[Shoreline evaluations, 1991].

Kenai US-05 to WB-01

Title supplied by cataloger. This title page is supplied by Alaska Resources Library and Information Services (ARLIS).
REGION: KENAI

SEGMENT: ST/US-05

SUBDIVISIONS: A (1 OF 2)
SHORELINE EVALUATION

SEGMENT ST/US-05 SUBDIVISION A (1 OF 2) DATE 4/26/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5R Seabird colony (5/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

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 0 m: V.Light 322 m: No Oil 37 m
Subsurface Oil Observed: Yes ___ No X ___ Maximum Depth ______

RECOMMENDATIONS:

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

COMMENTS: Recommend manual pickup of oiled trash and oiled logs. Work to be done in conjunction with other cleanup activity on Ushagat Island. Work should be conducted prior to 5/15 with permission from USFWS regarding Seabird constraints.

TAG COMMENTS:

TAG APPROVAL DATE: __________
ADEC __________
EXXON __________ FOSC: _________ DATE: ______
NOAA __________
USCG __________
1A Salmon stream mouth - try outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)

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

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

1C Salmon try nursery area (4/3 to 7/31)

No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or in situ 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 consultation and advice.

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

1D Esther Hatchery release (4/15 to 6/15)
1E Main Bay Hatchery release (4/20 to 6/15)
1F Sawmill Bay Hatchery release (4/15 to 6/1)
1G Cannery Creek Hatchery release (4/21 to 6/1)
1H Flume release site

No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or in situ 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 consultation and authorization.

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

1J Gill net area (6/7 to 8/31)
1K Purse seine area (7/20 to 9/30)
1L Purse seine hook-off (7/20 to 9/30)
1M Purse seine set net (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 in situ application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

AGENCY CONTACT PERSON: ADF&G Evelyn Bligh 424-3212

1N 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 uncultivated intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or in situ application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3212

3O Harbor seal and sea lion pupping (5/15 to 7/1)
3P Harbor seal and sea lion molting (8/15 to 9/15)

Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of in situ 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 consultation.

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

ADFG Don Calkins 267-2403

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 788-3377

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 788-3377

ADFG Tom Rothby 267-2208

5T All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)

Restrict air traffic and all disturbance to essential minimum. No personnel within 400m. 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 788-3377

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 (8/1 to 9/15)
6Y Special use destination

7Z Sublease areas: Salmon harvesting (5/1 to 9/30)

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 in situ which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.

AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2339
SEGMENT ST1 US-005 SUBDIVISION: A DATE 4/26/90

NAME Miles D. Hayes SIGNATURE

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Spectacular geological feature - crescented bay. Very high energy (wave) conditions, thus debris undergoes considerable natural cleansing. Only cleanup required is gathering oily trash.

ADEC

NAME Russell Kunike SIGNATURE Russell Kunike

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

There was surface oiling consisting of little splatter of coat on the gravel above the high tide line. At this time we did not observe any treatable oiled sediments. There was a small amount of oily trash that could be picked up.

LAND MANAGER

NAME Gerald M. Nugent SIGNATURE Gerald M. Nugent (USFGS)

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Manual removal of oily trash should be conducted in conjunction with other trash/debris pick-up in the Barrens. Activities should be completed as close to May 1, 1990, as possible. A service monitor should be present.
SHORELINE OILING SUMMARY

TEAM NO. 17   TIDE LEVEL +8 - +3.5 DATE 4/12/90

EST SUBDIVISION LENGTH: 200 m   □ Sun □ Clouds □ Fog □ Rain □ Snow

UPLANDS DESCRIPTION: □ Grass □ Forest □ Rock Slop. Sketch

SURVEYED FROM: □ Foot □ Boat □ Helo   WORKING DIRECTION: SE to NW

SLOPE: Lang 90 % Hang 10 % Vent 0 %   WAVE EXPOSURE: □ Low □ Med □ High

OIL CATEGORY LENGTH: □ Shell m □ Oil m □ Vol 360 m □ No 90 m

SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAVEMENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COAT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAIN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOUSSE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATTIES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TARBALLS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO OIL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Lower ITZ not surveyed

PAVEMENT H F S O sq. m by O

PATTIES / TARBALLS O BAGS

NEAR SHORE SHEEN? □ BR RW SL TI

OILED DEBRIS AMOUNT

Loga

Vegetation

Trash

Debris

NEAR SHORE SHEEN? □ BR RW SL TI

Photographs:

Roll No. 3

Frames 14-15

OIL FITZ

DID YOU COLLECT DEBRIS?

YES □ NO □

TYPE □

# BAGS □

SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED MATERIAL</th>
<th>BELOW OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANA SHEET</th>
<th>T</th>
<th>SURFACE SUBSURFACE SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>45</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>N</td>
<td>-</td>
<td>c-p/cp</td>
</tr>
<tr>
<td>2</td>
<td>38</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>N</td>
<td>-</td>
<td>c-p/cp</td>
</tr>
<tr>
<td>3</td>
<td>46</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>N</td>
<td>-</td>
<td>c-p/cp</td>
</tr>
<tr>
<td>4</td>
<td>38</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>N</td>
<td>-</td>
<td>c-p/cp</td>
</tr>
<tr>
<td>5</td>
<td>32</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>N</td>
<td>-</td>
<td>c-p/cp</td>
</tr>
</tbody>
</table>

COMMENTS

Subdivision consists of crenulate bay between rocky headlands. No subsurface oil observed.

Surface oil limited to < 1 % coverage of CTIS in 10 m band in upper ITZ below log pile/storm
break on CTIS. Few logs + debris on bedrock

REVIEWS D W 10/9/90/27/90
### SHORELINE ECOLOGICAL SUMMARY

**Segment**: ST US 005  
**Subdivision**: A  
**Date (mo/day/yr)**: 4/22/90  

**Biologist**: DANIEL TZANDER

**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 Moderate Low

**C.** Density, substrate preference (by number from A, above), & vertical zonation of major taxa:
- (1) Bedrock: juveniles and adults
- (2) Boulder: new settlement

#### BARNACLES

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td>1U</td>
<td>1M</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

#### MYTILUS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td>1U</td>
<td>1M</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

#### GASTROPODS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td>1U</td>
<td>1M</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

#### FUCUS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td>1U</td>
<td>1M</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

**Wildlife Observations/General Comments:**
- A very high energy beach with much sediment deposition and erosion; consequently, little biota; beach rose grass in the dune scrub area  
- Sitka spruce above the storm barrier and into the headlands compose the forest biota of the region; alders and willow in the headland  

**Colonial Considerations:**
- SA - See attached sheet for bird counts taken.
- Crabeard colony
<table>
<thead>
<tr>
<th>Name</th>
<th>Amount</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Song Sparrow</td>
<td>20±</td>
<td>Abundant, either Aedonii or Pacific N.W. dark subspecies</td>
</tr>
<tr>
<td>2) Glaucous -Winged Gull</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>3) Bald Eagle</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4) Varied Thrush</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5) Cormorant sp.</td>
<td>1</td>
<td>either Pelagic or Pied-faced (white)</td>
</tr>
</tbody>
</table>

- Credit to Mike Hayes for helping compile this list.
ECOLOGICAL MAP

US-8
US-10
US-11
US-13

US-7
US-6
US-5
US-4
US-2
US-1
US-3
US-12

SEA BIRD COLONY

SR1
headlands consisting of alpine willow and Sitka spruce n Krumholz at high
Storm berm of large, weathered/rounded logs
Area with relatively high decomposing vegetation
Storm berm filled with large, weathered/rounded logs
REGION: KENAI

SEGMENT: ST/US-05

SUBDIVISIONS: B (2 OF 2)
SEGMENT ST/US-05 SUBDIVISION B (2 OF 2) DATE 4/22/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5R Seabird colony (5/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

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 18 m: Medium 5 m: Narrow 12 m: V.Light 302 m: No Oil 244 m Subsurface Oil Observed: Yes X No Maximum Depth 61+cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual pickup of pooled oil, mousse oiled debris and oiled logs. Relocate UITZ and SUTZ to MITZ. 2) spot wash and bioremediate in areas indicated on sketch map. Work should be conducted prior to 5/15 with permission from USFWS.

TAG COMMENTS:____________________________________________________

TAG APPROVAL DATE:_____________
ADEC EXXON NOAA USCG

FOSC: ___________ DATE: ___________
Salmon fry nursery area (4/21 to 7/31)
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or lnipol 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 consultation and advice.

AGENCY CONTACT PERSON: ADFG Larry Peitz 424-3214

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

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

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

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

1H
Remote release site
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or lnipol application, prior to at least July 1 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 or PWS Aquaculture Association for confirmation and authorization.

AGENCY CONTACT PERSON: ADFG Larry Peitz 424-3214

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

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

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

1L
Set net sites (6/11 to 7/25)
Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or lnipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

AGENCY CONTACT PERSON: ADFG Evelyn Biggs 424-3235

2M
Herring spawning (4/1 to 6/15)
Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to uncollected intertidal and subtidal seagrass. If plans for treatment include methods such as hot water wash or lnipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

AGENCY CONTACT PERSON: ADFG James Brady 424-3212

3Q
Harbor seal and sea lion pupping (5/15 to 7/1)

3R
Harbor seal and sea lion molting (9/15 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 lnipol 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: ADFG Don Calkins 267-2403

5R
Seabird colony (5/1 to 9/1)
Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.

AGENCY CONTACT PERSON: USFWS Jill Parker 785-3377

5S
Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.

AGENCY CONTACT PERSON: USFWS Jill Parker 785-3377

ADF&G Tom Roth 267-2206

5T
All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

AGENCY CONTACT PERSON: USFWS Jill Parker 785-3377

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
Duck harvesting (6/15 to 2/28)
Invertebrate harvesting

Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of lnipol 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: ADFG Jim Fall 267-2359
SEGMENT ST: 45-5  SUBDIVISION: 13  DATE: 3/27/90

USCG NOAA
NAME: Miles O. Hayes  SIGNATURE: 

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS
This is a high-energy crevasse bay. Oil accumulation is mostly in the western, deeply hooked part of the bay.

The bulged oil layer (~8X10 m; varied from mang.) will not be extruded out during storms within a year or two, therefore recommend that it be left alone as long as it remains buried.

I agree with suggestions by Kunibe (see comments below) and Johnson to place small booms around the oil at boundaries of the western extremity of the bay in an effort to protect fishermen and wildlife.

ADEC
NAME: Russell Kunibe  SIGNATURE: Russell Kunibe

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS  Please see attached 1 page.

LAND MANAGER
NAME: Gerald M. Nugent  SIGNATURE: Gerald M. Nugent (USFWS)

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS
I agree with the recommendations of Russell Kunibe, ADEC (attached 1 page). A Service Monitor should be present during any cleanup activities on the Barrens. Manual pickup should be done in the Barrens. Manual pickup should be done in the Barrens. Manual pickup should be done in the Barrens.

Confinement with pickup on other segments. Pour-on 'oakum cloths' should be placed by May 1, 1990 or as close to that time as possible.
Most of the oiling was at the west end of the segment. There was an area in the boulders and cobbles which had mousse, and mousse saturated sediments on the surface in the upper MITZ and lower UITZ. This area is approximately 6 M. x 20 M., surrounded by an area of similar oiling but less concentrated. There was sheen noted on the pools of water in this area.

The other area of significant oiling was a buried lens of oil that we guessed was approximately 10 M. x 80 M. This area was located above the high tide line. The oiling in pits # 7 and 8 was mousse saturated pea gravel 9 cm. to 12 cm. thick and 25 cm. below the surface. The oiling in pits # 4, 5 and 6 was a mousse coating on the larger pebbles and 25 cm. to 53 cm below the surface.

Recommended treatment:

Corry Nugent, USFW, informed me that the release of sheen in this area was a problem because Storm Petrels and Fulmars are attracted to the sheen and will dive through it. Therefore I would recommend anchoring snare booms in the boulder cobble area at the west end of the subdivision during the time that sea birds will be in this area and the manual pick up of any mousse or mousse saturated sediments that can be picked up. For the subsurface lens of oil I am not aware of an effective treatment method. I would recommend that this area be monitored on a regular basis this summer to check the snare booms and to watch for the subsurface lens of oil to be exposed. If the subsurface lens of oil becomes exposed then Exxon should be informed and they should manually pick up the layer before it washes out and has the opportunity to form sheens. This may be an area which the "dredge and wash" may be appropriate. Additionally it may be appropriate to "doze" the oil into the active surf zone after the fall bird migration.
**SHORELINE OILING SUMMARY**

**SEGMENT ST: US-005**

**TEAM NO.** 17  
**TIDE LEVEL** +3.5 ft  
**DATE** 4/22/90

**EST SUBDIVISION LENGTH:** 446 m  
**UPLANDS DESCRIPTION:** Sun Clouds Fog Rain Snow

**SURVEYED FROM:** Foot Boat Helo  
**WORKING DIRECTION:** SE to SW

**SURFACE SEDIMENTS:** A 10% B 35% C 25% P 60% G 0% S 0% M 0% V 0% 
**SLOPE:** 35% Hang 10% Vert 5%

**WAVE EXPOSURE:** Low Med High

**OIL CATEGORY LENGTH:** W 20 m M 2 m N 4 m V 300 m NO 120 m

### SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT PAVEMENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>COVER</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>COAT</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>STAIN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOUSSE</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>PATTIES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TARBALLS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OIL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PAVEMENT** H F S 0  
**PATTIES** TARBALLS 0 BAGS

**NEAR SHORE SHEEN?** NO  
**BR** RW SL TL

**OILED DEBRIS**  
**AMOUNT** SM MD LG

**DID YOU COLLECT DEBRIS?** YES NO

**TYPE** O  
**#BAGS** O

Photograph:

- **Roll No.** 3  
- **Frames** 16-31

### SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED (CENTRAL)</th>
<th>OILED (INTERNAL)</th>
<th>OIL / FILM COLOR</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANA</th>
<th>AMOUNT</th>
<th>SURFACE SUBSURFACE SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>35</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>N</td>
<td>-</td>
<td>-</td>
<td>PG/GP</td>
</tr>
<tr>
<td>2</td>
<td>35</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>N</td>
<td>-</td>
<td>-</td>
<td>P/GP</td>
</tr>
<tr>
<td>3</td>
<td>35</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>N</td>
<td>-</td>
<td>-</td>
<td>P/GP</td>
</tr>
<tr>
<td>4</td>
<td>49</td>
<td>X</td>
<td>25-35</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>N</td>
<td>-</td>
<td>P/GP</td>
</tr>
<tr>
<td>5</td>
<td>61</td>
<td>X</td>
<td>53-61</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>N</td>
<td>-</td>
<td>P/GP</td>
</tr>
<tr>
<td>6</td>
<td>65</td>
<td>X</td>
<td>50-55</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>N</td>
<td>-</td>
<td>P/GP</td>
</tr>
</tbody>
</table>

**COMMENTS**

Subdivision B is composed of a crevicate bay with rocky headlands at each end. The headlands were largely unsurveyed due to their steepness and high wave energy. Surface oil in the subdivision is observed as a splash of oil on paddles, cobble and logs in the US 10 along the SE 7/8 of the subdivision. This occurs in a soft N 310°.

Reviewed DATE 4/23/90
### Subsurface Oil (Continued)

<table>
<thead>
<tr>
<th>Pit No.</th>
<th>Pit Depth (cm)</th>
<th>Subsurface Oil Character</th>
<th>Oiled Interval (cm)</th>
<th>Below Oil/Film Color</th>
<th>Pit Zone</th>
<th>Anaerobic (%)</th>
<th>Surface Subsurface Sediments</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>47 X</td>
<td></td>
<td>25-32</td>
<td>X</td>
<td>X</td>
<td>N -</td>
<td>P/P</td>
</tr>
<tr>
<td>8</td>
<td>45 X</td>
<td></td>
<td>26-35</td>
<td>X</td>
<td>X</td>
<td>N -</td>
<td>P/P</td>
</tr>
<tr>
<td>9</td>
<td>50 X</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td>N -</td>
<td>P/P</td>
</tr>
</tbody>
</table>

**Comments:**

The area immediately W of the storm bar and in c1-2% coverage. More significantly, an area of CV-CT-MS-PO is located at the NW end of the subdivision in the upper MT8 + lower U10. The oil is protected behind a large bedrock/boulder mass and occurs within open fractures and breccia interstices. The various oil characters combine to form a wide distribution about 6x20 m. This is surrounded by CT 1 MS/5 with a similar occurrence.

Subsurface oil was observed in a near continuous layer with filled pores between 25 and 53 cm below surface and 5 cm thick. The layer appears to have a distribution of at least 80 cm based on pit observations. The oil has a dark brown mousse appearance and has been covered by pebbles and...
CTTS no speckle on
brk @ SW end &
alls/obls & logos in
VITB. Most speckle
in band w/10m immediately
down the beach slope from
the logs
1-2% coverage
up the bank

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

Map Key: KEN-138a
Name: G. Heymen
Date: 4/22/90
SHORELINE ECOLOGICAL SUMMARY

Segment ST / 5005 Subdivision B Date (mo/day/yr) 4/22/80
Time (24 hr) 15:45 Biologist DANIEL ZAIDER

(A) Substrate type and % of segments:
1) Bedrock 10 2) Boulder 5 3) Cobble 25 4) Pebble 60 5) Sand 0 6) Silt 0

(B) Overall % cover of biota (% of segment): Dense 5 Moderate 3 Low 92

(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

<table>
<thead>
<tr>
<th>Stratum</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>1M 1L</td>
<td>1M 1L</td>
<td>1M 1L</td>
<td>1M 1L</td>
</tr>
<tr>
<td>1</td>
<td>2 2</td>
<td>2 2</td>
<td>2 2</td>
<td>2 2</td>
</tr>
<tr>
<td>2</td>
<td>2 2</td>
<td>2 2</td>
<td>2 2</td>
<td>2 2</td>
</tr>
<tr>
<td>3</td>
<td>3 3</td>
<td>3 3</td>
<td>3 3</td>
<td>3 3</td>
</tr>
<tr>
<td>4</td>
<td>4 4</td>
<td>4 4</td>
<td>4 4</td>
<td>4 4</td>
</tr>
<tr>
<td>5</td>
<td>5 5</td>
<td>5 5</td>
<td>5 5</td>
<td>5 5</td>
</tr>
<tr>
<td>6</td>
<td>6 6</td>
<td>6 6</td>
<td>6 6</td>
<td>6 6</td>
</tr>
</tbody>
</table>

MYTILUS

<table>
<thead>
<tr>
<th>Stratum</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>1M 1L</td>
<td>1M 1L</td>
<td>1M 1L</td>
<td>1M 1L</td>
</tr>
<tr>
<td>1</td>
<td>2 2</td>
<td>2 2</td>
<td>2 2</td>
<td>2 2</td>
</tr>
<tr>
<td>2</td>
<td>2 2</td>
<td>2 2</td>
<td>2 2</td>
<td>2 2</td>
</tr>
<tr>
<td>3</td>
<td>3 3</td>
<td>3 3</td>
<td>3 3</td>
<td>3 3</td>
</tr>
<tr>
<td>4</td>
<td>4 4</td>
<td>4 4</td>
<td>4 4</td>
<td>4 4</td>
</tr>
<tr>
<td>5</td>
<td>5 5</td>
<td>5 5</td>
<td>5 5</td>
<td>5 5</td>
</tr>
<tr>
<td>6</td>
<td>6 6</td>
<td>6 6</td>
<td>6 6</td>
<td>6 6</td>
</tr>
</tbody>
</table>

GASTROPODS

<table>
<thead>
<tr>
<th>Stratum</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>1M 1L</td>
<td>1M 1L</td>
<td>1M 1L</td>
<td>1M 1L</td>
</tr>
<tr>
<td>1</td>
<td>2 2</td>
<td>2 2</td>
<td>2 2</td>
<td>2 2</td>
</tr>
<tr>
<td>2</td>
<td>2 2</td>
<td>2 2</td>
<td>2 2</td>
<td>2 2</td>
</tr>
<tr>
<td>3</td>
<td>3 3</td>
<td>3 3</td>
<td>3 3</td>
<td>3 3</td>
</tr>
<tr>
<td>4</td>
<td>4 4</td>
<td>4 4</td>
<td>4 4</td>
<td>4 4</td>
</tr>
<tr>
<td>5</td>
<td>5 5</td>
<td>5 5</td>
<td>5 5</td>
<td>5 5</td>
</tr>
<tr>
<td>6</td>
<td>6 6</td>
<td>6 6</td>
<td>6 6</td>
<td>6 6</td>
</tr>
</tbody>
</table>

FUCUS

<table>
<thead>
<tr>
<th>Stratum</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>1M 1L</td>
<td>1M 1L</td>
<td>1M 1L</td>
<td>1M 1L</td>
</tr>
<tr>
<td>1</td>
<td>2 2</td>
<td>2 2</td>
<td>2 2</td>
<td>2 2</td>
</tr>
<tr>
<td>2</td>
<td>2 2</td>
<td>2 2</td>
<td>2 2</td>
<td>2 2</td>
</tr>
<tr>
<td>3</td>
<td>3 3</td>
<td>3 3</td>
<td>3 3</td>
<td>3 3</td>
</tr>
<tr>
<td>4</td>
<td>4 4</td>
<td>4 4</td>
<td>4 4</td>
<td>4 4</td>
</tr>
<tr>
<td>5</td>
<td>5 5</td>
<td>5 5</td>
<td>5 5</td>
<td>5 5</td>
</tr>
<tr>
<td>6</td>
<td>6 6</td>
<td>6 6</td>
<td>6 6</td>
<td>6 6</td>
</tr>
</tbody>
</table>

Wildlife Observations/General Comments:

...unlisted sheet for bird observations

Tidal zone like for subdivision located directly with dense shell accumulations
may be zone mobile with wet (summer) and dry into fall

Ecological Considerations:

The tidal zone is actually densely populated in this small protected pond
of the curve, yet statistics (i.e., "Sparse" & "Rare" reflect averages
over entire segments.)
## Bird Sightings - US DOS Area

<table>
<thead>
<tr>
<th>Name</th>
<th>Amount</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Song Sparrow</td>
<td>20+</td>
<td>Abundant; Paleg2 or Pacific NW.</td>
</tr>
<tr>
<td>Glaucous-winged Gull</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Bald Eagle</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Varied Thrush</td>
<td>1</td>
<td>Paleg2 or Red-faced</td>
</tr>
<tr>
<td>Cormorant (P)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>SPECIES</td>
<td>U</td>
<td>M</td>
</tr>
<tr>
<td>---------</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>BOSSELLA/CORALLINA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CALLIARTRON/CORALLINA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CLADOPHORA SPP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COSTARIA SPP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENDOCLADIA MURICATA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILAMENTOUS GREENS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILAMENTOUS REDS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GLOIOPELTIS FURCATA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HALOSACCION GLANDIFORME</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LAMINARIA SPP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LITHOTHAMNION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NEREOCYSTIS SPP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PORPHYRA SPP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RALPHSIAS/HILDENBRANDIA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PILODOMELA LARISS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RHOIOMENIA PALMATA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCYTOSIPHON SPP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ULVA SPP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZOSTERA MARINA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENTORORMORPHA</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

| FOCUS | 1 | 1 |   |   |   |     |       |

<table>
<thead>
<tr>
<th>FAUNA:</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTHOPLEURA SPP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(SEMI) BALUNUS CARIOSUS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. GLANDULA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BRYOZOANS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHITONS (other than K. TUNICATA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CLAMS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CRABS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DERMASTERIAS IMBRICATA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KATHARINA TUNICATA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEEPTASTERIAS HEXACTIS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LIMITS</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LITORINA SPP</td>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NUCHELLA SPP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAGURUS SPP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PISASTER OCHRACEUS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POLYCHAETES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PYCnopODIA HELIANTHOIDES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SEARLESIA DIRA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRPULIDS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TYPHONARIA THERSITES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TEALIA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT US-5 SUBDIVISION A (1 of 2)

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5R Seabird Colony
Closed to manual pickup. Work area is less than 800m from the nearest seabird colony.

OTHER ECOLOGICAL CONSIDERATIONS:
If the seabird colony constraint is removed, other ecological considerations will apply.

Prepared By: D.P. Phillips
Date 6/10/90

FOSC DATE 6-10-90
SHORELINE EVALUATION

SEGMENT ST/US-05 SUBDIVISION A (1 OF 2) DATE 4/26/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5R - Seabird colony (5/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

ARCHAEOLOGICAL CONSTRAINTS: Consultation and site inspection with an Exxon archaeologist is required prior to treatment. Specific on-site monitoring requirements will be determined at that time.

SHPO SIGNATURE: [Signature] DATE: 5/5/90

OILING CATEGORIZATION:
Wide 0 m; Medium 0 m; Narrow 0 m; V.Light 322 m; No Oil 37 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:
___ No Treatment Recommended
X Treatment Recommended
X Manual Pickup
___ Bioremediation
___ Tarinat Removal

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

COMMENTS: Recommend manual pickup of oiled trash and oiled logs. Work to be done in conjunction with other cleanup activity on Ushagat Island. Work should be conducted prior to 5/15 with permission from USFWS regarding Seabird constraints.

TAG COMMENTS: Monitors to assess logs.

TAG APPROVAL DATE: May 5, 1990
ADEC [Signature] DATE: 5-9-90
EXXON [Signature] DATE: [Signature]
NOAA [Signature] DATE: [Signature]
USCG [Signature] DATE: [Signature]
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT US-5 SUBDIVISION B (2 of 2)

WORK WINDOW

<table>
<thead>
<tr>
<th>Manual Pickup</th>
<th>Other Approved Treatment</th>
<th>OPEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioremediation</td>
<td>Spot Washing</td>
<td>OPEN</td>
</tr>
<tr>
<td>Mechanical Relocation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5R Seabird Colony NO CONSTRAINT. Seabird colony in Segment US-3 is more than 800m from work area.

OTHER ECOLOGICAL CONSIDERATIONS

Avoid any unnecessary disturbance or damage to unolied biota and substrate.
SEGMENT ST/ US-05 SUBDIVISION B (2 OF 2) DATE 4/22/30

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5R Seabird colony (5/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

ARCHAEOLOGICAL CONSTRAINTS:
Consultation and inspection with an Exxon archaeologist is required prior to treatment. Specific on-site monitoring requirements will be determined at that time.

SHPO SIGNATURE: [Signature]
DATE: 5/15/90

OILING CATEGORIZATION:
Wide 18 m: Medium 5 m: Narrow 12 m: V.Light 302 m: No Oil 244 m:
Subsurface Oil Observed: Yes X No:
Maximum Depth 61+ cm:

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

COMMENTS: Recommended treatment includes 1) manual pickup of pooled oil, mousse, oiled debris and oiled logs. Relocate UITZ and SUITZ to MITZ, 2) spot wash and bioremediate in areas indicated on sketch map. Work should be conducted prior to 5/15 with permission from USFWS.

TAG COMMENTS:

TAG APPROVAL DATE: 5/15/90

ADEC  
EXXON  
NOAA  
USCG

FOSC:  
DATE: 5/15/90

Perform manual pickup after 5-10 mile spread of bird managers. Continue as usual and custodian after lift. No Inter.
SHORELINE EVALUATION

SEGMENT ST/ US-05 SUBDIVISION A (1 OF 2) DATE 4/26/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5R Seabird colony (5/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

ARCHAEOLOGICAL CONSTRAINTS: Consultation and pre-treatment inspection with an Exxon archaeologist is required prior to treatment. Specific on-site monitoring requirements will be determined at that time.

SHPO SIGNATURE: __________ DATE: 5/5/90

OILING CATEGORIZATION:

Wide 0 m; Medium 0 m; Narrow 0 m; V.Light 322 m; No Oil 37 m
Subsurface Oil Observed: Yes No Maximum Depth

RECOMMENDATIONS:

X Treatment Recommended
X Manual Pickup
_____ Bioremediation
_____ Tarmat Removal

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

COMMENTS: Recommend manual pickup of oiled trash and oiled logs. Work to be done in conjunction with other cleanup activity on Ushagat Island. Work should be conducted prior to 5/15 with permission from USFWS regarding Seabird constraints.

TAG COMMENTS: Monitors to assess logs.

TAG APPROVAL DATE: May 5, 1990
ADEC Art Weyer
EXXON Mark V. Skjelset
NOAA Cary Peterson
USCG Skip Reiter

DATE: 5-9-90
USFWS Rep to be on Scene
SUBDIVISION A

DATE 4-12-90

CHECKLIST

N Asper
Asper. Scale
Asper Sub Back
Oil Dist.
Width
Length
% Cover
Stratigraphic Character
Est. MHWL/ML
SSL
Profile Location(s)
Profile(s)
Pit Location(s)

LEGEND
1 Δ
Pit - No Seawater Oil

2 Δ
Pit - Subsurface Oil

CT/C
Concrete (H) Baton

CT/T
Broken Distribution

CT/P
Paddy Distribution

CT/S
Splashed Distribution

Oiled Vegetation

Photo location, direction, and number

Debris pile of drift tree
on washover terrace

CT/5 on C61/P61 1 loga along
entire beach in band ~10m wide

Oiled Trash - cons, floats, netting
<1% coverage

Bedrock & boulders

CT/5 <1% oil bedrock
C61/P61 1 loga

Axis of spring
high tide zone

Washover Channel

Lagoon

Sketch Map

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

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

US-5A

ADEC Segment Length: 1361m

Map Key: KEN-138

Name: G. Heyman
SHORELINE EVALUATION

SEGMENT ST/ US-05 SUBDIVISION B (2 OF 2) DATE 4/22/90

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

OILING CATEGORIZATION:
Wide 18 m: Medium 5 m: Narrow 12 m: V.Light 302 m: No Oil 244 m
Subsurface Oil Observed: Yes __ No ____ Maximum Depth 61+ cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual pickup of pooled oil, mousse oiled debris and oiled logs. Relocate UITZ and SUTZ to MITZ. 2) spot wash and bioremediate in areas indicated on sketch map. Work should be conducted prior to 5/15 with permission from USFWS.

TAG COMMENTS: Monitor to assess logs.

TAG APPROVAL DATE: __________
ADEC Art Wetten __________
EXXON Mark N. Willet __________
NOAA __________
USCG __________

DATE: 5-15-90
Peformance manual pickup after 5-1 until
approval of land manager. Sediment relocation
and custom limit after 1 Sep. No INPOS.
CT/S as speckle on black at SW end of SBL/SBL + lagoons in VIBZ. Most speckle in band 4/10m immediately down the beach slope from the lagoons. 1-2% coverage within the band.
SEGMENT 005
SUBDIVISION B
DATE 4/12/90

CHECKLIST
- Plot
- Approx. Scale
- Steep/Steep Bedrock
- Oil Dist.
- Water
- Length
- % Cover
- Substrate Character
- SSL
- Profile Location(s)
- Photo(s)
- Pit Location(s)

LEGEND
- △
  - Pit - No Subsurface Oil
  - ▲
  - Pit - Subsurface Oil

CT/C
- Continuous Distribution
- CT/B
- Broken Distribution

CT/S
- Patchy Distribution
- CT/SS
- Splashed Distribution
- ER
- Oiled Vegetation

Photo location, direction, and number

KETCH MAP

Bedrock Platform

Near Vertical
Bedrock

Steep
Erosional Scarp in
Fine sediments

Subsurface oil layer
25-53 cm below surface 5+ cm thick beneath at least 10 x 10 m

Groundwater seeps from 1/2 to 3/4 up scarp

Predominantly Pebble beach

Drift tree covered storm berm

Character Length (m) AP

0 25
Meters

NO. 128
SEGMENT ST/US-05 SUBDIVISION B (2 OF 2) DATE 4/22/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5R Seabird colony (5/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

ARCHAEOLOGICAL CONSTRAINTS:
Consultation and inspection with an Exxon archaeologist is required prior to treatment. Specific on-site monitoring requirements will be determined at that time.

SHPO SIGNATURE: [Signature] DATE: 5/19/90

OILING CATEGORIZATION:
Wide 18 m: Medium 5 m: Narrow 12 m: V.Light 302 m: No Oil 244 m
Subsurface Oil Observed: Yes X No Maximum Depth 61+cm

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

COMMENTS: Recommended treatment includes 1) manual pickup of pooled oil, mousse oiled debris and oiled logs. Relocate UITZ and SUTZ to MITZ. 2) spot wash and bioremediate in areas indicated on sketch map. Work should be conducted prior to 5/15 with permission from USFWS.

TAG COMMENTS: Monitor to assess logs.

TAG APPROVAL DATE: May 5, 1990
ADEC Art Weimer [Signature] DATE: 5-15-90
EXXON Mark N. Willet [Signature] NOAA Sandy Reif [Signature]
NOAA [Signature] USCG [Signature]

Per telephone conversations between CDR Rome/Paul Carlin (USFWS) on 28 June 1990, Sediment relocation + Custom officials application can be done prior to 1 August. USFWS

Shoreline Evaluation Section 1990
WORK PLAN ADDENDUM


MODIFICATION

1. REASON FOR MODIFICATION

   RELIEF FROM USFH W TIMING CONSTRAINT SPECIFIC
   TIMING TO BE CLARIFIED BY USFH.

2. ADJUSTMENT TO WORK PLAN

   RELIEF FROM TIMING CONSTRAINTS FOR BEAM RELOCATION
   TRIAL.

SHPO APPROVAL NEEDED YES  X  NO

SHPO SIGNATURE  Charles J. Nolen  6/27/90

TAG APPROVAL DATE

ADEC Ray Monroe, R. 72
EXXON Amy Ten, 72
NOAA Joseph Talbot  72
USCG G.A. Reiter  G. A. Deiter

FOSC Date  6/30/90
1991 MAYSAP EVALUATION

SEGMENT: US 005  SUB: A  REGION: KEN  SURVEY DATE: 5/6/91

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

Ecological/Constraints (see page two for details)  Seabird colony

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>
<td></td>
<td></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: ___________  FOSC APPROVAL DATE: ___________

ADEC ______________________  FOSC ______________________

EXXON ______________________

USCG ______________________

NOAA ______________________
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

TREATMENT RECOMMENDED

No treatment recommended at US-5A. Oiling observed in 1990 - S.A.T'S (Oiled logs and oiled trash). Work conducted in 1990 addressed the pick-up of this oiled debris. A brief survey was conducted, concentrating on drift line up into storm berm, no oiling observed.

The area where oily debris had previously been located was walked and no trace of oil was noted.

Contact with other team members, oily debris was not present.

Extensive pits were dug but no oil found. This segment looks fine.
OG NO. 6

O: O. Fitzgerald
B: H. Davis
S: S. Ferguson
EXXON: G. Styles
USCG/NOAA: CWO Spur Jr. Hoff

DATE 01 May 1991
TIME 15:35 to 16:00

TIDE LEVEL: 4.2 ft. to 4.6 ft.
ENERGY LEVEL: X H M L

SURVEYED FROM: X FOOT □ BOAT □ HELO
WEATHER: □ SUN □ CLOUDS □ FOG □ RAIN □ SNOW

TOTAL LENGTH SHORELINE SURVEYED: 200 m
NEAR SHORE SHEEN: □ BR □ RB □ SL □ NONE

EST. OIL CATEGORY LENGTH: W—m M—m N—m VL—m NO—m US—m 159 m

<table>
<thead>
<tr>
<th>L</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE OIL TYPE</th>
<th>SEDIMENT SLOPE</th>
<th>AREA WIDTH</th>
<th>LENGTH</th>
<th>ZONE S</th>
<th>ZONE U</th>
<th>ZONE M</th>
<th>ZONE L</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PIT</th>
<th>PIT NO.</th>
<th>DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN</th>
<th>H2O</th>
<th>SHEEN COLOR</th>
<th>SURFACE-OIL-ZONE</th>
<th>SUBSURFACE OIL</th>
<th>SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></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: The previous surveys of this segment indicated that the oil consisted of oiled trash, oiled logs, and a <1% coat on the bedrock at the southeast end of the beach. We surveyed the central portion of the cobble-pebble berm area and found no oil. Due to the previous oil history of this beach (v light), the risk of finding any oil, and the beach's exposed nature, it was decided by the team to discontinue more extensive survey of this segment.
The lagoon was a very active feeding area for shore birds.
The debris line had done work (spills) at the top of the ridge and
several dead trees standing.

No oil was found in this area.

Songbirds: Fox Sparrow, Savannah Sparrow, Golden-Crowned Sparrow

Gulls & Kittiwakes: Brown Pelican, Northern Pintail, American Wigeon

Shorebirds:

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>1</td>
<td>Immature</td>
<td></td>
</tr>
<tr>
<td>Seabirds</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gulls/Kittiwake</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shorebirds</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corvids</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Birds</td>
<td>4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

MARINE MAMMALS | # OBSERVED | SPECIES   | # OBSERVED |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sea Otters</td>
<td>0</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Pinnipeds</td>
<td>0</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Seals</td>
<td>0</td>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>

LAND MAMMALS

Shoreline subdivision map showing important biological features attached.
Gulf of Alaska

Red food remains on cliff (5)

Gravel

Steel container

Debris line (logs)

Several species of sparrows on the debris line.

Washovers

No fish seen

Surveyed

No intestinal organisms seen

This lagoon was used heavily by waterfowl:

More than 300 birds were seen: Gadwalls, Mallards, Northern Pintails, American Widgeon, Shoveler and

Green-winged Teal.
US005 A

ADEC Subsegment Length: 350m

Medium

Narrow

Very Light

No Oil

Subdivision Field Map

Map Key: KENUS005A

Name: Fitzgerald

Date: 6 May 1991

Date Entered:

Reviewed 5/1991 KG

ET reviewed 5/2
1991 MAYSAP EVALUATION

SEGMENT: US 005  SUB: A  REGION: KEN  SURVEY DATE: 5/6/91

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

Ecological/Constraints (see page two for details) Seabird colony

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

SHPO Signature: Date: 5/22/91

RECOMMENDATIONS:

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

COMMENTS:

INITIAL: 

TAG: 

FOSC:

TAG APPROVAL DATE: 6/11/91  FOHC APPROVAL DATE: 6/11/91
ADEC  EXXON  USCG  NOAA

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

ADEC
NAME S. Ferguson
SIGNATURE

TREATMENT RECOMMENDED
No treatment recommended at US-5A, oiling observed in 1990 SSAT's (oiled logs and oiled trash). Work conducted in 1990 addressed the pick up of this oiled debris. A brief survey was conducted, concentrating on drift line up into storm berm, no oiling observed.

EXXON
NAME G. Stiles
SIGNATURE George L. Stiles 5/7/91

NTR The area where oily debris had previously been located was walked and no trace of oil was noted.

ANDMANAGER
NAME J. Hardister
SIGNATURE John P. Hardister 5/7/91

NTR Consult with other team members. Oily debris was not present.

USCG/NOAA
NAME CWO Spur & N. Hoff
SIGNATURE

NTR Extensive pits were dug, but no oil found. This segment looks fine.
**OG COMMENTS:** The previous surveys of this segment indicated that the oil consisted of oilied trash, oiled logs, and a 1% coat on the bedrock at the southeast end of the beach. We surveyed the central portion of the cobble-pebble barren beach and found no oil. Due to the previous oil history of this beach (V light), the lack of finding any oil, and the beach's exposed nature, it was decided by the team to discontinue more extensive survey of this segment.

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

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

**TOTAL LENGTH SHORELINE SURVEYED:** 200 m

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

**EST. OIL CATEGORY LENGTH:**
- W  m
- M  m
- N  m
- VL  m
- NO  m
- US 159 m
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 6          DATE May 6 1991
SEGMENT # US-5         TIDAL HEIGHT (Range) 4 ft - 5 ft (1.22 - 1.52 m)
SUBDIVISION A          BIOLOGIST N. Davis
SEA STATE 4             WIND SPEED/DIRECTION Very Gusty W/NW
PHOTOGRAPHS: ROLL # No Photos FRAME #

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

The lagoon was a very active feeding area for waterfowl.
The diving line had some kelp (sargassum) at the top of the ridge and
several dead trees standing.

No oil was found in this area.

SONG (2) Fox (1) Savannah (3) Golden Crowned (3) Sparison
Grackle (2) Meller's (20) Northern Pintail (60) American Widgeon (20) Snow geese (5) Green-winged Finches

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>
<td>1</td>
<td>1 immature</td>
<td></td>
</tr>
<tr>
<td>Seabirds (Mann)</td>
<td>1</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td>6</td>
<td>350</td>
<td></td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td>2</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Shorebirds</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Corvids</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Other Birds</td>
<td>4</td>
<td>9</td>
<td></td>
</tr>
</tbody>
</table>

MARINE MAMMALS

<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>0</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Pinnipeds (specify)</td>
<td>0</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Seals (specify)</td>
<td>0</td>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>

LAND MAMMALS

Shoreline subdivision map showing important biological features attached.
This lagoon was used heavily by waterfowl. More than 300 birds were seen, including eiders, mallards, Northern Pintail, American Widgeon, Shorelarks, and Green-winged Teals.
Subdivision Field Map

Map Key: KENUS005A
Name: FitzGerald
Date: 6 May 1991
Date Entered: 

Reviewed 5/1991 KS
ES reviewed 5/2
1991 MAYSAP EVALUATION

SEGMENT: US 005  SUB: B  REGION: KEN  SURVEY DATE: 5/6/91

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

Ecological/Constraints (see page two for details) Seabird colony

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

SHPO Signature: [Signature] Date: 5/22/91

RECOMMENDATIONS:

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

COMMENTS:
INITIAL: ________________________________________________________

TAG: ____________________________________________________________

FOSC: _________________________________________________________

TAG APPROVAL DATE: MAY 22 1991  FOSC APPROVAL DATE: 6/1/91

ADEC  EXXON  USCG  NOAA

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

**MAYSAP FIELD SHORELINE COMMENT SHEET**

**TEAM NO.** 6  **SEGMENT** US-5  **SUBDIVISION** B  **DATE** 6/1/1991

**ADEC**

<table>
<thead>
<tr>
<th>NAME</th>
<th>SIGNATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>S. Ferguson</td>
<td></td>
</tr>
</tbody>
</table>

Tick box for **NTR** and check mark: No treatment recommended

No treatment recommended at US-5B. Subsurface oiling (shown on 1990 S sat map) was addressed through mechanical removal in 1990 survey. Concentrated on western end of US-5B, pits dug exposed no subsurface oil.

**EXXON**

<table>
<thead>
<tr>
<th>NAME</th>
<th>SIGNATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>G. Stiles</td>
<td></td>
</tr>
</tbody>
</table>

Tick box for **NTR** and check mark: No oil located

Several 100 cm pits were dug in the area where the subsurface oil had been removed by mechanical equipment. No trace of oiling was found.

**LANDMANAGER**

<table>
<thead>
<tr>
<th>NAME</th>
<th>SIGNATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>J. Handaker</td>
<td></td>
</tr>
</tbody>
</table>

Tick box for **NTR** and check mark: No oil observed.

**USCG/NOAA**

<table>
<thead>
<tr>
<th>NAME</th>
<th>SIGNATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CWO Susan L. Hoff</td>
<td></td>
</tr>
</tbody>
</table>

Tick box for **NTR** and check mark: Mechanical removal treatment in 1990. Several deep pits were dug with no trace of oil found.
**OG COMMENTS:** This segment consists of a cobble-pebble beach with multiple storm ridges backed by a vertical cliff. Previous survey of this region indicated the most extensive oil was located at the northern end of the beach occurring as mousses behind large builders and a subsurface oil layer (25-50 cm deep) covering a 10 by 50m region. Six pits dug in traverses through this site down to depths of 60 to 120 cm revealed no oil. No oil was found in boulder region (LITZ) at north end of beach.
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 6
SEGMENT # US-5
SUBDIVISION B
SEA STATE 5

DATE May 6 1991
TIDAL HEIGHT (Range) 5½ - 6½ ft (16.40 - 17.00)

BIOLGIST H. Davis
WIND SPEED/DIRECTION Very Gusty N/NE

PHOTOGRAPHS: ROLL # 6-08
FRAME # 9-10

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

No oel was found on this beach, which was for the most part a high-energy pebble/cobble beach with no biota. The two adult eagles may have a nest somewhere in the area.

At the north end of the beach there is a small rocky intertidal community. Rare barnacles, rare mussels, littoral rocks (with crinoids) godiophora and coraline algae. The lower intertidal area is covered but the middle and upper intertidal is healthy with spring growth beginning.

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS # OF SPECIES TOTAL BIRDS FISH OBSERVED SPECIES OBSERVED

| Eagles | 1 | 2 (Adults) Immature | * |
| Seabirds (pompano) | 1 | 5 |
| Waterowl | 0 | |
| Gulls/kittiwakes | 0 | |
| Shorebirds | 0 | |
| Corvids | 0 | |
| Other Birds | 2 | 2 |

* These were the same birds seen over US-5A

MARINE MAMMALS # OBSERVED SPECIES # OBSERVED

| Sea Otters | 0 | |
| Pinnipeds (specify) | 0 | |
| Males (specify) | 0 | |

LAND MAMMALS

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

SEGMENT: US 005 SUB: B REGION: KEN SURVEY DATE: 5/6/91

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

Ecological/Constraints (see page two for details) Seabird colony

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: ______________________________________________________

TAG APPROVAL DATE: ________________ FOSC APPROVAL DATE: ________________

ADEC EXXON USCG NOAA

FOSC

APPROVAL DATE: ________________ FOSC APPROVAL DATE: ________________
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

NO TREATMENT RECOMMENDED AT US-5B. SUBSURFACE OILING (shown on 1990 SSAT MAP) WAS ADDRESSED THROUGH MECHANICAL REMOVAL IN 1990. SURVEY CONCENTRATED ON WESTERN END OF US-5B, PITS DUG EXPOSED NO SUBSURFACE OIL.

No oil located. Several 100 cm pits were dug in the area where the subsurface oil had been removed by mechanical equipment. No trace of oiling was found.

Mechanical removal treatment in 1990. Several deep pits were dug with no trace of oil found.
OG: O. Fitzgerald  
BIO: H Davis  
ADEC: S. Ferguson  
LANDMANAGER: J Handister  
EXXON: G. Stiles  
USCG/NOAA: CWO Spurk/R Hoff  

DATE: 6 May 91
TIME: 16:05 to 17:00

TIDE LEVEL: 4.6 ft to 5.3 ft  
ENERGY LEVEL: ☑️ M ☑️ N

SURVEYED FROM: ☑️ FOOT ☑️ BOAT ☑️ HELO
WEATHER: ☑️ SUN ☐ CLOUDS ☑️ FOG ☐ RAIN ☑️ SNOW

TOTAL LENGTH SHORELINE SURVEYED: __________ m  
NEAR SHORE SHEEN: ☑️ BR ☑️ RB ☑️ SL ☐ NONE

EST. OIL CATEGORY LENGTH: W __________ m M __________ m N __________ m VL __________ m NO __________ m US __________ m

SURVEYED FROM:  
TOTAL LENGTH SHORELINE SURVEYED: __________ m

---

<table>
<thead>
<tr>
<th>L</th>
<th>O</th>
<th>C</th>
<th>SLOPE</th>
<th>AREA</th>
<th>ZONE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| DISTRIBUTION: | G = 01-100%; B = 11-50%; P = 11-50%; E = 1-100%; T = <1% |
| SLOPE: | V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE |

<table>
<thead>
<tr>
<th>PIT</th>
<th>NO</th>
<th>DEPTH</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN LEVEL</th>
<th>OIL CHARACTER</th>
<th>SHEEN COLOR</th>
<th>SUBSURFACE ZONE</th>
<th>SUBSURFACE SEDIMENTS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>110</td>
<td></td>
<td>X</td>
<td>Y</td>
<td></td>
<td>X</td>
<td>P-C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>100</td>
<td></td>
<td>X</td>
<td>Y</td>
<td></td>
<td>X</td>
<td>P-C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>90</td>
<td></td>
<td>X</td>
<td>Y</td>
<td></td>
<td>X</td>
<td>P-C-G</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>120</td>
<td></td>
<td>X</td>
<td>Y</td>
<td></td>
<td>X</td>
<td>P-C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>70</td>
<td></td>
<td>X</td>
<td>Y</td>
<td></td>
<td>X</td>
<td>P-C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>60</td>
<td></td>
<td>X</td>
<td>Y</td>
<td></td>
<td>X</td>
<td>P-C</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

OG COMMENTS: This segment consists of a cobble-pebble beach with multiple storm ridges backed by a vertical cliff. Previous survey of this region indicated the most extensive oil was located at the northern end of the beach occurring as mousse behind large boulders and a subsurface oil layer (25-50 cm deep) covering a 10 by 80m region. Six pits dug in traverses through this site down to depths of 60 to 120 cm revealed no oil. No oil was found in boulder region (LITZ) at north end of beach.
WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS

<table>
<thead>
<tr>
<th>Species</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></td>
</tr>
<tr>
<td>Seabirds</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td></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 &amp; Shell Game</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*These were the same birds seen over US-5A

LAND MAMMALS

<table>
<thead>
<tr>
<th>Species</th>
<th># Observed</th>
<th>Species</th>
<th># Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sea Otters</td>
<td>0</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Pinnipeds(specific)</td>
<td>0</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Seals(specific)</td>
<td>0</td>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>

Shoreline subdivision map showing important biological features attached.
No Biotia in gravel

Healthy rocky intertidal community
Filamentous greens, intertidal Fucales
Ochrophytum coralline, LITZ
not observed due to tide. Very
diverse for a small area.

Nereocystis Bed
REGION: KENAI

SEGMENT: ST/US-06

SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION

SEGMENT ST/US-06 SUBDIVISION A (1 OF 1) DATE 4/25/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

USFWS property.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: __________________________ DATE: __________________________

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V. Light 0 m: No Oil 2921 m
Subsurface Oil Observed: Yes No X Maximum Depth ________

RECOMMENDATIONS:

X No Treatment Recommended

_____ Treatment Recommended

_____ Manual Pickup

_____ Bioremediation

_____ Tarmat Removal

COMMENTS:

_____ Snare/Absorbent Booms

_____ Oil Snares (pom poms)

_____ Absorbents (pads, rolls, etc)

_____ Spot Washing: Wands

_____ Beach Cleaner

_____ Other (see comments)

TAG COMMENTS:

TAG APPROVAL DATE: __________

ADEC __________________________

EXXON __________________________

NOAA __________________________

USCG __________________________

FOSC: __________ DATE: ________
Salmon stream mouth - fry outmigrating (3/1 to 5/15)
Salmon stream mouth - spawning (7/10 to 8/31)

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

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

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

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

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

Esther 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 Peitz 424-3214
1E PWS Aquaculture Association John McMillan or Bruce Suzamoto 424-7511

 Gill net area (6/7 to 8/31)
Purse seine area (7/20 to 9/30)
Purse seine hookup (7/20 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 Evelyn Biggs 424-3235

Harbor seal and sea lion pupping (5/15 to 7/1)
Harbor seal and sea lion molting (9/15 to 9/15)

Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31).

Contact ADF&G and USFWS prior to treatment for confirmation.

AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
ADF&G Don Calkins 267-2403

Seabird colony (5/1 to 9/1)

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
ADF&G Tom Roathy 267-2208

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. 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 (5/1 to 9/15)
Anchorage (6/1 to 9/15)
Forest Service cabin (6/1 to 9/15)
Lodge (6/1 to 9/15)
Special use destination

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

Fish processing

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

AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2350
FIELD SHORELINE COMMENT SHEET

SEGMENT ST 145-006  SUBDIVISION:  A  DATE 27 April 1990

☑ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS
High energy. No oil. No treatment recommended.

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS
No oil was observed.

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS
No treatment recommended on this segment. The area is high-energy and no oil was observed. If boat crews are on station later in summer, a cursory check for storm trash might be made.
## SHORELINE OILING SUMMARY

### Surface Oil

<table>
<thead>
<tr>
<th>Character</th>
<th>Distribution</th>
<th>Oil / Film Color</th>
<th>Impacted Zones</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt Paving</td>
<td>C / B / P / S</td>
<td>SU / M / U</td>
<td></td>
</tr>
<tr>
<td>Pooled</td>
<td></td>
<td>SU / M / U</td>
<td></td>
</tr>
<tr>
<td>Cover</td>
<td></td>
<td>SU / M / U</td>
<td></td>
</tr>
<tr>
<td>Coat</td>
<td></td>
<td>SU / M / U</td>
<td></td>
</tr>
<tr>
<td>Stain</td>
<td></td>
<td>SU / M / U</td>
<td></td>
</tr>
<tr>
<td>Mousse</td>
<td></td>
<td>SU / M / U</td>
<td></td>
</tr>
<tr>
<td>Patties</td>
<td></td>
<td>SU / M / U</td>
<td></td>
</tr>
<tr>
<td>Tarballs</td>
<td></td>
<td>SU / M / U</td>
<td></td>
</tr>
<tr>
<td>Film</td>
<td></td>
<td>SU / M / U</td>
<td></td>
</tr>
<tr>
<td>No Oil</td>
<td></td>
<td>SU / M / U</td>
<td></td>
</tr>
</tbody>
</table>

### Pavement

**Surface - Subsurface Sediments**

<table>
<thead>
<tr>
<th>Pit No.</th>
<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>Analyzed (Y/N)</th>
<th>Surface Oil (Y/N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>38</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>N</td>
<td></td>
<td>c, b</td>
</tr>
<tr>
<td>2</td>
<td>115</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>P</td>
<td></td>
<td>g</td>
</tr>
<tr>
<td>3</td>
<td>37</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>P</td>
<td></td>
<td>c</td>
</tr>
<tr>
<td>4</td>
<td>17</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>S</td>
<td></td>
<td>g, c, P</td>
</tr>
<tr>
<td>5</td>
<td>75</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>P</td>
<td></td>
<td>c, g, k</td>
</tr>
<tr>
<td>6</td>
<td>59</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>P</td>
<td></td>
<td>k</td>
</tr>
</tbody>
</table>

#### Comments

Pits A2 and A12 were excavated at base of erosional scarp cut into STZ deposits - scarp provided X-section of STZ deposits. This is a clean, high energy beach - lot of erosion and redeposition. In vicinity of pit A3 there's a 3/4 m-high, high tide berm built up at HTL - composed of small, stable disks. Beach material not well sorted. Colloidal material in HTL to STZ. Brokered-shaped wave cut platform is present near end of E. part of subdivision.

---

**Photographs:**

- Roll No.: 3
- Frames: 1314
## SHORELINE OILING SUMMARY (PAGE 2)

**SEGMENT ST/ 45-006 SUBDIVISION A**

### SUBSURFACE OIL (CONTINUED)

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL (cm-oil)</th>
<th>BELOW</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANA SHEEN (VM)</th>
<th>SURFACE SUBSURFACE SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>49</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>37</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>46</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>48</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>48</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>130 (10 with)</td>
<td>F</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**COMMENTS**

**REVIEWED BAT DATE 1 MAY 90**
Rocky cliffs, large boulder beach. No oil observed from helicopter.

Typical X-section of beach:

- High hide beam up to 5m high
- Boulder-covered wave-cut platform
- Nearly vertical cliffs, one pocket beach
- No oil observed from helicopter

2500m surveyed by foot
**SHORELINE ECOLOGICAL SUMMARY**

**Segment ST: US-086**  
**Subdivision:** A  
**Date (mo/day/yr): 4/25/90**  

**Time (24 hr): 6:50**  
**Biologist: DANIEL RAIDER**

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

(B) Overall % cover of biota (% of segment):
- Dense 5  
- Moderate 15  
- Low 80

(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>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

### MYTILUS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

### GASTROPODS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

### FUCUS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

Wildlife Observations/ General Comments:
- **Commando Sp. (Pelagic or Red-necked)** - 30+
- **Larval winged gulls** - 100+

Ecological Considerations:

None on DATA SHEET PROVIDED
**Area 3**
- Sparse inputs
- Part 1: Maria Sittora Block in MZ
- Corns - rare, on bank,
- Enteromorpha - LtB on bank - Sparse

**US-6**

**Area 2**
- Semi-balans on rock in MZ
- Exneria turcica - Boulder MZ
- As cam semi-balans
- Morinella Boulder MZ
- Sparse inputs mix on cobble + burtle
- Pycnophyta helicoides
- Halicula sp.
- Pteria sp.

**Area 1**
- Bedrock outcrop mix
- Green filament, algae
- Enteromorpha spp.
- Pycnophyta helicoides
- Moderate semi-rock
- Moderately mixed flora
- and sparse in for.

---

**XXXX Wide**

**/// Medium**

---**Narrow**

Approx. Segment Length: 4755m

**TTTT Very Light**

**0000 No Nil**

Map Key: KEN-US-6b

Name:

Date:
SEGMENT ST/ US-06 SUBDIVISION A (1 OF 1) DATE 4/25/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
USFWS property.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to uncoiled biota and substrate.

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

SHPO SIGNATURE: 
DATE: 5/11/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 2921 m
Subsurface Oil Observed: Yes No X Maximum Depth

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

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 5/11/90
ADEC Art Wessen Art Wessen
EXXON AWC T. E. Eads
NOAA Joseph Thibault-Clay
USCG D. D. Rome

FOSC:  
DATE: 5/15/90
Typical X-section of beach:

Rocky cliffs, large boulder beaches.
No oil observed from helicopter.

Exposed R face surveyed by helicopter.

- Boulder-covered wave-cut platform
- Nearly vertical cliffs
- One pocket beach
- No oil observed from helicopter

450m surveyed by foot

Oil Character Length (m): AP O PO O CV O CT O ST O MS O PT O TB O FL O NO_5086
**Area 3**
- Sparse impits
- Porites stroma Sitsara Bdrk m miz
- Serpulids - rare; on bdrk.
- Enfarramorpha - LT3; on bdrk; - spora

**Area 2**
- Por. Semi-balans on coupon in miz
- Katerina turina - bdrk miz
- 25% Semi-Balans MOKingj; bdrk in miz
- Sparse impit mix on cobble bdrk
- Pycnocladia helicoides
- Haliclypea sp.
- Flavina sp.

**Area 1**
- Bedrock w/ temp. miz
- Green filament w/ edges
- Enfarramorpha sp.
- Pycnocladia helicoides
- Moderate semi balsam
- Moderate oil
- Oil

**US-6**

Map Key: KEN-US-6b
Name: 
Date: 

<table>
<thead>
<tr>
<th>XXXX Wide</th>
<th>/// Medium</th>
<th>~ Narrow</th>
<th>TTTT Very Light</th>
<th>O000 No Oil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width:</td>
<td>Width:</td>
<td>Width:</td>
<td>Width:</td>
<td>Width:</td>
</tr>
<tr>
<td>4795m</td>
<td>4795m</td>
<td>4795m</td>
<td>4795m</td>
<td>4795m</td>
</tr>
</tbody>
</table>

Approx. Segment Length: 4795m
REGION: KENAI

SEGMENT: ST/US-07

SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION

SEGMENT ST/US-07 SUBDIVISION A (1 OF 1) DATE 4/24/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

- 3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)
- 30,3Q Harbor seal and sea lion molting (8/15 to 9/15)

USFWS property
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to uncoiled biota and substrate.

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

SHPO SIGNATURE: ______________________ DATE: ______________________

OILING CATEGORIZATION:

Wide 0 m: Medium 30 m: Narrow 0 m: V.Light 70 m: No Oil 724 m

Subsurface Oil Observed: Yes ___ No X ___ Maximum Depth ______

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual pickup of mousse where indicated on sketch and 2) bioremediation of area of surface stain. Work should be conducted between 7/1 and 8/15 based on pinniped constraints.

TAG COMMENTS:

____________________________________

____________________________________

____________________________________

____________________________________

TAG APPROVAL DATE: __________

ADEC ______________________

EXXON ______________________

NOAA ______________________

USCG ______________________

FOSC: ______________________ DATE: __________


**PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS**

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

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 7/31 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. 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

1B **Salmon stream mouth - spawning (7/10 to 8/31)**

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 Peitz 424-3214

1C **Salmon fry nursery area (4/21 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 Peitz 424-3214

1D **Estuary Hatchery releases (4/15 to 6/15)**

**AGENCY CONTACT PERSON:** ADF&G Larry Peitz 424-3214

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

**AGENCY CONTACT PERSON:** ADF&G Larry Peitz 424-3214

1F **Sawmill Bay Hatchery release (4/15 to 6/11)**

**AGENCY CONTACT PERSON:** ADF&G Larry Peitz 424-3214

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

**AGENCY CONTACT PERSON:** ADF&G Larry Peitz 424-3214

1H **Remote release sites**

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

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

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

**AGENCY CONTACT PERSON:** ADF&G Larry Peitz 424-3214

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

**AGENCY CONTACT PERSON:** ADF&G Larry Peitz 424-3214

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

**AGENCY CONTACT PERSON:** ADF&G Larry Peitz 424-3214

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

Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to 500m, aircraft to maintain 500m horizontal and 300m vertical distance from headlands. 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:** ADF&G James Brady 424-3212

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

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

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

2N **Harbor seal and eared seal pupping (5/15 to 7/1)**

**AGENCY CONTACT PERSON:** USFWS Jim Parker 766-3377

2O **Harbor seal and eared seal molting (8/15 to 9/15)**

**AGENCY CONTACT PERSON:** USFWS Jim Parker 766-3377

3R **Seabird colony (5/1 to 9/1)**

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

**AGENCY CONTACT PERSON:** USFWS Jill Parker 766-3377

3S **Shorebird/waterbird 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 766-3377

**AGENCY CONTACT PERSON:** ADF&G Tom Rothe 267-2206

3T **All Bald Eagle nests (3/1 to 6/1)**

**AGENCY CONTACT PERSON:** USFWS Jill Parker 766-3377

**AGENCY CONTACT PERSON:** ADF&G Tom Rothe 267-2206

4U **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:**

4V **Subsistence area:**

- **Salmon harvesting (5/1 to 6/30)**
- **Finfish harvesting:**
- **Door harvesting (9/15 to 10/30)**
- **Incorporate harvesting:**

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

**AGENCY CONTACT PERSON:** ADF&G Jim Fall 267-2359
FIELD SHORELINE COMMENT SHEET

SEGMENT ST 143 - 007 SUBDIVISION: A DATE 04/25/90

M. HAYES NAME  Mike D. Hayes SIGNATURE  [Signature]

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Manual pick-up of mud-sediment unit and increase publicity.

Another excellent example of oil having accumulated in the lee of a protruding bedrock reef ("tomololo reef").

ADEC

NAME  Russell Kunibe SIGNATURE  Russell Kunibe

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

- On the point at the center of the subdivision there was a 4X7M muddy sediment pile. There was some pooled water at the base of the bedrock on this point.


LAND MANAGER

NAME  Gerald M. Nugent SIGNATURE  Gerald M. Nugent (USFWS)

☑ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

- Recommend manual removal of mouse in conjunction with other pick-up activities on the Barrens. Actions should take place by or about May 1, 1990. A Service monitor should be present during any activities on the Barrens.
### SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPAECED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT PAVEMENT</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>POOLED COVER</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>COAT STAIN</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>MOUSSE PATTIES</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>TARBALLS FILM</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>NO OIL</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

**PAVEMENT** Y H F S ______ sq. m by ______ cm

**PATTIES / TARBALLS** ______ BAGS

**NEAR SHORE SHEEN?** [ ] BR RW SL TL

**OILED DEBRIS**

<table>
<thead>
<tr>
<th>TYPE</th>
<th>AMOUNT</th>
<th>DID YOU COLLECT DEBRIS?</th>
<th>DEBRIS?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logs</td>
<td>SM MD LG</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Vegetation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trash</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Debris</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Photographs:**

- **Roll No.** 4
- **Frames** 10-12

### SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>OILED DEBRIS INTERVAL</th>
<th>OILED OIL CHARACTER</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>90</td>
<td>X -</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>2</td>
<td>102</td>
<td>X -</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>3</td>
<td>103</td>
<td>X -</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>4</td>
<td>20</td>
<td>X -</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

**Subsurface sediments**

<table>
<thead>
<tr>
<th>P IT ZONE</th>
<th>ANA SHEEN (Y/N)</th>
<th>SURFACE - SUBSURFACE SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### COMMENTS

Evidence of oil limited to vicinity of rock outcrop in center of segment. On the rock, oil spots and deep line is quite worn by wave action. Pooled mousse can be found in small crevices and pockets on surface of rock outcrop. Mousse pavement occurs on lee side of rock outcrop. Granite bedrock, resulting in granitic sand beach with pebbles and cobbles. Oil is MTE to UTE. No sheen observed. Mousse pavement has moderately tough DOL, outer surface, soft inside, DOL to GOL.

Reviewed [B A T] date 1 May 90
**SHORELINE ECOLOGICAL SUMMARY**

Segment ST UX-002  Subdivision A  Date (mo/day/yr) 4/21/90

Time (24 hr) 12:00  Biologist DANIEL TANDER

(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 3  Moderate 2  Low 95

(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 

<table>
<thead>
<tr>
<th>BARNACLES</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U 1M 1L</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MYTILUS</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U 1M 1L</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GASTROPODS</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U 1M 1L</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FUCUS</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U 1M 1L</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

Wildlife Observations/ General Comments:

Ecological Considerations:

NY: 30 Q
**Wildlife Sightings for US-007 29 April 1990**

<table>
<thead>
<tr>
<th>Name</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Glaucous-Winged Gull</td>
<td>10 ±</td>
</tr>
<tr>
<td>2) Mallards</td>
<td>9</td>
</tr>
<tr>
<td>3) Cormorants</td>
<td>9</td>
</tr>
<tr>
<td>4) Common Raven</td>
<td>1</td>
</tr>
<tr>
<td>5) Grebe</td>
<td>1</td>
</tr>
<tr>
<td>6) Black-legged Kittiwake</td>
<td>2000-3000</td>
</tr>
<tr>
<td>7) Oystercatcher</td>
<td></td>
</tr>
<tr>
<td>8) Bald Eagle</td>
<td></td>
</tr>
</tbody>
</table>
Areas 1 & 2
- High energy break zones with no biota

Area 1
- Moderately turbulent
- Moderate focus on bedrock in LTZ
- Coralligenous - dense pockets on bedrock
- Very common in LTZ (podded)
- Laminaria nodosa - dense in pools
- Sea lettuce
- Velella velella
- Sea anemones
- Anthopleura xanthogrammica
- Stomphia cupressa
- Epizoanthus subnudus

Area 2
- Fauna & Flora
- UIV's in MTZ on bedrock

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

Approx. Segment Length: 1525m

Map Key: KEN-US-7
Name: 
Date: 
Data Entry:
SHORELINE EVALUATION

SEGMENT ST/ US-07 SUBDIVISION A (1 OF 1) DATE 4/24/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

- ON, JP  Harbor seal and sea lion pupping (5/15 to 7/1)
- 30, 3Q  Harbor seal and sea lion molting (8/15 to 9/15)
USFWS property
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

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

SHPO SIGNATURE:  DATE: 5/14/90

OILING CATEGORIZATION:

- Wide 0 m: Medium 30 m: Narrow 0 m: V.Light 70 m: No Oil 724 m
- Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual pickup of mousse where indicated on sketch and 2) bioremediation of area of surface stain. Work should be conducted between 7/1 and 8/15 based on pinniped constraints.

TAG COMMENTS: No Bio of Stain Following Removal of Mousse Apply Customben if Reo

TAG APPROVAL DATE: 5/12/90

ADEC Art Wright
EXXON John Egan
NOAA Gary Peterson
USCG D. A. Rome

FOSC: DATE: 5/14/90

Monitor disposal need for bioremediation and apply as necessary.
CT/C - Continuous Distribution
CT/B - Broken Distribution
CT/P - Patchy Distribution
CT/S - Splashed Distribution

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

granite
show rock face

CT/S on R, with pooled 15% in small crevices of which 50% in L = 2(3.3 cm^3), up to 1 cm thick, LBR, 209 cm x 50 m.

CT/C on R, with pooled 15% in small crevices of which 50% in L = 2(3.3 cm^3), up to 1 cm thick, LBR, 209 cm x 50 m.

Manmade Removal - OP Non-Usable

CT/C on R, with pooled 15% in small crevices of which 50% in L = 2(3.3 cm^3), up to 1 cm thick, LBR, 209 cm x 50 m.

Manmade Removal - OP Non-Usable

m3/B = DBL, mod. hard on surface, soft DBL beneath, binds p. g together on lee side of rock exposure. 4 m x 7 m, 65% cover.

su surface - may have been cement by surface. Pit shows x-section through older surface, and into lower surface.
**(map diagram)**

**Areas 1 & 2**
- High energy break area with no biota

**Area 1**
- ... (details not legible)

**Area 2**
- Fauna & Flora
- Ulva in MTZ on seaweed

**Area 3**
- ... (details not legible)

**Key:**
- Wide
- Medium
- Narrow
- Very Light
- O (Oil)

**Map Key:**
- KEN-US-7

**Approx. Segment Length:** 1525m

**Names:**

**Date:**

**Note:**
- Ulva extends from MTZ to LTZ
- Moderate focus on pebbles in LTZ
- Connect with dense pockets on peaks
- Rare Ulva in MTZ
- Ultra-Lamina - dense in pools
- Sea urchins
- Metridium senile
- Anthopodium actinum
- Tethya correa
- Epizonanthus cushionis

**Scale:**
- 0-100-200-300
Environmental Sensitivities:
Work Window(s) **RESTRICTED 5/15 - 9/1**

Ecological/Constraints (see page two for details) **Seabird colony**

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

SHPO Signature: [Signature] Date: 5/22/91

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>Manual Pickup (Check as Req.)</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Spot Washing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bio-Customblen Only</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bio-Inipol/Customblen</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>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:

Initial: ____________________________

Tag: ________________________________

FOSC: ______________________________

Tag Approval Date: May 22, 1991

FOSC Approval Date: 6/1/91

ADEC [Signature]

EXXON [Signature]

USCG [Signature]

NOAA [Signature]

E. E. Page, CDR, USCG  
Chief of Staff, FOSC
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

<table>
<thead>
<tr>
<th>TEAM NO.</th>
<th>6-Hefo</th>
<th>SEGMENT</th>
<th>US-7</th>
<th>SUBDIVISION</th>
<th>A</th>
<th>DATE</th>
<th>5/2/91</th>
</tr>
</thead>
</table>

**ADEC**

**NAME:** S. Ferguson  
**SIGNATURE:**

**TREATMENT RECOMMENDED:**

- NO TREATMENT RECOMMENDED AT US-7 A: BEACH + WAVECUT BEDROCK PLATFORMS HAD TRACK MS/DR 1CT/ST -> SEE SKETCH MAP.

**EXXON**

**NAME:** G. Stiles  
**SIGNATURE:**

**TREATMENT RECOMMENDED:**

- No appreciable oil was located therefore no treatment is recommended.

**ANDMANAGER**

**NAME:** E. Handstine  
**SIGNATURE:**

**TREATMENT RECOMMENDED:**

- Concur with other Team members. The treatment warranted.

**USCG/NOAA**

**NAME:** Chief Jensen P.K. Hoff  
**SIGNATURE:**

**TREATMENT RECOMMENDED:**

- There is no longer any detectable oil present in the water column. Some streaks are present, however, minor traces of oil remaining represent no likely source of contamination for biological resources.
**OG Comments:** This site within Segment US-7 consists of an irregular, topographically rugged, bedrock headland connected to the mainland by a boulder/cobble beach. The oiling of this area is very minor (<<1%) consisting of 1-8 cm² patches of high-weathered mousse, SOR, CT, and stains concentrated in the cracks of bedrock in semi-sheltered areas. The ASAP survey of this region reported findings of some remained of a MS-601P incident, but no oil was observed in the area. The site was revisited by 7th April 1990 and no oil was observed. The site was revisited by 7th April 1990 and no oil was observed.
**Sketch Map (06)**

**U.S. 7-A**

D. FitzGerald

8 May 1991

1315 - 1345

---

**Gulf of Alaska**

*Promontory highly exposed to wave action*

---

**SITE #1 en ASAP**

19 August 1991

**Survey**

---

**A.**

- **MS - S0K**
- **CT - ST**
- 20.6 m, <<1%
- In cracks of bedrock

---

**B.**

- **MS (high)western**
- **CT/ST**
- 1 by 10 m, <<1%
- On backside of Bedrock Promontory

---

**Bedrock + Boulders**

---

**NO REMAINS of ASAP reported oil (MS-504/P)**

- 4 by 7 m area

---

**0 - 20 meters**

---

*Reviewed 5/11/91 VC*  
*LE reviewed 5/12*
Photo locations
Mayap 6-09 #1-4

Sketch Map (06)
US-7-14
D. Fitzgerald
8 May 1991
1315-1345

Gulf of ALASKA

*Peninsula highly exposed to wave action

A. MS-501C
CT-ST
20 & 3m, <<1%
In cracks of bedrock

B. MS (highly weathered)
CT-ST
1 by 10m, <<1%
On backside of bedrock peninsula
ON vertical face

Bedrock + Boulders

No remains of ASAP reported oil (ms-502/p)
4 by 7m area

0 20 Meters
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 6 Helo

DATE May 8, 1991

SEGMENT # US-7

TIDAL HEIGHT (Range) 8 - 7.5 ft (13:15 - 3:45)

SUBDIVISION A

BIOLoGIST H. Davis

SEA STATE 2 ft

WIND SPEED/DIRECTION 5 mph NW

PHOTOGRAPhS: ROLL # 6-69

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

B. Very small amounts of oil in the super-tidal area. In places where the stain had hit seaweed, there was a 'negative' left behind that was being colonized by diatoms and green algae. Below this there was a moderate benthic littorine-laminar bed above Fucus, Enteromorpha, and patches of boulders.

A. The oil extended from the MTZ down into the MTZ. MTZ had pools with Scuphs, Pagurus, littorina, limpet, green. On rock surface barnacles and littorina were moderately dense. The littorina were laying eggs. In the MTZ dominat alga were Fucus, Codium, Phyllospadix, Petalidium, and Corallinae. There were Blemuna, limpets (Coleus, etc.), Tubulifera, littorinae, and pelosula extensae. Echinids and kelping. This population along this channel was moderately dense but rich in diversity.

Common Merganser


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>1</td>
<td>Adult Immature</td>
<td>250 Sculpig</td>
</tr>
<tr>
<td>Seabirds</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td>3</td>
<td>&gt;30</td>
<td></td>
</tr>
<tr>
<td>Shorebirds</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Corvids</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Other Birds</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* These may be the same birds seen on US-5A/B

MARINE MAMMALS

<table>
<thead>
<tr>
<th>SPECIES</th>
<th># OBSERVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sea Otters</td>
<td>0</td>
</tr>
<tr>
<td>Pinnipeds</td>
<td>0</td>
</tr>
<tr>
<td>Whales</td>
<td>0</td>
</tr>
</tbody>
</table>

LAND MAMMALS

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

Shoreline subdivision map showing important biological features attached.
A. The oil in the UITZ was near small crevices with Littorina, Pagurus, and squids. Littorina were laying eggs on bedrock. There was some silting on the area. Very small Verrucaria, very small Verrucaria, and small Verrucaria did not grow through the UITZ into the MITZ. This channel had a moderately dense rocky intertidal community with a lot of diversity. Any clean up in this area would be more disruptive than productive.

B. MS (highly weathered) CT ST 1 by 10m, < 0.1%
ON BACKSIDE OF BEDROCK PREDOMINANTLY ON VERTICAL FACE

B. Verrucaria near oil. Stain had left off and showed a negative stain in the UITZ that did not develop. Opportunistic growth occurred below the oil. Porphyrin Littorina, barnacles, and some Ulva in the MITZ. The MITZ had a moderate case of Fusco-oolithalia and Cucumaria.

No remains of ASAP reported.
Oil (m5-50x/3)
4 by 7m area

Filamentous green algae and Littorina Very few limpets.
**1991 MAYSAP EVALUATION**

**SEGMENT:** US 007  **SUB:** A  **REGION:** KEN  **SURVEY DATE:** 5/8/91

**ENVIRONMENTAL SENSITIVITIES:**

Work Window(s) **RESTRICTED** 5/15 - 9/1

Ecological/Constraints (see page two for details) Seabird colony

**ARCHEOLOGICAL 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>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

**COMMENTS:**

INITIAL: ______________________________________________________

TAG: ______________________________

FOSC: _______________________________________________________

TAG APPROVAL DATE: ___________  FOSC APPROVAL DATE: ___________

ADEC __________________________  FOSC ___________________________

EXXON __________________________

USCG __________________________

NOAA __________________________
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

NO TREATMENT RECOMMENDED AT US Y A BEACH + WAVECUT BEDROCK
PLATFORMS HAD TRACE MS/BR KT/ST → SEE SKETCH MAP.

No appreciable oil was located therefore no treatment is recommended.

There is no trace any detectable oil present in the water beyond shoreline 1/8 mile where it is too rocky to reach and no odor again. Minor traces of oil remaining represent no likely source of contamination or biological resources.
TIDE LEVEL: 8 ft. to 7.6 ft. ENERGY LEVEL: X H M L

SURVEYED FROM: X FOOT BOAT HELO WEATHER: X SUN X CLOUDS [FOG RAIN] SNOW
TOTAL LENGTH SHORELINE SURVEYED: 150 m NEAR SHORE SHEEN: BR RB SL [NONE]

EST. OIL CATEGORY LENGTH: W_____ m M_____ m N_____ m VL 13 m NO 137 m US 1074 m

| LOC | AP | MS | TB | BOR | CV | CT | ST | FL | DB | NO | SURFACE OIL CHARACTER | SEDIMENT SLOPE | WIDTH | LENGTH | ZONE  | NOTES |
|-----|----|----|----|-----|----|----|----|----|----|----|-----------------------|--------------|-------|--------|-------|-------|-------|
| A   | T  | T  | T  | T   |    |    |    |    |    |    |                       |              |       |        | X     |       |       |
| B   | T  | T  | T  | T   |    |    |    |    |    |    |                       |              |       |        |       |       |       |

SEGMENT US-7
SUBDIVISION 19
DATE 8 MAY 1991

OG COMMENTS: This site within Segment US-7 consists of an irregular, topographic: -
jagged, bedrock headland connected to the mainland by a boulder/cobble beach. The -
oiling of this area is very minor (<1%) consisting of 1-8 cm² patches of highly: -
mottled oil, 50%. CT, and stains concentrated on the crests of bedrock in semi-sheltered: -
areas. The ASAP survey of this region reported finding remains of a MS-5XP: -
4 by 7m area that had been identified in the 24 April 1990 SSAT survey. The well: -
buried boulders at this site would appear to indicate that the rest of the oil was: -
dissolved away during the 1990/1991 winter storm, as no trace of this oil could: -
be found along the southwest boulder beach.
Gulf of ALASKA

Promontory highly exposed to wave action

A. MS-50R
   CT-3T
   20 b. 3m, <1%
   In cracks of bedrock

B. MS (highly weathered)
   CT/ST
   1 by 10m, <1%
   On backside of bedrock promontory
   On vertical face

NO REMAINS of ASAP reported
oil (ms-stk/p)
4 by 7m area

0 20
METERS

Redeemed 5/17/91
Ref. redeemed 5/1/91
Gulf of ALASKA

**Promontory, highly exposed to wave action**

A. MS - 50R
CT - 5T
20 b, 3m, <1%
In cracks of Bedrock

B. MS (highly weathered)
CT/ST
1 b, 10m, <1%
On backside of Bedrock Promontory
ON VERTICAL FACE

Bedrock + Boulders

**No remains of ASAP reported oil (ms-50R/p)**
4 b, 7m area
HAYSAP BIOLOGICAL SUMMARY FORM

TEAM #6 Helo
SEGMENT # US-7
SUBDIVISION 7 US-7
SEA STATE 2 ft
PHOTOGRAPHS: ROLL #6-09

DATE May 8 1991
TIDAL HEIGHT(Range) 9 - 7.5 ft (13:15 - 3:45)
BIOLOGIST H. Davis
WIND SPEED/DIRECTION 5 mph NW

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

A. Very small amount of oil in the super tidal area. In places where the stain had hit, there was a "negative" left behind that was being colonized by diatom and green algae. Below this there was a moderate amount of littorines. Littorina fulica armorv fixed, Endelia in mixed patches on boulders.

B. The oil extended from the MITZ down into the MITZ. MITZ had gravel with Sculpins present. Littorines, filaments, greens. On rock surfaces barnacles and littorines were molting to dense. The littorines were laying eggs. In the MITZ dominant algae were Fucus. On the MITZ planopora, Petromeria, and corallina. Here were Balansia, Lingula (Echinoderm, Lottia) Bobitella, littorines, bathophora, astreopsis, Epirrus and Katingia. The population south along this channel was moderately dense but very diverse.

Common Sea Birds
Red-Necked Phalarope (8) Kittiwakes (10) Gulls (5) Glaucous Winged Gull (> 15)

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>1</td>
<td>Adult Immature</td>
<td>Sculpins 350</td>
</tr>
<tr>
<td>Seabirds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td>3</td>
<td>&gt; 30</td>
<td></td>
</tr>
<tr>
<td>Shorebirds</td>
<td>1</td>
<td>&gt; 8</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>

* These may be the same birds seen on US-5A/B

SHORELINE SUBDIVISION MAP SHOWING IMPORTANT BIOLOGICAL FEATURES ATTACHED.
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT US-7 SUBDIVISION A (1 of 1)

WORK WINDOW

<table>
<thead>
<tr>
<th>Manual Pickup</th>
<th>WORK 7/1 - 8/14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioremediation</td>
<td>WORK 7/1 - 7/31</td>
</tr>
<tr>
<td>Spot Washing</td>
<td>WORK 7/1 - 8/14</td>
</tr>
</tbody>
</table>

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

3N, O, P, Q Harbor Seal & Sea Lion Pupping and Molting
Closed to bioremediation prior to 7/1 and after 7/31. Closed to manual pickup and spot washing prior to 7/1 and after 8/14.

OTHER ECOLOGICAL CONSIDERATIONS

Do not apply bioremediation to specific areas where seals are observed to haulout. Do not chase or harass seals or sea lions, and do not approach pups under any circumstances. When working on or near haulouts, complete the job as quickly as possible with minimum personnel, equipment, noise and disturbance. Keep boats and personnel as far from actual haulouts as is practical to do the work specified. Minimize air traffic near haulouts, maintain elevation as is practical, and avoid repeated overflights of the same haulout areas. Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

Prepared by

Date 6/12/90
SHORELINE EVALUATION

SEGMENT ST/ US-07 SUBDIVISION A (1 OF 1) DATE 4/24/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)
30,3Q Harbor seal and sea lion molting (8/15 to 9/15)
USFWS property
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

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

SHPO SIGNATURE: DATE: 5/19/90

OILING CATEGORIZATION:

Wide 0 m: Medium 30 m: Narrow 0 m: V.Light 70 m: No Oil 724 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 Removal ___ Beach Cleaner
___ Oil Snares (pom poms)
___ Other (see comments)

COMMENTS: Recommended treatment includes 1) manual pickup of mousse where indicated on sketch and 2) bioremediation of area of surface oil. Work should be conducted between 7/1 and 8/15 based on pinniped constraints.

TAG COMMENTS: NO Bio or Stain following removal of mousse Report Customer 1 if Req'd

TAG APPROVAL DATE: 5/12/90
ADEC EXXON NOAA USCG

FOSC: DATE: 5/16/90
Monitor effects need for bioremediation or apply as necessary.
REGION: KENAI

SEGMENT: ST/US-008

SUBDIVISIONS: A (1 OF 1)
SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
3N,3P Seal and sea lion pupping (5/15 to 7/1)-in adjacent segment
3Q,3Q Seal and sea lion molting (8/15 to 9/15)-in adjacent segment
5T Active eagle nest (3/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid disturbance/damage to unoiled biota and substrate.

ARCHAEOLOGICAL CONSTRAINTS:
Consultation and inspection with an Exxon archaeologist is required prior to treatment. Specific on-site monitoring requirements will be determined at that time.

SHPO SIGNATURE: ____________________ DATE: ______________________

OILING CATEGORIZATION:
Wide 0 m: Medium 89 m: Narrow 140 m: V.Light 1149 m: No Oil 1176 m
Subsurface Oil Observed: Yes X No No Maximum Depth 15 cm

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

COMMENTS: Recommend manual pick up of mousse and oiled debris. Bioremediation is recommend for areas with oil cover and subsurface oil as indicated on sketch. Work only with USFWS permission concerning eagle constraints.

TAG COMMENTS:

TAG APPROVAL DATE: __________
ADEC
EXXON
NOAA
USCG

FOSC: __________ DATE: ________
PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage
No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior
treatment for permits.

1C Salmon fry nursery area (4/31 to 7/31)
1D Esther Hatchery release (4/15 to 5/1)
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

II 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 unbroken 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.

SR 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 8/1)
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 (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.

☐ NO TREATMENT RECOMMENDED   ☑ TREATMENT SUGGESTED

See DG notes for proper observations.

☐ NO TREATMENT RECOMMENDED   ☑ TREATMENT SUGGESTED

Sufficient oil materials exist to warrant removal by mechanical means, especially along the storm drain, but also in the drift beam area.
portion of the segment, in the form of small mats wedged into drift. Collectable oil is minimal but clean-up crew should definitely sweep up VITZ / storm boom to insure thoroughness in the effort. A number of pits were dug up here in the north section of US08, and subsurface oil was observed. Throughout the segment, scattered, oiled debris that should be removed.
**SHORELINE OILING SUMMARY**

OG: [Name] USCG: [Name] SEGMENT ST/ 133-8

BIO: [Name] LAND REP: [Name] Head. SUBDIVISION: US-8

EXXON: [Name] ADEC: [Name] TIME: 8:50 10:00 55

TEAM NO.: 20 TIDE LEVEL: +1 10 +2 DATE: 4/10/90

SEGMENT DESCRIPTION: [Segment Info]

LAND REP: [Name] SUBDIVISION: [Subdivision Info]

EXXON: [Name] ADEC: [Name] TIME: [Time]

TEAM NO.: 20 TIDE LEVEL: [Tide Level]

DATE: [Date]

SUBDIVISION LENGTH: 2583 m WORKING DIRECTION: [Direction]

SURVEYED FROM: [Source]

OIL CATEGORY LENGTH: W 0 m M 90 m N 155 m VL 1200 m NO 1136 m

**SURFACE OIL**

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT PAVEMENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVER</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>COAT</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>STAIN</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>MOUSSE</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>PATTIES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TARBALLS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>NO OIL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PAVEMENT:** H F S 0 sq. m by 0 cm

**PATTIES / TARBALLS:** ✓ BAGS

**NEAR SHORE SHEEN?** NO BR RW SL TL

**OILED DEBRIS AMOUNT** DEBRIS COLLECTED

- Logs [X]
- Vegetation [ ]
- Trash [ ]
- Debris [X]

**TYPE #BAGS**

Photographs:
- Roll No. 51 30 31 32 05
- Frames 35-37 1-8

**SUBSURFACE OIL**

<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</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>SUBSURFACE SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0-15</td>
<td>C PLG</td>
</tr>
<tr>
<td>2 30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0-15</td>
<td>C PLG</td>
</tr>
<tr>
<td>3 30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C PLG</td>
</tr>
<tr>
<td>4 30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C PLG</td>
</tr>
<tr>
<td>5 30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C PLG</td>
</tr>
<tr>
<td>6 30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0-15</td>
<td>C PLG</td>
</tr>
</tbody>
</table>

**COMMENTS:**

A 3 m x 175 m band of oil oozed located 25 m south of creek. Band at base of 35 berm, in 50 m medium and 15 m narrow, W1 area of buried masts or up to 15 cm deep. Extensive carbon accumulations/bears make assessment of buried oil difficult on this type of high energy beach. Area at south end of segment has oil oozing on the rock cliff and on/in the borders/cobble on the rock platform. Pit 6 could not dry in this area. The very light oiling (1100 m) between these 2 areas consisted of predominantly oozing on driftwood and cobble (very occasional).

Page 1 of __

REVIEWED: February 24, 1990

DATE: 12/30/90
# 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 Oiled Oil Film Color</th>
<th>Pit Zone</th>
<th>Ana</th>
<th>Subsurface Sediments</th>
</tr>
</thead>
<tbody>
<tr>
<td>J</td>
<td>30</td>
<td>✓</td>
<td>0 - 15</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>P(G)</td>
</tr>
<tr>
<td>8</td>
<td>30</td>
<td>✓</td>
<td>0 - 5</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>P(G)</td>
</tr>
<tr>
<td>9</td>
<td>30</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td>P(G)</td>
</tr>
<tr>
<td>10</td>
<td>30</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td>P(G)</td>
</tr>
<tr>
<td>11</td>
<td>30</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td>P(G)</td>
</tr>
<tr>
<td>12</td>
<td>30</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td>P(G)</td>
</tr>
</tbody>
</table>

**Comments**

REVIEWED: [Signature]  DATE: [Date]
SEGMENT UV-8
SUBDIVISION UV-8A
DATE 11/10/90

CHECKLIST
- N know
- Approx. Scale
- Seg/Sub Div Boundary
- Oil Out
- Water
- Length
- % Cover
- Subsurface Character
- Est. HWL/mL
- SSL
- Photo Location(s)
- Post(s)
- Pit Location(s)
- Photo Location(s)

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

- CT/P Continous Distribution
- CT/B Broken Distribution
- CT/D Pattern Distribution
- CT/S Splashed Distribution

Oiled Vegetation
1 — Photo location, direction, and number

3m x 175m band CT/P - CT/B w/areas of buried CT/P to a depth of 50cm

10m Terrace Cliff

Extensive Driftwood

A - A' ≤ 50m

Oil Character Length (m): AP______PO______CV______CT______ST______MS______PT______TB______FL______NO______
SEGMENT ST/ VS-8
SUBDIVISION VS-8A
DATE 4/10/90

CHECKLIST
- N Argw
- Approx. Scale
- Seg/Sub Boundry
- Oil Dist.
- Wash
- Length
- % Cover
- Substrate Character
- Ext. HH/W/W.
- SSL
- Profile Location(s)
- Photo(s)
- Pit Location(s)
- Photo Location(s)

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

Continuous Distribution
[ ] CT/C

Broken Distribution
[ ] CT/B

Pastry Distribution
[ ] CT/2

Splashed Distribution
[ ] CT/5

Oiled Vegetation
1 ○

Photo location, direction, and number

Oil Character Length (m): AP_____ PO_____ CV_____ CT_____ ST_____ MS_____ PT_____ TB_____ FL_____ NO_____
SHORELINE ECOLOGICAL SUMMARY

Segment ST US-08 Subdivision US-08B Date (mo/day/yr) 4/10/90

Time (24 hr) 09:00 Biologist H. Davis

(A) Substrate type and % of segments:
   1) Bedrock 10 (2) Boulder 10 (3) Cobble 35 (4) Pebble 30 (5) Sand 15 (6) Silt

(B) Overall % cover of biota (% of segment): Dense 35% Moderate 35% Low 30% 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 (o)

BARNACLES

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substrate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bedrock</td>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td></td>
</tr>
<tr>
<td>Boulder</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Cobble</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Pebble</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Sand</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Silt</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
</tr>
</tbody>
</table>

MYTILUS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substrate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bedrock</td>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td></td>
</tr>
<tr>
<td>Boulder</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Cobble</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Pebble</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Sand</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Silt</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
</tr>
</tbody>
</table>

GASTROPODS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substrate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bedrock</td>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td></td>
</tr>
<tr>
<td>Boulder</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Cobble</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Pebble</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Sand</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Silt</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
</tr>
</tbody>
</table>

FUCUS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substrate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bedrock</td>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td></td>
</tr>
<tr>
<td>Boulder</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Cobble</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Pebble</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Sand</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Silt</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
</tr>
</tbody>
</table>

Wildlife Observations/General Comments:
3 Eagles, 2 black legged duck, 4 Mallard ducks, 2 Oyster Catchers, 138 assorted vertebrates. The majority of 4-08 was spangled/paved beach but at each end there were rocky areas with abundant plants, animals, litter and粪便. Many species in the upper tidalflat frequented the area. Many sandpipers and killdeer were observed along the shoreline. In the upper tidalflat could be found several species. Barnacles showed about 10-15% mortality throughout the tidal zone. (Independent sign)

**ADDENDUM: SUBDIVISION CONSTRAINTS**

**SEGMENT US-8 SUBDIVISION A (1 of 1)**

<table>
<thead>
<tr>
<th>WORK WINDOW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual Pickup</td>
</tr>
<tr>
<td>WORK 7/1 - 8/15*</td>
</tr>
<tr>
<td>Bioremediation</td>
</tr>
<tr>
<td>CLOSED</td>
</tr>
</tbody>
</table>

*Contact Alaska Maritime NWR @ 235-8546 For Permission*

**ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.**

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

**APPLICABLE ECOLOGICAL TIME CONSTRAINTS**

<table>
<thead>
<tr>
<th>Constraints</th>
<th>Activity Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>3N,0,P,Q</td>
<td>Closed to manual pickup and bioremediation prior to 7/1 and after 8/15.</td>
</tr>
<tr>
<td>Harbor Seal &amp; Sea Lion</td>
<td></td>
</tr>
<tr>
<td>Pupping and Molting</td>
<td></td>
</tr>
<tr>
<td>5T</td>
<td>Bald Eagle Nest</td>
</tr>
<tr>
<td>NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision A work site.</td>
<td></td>
</tr>
</tbody>
</table>

**OTHER ECOLOGICAL CONSIDERATIONS**

Restrict all activity to essential minimum, especially air traffic. Do not apply bioremediation to specific areas where seals are observed to haulout. Do not chase or harass seals or sea lions, and do not approach pups under any circumstances. Restrict air traffic and all disturbance to essential minimum. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from nests. Avoid any unnecessary disturbance or damage to unaltered biota and substrate.

FOSC: [Signature]
Date: 6-12-90
Prepared by: [Signature]
Date: 6/11/90

EXXON COMPANY, USA

SEGMENT US-8 SUBDIVISION A (1 of 1) SUBMERG
WORK PLAN ADDENDUM

Subdivision A

Dated 5/16/90

MODIFICATION

1. REASON FOR MODIFICATION
   - Admirals requirement.
   - Landowner recommendation.

2. ADJUSTMENT TO WORK PLAN
   - No Customblen or Inipol at this site.
   - Access after May 1 permitted with special instructions from the Refuge Manager of the Alaska Maritime National Wildlife Refuge.

SHPO APPROVAL NEEDED YES ____________  NO ___ X  

SHPO SIGNATURE _________________________

TAG APPROVAL DATE 5/18/90

ADEC A. N. Johnson

TYPON T. Young

TAA Gary Peterson

USCG

FOSC _________________________ DATE 5/18/90
SHORELINE EVALUATION

SEGMENT ST/US-008 SUBDIVISION A (1 OF 1) DATE 4/10/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
3N,3P Seal and sea lion pupping (5/15 to 7/1) - in adjacent segment
3O,3Q Seal and sea lion molting (8/15 to 9/15) - in adjacent segment
5T Active eagle nest (3/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid disturbance/damage to unoiled biota and substrate.

ARCHAEOLOGICAL CONSTRAINTS:
Consultation and inspection with an Exxon archaeologist is required prior to treatment. Specific on-site monitoring requirements will be determined at that time.

SHPO SIGNATURE: [Signature] DATE: 4/18/90

OILING CATEGORIZATION:

- Wide 0 m: Medium 89 m: Narrow 140 m: V.Light 1149 m: No Oil 1176 m
- Subsurface Oil Observed: Yes X No
- Maximum Depth: 15 cm

RECOMMENDATIONS:

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

COMMENTS: Recommend manual pick up of mousse and oiled debris. Bioremediation is recommend for areas with oil cover and subsurface oil as indicated on sketch. Work only with USFWS permission concerning eagle constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/10/90
ADEC
EXXON
NOAA
USCG

Coordinate bioremediation application with U.S. FWS. We have not intrusive methods as practical & effect clean-up.
SEGMENT ST/ US-008     SUBDIVISION A (1 OF 1) DATE 4/10/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
3N,3P Seal and sea lion pupping (5/15 to 7/1)-in adjacent segment
30,3Q Seal and sea lion molting (8/15 to 9/15)-in adjacent segment
5T Active eagle nest (3/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid disturbance/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: 4/18/90

OILING CATEGORIZATION:
Wide 0 m: Medium 39 m: Narrow 140 m: V.Light 1149 m: No Oil 1176 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)
X Manual Pickup __ Absorbents (pads, rolls, etc)
X Bioremediation __ Spot Washing: ___ Wands
___ Tarmat: ____ Breakup
___ Removal
___ Other (see comments)

COMMENTS: Recommend manual pick up of mousse and oiled debris. Bioremediation is recommend for areas with oil cover and subsurface oil as indicated on sketch. Work only with USFWS permission concerning eagle constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/18/90
ADEC JOHN BAUM
EXXON __________ DATE: 4-22-90
NOAA FOSTER K. WILLIAMS
USCG E.A. HITE

Coordinate Bioremediation application with U.S. FWS. We want minimal methods as practical to effect clean-up.
SKETCH MAP

DATE: 4/10/90

CHECKLIST
- N Arrow
- Approx. Scale
- Seg/Sub Entry
- Oil Dist.
- Well
- Length
- % Cover
- Substrate Character
- EST. HMA/AML
- SSL
- Profile Location(s)
- Profile(s)
- Pit Location(s)
- Photo Location(s)

LEGEND
1 Δ
- Pit: No Subsurface Oil
2 Δ
- Pit: Subsurface Oil

CONTRIBUTION DISTRIBUTION
- CT/C
- CT/8
- CT/2
- CT/P
- CT/B

OILED VEGETATION
1
- Photo location, direction, and number

MANUAL PICKUP OF MOUSSE, OILED DEBRIS, OIL/SEDIMENT CONTACT, MORE THAN 6 MANCHESTER OIL 3/4+ OFnette 1196, OIL 1970

BIOREMETRIC COAT AND SUBSURFACE OIL

3m x 175m band CT/2-CT/3 with areas of porous (30-25cm depth) may or may not at base of SS berm in cobbles
5m medium, 12.5m narrow

3m x 100m band in baulk 1 rhume(s)
and cosines (N) of ST, CT/5, Very Light

UPPER VETE, including distanced and covered, from just at 44° to just N of 44° had ST, CT/5, 1.100mx5m very light

8m x 70m band of ST, CT, CV/P on cliff and baulk/rihume w/ molyb between some basalt
50m medium, 30m narrow.
SEGMENT ST1 VS-8
SUBDIVISION VS-84
DATE 4/10/90

CHECKLIST
- A Arrow
- Approx. Scale
- Seg/Sub Boundary
- Oil Dist.
- Wash
- Length
- % Cover
- Subsurface Character
- Est. HMA/WL
- SSL
- Possible Location(s)
- Profile(s)
- Pit Location(s)
- Photo Location(s)

LEGEND
1

Pit - Subsurface Oil

2

Pit - No 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

3m x 175m band CT/P - CT/B WJ areas of buried MS/P OR OR to a depth of 20cm

10m Terrace Cliff

Extensive Driftwood

ssl

CT/P - CT/B

Oil Character Length (m): AP----PO----CV----CT----ST----MS----PT----TB----FL----NO----
SEGMENT ST/ US-8
SUBDIVISION US-8A
DATE 4/10/90

CHECKLIST

N Arow
Approx Scale
Seg/Block Entry
Oil Dist.
Wash
Length
% Cover
Substrate Character
Est. HML/LML
SL
Profile Location(s)
Profile(s)
Pit Location(s)
Photo Location(s)

LEGEND

1 △
Pit - No Subsurface Oil

2 △
Pit - Subsurface Oil

Continuous Distribution
CT/C

Broken Distribution
CT/B

Patchy Distribution
CT/P

Splashed Distribution
CT/S

Oiled Vegetation

Photo location, director, and number

ST CT CV/P on cliff and baulk/nuke 8m x 70m
MS/P between some baulks

Rocky Headland 70 on cliff

B

B' 20m

Rock Platform w/

Baulk/Riben veneer

Oil Character Length (m): AP PO CV OT ST MS PT TB FL NO
WORK PLAN ADDENDUM

Segment US-008 Subdivision A Dated 5/16/90

MODIFICATION

1. REASON FOR MODIFICATION

- Admirals requirement.
- Landowner recommendation.

2. ADJUSTMENT TO WORK PLAN

- No Customblen or Inipol at this site.
- Access after May 1 permitted with special instructions from the Refuge Manager of the Alaska Maritime National Wildlife Refuge.

SHPO APPROVAL NEEDED YES _____  SHPO SIGNATURE __________________________

NO ___

TAG APPROVAL DATE 5/18/90.  ADEC  Art Werner Art Freese  FOSC  __________  DATE 5-18-90
EXXON  Jimmy Con Agee
NOAA  Gary Peterson Gary Lacey
USCG  ________  ________
WORK PLAN ADDENDUM

Segment US - 8 Subdivision A Dated June 29, 1990

MODIFICATION

1. REASON FOR MODIFICATION

- REQUEST BY USF+W FOR BERM RELLOCATION
- FOSC REQUEST

2. ADJUSTMENT TO WORK PLAN

Add BERM RELOCATION to work plan as indicated on sketch following acceptance of the trial on US 58 by USF+W.
Timing to be specified by USF+W.

SHPO APPROVAL NEEDED YES X NO _______

SHPO SIGNATURE _______ Date 6/29/90

TAG APPROVAL DATE June 29, 1990

ADEC Ray Moeller________

EXXON Andy Ten Hall____

NOAA Jerry Tullisott________

USCG _______ DATE 6/30/90

Redacted by request
1991 MAYSAP EVALUATION


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

Ecological/Constraints (see page two for details)  Seabird colony

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

SHPO Signature:  [Signature]  Date:  5/22/91

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>Manual Pickup (Check as Req.)</td>
<td>N</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Spot Washing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bio-Customblen Only</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bio-Inipol/Customblen</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

COMMENTS:

INITIAL:  

TAG:  

FOSC:  

TAG APPROVAL DATE:  MAY 22 1991  FOSC APPROVAL DATE:  6/11/91

ADEC  
EXXON  
USCG  
NOAA

E. E. PAGE, CDR, USCG  CHIEF OF STAFF, FOSC
TEAM NO. 6-14-16  SEGMENT US-8  SUBDIVISION A  DATE 8/1/91

ADEC
NAME S. Ferguson  SIGNATURE

☐ NTR  TREATMENT RECOMMENDED

SUBDIVISION 05-8A CONSISTS OF AN EXPOSED HIGH ENERGY SHEARLINE. THE 2m x 150m BAND OF SOR OBSERVED PREVIOUSLY WASN'T OBSERVED ON THIS SURVEY. DUE TO THE INCREASE IN THE STORM RIDE AND THE STRATA AND DEBRIS PILED IN SORRA FEEL THAT IT WOULD WARRANT ANOTHER LOOK IN JULY (AFTER THE DECREASE IN THIS BUILD UP) TO SEE THAT INDEED THE SUBSURFACE OILED LENS NO LONGER EXISTS. THIS WOULD THEN HELP TO FULLY UNDERSTAND WHETHER OIL IS STILL PRESENT OR NOT - WOULD HAVE NEEDED A BACKAGE BUT ONLY

EXXON

☐ NTR  No appreciable oil found therefore no treatment is recommended.

LANDMANAGER
NAME J. Hardisty  OF 6.SFW5  SIGNATURE

☐ NTR  No appreciable amount of oil located. Treatment not warranted.

USCG/NOAA
NAME Chief Jensen, R. Hoff  SIGNATURE

☐ NTR  Further removal operations would cause unacceptable environmental harm than the very small volume of oil to be removed.
TEAM NO. 6-HELO

OG  D. Fitzgerald  ~NO-I-Ielo  OGG(. 5
ADEC  S. Ferguson  (/)S-ON/  5
EXON  G. Stiles  USCG/NOAA Chief Jensen R. Hoff

ME 14:00 to 15:05  TIDE LEVEL 7.7 ft. to 6.0 ft.
SURVEYED FROM: [ ]FOOT [ ]BOAT [ ]HELO
WEATHER: [ ]SUN [ ]CLOUDS [ ]FOG [ ]RAIN [ ]SNOW
TOTAL LENGTH SHORELINE SURVEYED: 1800 m
NEAR SHORE SHEEN: [ ]BR [ ]RB [ ]SL [ ]NONE
EST. OIL CATEGORY LENGTH: W--m M--m N--m VL 55 m NO 1.45 m US 754 m

L O C
AP MS TB SOR CV CT ST FL DB NO
A T T - P-C M 2 25 X Surface cobbles around logs
B T T Log/lob M 3 30 X Debris deposit from c/o shell

DISTRIBUTION: C = 0-100%; B = 51-90%; P = 11-50%; S = 1-10%; T = <1%
SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE

OG COMMENTS: This is a 2km long pebble-cobble beach backed by a glacial cliff and situated
between two bedrock headlands. Sediment coasts toward the headlands. The beach is
highly exposed and multiple storm ridges exist along its length. A large number of logs cover the upper beach adjacent to the cliff. Previous surveys of this beach include
two major oiling sites: 1) 2m by 150m band of SOR in the SRTZ at middle of beach and 2. Oiled
wool of SOR with SOR at the southern end of beach. Nine pits scattered along a 400 m length of beach found 9
and the SOR deposit. Only a trace of TP and CT/5/1 cobbles were found along a 25 m length of the beach. With the exposure of this beach, it is quite possible that winter storms reworked the
upper beach and the SOR was reworked and dispersed. The oiled log deposit has been reduced
to 30m dug, down from 100m in August 1991.

OG

SEGMENT US-8
SUBDIVISION A
DATE 8/1 MAY 1991

REVISED 5/11/91 KG

reviewed 5/11
Photo Locations
Map ap 6-09 # 5-8

ST/CT
T/B
2 by 25m, < 1%
on individual cobbles
around logs

Intermittent Waterfall

Glacial Sediment Cliff

Outwash

Soil Blocks

Till

Small Ephemeral Stream

Major Gravel Storm Ridge with Cuspas

Secondary Ridge Debris

Log
Gassy
Photo Sites

R. FitzGerald
8 May 1991
1400 - 1505
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 6 Sibley
SEGMENT # US-8
SUBDIVISION A
SEA STATE 2 ft
PHOTOGRAPHS: ROLL # 6-09 FRAME # 5-8

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):
At B, no birds in the oiled area. Below the oiled area 140°-170°
There was a dense population of: fiddler crickets, western sandpipers,
and unknown crustacean. Smallest amphipod was white.

Common murres (6) Northern Harriers (1) Mallard pair
Semipalmated plover (1) Western Sandpipers (2) Red-necked Phalaropes
Glaucous-winged, Black Gulls, Kittiwakes (30) Fox Sparrows

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>1*</td>
<td>1</td>
<td>Sculpins</td>
</tr>
<tr>
<td>Seabirds</td>
<td>1</td>
<td>&gt;6</td>
<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td>2</td>
<td>&gt;8</td>
<td></td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td>3</td>
<td>&gt;30</td>
<td></td>
</tr>
<tr>
<td>Shorebirds</td>
<td>3</td>
<td>&gt;6</td>
<td></td>
</tr>
<tr>
<td>Corvids</td>
<td>3</td>
<td>&gt;6</td>
<td></td>
</tr>
<tr>
<td>Other Birds</td>
<td>3</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

* Same bird as seen on US-7

MARINE MAMMALS

| SPECIES          | # OBSERVED | IAND MAMMALS
|------------------|------------|----------------|
| Sea Otters       | 8          | River otter
| Pinnipeds(specify) | 8         | 2 pair?        |
| Whales(specify)  | 8          |                |

Shoreline subdivision map showing important biological features attached.
ST/CT
TB
2-7.5 m, < 1%
on individual cobbles
around 10s

INTERMITTENT/WATER
FALL

Glacial Sediment Cliff
Till

Cobble/Pebble
No visible R. citre. Intertidal life in months
detritus consumers. Ophiura, polychaetes and worms
below the surface in the HTZ+STZ

MLW

MLW

Pebble Beach

Glacial Cliff

Pebblies Silt/Cobb.

Tidal

MLW

MLW

Nereocystis bed offshore

0 100

METERS

8 MAY 1991
1400 - 1505
B. ST-CT
2-4m by 30m, <17o
Dried logs at base of cliff in Berm Runnel

No visible biota. Detritus consumers in the subsurface. NITs included? 1
Mesostricthen/Trochoidea, isopods, and small amphipods.

STEEP BEACHFACE
### 1991 MAYSAP EVALUATION

**SEGMENT:** US 008  **SUB:** A  **REGION:** KEN  **SURVEY DATE:** 5/8/91

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

- Ecological/Constraints (see page two for details) **Seabird colony**

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

**SHPO Signature:** ______________________  **Date:**

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

**COMMENTS:**

**INITIAL:**

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

**TAG:**

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

**FOSC:**

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

**TAG APPROVAL DATE:**____________  **FOSC APPROVAL DATE:**____________

**ADEC**

**EXXON**

**USCG**

**NOAA**
NTR □ TREATMENT RECOMMENDED

The subdivision US-8A consists of an exposed high energy shoreline. The 2m x 15m band of sor observed previously wasn't observed on this survey. Due to the increase in the storm ridge and the strata and debris piled in supra feel that it would warrant another look in July (after the decrease in this build up) to see that indeed the subsurface oiled lens no longer exists. This was due to torch to fully understand whether oil is still present or not would have needed a backhoe to see manually.

EXXON
NAME: G. Styles
SIGNATURE: [Signature]

NTR
No appreciable oil found therefore no treatment is recommended.

SPANDANGER
NAME: J. Hanley
OF: C. SHAPE
SIGNATURE: [Signature]

NTR
The appreciable amount of oil located. Treatment not recommended.

USCG/NOAA
NAME: Chief Jensen, R. Hoff
SIGNATURE: [Signature]

NTR
Further removal operations would cause undue environmental damage to the area.
DISTRIBUTION: C = 91-100%; B = 51-90%; P = 11-50%; E = 1-10%; T = <1%

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

PHOTO ROLL: MAYSAP

FRAMES: 5-7

OG COMMENTS: This is a 2km long pebble-cobble beach backed by a glacial cliff and situated between two bedrock headlands. Sediment coasts toward the headlands. The beach is highly exposed and multiple swash ridges exist along its length. A large amount of logs cover the upper beach adjacent to the cliff. Previous surveys of this beach indicate two major oiling sites: 1) 2km by 15m band of SO during the summer, and 2) oilied logs at the southern end of the beach. Nine pits scattered along a 400m length of beach found oil and soot depots. The exposure of the beach to storm waves results in the upper beach and the soot was scattered and dispersed. The oiled log deposit has been carried to 30m up, down from 100m in August 1991.
INTERMITTENT/ WATER FALL

GLACIAL SEDIMENT CLIFF

Sand Blocks

Outwash

Small Ephemeral Stream

Pebble Beach

Cobbles/ Pebbles

MLW

MLW

MLW

Glacial Cliff

Peb Bluff Sand/Clay

ST/CT
TB
2 by 25m, < 1% on individual cobbles around 105

A.

OUTWASH

Small Ep Finals

200 - 1505

1400 - 1505

U.S. 8 - A
D.Fitzgerald
8 May 1991

Page Dimensions: 805.7x610.9
Sketch Map #2 '06
US-8 - A
D. Fitzgerald
8 May 1997:
1400 - 1500

ST-CT
2-4m by 30m, <190
Oiled logs at base
of cliff in near
Runnel

Glacial
Cliff

Beach Runnels

Driftwood
concentrated

Cravel Ridge

Gravel Ridge

MHW

MLW

mhv

MLW

N

0 - 25
METERS

Steep Beachface
Photo locations
Mapps 6-09 #5-8

A. ST/CT
TB
2 by 25m, < 1%
on individual cobbles
around logs

INTERMITTENT WATER FALL

GLACIAL SEDIMENT CLIFF

Sediment Blocks

TILL

Small Ephemeral Stream

Pebble Beach

Cobbles/ Pebbles

10

Cobble/ Pebbles

10

Cobble/ Pebbles

MLW

MLW

0 100

METERS
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 6 Kelo

DATE May 8, 1991

SEGMENT # US-3     TIDAL HEIGHT (Range) 7 ft - 5 ft (14.60 - 15.45)

SUBDIVISION A     BIOLOGIST H. Davis

SEA STATE 2 ft     WIND SPEED/DIRECTION Smph WGENS S

PHOTOGRAPHS: ROLL # G-09     FRAME # 5-8

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

A & B. No birds in the oiled area. Below the oiled area on the W172 & S172

There was a dense population of oystercatchers, shorebirds, gulls, and hawks in water.

unnumbered 20 and 2 small white crabs.

Common Loon (2) Northern Harrier (1) Mallard pair (2) Canada Goose (6)

Semipalmated plover (1) Western Sandpiper (2) Red Necked Phalarope (3)

Glaucocephalus, Gulls, Kittiwakes (>30) Fox Sparrow (3) American Pipit (1)

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

| BIRDS               | # OF SPECIES | TOTAL BIRDS | FISH OBSERVED
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagles</td>
<td>1</td>
<td>1</td>
<td>Sculpins</td>
</tr>
<tr>
<td>Seabirds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gulls/kittiwakes</td>
<td>3</td>
<td>&gt;20</td>
<td></td>
</tr>
<tr>
<td>Shorebirds</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corvids</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Birds</td>
<td>3</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

* Same bird as seen on US-7

MARINE MAMMALS

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

LAND MAMMALS

<table>
<thead>
<tr>
<th>SPECIES</th>
<th># OBSERVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>River otter tracks</td>
<td>2</td>
</tr>
</tbody>
</table>

Shoreline subdivision map showing important biological features attached.
B. 5T-CT
2-4 m by 30 m, <190
Gilled logs at base
of cliff in beam
Runnel

Glacial
Cliff

Dark
Band

Till

Driftwood
Concentrated

Cravel
Ridge

Garnet
Ridge

Steep
Beachface

MLW

MLW

MLW

NEOCLAYS
Beds

0 35
METERS

No visible biota, Detritus consumers in the subsurface. NIT2 included.

Echinoderm/Turbellarians, Vespidae, and small annelid worms.
REGION: KENAI

SEGMENT: ST/US-09

SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION

SEGMENT ST/ US-09 SUBDIVISION A (1 OF 1) DATE 4/26/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
USFWS Property

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: 38 m; V.Light: 159 m; No Oil: 1317 m
Subsurface Oil Observed: Yes X No Maximum Depth: 13 cm

RECOMMENDATIONS:
X No Treatment Recommended
_____ Treatment Recommended
_____ Manual Pickup
_____ Bioremediation
_____ Tarmat Removal

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

COMMENTS:
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________

TAG COMMENTS:
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________

TAG APPROVAL DATE: ________________
ADEC ________________ EXXON ________________ NOAA ________________
NOAA ________________ USCG ________________
FOSC: _______ DATE: _______
PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
   No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or lnipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.
   AGENCY CONTACT PERSON: ADF&G John Morison 267-2324

1C Salmon fry nursery area (4/31 to 7/31)
   No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or lnipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.
   AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214

1D Esther Hatchery release (4/15 to 6/15)
1E Main Bay Hatchery release (4/20 to 6/15)
1F Sawmill Bay Hatchery release (4/15 to 6/1)
1G Cannery Creek Hatchery release (4/21 to 6/1)
1H Remote release site
   No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or lnipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.
   AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214

1I Gill net area (6/7 to 8/31)
1J Purse seine area (7/20 to 9/30)
1K Purse seine hook-off (7/20 to 9/30)
1L Set net sites (6/11 to 7/25)
   Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or lnipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
   AGENCY CONTACT PERSON: ADF&G James Brady 424-3212

2M Herring spawning (4/1 to 6/15)
   Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to unflagged intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or lnipol 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

3C, 3Q Harbor seal and sea lion pupping (5/15 to 7/1)
3R Harbor seal and sea lion molting (8/15 to 9/15)
   Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of lnipol 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
   AGENCY CONTACT PERSON: ADF&G Don Calkins 267-2403

5R Seabird colony (5/1 to 9/1)
   Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
   AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

5S Shorebird/waterfowl concentration (4/1 to 5/15)
   Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
   AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
   AGENCY CONTACT PERSON: ADF&G Tom Rothy 267-2206

5T All Bald Eagle nests (3/1 to 6/1)
5U Active Bald Eagle nests (3/1 to 9/1)
   Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
   AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

6U Recreation: Tent sites (6/1 to 9/15)
6V 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 Deer harvesting (8/15 to 2/28)
7I 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 lnipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.
   AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359
FIELD SHORELINE COMMENT SHEET

SEGMENT ST 1  US-009  SUBDIVISION: A  DATE 4/26/70

USCG NAME: O. Hughes  SIGNATURE: 

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS:  An exposed, high-energy area of wave-cut rock platform; deliver two high-energy rock blast areas (US-9 & US-10).

Manual picking of scattered mussels recommended for the two ends of the area.

Rocks, etc. in central area should be left undisturbed.

ADEC NAME: Russell Kunsio  SIGNATURE: 

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS:  Within the first 50 M of US-9 there was a gradual distribution of cobble size in the center of the beach. The cobble is a continuation of the cobble at the end of segment US-8. Within 100 M of US-10 there was an increase in the distribution of mussels in the beach and at a broken area of soft asphalt.

Recommended treatment: Manual removal of the mussels and asphalt at the two ends of the segment. These areas can easily be accomplished with the adjoining segments and the work can be accomplished in conjunction with the work on US-8 and US-10. No other treatment recommended.
SHORELINE OILING SUMMARY

SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>PAVEMENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COAT</td>
<td>X</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>STAIN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOUSSE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATTIES</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>TARBALLS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO OIL</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

PAVEMENT H F (3 sq. m x 3 cm)

PATTIES / TARBALLS = BAGS

NEAR SHORE SHEEN? NO RW (3) TL

OILED DEBRIS AMOUNT

DID YOU COLLECT DEBRIS?

YES ☐ NO ☐

TYPE I (pumice)

# BAGS 4

Photographs:

Roll No. 4

Frames 6-9

SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO</th>
<th>PIT DEPTH (cm)</th>
<th>OIL SUBSURFACE CHARACTER</th>
<th>OILED INTERVAL</th>
<th>OIL / FILM COLOR</th>
<th>OIL ZONE</th>
<th>ANA SHEEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>15</td>
<td>X</td>
<td>10' x 15'</td>
<td>X</td>
<td>X</td>
<td>22</td>
</tr>
<tr>
<td>2</td>
<td>23</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>22</td>
</tr>
<tr>
<td>3</td>
<td>20</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>22</td>
</tr>
<tr>
<td>4</td>
<td>34</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>22</td>
</tr>
<tr>
<td>5</td>
<td>32</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>22</td>
</tr>
<tr>
<td>6</td>
<td>35</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>22</td>
</tr>
</tbody>
</table>

COMMENTS

Wet sand - oil was concentrated in UTA, except for a slight amount of sheen noted in 22. Pit 2 directed at oil in close proximity to sheen and sheen was about 30 cm away from any oil spatters or patties. Pit 2 had a higher concentration of oil than the others. Photographs in small patches and creases on the surface of rock (7 to 8 ft from Lipkin PTP A). Oil sheen was observed on 2 faces of N and S segments in 5.5 sq. ft area were observed.

REVIEWED BAT DATE 29 Apr '90
### Subsurface Oil (Continued)

<table>
<thead>
<tr>
<th>Pit No</th>
<th>Pit Depth (cm)</th>
<th>Subsurface Oil Character</th>
<th>Oiled Interval</th>
<th>Below Oil / Film Color</th>
<th>Pit Zone</th>
<th>Analysis</th>
<th>Surface Subsurface Sediment</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>15</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td>N</td>
<td>e.g. pg20</td>
</tr>
<tr>
<td>8</td>
<td>40</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>pg_k</td>
</tr>
<tr>
<td>9</td>
<td>20</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>pg_k</td>
</tr>
<tr>
<td>10</td>
<td>35</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td>✔</td>
<td>pg_k29</td>
</tr>
</tbody>
</table>

**Comments**

---

**Reviewed by:** [Signature]

**Date:** 29 Apr 91
**SHORELINE ECOLOGICAL SUMMARY**

Segment ST_ U 509  
Subdivision A  
Date (mo/day/yr) 4/27/79

Time (24 hr) 8:30  
Biologist DANIEL RAIDER

(A) Substrate type and % of segments:
1. Bedrock 30%  
2. Boulder 50%  
3. Cobble 10%  
4. Pebble <10%  
5. Sand 0%  
6. Silt 0%

(B) Overall % cover of biota (% of segment):
- Dense 30%  
- Moderate 20%  
- Low 5%  
- Sparse 0%

(C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa:
- BARNACLES
  - Dense 1U 1M 1L  
  - Moderate 2U 2M 2L  
  - Sparse 3U 3M 3L  
  - Rare 4U 4M 4L  
- MYTILUS
  - Dense 1U 1M 1L  
  - Moderate 2U 2M 2L  
  - Sparse 3U 3M 3L  
  - Rare 4U 4M 4L  
- GASTROPODS
  - Dense 1U 1M 1L  
  - Moderate 2U 2M 2L  
  - Sparse 3U 3M 3L  
  - Rare 4U 4M 4L  
- FUCUS
  - Dense 1U 1M 1L  
  - Moderate 2U 2M 2L  
  - Sparse 3U 3M 3L  
  - Rare 4U 4M 4L

Wildlife Observations/ General Comments:
- Photographs: Roll No. 4  
- Frames 6-9

Ecological Considerations:
- Wildlife habitat for 'wildlife watching'
- This area has a very dense blanket of vegetation which is ideal for wildlife and many animals. This is a very sensitive habitat.
Wildlife sightings for US009

<table>
<thead>
<tr>
<th>Name</th>
<th>Amount</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cormorant sp</td>
<td>10</td>
<td>Palagi?</td>
</tr>
<tr>
<td>Glaucaous-winged Gull</td>
<td>17</td>
<td>off-shore</td>
</tr>
<tr>
<td>Mallard</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Harlequin Duck</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Raven (Common)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Black Oyster Catchers</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Song Sparrow</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Grebe (Sp?)</td>
<td>1</td>
<td>Red-necked</td>
</tr>
<tr>
<td>Bald Eagle</td>
<td>1</td>
<td>immature - July</td>
</tr>
<tr>
<td>Sea lions</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>
Bio Sketch - VS009

TEAM 17

4/90

Daniel Paine

Kelp beds

Area 1

Photo 9

Area 2

Photo 8

Dense flora, pools with kelp and fauna

Lythrum

Adult
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT US-9 SUBDIVISION A (1 of 1)

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

No ecological time constraints.

OTHER ECOLOGICAL CONSIDERATIONS

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

TAG APPROVAL DATE 6/04/90
ADEC Ray Moran
EXXON
NOAA
USCG

Prepared By: Andrew May Date 6/2/90
ECOLOGY MAP
SEGMENT US-9
SUBDIVISION A (L of L)
METERS

Exxon Company, USA
Map Key: KEN-US-9

- Seabird Colony
- Eagle Nest

Work area

Work area
SHORELINE EVALUATION

SEGMENT ST/US-09 SUBDIVISION A (1 OF 1) DATE 4/26/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
USFWS Property.

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: 5/10/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 38 m: V.Light 159 m: No Oil 1317 m
Subsurface Oil Observed: Yes X No Maximum Depth 13 cm

RECOMMENDATIONS:

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

COMMENTS: See Addendum dated 5/2/90.

TAG COMMENTS: Manual pickup of debris + asphalt and bioremediate as indicated on sketch.

TAG APPROVAL DATE: 5/8/90
ADEC
EXXON
NOAA
USCG

FOSC: ___________________________ DATE: 5/15/90

Bioremediation not authorized. USFWS rep to be on site.
SHORELINE EVALUATION
SEGMENT ST/ US-09 SUBDIVISION A (1 OF 1) DATE 4/26/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
USFWS Property

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: 5/10/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 38 m: V.Light 159 m: No Oil 1317 m
Subsurface Oil Observed: Yes X No Maximum Depth 13 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 Removal Beach Cleaner
        Other (see comments)

COMMENTS:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

TAG COMMENTS: MANUAL PICKUP OF ABBREIFS + ASPHALT, AND BIOMEDFICATION AS INDICATED ON SKETCH.

TAG APPROVAL DATE: 5/8/90
ADEC
EXXON
NOAA
USCG

TAG: 5-15-90
FOSC: 5-15-90

Bioremediation not authorized. USFWS rep to be on site.
1991 MAYSAP EVALUATION


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

Ecological/Constraints (see page two for details) Seabird colony

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

SHPO Signature: ______________________ Date: 5/22/91

RECOMMENDATIONS:

TREATMENT REQUIRED (Y or N) INITIAL TAG FOSC
N N

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

COMMENTS:

INITIAL: ______________________

TAG: ______________________

FOSC: ______________________

TAG APPROVAL DATE: MAY 42, 1991 FOSC APPROVAL DATE: 6/1/91

ADEC

EXXON

USCG

NOAA

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

<table>
<thead>
<tr>
<th>Team No.</th>
<th>SEGMENT</th>
<th>SUBDIVISION</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-1410</td>
<td>US-9</td>
<td>A</td>
<td>5/1/91</td>
</tr>
</tbody>
</table>

**ADEC**

**NAME** S. Ferguson  
**SIGNATURE**

- NTR  
- Treatment Recommended

No treatment recommended at US-9A. This area consisted of vertical and horizontal bedrock with wave cut platform that had trace MS/CT/ST on the bedrock. A 2x3m band of P-CT/ST was observed. This is a highly energized beach due to exposure and location.

---

**EXXON**

**NAME** G. Stiles  
**SIGNATURE**

- NTR  
- Treatment Recommended

There was no appreciable oil located; therefore, I recommend no treatment.

---

**ANDMANAGER**

**NAME** J. Holzister of USFWS  
**SIGNATURE**

- NTR  
- Treatment Recommended

No removable oil located.

---

**USCG/NOAA**

**NAME** Chief Jensen / R. Hoff  
**SIGNATURE**

- NTR  
- Treatment Recommended

There is no longer any detectable oil present on the water, adjoining shorelines, or places where it is likely to reach the water again. Course with other comments, negligible amounts of oil require no further treatment.
**OG COMMENTS:** We walked the entire segment which consisted of a narrow Boulder-bedrock "beach." Oil was found at two locations: 1) at the very northern end (10x40m area) consisting of trace MS-CT-ST on boulders and bedrock, including the floors of some tidal pools; 2) a region 250 m to the south consisting of very trace amounts of MS in bedrock cracks and crevices. Landward of this site a 2-30 m band of CT/ST occurs on a vent, bedrock face. The rest of the segment had no observable oil.
A. CT/ST
   MS
   10 by 40m, <19°
on boulders and bedrock
   from METZ to UITZ

B. MS
   10 by 2m, <19°
   14 cracks of bedrock
   at UITZ

C. CT/ST
   2 by 3m, 15°
   Band on vertical face in SUTZ
A. **CT/ST**
M5
10 by 40m, <19%
on boulders and bedrock
from Witz to Uitz

B. **MS**
10 by 2m, <19%
in crevasses of bedrock
at Uitz

C. **CT/ST**
20, 30m, 15%
band on vertical face in Uitz.
HAYSAP BIONDICAL SUMMARY FORM

TEAM # 6 Helo
SEGMENT # US-9
SUBDIVISION A
SEA STATE 1-2
PHOTOGRAPHS: ROLL # 6-09

DATE May 8 1991
TIDAL HEIGHT (Range)
BIOLoGIST H. Davis
WIND SPEED/DIRECTION 5-10 mph WSW

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):
A. CT/ST is present near barnacles, limpets, porphyra, Fucus, and small mussels in the MITZ. In the MITZ, Petrolecia Fucus, Endocladia<br>Tetragonia, Metridium, Epicaulis, Porphyra, Littorina, Corallina, Mytilus, and Sculpins are the most common species present at Site A. Some areas of barnacles have worn off and show the negative green often in areas of ternicaria. All the organisms are healthy and many are reproductive (Epicaulis, Littorina, Endocladia, and Fucus).
B. Small pools with Petrolecia, Corallina, Tetragonia, Anthopleura intestina, Epicaulis and barnacles scattered through Site B. Endocladia, Fucus and porphyra were sparse on the rocks. Birth in this area was sparse, but became richer down below the MITZ.
C. Barnacles on the rock surface with some fleshy meadows near the water fall and in shadow left by tine that had eroded away.

The amount of oil was so small that any attempt to clean the rocks would be much more disruptive to the organisms then productive.

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS

<table>
<thead>
<tr>
<th></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></td>
</tr>
<tr>
<td>Seabirds</td>
<td></td>
<td>1</td>
<td>Sculpins</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td></td>
<td>2 species</td>
</tr>
<tr>
<td>Waterfowl</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gulls/kittiwakes</td>
<td>3</td>
<td>&gt;100</td>
<td></td>
</tr>
<tr>
<td>Shorebirds:</td>
<td></td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Corvids</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Birds</td>
<td></td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

FISH OBSERVED SPECIES PRESENT

SPECIES PRESENT

LAND MAMMALS

<table>
<thead>
<tr>
<th></th>
<th># OBSERVED</th>
<th>SPECIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sea Otters</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Pinnipeds(specify)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Whales(specify)</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

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


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

Ecological/Constraints (see page two for details) Seabird colony

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)  INITIAL  TAG  FOSC

Manual Pickup (Check as Req.)  N  __________  __________
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  __________________________
There was no appreciable oil located therefore I recommend no treatment.

No removable oil located.

There is no longer any detectable oil present in the water, adjacent shorelines, or places where it is likely to reach the water again. Concur with other comments, negligible amount of oil require no further treatment.
DATE 8 MAY 91

TIME 15:05 to 16:00

TIDE LEVEL 60 ft. to 45 ft.

ENERGY LEVEL: [x] H [ ] M [ ] L

WEATHER: [x] SUN [ ] CLOUDS [ ] FOG [ ] RAIN [ ] SNOW

TOTAL LENGTH SHORELINE SURVEYED: 1573 m

NEAR SHORE SHEEN: [ ] BR [ ] RB [ ] SL [ ] X-NONE

EST. OIL CATEGORY LENGTH:

<table>
<thead>
<tr>
<th>Length</th>
<th>W</th>
<th>M</th>
<th>N</th>
<th>30</th>
<th>V</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>42</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1441</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SURFACE OIL CHARACTER**

<table>
<thead>
<tr>
<th>C</th>
<th>AP</th>
<th>MS</th>
<th>TB</th>
<th>OR</th>
<th>CV</th>
<th>CT</th>
<th>ST</th>
<th>FL</th>
<th>DB</th>
<th>NO</th>
<th>TYPE</th>
<th>V TYPE</th>
<th>H TYPE</th>
<th>M TYPE</th>
<th>L TYPE</th>
<th>AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>BR</td>
<td>M</td>
<td>10</td>
<td>40</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>B</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>BR</td>
<td>M</td>
<td>10</td>
<td>20</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>C</td>
<td>P</td>
<td>P</td>
<td>P</td>
<td>P</td>
<td>P</td>
<td>P</td>
<td>P</td>
<td>P</td>
<td>P</td>
<td>P</td>
<td>BR</td>
<td>M</td>
<td>20</td>
<td>30</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

**NOTES**

- Bedrock, sun deck, pool
- Cracks of bedrock
- Band on vertical face

**DISTRIBUTION**:
- C = 01-100%
- B = 11-50%
- P = 1-10%
- T = <1%

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

**PHOTO ROLL**:
- MAYSAP-6-09

**FRAMES**:
- 9-13

**PIT NO. DEPTH**

<table>
<thead>
<tr>
<th>No.</th>
<th>Depth (cm)</th>
<th>Oil Character</th>
<th>Oiled Zone</th>
<th>Clean</th>
<th>H2O</th>
<th>SHEEN Color</th>
<th>Pit Zone</th>
<th>Subsurface Sediments</th>
<th>Notes</th>
</tr>
</thead>
</table>

**SHEEN COLOR**:
- B = Brown
- R = Rainbow
- S = Silver
- N = None

**OG COMMENTS**:

We walked the entire segment which consisted of a narrow boulder "beach." Oil was found at two locations: 1) at the very northern end (10x40m area) consisting of trace MS-CT-ST on boulders and bedrock, including the floor of some tidal pools. 2) A region 250m to the south consisting of very trace amounts of MS on boulders, cracks and crevices. Landward of this site a 2 by 30m band of CT/ST occurs on a section, bedrock face. The rest of the segment had no observable oil.

**Reviewed 5/11/91 KG**

**Reviewed 5/15/91**
A. CT/ST MS
10 by 40m, <190
on boulders and bedrock from MTZ to UITZ

B. MS
10 by 2m, <190
in cracks of bedrock at UITZ

C. CT/ST
26, 30m, 15°
Band on vertical face in SUTZ.

Exposed Glacial Cliff

Bedrock in tidal pools

Bedrock

Waterfall
A. CT/ST
MS
10 by 40 m, <190°
on boulders and bedrock
from MUST to UITZ

B. MS
10 by 2 m, <190°
In cracks of bedrock
AT UITZ

C. CT/ST
25 by 30 m, 15°
Band on vertical face in UITZ

Exposed Glacial Cliff

Bedrock w/ tidal pools

Boulder Beach

Bedrock

Waterfall
TEAM: G Helo  DATE: May 8, 1991
SEGMENT: US-9  TIDAL HEIGHT (Range)
SUBDIVISION:  BIOLGIST: H. Davis
SEA STATE 1-2  WIND SPEED/DIRECTION: S-10mph WSW
PHOTOGRAPHS: ROLL: 6-06  FRAME: 9-13

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

A. CT/ST is present near barnacles, urchins, porphyra, Fucus, and small mussels in the MITZ. In the MITZ, petrels, petrels, and birds such as tomullus, meadow, and sculpins are the most common species present of site A.

B. Some areas of barnacles have worm off and show the negative "seen often in areas of vermicaria. All the organisms are healthy and many are reproductive (sculpins, limpets, innkeeper and fumes).

C. Vermejua is the spot where with some filamentous greens near the water level and in shadows left by a boat that had passed away.

The amount of oil was so small that any attempt to clean the water would be much more disruptive to the organisms than productive.

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>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seabirds</td>
<td>1</td>
<td>1</td>
<td></td>
<td>Sculpins 2 species</td>
</tr>
<tr>
<td>Waterfowl</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td>3</td>
<td>&gt;100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shorebirds</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corvids</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Birds</td>
<td>1</td>
<td>1</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>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Pinnipeds(specify)</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whales(specify)</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Shoreline subdivision map showing important biological features attached.
Bio Map
Heather Davis - Bio
8 May 1991
1505 - 1600

C. CT/ST
2 by 30m, 15%
Band of vertical face on SUTZ

B. MS
10 by 2m, <1%
in cracks of bedrock
at UTTZ

Very sparse bioform
hitting for phyllo, fuca
were the most common

A. CT/ST
MS
10 by 40cm, <1%
on boulders and bedrock
from MTZ to UTTZ

This area had a moderate dense
rocky intertidal community. The
MTZ below was very diverse, dense
community. Any clean up would be
more disruptive than productive.

Exposed Glacial Cliff

Boulder Beach

Bedrock with tidal pools

Very dense sessile epifauna
in cracks of bedrock
at UTTZ

Bedrock
REGION: KENAI

SEGMENT: ST/US-10

SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION

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

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
No special constraints identified.

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 84_m: Narrow 118_m: V.Light 492_m: No Oil 511_m
Subsurface Oil Observed: Yes X No___ Maximum Depth 40 +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
_____ Tar mat: _____ Breakup
_____ Removal
_____ Other (see comments)

COMMENTS: Recommend manual pick up of surface mousse and oiled trash/debris. Bioremediation is recommended for areas with surface oil coat and cover and for subsurface oiling. No ecological timing constraints are indicated.

TAG COMMENTS:

TAG APPROVAL DATE:______________
ADEC ____________________________ FOSC: ____________ DATE:__________
EXXON ____________________________ NOAA ____________________________
NOAA ____________________________ USCG ____________________________
Observation band of oil spans 600 meters in the UETE. Within this area, 5 areas of surface oil such as measure saturated sediments, MS patches, 6 C/CT sediments which indicate presence of subsurface oil. Although not continuous, this oil band is expensive. One can speculate, based on September observation and the obvious redistribution of sediments in this beach that there is more subsurface oil than that revealed by our pits dug today. It seems that winter provided a means for abrasive action serving to remove sand. Subsurface oil of particular concern. Consideration for cleanup is warranted.
Some of the cobble and course gravel has now been exposed by the same wave energy, it is eroding onto the flanks of the berms. There is definitely collectable oil saturating sediments now on the surface. Manual removal is recommended to remove, as some very mousy ice is present down to 15 cm from surface as shown by pit #3. Also present is some oiled debris and driftwood. Debris should be removed, but most of the oiled driftwood has only been stored it wouldn’t be my priority for a manual clean-up effort.

Subsurface oil has remains a problem it could contribute to sheen on warm temperatures cause this summer however large scale, heavy equipment excavation may not be justified here.

This ADEC rep does not believe the application of Inipol here is appropriate on that it would serve any great benefit. Some bioremediation took place in Aug. & the oil still looked bad in Sept. Now, at least the surface looks better after the winter.

There is, however, oil that can be collected manually, and should be.
SHORELINE OILING SUMMARY

OG: Acton
USCG: Haven
BIO: Davis
LAND REP: USFWS
Harlister
SEGMENT ST/ SUBDIVISION: US-10A
EXXON: Avery
ADEC: Bennig
TEAM NO.: 20
TIDE LEVEL: +1 ft.
DATE: 4/9/90

EST. SUBDIVISION LENGTH: 1681 m

UPLANDS DESCRIPTION: Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow

SURVEYED FROM: ☐ Foot ☐ Boat ☐ Helo
WORKING DIRECTION: N ☐ S ☐ E ☐ W

SURFACESEDIMENTS: R 10% B 15% C 40% P 15% G 15% S 5% M 0% V 0%

SLOPE: Lang 90% Hang 10% Vert 0%

WAVE EXPOSURE: ☐ Low ☐ Med ☐ High

OIL CATEGORY LENGTH: W m M 155 m N 165 m VL 300 m NO 481 m

SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT PAVEMENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED COVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED COAT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED STAIN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOUSSE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATTIES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TARBALLS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM NO OIL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PAVEMENT: H F S G sq. m by cm
PATTIES / TARBALLS 0 BAGS
NEAR SHOREEN? ☐ BR RW SL TL

NEAR SHOREEN OIL?

OILED AMOUNT

<table>
<thead>
<tr>
<th>DEBRIS</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logs</td>
<td>✓</td>
</tr>
<tr>
<td>Vegetation</td>
<td>✓</td>
</tr>
<tr>
<td>Trash</td>
<td>✓</td>
</tr>
<tr>
<td>Debris</td>
<td>✓</td>
</tr>
</tbody>
</table>

Type ☐ YES ☐ NO

Photographs:
Roll No.: 20-4 20-3
Frames: 1-24 35-37

BAGS 0

SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL (CM-CM)</th>
<th>OILED OIL COLOR</th>
<th>OILED OIL COLOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>40</td>
<td>✓</td>
<td>0-20</td>
<td>UO</td>
<td>UO</td>
</tr>
<tr>
<td>2</td>
<td>15</td>
<td>✓</td>
<td>0-15</td>
<td>UO</td>
<td>UO</td>
</tr>
<tr>
<td>3</td>
<td>15</td>
<td>✓</td>
<td>0-15</td>
<td>UO</td>
<td>UO</td>
</tr>
<tr>
<td>4</td>
<td>25</td>
<td>✓</td>
<td>0-30</td>
<td>UO</td>
<td>UO</td>
</tr>
<tr>
<td>5</td>
<td>50</td>
<td>✓</td>
<td>0-30</td>
<td>UO</td>
<td>UO</td>
</tr>
</tbody>
</table>

COMMENTS Oil band in upper VITZ near/ at base of SSL cross. For most of band length (600 cm), there is surface evidence of oil in the band. It appears that redistribution of beach materials has covered much of the impacted band, making it difficult to assess oil coverage. In some portions of the oiled band, the mousse present forms an aggregate conglomarate which appears to resist erosion to a greater degree than the natural beach materials. This oil conglomarate is exposed in places. The area of VITZ near the seawardmost creek is a thick carbon deposit and no oil was observed in the pit dug; however, the oil may be buried by 1-2 m of carbon. The 600 cm band of impact has several exposed or
Page 1 of___

REVIEWED BY DATE 12/AR/90
### Subsurface Oil (Continued)

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>DEPTH (cm)</th>
<th>Oiled Interval</th>
<th>Below Oil/Film Colour</th>
<th>Pit Zone</th>
<th>Anthropogenic</th>
<th>Subsurface Sediments</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>30</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>P</td>
</tr>
<tr>
<td>7</td>
<td>30</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td>C.P.</td>
</tr>
<tr>
<td>8</td>
<td>30</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td>C.P.</td>
</tr>
<tr>
<td>9</td>
<td>30</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td>C.P.</td>
</tr>
<tr>
<td>10</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C.P.</td>
</tr>
</tbody>
</table>

**Comments**

Nearby exposed areas of more heavily impacted areas that were assessed. Due to the volume of tar balls that have been redistributed since the oil impacted the shoreline, assessment of cleanup is difficult/impossible with a shovel.

**Reviewed** by BAT, Date 12 Dec 90.
OG A
SEGMENT ST/V7-10
SUBDIVISION V7-19-A
DATE 4/19/90

CHECKLIST
- A Arrow
- Arrow, Scale
- Seg/Sub Indry
- Oily Det.
- Width
- Length
- % Cover
- Substrate Character
- Est. HWL/RL
- SSL
- Profile Location(s)
- Pit(s)
- Pit Location(s)
- Photo Location(s)

LEGEND

▲
- No Subsurface Oil

▲
- Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/P
Patchy Distribution

CT/S
Splashed Distribution

Oiled Vegetation

Photo location, direction, and number

O6 Character Length (m): AP_______PO_______CV_______CT_______ST_______MS_______PT_______TB_______FL_______NO_______
SEGMENT 87/ 05-10
SUBDIVISION 05-10A
DATE 7/9/80

CHECKLIST
- N Arrow
- Approx. Scale
- S/W/S/SE Boundary
- Oil Ball
- Width
- Length
- % Cover
- Selectate Character
- Est. HWL/AVL
- SSL
- Profile Location(s)
- Profile(s)
- Pit Location(s)
- Photo Location(s)

LEGEND
1
Pin - No Subsurface Oil

2
Pin - Subsurface Oil

CT/C
Connection Distribution

CT/B
Broken Distribution

CT/P
Patchy Distribution

CT/S
Splashed Distribution

Oil Character Length (m): AP________ PO________ CV________ CT________ ST________ MS________ PT________ TB________ FL________ NO________
SHORELINE ECOLOGICAL SUMMARY

Segment ST SUBDIVISION US-10A Date (mo/day/yr) 4/9/90

Time (24 hr) 08:30 Biologist H. Davis

(A) Substrate type and % of segments:
1. Bedrock 10
2. Boulder 15
3. Cobble 40
4. Pebble 30
5. Sand 5
6. Silt

(B) Overall % cover of biota (% of segment): Dense 10% Moderate 40% Low 50% (< 10%)

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

Photographs:
Roll No. ST-20-3, ST-20-4
Frames 35-37, 1-24

BARNACLES

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td>1U</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>2</td>
<td>X</td>
<td>1L</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>5</td>
</tr>
</tbody>
</table>

MYTILUS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td>1U</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>2</td>
<td>X</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

GASTROPODS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td>1U</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>2</td>
<td>X</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

FUCUS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1U</td>
<td>1M</td>
<td>1L</td>
<td>1U</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>2</td>
<td>X</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

Wildlife Observational/General Comments: The central area of ST-10A was a beach with large white foam built up due to wave action. The shore line sloped out and was not easily accessible. No birds were observed in the area. Most of the marine life was concentrated at the rookery patches at the end of the beach. Each rookery contained a significant number of birds, mainly terns and seagulls. There was an extensive array of plant life, including kelp and other seaweed. The area was generally quiet, with no significant activity observed.

Ecological Considerations:
See lions will be hauling out to have pups and later for molting. There are many rookeries in the area but I could not find any definite information. Most of the marine life was concentrated at the rookery patches at the end of the beach. Each rookery contained a significant number of birds, mainly terns and seagulls. There was an extensive array of plant life, including kelp and other seaweed. The area was generally quiet, with no significant activity observed.
Wide
/// Medium
---- Narrow
TTTT Very Light
0000 No Oil

US-10

ADEC Segment Length: 1205m

Map Key: KEN-133
Name: Acton
Date: 4-9-90
Data Entered:
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT US-10 SUBDIVISION A (1 of 1)

WORK WINDOW

<table>
<thead>
<tr>
<th>Manual Pickup</th>
<th>OPEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioremediation</td>
<td>OPEN</td>
</tr>
</tbody>
</table>

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

No ecological time constraints identified.

OTHER ECOLOGICAL CONSIDERATIONS

Do not apply bioremediation to specific areas where sea lions are observed to haulout. Do not chase or harass sea lions, and do not approach pups under any circumstances. When working on or near haulouts, complete the job as quickly as possible with minimum personnel, equipment, noise and disturbance. Keep boats and personnel as far from actual haulouts as is practical to do the work specified. Minimize air traffic near haulouts, maintain elevation as is practical, and avoid repeated overflights of the same haulout areas. Avoid any unnecessary disturbance or damage to unouled biota and substrate.
SHORELINE EVALUATION

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

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
No special constraints identified.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to uncoiled biota and substrate.

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

SHPO SIGNATURE: [Signature]
DATE: 4/20/90

OILING CATEGORIZATION:
Wide 0 m: Medium 84 m: Narrow 118 m: V.Light 492 m: No Oil 511 m
Subsurface Oil Observed: Yes X No Maximum Depth 40 cm

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

COMMENTS: Recommend manual pick up of surface mousse and oiled trash/debris. Bioremediation is recommended for areas with surface oil coat and cover and for subsurface oiling. No ecological timing constraints are indicated.

SEE APPENDIX DATED 6-24-90

TAG COMMENTS:

TAG APPROVAL DATE: 4/17/90
ADEC: ADEXT
EXXON: [Signature] DATE: 4-27-90
NOAA: [Signature] Comments at NRC noted - however, we sh
SEGMENT ST/ US-10   SUBDIVISION A (1 OF 1) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
No special constraints identified.

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: 4/9/90

OILING CATEGORIZATION:
Wide 0 m; Medium 84 m; Narrow 118 m; V.Light 492 m; No Oil 511 m
Subsurface Oil Observed: Yes X  No____ Maximum Depth 40 +cm

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

COMMENTS: Recommend manual pick up of surface mousse and oiled trash/debris. Bioremediation is recommended for areas with surface oil coat and cover and for subsurface oiling. No ecological timing constraints are indicated.

TAG COMMENTS:

TAG APPROVAL DATE: 4/19/90.

ADEC ART WEINER [Signature] FOSSC: [Signature] DATE: 4-27-90
EXXON [Signature] NOAA [Signature] USCG [Signature] Comments of NAVS noted - however, we should attempt least intrusive method to resolve oil problem on this shoreline vire proceeding directly to excavation - let's see what TAG's recommendation
SEGMENT ST/US-10
SUBDIVISION US-10A

DATE 4/9/90

CHECKLIST
- [ ] Area
- [ ] Approx. Scale
- [ ] Seg/Sub Grndy
- [ ] Oil Dist.
- [ ] Wells
- [ ] Length
- [ ] % Cover
- [ ] Subsurface Character
- [ ] Est. HNWL
- [ ] SSL
- [ ] Profile Location(s)
- [ ] Plot(s)
- [ ] Photo Location(s)

LEGEND

1
- [ ] Pit - No Subsurface Oil

2
- [ ] Pit - Subsurface Oil

CT/C
- [ ] Continuous Distribution

CT/0
- [ ] Broken Distribution

CT/V
- [ ] Patchy Distribution

CT/B
- [ ] Splashed Distribution

Oiled Vegetation

- [ ] Photo location, direction, and number

SKETCH MAP

Approx Scale
1cm = 75m

- MANUAL PICK-UP OF
- REMOVE MOSS, TRASH & DEBRIS
- BIODEGRADEABLE COAT, COVER, AND SUBSURFACE OIL

Rock Platform
- W/BR

Rock Cliff

Stream

Terrace Slope

Segment Boundary

Rock Platform
- W/BR

Segment Boundary

Oil Character Length (m): AP [ ] PO [ ] CV [ ] GT [ ] ST 600 [ ] MB 300 [ ] PT [ ] TB [ ] FL [ ] NO [ ]
SEGMENT ST/ U'Y-10
SUBDIVISION U7-19-A
DATE 4/9/80

CHECKLIST
- In Area
- Approx. Scale
- Seg/Seq Bndry
- Oil Dist
- Width
- Length
- % Cover
- Substrate Character
- Est. HMA/WL
- SSL
- 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
Pecy Distribution
CT/S
Splashed Distribution

Oil Character Length (ft): AP_ PO_ CV_ CT_ ST_ MS_ PT_ TB_ FL_ NO_
2m x 35m area of CV/P + MS/B w/in 400m x 600m band
OR buried oil to 30+ cm

LEGEND

1
2

Pit - No Subsurface Oil
Pit - Subsurface Oil

CT/C
CT/B
Broken Distribution
CT/P
Patchy Distribution
CT/T
Splashed Distribution

Oil Character Length (m): AP POS CV CT ST MS PT TB FL NO
SEGMENT ST/ U5-10
SUBDIVISION U5-10A
DATE 4/9/90

CHECKLIST
- N/Amor
- Approx. Scale
- Seg/Sub Entry
- Oil Dist.
- Main Length
- % Cover
- Selective Character
- Est. FL/WL/WL
- SSL
- Profile Location(s)
- Plot(s)
- Pit Location(s)
- Photo Location(s)

LEGEND

1 △
- Pit - No Subsurface Oil

2 △
- Pit - Subsurface Oil

CT/C
- Continuous Distribution

CT/B
- Breakup Distribution

CT/P
- Patchy Distribution

CT/S
- Splashed Distribution

Oil Vegetation

1 0
- Photo location, direction, and number

Oil Character Length (mi): AP PO CV CT ST MS PT TB FL NO
WORK PLAN ADDENDUM

Segment US-10  Subdivision A  Dated 6/27/90

MODIFICATION

1. REASON FOR MODIFICATION

  - REQUEST BY USF+W TO ADD STORM BERM RELOCATION
  - REQUEST BY FOSC

2. ADJUSTMENT TO WORK PLAN

  ADD BERM RELOCATION TO WORK PLAN AS INDICATED ON ATTACHED SKETCH, FOLLOWING ACCEPTANCE OF THE TRIAL ON US 58 BY USF+W.
  
  TIMING TO BE SPECIFIED BY USF+W.

SHPO APPROVAL NEEDED YES _X_  NO __

SHPO SIGNATURE  

TAG APPROVAL DATE 6/17/90

ADEC Ray Means  K. Hurd

EXXON Andy Teal  R. H. Lenz

NOAA Joseph Talbot  J. Stenard

USCG G.A. Pottage  G.A. Reiten

Area of storm berm relocation must be inspected by an Exxon archaeologist.
SKETCH MAP

Approx scale
1cm = 75m

CHECKLIST

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

LEGEND

1. Rock Cliff
2. Stream
3. Segment Boundary
4. Rock Platform w/BoR
5. Relocation of old storm berm sediments to mid/upper ITZ
7. Remote Mouse, Trash, Debris
8. Bioremediation Coat, Cover
9. Subsurface Oil

LOCATION DESCRIPTION

[Diagram with various geological features and notes]
1991 MAYSAP EVALUATION


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

Ecological/Constraints (see page two for details)  Seabird colony

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

SHPO Signature: ______________________ Date: 5/23/91

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></td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

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

COMMENTS:

INITIAL: ______________________

TAG: ______________________

FOSC: ______________________

TAG APPROVAL DATE: May 22, 1991

ADEC

EXXON

USCG

NOAA

FOSC APPROVAL DATE: 6/11/91

E. E. Page, CDR, USCG

CHIEF OF STAFF, FOSC
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

MAYSAP SHORELINE OILING SUMMARY

SEGMENT US-10
SUBDIVISION A
DATE 9 May 1991

TEAM NO. 6-Hel
O.G. Fitzgerald B.O. Davis
ADEC S. Ferguson L.A. Harper for USFWS
EXON G. Styles USCG/NOAA Chief Jensen R. Hoff

TIME 13:55 to 15:15
TIDE LEVEL 9.8 ft. to 7.3 ft.
ENERGY LEVEL: X H □ M □ L

SURVEYED FROM: ☑ FOOT ☐ BOAT ☐ HELO
WEATHER: ☑ SUN ☐ CLOUDS ☐ FOG ☐ RAIN ☐ SNOW ❌ W.D.

TOTAL LENGTH SHORELINE SURVEYED: 390 m
NEAR SHORE SHEEN: ☑ BR ☐ RB ☐ SL ☐ X NONE
EST. OIL CATEGORY LENGTH: W ___ m M ___ m N ___ m VL .19 m NO .371 m US .815 m

<table>
<thead>
<tr>
<th>L O</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT</th>
<th>SHORE SLOPE</th>
<th>AREA</th>
<th>WIDTH</th>
<th>LENGTH</th>
<th>ZONE</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>TYPE</td>
<td>VH M L</td>
<td></td>
<td>m</td>
<td>m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td></td>
<td>C-P</td>
<td>m</td>
<td>3</td>
<td>15 X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td></td>
<td>C-P</td>
<td>m</td>
<td>2</td>
<td>4 X</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

DISTRIBUTION: C = 01-100%; B = 51-80%; P = 11-50%; S = 1-10%; T = <1%
SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE
PHOTO ROLL # MAYSAP- 6-10 FRAMES 1-6

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>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>50</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>YN</td>
<td>C-P-S-G</td>
<td>X</td>
<td>C-P-S-G</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>45</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>&lt;</td>
<td>C-S-6-P</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>70</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>&lt;</td>
<td>S-6-P-C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>40</td>
<td>25-27</td>
<td>Y</td>
<td>-</td>
<td></td>
<td>C-S-G</td>
<td></td>
<td>Discontinuous</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>30</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td>C-P-S-G</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>30</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td>C-S-6-G</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>35</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td>C-S-6-G</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>35</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td>C-S-6-G</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>45</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td>B-S-6-C</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

OG COMMENTS: This site extended from the second stream from the north to approx. 180 m south of bedrock headland. This is the site of an extensive beach relocation project and numerous monitoring trench strikes were evident along the top of the glacial slope. The beach consists of cobbles + pebbles underlain by fine sediments and has a broad berm fronted by a well developed ridge and steep beach face. Surface oiling was found in two small areas consisting of individually stained and coated cobbles and pebbles. Excavations beneath these sites indicated no vertical continuation of the surface oiling. Exceptions beneath these sites indicated no vertical continuation of the surface oiling. Subsurface oil was found at two locations. At both sites the oil was oil conditions. Subsurface oil was found at two locations. At both sites the oil was
TEAM NO. 6 - HELD SEGMENT US-10 SUBDIVISION A DATE 9/10/91

ADEC
NAME S. Ferguson
SIGNATURE S. Ferguson 9/10/91

☐ NTR ☑ TREATMENT RECOMMENDED

No treatment recommended at US-10A. Berm relocation was used on this beach in fall (esp.) 1989. The success of the berm relocation is questionable. A better network of dikes using a grid system moving vertically and horizontally would be needed across area documented as oiled, before determining this (success) factor.

EXXON
NAME G. Stiles
SIGNATURE George T. Stiles 9/10/91

☐ NTR ☑ Very little amount of oil was found mixed in with sediment.

LANDMANAGER
NAME J. Haugfelt
OF USFWS SIGNATURE John P. Haugfelt 9/10/91

☐ NTR ☑ Exposure of subsurface sediments indicated insufficient amount of oily material to warrant further treatment.

USCG/NOAA
NAME Chief Jensen / R. Hoff
SIGNATURE Chief R. Hoff

☑ NTR ☐ There is no longer any detectable oil present on the water adjoining shorelines or places where it is likely to reach the water again.

Berm relocation was successful at this site since only very small amounts of oil were found. Natural weathering should complete removal of the tissues remaining.
### OG COMMENTS:

On this beach consists of individual, oiled cobbles and pebbles (and perhaps some soil with sand and granules) that were mixed into the lower sediments during the bulldozing operation. The dynamics and natural sediment turnover of this beach was evidenced by the 1-1.2m high gravel slipface that was migrating onshore at the southwest end of the beach.
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM #6 Helo

SEGMENT # US-10

SUBDIVISION A

SEA STATE (5 ft on US-10 bar) 20 ft open ocean

WIND SPEED/DIRECTION 10 mph 90 degrees S

BIOLOGIST H. Davis

DATE May 9 1991

TIDAL HEIGHT (Range) 10 ft - 8 ft (14:00 - 14:55)

PHOTOGRAPHS: ROLL # 6-07 FRAME # 1-6

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

A + B. There was no biota observed near either site A or B. Below the oil layer was a strip of detritus (mostly Nerocystis and Laminaria) that lies isolated and encycloids [small white annul] were active on the wrack and down into the gravel. No harpacticoids were visible.

US-10 is a high energy beach of cobble and pebbles. There is enough sediment movement to keep the biota in the intertidal area restricted to detritus feeders that can burrow into the substrate for protection. At the point to the west of US-10 are rocks with about 25-30 sea lions hauled out.

Red-necked Phalarope (3)
Horned Sive (4)
Short-tailed Gull (1)
Glaucous-winged (5)
Kittiwake (2)
Sonde pipiens (3)

HARLIGRAM

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS

<table>
<thead>
<tr>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagles</td>
<td>2</td>
</tr>
<tr>
<td>Seabirds</td>
<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td>1</td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td>2</td>
</tr>
<tr>
<td>Shorebirds</td>
<td>2</td>
</tr>
<tr>
<td>Corvids</td>
<td></td>
</tr>
<tr>
<td>Other Birds</td>
<td>1</td>
</tr>
</tbody>
</table>

FISH OBSERVED

MARINE MAMMALS

<table>
<thead>
<tr>
<th>OBSERVED</th>
<th>SPECIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sea Otters</td>
<td>0</td>
</tr>
<tr>
<td>Pinnipeds (specify)</td>
<td>0</td>
</tr>
<tr>
<td>Steller's Sea Lion</td>
<td>&gt; 30</td>
</tr>
<tr>
<td>Whales (specify)</td>
<td>Opening Oral</td>
</tr>
</tbody>
</table>

LAND MAMMALS

<table>
<thead>
<tr>
<th>OBSERVED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

* There are 5/16 miles from US-10 on the western tip of Usanget Island. Shoreline subdivision map showing important biological features attached.
**ST/CT**

- 2 by 4m, <170 oiled cobbles of base of ridge
- STEEP Beachface (reflective)
- Subsurface Oil
  - Discontinuous LOR consisting of ST/CT of individual clasts

**Field Notes:**
- Kelp wrack/debris band with Enchytraeid worms, isopods, and Kelp fish active just below the surface and down into the gravel below. No detritus fields were seen in or near Sites A & B.
- 1 Oiled (male) sea otter seen cruising the shore.

**Map Details:**
- 9 May 1991
- 1355 - 1515
- 2nd Stream from north end
- 50m length of transect (A)
- Steep beachface (reflective)
- Subsurface oil discontinuous LOR consisting of ST/CT of individual clasts
- Kelp wrack/debris band with Enchytraeid worms, isopods, and Kelp fish active just below the surface and down into the gravel below. No detritus fields were seen in or near Sites A & B.
- 1 Oiled (male) sea otter seen cruising the shore.

**Map Scale:**
- 0 - 50 meters

**Map Legend:**
- Stream
- Grass slope
- Gravel and debris ridge biostabilized against slope
- Steep beachface (reflective)
- Subsurface oil discontinuous LOR consisting of ST/CT of individual clasts
- Kelp wrack/debris band with Enchytraeid worms, isopods, and Kelp fish active just below the surface and down into the gravel below. No detritus fields were seen in or near Sites A & B.
- 1 Oiled (male) sea otter seen cruising the shore.

**Map Annotations:**
- 2nd Stream from north end
- Steep beachface (reflective)
- Subsurface oil discontinuous LOR consisting of ST/CT of individual clasts
- Kelp wrack/debris band with Enchytraeid worms, isopods, and Kelp fish active just below the surface and down into the gravel below. No detritus fields were seen in or near Sites A & B.
- 1 Oiled (male) sea otter seen cruising the shore.

**Map Key:**
- Stream
- Grass slope
- Gravel and debris ridge biostabilized against slope
- Steep beachface (reflective)
- Subsurface oil discontinuous LOR consisting of ST/CT of individual clasts
- Kelp wrack/debris band with Enchytraeid worms, isopods, and Kelp fish active just below the surface and down into the gravel below. No detritus fields were seen in or near Sites A & B.
- 1 Oiled (male) sea otter seen cruising the shore.

**Map Scale:**
- 0 - 50 meters
ENVIRONMENTAL SENSITIVITIES:
Work Window(s) **RESTRICTED 5/15 - 9/1**

Ecological/Constraints (see page two for details) **Seabird colony**

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>Manual Pickup (Check as Req.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spot Washing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bio-Customblen Only</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bio-Inipol/Customblen</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>
<td></td>
<td></td>
</tr>
</tbody>
</table>

COMMENTS:

INITIAL:

________________________________________________________________________

________________________________________________________________________

TAG:

________________________________________________________________________

________________________________________________________________________

FOSC:

________________________________________________________________________

________________________________________________________________________

TAG APPROVAL DATE: ____________ FOSC APPROVAL DATE: ____________

ADEC ______________________ FOSC ______________________

EXXON ______________________

USCG ______________________

NOAA ______________________
ADEC
NAME  S. Ferguson          SIGNATURE  S. Ferguson  5/10/91
☐ NTR  [TREATMENT RECOMMENDED
NO TREATMENT RECOMMENDED AT US-10A. BEERM RELLOCATION WAS USED ON THIS
BEELA IN FALL 1990, THE SUCCESS OF THE BEERM RELLOCATION IS QUESTIONABLE.
A BETTER NETWORK OF PITS USING A GRID SYSTEM MOVING VERTICALLY AND HORIZONTALLY
ACROSS AREA DOCUMENTED AS OILED, BEFORE DETERMINING THIS (SUCCESS) FACTOR.

EXXON
NAME  G. Stiles              SIGNATURE  G. Stiles  5/10/91
☐ NTR  [Very little amount of oil was found
mixture in with sediment.

LANDMANAGER
NAME  J. Hendrick             OF USFWS SIGNATURE  J. Hendrick  5/10/91
☐ NTR  [Exposure of subsurface sediments indicated insufficient
amount of oily material to warrant further treatment.

USCG/NOAA
NAME  Chief Jensen/ R. Hoff   SIGNATURE  Chief Jensen/ Rebecca Hoff
☐ NTR  [There is no longer any detectable oil present on the
water, adjoining shorelines, or places where it is likely
to reach the water again.
Beem relocation was successful at this site since only very minimal
amounts of oil were found. Natural weathering should complete remediating
of the areas remaining.
**MAJAP SHORELINE OILING SUMMARY**

**SEGMENT:** US-10  
**SUBDIVISION:** A  
**DATE:** 9/1/1991  
**TIME:** 13:55 to 15:15  
**TIDE LEVEL:** 9.8 ft to 7.3 ft  
**ENERGY LEVEL:** \( \times \)  

**SURVEYED FROM:**  
- \( \square \) Foot  
- \( \square \) Boat  
- \( \square \) Helo  
**WEATHER:**  
- \( \checkmark \) Sun  
- Clouds  
- FOG  
- RAIN  
- Snow vs.  

**TOTAL LENGTH SHORELINE SURVEYED:** 390 m  
**NEAR SHORE SHEEN:**  
- \( \square \) BR  
- \( \square \) RB  
- \( \square \) SL  
- \( \times \) None  

**EST. OIL CATEGORY LENGTH:**  
- \( \times \) m  
- \( \square \) m  
- \( \times \) m  

**TOTAL DISTRIBUTION:**  
- C = 91-100%  
- B = 81-90%  
- P = 71-80%  
- T = <71%  

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

<table>
<thead>
<tr>
<th>L</th>
<th>OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN BELOW</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
<th>SURFACE-SUBSURFACE SEDIMENTS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>C-P M</td>
<td>3</td>
<td>15</td>
<td>X</td>
<td>Stained cobble</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>C-P M</td>
<td>2</td>
<td>4</td>
<td>X</td>
<td>Stained cobble of upper ridge</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**OG COMMENTS:**  
This site extended from the second stream from the north to 
180m south of bedrock headland. This is the site of an extensive 
beach relocation project and numerous monitoring trench stakes 
were evident along the top of the glacial slope. The beach 
consists of cobble and pebbles underlain by finer sediments and 
a broad beach fronted by a well developed ridge and steep 
beach face. Surface oil was found in two small areas consisting 
of individually stained and coated cobbles and pebbles. 
Excavations beneath these sites indicated no vertical 
continuation of the surface oil. Subsurface oil was found in two 
locations. At both sites the oil was oil conditions. Subsurface oil was found at two locations. At both sites the oil was oil 
low and discontinuous. Pits as close as 4m away had no oil. It appears that the area is not a single oil deposit.

**CONTINUED ON NEXT PAGE**
<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 Y/N</th>
<th>H2O LEVEL (cm)</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
<th>SURFACE-SUBSURFACE SEDIMENTS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>35</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>B-S-C-P</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>30</td>
<td>X</td>
<td>25-26</td>
<td>y</td>
<td>X</td>
<td>X</td>
<td>C-S-G-P</td>
<td>A single goblet was found</td>
<td></td>
</tr>
</tbody>
</table>

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

**OG COMMENTS:**

On this beach consists of individual, oiled cobbles and pebbles (and perhaps some sor with sand and granules) that were mixed into the lower sediments during the bull-dozing operation. The dynamics and natural sediment turnover of this beach was evidenced by the 1-1.2m high gravel slipface that was misplace onshore at the southwest end of the beach.
Sketch Map (OG)
U.S.-10-A
D. Fitzgerald
9 May 1991
1355 - 1515

2nd Stream from North End

Fau Delta

2 by 4 m, <1% oiled cobbles on base of ridge

Begining of Woodward-Clyde Transect

Grassy Slope

'St/CT

Steep Beachface (reflective)

MLW

Subsurface Oil
Discontinuous OR consisting of St/CT of individual clasts

A. St/CT

3 by 15 m, <1% oiled individual cobbles & pebbles

B. St/CT

Landward migration gravel slipface 50 - 120 cm high

End of Transect N

Exposed Glacial Slope

Steep Beachface (reflective)
**Sketch 0(0)
US-10-A**
D. Fitzgerald
9 May 1991
1355 - 1515

---

**Beginning of Woodwark-Clyde Transect**

**STEEN Beachface**
(Reflective)

**Subsurface Oil**
Discontinuous LDR
Consisting of ST/CT
of Individual Clasts

---

**ST/CT**
3 by 15m << 19°
Oilied Individual Cobbles + Pebbles

---

**End of Transect**

---

**2nd Stream from North End**

**Fan Delta**

Gravel and debris ridge placed against slope

---

**Steep Beachface**

---

**End of Stream**

---

**Exposed Glacial Slope**

---

**Grassy Slope**
**MAYSAP BIOLOGICAL SUMMARY FORM**

**TEAM #6 Helo**

**DATE** May 9 1991

**SEGMENT # US-10**

**TIDAL HEIGHT (Range)** 10 ft-8 ft (14:00-14:35)

**SUBDIVISION A**

**BIOLOGIST** H. Davis

**SEA STATE (5 ft in US-10 bay) 20 ft open crest**

**WIND SPEED/DIRECTION** 10 mph NW

**PHOTOGRAPHS: ROLL # 6-07**

**FRAME # 1-6**

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

A. B. There was no biota observed near either Site A or B. Below the oiled areas was a strip of detritus (mostly Neopilus and Limacina) kite flies, isopods, and amphipods were active in the crum and down into the gravel. No harpacticoids were visible.

US-10 is a high energy beach of cobbles and pebbles. There is enough sediment movement to keep the biota in the inhabited area restricted to detritus feeders that can burrow into the substrate for protection. At the point to the west of US-10 are rocks with about 25-30 sea lions hauled out.

**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></td>
</tr>
<tr>
<td>Seabirds</td>
<td>2</td>
<td>1 adult, 1 immature</td>
<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shorebirds</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Corvids</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Birds</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**MARINE MAMMALS**

<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>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pinnipeds (specify)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Steller's Sea Lion</td>
<td>&gt;30</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Whales (specify)</td>
<td>10*</td>
<td>10*</td>
<td>10*</td>
</tr>
</tbody>
</table>

**LAND MAMMALS**

<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.
ST/CT
3 by 15m < 1%
oiled individual cobble & pebbles

ST/CT
2 by 4m, < 1%
oiled cobbles at base of ridge

Beginning of Woodward-Cycle Transect

Exposed Glacial Slope

Exposed Glacial Slope

End of Transect

Steep Beachface (reflective)

Keppuruch/Claystone band with Arenicolia/volvaria, isopods and Calpionellids active just below the surface and down into the gravel below. No detritus films were seen in or near Site A+13.

Oiled (male) seen courting the shore.

* alkali, annulatus (wings)
REGION: KENAI

SEGMENT: ST/US-11

SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION

SEGMENT ST/ US-11 SUBDIVISION A (1 OF 1) DATE 4/26/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
USFWS property.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

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

SHPO SIGNATURE: ______________________ DATE: ____________________

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 114 m: No Oil 729 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:
X No Treatment Recommended
___ Treatment Recommended
___ Manual Pickup
___ Bioremediation
___ Tarmat Removal

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 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 Inpol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.

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

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

No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inpol 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

Esther Hatchery release (4/15 to 6/15)
Main Bay Hatchery release (4/20 to 6/15)
Sewmill Bay Hatchery release (4/15 to 6/1)
Cannery Creek Hatchery release (4/21 to 6/1)

Remote release sites

No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inpol 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

Mail 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 7/23)

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 Inpol 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

Harvesting salmon (4/1 to 6/15)

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

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

Harbor seal and sea lion pupping (5/15 to 7/1)
Harbor seal and sea lion molting (8/15 to 9/15)

Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inpol 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 566-7235

ADF&G Don Calkins 267-2403

Seabird colony (5/1 to 9/1)

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

AGENCY CONTACT PERSON: USFWS Jill Parker 796-3377

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 796-3377

ADF&G Tom Rothay 267-2208

All Bald Eagle nests (5/1 to 6/1)

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

Restrict all air 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 796-3377

Recreation:

Tent sites (6/1 to 9/15)
Anchorage (6/1 to 9/15)
Forest Service campsites (8/1 to 9/15)
Lodge (8/1 to 9/15)
Special use destination

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

Fish harvest (5/1 to 9/30)
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 Inpol 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 227-2359

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 796-3377
SEGMENT ST1 US-011  SUBDIVISION: A  DATE  23 April 1999

USCG
NAME: Miles O. Hughes  SIGNATURE: UNFORGETTABLE

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS:

Very high energy area.
No treatment required.

ADEC
NAME: Russell Kanabe  SIGNATURE: Russell Kanabe

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS:

Oil was present on splatter of coat on the buildings and bunkers.

LAND MANAGER
NAME: Gerald N. Nugent  SIGNATURE: Gerald N. Nugent

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS:

No treatment is practicable or recommended.
SHORELINE OILING SUMMARY

OG _ N. BIGAR _ USCG/DAIRY MILES HAYES SEGMENT ST/ 01-01
BIO _ D. RANGER _ LAND REP MAURICE NUCENT (FIL) SUBDIVISION A (LOF)
EXXON _ JOHN DEAN _ ADEC RUSSELL KUMBRE _ TIME 9.45 to 10:50
TEAM NO. 17 TIDE LEVEL -4 to -2 DATE 4/26/90
EST. SUBDIVISION LENGTH: 242 m ☑ Sun ☑ Clouds ☑ Fog ☑ Rain ☑ Snow
UPLANDS DESCRIPTION: ☑ Grass ☑ Forest ☑ Rock ☑ Surveyed from: ☑ Foot ☑ Boat ☑ Helo
SURFACE SEDIMENTS: ☑ B 65 % ☑ C 15 % ☑ P - ☑ G - ☑ S - ☑ M - ☑ V - ☑
SLOPE: Lang 90 % Hang 0 % Ver 10 % WAVE EXPOSURE: ☑ Low ☑ Med ☑ High
OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 13.6 m NO 70.6 m

SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAVEMENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COAT</td>
<td>☑ Y ☑ X</td>
<td>☑ Y ☑ X</td>
<td>☑ Y ☑ X</td>
</tr>
<tr>
<td>STAIN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOUSSE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATTIES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TARBALLS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td>☑ ☑ ☑ X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO OIL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PAVEMENT H F S ____ sq. m by ____ cm
PATTIES/TARBALLS ____ BAGS
NEAR SHORE SHEEN? ☑ BR RW SL TL

OILED DEBRIS AMOUNT
Log ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ Ā
SHORELINE ECOLOGICAL SUMMARY

Segment ST 15-01  Subdivision  A  Date (mo/day/yr) 
Time (24 hr)  9:45  Biologist  DANIEL TAYLOR

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

(B) Overall % cover of biota (% of segment): Dense 40 Moderate 10 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)

Photographs: Roll No. 4
Frames 15+1/6

### BARNACLES

<table>
<thead>
<tr>
<th>Density</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U 1M 1L</td>
<td>1U 1M 1L</td>
<td>1U 1M 1L</td>
<td>1L</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

NOT PRESENT

### MYTILUS

<table>
<thead>
<tr>
<th>Density</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U 1M 1L</td>
<td>1U 1M 1L</td>
<td>1U 1M 1L</td>
<td>1L</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

NOT PRESENT

### GASTROPODS

<table>
<thead>
<tr>
<th>Density</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U 1M 1L</td>
<td>1U 1M 1L</td>
<td>1U 1M 1L</td>
<td>1L</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

NOT PRESENT

### FUCUS

<table>
<thead>
<tr>
<th>Density</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U 1M 1L</td>
<td>1U 1M 1L</td>
<td>1U 1M 1L</td>
<td>1L</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

NOT PRESENT

Wildlife Observations/General Comments:
See attached sheet for wildlife sightings

Ecological Considerations:
NONE ON DATA BASE HANDOUT
<table>
<thead>
<tr>
<th>Name</th>
<th>Amount</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glaucous-Winged Gull</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Bald Eagle</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Cormorant sp.</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Note: Low numbers of birds possibly attributed to high winds.
Bio Comments for VS-011
Team 17, Daniel Reider
25 April 1990

This segment has a very extensive and dense amount of vegetation running its entire length throughout the MITZ and CITZ. This mat (extremely thick & dense) is composed mostly of brown algae. Areas have been designated on map and will be described here.

Area 1
- Dense laminaria spp. all along the shore in the LITZ and MITZ
  - Bedrock in LITZ w/ dense Semi Kalmarus Carinus
  - Kuttingia turiciosa - many
  - Evora - spores on boulder in MITZ
  - Enteromorpha
  - Alaria Andersonii
  - Pyropadia helianthoides (3 sp/tch)
  - Red filamentous; Brown filamentous
  - Birzo zone - MITZ
  - Moderate branches in MITZ on dry rocks - boulder

Area 2 (greater diversity)
- Large amount of Nuckilla lanenmania in clusters (ex. if on one boulder found)
  - Spore loops on boulder in MITZ
  - Moderate lyallina setosa in MITZ
Small pockets of dense new turf on m72 or boulders

- Many anemones, Anemonella spp. on m72 or boulders
- Sculptus - Saddleback and Fuffy (?)

- Area 3 has greater diversity in both fauna and flora. It has some fresh snow - melt creek flowing into it.
SHORELINE EVALUATION

SEGMENT ST/ US-11 SUBDIVISION A (1 OF 1) DATE 4/26/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS: 
USFWS property.

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: 5/17/86

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 114 m: No Oil 729 m
Subsurface Oil Observed: Yes  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 Removal  Beach Cleaner
___ Other (see comments)

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 5/12/86
ADEC Art Wrench  [Signature]
EXXON  [Signature]
NOAA Mervy Peter  [Signature]
USCG Dr. Romeo  [Signature]

FOSC: [Signature]  DATE: 5-16-86
ENVIRONMENTAL SENSITIVITIES:
Work Window(s) RESTRICTED 5/15 - 9/1

Ecological/Constraints (see page two for details) Seabird colony

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

SHPO Signature: Leigh de C. Date: 5/23/91

RECOMMENDATIONS:

TREATMENT REQUIRED (Y or N) INITIAL TAG FOSC

N N P

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

COMMENTS:

INITIAL: ____________________________________________________

TAG: _________________________________________________________

FOSC:------------------------------------------------------------

TAG APPROVAL DATE: MAY 22 1991 FO SC APPROVAL DATE: 6/1/91

ADEC
EXXON
USCG
NOAA

E. E. PAGE, CDR, USCG
CHIEF OF STAFF, FO SC
TEAM NO. 6-ME60 SEGMENT US-11 SUBDIVISION A DATE 11/12/91

ADEC
NAME S. Ferguson
SIGNATURE

☑ NTR ☐ TREATMENT RECOMMENDED
No treatment recommended at US-11A. Vertical bedrock in two locations had trace amount of stain. In both locations the length of the oiling was less than 1 meter.

EXXON
NAME Rex Coulter
SIGNATURE Rex R. Coulter

☑ NTR The stain found required some searching. Subdivision is clean and requires no further evaluation or consideration for treatment.

LANDMANAGER
NAME M. Blenden OF USFWS
SIGNATURE Michael Blenden

☑ NTR Looks good - let it leave alone.

USCG/NOAA
NAME Chief Jensen G. Shigemaka
SIGNATURE Gary Jensen / Gary Shigemaka

☒ NTR adjoining shorelines, or places where it is likely to reach the water again.
Segment is a broad pebble/gravule beach to the east becoming interspersed with boulders to the west, bound by rocky headlands at either end. Although ADEC Leo Ferguson reported oil on rock faces in 1990, no oil was observed in this segment during our survey.
MAYSAP SHORELINE OILING SUMMARY

TEAM NO. 6-Helo
OG: D. Fitchler
BIO: H. Davis
ADEC: S. Ferguson
LANDMANAGER: M. Blendon for USFWS
EXXON: R. Coulter
USCG/NOAA: Jensen/G. Shiginaka

TIME: 6:40 to 7:20
TIDE LEVEL: 0 ft. to 0 ft.
ENERGY LEVEL: H M L

SURVEYED FROM: X FOOT □ BOAT □ HELO
WEATHER: □ SUN □ CLOUDS □ FOG □ RAIN □ SNOW

TOTAL LENGTH SHORELINE SURVEYED: 843 m
NEAR SHORE SHEEN: □ BR □ RB □ SL □ NONE

EST. OIL CATEGORY LENGTH: W - m M - m N - m VL - m NO - 0.2 m US - m

<table>
<thead>
<tr>
<th>L O C</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT</th>
<th>SHORE SLOPE</th>
<th>AREA WIDTH</th>
<th>AREA LENGTH</th>
<th>ZONE</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>V H M L</td>
<td>m</td>
<td>m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>T</td>
<td>BL M 0.5</td>
<td>S</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>T</td>
<td>BR M 0.5</td>
<td>S</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

PREPARED BY: G. Shiginaka • REV. 5/14/91 D.C. • REVISED 6/14/91

PIT NO. PIT DEPTH (cm) OILED SUBSURFACE OIL CHARACTER % OIL ZONE CM-CM OILED SURFACE OIL CHARACTER
|               |               |               |               |               |
|               |               |               |               |               |

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

OG COMMENTS: This is a highly exposed pocket beach with numerous bedrock outcrops along its length including a moderate to high angle bedrock slope forming the landward boundary of the beach. Oil was found at two sites consisting of drip stains along the somewhat sheltered, vertical bedrock face at a subtidal position.
Bedrock slope

Photo sites

Grassy upland

B. ST
0.25 m², << 1%
12 drips on vertical bedrock face

A. ST
0.25 m², << 1%
25 drips on vertical bedrock face

Sketch map (6c)
US-11 - A
O. Fitzgerald
11 May 1991
6:40 - 7:20

Revised 5/14/91 (G)
Photo sites for US-11A
FRAMES 1 & 2,
ROLL 6-11

A. ST
-5m² << 1%
25 drips on vertical bedrock face

B. ST
-5m² << 1%
12 drips on vertical bedrock face

Bedrock slope

Sketch map (06)
US-11 - A
D. Fitzgerald
11 May 1991
6:40 - 7:20
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 6 Helo

DATE May 11, 1991

SEGMENT # US-11

TIDAL HEIGHT (Range) 1 ft - 6 ft (6.88 - 7.2 ft)

SUBDIVISION A

BIOLGIST H. Davis

SEA STATE 1

WIND SPEED/DIRECTION 1-2 mph W

PHOTOGRAPHS? ROLL # 6-11 FRAME # 1, 2

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

A. Vespertilia (Buzzards) are in proximity to the oil, along with filamentous greens and ciliates (especially in ribulate and mat conditions) that colonize the slope (5-10 meters) in the first drift with amphipods, help-lix and annelids active within it. Below this area, fusion patches of filamentous greens and the dominant algae, Littoria are moderately dense (egg laying occurring). On large M. norvegica, the base Barnacles are sparse.

B. The Oil Drapes are on a vertical network fascia with the remainder filamentous greens and diatoms. The drift line on the upper of Plectonema, Actinocyclus, and Thorectococcus. The fish and amphipods are in this drift, however, dense in reek-2 and Cornell Field with filamentous greens and Littoria. (Some herring on the underside of Norvegica) at the mid-patches of Plectonema and Rhodomenia begin Barnacles are sparse throughout this area.

C. At either end of the surveyed area, are coral formations with much denser cover. Any clean-up in this area would be more disruptive than productive.

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>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Seabirds</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td>1</td>
<td>2</td>
<td>(Glaucous-winged)</td>
</tr>
<tr>
<td>Shorebirds</td>
<td>3</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Corvids</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Other Birds</td>
<td>0</td>
<td>0</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>3</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Pinnipeds (specify)</td>
<td>3</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Steller Sea Lions</td>
<td></td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Whales (specify)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Shoreline subdivision map showing important biological features attached.
**Bedrock Slope**

* Photo Sites

**grassy upland**

---

**Bio Map**

H. Davis

**Sketch Map (06)**

US - 11 - A

O. Fitzgerald

11 May 1991

6:40 - 7:20

---

**B.**

The bedrock face had filamentous greens and sponges around the drips. 5-10 meters in front of the face was the drift line containing many burrows and fish holes. The boulder-cobble breccia had a cover of filamentous greens that grew in some foci. Various mussels, bivalves, and barnacles were common and barnacles were growing eggs. Barnacles were sparse.

**ST**

*5m², <= 1%*

12 drips on reef, bedrock face

---

**ST**

*5m² <= 1%*

25 drips on vertical bedrock face

---

**A.**

Vermicaria, filamentous greens and white algae were also on the rock face. Algal drift with animal-like amphipods and isopods. Seaweed draping on the bedrock. Barnacles, Fucus and littorina (mussels) gang up eggs and focus on these fronts. This section is a low, densely area for barnacles.

---

Steller's Sea Lions entered the beach and headed out on the western tip of this island.

---

**Geology**

Moderate to high angle bedrock slope

---

The oiling is such that any clean up would be more disruptive than productive.
REGION: KENAI

SEGMENT: ST/US-12

SUBDIVISIONS: A (1 OF 1)
SEGMENT ST/US-12 SUBDIVISION A (1 OF 1) DATE 4/25/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)
30,3Q Harbor seal and sea lion molting (8/15 to 9/15)
USFWS Property
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

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

SHPO SIGNATURE: __________________________ DATE: ______________________

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 992 m: No Oil 1306 m
Subsurface Oil Observed: Yes  No X  Maximum Depth ______

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

COMMENTS: Recommended treatment includes 1) manual pickup of mousse
and oiled debris, 2) bioremediation of area shown on attached sketch
tmap. Work should be conducted between 7/1 and 8/15 based on pinniped
constraints.

TAG COMMENTS: __________________________________________

TAG APPROVAL DATE: __________
ADEC
EXXON
NOAA
USCG
FOSC: __________ DATE: ________
Salmon fry nursery area (4/31 to 7/31)
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.

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

1D Esther Hatchery release (4/15 to 6/15)
1E Main Bay Hatchery release (4/20 to 6/15)
1F Swinomish Bay Hatchery release (4/15 to 6/1)
1G Cannery Creek Hatchery release (4/21 to 6/1)
1H Returns 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

1L Gill net area (6/7 to 6/31)
1J Purse seine area (7/20 to 9/30)
1K Purse seine hook-off (7/20 to 9/30)
1L Set net sites (5/11 to 7/23)
Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

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

2M Herring spawning (4/1 to 6/15)
Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to 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 424-3235

5R Seabird colony (5/1 to 9/1)
Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal and 300m vertical distance from colony. Contact USFWS prior to treatment.

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
7HH Finfish harvesting
7H1 Deer harvesting (8/15 to 2/28)
Invertebrate harvesting
Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.

AGENCY CONTACT PERSON: ADF&G Jim Fall 287-2359
SEGMENT ST 15-012  SUBDIVISION: A  DATE 27 April 1975

NAME: Mike D. Hayes  SIGNATURE:  

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

This is a spectacular crescentic bay type of beach, shaped by waves approaching (dominantly) from the east. Two major cuspatate bars were present on 10 day open survey. There was no subsurface oil.

Manual pickup is recommended for the picking up of the oiled debris.

ADEC
NAME: Russell Konde  SIGNATURE: Russell Konde

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Manual pick up of oiled trash out of debris and tar balls and piles... in conjunction with other canoe adopt clean up activities.

LAND MANAGER
NAME: Gerald M. Nugent  SIGNATURE: Gerald M. Nugent

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Manual pick up of oiled trash/debris and tar balls recommended in conjunction with other clean up activities on the Barrens.
### SHORELINE OILING SUMMARY

**REVIEWED BY: BAT**
**DATE:** 1 May 90

**OG:** B. BIGGAR
**USCG:** MILES HAYES
**SEGMENT:** US-012
**BIO:** D. RAIDER
**LAND REP:** JERRY NUGENT (FW)

**SUBDIVISION:** A - (LOF 1)
**EXXON:** JOHN DAVIS
**ADEC:** RUSSELL KUHDE
**TIME:** 11:15 to 13:30

**TEAM NO.:** 19
**TIDE LEVEL:** -1 to 8
**DATE:** 4/85 - 90

**EST. SUBDIVISION LENGTH:** 1220 m
- Sun
- Clouds
- Fog
- Rain
- Snow

**UPLANDS DESCRIPTION:**
- Foot
- Boat
- Helo

**SURFACE SEDIMENTS:**
- R: 2% B: 46% C: 20% P: 25% G: 44% S: 6% M: 3% V: 2%

**SLOPE:**
- Lang: 90%
- Hang: 6%
- Vert: 1%

**WAVE EXPOSURE:**
- Low
- Med
- High

**OIL CATEGORY LENGTH:**
- W: m
- M: m
- N: m

### SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL/FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT PAVEMENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVER</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>COAT</td>
<td>X X X</td>
<td>%</td>
<td>X</td>
</tr>
<tr>
<td>STAIN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOUSSE</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>PATTIES</td>
<td>X</td>
<td>Y</td>
<td>0</td>
</tr>
<tr>
<td>TARBALLS</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO OIL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PAVEMENT H F S sq. m by cm**

**PATTIES / TARBALLS #2 BAGS**

**NEAR SHORE SHEEN?**
- No

**OILED DEBRIS AMOUNT**
- Logs
- Vegetation
- Trash
- Debris

**DID YOU COLLECT DEBRIS?**
- Yes
- No

**TYPE**

**Photographs:**
- Roll No. 4
- Frames: 20 - 23
- Oiled buoy
- Absorbent boom
- Oiled plastic
- Oiled logs

### SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<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 (Y/N)</th>
<th>SURFACE-SUBSURFACE SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>62</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>37</td>
<td>X</td>
<td>-</td>
<td>x</td>
<td>-</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>65</td>
<td>X</td>
<td>-</td>
<td>x</td>
<td>-</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>65</td>
<td>X</td>
<td>-</td>
<td>x</td>
<td>-</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>69</td>
<td>X</td>
<td>-</td>
<td>x</td>
<td>-</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>68</td>
<td>X</td>
<td>-</td>
<td>x</td>
<td>-</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**COMMENTS:**

1. Gravel in small pebble - coarse turdiu are for patching that occur in area A in sketch. They have the appearance of rounded pebbles and rather easily transported by wave action - seen in upper tidal range that zone.

2. Feet, larger size pattern, up to 50 cm x 30 cm will seen @ B. The far serves as a border for pattern and gravel.

3. CT on border forces on 25 cm, splatter on type 'G' shingle - CT is carried with sand - over 'C'.

**REVIEWED BAT**
**DATE:** 1 May 90
## SUBSURFACE OIL (CONTINUED)

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL (CM)</th>
<th>BELOW</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANALYSIS</th>
<th>SURFACE SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>30</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>S, P</td>
</tr>
</tbody>
</table>

**COMMENTS**

- Beach is a "wet-bark" crescent beach, relatively fine-grained (s-p), with bit of brown and redeposition.
- The oil spattered onto logs has a weathered appearance.

**Reviewed** BA 7, Date 1 May 90
**LEGEND**

1. **P1**: No Subsurface Oil
2. **P2**: Subsurface Oil

- **CT/C**: Continuous Distribution
- **CT/B**: Broken Distribution
- **CT/P**: Patchy Distribution
- **CT/S**: Splashed Distribution

**Photo location, direction, and number**

---

**SKETCH MAP**

**CHECKLIST**

- N Amboy
- Seg/Sub Indry
- Oil Dist.
- Width
- % Cover
- Substrate Character
- Eul: HML/LWL
- Profile Location(s)
- Pit Location(s)
- Photo Location(s)

**DATE** 4/25/90

**DATE**

**Oil Character Length (m):**

- **AP**
- **PO**
- **CV** 50
- **CT** 18
- **ST**
- **MS**
- **PT** 354
- **TB** 350
- **FL**

---

**PT/5**: individual TBs and PTs have 1 to 20 m between individual occurrences.

**PT**s - tar pockets, larger ones indicated on sketch. **DBL** outside range from firm (above bay x PTs) to moderately soft with brown MS bands. **OBs** occur in apparent to superposed gley. **PTs** also have a gap with coating.

**T**: oiled trash

**CT/5**: 3 m x 2 m - heavy debris band on back side of large boulder

**CT/2**: 1 m x 1 m - mixed puddles

**CT/1**: 0.5 m x 0.5 m - oiled drift

**CT/0**: 0.1 m x 0.1 m - oiled log in back of storm

---

**PHOTOS:**

- 4-22 (close)
- 4-25 (perspective)

---

**150,000**

**T62**

**1:30,000**

**1:15,000**
### SHORELINE ECOCLOGICAL SUMMARY

**Segment:** ST1  **Subdivision:** A  **Date (mo/day/yr):** 4/25/90

**Time (24 hr):** 11:15  **Biologist:** DANIEL TAIGER

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

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

(C) Density, substrate preference (% by number from A, above), & vertical zonation of major taxa:
- Barnacles: juveniles / adults (X), new settlement (3)
- Mytilus
- Gastropods
- Fucus

#### Photographs:
- Roll No.: 4
- Frames: 20 - 23

#### Wildlife Observations/General Comments:

See "wildlife observation" sheet attached.

- 2 (two) seals swimming along coast; appeared to be looking for a haul-out location; one landed on rocks. I believe these tracks on beach in storm born area and along high tide zone.

---

**Ecological Considerations:**
Bio Comments US-012A
Team 17 Daniel Raider
4/25/90

This segment resembles many of the crusts because that are typical of the island. Area 1, as indicated on the D10 sketch, a bedrock outcrop, hosts the majority of boulders (in dense populations). Area 2, also on the map, is void of major vegetation and fauna; the high energy nature of the beach and excessive transportation of substrate does not allow for colonization of the LT2, MT2, or UT2.

Description of Area 1
- Dense adult Fucus on boulders in MT2
- Moderate Barnacles on bedrock in LT2
- Sporadic Barnacles (Semi-balanus cariosus + Balanus) on bark + boulders in MT2, recruits (habitat)
- Porous black lichen on boulders in MT2
- Moderate to Dense Littorina on boulders in MT2; over 50% from this year
- Sparse Limpet in UT2
- Rare mytilus on bark in MT2

Note:
Those data presented on the Bio Shoulder Ecologies
Summary do not reflect only this one area and are averaged out for the entire segment. This should be taken into consideration when reviewing material
WILDLIFE OBSERVATIONS - 08 - 12

<table>
<thead>
<tr>
<th>None</th>
<th>amount</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Black Legged Kittiwake</td>
<td>93</td>
<td>on pond</td>
</tr>
<tr>
<td>2) Song Sparrow</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>3) Glaucous Winged Gull</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>4) Rough Legged Hawk</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5) Common Raven</td>
<td>2</td>
<td>along shoreline</td>
</tr>
<tr>
<td>6) Sea Lions</td>
<td>2</td>
<td>Tracks along beach</td>
</tr>
<tr>
<td>7) Other (Runt?)</td>
<td>72</td>
<td></td>
</tr>
</tbody>
</table>

Note:

Note the large number of Kittiwakes on the pond that may represent a seabird colony.
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT US-12 SUBDIVISION A (1 of 1)

WORK WINDOW

Manual Pickup

WORK 7/2 TO 8/14

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

3N, O, P, Q Harbor Seal & Sea Lion Pupping and Molting

Closed to manual pickup prior to 7/2 and after 8/14.

OTHER ECOLOGICAL CONSIDERATIONS

Do not chase or harass seals or sea lions, and do not approach pups under any circumstances. When working on or near haulouts, complete the job as quickly as possible with minimum personnel, equipment, noise and disturbance. Keep boats and personnel as far from actual haulouts as is practical to do the work specified. Minimize air traffic near haulouts, maintain elevation as is practical, and avoid repeated overflights of the same haulout areas. Avoid any unnecessary disturbance or damage to unaltered biota and substrate.

TAG APPROVAL DATE 6/04/90

ADEC     EXXON     NOAA     USCG

Prepared By: _________ Date 6/3/90
SHORELINE EVALUATION

SEGMENT ST/ US-12 SUBDIVISION A (1 OF 1) DATE 4/25/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
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)
USFWS Property
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 CONSTRAINT: Consultation and inspection with
an Exxon archaeologist is required prior to treatment.
Specific on-site monitoring requirements will be determined
at that time.

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

SHPO SIGNATURE: Date: 5/14/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 992 m: No Oil 1306 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:
X No Treatment Recommended Snare/Absorbent Booms
X Treatment Recommended Oil Snares (pom poms)
X 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 mousse
and oiled debris, 2) bioremediation of areas shown on attached sketch
map. Work should be conducted between 7/1 and 8/15 based on pinniped
constraints.

See Amendment dated 6/2/90

TAG COMMENTS:

TAG APPROVAL DATE: 5/12/90
ADEC Art Weiser, Acting
EXXON Andy Tapp, Acting
NOAA Craig Peterson, Acting
USCG D. D. Rome, Acting

FOSC: L DATE: 5-16-90
Monitor access logs during work at site.
SHORELINE EVALUATION

SEGMENT ST/US-12 SUBDIVISION A (1 OF 1) DATE 4/25/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
- 3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)
- 3Q,3Q Harbor seal and sea lion molting (8/15 to 9/15)

USFWS Property
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: Consultation and inspection with an Exxon archaeologist is required prior to treatment. Specific on-site monitoring requirements will be determined at that time.

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

SHPO SIGNATURE: [Signature] DATE: 5/14/90

OILING CATEGORIZATION:
- Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 992 m: No Oil 1306 m
- Subsurface Oil Observed: Yes No X Maximum Depth

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

COMMENTS: Recommended treatment includes 1) manual pickup of mousse and oiled debris, 2) bioremediation of area shown on attached sketch map. Work should be conducted between 7/1 and 8/15 based on pinniped constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 5/13/90
- ADEC
- EXXON
- NOAA
- USCG

FOSC: DATE: 5/16/90
Monitor access logs during work at site.
1991 MAYSAP EVALUATION


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

Ecological/Constraints (see page two for details) Seabird colony

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

SHPO Signature: Robert O. Date: 5/12/91

RECOMMENDATIONS:

TREATMENT REQUIRED (Y or N) N

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

COMMENTS:
INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: MAY 22 1991  FOSC APPROVAL DATE: 6/11/91

ADEC  EXXON  USCG  NOAA

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

TEAM NO. 6-He/lo  SEGMENT US-12  SUBDIVISION A  DATE 11/1/91

ADEC
NAME S. Ferguson
SIGNATURE

☒ NTR ☐ TREATMENT RECOMMENDED

No treatment recommended at US-12A. No oiling was observed on or within the
area. 0.1.0 → trace stain was observed on a piece of drift located along the drift-
vegetation area (high water line).

EXXON
NAME R. Coulter
SIGNATURE

☒ NTR
Clean!

LANDMANAGER
NAME M. Blundell  OF USFWS
SIGNATURE

☒ NTR
Let’s leave it alone - nothing there to worry about.

USCG/NOAA
NAME Tension / G. Shigenaka
SIGNATURE

☒ NTR
Adjoining shorelines found clear of oil, no oiling on

Segment is a broad exposed pebble-gravel-sand beach with plentiful driftwood logs in the
subtidal. The only oiling I observed in the segment was a negligible patch of coat on a small
driftwood log located in an area of the upper intertidal/lower supra, likely to be carried out
during next high tide series. Otherwise, no oiling observed.
**MAYSAP SHORELINE OILING SUMMARY**

**TEAM NO. 6-HEO**

**OG** O. Fitzgerald  **BIO** H. Davis

**ADEC** S. Ferguson  **LANDMANAGER** M. Blenden for USFWS

**OXON** P. Coulter  **USCG/NOAA** Chief Jensen & Shigenaka

**TIME** 7:50 to 8:20  **TIDE LEVEL** 0.8 ft. to 1.0 ft.  **ENERGY LEVEL**

**SURVEYED FROM**:  **FOOT**  **BOAT**  **HELO**  **WEATHER**:  **SUN**  **CLOUDS**  **FOG**  **RAIN**  **SNOW**

**TOTAL LENGTH SHORELINE SURVEYED**: 500 m  **NEAR SHORE SHEEN**:  **BR**  **RB**  **SL**  **NONE**

**EST. OIL CATEGORY LENGTH**:  **W** m  **M** m  **N** m  **VL** m  **NO** 500 m  **US** 130.3 m

<table>
<thead>
<tr>
<th>LOC</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT</th>
<th>SHORE SLOPE</th>
<th>AREA</th>
<th>ZONE</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>AP</td>
<td>MS TB SC OR CV CT ST FL DB NO</td>
<td>LOG M</td>
<td>0.1</td>
<td>0.1</td>
<td>X</td>
<td>25 cm² stain on a log</td>
</tr>
</tbody>
</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- **FRAMES** 3-5

**PIT NO. DEPTH**  **SUBSURFACE OIL CHARACTER**  **OILED ZONE**  **CLEAN BENEATH**  **H2O LEVEL**  **SHEEN COLOR**  **PIT ZONE**  **SURFACE- SUBSURFACE SEDIMENTS**  **NOTES**

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

**OG COMMENTS**: We surveyed the northwestern 500 m of the beach and the oil- oil found was a stained piece of driftwood. Due to the lack of oil, ASAP survey which reported no significant oil along the entire segment, and the high exposure of this beach, it was decided by the Maysap Team that we would not survey the remainder of the segment.
Photo sites - US-12A
Frames 3 thru 5,
roll 6-11

5T
25 cm² strain
on log at SUTZ

END OF
SEGMENT

UNSUBURB

0 100
METERS
**MAYSAP BIOLOGICAL SUMMARY FORM**

**TEAM # 6 Helo**

**DATE** May 11 1991

**SEGMENT # US-12**

**TIDAL HEIGHT** (Range) 1ft - 2ft (07:50 - 08:25)

**SUBDIVISION A**

**WIND SPEED/DIRECTION** 5 mph S-SE

**PHOTOGRAPHS: ROLL # 6-11**

**FRAME # 3-5**

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

A. The team was on a drift log in the supratidal at the edge of the beach grass. The nebkah intratidal log was in the drift.

Algae included *Nereocystis*, *Halodule*, *Fucus* and others on dead algae.

Animals found in the drift included *Ampipods* and *Helcionides*. There is a rocky intratidal area 300 meters to the west along the beach. *Botryllus* and *Tetrameres* are moderate dense along the rock face. The immature eagle was perched on a log in the drift zone.

**WILDLIFE OBSERVATIONS TO BE COMPLETED IN ALL SUBDIVISIONS**

**BIRDS**

| Species      | # of Species | Total Birds | Fish Observed
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagles</td>
<td>1</td>
<td>1 immature</td>
<td></td>
</tr>
<tr>
<td>Seabirds</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gulls/kittiwakes</td>
<td>1</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Shorebirds</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corvids</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Birds</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**MARINE MAMMALS**

<table>
<thead>
<tr>
<th>Species</th>
<th># Observed</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sea Otters</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Pinnipeds(specify)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Whales(specify)</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

**LAND MAMMALS**

<table>
<thead>
<tr>
<th>Species</th>
<th># Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>

Shoreline subdivision map showing important biological features attached.
A. This area was at the edge of the beachgrass, well above the drift line on the beach. The drift was made up of Nerocystis and Halosaccus. Shells found in drift included Calliostoma, Beania, Marginata, p., Fasciolaria, Bogertia, Chamaecidaris, Coelocidaris, Amphisorus, and Metacrasio. There were also pieces of a compound tumor of either Aplidium or Synoicium.
REGION: KENAI

SEGMENT: ST/WA-01

SUBDIVISIONS: A (1 OF 2)
SHORELINE EVALUATION

SEGMENT ST/ WA-01 SUBDIVISION A (1 OF 2) DATE 4/26/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5R Seabird colony (5/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

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 28 m: Medium 15 m: Narrow 0 m: V.Light 136 m: No Oil 159 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)

X Bioremediation
___ Spot Washing: Wands

___ Tarmat Removal
___ Beach Cleaner

___ Other (see comments)

COMMENTS: Recommended treatment includes 1) absorbents use and manual pickup of mousse, pooled oil, and oiled debris (logs and trash), 2) followed by bioremediation in areas indicated on sketch map. Work should be conducted before 5/1 otherwise no treatment unless permitted by USFWS regarding seabird colony.

TAG COMMENTS: __________________________________________________________

TAG APPROVAL DATE: __________

ADEC EXXON NOAA USCG

FOSC: _______________________ DATE: __________
PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

1B Salmon stream mouth - spawning (7/10 to 8/31)

No disturbance of stream bed or banks unless authorized by ADFG. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADFG. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or inlip application, prior to July 1 unless authorized by ADFG. 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 ADFG Habitat Division prior to treatment for consultation and/or permit application.

AGENCY CONTACT PERSON: ADFG John Motson 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 inlip application, prior to July 31 unless authorized by ADFG. 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 ADFG or PWS Aquaculture Association for confirmation and authorization.

AGENCY CONTACT PERSON: PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511

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

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

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

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

1H Remote release sites

No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or inlip application, prior to at least July 1 unless authorized by ADFG 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 ADFG or PWS Aquaculture Association for consultation and authorization.

AGENCY CONTACT PERSON: ADFG Larry Peitz 424-3214

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 area (6/11 to 7/25)

Contact ADFG 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 ADFG. If plans for treatment include methods such as hot water wash or inlip application which might affect nearshore oil or toxicity levels, contact ADFG for consultation and authorization.

AGENCY CONTACT PERSON: ADFG Evelyn Bigga 424-3235

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

Contact ADFG 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 inlip application which might affect nearshore oil or toxicity levels, contact ADFG for consultation and authorization.

AGENCY CONTACT PERSON: ADFG James Brady 424-3212

30 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 inlip within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADFG and USFWS prior to treatment for confirmation.

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

ADFG Don Calkins 267-2403

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 788-3377

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 788-3377

ADFG Tom Roth 267-2208

5T All Bald Eagle nests (3/1 to 6/1)

Active Bald Eagle nests (3/1 to 6/1)

Restrict air traffic and 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 788-3377

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 designation

7Z Subsaline area: Salmon harvesting (5/1 to 9/30)

7HH Pinkfish harvesting

7II Deer harvesting (9/15 to 2/29)

Invertebrate harvesting

Contact ADFG 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 inlip which might affect intertidal or nearshore oil or toxicity levels, contact ADFG and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.

AGENCY CONTACT PERSON: ADFG Jim Fall 267-2359

PWS-C002 AM 4/25/90
SEGMENT ST  WA-001  SUBDIVISION:  A  DATE  4/26/90

NAME Miles O. Boyes  SIGNATURE  W F Miller

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS
I concur with OS and O10 comments. Large rocks created classic
"wormhole" effect that allowed oil to accumulate in its lee.

Manual pickup of mousa, nonmousatnially stained
is recommended.

NAME Russell Kunibe  SIGNATURE  Russell Kunibe

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS
The area of significant oiling was located behind a high debris
line. In the U172, it consisted of predominantly cont act cover on the beach
and inshore. In this area, there was a gradual distribution of pooled
mousa and nonmousa stained debris. There was also a small
amount of oily trash in this subdivision.

Recommended treatment: The amount of recoverable oil in this section
(F000, 10-30 bags). I would recommend manual pickup
of the mousa, nonmousa stained, and oily trash which
was surf awash on beach. This would result in a possible cover of
clean and floating mousa which could be obtained with the surf
FR

NAME Gerald W. Nugent  SIGNATURE  Gerald W. Nugent (USFWS)

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS
Recommend manual pick-up of mousa in conjunction
with pick-up on other segments of Beach Islands. Action
should occur as close to May 1, 1990, as possible.

Suggest that polyprop "scoopers" be anchored to the
beach on to rocks in the U172. Allow them to be
swept in the surf and possibly catch mousa as
it is lifted. May minimize sheen - a major consideration
in this area of high seabird concentrations.
SHORELINE OILING SUMMARY

OG: Glenn Heiman  
MC: Miles Hayes  
BIO: Day Rauser  
UP: ADEC  
REPs: Steve Mullen  
SUBDIVISION: A-1  
EXXON: John Dehler  
TIME: 20:30  
DATE: 4/22/90  
TIDE LEVEL: +1 ft  
TEAM NO.: 17  
EST SUBDIVISION LENGTH: 265 m

DESCRIPTION: Grass

SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED</td>
<td>X X X</td>
<td></td>
<td>X X X</td>
</tr>
<tr>
<td>COVER</td>
<td>X</td>
<td></td>
<td>X X</td>
</tr>
<tr>
<td>COAT</td>
<td>X X X</td>
<td></td>
<td>X X</td>
</tr>
<tr>
<td>STAIN</td>
<td>X</td>
<td></td>
<td>X X</td>
</tr>
<tr>
<td>MOUSSE</td>
<td>X</td>
<td></td>
<td>X X</td>
</tr>
<tr>
<td>PATTLIS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TARBALLS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O O O O O O O O</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PAVEMENT H F $ O sq. m by O or
PATTIES / TARBALLS O BAGS
NEAR SHORE SHEEN? NO BR RW SL TL

OILED AMOUNT

DID YOU COLLECT DEBRIS?

YES  NO

DEBRIS

Logs
Vegetation
Trash
Debris

# BAGS

Photographs:
Roll No. 3
Frames 324-33

SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED MATERIAL INTERVAL</th>
<th>OILED MATERIAL BELOW</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANA</th>
<th>MEC</th>
<th>NAME</th>
<th>SURFACE SUBSURFACE SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>44</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td>N</td>
<td>PC/G/ C/P</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>44</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td>N</td>
<td>PC/G/ C/P</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

COMMENTS: WA-1A is located at the southern end of the segment and consists of rocky headlands with a small pebble cobbles boulder pocket beaches. The most prominent features are low relief bedrock plate forms which become exposed at low and mid tides. Higher relief bedrock masses are present.

REVIEWED UW DATE 4/25/90
### Subsurface Oil (Continued)

| Pit No | Pit Depth (cm) | Subsurface Oil Character | Oiled Interval | Below Oil/Film Color | Pit Zone | Ana. Algae
|--------|----------------|--------------------------|----------------|----------------------|----------|----------------
|        |                |                          |                |                      |          |                
|        |                |                          |                |                      |          |                
|        |                |                          |                |                      |          |                
|        |                |                          |                |                      |          |                

**Comments:**

On the north end of the subdivision, the zone south to the north shelters a lower bedrock area with CT-CV-PO which combines to form an FB distribution approximately 25x11 m. Individual distributions within the area are CT/B, CV/P, and PO/P to S. This is surrounded by a 1P to 1S distribution approximately 15x55 m. Some logs in the storm bar area have CT generally as splashes.

**Note:** Due to the large variation in subdivision length w/tide level, the subdivision categories along the west side are estimated as the areas flares.
SHORELINE ECOLOGICAL SUMMARY

Segment ST / WA-001 Subdivision A Date (mo / day / yr) 4/25/93

Time (24 hr) 16:30 Biologist Daniel Raifer

A) Substrate type and % of segments:

<table>
<thead>
<tr>
<th>Substrate Type</th>
<th>% of Segments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bedrock</td>
<td>65</td>
</tr>
<tr>
<td>Boulder</td>
<td>10</td>
</tr>
<tr>
<td>Cobble</td>
<td>5</td>
</tr>
<tr>
<td>Pebble</td>
<td>20</td>
</tr>
<tr>
<td>Sand</td>
<td>5</td>
</tr>
<tr>
<td>Silt</td>
<td>0</td>
</tr>
</tbody>
</table>

B) Overall % cover of biota (% of segment):

- Dense: 30
- Moderate: 25
- Low: 45

C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa:

- Juveniles / adults (X), new settlement (3)

Observations/General Comments:

- See attached sheet for wildlife/species list

Photographs:

- Roll No. 3

Frames 30-433

Wildlife Observations: General Comments:

- See attached sheet for wildlife/species list

Ecological Considerations:

No ecological constraints according to data base.

- Consideration should be taken for the sensitive southern tidal pools and the nutrient rich mussel beds and tidal pools in the northern portion of the subdivision. Minimum foot traffic and avoid spraying with

- Stil Lewis is claimed dead...

Barrenales

<table>
<thead>
<tr>
<th>Density</th>
<th>1U</th>
<th>1M</th>
<th>1L</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Mytilus

<table>
<thead>
<tr>
<th>Density</th>
<th>1U</th>
<th>1M</th>
<th>1L</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Gastropods

<table>
<thead>
<tr>
<th>Density</th>
<th>1U</th>
<th>1M</th>
<th>1L</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fucus

<table>
<thead>
<tr>
<th>Density</th>
<th>1U</th>
<th>1M</th>
<th>1L</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOT PRESENT

NOT PRESENT

NOT PRESENT

NOT PRESENT
<table>
<thead>
<tr>
<th>Name</th>
<th>Amount</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Song Sparrow</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Varned Thrush</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Black Oyster Catcher</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Glaucous-Winged Gull</td>
<td>10±</td>
<td>Singing intermittently</td>
</tr>
<tr>
<td>Comorant Sp.</td>
<td>2</td>
<td>Pelagic or Red-faced</td>
</tr>
<tr>
<td>Bald Eagle</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
Tide Pools

Rich UTZ pools with an abundant amount of flora and fauna:
- Katherina tunicata
- Corallina
- Limpets
- Tonicella oceanica (chiton)
- Amatholeura australis
- Stomopora cucumis
- Stylodiscus forsteri
- Sigynidae spp.
REGION: KENAI

SEGMENT: ST/WA-01

SUBDIVISIONS: B (2 OF 2)
SHORELINE EVALUATION

SEGMENT ST/ WA-01 SUBDIVISION B (2 OF 2) DATE 4/26/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5R Seabird colony (5/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

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

SHPO SIGNATURE: ______________________ DATE: ______________________

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 286 m: No Oil 623 m
Subsurface Oil Observed: Yes No X Maximum Depth __________

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 Removal Beach Cleaner

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: ____________
ADEC ____________________________ FOSC: ____________ DATE: ________
EXXON ____________________________
NOAA ____________________________
USCG ____________________________
Salmon stream mouth - try 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 inop 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 Madsen 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 inop application, prior to July 31 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 prior to treatment for confirmation and advice.

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

1D

Estuary Hatchery release (4/15 to 6/15)
1E
Main Bay Hatchery release (4/20 to 6/15)
1F
Seawall Bay Hatchery release (4/15 to 6/1)
1G
Cannery Creek Hatchery release (4/21 to 6/1)

Remote release sites
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or inop 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 prior to treatment for confirmation and authorization.

AGENCY CONTACT PERSON: ADF & G James Brady 267-2324

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 (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 (1L) restrict beach operations to essential minimum as authorized by ADF & G. If plans for treatment include methods such as hot water wash or inop application which might affect nearshore oil or oil toxicity levels, contact ADF & G for consultation and authorization.

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

2m

Herring spawning (4/1 to 6/15)
Contact ADF & G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to unveiled intertidal and subtidal algal and seaweed. If plans for treatment include methods such as hot water wash or inop application which might affect nearshore oil or toxicity levels, contact ADF & G for consultation and authorization.

AGENCY CONTACT PERSON: ADF & G James Brady 267-2403

3b

Harbor seal and sea lion pupping (6/15 to 7/1)
Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of inop within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF & G and USFWS for authorization for treatment for confirmation.

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

5R

Seabird colony (5/1 to 6/1)
Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.

AGENCY CONTACT PERSON: USFWS Jill Parker 796-3377

SS

Shorebird/wader/lewkon 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 796-3377

5T

All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic and all disturbance to essential minimum. No personnel within 400m. 3/1 to 6/1. All approach and takeoff from and to nests avoid maintaining 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

AGENCY CONTACT PERSON: USFWS Jill Parker 796-3377

6U

Recreation: Tent sites (8/1 to 9/15)
6V
Anchorage (6/1 to 9/15)
6W
Forest Service cabin (8/1 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
Finfish harvesting
7B
Deer harvesting (5/15 to 2/28)

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 inop 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 STI: WA-001  SUBDIVISION: B  DATE: 4/26/90

NAME: Mike D. Hayes  SIGNATURE: [signature]

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS:
Show mostly sessile throughout. No major oil accumulations at all. Oiled debris should be removed.

Even storm surge has scoured sags.

ADEC
NAME: Russell Kuribe  SIGNATURE: Russell Kuribe

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS:
The oiling in this subdivision consisted of only a sparsely distributed coat on the sedentary and some oily tissue.

Recommended treatment: Manual pickup of the oily tissue while work crew are in the area.

LAND MANAGER
NAME: Gerald M. Nugent  SIGNATURE: Gerald M. Nugent (USFWS)

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS:
Manual pickup of oiled debris in conjunction with other similar pickup on Barren Island segments. Pickup recommended as close to May 1, 1990, as possible. A Service monitor should be present during any operations on the Barrens.
**SHORELINE OILING SUMMARY**

OG: Craig Hawes, USGS - MILES HAYES - SEGMENT ST: WLA-C01
BIO: DAVE STANLEY (USGS/REPEL JERRY MURGAT) - SUBDIVISION: B - (3/5/78)
EXXON: John Deans - ADEC: Russell Knecht - TIME: 1630h/20:30

**TEAM NO.** 17  
**TIDE LEVEL** 0.00  
**DATE** 4/28/80

**EST. SUBDIVISION LENGTH:** 130 m  
**UPLANDS DESCRIPTION:** ☐ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow

**SURVEYED FROM:** ☐ Foot ☐ Boat ☐ Helo  
**WORKING DIRECTION:** S to N

**SURFACE SEDIMENTS:** R 20% B 5% C 10% P 60% G 4% S 1% M 0% V 0%

**SLOPE:** Lang 80% Hang 10% Ven 10%  
**WAVE EXPOSURE:** ☐ Low ☐ Med ☐ High

**OIL CATEGORY LENGTH:** W 0 m M 0 m N 0 m VL 300 m NO 0 m

### SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT PAVEMENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COAT</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>STAIN</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>MOUSSE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATTIES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TARBALES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO OIL</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PAVEMENT</th>
<th>H</th>
<th>F</th>
<th>S</th>
<th>O</th>
<th>sq. m by</th>
<th>roll No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PATTIES/TARBALES</td>
<td>☐</td>
<td>☐</td>
<td></td>
<td></td>
<td></td>
<td>BAGS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NEAR SHORE SHEEN?</th>
<th>☐</th>
<th>BR</th>
<th>RW</th>
<th>SL</th>
<th>TL</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>OILED DEBRIS</th>
<th>AMOUNT</th>
<th>DID YOU COLLECT DEBRIS?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logs</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Vegetation</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Trash</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Debris</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

**Photographs:**

Roll No: 31111111111  
Frames, __________

### SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO</th>
<th>PIT DUG</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED DEBRIS</th>
<th>OILED SUBSURFACE</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANA SHEEN (MIN)</th>
<th>SURFACE SUBSURFACE SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>40</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>2</td>
<td>49</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>3</td>
<td>43</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>4</td>
<td>33</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>5</td>
<td>42</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>6</td>
<td>43</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

**COMMENTS**

WA001-B consists of pebble beaches of cobble berm.

Bedrock and large boulders separate the shoreline into small bays. Oiling occurs only to south as fine spl_H20 on bedrock outcrops, boulders, and occasional logs.
<table>
<thead>
<tr>
<th>PIT NO</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL (cm)</th>
<th>BELOW</th>
<th>OIL/FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANALYSED</th>
<th>GREEN (MM)</th>
<th>SURFACE SUBSURFACE SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z</td>
<td>58</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td>N</td>
<td>--</td>
<td>G-P/PCG-1</td>
</tr>
</tbody>
</table>

COMMENTS

REVIEWED: JWM  DATE: 4/27/88
In lieu of sketch map

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

WA-1B

Map Key: KEN-14
Name: CJ Hay

ADEC Segment Length: 1312m
### Shoreline Ecological Summary

**Segment:** WA-001  
**Date (mo/day/yr):** 4/22/90

**Biologist:** Daniel Paquin

#### 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
- Moderate
- Low

#### C) Density, Substrate Preference (by number from A, above), & Vertical Zonation of Major Taxa:
- Juveniles / Adults
- New Settlement

### Barnacles

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1M</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1L</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

### Mytilus

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1M</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1L</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

### Gastropods

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1M</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1L</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

### Fucus

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1M</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1L</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

### Wildlife Observations/General Comments:
- Coquina shell  
- Mole in data listings

### Ecological Considerations:
- New dense Fucus which should be avoided by foot traffic

### Photographs:
- Roll No.
- Frame Nos.
- NOT PRESENT

---

**Subdivision:**  
**Date:** (mo/day/yr)  
**Substrate Type and % of Segments:**
- Sedrock
- Boulder
- Cobble
- Pebble
- Sand
- Silt

**Overall % Cover of Biota (% of Segment):**
- Dense
- Moderate
- Low

**Density, Substrate Preference (by number from A, above), & Vertical Zonation of Major Taxa:**
- Juveniles / Adults
- New settlement
**BIRDS SIGHTED FOR WA-001 A + B  23/21 APRIL 19**

<table>
<thead>
<tr>
<th>NAME</th>
<th>AMOUNT</th>
<th>COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>SONG SPARROW</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>VALKEN THALUSH</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>BLACK OYSTER CATCHER</td>
<td>4</td>
<td>Singing intermittently</td>
</tr>
<tr>
<td>GLAUCOUS-WINGED GULL</td>
<td>10+</td>
<td></td>
</tr>
<tr>
<td>SOMNANT SP.</td>
<td>2</td>
<td>Pelagic or Red-faced</td>
</tr>
<tr>
<td>BALD EAGLE</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
Bedrock LTZ
- Sparse mussels, Littorina
- Moderate mussels, Fucus
- Kelp debris

Bedrock table in LTZ
- Rhexomesa palmata
- Halosaccion grandiflora
- Laminaria Amanda
- Enteromorpha compressa
- Codium tomentosum
- Red alga, may illustrate
- SLUGS
- Emended: purpurata
SHORELINE EVALUATION

SEGMENT ST/WA-01 SUBDIVISION A (1 OF 2) DATE 4/26/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5R Seabird colony (5/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

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: 5/6/90

OILING CATEGORIZATION:
Wide 28 m: Medium 15 m: Narrow 0 m: V.Light 136 m: No Oil 159 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)

X Bioremediation ______ Spot Washing: Wands

____ Tarmat Removal ______ Beach Cleaner

____ Other (see comments)

COMMENTS: Recommended treatment includes 1) absorbents use and manual pickup of mousse, pooled oil, and oiled debris (logs and trash), 2) followed by bioremediation in areas indicated on sketch map. Work should be conducted before 5/1 otherwise no treatment unless permitted by USFWS regarding seabird colony.

TAG COMMENTS: Monitors to assess logs.

TAG APPROVAL DATE: May 5, 1990

ADEC Art Wever 

EXXON Mark N. Silber

NOAA

USCG
Tide Pools

Rich UTZ pools with an abundant amount of flora and fauna:
- *Katharina tumida*
- *Corallina*
- *Liagora*
- *Tomascia magnas* (chiton)
- *Anomopyleura artemisia*
- *Stegopyrgus* (pagurana, etc.)
- *S. discoideum* marina, etc.

Cobble beach w/ kelp debris

Moderate flats and eelgrass

*Dense adult mussels*

Kelp debris

Intertidal Botanical Pools
- *Corallina*
- *Anomopyleura artemisia*
- *Sporov nauplius*
- *Laminaria spp*

Rock face from MTE to UTZ
- Moderate adult barnacles
- Moderate adult limpets
- Moderate adult mussels
- Moderate adult barnacles

0
50 meters
SHORELINE EVALUATION

SEGMENT ST/ WA-01 SUBDIVISION B (2 OF 2) DATE 4/26/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5R Seabird colony (5/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

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

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

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 286 m: No Oil 623 m
Subsurface Oil Observed: Yes No X Maximum Depth

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 Removal ___ Beach Cleaner
____ Other (see comments)

COMMENTS:

TAG COMMENTS: Monitors to assess pickup of oiled fishing net

TAG APPROVAL DATE: May 5, 1990
ADEC Art Wetterstrom Date: 5-8-90
EXXON Mark N. Allcutt Mark N. Stilwell
NOAA Barry Pateck Ray Peterson
USCG Gary Peterson Gary Peterson
Occasional bedrock outcrops and boulders to lar in dimensions. It comprise 2500 ft or less.

In lieu of sketch map

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

WA-1B

Map Key: KEH-11
Name: G. Heyes
Date: 4-24-96
Boulders & Boulders into
- MTZ of moderate focus, adult
- MTZ of dense focus, new
- Enteromorpha compressa

Bedrock table in LT
- Rhodochrous palmata
- Halosaccion glandiforme
- Laminaria arborescens
- Enteromorpha compressa
- Lithothamnion
- Red seaweed: unknown
- Littorina: unknown
- Kelp: unknown

Bedrock LTZ
- Sparsely pack
- Moderate new focus
- Kelp: unknown

Coastal seaweed
1 km from bight

Scale
2
0
100
1991 MAYSAP EVALUATION

SEGMENT: WA 001  SUB: A  REGION: KEN  SURVEY DATE: 5/7/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s)  RESTRICTED 5/15 - 9/15

Ecological/Constraints (see page two for details)  Seabird colony, Pinniped haulout

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

SHPO Signature:  [Signature]  Date: 5/22/91

RECOMMENDATIONS:

TREATMENT REQUIRED (Y or N)  INITIAL  TAG  FOSC
N  N

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

COMMENTS:
INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE:  MAY 22, 1991  FOSC APPROVAL DATE:  6/1/91

ADEC  [Signature]  FOSC  [Signature]

EXXON  [Signature]

USCG  [Signature]

NOAA  [Signature]  E. E. PAGE, CDR, USCG CHIEF OF STAFF, FOSC
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES


Pinniped Haulout: Access restricted from 5/15 to 6/30 and 8/15 to 9/15 unless approved by NMFS. Maintain 1000' vertical and 1/2 mile (3 mile for sea lions at all times) horizontal buffer.
<table>
<thead>
<tr>
<th>ADEC</th>
<th>NAME S. Ferguson</th>
<th>SIGNATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑️</td>
<td>NTR</td>
<td>TREATMENT RECOMMENDED</td>
</tr>
<tr>
<td>☑️</td>
<td>NTR</td>
<td>NO TREATMENT RECOMMENDED AT WA-1A. NO OIL OBSERVED BY SURVEY TEAM.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EXXON</th>
<th>NAME G. STILES</th>
<th>SIGNATURE George S. Sibley 5/91</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑️</td>
<td>NTR</td>
<td>NO TRACE OF OIL WAS FOUND THEREFORE NO TREATMENT IS RECOMMENDED.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LANDMANAGER</th>
<th>NAME J. Haroister OF USFWS</th>
<th>SIGNATURE John P. Haroister 5/91</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑️</td>
<td>NTR</td>
<td>NO OIL LOCATED.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>USCG/NOAA</th>
<th>NAME CWO Spurz R. Hoff</th>
<th>SIGNATURE R.P. Spurz (Rebecca Hoff)</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑️</td>
<td>NTR</td>
<td>NO OILING FOUND, NO TREATMENT REQUIRED.</td>
</tr>
</tbody>
</table>
OG 0. Fitzgerald  bio  H Davis
ADEC S. Ferguson landmanager J. Hardister for USFWS
EXXON G. Stiles USCG/NOAA CHQ Spurk R. Haef

TIME 13:00 to 13:45 TIDE LEVEL 8 ft to 7.7 ft. ENERGY LEVEL: X H M L
SURVEYED FROM: x FOOT x BOAT x HELO WEATHER: x SUN X CLOUDS X FOG X RAIN X SNOW
TOTAL LENGTH SHORELINE SURVEYED: 160 m NEAR SHORE SHEEN: x BR x RB x SL x NONE
EST. OIL CATEGORY LENGTH: W m M m N m V L m NO 160 m US 178 m

<table>
<thead>
<tr>
<th>L</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT</th>
<th>SHORE ZONE</th>
<th>AREA WIDTH</th>
<th>LENGTH</th>
<th>ZONE</th>
<th>NOTES</th>
</tr>
</thead>
</table>

SEGMENT WA-1
SUBDIVISION A
DATE 7/1 May 1991

<table>
<thead>
<tr>
<th>Pit</th>
<th>Pit</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN H20</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
<th>SURFACE-SUBSURFACE SEDIMENTS</th>
<th>NOTES</th>
</tr>
</thead>
</table>

DISTRIBUTION: C = 61-100%; B = 51-60%; P = 11-50%; S = 1-10%; T < 1%
SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE
PHOTO ROLL # MAYSAP- - 0% FRAMES 15-19

OG COMMENTS: An August survey of this segment reported mousse, coats, and stains along 110 m length shoreline occurring in bedrock cracks in the URIZ and SUTZ. A detailed survey by mine team members could find no oil.

reviewed 5/01 KG
Erstein, May 10
NO OBSERVED OIL

Isolated to continuous Bedrock Outcrops

Oiled piece of Styrofoam

Gulf of Alaska

End of survey
Sketch map (06)
WA-1-A
D. Fitzgerald
7 May 1991
1300 - 1345

Map 6-08 # 12-14

- Bedrock
- Photos
- Erosion

No observed oil

Isolated
to continuous
Bedrock outcrops

Oiled piece of
Stygian form

Gulf of Alaska

Till-covered
Steep
Bedrock slope

End of survey

1 meter
50 meters

Reviewed 5/10/91 KG
& reviewed 5/10/0
KAYSAP BIOLOGICAL SUMMARY FORM

TEAM # G Helo
SEGMENT # WA-01
SUBDIVISION A
SEA STATE 4-5+ Choppy
PHOTOGRAPHS: ROLL # (-08) FRAME # 12-14

DATE May 7, 1991
TIDAL HEIGHT (Range) 6 Ft - 5 Ft (13.5 - 13.45)
BIOLIGIST H. Davis
WIND SPEED/DIRECTION 5-6 with gusts of 10 mph NE

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

No oil observed.

Very little birdlife. The beach is mostly coarse sand with a few exposed bedrock
boulders in the MITZ. The MITZ + WITZ had a bedrock shelf and boulders
with no biota. This is a high energy beach with a lot of sand/Sediment erosion.

Some boulders in the MITZ/WITZ had sparse patches of Fucus, retail/rod
Endoceradus and Diatomites. A few limpets were present. No Barnacles
or mussels were found.

Neophyta beds off shore.

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS

<table>
<thead>
<tr>
<th>Eagles</th>
<th># of Species</th>
<th>Total Birds</th>
<th>5-6 adult Immature</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seabirds</td>
<td></td>
<td>20-25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td>1</td>
<td>30-40 Glaucous-winged</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shorebirds</td>
<td>Oystercatchers</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corvids</td>
<td></td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Birds</td>
<td>Nester</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

FISH OBSERVED
SPECIES PRESENT

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>0</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Whales (specify)</td>
<td>0</td>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>

LAND MAMMALS

Shoreline subdivision map showing important biological features attached.

1991 MAYSAP EVALUATION

SEGMENT: WA 001   SUB:   A   REGION:   KEN   SURVEY DATE:   5/7/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s) RESTRICTED 5/15 - 9/15

Ecological/Constraints (see page two for details) seabird colony, Pinniped haulout

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>
<td>___</td>
<td>___</td>
</tr>
</tbody>
</table>

Manual Pickup (Check as Req.) _______ | ______ | ___ | ___  |
Spot Washing                     | _______ | ___ | ___  |
Bio-Customblend Only             | _______ | ___ | ___  |
Bio-Inipol/Customblend           | _______ | ___ | ___  |
Other                           | _______ | ___ | ___  |
Other                           | _______ | ___ | ___  |

COMMENTS:

INITIAL: __________________________________________

TAG: __________________________________________

FOSC: __________________________________________

TAG APPROVAL DATE: __________   FOSC APPROVAL DATE: __________

ADEC __________________________________________
EXXON _________________________________________
USCG _________________________________________
NOAA _________________________________________
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES


Pinniped Haulout: Access restricted from 5/15 to 6/30 and 8/15 to 9/15 unless approved by NMFS. Maintain 1000' vertical and 1/2 mile (3 mile for sea lions at all times) horizontal buffer.
**ADEC**

**NAME** S. Ferguson  
**SIGNATURE**

☑️ NTR  ☐ TREATMENT RECOMMENDED  
NO TREATMENT RECOMMENDED AT WA-1A. NO OIL OBSERVED BY SURVEY TEAM.

---

**EXXON**

**NAME** G. Stiles  
**SIGNATURE** George L. Stiles 5/91

☑️ NTR  ☐ TREATMENT RECOMMENDED  
No trace of oil was found. Therefore, no treatment is recommended.

---

**LANDMANAGER**

**NAME** J. Hardister  
**SIGNATURE** John P. Hardister 5/91

☑️ NTR  ☐ TREATMENT RECOMMENDED  
No oil located.

---

**USCG/NOAA**

**NAME** CWO Spurk R. Hoff  
**SIGNATURE** R. P. Spurk (Rebecca Hoff)

☑️ NTR  ☐ TREATMENT RECOMMENDED  
No oiling found, no treatment required.
**OG COMMENTS:** An August survey of this segment reported mousse, coats, oil stains along 110 m length shoreline occurring in bedrock cracks in the Uitz and Sitz. A detailed survey by nine team members could find no oil.
Sketch Map (06)
WA-1 - A
D. Fitzgerald
7 May 1991
1300 - 1345

No. Observed Oil

Isolated to continuous Bedrock Outcrops

Oiled piece of Styrofoam

Gulf of Alaska

Till-covered Steep Bedrock Slope

End of survey

0

50 Meters
TEAM # 6 Helo
SEGMENT # WA-01
SUBDIVISION A
SEA STATE 4-5 ft Choppy
PHOTOGRAPHS: ROLL # 6-08

DATE May 7, 1991
TIDAL HEIGHT (Range) 6 ft - 5 ft (1.83 - 1.52)
BIOLUMINIST 4. Davis
WIND SPEED/DIRECTION 50 mph, 10 mph NE

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

No oil observed.

Very little kelp, the beach is mostly coarse sand with a few exposed boulders in the MITZ. The MITZ had a bedrock shelf and boulders with no kelp. This is a high energy beach with a lot of sand, sediment, and some boulders in the MITZ/LITZ had sparse patches of Fucus, Phaeolus, and Egregia. A few limpets were present. No Barnacles or mussels were found.

Nereocystis beds off shore.

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>1</td>
<td>2 adult, 1 immature</td>
<td>0</td>
</tr>
<tr>
<td>Seabirds</td>
<td>1</td>
<td>20 - 25</td>
<td>0</td>
</tr>
<tr>
<td>Waterfowl</td>
<td>1</td>
<td>30 - 40</td>
<td>0</td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td>1</td>
<td>30 - 40 Glaucous-winged</td>
<td>0</td>
</tr>
<tr>
<td>Shorebirds</td>
<td>1</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Corvids</td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Other Birds</td>
<td>1</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

LAND MAMMALS

<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>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pinnipeds(specify)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Whales(specify)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Shoreline subdivision map showing important biological features attached.
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT WA-1 SUBDIVISION A (1 of 1)

WORK WINDOW

Manual Pickup and Absorbents OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5R  Seabird Colony  NO CONSTRAINT. Work site is more than 800m from seabird colony.

OTHER ECOLOGICAL CONSIDERATIONS

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

Prepared by [Signature] Date 6/12/90

[Signature] Date 6/12/90
SHORELINE EVALUATION

SEGMENT ST/ WA-01 SUBDIVISION A (1 OF 2) DATE 4/26/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5R Seabird colony (5/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

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: 5/5/90

OILING CATEGORIZATION:
Wide 28 m: Medium 15 m: Narrow 0 m: V.Light 136 m: No Oil 159 m
Subsurface Oil Observed: Yes____ No X____ Maximum Depth____

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

COMMENTS: Recommended treatment includes 1) absorbents use and manual pickup of mousse, pooled oil, and oiled debris (logs and trash), 2) followed by bioremediation in areas indicated on sketch map. Work should be conducted before 5/1 otherwise no treatment unless permitted by USFWS regarding seabird colony. See comments.

TAG COMMENTS: Monitor to assess logs.

TAG APPROVAL DATE: May 5, 1990
ADEC Exxon NOAA USCG

EXxon
NOAA
USCG

DATE: 5-9-90

NO bioremediation!
ECOLOGY MAP
SEGMENT WA-1
SUBDIVISION A (1 of 2)
METERS

Exxon Company, USA
M.M. K. JFM-04-1

STAR Seabird Colony
TRiangle Eagle Nest
REGION: KENAI

SEGMENT: ST/WA-02

SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION

SEGMENT ST/ WA-02 SUBDIVISION A (1 OF 1) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ST  All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

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 0 m: V.Light 603 m: No Oil 0 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
--- Tarmat: _____ Breakup  _____ Beach Cleaner
--- Removal  _____ Other (see comments)

COMMENTS: Recommend manual removal of oiled debris. Work should be conducted after 6/1 with permission of USFWS due to eagle nest constraint.

TAG COMMENTS: _____________________________________________________________

TAG APPROVAL DATE: __________
ADEC ______________________ EXXON ______________________ FOSC: __________ DATE: __________
NOAA ______________________ USCG ______________________
PWS ECOLOGICAL CONSTRAINTS

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

1B
Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.

1C
Salmon fry nursery area (4/31 to 7/31)

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

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

1F
Sawmill Bay Hatchery release (4/20 to 5/10)

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

1H
Remots 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 unrolled 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 (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 5/15)
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 land 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)

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 / WA - 2   SUBDIVISION: A      DATE 4-9-90

NAME       John Naughton       SIGNATURE       John J. Naughton

☑ NO TREATMENT RECOMMENDED   ☐ TREATMENT SUGGESTED

COMMENTS

Some masses observed in cracks and fissures on east end of core. Oiled debris - travel webbing, pompom, caps also observed. However, high energy beach and area should be allowed to clean naturally. Also, will be important for bird nesting area during summer months.

ADEC

NAME       Scott Sheldon       SIGNATURE       Scott Sheldon

☐ NO TREATMENT RECOMMENDED   ☑ TREATMENT SUGGESTED

COMMENTS

WA-2  Sub: A  (1011 meters segment, TEAM walked entire segment)
Spillage and stains observed on cobble and drift upper tidal) (Possible Manual mix-up)
80 x 4 meter zone of mussel crevices; staining on bedrock ledges, also builders in the upper tidal areas. "VF impact extended along in the upper to mid tidal levels, (spits to 30cm w/ mud, surface observed.
High energy beach access very limited, High surf location.
Highers off not observed.

LAND MANAGER

NAME       Linda Hagen       SIGNATURE       Linda M. Hagen  USFWS

☑ NO TREATMENT RECOMMENDED   ☐ TREATMENT SUGGESTED

COMMENTS

Barren Islands are an important area for sea birds. As much cleanup as possible is recommended. Nesting activities should be noted prior to scheduling any activity so that there is no conflict with wildlife needs.
**SHORELINE OILING SUMMARY**

**DATE:** 4/9/90  
**TIME:** 10:11:03

**TEAM NO.:** 14  
**TIDE LEVEL:** -0.5 ft to -1.5 ft

**EST. SUBDIVISION LENGTH:** 661 m  
**UPLANDS DESCRIPTION:**  
- Grass  
- Forest  
- Rock

**SURVEYED FROM:**  
- Foot  
- Boat  
- Helo

**WORKING DIRECTION:**  
- E to W

**SLOPE:**  
- Lang  
- Hang  
- Vert

**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>
</thead>
<tbody>
<tr>
<td>ASPHALT PAVEMENT</td>
<td>X</td>
<td>SU</td>
<td>E</td>
</tr>
<tr>
<td>POOLED COVER</td>
<td>X</td>
<td>UI</td>
<td>M</td>
</tr>
<tr>
<td>STAIN MOUSSE</td>
<td>X</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>PATTIES TARBALLS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO OIL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SUBSURFACE OIL**

<table>
<thead>
<tr>
<th>PIT NO.</th>
<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>SUBSURFACE SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>20</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>G</td>
<td>Ground</td>
</tr>
<tr>
<td>2</td>
<td>20</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>G</td>
<td>Ground</td>
</tr>
<tr>
<td>3</td>
<td>20</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>G</td>
<td>Ground</td>
</tr>
<tr>
<td>4</td>
<td>20</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>G</td>
<td>Ground</td>
</tr>
<tr>
<td>5</td>
<td>20</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>G</td>
<td>Ground</td>
</tr>
<tr>
<td>6</td>
<td>20</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>G</td>
<td>Ground</td>
</tr>
</tbody>
</table>

**COMMENTS**
- Stain observed on log and debris
- 20 cm x 40 cm area of marine cut rock

**P AVEMENT:** H F S __ sq. m by __ cm

**PATTIES / TARBALLS:** 0 BAGS

**NEAR SHORE SHEEN?**  
- NO

**OILED DEBRIS AMOUNT**

<table>
<thead>
<tr>
<th>TYPE</th>
<th>DEBRIS COLLECTED</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOGS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VEGETATION</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRASH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DEBRIS</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Photographs:**
- Roll No. STJ9-7
- Frames 5-14

**REVIEWED**  
- DATE: 12 Dec 90
### SHORELINE ECOLOGICAL SUMMARY

Segment ST / WA-2  Subdivision A  Date (mo / day / yr) 4/9/90

Time (24 hr) 01:23  Biologist SPIEGEL

(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
   - Moderate
   - Low

(C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa:
   - Barnacles:
     - Dense  Moderate  Sparse  Rare
     - 1U  1M  1L  1U  1M  1L  1U  1M  1L  1U  1M  1L
     - 2  2  2  2  2  2  2  2  2  2  2  2
     - 3  3  3  3  3  3  3  3  3  3  3  3
     - 4  4  4  4  4  4  4  4  4  4  4  4
     - 5  5  5  5  5  5  5  5  5  5  5  5
     - 6  6  6  6  6  6  6  6  6  6  6  6

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

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

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

Wildlife Observations/General Comments:

Ecological Considerations:
- Sand/gravel beach
- Outcrop/boulders at ends w/ red algae lower, normal barnacle/Fucus/mussel higher
- Poor kelp population offshore
SHORELINE EVALUATION

SEGMENT ST/ WA-02 SUBDIVISION A (1 OF 1) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5T All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
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: 4/9/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes No Maximum Depth

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

COMMENTS: Recommend manual removal of oiled debris. Work should be conducted after 6/1 with permission of USFWS due to eagle nest constraint.

TAG COMMENTS:

TAG APPROVAL DATE: 4/20/90
ADEC ART WEISER DATE: 4/26/90
EXXON [Signature] FOSC: [Signature]
NOAA B. (Wardlaw Baker) 
USCG KENNETH Kean
**1991 MAYSAP EVALUATION**

**SEGMENT:** WA 002  **SUB:** A  **REGION:** KEN  **SURVEY DATE:** 5/7/91

**ENVIRONMENTAL SENSITIVITIES:**

**Work Window(s)**  RESTRICTED 5/15 - 9/1

**Ecological/Constraints (see page two for details):** Seabird colony

**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>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

**COMMENTS:**

**INITIAL:**

________________________________________

**TAG:**

________________________________________

**FOSC:**

________________________________________

**TAG APPROVAL DATE:** __________  **FOSC APPROVAL DATE:** __________

**ADEC**

**EXXON**

**USCG**

**NOAA**
NTR: The subsurface oil is buried 20 to 70 cm with fine sand. The 3 to 5 cm bar was producing no sheen. Work if performed could be done from Zodiac type boats only on good calm weather days.

NTR: Recommend removal of oily submersible surface material by mechanical means if other oil removal operation are to occur in the barrier islands. Glueing and vacuum by aircraft that should be conducted with precautions exercised to prevent adverse impacts to nesting colonies of seabirds and sea turtles and adjacent to nearby islands.

NTR: The small layer of subsurface oil does not appear to represent a source of contamination to biological resources in the area. Since this is a high energy beach, the remaining oil will continue to weather naturally. A removal of this sub-surface oil is deemed it needs to be done by mechanical means.
WA-2A (ADDC) S. FERSON

TREATMENT RECOMMENDED

WEST AMATULI IS A REMOTE LOCATION AND WA-2A IS LOCATED ON THE NORTH END OF THE ISLAND. WA-2A IS EASILY ACCESSIBLE ON THE NORTH END OF THE BEACH AREA. SUBSURFACE OIL IS LOCATED ON THE NORTH END OF THE BEACH AREA – 5 METERS WIDE ON THE NORTH END. NARROWING TO 2 METERS ON SOUTH IN A CONTINUOUS BAND 30 METERS IN LENGTH – THICKNESS OF OIL VARIED BETWEEN 3CM AND 7CM. OIL CHARACTER HAD A MEAN "MOR" RATING. SURVEY WAS DONE AT A TEMPERATURE OF 45°. IT IS SUSPECTED THAT WITH WARMER TEMPERATURES "MOR" COULD MOVE UPWARD AND ACHIEVE A "HOR" RATING. STRATA IN PITS WAS 90% GRAVEL AND SAND WITH THE TOP COUPLE OF CM NEAR THE SURFACE, CONSISTING OF PEBBLES. RECOMMEND MANUAL REMOVAL OF SUBSURFACE OIL (COBACAT COULD EXPEDITE REMOVAL IN FLOOD). DO NOT RECOMMEND TILLING.

TREATMENT RECOMMENDED WITH STIPULATIONS

IF THERE IS A CLEAN-UP BOAT DISPATCHED FROM SEI IT IS IN AREAS IN KODIAK OR IF THERE IS WORK DONE AT SEGMENTS NOT YET SURVEYED OR TESTED AND I WOULD STRONGLY RECOMMEND REMOVING THIS OIL. ON THE OTHER HAND DO NOT FEEL THAT SENDING A CLEAN-UP CREW TO ADDRESS THIS OILING INDIVIDUALLY WOULD BE COST EFFECTIVE. I WOULD THEN SUGGEST/REVIEW/OBSERVATION (MONITORING) RATHER THAN REMOVAL.
<table>
<thead>
<tr>
<th>L</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT TYPE</th>
<th>SHORE SLOPE</th>
<th>AREA</th>
<th>ZONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOC</td>
<td>AP</td>
<td>MS</td>
<td>TB</td>
<td>BOR</td>
<td>CV</td>
</tr>
<tr>
<td>A</td>
<td>T</td>
<td>C-D-BK</td>
<td>m</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>B</td>
<td>T</td>
<td>BR</td>
<td>L</td>
<td>34</td>
<td>34</td>
</tr>
<tr>
<td>C</td>
<td>T</td>
<td>BR-BK</td>
<td>L</td>
<td>35</td>
<td>35</td>
</tr>
</tbody>
</table>

**OG COMMENTS:** This is a pebble-cobble beach between bedrock promontories. Previous surveys of this segment indicate that most of the oiling of this beach was found at the northern end of the beach in a 4 by 80m mouse layer at the SUTZ. It is apparent from the pits dug in this survey that some of this oil has been dispersed and some has been buried by 20 to 70 cm of granular sediment. The oil now occurs as MOR (2 to 5 cm thick) 30m in length and 5m wide at the northern end, decreasing to 2m to the south and thinning. Often oiling of this beach is very minor, <1% occurring as ms/sol interstitially in bedrock and boulders.
<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN ZONE BELOW LEVEL</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>10</td>
<td>45</td>
<td>X</td>
<td>25 - 35</td>
<td>Y</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td>P-C-5</td>
</tr>
<tr>
<td>11</td>
<td>50</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>P-C-5</td>
</tr>
<tr>
<td>12</td>
<td>50</td>
<td>X</td>
<td>43 - 46</td>
<td>Y</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>P-C-5</td>
</tr>
<tr>
<td>13</td>
<td>50</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>P-C-5</td>
</tr>
<tr>
<td>14</td>
<td>61</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>P-C</td>
</tr>
<tr>
<td>15</td>
<td>60</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>P-C</td>
</tr>
<tr>
<td>16</td>
<td>60</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>P-C</td>
</tr>
</tbody>
</table>

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

OG COMMENTS:
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>
<td></td>
<td></td>
<td>Sculpins (7)</td>
</tr>
<tr>
<td>Seabirds</td>
<td>1</td>
<td>2 adults</td>
<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td></td>
<td>20</td>
<td>Blemnic (1), Eels (2)</td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td>2</td>
<td>10 Common x 5 Kittiwakes</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>1</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

MARINE MAMMALS

<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>0</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Pinnipeds(specify)</td>
<td>0</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Whales(specify)</td>
<td>0</td>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>

LAND MAMMALS

Shoreline subdivision map showing important biological features attached.

DATE: May 7, 1981

TIDAL HEIGHT (Range): 5.4 ft - 4.5 ft

SEW STATE: 2-5 ft, choppy

WIND SPEED/DIRECTION: 6-7 mph, NE

BILOGIST: H. Davis

TEAM: #6 Helo

PHOTOGRAPHS: ROLL #: 6-03

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

A. The oil is in the ebbing stage associated with biota. The beach and
   shoreline here have a fairly dense cover of intertidal organisms.
   The UIEZ where the oil occurs has patches of Halophytes
   (shingle bedrock and
   seaweed), and salt marshes. The oil, however, has been driven
   and is now on the surface of the shoreline. Common Algae were
   present. The amount of oil present is so small that easy removal difficult.

B.C. No biota present near the oil. If any clean-up is planned
   here, care should be taken to not disturb the existing
   intertidal community. (North of the beach)

WA - 2 is on an island with bud colonies and near by pine
   trees. Care should be taken when approaching.
This area has a moderately dense rocky intertidal community. **Nereocystis**, **Fucus**, **Barnacles**, **Littorina**, **Porphyra**, and **Flemington green algae** surround the solid spots. The MITZ is a rich, moderately dense community. MITZ of **Bladed Reds** and **kombu** was mostly under water.
1991 MAYSAP EVALUATION

SEGMENT: WA 002  SUB: A  REGION: KEN  SURVEY DATE: 5/7/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s) REstricted 5/15 - 9/1

Ecological/Constraints (see page two for details) Seabird colony

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

SHPO Signature: _______________________________ Date: 5/23/91

RECOMMENDATIONS:

TREATMENT REQUIRED (Y or N)  N  N  N

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

COMMENTS:

INITIAL:

____________________________________________________________

TAG:_____________________________________________________

FOSC:____________________________________________________

TAG APPROVAL DATE: 6/11/91  FOSC APPROVAL DATE: 6/11/91

ADEC: _______________________________ FOSC: _______________________________

EXXON: _______________________________

USCG: _______________________________

NOAA: _______________________________
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

TEAM NO. 6-H010  SEGMENT WA-2  SUBDIVISION A  DATE 7/1/91

ADEC
NAME  S. FERGUSON  SIGNATURE

[NTR] TREATMENT RECOMMENDED
SEE ATTACHED SHEET

EXXON
NAME  G. STILES  SIGNATURE  George L. Stiles  5/6/91

[NTR] The subsurface oil is buried 20 to 70 cm with fine sand. The 5 to 6 cm bar was producing no sheen. Work if performed could be done from Zodiac-type boats only on good calm weather days.

MANAGER
NAME  J. HARDER  OF USFWS  SIGNATURE

[NTR] Recommend removal of oily sediments by mechanical means if after oil removal operations are to occur in the Baranof Island, Uplands and Ceans by aircraft that should be conducted with precautions exercised to prevent adverse impacts to nesting colonies of seabirds and/or poisoning on and adjacent to nearby islands.

USCG/NOAA
NAME  CWO Spurr, L. HOFF  SIGNATURE  L. Hoff

[NTR] The small layer of subsurface oil may not appear to represent a source of contamination to biological resources in the area. Since this is a high energy beach, the remaining oil will continue to weather naturally. If removal of this subsurface oil is decided it needs to be done by mechanical means.
WEST AMATUWI IS A REMOTE LOCATION AND WA-2A IS LOCATED ON THE NORTH END OF THE ISLAND. WA-2A IS EASILY ACCESSIBLE ON THE NORTH END OF THE BEACH AREA. SUBSURFACE OIL IS LOCATED ON THE NORTH END OF THE BEACH AREA - 5 METERS WIDE ON THE NORTH END NARROWING TO 2 METERS ON SOUTH IN A CONTINUOUS BAND 30 METERS IN LENGTH - THICKNESS OF OIL VARIED BETWEEN 3CM AND 7CM. OIL CHARACTER HAD A MEAN "MOR" RATING. SURVEY WAS DONE AT A TEMP. OF 45°. IT IS SUSPECTED THAT WITH WARMER TEMPERATURES "MOR" COULD MOVE UPHILL AND ACHIEVE A "HOR" RATING. STRATA IN PITS WAS 90% GRAVULET AND SAND WITH THE TOP COUPLE OF CM. NEAR THE SURFACE CONSISTING OF PEBBLES. RECOMMEND MANUICAL REMOVAL OF SUBSURFACE OIL (COBECAT COULD EXPLODE). DO NOT RECOMMEND TILLING.

TREATMENT RECOMMENDED WITH STIPULATIONS

IF THERE IS A CLEAN-UP BOAT DISPATCHED FROM SITKA TO CLEAN AREAS IN KODIAK OR IF THERE IS WORK TO BE DONE AT SEGMENTS NOT YET SURVEYED ON WAHAT ISLAND I WOULD STRONGLY RECOMMEND REMOVAL OF THIS OIL. ON THE OTHER HAND IF I DO NOT FEEL THAT SENDING A CLEAN-UP CREW TO ADDRESS THIS OILING INDIVIDUALLY WOULD BE COST EFFECTIVE, I WOULD THEN SUGGEST/OBSERVATION (MONITORING) RATHER THAN REMOVAL.
**OG COMMENTS:** This is a pebble–cobble beach between bedrock outcrops. Previous surveys of this segment indicate that most of the oiling of this beach was found at the northern end of the beach in a 4 ft. to 8 ft. wide layer of oil in the surf zone. It is apparent from the pits dug in this survey that some of this oil has been dispersed and some has been buried by sand. The oil now occurs as a 3 to 5 cm thick, 30 m wide in the northern end, decreasing to 2 m to the south and thinning. Other oiling of this beach is very minor, < 1/10 occurring as MS/90% interstitially in bedrock and boulders.
<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 S</th>
<th>SURFACE-SUBSURFACE SEDIMENTS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>44</td>
<td>X</td>
<td>28 - 35</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>50</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>50</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>50</td>
<td>X</td>
<td>43 - 46</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>61</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>40</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>40</td>
<td>X</td>
<td></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:

reviewed 5/10/81 KG
Checked 5/10
Sketch Map (09)
WA-2-A
O. Fitzgerald
7 May 1991
1405-1510

Gulf of Alaska

Bedrock Exposure and Tails from Grain Slide

MS/SON NR SURF
2 x 35 m, <190
Cracks in Bedrock

ISOLATED
Bedrock Outcrops

MS AT UETZ
Highly weathered
44 m, <190
Behind Bedrock

SQR AT UETZ
7/9 m, <190
In Cracks of
Bedrock and boulders

Bedrock
LOGS
PHOTOS
**Photo locations**

Map 6-08

# 15-18

**Sketch Map (06)**

WA - 2 - 19

O. Fitz Gerald

7 May 1991

1405 - 1510

---

**Subsurface Cliffs**

5 to 2m by 30m

MOR. 20-70 thick

---

**Bedrock Exposure and Talus from Debris Slide**

---

**Boulder Beach**

---

**Gulf of Alaska**

---

**ISOLATED Bedrock Outcrops**

---

**MS/SON at UTCZ**

2 x 35m, < 190

CRACKS IN BEDROCK AND TALUS BOULDERS

---

**MS at UTCZ**

Highly weathered 9/4 m², < 190

IN CRACKS OF BEDROCK AND BOULDERS

---

**SON at UTCZ**

9/4 m², < 190

IN CRACKS OF BEDROCK AND BOULDERS

---

---
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM #6 Helo
SEGMENT # WA-02
SUBDIVISION A
SEA STATE 1-5 ft, choppy
PHOTOGRAPHS: ROLL # 6-03

DATE May 7, 1991
TIDAL HEIGHT (Range) 5.5' - 4.5' (14'-15')
BIOMYST H. Davis
WIND SPEED/DIRECTION 6-7 MPH NE

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):
A. This oil is in the only area surveyed with biota. The bedrock and
boulders here have a fairly dense cover of subtidal organisms.
The UTTZ where oil occurs has patchy Fucus (with spatula-shaped and
conical or rounder) Mytilus, and moderately dense Ciliates. The
UTTZs in the outer 4 zones empty within about 20% of the time, and Nudibranchs
were present. The UTTZ was densely covered on the surface of the bedrock
on prominent bedrock. Common algae were Fucus, Endocladiella, Cladophora,
Eulalia, Halosaccion, and Corallinae. Animals present Mytilus, Bulimus
limpets (Urticaria, helena) Eulalia, Pagiidae, Sculpins, and ells. The amount
of oil present is so small that any removal efforts would be more
diluted than allowing the oil to stay.

B. No biota present near the oil. If any clean up is planned,
here care should be taken to not disturb the rocky inter-
Tidal community at A (beachhead of the breach)

WA-2 is an island with bird colonies and near by pineapple
houlouts care should be taken when approaching.

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

<table>
<thead>
<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>SPECIES OBSERVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagles</td>
<td>1</td>
<td>2 adults</td>
<td>Sculpings (4)</td>
</tr>
<tr>
<td>Seabirds</td>
<td>1 possible</td>
<td>20</td>
<td>Blennies (1) Efts (2)</td>
</tr>
<tr>
<td>Waterfowl</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td>2</td>
<td>10 Common Kittiwakes</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 (ex. sparrows)</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

MARINE MAMMALS

<table>
<thead>
<tr>
<th>SPECIES</th>
<th># OBSERVED</th>
<th>OBSERVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sea Otters</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pinnipeds (specify)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Whales (specify)</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

LAND MAMMALS

Shoreline subdivision map showing important biological features attached.
<table>
<thead>
<tr>
<th>XXXX</th>
<th>Wide</th>
<th>WA002 A</th>
</tr>
</thead>
<tbody>
<tr>
<td>///</td>
<td>Medium</td>
<td>ADEC Subsegment Length: 603m</td>
</tr>
<tr>
<td>----</td>
<td>Narrow</td>
<td>METERS</td>
</tr>
<tr>
<td>TTTT</td>
<td>Very Light</td>
<td></td>
</tr>
<tr>
<td>0000</td>
<td>No Oil</td>
<td>AK State Plane Zone 6</td>
</tr>
</tbody>
</table>

Subdivision Field Map
Map Key: KENWA002A
Name: D. Fitzgerald
Date: 7 May 1991
Date Entered:

Rev 95 May 10
**ADDENDUM: SUBDIVISION CONSTRAINTS**

**SEGMENT WA-2 SUBDIVISION A (1 of 1)**

**WORK WINDOW**

| Manual Pickup | OPEN |

**ARCHAEOLOGICAL STANDARD CONSTRAINT**

If cultural resources are uncovered, PHONE 564-3274.

**APPLICABLE ECOLOGICAL TIME CONSTRAINTS**

5T Bald Eagle Nest NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision A work site.

**OTHER ECOLOGICAL CONSIDERATIONS**

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

---

**FOSC:** [Signature] Date 6/13/90

**Prepared by:** [Signature] Date 6/12/90
ECOLOGY MAP
SEGMENT WA-2
SUBDIVISION A (___of___)

Exxon Company, USA

WORK AREA

★ Seabird Colony
▲ Eagle Nest
SHORELINE EVALUATION

SEGMENT ST/ WA-02 SUBDIVISION A (1 OF 1) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5T All bald eagle nests (3/1 to 6/1)—Active eagle nests (3/1 to 9/1)
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: 4/9/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 603 m: No Oil 0 m
Subsurface Oil Observed: Yes ___ No ___ Maximum Depth

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

COMMENTS: Recommend manual removal of oiled debris. Work should be conducted after 6/1 with permission of USFWS due to eagle nest constraint.

TAG COMMENTS:

TAG APPROVAL DATE: 4/20/90
ADEC ADEK WELSER ATHERTON
EXXON N职责 778 陆
NOAA Raul Waramm 陆
USCG KENNETH "K" LEONARD

FOSC: [Signature] DATE: 4/26/90
Pick up marine habitat accessibility and safety permit.
REGION: KENAI

SEGMENT: ST/WB-01

SUBDIVISIONS: A (1 OF 2)
SHORELINE EVALUATION

SEGMENT ST/ WB-01  SUBDIVISION A (1 OF 2)  DATE  4/8/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
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 166 m: Narrow 286 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No_____ Maximum Depth 27 cm

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

COMMENTS: Recommend tarmac removal, manual pick up of mouse, oiled debris (debris, vegetation), and oiled logs if >10% coverage and splash impact. Work should be conducted between 5/16 and 7/9 due to salmon stream constraints.

TAG COMMENTS:__________________________________________________________

TAG APPROVAL DATE:__________
ADEC .......................................................... FOSC: __________ DATE: ______
EXXON ..........................................................
NOAA ..........................................................
USCG ..........................................................
Salmon stream mouth - fry outmigration (5/1 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
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)

30, 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.

SR
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.

ST
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)
Forests Service cabins (6/1 to 9/15)
Lodge (6/1 to 9/15)
Special use destination

7Z
Subsistence area: Salmon harvesting (5/1 to 9/30)
Finfish harvesting

7HH
Deer harvesting (8/15 to 2/28)

7L
Invertebrate harvesting
For Codes 7Z through 7LJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
FIEF D SHORELINE COMMENT SHEET

SEGMENT ST

SUBDIVISION: A

DATE 4/8/90

NAME R. Bryan Hirst

SIGNATURE R. Bryan Hirst, DC

[ ] NO TREATMENT RECOMMENDED

[ X] TREATMENT SUGGESTED

COMMENTS

I agree with the findings of the Shoreline Erosion Summary Sheet for WB-001 Subdivision A.

ADEC

NAME Russell Munroe

SIGNATURE Russell Munroe

[ ] NO TREATMENT RECOMMENDED

[ X] TREATMENT SUGGESTED

COMMENTS

Please see attached 1 page

LAND MANAGER

NAME Patrick Dunn

SIGNATURE Patrick Dunn

[ ] NO TREATMENT RECOMMENDED

[ X] TREATMENT SUGGESTED

COMMENTS

Manual pickup of exposed asphalt and mouse entries should help in further cleanup of this Subdivision. The pond in the back will need to be emptied after the water level drops to check for mouse entries. A method needs to be come up with to remove any remaining subsurface... in this Subdivision also.
This subdivision consisted of a long tidal flat, a lagoon which feed an anadromous stream bordered on the north and south by rock faces. There was a band of oil stain and coat on the south shore rock face of the lagoon. A few mousse patties were found in the lagoon and a small area of asphalt was found on the bank of the lagoon. Because of the height of the water and the ice only the ocean side of the lagoon was looked at. On the north bank of the stream in the storm berm a buried lens of mousse saturated sediments was observed. In one place the lens appeared from the berm as a soft asphalt mat on the surface. In the MITZ and UITZ of the tidal flats there was a splashy distribution of asphalt patties. Along the south rock face of the tidal flats there was a patchy band of cover, coat and stain on the rock face. Additionally along the south shore there was a small bight which had a patchy band of asphalt between the cobbles.

Recommended treatment:

Manual pick up of the asphalt in the tidal flats and in the small bight on the south shore. Manual removal of the buried lens of oil in the storm berm. A complete survey of the lagoon picking up any oil encountered as it is found.
SHORELINE OILING SUMMARY

OG: Randy Siegel  USCG  Bryan Hinkle  SEGMENT ST: WB-1 (2.55, 1.05)
BIO: Mike Gues  LAND REP (Pat Wynn, Steve)  SUBDIVISION: A  (1.0, 2)
EXXON: John Dunn  ADEC  Russell Kinkle  TIME 09:30  10/10/90
TEAM NO: 17  TIDE LEVEL: <1.0  10.56  DATE 4/1980  EST.
SUBDIVISION LENGTH: 4400 m
UPLANDS DESCRIPTION:  Grass  Forest  Rock
SURVEYED FROM:  Foot  Boat  Helo  WORKING DIRECTION:  S to N
SUBSURFACE SEDIMENTS:  C  10%  G  15%  S  10%  M  5%  V  0%
SLOPE:  Lang  25%  Hang  75%  Var  0%  WAVE EXPOSURE:  Low  Med  High
OIL CATEGORY:  LENGTH: W 1/10  M  1/10  N  1/10  M  VL 1/10  NO 1/10

SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL/FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPIRALT PAVEMENT</td>
<td>+/x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POOLED</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVER</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COAT</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAIN</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOUSSE</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATTIES</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TARBALLS</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td>v</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO OIL</td>
<td>v</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PAVEMENT:  Holes: 20 sq. m by 2 cm
PATTIES/TARBALLS: 7.5 bags
NEAR SHORE SHEEN?  YES  BR  RW  SL  TI

OILED DEBRIS  AMOUNT
Logs          X
Vegetation    X
Trash         X
Debris        X

Photographs:
Roll No: 5T-17-5
Frames: 19-24, 27-29

SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>OILED DEBRIS</th>
<th>OIL/FILM COLOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>40</td>
<td>x</td>
<td>0-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>40</td>
<td>x</td>
<td>0-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>40</td>
<td>x</td>
<td>0-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>10</td>
<td>x</td>
<td>0-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>30</td>
<td>x</td>
<td>7-13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>30</td>
<td>x</td>
<td>3-0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

COMMENTS:
This subdivision consists primarily of a large tidal lagoon with a stream flowing through it. The lagoon is covered primarily with pebbles, gravel, and sand. Various areas of oiling were observed in the lagoon, some of which occurred in the mud. A layer of mousse was also observed near the stream channel, and was probably buried by sand and gravel. Oil deposits at some time in the past were observed, but the bottom of some pools was in the unvegetated portion of the lagoon. *Sheen on posted water.

Page 1 of 2

REVIEWED  DATE  12 Apr 90
### Subsurface Oil (Continued)

<table>
<thead>
<tr>
<th>Pit No.</th>
<th>Pit Depth (cm)</th>
<th>Subsurface Oil Character</th>
<th>Oiled Interval (cm)</th>
<th>Below Oil Film Color</th>
<th>Pit Zone</th>
<th>Ana</th>
<th>Subsurface Sediments</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 40</td>
<td>X</td>
<td>24 - 27</td>
<td>X</td>
<td>X</td>
<td>S</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 30</td>
<td>X</td>
<td>0 - 0</td>
<td>X</td>
<td>X</td>
<td>G, S</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Comments**

**Reviewed:** BAT  
**Date:** 12 Apr 70
SHORELINE ECeOLOGICAL SUMMARY

Segment ST/WB1 Subdivision A Date (mo/day/yr) 4/8/90

(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 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

<table>
<thead>
<tr>
<th>Density</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U 1M 1L</td>
<td>2 3 4 5</td>
<td>6 7 8</td>
<td>9 10</td>
</tr>
</tbody>
</table>

MYTILUS

<table>
<thead>
<tr>
<th>Density</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U 1M 1L</td>
<td>2 3 4 5</td>
<td>6 7 8</td>
<td>9 10</td>
</tr>
</tbody>
</table>

GASTROPODS

<table>
<thead>
<tr>
<th>Density</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U 1M 1L</td>
<td>2 3 4 5</td>
<td>6 7 8</td>
<td>9 10</td>
</tr>
</tbody>
</table>

FUCUS

<table>
<thead>
<tr>
<th>Density</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U 1M 1L</td>
<td>2 3 4 5</td>
<td>6 7 8</td>
<td>9 10</td>
</tr>
</tbody>
</table>

Wildlife Observations/General Comments:

See attached sheets

Ecological Considerations:

1A 1B
The main feature of this subarea is the broad, gently sloping sand/gravel/coarse boulder delta around the mouth of the small stream draining a ponded area of drowned forest. The stream is quite small (typically 5-10ft by 3-4 in deep) but was reportedly used by pink salmon last summer. No salmonid fry were seen, but a number of sticklebacks were observed in the pool. Cobbles and boulders along the sides and near the mouth of the stream are densely populated with Fucus, barnacles, mussels, limpets, and whelks. Hermit crabs, fish (gunnels), worms, etc., are abundant among the rocks. Various species of algae including Ulva, Halosaccion, Cladophora, Rhodymenia, and Plecanium are scattered among the Fucus on the MTZ and LTZ.

At the south end of the segment is a bedrock outcrop with dense covering of barnacles including large, old Balanus cariosus and smaller B. cariosus and B. glandula on horizontal surfaces on the outcrop at the +5-6 ft level. Many (up to 5%) of the smaller (4-8 mm) barnacles of both species are dead, whereas few are dead on vertical faces, and nearly all the large barnacles are alive. A few starfish (Pisaster) and large...
chitons (Katharina) occur in the LTZ or outcrop.

Toward the eastern end of the substation on the north shore away from the stream mouth, plants and animals are much more sparse among the cobbles and boulders than at the head of the bay.
XXX Wide
/// Medium
-- Narrow
TTT Very Light
000 No Oil

EXXON Segment Length: 2116m
Scale 1" = 500'

Map Key: PWS-WB-1b
Name: [signature]
Date: [signature]
Data Entered: [signature]
REGION: KENAI

SEGMENT: ST/WB-01

SUBDIVISIONS: B (2 OF 2)
SHORELINE EVALUATION

SEGMENT ST/ WB-01  SUBDIVISION B (2 OF 2) DATE  4/8/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

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

SHPO SIGNATURE:____________________ DATE:____________________

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 199 m: No Oil 146 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
___ Tarmat: ___ Breakup  ___ Beach Cleaner
___ Removal  ___ Other (see comments)

COMMENTS: Recommend manual pick up of oiled debris and trash. Work should be conducted between 5/16 and 7/9 due to salmon stream constraint.

TAG COMMENTS:

TAG APPROVAL DATE:__________

ADEC  EXXON  NOAA  USCG

TAG APPROVAL DATE:__________

FOSC:__________ DATE:__________
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 sites

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 7/11)
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.

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)
Anchorage (6/1 to 9/15)
Forest Service cabins (6/1 to 9/15)
Lodge (6/1 to 9/15)
Special use destination

Subsistence area:
Salmon harvesting (5/1 to 9/30)
Finfish harvesting
Deer harvesting (8/15 to 2/28)
Invertebrate harvesting

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

SEGMENT #1, WB-1  SUBDIVISION: B  DATE 4/8/90

USCG NAME: R. Bryan Britt
SIGNATURE: R. Bryan Britt

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Agree with Shoreline Oiling Summary Sheet.

Only clean up is small amount of oily debris left from clean up crew last year.

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Pick up poms. and oily neat. otherwise treatment recommended.

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Pick up oiled debris in subdivision WB-1-B

LAND MANAGER

NAME: Patrick Donnan
SIGNATURE: Patrick Donnan

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS
SHORELINE OILING SUMMARY

DATE: 4/1/90
TEAM NO: 1
TIDE LEVEL: +3.6 - 10 + 6.2

ST. SUBDIVISION LENGTH: 3445.8 cm
LAND REP: Pat Verman
SUBDIVISION: B
SUBSURFACE OILED BELOW OIL FILM

SLOPE: Lang 10 % Hang 42 % Vert 50 %
WAVE EXPOSURE: Low No Mod High

OIL CATEGORY LENGTH: W 142 m M 144 m N 364 m

SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT COVER</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>POOLED COVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVER</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>STAIN</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>MOUSSE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATTIES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TARBALLS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO OIL</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

PAVEMENT: H ( ) SM 72,3 sq. m by 2% cm
PATTIES / TARBALLS: 0 BAGS
NEAR SHORE SHEEN? NO BR RW SL II

OILED DEBRIS AMOUNT DEBRIS COLLECTED
Logs SM MD LG
Vegetation
Trash X
Debris

Photographs:
Roll No. ST-17-5
Frames 25, 26, 27, 29

SUBSURFACE OIL

<table>
<thead>
<tr>
<th>HIT NO</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL (CM-CM)</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANA</th>
<th>SUBSURFACE SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

COMMENTS
This subdivision consists of a long stretch of southfacing shoreline. Much of the eastern portion of the subdivision contained high-angle or vertical rock cliffs and was not accessible. Very light oiling, common to cliffs and crevices, were present along some of the western portion, and no oiling was observed in other portions.

REVIEWED DAT DATE 12 Apr 90

Page 1 of 1
SEGMENT 5: A - D

SUBDIVISION: B

DATE 4/8/90

CHECKLIST

- N Arrow
- Appro. Scale
- Seg/Sub Boundary
- Oil Dist.
- Width
- Length
- % Cover
- Substrate Character
- Est. HW/LW
- SSL
- Profile Location(s)
- Profile(s)
- Pit Location(s)
- Photo Location(s)

LEGEND

1 △
 Pit: No Subsurface Oil

2 △
 Pit: Subsurface Oil

CT/C
 Continuous Distribution

CT/B
 Broken Distribution

CT/P
 Patchy Distribution

CT/S
 Splashed Distribution

Oil/ed Vegetation

1 ◆
 Photo location, direction, and number

Oil Character Length (m): AP NA, PO 8A, CV VI, 320, ST 32, MS 8A, PT 8A, TB 8A, FL 8A, NO 32
### SHORELINE ECOLOGICAL SUMMARY

**Segment ST** / **Subdivision** B / Date (mo/day/yr) 4/8/90 / **Time** (24 hr) 1015-1035 / **Biologist** M. H. Fawcett

(A) **Substrate type and % of segments:**
- (1) Bedrock 40
- (2) Boulder 40
- (3) Cobble 10
- (4) Pebble 5
- (5) Sand 5
- (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:**
- Biota: (upper-U; mid-M; low tidal-L)
- Juveniles / adults (X), new settlement (3)

### BARNACLES

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U 1M 1L</td>
<td>U</td>
<td>M</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>1U 1M 1L</td>
<td>U</td>
<td>M</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>1U 1M 1L</td>
<td>U</td>
<td>M</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

### MYTILUS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U 1M 1L</td>
<td>U</td>
<td>M</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>1U 1M 1L</td>
<td>U</td>
<td>M</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>1U 1M 1L</td>
<td>U</td>
<td>M</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

### ASTROPODS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U 1M 1L</td>
<td>U</td>
<td>M</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>1U 1M 1L</td>
<td>U</td>
<td>M</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>1U 1M 1L</td>
<td>U</td>
<td>M</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

### FUCUS

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1U 1M 1L</td>
<td>U</td>
<td>M</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>1U 1M 1L</td>
<td>U</td>
<td>M</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>1U 1M 1L</td>
<td>U</td>
<td>M</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

**Wildlife Observations/ General Comments:**
- Biota generally much less abundant than in subsection WB/1A

**Ecological Considerations:**
- None
XXX Wide
/// Medium
--- Narrow
TTTT Very Light
0000 No Oil

WB-1

EXXON Segment Length: 2116m
Scale 1" = 500'

Map Key: PWS-WB-1b
Name: [Blank]
Date: [Blank]
Data Entered: [Blank]
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT WB-1 SUBDIVISION A (1 of 2)

WORK WINDOW

<table>
<thead>
<tr>
<th>Manual Pickup</th>
<th>OPEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tarmat Removal</td>
<td></td>
</tr>
</tbody>
</table>

| Bioremediation Over 100m From Stream | OPEN |
| Manual Tilling/Raking                |      |

| Bioremediation Less Than 100m From Stream | WORK PRIOR TO 7/1 (ADF&G MONITOR REQ.) |
| Manual Tilling/Raking                  |      |

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

ADF&G catalogued anadromous stream (242-32-10155) is in Subdivision A. This subdivision is closed to bioremediation and manual raking/tilling less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation and manual tilling/raking are permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation and manual raking/tilling more than 100m from stream. No constraint to manual pickup and tarmat removal.

1J Purse Seine Area

No constraint to manual pickup and tarmat removal; closed to bioremediation and manual tilling/raking after 7/1.

5T Bald Eagle Nest

NO CONSTRAINT. USFWS bald eagle Impact assessment completed on 5/19/90 by Mary Portner indicates no active nests within 400m of the work area.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or bank. No flushing of pollutants or sediment into stream drainage; do not allow InPlo to enter stream flow. On-site examination and consultation by ADF&G monitor is required prior to bioremediation in order to authorize a setback distance from the stream during chemical application; if ADF&G monitor's presence is impossible, authorization may be given by the ADEC monitor. Restrict boat and air traffic to essential minimum after 7/1. Avoid any unnecessary disturbance or damage to uncollied biota and substrate.

SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM (STREAM NO. 242-32-10155) FOR ADDITIONAL CONSTRAINT INFORMATION

TAG APPROVAL DATE 5/29/90
ADF
EXXON
NOAA
USCG

FOSSO Date 5/29/90
Incorporates information from USFWS Bald Eagle survey 5/19/96.

ECOLOGY MAP 5/28
SEGMENT WB-1
SUBDIVISION A (1 of 2)
METERS

Anadromous Stream 242-32 - 10/795
Work Area

Active Nest

Inactive Nest

Inactive Nest

No Nest Observed
No Adults Seen

Seabird Colony

Eagle Nest
SHORELINE EVALUATION

SEGMENT ST/ WB-01 SUBDIVISION B (2 OF 2) DATE 4/8/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to uncoiled biota and substrate.

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

SHPO SIGNATURE: [Signature] DATE: 4/20/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 199 m: No Oil 146 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

X Treatment Recommended Snare/Absorbent Booms
X Manual Pickup Oil Snares (pom poms)
X Bioremediation Absorbents (pads, rolls, etc)
X Tarmat: Breakup Spot Washing: Wands
X Removal Beach Cleaner
X Other (see comments)

COMMENTS: Recommend manual pick up of oiled debris and trash. Work should be conducted between 5/16 and 7/9 due to salmon stream constraint.

TAG COMMENTS:

TAG APPROVAL DATE: 4/20/90

ADEC Art Westphal
EXXON John Tan
NOAA Bud Westcott
USCG

FOSC: [Signature] DATE: 5-1-90
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT WB-1 SUBDIVISION B (2 of 2)

ARCHAEOLOGICAL STANDARD CONSTRAINT
If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

<table>
<thead>
<tr>
<th>1A,1B</th>
<th>Salmon stream</th>
<th>NO CONSTRAINT. ADF&amp;G catalogued salmon stream (242-32-10150) is located in Subdivision A more than 100m from recommended treatment area.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1J</td>
<td>Purse Seine Area</td>
<td>No constraint to manual pickup or tarmat removal.</td>
</tr>
<tr>
<td>5T</td>
<td>Bald Eagle Nest</td>
<td>NO CONSTRAINT. USFWS bald eagle impact assessment completed on 5/19/90 by Mary Portner indicates no active nests within 400m of the work area.</td>
</tr>
</tbody>
</table>

OTHER ECOLOGICAL CONSIDERATIONS
Restrict boat and air traffic to essential minimum after 7/1. Avoid any unnecessary disturbance or damage to uniled biota and substrate.

TAG ADDENDUM DATE 5/28/90
ADEC
EXXON
NOAA
USCG

Prepared by: Andrew Mage Date: 5/28/90
ECOLOGY MAP
SEGMENT WB-1

- Active Nest
- Inactive Nest
- 100m Zone
- Anadromous Stream

- Seabird Colony
- Eagle Nest

Incorporates information from
USFWS Eagle Survey 4/13/90
SHORELINE EVALUATION

SEGMENT ST/ WB-01 SUBDIVISION A (1 OF 2) DATE 4/8/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
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: [Signature] DATE: 4/20/90

OILING CATEGORIZATION:
Wide 0 m: Medium 166 m: Narrow 286 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 27 cm

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

COMMENTS: Recommend tarmat removal, manual pick up of mousse, oiled debris (debris, vegetation), and oiled logs if 10% coverage and splash impact. Work should be conducted between 5/16 and 7/9 due to salmon stream constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/20/90
ADEC ART WEINER [Signature] FOSC: [Signature] DATE: 5/12/90
EXXON [Signature] NOAA [Signature] USCG [Signature]
SEGMENT ST/ WB-01  SUBDIVISION B (2 OF 2) DATE 4/8/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
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: 4/20/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 199 m: No Oil 146 m
Subsurface Oil Observed: Yes__ No_X__ Maximum Depth_____ m

RECOMMENDATIONS:
__X__ Treatment Recommended
__X__ Manual Pickup
__X__ Bioremediation
__X__ Tarmat: Breakup
__X__ Removal
__X__ Spot Washing: Wands
__X__ Oil Snares (pom poms)
__X__ Absorbents (pads, rolls, etc)
__X__ Beach Cleaner
__X__ Other (see comments)

COMMENTS: Recommend manual pick up of oiled debris and trash. Work should be conducted between 5/16 and 7/9 due to salmon stream constraint.

TAG COMMENTS:

TAG APPROVAL DATE: 4/20/90
ADEC ADEXXON EXXON NOA USCG

FOSC: _______________ DATE: 5-12-90
1991 MAYSAP EVALUATION

SEGMENT: WB 001  SUB: A  REGION: KEN  SURVEY DATE: 5/15/91

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

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

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>
<td>___</td>
<td>_____</td>
</tr>
<tr>
<td>Manual Pickup (Check as Req.)</td>
<td>_______</td>
<td>___</td>
<td>_____</td>
</tr>
<tr>
<td>Spot Washing</td>
<td>_______</td>
<td>___</td>
<td>_____</td>
</tr>
<tr>
<td>Bio-Customblend Only</td>
<td>_______</td>
<td>___</td>
<td>_____</td>
</tr>
<tr>
<td>Bio-Inipol/Customblend</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>
<td>___</td>
<td>_____</td>
</tr>
</tbody>
</table>

COMMENTS:

INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: ________  FOSC APPROVAL DATE: ________

ADEC __________________________  FOSC __________________________

EXXON __________________________

USCG __________________________

NOAA __________________________
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

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

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

Anadromous Stream: Unlimited treatment up to stream bank between May 15 and July 10. ADF&G approval required for work after July 10. Fish Habitat Permit required for instream work. ADF&G approval required for bioremediation within 100 meters of anadromous stream after July 10.
A Thick layer of brown moss, mixed with organic debris is submerged on the southwest side of the lagoon and is about 6m wide by 9m long. This oil should be removed from the lagoon which is habitat for migrating pink salmon. Otherwise, it is submerged and creates a sheet on the surface when wind passes through it, however, the character of this oil/debris mixture would be difficult to recover.

I concur with comments made by NOAA on oil located on the side beach, along borders on the north beach fringe and the south rookery area.

EXXON
NAME: Rex Coulter
SIGNATURE: Rex D. Coulter

☐ NTR
Location E is main area of concern in this subdivision. Intrusion into the area (Loc. E) to recover the SOR incorporated into the decaying organic matter would provide no major benefit. Recovery in the lagoon area would be difficult and should not pose any threat to the environment. Disparition and degradation would be left to natural processes. The healthy and abundant biota at this subdivision is quite impressive.

ANDMANAGER
NAME: Seraphim Muggnuck of Port Graham
SIGNATURE: 

☐ NTR
Treatment recommended on back of black lagoon. Manual pick-up stains on bank and 80' parallel on the one and 626 meters around the corner in the curve. 1 x 4 band vertical face 2x8 meter 2x8 meter 2x8 meter set out by the entrance.

USCG/NOAA
NAME: Chief Jensen Gary Shigemura
SIGNATURE: 

☐ NTR
I would recommend "NTR" on this segment. It should be noted that there is some SOR (2x6m x 0.4m thick) at the head of the lagoon. This can be found about one meter under the water. Lee Glenn ADF&G was concerned about it it is accessible with workers wearing hip boots. It took the 3 hours work, however, I would guess that due to the degraded condition of this SOR it probably would not be a significant threat to the environment.

Surveyed portion of the segment was a broad, low-sloping cobble beach with steep rock faces comprising northeast to south perimeters, and dead trees bordering to the northwest. A stream dissected the beach, and this stream flowed from a tidally-influenced lagoon to the west. A large mussel was covered and all to lower intertidal portion of the beach, and the mat was in the pebble substrate. Littorina shells were also abundant in rockier substrate around the perimeter. Stain and coat were observed on the rock faces to the south of the tidal flat, at the southeast end of the surveyed portion. SOR was found on and removed from angular boulder in upper substrate in the intertidal flat of the south. An isolated patch of SOR was observed from similar substrate on the north side of the beach, on the beach or tidal flat itself. Concrete lumps of SOR were found at isolated locations in the mid to upper intertidal flat of the south. These were also recovered, a larger band of SOR was discovered on the northwest side of the stream in the intertidal flat. To the extent possible was recovered, the lagoon above the beach at a seemingly super-intertidal level. It is obviously been oiled (coat, bathtub rings still visible on south wall bordering lagoon) but no other oiling was easily accessible. AD&D to REPS Hill and Glenn did venture to the south west corner of the lagoon and found relatively larger amounts of SOR in a vegetative matrix. i.e. spruce needles.
MAYSAP SHORELINE OILING SUMMARY

TEAM NO. G-HELO
OG: D. Fitzgerald
ADCO: Lee Glen
TEAM NO. G-HELO
EXXON: R. Coulter

BIO: T. Schmieder
LANDMANAGER: S. Meckamick
USCG/NOAA: Chief Jensen / C. Shigenaka

DATE: 15 Jan 1991

SEGMENT: WB-01
SUBDIVISION: A

TIME: 9:25 to 10:40
TIDE LEVEL: 3.0 ft. to 1.5 ft.
ENERGY LEVEL: □ H  □ M  □ L

SURVEYED FROM: ☑ FOOT  □ BOAT  □ HELO
WEATHER: ☑ SUN  ☑ CLOUDS  □ FOG  □ RAIN  □ SNOW

TOTAL LENGTH SHORELINE SURVEYED: 451 m
NEAR SHORE SHEEN: □ BR  ☑ RB  ☑ SL  □ NONE

EST. OIL CATEGORY LENGTH: W _ m  M _ m  N _ m  VJ _ 22 m  NO _ m
US _ m

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN BELOW</th>
<th>H20 LEVEL</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
<th>SURFACE-SUBSURFACE SEDIMENTS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></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 = 11-60%; S = 1-10%; T < 1%
SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE
PHOTO ROLL NO: MAYSAP- 6 _ 15 FRAMES 12-18

OG COMMENTS:
This segment is located along the north shore of Windy Bay in a small embayment with ANAD COD Stream 242-32-10155. The embayment contains a small lagoon behind a beach and drowned forest complex. Most of the embayment is subtidal consisting of boulders and cobbles with granules and sand. The oiling is found in three major areas: 1) In a small pocket beach at the southwest end of the segment consisting of CT-ST and SOX in a boulder region, 2) within the subtidal portion of the embayment where small SOX areas are found, and 3) in the lagoon where SOX occurs a meter below the water such VECO workers collected all observed and accessible oiled sediment, totaling 444 bags.

Reviewed: 5.17.91
P.U. * VEBO WORKERS removed.
All seen and accessible 
oiled sediments. Lagoon
SOE was not collected due 
to the necessity of chest
workers to reach the under-
water oiled organic material.

A1. CT/ST
1. 1 by 4m, <1% 
on vertical face
2. 2 by 3m 
E/U in Boulder 
region

BEGIN 
SEMENT
WB-02-A

Boulder - Cobble - Pebble - Granule - Sand Beach

D. SOE
4 by 8 m <1%
E/U around
Boulder + Cables

B. SOE
1 m x 1 m
E/U cables

C. SOE
1 by 2 m <1%
1 m x 1 m
around C + B

evergreens
Deciduous trees
Grassy area
logs
Rock slope face
photos

LAGOON

KENAI PENINSULA

ANAO STREAM
# 242-32-1055

Sketch Map 06
WB-01-A
D. Fitzgerald
15 May 1991
9:25 - 10:40

WINDY
Bay

reviewed 5.17.92
Scott Stueven
RU. VECO WORKERS REMOVED ALL SEEN AND ACCESSIBLE OILED SEDIMENTS. LAGOON SOR WAS NOT COLLECTED DUE TO THE Necessity OF CHEST WADERS TO REACH THE UNDERWATER OILED ORGANIC MATERIAL.
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 6
SEGMENT # WB-004
SUBDIVISION A
SEA STATE Light seas
PHOTOGRAPHS: ROLL #
FRAMES #

TIDAL HEIGHT (Range) -30 to 0 ft
BIOLOGIST T.K. Schroeder
WIND SPEED/DIRECTION S.W. = 5-10 mph

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

(A) = hard intertidal on the southern side of the beach
Segments containing a thriving community of littorinid
shells, barnacles and various types of algae, very
few if any were washed over by the tide. The flat
shells tended to anchor the sand, and prevent
waves and currents from eroding the mudflats.

The MITZ, a small patch of eelgrass, often bordered
the MITZ, but C/I oil residue affected these areas.

(B + D) = again a thick crescent shaped coal, located on the
interior side from a hard intertidal area, mostly
along the MITZ to the MITZ. Vegetation and
Fish observed were very numerous.

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS

<table>
<thead>
<tr>
<th>Species</th>
<th># of Species</th>
<th>Total Birds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagles</td>
<td>1</td>
<td>100</td>
</tr>
<tr>
<td>Seabirds</td>
<td>1</td>
<td>50</td>
</tr>
<tr>
<td>Waterfowl</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td>1</td>
<td>15</td>
</tr>
<tr>
<td>Shorebirds</td>
<td>1</td>
<td>50</td>
</tr>
<tr>
<td>Corvids</td>
<td>1</td>
<td>100</td>
</tr>
<tr>
<td>Other Birds</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

FISH OBSERVED

No fish were observed.

Shoreline subdivision map showing important biological features attached.
Dense Fucus in seagrass beds, sea grass and barnacles on abundant arrow rocks.

Sand fleas, limpets, barnacle spider, and old barnacles thriving on large coral. In HTH, sculpin, and small fish observed.

Mussel 1

Fucus 5

F - cs 15
### ENVIRONMENTAL SENSITIVITIES:

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

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

### ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO Signature: ___________________________ Date: ____________________

### RECOMMENDATIONS:

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

**COMMENTS:**

**INITIAL:**

TAG: ____________________________

TAG APPROVAL DATE: ____________

FOSC: ____________________________

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.

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

**NAME:** Steve Ferguson  
**SIGNATURE:**

- **TREATMENT RECOMMENDED:**
  - I only observed a small amount of S/T CT on a couple of boulders.

**EXXON**

**NAME:** George L. Stiles  
**SIGNATURE:** George L. Stiles  
**DATE:** 5/24/91

- **NTR:** No oil found other than a small trace of CT + S.

**ANDMANAGER**

**NAME:** Pat Kehner  
**OF:** Port Control  
**SIGNATURE:** Pat L. Kehner

- **NTR:** No oil found by myself.

**USCG/NOAA**

**NAME:** [Signature]

- **NTR:** Very little oil found.

**TEAM NO.:** 4  
**SEGMENT:** 616-001  
**SUBDIVISION:** B  
**DATE:** 5/22/91
**Survey Details**

- **Team No.**: D W. S. S.
- **BIO**: J. Batch
- **Landmanager**: P. Neumann
- **USCG/NOAA**: R. St. A. McDonald
- **Date**: 5-126-91
- **Time**: 29:51 to 19:04

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

**Surveyed From**:
- Sun
- Clouds
- Fog
- Rain
- Snow

**Tide Level**: 3' to 4' ft.

**Energy Level**: M

**Surveyed Length**: 345 m

**Near Shore Sheen**: None

**Est. Oil Category Length**: W 7 M 6 N 2 US

---

### Surface Oil Character

<table>
<thead>
<tr>
<th>LOC</th>
<th>AP</th>
<th>MS</th>
<th>TB</th>
<th>SOP</th>
<th>CV</th>
<th>CT</th>
<th>ST</th>
<th>FL</th>
<th>DB</th>
<th>NO</th>
<th>T</th>
<th>Surface S</th>
<th>Shore Type</th>
<th>Width</th>
<th>Length</th>
<th>Zone</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

### Subsurface Oil Character

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>DEPTH (cm)</th>
<th>OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>OILED COLOR</th>
<th>CLEAN</th>
<th>H2O LEVEL</th>
<th>SHEEN</th>
<th>PIT ZONE</th>
<th>SUBSURFACE SEDIMENTS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></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**

See map.
**MAYSAP BIOLOGICAL SUMMARY FORM**

**TEAM #** 4  
**DATE** 26 May 91  
**SEGMENT #** WB 001  
**TIDAL HEIGHT (Range)** +3.5 to  
**SUBDIVISION** B  
**BIOLeST** Jim Roth  
**SEA STATE** Flat  
**WIND SPEED/DIRECTION** —  
**PHOTOGRAPHS: ROLL #**  
**FRAME #**

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

A1 Boulder W Deuse Barnacles, Littorines, Limpets.

**GENERAL COMMENTS:** A fairly exposed cobble/boulder beach with abundant littorines, limpets. Mussels occur in small patches. Barnacles (incl. goat) moderately abundant, becoming more dense towards W end of beach. Littorine egg masses found under cobbles in M12, where beach hoppers and nerell worms were also found. A healthy intertidal community.

**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></td>
</tr>
<tr>
<td>Seabirds</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<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>
<td></td>
</tr>
</tbody>
</table>

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

Shoreline subdivision map showing important biological features attached.

*Reviewed MB 3/18/91*
Legend

1. Bedrock Cliffs
2. Boulder Fringe
3. So over pe/gl

Well sorted cobble veneer over pe/gl.

Fringe of boulder next to the bedrock cliffs.

St, 20m dia on intertidal boulder.
1991 MAYSAP EVALUATION

SEGMENT: WB 001  SUB:    B  REGION: KRN  SURVEY DATE: 5/27/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s)  RESTRICTED 3/1 - 9/1

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

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

SHPO Signature: __________________________ Date: __________________

RECOMMENDATIONS:

<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>
<td></td>
<td></td>
</tr>
<tr>
<td>Manual Pickup (Check as Req.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spot Washing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bio-Customblen Only</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bio-Inipol/Customblen</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>
<td></td>
<td></td>
</tr>
</tbody>
</table>

COMMENTS:

INITIAL: __________________________________________

TAG: __________________________________________

FOSC: __________________________________________

TAG APPROVAL DATE: _______________  FOSC APPROVAL DATE: _______________

ADEC________________________  FOSC________________________

EXXON________________________

USCG________________________

NOAA________________________
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

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

Fish Harvest Area: Unlimited treatment unless otherwise directed by ADF&G. Sheen containment/recovery procedures required for mechanical treatment.
TEAM NO. 4  SEGMENT 416-001  SUBDIVISION B  DATE 5/27/91

ADEC
NAME  Steve Ferguson
SIGNATURE

TREATMENT RECOMMENDED
I only observed a small amount of ST/Ct on a couple of boulders.

EXXON
NAME  George L. Stiles
SIGNATURE  George L. Stiles  5/27/91

TREATMENT RECOMMENDED
No oil found other than a small trace of CTX5.

LANDMANAGER
NAME  Pat Norman
OF  Port Arctic
SIGNATURE  Pat Norman

TREATMENT RECOMMENDED
No oil found by myself.

USCG/NOAA
NAME
SIGNATURE

TREATMENT RECOMMENDED
Very little oil found.

Donald M.倨柴i
**OG Comments:**

See map.
Biomap

Roth

Well rooted
sellaha seaweed
over pe/cgr.
Fringe of boulders
next to the bedrock
bluffs.

Legend

[1] Bedrock Bluffs
[2] Boulder fringe
down pe/cgr.

Inferred

Dense Barnacles,
Littoril'e
Zooplankton
### KAYSAP BIOLOGICAL SUMMARY FORM

**Team #**: 4  
**Date**: 26 May '71

**Segment #**: WB 001  
**Tidal Height (Range)**: +3.5 to

**Subdivision**: B  
**Biologist**: Jim Roth

**Sea State**: Flat  
**Wind Speed/Direction**: —

**Photographs**: Roll #  
**Frame #**

### Comments/Observations (to be completed in oiled subdivisions only):

- **A1** - Boulder w/ dense Barnacles, Littorina, Limpets.

### General Comments:

A fairly exposed cobble/boulder beach with abundant Littorina, Limpets, Mussels occur in small patches. Barnacles (incl. atom) moderately abundant, becoming more dense toward W. End of beach. Littorine egg masses found under cobble in b/w. Where Barnacles and Nerisid Worms were also found. A healthy intertidal community.

### 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></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></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shorebirds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corvida</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>Males(specify)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Shoreline subdivision map showing important biological features attached.

Reviewed MB 5/11/71
Well sorted cobble w/ a corner over pebbles. Fringe of boulders next to the bedrock bluffs.

St. 20 m dia on intertidal boulders.
1991 MAYSAP EVALUATION

SEGMENT: WB 001  SUB: A  REGION: KEN  SURVEY DATE: 5/15/91

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

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

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

SHPO Signature:  Rachel  Date: 5/15/91

RECOMMENDATIONS:

TREATMENT REQUIRED (Y or N)  N  N  P

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

Other

COMMENTS:

INITIAL: _____________________________________________

TAG: ________________________________________________

FOSC: _______________________________________________

TAG APPROVAL DATE:  6/1/91  FOSC APPROVAL DATE:  6/1/91

ADEC  FOSC  CHIEF OF STAFF, USCG
EXXON  E. E. PAGE, CAPT, USCG
USCG  ED MACO
NOAA  The staff will further consider the need for treatment.
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

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

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

Anadromous Stream: Unlimited treatment up to stream bank between May 15 and July 10. ADF&G approval required for work after July 10. Fish Habitat Permit required for instream work. ADF&G approval required for bioremediation within 100 meters of anadromous stream after July 10.
A Thick layer of brown mousse mixed with organic debris is submerged on the Southeast side of the lagoon and is about 6 m wide by 9 m long. This oil should be removed from the lagoon which is habitat for migrating ducks. Once the oil is submerged, it is difficult to see on the surface when looking through it, however, the character of this oil/debris mixture would be difficult to recover.

I concur with comments made by NOAA on an oil located in the tide flat, along the sandy part of the north beach fringe, and the south rock force area.

A Thick layer of brown mousse mixed with organic debris is submerged on the Southeast side of the lagoon and is about 6 m wide by 9 m long. This oil should be removed from the lagoon which is habitat for migrating ducks. Once the oil is submerged, it is difficult to see on the surface when looking through it, however, the character of this oil/debris mixture would be difficult to recover.

I concur with comments made by NOAA on an oil located in the tide flat, along the sandy part of the north beach fringe, and the south rock force area.

**MAYSAP SHORELINE OILING SUMMARY**

**TEAM NO:** G-HEL0  
**BIO:** J. Schroeder  
**LANDMANAGER:** S. Menamick  
**USCG/NOAA:** Chief Jensen/G. Shigenaka

**SEGMENT:** WB-01  
**SUBDIVISION:** A  
**DATE:** 15/1/91

**TIME:** 9:25 to 10:40  
**TIDE LEVEL:** -3.0 ft to 1.5 ft  
**ENERGY LEVEL:** None

**SURVEYED FROM:** Foot Helo  
**WEATHER:** Sun Clouds Fog Rain Snow

**TOTAL LENGTH SHORELINE SURVEYED:** 451 m  
**NEAR SHORE SHEEN:** Brown

**EST. OIL CATEGORY LENGTH:** 22 m

<table>
<thead>
<tr>
<th>L</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT</th>
<th>AREA</th>
<th>ZONE</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>AP</td>
<td>MS</td>
<td>TB</td>
<td>BO</td>
<td>CV</td>
</tr>
<tr>
<td>A1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></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-6-15 FRAMES 1-18**

<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>OP</td>
<td>HOR</td>
<td>MOR</td>
<td>LOR</td>
<td>OF</td>
<td>TR</td>
<td>NO</td>
<td>cm-cm</td>
<td>Y/N</td>
<td>(cm)</td>
</tr>
<tr>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</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:** This segment is located along the north shore of Windy Bay in a small embayment with a stream at 242-32-10155. The embayment contains a small lagoon behind a beach and a dense forest complex. Most of the embayment is substrate consisting of boulders and cobble with granules and sand. The oiling is found in three major areas: 1) in a small pocket beach at the southwest end of the segment consisting of CT-Sand, 2) within the central portion of the embayment where small soe occurred in a boulder region, and 3) in the lagoon where soe occurs a meter below the water surface. VECO workers collected all observed and accessible oiled sediments, totaling 1/4 bag.

**REVIEWS 5/17/91 49**
**Sketch Map**

**Location:** KENAI PENINSULA

**Date:** 15 May 1991

**Time:** 9:25 - 10:40

**Observations:**
- **E.** SOR 6 by 6 m, 90% Unknown, mixed with sparse Needle underwater.
- **D.** SOR 4 by 8 m <1% I/U around Boulder & Cables.
- **C.** SOR 1 by 2 m <1% 2 by 3 m I/U cables.
- **B.** SOR 1 m³ <1% I/U cables.
- **A.** CT/ST 1 by 4 m, 1% on vertical face.
- **R.U.** VECO WORKERS REMOVED ALL GREN AND ACCESSIBLE OILED SEDIMENTS. LAGOON SOR was not collected due to the necessity of chest waders to reach the underwater oiled organic material.

**Locations:**
- BEGIN SEGMENT WB-01-A
- BEGIN SEGMENT WB-02-A
- WINDY BAY

**Dimensions:**
- 0 - 25 Meters

**Additional Notes:**
- Reviewed 5/17/91
- ES reviewed 5/17
Photoraphy Sites, WB-1A
Roll 6-15, Frames 12-18
Kenai Peninsula

Evergreen
Dead Trees
Wash Area
Logs
Rock Shore
Photos

Anno Stream
# 242-32-101S

A. SOR
6 by 6m, 90% Unknown mixed with Sapling Needle underwater

B. SOX
1 m^2 < 1%
Z/A cables

C. SOX
1 by 2 m < 1%
1 m^2 < 1%
Z/A around C + D

D. SOR
4 by 8m < 1%
Z/A around Boulder + Cables

E. SOR
6 by 6m, 90% Unknown mixed with Sapling Needle underwater

---

PU: VECO workers removed all seen and accessible oil sludge. Lagoon SOX was not collected due to the necessity of chest waders to reach the underwater oil sludge organic material.
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM #
SEGMENT # WB-001
SUBDIVISION A
SEA STATE Light Chop
PHOTOGRAPHS: ROLL # FRAMES #

DATE 5/15/91
TIDAL HEIGHT (Range) -3.0 to 0 ft
WIND SPEED/DIRECTION S.W. = 5-10 mph

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

(A) = Bird nesting on the southern side of the forest
    segment containing a thriving community of
    shorebirds, gulls, and various types of
    shoreline vegetation. The area was
    monitored for birds during the day.

(B) = A small patch of seagrass collected across
    the sand beneath the dune. The seagrass
    was dense and healthy.

(C) = A flock of seagulls flying over the
    beach. The seagulls were feeding
    on the sand and flying back
    and forth in the air.

SHORELINE SUBDIVISION MAP showing important biological features attached.
Lagoon

Dense Fucus flaps, limpets and barnacles very abundant around rocks.

Dense Mussels beds, scattered Fucus.

Sand flag limpets barnacle sparse, very abundant.

Fucus, laminaria and red/brown algae covering rocks.

Hermit crabs, prawns and old barnacles thriving on larger boulders in 1172. Sculpin and smalitfish observed.

Mussel Bed

Fucus Kelp

Eel Grass

Rocks
1991 MAYSAP EVALUATION

SEGMENT: WB 001  SUB: B  REGION: KEN  SURVEY DATE: 5/27/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s) REMITTED 3/1 - 9/1

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

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

SHPO Signature: ____________________________ Date: 6/17/91

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>D</td>
<td></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: June 7 1991  FOSC APPROVAL DATE: 6/14/91

ADEC ___________________________  FOSC ___________________________
EXXON ___________________________  CHIEF OF STAFF, FOSC
USCG ____________________________  E. E. PAGE, CDR USCG
NOAA ____________________________
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

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

Fish Harvest Area: Unlimited treatment unless otherwise directed by ADF&G. Sheen containment/recovery procedures required for mechanical treatment.
<table>
<thead>
<tr>
<th>TEAM NO.</th>
<th>SEGMENT</th>
<th>SUBDIVISION</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>W-001</td>
<td>B</td>
<td>5/27/91</td>
</tr>
</tbody>
</table>

**ADEC**

**NAME:** Steve Ferguson  
**SIGNATURE:**

- [x] NTR  
- [ ] TREATMENT RECOMMENDED  
  - I only observed a small amount of oil on a couple of boulders.

**EXXON**

**NAME:** George L. Smith  
**SIGNATURE:** George L. Smith  
**DATE:** 5/27/91

- [x] NTR  
  - No oil found other than a small trace of oil.

**LANDMANAGER**

**NAME:** Pat Norman  
**OF:** Port Borden  
**SIGNATURE:** Pat J. Davis

- [x] NTR  
  - No oil found by myself.

**USCG/NOAA**

**NAME:**  
**SIGNATURE:**

- [x] NTR  
  - Very little oil found.

**Signature:**

[Signature]
SEGMENT  WB-001
SUBDIVISION  B
DATE  5/26/91

TIDE LEVEL  81 ft to  84 ft
ENERGY LEVEL:  [ ] H  [ ] M  [ ] L

SURVEY FROM:  [ ] FOOT  [ ] BOAT  [ ] HELO
WEATHER:  [ ] SUN  [ ] CLOUDS  [ ] FOG  [ ] RAIN  [ ] SNOW

TOTAL LENGTH SHORELINE SURVEYED:  345 m
NEAR SHORE SHEEN:  [ ] BR  [ ] RB  [ ] SL  [ ] NONE

EST. OIL CATEGORY LENGTH:  W  m  M  m  N  m  V  m  L  m

<table>
<thead>
<tr>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT</th>
<th>SHORE SLOPE</th>
<th>AREA</th>
<th>ZONE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>L</th>
<th>C</th>
<th>AP</th>
<th>MS</th>
<th>TB</th>
<th>SO</th>
<th>OR</th>
<th>CV</th>
<th>GT</th>
<th>ST</th>
<th>FL</th>
<th>DB</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></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 # MAYSAP- PHOTO- FRAMES

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>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>
</tr>
</thead>
<tbody>
<tr>
<td></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:

See map.

Reviewed:  MC 5/31/91
Reviewed:  5:30  4/9
OG Sketch Map
WB. 001. B
Jean Marie Simple
May 30/91
0951 - 1004

Legend

1. Bedrock Cliffs
2. Boulder Fringe
3. 0B over ph/gn

Well sorted cobble veneer over ph/gn.
Fringes of boulder next to bedrock cliffs.

A1
5f. 20 unde a
on intertidal boulder.
**MAYSAP BIOLOGICAL SUMMARY FORM**

**TEAM #** 4  
**DATE** 26 May 91

**SEGMENT #** W8001  
**TIDAL HEIGHT (Range)** +3.5 to

**SUBDIVISION** B  
**BIOLIGIST** Jim Roll

**SEA STATE** Flat  
**WIND SPEED/DIRECTION** —  

**PHOTOGRAPHS:** ROLL #  
**FRAME #** —

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

A1 - Boulder wi dense barnacles, littorines, limpets.

**GENERAL COMMENTS:** A fairly exposed cobble/boulder beach with abundant littorines, limpets, mussels occur in small patches. Barnacles (incl. spat) moderately abundant, becoming more dense toward w/ end of beach. Littorine egg masses found under cobbles in m/t, where beach hoppers and nereid worms were also found. A healthy intertidal community.

---

**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></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></td>
<td></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>

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

Shoreline subdivision map showing important biological features attached.

Reviewed 5/16/91
Legend

[1] Bedrock cliffs
[2] Boulder fringe
[3] 6 feet over P/L

Bio Map

Roth

Well rooted cobble veneer over p/ls

Fringe of boulders next to the bedrock cliffs.

At

St. 20 cm area on intertidal boulders

Dense barnacles, litorinid limpets

Tides

0 - 4 ft
SEGMENT ST/ WB-001 STREAM NO: 242-32-10155 DATE 4/29/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
1J Purse seine area (7/1 to 9/31)
ST All bald eagle nests (3/1 to 6/1)
Active eagle nests (3/1 to 9/1) - one additional eagle nest located within adjacent segment WB-02

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Subject stream is located within subdivision A (1 of 2). No additional ecological constraints.

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 (Anchorage) or 229-1508 (24 hrs.).

SHPO SIGNATURE: [Signature] DATE: 5/30/90

Subsurface Oil Observed: Yes ___ No X Maximum Depth

RECOMMENDATIONS:

___ No Treatment Recommended
X Treatment Recommended
X Manual Pickup
X Bioremediation
X Tarmat Removal

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

COMMENTS: Recommend manual removal of pavement, mousse and patties in the UITZ and MITZ. Work from 6/2 to 7/1 with approval of USFWS regarding eagle nests.

TAG COMMENTS: Bioremediation (customized) as required following Tarmat Removal. Spot wash as required to remove petroleum from cracks in rock face as indicated on sketch.

TAG APPROVAL DATE: 5/15/90
ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 242-32-10155
SEGMENT WB-1 SUBDIVISION A

<table>
<thead>
<tr>
<th>Manual Pickup</th>
<th>OPEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tarmat Removal</td>
<td>OPEN</td>
</tr>
<tr>
<td>Spot Washing</td>
<td>OPEN</td>
</tr>
<tr>
<td>Bioremediation More Than 100m From Stream</td>
<td>OPEN</td>
</tr>
<tr>
<td>Bioremediation Less Than 100m From Stream</td>
<td>WORK PRIOR TO 7/1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ARCHAEOLOGICAL STANDARD CONSTRAINT</th>
</tr>
</thead>
<tbody>
<tr>
<td>If cultural resources are uncovered, PHONE 564-3274</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>APPLICABLE ECOLOGICAL TIME CONSTRAINTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A,1B Salmon Stream</td>
</tr>
<tr>
<td>1J Purse Seine Area</td>
</tr>
<tr>
<td>5T Bald Eagle Nest</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OTHER ECOLOGICAL CONSIDERATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restrict boat and air traffic to essential minimum after 7/1. No disturbance to stream bed or bank. No flushing of pollutants or sediment into stream drainage; do not allow inpol to enter stream flow. On-site examination and consultation by ADF&amp;G monitor is required prior to bioremediation in order to authorize a setback distance from the stream during chemical application; if ADF&amp;G monitor's presence is impossible, authorization may be given by the ADEC monitor. Avoid any unnecessary disturbance or damage to uncollected biota and substrate.</td>
</tr>
</tbody>
</table>

SEE SUBDIVISION CONSTRAINT ADDENDUM WB-1A FOR ADDITIONAL CONSTRAINT INFORMATION.
Incorporates information from USFWS Bald Eagle survey 7/30/98.

ECOLOGY MAP 7/28
SEGMENT WB-1

NO Nest Observed
No Adults Seen

Subdivision A (1 of 3)

METERS

1 inch = 1694 feet

Exxon Company, USA
Map Key: KB1-WB-1

Exxon

Seabird Colony

Eagle Nest
**ANADROMOUS FISH STREAM EVALUATION**

**SEGMENT ST/ WB-001 STREAM NO: 242-32-10155 DATE 4/29/90**

**ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:**

- **1A** Salmon stream mouth - fry outmigration (3/1 to 5/15)
- **1B** Salmon stream mouth - spawning (7/10 to 8/31)
- **1J** Purse seine area (7/1 to 8/31)
- **5T** All bald eagle nests (3/1 to 6/1)
- Active eagle nests (3/1 to 9/1) - one additional eagle nest located within adjacent segment WB-02

See attached Ecological Constraint sheet for specific constraints and contacts.

**SUBDIVISION ECOLOGICAL CONSTRAINTS:**

Subject stream is located within subdivision A (1 of 2). No additional ecological constraints.

**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 (Anchorage) or 229-1508 (24 hrs.).)

**SHPO SIGNATURE:** [Signature]

**DATE:** 5/30/90

**Subsurface Oil Observed:** Yes [ ] No [X] Maximum Depth __________

**RECOMMENDATIONS:**

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

**COMMENTS:** Recommend manual removal of pavement, mousse and patties in the UITZ and MITZ. Work from 6/2 to 7/1 with approval of USFWS regarding eagle nests.

**TAG COMMENTS:**

**TAG APPROVAL DATE:** 5/15/90

**ADEC** [Signature] [Date]

**EXXON** [Signature] [Date]

**NOAA** [Signature] [Date]

**USCG** [Signature] [Date]

**NOTE:** NOT FOSC

**APPROVED 5/28/90**
ANADROMOUS FISH STREAM ASSESSMENT

REGION: KENAI
SEGMENT: WB-001
SUBDIVISION: A
STREAM NO: 242-32-10155
ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/WB-001 STREAM NO: 242-32-10155 DATE 4/29/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
1J Purse seine area (7/1 to 8/31)
5T All bald eagle nests (3/1 to 6/1)
Active eagle nests (3/1 to 9/1) - one additional eagle nest located within adjacent segment WB-02
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Subject stream is located within subdivision A (1 of 2). No additional ecological constraints.

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 (Anchorage) or 229-1508 (24 hrs.)).

SHPO SIGNATURE: __________________ DATE: __________________

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 Removal ______ Beach Cleaner
____ Other (see comments)

COMMENTS: Recommend manual removal of pavement, mousse and patties in the UITZ and MITZ. Work from 6/2 to 7/1 with approval of USFWS regarding eagle nests.

TAG COMMENTS: __________________

TAG APPROVAL DATE: ____________
ADEC ____________________________ FOSC: ____________ DATE: ________
EXXON __________________________
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 lnipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.

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

1C Salmon fry nursery area (4/31 to 7/31)

No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or lnipol application, prior to at least July 1 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 Peliz 424-3214

1D Esther Hatchery release (4/15 to 6/15)
1E Main Bay Hatchery release (4/20 to 6/15)
1F Sawmill Bay Hatchery release (4/15 to 6/1)
1G Cannery Creek Hatchery release (4/21 to 6/1)
1H Remote release site

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

AGENCY CONTACT PERSON: 1E ADF&G Larry Peliz 424-3214
AGENCY CONTACT PERSON: 1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzamoto 424-7511

1L Gill net area (6/7 to 6/31)

AGENCY CONTACT PERSON: ADF&G - Evelyn Biggs 424-3236

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

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

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

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

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

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

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

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

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

AGENCY CONTACT PERSON: ADF&G - Evelyn Biggs 424-3236

3K 3P Harbor seal and sea lion pupping (5/15 to 7/1)

AGENCY CONTACT PERSON: USFWS - Steve Zimmerman 586-7235

AGENCY CONTACT PERSON: ADF&G - Don Calkins 267-2403

30 3Q Harbor seal and sea lion molting (8/15 to 9/15)

Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of lnipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31).

AGENCY CONTACT PERSON: USFWS - Steve Zimmerman 586-7235

AGENCY CONTACT PERSON: ADF&G - Don Calkins 267-2403

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

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

AGENCY CONTACT PERSON: USFWS - Jill Parker 786-3377

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

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

AGENCY CONTACT PERSON: USFWS - Jill Parker 786-3377

AGENCY CONTACT PERSON: ADF&G - Tom Rothy 267-2206

6U Alaska Bald Eagle nests (3/1 to 6/1)

AGENCY CONTACT PERSON: USFWS - Jill Parker 786-3377

AGENCY CONTACT PERSON: ADF&G - Tom Rothy 267-2206

6V Recreational area; Tilt sites (6/1 to 9/15)

AGENCY CONTACT PERSON: USFWS - Jill Parker 786-3377

AGENCY CONTACT PERSON: ADF&G - Tom Rothy 267-2206

6W Anchorage sites (6/1 to 9/15)

AGENCY CONTACT PERSON: USFWS - Jill Parker 786-3377

AGENCY CONTACT PERSON: ADF&G - Tom Rothy 267-2206

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

AGENCY CONTACT PERSON: USFWS - Jill Parker 786-3377

AGENCY CONTACT PERSON: ADF&G - Tom Rothy 267-2206

6Y Special use destination

AGENCY CONTACT PERSON: USFWS - Jill Parker 786-3377

7Z Subsistence area; Salmon harvesting (5/1 to 9/30)

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 lnipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.

AGENCY CONTACT PERSON: ADF&G - Jim Fall 267-2359
FIELD SHORELINE COMMENT SHEET

SEGMENT ST1 SUBDIVISION: 242-32-10155 DATE 29 APR 90

SCG
NAME Kerwin L. Droher SIGNATURE Geo R. Haug

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

Type A manual pickup.

□ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

REMARKS

Type A manual removal -

Remove oil from rock face wall on south side of cen
and lagoon. Clean oil from the bottom of the lagoon
(called floating debris) including some floating oil and
material, located just beyond this rock wall.

Remove forms in the intertidal zone.

Contact Lee Glenn prior to the start of this work so on
an A.O.S.E. observer can be placed on site.

The attached D.O.E. assessment completed on 4/16/90 has not changed.

LAND MANAGER

NAME __________________________ SIGNATURE __________________________

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS
**SHORELINE OILING SUMMARY (ANAD)**

**OG: CAL LARSON**
**USCG DREHER, GWE**
**SEGMENT ST/UB-01**

**BIO: KEN CLITCHLOW**
**LAND REP**
**STREAM-32-10/35 (OL)**

**EXXON: DARLLY YOES**
**ADEC LEE**
**GLASS TIME: 4:10 1004.45**

**TEAM NO: 14**
**TIDE LEVEL: +3 FT.**
**DATE: 4/23/90**

**EST. SUBDIVISION LENGTH:** 120 m

**SURVEYED FROM:**
- Sun
- Clouds
- Fog
- Rain
- Snow

**SURFACE SEDIMENTS:**
- % A
- % B
- % C
- % D

**SLOPE:**
- Lang
- Hang
- Vert

**WAVE EXPOSURE:**
- Low
- Mod
- High

**OIL CATEGORY LENGTH:**
- W
- M
- L

### SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT PAVEMENT</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>POOLED</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>COVER</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>COAT</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAIN</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOUSSE</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATTIES</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TARBALLS</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO OIL</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PAVEMENT:**
- H F $ 25 sq. m by
- 3

**PATTIES/TARBALLS:**
- 40
- BAG

**NEAR SHORE SHEEN?**
- NO
- BR
- RW
- SD

**OILED DEBRIS:**
- Logs
- Vegetation
- Trash
- Debris

**OILED AMOUNT:**
- SM
- MD
- LG

**AMOUNT:**
- Did you collect?
- DEBRIS
- YES
- NO

**TYPE:**
- BAGS

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

### SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>OILED</th>
<th>OIL / FILM COLOR</th>
<th>OILED INTERVAL</th>
<th>OILED</th>
<th>OIL / FILM COLOR</th>
<th>OILED</th>
<th>OIL / FILM COLOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>25</td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

**COMMENTS:**
- BACK INTRITAL COAST CORO REP. OBSERVED
- POOLED OIL IN CRACKS/INTERSTICES - UNABLE TO DETERMINE EXTENT OF OIL/NO, SOME SPREADING OBSERVED IN BACK INTRITAL LAGOON.

**REVIEWED:**
- DATE:
Seg ID: WB-001    Subdiv: No ASC#    Survey Date: 11/29/90    Comments by: Ken Critchlow

This high energy site was apparently oiled during a very high tide, and/or storm that resulted in deposition of oil in the lagoon above the beach storm berm. The stream discharges across a broad area of beach below the storm berm. In this region a narrow band of mousse/patties was observed in the WITZ along both shores. Oil stain was also noted in the same locations. The storm berm adjacent to the right (east) bank was partially covered by asphalt pavement. The lower half of the lagoon on the west side was characterized by pooled oil trapped in cracks, stain and cover. Within the lagoon, disturbed sediments produced sheen; logs were stained.

I recommend that mousse/patties along the shores below the storm berm be removed by shovel. The asphalt pavement in the storm berm can also be removed by shovel; a pit in this location didn't indicate subsurface oil. Sediments that produce sheen in the lagoon should be removed by shovel. Pooled oil in rock cracks may be removed using shovels and subsequently...
ARLIS
Alaska Resources
Library & Information Services
Anchorage, AK