAG COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TAG APPROVAL DATE: \_\_\_\_\_

ADEC \_\_\_\_\_  
EXXON \_\_\_\_\_  
NOAA \_\_\_\_\_  
USCG \_\_\_\_\_

FOSC: \_\_\_\_\_ DATE: \_\_\_\_\_

# PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)

1B Salmon stream mouth - spawning (7/10 to 8/31)

No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.

AGENCY CONTACT PERSON: ADF&G John Morison 267-2324

1C Salmon fry nursery area (4/31 to 7/31)

No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.

AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214

1D Esther Hatchery release (4/15 to 6/15)

1E Main Bay Hatchery release (4/20 to 6/15)

1F Sawmill Bay Hatchery release (4/15 to 6/1)

1G Cannery Creek Hatchery release (4/21 to 6/1)

1H Remote release site

No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.

AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214

1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511

1I Gill net area (6/7 to 8/31)

1J Purse seine area (7/20 to 9/30)

1K Purse seine hook-off (7/20 to 9/30)

1L Set net sites (6/11 to 7/25)

Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

AGENCY CONTACT PERSON: ADF&G James Brady 424-3212

2M Herring spawning (4/1 to 6/15)

Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to unloiled intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235

Harbor seal and sea lion pupping (5/15 to 7/1)

3Q Harbor seal and sea lion molting (8/15 to 9/15)

Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.

AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235

ADF&G Don Calkins 267-2403

5R Seabird colony (5/1 to 9/1)

Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

5S Shorebird/waterfowl concentration (4/1 to 5/15)

Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

ADF&G Tom Roth 267-2206

✓ 6T All Bald Eagle nests (3/1 to 6/1)

Active Bald Eagle nests (3/1 to 9/1)

Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

6U Recreation:

Tent sites (6/1 to 9/15)

6V Anchorages (6/1 to 9/15)

6W Forest Service cabins (6/1 to 9/15)

✓ 6X Lodge (6/1 to 9/15)

6Y Special use destination

7Z Subsistence area: Salmon harvesting (5/1 to 9/30)

Finfish harvesting

Deer harvesting (8/15 to 2/28)

Invertebrate harvesting

Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.

AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359

# FIELD SHORELINE COMMENT SHEET

SEGMENT ST 1 ELO14 SUBDIVISION: A DATE 4/24/90

**USCG**

NAME AEC Vandepelt SIGNATURE AEC Vandepelt

☒ NO TREATMENT RECOMMENDED  
COMMENTS

☐ TREATMENT SUGGESTED

**ADEC**

NAME Michelle Baer SIGNATURE M Baer

☒ NO TREATMENT RECOMMENDED  
COMMENTS

☐ TREATMENT SUGGESTED

CT/P+S are in B fields that have small pebbles  
layers in between and underneath. CT does not  
penetrate top layer. Recommend natural wave  
action of high energy beach for clearing.

**LAND MANAGER**

NAME \_\_\_\_\_ SIGNATURE \_\_\_\_\_

☐ NO TREATMENT RECOMMENDED  
COMMENTS

☐ TREATMENT SUGGESTED

OG J. Springer USCG R. Vandepels SEGMENT ST/ EL-14  
 BIO P. Cook LAND REP C. Huber SUBDIVISION A (1 OF 3)  
 EXXON T. Tomlin ADEC M. Borer TIME 08:30 to 10:05  
 TEAM NO. 5 TIDE LEVEL -1 To +3 DATE 04/29/90  
 EST. SUBDIVISION LENGTH: 595 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow  
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock  
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: E to W  
 SURFACE SEDIMENTS: R 40 % B 20 % C 25 % P 15 % G 0 % S 0 % M 0 % V 0 %  
 SLOPE: Long 30 % Hang 40 % Vert 30 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High  
 OIL CATEGORY LENGTH: W 0 m M 140 m N 0 m VL 150 m NO 305 m  
 140 yds/6

## SURFACE OIL

| CHARACTER        | DISTRIBUTION |   |   |   | OIL / FILM COLOR |   |   |   | IMPACTED ZONES |   |   |   |
|------------------|--------------|---|---|---|------------------|---|---|---|----------------|---|---|---|
|                  | C            | N | P | S | 1                | 2 | 3 | 4 | SU             | U | M | U |
| ASPHALT PAVEMENT |              |   |   |   |                  |   |   |   |                |   |   |   |
| POOLED           |              |   |   |   |                  |   |   |   |                |   |   |   |
| COVER            |              |   |   |   |                  |   |   |   |                |   |   |   |
| COAT             |              |   | X | V | X                | X | X | X |                |   |   |   |
| STAIN            |              |   |   | X | X                | X | X | X |                |   |   |   |
| MOUSSE           |              |   |   |   |                  |   |   |   |                |   |   |   |
| PATTIES          |              |   |   |   |                  |   |   |   |                |   |   |   |
| TARBALLS         |              |   |   | X | X                | X | X | X |                |   |   |   |
| FILM             |              |   |   |   |                  |   |   |   |                |   |   |   |
| NO OIL           |              |   |   |   |                  |   |   |   | X              | X | X |   |

PAVEMENT H F S 0 sq. m by 0 crPATTIES / TARBALLS 0 BAGSNEAR SHORE SHEEN? (NO) BR RW SL TL

| OILED DEBRIS | AMOUNT |    |    |
|--------------|--------|----|----|
|              | SM     | MD | LG |
| Logs         |        |    |    |
| Vegetation   |        |    |    |
| Trash        |        |    |    |
| Debris       |        |    |    |

DID YOU COLLECT DEBRIS?

YES ☐ NO ☒TYPE 0#BAGS 0

Photographs:

Roll No. ST-5:7Frames 16, 17, 18

## SUBSURFACE OIL

| PIT NO. | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER |    |    |    |    | OILED INTERVAL (cm) | BELOW |    | OIL / FILM COLOR |   |   |   | PIT ZONE |   |   |   | A N A | SHEEN (Y/N) | V  | SURFACE SUBSURF/ SEDIMENT |
|---------|----------------|--------------------------|----|----|----|----|---------------------|-------|----|------------------|---|---|---|----------|---|---|---|-------|-------------|----|---------------------------|
|         |                | OP                       | OR | OL | OF | NO |                     | SO    | UC | 1                | 2 | 3 | 4 | SU       | U | M | U |       |             |    |                           |
| 1       | 40             |                          |    |    |    | X  | .                   |       | X  |                  |   |   |   | X        |   |   |   |       |             |    | CP/P                      |
| 2       | 60             |                          |    |    |    | X  | .                   |       | X  |                  |   |   |   | X        |   |   |   |       |             |    | P/PV                      |
| 3       | 30             |                          |    |    |    | X  | .                   |       | X  |                  |   |   |   |          |   | X |   |       | N           | 20 | CP/P                      |
| 4       | 50             |                          |    |    |    | X  | .                   |       | X  |                  |   |   |   |          | X |   |   |       |             |    | CP/C                      |
| 5       | 30             |                          |    |    |    | X  | .                   |       | X  |                  |   |   |   |          | X |   |   |       |             |    | P/P                       |
| 6       | 30             |                          |    |    |    | X  | .                   |       | X  |                  |   |   |   |          | X |   |   |       |             |    | PG/PG                     |

COMMENTS most of oil is among boulders along the shoulders of beaches where wave energy is lower.

REVIEWED YH DATE 4-25-10

**RÉVISION 04/13/90**

### SUBSURFACE OIL (CONTINUED)

[illegible]

## COMMENTS

REVIEWED MA DATE 4-25-90

30 J. Spyer

SEGMENT ST/ EL-14

SUBDIVISION A

DATE 04 / 24/90

# CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ Oil Del.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HAV/LA/PA
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ PR Location(s)
- ☐ Photo Location(s)

## LEGEND

1 Δ

Pt - No Subsurface Oil

2 Δ

Pt - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splashed Distribution

eee

Oil Vegetation

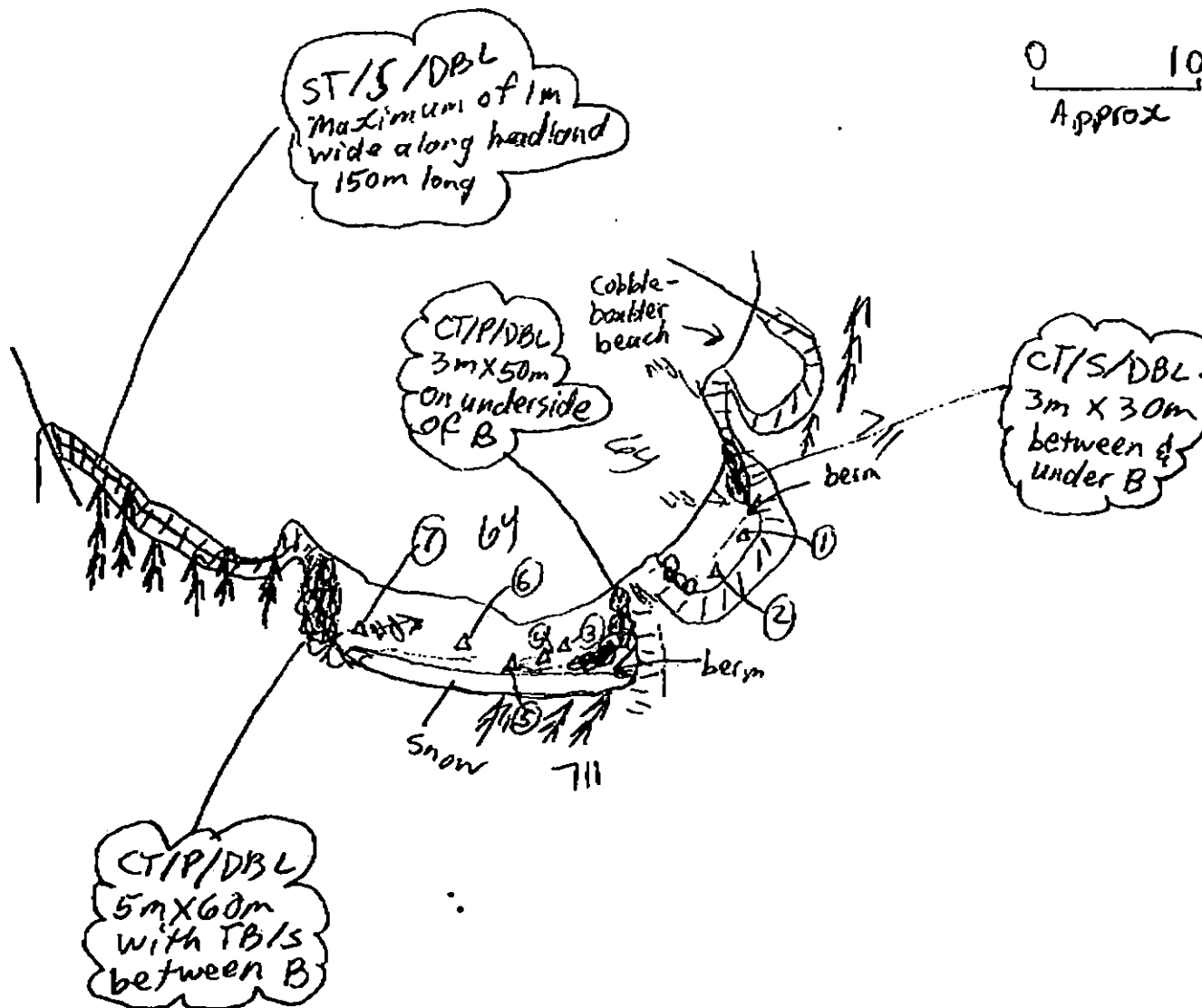
1 ●

Photo location, direction, and number

## SEARCH MAP



0 100m  
Approx



OR Character Length (m): AP \_\_\_\_\_ PO \_\_\_\_\_ CV \_\_\_\_\_ CT 140 ST 150 MS \_\_\_\_\_ PT \_\_\_\_\_ TB \_\_\_\_\_ FL \_\_\_\_\_ NO 305

REVISION 03/94/90



# SHORELINE ECOLOGICAL SUMMARY

Segment ST 14 Subdivision A Date (mo / day / yr) 4/2/90  
 Time (24 hr) 0830 - 1005 Biologist Crank pg 1 of 4

- (A) Substrate type and % of segments:  
 (1) Bedrock 40 (2) Boulder 20 (3) Cobble 25 (4) Pebble 15 (5) Sand 0 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense 10 Moderate 40 Low 52
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs: Roll No. ST-5-7

Frames 16, 17, 18

## BARNACLES

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |
| 2     | 2  | 2  | 2        | 2  | 2  | 2      | 2  | 2  | 2    | 2  | 2  |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  |

NOT PRESENT

## MYTILUS

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |
| 2     | 2  | 2  | 2        | 2  | 2  | 2      | 2  | 2  | 2    | 2  | 2  |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  |

NOT PRESENT

## GASTROPODS

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |
| 2     | 2  | 2  | 2        | 2  | 2  | 2      | 2  | 2  | 2    | 2  | 2  |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  |

NOT PRESENT

## FUCUS

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |
| 2     | 2  | 2  | 2        | 2  | 2  | 2      | 2  | 2  | 2    | 2  | 2  |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  |

NOT PRESENT

## Wildlife Observations/ General Comments:

Deer prints in snow School of fish  $\approx$  100 (Herring?)

2 - Eagles

Harbor Seal

1 - Crow

## Ecological Considerations:

7/11 - Deer Harvesting

4/4 - Special Use Designation

Segment ST/EL14A Length 595m

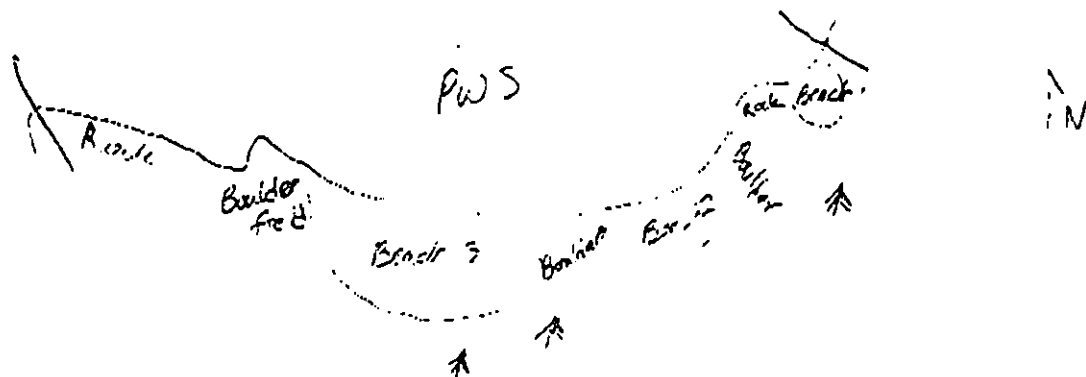
Biologist: Crank

p. 505

Date: 4/24/90

Time: 0830-1005

Tide Height: -1 → +3 ft



### General Comments

- On first beach cobble/boulders were 80% covered with green and brown filamentous algae in LITZ. Rounded cobble with low biota.

- In second beach: Nacella were in moderate clusters on east boulder. Other gastropods were rare in LITZ, sparse in MITZ and moderate in UITZ.

Mussel patches on East bounding rock w/ 60% mature animals, 40% recruits and <1% mortality.

New set of barnacles (plates 354) on both uncoiled surfaces and on top. 10% mature barnacle mortality on oiled surfaces and 5% on uncoiled. Scavenging in <1% of surface.

- Coastguard personnel found bird bones, breast plate and leg.



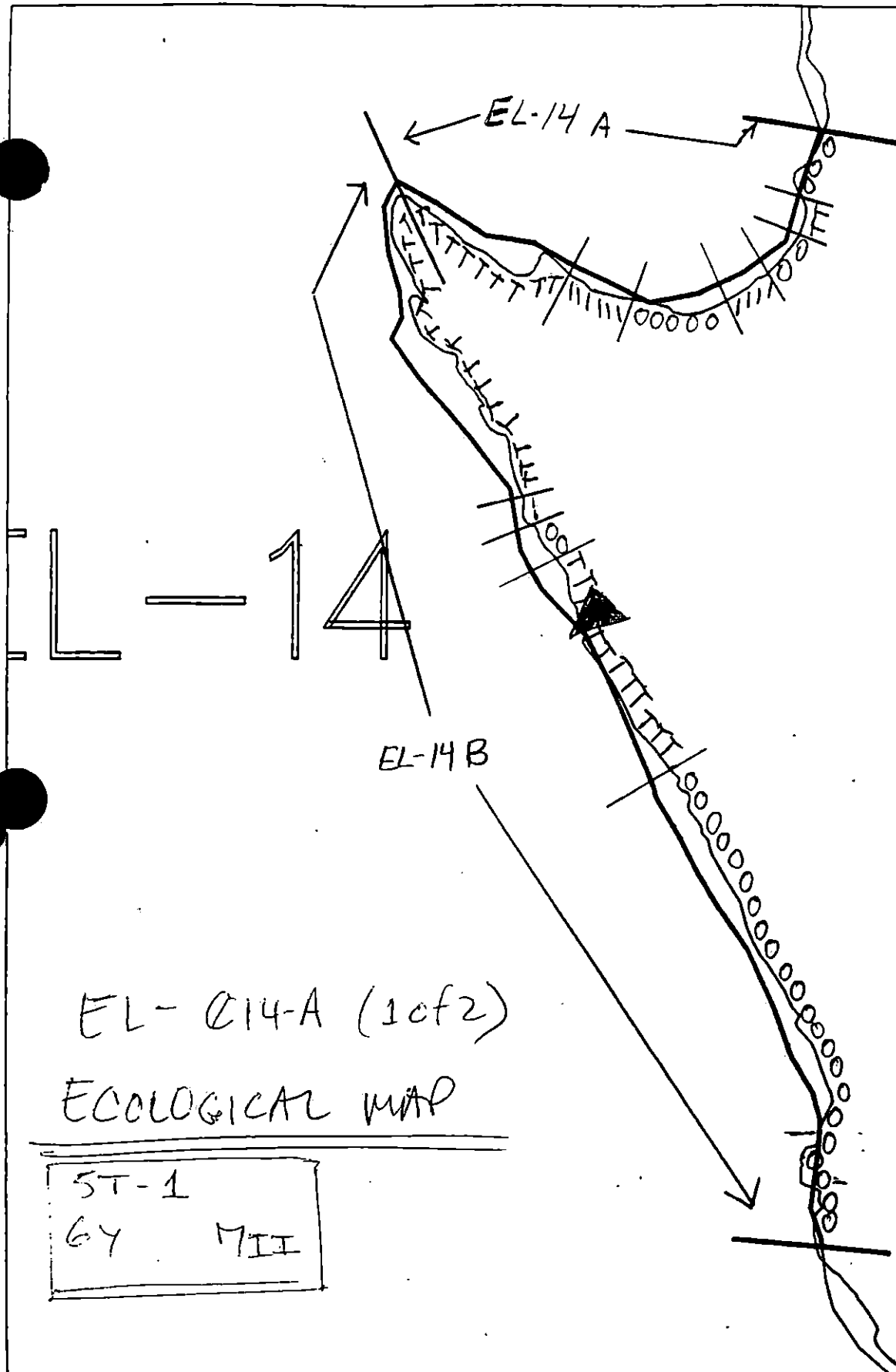
Leg bones  
Approx 12cm long

Segment ST/EL 14 A Length: 595 m Biol: Crank pg 4 of 4  
Date: 4/24/90 Time: 0830-1005 Tide Height: -1  $\Rightarrow$  +3 ft

### General Comment (continued)

#### Beach 3:

- Again <sup>dense</sup> new barnacle set on tanned and unisled boulders, bearing 40% of surface.
- On cobble there is less filamentous green in LITZ and more Littorina than on beach 2. There are white 2-3 long segmented worms under cobble.
- In West end boulder field:
  - Filamentous algae cover 80%
  - Littorines are dense in LITZ (under cobble) dense in MITZ (on cobble & boulder); sparse in
  - Barnacles are rare on cobble and boulders in LITZ, moderate in MITZ and sparse in UITZ
  - There is a white band along the boulders in UITZ; appears to be at least partially be dead filamentous green algae.
- Skiff survey.. steep boulders and vertical rock face on west end.
  - Moderate algal coverage
  - Moderate barnacle in all zones
  - Moderate Fucus band with 3% stripes.



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

EL-14

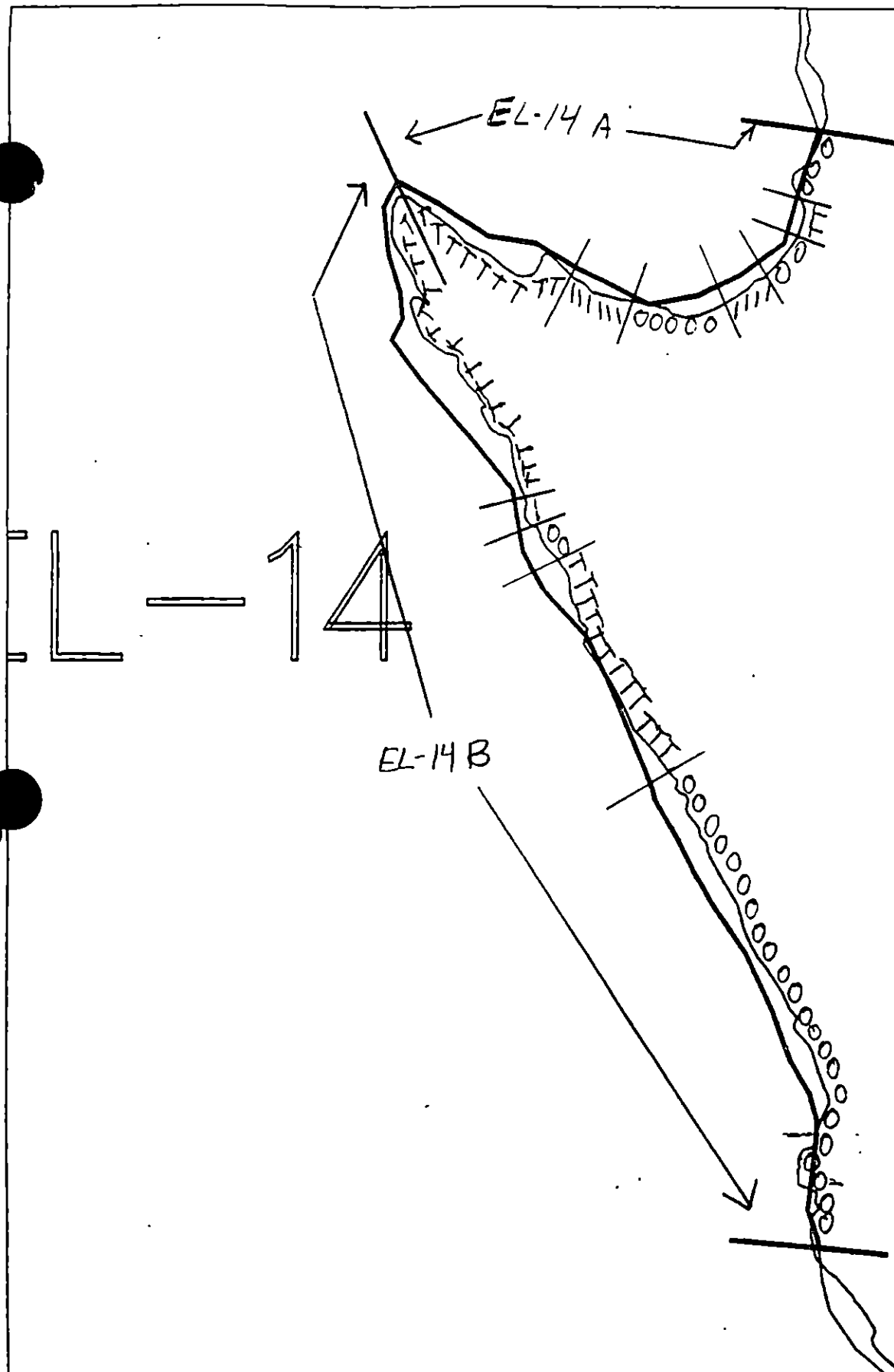
ADEC Segment Length: 1759m

Map Key: PWS-133

Name: James Springer

Date: 4/27/90

Data Entered:



EL

XXXX Wide

//// Medium

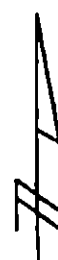
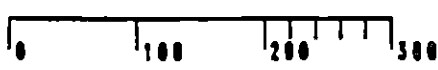
--- Narrow

TTTT Very Light

OOOO No Oil

EL-14A

ADEC Segment Length: 1759m



Map Key: PWS-133

Name: James Springer

Date: 4/27/90

Data Entered:

# ASAP TAG REVIEW SHEET

Segment: EL13 Subd: A Site: 2 Date 18 Aug 90  
PRE-Review

## Priority For Addressing In 1990

☒ HIGH ☐ MEDIUM ☐ LOW ☐ NTR

Treatment  
Recommended:

NTR

Broken ASPHALT

Very thin pavement

1-2 cm thick

Let winter + custombleen

work on it

Site 3 for EL15 IS with  
this package

## Priority Site For Reassessment In 1991

YES NO YES NO YES NO YES NO  
\_\_\_ CG ☒ ADEC \_\_\_ EXXON ☒ LAND MGR \_\_\_

NR 22 NR  
Rake & BIO  
(LOW)

# ASAP FOLLOWUP RECOMMENDATIONS

Segment: AS/EL13 Subd.: A Site: 2 Date: Aug 12 1990

## Conditions Observed:

This site is located at the mouth of a small stream in a protected cove. This cove receives very little wave energy and the sediments are primarily composed of angular cobbles and pebbles. Little oil is present but a very thin pavement has formed. This oil is relatively hard and even though it was only 1 to 2 cm thick, it binds the surface layer together. The thickest pavement, 3 to 4 cm thick, and a few tarballs were removed from the area by our team. A small amount of Customblend was observed. The SSAT report identified the region as CV/B. Cover in this area seemed closer to CV/P at this time. It seems that the pavement was not identified on the SSAT report. Total area encompassed by this thin pavement is difficult to measure because it tapers out at the edges but it encompasses roughly 100 square meters. Also observed in the area were CV/B/U and CT/C/U.

## Followup Recommendations:

Manually till area with rakes and apply customblend.

Completed by Pickup Crew:

☐ YES ☒ NO

Priority for Addressing in 1990: ☒ High ☐ Mod. ☐ Low

ADEC

Wesley Ghormley  
(name)

Wesley Ghormley  
(signature)

Comments: I agree with above recommendations. In addition any highly contaminated sediment OR/H, A/P should be manually removed from the area. Reassessment is necessary in 91 due to the low energy environment.

Exxon

Ray Sutton  
(name)

Ray Sutton  
(signature)

Comments: Till area and re-apply customblend.

USCG

NOAA

Art Weinert  
(name)

Art Weinert  
(signature)

Comments:

AGREE WITH RECOMMENDED TREATMENT

Land Rep.

John Ebel  
(name)

John Ebel  
(signature)

Comments: Manual till however rakes may be ineffective. Use grub tool to break surface. Recommend to remove SOR/H, thick A/P, and covers should be removed where possible manually or mechanically. Remove any oiled debris.

## ASAP FOLLOWUP RECOMMENDATIONS

Project: AS/EL/15 Subd.: A Site: 3 Date: Aug 12 1990

EL-15-A  
SITE 3

## Conditions Observed:

Even though the area has obviously been worked, a thin soft pavement (approximately one cm thick) is still present. It appears that after manual removal, residual oil flowed in the sun and reformed a soft, thin pavement in the location of the former tar mat. The pavement retains an unusually large portion of soil incorporated into the asphalt. Many boulders have been set off to one side. These boulders retain CV/B. There was a silver sheen observed near shore and rainbow sheens on seeps in the area. Bedrock outcrops adjacent to the asphalt pavement retain CV/B. This thin pavement covers roughly 160 square meters.

## Followup Recommendations:

Manually till area and re-apply crustal sealant.

Completed by Pickup Crew:

☐ YES ☒ NO

Priority for Addressing in 1990: ☒ High ☐ Mod. ☐ Low

ADEC

Wesley Ghormley  
(name)

Wesley Ghormley  
(signature)

Comments: In addition to above recommendations any OR/H, AP needs to be manually removed from area. Hot H<sub>2</sub>O lands should be used on CT and heavy covers on bedrock/boulders. - Reassess in 1991

Exxon

Rex Sotelo  
(name)

Rex Sotelo  
(signature)

Comments:

Manually till area and re-apply crustal sealant.

USCG

(name) NORA Art Weener

(signature) Art Weener

Comments: AGREE WITH RECOMMENDED TREATMENT

Land Rep.

John Abel  
(name)

John Abel  
(signature)

Comments: Manual till entire u/tz where A/P is forming. Recommend removal of SOR/H, AP, and accessible heavy oil deposits. Scrape covers or use mechanical treatment to remove thick covers. Remove oiled debris.



# FIELD SHORELINE COMMENT SHEET

SEGMENT AS/EL13 SUBDIVISION: A SITE: 1 DATE 8-12-90

SCG/NOAA PSI Leo Bersilona Leo Bersilona

NAME Art Weiner SIGNATURE Art Weiner

☐ YES

☒ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

REMAINING SUBSURFACE OIL CANNOT BE TREATED WITHOUT ADVERSELY IMPACTING ADJACENT MUSSEL BED.

ADEC

NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☐ YES

☒ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Subsurface oil is present adjacent to mussel bed. I believe the more harm than good issue should be followed in this circumstance.  
- No Further treatment at this time -

LAND MANAGER

NAME John Foe SIGNATURE John Foe

☐ YES

☒ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Lg Mussel Bed appears to be thriving in <sup>primary</sup> surface conditions. Disturbance for subsurface oil is not beneficial at this site.

EXXON

NAME REY SOTELO SIGNATURE Rey Sotelo

☐ YES

☒ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

This area was worked well by clean-up crew and will require no further assessment in '91. This site lies close to a very healthy mussel bed which should not be disturbed.

# FIELD SHORELINE COMMENT SHEET

SEGMENT AS / EL 13 SUBDIVISION: A SITE: 2 DATE 8-12-90

USCG/NOAA PSI Leo Bersalona Leo Bersalona  
NAME Art Wiener SIGNATURE Art Wiener

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991  
REASON:

BIOREMEDIATION, AS PROPOSED, SHOULD CATALYZE MINERALIZATION OF  
REMAINING OIL.

ADEC  
NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991  
REASON:

Low energy environment, Custom blend was recommended  
for work site. Reassessment is necessary to determine  
the effectiveness of Custom blend.

LAND MANAGER  
NAME Tobie Ebel SIGNATURE Tobie Ebel

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991  
REASON:

Site contains significant quantity of oil to reassess in '91  
To evaluate the effects of Customblend after winter conditions.

EXXON  
NAME REY SOTELO SIGNATURE Rey Sotelo

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991  
REASON:

Once customblend is applied this site should become  
a low candidate for reassessment in '91.

PAGE 10



IG Fitzgerald  
 ELEMENT STU 12-13  
 SUBDIVISION A  
 DATE Aug 18 80

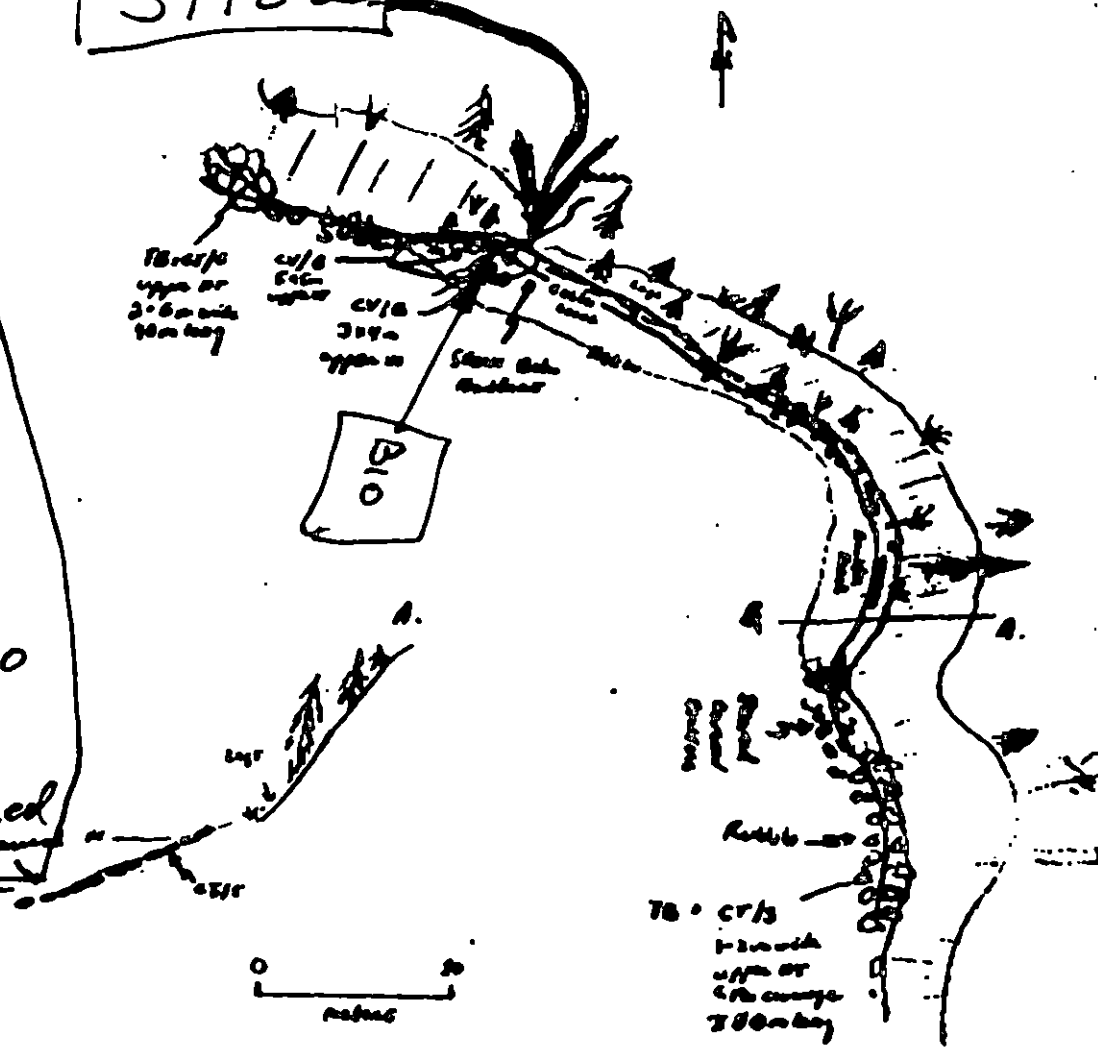
SKETCH MAP A.

(SEE NOTES)  
 SITE 2

- CHECKLIST
- ☐ M Area
  - ☐ Approx. Scale
  - ☐ Top/Bottom Study
  - ☐ On Dist.
  - ☐ Width
  - ☐ Length
  - ☐ % Cover
  - ☐ Substrate Character
  - ☐ Est. HILLSIDE
  - ☐ Silt
  - ☐ Profile Location(s)
  - ☐ Profile(s)
  - ☐ P/L Location(s)
  - ☐ Photo Location(s)

ASAP#2  
 This map  
 from SSAT  
 MAP. 8.  
 Aug. 12 1970  
 Cheney  
 SEE Attached  
 Notes

- LEGEND
- 1 Δ
  - 1 - No Substrate Cl
  - 2 Δ
  - 1 - Substrate Cl
  - CT/C
  - CT/B
  - CT/P
  - CT/S
  - 1 -



Character Length (m): AP \_\_\_\_\_ PO \_\_\_\_\_ CV 8 CT 280 ST \_\_\_\_\_ MS \_\_\_\_\_ PT \_\_\_\_\_ TB 1/2 FL \_\_\_\_\_ NO 102

ASAC  
 [Signature]

## EL-13-A

### SITE 1

#### "A"

There is a very dense and broad mussel bed near the center of the tombolo at this site. The former region of the tarmat was typical of tarmat removal sites. The area retained AP/I, SOR/P/M, CV/P/U and CT/P/U. As usual, the majority of the contamination was removed but many degrees of oiling remain. Customblen was found in the region of manual removal as well. A pit about 5 meters from the area of significant mussel concentration revealed an OR condition over 30 cm deep. Oil in the pit was black and fresh in appearance. The oil nearly filled the small pore spaces in the fine wet granular mud and began to slowly drip after the pit stood for a while. The oil was not classified as OP because the fine matrix held relatively little oil and droplets of black oil were dispersed in the substrate.

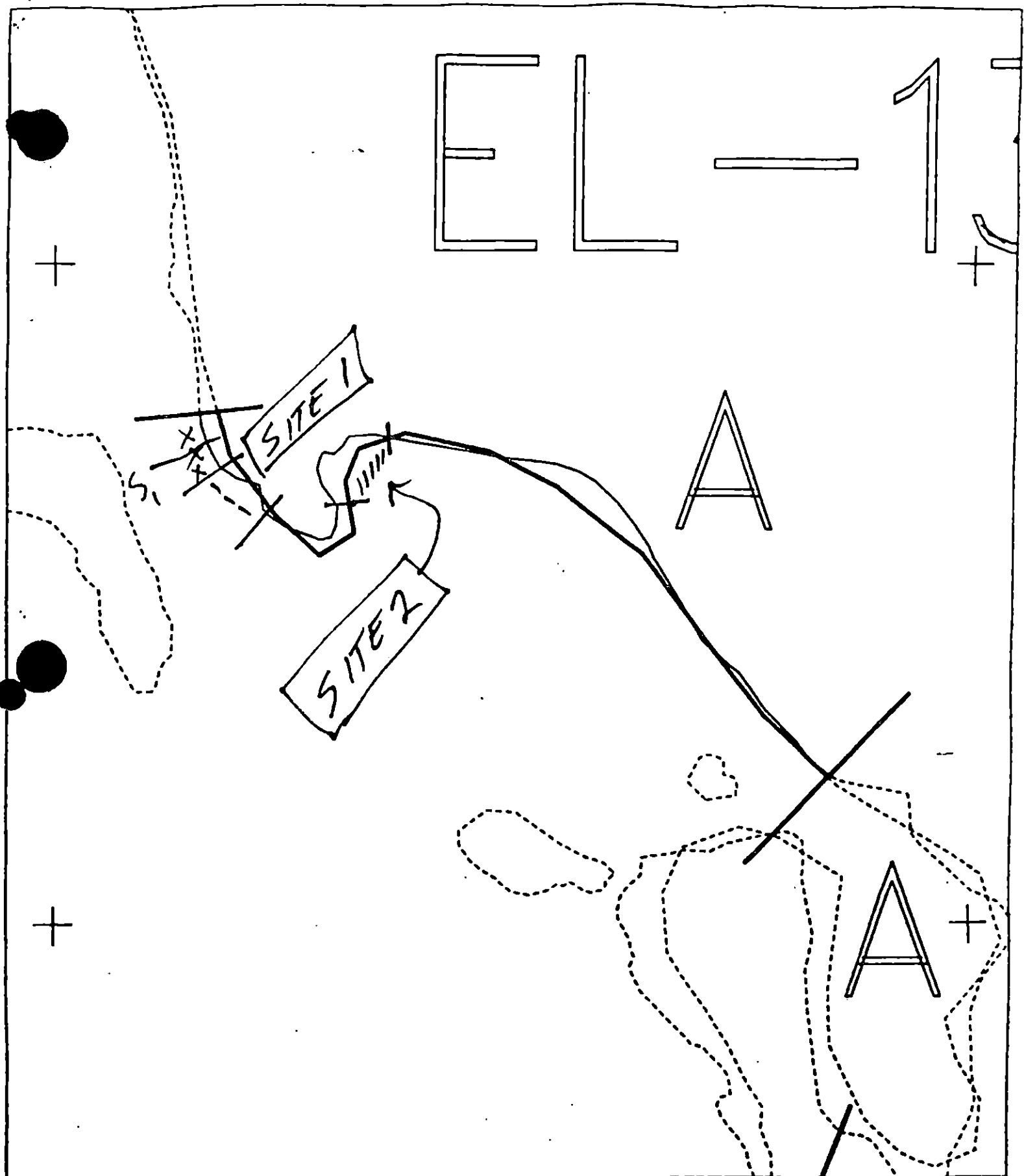
#### "B"

The SSAT map reported pooled oil in this region however, pooled oil was not found. AP/I was found in bedrock cracks. CT/B and CV/P occurred on the bedrock and boulders in the region. CT/B/U and CT/P/U were located under boulders in the area.

### SITE 2

This site is located at the mouth of a small stream in a protected cove. This cove receives very little wave energy and the sediments are primarily composed of angular cobbles and pebbles. Little oil is present but a very thin pavement has formed. This oil is relatively hard and even though it was only 1 to 2 cm thick, it binds the surface layer together. The thickest pavement, 3 to 4 cm thick, and a few tarballs were removed from the area by our team. A small amount of Customblen was observed. The SSAT report identified the region as CV/B. Cover in this area seemed closer to CV/P at this time. It seems that the pavement was not identified on the SSAT report. Total area encompassed by this thin pavement is difficult to measure because it tapers out at the edges but it encompasses roughly 100 square meters. Also observed in the area were CV/B/U and CT/C/U.

EL-1



Wide  
Medium  
Narrow  
Very Light

EL-13 A  
ADEC Subsegment Length: 620m  
METERS

0 107 176

Subdivision Field Map  
Map Key: KHEL-13A  
Name: CHANEY  
Date: Aug 12 1990

## ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT EL-13 SUBDIVISION A ( 1 of 2 )

| WORK WINDOW                     |                    |
|---------------------------------|--------------------|
| Manual Pickup<br>Tarmat Removal | OPEN               |
| Bioremediation                  | WORK PRIOR TO 8/15 |

### ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

### APPLICABLE ECOLOGICAL TIME CONSTRAINTS

|     |                              |                                                                                                  |
|-----|------------------------------|--------------------------------------------------------------------------------------------------|
| 5T  | Bald Eagle Nest              | NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision A work site. |
| 7II | Subsistence: Deer Harvesting | Closed to bioremediation after 8/15. No constraint to manual pickup and tarmat removal.          |

### OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic and beach disturbance to essential minimum. Avoid any unnecessary disturbance or damage to unrolled biota and substrate.

FOSC

Date

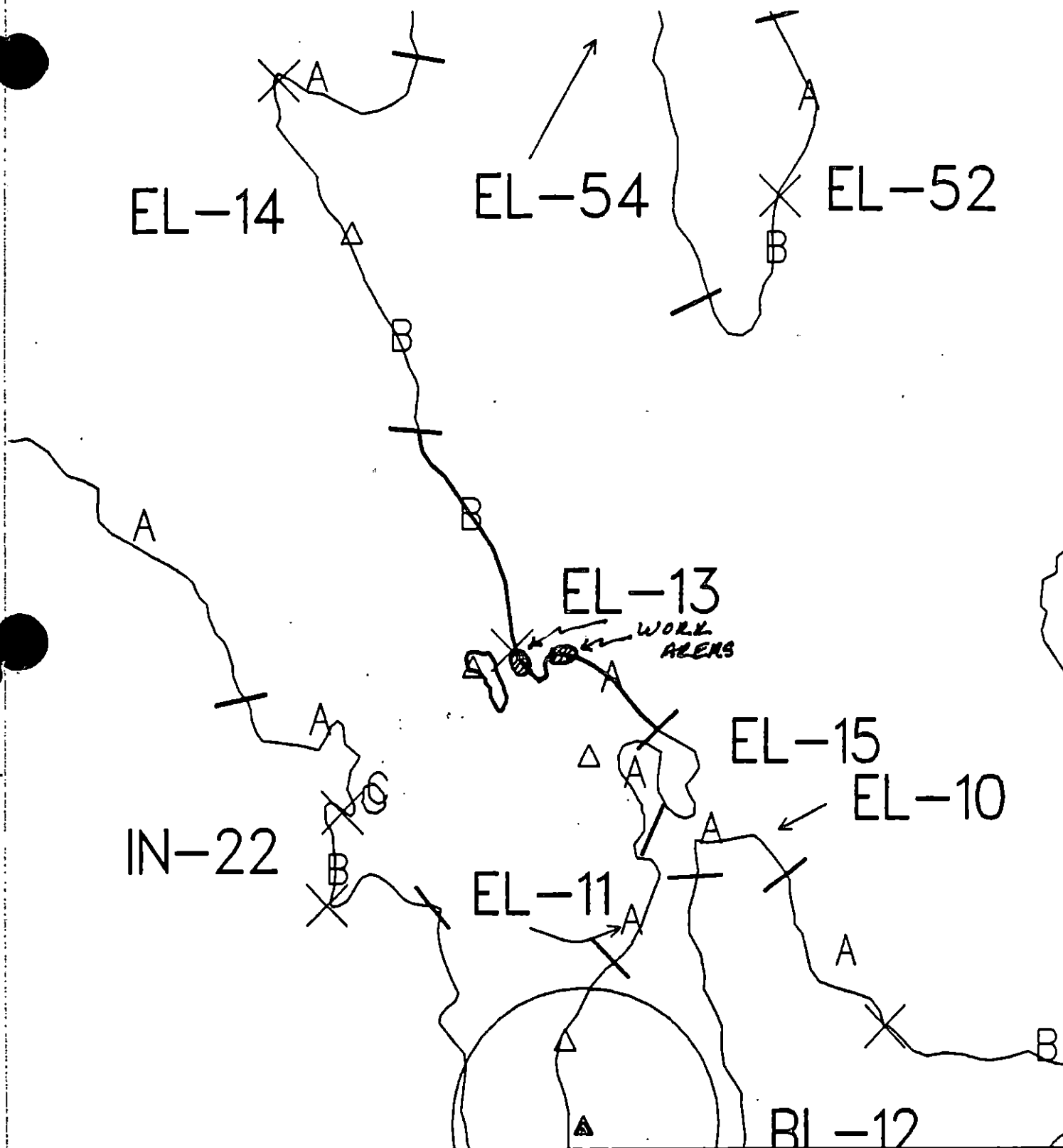
7-11-90

Prepared by

Date

7/10/90





Exxon Company, USA  
Map Key: PMS-EL-13  
June 08, 1990



ECOLOGY MAP  
SEGMENT EL-13  
SUBDIVISION A (1 of 2)  
METERS  
0 417 834

|   |                     |
|---|---------------------|
| ★ | Seabird Colony      |
| ▲ | Active Eagle Nest   |
| △ | Inactive Eagle Nest |

1 inch = 1368 feet

## SHORELINE EVALUATION

SEGMENT ST/ EL-13 SUBDIVISION A (1 OF 2) DATE 4/8/90

## SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)  
6U Recreation: Tent sites (6/1 to 9/15)  
7II Subsistence area: Deer harvesting (8/15 to 2/28)  
See attached Ecological Constraint sheet for specific constraints and contacts.

## SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. 2 eagle nests on small islands just offshore of Subdivision (see map). Do not damage mussel bed. Small stream shown on sketch is not identified as an anadromous fish stream.

ARCHAEOLOGICAL CONSTRAINT: If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact Exxon's Cultural Resource Program immediately (564-3274 (Anchorage) or 229-1508 (24 hrs.)).

ed  
alSHPO SIGNATURE: Lache Dan Dan DATE: 5/25/90

## OILING CATEGORIZATION:

Wide 0 m: Medium 23 m: Narrow 0 m: V.Light 604 m: No Oil 0 m  
Subsurface Oil Observed: Yes X No      Maximum Depth 15 cm

## RECOMMENDATIONS:

|                                      |                                             |
|--------------------------------------|---------------------------------------------|
| <u>    </u> No Treatment Recommended | <u>    </u> Snare/Absorbent Booms           |
| <u>X</u> Treatment Recommended       | <u>    </u> Oil Snares (pom poms)           |
| <u>X</u> Manual Pickup               | <u>    </u> Absorbents (pads, rolls, etc)   |
| <u>X</u> Bioremediation              | <u>    </u> Spot Washing: <u>    </u> Wands |
| <u>X</u> Tarmat: <u>    </u> Breakup | <u>    </u> Beach Cleaner                   |
| <u>    </u> <u>X</u> Removal         | <u>    </u> Other (see comments)            |

COMMENTS: Recommended treatment includes 1) manual removal of tarmat and pooled oil. 2) bioremediation of area shown on attached sketch map. Treatment should be conducted in such a way as to avoid treatment or damage to mussel bed. Work should be conducted after (6/1) and with approval of USFWS due to eagle nest constraint.

See Constraint Addendum dated 7/10/90 WKC

TAG COMMENTS: Avoid MUSSEL BEDSTAG APPROVAL DATE: 4/25/90

ADEC Art Weimer  
EXXON Amotatz  
NOAA Joseph Talbott  
USCG Kenneth K. ...

FOSC:     DATE: 4-17-90

## ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT EL-13 SUBDIVISION B ( 2 of 2 )

| WORK WINDOW    |                    |
|----------------|--------------------|
| Manual Pickup  | OPEN               |
| Bioremediation | WORK PRIOR TO 8/15 |

### ARCHAEOLOGICAL MONITOR REQUIRED ON SITE.

>>> PHONE 564-3274 (Anchorage) OR 229-1508 (24 hrs.) <<<

#### APPLICABLE ECOLOGICAL TIME CONSTRAINTS

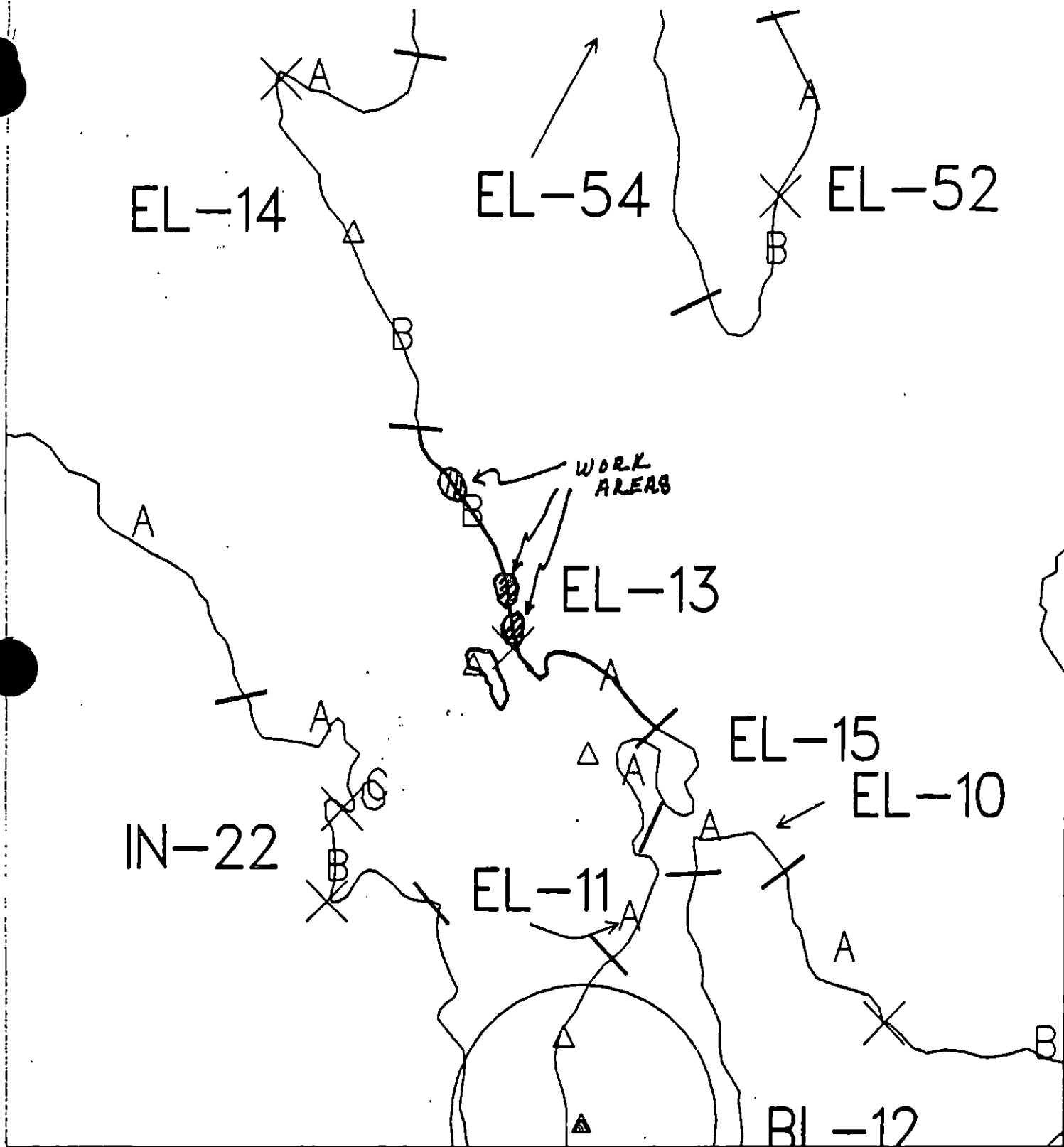
|     |                              |                                                                                                  |
|-----|------------------------------|--------------------------------------------------------------------------------------------------|
| 5T  | Bald Eagle Nest              | NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision B work site. |
| 7II | Subsistence: Deer Harvesting | Closed to bioremediation after 8/15. No constraint to manual pickup.                             |

#### OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic and beach disturbance to essential minimum. Restrict boat and air traffic and beach disturbance to essential minimum.

FOSC W. Kelly Date 7-11-90

Prepared by W. Kelly Date 7/10/90



on Company, USA  
Map Key: PWS-EL-13  
June 08, 1990



ECOLOGY MAP  
SEGMENT EL-13  
SUBDIVISION B (2 of 2)  
METERS  
0 417 834

- ★ Seabird Colony
- ▲ Active Eagle Nest
- △ Inactive Eagle Nest

1 inch = 1368 feet

# SHORELINE EVALUATION

SEGMENT ST/ EL-13 SUBDIVISION B (2 OF 2) DATE 4/8/90

## SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)  
6U Recreation: Tent sites (6/1 to 9/15)  
7II Subsistence area: Deer harvesting (8/15 to 2/28)  
Eagle nest on or near border with EL-14. See attached Ecological Constraint sheet for specific constraints and contacts.

## SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to uncoiled biota and substrate.

ARCHAEOLOGICAL CONSTRAINT: An Exxon archaeological monitor is required on-site during shoreline treatment.

>>> PHONE 564-3274 (Anchorage) OR 229-1508 (24 hrs.) <<< *20*

SHPO SIGNATURE: *Rachel Jean D...* DATE: 5/25/90

## OILING CATEGORIZATION:

Wide 24 m: Medium 709 m: Narrow 0 m: V.Light 0 m: No Oil 0 m  
Subsurface Oil Observed: Yes      No X Maximum Depth     

## RECOMMENDATIONS:

|                                         |                                             |
|-----------------------------------------|---------------------------------------------|
| <u>    </u> No Treatment Recommended    | <u>    </u> Snare/Absorbent Booms           |
| <u>X</u> Treatment Recommended          | <u>    </u> Oil Snares (pom poms)           |
| <u>X</u> Manual Pickup                  | <u>    </u> Absorbents (pads, rolls, etc)   |
| <u>X</u> Bioremediation                 | <u>    </u> Spot Washing: <u>    </u> Wands |
| <u>    </u> Tarmat: <u>    </u> Breakup | <u>    </u> Beach Cleaner                   |
| <u>    </u> Removal                     | <u>    </u> Other (see comments)            |

COMMENTS: Recommend manual pick up of tarballs, oiled logs, and mousse  
in areas indicated on sketch map. Bioremediation of surface oil in area  
shown on attached sketch map. Work should be conducted after (6/1) and  
with permission of USFWS due to eagle nesting constraint.

See Constraint Addendum dated 7/10/90 LK

TAG COMMENTS: MONITORING TO EVALUATE LOGS

TAG APPROVAL DATE: 4/25/90.  
ADEC *Ant Weiner*  
EXXON *ANDY TEH*  
NOAA *Joan Talbot*  
USCG *KENNETH KEANE*

FOSC: *[Signature]* DATE: 6-17-90

SHORELINE EVALUATION

SEGMENT ST/ EL-13 SUBDIVISION B (2 OF 2) DATE 4/8/90

**SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:**

5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)  
6U Recreation: Tent sites (6/1 to 9/15)  
7II Subsistence area: Deer harvesting (8/15 to 2/28)  
Eagle nest on or near border with EL-14. See attached Ecological  
Constraint sheet for specific constraints and contacts.

**SUBDIVISION ECOLOGICAL CONSTRAINTS:**

Avoid any unnecessary disturbance or damage to unoiled biota and  
substrate.

**ARCHAEOLOGICAL CONSTRAINT:** An Exxon archaeological monitor  
is required on-site during shoreline treatment.

>>> PHONE 564-3274 (Anchorage) OR 229-1508 (24 hrs.) <<< *DR*

SHPO SIGNATURE: *Reckel Don Dan* DATE: 5/25/90

**OILING CATEGORIZATION:**

Wide 24 m: Medium 709 m: Narrow 0 m: V.Light 0 m: No Oil 0 m  
Subsurface Oil Observed: Yes      No X Maximum Depth     

**RECOMMENDATIONS:**

|                                         |                                             |
|-----------------------------------------|---------------------------------------------|
| <u>    </u> No Treatment Recommended    | <u>    </u> Snare/Absorbent Booms           |
| <u>X</u> Treatment Recommended          | <u>    </u> Oil Snares (pom poms)           |
| <u>X</u> Manual Pickup                  | <u>    </u> Absorbents (pads, rolls, etc)   |
| <u>X</u> Bioremediation                 | <u>    </u> Spot Washing: <u>    </u> Wands |
| <u>    </u> Tarmat: <u>    </u> Breakup | <u>    </u> Beach Cleaner                   |
| <u>    </u> Removal                     | <u>    </u> Other (see comments)            |

*DR*  
COMMENTS: Recommend manual pick up of tarballs, oiled logs, and mousse  
in areas indicated on sketch map. Bioremediation of surface oil in area  
shown on attached sketch map. Work should be conducted after 6/1 and  
with permission of USFWS due to eagle nesting constraint.

TAG COMMENTS: MONITORING TO EVALUATE LOGS

TAG APPROVAL DATE: 4/25/90.  
ADEC *Art Weiner*  
EXXON *ANDY TEH*  
NOAA *Joseph Talbot*  
USCG *KENNETH KEANE*

FOSC: *[Signature]* DATE: 6-17-90

OG 10/1/94  
 SEGM II EL-13  
 SUBDIVISION B  
 DATE 08/1 90

# KETCH MAP

## CHECKLIST

- ☒ Lat/Long
- ☒ Horiz. Scale
- ☒ Sdg/Sub Entry
- ☒ Oil Desc.
- ☒ Width
- ☒ Length
- ☒ % Cover
- ☒ Substrate Character
- ☒ Spt. NW/SE/WL
- ☒ Profile Location(s)
- ☒ Photo Location(s)
- ☒ Photo Location(s)

## LEGEND

1 Δ  
 P1 - No Subsurface Oil

2 Δ  
 P1 - Subsurface Oil

CT/C  
 Continuous Distribution

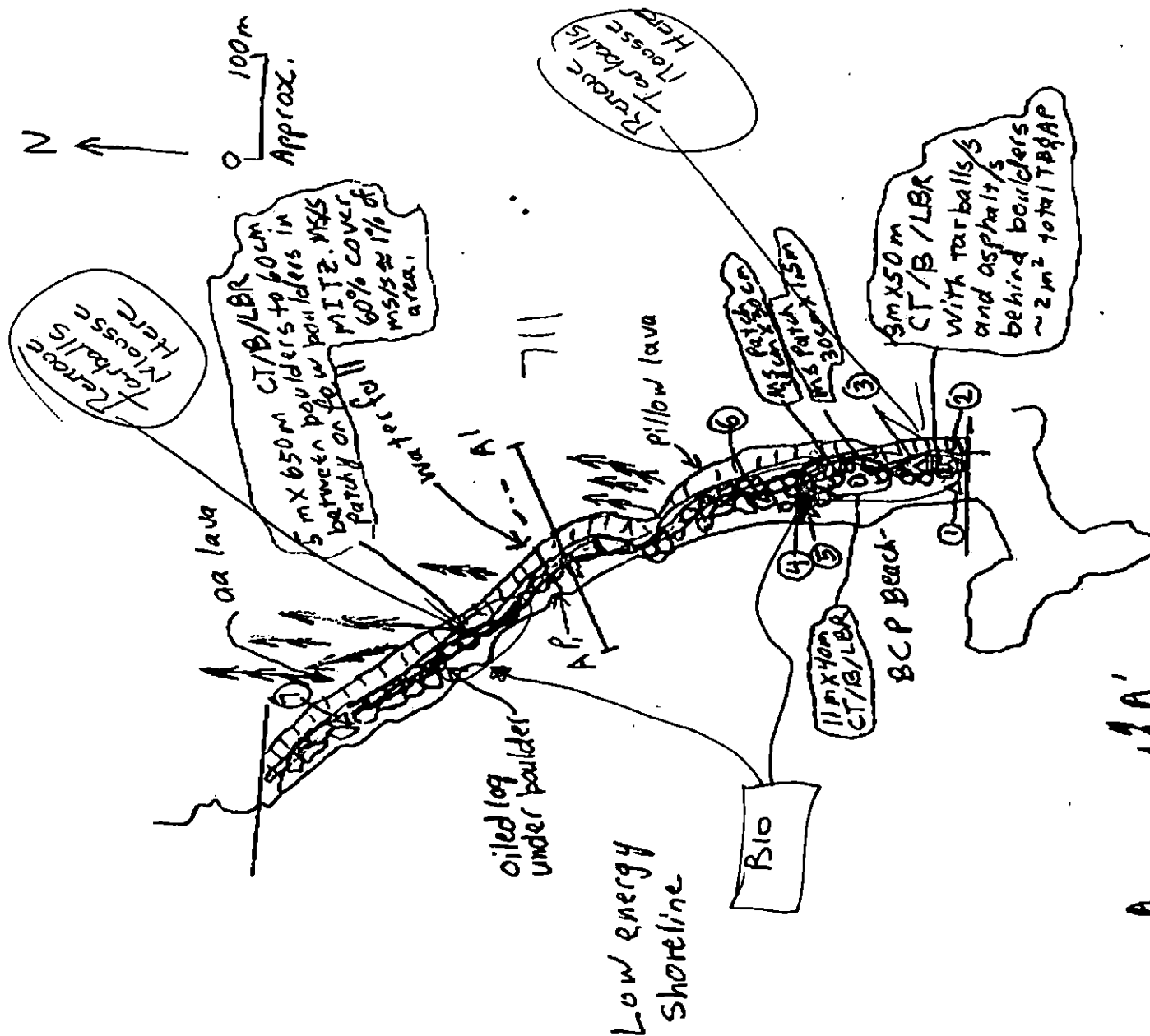
CT/B  
 Broken Distribution

CT/P  
 Patchy Distribution

CT/S  
 Splashed Distribution

Oiled Vegetation

1 ●  
 Photo location, direction, and number

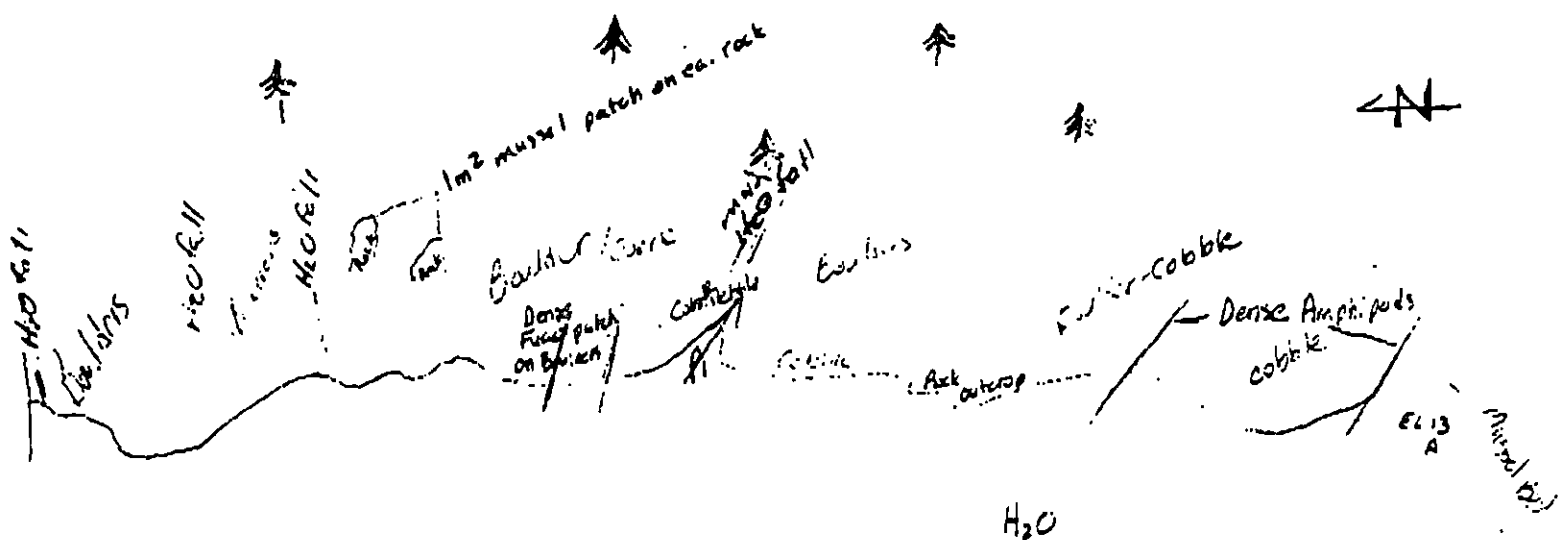


Oil Character Length (m): AP \_\_\_\_\_ PO \_\_\_\_\_ CV \_\_\_\_\_ CT 740 ST \_\_\_\_\_ MS \_\_\_\_\_ PT \_\_\_\_\_ TB \_\_\_\_\_ FL \_\_\_\_\_ NO \_\_\_\_\_

REVISION 001

Segment: ST/EL 13 B Length:  
Date: 4/8/90 Time: 1730-1845

Biologist: Crank Pg 3 of 3  
Tide Height:



### Comments -

- MITZ cobble on the southern end of subdivision; filamentous green algae and dictyons cover the substrate. Under the cobble are dense concentrations of amphipods. Fucus, dictyons and limpets are sparse; Agardh and Mytilus are rare. There were no visible barnacles.
- In MITZ southern end cobble, filamentous green still dominant, gastropods are moderate; no barnacles. On boulders, Mytilus and Fucus are sparse; gastropods moderate. On bedrock barnacles are rare. Barnacle occurring is present. Major barnacle are also present in rare concentrations on MITZ rock, however spot is dense.
- MITZ remained unexposed; through H<sub>2</sub>O U.K. Knosmeria pulvinata, filamentous green and sparse barnacles are present.
- Throughout the rest of the subdivision, filamentous green are present at moderate concentrations, gastropods are moderate with sparse amphipods. Barnacle concentrations increase with barnacle spot, the most abundant faunal species.
- There is a small, dense Fucus bed on the boulders north of major waterfall. (~ 15m x 3m)
- Mussels are sparse throughout the segment. There are two 1m<sup>2</sup> patches on separate boulders, the remaining mussels are found exclusively on the underside of boulders and rarely under cobble.
- Recruitment for subdivision is low, except for barnacles which is high.



ECOLOGY  
MAP

Eagle  
Nest  
(SWS)

B

EL-13

A

Eagle  
Nest  
(SWS)

Eagle Nest  
(SWS)

872  
"BPA 9"

This is a hand-drawn map of a river system, likely for ecological study. The river is depicted as a winding line. At the top left, a horizontal line crosses the river, with an arrow pointing to a star symbol labeled 'Eagle Nest (SWS)'. Below this, an arrow labeled 'B' points upstream. Further down the river, another arrow points to a star symbol labeled 'Eagle Nest (SWS)'. The river then turns right, and an arrow labeled 'A' points to a star symbol labeled 'Eagle Nest (SWS)'. The river continues to turn right, and an arrow points to a star symbol labeled 'Eagle Nest (SWS)'. A large 'X' is drawn over the river in the lower right. To the right of the 'X', there is a handwritten note '872 "BPA 9"'. The identifier 'EL-13' is written in large, outlined letters in the center-right of the map.

EL-13

TTTT Very light

**EL-13.**

**ADEC Segment Length: 1359m**



Map Key: PWS-132

Name: Fitzgerald

Date: 8 Apr 1990

EL-13

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

EL-13

ADEC Segment Length: 1359m

0 100 200 300

Map Key: PWS-132

Name: Jones Spring

Date: 4/8/90

Data Entered:

**1991 MAYSAP EVALUATION**

SEGMENT: EL 013 SUB: A REGION: PWS SURVEY DATE: 4/30/91

**ENVIRONMENTAL SENSITIVITIES:**

Work Window(s) RESTRICTED 3/1 - 9/15

Ecological/Constraints (see page two for details) **Eagle nest,**  
Subsistence - Deer harvesting

**ARCHAEOLOGICAL CONSTRAINTS:**

If treatment is planned, a cultural resource evaluation is  
required prior to shoreline treatment.

SHPO Signature: \_\_\_\_\_ Date: \_\_\_\_\_

| <u>RECOMMENDATIONS:</u>       | <u>INITIAL</u> | <u>TAG</u> | <u>FOSC</u> |
|-------------------------------|----------------|------------|-------------|
| TREATMENT REQUIRED (Y or N)   | <u>Y</u>       | _____      | _____       |
| Manual Pickup (Check as Req.) | _____          | _____      | _____       |
| Spot Washing                  | _____          | _____      | _____       |
| Bio-Customblen Only           | _____          | _____      | _____       |
| Bio-Inipol/Customblen         | <u>X</u>       | _____      | _____       |
| Other _____                   | _____          | _____      | _____       |
| Other _____                   | _____          | _____      | _____       |

**COMMENTS:**

INITIAL: Apply Customblen & Inipol at location C1. Avoid  
mussel bed west of location.

TAG: \_\_\_\_\_

FOSC: \_\_\_\_\_

TAG APPROVAL DATE: \_\_\_\_\_ FOSC APPROVAL DATE: \_\_\_\_\_

ADEC \_\_\_\_\_ FOSC \_\_\_\_\_

EXXON \_\_\_\_\_

USCG \_\_\_\_\_

NOAA \_\_\_\_\_

**ECOLOGICAL CONSTRAINTS  
1991 FIELD ACTIVITIES**

**Eagle Nest:** Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.

**Subsistence - Deer Harvesting:** Unlimited treatment prior to 8/15.

## MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 2 SEGMENT EL-013 SUBDIVISION A DATE 4/30/91

ADEC

NAME PETER MONTESANOSIGNATURE Pt. Montesano☐ NTR ☒ TREATMENT RECOMMENDED ☒ INADEQUATE SURVEY

THE SOR W/IN AREA "B" IS EASILY RECOVERABLE WITH SHOVELS. THIS SOR FALLS INTO WHAT WAS ONCE KNOWN AS SOFT MP.

THE TOMBOLO SPIT, AREA "C", WAS NOT THOROUGHLY SURVEYED AND TREATMENT MUST WAIT ACCORDINGLY. THE AREA HAS AN EXTENSIVE (60M) SUB + NEAR SURFACE LENS FROM M TO HOR. THIS LENS MUST BE DEFINED PRIOR TO TAG REVIEW.

EXXON

NAME C.M. KATSIMPALISSIGNATURE Cm Katsimpalis

☐ NTR OG & BIO REPORTS DISCRIBE CONDITIONS OF THIS SEGMENT ~~IN~~ ACCURATELY. POSSIBLE TREATMENT IN AREA "C" MIGHT PROVE TO BE QUITE INTRUSIVE.

LANDMANAGER

NAME DENNIS S KENNEDY OF USFSSIGNATURE D.S Kennedy

☐ NTR There is an eagle nest located on the tombolo. Sea otters were feeding on the mussel bed. Large numbers of amphipods were found in area B. I was not aware of the discussion on an inadequate survey while on site. This segment seems to be bio. sensitive and should consider giving it a rest.

USCG/NOAA

NAME MICHEL(N)SIGNATURE Michel

☐ NTR Residual oil occurs in two discrete areas: 1) LOC B, on both sides of a stream which is in a sheltered, east-facing embayment. It should be noted that unusually large numbers of amphipods (a very oil-sensitive species) were in close proximity and in the light to heavy SOR. 2) LOC C1 - on the east side of tombolo spit. The MOR/HOR was at most 0-10-15 cm thick, although it extended for 60m. The area is exposed to moderate wave/tidal current energy, and surface sediments are clean. Michel

TEAM NO. 2 SEGMENT EL-013 SUBDIVISION A DATE 4/30/91

## ADEC

NAME \_\_\_\_\_ SIGNATURE \_\_\_\_\_

☐ NTR

## EXXON

NAME \_\_\_\_\_ SIGNATURE \_\_\_\_\_

☐ NTR

## LANDMANAGER

NAME \_\_\_\_\_ OF \_\_\_\_\_ SIGNATURE \_\_\_\_\_

☐ NTRUSCG/~~NOAA~~NAME BMI ZENONE USCG SIGNATURE BMI ZENONE☐ NTR

SURVEY OF THIS SEGMENT WAS EXTENSIVE AND COMPLETE. OG REPORT ACCURATELY DEPICTS THE OILING IN THIS AREA. BIO REPORT DEPICTS AN AREA UNDER GOOD BIOLOGICAL RECONSTRUCTION. FURTHER REMOVAL OPERATIONS COULD CAUSE MORE ENVIRONMENTAL HARM THAN THE OIL TO BE REMOVED

REVIEWED 5/4/91  
REVIEWED 5/5/91 MC

OG SKETCH MAP  
EL013-A  
30-APR-91  
1830-2042  
BRYAN TRIMM

NO FIELD DATA  
ASSUMED:  
2 X 30 M MOR

NO FIELD DATA  
ASSUMED:  
1 X 30 M MOR

B2 SOR-LT 10 MED 20%  
1 x 20 M

B1 SOR-HVY 120%  
30 CM

BROKEN UP

C3 SOR-HVY 60%  
1.5 x 60 M

B5 CV 20%  
0.25 x 13 M

B4 CV 5% CT 10% ST 10%  
2 x 10 M

B3 SOR MED 40% HVY 40%  
CT 20% 1 x 15 M

A SOR-LT 1% CT 1% TB 1%  
1 x 300 M

0 25 50  
meters

UPPER  
PASSAGE

BOULDER TALUS

EL013-A

NORTH

revised  
REVISOR: 5/5/91 MC



# MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 2 DATE 30 Apr 1991  
 SEGMENT # EL13 TIDAL HEIGHT(Range) +6' to +3'  
 SUBDIVISION A BIOLOGIST Benson  
 SEA STATE 1' WIND SPEED/DIRECTION calm  
 PHOTOGRAPHS: ROLL # — FRAME # —

## COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):

I was unable to observe the LITZ.

(A) - This long stretch of boulder talus is characterized by low- to moderate species diversity & moderate % cover. Compared to most nearby subdivisions, filamentous green algae is rare. Other common, strong-recruiting species are here in low-moderate abundance on boulders: Mytilus, barnacles, limpets, Fucus, Odonthalia & Verrucaria.

(B1) & (B2) - The biotic % cover of the pebbles is low, as usual especially on the east side of the stream. Also on the east side of the stream at ~ +13', just below the log, a large number of amphipods were found under cobbles that had oil on them. This phenomenon was localized to this tide level only. In the MITZ, on both sides of the stream (see Bio Sketch Map), Mytilus grow in the cobbles at a sparse-to-moderate density and up to the 10' tide level. This mussel bed would be susceptible to damage from substrate disturbance and foot traffic in the event of cleanup activities there.

(B3), (B4), (B5) - Fucus is dense on the bedrock & moderately dense on the boulders below. The diversity in this area is low to moderate. Nucella egg capsules were found under cobbles.

## WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

(continued on next page)

| BIRDS            | # OF SPECIES | TOTAL BIRDS | FISH OBSERVED<br>SPECIES PRESENT |
|------------------|--------------|-------------|----------------------------------|
| Eagles           | 1            | 2           | —                                |
| Seabirds         | —            | —           | —                                |
| Waterfowl        | —            | —           | —                                |
| Gulls/Kittiwakes | 1            | 4           | —                                |
| Shorebirds       | —            | —           | —                                |
| Corvids          | —            | —           | —                                |
| Other Birds      | —            | —           | —                                |

| MARINE MAMMALS      | # OBSERVED | LAND MAMMALS<br>SPECIES | # OBSERVED |
|---------------------|------------|-------------------------|------------|
| Sea Otters          | 2          | —                       | —          |
| Pinnipeds (specify) | —          | —                       | —          |
| Whales (specify)    | —          | —                       | —          |
|                     |            |                         |            |

Shoreline subdivision map showing important biological features attached.

REVIEWED MC 5/5/91

REVIEWED MB 3/4/91

Subdivision: EL 13 A

Team: 2

Bio: Benson

Comments (cont.) —

Ⓒ1 & Ⓒ2 — Although it falls just outside this subdivision, a large mussel bed here must be noted. It lies in pebbles on the west side of the saddle that connects the tombolo to EL 13 A. We saw 2 sea otters on the north side of the bed as we approached; they may have been eating the mussels. As in Ⓑ, these mussels, not visible at high tide, are susceptible to damage from foot traffic and substrate disturbance.

Locations Ⓒ1 & Ⓒ2 are higher in the intertidal zone than the mussels. Only filamentous green algae was found on the oiled surfaces, and low densities of *Littorina* (with egg masses) and barnacles were found nearby. These species are very likely to recruit back into this location in the event that they are damaged by cleanup activities.

The presence of an eagle nest on the tombolo was confirmed.

Overall, this subdivision contains biotic communities characterized by low species diversity and low % cover. Several sensitive locations, however, were identified: mussel beds in the northern cove & tombolo saddle, an eagle nest on the tombolo, and possibly an amphipod mating site in the upper intertidal of the cove.

BIO SKETCH MAP  
 EL013-A  
 30-Are-91  
 1830-2042  
 Benson

(C1), (C2)

Filamentous green algae  
 on oiled surfaces. Very  
 dense & large mussel bed.

(B1), (B2)

High density of amphipods  
 under cobbles in MITZ.  
 Sparse-moderate density  
 Mytilus bed in MITZ

⊙ Mussel Bed  
 ANGULAR  
 BOULDER COBBLE  
 & PEBBLE

0 25 50  
 meters

North

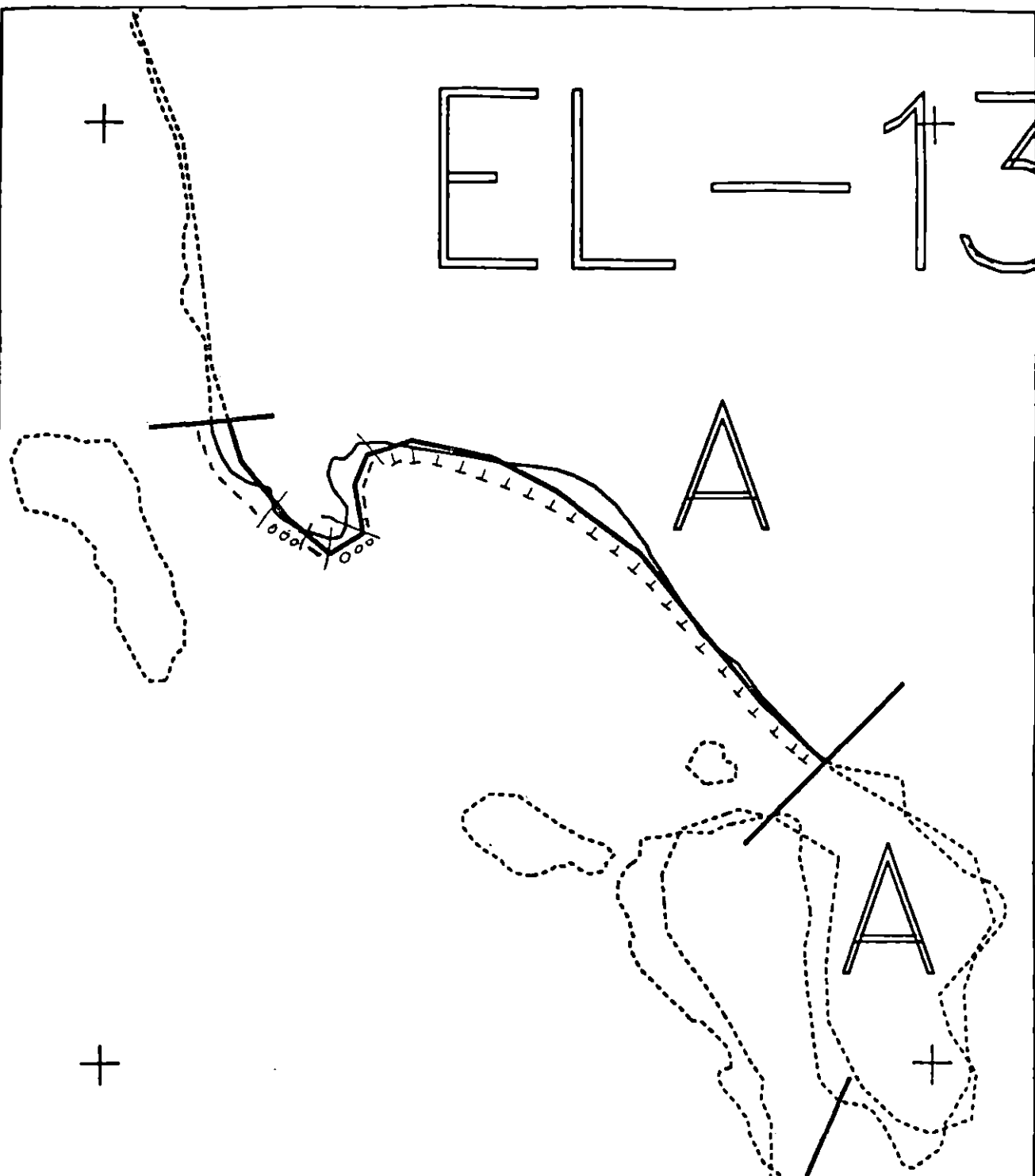
(A)  
 Low diversity, including some  
 Mytilus, barnacles, limpets  
 & Fucus.

Boulder Talus  
 TREES &  
 SPONGE/HEALOCK

EL015-A

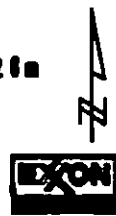
REMARKS ME 5/5/91  
 Revision ME 5/6/91

# EL-13



XXXX Wide  
 //// Medium  
 ---- Narrow  
 TTTT Very Light  
 0000 No Oil

**EL013 A**  
 ADEC Subsegment Length: 628m  
 METERS  
 0 100 200  
 AK State Plane Zone 4  
 601013a



Subdivision Field Map  
 Map Key: KMILO13A  
 Name: TRIMM  
 Date: 30 Apr 91  
 Date Entered:

SURFACE OIL CATEGORY MAP

REVIEWED: 5/5/91 MC

**ARLIS**  
**Alaska Resources**  
**Library & Information Services**  
**Anchorage, AK**