[Shoreline evaluations, 1991].

Prince William Sound EL-107 to EN-46

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REGION: PRINCE WILLIAM SOUND

SEGMENT: EL-107

SUBDIVISIONS: A (1 OF 3)
SHORELINE EVALUATION

SEGMENT ST/EL-107 SUBDIVISION A (1 OF 3) DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Active bald eagle nests (5T-2) - 3/1 to 6/1; Recreation special use destination (6Y) - 6/1 to 9/15; Subsistence area for deer harvesting (7II) - 8/15 to 2/28.

SUBDIVISION ECOLOGICAL CONSTRAINTS: (5T) Restrict air traffic to essential minimum. Air approach and take off from and to seaward only. Contact USFWS prior to treatment, for confirmation of dates and avoidance minimums.

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 66 m: Medium 9 m: Narrow 233 m: V.Light 338 m: No Oil 0 m
Subsurface Oil Observed: Yes X No ______ Maximum Depth 14 cm

RECOMMENDATIONS:
_____ No Treatment Recommended 
_____ Treatment Recommended 
_____ Manual Pickup 
_____ Bioremediation 
_____ Tarmat: Breakup 
_____ Removal 
_____ Snare/Absorbent Booms 
_____ Oil Snares (pom poms) 
_____ Absorbs (pads,rolls,etc) 
_____ Spot Washing: Wands 
_____ Beach Cleaner
_____ Other (see comments)

COMMENTS: Recommend bioremediation of areas shown on attached sketch maps and manual pickup of debris. Treatment activities should be conducted after 6/1 due to above constraints.

TAG COMMENTS:

TAG APPROVAL DATE: __________
ADEC
EXXON ___________________ FOSC: __________ DATE: ________
NOAA ___________________
USCG ___________________
FIELD SHORELINE COMMENT SHEET

SEGMENT ST EL-107-A  SUBDIVISION: A  DATE 4/3/89

NAME DAVID A. SCHNEIDER  SIGNATURE David A. Schneider  793/209

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

The small beach at the north end of subdivision should be treated with hot water washing along its northern corner. Manual scrubbing and debrids pick up where applicable. Large boulder cobble rock at southern end of subdivision will require extensive manual scrubbing along fractured rock and boulders, core remediation of boulder/cobble surface sediments, and debris pickup of oil used swab booms in the site. (Site should be reassessed for further debris that may be buried by snow at this time.) This beach is of high recreational value.

ADEC NAME PETER MONTESANO  SIGNATURE Peter M. Montesano

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS Described as walking from EL106 - 200 ft from EL106, pocket beach (PI/ST)

> Boulder, rock, cobbles w/ cobs, pebbles below. Area is small 4x5m w/debris under and around larger matrix and is washable w/omnis. The second small area is washable w/omnis. The second area is 20x20m w/3T penetration, washing not practical, but debris removal and treatment as at southern end of A is detailed on the enlarged 2d map. This was worked extensively by omnis. The 20x20m area w/3T is the area of most concern with NPB penetration. This area is trapped in a bedrock well and does not drain naturally. See DE photos 9010817 and 9010891, but is washable at higher tides w/ high volume, hot water. Theilin appears to go about 30m to bedrock through the boulders, cobble, etc. A combination of wet hand work and localized bio is appropriate for all of this 3rd beach. Accel could perform pickup, surge, gushing, and washing for a week, possibly longer. The 3 traverse lines trapped in log supra must be removed.

LAND MANAGER NAME Joseph Schmitt  SIGNATURE Joseph Schmitt

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Beach at north end of subdivision is heavily acted. Recommend hot water wash. Several large in.

> SU12 ready to be removed. SU12 reassessed after draw is gone. Beach at north end of subdivision is heavily acting in U12 and SU2. Recommend core removal. Debris. Remainder of beach should be hot water washed and debrided. Oiled logs and debris need to be removed. Area is good for beach swimming.
DISTRIBUTION 01. COLOR

CHARACTER

<table>
<thead>
<tr>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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<tbody>
<tr>
<td>ASPHALT PAVEMENT</td>
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<td>MOUSSE</td>
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<td>PATTIES</td>
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<td>TARBALLS</td>
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<tr>
<td>FILM</td>
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</tr>
<tr>
<td>NO OIL</td>
<td>Snow or beach only</td>
<td>X</td>
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</table>

SURFACE OIL

PAVEMENT: H F S__ sq. m by __

PATTIES / TARBALLS ________________ BAC

NEAR SHORE SHEEN? NO BR RW SL T:

OILED DEBRIS AMOUNT

<table>
<thead>
<tr>
<th>Debris Type</th>
<th>SM</th>
<th>MD</th>
<th>LG</th>
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<tbody>
<tr>
<td>Logs</td>
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<td>Vegetation</td>
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<td>Trash</td>
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<td>Debris</td>
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Photographs:

Roli No. ST-6-2  ST-6-3
Frames 4 34, 32, 31, 29, 24

SUBSURFACE OIL

PIT SHED TID LEVEL: +1 to +3
DATE 04/10/90
EST. SUBDIVISION LENGTH: 625 m

SURFACE SEDIMENTS: R 65 % B 25 % C 7 % P 2 % G 1 % S 8 % M 1 % V
SLOPE: Long 15 % Hang 55 % Ven 30 %
WAVE EXPOSURE: Low Med High
OIL CATEGORY LENGTH: W 130 m M 3 m N 190 m V 300 m NO

COMMENTS
**SHORELINE ECOLOGICAL SUMMARY**

**Segment ST:** EL107  **Subdivision:** A  **Date (mo/day/yr):** April 1, 1990

**Time (24 hr):** 11:30 - 14:55  **Biologist:** Jim Barkey  **Depth:** 625 m

(A) Substrate type and % of segments:
- (1) Bedrock 45%
- (2) Boulder 25%
- (3) Cobble 7%
- (4) Pebble 2%
- (5) Sand 1%
- (6) Silt

(B) Overall % cover of biota (% of segment):
- Dense 60%
- Moderate 35%
- Low 5%

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

#### BARNACLES

<table>
<thead>
<tr>
<th></th>
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<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
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#### MYTILUS

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#### GASTROPODS

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#### FUCUS

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Wildlife Observations/General Comments:
- 5 Seals
- 5 White-Winged Scoters
- 2 Red Kneed Cranes?
- 2 Herring Gulls
- 10 Geese

Ecological Considerations: 6 Y, 7 11, 5 T-2

See attached file
MAJOR SPECIES

I. BARNACLES

Barnacles (Balanus, Chthamalus, Semiculcatus) are abundant on cliff faces, but less so on boulder and cobble. Spat (mainly Balanus) is very dense, and cobble beaches were had relatively low abundances.

II. MYTILUS

Mussels are patchy, but generally dense on bedrock, except in the low zone. Spat & small juveniles are present & dense on bedrock, indicating active recruitment. Cobble & boulder habitats have few adults on juveniles, but sparse spat. High wave disturbance probably causes high mortality in cobble areas.

III. GASTROPODS

A. Periwinkles - Litholine snails were dense to moderate, and patchy. Mussel beds have moderate to high densities. Cobble areas have moderate densities.

B. Whelks - Primarily found with mussels / barnacles.

C. Limpets - Most abundant in barnacle zone, but present in moderate densities in low cobble zone.

IV. FUCUS

Some withered fucus adults in upper zones on bedrock, but little on cobble beaches. Low zones dense.

V. HABITAT TYPES

A. BEDROCK CLIFFS / HEADLANDS

1. Much of E107-A is bedrock, occasionally exposed to high waves. Biological communities on the habitats show evidence of intensive recruitment for several species, including Mytilus (Dr. Adams), Barnacles (Balanus spp., Semiculcatus Carolus), Limpets (Lotha spp., Tectura spp.), Periwinkles (Lithorea spp.), Whelks (Nucella) Chelons (Katharina tumenca), seaweed, sea anemones, and some clam shell.

   - This indicates a recovery from the disturbance and mortality caused by the oil spill, clean up activities, and other factors.

2. Ritual can similarly show evidence of this trend. Recruitment is strong for Fucus and other species.
VI. SPECIES LIST (cont.)

A. POLYCHAETES
- Scoloplos armiger
- Serpula sp.
- Caprella sp.

B. SEA STARS
- Pisaster ochraceus
- P. orbicularis

C. BRYOZOANS
- ? sp.

D. BRANCHIES
- Balanus glandula
- Semibalanus cariosus
- Chthamalus dalli

E. SNAILS
- Lithopoma setulata
- L. modiolus
- Searlesia oculata
- Nucella lamellosa

F. LIMPETS
- Tectura pensa
- T. setulosa
- Lotha sp.

G. JINGLES
- Pododesmus cepio

H. CRITONS
- Ichthysergula tunicata
- Chitonella lineata

I. MUSSELS
- Mytilus edulis

J. CLAMS
- Protothaca staminea

K. ANEMONES
- Anthopleura xanthogrammica
- Tealia crassicornis

L. EUPHORES
- Epiactis sp.

M. CRABS
- Acanthotheoida
- Loxotheoida

N. AMPHIPODS
- Orchestia sp.

O. ISOPODS
- Unknown

P. SERCOGLOSES
- Unknown

Q. FLATWORMS
- Unknown

R. FISH
- Polididae - 2 spp.
- Cathidae - 1 spp.

* - juvenile present
# - abundant
O - occasional
R - rare
C - common
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<th>EL07-A</th>
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<tr>
<td>TIME</td>
<td>11:30</td>
<td>START A N END</td>
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<td>Sea mp</td>
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<tr>
<td>Wildlife</td>
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<tr>
<td>2 - bald eagle nest</td>
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<tr>
<td>5 - Turkey vulture (group of 3)</td>
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<td>7 - pelican</td>
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<td>Cliffs</td>
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<td>Section 1</td>
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<tr>
<td>Rock Cobbler</td>
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<td>Very dense rape, sport moderate</td>
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<td>Focus raw or almost formed</td>
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<td>About on beach</td>
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<td>High tide location</td>
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<td>Specific on sand (spot)</td>
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<tr>
<td>Overhang</td>
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<td>Section 2</td>
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<tr>
<td>Rock Cobbler</td>
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<td>#4 Pit 1</td>
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<td>#4 Pit 1</td>
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<td>#3 Beach Pit 1</td>
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<td>#4 Pit 1</td>
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<tr>
<td>Small offshore</td>
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<tr>
<td>Small Kauai</td>
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<tr>
<td>Flowers</td>
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<tr>
<td>#3 Flowers</td>
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<td>Large - moderate</td>
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<td>Low - moderate</td>
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<td>#3 Flowers</td>
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<td>Beach sand</td>
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<td>Beach sand</td>
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<tr>
<td>Beach 2</td>
<td>Catalina Island</td>
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<tr>
<td></td>
<td>Heavy growth of macroalgae</td>
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<td>12 ft. long</td>
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<tr>
<td>#2 Photo</td>
<td>Arthrodira - Coated Rocky</td>
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<td></td>
<td>Photo 36</td>
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<tr>
<td>To Headland</td>
<td>Niemalainen A</td>
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<td></td>
<td>2 Balancer (3.5 ft)</td>
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<td>Multiple species - new (5)</td>
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<td></td>
<td>Presence</td>
<td></td>
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<tr>
<td>Photo #1</td>
<td>Green/Purple</td>
<td></td>
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<tr>
<td>Stone Afage</td>
<td>Sponges/Patella?</td>
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<tr>
<th>Back to Beach 2</th>
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<tbody>
<tr>
<td>Photo 36</td>
</tr>
<tr>
<td>Midway 35</td>
</tr>
<tr>
<td>Headland</td>
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<tr>
<td>Headland</td>
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| Photo 36 by Katherine juvenilis |
| Headland | Fucus adults |
| Midway 35 | Dense growth |
| Midway 35 | 25 cm x 1 m², 11 portions |
| Headland | Hedophyllum longspan |
| Fucus | Cow seaweed |
| Moderate Fucus | Fine phytoplankon |
| Polypora (the current) | "Vine" |
| Dense, medium hardness | 2 Fucus |

End of Poll 5-6-2
<table>
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<th>EL107A PHOTO 33 Banana (Balanes) Spur</th>
<th>EL107A ROCK CLIFF</th>
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<tr>
<td>Hyphen mimic spur (1) medium spur</td>
<td>Mytilus, greenline spur</td>
</tr>
<tr>
<td>Hyphen mimic spur (1) medium spur</td>
<td>Bananas, spur ???</td>
</tr>
<tr>
<td>Hyphen mimic spur (1) medium spur</td>
<td>?? Lobster?</td>
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<tr>
<td>Hyphen mimic spur (1) medium spur</td>
<td>22 Fish</td>
</tr>
<tr>
<td>Hyphen mimic spur (1) medium spur</td>
<td>23 Mussel Acula &amp; Bancula</td>
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<tr>
<td>Hyphen mimic spur (1) medium spur</td>
<td>24 O12 Can delblock or wall 548653</td>
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<tr>
<td>Lower zone of beach</td>
<td>Lobster, Lobstera</td>
</tr>
<tr>
<td>Quartz and small pebbles</td>
<td>Ossum, Ossumata</td>
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<tr>
<td>Sand; mix</td>
<td>Mixed with MZ.</td>
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<td>Red &amp; green - Banana blocks</td>
<td>Oystera? Harvest</td>
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<tr>
<td>Green Grey - yellow</td>
<td>Anthopleura xanthogramma</td>
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<td>Camouflage - yellow</td>
<td>End of EL107A</td>
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<td>Camouflage - yellow</td>
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<tr>
<td>Camouflage - yellow</td>
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<tr>
<td>Fish - same?</td>
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<tr>
<td>Crayfish, elm col?</td>
<td></td>
</tr>
<tr>
<td>Crab, mylins</td>
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</tbody>
</table>
SEGMENT 5, EL-107

SUBDIVISION 9 (Beach at S end)

DATE 01/01/90

CHECKLIST
- Oil Armor
- Approach/Scale
- Sieve/Screen
- 30 m
- With
- Length
- % Cover
- Subaqueous Character
- Est. HW/LLWL
- SSL
- Pos: Location(s)
- Rull(s)
- PI Location(s)
- Photo Location(s)

LEGEND
- F: No Subsurface Oil
- 3: Subsurface Oil

CT/C
- Continuous Distribution
- Broken Distribution
- Puffy Distribution
- Splattered Distribution

Oiled Vegetation
- Photo
- Creek
- Direction, and number

Oil Character Length (m): AP PO CV 30 CT 135 ST 50 MS PT TB FL NO

Continuous cast/cover M-UNITZ 50m wide x 30m long. B/C surface underlain by CPG. Small patch of oiled grass. Photos 31 - 32.

Continuous cast/cover M-UNITZ 35m wide by 50m long cast on surface of B/C. No subsurface oil. Photo 36.

Narrow broken coat and patchy stain along high tide line.

3-3m wide x 15m long in rock crevices and walls.

Silt elip berms between pyramidal cliffs, narrow 30m long.

Photos 31-32.

Schneider
SEGMENT ST/EL-107
SUBDIVISION A
DATE 01/SEPTEMBER 90

CHECKLIST
- M Acre
- Applic. Scale
- Segments Early
- Oil Date
- Wash
- Length
- % Cover
- Substrate Character
- Est. HWL/LW
- SIS
- Profile Location(s)
- Photo(s)
- Pit Location(s)

LEGEND
1 △
Pit - No Subsurface Oil
2 △
Pit - Subsurface Oil

SEE ADDITIONAL SKETCH
FOR BLOW UP VIEW
OF-The AREA

ETCH MAP

Oil Character Length (m): AP PO CV 30 CT 295 ST 300 MS PT TB FL NO

OIL CHARTERED
305.5m wide
4 x 4m long
Pit 1 here
Photo 1

SCHREIDER
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/EL-107

SUBDIVISIONS: B (2 OF 3)
SHORELINE EVALUATION

SEGMENT ST/ EL-107  SUBDIVISION B (2 OF 3) DATE  4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Active bald eagle nests (5T-2) - 3/1 to 6/1; Recreation special use designation (6Y) - 6/1 to 9/15. Subsistence area for deer harvesting (7II) - 8/15 to 2/28.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Avoid disturbance/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 16 m: Medium 34 m: Narrow 554 m: V.Light 39 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 12 cm

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

COMMENTS: Recommend manual pickup of mousse and debris and bioremediation of areas shown on attached sketch map. Treatment activities should be conducted after 6/1 based on above constraints.

TAG COMMENTS:

TAG APPROVAL DATE: ____________
ADEC ________________
EXXON ________________
NOAA ________________
USCG ________________

FOSC: ________________ DATE: ____________
### SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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<tbody>
<tr>
<td>ASPHALT PAVEMENT</td>
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<td>POOLED</td>
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<td>COVER</td>
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<td>STAIN</td>
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<tr>
<td>MOUSSE</td>
<td>X</td>
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<td>X X</td>
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<tr>
<td>PATTIES</td>
<td>X</td>
<td>X</td>
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<tr>
<td>TARBALLS</td>
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<tr>
<td>FILM</td>
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<td>NO OIL</td>
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<td>Show on end of beach</td>
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<tr>
<th>OILED DEBRIS</th>
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<td>Logs</td>
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<td>Trash</td>
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<td>Debris</td>
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### PAVEMENT

- H F S: 50 sq. m by
- Patties / Tarballs: 60 bags

### NEAR SHORE SHEEN

- No: BR RW SL TL

### SURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL (cm-ml)</th>
<th>BELOW OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANALYSIS</th>
<th>SUBSURFACE SEDIMENTS</th>
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<td>1</td>
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<td>5 - 10</td>
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<td>PIG/S</td>
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<td>3</td>
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<td>5 - 12</td>
<td>X X</td>
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<td>PIG/S</td>
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### COMMENTS

- Photographs:
  - Roll No.: ST-6-3
  - Frames: 25

- Page 1 of
- Reviewed: 4/4/90
- Date: 4/8/90
FIELD SHORELINE COMMENT SHEET

SEGMENT ST1 EL-107-13 SUBDIVISION: B DATE 4/3/90

ISCN NAME DAVID A. SCHNEIDER SIGNATURE David A. Schneider
☐ NO TREATMENT RECOMMENDED ✓ TREATMENT SUGGESTED 783/USCG

COMMENTS
MANUAL REMOVAL OF MUUSE AND DEBRIS FROM SMALL BOULDER POCKET BEACHES IN THE CENTER OF THIS SUBDIVISION. RECOVERY OF OILED DEBRIS ALONG BASE OF VERTICAL BLUFF.

ADEC NAME PETER B. MONTESANO SIGNATURE Peter B. Montesano
☐ NO TREATMENT RECOMMENDED ✓ TREATMENT SUGGESTED
COMMENTS Working south along "B" - narrow broken band along the LRT1 Borders has a penetration to 10cm in sand, pebbles, and gravel. This area is not biodegradable fillable. An omni at the MITZ would be effective. An omni would be effective in the vicinity of Pit #2 along with handwork.

The SW corner of "B" is most in need of work for this subdivision. This area has a snow at the surface and a submerged MITZ at the time of inspection. This area has a 5 x 4 m, 3.4 cm. surface mousse coating of DBR oil, apparently not previously washed.

I included a MITZ pit of op/or saturation of 12 cm in fine sediments. Oil is thick for Bio, and would be effectively treated by an omni after moving some log at the surface tidal.

FURTHER TO THE SOUTH IS OIL TRAPPED IN CRACKS ALONG THE ROCK FACE.

LAND MANAGER NAME JANET A. WISEHARD SIGNATURE Janet A. Wisehard
☐ NO TREATMENT RECOMMENDED ✓ TREATMENT SUGGESTED
COMMENTS MANUALLY REMOVE MUUSE AND DEBRIS FROM BEACH. WITH DEBRIS (fishnets, ropes, etc.) NEEDS TO BE REMOVED.

Small buoys posted to the mouth is quickly faded. Decreased use of omnis being used. Increased use of hela for washing. Even shore line debris needs to be removed.
**SHORELINE ECOLOGICAL SUMMARY**

*Segment ST, E107*  
*Subdivision:*  
*Date:* April 1, 1970  
*Time (24 hr):* 1445-1600  
*Biolgist:* Jim Barry  
*Distance:* 710 m

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

(B) *Overall % cover of biota (% of segment):* Dense 76%, Moderate 14%, 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 (G)

### BARNACLES

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<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
<th>Camera</th>
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**Wildlife Observations/ General Comments:**

**Ecological Considerations:** 64, 71, 912

*SEE ATTACHED PAGES*
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<tr>
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<th>EL107-C</th>
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<td>High &gt; Euphryca</td>
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<td>&gt; Barn, Balboa, Jetties</td>
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<td>Mystus, Sperm-an, S-T</td>
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<td>Fucus, Eure A, Ojulii</td>
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<td>Lithium, need to Id</td>
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<td>Lugnuts,college? modified</td>
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<td></td>
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<td>#20 Oenan, on beach w/oil</td>
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<td>#19 Cleverview</td>
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<td>#8, Soll Clean View</td>
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<tr>
<td></td>
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<td>Cliffs, 9 of Beaches</td>
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<tr>
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<td>Gull</td>
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<tr>
<td></td>
<td></td>
<td>Kelpwhales</td>
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<tr>
<td></td>
<td></td>
<td>Moderate to Massive 75</td>
</tr>
<tr>
<td></td>
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<td>Lugnas, MOQ, Parex</td>
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|        |                           | Lobarias - moderate 1 sent/ft
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<td>Time: 1/45</td>
<td>Boulder Beach 1</td>
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<tr>
<td>Cliff Continue</td>
<td>7 Fours, 7 Moderate contact</td>
</tr>
<tr>
<td>Low &gt; Fours</td>
<td>Social Myths,</td>
</tr>
<tr>
<td><em>Mittelmen</em></td>
<td>Structure, <em>Mittelmen</em></td>
</tr>
<tr>
<td><em>Mittelmen</em></td>
<td>No Necropsy's, beds off base</td>
</tr>
<tr>
<td>Nudler <em>Faulk</em></td>
<td>Beaches, this one all gone</td>
</tr>
<tr>
<td><em>Mittelmen</em></td>
<td>Blue green cover and one boulder, foothold</td>
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<tr>
<td><strong>Mittelmen</strong> Poor</td>
<td>P1 2 Dense <em>Mittelmen</em> replaces</td>
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<tr>
<td>Corallaria,</td>
<td>Dense Frieze.</td>
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<tr>
<td><em>Rostfoi</em></td>
<td>Poole a pool and dead</td>
</tr>
<tr>
<td><em>Rostfoi</em></td>
<td>Fully, non-form, callahan.</td>
</tr>
<tr>
<td><em>Rostfoi</em></td>
<td>Red - <em>Fauks</em></td>
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<tr>
<td><em>Rostfoi</em></td>
<td>Essentially identical to last shot</td>
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**Notes:**
- *Fauks* is likely a typographical error for *Fauks*.
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<tr>
<th>Wildlife</th>
<th>EC107-B</th>
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<tbody>
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ADDITIONAL COMMENTS

1) EL107-B is very similar, with regard to habitat type, to EL107-A
   a) Headland & cliff-faced coastlines have similar appearance, and biotic assemblages between A & B
   b) Boulder and cobble beaches too, are similar.

2) MAJOR SPECIES - see comment for EL107-A

3) OTHER SPECIES - most or all other species were distributed as in EL107-A - see comment (EL107-A) for further info. (species lists, etc.)

WILDLIFE -
   List in EL107-A includes those found in EL107-B.
WILDLIFE

3. Pelagic Cormorant
3. Bald Eagles
2. Raven
10. Crow
5. Seals
2. Red Necked Grebe
2. Horned Grebe
5. White Winged Scoter

GENERAL COMMENTS

1) Eel grass (Zosara) is present in patches in the low intertidal. This species is an important spawning substrate for herring. These eel grass beds should not be highly disturbed during clean up operations. Since they are in the low zone, clean up should cause little or no damage.

2) Bald eagle nesting is active nearby. I am not sure that clean up would interfere at all.

3) This stretch of beach appears to be recovering from disturbance.
B. COBBLE BEACHES -
These beaches show evidence of intense disturbance by
wind storms. Cobble are mostly bare, or have a
film of filamentous green algae in low gene to mid gene,
upper genes are often covered by a thick coat of Porphyra

VI. Species List

PLANTS
A. Green Algae - CHLOROPHYTA
ULVA spp.
SPONGOMORPHA
ENTSOUMORPHA spp.
ULCOPORA
B. RED ALGAE - RHODOPHYTA
Anfractia pliasta
Lithothamnium sp.
Porphyra gertetofata
Rhodemela loric
Rhodymenia palmata
Rhodoglossum affine
Calliarthron sp.
Halosaccion glandiforme
Plocamium sp.
Membranoptera platyphylla
Triarella sp.
Petrocelis
C. Brown Algae - Phaeophyta
Alaria pylae
Fucus distichus
Laminaria spp.
Ralfisia
Scyotosiphon
Ochroma
Costaria
D. HIGHER PLANTS
ZOSTERA
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/EL-107

SUBDIVISIONS: C (3 OF 3)
SHORELINE EVALUATION

SEGMENT ST/EL-107 SUBDIVISION C (3 OF 3) DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Active bald eagle nests (5T-2) - 3/1 to 6/1; Recreation special use designation (6Y) - 6/1 to 9/15; Subsistence area for deer harvesting (7II) - 8/15 to 2/28.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Avoid disturbance/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 65 m: Medium 28 m: Narrow 93 m: V.Light 194 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 60 cm

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

COMMENTS: Recommend bioremediation of areas shown on attached sketch map and manual pickup of tarballs. Treatment should be conducted after 6/1 based on above constraints.

TAG COMMENTS:

TAG APPROVAL DATE: __________
ADEC ________________ FOSC: __________ DATE: __________
EXXON ____________________
NOAA ____________________ USCG ____________________
FIELD SHORELINE COMMENT SHEET

SEGMENT ST1, EC-107-C  SUBDIVISION: C  DATE 4/3/90

USCG NAME  DAVID A. SCHNEIDER SIGNATURE  

☐ NO TREATMENT RECOMMENDED  ☒ TREATMENT SUGGESTED  

Two pocket beaches in Segment C are in need of treatment. The area adjacent to Segment B should be manually wiped where feasible, and boulders Royal for additional oiled debris. The 2nd & larger pocket beach warrants bio-remediation treatment, with tilling recommended to expose deeper oiled sediments to O2. Boulders & rock faces to south of this beach should be wiped/scrubbed in areas of concentrated tar/coast. Remaining portion of Subdiv (Steep bluffs with boulder slabs) - is highly exposed to wave action. Straw bales along this portion can be left in place for future storm.

ADEC NAME  PETER MONTEANO SIGNATURE  

☐ NO TREATMENT RECOMMENDED  ☒ TREATMENT SUGGESTED  

My comments describe 2 beaches working from north to south. These two beaches are in need of work for Sub C: Beach #1 1st 75m from 73 m with 8-10m wide band at or about 75m. In spots along beach, seaweeds splashed reach up to 7m. Boulders but that seems to be most reasonable approach. Washing would be most effective only at narrow tide windows. Beach #2 and Boulders to East, Boulders to East (Pit #1) it is thick oiling down into finer sediments, hard work, not reachable by oam. Beach #2 is well defined on map. No pits dug among smaller boulders. Below MLLW, supratidal covered in snow and supratidal bio area. Oiling deep below crew cabinets. Beach could be tilled, washed and biotred. Scourer of beach (Pit #5) is a rock line puzzle w/ sandy and est Syl, seaweed oiling. Hard work and washable, trapped by small drainage. Technically not a bio area, but could be partially effective. The rest of C to S has some pocket with oilling only reachable by heads and is not visible from ship. The last pocket of C to S has visible oil, but rich coastline, IT to be avoided.

LAND MANAGER NAME  JOHN KITCHELD SIGNATURE  

☐ NO TREATMENT RECOMMENDED  ☒ TREATMENT SUGGESTED  

I agreed with ADEC comments. Because beach is ideal for access to the uplands, I believe extra attention should be given to this area. The SLUZ needs to be reassessed after the crew is gone. Because the oil has deeply penetrated the substrate, the use of heat, water, rock, tilling and biotredation is recommended. A crew could work to drain silt & oil out of the tidal.
## SHORELINE OILING SUMMARY

**OG C. DILLAN**  USCg D. SCHNEIDER  SEGMENT ST/EL-107
**BIO. T. BARRY**  LAND REV. F. FRITZHAARD  SUBDIVISION
**EXXON A. SNOCK**  ADEC P. MONTESANO  TIME: 11:00 to 13:30
**TEAM NO:** 6  **TIDE LEVEL:** + 5 to + 1  **DATE:** 4-4-1-00
**EST. SUBDIVISION LENGTH:** 397 m  **SURFACE OIL**  **PAVEMENT:** H F S sq. m by.
**SURFACE DESCRIPTION:**   ☑ Grass  ☑ Forest  ☑ Rock  ☑ Trees  ☑ Mountain and cliffs
**SURVEYED FROM:**   ☑ Foot  ☑ Boat  ☑ Helo  **WORKING DIRECTION:** N to S
**SLOPE:**   Lang 55% Hang 20% Vert 25%  **WAVE EXPOSURE:**   ☑ Low  ☑ Med  ☑ High
**OIL CATEGORY LENGTH:** W 150 m M 75 m N 47 m Vl 100 m NO 0  **OIL DIRECTION:**

### SURFACE OIL

<table>
<thead>
<tr>
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<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
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### PAVEMENT

- Patty / Tarballs: 2 BAG
- Near shore sheen? ☑ BR RW SL T

### SUBSURFACE OIL

<table>
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<th>OILED INTERVAL</th>
<th>OIL / FILM COLOR</th>
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**Photographs:**
- Roll No: ST-6-3
- Frames: 10, 11, 14, 16, 18-20

**Reviewed:** [Signature]  **Date:** 4-8-90
**SHORELINE ECOLOGICAL SUMMARY**

Segment ST/EL107 Subdivision C Date (mo/day/yr) APRIL 1990
Time (24 hr) 1108-1330 Biologist Jim Burke Length 397 m

(A) Substrate type and % of segments:
- (1) Bedrock 50
- (2) Boulder 30
- (3) Cobble 15
- (4) Pebble 5
- (5) Sand 5
- (6) Silt

(B) Overall % cover of biota (% of segment): Dense 60 Moderate 15 Low 5

(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)

### BARNACLES

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<th>Sparse 1U 1M 1L</th>
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Photographs: ST-6-3 Roll No. Frames 15, 14

Wildlife Observations/General Comments:
- Glances gull
- Ruddy turnstone
- Seals
- Bald Eagles
- Northern Gannet

Ecological Considerations: 6 Y, 7 II, 5 T-2

1) Beach recovery appears to be progressing rapidly
2) Unlikely that small clean up crew will interfere with any listed sensitivities
ELI07 - C

TIME
START  1105 - 1330
STOP  1330 - 1500

ADDITIONAL COMMENTS

1. ELI07 - C includes a cobble/boulder beach & a small cove (boulder), both of which are protected from large waves. Unlike more wave-exposed cobble beaches in this segment that have relatively low biotic abundances, those in ELI07 - A have dense gastropod & Mytilus cover. This is likely due to the low frequency of disturbance thus allowing these species to survive and accumulate.

The protected cove hints the highest diversity & cover of biota yet observed. All species listed in the report for ELI07 - A are present, plus those listed below.

III MAJOR SPECIES

A. BARNACLES - Except where cobble are frequently rolled by waves, barnacles are abundant, especially in higher densities present on cliff faces.

B. MYTILUS - Densities are frequently high on bedrock and large boulders and often create dense patches on the cobble beach.

C. GASTROPODS

1. Periwinkles - Littorinae variable abundant, but very dense on the cobbles beach. In the mid zone to low zone, small and small juveniles are abundant in cobbles near mussel beds. Barnacles in the high to mid zone.

2. Whelks - Most abundant where barnacles & mussels are present, but also in cobbled beaches.

3. Limpets - Greatest abundance of adult, juveniles (dense to moderate) in mussel/barnacle habitats in the mid to high zone.

D. EUCUS - Dense in the middle zone to low zone, sparse to moderate in the mid to high zone.
III OTHER SPECIES - found near on El107-A, in addition to those listed in El107-A

- Hydrocoral - Stylasterellopsis porphyra
- Anemone - Anthopleura artemisia
- Chitons - Tomozoa insignis
- Sea Star - Heliopaea leviuscula
- Brittlestars - Ophiopholis aculeata
- Ophiurn sp.
- Crab - Pagurites gravis
- Seaweed - Chondrus crispus
- Hydrozoa - Sertulariidae
- SNAILS - Lottia gigantea
- Nassaria cornigera

IV WILDLIFE

- GLACIUS BULL
- SEAL
- BIRDS
- RAVEN
- CRAB
- PINIONEER / GUILLERON

V General Comments

1) This beach section has a heavy recruitment of mussels, barnacles, and gastropods (limpets, littorines) and algae are abundant (Fucus and others) from the middle to low and subtidal zones.

2) Mussel beds (recovery) should not be disturbed during cleaning operations, especially on the cobble beach.
<table>
<thead>
<tr>
<th>Subject</th>
<th>Details</th>
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<tbody>
<tr>
<td>CLIFFE and ROCK 2 - EROTEC</td>
<td>Plants List</td>
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<tr>
<td><em>Campanula</em> - <em>flaccida</em>- forma A</td>
<td><em>Borago arvensis</em></td>
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<tr>
<td><em>Pimpinella</em> - <em>nudicaulis</em></td>
<td><em>Sempernum camptosum</em></td>
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<td><em>Scrophularia</em> - <em>vulgaris</em>- forma <em>pulchera</em></td>
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<td><em>Pandænus spp</em></td>
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<td><em>Serpula?</em> or <em>Cruciger T</em></td>
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<td>EL107C</td>
</tr>
<tr>
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<td>--------</td>
</tr>
<tr>
<td>Sunny Beach 2</td>
<td>Sunny Beach 2</td>
</tr>
<tr>
<td>Photo 17 - Boulderhead</td>
<td>Den - Balneario/Kenya</td>
</tr>
<tr>
<td>16 a.m. 1</td>
<td>9/7/5</td>
</tr>
<tr>
<td>COBRE/Braden/Reefle beach 2</td>
<td>Den - Balneario/Kenya Mio</td>
</tr>
<tr>
<td>Ulterior - dense 1/5 1000's/m²</td>
<td>England</td>
</tr>
<tr>
<td>14 - Photo of Ulterior</td>
<td>Den - Beaches</td>
</tr>
<tr>
<td>Dense Forest</td>
<td>Ulterior -</td>
</tr>
<tr>
<td>Large bank of demersal</td>
<td></td>
</tr>
<tr>
<td>Pebble/Boulder - Sparsely Inhabited</td>
<td>Ulterior -</td>
</tr>
<tr>
<td>Dense Liget</td>
<td>Ulterior -</td>
</tr>
<tr>
<td>Mid Sparsely Inhabited</td>
<td>Ulterior -</td>
</tr>
<tr>
<td>Moderate Liget/Lag</td>
<td>Ulterior -</td>
</tr>
<tr>
<td>Dense Spot for Balneario</td>
<td>Ulterior -</td>
</tr>
<tr>
<td>Moderate Boulder - Moderate</td>
<td>Ulterior -</td>
</tr>
<tr>
<td>Amphipods Inhabitated</td>
<td>Ulterior -</td>
</tr>
<tr>
<td>Cliffs at end of Beach 2</td>
<td>Ulterior -</td>
</tr>
<tr>
<td>mod-dense - means J/S</td>
<td>Ulterior -</td>
</tr>
<tr>
<td>&gt; Kathryn</td>
<td>Ulterior -</td>
</tr>
<tr>
<td>Dense Liget</td>
<td>Ulterior -</td>
</tr>
<tr>
<td>SPECIES LIST</td>
<td>BEACH 3</td>
</tr>
<tr>
<td>------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Chlorophyceae ?</td>
<td>My favorite Beach</td>
</tr>
<tr>
<td>? Palmaria or</td>
<td>Low brownish</td>
</tr>
<tr>
<td>Rhodophyceae ?</td>
<td>Hydroida alcoon</td>
</tr>
<tr>
<td>Primoria</td>
<td>Hancock</td>
</tr>
<tr>
<td>Gomphocarpus D</td>
<td>Hancock</td>
</tr>
<tr>
<td>Acrospora - Green twisted Hull or Cladophora ?</td>
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</tr>
<tr>
<td>Rhodanella larv</td>
<td>High brownish</td>
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<tr>
<td>Ulva ?</td>
<td>Nice algae</td>
</tr>
<tr>
<td>Fucus distiches</td>
<td>Ophiura inder rodo</td>
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<tr>
<td>Sytorophora</td>
<td>General small algae</td>
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<td>Glorophylis ?</td>
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**Band 2**

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<td>Adult # 60 Scutari</td>
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ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT EL-107 SUBDIVISION B (2 of 3)

WORK WINDOW

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<tbody>
<tr>
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<td>WORK PRIOR TO 8/15</td>
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<tr>
<td>Manual Raking</td>
<td></td>
</tr>
<tr>
<td>Other Approved Treatment</td>
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</table>

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T Bald Eagle Nest

NO CONSTRAINT. USFWS bald eagle impact assessments conducted on 5/15/90 and 5/27/90 by Mike Lockhart indicate no active nests within 400m of the work area.

7II Subsistence: Deer Harvesting

No constraint to manual pickup. Closed to bioremediation, manual raking and other approved treatment 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 uncollected biota and substrate.

Prepared By: [Signature] Date: 5/31/90

FOSC DATE 6-10-90

Prepared By: [Signature] Date: 6/8/90
Incorporates information from USDA bald eagle surveys 5/15 & 5/27/90.
SHORELINE EVALUATION

SEGMENT ST/EL-107c SUBDIVISION B (2 OF 3) DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Active bald eagle nests (ST-2) 3/1 to 6/1; Recreation special use designation (6Y) 6/1 to 9/15. Subsistence area for deer harvesting (7II) 8/15 to 2/28.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Avoid disturbance/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: 4/1/90

OILING CATEGORIZATION:
Wide 16 m: Medium 34 m: Narrow 554 m: V.Light 39 m: No Oil 0 m

 absurface Oil Observed: Yes X No Maximum Depth 12 cm

RECOMMENDATIONS:

X No Treatment Recommended
X Treatment Recommended
X Manual Pickup
X Bioremediation
X Tarmat: Breakup Removal

Snare/Absorbent Booms
Oil Snare (pom poms)
Absorbents (pads, rolls, etc)
Spot Washing: Wands
Beach Cleaner
Other (see comments)

COMMENTS: Recommend manual pickup of mousse and debris and bioremediation of areas shown on attached sketch map. Treatment activities should be conducted after 6/1 based on above constraints.

TAG COMMENTS:

IF POSSIBLE WORK WITH THE RISING TIDE + RAKE + OIL SNARE AREAS OF HIGH CONCENTRATION OF OIL (TEST PITS 1, 2 + 3)

TAG APPROVAL DATE: 4/16/90
ADEC: E. B. WHITAKER
EXXON: C. A. REITER
**ADDENDUM: SUBDIVISION CONSTRAINTS**

**SEGMENT EL-107 SUBDIVISION A (1 of 3)**

### WORK WINDOW

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<th>Manual Pickup More Than 400m From Nest</th>
<th>Manual Pickup Less Than 400m From Nest</th>
<th>Spot Washing More Than 400m From Nest</th>
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<th>Bioremediation More Than 400m From Nest</th>
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<td>OPEN</td>
<td>CLOSED</td>
<td>WORK PRIOR TO 8/15</td>
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### ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

### APPLICABLE ECOLOGICAL TIME CONSTRAINTS

#### 5T Bald Eagle Nest

USFWS bald eagle assessments conducted on 5/15/90 and 5/20/90 by Mike Lockhart indicate an active nest in the adjacent segment EL-106. Subdivision is closed to manual pickup, spot washing and bioremediation within 400m of the active nest.

#### 711 Subsistence: Deer Harvesting

No constraint to manual pickup and spot washing. Closed to bioremediation and 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 unciled biota and substrate.

---

FOSC

Date 6-10-90

Prepared by [Signature]

Date 6/8/90
SHORELINE EVALUATION

SEGMENT ST/EL-107 SUBDIVISION A (1 OF 3) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Active bald eagle nests (5T-2) - 3/1 to 6/1; Recreation special use
destination (6Y) - 6/1 to 9/15; Subsistence area for deer harvesting
(7II) - 8/15 to 2/28.

SUBDIVISION ECOLOGICAL CONSTRAINTS: (5T) Restrict air traffic to
essential minimum. Air approach and take off from and to seaward only.
Contact USFWS prior to treatment, for confirmation of dates and avoidance
minimums.

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: 4/12/90

OILING CATEGORIZATION:
Wide_66 m: Medium_9 m: Narrow_233 m: V.Light_338 m: No Oil_0 m
Subsurface Oil Observed: Yes X No__ Maximum Depth_14cm

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

COMMENTS: Recommend bioremediation of areas shown on attached sketch
maps and manual pickup of debris. Treatment activities should be
conducted after 6/1 due to above constraints.

Pick up any oiled trash that may remain. Spot wash as required
in areas of Pits 1, 2, 3. Inspect suit for oiled debris

TAG COMMENTS:

TAG APPROVAL DATE: 4/16/90
ADEC _____ SNOW_____ DATE: _____
EXXON _____ SNOW_____ DATE: _____
NOAA _____ SNOW_____ DATE: _____
USCG _____ SNOW_____ DATE: _____
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT EL-107 SUBDIVISION C (3 of 3)

<table>
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<tr>
<td>Manual Raking</td>
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<tr>
<td>Spot Washing</td>
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<tr>
<td>Other Approved Treatment</td>
</tr>
</tbody>
</table>

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

| 5T-2 Bald Eagle Nest | NO CONSTRAINT. Bald eagle nests are more than 400m from work site. |
| 7II Subsistence: Deer harvesting | No constraint to Manual Pickup; closed to all other treatment activities after 8/15. |

OTHER ECOLOGICAL CONSIDERATIONS

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

SEGMENT ST/EL-107  SUBDIVISION C (3 OF 3)  DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Active bald eagle nests (5T-2) - 3/1 to 6/1; Recreation special use destination (6Y) - 6/1 to 9/15; Subsistence area for deer harvesting (7II) - 8/15 to 2/28.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Avoid disturbance/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).

OILING CATEGORIZATION:
Wide: 65 m; Medium: 28 m; Narrow: 9 m; V.Light: 19 m; No Oil: 0 m
Subsurface Oil Observed: Yes X No
Maximum Depth: 60 cm

RECOMMENDATIONS:
X Treatment Recommended
X Manual Pickup
X Bioremediation
X Spot Washing: Wands
X Oil Snakes (pom poms)
X Absorents (pads, rolls, etc)

COMMENTS: Recommend bioremediation of areas shown on attached sketch map and manual pickup of tarballs. Treatment should be conducted after 6/1 based on above constraints.

TAG COMMENTS:
IN AREA OF POCKET BEACH WORK WITH RISING TIDE AGITATE RAKE + USE OIL SNARE, SPOT WASH AS REQUIRED.

TAG APPROVAL DATE: 4/16/90
ADEC: JOHN BAUM
EXXON: ANDY D.
NOAA: E.A. WURTZ
USCG: G.A. REITER

DATE: 4/16/90
Exxon Company, USA
Map Key: KNI-EL-107
May 11, 1990

ECOLOGY MAP
SEGMENT EL-107
SUBDIVISION C (A of B)

METERS
0 378 752
1 inch = 1233 feet

★ Seabird Colony
▲ Eagle Nest
SHORELINE EVALUATION

SEGMENT ST/EL-107 SUBDIVISION A (1 OF 3) DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Active bald eagle nests (5T-2) - 3/1 to 6/1; Recreation special use destination (6Y) - 6/1 to 9/15; Subsistence area for deer harvesting (7II) - 8/15 to 2/28.

SUBDIVISION ECOLOGICAL CONSTRAINTS: (5T) Restrict air traffic to essential minimum. Air approach and take off from and to seaward only. Contact USFWS prior to treatment, for confirmation of dates and avoidance minimums.

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: 4/17/90

OILING CATEGORIZATION:
Wide 66 m: Medium 9 m: Narrow 233 m: V.Light 338 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 14cm

RECOMMENDATIONS:
_____No Treatment Recommended _____Snare/Absorbent Booms
_____Treatment Recommended _____Oil Snares (pom poms)
_____Manual Pickup _____Absorbents (pads, rolls, etc)
_____Bioremediation _____Spot Washing: X Wands
_____Tarmat: Breakup _____Absorbents (pads, rolls, etc)
_____Removal _____Beach Cleaner
_____Other (see comments)

COMMENTS: Recommend bioremediation of areas shown on attached sketch maps and manual pickup of debris. Treatment activities should be conducted after 6/1 due to above constraints.

TAG COMMENTS: ____________________________

TAG APPROVAL DATE: 4/16/90
ADEC John Blank
EXXON Enid G. Baker
NOAA Butch Wegrzyn
USCG G.A. Reiter
SEGMENT EL-107

SUBDIVISION A

DATE 01 JUNE 90

CHECKLIST

- Inflow
- Approx. Date
- Segregated Reservoir
- Oil Dist.
- Water
- Length
- % Cover
- Subbase Character
- Est. HWL/LWL
- SSL
- Profile Location
- Profile(s)
- Pit Location
- Photo Location

LEGEND

1A
- No Subsurface Oil

2A
- Subsurface Oil

CT/C
- Continuous Distribution

CT/B
- Broken Distribution

CT/P
- Patchy Distribution

CT/S
- Splashed Distribution

Oiled Vegetation

See Additional Sketch for Blown Up View of This Area

SPOT WASH AS REQUIRED IN AREA OF PIT 1, 2, 3

OIL CHARACTER LENGTH (m): AP PO CV 30 CT 296 ST 300 MS PT TB FL NO
SHORELINE EVALUATION

SEGMENT ST/ EL-107 SUBDIVISION B (2 OF 3) DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Active bald eagle nests (ST-2) - 3/1 to 6/1; Recreation special use designation (6Y) - 6/1 to 9/15. Subsistence area for deer harvesting (7II) - 8/15 to 2/28.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Avoid disturbance/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: [Signature] DATE: 4/1/90

OILING CATEGORIZATION:
Wide 16 m: Medium 34 m: Narrow 554 m: V.Light 39 m: No Oil 0 m Subsurface Oil Observed: Yes X No Maximum Depth 12 cm

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

COMMENTS: Recommend manual pickup of mousse and debris and bioremediation of areas shown on attached sketch map. Treatment activities should be conducted after 6/1 based on above constraints.

TAG COMMENTS:
IF POSSIBLE WORK WITH THE RISING TIDE + RAKE + OIL SNARE AREAS OF HIGH CONCENTRATION OF OIL (TEST PITS 1, 2 + 3)

TAG APPROVAL DATE: 9/16/90
ADEC JOHN BAKER
EXXON
NOAA
USCG
SHORELINE EVALUATION

SEGMENT ST/ EL-107 SUBDIVISION C (3 OF 3) DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Active bald eagle nests (5T-2) - 3/1 to 6/1; Recreation special use designation (6Y) - 6/1 to 9/15; Subsistence area for deer harvesting (7II) - 8/15 to 2/28.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Avoid disturbance/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: 4/1/90

OILING CATEGORIZATION:
Wide 65 m: Medium 28 m: Narrow 93 m: V.Light 194 m: No Oil 0 m
Subsurface Oil Observed: Yes X No ___ Maximum Depth 60 cm

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

COMMENTS: Recommend bioremediation of areas shown on attached sketch map and manual pickup of tarballs. Treatment should be conducted after 6/1 based on above constraints.

TAG COMMENTS:
IN AREA OF POCKET BEACH WORK WITH RISING TIDE AGITATE.
RAKE + USE OIL SNARE. SPOT WASH AS REQUIRED.

TAG APPROVAL DATE: 4/16/90
ADEC JOHN BAUER ___ DATE: ___________
EXXON ANDY BAUER ___ DATE: 4/20/90
NOAA BUD WELCH ___ DATE: ___________
USCG C. A. REITER ___ DATE: ___________
EL-107

EL-107-A 625 m

EL-107-B 710 m

EL-107-C 397 m

Very light traffic

XXX Wide

/// Medium

--- Narrow

TTT Very narrow

*Map Key: PWS-127a
Name: C. Dillon
1991 MAYSAP EVALUATION

SEGMENT: EL 107  SUB: A  REGION: PWS  SURVEY DATE: 5/20/91

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: 6/07/91

RECOMMENDATIONS:

TREATMENT REQUIRED (Y or N)  N  N  N

Manual Pickup (Check as Req.)
Spot Washing
Bio-Customblen Only
Bio-Inipol/Customblen
Other
Other

COMMENTS:

TAG:

INITIAL:

TAG APPROVAL DATE: June 7 1991  FOSC APPROVAL DATE: 6/27/91

ADEC  EXXON  USCG  NOAA

FOSC  E. E. PAGE, CDR, USCG
CHIEF OF STAFF, FOSC
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

Eagle Nest: Access restricted from 3/1 to 9/1. USFWS 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 3L-107 SUBDIVISION A DATE 5/1991

ADEC NAME: Peter Montesano SIGNATURE: 

☐ NTR ☐ TREATMENT RECOMMENDED

A new "F" had an area of soft EPS or (mopped as SOR) which warrants removal. Note that the large area makes up for the small % in justifying removal. The area south of "F" remains heavily oiled with gross contamination persisting through the large boulders. The omni boom never should have left. Judging from my '89, SSAT, and MAYSAP visits, it appears that gross contamination is likely to persist. Unfortunately, most of this oil is inaccessible with major mechanical yet unseen in Prince William Sound. This is a prime site for long-term monitoring.

EXXON NAME: F.H. Fox SIGNATURE: 

☐ NTR

I think that we listed it should be mapped on this segment except for area "L", and on the northern tip of the segment that is protected from wave action by an island. There perhaps the sea that is between the buildings could be broken up and cited (section F).

LANDMANAGER NAME: Dennis S. Kennedy OF: USFS SIGNATURE: D.S. Kennedy

☐ NTR

This subdivision is protected by small islands. On the land survey 10 or more debris were located on and around these islands. Location A had extremely dense litter problems. Oil found around area A & B would be very difficult to work.

USCG/NOAA Name: D. Singleton BEATTY NOAA/NOAAR SIGNATURE: P. Linnert-Radl

☐ NTR

Within section A, B, C, D, E, F, surface oil was spotted in the GTF. This was mostly coating on the large boulders and not the subsurface oil was found between boulders, algae, and large boulders. This area would be difficult to clean oil as much would be trapped due to the large size of the boulders. On the rainy and foggy sections, the oil could be manually broken up but the area and present coverage is small. D - B

CG. SOME MANUAL THEN BIOREMEDIATE ON AREA N.W. OF ISLAND THAT WAS BIOREMEDIATED LAST YEAR. OTHERWISE NO TREATMENT RECOMMENDED. B.
**MAYSAP SHORELINE OILING SUMMARY**

**TEAM NO. 2**

**OG** D. Reimer

**ADEC** Montesano

**EXXON** Box

**BIO** Ban

**LANDMANAGER** Kennedy

**USCG/NOAA** D. Simonek-Beatty

**DATE** 5/20/91

**TIME** 10:26 to 12:00

**TIDE LEVEL** 4.5 ft to 1.05 ft

**ENERGY LEVEL**

**SUN**

**CLOUDS**

**FOG**

**RAIN**

**SNOW**

**TOTAL LENGTH SHORELINE SURVEYED:** 646 m

**NEAR SHORE SHEEN:**

**BR**

**RB**

**SL**

**NONE**

**EST. OIL CATEGORY LENGTH:**

**0** m

**M**

**201** m

**VI**

**129** m

**NO**

**136** m

**US**

**0** m

### L O C

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<td>8</td>
<td>B</td>
<td>25</td>
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<td>8</td>
<td>B</td>
<td>40</td>
<td></td>
<td></td>
<td><strong>AP</strong></td>
</tr>
</tbody>
</table>

**DISTRIBUTION:**

C = 91-100% | B = 61-90% | P = 11-60% | S = 1-10% | T = <1%

**SLOPE:**

V = VERTICAL | H = HIGH ANGLE | M = MEDIUM ANGLE | L = LOW ANGLE

**PHOTO ROLL:**

**TOTAL SURVEYED**

**PIT NO.**

**PIT DEPTH**

**SUBSURFACE OIL CHARACTER**

**OILED ZONE**

**CLEAN ZONE**

**H2O LEVEL**

**SHEEN COLOR**

**PIT ZONE**

**SURFACE-SUBSURFACE SEDIMENTS**

**NOTES**

**OG COMMENTS:**

- **AR** - Small PC pocket 3 x 3 m in beduven bedrock/large blocks
- **A4** - Crevice between bedrock, NITC, custombld, on top of dark layer
- **A5** - Irregular rocky shoreline with high angle to vertical rock, abundant crevasses and large blocks (lag material). Much of the near-shore area is rock platform or small rock islets mantled by boulders. Oiling consists of cont./crev. on rock and boulders with varying degree of sur. forming thin matrix material. The heaviest of all oiled is along the southern end of the segment.

**Revised MC 5/26/91**
OG SKETCH #2
KN 107 A
MAY 20, 1981
10:26 - 12:00
Doug Reimer
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 2  DATE 20 May 91
SEGMENT # E1K-107A TIDAL HEIGHT (Range) +4 to +1
SUBDIVISION A BIOLOGIST SMBW
SEA STATE Calm WIND SPEED/DIRECTION Calm
PHOTOGRAPHS: ROLL # FRAME #

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):
A+B: CT/Cl high in +12, no birds or lichen only
C: CT+Spor ranges from greenalgal zone into the barren zone. Sporadic oil

E: CT+high on rock terrace in greenalgal + lichen zone
F: Birds situated in naturally depresssionate pebble area. Oiled living bracklenes
G: EJ: KL: MT: CT/ST/BT is high in +12 generally in the lichen/greenalgal
H: CT reaches to upper edge of barrenal zone in two areas
I: Oily large algal-borne bird observed near "C" as noted. Small multitudes
J: Observed in boulder crevices at the last zone (KLM)
K: L:
M:

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

<table>
<thead>
<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagles</td>
<td></td>
<td>2 adults</td>
<td></td>
</tr>
<tr>
<td>Seabirds</td>
<td></td>
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<td>Waterfowl</td>
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<tr>
<td>Gulls/Kittiwakes</td>
<td></td>
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<tr>
<td>Shorebirds</td>
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<td></td>
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<tr>
<td>Corvids</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Birds</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MARINE MAMMALS</th>
<th># OBSERVED</th>
<th>SPECIES</th>
<th># OBSERVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sea Otters</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pinnipeds (specify)</td>
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<tr>
<td>Seals</td>
<td>10</td>
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<tr>
<td>Others (specify)</td>
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</table>

<table>
<thead>
<tr>
<th>LAND MAMMALS</th>
<th># OBSERVED</th>
<th>SPECIES</th>
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<tbody>
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</table>

Shoreline subdivision map showing important biological features attached.
1991 MAYSAP EVALUATION

SEGMENT: EL 107  SUB: B  REGION: PWS  SURVEY DATE: 5/3/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s) OPEN 5/1 - 8/15; RESTRICTED 8/15 - 9/15

Ecological/Constraints (see page two for details) Subsistence - Deer harvesting

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:
564-3276; 564-3687; (Anchorage) or 229-1514 (24 hrs.). THIS

RECOMMENDATIONS:

TREATMENT REQUIRED (Y or N)  N  Y  Y
Manual Pickup (Check as Req.)  X  X
Spot Washing
Bio-Customeblen Only
Bio-Inripol Customeblen
Other
Other

COMMENTS:
INITIAL:

TAG: Manual pickup of MS/HSOR in areas A + C, followed by Bio.

FOSC:

TAG APPROVAL DATE: June 4 1991  FOSC APPROVAL DATE: 6/18/91
ADEC  John Bane  FOSC  E. E. Page, CDR, USCG
EXXON  Real
USCG  T. M. Hughes
NOAA  

INITIAL TAG FOSC
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

Subsistence - Deer Harvesting: Unlimited treatment prior to 8/15.
TEAM NO. 2  SEGMENT EL 107  SUBDIVISION B  DATE 5/3/91

ADEC NAME: PETER MONTESANO  SIGNATURE: 

☐ NTR  □ TREATMENT RECOMMENDED

Debris of heavy oil remain on this subdivision at the %
Provided for the heavily oiled areas are completely 40% bare. These
percentages are systematically underestimated. Thus, more removal than
depicted will be needed in Area W'TC. The work is standard manual
removal on an accessible shoreline.

EXXON NAME: C.M. KATSIMPALIS  SIGNATURE: 

☐ NTR  □ AREAS WITH HEAVIER OILING IN THIS SEGMENT

COULD BE IMPROVED WITH MANUAL TREATMENT.

LANDMANAGER NAME: DENNIS S. KENNEDY, OF USFS  SIGNATURE: D.S. Kennedy

☐ NTR  □ HOR areas could be removed by manual treatment.

USCG/NOAA NAME: MICHEL (NAAM)  SIGNATURE: 

☐ NTR  □ Significant amounts of oil remain in two locations:
1) Southermost south
   cove which is highly sheltered by barrier except by the North. There is a
   small area where HOR was evident 6-11cm thick in 2 out of 4 pits.
   This HOR is shallow (28cm below surface) and accessible.
2) Pocket behind a debris outcrop which has shallow but spotty OP/HOR/HE.
   Selected locations are likely to persist.

AGREE W/EVERYONE THIS AREA COULD USE SOME MORE HELP THIS SUMMER. GOOD OIL REPORT &
DETAILED AANS IN CG COMMENTS.


## MAYSAP SHORELINE OILING SUMMARY

**SEGMENT** EU 107
**SUBDIVISION** B
**DATE** 5/13/91
**TEAM NO.** 2

**BIO** J. Benson
**LANDMANAGER** D. Kennedy
**USCG/NOAA** Jacqui Michel

**TIME** 12:59 to 14:05
**TIDE LEVEL** +2.16 ft. to +4.7 ft.
**ENERGY LEVEL**: [ ] H [ ] M [ ] L

**SURVEYED FROM:**
- [ ] FOOT
- [ ] BOAT
- [ ] HELO

**WEATHER:**
- [ ] SUN
- [ ] CLOUDS
- [ ] FOG
- [ ] RAIN
- [ ] SNOW

**TOTAL LENGTH SHORELINE SURVEYED:** 413 m

**NEAR SHORE SHEEN:** [ ] BR [ ] RB [ ] SL [ ] NONE

**EST. OIL CATEGORY LENGTH:**
- W: [ ] m
- M: 130 m
- N: 35 m
- V: 15 m
- US: 230 m

### Surface Oil Character

<table>
<thead>
<tr>
<th>LOC NO</th>
<th>AP</th>
<th>TP</th>
<th>SUBSOLUTE OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN BELOW</th>
<th>H2O LEVEL</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>SEDIMENTS</th>
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<tbody>
<tr>
<td>A1</td>
<td>R</td>
<td>V</td>
<td>S</td>
<td>1</td>
<td>5</td>
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<td>RAINBOW</td>
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<td>A2</td>
<td>R</td>
<td>V</td>
<td>S</td>
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<td>3</td>
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<td>R</td>
<td>V</td>
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<td>A4</td>
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<td>C3</td>
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<tr>
<td>D</td>
<td>S</td>
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<td>P</td>
<td>1</td>
<td>130</td>
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</table>

**NOTES**

**DISTRIBUTION:**
- C = 91-100%
- B = 81-90%
- P = 11-80%
- 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:

*Note spacing off Pits 1-4, HOR oiling is limited to small, distinct oiling spots. Estimate HOR coverage to 5% in location A2!*

*Pit #6 has OP on the seaward side of the pit adjacent to a boulder while the lee side of the pit does not have any oiling.*
MAYSAP SHORELINE OILING SUMMARY (cont.)

<table>
<thead>
<tr>
<th>Pit</th>
<th>Pit</th>
<th>Subsurface Oil Character</th>
<th>Oiled Zone</th>
<th>Clean Below Level</th>
<th>Sheen Color</th>
<th>Pit Zone</th>
<th>Surface-Subsurface Sediments</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>NO</td>
<td>DEPTH (cm)</td>
<td>OP</td>
<td>HOR</td>
<td>MOR</td>
<td>LOR</td>
<td>OF</td>
<td>TR</td>
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</tr>
<tr>
<td>9A</td>
<td>13</td>
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<tr>
<td>10</td>
<td>5</td>
<td>X</td>
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</tbody>
</table>

Sheen Color: B = Brown; R = Rainbow; S = Silver; N = None

OG Comments:
- Pit #9 - Located behind a rock outcrop with a boulder veneer.
- Pit #10 is between 2 talus boulders with boulders covering the surface.

The OP/HOR oiling follows the SoR-light surface oiling in location 'C-1,' however the OP/HOR is very spotty (~2% of the 1.5 x 14m zone).

Revised: 5/18/91 MC
Reviewed 5/18/91 KG
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 2 DATE 3 May 91
SEGMENT # EL 107 TIDAL HEIGHT (Range) +3' to +5'
SUBDIVISION B BIOLOGIST John Benson
SEA STATE 2' WIND SPEED/DIRECTION calm
PHOTOGRAPHS: ROLL # FRAME #

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):

I could not observe the HtZ.

(A) (AS, Pits 4-5) The bedrock walls bounding the cover support a dense & moderately diverse biota. The cobbles & pebble substrates, and even some boulders, have low biotic % cover. This is caused at least in part, by the mobility of these smaller substrates in storm waves that impact this SE-facing shore. In location A, the boulder talus is partially protected from storm swell by the bedrock point just to the south. Fucus & barnacles are dense on the boulders closest to the bedrock, just below the oiled surfaces.

(B) The bedrock wall here is similar to that diminishing A. Biotic % cover is high and diversity is moderately high. Dominant species are Fucus, barnacles (both Balanus glandula & Semibalanus cariosus), & Littorina.

(C) (C3, Pits 6-9) The biotic % cover in this area is low both out on the exposed boulder beach & on the UI72 bench protected by the tidal island. These substrates are inhabited by filamentous green algae, Ulva, Enteromorpha, barnacles & offset "weedy" opportunist species.

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

<table>
<thead>
<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED</th>
<th>SPECIES PRESENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagles</td>
<td></td>
<td></td>
<td>Oligocottus macrochus</td>
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<tr>
<td>Seabirds</td>
<td></td>
<td></td>
<td>&quot;Kidney of a salpin&quot;</td>
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<tr>
<td>Waterfowl</td>
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<tr>
<td>Gulls/kittiwakes</td>
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<td>Shorebirds</td>
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</tr>
<tr>
<td>Corvids</td>
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<tr>
<td>Other Birds</td>
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<table>
<thead>
<tr>
<th>MARINE MAMMALS</th>
<th># OBSERVED</th>
<th>SPECIES</th>
<th># OBSERVED</th>
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<tbody>
<tr>
<td>Sea Otters</td>
<td>1</td>
<td>Sitka black-tailed</td>
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</tr>
<tr>
<td>Pinnipeds(specify)</td>
<td></td>
<td>deer</td>
<td></td>
</tr>
<tr>
<td>ales(specify)</td>
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</tbody>
</table>

Shoreline subdivision map showing important biological features attached.
Subdivision: EL 107 B
Team: 2
Bio: John Benson

Comments (cont.) -

D - low diversity & % cover as for cone Location 2. Here, the rock surfaces are smoother, and Notoacmea seems to have replaced Littorina as the dominant small grazer. Barnacle & Mytilus recruitment were observed here.

This subdivision is characterized by two major substrate types: bedrock & moveable rock. Bedrock communities are dense and moderately diverse, & moveable rock communities have few species and low % cover. There are no special biological sensitivities here, except possibly the eagle nest mapped on the island just offshore of the north end of this subdivision. I was unable to locate a nest on this island.

This nest surveyed 5/7/91 by USFWS & determined to be "destroyed". Eagle constraint not applicable to the subdivision. D. mc. 5/8/91
Similar to (a), except that limpets are common.

Low % cover & diversity. Primarily "weedy" algal species.

Bedrock biota is dense & moderately diverse. Boulder biota in the lee of the point are similar.
1991 MAYSAP EVALUATION

SEGMENT: EL 107  SUB: A  REGION: PWS  SURVEY DATE: 5/20/91

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: ____________________

RECOMMENDATIONS:

TREATMENT REQUIRED (Y or N)  N

Manual Pickup (Check as Req.)
Spot Washing
Bio-Customblen Only
Bio-Inipol/Customblen
Other __________________________

COMMENTS:
INITIAL: ________________________________________________________

TAG:---------------------------------------------------------------

TAG APPROVAL DATE: __________  FOSC APPROVAL DATE: ____________

FOSC:__________________________________

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 Markzewski
SIGNATURE Peter Markzewski

[Box] NTR [Box] [TREATMENT RECOMMENDED]

A new "F" has an area of 59 x 59 ft, (marked as 50 x 50) which warrants removal. Note that the large area may not be for the small % in justifying removal. The area south of "F" remains heavily oiled with gross contamination persisting through the large boulders. The cutters never should have left. Judging from my '89 SSAT and MAYSAP visits, it appears that gross contamination is likely to persist. Unfortunately, most of this oil is inaccessible with major mechanical yet unseen in the William Sound. This is a prime site for long-term monitoring.

E X X O N
NAME Frank Rat
SIGNATURE Frank Rat

[Box] NTR

I think that one sheet... it should be necessary on this segment except one in N. and one in the northern tip of the segment that is protected from wave action by an island. These perhaps the area that is between the douglas could be taken up and lived. (section F)

AND MANAGER
NAME Dennis S. Kennedy
SIGNATURE D S. Kennedy

[Box] NTR

This subdivision is protected by small islands. On the 5th this morning 5 or more seals were located on and around these islands. Location A had extremely dense litter pockets. Our survey around area A & B would be very difficult to work.

U S C G / N O A A
NAME Pat Quigley
SIGNATURE Pat Quigley

[Box] NTR

Within section A, B, C, D, E, garage oily was spotted in the area. This area was mostly covered with the brown muck and hardrock Subsoil oil was found between offshore patches and large boulders. This area would be difficult to clean with air and water. Instead this should be manually broken up but the area and current damage is small. D3-B

CC: Some manual then bioremediated on area N.W. of Island that was previously treated. No treatment recommended. Z.
**OG COMMENTS:**

Δ2 - Small pocket, 3x3 m, in bedrock/bedrock

Δ4 - Crevice between bedrock, NICE, customhen, on top of bone layer

**VERY Irregular rocky shoreline with high angle to Vertical Rock, abundant crevices and large blocks (basalt material). Much of the near shore area is rock platform or small rock outcrops mantled by boulders. Oiling consists of Cont/Loover on Rock and boulders with varying degree of Sub forming fl marine material. The heaviest oiling is along the southern end of the segment.**

Revised 5/24/98
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM #: 2
SEGMENT #: E14-18
SUBDIVISION: "A"
SEA STATE: Calm
PHOTOGRAPHS: ROLL #: FRAME #

TIDAL HEIGHT (Range): 4 to 1
BIOLIGIST: SMB
WIND SPEED/DIRECTION: Calm

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):
A+B: CT/CU high in E12, no lichen on top only.

C: CT/CT-50 range (from green algae zone into the bryazoo zone). Sporadic oil near li. Harbor & Ecology recruits. Numerous tide pools with algae, pogonias, littorina. Impacts shown in low rock area.

D+E: CT/CU high on rock, remove in green algae + lichen zone.

F: Sites situated in naturally degreased pebble areas. Oils using breaching - sheltered. Oiled areas near water, site supports spot + evergreen.

GHIJKLM: CT/CT/BIR is high in E12 generally in the lichen/bryazoo. CT reaches to upper edge of bryazoo zone in two areas. CT large; old impacted observation area "G" noted. Small mudflats observed in boulder crevices at the last core ("KLM").

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS

<table>
<thead>
<tr>
<th>Eagles</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2 adults</td>
<td></td>
</tr>
</tbody>
</table>

Seabirds
Waterfowl
Gulls/kittiwake
Shorebirds
Corvids
Other Birds

MARINE MAMMALS

<table>
<thead>
<tr>
<th>Sea Otters</th>
<th># OBSERVED</th>
<th>SPECIES</th>
<th># OBSERVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pinnipeds (specify)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seals</td>
<td>10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Shoreline subdivision map showing important biological features attached.
1991 MAYSAP EVALUATION

SEGMENT: EL 107  SUB: C  REGION: PWS  SURVEY DATE: 5/3/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s)  OPEN 5/1 - 8/15; RESTRICTED 8/15 - 9/15

Ecological/Constraints (see page two for details)  Subsistence - Deer harvesting

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

SHPO Signature: ___________________________ Date: ___________________________

RECOMMENDATIONS:

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

EXXON

USCG

NOAA
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

Subsistence - Deer Harvesting: Unlimited treatment prior to 8/15.
TEAM NO. 2 SEGMENT EL VOT SUBDIVISION C DATE 5/3/91

ADEC
NAME Peter Montano SIGNATURE Peter Montano

☐ NTR ☐ TREATMENT RECOMMENDED

SITE B IS HIGHLY PROBABLY FOR FURTHER TREATMENT.

THE SAND BERM RELLOCATION SITE WILL REQUIRE A VISIT TO DETERMINE WHAT TO DO WITH THE ARTIFICIAL LOT BERM ABOVE THE BERM. THESE LOGS DID NOT RESORT OVER THE WINTER AND SHOULD NOT BE LEFT ERRANT. THE RELLOCATION APPEARED TO BE EXTREMELY SUCCESSFUL, SICE WE WERE UNABLE TO FIND ANY OIL BELOW THE BERM AREA.

SITE AE WILL REQUIRE SIMPLE, STANDARD MANUAL REMOVAL. ITS LOCATION INHERENTS ITS PERSISTENCE.

EXXON
NAME C.M. Higgs SIGNATURE C.M. Higgs

☐ NTR

LAND MANAGER WAS NOT HAPPY WITH DISARRAY OF LOGS.

LANDMANAGER
NAME Dennis S. Kennedy OF USFS SIGNATURE D.S. Kennedy

☐ NTR

THE BERM RELLOCATION LOOKS VERY BAD. LOGS SHOULD BE RUBBLED OR BURNED. TREATMENT OF REMAINING OIL IS NOT A PRIORITY AS THIS SITE WILL WEATHER QUICKLY.

USCG/NOAA

☐ NTR

SITE 1 IS THE TYPICAL LARGE BURDEN FIELD ON BEDROCK, WHICH HAS A VERY SCATTERED AND INACCESSIBLE SUB-SURFACE OIL. SITE 2 WAS A BERM RELLOCATION SITE, AND THE SUBSURFACE OIL WAS FOUND, BUT THERE IS NO EVIDENCE IN THE RELLOCATION AREA. SUBSURFACE POCKETS WITH MODERATE SUBSURFACE OIL WAS FOUND (i.e. Pits), BUT THESE SHOULD IMPROVE IN THIS EXPOSED SETTING.

NOAA'S SUMMARY DESCRIBES THIS SITE (S) PERFECTLY. - Z.
<table>
<thead>
<tr>
<th>TEAM NO.</th>
<th>BIO</th>
<th>SEGMENT</th>
<th>SUBDIVISION</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Trimm</td>
<td>J. Benson</td>
<td>EL107</td>
<td>C</td>
<td>5/13/91</td>
</tr>
<tr>
<td>ADEC P. Montesano</td>
<td>Land Manager O. Kennedy</td>
<td>for USFS</td>
<td>BM/RE/NOE</td>
<td>USCG/NOAA JACQUIL MIGUEL</td>
</tr>
<tr>
<td>EXXON C. Katsimpalis</td>
<td></td>
<td></td>
<td></td>
<td>JACQUIL MIGUEL/NOAA</td>
</tr>
</tbody>
</table>

**TIME** 12:10 to 12:59  
**TIDE LEVEL** 0.9 ft to 2.6 ft  
**ENERGY LEVEL** H M L  
**SURVEYED FROM** FOOT BOAT HELO  
**WEATHER** SUN CLOUDS FOG RAIN SNOW  
**TOTAL LENGTH SHORELINE SURVEYED** 19.6 m  
**NEAR SHORE SHEEN** BR RB SL NONE  
**EST. OIL CATEGORY LENGTH** W 0 m M 15 m N 15 m V 8 m NO 15 m US 218 m

### SURFACE OIL CHARACTER

<table>
<thead>
<tr>
<th>LOC</th>
<th>AP</th>
<th>MS</th>
<th>TB</th>
<th>SOR</th>
<th>CV</th>
<th>CT</th>
<th>ST</th>
<th>FL</th>
<th>DB</th>
<th>NO</th>
<th>SURFACE SEDIMENT</th>
<th>SHORE SLOPE</th>
<th>WIDTH</th>
<th>LENGTH</th>
<th>ZONE</th>
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</thead>
<tbody>
<tr>
<td>A1</td>
<td>P</td>
<td>P</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>B1</td>
<td>P</td>
<td>P</td>
<td></td>
<td></td>
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<td>B2</td>
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<tr>
<td>B3</td>
<td>S</td>
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<td></td>
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</tr>
</tbody>
</table>

**NOTES**
- Leeside Rock
- Medium Sor

### DISTRIBUTION: C = 81-100%; B = 81-60%; P = 61-40%; M = 41-20%; T = <1%

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

**PHOTO ROLL # MAYSAP** 2 5 FRAMES 23-26

### PIT NO. DEPTH

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN</th>
<th>MEDIUM</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
<th>SURFACE-SUBSURFACE SEDIMENTS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>2A</td>
<td>2.0</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2B</td>
<td>2.0</td>
<td>X</td>
<td></td>
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</tr>
</tbody>
</table>

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

### OG COMMENTS:

- SEAS WERE TOO CHOPPY TO SURVEY CLIFFS
- INFORMATION FROM ASAP SITE #1 IS BY J. MICHEL/NOAA & ASAP SITE #2 BY B. TRIMM/OG.
- SOR/HVY WAS BROKEN UP IN SITE #2.
- PIT #2 IN WAVE SHADOW OF ROCK

---

**REVIEWED: MC 5/18/91**

**REVISED 5/18/91 KG**
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM: 2  DATE: 3 May '91
SEGMENT: EL 107  TIDAL HEIGHT (Range): +1' to +2'
SUBDIVISION: C  BIOLOGIST: John Benson
SEA STATE: 1'  WIND SPEED/DIRECTION: calm
PHOTOGRAPHS: ROLL #: —  FRAME #: —

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):

(A1,A2) - This subdivision is similar to EL 108A in that the
coastal beaches support a very low diversity and low
biomass, while the bedrock & larger boulders support
a more diverse & productive biota. Location A
is boulder talus partially protected by bedrock outcrop.
This supports a diverse community. There are more
Littorina & fewer barnacles than in EL 108A.

(B1,B2,B3) - Location B is similar to (A). The most common
species are Verrucaria (UL12), Fucus (MI12), barnacles
(MI12) & Mytilus. There are a few tidepools in the
bedrock. Recent recruitment of Notocidaria, barnacles,
Mytilus & Fucus were observed.

There are no special biological sensitivities in this
subdivision.

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

<table>
<thead>
<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagles</td>
<td></td>
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<tr>
<td>Seabirds</td>
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<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
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</tr>
<tr>
<td>Shorebirds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corvids</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Birds</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MARINE MAMMALS</th>
<th># OBSERVED</th>
<th>SPECIES</th>
<th># OBSERVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sea Otters</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pinnipeds (specify)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whales (specify)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| LAND MAMMALS           |           |         |           |

Shoreline subdivision map showing important biological features attached.

REVIEWED: 5/19/91 RC
Similar to A. Recent recruitment of limpets, barnacles & mussels.

Diverse boulder fallus boulders protected by bedrock. Recent recruitment of barnacles & mussels.
1991 MAYSAP EVALUATION

SEGMENT: EL 107  SUB: B  REGION: PWS  SURVEY DATE: 5/3/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s) OPEN 5/1 - 8/15; RESTRICTED 8/15 - 9/15

Ecological/Constraints (see page two for details) Subsistence - Deer harvesting

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

SHPO Signature: ___________________________ Date: ___________________________

RECOMMENDATIONS:

<table>
<thead>
<tr>
<th>TREATMENT REQUIRED (Y or N)</th>
<th>INITIAL</th>
<th>TAG</th>
<th>FOSC</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td></td>
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</tbody>
</table>

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 __________________________
EXXON __________________________
USCG __________________________
NOAA __________________________
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

Subsistence - Deer Harvesting: Unlimited treatment prior to 8/15.
TREATMENT RECOMMENDED

Deposits of heavy oil remain on this subdivision to 20%.

Provided for these heavily oiled areas are completely U/O base, these percentages are systematically underestimated. Thus, more removal than depicted will be needed in Areas A/B/C. The work is standard manual removal on an accessible shoreline.

AREAS WITH HEAVIER OILING IN THIS SEGMENT

COULD BE IMPROVED WITH MANUAL TREATMENT.

HOR areas could be removed by manual treatment.

Significant amounts of oil remain in two locations: 1) Southernmost south cove which is highly sheltered by headland except to the North. There is a small area where HOR was found 6-11 cm thick in 2 out of 4 pits. This HOR is shallow (<2 cm below surface) and accessible.

2) Pocket behind a bedrock outcrop which has shallow but spotty OP/HOR. Both locations are likely to persist.

Please write EVERYONE THIS AREA COULD USE SOME MORE HELP THIS SUMMER. Good OG Report & DEHABRANS IN "OG COMMENTS."
**Surface Oil Character**

<table>
<thead>
<tr>
<th>LOC</th>
<th>Surface Oil Character</th>
<th>Surface Sediment</th>
<th>Shore Slope</th>
<th>Width</th>
<th>Length</th>
<th>Zone</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>S</td>
<td>R</td>
<td>Y</td>
<td>1</td>
<td>5</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td>A2</td>
<td>S</td>
<td>R</td>
<td>Y</td>
<td>1</td>
<td>3</td>
<td>L</td>
<td>RAINBOW</td>
</tr>
<tr>
<td>A3</td>
<td>B</td>
<td>BCP</td>
<td>M</td>
<td>1</td>
<td>1</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td>A4</td>
<td>C</td>
<td>B</td>
<td>M</td>
<td>1</td>
<td>4</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td>A5</td>
<td>S</td>
<td>R</td>
<td>Y</td>
<td>1</td>
<td>15</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td>S</td>
<td>B</td>
<td>H</td>
<td>1.5</td>
<td>14</td>
<td>L</td>
<td>Sor-Light under boulders</td>
</tr>
<tr>
<td>C2</td>
<td>S</td>
<td>B</td>
<td>H</td>
<td>2</td>
<td>25</td>
<td>L</td>
<td>MOUSE UNDER-TALUS</td>
</tr>
<tr>
<td>C3</td>
<td>S</td>
<td>B</td>
<td>H</td>
<td>1</td>
<td>20</td>
<td>L</td>
<td>typical under/behind talus</td>
</tr>
<tr>
<td>D</td>
<td>S</td>
<td>B</td>
<td>H</td>
<td>3</td>
<td>130</td>
<td>L</td>
<td></td>
</tr>
</tbody>
</table>

DISTRIBUTION: C = 91-100%; B = 81-90%; P = 11-60%; S = 1-10%; T = <1%

**Subsurface Oil Character**

<table>
<thead>
<tr>
<th>Pit No.</th>
<th>Subsurface Oil Character</th>
<th>Oiled Zone</th>
<th>Clean below water level</th>
<th>Sheen Color</th>
<th>Pit Zone</th>
<th>Surface Subsurface Sediments</th>
<th>Notes</th>
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<tbody>
<tr>
<td>15</td>
<td>X</td>
<td>Y</td>
<td>3</td>
<td>S</td>
<td>PGR - PGB</td>
<td>Talus Area</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>X</td>
<td>Y</td>
<td>3</td>
<td>S</td>
<td>PGR - PGB</td>
<td>Talus Area</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>X</td>
<td>Y</td>
<td>15</td>
<td>N</td>
<td>PCG - PGC</td>
<td>Talus Area</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>X</td>
<td>Y</td>
<td>13</td>
<td>B</td>
<td>PB - PGC</td>
<td>Talus Area</td>
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</tr>
<tr>
<td>35</td>
<td>X</td>
<td>Y</td>
<td>30</td>
<td>N</td>
<td>P - PC - PB</td>
<td>Muddled - 'No'</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>X</td>
<td>Y</td>
<td>30</td>
<td>N</td>
<td>PC - PB</td>
<td>Muddled - 'No'</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>X</td>
<td>Y</td>
<td>30</td>
<td>N</td>
<td>PC - PB</td>
<td>Muddled - 'No'</td>
<td></td>
</tr>
</tbody>
</table>

**Sheen Color:** B = Brown; R = Rainbow; S = Silver; N = None

**OG Comments:**

- Note spacing off Pits 1 - 4, HOR oiling is limited to small distinct oiling spots. Estimate HOR coverage to 5% in location 'A2'.
- Pit #6 has oil on the seaward side of the pit adjacent to a boulder while the lee side of the pit does not have any oiling.

---

**OG Comments (continued):**

- No. 6

---

**Revision:** 5/19/91
<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE cm-cm</th>
<th>CLEAN BELOW cm-cm</th>
<th>H2O LEVEL</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
<th>SURFACE- SUBSURFACE SEDIMENTS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>QA</td>
<td>13</td>
<td>X</td>
<td>0 - 2</td>
<td>N 13</td>
<td>B</td>
<td>X</td>
<td>B - G/P B</td>
<td>See notes</td>
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</tr>
<tr>
<td>QB</td>
<td>X</td>
<td></td>
<td>2 - 15</td>
<td></td>
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<tr>
<td>IP</td>
<td>5</td>
<td>X</td>
<td>0 - 2</td>
<td>Y 3</td>
<td>S</td>
<td>X</td>
<td>B - PGG</td>
<td>See notes</td>
<td></td>
</tr>
</tbody>
</table>

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

**OG COMMENTS:**

- Pit #9 - Located behind a rock outcrop with a boulder veneer.
- Pit #10 is between 2 talus boulders with boulders covering the surface.

The OP/HOR oiling follows the soft-light surface oiling in location 'C1', however the OP/HOR is very spotty (~2% of the 1.5 x 14m zone).
I could not observe the LITZ.

(A) - Pits 1-4 - The bedrock walls bounding the coves support a dense & moderately diverse biota. The cobbles & pebble substrates, and even some boulders, have low biotic % cover. This is caused, at least in part, by the mobility of these smaller substrates in storm waves that impact this SE-facing shore. In location A, the boulder fallus is partially protected from storm swell by the bedrock point just to the south. Fucus & barnacles are dense on the boulders closest to the bedrock, just below the oiled surfaces.

(B) - The bedrock wall here is similar to that delimiting (A). Biotic % cover is high and diversity is moderately high. Dominant species are Fucus, barnacles (Both Balanidae, glandula & Semibalanus cariosus), & Littorina.

(C) - Pits 6-9 - The biotic % cover in this area is low, both out on the exposed boulder beach & on the UITZ bench protected by the tidal island. These substrates are inhabited by filamentous green algae, Ulva Enteromorpha, barnacles & other "weedy" opportunistic species.

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS

<table>
<thead>
<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagles</td>
<td></td>
<td></td>
<td>Oligocottus maculosus</td>
</tr>
<tr>
<td>Seabirds</td>
<td></td>
<td></td>
<td>&quot;Kelp feeds&quot;</td>
</tr>
<tr>
<td>Watertowl</td>
<td></td>
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</tr>
<tr>
<td>Gulls/Kittiwake</td>
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<tr>
<td>Shorebirds</td>
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<tr>
<td>Corvus</td>
<td>1</td>
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</tr>
<tr>
<td>Other Birds</td>
<td></td>
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</table>

FISH OBSERVED SPECIES PRESENT

Oligocottus maculosus "Kelp feeds"

LAND MAMMALS

MARINE MAMMALS

<table>
<thead>
<tr>
<th>MARINE MAMMALS</th>
<th># OBSERVED</th>
<th>SPECIES</th>
<th># OBSERVED</th>
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<tbody>
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<td>Sea Otters</td>
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<td>Pinnipeds(specify)</td>
<td>1</td>
<td>deer</td>
<td></td>
</tr>
<tr>
<td>Seals(specify)</td>
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</table>

Shoreline subdivision map showing important biological features attached.
Subdivision: EL107B
Team: 2
Bio: John Benson

Comments (cont.)

- Low diversity & % cover as for cave location. Here, the rock surfaces are smoother, and Notosea seem to have replaced Littorina as the dominant small grazer. Barnacle & Mytilus recruitment were observed here.

This subdivision is characterized by two major substrate types: bedrock & moveable rock. Bedrock communities are dense and moderately diverse, & moveable rock communities have few species and low % cover. There are no special biological sensitivities here, except possibly the eagle nest mapped on the island just offshore of the north end of this subdivision. I was unable to locate a nest on this island.

This nest surveyed 5/21/91 by USFWS determined to be "destroyed" - eagle constraint not applicable to the subdivision. DPCR 5/21/91
<table>
<thead>
<tr>
<th>Width</th>
<th>Description</th>
<th>Subdivision Field Map</th>
<th>Map Key</th>
<th>Name</th>
<th>Date</th>
<th>Date Entered</th>
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<tr>
<td>Wide</td>
<td></td>
<td></td>
<td></td>
<td>Trimm</td>
<td>3 MAY 1991</td>
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<tr>
<td>Medium</td>
<td>ADEC Subsegment Length: 043m</td>
<td></td>
<td>KHI1079</td>
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<td>Narrow</td>
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<tr>
<td>Very Light</td>
<td>5</td>
<td></td>
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</tr>
<tr>
<td>No Oil</td>
<td>AK State Plane Zone 4</td>
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</table>

*Surface Oil Category Map - ADEC Shoreline*
**1991 MAYSAP EVALUATION**

**SEGMENT:** EL 107  **SUB:** C  **REGION:** PWS  **SURVEY DATE:** 5/3/91

**ENVIRONMENTAL SENSITIVITIES:**  
Work Window(s)  OPEN 5/1 - 8/15; RESTRICTED 8/15 - 9/15

Ecological/Constraints (see page two for details)  
Subsistence - Deer harvesting

**ARCHAEOLOGICAL CONSTRAINTS:**  
If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

**SHPO Signature:**  Date: 5/13/91

**RECOMMENDATIONS:**  
TREATMENT REQUIRED (Y or N)  
<table>
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<tr>
<th>INITIAL</th>
<th>TAG</th>
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</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>N</td>
<td>Y</td>
</tr>
</tbody>
</table>

Manual Pickup (Check as Req.)
Spot Washing
Bio-Customblen Only
Bio-Inipol/Customblen
Other
Other

**COMMENTS:**
**INITIAL:**

**TAG:**

**FOSC:**

**TAG APPROVAL DATE:**  May 17 1991  **FOSC APPROVAL DATE:**  2 5 MAY 1991

**ADEC**  **EXXON**  **USCG**  **NOAA**

**FOSC**  **CHIEF OF STAFF, FOSC**
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

Subsistence - Deer Harvesting: Unlimited treatment prior to 8/15.
MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 2 SEGMENT El VOT. SUBDIVISION C DATE 5/3/91

ADEC
NAME Peter Vantelonc SIGNATURE

☐ NTR ☐ TREATMENT RECOMMENDED
SITE B IS IN NO NEED PROXY FOR FURTHER TREATMENT.

THE STORM BERM RELOCATION SITE WILL Require A TAG VISIT TO DETERMINE WHAT TO DO WITH
THE ARTIFICIAL LOG PILE ABOVE THE BERM. THESE LOGS did NOT RESORT OVER THE WINTER AND
SHOULD NOT BE LEFT ERRANT. THE RELOCATIONS APPEARED TO BE EXTREMELY SUCCESSFUL
SINCE WE WERE UNABLE TO FIND HEAVY OIL BELOW THE BERM AREA.

SITE A1 WILL REQUIRE SIMPLE, STANDARD MANUAL REMOVAL. ITS LOCATION INSURES ITS PERSISTENCE.

EXXON
NAME C.M. Katsimpolis SIGNATURE

☐ NTR

LAND MANAGER WAS NOT HAPPY WITH DISARRAY
OF LOGS.

LANDMANAGER
NAME Dennis S. Kennedy USFS SIGNATURE D.S. Kennedy

☐ NTR

The berm relocation looks very bad. Logs should

be repositioned or burned. Treatment of remaining oil
is not a priority as this site will weather quickly.

USCG/NOAA
NAME Michael (NOAA) B. Zenovitch SIGNATURE

☐ NTR
SITE 1 is the typical large boulder face, on bedrock which has

very scattered and inaccessible Sor in boulder crevices. Site 2
was a berm relocation site, and no subsurface oil was found, other than
there in the relocation area. In sheltered pockets light to moderate
subsurface was found (i.e., Pit=2), but these should improve in
this exposed setting.

NOAA'S SUMMARY DESCRIBES THIS SITE (2) PERFECTLY. -Z
**OG Comments:**
- Sea was too choppy to survey cliffs.
- Information from ASAP Site #1 is by J. Michels/NOAA & ASAP Site #2 by B. Trimm/OG.
- SOR & HUV was broken up in Site #2.
- Pit #2 is in wave shadow of rock.
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 2 DATE 3 May '91
SEGMENT # EL 107 TIDAL HEIGHT (Range) +1' to +2'
SUBDIVISION C BIOLOGIST John Benson
SEA STATE 1' WIND SPEED/DIRECTION calm
PHOTOGRAPHS: ROLL # FRAME #

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):

(A) This subdivision is similar to EL 108A in that the cobbles support a very low diversity and low biomass, while the bedrock & larger boulders support a more diverse & productive biota. Location A is boulder talus partially protected by bedrock outcrop.

This supports a diverse community. There are more littorina & fewer barnacles than in EL 108A.

(B) Location B is similar to (A). The most common species are Verrucaria (MITZ), Fucus (MITZ), barnacles (MITZ) & Mytilus. There are a few tidepools in the bedrock. Recent recruitment of Notocoma, barnacles, Mytilus & Fucus were observed.

There are no special biological sensitivities in this subdivision.

WILDLIFE OBSERVATIONS TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS # OF SPECIES TOTAL BIRDS FISH OBSERVED SPECIES PRESENT

| Eagles | 1 | 1 | |
| Seabirds | 1 | 1 | 1 |
| Waterfowl | 1 | 1 | |
| Gulls/Kittiwakes | 1 | 1 | |
| Shorebirds | 1 | 1 | |
| Corvids | 1 | 1 | |
| Other Birds | 1 | 1 | |

LAND MAMMALS

<table>
<thead>
<tr>
<th>Marine Mammals</th>
<th># OBSERVED</th>
<th>SPECIES</th>
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<tbody>
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<td>Sea Otters</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Pinnipeds (specify)</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Les (specify)</td>
<td>1</td>
<td>1</td>
<td>1</td>
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</tbody>
</table>

Shoreline subdivision map showing important biological features attached.
BIO SKETCH MAP
EL 107-C
3. MAY-91
1216-1259
John Benson

B

Similar to A. Recent recruitment of limpets, barnacles & mussels.

B1

Cobble Boulder

Boulder Talus

Prince William Sound

ASAP SITE 1

Diverse boulder talus breze. Boulders protected by bedrock. Recent recruitment of barnacles & mussels.
Asap Tag Review Sheet

Segment: EL107  Subd: A  Site: 1

Priority For Addressing In 1990

- HIGH  - MEDIUM  - LOW  X NTR

Treatment Recommended: NTR

06 Sheet/Sketch: NTR

Recommendation Sheet - add for hot water heater system, agitation to remove/move subsurface oil.

TAG VISIT

Priority Site For Reassessment In 1991

YES  NO  YES  NO  YES  NO  YES  NO

TAG 15 Jun 90

Re 310 <

Already scheduled reassess next year.
ASAP TAG REVIEW SHEET

Segment: EC107  Subd: A  Site: 2  Date: PRE-Review 1448590

Priority For Addressing In 1990

___ HIGH     ___ MEDIUM     ___ LOW     ___ X NTR

Treatment Recommended: NTR

OG/SKETCH - Sporadic AP/CoAT - NTR

REC. SHEET - Remove Oil Debris from 1985 in sand to address

Priority Site For Reassessment In 1991

YES  CG  NO  X  YES  ADEC  NO  YES  EXXON  NO  YES  LAND MGR  NO

TAG 15 AUG 90

Re-BioG  already filed

Reassess next year
ASAP FOLLOWUP RECOMMENDATIONS

Conditions Observed:
Upon arrival to work site a sheen sheen approx. 20 cm was observed in front of beach. Very small sheens throughout area were filled with sheen sheen and mobile oil. Due to the area being observed as a sheen. Tag evaluation is recommended for decision tree. A pit was excavated and OP1874 was documented 0-15 cm subsurface.

Followup Recommendations:
- Tag evaluation (sheen) for decision tree.
- Small Hot H2O Header system is recommended to migrate oil to surface line.
- Agitation is also recommended to loosen oil in the subsurface. Small substrate boom or sheen boom is recommended to contain and relieve oil.

Completed by Pickup: [YES ☑ NO]  Priority for Addressing in 1990: [High ☑ Mod. ☐ Low ☐]

ADEC
Wesley Ghormley
(Chm)  Wesley Ghormley
(Signature)

Comments:
Due to the problem of sheen coming off this work site it needs immediate attention. I am strongly against only using custom blend in the H2O H2O and Agitation if oil is to be removed.

Exxon
Rev. Settala

Comments:
This site needs TAG evaluation. I don’t agree with the recommendation stated above. If any work is done to this site in 90 it should be after TAG seminar.

USCG
Pet L. Pers. Oni
(NM)  ONA: Art Weiner
(Signature)  Art Weiner

Comments: Residual oil is protected by heavy armor. Low energy regime. It will probably persist thru winter and continue to sheen. It is not accessible to manual removal. Probably too concentrated for catch dredging tool.

Land Rep.
John Stoff

Comments: From obstructions, pipsy ponds collected throughout the area. Cold water with this sheen is not an effective tool to remove oil. ALL people agree hot water isn’t. Pressure is effective. Site condition is hazardous to wildlife and needs immediate treatment.
ASAP FOLLOWUP RECOMMENDATIONS

Conditions Observed: Very large beach with numerous logs, large boulders and bedrock. Very heavy oil/soot drips on bedrock/boulders, throughout work site. There seems to be a tremendous amount of oil present under boulders, logs etc. at the late stage. Sheens are present on water surface. Subsurface oil is present in 15x75m storm berm 45m north end of work site. Oiled debris are present in storm berm in the center of work site.

Followup Recommendations: Work was done on site by 3 men using only low pressure water. No means was used to complete.

Followup Recommendations: Work was done on site of landa units in 1990 with some improvement, but still too much oil present in boulders and under logs. For this reason, Hot Hewp high pressure 2" hoses are recommended, a cold water hydro system should also be used to remove oil. Landa units would only push oil deeper into the substrate. Oiled debris should be removed intergrated with logs.

Completed by Pickup: [ ] YES [ ] NO

Priority for Addressing in 1990: [ ] High [ ] Mod. [ ] Low

ADEC

Wesley Gumbs

(name)

Wesley Gumbs

(signature)

Comments: I strongly agree with above recommendations. If landa are the only method deployed for this site, I wouldn't even try it; oil will just be pushed deeper. USE HWHP 2" hoses and a fluid system to remove oil.

Exxon

Ray Stoll

(name)

Rs Stoll

(signature)

Comments: I don't agree with the recommendation listed above because hot water blend will probably have the same effect as a landa unit has; this will only push the oil deeper. My recommendation is to re-apply controlled acid

USCG

Pete de Paolino

(name)

Leanne (signature)

Comments: All accessible oil was manually removed. Considerable amount of remaining oil is removable. HWHP will remove any oil. This is how concentration for currently applied to be effective.

Land Rep.

(name)

(signature)

Comments: Agree w/HWHP. A few with containment boom and sump pump for recovery. Why waste the HWHP units deployed on sites such as this initially?
FIELD SHORELINE COMMENT SHEET

SEGMENT AS/EL 107 SUBDIVISION: A SITE: 1 DATE 8-11-90

USCG/NOAA PSI Leo Bensolons Leo Bensolons
NAME Art Weiner SIGNATURE Art Weiner

☑ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
HEAVY CONCENTRATION OF SUBSURFACE OIL [0-15 cm].
BEACH OBSERVED TO BLEED RAINBOW SHEEN INTO NEARSHORE
WATER + TIDEPOOLS

ADEC
NAME Wesley Shriner SIGNATURE Wesley Shriner

☑ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
This area appears to be bleeding. A fairly large amount
of sheen was present upon arrival.
- I recommend work be done on this area in 1990.
- Flood beach w/ Hot H2O to retrieve oil.
- I also highly recommend not allowing this area to go unworked; this
area will bleed all winter and push oil into the environment.

LAND MANAGER
NAME John Eitel SIGNATURE John Eitel

☑ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
Immediate treatment is required for this site, regard to wildlife.
To evaluate effectiveness of winter conditions on remaining oil after remediation

EXXON
NAME Rey Sotelo SIGNATURE Rey Sotelo

☑ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
This site should be reassessed in '91 to determine the effects
of bioremediation and winter storm activity.
FIELD SHORELINE COMMENT SHEET

SEGMENT AS/EL107 SUBDIVISION: A SITE: 2 DATE 8-11-90
USCG/NOAA PS Leo Bernksz T. Bird
NAME Art Weiner SIGNATURE Art Weiner

☐ YES     ☑ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: ALL ACCESSIBLE OIL REMOVED ON 8-11-90

ADEC
NAME Wesley Gorman
SIGNATURE Wesley Gorman

☐ YES     ☑ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: There is a tremendous amount of oil on this site that I believe needs further attention. It will take a lot of work to make the oil accessible to be cleaned (loops will have to be moved, but I feel the amount of work will be rewarded by the large amount of oil that will be removed. This site will need additional work in 1991.

LAND MANAGER
NAME John Edel
SIGNATURE John Edel

☐ YES     ☑ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: Presently the oil at this site is unstable and poses a hazard to wildlife. Treatment for '90 is recommended as priority. To evaluate the effectiveness of treatment given winter conditions.

EXXON
NAME Ray Sotelo
SIGNATURE Ray Sotelo

☐ YES     ☑ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: All accessible oil was removed by Vecto crew on 8-11-90. The site should be assessed as a low priority in '91 to evaluate the effect of customized aid winter storms.
**ASAP SHORELINE OILING SUMMARY**

**TEAM NO.** ASAP*2  
**EXXON** SOTELO  
**USCG** WEINNER/BERSALONA  
**DATE** Aug/11/90  
**TIME** 10:45 to 10:40 AM  
**TIDE LEVEL** 2 ft 0 ft 0.5 ft

**TOTAL OIL LENGTH OF SHORELINE SURVEYED:** 6.66 m

**SURVEYED FROM:** Foot □ Boat □ Helo

**WEATHER:** Sun □ Clouds □ Fog □ Rain □ Snow

**OIL CATEGORY LENGTH:** W2.2 m M 4.0 m N 15.0 m VL 17.6 m NO 0 m NS 0 m US 10 m

---

### SURFACE OIL

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<tr>
<th>CHARACTER</th>
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<tr>
<td>S.O.R.</td>
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<tr>
<td>POOLED</td>
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<tr>
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<tr>
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<tr>
<td>STAIN</td>
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</tr>
<tr>
<td>MOUSSE</td>
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<tr>
<td>PATTIES/T.B.</td>
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</tr>
<tr>
<td>FILM</td>
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</tr>
<tr>
<td>NO OIL</td>
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</table>

**EST. SITE LENGTH:** SITE 1 48'  SITE 2 165'

---

### SUBSURFACE OIL

<table>
<thead>
<tr>
<th>SITE NO.</th>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>CLEAN BELOW (Y/N)</th>
<th>PIT ZONE</th>
<th>SURFACE-SUBSURFACE SEDIMENTS</th>
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<tr>
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<td>N</td>
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<td>15</td>
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<td>Y</td>
<td>B-BGC</td>
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<td>45</td>
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<td>CP-CP</td>
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**COMMENTS:**

**Photographs:** ASAP*2

**Roll No.:** Roll 3

**Frames:** 3 9

**REVIEWED:** 9/13/90

---

**SFF NOTES ATTACHED TO MODIFIED SSAT**
ASAP #2
AUGUST 11 1990
FROM SSAT MAP
CHANLEY
MAP 1 of 2

SITE 2
SEE ATTACHED NOTES

SITE 1
5m wide
25m on long
Patchy

SEGMENT #15
SUBDIVISION A
LENGTH = 625m

ETCH MAP
SPOT WASH AS REQUIRED
IN AREA OF PIT 1.2+3
SEGMENT EL-107
Subdivision A

UNIT 9 (Beach at S end)

AS HP #2
AUGUST 11, 1990
FROM SSAT
MAP
CHANLEY
MAP 2 OF 2

Site 2
cp. here between high and cliff
narrow, 20m long etc.

(C/8) M-UITZ 35m wide
by 6m long on surface
of B/C. No subsurface oil.
Photo 36.

CT/C 3m wide
x 15m long in rock
crevices and voids.

Narrow broken chat and
patchy stain along high tide line.

Character Length (m): AP 30 cr 135 ST 50 MG FT TB FL NO.
Notes for Sketch map.

EL-107-A

SITE 1

"A"
Rainbow sheen near shore. Continuous rainbow film on rocks in the MITZ & LITZ. Thin black drops of oil in pit #1. Oil in the pit was not quite running out under gravity but a great deal of black mobile oil ran into the pit with ground water. No customblen was observed in the area. Although the original SSAT survey indicated CT/B in the area it seems to have weathered to CT/P.

"B"
Along bedrock wall the oiling condition does not seem to have changed since the SSAT survey. Very little film or sheen noted in this area.

SITE 2

Time did not allow for a complete reassessment of SITE 2 but a wide variety of oiling conditions were observed. The SSAT survey does not accurately reflect the current degree of oiling at this site. Since the area received extensive manual treatment this summer, it is likely that additional oiling conditions were exposed. It is also possible that heat from the summer sun has brought more oil to the surface than was present on April 1. Considering the difference between conditions recorded in April and the "fresh" appearance of oil near sheltered sites, it is possible that mobile subsurface oil is still present. Due to the complexity of the site it was not possible to complete a thorough reassessment of this site. Major additional findings are listed below.

"C"
Subsurface oil is present even though it is not indicated on the SSAT sketch map. In the center of the oiled zone an ASAP pit was dug and OR oil was found extending 10 cm. below surficial boulders. Another ASAP pit located in the storm berm revealed OR extending beyond 45 cm. A large percentage of organic material was mixed with oil in the storm berm. Although this site received extensive treatment, it still retains CT/B in the MITZ & UITZ. Customblen is present on the beach. In addition to oil identified by the SSAT, CT/C/U, CV/P/U, SOR/I and soft AP/I/P should be added. This area is sheltered behind a bedrock outcrop and does not receive direct wave energy.

"D"
At the base of logs in the storm berm a wide variety of oiling conditions exist. Massive boulders retain classic examples of oil stains. Lower boulders retain patchy coats. Some SOR/H sediments were picked up by our VECO crew, however it is probable that some SOR/H remains on site. Oil on the sediments appeared dark and "fresh." It extends from the UITZ to the MITZ. CV/P and ST/P should be added to this area. Continuous sheens were observed in most tidal pools.
SEGMENT EL-107A

Segment Location Map
Map Key: KNIEL-107
July 19, 1990
1:7243
ASAP TAG REVIEW SHEET

Segment: FL 107 Subd: B Site: 2 Date PRE-Review 14/AUG/90

Priority For Addressing In 1990

HIGH)

NO MED\D MEDIUM LOW NTR

Treatment Recommended:

BIOREMEDIATION

As per recommendation:

DG SHEET - BROKEN SOR
SKETCH date not shown SOR > NTR

Recommendation Page - TOTAL REMOVAL OF OP SEDIMENT (@ 0-30 cm)

Priority Site For Reassessment In 1991

---

YES NO YES NO YES NO YES NO

CG ADEC EXXON LAND MGR

---

TAG 15/AUG/90

Manual till, remove surface

OP + BIO

HIGHT
ASAP FOLLOWUP RECOMMENDATIONS

Subject: AS/EEL 107  
Subj.: B  
Site: 2  
Date: 8-11-1990

Conditions Observed: A 100 SQUARE METER AREA OF HEAVY SUBSURFACE OIL (SP) WITH PENETRATION DOWN TO 20CM. DENSITY OF OIL-SEDIMENT MATRIX IS SUCH THAT CUSTOMBLEND WOULD PROBABLY NOT WORK. AREA IS LOCATED IN THE SOUTHEASTMOST SECTOR OF THE SITE WHICH ENJOYS PROTECTION FROM HIGH WAVE ENERGIES.

Followup Recommendations: THE PREFERRED AND OBVIOUSLY MOST EFFECTIVE TREATMENT WOULD BE TOTAL REMOVAL OF ALL OF SEDIMENTS FOLLOWED BY CUSTOMBLEND APPLICATION OVER THE 100 M2 AREA. A LESS DESIRABLE ALTERNATIVE WOULD BE MANUAL TILLING FOLLOWED BY CUSTOMBLEND APPLICATION IN 1990 WITH REMOVAL IN 1991 WHICH WOULD UNDOUBTEDLY LEAD TO A SECOND ROUND OF TILLING AND BIOREDEMPTION.

Completed by Pickup Crew: [ ] Yes  [x] No
Priority for Addressing in 1990: [x] High  [ ] Mod.  [ ] Low

ADEC
Wesley Ghermanly

Exxon
Rev. Sutcliff

USCG
PS1 Lee Banglow

USFWS
John ?

Comments: I agree with total removal of followed by custom blend.

Comments: I don't agree with the recommendations stated above, instead the area should be tilled and sandblended with gravel. Permanent in '91 should follow to assess the effects of high and smooth tills.

Comments: NOAA: Art Weimer  Art Weimer
I AGREE WITH THE RECOMMENDATION

Land Rep.
John Fobe
Comments: [ ]

Comments: In concur [ ]
SEGMENT AS/EL-107 SUBDIVISION: B SITE: 2 DATE 11-11-90

USCG/NOAA PS1 Leo Berclona Leo Berclona
NAME Art Weiner SIGNATURE Art Weiner

☐ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
Heavily oiled subsurface sediments in southernmost sector of site (100m² OP).

ADEC
NAME Wesley Shormley SIGNATURE Wesley Shormley

☐ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
Southernmost pocket area of this site has oil. Under clean sediment, oil is very black in some places and has the appearance of mousse in other places; the smell is very strong. It needs to be manually removed this year. Oiled debris in storm berm in contact with beach needs to be removed also.

LAND MANAGER
NAME John Ebel SIGNATURE John Ebel

☐ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
Oil on this site has very strong odor smell. Multiple small micro pockets with 20% shadow effects. To evaluate effects of winter conditions on remaining oil.

EXXON
NAME Rey Sotelo SIGNATURE Rey Sotelo

☐ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
Reassessment will be necessary in '91. This site is located in an area that is very inaccessible.
# ASAP SHORELINE OILING SUMMARY

**Team No.** ASAP #2  
**Exxon** SoTeLo  
**Segment As:** EL 107  
**Oil Category Length:** 0.20 m  
**Date:** Aug 11 / 90  
**Time:** 13:05  
**Tide Level:** 0.103 m  
**Total No. Sites:** 3  
**Total Est. Length of Shoreline Surveyed:** 330 m

### Surveyed From:
- Foot
- Boat
- Helo

### Weather:
- Sun
- Clouds
- Fog
- Rain
- Snow

## Surface Oil

### Site 1

<table>
<thead>
<tr>
<th>Character</th>
<th>Distribution</th>
<th>Oiled Zones</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>S.O.R.</td>
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<tr>
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<td>Mousse</td>
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<td>Patties/T.B.</td>
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<td>Patties/T.B.</td>
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<td>Patties/T.B.</td>
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### Subsurface Oil

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<th>Pit No.</th>
<th>Pit Depth (cm)</th>
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<th>Oiled Interval</th>
<th>Clean Below (Y/N)</th>
<th>Pit Zone</th>
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### Photographs:
- ASAP #2  
- Roll No. Roll #3

### Comments:
- See Attached Notes

---

**Reviewed:** 8/13/90
SEGMENT 81   L=107
SUBDIVISION   B
DATE 01 APR 80

ASAP #2
AUGUST 11 1990
FROM SSAT MAP
CHAN EY
(SEE NOTES)

SEE ATTACHED NOTES

SCHNEIDER

OIL CHARACTER LENGTH (ft): AP PO CV 20 CT 520 ST 170 MD 1 PT 200 TD FL NO
EL-107-B

SITE 1

In addition to the SSAT information patches of sheen were and present along the shore and ST/P on bedrock. OP was not observed but SOR/I and traces of customblen were present.

SITE 2

"A"
Broken stain and patchy coats in the UITZ. CT/B/U are found on the boulders which dominate the area.

"B"
Behind a large bedrock outcrop CT/C 1x5 meters is present. Customblen is deposited in many rock crevices. In some locations the customblen concentration exceeded 3 pounds per one crack. It seems that customblen was too concentrated in this area. Bedrock and boulders in the entire area have ST&CT/P. Photo #5.

"C"
In the small cove south of "3 tree island" another very heavy application of customblen was observed in the HITZ and SUPRA. Some logs had been cut in this area. The center of the beach was clean on the surface and a pit to 50 cm did not locate subsurface oil. On the southern edge of the cove a small pocket beach is located. In this area subsurface OP oil was located to 20 cm+. Some customblen in this location. Rainbow sheen was found in tidal pools. SOR/H/B sediments in a 10X10 meter area. Some mobile oil is still present in this area.
ASAP TAG REVIEW SHEET

Segment: FL107  Subd: C  Site: 2  Date PRE-Review 14 AUG 90

Priority For Addressing In 1990

HIGH   MEDIUM   LOW   X NTR

Treatment Recommended: NTR

Art per Recommendation:
OG/SKetch - SOR Pathy = NTR
- Subsurface - Op does not agree with
Recommendation - Site: indicate HSOR
- Storm Berm relocation

HIGH ENERGY

Priority Site For Reassessment In 1991

YES NO  YES NO  YES NO  YES NO
CG  YES PADEC NO  EXXON NO  LAND MGR NO

TAG 15 AUG 90

STORM BERM Relocation
(310 already sanded) remove surface debris
LOW
ASAP TAG REVIEW SHEET

Segment: EL 107  Subd: C  Site: 1  Date PRE-Review MARCH 1990

Priority For Addressing In 1990

___ HIGH ___ MEDIUM ___ LOW  X NTR

Treatment Recommended: NTR

CG = SPORADIC SOR
NO SUBSURFACE OIL

HIGH ENERGY

Priority Site For Reassessment In 1991

YES CG NO YES ADEC NO YES EXXON NO YES LAND MGR NO
ASAP FOLLOWUP RECOMMENDATIONS

Conditions Observed: Two distinct physical conditions exist at EL107C #2. A southern bed rock outcrop extending from shore into the water creates a wave barrier effect to the sub angular B C P Beach. Conditions here include SOR/LF: OP/4. North of the outcrop, the SUTB is coated with OP/3 on surface C P to a depth of 30-40 cm of OP.

Followup Recommendations: Angular B C P Beach manual removal heavy set SOR/LF: OP/4. Well mixed c B P Beach & storm drain relocation into the SUTB, using containment boom to account secondary containment, and shure boom to recover oil. Hot water, high pressure wash on SUTB is after following storm drain standard operating Procedure guidelines. Oil is removed from site. Custom blue applied prior to site closure, this season.

Completed by Pickup Crew: ■ YES ■ NO

AESC Wesley Eshomley

Priority for Addressing in 1990: ■ High ■ Mod. ■ Low

Comments: I agree with recommendations above. This is a tremendous amount of submerged oil present that needs additional work in 1990.

Brevon Ray Sotero

Comments: I don’t agree with storm drain relocation on this site. There is submerged oil existing in the beach but re-locating would only re-expose and create more of a hazard. I suggest we give him a choice and reason in 1991.

USCG Bila Leza Berringer

Comments: Agree with storm drain relocation accompanied by hot water wash and appropriate containment.

Land Rep. John Ebel

Comments: B C P beach has unstable oil pooling within hazards. Excellent recreation site.
FIELD SHORELINE COMMENT SHEET

SEGMENT AS # E1107 SUBDIVISION: C SITE: 4 DATE 8-16-90
USCG/NOAA PS1 Leo Bernardi Leo Bernardi
NAME Art Weiner SIGNATURE Art Weiner

☐ YES ☑ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:

NO SIGNIFICANT OIL REMAINING

☐ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:

To make a decision whether the problem of spot/stain that extends through subdivision needs further treatment.

Area is a high-energy environment.

☐ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:

Concern of ADEC.

SOR/ I verify the causing sheening.

☐ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:

No further assessment will be necessary on this site.
FIELD SHORELINE COMMENT SHEET

SEGMENT AS: ELIOT  SUBDIVISION: C  SITE: 2  DATE 8-11-90

USCG/NOAA: 851 Lee Berran  Lee Berran
NAME: Art Weiner  SIGNATURE: Art Weiner

☒ YES ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: Assess heavily oiled storm/sand berm.

ADEC
NAME: Wesley Ghureley  SIGNATURE: Wesley Ghureley

☒ YES ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: This beach is severely contaminated with Exxon Valdez oil. Work is highly recommended for this site in 1990 and possibly additional work should continue here in 1991. Storm berm relocation w/Hot H2O flood needs to be used in 1990 also oiled logs (large amount) need to be removed or burned in 90.

LAND MANAGER
NAME: John Ebel  SIGNATURE: John Ebel

☒ YES ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: This site needs immediate treatment to reduce threat to wildlife. Very little vegetation, life in AITZ through SUTC. To evaluate effectiveness of treatment under winter conditions.

EXXON
NAME: Rey Sotelo  SIGNATURE: Rey Sotelo

☒ YES ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: This site should be reassessed in '91 to evaluate the effectiveness of contamind and winter storm activity.
# ASAP SHORELINE OILING SUMMARY

**Team No:** ASAP#2  
**Exxon:** Set ELO  
**Segment AS:** E  
**OG:** CHaney  
**USCG Weiner/Bersalona:** Subdivision  
**ADEC:** GHormley  
**Land Rep:** Frel, John  
**Total No. Sites:** 2  
**Date:** Aug/11/90  
**Time:** 13:15 to 17:50  
**Tide Level:** 3.50 ft.

**Total Est Length of Shoreline Surveyed:** 150m

**Surveyed From:**  
- Foot
- Boat
- Helo

**Weather:**  
- Sun
- Clouds
- Fog
- Rain
- Snow

**Oil Category Length:**  
- W25 m
- M90 m
- N35 m
- US221 m

## SURFACE OIL

### SITE 1

<table>
<thead>
<tr>
<th>Character</th>
<th>Distribution</th>
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</tr>
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<tbody>
<tr>
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<td>Coat</td>
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**Est. Site Length:** 60

## SURFACE OIL

### SITE 2

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**Est. Site Length:** 90

## SURFACE OIL

### SITE 3

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## SUBSURFACE OIL

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<tr>
<th>Site No.</th>
<th>Pit No.</th>
<th>Pit Depth (cm)</th>
<th>Subsurface Oil Character</th>
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<th>Clean Below (Y/N)</th>
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**Comments:** See Attached Notes.
EL-107-C

SITE 1

"A"
Boulder area near the northern portion of segment contains several bedrock outcrops which retain ST&CT/B. SOR/I extends under boulders which also have CV/S/U. Sheening in tide pools. No customblen observed.

"B"
Small cobble beach. The surface cobbles appear clean. 40 cm pit did not reveal subsurface oil.

SITE 2

"C"
Surface cobbles look mostly clean along this beach however behind large bedrock outcrops and logs in the SITZ there are pockets of SOR/H. Some customblen was observed in these areas. Several old pits were present on the beach and nearly all of these pits have subsurface oil. Along the boulders at the south end of the beach SOR/I/P, CT/P and rainbow sheens were present.
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/EL-108

SUBDIVISIONS: A (1 OF 3)
SHORELINE EVALUATION

SEGMENT ST/ EL-108  SUBDIVISION A (1 OF 3) DATE  4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5R  Seabird colony (5/1 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 0 m: Narrow 108 m: V.Light 0 m: No Oil 275 m
Subsurface Oil Observed: Yes  X  No____  Maximum Depth 15 cm

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

COMMENTS: __________________________________________________________
_______________________________________________________________
_______________________________________________________________

TAG COMMENTS:
_______________________________________________________________
_______________________________________________________________
_______________________________________________________________

TAG APPROVAL DATE: __________
ADEC  EXXON  NOAA  USCG
FOSC:______________ DATE:_________
I recommend no treatment. This is a high energy area. Contains lots of mussels + snails + barnacles on rock faces and boulders.

ADEC
NAME: Michele Fee
SIGNATURE: [Signature]

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED
COMMENTS

1) Manual scrubbing of BS with a CT on the east side of the beach is one option. Due to the high energy of this area, the wave action may eventually take the coat to a stain if left alone.
2) Hand or step pick-up of the patches. O asphalt in the 2m x 2m section on the east side of the beach should also be considered.
3) 1m Band along headlands varies from a BS to a CT. This area is very exposed and should be left to natural clean methods.

LAND MANAGER
NAME: Dan Logan
SIGNATURE: [Signature]

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED
COMMENTS

1) Manually scavenge boulders on east side of beach indicated on sketch map. As is
2) Pick up tar patches in 2m x 2m section.
3) The remaining stain will naturally clean.

U.S.F.W.S. should be notified of eagle's nest site.
SHORELINE OILING SUMMARY

FROM ARCTIC SFILUOR TO SSAT P.07

SHORELINE OILING SUMMARY

OG J. Springer USCG R. Vondepels SEGMENT STI EL 108
BIO P. Clans LAND REP D. Logan SUBDIVISION A (10F 3)
EXXON T. Tonlin ADEC M. Baer TIME 10:35 TO 12:00
TEAM NO: 5 TIDE LEVEL: +1 to 0 DATE 04 10 90
EST. SUBDIVISION LENGTH: 225 m ☑ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
UPLANDS DESCRIPTION: ☑ Grass ☑ Forest ☐ Rock SURVEYED FROM: ☑ Foot ☐ Boat ☐ Helo WORKING DIRECTION: N to S
SURFACE SEDIMENTS: ☐ Rock ☐ Forest ☑ Grass ☑ Forest ☐ Rock SURFACE SEDIMENTS: ☑ Foot ☐ Boat ☐ Helo WORKING DIRECTION: N to S
SURFACE SEDIMENTS: ☑ Foot ☐ Boat ☐ Helo WORKING DIRECTION: N to S
SLOPE: Lang 50% Hang 25% Vert 25% WAVE EXPOSURE: ☐ Low ☑ Med ☐ High
OIL CATEGORY LENGTH: W 200 m M 0 m N 102 m VL 0 m NO 123 m
OIL CATEGORY LENGTH: W 200 m M 0 m N 102 m VL 0 m NO 123 m

SURFACE OIL

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PAVEMENT: H F S 0 sq. m by 0 on

NEAR SHORE SHEEN? ☐ BR RW SL TL

OILED DEBRIS AMOUNT

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Photos:

Roll No. __________
Frames __________

SUBSURFACE OIL

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COMMENTS

Possible eagle nest in back-beach forest.
Boom recovered.

Page 6 of 19

Reviewed __________ Date 4/3/90
### SHORELINE ECOLOGICAL SUMMARY

**Segment ST** / 10R  
**Subdivision** A

**Date (mo/day/yr):** 4/1/90  
**Tide Height:** 7'  
**Length:** 225m  

**Time (24 hr):** 06:22:04

**Biologist:**  
**Crane**

#### (A) Substrate type and % of segments:

1. Bedrock  (40)
2. Boulder  (10)
3. Cobble  (10)
4. Pebble  (15)
5. Sand  (25)
6. Silt  (5)

#### (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 (?)

### Barnacles

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### Wildlife Observations/ General Comments:

- 3 Bald Eagle - Adult
- Fresh dead Sea Otter in SUPRA (eyes gone)
- Harbor Seal - Adult  
- Deer tracks in SUPRA snow
- Gull

### Ecological Considerations:

- LHY
- 711

---

Page 10 of 9
**EZ 108 A**

1050 - 1210 ft

**Species List:**

**HITZ**

- Halobassian
- Fucus
- Enteromorpha
- Gloiopepsis
- Spongiosempora
- Porphyra

- Alaria
- Bosiella
- Lithothamnion
- Small Bladed reds (Rhodomela? Rhodella?)
- Rhodanella larix
- Oedothalia sp
- Ulva fenestrata
- Calapephillus
- Enteromorpha
- Green filamentous

**MIZ**

- Balanus glandula
- Littorina

**L172**

- Balanus glandula
- B. Caricatus
- Mytilus
- Littorina

- Dermasterias
- Piastra
- Myzids
- Orthasterias kohleri
- Serpulid
- Pynopodia

**Comments**

- Bald Eagle sitting in tree watch us land stayed ~ 5 minutes then flew off. Possible nest could not verify from beach - Not recorded in ADFG

- Fresh dead sea otter in SUPRA, eyes gone, brain intact. Possibly why eagle was watching beach.

- Seal otter, Deer and Raven tracks in snow in SUPRA

- In oil tar band there is a dense band of Balanus spot, 70% mort. No adults, appears to be last year's spot. Oil tarring may have inhibited settling from substrata.

- Small tide pools in L172 bedrock

- Alaria appears to replace Fucus in L172

- Mytilus distribution is patchy. High recruitment. Bed appear healthy - 5% mort

- Mollusca shell in pebble

- High energy beach with rounded rubble/pebble/sand - low macrobiota
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 sites
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 unoiled 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)
3Q, 3O 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.

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)

7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
7HH Finfish harvesting
7II Deer harvesting (9/15 to 2/28)
7JJ Invertebrate harvesting
For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/EL-108

SUBDIVISIONS: B (2 OF 3)
SEGMENT ST/EL-108 SUBDIVISION B (2 of 3) DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5R Seabird colony (5/1 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 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 18 m: Narrow 0 m: V.Light 0 m: No Oil 502 m
Subsurface Oil Observed: Yes _X_ No ___ Maximum Depth 27 cm

RECOMMENDATIONS:
___ No Treatment Recommended ___ Snare/Absorbent Booms
_X_ Treatment Recommended ___ Oil Snares (pom poms)
___ Manual Pickup ___ Absorbents (pads, rolls, etc)
_X_ Bioremediation ___ Spot Washing: ___ Wands
___ Tarmat: ___ Breakup ___ Other (see comments)
___ Removal ___ Beach Cleaner

COMMENTS: Recommended treatment includes bioremediation of area shown on attached sketch map. Work should be conducted prior to 5/1 based on seabird colony constraints or with approval from ADF&G and USFWS.

TAG COMMENTS: ______________________

TAG APPROVAL DATE: ______________
ADEC ___________ EXXON ___________ FOSC: ___________ DATE: ___________
NOAA ___________ USCG ___________
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. Contact ADF&G Habitat Division prior to treatment for permits.

Salmon fry nursery area (4/31 to 7/31)
Esther Hatchery release (4/15 to 6/1)
Main Bay Hatchery release (4/20 to 5/10)
Sawmill Bay Hatchery release (4/15 to 6/1)
Cannery Creek Hatchery release (4/21 to 6/1)
Remote release site
Gill net area (6/7 to 8/31)
Purse seine area (7/20 to 9/30)
Purse seine hook-off (7/20 to 9/30)
Set net sites (6/11 to 7/25)

For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

Herring spawning (4/1 to 6/15)
Restrict boat traffic to essential minimum. Avoid damage to unoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.

Harbor seal and sea lion pupping (5/15 to 7/1)
Harbor seal and sea lion molting (6/15 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.

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.

Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic.

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.

Recreation:
Tent sites (6/1 to 9/15)
Anchorages (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

For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
FIELD SHORELINE COMMENT SHEET

SEGMENT ST  FL 108  SUBDIVISION:  B  DATE 4/1/90

USCG
NAME  AEC Vanderpels  SIGNATURE  AEC Vanderpels

☑ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

I recommend no treatment. This subdivision is high energy area. Lots of mussels, snails, barnicals and seaweeds growing on beaches and on boulders. The entire length of sub.

ADEC
NAME  Michelle Ben  SIGNATURE  Michelle Ben

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

The southernmost B field has a 5 M coat-to-stain band. The coating can be seen in between the sheets 60 cm down. Treatment on this area should be manual scrubbing combined with bioremediation in between the sheets or smear booms left for after days to soak the oil up as the area warms. In addition, removal of oiled logs is necessary. Topography is large BS and is difficult to access. A 6 M band of mussels lies in the LITZ of the B. Along the R headland following the beach, manual scrubbing could be used for a 20 M band of CT, that is 1-2 M wide. A 2-3 M band of mussels and barnacles lies along the headland. This area is very exposed & high energy.

LAND MANAGER
NAME  Dan Hogan  SIGNATURE  Dan Hogan

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Manually scub 3MX 2M rocks/boulders area indicated on sketch map. If oiled logs are burned, burn on rock substrate to recover non-burned oil.

Page 3 of 19
SHORELINE OILING SUMMARY

OG J. Springer  USCG  R. Vandepeels  SEGMENT ST. EL 01
BIO  P. Crank  LAND REP  D. Logan  SUBDIVISION  B (2 of 3)
EXXON  T. Tamblo  ADEC  M. Bag  TIME  12:10 to 12:10
TEAM NO.:  5  TIDE LEVEL:  0 to 0  DATE  04/01/90
EST. SUBDIVISION LENGTH:  524 m  UPLANDS DESCRIPTION:  Grass  Rock
SURVEYED FROM:  Foot  Helo  WORKING DIRECTION:  N to S
SURFACE SEDIMENTS:  R: 85 %  B: 8 %  C: 5 %  P: 2 %  Z: 1 %  G: 5 %  S: 2 %  M: 1 %  V: 0 %  SLOPE:  Lang:  30 %  Hang:  10 %  Vert:  62 %  WAVE EXPOSURE:  Low  Med  High
OIL CATEGORY LENGTH:  W: 0 m  M: 20 m  N: 0 m  VL: 0 m  NO: 504 m

SURFACE OIL

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PAVEMENT:  H  F  S  __sq.m by __cm

PATTIES / TARBALLS __________ BAGS

NEAR SHORE SHEEN?  NO  BR  RW  SL  TL

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DEBRIS COLLECTED  YES  NO

TYPE  

#BAGS

Photographs:

Roll No.: __________  Frames: __________

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COMMENTS:  On northwest-facing cliff, bird nests occupy voids between pillow (lava) structures.

A 3m x 20m area with splashes to coat between boulders and in joints to 60cm depth.

Page 1 of __________

REVIEWED __________ DATE 4-5-90

4-8-90
**SHORELINE ECOLOGICAL SUMMARY**

Segment ST. EL 106  
Subdivision B  
Date (mo / day / yr) 4/1/90

Time (24 hr) 12:10 - 14:10  
Biol. Crank  
Tidal Height: 0 > +1

Length: 524 m

(A) Substrate type and % of segments:

(B) Overall % cover of biota (% of segment): Dense 50  Moderate 20  Low 30

(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)

**BARNACLES**

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Wildlife Observations/ General Comments:
4 Gulls: 1 - heard, 2 on H2O, 1 flying
1 Sea Otter - Adult
Guano on vertical face - Possible nesting site

Ecological Considerations:
6Y - Special Use Destination
711 - Deer harvesting

PAGE 4 OF 19
Species List

**HITZ**
- Lithothamnion
- Bociella
- Halosaccion
- Ralphia
- Enteromorpha
- Cladophora
- Endocladia

**MITZ**
- Lithothamnion
- Bociella
- Halosaccion
- Ralphia
- Enteromorpha
- Cladophora
- Endocladia

**LITZ**
- Rhodomenia palmata
- Sm. bladed reds
- Cladophora
- Lithothamnion
- Bociella
- Akria
- Enteromorpha
- Ralphia
- Filamentous green

Flora
- Endocladia

Fauna
- *Balanus glandula*
- Lithorina
- Limpets

- Amphipods
- Pegaus
- Lithorina
- Lithorina eggs
- Katharina tunicata
- Tunicella linnata
- Tidepool Sculpin
- Red Nudibranch (small)
- Dermoasterias
- Lithorina
- Limpets
- Stiphanoria
- B. glandula
- B. cariosus

Amphipods
- Lithorina
- Lithorina eggs
- Orthasterias koehleri
- Piaster
- Sepulid

Comments
- On headland well established banding of *Balanus glandula*, *Mytilus*, *B. cariosus* observed from skiff - unable to determine mortality.
- Possible bird nesting site, guano on well wall with many cracks and crevices, No daytime activity, possible nocturnal (Storm petrel?)
- Mature Halosaccion in MITZ appears burnt
- Barnacle scarring in LITZ cobble
- Rock plateau in MITZ ~30m x 30m covered with dense healthy mussel bed, Tidepools (0.2 m x 3 m) covered with Rhodomenia laric. *The R. laric is covered with Lithorina scut.*
- Sensitive area; food traffic should be avoided.
- Angular cobble behind boulders with dense concentrations of Lithorina and Limpets.
SKEW MAP

LEGEND

1. △
   Ph - No Subsurface Oil

2. △
   Ph - Subsurface Oil

CT/C
   Consecutive Distribution

CT/B
   Broken Distribution

CT/P
   Patchy Distribution

CT/S
   Spreaded Distribution

Oiled Vegetation
1.  
   Photo location, direction, and number

Character Length (m): AP PO CV CT 2.0 ST MS PT TB FL NO 504
XXX Wide  EL-108
//// Medium  ADEC Segment Length: 1497
---- Narrow
TTTT Very Light  Meters
0000 No Oil

Map Key: PWS-128
Name: James Springer
Date: 04/01/90
Date Entered:
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/EL-108

SUBDIVISIONS: C (3 OF 3)
SHORELINE EVALUATION

SEGMENT ST/ EL-108  SUBDIVISION C (3 OF 3)  DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5R   Seabird colony (5/1 to 9/1)
5t 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 unailed 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 160 m: Medium 0 m: Narrow 42 m: V.Light 0 m: No Oil 259 m
Subsurface Oil Observed: Yes X   No____  Maximum Depth 10+cm

RECOMMENDATIONS:
X Treatment Recommended
___ No Treatment Recommended
___ Manual Pickup
___ Bioremediation
___ Tarmat: ___ Breakup
___ 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) placement of pom poms/snares in cracks between boulders to pick up pooled oil. Work should be conducted before 5/1 or after 9/1 based on seabird colony restrictions or with approval of ADF&G and USFWS regarding seabird colony and possible eagle nest, not listed by USFWS on 1990 map.

TAG COMMENTS:_____________________________________________________

TAG APPROVAL DATE:____________________
ADEC  EXXON  FOSC:____________________  DATE:____________________
NOAA  USCG
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 (5/7 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 site (8/11 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 unlogged 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)
3Q, 3R 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.

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 Anchorage (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)
7H-H Fish harvest
7I Deer harvest (8/15 to 2/28)
7JJ Invertebrate harvest
For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
FIELD SHORELINE COMMENT SHEET

SEGMENT ST: EL 108 - C  SUBDIVISION: C  DATE 4/1/90

USCG
NAME AEC Vandepels  SIGNATURE AEC Vandepels

☐ NO TREATMENT RECOMMENDED  ☒ TREATMENT SUGGESTED

COMMENTS

I suggest placing pompons in among boulders in 15 x 100 M band and let the warming of the sun and tides/wave action clean area. Southern most in sub C.

ADEC
NAME Michele Baer  SIGNATURE Baer

☐ NO TREATMENT RECOMMENDED  ☒ TREATMENT SUGGESTED

COMMENTS

EL 108 is a high energy beach with a prolific Mytilus, Balanus, and focus population in the LiTZ. 1/2 way through the segment, and continuing to the S. end of the segment the BC beaches have several large areas with high ord OF CT to CV on the tops of the Bs as well as the underlying areas. Two prime methods of treatment are recommended: 1) As the oil wands, pack boom into the areas between the Bs, replacing them every 3 days, to absorb the oil. 2) The second treatment option is washing with hot water wands and using boom to absorb the sheen coming off the beach. The first treatment may take more labor, but the oil will not be forced further into the bottom layer and the impact will be lessened on the rich LiTZ organism layers 10 feet below the impacted area. During the warmer months, additional bags can be used to maintain the Mytilus beds throughout the area.

LAND MANAGER
NAME Dan Logan  SIGNATURE Logan

☐ NO TREATMENT RECOMMENDED  ☒ TREATMENT SUGGESTED

COMMENTS

Isolated pockets on the southern portion of this segment have high % CT focu in upper intertidal zone above areas of high mussel production. This area should warm during summer. I recommend has a southern exposure which should warm during summer. I recommend parking these areas with snare boom to absorb the oil as it warms. Because of the lower intertidal mussel beds in this area I recommend not water wash only as a last resort if other treatments are unsuccessful.

15 of 19
SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
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<tr>
<td>FILM NO OIL</td>
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PAVEMENT: H F S 15 sq. m by 3 or
PATTIES / TARBALLS 0 BAGS
NEAR SHORE SHEEN? NO BR RW SL TL

SLOPE: Lang 60% Hang 30% Vert 10% WAVE EXPOSURE: Low Med High
OIL CATEGORY LENGTH: W 160 m M - m N 87 m VL - m NO 50m

SUBSURFACE OIL

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COMMENTS: Eagle's nest in woods behind second (from NE) pocket beach. Coral collected from joints in rock on NE point.
### Subsurface Oil (Continued)

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<th>PIT NO.</th>
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**Comments**

**Reviewed**

**Date**
SEGMENT: EL 108

DATE: 04/01/90

CHECKLIST:
- N Arrow
- Approx Scale
- Legend
- Width
- Length
- Cover
- Substrate Character
- CSL, ML/LWL
- Profile Location(s)
- Profile(s)
- Pit Location(s)
- Photo Location(s)

LEGEND:
1. A
   - Pi - No Subsurface Oil
2. A
   - Pi - Subsurface Oil

ETCH MAP:
- Eagle's nest
- High energy shoreline
- Collect pooled oil with snorkel and pondoms
- B.C., P.G. Beach
- 2m x 20m CT/ST/B
- Boulders, cobbles, pebble beach
- 17m x 2m CT/ST/B
- Mussel on boulders
- 30m x 20m CV/C
- on boulders & rock face
- pooled in crevices
- with asphalt & mousse, 70% coverage
- 20m x 10m CTW/packets
- on underside of boulders 60% coverage
- Boulder, pebble beach
- 10m x 1m ST/SG
- along rock face 5% coverage

Oil Character Length (m): AP PO CV 50 CT 140 ST 57 MS PT TB FL NO 501
**SHORELINE ECOLOGICAL SUMMARY**

Segment ST EL 108  Subdivision C  Date (mo/day/yr) 4/11/90

Time (24 hr) 14/10-14/24  Biologist Crank  Tidal Height: +1 > -7

Length: 748 m

(A) Substrate type and % of segments:
- Bedrock 35
- Boulder 45
- Cobble 15
- Pebble 5
- Sand 6
- Silt

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

(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)

**BARNACLES**

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**MYTILUS**

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**GASTROPODS**

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**FUCUS**

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**Wildlife Observations/ General Comments:**
- Immature, Golden Eagle (11 yr Bird?) - flying
- Marbled Murrelet on H2O
- Bald Eagle - Adult
- Seabird Rookery / Pelagic / Brandt's Cormorants (50+)
- Black-footed Kiwi / Weka (300+)
- Glorious Winged Gull (50+)
- Oystercatcher (1)

Ecological Considerations:
- UY - Special Use Destination
- 711 - Deer Harvesting
- 5TR - Sea Bird Colony - offshore rocks

**Photographs:**
- Roll No.
- Frames

**Frames**

NOT PRESENT

NOT PRESENT

NOT PRESENT

NOT PRESENT

16 of 19
The area is a boulder beach with angular cobble in MITZ, cobble appeared rounded in LITZ observed through \( \text{H}_2\text{O} \) (tide covered). Cobble in MITZ is protected from wave action by large numerous boulders.

1. In MITZ: there is a moderate discontinuous band of Balanus glandula adults, juveniles and spat 50\% morts.

2. In MITZ: there is a 6-8 m Mytilus band with patchy distribution and dense concentrations. Mytilus recruitment is high.

Gastropod (\textit{Littorina}; Limpets) concentrations were dense on boulders but sparse in cobble.
Balanus glandula is dense on boulders; 10\% morts.
Fucus is in moderate concentrations 80\% appears burnt. Fonds reproductiv 20\% Porphyra cover on boulders.

3. LITZ: was unexposed when this area was surveyed. Observations were taken through \( \text{H}_2\text{O} \). Species observed: Fucus \( \rightarrow \) moderate concentrations.
Cladophora \( \rightarrow \) moderate
Rhodomenia \textit{palma} \( \rightarrow \) moderate
\( \text{B. glandula} \rightarrow \) dense
\( \text{B. cariosus} \rightarrow \) dense
Kathrina tunical \( \rightarrow \) sparse

Unable to turn cobble for observations.

Overall biotic concentrations for this area 25\% dense 50\% moderate 25\% sparse.
Crank Length 748m

Species List

HITZ
- Endocladia

MITZ
- Fucoid green
- Small bladed red
- Rhodomela larix
- Fucus
- Lithothamnion
- Calliarthron
- Halosaccion
- Gloiopeitis
- Endocladia
- Odonthalia
- Syotosiphon
- Mastocarpus papilata

LITZ
- Odonthalia
- Alaria
- Fucus
- Cladophora
- Bosileg
- Filamentous red
- Lithophylophytum

Flora

HITZ
- Endocladia

MITZ
- Fucoid green
- Small bladed red
- Rhodomela larix
- Fucus
- Lithothamnion
- Calliarthron
- Halosaccion
- Gloiopeitis
- Endocladia
- Odonthalia
- Syotosiphon
- Mastocarpus papilata

LITZ
- Odonthalia
- Alaria
- Fucus
- Cladophora
- Bosileg
- Filamentous red
- Lithothamnion

Fauna

HITZ
- Balanus glandula
- Limpets
- Lithoria

MITZ
- Mytilus
- Tidedpod Sculpin
- Balanus glandula
- B. cariosus
- Small orange Sponge
- Anthropleura
- Lithoria
- Kotharia tunicata
- Coral

LITZ
- Hydroid
- Anthropleura
- Bryozoan
- Siphonaria
- Plaster

Comments
- Fucus stipes in LITZ appear burnt
- Mastocarpus papilata - one plant in upper MITZ
- Textbook zonation on vertical faces: B. glandula + Mytilus + B. cariosus
- Forest area; overhang has high den potential
- Seabird Rookery is located on two offshore rocks. Survey made by skiff drive-by.
- Counts are quick estimates.
- Corals found on partially submerged rock
- There was a 100m x 20m a black cover with some pooling

The following pages of comments refers to this portion of
### ADDENDUM: SUBDIVISION CONSTRAINTS

-SEGMENT EL-108 SUBDIVISION C (3 of 3)

<table>
<thead>
<tr>
<th>WORK WINDOW</th>
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<tbody>
<tr>
<td>Manual Pickup</td>
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<tr>
<td>OPEN</td>
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<tr>
<td>Bioremediation</td>
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<tr>
<td>Other Approved Treatment</td>
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<tr>
<td>WORK PRIOR TO 8/15</td>
</tr>
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### ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

### APPLICABLE ECOLOGICAL TIME CONSTRAINTS

- **5R  Seabird Colony**: NO CONSTRAINT. Work area is over 800m from colony.
- **5T  Bald Eagle Nest**: NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision C work site.
- **7II  Subsistence: Deer Harvesting**: Closed to bioremediation and other approved treatment after 8/15. No constraint to manual pickup.

### OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic and beach disturbance to essential minimum after 8/15. Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

---

FOSC  

DATE 6-10-90  

Prepared By: W. Keller  

Date 6/9/90
SHORELINE EVALUATION

SEGMENT ST/ EL-108 SUBDIVISION C (3 OF 3) DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5R Seabird colony (5/1 to 9/1)
5t All bald eagle-nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
6Y Recreation: Special use destination
7YI 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 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: 4/25/90

OILING CATEGORIZATION:
Wide 160 m: Medium 0 m: Narrow 42 m: V.Light 0 m: No Oil 259 m
Subsurface Oil Observed: Yes X No Maximum Depth 10+cm

RECOMMENDATIONS:
X No Treatment Recommended X Snare/Absorbent Booms
X Treatment Recommended X Oil Snare (pom poms)
_____ Manual Pickup _____ Absorbs (pads, rolls, etc)
_____ Bioremediation _____ Spot Washing: Wands
_____ Tarmat: ___ Breakup
_____ Removal ___ Other (see comments)

TAG COMMENTS: Recommended treatment includes 1) placement of pom poms/snares in cracks between boulders to pick up pooled oil. Work should be conducted before (5/1) or after (9/1) based on seabird colony restrictions or with approval of ADF&G and USFWS regarding seabird colony and possible eagle nest, not listed by USFWS on 1990 map.

TAG APPROVAL DATE: 9/24/90
ADEC Art Weese Art Weese
EXXON [signature] [signature]
NOAA [signature] [signature]
USCG [signature] [signature]
SHORELINE EVALUATION

SEGMENT ST/ EL-108 SUBDIVISION A (1 OF 3) DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5R  Seabird colony (5/1 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: 4/25/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 108 m: V.Light 0 m: No Oil 275 m
Subsurface Oil Observed: Yes ___ X ___ No ___ Maximum Depth 15 cm

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

COMMENTS:


TAG COMMENTS: MONITOR TO CHECK FOR PRESENCE OF DEBRIS PATCHES ON THE EAST SIDE OF THE DUCKET BEACH AND DETERMINE THE NEED TO ACTIVATE A CLEANUP TEAM FOR REMOVAL

TAG APPROVAL DATE: 4/24/90
ADEC ARTHUR WALKER DATE: 5/3/90
EXXON AMT EA DATE:
NOAA JOSEPH TADDELL
USCG M. STONE
SHORELINE EVALUATION

SEGMENT ST/ EL-108  SUBDIVISION B (2 OF 3)  DATE  4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5R  Seabird colony (5/1 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 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: 4/25/90

OILING CATEGORIZATION:
Wide 0 m: Medium 18 m: Narrow 0 m: V.Light 0 m: No Oil 502 m
Subsurface Oil Observed: Yes  X  No  Maximum Depth 27 cm

RECOMMENDATIONS:
X  No Treatment Recommended  Snare/Absorbent Boom
  Treatment Recommended  Oil Snare (pom poms)
  Manual Pickup  Absorbents (pads, rolls, etc)
  Bioremediation  Spot Washing: Wands
  Tarmat: Breakup  Beach Cleaner
  Removal  Other (see comments)

COMMENTS: Recommended treatment includes bioremediation of area shown on attached sketch map. Work should be conducted prior to 5/1 based on seabird colony constraints or with approval from ADF&G and USFWS.

TAG COMMENTS: DUE TO ENVIRONMENTAL SENSITIVITIES, INACCESSIBILITY OF THE REMAINING WEATHERED OIL, AND THE HIGH ENERGY EXPOSURE, NTR IS WARRANTED

TAG APPROVAL DATE: 4/24/90
ADEC  ART WEINER  DATE: 5/3/90
EXXON  WAYNE TELLEFSEN
NOAA  JESSICA C. HARTLE
USCG  H. T. HALL
SHORELINE EVALUATION

SEGMENT ST/ EL-108 SUBDIVISION C (3 OF 3) DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5R Seabird colony (5/1 to 9/1)
5t 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 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: 4/25/90

OILING CATEGORIZATION:
Wide 160 m: Medium 0 m: Narrow 42 m: V.Light 0 m: No Oil 259 m
Subsurface Oil Observed: Yes X No Maximum Depth 10+cm

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

COMMENTS: Recommended treatment includes 1) placement of pom poms/ snares in cracks between boulders to pick up pooled oil. Work should be conducted before 5/1 or after 9/1 based on seabird colony restrictions or with approval of ADF&G and USFWS regarding seabird colony and possible eagle nest, not listed by USFWS on 1990 map.

TAG COMMENTS: TREAT AS INDICATED PRIOR TO MAY 1ST. FOLLOWING CONSULTATION WITH, AND APPROVAL BY, USFWS APPLY BIOREMEDIATION IN AREAS INDICATED ON SHEET.

TAG APPROVAL DATE: 4/24/90
NOAA [Signature] USCG [Signature]
SEGMENT ST 21/108
SUBDIVISION C
DATE 09/01/90

CHECKLIST
- Arrow
- Approx. Scale
- Topo/Sub Sedgy
- Oil Dist.
- Water
- Length
- A Cover
- Subsurface Character
- Ed. HWL/LWL
- P/L
- Profile Location(s)
- Poll Location(s)
- Photo Location(s)

LEGEND
1. A
   - No Subsurface Oil
2. A
   - 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 50 CT 140 ST 57 MS PT TB FL NO 501
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT EL-109 SUBDIVISION A (1 of 1)

WORK WINDOW

<table>
<thead>
<tr>
<th>Manual Pickup</th>
<th>Tarnat Removal</th>
<th>OPEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioremediation</td>
<td>Manual Raking</td>
<td>WORK PRIOR TO 8/15</td>
</tr>
</tbody>
</table>

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

>>> PHONE 564-3274 (Anchorage) OR 229-1508 (24 hrs.) <<<

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

| 5T  | Bald Eagle Nest | NO CONSTRAINT. Nest more than 400m from recommended treatment areas. |
| 7II | Subsistence: Deer Harvesting | No constraint to manual pickup and tarmat removal; 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 unoiled biota and substrate.

TAG ADDENDUM DATE 5/21/90
ADEC Asst. Warden
EXXON Ann F. Easy
NOAA B. C. White
USCG

Prepared by: [Signature] Date: 5/19/90
ECOLOGY MAP
SEGMENT EL-109
SUBDIVISION A (L of L)
METERS

★ Seabird Colony
△ Eagle Nest

Exxon Company, USA
Map Key: KN1-EL-109
SHORELINE EVALUATION

SEGMENT: EL-109 SUBDIVISION A (1 OF 1) DATE: 4/23/90

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: 5/8/90

OILING CATEGORIZATION:

Wide 204 m: Medium 225 m: Narrow 883 m: V.Light 1537 m: No Oil 411 m
Subsurface Oil Observed: Yes X No Maximum Depth 38 cm

RECOMMENDATIONS:

_No Treatment Recommended _ Snare/Absorbent Booms
_X Treatment Recommended _ Oil Snares (pom poms)
_X Manual Pickup _ Absorbents (pads, rolls, etc)
_X Bioremediation _ Spot Washing: Wands
_X Tarmat Removal _ Beach Cleaner

Other (see comments)

COMMENTS: Recommended treatment includes 1) manual pickup of cleanup debris in areas indicated on sketch maps #1 and 2, 2) manual removal of tarmat in area indicated on sketch map #4, 3) manual raking of surface cobble in area indicated on sketch map #2, and 4) bioremediation of areas indicated on sketch maps #1, 2, 3, 4. Work should be conducted after 5/1.

TAG COMMENTS: MONITOR TO ASSESS TACKLED AREAS ON TREATMENT.

TAG APPROVAL DATE: 5/7/90
ADEC FOSC: DATE: 5/12/90
EXXON
NOAA
USCG
1991 MAYSAP EVALUATION

SEGMENT: EL 108 SUB: B REGION: PWS SURVEY DATE: 5/3/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s) OPEN 5/1 - 8/15; RESTRICTED 8/15 - 9/15

Ecological/Constraints (see page two for details) Subsistence - Deer harvesting

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

SHPO Signature: __________________________ Date: __________________

RECOMMENDATIONS:

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________________________
Subsistence - Deer Harvesting: Unlimited treatment prior to 8/15.
WILDLIFE OBSERVATIONS TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS

<table>
<thead>
<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED SPECIES PRESENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagles</td>
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<td></td>
<td></td>
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<tr>
<td>Seabirds</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Waterfowl</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gulls/kittiwakes</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Shorebirds</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Corvids</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Birds</td>
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<td></td>
</tr>
</tbody>
</table>

LAND MAMMALS

<table>
<thead>
<tr>
<th>MARINE MAMMALS</th>
<th># OBSERVED</th>
<th>SPECIES</th>
<th># OBSERVED</th>
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<tbody>
<tr>
<td>Sea Otters</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pinnipeds(specify)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Les(specify)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Shoreline subdivision map showing important biological features attached.
Diverse substrate types; eastern wave exposure, tidepools result in very diverse benthos. Verrucaria and barnacles near, but not on oiled surfaces.

* Excellent pillow basalt outcrops
1991 MAYSAP EVALUATION

SEGMENT: EL 108 SUB: C REGION: PWS SURVEY DATE: 5/3/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s) OPEN 5/1 - 8/15; RESTRICTED 8/15 - 9/15

Ecological/Constraints (see page two for details) Subsistence - Deer harvesting

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

SHPO Signature: ______________________ Date: ______________

RECOMMENDATIONS:

TREATMENT REQUIRED (Y or N) N   TAG   FOSC

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 ___________________________
Subsistence - Deer Harvesting: Unlimited treatment prior to 8/15.
MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 2  SEGMENT EL-108  SUBDIVISION C  DATE 5/3/91

ADEC  NAME  PETER MANTESSAO  SIGNATURE  

☐ NTR  TREATMENT RECOMMENDED

The PO on this segment has sealed into ASPER and deep into this rough Boulder Shoreline. There remains some recoverable oil, but it is not worth the amount of labor or the difficult landing on this area.

Note: I disagree with the characterization in the CG Comments, but the matter is hardly worthy of further comment.

EXXON  NAME  A.M. KATSUMAIS  SIGNATURE  

☐ NTR  GOOD SURVEY. AGREE WITH LAND REPS. COMMENTS.

LANDMANAGER  NAME  DENNIS S. KENNEDY  OF USFS  SIGNATURE  D.S. KENNEDY

☐ NTR  Subdivision contains great mix of marine habitat.

Cultural Feature - Two mine shafts most likely looking for copper. One shaft has old timber support. Natural cleanup is taking place due to high energy wave action.

USCG/NOAA  NAME  MICHEL (NAME)  BIMI ZENOHE (CG)  SIGNATURE  

☒ NTR  There has been significant improvement in the degree of oiling since SSAT and ASAP, where CV was as high as 60-70% and found, mouse and AP was found. Remaining oil is located in the most sheltered areas which are very inaccessible.

CG - NO TREATABLE OIL. 3
<table>
<thead>
<tr>
<th>TEAM NO.</th>
<th>B. TRIMM</th>
<th>BIO J. Benson</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADEC</td>
<td>P. MONTESANO</td>
<td>LANDMANAGER D. KENNEDY for USFS</td>
</tr>
<tr>
<td>DOXON</td>
<td>C. KATSIMPALIS</td>
<td>BM1 ZENGONE</td>
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<table>
<thead>
<tr>
<th>TIME</th>
<th>TIDE LEVEL</th>
<th>ENERGY LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:44 to 11:11</td>
<td>+0.2 ft. to +0.2 ft.</td>
<td>H M L</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SURVEYED FROM:</th>
<th>FOOT</th>
<th>BOAT</th>
<th>HELO</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEATHER:</td>
<td>SUN</td>
<td>CLOUDS</td>
<td>FOG</td>
</tr>
</tbody>
</table>

| TOTAL LENGTH SHORELINE SURVEYED: 600 m | NEAR SHORE SHEEN: | BR | RB | SL | NONE |

| EST. OIL CATEGORY LENGTH: | W φ m M 105 m N - m V 65 m N 430 m US φ m |

<table>
<thead>
<tr>
<th>L</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT</th>
<th>SHORE SLOPE</th>
<th>WIDTH</th>
<th>LENGTH</th>
<th>ZONE</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>S</td>
<td>P</td>
<td>BR</td>
<td>H</td>
<td>5</td>
<td>50</td>
<td>X</td>
</tr>
<tr>
<td>B</td>
<td>S</td>
<td>S</td>
<td>BR</td>
<td>H</td>
<td>5</td>
<td>30</td>
<td>X</td>
</tr>
<tr>
<td>C</td>
<td>S</td>
<td>S</td>
<td>6R</td>
<td>H</td>
<td>5</td>
<td>20</td>
<td>X</td>
</tr>
<tr>
<td>D</td>
<td>S</td>
<td>P</td>
<td>8R</td>
<td>H</td>
<td>7</td>
<td>35</td>
<td>X</td>
</tr>
<tr>
<td>E</td>
<td>S</td>
<td>P</td>
<td>8R</td>
<td>H</td>
<td>1</td>
<td>15</td>
<td>X</td>
</tr>
</tbody>
</table>

| DISTRIBUTION: | C = 91-100%; B = 51-60%; P = 11-50%; S = 1-10%; T = <1% |
| SLOPE: | V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE |

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>OILED HALO</th>
<th>CLEAN H2O LEVEL</th>
<th>SHEEN COLOR</th>
<th>PIT SEDIMENTS</th>
<th>SUBSURFACE SEDIMENTS</th>
<th>SEDIMENTS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20</td>
<td>OP</td>
<td>H</td>
<td>Y</td>
<td>-</td>
<td>K</td>
<td>P - GP</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>OG COMMENTS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>See attached typed written comments</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>SEGMENT</th>
<th>EL108</th>
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</thead>
<tbody>
<tr>
<td>SUBDIVISION</td>
<td>C</td>
</tr>
<tr>
<td>DATE</td>
<td>S 13 1991</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>REVISED: AC 5/17/91</th>
</tr>
</thead>
<tbody>
<tr>
<td>revised 5/17/91 KG</td>
</tr>
</tbody>
</table>
EL108-C is a high angled shoreline with vertical cliffs behind a boulder talus base. High wave energies reach this southeast facing shoreline.

The ADEC representative noted HOR/MOR under boulder talus on the western half of the subdivision, the area seaward of the mine shafts. This oiling is typically CT, CV, ST, and SOR that has settled between and under the large boulder talus. There is limited and possibly no access for retrieval.

The large size of the boulder talus (average size is 1m3) makes it difficult to define the top of the subsurface, and the interstices are large. In many cases, one can look between a couple of boulder layers to the finer grained cobble and pebble clasts. The top of the subsurface begins where the interstices are open so that one can peer between the boulder talus and: (1) view the finer grained clasts below, or (2) the base of the last boulder that is visible through the interstices. Below are examples.
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 2  DATE 3 May '91
SEGMENT # E11D8  TIDAL HEIGHT (Range) 0' to 0'
SUBDIVISION C  BIOLOGIST John Benson
SEA STATE 1'  WIND SPEED/DIRECTION calm
PHOTOGRAPHS: ROLL # —  FRAME # —

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):

(A, B, C, D, E) - Verrucaria & sparse barnacles were found near but not on the oiled surfaces. The biota here is extremely diverse, with high % cover, except on the cobble-pebble beach. The large boulders provide a multitude of different "microhabitats" especially with regard to the broad range of wave exposures of this east-facing shore. The high biotic diversity is seen in the invertebrates as in the macroalgae. The biota on the bedrock has slightly higher % cover & slightly lower diversity, reflecting the greater homogeneity of this substrate type. There are no special biological sensitivities here (except that it is a naturalistic nivaline).

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

<table>
<thead>
<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED</th>
<th>SPECIES PRESENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagles</td>
<td>—</td>
<td>—</td>
<td></td>
<td>&quot;blenny, eels&quot;</td>
</tr>
<tr>
<td>Seabirds</td>
<td>—</td>
<td>—</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td>—</td>
<td>—</td>
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<td></td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td>—</td>
<td>—</td>
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<tr>
<td>Shorebirds</td>
<td>—</td>
<td>—</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corvids</td>
<td>—</td>
<td>—</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Birds</td>
<td>—</td>
<td>—</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>LAND MAMMALS</th>
<th># OBSERVED</th>
<th>SPECIES</th>
<th># OBSERVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sea Otters</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Whales(specify)</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

Shoreline subdivision map showing important biological features attached.
**Biological Map**

**Prince William Sound**

Extremely diverse and apparently productive area. Diverse algae & trophically complex fauna. Recent recruitment of Fucus, littorina, limpets, barnacles.

---

*John Benson*

**3 May 91**

**Bio Sket Map**

---

**North**

- **E108-C**
- **E169-C**
- **Rocks/Plates**
- **Cobble/Boulder**
- **Boulder Tides**
- **Rocky**

---

**Mine Shafts**

---
1991 MAYSAP EVALUATION


ENVIRONMENTAL SENSITIVITIES:
Work Window(s) OPEN

Ecological/Constraints (see page two for details) NONE

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

SHPO Signature: ___________________________ Date: __________

RECOMMENDATIONS:

<table>
<thead>
<tr>
<th>TREATMENT REQUIRED (Y or N)</th>
<th>INITIAL</th>
<th>TAG</th>
<th>FOSC</th>
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<tr>
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<td></td>
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</tr>
<tr>
<td>Manual Pickup (Check as Req.)</td>
<td></td>
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<tr>
<td>Spot Washing</td>
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</tr>
<tr>
<td>Bio-Customblen Only</td>
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<td></td>
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<tr>
<td>Bio-Inipol/Customblen</td>
<td></td>
<td></td>
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<tr>
<td>Other</td>
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<tr>
<td>Other</td>
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COMMENTS:
INITIAL: ____________________________

TAG: ____________________________

FOSC: ______________________________

TAG APPROVAL DATE: __________

FOSC APPROVAL DATE: __________

ADEC __________

EXXON __________

USCG __________

NOAA __________
<table>
<thead>
<tr>
<th>TEAM NO.</th>
<th>SEGMENT EL</th>
<th>SUBDIVISION</th>
<th>DATE 5/3/91</th>
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<tbody>
<tr>
<td>2</td>
<td>EL 1.05</td>
<td>A</td>
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</tr>
</tbody>
</table>

**ADEC**

**NAME:** Peter Montesano  
**SIGNATURE:** Peter Montesano

- [ ] NTR  
- [ ] TR  

Jocks Good. My PITS to 40cm failed to turn up any of that brown stuff. Concur w/NOAA.

---

**EXXON**

**NAME:** C. M. Katsimpalis  
**SIGNATURE:** C. M. Katsimpalis

- [ ] NTR  

I CONCUR WITH THE OTHER MEMBERS OF THE TEAM.

---

**LANDMANAGER**

**NAME:** Dennis S. Kennedy (USFS)  
**SIGNATURE:** D. S. Kennedy

- [ ] NTR  

No need for any future action. Area in good shape.

---

**USCG/NOAA**

**NAME:** Michael (NOAA)/Jim Zehnder (US)  
**SIGNATURE:** Michael

- [ ] NTR  

The oil distribution found on this survey was very similar to ASMP, but less (i.e. CT on mid beach rock outcrop went from 1x5m O/T/8 to 1x15m O/T/15%). We broke up the only significant amount of SORE (30 cm²). Michael

---

**Comment:**  
AREA IS LOOKING VERY WELL. NO FUTURE TREATMENT SHOULD BE NEEDED HERE.  

<table>
<thead>
<tr>
<th>LOC</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE OIL CHARACTER</th>
<th>SHORE SLOPE</th>
<th>AREA WIDTH</th>
<th>LENGTH</th>
<th>ZONE</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Distribution:**
- C = 81-100%; B = 61-80%; P = 41-60%; S = 1-10% T = <1%

**Slope:**
- V = Vertical
- H = High Angle
- M = Medium Angle
- L = Low Angle

**Photo Roll #2 May 10:**
- Ledge Rock
- On Vertical Rock Wall

**Pit Pit Surface Oil Character:**
- Oiled Zone
- Clean Below
- Sheen Color
- Pit Zone
- Subsurface

**Surface Sediments:**
- Notes

**Subsurface Oil Character:**
- No Oil

**Sheen Color:**
- B = Brown
- R = Rainbow
- S = Silver
- N = None

**OG Comments:**
- Boat went on beach
- Quick survey of edge of vertical rock faces outside of gove revealed no oiling
- CT, 30x4.5 CV found on protected sides of rocks
- Sur-Hvy in Boulders was broken up
- 1 Snare Boom collected
- No Pits dug; ASAP checked no subsurface oiling
WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

<table>
<thead>
<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED SPECIES PRESENT</th>
</tr>
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<tbody>
<tr>
<td>Eagles</td>
<td></td>
<td></td>
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</tr>
<tr>
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<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td>1</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Shorebirds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corvids</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Birds</td>
<td></td>
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<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>MARINE MAMMALS</th>
<th># OBSERVED</th>
<th>SPECIES</th>
<th># OBSERVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sea Otters</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nipps (specify)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whales (specify)</td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>LAND MAMMALS</th>
<th># OBSERVED</th>
<th>SPECIES</th>
<th># OBSERVED</th>
</tr>
</thead>
</table>

Shoreline subdivision map showing important biological features attached.
**FIGURE MAP**

**EL108-A**
3 MAY 91
11:30 - 12:03

**John Benson**

---

**North**

**METERS**

---

**Filamentous green algae near the oiled surfaces. Biotic % cover is low on cobbles & high on bedrock.**
1991 MAYSAP EVALUATION


ENVIRONMENTAL SENSITIVITIES:
Work Window(s) OPEN

Ecological/Constraints (see page two for details) NONE

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

SHPO Signature: [Signature] Date: 5/17/91

RECOMMENDATIONS:

TREATMENT REQUIRED (Y or N) N
Manual Pickup (Check as Req.)
Spot Washing
Bio-Customblen Only
Bio-Inipol/Customeblen
Other

COMMENTS:
INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: 5/17/91 FOSC APPROVAL DATE: 2/5 MAY 1991

ADEC
EXXON
USCG
NOAA

E. E. PAGE, CDR, USCG
CHIEF OF STAFF, FOSC
MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 2  SEGMENT EL 108  SUBDIVISION A  DATE 5/13/91

ADEC
NAME Peter Montesano  SIGNATURE Peter Montesano

☐ TR

Looks Good. My PITS to 40cm failed to turn up any of that Brown Stuff. Concur w/NOAA.

EXXON
NAME C.M. Hataimpala  SIGNATURE C.M. Hataimpala

☐ TR

I CONCUR WITH THE OTHER MEMBERS OF THE TEAM.

LANDMANAGER
NAME DONNIS S. Kennedy of USFS  SIGNATURE D.S. Kennedy

☐ TR

no need for any future action. area in good shape

USCG/NOAA
NAME HUICHEL (NOAA)  BON ZEOLINE (CO)  SIGNATURE HUICHEL

☐ TR

The oil distribution found on third survey was very similar to ASAP, but less (i.e. CTon mid beach rock outcrops went from 1x8m CT/8 to 1x15m CT/15%). We broke up the only significant amount of CTB (30 cm²). HUICHEL

CG -
AREA IS LOOKING VERY WELL. NO FUTURE TREATMENT SHOULD BE NEEDED HERE. Z
<table>
<thead>
<tr>
<th>Surface Oil Character</th>
<th>Surface Sediment</th>
<th>Shore Slope</th>
<th>Width</th>
<th>Length</th>
<th>Zone</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
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**Surface Oil Character**

<table>
<thead>
<tr>
<th>L O C</th>
<th>AP</th>
<th>MS</th>
<th>TB</th>
<th>COR</th>
<th>CV</th>
<th>CT</th>
<th>ST</th>
<th>FL</th>
<th>DB</th>
<th>NO</th>
<th>TYPE</th>
<th>VH ML</th>
<th>Width</th>
<th>Length</th>
<th>Zone</th>
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<tbody>
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<td>A</td>
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<td>R B</td>
<td>M</td>
<td>1</td>
<td>3</td>
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<tr>
<td>B</td>
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<td>R</td>
<td>V</td>
<td>1</td>
<td>15</td>
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</table>

**DISTRIBUTION:**
- C = 91-100%
- B = 51-60%
- P = 11-50%
- S = 1-10%
- T = <1%

**SLOPE:**
- V = Vertical
- H = High Angle
- M = Medium Angle
- L = Low Angle

**PIT No.**

**Pit Depth (cm)**

**Subsurface Oil Character**

<table>
<thead>
<tr>
<th>Pit No.</th>
<th>Oil Character</th>
<th>Oiled Zone</th>
<th>Clean Below</th>
<th>H20 Level</th>
<th>Sheen Color</th>
<th>Pit Zone</th>
<th>Subsurface Zone</th>
<th>Sediments</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

**Sheen Color:**
- B = Brown
- R = Rainbow
- S = Silver
- N = None

**OG Comments:**
- Boat week on beach
- Quick survey by skiff of vertical rock faces outside of zone revealed no oiling.
- CT, SAR & CV found on protected sides of rocks.
- Surf-Hvy in Boulder Tals was broken up.
- 1 Snare Boom Collected
- No pits dug - ASAP showed no subsurface oiling.
TEAM # 2  DATE  3 May '91
SEGMENT #: E108  TIDAL HEIGHT (Range)  0' + 1'
SUBDIVISION A  BIOLOGIST  John Benson
SEA STATE 1  WIND SPEED/DIRECTION  calm
PHOTOGRAPHS: ROLL #  ---  FRAME #  ---

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):

(A,B)-Filamentous green algae grow near but not on oiled surfaces. Species diversity is moderately high—it would be higher if there were more substrate types. Biotic % cover is low on the cobble in the cave, but cover is nearly 100% on the bedrock on either side of the cave. The bedrock community seems highly productive, and recent recruitment of Semibalanus cariosus, Littorina mytiloides was observed. There are no special biological sensitivities here.

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS

<table>
<thead>
<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED</th>
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<tbody>
<tr>
<td>Eagles</td>
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<tr>
<td>Corvids</td>
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<td></td>
</tr>
<tr>
<td>Other Birds</td>
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MARINE MAMMALS

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<tr>
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<th>SPECIES</th>
<th># OBSERVED</th>
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<tbody>
<tr>
<td>Sea Otters</td>
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<tr>
<td>Sea Otters</td>
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<td>mnpeds(specific)</td>
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<td>Whales(specific)</td>
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LAND MAMMALS

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<tr>
<th>LAND MAMMALS</th>
<th># OBSERVED</th>
<th>SPECIES</th>
<th># OBSERVED</th>
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</thead>
</table>

Shoreline subdivision map showing important biological features attached.
NE wave exposure.
Filamentous green algae near the oiled surfaces.
Biotic % cover is low on cobbles & high on bedrock.
1991 MAYSAP EVALUATION

SEGMENT: EL 108 SUB: C REGION: PWS SURVEY DATE: 5/3/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s) OPEN 5/1 - 8/15; RESTRICTED 8/15 - 9/15

Ecological/Constraints (see page two for details) Subsistence - Deer harvesting

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

SHPO Signature: Rachel Doe Date: 5/14/91

RECOMMENDATIONS:

<table>
<thead>
<tr>
<th>TREATMENT REQUIRED (Y or N)</th>
<th>INITIAL</th>
<th>TAG</th>
<th>FOSC</th>
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<tr>
<td>Manual Pickup (Check as Req.)</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Spot Washing</td>
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<tr>
<td>Bio-Customblen Only</td>
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<tr>
<td>Bio-Inipol/Customblen</td>
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<td>Other</td>
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<tr>
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COMMENTS:

INITIAL: ______________________________________________________

TAG: __________________________________________________________

FOSC: _________________________________________________________

TAG APPROVAL DATE: 5/14/91 FOSC APPROVAL DATE: 5/20/91

ADEC

EXXON

USCG

NOAA

E. E. PAGE, CDR, USCG
CHIEF OF STAFF, FOSC
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

Subsistence - Deer Harvesting: Unlimited treatment prior to 8/15.
MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 2  SEGMENT EL-108  SUBDIVISION C  DATE 5/3/91

<table>
<thead>
<tr>
<th>ADEC NAME</th>
<th>PEI\IER MANIKESIO</th>
<th>SIGNATURE</th>
</tr>
</thead>
</table>

☐ NTR  ☐ TREATMENT RECOMMENDED

THE MO ON THIS SEGMENT HAS SEEN NICE AREA, AND DEEP INTO THIS ROUGH BOULDER SHORELINE. THERE REMAINS SOME RECOVERABLE OIL, BUT IT IS NOT WORTHY THE AMOUNT OF LABOR OR THE DIFFICULT LANDING ON THIS AREA.

NOTE: I DISAGREE WITH THE CHARACTERIZATION IN THE OG COMMENTS, BUT THE MATTER IS HARDLY WORTHY OF FURTHER COMMENT.

EXXON NAME | A.M. PATZERPAULS | SIGNATURE | A.M. PATZERPAULS |

☐ NTR  GOOD SURVEY. AGREE WITH LAND PARS. COMMENTS.

LANDMANAGER NAME | DEANUS S. KENNEDY | OF USFS | SIGNATURE | D.S. KENNEDY |

☒ NTR  

SUBDIVISION CONTAINS GREAT MIX OF MEAN HABITAT.

CULTURAL FEATURE: TWO MINING SHAFTS MOST LIKELY LOOKING FOR COPPER. ONE SHAFT HAS OLD TIMBER SUPPORT.

NATURAL CLEANUP IS TAKING PLACE DUE TO HIGH ENERGY WAVE ACTION.

USCG/NOAA NAME | MICHEL (NAAD) BUI ZENOME (CG) | SIGNATURE | MICH\EL | BUI ZENOME |

☒ NTR  

THERE HAS BEEN SIGNIFICANT IMPROVEMENT IN THE DEGREE OF OILING SINCE SSAT AND TCAP, WHERE CV WAS AS HIGH AS 70-100% AND PULSED, MOUSE AND AP WERE FOUND. REMAINING OIL & OIL LOCATED IN THE MOST SHIELDED AREAS WHICH ARE VERY UNACCESSIBLE.

CG- NO TREATABLE OIL.

☐
**MAYSAP SHORELINE OILING SUMMARY**

**TEAM NO. 2.**

**BIO J. Benson**

**ADEC P. MONTESANO**

**LANDMANAGER D. KENNEDY for USFS**

**C. KATZIMBALIS**

**USCG/NOAA JACQUI MICHEL NOVAK**

**SEGMENT E1 108**

**SUBDIVISION C**

**DATE 5/13/91**

**TIME 10:41 to 11:11**

**TIDE LEVEL +0.2 ft. to +0.2 ft.**

**ENERGY LEVEL: H M L**

**SURVEYED FROM: FOOT BOAT HELO**

**WEATHER: SUN CLOUDS FOG RAIN SNOW**

**TOTAL LENGTH SHORELINE SURVEYED: 600 m**

**NEAR SHORE SHEEN: BR RB SL NONE**

**EST. OIL CATEGORY LENGTH: W 0 m M 105 m N - m VL 65 m NO 365 m US 675 m**

<table>
<thead>
<tr>
<th>LOC</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT</th>
<th>SHORE SLOPE</th>
<th>WIDTH</th>
<th>LENGTH</th>
<th>ZONE</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>S P</td>
<td>BR H</td>
<td>5</td>
<td>50</td>
<td></td>
<td>X</td>
<td>CT ON BOTTOM HALF OF BOULDERS</td>
</tr>
<tr>
<td>B</td>
<td>S S</td>
<td>BR H</td>
<td>5</td>
<td>50</td>
<td></td>
<td>X</td>
<td>CT ON UNDERSIDES OF BOULDERS</td>
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<tr>
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<td>S S</td>
<td>BR H</td>
<td>5</td>
<td>20</td>
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<td>IN CREVICES - SOR.</td>
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<tr>
<td>D</td>
<td>P</td>
<td>BR H</td>
<td>7</td>
<td>35</td>
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<td>X</td>
<td>CT ON ALL SIDES OF BOULDERS</td>
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<tr>
<td>E</td>
<td>S</td>
<td>BR H</td>
<td>1</td>
<td>15</td>
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<td>X</td>
<td>SOR IN CREVICES</td>
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</table>

**DISTRIBUTION: C = 91-100%; B = 81-90%; P = 71-80%; S = 61-70%; T = <1%**

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

**PHOTO ROLL # MAYSAP- 2 - 5 FRAMES 19-21**

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN BELOW</th>
<th>H2O LEVEL</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
<th>SURFACE-SUBSURFACE SEDIMENTS</th>
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<td>P-GP</td>
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</tbody>
</table>

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

**OG COMMENTS:**

See attached typed written comments

**REVIEWED: MC 5/17/91**

**REVIEWED: MC 5/19/91**
OG COMMENTS: EL108-C
Bryan Trimm: OG

EL108-C is a high angled shoreline with vertical cliffs behind a boulder talus base. High wave energies reach this southeast facing shoreline.

The ADEC representative noted HOR/MOR under boulder talus on the western half of the subdivision, the area seaward of the mine shafts. This oiling is typically CT, CV, ST, and SOR that has settled between and under the large boulder talus. There is limited and possibly no access for retrieval.

The large size of the boulder talus (average size is 1m^3) makes it difficult to define the top of the subsurface, and the interstices are large. In many cases, one can look between a couple of boulder layers to the finer grained cobble and pebble clasts. The top of the subsurface begins where the interstices are open so that one can peer between the boulder talus and: (1) view the finer grained clasts below, or (2) the base of the last boulder that is visible through the interstices. Below are examples.

(1)
(2)
WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

<table>
<thead>
<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED SPECIES PRESENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagles</td>
<td></td>
<td></td>
<td>&quot;Blenny gulls&quot;</td>
</tr>
<tr>
<td>Seabirds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gulls/kittiwakes</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Shorebirds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corvids</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Birds</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

MARINE MAMMALS

<table>
<thead>
<tr>
<th># OBSERVED</th>
<th>SPECIES</th>
<th># OBSERVED</th>
</tr>
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<tbody>
<tr>
<td>Sea Otters</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pinnipeds(specify)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Ales(specify)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

LAND MAMMALS

Shoreline subdivision map showing important biological features attached.
1991 MAYSAP EVALUATION

SEGMENT: EL 108 SUB: B REGION: PWS SURVEY DATE: 5/3/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s) OPEN 5/1 - 8/15; RESTRICTED 8/15 - 9/15

Ecological/Constraints (see page two for details) Subsistence - Deer harvesting

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

SHPO Signature: [Signature] Date: 5/14/91

RECOMMENDATIONS:

<table>
<thead>
<tr>
<th>TREATMENT REQUIRED (Y or N)</th>
<th>INITIAL</th>
<th>TAG</th>
<th>FOSC</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>N</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

Manual Pickup (Check as Req.)
Spot Washing
Bio-Custombrlen Only
Bio-Inipol/Custumblen
Other

COMMENTS:

INITIAL:

TAG:

FOSC: 

TAG APPROVAL DATE: 5/14/991

ADEC
EXXON
USCG
NOAA

FOSC APPROVAL DATE: 6/20/91

E. E. PAGE, CDR, USCG
CHIEF OF STAFF, FOSC
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

Subsistence - Deer Harvesting: Unlimited treatment prior to 8/15.
MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 2  SEGMENT E2-107  SUBDIVISION B  DATE 5/3/91

ADEC
NAME PETER MONTECANO  SIGNATURE

☐ NTR  TREATMENT RECOMMENDED

NO significant oiling uncovered; almost no oiling uncovered.

EXXON
NAME C. M. Lassimbajas  SIGNATURE  C. M. Lassimbajas

☐ NTR  VERY LITTLE OILING ON THIS SEGMENT.

BIO REPORT SHOWS HEALTHY COMMUNITY.

LANDMANAGER
NAME DENNIS S. KENNEDY  OF USFS  SIGNATURE  D.S. KENNEDY

☒ NTR  BIO. SHOWS VERY GOOD LIVESTOCK SUBSTATE. LIGHT AMOUNT OF OIL FOUND DOES NOT NEED TREATMENT.

USCG/NOAA
NAME MICHEL (NOAD) DOM ZENONE (CG)  SIGNATURE

☒ NTR  ONLY OIL COVER REMAINS ON THE MORE PROTECTED UNDERSIDES OF BOULDERS AND ROCK CREVICES ON THIS EXPOSED ROCK PLATFORM WITH A BOULDER VENEER.

NO CONCURE W/NO TREATMENT NECESSARY.

**MAYSAP SHORELINE OILING SUMMARY**

**TEAM NO. 2**

OG B. TRIMM  
ADEC P. MONTESANO  
XXON C. KATSIKALIS

**BIO J. Benson**  
LANDMANAGER D. KENNEDY  
USCG/NOAA JACQUI MICHEL/NOAA

**TIME** 11:11 to 11:36

**TIDE LEVEL** +0.2 ft. to +0.5 ft.  
**ENERGY LEVEL:** H M L

**SURVEYED FROM:** FOOT BOAT HELO

**WEATHER:** SUN CLOUDS FOG RAIN SNOW

**TOTAL LENGTH SHORELINE SURVEYED:** 520 m

**NEAR SHORE SHEEN:** BR RB SL NONE

**EST. OIL CATEGORY LENGTH:** 5 0 m 15 m 15 m 525 50 m

**WEATHER:** OCEANS CLOUDS FOG RAIN SNOW

**TOTAL LENGTH SHORELINE SURVEYED:** 520 m

**SURFACE OIL CHARACTER**

<table>
<thead>
<tr>
<th>LOC</th>
<th>OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN HYDRO SHEEN ZONE</th>
<th>SUBSURFACE OIL</th>
<th>SUBSURFACE SEDIMENTS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

**OG COMMENTS:**

- Team walked small pocket beach & found a small area of patchy cover.
- Team quickly surveyed vertical rock faces by skiff. No oiling was noted.

**REVIEWED:** MC 6/17/91

**REVISED:** MC 6/17/91 CG
OG SKETCH MAP
EL108-B
3-MAY-91
1111 - 1136
Bryan Trimm

ELEANOR ISLAND

VERTICAL ROCK F ace

S K I F F

FOOT

Pillow Basalt Outcrop

CV 48% 1x15m

Boulder Talus (Weathered Talus)

LOG

Possible 'Dike' Outcrop

Excellent Pillow Basalt Outcrops

North

0 100

meters
**MAYSAP BIOLOGICAL SUMMARY FORM**

<table>
<thead>
<tr>
<th>TEAM #</th>
<th>2</th>
<th>DATE</th>
<th>3 May '91</th>
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</thead>
<tbody>
<tr>
<td>SEGMENT #</td>
<td>EL 10B</td>
<td>TIDAL HEIGHT (Range)</td>
<td>0' to +0.5'</td>
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<tr>
<td>SUBDIVISION</td>
<td>B</td>
<td>BIOLOGIST</td>
<td>John Benson</td>
</tr>
<tr>
<td>SEA STATE</td>
<td>1</td>
<td>WIND SPEED/DIRECTION</td>
<td>calm</td>
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<tr>
<td>PHOTOGRAPHS: ROLL #</td>
<td>-</td>
<td>FRAME #</td>
<td>-</td>
</tr>
</tbody>
</table>

**COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):**

1. Verrucaria & sparse barnacles were found near but not on oiled surfaces. The fauna is very diverse & seems productive here. The diversity is enhanced by eastern wave exposure, numerous types of "microhabitats" within the boulder field, and tidal pools in the bedrock. This subdivision is similar in these respects to EL 108 C. Recent recruitment of barnacles, mussels & litterines was observed.

**WILDLIFE OBSERVATIONS**

**TO BE COMPLETED IN ALL SUBDIVISIONS**

<table>
<thead>
<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
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</tr>
</thead>
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<td>Waterfowl</td>
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<td>Gulls/kittiwakes</td>
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<td>Shorebirds</td>
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<td>Corvids</td>
<td>-</td>
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<td>-</td>
</tr>
<tr>
<td>Other Birds</td>
<td>-</td>
<td>-</td>
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</tbody>
</table>

**FISH OBSERVED**

<table>
<thead>
<tr>
<th>SPECIES PRESENT</th>
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<tbody>
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<td>-</td>
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**LAND MAMMALS**

<table>
<thead>
<tr>
<th>MARINE MAMMALS</th>
<th># OBSERVED</th>
<th>SPECIES</th>
<th># OBSERVED</th>
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</thead>
<tbody>
<tr>
<td>Sea Otters</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Pinnipeds (specify)</td>
<td>-</td>
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</tr>
<tr>
<td>Iles (specify)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Shoreline subdivision map showing important biological features attached.
**Bio Sketch Map**

EL108-B

3-May-91

1111-1136

John Benson

---

**Under tells - limited top bedrock access**

- Diverse substrate types, eastern wave exposure,
- Tidal peaks result in very diverse biota.
- Verrucaria & barnacles near, but not on oiled surfaces.

---

**Excellent Pillow Basalt Outcrops**
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/EL-109

SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION

SEGMENT ST/ EL-109 SUBDIVISION A (1 OF 1) DATE 4/23/90

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 unoil 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 204 m: Medium 225 m: Narrow 883 m: V.Light 1537 m: No Oil 411 m
Subsurface Oil Observed: Yes X No Maximum Depth 38 cm

RECOMMENDATIONS:

<table>
<thead>
<tr>
<th>No Treatment Recommended</th>
<th>Snare/Absorbent Booms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment Recommended</td>
<td>Oil Snare (pom poms)</td>
</tr>
<tr>
<td>Manual Pickup</td>
<td>Absorbents (pads, rolls, etc)</td>
</tr>
<tr>
<td>Bioremediation</td>
<td>Spot Washing: Wands</td>
</tr>
<tr>
<td>Tarmat Removal</td>
<td>Beach Cleaner</td>
</tr>
</tbody>
</table>

OTHER (see comments)

COMMENTS:
Recommended treatment includes 1) manual pickup of cleanup debris in areas indicated on sketch maps #1 and 2, 2) manual removal of tarmat in area indicated on sketch map #4, 3) manual raking of surface cobble in area indicated on sketch map #2, and 4) bioremediation of areas indicated on sketch maps #1, 2, 3, 4. Work should be conducted after 5/1.

TAG COMMENTS:_________________________________________________________

TAG APPROVAL DATE:________________
ADEC EXXON FOSC:________________ DATE:________________
NOAA USCG:________________
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 inkipol 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 287-2234

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 inkipol 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 Peitz 424-3214

Estuary Hatchery release (4/15 to 6/15)

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

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

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

Remote release site

No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or inkipol 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: ADF&G Larry Peitz 424-3214

Gill net area (8/7 to 8/31)

Purse seine area (7/20 to 9/30)

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

Set net sites (8/11 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 (1) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or inkipol 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

Harling spawing (4/1 to 6/15)

Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to uniled Intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or inkipol 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 (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 inkipol 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 Celina 287-2403

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 Jim 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 Jim Parker 786-3377

ADF&G Tom Rhoft 287-2208

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 9/1. 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 Jim Parker 786-3377

Recreation:

Tent sites (8/1 to 9/15)

Anchorage (8/1 to 9/15)

Forest Service cabin (8/1 to 9/15)

Lodge (8/1 to 9/15)

Special use designation

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

Finfish harvesting

Deer harvesting (2/15 to 2/22)

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 inkipol 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 287-2359
FIELD SHORELINE COMMENT SHEET

SEGMENT ST  EL-109  SUBDIVISION: A  DATE 4/23/90

USCG
NAME William E. White  SIGNATURE  William E. White

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED
COMMENTS
SKETCH #1
1. Pickup of oily shore boom
2. Bioremediate entire area of UI/SU

SKETCH #2
1. Pickup of shore boom
2. Break up surface cobble and bioremediate

SKETCH #3
1. Bioremediate - p.t.14-16

SKETCH #4
1. Manual pickup of asphalt pavement
2. Bioremediate

ADEC
NAME Peter Montesano  SIGNATURE  Peter J. Montesano

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED
COMMENTS  See Attached

LAND MANAGER - USDA Forest Service
NAME  Don J. Breitinger  SIGNATURE  Don J. Breitinger

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED
COMMENTS
This segment is a recreation special use destination area for the period 6/1-9/15, and also a subsistence deer harvesting area for the period 6/15-3/11.
1. Pickup oily shore boom and bioremediate entire area of UI/SU as noted on sketch map #1.
2. Pickup oily shore boom, breakup surface and bioremediate area as noted on sketch map #2.
3. Bioremediate area as noted on sketch map #3.
4. Manual pickup of asphalt pavement and bioremediate as shown on sketch map #4.
5. The remainder of the segment should be left to natural weathering.
6. Refer to Exxon ops standing.
EU09-A ADEC Comments
Peter Montesano

Bio Remediation

Pit #3 (Bedrock Plateau): #4, #11 (Remove Tar Splatters First), #14 (Heavy brown Oiling), #16 (Marginally Appropriate)
Pit #6: Remove patches, splatters, snares, Poms/debris in MITZ Boulders, Washable oil but inaccessible to LCU, sheen in water trapped between Boulders, and sheen traces 20' off shore of Beach
Sketch map #2: Bro west end of Beach and remove snare line illustrated on map.
Pit #10: Spot wash with steam and h2o hoses as flush.
Sketch map #4: Remove asphalt layers illustrated on map
Pit #21: Small area w/ spot washable oil
Pits #13, 19, and 20: examine O&C form to determine treatments for thin layer
### Shoreline Oiling Summary

**Date:** Apr-25-1991 18:16  
**FROM:** Arctic Salvor  
**TO:** SSAT P.O.  
**REVISION NO.: 04/15/90**

**OG:** C. Dillon  
**BIO:** J. Barry  
**EXXON:** G. Stiles  
**TIME:** 12:00  
**DATE:** 04/23/90

**Subdivision:** A  
**Team No.:** 6  
**Tide Level:** +7 to +1

**Est. Subdivision Length:** 3441 m  
**Sun:** ☐  
**Clouds:** ☐  
**Dew:** ☐  
**Fog:** ☐  
**Rain:** ☐  
**Snow:** ☐

**Uplands Description:**  
- ☐ Grass  
- ☐ Forest  
- ☐ Rock  
- ☐ Surveyed from:  
  - ☐ Foot  
  - ☐ Boat  
  - ☐ Halo  

**Working Direction:** W to E

**Surface Sediments:**  
- ☐ R  
- ☐ S  
- ☐ C  
- ☐ G  
- ☐ O  
- ☐ S  
- ☐ M  
- ☐ V  

**Slope:** Lang 35 %  
- ☐ Hang 40 %  
- ☐ Vert 25 %  

**Wave Exposure:**  
- ☐ Low  
- ☐ Med  
- ☐ High

**Oil Category Length:**  
- ☐ W  
- ☐ M  
- ☐ N  

### Surface Oil

<table>
<thead>
<tr>
<th>Character</th>
<th>Distribution</th>
<th>Oil / Film Color</th>
<th>Impacted Zones</th>
</tr>
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<tbody>
<tr>
<td>Asphalt Pavement</td>
<td>X</td>
<td>X</td>
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</tr>
<tr>
<td>Pool</td>
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<td></td>
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<td>X</td>
<td></td>
</tr>
<tr>
<td>Coat</td>
<td></td>
<td></td>
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<tr>
<td>Stain</td>
<td>☐ X ☐ X ☐ X</td>
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<tr>
<td>Mousse</td>
<td>☐ X</td>
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<td>Patties</td>
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<tr>
<td>Tarballs</td>
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<td>X</td>
<td></td>
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<tr>
<td>Film</td>
<td>☐ X ☐ X ☐ X</td>
<td>☐ X ☐ X ☐ X</td>
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<tr>
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</table>

**Near Shore Oil Sheen?**  
- ☐ No  

**Photographs:**  
= Roll No. ST-6-6  
= Frames 27, 29, 30, 32

### Subsurface Oil

<table>
<thead>
<tr>
<th>Pit No.</th>
<th>Pit Depth (cm)</th>
<th>Subsurface Oil Character</th>
<th>Oiled Debris Interval</th>
<th>Below</th>
<th>Oil / Film Color</th>
<th>Pit Zone</th>
<th>A N A E H O M I N T D E S S P A C E S I D E M E N T S</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>6</td>
<td>X</td>
<td>0-3</td>
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<td>N - B/C-P/G/R</td>
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<td>2</td>
<td>10</td>
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<td>X</td>
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<td>N - C-P/G/R</td>
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<td>8</td>
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**Comments**

**Revised:**  
**Date:** 4-27-90
### Subsurface Oil (Continued)

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</table>
1. Manual pickup of oily snake boom
2. Bioremediation (Granular type Fertilizer) entire area of UI/SU

---

**LEGEND**

- CT/C: Continuous Distribution
- CT/B: Broken Distribution
- CT/P: Patchy Distribution
- CT/S: Spotted Distribution
- C/P: Coid Vegetation

---

**CHECKLIST**

- N Areas
- Approx. Scale
- Seg/Sub Body
- Oil Date
- Wash
- Length
- % Cover
- Subsurface Character
- E/W, NNW, WNW, WSW
- SSL
- Cube Location(s)
- Post(s)
- Pit Location(s)
- Photo Location(s)

---

**SKETCH MAP #1**

- L:709
- Date: 04/12/30
1. Manual pickup of snare boom.
2. Break up surface cobble and bio-remodiate.

Sm. amt. oiled logs

Pit Q

Oiled snare boom

Pit 10

0-5a.

Hang B/R
CT/8 4-6m wide 10 m long

Lang Pl/C beach No oil

Lang B/C
CT 12 m wide 40m long

Oil Character Length (m): AP 0 PO 0 CV 0 CT 75 ST 35 MS 0 PT 0 TB 0 FL 0 NO 90
SEGMENT ST: 209

SUBDIVISION: A

DATE: 04/23/90

CHECKLIST:
- N Amor
- Approx. Scale
- Sedimentology
- Oil Dist.
- Water
- Length
- % Cover
- Substrate Character
- Ext. HRL, A.W.
- SGL
- Profile Location(s)
- Profile(s)
- Pit Location(s)
- Photo Location(s)

LEGEND:
- No Substrate Oil
- Substrate Oil
- Debris
- Collapsed Debris
- Buried Debris
- Buried Debris
- Oiled Vegetation

Bioremedicate

Pit 16

Pit 15

Vert. R

Hand B

10 m long
3 m wide

Vert. R

1-2 m wide

Land B/C

St/C:UITZ

Ct/B: 4-6 m wide

40 m long

OIL CHARACTER LENGTH (m): AP: 0 PO: 0 CV: 0 CT: 180 ST: 20 MS: 0 PT: 0 TB: 0 FL: 0 NO: 0

TOTAL LENGTH = 200 m
SHORELINE ECOLOGICAL SUMMARY

Segment ST EL109  Subdivision A  Date (mo/day/yr) 23 APRIL 1990

Time (24 hr) 1500-1745  Biologist Jim Barry  Length = 344'

(A) Substrate type and % of segments:
   (1) Bedrock (2) Boulder (3) Cobble (4) Pebble (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 (J) , new settlement (3)

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Wildlife Observations/General Comments:

1. Harbor Seal - 2
2. Merganser, Common - 6
3. Raven - 1
4. Snow Seal - 5

Ecological Considerations:

1. Bird egg nests nearby - SW end of segment - avoid or long term
   visits to this section of the segment.
2. Deer grazing during August - minimal impact from cleanup operation.
   Except perhaps on the NE corner of the bay.
I. General Comments

ELIO9 is a long segment comprised by several habitat types that range from highly exposed headland cliffs to protected pebble beaches.

1) Vertical Bedrock Cliffs and High Angle Boulder Beaches.

Barnacles (Semibalanus, Chthamalus, and Balanus) are moderately to densely abundant on these substrates, particularly on the more exposed portions of the substratum. Small green algae and spot are sparse to moderate. Mysids is mostly sparse, and least abundant on the most exposed sections, with greater density on slightly protected sites. Algae densely cover the lower zones, with sparse to moderate cover of fucoids and locally dense corals. Gastropods are moderate, but dense in sparse in patches. Nidellae (whelks) are locally dense in the low and middle zones. Kelps are abundant in subtidal areas.

2) Cobble and Pebble Beaches.

These beaches also vary in exposure, but are generally low to moderately exposed. More exposed beaches have low densities of all but gastropods, limpets, and littorine snails. Algae are usually low in cover, except in the middle to lower zone, where oospore and other filamentous green algae cover many rocks, and in the lower zone where fucoids and other algae (Palmarea, Ulva) are moderately dense. Barnacles and mussels generally are rare, except for patches or adjacent boulders. Low and moderately exposed beaches have higher densities of broods. A mixed bed is present on one beach (see OC map), adjacent
to a sparse clam bed. Focus is moderate on protected
shingle beaches. Several intertidal fish are abundant (2-3/m²)
behind clams within low zone (prickbacks and sculpins).

B. Oil Related Comments

1) Most of the oil is now restricted to high and supra-intertidal
zones where it has only minor impacts, if any, on the intertidal
biota. The only sensitive site to cleanup operations is the
mussel bed in the NE corner of the bay. This area should
not be trampled by cleanup crews.

2) This area has an eagle nest nearby, but cleanup will likely not
significantly disrupt eagle behavior. Deer harvesting (August-February)
may be affected during cleanup operations in the NE corner.
ADEC Segment Length: 3260m

Map Key: PWS-129b
Name: C. Diller
Date: 4-27-90
Data Entered:
SHORELINE EVALUATION

SEGMENT ST/ EL-109 SUBDIVISION A (1 OF 1) DATE 4/23/90

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 uncoiled 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: 5/8/90

OILING CATEGORIZATION:
Wide 204 m: Medium 225 m: Narrow 883 m: V.Light 1537 m: No Oil 411 m
Subsurface Oil Observed: Yes X No Maximum Depth 38 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual pickup of cleanup debris in areas indicated on sketch maps #1 and 2, 2) manual removal of tarmat in area indicated on sketch map #4, 3) manual raking of surface cobble in area indicated on sketch map #2, and 4) bioremediation of areas indicated on sketch maps #1, 2, 3, 4. Work should be conducted after 5/1.

TAG COMMENTS: MONITORS TO ASSESS LOGS AND NEED FOR TREATMENT.

TAG APPROVAL DATE: 5/7/90
ADEC Art Weller
EXXON Andy Brown
NOAA Gary Peterson
USCG G. A. Keiter

FOSC: 
DATE: 5/12/90
1. Manual pickup of oily snares boom
2. Bioremediation (Granular type Fertilizer) entire area of UI/SM

LEGEND
1. △
   - Pit - No Subsurface Oil
   - Pit - Subsurface Oil

CT/C
Continuous Distribution
CT/B
Broken Distribution
CT/P
Patchy Distribution
CT/S
Speckled Distribution

Oil Vegetation

Pressure, direction, and number

Oil Character Length (m): AP 0 PO 0 CV 3 CT 15 ST 30 MG 2 PT 0 TB 0 FL 0 NO 0
1. Manual pickup of snare boom
2. Break up surface cobble and bioemulsiate.

Sm. amt. oiled logs

Oiled snare boom

Laug PlC beach
No oil

Hang B/R
CTB 46 m wide 10 m long

Laug B/Lc
St/C M SI/2
CTB 12 m wide 40 m long

Oil Character Length (m): AP 0 PO 0 CV 0 CT 75 ST 35 MS 0 PT 0 TB 0 FL 0 NO 90

LEGEND
- N Amor
- Approx. Scale
- Seg/Sub Study
- Oil Dist.
- Width
- Length
- % Cover
- Substrate Character
- Est. Haul, ml
- S/L
- Profile Location(s)
- Profile(s)
- Pit Location(s)
- Phase Location(s)

CHECKLIST
- No Subsurface Oil
- Subsurface Oil

CT/C
Continuous Distribution

CT/P
Patchy Distribution

CT/B
Spotted Distribution

CT/P

Phase location, direction, and number
SEGMENT ST.  209
SUBDIVISION A
DATE 04/23/00

CHECKLIST
- N. Avenue
- Approaches, Scars
- Seg/Split Bakery
- Oil Dis.
- Wet
- Length
- % Cover
- Substrate Character
- Est. HNL/CL
- SOL
- Profile Location(s)
- Profile(s)
- Pit Location(s)
- Photo Location(s)

LEGEND
1 △
Pit - No Subsurface Oil
2 △
Pit - Subsurface Oil

- CT/C
  Complete Discharge
- CT/B
  Broken Discharge
- CT/P
  Patchy Distribution
- CT/S
  Splashed Distribution
- C1
  Old Vegetation

Photo location, direction, and number

Character Length (m): AP OC PO CV OC 150 ST 20 MS 0 PT 0 TB 0 FL 0 NO 0 Total Length = 200 m
SEGMENT ST. L-109

SUBDIVISION A

DATE 04/23/90

CHECKLIST

- N Areas
- Approx. Scale
- Seepage Boundary
- Oil Dist.
- Width
- Length
- % Coverage
- Subsurface Character
- Est. H.W./L.W.
- SSL
- Prox. Location(s)
- Postit(s)
- Pit Location(s)
- Photo Location(s)

LEGEND

1. Pit - No Subsurface Oil
2. Pit - Subsurface Oil

- Continuous Distribution
- Broken Distribution
- Patchy Distribution
- Splashed Distribution

Char. Vegetation

- Photo location, direction, and number

1. Manual pickup of asphalt pavement
2. Bioremediation

Oil Character Length (m): AP 9 PO 0 CV 0 CT 431 ST 210 MS 0 PT 0 TB 0 FL 0 NO 150 TOTAL LENGTH 800m

2. Sedimentary trees

Trench A

28m long

Trench B

30m long

Note: Sketch map #4
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:

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 Manually Rake/Till   X
Other

COMMENTS:
INITIAL: Remove easily accessible asphalt at locations A1, B1, B2, and B3. Where feasible, manually rake/till Customblen and Inipol into sediments at locations A1, A2, and A3. Apply Customblen and Inipol at locations B1, B2, and B3.

TAG:

TAG APPROVAL DATE:   FOSC APPROVAL DATE:

ADEC
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.
TEAM NO. 2 SEGMENT EL 109 SUBDIVISION A DATE 5/3/91

ADEC
NAME: Peter Montesino SIGNATURE: 

[ ] TREATMENT RECOMMENDED

SITE 4 - NEARLY CONTINUOUS AP/HR UNDER SMALL BOULDERS. REMOVE THIS EASILY ACCESSIBLE AREA ALONG W/SMALL AP/HR ON THE BEACH T-S AT SOUTH. CUT, BY LOGS, VERY VISIBLE. THIS BEACH WAS CHECKED ONLY BY ME.

SITE 3 - REMOVE READILY ACCESSIBLE HER AP SEDS AT BORE WITH ZONE, EASY BEACH ACCESS - GOOD LIKE POOR JOB IN 1980.

SITE 2 - REMOVE WELL DEFINED AP AT EAST END OF BEACH.

SITE 1 - REMOVE AP/HR AT VARIOUS SITES; CLEAR CUT WORK.

NOTE: AN EAGLE'S NEST - BOTH DEAD - WERE FOUND ON THIS SITE. THE UAV WAS TOLD NOT TO INCLUDE THEM ON MAPS.

EXXON
NAME: C.M. Katsu Zagar SIGNATURE: 

[ ] NTR

THIS SEGMENT COULD BENEFIT FROM ADDITIONAL MANUAL TREATMENT.

LANDMANAGER
NAME: Donald S. Kennedy OF USFS SIGNATURE: D.S. Kennedy

[ ] NTR

SUBDIVISIONS GOOD POSTS HEDGE WAVE ACTION.

I AGREE WITH BIO THAT WE SHOULD CONTINUE WORK AROUND LEDGES. (SEE BIOLOGICAL SUMMARY FORM)

USCG/NOAA
NAME: Michael (N.M.) Ron Zelone (C.G.) SIGNATURE: Michael

[ ] NTR

ALTHOUGH OBVIOUSLY A HIGH-ENERGY SHORELINE, OIL HAD PERSISTED BELOW THE CORLACE Boulders AND AROUND THE VARYING DEFEND END OF EACH PENETRATION. SITES 4 AND 5 ARE VERY LARGE BouldERS AND SOME OF THE OIL IS INACCESSIBLE. THE OTHER SITES HAVE SMALL BUT OCCASIONAL HEDGE-COVERED OIL SPOTS. OIL SPOTS WILL AID IN THE SURFACE OIL DISTRIBUTION SINCE ASAP, SPEEDED.

EL-109 COULD USE SOME MANUAL WORK. THE EXTENT & METHODS SHOULD TAKE INTO ACCOUNT BIO REPORT - OVER WORKING COULD BE INTRUSIVE.
OG  B. TRIMM  BIO  J. Benson  
ADEC P. MONTEZANO  LANDMANAGER D. KENNEDEY for USFS  
EXON C. KATSIMPALIS  USCG/NOAA JACQUI MICHEL/NAFA  
TIME 07:46  to  16:16  TIDE LEVEL +3.8'  to  +1.5'  ENERGY LEVEL: H M L  
SURVEYED FROM:  FOOT  BOAT  HELO  WEATHER:  SUN  CLOUDS  FOG  RAIN  SNOW  
TOTAL LENGTH SHORELINE SURVEYED:  1200 m  NEAR SHORE SHEEN:  BR RB SL NONE  
EST. OIL CATEGORY LENGTH:  W m  M 20 m  N 140 m  W 15 m  NO 9165 m  US 2164 m  

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</tr>
<tr>
<td>A3</td>
<td>S</td>
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<td>S</td>
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<td>G</td>
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<td>B</td>
<td>H</td>
<td>1.5</td>
<td>30</td>
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<td>L/Sor</td>
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<tr>
<td>G1</td>
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<td>H</td>
<td>2</td>
<td>40</td>
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<tr>
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<td>B</td>
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<td>X</td>
<td>H/Sor</td>
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<tr>
<td>B3</td>
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<tr>
<td>C2</td>
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<td>B</td>
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<td>B</td>
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<td>D2</td>
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<td>B</td>
<td>M</td>
<td>2</td>
<td>9</td>
<td>X</td>
<td>H/Sor</td>
<td></td>
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</table>

DISTRIBUTION:  C = 91-100%;  B = 81-90%;  P = 71-80%;  S = 1-10%;  T = <1%
SLOPE:  V = VERTICAL;  H = HIGH ANGLE;  M = MEDIUM ANGLE;  L = LOW ANGLE 
PHOTO ROLL # MAYSAAP:  2 - 5  FRAMES 8-18

<table>
<thead>
<tr>
<th>PIT</th>
<th>OIL CHARACTER</th>
<th>DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE (cm-cm)</th>
<th>CLEAN BELOW</th>
<th>MTO LEVEL</th>
<th>SHEEN COLOR</th>
<th>OILED</th>
<th>SHEEN</th>
<th>NOTES</th>
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<tbody>
<tr>
<td>1</td>
<td>B</td>
<td>8</td>
<td>A-B Y</td>
<td>10-15 N</td>
<td>-</td>
<td>8 X</td>
<td>B-PGB</td>
<td>2</td>
<td></td>
<td>A/under border</td>
</tr>
<tr>
<td>2</td>
<td>15</td>
<td>X</td>
<td>10-15 N</td>
<td>10-11 Y</td>
<td>8 X</td>
<td>B-PGB</td>
<td>between 2 boulders</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>13</td>
<td>X</td>
<td>10-11 Y</td>
<td>10-8 B</td>
<td>8 X</td>
<td>B-PGB</td>
<td>Assoc. w/ AP</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>4</td>
<td>21</td>
<td>X</td>
<td>10-8 B</td>
<td>10-6 Y</td>
<td>8 X</td>
<td>B-PGB</td>
<td>behind rock/boulder</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>15</td>
<td>X</td>
<td>10-6 Y</td>
<td>10-4 N</td>
<td>8 X</td>
<td>B-PGB</td>
<td>Sor on top</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>22</td>
<td>X</td>
<td>10-4 N</td>
<td>10-2 N</td>
<td>8 X</td>
<td>B-PGB</td>
<td>base cl,cl</td>
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<td></td>
<td></td>
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<tr>
<td>7</td>
<td>17</td>
<td>X</td>
<td>10-2 N</td>
<td>10-0 N</td>
<td>8 X</td>
<td>B-PGB</td>
<td>base cl,cl</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

**OG COMMENTS:**

- 4 SMALL INDENTED POCKET BEACHES EXPOSED TO HIGH WAVE ENERGIES
  - TYPICALLY OIL FOUND ON SIDES OF SOUTH FACES BEACHES, IN BOUDDER TAILS
- Pit 4 excavated between 2 boulders
- After removing a boulder from the top of Pit 4, MAR was found from 0-10 cm on the lee side & no oil from 0-10 of the exposed side of the pit

**REVISED:** 5/17/91 KG  
**FARAD:** 5/11
<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN BELOW H2O LEVEL</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
<th>SURFACE SUBSURFACE SEDIMENTS</th>
<th>NOTES</th>
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<tr>
<td>8</td>
<td>10</td>
<td>X</td>
<td>0 - 7</td>
<td>Y</td>
<td>-</td>
<td>X</td>
<td>PC - GPC</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>24</td>
<td>X</td>
<td>0 - 7</td>
<td>Y</td>
<td>-</td>
<td>A</td>
<td>P - PGSC</td>
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</tr>
<tr>
<td>10</td>
<td>40</td>
<td>X</td>
<td>0 - 10</td>
<td>Y</td>
<td>-</td>
<td>X</td>
<td>P - GP, PEEF</td>
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<td>25</td>
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<td>0 - 5</td>
<td>Y</td>
<td>S</td>
<td>x</td>
<td>BP - GPC, Colorless</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>7</td>
<td>X</td>
<td>2 - 7</td>
<td>N</td>
<td>B</td>
<td>X</td>
<td>GP - GP, Wave shadow zone</td>
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<td>13</td>
<td>7</td>
<td>X</td>
<td>2 - 7</td>
<td>N</td>
<td>B</td>
<td>X</td>
<td>BP - GCB, Boulder/Rocks at P1 695</td>
<td></td>
</tr>
</tbody>
</table>

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

OG COMMENTS:

Pits 2, 3, 4, 5, 11, 12, 14 are in protected areas, either a wave shadow zone, or boulder vence.
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 2  DATE 3 May '91
SEGMENT # EL109  TIDAL HEIGHT (Range) +6' to +1'
SUBDIVISION A  BIOLOGIST Benson
SEA STATE 2'  WIND SPEED/DIRECTION calm

PHOTOGRAPHS: ROLL #  ---  FRAME #  ---

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):

(A) Pit 4: Verrucaria grows on the oiled rocks in the inlet. This area has a moderate overall species diversity. Barnacles were dense, and Littorina moderately dense on the boulders & bedrock. I saw no red mussels, but there is recent recruitment of barnacles. Littorina & Mysitis. Towned kelp cover is: moderately high. Six species of green algae (FGA), though thin, is widespread. There are also small tubeworms inside of the bedrock between the water line. There is a single species in these areas including encrusting coralline algae, Scytosiphon & Mytilus, and was not diverse. There are no special ecological sensitivities here.

(B) (63) Pit 2: No biota on oiled surfaces. The biota diversity of this entire area is low. Barnacles & Littorina are sparse on both the pebble-cobble beach and the bedrock. Fucus becomes moderately dense only on the bedrock headland to the east. The Southeast wave exposure of this subdivision leads to substantial physical disturbance of the non-bedrock substrata. The bedrock populations may release substantial quantities of propagules that could settle on the pebbles, cobbles & boulders, but physical disturbance probably causes post-settlement mortality.

(continued on next page)

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

<table>
<thead>
<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED SPECIES PRESENT</th>
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<tbody>
<tr>
<td>Eagles</td>
<td>1</td>
<td>1</td>
<td>Oligocottus maculosus</td>
</tr>
<tr>
<td>Seabirds</td>
<td></td>
<td></td>
<td>&quot;Hedgehog sculpin&quot;</td>
</tr>
<tr>
<td>Waterfowl</td>
<td></td>
<td></td>
<td>&quot;Blenny sculpin&quot;</td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Shorebirds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corvids</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Birds</td>
<td></td>
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</tr>
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</table>

<table>
<thead>
<tr>
<th>MARINE MAMMALS</th>
<th># OBSERVED</th>
<th>SPECIES</th>
<th># OBSERVED</th>
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<tbody>
<tr>
<td>Sea Otters</td>
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</tr>
<tr>
<td>Pinnipeds(specify)</td>
<td>6</td>
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</tr>
<tr>
<td>Seals</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Whales(specify)</td>
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</table>

<table>
<thead>
<tr>
<th>LAND MAMMALS</th>
<th>SPECIES</th>
<th># OBSERVED</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

Shoreline subdivision map showing important biological features attached.
Subdivision: EL 109 A
Team: 2
Bio: Benson

Comments (cont.) -

(1), (2), (3), Pit* 6-10 - FGA & rare barnacles grow on oiled surfaces. The cobble, pebble-cobble, & boulder talus substrates in the center of the cove were covered with a low-diversity, low-biomass biota similar to that of (2), (3) & (4).

(4), (5), Pit* 11 - Verrucaria grows on the rock wall with CT. Macroalgal diversity is higher on the bedrock in the protection of the headland. In the LITZ, a tide-pool harbors Rhodomela & overgrowing coralline algae as well as Bitterina & Oligocentrum in the MITZ. Fucus, Enteromorpha, Ulva, Halosaccion, Rabdalia, in the LITZ, Palmaria & Odonthalia combine with those species listed in the MITZ. Also, substantial amounts of drift algae (e.g., Asparum, Nereocystis, & Constantinea) were found among boulders. Thus, in the event of cleanup activities, the bedrock communities should be avoided to whatever extent possible.

(1), (3), (6), Pit* 12 - Oil-covered barnacles occur in the LITZ. In the boulder slope MITZ, a Mytilus bed is found in the cobble venner between tide levels +4' and +6'. Elsewhere in the MITZ, the coral is low on cobbles. The bedrock outcrops adjacent to the mussel bed contain small tidepools, which enhances local species diversity in this location. The LITZ biota is more diverse than bedrock LITZ biota in the centers of these 4 coves in EL 109 A. In the event of cleanup activities here, the mussel bed will be sensitive to foot traffic and substrate disturbance.

(continued on next page)
Subdivision: EL 109 A
Team: 2
Bio: Benson

Comments (cont.) -

Pits 13 & 14 - The diversity & biomass of the biota on the pebble-cobble beach extending around the cove is low.

The SE wave-exposure and small substrates on the beaches here probably tends to reduce the diversity & biomass of this subdivision's biota. This is true especially in the corners of the coves where there are no obvious ecological sensitivities. The edges of the coves, particularly where rich bedrock-dwelling biota or the vulnerable musselbed in Site #1 are found, are sensitive areas.
BIO SKETCH MAP
EL109-A
Sites 1, 2, 3
3-May-91
Ω746-1016
John Benson

Biomass & diversity are low.

Biomass & diversity are low in the center of the cove. Some macrofauna is moderately abundant on the western headland.

Species diversity is much higher in the slightly reduced exposure of the headland.

A substantial Mytilus bed occurs between h+4'-+6'. The nit2 biota is rich.
**1991 MAYSAP EVALUATION**

**SEGMENT:** EL 109  **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, Subsistence - Deer harvesting

**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. PHONE 564-3276; 564-3657; (Anchorage) or 229-1514 (24 hrs.).

**RECOMMENDATIONS:**  

<table>
<thead>
<tr>
<th>TREATMENT REQUIRED (Y or N)</th>
<th>INITIAL</th>
<th>TAG</th>
<th>FOSC</th>
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<td>Manual Pickup (Check as Req.)</td>
<td>X</td>
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<td>Y</td>
</tr>
<tr>
<td>Spot Washing</td>
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<td></td>
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</tr>
<tr>
<td>Bio-Custombien Only</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Bio-Inipol/Customblen</td>
<td>X</td>
<td>X</td>
<td>Y</td>
</tr>
<tr>
<td>Other Manually Rake/Till</td>
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</tr>
<tr>
<td>Other</td>
<td></td>
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</tr>
</tbody>
</table>

**COMMENTS:**  
INITIAL: Remove easily accessible asphalt at locations A1, B1, B2, and B3. Where feasible manually rake/till Customblen and Inipol into sediments at locations A1, A2, and A3. Apply Customblen and Inipol at locations B1, B2, and B3.

**TAG:**  
- ADD MANUAL PICKUP OF AP AT C1 + C4  
- ADD MANUAL PICKUP OF EASILY ACCESSIBLE HSOR AT D1 + D2 + D5

**FOSC:**

**TAG APPROVAL DATE:** MAY 21 91  **FOSC APPROVAL DATE:** 5/25/91

ADEC  EXXON  USCG  NOAA

E. E. Page, CBR, USCG  CHIEF OF STAFF, FOSC
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.
SITE 4 - NEARLY CONTINUOUS AP/DR under Small Boulders. Remove this easily accessible area along w/small area on THE BEACH TOWARDS SOUTH - UTZ BY LOGS, VERY VISIB - THIS BEACH WAS CHECKED ONLY BY ME.

SITE 3 - Remove REASONABLY ACCESSIBLE MAR/DR areas - above green zone, easy BEACH access - looks like very poor job in 1/87.

SITE 2 - Limi is well defined AP at EAST END of BEACH.

SITE 1 - Remove AP/DR at various sites; clearcut work.

NOTE: AN EAGLE ON THE SITE - BOTH DEAD - WERE FOUND ON THIS SITE. THE 1.55 was TOLD NOT TO INCLUDE THESE ON MAPS

EXXON
NAME C.M. Katsim PCEIS SIGNATURE On Fotocompio

☐ NTR

THIS SEGMENT COULD BENEFIT FROM ADDITIONAL MANUAL TREATMENT.

☐ NTR

Subtid zone, good high energy wave action.

In site #1, if any work is approached care must be taken along tide pools and manual tool.

at site #2 I agree with Bio that we should avoid any work around bedrock. (see biological summary form)

☐ NTR

Although obviously a high energy shoreline, oil has persisted below the coarse boulders and along the rocky/boulder ends of each pocket beach. Site 4 has very large boulder and most of the area is inaccessible. The other sites have small but occasionally high % coverage of heavy SEAP and AP. The subsurface oil was of very limited extent, and all three areas have only moderate changes and surface oil distribution since ASAP.

CG: EL-109 could use some manual work. The extent & methods should take CONSIDERATION Bio Report - overworking could be extensive.

☐ NTR

NAME: MICHEL (KMA) Roni Zenone (CG) SIGNATURE: Michael
**Team No.**

- B. Trimm
- P. Montesano
- C. Katsimpalis

**Bio.**

- J. Benson
- D. Kennedy
- Jacquie Michel

**Date:** 5/3/91

**Segment:** El 149

**Subdivision:** A

**Location:**

- Total length shoreline surveyed: 1,200 m
- NEAR SHORE SHEEN: BR
- EST. OIL CATEGORY LENGTH:
  - W: 20 m
  - M: 110 m
  - N: 140 m
  - VL: 75 m
  - NO: 915 m
  - US: 2,160 m

**Surveyed From:**

- Foot
- Boat
- Helo

**Weather:**

- Sun
- Clouds
- Fog
- Rain
- Snow

**Surveyed From:**

- Tide level: +3.8 ft. to +6.5 ft.
- Energy level: H

**Notes:**

- 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 # MAY 25 FRAMES 8-18
- SHEEN COLOR: B = Brown; R = Rainbow; S = Silver; N = None

**OG Comments:**

- **4 Small Indented Pocket Beaches Exposed to High Wave Energies**
  - Typically oil found on sides of South Facing Beaches, in Boulder Tails
- Pit #1 excavated between 2 boulders
  - After removing a boulder from the top of Pit #1, MOL was found from 0-10 cm on the lee side. No oil from 0-10 of the exposed side of the pit.

---

**Surveyed From:**

- Tide level: +3.8 ft. to +6.5 ft.
- Energy level: H

**Surveyed From:**

- Foot
- Boat
- Helo

**Weather:**

- Sun
- Clouds
- Fog
- Rain
- Snow

**Surveyed From:**

- Tide level: +3.8 ft. to +6.5 ft.
- Energy level: H

---

**Notes:**

- 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 # MAY 25 FRAMES 8-18
- SHEEN COLOR: B = Brown; R = Rainbow; S = Silver; N = None

**OG Comments:**

- **4 Small Indented Pocket Beaches Exposed to High Wave Energies**
  - Typically oil found on sides of South Facing Beaches, in Boulder Tails
- Pit #1 excavated between 2 boulders
  - After removing a boulder from the top of Pit #1, MOL was found from 0-10 cm on the lee side. No oil from 0-10 of the exposed side of the pit.

---

**Surveyed From:**

- Tide level: +3.8 ft. to +6.5 ft.
- Energy level: H

**Surveyed From:**

- Foot
- Boat
- Helo

**Weather:**

- Sun
- Clouds
- Fog
- Rain
- Snow

**Surveyed From:**

- Tide level: +3.8 ft. to +6.5 ft.
- Energy level: H

---

**Notes:**

- 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 # MAY 25 FRAMES 8-18
- SHEEN COLOR: B = Brown; R = Rainbow; S = Silver; N = None

**OG Comments:**

- **4 Small Indented Pocket Beaches Exposed to High Wave Energies**
  - Typically oil found on sides of South Facing Beaches, in Boulder Tails
- Pit #1 excavated between 2 boulders
  - After removing a boulder from the top of Pit #1, MOL was found from 0-10 cm on the lee side. No oil from 0-10 of the exposed side of the pit.

---

**Surveyed From:**

- Tide level: +3.8 ft. to +6.5 ft.
- Energy level: H

**Surveyed From:**

- Foot
- Boat
- Helo

**Weather:**

- Sun
- Clouds
- Fog
- Rain
- Snow

**Surveyed From:**

- Tide level: +3.8 ft. to +6.5 ft.
- Energy level: H

---

**Notes:**

- 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 # MAY 25 FRAMES 8-18
- SHEEN COLOR: B = Brown; R = Rainbow; S = Silver; N = None

**OG Comments:**

- **4 Small Indented Pocket Beaches Exposed to High Wave Energies**
  - Typically oil found on sides of South Facing Beaches, in Boulder Tails
- Pit #1 excavated between 2 boulders
  - After removing a boulder from the top of Pit #1, MOL was found from 0-10 cm on the lee side. No oil from 0-10 of the exposed side of the pit.

---

**Surveyed From:**

- Tide level: +3.8 ft. to +6.5 ft.
- Energy level: H

**Surveyed From:**

- Foot
- Boat
- Helo

**Weather:**

- Sun
- Clouds
- Fog
- Rain
- Snow

**Surveyed From:**

- Tide level: +3.8 ft. to +6.5 ft.
- Energy level: H

---

**Notes:**

- 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 # MAY 25 FRAMES 8-18
- SHEEN COLOR: B = Brown; R = Rainbow; S = Silver; N = None

**OG Comments:**

- **4 Small Indented Pocket Beaches Exposed to High Wave Energies**
  - Typically oil found on sides of South Facing Beaches, in Boulder Tails
- Pit #1 excavated between 2 boulders
  - After removing a boulder from the top of Pit #1, MOL was found from 0-10 cm on the lee side. No oil from 0-10 of the exposed side of the pit.
<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN BELOW</th>
<th>H2O LEVEL</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
<th>SURFACE-SUBSURFACE SEDIMENTS</th>
<th>NOTES</th>
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</thead>
<tbody>
<tr>
<td>B</td>
<td>10</td>
<td>X</td>
<td>0 - 7</td>
<td>Y</td>
<td>-</td>
<td>-</td>
<td>x</td>
<td>PC - GPC</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>24</td>
<td>X</td>
<td>0 - 7</td>
<td>Y</td>
<td>-</td>
<td>-</td>
<td>x</td>
<td>P - G6 SC</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>48</td>
<td>X</td>
<td>0 - 10</td>
<td>Y</td>
<td>-</td>
<td>-</td>
<td>x</td>
<td>P - GP - PEAT</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>25</td>
<td>X</td>
<td>0 - 5</td>
<td>Y</td>
<td>5</td>
<td>S</td>
<td>x</td>
<td>BP - GPC - polygon lee side</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>7</td>
<td>X</td>
<td>0 - 7</td>
<td>Y</td>
<td>-</td>
<td>-</td>
<td>x</td>
<td>CPBR - GP - wave shadow zone</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>32</td>
<td>X</td>
<td>0 - 7</td>
<td>Y</td>
<td>-</td>
<td>-</td>
<td>x</td>
<td>BP - GP</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>7</td>
<td>X</td>
<td>0 - 7</td>
<td>N</td>
<td>7</td>
<td>B</td>
<td>x</td>
<td>BP - GCB - Boulder/Bedrock PA Bulk</td>
<td></td>
</tr>
</tbody>
</table>

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

OG COMMENTS:
Pits 2, 3, 4, 5, 11, 12, 14 are in protected areas - either a wave shadow zone, or boulder veneer.
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 2  DATE 3 May '91
SEGMENT # EL109  TIDAL HEIGHT (Range) 6' to 1'
SUBDIVISION A  BIOLOGIST Benson
SEA STATE 2'  WIND SPEED/DIRECTION calm
PHOTOGRAPHS: ROLL # —  FRAME # —

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):
(1), (2), (3) Pitfall trap and Verrucaria grow on the oiled rocks in the uliz. This area has a moderate overall species diversity. Barnacles were dense and Littorina moderately dense on the boulders & bedrock. If no new mussels, but there is recent recruitment of barnacles. Littorina & Mytilus. Total benthic FEGA cover is moderately high. Sphincteridellifera green algae (FGA) is widespread. There are also small lightfooted inshore of the bedrock outcrops at the water line. The benthos in these pools includes encrusting coralline algae, Scutella saccharina & Mytilus, and was not diverse. There are no special ecological sensitivities here.

(4), (5), (6) No birds on oiled surfaces. The benthic diversity of this entire area is low. Barnacles & Littorina are sparse on both the pebble-cobble beach and the boulder fallus. Fucus becomes moderately dense only on the bedrock headland to the east. The southeast wave exposure of this subdivision leads to substantial physical disturbance of the non-bedrock substrates. The bedrock populations may release substantial quantities of propagules that could settle on the pebbles, cobbles & boulders. But physical disturbance probably causes post-settlement mortality. (continued on next page)

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

<table>
<thead>
<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED SPECIES PRESENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagles</td>
<td>1</td>
<td>1</td>
<td>Oligocottus maculosus</td>
</tr>
<tr>
<td>Seabirds</td>
<td></td>
<td></td>
<td>&quot;Hedgehog Sculpin&quot;</td>
</tr>
<tr>
<td>Waterfowl</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td>2</td>
<td>3</td>
<td>&quot;Blenny eels&quot;</td>
</tr>
<tr>
<td>Shorebirds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corvids</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Birds</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MARINE MAMMALS</th>
<th># OBSERVED</th>
<th>SPECIES</th>
<th># OBSERVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sea Otters</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pinnipeds(specify)</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whales(specify)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Shoreline subdivision map showing important biological features attached.
Subdivision: EL 109 A
Team: 2
Bio: Benson

Comments (cont.):-

(1), (2), (3) Pits 6-10 - FGA & rare barnacles grow on oiled surfaces. The cobble, pebble-cobble, & boulder talus substrates in the center of the cove were covered with a low - diversity, low - biomass biota similar to that of (3), (4), 

(4), (5), Pit* 11 - Verrucaria grows on the rock wall with CT. Macroalgal diversity is higher on the bedrock in the protection of the headland. In the UITZ, a tide-pool harbors Rhodomela & encrusting coralline algae as well as Lithothamnion & Oligocenthus in the MITZ, Fucus, Enteromorpha, Ulva, Halimeda, Rhodophyta; in the MITZ, Padina & Odonthalia combine with those species listed in the MITZ. Also, substantial amounts of drift algae (e.g., Aquarians, Nereocystis & Centrula) were found among boulders. Thus, in the event of cleanup activities, the bedrock communities should be avoided to whatever extent possible.

(6), (7), (8) Pit* 12 - Oil-covered barnacles occur in the UITZ. In the boulder slope MITZ, a Mytilus bed is found in the cobble veneer between tide levels +4' and +6'. Elsewhere in the MITZ, the cover is low on cobbles. The bedrock outcrops adjacent to the mussel bed contain small tidepools, which enhance local species diversity in this location. The LITZ biota is more diverse than bedrock. LITZ biota in the centers of those coves in EL 109 A. In the event of cleanup activities here, the mussel bed will be sensitive to foot traffic and substrate disturbance.

(continued on next page)
Subdivision: EL109A
Team: 2
Bio: Benson

Comments (cont.) -

13, 14, and 15 - The diversity & biomass of the biota on the pebble-cobble beach extending around the cove is low.

The SE wave-exposure and small substrates on the beaches here probably tend to reduce the diversity & biomass of this subdivision’s biota. This is true especially in the centers of the coves, where there are no obvious ecological sensitivities. The edges of the coves, particularly where rich bedrock-dwelling biota or the vulnerable mussel bed in Site 1 are found, are sensitive areas,
Verticaria on oiled surfaces. Recent recruits of barnacles, limpets & Mytilus. No egg masses.
BIO SKETCH MAP
EL109-A
Sites 1, 2, 3
3 - MAY - 91
Φ 746 - 1810
John Benson

- Pits 6-10
Biomass & diversity are low.

- Pits 1-11
Species diversity is much higher in the slightly reduced exposure of the headland.

- Pits 2-5
Biomass & diversity are low in the center of the cove. Some macroalgae is moderately abundant on the western headland.

- SITE #1
Lake or Lagoon

- SITE #2

- SITE #3

A substantial Mytilus bed occurs between 7 + 4' and 6'. The HYZZ biota is rich.
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT EL-109 SUBDIVISION A (1 of 1)

WORK WINDOW

<table>
<thead>
<tr>
<th>Manual Pickup</th>
<th>Tarmat Removal</th>
<th>OPEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioremediation</td>
<td>Manual Raking</td>
<td>WORK PRIOR TO 8/15</td>
</tr>
</tbody>
</table>

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

>>> PHONE 564-3274 (Anchorage) OR 229-1508 (24 hrs.) <<<

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T Bald Eagle Nest

71I Subsistence: Deer Harvesting

59 Seabird Colony

NO CONSTRAINT. Nest more than 400m from recommended treatment areas.

No constraint to manual pickup and tarmat removal; closed to bioremediation and manual raking after 8/15.

NO CONSTRAINT. Work site is more than 800m from Seabird Colony, as per 7/6/90 letter to Otto Harris from USFWS.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic and beach disturbance to essential minimum after 8/15.
Avoid any unnecessary disturbance or damage to unceded biota and substrate.

TAG ADDENDUM DATE 5/21/90
ADEC 99-1911 99-1912
EXXON 07-3171 07-3172
NOAA 79-105 79-106
USCG 06-191 06-192

Prepared by: Andrea Mazz
Date: 5/19/90
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/EL-110

SUBDIVISIONS: A (1 OF 3)
SHORELINE EVALUATION

SEGMENT ST/EL-110 SUBDIVISION A (1 OF 3) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Bald eagle nest (5T) - 3/1 to 6/1; recreation special use destination (6Y); Subsistence area for deer harvesting (7II) - 8/15 to 2/28. See attached Ecological Constraint Sheet for specific constraints and contacts.

SUBDIVISION ECOCLOGICAL CONSTRAINTS:
Avoid disturbance/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 412 m: Narrow 44 m: V.Light 0 m: No Oil 162 m
Subsurface Oil Observed: Yes ___ No X__ Maximum Depth ______

RECOMMENDATIONS:
___ No Treatment Recommended ___ Snare/Absorbent Booms
X__ Treatment Recommended ___ Oil Snares (pom poms)
___ Manual Pickup ___ Absorbents (pads, rolls, etc)
X__ Bioremediation ___ Spot Washing: ___ Wands
X__ Tarmat: ___ Breakup
X__ Removal ___ Beach Cleaner
X* Other (see comments)

COMMENTS: The treatment activities are recommended as follows: 1)* Hand till and bioremediate area shown on attached sketch map, 2) Bioremediate only in other areas shown on map, and 3) Manual removal of tarmat (see map). Work should be conducted after 6/1 and with approval from USFWS based on above eagle constraints.

TAG COMMENTS:

TAG APPROVAL DATE: ___________
ADEC _______________ FOSC: ___________ DATE: ___________
EXXON _______________ NOAA _______________
NOAA _______________ USCG _______________
PWS ECOLOGICAL CONSTRAINTS

1A
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. Contact ADF&G Habitat Division prior to treatment for permits.

1C
Salmon fry nursery area (4/31 to 7/31)

1D
Esthah 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 un loophed 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.

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)
Anchorage (6/1 to 9/15)

6V
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

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

SEGMENT ST  EL 110  SUBDIVISION: A  DATE 04/02/90

USCG
NAME AEC Vandepols  SIGNATURE AEC Vandepols

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS
I suggest no treatment on the western break beach of EL110 sub A. The 3 beaches immediately east need some hard tilling and bio.

ADEC
NAME Michele  SIGNATURE M. Bae

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS
100A is a low energy area @ high recreational value. There are 4 primary smaller bands varying in length from 20m to 150m @ CT/B. These also have locations 6-8 and AP in the areas W/BS, the tide can be seen down to 15cm and is 58L to base. In the P.C.S areas, the penetration is 5 cm down 0. BP then bedrock. The 1st 4mx20m band requires manual scrubbing & BS, hand pickup of jet size and larger 0 w/CT and mulch/patches. Pick/ak the surface layer, then bio-restore. The next 5x20m area needs manual reworking 10 the CT on the BS, then bio-restorement 0.4 (to BS style). The remaining area should have similar treatment and manual pick-up of BS.

LAND MANAGER
NAME Dan Logan  SIGNATURE John Logan

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS
This is a low energy shoreline with a fair anchorage but exposed to the south. Starting at the west end the first 4mx20m band should have rocks manually scrubbed then hand tilled to aerate sediments and apply fertilizer. The 5mx20m CT/B band immediately to the east has 90% cover CT/B w/ small broken patches of tar. This area should have tar patches scrubbed then hand till and fertilize. The remaining 2 Oiled bands should have the same treatment as the previous 5x20m band.

8DF 19
# SHORELINE OILING SUMMARY

**OIL:** J. Springer, USCG R. Vondrova, SEGMENT STL EL 110
**EXXON:** J. Tomlin, ADEC M. Bier TIME 11:30 to 13:30
**TEAM NO.:** 5 **TIDE LEVEL:** +4.0 to +1.0 DATE 04/10/80
**EST. SUBDIVISION LENGTH:** 600 m **Clouds**
**UPLANDS DESCRIPTION:** Grass Forest Rock Pillow lava
**SURVEYED FROM:** Foot Boat Helo **WORKING DIRECTION:** W to E
**SURFACE SEDIMENTS:** R 25% B 35% C 20% P 15% G 5% S 5% M 5% V 5% SLOPE: Lang 80% Hang 15% Vert 5%
**WAVE EXPOSURE:** Low Med High
**OIL CATEGORY LENGTH:** W 0 m M 280 m N 70 m V L 0 m NO 250 m

## SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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<tbody>
<tr>
<td>ASPHALT PAVEMENT</td>
<td>X X X</td>
<td>SU UI MR U</td>
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<tr>
<td>POOLED</td>
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<tr>
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<td>COAT</td>
<td>X X X X</td>
<td>V</td>
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<tr>
<td>FILM</td>
<td>X X</td>
<td>S</td>
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## SUBSURFACE OIL

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<th>PIT NO.</th>
<th>PIT DEPTH</th>
<th>OIL INTERVAL</th>
<th>OIRED INTERVAL</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONE</th>
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<td>5 30</td>
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<td>6 20</td>
<td>X</td>
<td>-</td>
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</tr>
</tbody>
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## SURFACE OIL

- **PAVEMENT:** H \( \text{sq. m by } 4 \text{ cm} \)
- **PATTIES / TARBALLS:** 0 BAGS
- **NEAR SHORE SHEEN:** NO BR RW SL TL

## OILED DEBRIS AMOUNT

<table>
<thead>
<tr>
<th>Logs</th>
<th>Vegetation</th>
<th>Trash</th>
<th>Debris</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM</td>
<td>MD</td>
<td>LG</td>
<td>YES</td>
</tr>
</tbody>
</table>

- **DEBRIS COLLECTED:**
  - Logs
  - Vegetation
  - Trash
  - Debris

**TYPE**

**Photographs:**
- Roll No.: 3 2
- Frames: 2, 3, 4, 5, 6

## COMMENTS

2 of 19

**Page 1 of**

**REVIEWED**

**DATE** 4-7-10
### SHORELINE OILING SUMMARY (PAGE 1 of 1)

SEGMENT ST  EL110  SUBDIVISION A (1043)

#### SUBSURFACE OIL (CONTINUED)

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL (CM-CM)</th>
<th>BELOW OIL FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANALYSIS</th>
<th>SUBSURFACE SEDIMENTS</th>
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**COMMENTS**

REVIEWED: [Signature]

DATE: 4-7-90

3 of 19
**SHORELINE ECOLOGICAL SUMMARY**

**Segment ST/EL 110 Subdivision A**

**Date (mo/day/yr)** 4/6/90

**Tide Height**: 13 ft

**Length**: 600 m

**Time (24 hr)** 0630-1335

**Biolgist**: Crank

**Subdivision Date (~1 day/yr)**

### Substrate Type and % of Segments:

<table>
<thead>
<tr>
<th>Substrate Type</th>
<th>% of Segment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bedrock</td>
<td>25%</td>
</tr>
<tr>
<td>Boulder</td>
<td>25%</td>
</tr>
<tr>
<td>Cobble</td>
<td>20%</td>
</tr>
<tr>
<td>Pebble</td>
<td>15%</td>
</tr>
<tr>
<td>Sand</td>
<td>5%</td>
</tr>
<tr>
<td>Silt</td>
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</tbody>
</table>

### Overall % Cover of Biota (as % of Segment):

- Dense: 40%
- Moderate: 20%
- Low: 40%

### Density, Substrate Preference (by number from A, above), & Vertical Zonation of Major Taxa:

- **Barnacles**
  - Dense: 1M 1L
  - Moderate: 1U 1M 1L
  - Sparse: 1U 1M 1L
  - Rare: 1U 1M 1L

- **Mytilus**
  - Dense: 1M 1L
  - Moderate: 1U 1M 1L
  - Sparse: 1U 1M 1L
  - Rare: 1U 1M 1L

- **Gastropods**
  - Dense: 1M 1L
  - Moderate: 1U 1M 1L
  - Sparse: 1U 1M 1L
  - Rare: 1U 1M 1L

- **Fucus**
  - Dense: 1M 1L
  - Moderate: 1U 1M 1L
  - Sparse: 1U 1M 1L
  - Rare: 1U 1M 1L

### Photographs:

- Roll No. ST-5-2
- Frames: 20, 21, 22, 23

### Wildlife Observations / General Comments:

- Ad 0930 spotted 3 Killer Whales; 1 adult & 2 off of EL109, they remained in area all day.
- Bald Eagle - 2 mature, immature
- Tufted Puffins - 5 mature, 1 immature
- Fox Sparrow
- White-winged Tattler
- Raven

### Ecological Considerations:

- **6y**: Special Use Destination
- **7T**: Deer Harvesting

### ST-2: Eagle Nest - did not find

- Boulder / Intercobble / Intergavel

- Mussel bed 150m x 10m

---

50F14
Comments:

- Heavy Mytilus recruitment on boulders
- Fucus is reproductive
- High den potential in uplands
- In ULTZ oil band Adult B. glandula had 20% mortality
- Heavy Fucus recruitment in ULTZ and LITZ
- Barnacle scarring in ULTZ bedrock
- 10% B. cariosaus mortality with pockets of 90% mortality. Predation from Nucella?

150m X 10 m Intercobble/Intergavel dense musselbed in MITZ with 80% Adults 20% spat. Area should be protected. Limit foot traffic. Mortality 3-8%.

NW of musselbed there is high recruitment in ULTZ and LITZ and sparse recruitment in MITZ. Adults are rare.

- Porpoise vertebrae found in ULTZ
- A 1m² patch of Zostera in a LITZ tidepool
- Found small clump of eggs 3cm³ in gravel in LITZ - possible herring.
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<tr>
<th>Species List</th>
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<th>M2</th>
<th>L1</th>
<th>L2</th>
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Total: 6 of 19
Boulder, cobble, pebble, sand, beach

Boulder, cobble, pebble, sand, beach

Rock face and boulders

Boulder, cobble, pebble, beach

Map Key: PWS-131a
Name: James Spring
Date: 04/02/90
Date Entered:

Wide

Medium

Narrow

Very Light
Rock face

Cobble, Pebble Beach

Rock face and boulders

--- Narrow

Map Key: PWS-131b
Name: James Springer
Date: 04/02/90
Data Entered:

EL-110

2620

ADEC Segment Length: 2620m

19 of 19

100 200 300
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/EL-110

SUBDIVISIONS: B (2 OF 3)
SHORELINE EVALUATION

SEGMENT ST/EL-110 SUBDIVISION B (2 OF 3) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Bald eagle nest (5T) - 3/1 to 6/1; recreation special use destination (6Y); Subsistence area for deer harvesting (7II) - 8/15 to 2/28. See attached Ecological Constraint Sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid disturbance/damage to unoiiled 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 29 m: V.Light 149 m: No Oil 867 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

X No Treatment Recommended X Snare/Absorbent Booms
X Treatment Recommended Oil Snares (pom poms)
___ Manual Pickup ___ Absorbents (pads, rolls, etc)
X Bioremediation ___ Spot Washing: ___ Wands
___ Tarmat: ___ Breakup ___ Beach Cleaner
___ Removal ___ Oil Snares (pom poms)

COMMENTS: Recommend bioremediation of areas shown on attached sketch map and *in-situ log burning. Work should be conducted after 6/1 with approval from ADF&G and USFWS based on above eagle nest constraint.

TAG COMMENTS:

TAG APPROVAL DATE: __________
ADEC ____________________________ EXXON ____________________________ FOSC: __________ DATE: __________
NOAA ____________________________ USCG ____________________________
FIELD SHORELINE COMMENT SHEET

SEGMENT ST1  EL110$  SUBDIVISION: B  DATE 04/02/90

USCG
NAME AEC Vandepels  SIGNATURE AEC Vandepels

☐ NO TREATMENT RECOMMENDED  ☒ TREATMENT SUGGESTED

COMMENTS

Western most beach of EL110 Sub B has 1x3M and 3x20M areas that may or may not need hand cleaning. Logs on beach need to be removed or burned on site.

ADEC
NAME Michele Baer  SIGNATURE M. Baer

☐ NO TREATMENT RECOMMENDED  ☒ TREATMENT SUGGESTED

COMMENTS

There are patches in the first 1/2 of the segment varying from 1/2 to 5M wide of CT/B and averaging 5 M long. The terrain is primarily P beaches and B fields. Treatment should include manual scrubbing of the coated areas and removal or burning of the oiled logs. The burning of the logs should be done in the bedrock shell of the tar. That remains can be contained to a small area and easily removed. The remaining 1/2 of the segment is a high energy zone with occasional bands of ST/B that are very slight.

LAND MANAGER
NAME Dan Logan  SIGNATURE D. Log

☐ NO TREATMENT RECOMMENDED  ☒ TREATMENT SUGGESTED

COMMENTS

1) Manual scrub rocks in coated areas indicated on sketch map.
2) Burn oiled logs on site and on solid rock, then scan manually scrub burn site.
SHORELINE OILING SUMMARY

OG: J. Springer  USCG  R. Vandepels  SEGMENT ST/ EL 110
BIO: P. Crank  LAND REP: D. Logan  SUBDIVISION: B (20 of 3)
EXXON: T. Tarnblom  ADEC: M. Baer  TIME: 13:52 to 15:05
TEAM NO.: 5  TIDE LEVEL: +1 to +2  DATE: 04/02/90

EST. SUBDIVISION LENGTH: 140 m  Sun  Clouds  Fog  Rain  Snow
UPLANDS DESCRIPTION:  Grass  Forest  Rock  Boulders, Mound, Pillow Lava
SURVEYED FROM:  Foot  Boat  Helo  WORKING DIRECTION:  W to E
SURFACE SEDIMENTS:  A 35%  B 35%  C 15%  P 15%  S 10%  M 8%  V 3%
SLOPE:  Long 30%  Hang 50%  Vert 20%  WAVE EXPOSURE:  Low  Med  High
OIL CATEGORY LENGTH:  W __ m M __ m N __ m V __ m 150 m NO __ 985 m

SURFACE OIL

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<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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<td>TARBALLS</td>
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</tr>
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PAVEMENT: H  F  S  O sq. m by 0 cm

PATTERIES / TARBALLS: 0 BAGS

NEAR SHORE SHEEN? NO  BR  RW  SL  TL

OILED DEBRIS AMOUNT

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Photographs:

Roll No. __________
Frames __________

SUBSURFACE OIL

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<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>BELOW</th>
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COMMENTS

9 of 19

Page 1 of __________

REVIEWED __________ DATE 4-7-90
**SHORELINE ECOLOGICAL SUMMARY**

**Segment ST/EL 110 Subdivision B**

**Date (mo/day/yr)** 4/21/90

**Time (24 hr)** 1055-1510 Biological Crank

**Tide Height:** +1 to +2.5

**Length:** 1140

(A) **Substrate type and % of segments:**
- (1) Bedrock 25%
- (2) Boulder 35%
- (3) Cobble 15%
- (4) Pebble 15%
- (5) Sand 10%
- (6) Silt

(B) **Overall % cover of bota (% of segment):**
- Dense 40%
- Moderate 30%
- Low 30%

(C) **Density, substrate preference (by number from A, above), & vertical zonation of major taxa:**
- (1) Bedrock
- (2) Boulder
- (3) Cobble
- (4) Pebble
- (5) Sand
- (6) Silt

**Barnacles**

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**Mytilus**

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**Gastropods**

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**Fucus**

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**Wildlife Observations/General Comments:**

1. Bald Eagle flying
2. Cormorants on cliff face
3. Crows on boulder

**Ecological Considerations:**

6Y - Special Use Destination
711 - Deer Harvesting
ST-2 - Eagle Nest, did not find
### Species List

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**Comments:**
- Weather picked up and assessment made at rapid pace; minimum cobble were turned.
- Segment consists of rocky headlands, steeply boulder shovels and postel Boulder cobble in surf. Cobble is variable. Other beaches have angular cobble.
- Fucus concentrations are moderate in LITZ, rounded cobble beach but dense on angular.
- Freshwater runoff, small stream on beach.
- Oyster shells in drift line.
- In oil bond Balanus 202 min.
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 8/1)
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 uncollected intertidal and subtidal algae and seagrass.
    Contact ADF&G for specific dates and locations.

3N, 3P
3Q, 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.

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 300m 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
7JJ  Deer harvesting (9/15 to 2/28)
7JJ  Invertebrate harvesting
    For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/EL-110

SUBDIVISIONS: C (3 OF 3)
SEGMENT ST/ EL-110 SUBDIVISION C (3 OF 3) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Bald eagle nest (5T) - 3/1 to 6/1; recreation special use destination (6Y); Subsistence area for deer harvesting (7II) - 8/15 to 2/28.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
(5T) Restrict air traffic to essential minimum. Air approach and takeoff to seaward only. Contact USFWS prior to treatment for confirmation dates and avoidance minimums. Avoid disturbance/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_30_m: Medium_0_m: Narrow_0_m: V.Light_0_m: No Oil_815_m
Subsurface Oil Observed: Yes___ No_X__ Maximum Depth________

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

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: ___________
ADEC __________________________
EXXON _________________________
NOAA __________________________
USCG __________________________
FOSC: ______________ DATE: __________
FIELD SHORELINE COMMENT SHEET

SEGMENT ST/EC 110  SUBDIVISION: C  DATE 04/02/70

USCG
NAME  AEC Vandegrift  SIGNATURE  AEC Vandegrift

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS
I concur with statement of Land Manager.

ADEC
NAME  Michele Baue  SIGNATURE  mBae

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS
The headland in the beginning of the segment has a healthy
hearty stand of lichen. The area is very high energy and
difficult to access. Most of the stain is no longer detectible
Since this area is of very high energy, I recommend
monitoring the area in fall, and until then leaving
the cleaning to the high wave energy of the area. Of this
patch is still detectible in fall, manual scrubbing
of techs is recommended.

LAND MANAGER
NAME  Dan Logan  SIGNATURE  Da log

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS
This is a high energy, very exposed subdivision. No oil observed
on rock face. The pocket beach is very exposed and will not
receive high recreation use. There is a 20M X 20M CT/B on boulkers
over beach rock on the western edge. Hot water treatment will not work
here as the oil will flow over beach rock and not be recovered. I
recommend re-evaluating the beach in Sept. If the bottom section is
not naturally cleaned by Sept, then manually clean rocks 17 of 19.
## Shoreline Oiling Summary

**Surveyor:** USCG J. Sprinler  
**Land Rep.:** USCG R. Vandepels  
**Segment ST:** EL11D  
**Bio.:** P. Grant  
**ADEC:** M. Baer  
**Tide Level:** +2 to +3  
**Date:** 04/02/90

**Team No.:**  
**Time:** 15:05 to 16:00  
**Established Subdivision Length:** 880 m

**Conditions:**  
- **UPLANDS DESCRIPTION:**  
  - Grass  
  - Forest  
  - Rock  
  - Metamorphic  
  - pillow lava.  
- **SURVEYED FROM:**  
  - Foot  
  - Helicopter  
  - Working Direction: SE to NW

**Surface Sediments:**  
- R 35%  
- B 55%  
- C 10%  
- P  
- G %  
- S %  
- M %  
- V %

**Slope:**  
- Lang 10%  
- Hang 70%  
- Vert 20%

**Oil Category Length:** W 20 m  M 0 m

---

### Surface Oil

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**Pavement:** H F S D sq.m by 0 cm

**Patties/Tarballs:** 0 bags

**Near Shore Sheen?** No

**Photographs:**
- Roll No. 
- Frames 

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### Subsurface Oil

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**Comments:** "3D" carved into oil stain - apparently by hot water wand.

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**Reviewed:** H H  
**Date:** 4-7-90
SKETCH MAP

High Energy Beach.

LEGEND
1 A
P1 - No Subsurface Oil

2 A
P1 - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/P
Patchy Distribution

CT/3
Splashed Distribution

Oiled Vegetation

Photo locatzl, direction, and number

Approx. 100m

beem wave-generated ripple marks in cobbled substrate

Rock face 20m X 20m CT/B DBL under boulders to 1m
laminar flow in puddles

CT/3 DBL 70 ST 70 ST LAG SUB><

DATE 04/02/90
SUBDIVISION C
SEGMENT ST/EL 110
OOG SPRINGER
SHORELINE ECOLOGICAL SUMMARY

Segment ST 1110 Subdivision C

Date (mo/day/yr) 4/2/90

Tide Height: 42.5 - 74

Length: 880 m

Time (24 hr) 11:00 - 14:55

Biologist: Cran K

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

(B) Overall % cover of biota (% of segment):
1. Dense
2. Moderate
3. Low

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

BARNACLES

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Wildlife Observations/General Comments:
3 Bald Eagles - Adults (2 Flying as pair)
1 Common Merganser

Ecological Considerations:
6Y - Special Use Destination
711 - Deer Harvesting
ST-2 - Eagle Nest - did not locate
### Species List

<table>
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<th>Species</th>
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<tr>
<td>Bacteria</td>
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</table>

### Tidepool
- 2 animals in Tidepool

### Comments:
- Discolored Mussels on boulder on west side of cobble bank.
- Tannic acids leaching from rocks.
- Beach is rounded cobble = low macro-biofa.
- Dense biofa in bedrock behind boulders.
- LITZ covered with tide.
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT EL-110 SUBDIVISION A (1 of 3)

WORK WINDOW

<table>
<thead>
<tr>
<th>Tarmat Removal</th>
<th>OPEN</th>
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<tr>
<td>Bioremediation</td>
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<tr>
<td>Other Recommended Treatment</td>
<td>WORK PRIOR TO 8/15</td>
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</table>

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T Bald Eagle Nest NO CONSTRAINT. Bald eagle nest is in Subdivision C of Segment EL-110, and more than 400m from work site.

7II Subsistence: Deer harvesting No constraint to Tarmat Removal; closed to all other treatment activities after 8/15.

OTHER ECOLOGICAL CONSIDERATIONS

Avoid disturbance/damage to unoiled biota and substrate.

TAG ADDENDUM DATE 5/16/90
ADEC Art Wehner	NOAA Nancy Lee
EXXON	NOAA
NOAA	FOSC
USCG	

Prepared by: ___________________________ Date: 5/14/90
SEGMENT ST/ EL-110  SUBDIVISION A (1 OF 3) DATE  4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Bald eagle nest (5T) - 3/1 to 6/1; recreation special use destination (6Y); Subsistence area for deer harvesting (7II) - 8/15 to 2/28. See attached Ecological Constraint Sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid disturbance/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  [Signature] DATE:  4/17/90

OILING CATEGORIZATION:
Wide: 0 m; Medium: 412 m; Narrow: 44 m; V.Light: 0 m; No Oil: 162 m
Subsurface Oil Observed: Yes ___ No: ___  Maximum Depth: ___

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

COMMENTS: The treatment activities are recommended as follows: 1) * Hand till and bioremediate area shown on attached sketch map, 2) Bioremediate only in other areas shown on map, and 3) Manual removal of tarmat (see map). Work should be conducted after 6/1 and with approval from USFWS based on above eagle constraints.

TAG COMMENTS:

TAG APPROVAL DATE:  4/17/90
ADEC  Jandy Bartz  [Signature]  Date:  4/17/90
EXXON  [Signature]  Date:  4/2/90
NOAA  [Signature]  Date:  4/17/90
USCG  [Signature]  Date:  4/17/90
ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T Bald Eagle Nest NO CONSTRAINT. Bald eagle nest is in Subdivision C of Segment EL-110, and more than 400m from work site.

71i Subsistence: Deer harvesting Subdivision closed to bioremediation after 8/15.

OTHER ECOLOGICAL CONSIDERATIONS

Avoid disturbance/damage to unaltered biota and substrate.

TAG ADDENDUM DATE 5/14/90
ADEC / Art Weaver / Art Weaver
EXXON / Roy T. / Roy T.
NOAA / Joseph Tallmadge /
USCG

Prepared by: W.K. Date: 5/14/90
SHORELINE EVALUATION

SEGMENT ST/ EL-110 SUBDIVISION B (2 OF 3) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Bald eagle nest (ST) - 3/1 to 6/1; recreation special use destination (6Y); Subsistence area for deer harvesting (7II) - 8/15 to 2/28. See attached Ecological Constraint Sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid disturbance/damage to un-oiled 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: 4/2/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 29 m: V.Light 149 m: No Oil 867 m Subsurface Oil Observed: Yes No

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

COMMENTS: Recommend bioremediation of areas shown on attached sketch map, and in situ log burning. Work should be conducted after 6/1 with approval from ADF&G and USFWS based on above eagle nest constraint.

LEAVE LOGS IN PLACE

TAG COMMENTS:

TAG APPROVAL DATE: 4/10/90
ADEC [Signature] DATE: 4-22-90
EXXON [Signature]
NOAA [Signature]
USCG [Signature]
SEGMENT ST/EL-110  SUBDIVISION A (1 OF 3)  DATE  4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Bald eagle nest (5T) - 3/1 to 6/1: recreation special use destination (6Y); Subsistence area for deer harvesting (7II) - 8/15 to 2/28. See attached Ecological Constraint Sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid disturbance/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: 4/7/90

OILING CATEGORIZATION:
Wide 0 m: Medium 412 m: Narrow 44 m: V.Light 0 m: No Oil 162 m
Subsurface Oil Observed: Yes  No X Maximum Depth

RECOMMENDATIONS:
X Treatment Recommended  X Snare/Absorbent Booms
X Manual Pickup  X Oil Snare (pom poms)
X Bioremediation  X Absorbents (pads, rolls, etc)
X Tarmat: X Breakup  X Spot Washing: Wands
X Removal  X Other (see comments)

COMMENTS: The treatment activities are recommended as follows: 1) * Hand till and bioremediate area shown on attached sketch map, 2) Bioremediate only in other areas shown on map, and 3) Manual removal of tarmat (see map). Work should be conducted after 6/1 and with approval from USFWS based on above eagle constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/22/90
ADEC  DONN BAUBER  DATE: 4/22/90
EXXON  JOHN TAYLOR  DATE: 4/22/90
NOAA  BUDDY WILCOX  DATE: 4/22/90
USCG  ТOPМ W./HAASE  DATE: 4/22/90
SEGMENT ST/ E= 110
SUBDIVISION A
DATE 04/02/00

CHECKLIST
- Arrow
- Approx. Scale
- Deep Sub Sand
- Thin Diag
- Width
- Length
- Substrate Character
- Ht, HwL, LWL
- Profile Location(s)
- Profile(s)
- Pit Location(s)
- Photo Location(s)

LEGEND
1 A
 Pit - No Subsurface Oil

2 A
 Pit - 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

SK 'H MAP

Runoff under Sediments
CT/P
3x3m 5.1cm down, DNL
Boulder, cobble, pebble, sand, beach

CT/S and FVs on boulders
SBL&TZ 2x40m 50% cover

5x20m CT/B SBL&BBL 70% cover
Hand Tier A
BIO

Low energy shoreline beach
BIO

Rock face
BIO

4m x 90m ST/B DR & SOL 50% cover

5x15m ST/B with FLB 50% cover

Runoff under Sediments

0 100m
Approx.

Oil Character Length (re): AP PO CV CT 110 ST 240 MS PT TB FL NO 250
Rock face

Cobble, Pebble Beach

Rock face and boulders

EL-110

XXXX Wide

/// Medium

---- Narrow

TTTT Very Light

Map Key: PWS-131b
Name: James Springer
Date: 04/02/90
Data Entered:
SHORELINE EVALUATION

SEGMENT ST/ EL-110 SUBDIVISION B (2 OF 3) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Bald eagle nest (5T) - 3/1 to 6/1; recreation special use destination (6Y); Subsistence area for deer harvesting (7II) - 8/15 to 2/28. See attached Ecological Constraint Sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid disturbance/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: 4/17/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 29 m: V. Light 149 m: No Oil 867 m
Subsurface Oil Observed: Yes No X Maximum Depth _______

RECOMMENDATIONS:
___ No Treatment Recommended ___ Snare/Absorbent Booms
X Treatment Recommended ___ Oil Snares (pom poms)
___ Manual Pickup ___ Absorbents (pads, rolls, etc)
X Bioremediation ___ Spot Washing: Wands
___ Tarmat: Breakup ___ Spot Washing: Wands
___ Removal ___ Oil Snares (pom poms)
___ Absorbents (pads, rolls, etc)
___ Spot Washing: Wands
___ Oil Snares (pom poms)
___ Absorbents (pads, rolls, etc)
___ Spot Washing: Wands
X Other (see comments)

COMMENTS: Recommend bioremediation of areas shown on attached sketch map, and in-situ log burning. Work should be conducted after 6/1 with approval from ADF&G and USFWS based on above eagle nest constraint.

LEAVE LOGS IN PLACE

TAG COMMENTS:

TAG APPROVAL DATE: 4/17/90
ADEC JOHN BAIRD (661)
EXXON ANDY TATE (661) FOSS: ______ DATE: 4-22-76
NOAA Bud Wescott (B): (661)
USCG ______ DATE: ______
SHORELINE EVALUATION

SEGMENT ST/ EL-110 SUBDIVISION C (3 OF 3) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Bald eagle nest (5T) - 3/1 to 6/1; recreation special use destination (6Y); Subsistence area for deer harvesting (7II) - 8/15 to 2/28.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
(5T) Restrict air traffic to essential minimum. Air approach and takeoff to seaward only. Contact USFWS prior to treatment for confirmation dates and avoidance minimums. Avoid disturbance/damage to unoiled biota and substrate.

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

SHPO SIGNATURE: [Signature] DATE: 4/17/90

OILING CATEGORIZATION:
Wide 30 m: Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 815 m
Subsurface Oil Observed: Yes X No Maximum Depth

RECOMMENDATIONS:
X No Treatment Recommended ___ Snare/Absorbent Booms
____ Treatment Recommended ___ Oil Snares (pom poms)
____ Manual Pickup ___ Absorbents (pads, rolls, etc)
____ Bioremediation ___ Spot Washing: _____ Wands
____ Tarmat: _____ Breakup _____ Beach Cleaner
_____ Removal _____ Other (see comments)

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 4/17/90
ADEC [Signature] DATE: 4/21/90
EXXON [Signature] FOSC: [Signature] DATE: 4/21/90
NOAA [Signature] USCG [Signature]
SKETCH MAP

High Energy Beach.

Legend:
- O: No Subsurface Oil
- O: Subsurface Oil
- CT/J: Concurrent Distribution
- CT/J: Broken Distribution
- CT/J: Patchy Distribution
- CT/J: Splashed Distribution

20m x 20m CT/J DBL under boulders to 1m of sheen in puddles

Substrate: Wave-generated, fine rocks in cobble substrate.
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/EL-999

SUBDIVISIONS: A (1 OF 1)
SEGMENT ST/EL-999  SUBDIVISION A (1 OF 1)  DATE  4/24/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
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 14 m: Narrow 97 m: V.Light 0 m: No Oil 467 m
Subsurface Oil Observed: Yes____ No X____ Maximum Depth______

RECOMMENDATIONS:
X 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:__________
Salmon stream mouth - fry outmigration (3/1 to 5/15)
Salmon stream mouth - spawning (7/10 to 6/31)
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 or mechanical 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

Estuary Hatchery release (4/15 to 6/15)
Main Bay Hatchery release (4/20 to 6/15)
Sawmill Bay Hatchery release (4/15 to 6/1)
Cannery Creek Hatchery release (4/21 to 6/1)
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: ADF&G Larry Peltz 424-3214

Gill net area (6/7 to 8/31)
Purse seine area (7/22 to 9/30)
Purse seine hook-off (7/22 to 9/30)
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

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 unveiled 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 424-3335

Harbor seal and sea lion pupping (6/15 to 7/1)
Harbor seal and sea lion molting (6/15 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
ADB&G Don Calkins 267-2403

Seabird colony (5/1 to 9/1)
Restrict all 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
ADB&G Tom Rothy 267-2206

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

Subsistence area: Salmon harvesting (5/1 to 9/30)
Finfish harvesting
Deer harvesting (8/15 to 2/26)
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 Fail 267-2359
FIELD SHORELINE COMMENT SHEET

SEGMENT ST1  EL - 999  SUBDIVISION:  A  DATE  

USCG
NAME  AEC Vandepols  SIGNATURE  AEC Vandepols

☑ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED
COMMENTS

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED
COMMENTS
Mousse spots are rare. It is on tops of B's and pebbles only. Natural cleansing by wave energy recommended.

Dead otter found by team #6 1/4 mile of shore.

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED
COMMENTS
Recommend continued natural cleansing. Most oil in this segment is coated under boulders and bedrock outcrops. No sheenning noted, oil appears stable.

Resource sensitivity - deer harvesting.
**SURFACE OIL**

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<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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**PAVEMENT H F S**

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**NEAR SHORE SHEEN?**

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**Photographs**

- Roll No: St-5-7
- Frames: 15

**SUBSURFACE OIL**

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<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>BELOW</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANA SHEEN</th>
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**COMMENTS**

- Reviewed: W 4/25/02
SKETCH MAP

CT/P/DBL
10m x 2m
on underside of B with same MS/5 between 8°F/C

CT/P/DBL
3m x 10m
on and under B

CT/P/DBL
4m x 5m
on and under B

ST/P/DBL
3m x 40m
on B

Pebble beach

Cobble, pebble, gravel

Rock

Stream

berm

Subdivision A

Date 04/29/00

Legend

1 A
No Subsurface Oil

2 A
Subsurface Oil

CT/C
Corroded Distribution

CT/B
Broken Distribution

ST/P
Parched Distribution

ST/2
Splashed Distribution

MEO
Cibb Vegetation

Photo location, direction, and number

N

Approx

0 100 m
### SHORELINE ECOLOGICAL SUMMARY

**Segment ST / EL 999**  
**Subdivision A**  
**Date (mo / day / yr):** 4/24/90

**Time (24 hr):** 0730-0830  
**Biologist:** Crewk  
**Page:** 1 of 3

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

#### (B) Overall % cover of biota (% of segment):
- Dense: 10
- Moderate: 20
- Low: 70

#### (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa:
- **Barnacles:**
  - Dense: (1) Bedrock, (2) Boulder, (3) Cobble, (4) Pebble, (5) Sand, (6) Silt
  - Moderate: (1-6) No. of frames: 15
  - Sparse: (1-6) No. of frames: 15
  - Rare: (1-6) No. of frames: 15
- **Mytilus:**
  - Dense: (1) Bedrock, (2) Boulder, (3) Cobble, (4) Pebble, (5) Sand, (6) Silt
  - Moderate: (1-6) No. of frames: 15
  - Sparse: (1-6) No. of frames: 15
  - Rare: (1-6) No. of frames: 15
- **Gastropods:**
  - Dense: (1) Bedrock, (2) Boulder, (3) Cobble, (4) Pebble, (5) Sand, (6) Silt
  - Moderate: (1-6) No. of frames: 15
  - Sparse: (1-6) No. of frames: 15
  - Rare: (1-6) No. of frames: 15
- **Fucus:**
  - Dense: (1) Bedrock, (2) Boulder, (3) Cobble, (4) Pebble, (5) Sand, (6) Silt
  - Moderate: (1-6) No. of frames: 15
  - Sparse: (1-6) No. of frames: 15
  - Rare: (1-6) No. of frames: 15

#### Wildlife Observations/General Comments:
- Exxon Rep Spotted Beluga in front of Segment 0630 traveling N  
- Heard terrestrial Birds in uplands
- Immature Bald Eagle
- Deer Harvesting

#### Ecological Considerations:
Comments

- Lower Intertidal Zone has dense urchin population.
- Barnacle population is very small.
- Middle Intertidal Zone has a large cover of barnacles.
- Zone is covered with filamentous green algae.
- Zone is devoid of all life, except for barnacles on the rocks and 70% mortality due to disease.
- Near the rocks, barnacle population is sparse.
- Near the rocks, barnacle population is moderate.
- Mytilus barnacles are seen.
- Flow is sparse with rare sporadically seen in stripes.
- Upper Intertidal Zone has low biodiversity.
- Rare barnacle population and occasional Littorina in cobble.
- Rare barnacles on boulders and moderate Littorina, sparse, mature and moderate barnack.
- Low biodiversity on pebble beaches. Beaches covered at mid-tide level.
SHORELINE EVALUATION

SEGMENT ST/ EL-999 SUBDIVISION A (1 OF 1) DATE 4/24/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
7II Subsistence area: Deer harvesting (8/15 to 2/28)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOCLOGICAL 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: 5/2/90

OILING CATEGORIZATION:
Wide 0 m: Medium 14 m: Narrow 97 m: V.Light 0 m: No Oil 467 m
Subsurface Oil Observed: Yes ___ No X ___ Maximum Depth ______

RECOMMENDATIONS:
_____ X 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: 5/2/90
ADEC Act- Weiners __________________________ FOSC: _______ DATE: 5/5/90
EXXON Ampy Teet __________________________
NOAA Cary Becher __________________________
USCG Vern Bice RECO 1979 _______
Components

- Lower Intertidal Zone has low bio.
  - Rare barnacle population and occasional
    Littorina in cobble. Rare barnacles on boulders and
    moderate Littorina. Sparse mussels and moderate barnack

- Low Bio on Pebble beaches. Beaches covered at
  mid-tide level.

- Middle Intertidal Zone is 1/2 to 1 ft recovering.

- Cobble is covered with filamentous green algae.

- On the northern boulder adult barnacles are just scattered, and 70% mortality. On south side closer to Third Point, barnacles sparse, still soft.

- Need runoff Littorina were moderate.

- Mytilus band on Southern Rock. 30m x 1/2 m please core.

- Flow is sparse with rare sightings. 30% of population
  is stripped.
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/EN-45

SUBDIVISIONS: A (1 OF 1)
SEGMENT ST/ EN-45 SUBDIVISION A (1 OF 1) DATE 4/6/90

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)
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 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 20 m: Narrow 8 m: V.Light 0 m: No Oil 147 m
Subsurface Oil Observed: Yes X No Maximum Depth 15 cm

RECOMMENDATIONS:
____ No Treatment Recommended ______ Snare/Absorbent Booms
X Treatment Recommended ______ Oil Snares (pom poms)
____ Manual Pickup ______ Absorbents (pads, rolls, etc)
X Bioremediation ______ Spot Washing: Wands
____ Tarmat: __ Breakup ______ Beach Cleaner
____ Removal ______ Other (see comments)

COMMENTS: Bioremediate cover, coat and subsurface oil. Work should be conducted after 6/1 with approval of ADF&G and USFWS based on eagle nest constraint.

TAG COMMENTS:

TAG APPROVAL DATE:___________
ADEC ______________________ FOSC: __________ DATE:_____
EXXON ______________________
NOAA _______________________
USCG ______________________
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 unoiiled 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 from haulouts.

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 STI   EN 45     SUBDIVISION: A     DATE 4-06-90

USCG
NAME______________________SIGNATURE____________________

☑ NO TREATMENT RECOMMENDED    ☐ TREATMENT SUGGESTED

COMMENTS

I recommend no treatment for this subdivision. Labor intensive for what would be gained. Also all tide zones seem to be doing well.

ADEC
NAME Michele Baer     SIGNATURE ______________________

☐ NO TREATMENT RECOMMENDED    ☐ TREATMENT SUGGESTED

COMMENTS

On B field, I recommend manual wiping of the broken CT and removing the B3 to pick up the underlying 5 cm of CR c, p, and 5 surface. There lies a crevasse to the NW of the B field with a 2 x 20m CV/6. Scrubbing of the walls would help reduce the CV, but Visqueen should be placed over the oil-free tidepools lying at the base of the crevasse during the clean process. The adjoining B, C and P beach required no treatment. No surface oil was present and pits dug in the UITZ and MITZ revealed no.

LAND MANAGER
NAME Dan Hogan     SIGNATURE ______________________

☐ NO TREATMENT RECOMMENDED    ☑ TREATMENT SUGGESTED

COMMENTS

I recommend manually wiping the broken CT, the Z120 CV/6, and
2 x 15m CT/6 should be hand wiped.
### SHORELINE OILING SUMMARY

**Ogilby J. Springer** USCG  | **R. Vandervels** SEGMENT HT/ EN45  
**Bio** | **Land Rep**  
**Exxon** | **ADEC**  
**Team No:** 5  | **Time:** 15:10 to 15:57  
**Est. Subdivision Length:** 207 m  | **Date:** 09/10/90  
**Uplands Description:**  | **Working Direction:** W to E  
**Surveyed From:**  | **Surface Sediments:** R 10% B 5% C 50% P 20% G 0% S 15% M 0% V 0%  
**Slope:** Low  | **Wave Exposure:** Low  
**Oil Category Length:** W 0 m M 15 m N 45 m V 0 m  | **No. Oil:** 1/7 m  

### SURFACE OIL

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### NEAR SHORE SHEEN?
- NO  
- BR  
- RW  
- SL  
- TL

### OILED AMOUNT
- Debris
- Logs
- Vegetation
- Trash
- Debris

### DEBRIS COLLECTED
- YES
- NO

### TYPE
- Anchor

### Photographs:
- Roll No. 5T-5-4
- Frames 1-3

### SUBSURFACE OIL

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### Comments

**Reviewer:** [Signature]  | **Date:** 4/13/90
SEGMENT END

SUBDIVISION A

DATE 4 106/90

CHECKLIST

- N Arrow
- Appra, Scale
- Seg/Shear Daily
- Did Dist
- Wash
- Length
- % Cover
- Subsurface Character
- Est. HWL/AWL
- SSL
- Profile Location(s)
- Pale(s)
- Pit Location(s)
- Photo Location(s)

LEGEND

1 A
- Pit - No Subsurface Oil

2 A
- Pit - Subsurface Oil

CT/C
- Continuous Distribution

CT/B
- Beak Distribution

CT/P
- Patchy Distribution

CT/S
- Spotted Distribution

Oil Vegetation

- Photo location, direction, and number

Oil Character Length (m): AP PO CV 2H CT 40 ST MS PT TB FL NO 147
**SHORELINE ECOLOGICAL SUMMARY**

Segment ST/EN 45  Subdivision A  Date (mo/day/yr) 4/4/90

Time (24 hr.) 15:00-15:30  Biologist Rank

---

(A) Substrate type and % of segments:
1. Bedrock 10
2. Boulder 5
3. Cobble 50
4. Pebble 20
5. Sand 10
6. Silt 5

(B) Overall % cover of biota (% of segment): Dense 5  Moderate 5  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 (✓)

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**BARNACLES**

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Wildlife Observations/ General Comments:
1. Bald Eagle: Adult
2. Bald Eagles: Immature
3. Rabbits: 1 Pigeon Guiltly
4. Seabirds: 2 Breeding Damage, NOT
Ecological Considerations:
5. T. Active Bald Eagle Nesting
6. Deer Harvesting
7. LITZ Unaffected
8. Newed cattle trac (k outside
- Heavy Barnacle Scarring on Bedrock
- Terraced Bedrock due to tidal pool 0.5m
- Horned Algae included Dominant spp,
- Mackrel, C. pinnel, and K. salmena
- St. Paul C. pinnel. and K. salmena
**Segment:** EN 4S  
**Subdivision:** A  
**Length:** 207m  
**Biologist:** Creek

**Date:** 4/6/94  
**Time:** 1510-1550  
**Tide Height:** +4

1 = Bedrock  
2 = Boulder  
3 = Cobble  
4 = Pebble  
5 = Sand  
6 = Silt

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<th>M1</th>
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</tr>
<tr>
<td>Raphisia/Hildenbrandia</td>
<td></td>
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<tr>
<td>Rhodomela Lanix</td>
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<tr>
<td>Rhodomenia Palmata</td>
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</tr>
<tr>
<td>Boytosiphon spp</td>
<td></td>
<td></td>
<td></td>
<td>Tidal</td>
<td></td>
</tr>
<tr>
<td>Ulva spp</td>
<td></td>
<td></td>
<td></td>
<td>Tidal</td>
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<tr>
<td>Zostera Marina</td>
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<tr>
<th>Fauna</th>
<th>Species</th>
<th>L1</th>
<th>M1</th>
<th>L2</th>
<th>Comments</th>
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<tbody>
<tr>
<td>Anthopleura spp</td>
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<td></td>
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</tr>
<tr>
<td>(Semi) Balanus Cariosus</td>
<td></td>
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<tr>
<td>B. glandula</td>
<td></td>
<td></td>
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<tr>
<td>Bryozoa</td>
<td></td>
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</tr>
<tr>
<td>Chitons (Other Than K. Tunicata)</td>
<td></td>
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<tr>
<td>Clams</td>
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<td>Crabs</td>
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<td>Derasterias Imbricata</td>
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<tr>
<td>Katharia Tunicata</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptasterias Hexactis</td>
<td></td>
<td></td>
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<tr>
<td>Limpets</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Littorina spp</td>
<td></td>
<td></td>
<td>120</td>
<td>Dense in tidal</td>
<td></td>
</tr>
<tr>
<td>Nucella spp</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pachyergus spp</td>
<td></td>
<td></td>
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<tr>
<td>Pisaster ochraceus</td>
<td></td>
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<tr>
<td>Polychaetes</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Pyenopodia Helianthoides</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Bearlesia Dirae</td>
<td></td>
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<td>Serpulids</td>
<td></td>
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<td></td>
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<tr>
<td>Siphonaria Thersites</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Tealia</td>
<td></td>
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</tr>
</tbody>
</table>

23
ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T Bald Eagle Nest

NO CONSTRAINT. Nest in Segment EN-46 is more than 400m from recommended treatment area.

7II Subsistence: Deer Harvesting

Closed to bioremediation 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 unoiuessed biota and substrate.

Prepared by: [Signature]

Date: 5/19/90

Date: 5/21/90
SHORELINE EVALUATION

SEGMENT ST/EN-45 SUBDIVISION A (1 OF 1) DATE 4/6/90

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)
7II Subsistence area: Deer harvesting (8/15 to 2/28)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOCLOGICAL 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: 7/3/90

OILING CATEGORIZATION:
Wide 0 m: Medium 20 m: Narrow 8 m: V.Light 0 m: No Oil 147 m
Subsurface Oil Observed: Yes X No Maximum Depth 15 cm

RECOMMENDATIONS:
_____ No Treatment Recommended
X Treatment Recommended
_____ Manual Pickup
X Bioremediation
_____ Tarmat: Breakup
_____ Removal
_____ Snare/Absorbent Booms
_____ Oil Snares (pom poms)
_____ Absorbsents (pads, rolls, etc)
_____ Spot Washing: Wands
_____ Beach Cleaner
_____ Other (see comments)

COMMENTS: Bioremediate cover, coat and subsurface oil. Work should be conducted after 6/1 with approval of ADF&G and USFWS based on eagle nest constraint. __________________________________________________________________________________________

TAG COMMENTS: 

______________________________________________________________________________________________

TAG APPROVAL DATE: 4/6/90
ADEC Art Weiser Art Weiser
EXXON Mary Tall Mary Tall
NOAA Dave Winter Scott Winter
USCG

FOSC: ___________________ DATE: ___________________
SHORELINE EVALUATION

SEGMENT ST/ EN-45 SUBDIVISION A (1 OF 1) DATE 4/6/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ST-1 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 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 147 m: Medium 20 m: Narrow 8 m: V.Light 0 m: No Oil 147 m
Subsurface Oil Observed: Yes X No Max Depth 15 cm

RECOMMENDATIONS:
____No Treatment Recommended ______Snare/Absorbent Booms
X Treatment Recommended ______Oil Snares (pom poms)
____Manual Pickup ______Absorbents (pads, rolls, etc)
X Bioremediation ______Spot Washing: ______Wands
_____Tarmat: ______Breakup ______Beach Cleaner
_____Removal ______Other (see comments)

COMMENTS: Bioremediate cover, coat and subsurface oil. Work should be
conducted after 6/1 with approval of ADF&G and USFWS based on eagle
nest constraint.

TAG COMMENTS:

TAG APPROVAL DATE: 4/28/90
ADEC [Signature] DATE: 4/27/90
EXXON [Signature]
NOAA [Signature]
USCG [Signature]
ENVIRONMENTAL SENSITIVITIES:
Work Window(s) RESTRICTED 8/15 - 9/15

Ecological/Constraints (see page two for details) 
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) 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 
EXXON 
USCG 
NOAA
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

Subsistence - Deer Harvesting: Unlimited treatment prior to 8/15.
TEAM NO. 2  SEGMENT EN 95  SUBDIVISION A  DATE 5/12/91

ADEC
NAME: Peter Montesano  SIGNATURE:

☐ NTR  ☐ TREATMENT RECOMMENDED

Some 50 found under cobbles, boulders and on the landside of rock - minor amounts.
Severe pits to peat revealed no oil where previously documented by SSAT. No ASAP
on file.

EXXON
NAME: D.M. Larsimbalis  SIGNATURE: O. Matsushita

☐ NTR  SEGMENT LOOKS GOOD!

LANDMANAGER
NAME: Dennis S. Kennedy  OF WSFS  SIGNATURE: P.M. Kennedy

☐ NTR  Survey was well done. small subdivision no future
action needed

USCG/NOAA
NAME: Dan Zenczar  USCG  SIGNATURE: Dan Zenczar

☐ NTR  As many small amounts of oil stained on the surface and with derma,
no treatment is recommended.

CA: CONCUR ON NO TREATMENT REQUIRED.
**Maysap Shoreline Oiling Summary**

**Team No.: 2**
**Bio.: S. Ban**
**Adco.: Peter Maksrno**
**Landmanager.: D. Kennedy**
**Exxon.: C. Katsimpalis**

**Time:** 20:33 to 20:54
**Tide Level:** 4.48 ft. to 5.40 ft.
**Energy Level:** [X] H [ ] M [ ] L

**Surveyed From:** [x] Foot [ ] Boat [ ] Helo
**Weather:** [x] Sun [ ] Clouds [ ] Fog [ ] Rain [ ] Snow

**Total Length Shoreline Surveyed:** 175 m
**Near Shore Sheen:** [ ] BR [ ] RB [ ] SL [x] None

**Est. Oil Category Length: W 0 m M 0 m N 0 m V 189 m N 0 m US 0 m**

<table>
<thead>
<tr>
<th>L</th>
<th>Surface Oil Character</th>
<th>Surface Shore Sediment Type</th>
<th>Slope</th>
<th>Width</th>
<th>Length</th>
<th>Zone</th>
<th>Notes</th>
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</thead>
<tbody>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Distribution:** C = 01-100%; B = 61-99%; P = 11-60%; S = 1-10%; T = <1%
**Slope:** V = Vertical; H = High Angle; M = Medium Angle; L = Low Angle

<table>
<thead>
<tr>
<th>Pit No.</th>
<th>Pit Depth (cm)</th>
<th>Subsurface Oil Character</th>
<th>Oiled Zone</th>
<th>Clean Below</th>
<th>H2o Level</th>
<th>Sheen Color</th>
<th>Pit Zone</th>
<th>Surface-Subsurface Sediments</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.0</td>
<td>X</td>
<td>Y</td>
<td>Y</td>
<td>X</td>
<td>PC-G-C</td>
<td>P-0-C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>22</td>
<td>X</td>
<td>Y</td>
<td>Y</td>
<td>X</td>
<td>PC-G-C</td>
<td>P-0-C</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sheen Color: B = Brown; R = Rainbow; S = Silver; N = None

**Og Comments:**

Narrow Boulders Talus Pocket Beach with many low angled bedrock outcrops. Thin veneer of cobbles, pebbles covering bedrock. Traces of stain, usually on undersides of boulders or behind boulders.

**Pit 2**
- **0 - 28:** Pebbles (Subround) No
  - **29 - 30:** Granite Pebble No

**Pit 2 (at base bedrock Talus)**
- **0 - Pebble-Cobble No**
  - **20 - 22:** Granite-Cobble No

Reviewed 5/18 CG
Reviewed 6/10 CM
No surface or subsurface biofilm in area of pits

A: Lower intertidal zone - Barnacle - Fucus assemblage
   Small (recent) barnacle spat, very small mussels
   Large + small limpets, very small hermit, kitchen
   Littorinins on barnacles in lower IRZ. Ribbed worms under rocks
   Todd pools - Range, Antipodes, Foguinias, large + small limpets
   Recent and older (Collog'90) spilt

Lower intertidal and mid-intertidal zones show recruitment
   of Littorinins, limpets, mussels and Fucus.

Large sensitive, tide pools in upper and mid-intertidal zones
   should not be disturbed

WILDLIFE OBSERVATIONS  
TO BE COMPLETED IN ALL SUBDIVISIONS

<table>
<thead>
<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED</th>
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<tr>
<td>Eagles</td>
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<tr>
<td>Seabirds</td>
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<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td>1 (gull)</td>
<td>± 5</td>
<td></td>
</tr>
<tr>
<td>Shorebirds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corvids</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Birds</td>
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</table>

LAND MAMMALS

<table>
<thead>
<tr>
<th>MARINE MAMMALS</th>
<th># OBSERVED</th>
<th>SPECIES</th>
<th># OBSERVED</th>
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</thead>
<tbody>
<tr>
<td>Sea Otters</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Pinnipeds(specify)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whales(specify)</td>
<td></td>
<td></td>
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</table>

Shoreline subdivision map showing important biological features attached.
---

**1991 MAYSAP EVALUATION**

**SEGMENT:** EN 045  **SUB:** A  **REGION:** PWS  **SURVEY DATE:** 5/12/91

**ENVIRONMENTAL SENSITIVITIES:**

Work Window(s)  **RESTRICTED 8/15 - 9/15**

---

Ecological/Constraints (see page two for details)  **Subsistence - Deer harvesting**

---

**ARCHAEOLOGICAL CONSTRAINTS:**

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

---

**SHPO Signature:**  **Date:** 5/30/91

---

**RECOMMENDATIONS:**

<table>
<thead>
<tr>
<th>Treatment Required (Y or N)</th>
<th>INITIAL</th>
<th>TAG</th>
<th>FOSC</th>
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<tr>
<td>Manual Pickup (Check as Req.)</td>
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<tr>
<td>Spot Washing</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Bio-Customblen Only</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bio-Inipol/Customeblen</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
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</tbody>
</table>

**COMMENTS:**

**INITIAL:**

---

**TAG:**

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**FOSC:**

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**TAG APPROVAL DATE:** 5/29/91  **FOSC APPROVAL DATE:** 6/5/91

**ADEC**

**EXXON**

**USCG**

**NOAA**

---

**ChieF OF STAFF, FOSC**

---

---
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

Subsistence - Deer Harvesting: Unlimited treatment prior to 8/15.
<table>
<thead>
<tr>
<th>TEAM NO.</th>
<th>2</th>
<th>SEGMENT</th>
<th>EN 45</th>
<th>SUBDIVISION</th>
<th>A</th>
<th>DATE</th>
<th>5/12/81</th>
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</table>

**ADEC**

<table>
<thead>
<tr>
<th>NAME</th>
<th>Peter Montesano</th>
<th>SIGNATURE</th>
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</thead>
</table>

**Treatment Recommended**

Some oil found under cobbles, boulders and on the land side of rocks - minor amounts. Several pits to peat revealed no oil where previously documented by SSAT. No ASAP on file.

**EXXON**

<table>
<thead>
<tr>
<th>NAME</th>
<th>C.M. Katsimpalis</th>
<th>SIGNATURE</th>
</tr>
</thead>
</table>

- NTR

**Segment Looks Good!**

**LANDMANAGER**

<table>
<thead>
<tr>
<th>NAME</th>
<th>Dennis S. Kennedy of USFS</th>
<th>SIGNATURE</th>
</tr>
</thead>
</table>

- NTR

Survey was well done. Small subdivision no future action needed.

**USCG/NOAA**

<table>
<thead>
<tr>
<th>NAME</th>
<th>Ben Zento, USCG</th>
<th>SIGNATURE</th>
</tr>
</thead>
</table>

- NTR

As only small amounts of oil found on the surface and wire mesh, no treatment is recommended.

- Concur on No Treatment Required - 3
**MAYSAP SHORELINE OILING SUMMARY**

**TEAM NO.** 2  
**BIO** S. Ban  
**LANDMANAGER** D. Kennedy for USFS  
**BRI ZENONE**  
**EXXON** C. Katsim palpis  
**USCG/NOAA** D. Simeck-Boatty

**DATE** May 12/91  
**TIME** 20:33 to 20:54  
**TIDE LEVEL** 4.42 ft. to 5.40 ft.  
**ENERGY LEVEL** [ ] M [ ] L

**WEATHER** [ ] SUN [ ] CLOUDS [ ] FOG [ ] RAIN [ ] SNOW

**TOTAL LENGTH SHORELINE SURVEYED:** 175 m  
**NEAR SHORE SHEEN:** [ ] BR [ ] RB [ ] SL [ ] NONE

**EST. OIL CATEGORY LENGTH:** [ ] 0 m [ ] 0 m [ ] 0 m [ ] 0 m [ ] 80 m [ ] 0 m [ ] 95 m [ ] 0 m

<table>
<thead>
<tr>
<th>LOC</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT</th>
<th>SHORE TYPE</th>
<th>AREA</th>
<th>ZONE</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Usualy behind &amp; under boulders</td>
</tr>
</tbody>
</table>

**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-2** 10 - 10  
**FRAMES 10 - 10**

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN BELOW H2O</th>
<th>SHEEN COLOR</th>
<th>ZONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td></td>
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</tbody>
</table>

**OG COMMENTS:**

Narrow Boulder Talus Pocket Beach with many low angled bedrock outcrops. Thin veneer of cobbles, pebbles covering bedrock. Traces of stain, usually on undersides of boulders or behind boulders.

**PIT 1**

<table>
<thead>
<tr>
<th>DEPTH (cm)</th>
<th>ORE, GOR (subrounded)</th>
<th>ORE (subrounded)</th>
<th>PEBBLES (cobble)</th>
<th>GRANULAR PEBBLE</th>
<th>GRAVEL</th>
<th>GRAVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
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<td>[ ]</td>
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<tr>
<td>22</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
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</tr>
</tbody>
</table>

**PIT 2** (at base bedrock + talus)

<table>
<thead>
<tr>
<th>DEPTH (cm)</th>
<th>PEBBLE-Cobble</th>
<th>COBBLE</th>
<th>PEbble-Cobble</th>
<th>COBBLE</th>
<th>GRAVEL-Cobble</th>
<th>GRAVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 5</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
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<tr>
<td>5 - 22</td>
<td>[ ]</td>
<td>[ ]</td>
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<td>[ ]</td>
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<td>[ ]</td>
</tr>
<tr>
<td>23 - 28</td>
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<tr>
<td>28 - 30</td>
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</tr>
</tbody>
</table>

**OG COMMENTS:**

Narrow Boulder Talus Pocket Beach with many low angled bedrock outcrops. Thin veneer of cobbles, pebbles covering bedrock. Traces of stain, usually on undersides of boulders or behind boulders.

**PIT 2** (at base bedrock + talus)

<table>
<thead>
<tr>
<th>DEPTH (cm)</th>
<th>PEBBLE-Cobble</th>
<th>COBBLE</th>
<th>PEbble-Cobble</th>
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<th>GRAVEL-Cobble</th>
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**REVIEWED:** [Signature]  
**RENEWED:** [Signature]
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 2
SEGMENT # EN-45
SUBDIVISION A
SEA STATE glassy
PHOTOGRAPHS: ROLL #  
FRAME #

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):

No surface or subsurface biofilm in area of pits.

At lower intertidal zone - Barren - Fewer assemblies of small (recent) barnacle spat, very small mussel larvae + small limpets. Very small recently hatched littorinids on barnacles in lower ITZ. Ribbed worm in mud rocks.

Tidal pools - Green Anthopleura, Agarinae large + small limpets recent and older (Callogast) spat.

Lower intertidal and mid-intertidal zones show recruitment of littorinids, limpets, mussels and Anemones.

Large sensitive tide pools in upper and mid intertidal zones should not be disturbed.

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

<table>
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<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED</th>
<th>SPECIES PRESENT</th>
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<tr>
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<td>Other Birds</td>
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<td>Seals(specify)</td>
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Shoreline subdivision map showing important biological features attached.  

Review M.B 5/8/91
SKETCH MAP
EN045-A
12-MAY-91
2033-2054

Subdivision Boundary

Sea Stack & Arch

Low Angle Bedrock

Boulder Tails, Low Angle Bedrock with thin pebble veneer

Large + Small tidal pools, upwelling Anthophilus, Proteinids, Pholymeta & filamentous green algae

No Surface biota

Focus - Balanus sp.
Recently-settled barnacle spat.
Juvenile L. Horrens, limpets, small mussels, nemerteans & barnacles

Natural pool

North

25 meters

50
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/EN-46

SUBDIVISIONS: A (1 OF 2)
SHORELINE EVALUATION

SEGMENT ST/ EN-46 SUBDIVISION A (1 OF 2) DATE 4/6/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
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:
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 51 m: Narrow 62 m: V.Light 0 m: No Oil 587 m
Subsurface Oil Observed: Yes X No ___ Maximum Depth 30+ cm

RECOMMENDATIONS:
____ No Treatment Recommended ___Snare/Absorbent Booms
X Treatment Recommended X Oil Snares (pom poms)
_____Manual Pickup ___Absorbents (pads, rolls, etc)
X Bioremediation ___Spot Washing: ___Wands
_____Tarmat: _____Breakup _____Beach Cleaner
_____Removal ___Spot Washing: ___Wands

COMMENTS: Recommend 1) manual pick up of trash, 2) bioremediation of oil-coated beach (see sketch map), and 3) burning of logs with greater than 10% oil cover.

TAG COMMENTS:________________________________________________________

TAG APPOVAL DATE:___________
ADEC _________________________ FOSC: __________ DATE: __________
EXXON ________________________
NOAA _________________________
USCG _________________________
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 unoiled intertidal and subtidal algae and seagrass.
Contact ADF&G for specific dates and locations.

3N, 3P
3O, 3Q Harbor seal and sea lion pupping (5/15 to 7/1)
Harbor seal and sea lion molting (6/15 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.

6J Recreation:
6J Tent sites (6/1 to 9/15)
6V Anchorage (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

SUBDIVISION: A

DATE 04-06-92

USCG

NAME AEC Vandenberg

SIGNATURE AEC Vandenberg

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

to suggest the two beaches in sub. A on SE+E side of Entrance Island need bio.

ADEC

NAME Michele Baer

SIGNATURE M Baer

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

On the B/C beach (picture 4 vs), I recommend hand tillage in the problem areas behind the BS and behind the headland. After the tilling, apply fertilizers to the area with oiling in the layer under the BS. A 20M x 10M CT/C with CV under the BS requires bioremediation on the B/C be. Manual washing of the 30 x 2M CT/C is also necessary. Hot water washing would be difficult and unrealistic for this area due to the difficult access to the large BS. In the entry area, the brick beds are throughout the B field.

LANMANAGER

NAME Dan Loga

SIGNATURE D Loga

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

I recommend hand tilling the 20M x 10M then applying fertilizer. The 30M x 30M CT/C should be hand cleaners. The 30M x 2M CT/C should be hand cleaners.
SHORELINE OILING SUMMARY

OG: J. Springer USCG R. Vandepels SEGMENT STW EN 46
BIO: P. Franks LAND REP: D. Layon SUBDIVISION A (1 of 2)
EXXON: T. Tomlin ADEC: H. Bader TIME 15-58h 17:30
TEAM NO.: 5 TIDE LEVEL: +9 to +1 DATE 04/16/80
EST. SUBDIVISION LENGTH: 1290m ☑ Sun ☐ Clouds ☑ Fog ☐ Rain ☐ Snow
UPLANDS DESCRIPTION: ☑ Grass ☑ Forest ☑ Rock Pillow lava
SURVEYED FROM: ☑ Foot ☐ Boat ☐ Helo WORKING DIRECTION: ☑
SURFACE SEDIMENTS: R 50% B 30% C 10% P 5% G 3% S 2% M 0% V 0%
SLOPE: Lang 20% Hang 40% Vert 40% WAVE EXPOSURE: ☐ Low ☐ Med ☑ High
OIL CATEGORY LENGTH: W 0 m M 60 m N 100 m V 0 m NO 110 m

SURFACE OIL

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PAVEMENT: H F S ☐ sq. m by ☐ cm
PATTIES/TARBALLS ☐ BAGS
NEAR SHORE SIEEN? ☐ BR RW SL TL

OILED DEBRIS AMOUNT

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<td>Debris Collected</td>
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Photographs:
Roll No. 37-5-4
Frames 4-11

SUBSURFACE OIL

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<th>PIT NO.</th>
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<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL (cm)</th>
<th>BELOW OIL/FILM COLOR</th>
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COMMENTS
Large pine cones lodged between boulders.

Page 1 of

REVIEWED 4/13/90
SHORELINE ECOLOGICAL SUMMARY

Segment ST / EN Subdivision A Date (mo/day/yr) 4/1/90

Time (24 hr) 1550 - 1740 Biologist Crank

Length 1290m Tide Height 3.5 -> 4 +

(A) Substrate type and % of segments:
   (1) Bedrock 50 (2) Boulder 30 (3) Cobble 10 (4) Pebble 5 (5) Sand 5 (6) Silk

(B) Overall % cover of biota (% of segment):
   Dense 50 Moderate 20 Low 30

(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)

BARNACLES

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Wildlife Observations/ General Comments:
Chicka does

Ecological Considerations:
711 - Deer Harvesting
ST - Active Bald Eagle Nest - not located
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REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/EN-46

SUBDIVISIONS: B (2 OF 2)
SHORELINE EVALUATION

SEGMENT ST/ EN-46 SUBDIVISION B (2 OF 2) DATE 4/6/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
71I 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. Do not trample or otherwise damage fucus and mussel beds.

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_21 m: Narrow_45 m: V.Light_0 m: No Oil_1269 m
Subsurface Oil Observed: Yes____ No____ X _____
Maximum Depth_____

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

COMMENTS: Recommend removal of tarmat. Work should be conducted before 8/15 due to deer harvesting constraint.

TAG COMMENTS:______________________________________________

TAG APPROVAL DATE:_________
ADEC _____________________________ FOSC:________ DATE:_____
EXXON ___________________________
NOAA ____________________________
USCG ___________________________
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 6/31)
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 uncult intertidal and subtidal algae and seagrasses. Contact ADF&G for specific dates and locations.

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.

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
7L  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.

PWS-CODE 4/11/90
FIELD SHORELINE COMMENT SHEET

SEGMENT ST EN46 SUBDIVISION: B DATE 4/16/90

USCG NAME AEC Vandepels SIGNATURE AEC Vandepels

☑ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

I recommend no treatment for sub. B.

ADEC NAME Michele Baer SIGNATURE Baer

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

Sub-segment B is a moderate energy area. Treatment is required on the 1st R.E.C. beach on the SW wall only. Manual scrubbing is required for a 3 x 25M band of CT to 57/8. Mussel beds are located on both sides of the beach.

LAND MANAGER NAME Dan Logan SIGNATURE Logan

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

I recommend manual scrubbing of rocks and boulders on the 3 x 25M band of CT.

58
## SHORELINE OILING SUMMARY

**OG:** J. Springer  
**USCG:**  
**BIO:** P. Crench  
**LAND REP:** D. Logan  
**EXXON:** J. Tomlin  
**ADEC:** M. Baeuer  
**SUBDIVISION:**  
**TIME:** 17:45 to 18:30  
**TEAM NO.:** 5  
**TIDE LEVEL:** F to T  
**DATE:** 04/06/90  
**EST. SUBDIVISION LENGTH:** 1007 m  
**SURVEYED FROM:** Foot  
**SURFACE SEDIMENTS:** R 50% B 25% C 15% P 10% G 0% S 0% M 0% V 0%  
**SURFACE OIL:**  
**PAVEMENT:** H F  
**PATTIES/TARBALLS:** 7 BAGS  
**NEAR SHORE SHEEN?** NO  
**OILED DEBRIS:**  
**AMOUNT:** SM MD LG  
**DEBRIS COLLECTED:** YES NO  
**OILED AMOUNT:** DEBRIS COLLECTED  
**TYPE:** Bouy  
**ROLL NO.:** ST-5-4  
**FRAMES:** 12-14  
**NOTES:**  

### SURFACE OIL

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### SUBSURFACE OIL

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### COMMENTS

**REVIEWED**  
**DATE:** 4/13/90  

Page 1 of 53
SKETCH MAP

LEGEND

1 △
Pt - No Subsurface Oil

2 △
Pt - Subsurface Oil

- Continuous Distribution
- CT/B
- Broken Distribution
- CT/P
- Patchy Distribution
- CT/S
- Splashed Distribution

Oil Vegetation

Photo location, direction, and number

OG: T. SPRINGER
SEGMENT ST/EN-46
SUBDIVISION: B
DATE: 4/16/90

CHECKLIST

1 N Arrow
2 Approx. Scale
3 Bag/Sub Entry
4 Ob Dril.
5 Wash
6 Length
7 % Cover
8 Substrate Character
9 Est. HW/L/WL
10 SSL
11 Profile Location(s)
12 Profile(s)
13 Pit Location(s)
14 Photo Location(s)

0 METERS
100
SHORELINE ECOLOGICAL SUMMARY

Segment ST-I

Subdivision B

Date (mo/day/yr) 4/4/90

Time (24 hr) 1740-1840

Biologist Cran

Length 1002 m

(A) Substrate type and % of segments:

| 1 | Bedrock | 50 |
| 2 | Boulder | 25 |
| 3 | Cobble | 15 |
| 4 | Pebble | 10 |
| 5 | Sand | 5 |
| 6 | Silt | 5 |

(B) Overall % cover of biota (% of segment):

Dense (0) Moderate (4) Low (8)

(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)

### BARNACLES

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Photographs:

Roll No. ST-5-4

Frames 12, 14

Wildlife Observations/General Comments:

1. Bald Eagle - Adult
2. Seagulls

Ecological Considerations:

ST-I - Deer Harvesting

ST - Adult Bald Eagle Nest (not located)
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<td>BRYOZANS</td>
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<td>CHITONS (OTHER THAN K. TUNICATI)</td>
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<td>CLAMS</td>
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<td>DERMASTERIAS IMBICATA</td>
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<td>KATHARINA TUNICATA</td>
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<td>Dense Texture in Tidepool</td>
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<td>LITTORINA SPP</td>
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<td>PAGURUS SPP</td>
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<td>PYZOPODIA HELIANTHOIDES</td>
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<td>SARAISIA DIPA</td>
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<td>Tidepool</td>
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</tbody>
</table>
EN 46B

Comments:
- Most of scarabaeid are still in flight, so few contact with nets or traps. Have some contact with nets or traps as a result.

Beach 1:
- Turtles, crabs, etc. are passing by. Sometimes, we catch them by hand.
- Small fish are observed near rocks or reefs. They are mainly for small turtles, sponges, or corals.
- Mytilus is sparse and occasional. In large rock places, there is a dense patch of Mytilus.

Beach 2:
- Small pocket beaches with beaches. The Mytilus is rich in frequent rock, algae, and barnacles. It is great for small turtles.
- Sandpipers are abundant in this area. Turtles attract sandpipers for food and shading, oppose in numbers.
- In Mytilus, barnacles of between are moderate, most spawned on corals. Turtles are occasionally present of prey like on the corals.
- Rye grass is beginning on the Mytilus.

Beach 3:
- Dense, well-established vegetation and
- Rye grass and thrips dense on rock: marine, stranded on corals.

Notes:
- Classic operation will show to begin in Mytilus. Seaweed is present.
- In Mytilus, the dense dense, looks more palaeo-reef like. Mytilus
- Turtles are removed into Mytilus and up, per Mytilus, replaced by seaweed.
Map Key: PWS-144
Name: James Springs
Date: 4/6/90
Date Entered:

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

EN-46

ADEC Segment Length: 244.4 m

100 200 300 METERS

B

A
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT EN-46 SUBDIVISION B (2 of 2)

WORK WINDOW

Manual Pickup
Tarmat Removal

OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT
If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

<table>
<thead>
<tr>
<th>Segment</th>
<th>Description</th>
<th>Constraint</th>
</tr>
</thead>
<tbody>
<tr>
<td>5T</td>
<td>Bald Eagle Nest</td>
<td>NO CONSTRAINT. Work area is more than 400m from nest.</td>
</tr>
<tr>
<td>7II</td>
<td>Subsistence: Deer Harvesting</td>
<td>No constraint to manual pickup and tarmat removal.</td>
</tr>
</tbody>
</table>

OTHER ECOLOGICAL CONSIDERATIONS
Restrict boat and air traffic and beach disturbance to essential minimum after 8/15. Avoid any unnecessary disturbance or damage to unried biota and substrate. Do not trample or otherwise damage Fucus, mussel beds or sea stars.

TAG APPROVAL DATE 5/29/90
ADEC Art Wenzel Approved
EXXON Art Wenzel Approved
NOAA Richard Gilbert Approved
USCG Richard Gilbert Approved

Prepared By: Andrew Mays
Date 5/29/90
SHORELINE EVALUATION

SEGMENT ST/EN-46 SUBDIVISION B (2 OF 2) DATE 4/6/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
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. Do not trample or otherwise damage fucus and mussel beds.

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.)).

SHPO SIGNATURE: J. W. MILLER DATE: 5/12/90

OILING CATEGORIZATION:
Wide 0 m; Medium 21 m; Narrow 45 m; V.Light 0 m; No Oil 1269 m
Subsurface Oil Observed: Yes__ No__X Maximum Depth____

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

COMMENTS: Recommend removal of tarmat. Work should be conducted before (8/15) due to deer harvesting constraint.

TAG COMMENTS:

TAG APPROVAL DATE: 4/23/90
ADEC ___ Hart ___ Westover ___ DATE: ___ 12-90
EXXON ___ Taplin ___ ___ DATE: ___ 12-90
NOAA ___ Tagliatela ___ ___ DATE: ___ 12-90
USCG ___ ___ ___ ___ DATE: ___ 12-90

ADDENDUM 5/12/90

TAG COMMENTS: _______________________________
SEGMENT ST/ EN-46    SUBDIVISION B (2 OF 2) DATE 4/6/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
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. Do not trample or otherwise damage fucus and mussel beds.

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)).

SHPO SIGNATURE:    DATE: 5/8/90

OILING CATEGORIZATION:
Wide 0 m: Medium 21 m: Narrow 45 m: V. Light 0 m: No Oil 1269 m
Subsurface Oil Observed: Yes No X. Maximum Depth

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

COMMENTS: Recommend removal of tarmat. Work should be conducted before 8/15 due to deer harvesting constraint.

TAG COMMENTS:

TAG APPROVAL DATE: 5/13/90
ADEC    EXXON    NOAA    USCG
Art Weinberg    Daniel M. K.    Joseph Talbert    Kenneth Weimer
DATE: 5-11-90
COMM. 173

- Plight of red-bellied stilt. E. S. F. 41420
  Crank.

EN 44B

- \\

EN 44A

Beach I:

- There were no birds seen, except for a few white.
  There was some wind, making it difficult to
  observe.
- The water was clear and the seabirds were not
  easily visible.
- Mobulias in sparse and occasional numbers. On
  large rock outcrops there is a clump patch at M.I.

Beach 2:

- Small pocket of red bellied stilt. The LIF was
  inside an island
  with white, brown and black individuals.
- Blacktip shark was abundant in M.D. (Tiger, Ishin).
  They were seen for
  rock and breakwater, spades and shelters.
- In LITZ, gannets and terns were moderate, most
  swimming in groups.
  They had some
  individuals of pelagic on the water.

Beach 3:

- Birds, well established on the sea and
  - Auks and storks chim. on rock/rocks, moderate on cove.

Narratives:

- Classic generation will show to growth in LITZ. Scarring is present.
  - Probable in the same cluster.
  - Red bellied stilt endemic patch.
  - Flock in cove near M.D. and LITZ, replaced by
  - Turn LITZ.
SHORELINE EVALUATION

SEGMENT ST/ EN-46 SUBDIVISION A (1 OF 2) DATE 4/6/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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 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.)).

SHPO SIGNATURE: DATE: 5/25/90

OILING CATEGORIZATION:

Wide 0 m: Medium 51 m: Narrow 62 m: V.Light 0 m: No Oil 587 m
Subsurface Oil Observed: Yes X No Maximum Depth 30+ cm

RECOMMENDATIONS:

_____ No Treatment Recommended _____ Snare/Absorbent Booms
X ___ Treatment Recommended X ____ Oil Snares (pom poms)
_____ Manual Pickup _____ Absorbents (pads, rolls, etc)
X ____ Bioremediation ____ Spot Washing: ____ Wands
_____ Tarmat: ____ Breakup ______ Removal X Other (see comments)

COMMENTS: Recommend 1) manual pick up of trash, 2) bioremediation of oil-coated beach (see sketch map), and 3) burning of logs with greater than 18% oil cover.

TAG COMMENTS:

TAG APPROVAL DATE: 4/23/90
ADEC Art Wein ADEC DATE: 4/9/90
EXXON Ann Gal EXXON
NOAA Foss Elbert NOAA
USCG Kenneth Krame USCG