[Shoreline evaluations, 1991].

Prince William Sound KN-26 to KN-104

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REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-26

SUBDIVISIONS: A (1 OF 1)
SEGMENT EVALUATION

SEGMENT ST/KN-26 SUBDIVISION A (1 OF 1) DATE 4/20/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

No specific sensitivities or time 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 43 m: Medium 32 m: Narrow 35 m: V.Light 526 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 50+ cm

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: Recommended treatment includes: 1) manual removal of oiled vegetation and cleanup debris in areas indicated on sketch map, 2) manual tilling and spot hot water washing using snares to recover oil in areas indicated on sketch map, 3) manual removal of tarmat in area indicated on sketch map and 4) bioremediation of areas indicated on sketch map. Work should be conducted after 5/1.

TAG COMMENTS:

____________________________________________________

TAG APPROVAL DATE: ______________________

ADEC: ______________________ FOSC: ______________________ DATE: __________

EXXON: ______________________

NOAA: ______________________

USCG: ______________________
FIELD SHORELINE COMMENT SHEET

SEGMENT ST:  KN-26  SUBDIVISION:  A - 101  DATE 04/20/90

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

NAME:  David S. Thomas  SIGNATURE:  

COMMENTS:  with consideration of subsurface oiling - which appeared to be continuous from initial pits to pit #10 - this is a heavily oiled beach. Spot washing recommended to clean rock faces / all oiled driftwood. Storm berm under oiled driftwood is oiled to r-fm. or greater. This consisted of M/C/C. - Possible warm flush for treatment or Dredge & wash. Treatment of subsurface oiling is difficult - Consideration could be given to mechanical filling followed by B10.

Removal of oiled debris - [warm flush will undoubtedly contaminate. Selective surface cleaning in lower tidal zones unless care is taken when working here -]

LAND MANAGER

NAME:  Peter Zallars  SIGNATURE:  

☑ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS:  It has been suggested that oil has saturated to a depth of 3' in the area of Pit #1. The OG map shows that test pits immediately south of pit #1 are areas of very light oiling. This is quite an extreme in oil quantities for such a small area. I recommend further assessment, even as cleanup crews address the pit #1 area this summer. I can see the use of a lot of boom material for the northern half of this segment. Extensive warm water flush may create the need for a skimmer. This segment is heavily oiled in the areas described.

REVISION NO. 06/21/90
**SHORELINE OILING SUMMARY**

**DATE:** 09/20/90

**TEAM NO.:** 13

**TIDE LEVEL:** +6 to +2

**EST. SUBDIVISION LENGTH:** 612 m

**UPLANDS DESCRIPTION:**
- ☐ Grass
- ☐ Forest
- ☐ Rock
- ☐ Clouds
- ☐ Fog
- ☐ Rain
- ☐ Snow

**SURVEYED FROM:** ☐ Foot
- ☐ Boat
- ☐ Helo

**WORKING DIRECTION:** N to S

**SLOPE:**
- 40% % Hang
- 30% % Vert
- 20% %

**WAVE EXPOSURE:**
- ☐ Low
- ☐ Med
- ☐ High

**OIL CATEGORY LENGTH:**
- W 20 m
- M 30 m
- N 30 m

---

**SURFACE OIL**

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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<tr>
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<tr>
<td>NO OIL</td>
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</table>

**PAVEMENT H F**
- 6 to 8 cm
- 5 cm

**OILED DEBRIS**
- Logs
- Vegetation
- Trash
- Debris

**AMOUNT**
- SM
- MD
- LG

**DID YOU COLLECT DEBRIS?**
- YES ☐ NO ☐

**TYPE**
- ☐

**NEAR SHORE BALLS?**
- ☐

**BAGS**
- ☐

**OILED AMOUNT**
- Logs
- Vegetation
- Trash
- Debris

**PHOTOGRAPHS:**
- Roll No.: ST-13-4
- Frames: 12-18

---

**SUBSURFACE OIL**

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED DEBRIS</th>
<th>OILED INTERNAL</th>
<th>OILED AMOUNT</th>
<th>OIL / FILM COLOR</th>
<th>OIL ZONE</th>
<th>OIL SUBSURFACE SEDIMENTS</th>
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<td>P, G, C</td>
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</tbody>
</table>

**COMMENTS**

1. Large amount of oiled logs and debris
2. Wide extent of subsurface oil at north end
3. Coat on rock and sheltered boulders

**REVIEWED:** 7W

**DATE:** 9/22/90
### SHORELINE OILING SUMMARY (PAGE 2)

**SEGMENT ST/ KN-26 SUBDIVISION A**

### SUBSURFACE OIL (CONTINUED)

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<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>SURFACE SUBSURFACE SEDIMENTS</th>
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<td>5.20 X</td>
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<td>B-C, B</td>
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</table>

**COMMENTS**

1. Surface of cobble beach is "clean". However, subsurface oil to 50 cm + depth over large part of north end of segment (Pits 1, 2, 3, 4), and to a lesser extent (Pits 6, 7, 8, 9).
**Map Segment:** KN-26

**Subdivision:** A-1of1

**Date:** 04/20/90

**Checklist:**
- CV/C (90%)
  - 5x20m
  - SU + UITZ
  - COBBLE BERM
  - OILED LOGS AND DEBRIS (LG)
  - SU + UITZ

**Legend:****
1 △ Pit - No Subsurface Oil
2 △ Pit - Subsurface Oil

**CT/C:** Continuous Distribution

**CT/B:** Broken Distribution

**CT/S:** Patchy Distribution

**CT/Y:** Splashed Distribution

**Oiled Vegetation:**

**Photo Location:**

**After Removal of Oiled Debris:**
Move SUPRA ITZ Down to MID ITZ, Spot Hot Water Wash, then BIOREMEDiate

**Surface:**
Oil Character Length (m): AP 5, PO 0, CV 0, CT 180, ST 100, MS 0, PT 0, TB 0, FL 0, NO 327
### SHORELINE ECOLOGICAL SUMMARY

**Segment ST / KN26 Subdivision A**

**Date (mo/day/yr)** 4-20-90

**Time (24 hr)** 13:00  
**Biologist** David Lohn

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

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

#### (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa:

<table>
<thead>
<tr>
<th>Biota</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
<th>Photographs: Roll No. ST-13-4 Frames 12-18</th>
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</table>

**Wildlife Observations/General Comments:**

Sea page 2

**Ecological Considerations:**

Moderate to Dense algae, barnacles, mussels on mid-intertidal boulders in southern section of segment would be susceptible to disturbance. (area 2 on Ecology map).
Shoreline Ecological Summary

Segment ST-KNO26 Subdivision A  4-20-90

Biologist: David (illegible)

(1) Life observations/General Comments

1. Low intertidal not sampled
2. Present in mid-intertidal: Porphyra, Ulva, Enteromorpha, Endoclade, Nuelke, Emplectonema, Helosarcia, Cladophora, Scolymus, Alaria, Katharina tunicata, undetected red algal branch (Rhodomenia?), undetected red "bldk".

   high intertidal: Enteromorpha, Cladophora

3. Boulders/cobble in area (see Ecology map) were virtually barren except for (rare) gastropods and patchily dense Enteromorpha. Species richness and abundance gradually increased moving seaward of area 1. Neat southern segment banding here were moderate densities of mussels, barnacles (Semiobalanus cariosus) and Fucus. Algal cover (~6 species) reached 90%, with the algae covering the mussels, barnacles and primary substrate.

4. 2 deer skeletons were found above high tide line
5. 4 dead Piscator ochraceus found washed up at high tide line
6. Oil-covered barnacles found on high intertidal boulders at northern segment banding. Barnacle mortality was ~80%. Oiled vegetation and oil covered mose found in mid-intertidal in same area.
7. Several shells anchored into mid-intertidal boulders were found in the segment.
SEGMENT: JT/ KN-26
SUBDIVISION: A - 1 of 1

XXXX Wide
//// Medium
----- Narrow
TTTT Very Light
0000 No Oil
## ADDENDUM: SUBDIVISION CONSTRAINTS

### SEGMENT KN-26 SUBDIVISION A (1 of 1)

<table>
<thead>
<tr>
<th>WORK WINDOW</th>
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<tbody>
<tr>
<td>Manual Pickup</td>
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<tr>
<td>Tarmat Removal</td>
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<tr>
<td>Bio remediation</td>
<td>OPEN</td>
</tr>
<tr>
<td>Manual Tilling</td>
<td></td>
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<td>Spot Washing</td>
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<tr>
<td>Other Approved Treatment</td>
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</tbody>
</table>

### 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 unaltered biota and substrate.

---

**TAG ADDENDUM DATE** 5/21/90  
**ADEC** Joe Workman  
**EXXON** Amy M. Cost  
**NOAA** Joseph Talbot  
**USCG** W. J. McDermott  
**FOSC** [Signature]  
**Date** 5/21/90
SHORELINE EVALUATION

SEGMENT ST/  KN-26     SUBDIVISION A (1 OF 1)  DATE   4/29/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
No specific sensitivities or time 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:  5/2/90

OILING CATEGORIZATION:

Subsurface Oil Observed: Yes X  No ________ Maximum Depth: 50+ cm

RECOMMENDATIONS:

---X---Treatment Recommended
X Manual Pickup
X Bioremediation
X Tarmat Removal
Snare/Absorbent Booms
Oil Snares (pom poms)
Absorbents (pads, rolls, etc)
Spot Washing: 4 Wands
Beach Cleaner
Other (see comments)

COMMENTS: Recommended treatment includes: 1) manual removal of oiled vegetation and cleanup debris in areas indicated on sketch map. 2) manual tilling and spot hot water washing using snares to recover oil in areas indicated on sketch map. 3) manual removal of tarmat in area indicated on sketch map and 4) bioremediation of areas indicated on sketch map. Work should be conducted after 5/1. See Addendum Dated 5/22/90.

TAG COMMENTS: Storm germ relocation - USE SPOT WASH WITH SORBENTS DURING RISING TIDE FOLLOWING RELOCATION.

TAG APPROVAL DATE:  5/2/90
ADEC  EXXON  NOAA
FOSC:  DATE:  5/14/90
SHORELINE EVALUATION

SEGMENT ST/ KN-26  SUBDIVISION A (1 OF 1) DATE 4/20/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
No specific sensitivities or time constraints identified.

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

ARCHAEOLOGICAL CONSTRAINTS:
If cultural resources are encountered...

SHPO SIGNATURE: DATE: 5/2/90

OILING CATEGORIZATION:
Wide 43 m: Medium 82 m: Narrow 35 m: V.Light 526 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 50+ cm

RECOMMENDATIONS:
X 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)
Spot Washing: 4 Wands
Spot Washing: 4 Wands
Beach Cleaner
Other (see comments)

COMMENTS: Recommended treatment includes: 1) manual removal of oiled vegetation and cleanup debris in areas indicated on sketch map, 2) manual tilling and spot hot water washing using snares to recover oil in areas indicated on sketch map, 3) manual removal of tarmat in area indicated on sketch map and 4) bioremediation of areas indicated on sketch map. Work should be conducted after 5/1.

TAG COMMENTS: STORM BEAM RELOCATION - USE SPOT WASH WITH ABSORBENTS DURING TIDAL LOW FOLLOWING RELOCATION.

TAG APPROVAL DATE: 5/1/20
ADEC: JOHN BAER
EXXON: ANDY LOUIS
NOAA: GARY PFEIFFER
USCG: KENNETH BINGE
FOSC: DATE: 5-14-90
CAC rep to be on site.
LEGEND

1 △
- Non Surface Oil

2 △
- Surface Oil

CT/C
- Continuous Distribution
CT/B
- Broken Distribution
CT/P
- Patchy Distribution
CT/S
- Splashed Distribution

Oiled Vegetation

Photo location, direction, and number

CHECKLIST

- Network
- Approx. Scale
- Geo/Surf Elong
- Width
- Length
- Subsurface Character
- Ext. HH/LL
- Subsite Location
- Profile Location
- Pit Location
- Photo Location

DATE 04/20/90

MAP

CV/C (90%)
- 5X20M
- PM/PM
- CLOGS AND
- DEBRIS (LG)

OILED LOGS AND
DEBRIS (LG)

SU+UITZ

MANUALLY
REMOVE OILED
DEBRIS

CT/B ST/S, 30M
- ROCKS + BOULDERS
- SU+UITZ

AFTER REMOVAL OF OILED DEBRIS,
MOVE SUPRA ITZ DOWN TO
MID ITZ, SPOT HOT WATER WASH,
THEN BIOREMEDIATE

DIATE

- 3-6M WIDE, 50M
- CLIFF / BOULDERS
- OILED LOGS (7M)

BOULDER BEACH
- SURFACE COBBLES
- SURFACE OIL TO 50 CM+

MANUALLY REMOVE TARMAT

AP/S (1X5 M)
- 2 BANDS, COBBLES
- SU+UITZ

ST/S, 100M
- AR BOULDERS

REVISED: 03/20/90

SEGMENT SR KN-26
SUBDIVISION A-1UF1
OIL CHARACTER LENGTH (m) AP 5 PO 0 CV 0 CT 180 ST 100 MS 0 PT 0 TB 0 FL
SEGMENT: ST/KN-26
SUBDIVISION: A-1 of 1

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

Map Key: PWS-347
Name: Rick Gilbe
Date: 04/20/90
Data Entered:
ASAP TAG REVIEW SHEET

Segment: KN026  Subd:  A  Site:  1  Date  PRE-Review  19AUG90

Priority For Addressing In 1990

HIGH  MEDIUM  LOW  NTR

Treatment Recommended:

Manual Pickup — AP

and BIO

OG / SKETCH — AP

Recommendation Sheet — STORM BERN

RELOCATION

Priority Site For Reassessment In 1991

YES  NO  YES  NO  YES  NO  YES  NO

CG  ADEC  EXXON  LAND MGR

TAG  21AUG90

Reassess in 91

(WAS REBTOED) 8/19
ASAP FOLLOWUP RECOMMENDATIONS

Segment: AS/KN-026 Subd.: A Site: 1 Date: 8-11-91 1990

Conditions Observed: Steam beam with substantial subseaface oil. Area is approx. 20x30m. Second subsea oil core has a 20x20m defect with subseaface oil to 10cm. Ground mobile 30m with deep or subseaface oiling ranging from 20cm (pull) to a 20x60m sand body.

Followup Recommendations: See below for treatment techniques.

Completed by Pickup Crew: [Signature]

Comments: Mechanically efficient approach of mixture water injection and high-velocity fluid injection have proven successful. This method will help clean submerged oil.

SCO DON GRIFFIN

Comments: A large area of oiling was noted with various degrees of oiling. The area is estimated at 80x150m. Due to seasonal time constraints, suggest work crew perform removal on heavy objects and allow weathering for reassessment in 1991.

and Rep. LORRA JOHNSON [Signature]

Comments: RECOMMEND MECHANICAL/MANUAL EXPOSURE OF OP/ORE TARGETS TO ALLOW FOR WINTER WEATHERING. AGREE.
**Team**: Jsan, John, Dean  
**Land Rep. / Land Surveyor**: Lynn Johnson  
**Subdivision**: KN-012 6A  
**Date**: 8/11/90  
**Time**: 8:42:10  
**Tide Level**: +3.5  
**Total No. Sites**: 1

**Estimated Length of Shoreline Surveyed**: 687 m

**Surveyed From**: Foot, Boat, Helo

**Weather**: Sun, Clouds, Fog, Rain

**Oil Category Length**: W 40 m N 2 m V 539 m No 0 m US 6 m

### Surface Oil

<table>
<thead>
<tr>
<th>Site</th>
<th>Distribution</th>
<th>Oiled Zones</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C/B/P/S</td>
<td>SU/UI/M/L</td>
</tr>
<tr>
<td>Asphalt</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>ISAR</td>
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<tr>
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<td>COAT</td>
<td>X</td>
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</tr>
<tr>
<td>STAIN</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>MOUSSE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATTIES/B</td>
<td></td>
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</tr>
<tr>
<td>FILM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO OIL</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

**Site Length**: 687 m

### Subsurface Oil

<table>
<thead>
<tr>
<th>Site</th>
<th>Pit No</th>
<th>Pit Depth (cm)</th>
<th>Subsurface Oil Character</th>
<th>Oiled Interval</th>
<th>Clean Below (Y/N)</th>
<th>Pit Zone</th>
<th>Surface-Subsurface Sediments</th>
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<tr>
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<td></td>
<td>X</td>
<td>P/C18</td>
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<tr>
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<td>3</td>
<td>20</td>
<td>X</td>
<td>15-20</td>
<td>X</td>
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<td>P/C</td>
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<tr>
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<td>4</td>
<td>60</td>
<td>X</td>
<td>8-60</td>
<td>X</td>
<td>X</td>
<td>P/G/C</td>
</tr>
</tbody>
</table>

### Comments
- Oil was found in the northern portion of the site, principally as CT/ST - Broken, patchy and interstitial.
- 3 or 4 pits examined sub.
FIELD SHORELINE COMMENT SHEET

SEGMENT AS 1KN-026  SUBDIVISION: A  SITE: 1  DATE 11/4/90

NAME: DON DAVIS  GOVERNOR  SIGNATURE: DON DAVIS, GOVERNOR

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:
VARIOUS PATCHES OF INTERSTITIAL COAT, COVER, AND STAIN ON BEDROCK AND BOULDERS.
IN ADDITION, BROKEN ASPHALT AND COAT IN LARGE PATCHES ALONG SEGMENT. SEGMENT IS
SPREAD OUT, BUT CAN BE MANUALLY TREATED BY A SMALL CREW IN A FAIRLY SHORT AMOUNT
OF TIME. SOME REMOVAL SHOULD BE ATTEMPTED THIS YEAR WITH REASSESSMENT IN 1991.

ADEC

NAME: BOB MCC_OBDAY  SIGNATURE: BOB MCC_ODAY

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:
STORM SEAM AT NORTH END SEGMENT HAS OR AND OR AREY AND SHOWS
BE RELOCATED DOWN BEACH FIELD. IN ADDITION, SEVERAL PATCHES
OF INTERSTITIAL COAT, COVER, AND STAIN ON BEDROCK AND BOULDERS.
GRANUL CONCRETE IS LAYED IN LARGE PATCHES ALONG SEGMENT. SEGMENT IS
ON BEACH FIELDS. IN ADDITION, SEVERAL PATCHES
OF INTERSTITIAL COAT, COVER, AND STAIN ON BEDROCK AND BOULDERS.
GRANUL CONCRETE IS LAYED IN LARGE PATCHES ALONG SEGMENT.

LAND MANAGER

NAME: LORA JOHNSON  SIGNATURE: LORA J. JOHNSON

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: AGREE WITH ADEC RECOMMENDATIONS. SEE SSAT
SKETCHES ALSO.

EXXON

NAME: JIM DEAN  SIGNATURE: JIM DEAN

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: ASAP WORK CREW ASSIGNED. PICK-UP/BROOK-UP SHOULD
ACOMPLISH ACESIBLE OIL OF 9/70. THIS IS NOT A HIGH PRIORITY
SITE OF 91 DUE TO EXPOSURE.
ASAP FOLLOWUP RECOMMENDATIONS

Conditions Observed: Storm waves with substantial submersion OR oil. Area is now over 30m. Second pocket in area has a 2 x 2m patch with submersion OR oil. Game can be seen with deep OR submersion oil ranging from 20cm (P11) to a 50cm-60cm layer.

Followup Recommendations: See below for treatment technique.

Completed by Pickup Crew: [ ] YES [ ] NO

Priority for Addressing in 1990: [ ] High [ ] Medium [ ] Low

Completed by: [ ] Fill

Comments: Mechanical collection is now being used to complete the oil or submersion spread clean up. Mechanically clean up very large area. Inspecture oil and spread area before tool. High energy is not easy and will help to clean and clean the area.

Exxon: [ ] Fill

Comments: ASAP Work Crew Assigned to Addressed Limited Manual, Otherwise Recommend Rework Assessment Spring '91

USCG: [ ] Fill

Comments: A large area of oiling was noted with various degrees of oiling. The area is estimated at 35 x 100m. Due to seasonal time restraints suggest work crew perform removal on heavy contents and allow weathering oil re assessment in 1991.

Land Rep: [ ] Fill

Comments: Recommend Mechanical/Manual Exposure of Oil/contents to allow for winter weathering. Agree with AOE.
SEGMENT: A

DATE: 11/15/90

CHECKLIST
- N Area
- Approx. Scale
- Seg/Sub Boundary
- Oil Dist.
- Width
- Length
- % Cover
- Substrate Character
- Ex. HW/LWL
- SSL
- Profile Location(s)
- Profile(s)
- Pit Location(s)
- Photo Location(s)

LEGEND
1 △ No Subsurface Oil
2 △ Subsurface Oil

CT/C Continuous Distribution
CT/B Broken Distribution
CT/P Patchy Distribution
CT/S Splashed Distribution

CHARACTER 2

Oiled Vegetation

PHOTOLOCATION, DIRECTION, AND NUMBER

Character Length (m): AP 2.2  PO 0 CV 0 CT 2 ST 601 MS 0 PT 0 TB 0 FL 0 NO 56
ASAP DATA ENTRY FORM

SUBSURFACE DATA

<table>
<thead>
<tr>
<th>SEGMENT ID:</th>
<th>KNP26</th>
<th>SUBDIV:</th>
<th>A</th>
<th>SITE:</th>
<th></th>
</tr>
</thead>
</table>

**PIT # 1**
- **PIT DEPTH**: 15
- **OIL CHARACTER**
- **OIL INTERVAL (FT)**: FROM 0 TO 15
- **CLEAN BELOW**: N
- **PIT ZONE**: SU - UI - MI - LI -
- **SUBSURFACE SEDIMENT**: BRK - BLD - COB - PEB - GRN - SAN - MUD - VEG

**PIT # 2**
- **PIT DEPTH**: 40
- **OIL CHARACTER**
- **OIL INTERVAL (FT)**: FROM - TO -
- **CLEAN BELOW**: -
- **PIT ZONE**: SU - UI - MI - LI -
- **SUBSURFACE SEDIMENT**: BRK - BLD - COB - PEB - GRN - SAN - MUD - VEG

**PIT # 3**
- **PIT DEPTH**: 20
- **OIL CHARACTER**
- **OIL INTERVAL (FT)**: FROM 15 TO 20
- **CLEAN BELOW**: N
- **PIT ZONE**: SU - UI - MI - LI -
- **SUBSURFACE SEDIMENT**: BRK - BLD - COB - PEB - GRN - SAN - MUD - VEG

**PIT # 4**
- **PIT DEPTH**: 60
- **OIL CHARACTER**
- **OIL INTERVAL (FT)**: FROM 0 TO 60
- **CLEAN BELOW**: N
- **PIT ZONE**: SU - UI - MI - LI -
- **SUBSURFACE SEDIMENT**: BRK - BLD - COB - PEB - GRN - SAN - MUD - VEG
GENERAL DATA

SEG ID: KW026 SBOV: A SITE: 1 TEAM: 3 DATE: 5/11/90
SITE LGTH 687 OIL CATEGORIES: W . M 40 N 2 VL 589 NO 56 U
1991 REASSESSMENT: USCG: 1 ADEC: 1 LOMGR: 1 EXXON: 1

SURFACE DATA

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

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

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

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

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

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

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

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

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

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

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

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

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

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

CHAR #: OIL CHAR: OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI LI
1991 MAYSAP EVALUATION

SEGMENT: KN 026  SUB: A  REGION: PWS  SURVEY DATE: 5/3/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s) OPEN

Ecological/Constraints (see page two for details)  NONE

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

SHPO Signature: ___________________________  Date: ___________________________

RECOMMENDATIONS:

<table>
<thead>
<tr>
<th>TREATMENT REQUIRED (Y or N)</th>
<th>INITIAL</th>
<th>TAG</th>
<th>FOSC</th>
</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/Custumblen  ________  ________  ________
Other  ________  ________  ________
Other  ________  ________  ________

COMMENTS:

INITIAL: ________________________________________

TAG: ________________________________________

FOSC: ________________________________________

TAG APPROVAL DATE: __________  FOSC APPROVAL DATE: __________

ADEC: ________________________________________  FOSC: ________________________________________

EXXON: ________________________________________

USCG: ________________________________________

NOAA: ________________________________________
Wesley Ghromley

Treatment recommended - Sparse to no biota in area of subsurface oil. Mechanical equipment easily unloaded on this beach. 5x60M "Mousse" lens under cobble. Mechanically remove clean sediment, Mechanically remove mousse lens. Leave exposed (oil residue) agitate w/incoming tide, stretch snares to contain, collect sheens. Mechanically explore under storm berm (logs for mousse band that is sure to be present. (Remove it mechanically) Pile logs to the side if necessary to explore under berm.

Joaan Gauntlet

9 of fifteen sites had oil present. Surface oil was only slightly visible. The subsurface is primarily in one section not throughout the whole beach. For a beach with high energy it had a much lift as dense stone the pounding of it relaces.

John Johnson of Chugach AK

Treatment recommended to remove remaining oil.

Mooney/Boats

Segment consists of cobble, pebble material with a concentration of nor to nor subsurface oiling. This segment is a high energy shoreline with very little marine biota. Mechanical or natural tillage will not harm nor enhance marine biota or life.
**SEGMENT: KN-26**

**DATE:** 5 May 1991

**TEAM NO.:** 2

**DATE:** 05:07 to 08:05

**TIDE LEVEL:** 1.25 ft. to 2.25 ft.

**ENERGY LEVEL:** ☑️ H ☑️ M ☑️ L

**SURVEYED FROM:** ☑️ FOOT ☑️ BOAT ☑️ HELO

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

**TOTAL LENGTH SHORELINE SURVEYED:** 687 m

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

**EST. OIL CATEGORY LENGTH:** W 0 m M 8 m N 0 m VL 0 m NO 0 m US 0 m

**SURFACE OIL CHARACTER**

<table>
<thead>
<tr>
<th>LOC</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT</th>
<th>H2O BOUND Lore</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></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</table>

**SUBSURFACE OIL CHARACTER**

<table>
<thead>
<tr>
<th>NO</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN BOUND</th>
<th>BROWN</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
<th>SURFACE- \ SUBSURFACE SEDIMENTS</th>
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<tbody>
<tr>
<td>1</td>
<td>10</td>
<td>X</td>
<td>40-80 Y</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>10</td>
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<td>-</td>
<td>-</td>
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<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
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</tr>
<tr>
<td>4</td>
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<td>40-50 Y</td>
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<td>30-40 Y</td>
<td>35</td>
<td>3</td>
<td>X</td>
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</tbody>
</table>

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

**OG COMMENTS:**

Pebble and cobbled material at the western end of this beach is very well-rounded pebble and cobble, indicating high wave exposure.

Only surface oiling present was a patchy area of coat under logs at the western-most pocket beach (Location A).

*Petroleum-like smell but largely water soluble - classified as LOR.*
### MAYGAP SHORELINE-OILING SUMMARY

#### SEGMENT KW-24

**TEAM NO. 3**

**SUBDIVISION A**

**DATE 3 MAY 91**

<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>10</td>
<td>~30</td>
<td>X</td>
<td>Y</td>
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<td>-</td>
<td>X</td>
<td></td>
<td>R/P</td>
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<tr>
<td>11</td>
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<td>Y</td>
<td>35</td>
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<td>X</td>
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<td>G/4</td>
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<td>-</td>
<td>X</td>
<td></td>
<td>B/5/M</td>
</tr>
</tbody>
</table>

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

---

**OG COMMENTS:**

Subsurface oiling was variable but the most significant concentrations appeared in the west part of the subdivision. An area of "significant" oiling was defined in Pits #3 and #14 - the HOR area was estimated at 5 x 60 m.

---

**REVISED MC 5/5/91**

En revised, No. 7
**MAYMAP BIOLOGICAL SUMMARY FORM**

**TEAM #** 3  
**DATE** 5/13/91

**SEGMENT #** KN 26  
**TIDAL HEIGHT(Range)** 3-6'

**SUBDIVISION** A  
**BIOLeGIST** Stoker

**STATE** 1-2'  
**WIND SPEED/DIRECTION** NE 5-10

**PHOTOGRAPHS: ROLL #**  
**FRAME #**

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

- High energy wave break at cobble/boulder bedrock.
- Biotite very sparse or absent on cobble/boulder above mist due to substrate instability in central NE portion of segment. Bedrock in the vicinity colonized by sparse barnacles and Kystina with small Boccarda and lingets in protected crannies. Biotite increases in both overall abundance and diversity to the SE on all substrates due to more sheltered aspect, characterized by patchily dense barnacles and spat, Mytilus, Ciona intestinalis, Nucella, Fusus, and filamento-nod algae.
- Biotite within/adjacent to oiling on west portion of segment (location A, 0855 1 R.H.) is sparse or absent, and remains sparse down slope to HTZ. Essentially, there is little intertidal debris in this area to be impacted or benefitted by further treatment.

**HIBD LiFE OBSERVATIONS**

TO BE COMPLETED IN ALL SUBDIVISIONS

<table>
<thead>
<tr>
<th>LRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED SPECIES PRESENT</th>
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<tbody>
<tr>
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<td>1</td>
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<td></td>
</tr>
<tr>
<td>Seabirds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td>1 Harladan</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td>Kittiwake, E. ren.</td>
<td>10-12</td>
<td></td>
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<tr>
<td>Shorebirds</td>
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</tr>
<tr>
<td>Corvids</td>
<td>1 Jay</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Her Birds</td>
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**LAND MAMMALS**

<table>
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<tr>
<th>RARE MAMMALS</th>
<th># OBSERVED</th>
<th>SPECIES</th>
<th># OBSERVED</th>
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<tbody>
<tr>
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<td>Deer</td>
<td>Skeleton</td>
<td></td>
</tr>
<tr>
<td>2000 (specify)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ales (specify)</td>
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</tbody>
</table>

*Oceanic subdivision map showing important biological features attached.*
1991 MAYSAP EVALUATION

SEGMENT: XN 026  SUB: A  REGION: PWS  SURVEY DATE: 5/3/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s) OPEN

Ecological/Constraints (see page two for details) NONE

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

SHPO Signature: Timothy Andrews  Date: 5/31/91

RECOMMENDATIONS:

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

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

COMMENTS:
INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: MAY 31 1991  FOSC APPROVAL DATE: 6/18/91

ADEC

EXXON

USCG

NOAA
TREATMENT RECOMMENDED - Sparse to no biota in area of subsurface oil. Mechanical equipment easily unloaded on this beach. 5x60m "mousse" lens under cobble. Mechanically remove clean sediment; mechanically remove mousse lens. Leave exposed (oil residue) agitate w/incoming tide, stretch snare to contain/collect sheens. Mechanically explore under storm berm (logs for mousse band that is sure to be present. (Remove it mechanically) Pile logs to the side if necessary to explore under berm.

NTR 9 of fifteen piles had oil present. Surface oil was only slightly visible. The subsurface is primarily in one location not throughout the whole beach. For a beach with high energy it had a much less as would attrac the pluralty of it recieve.

TREATMENT RECOMMENDED to remove remaining oil

SEGMENT consists of cobble, pebble material with a concentration of nor to hor subsurface oiline. This segment is a high energy shoreline with very little marine biota. Mechanical or manual tilling will not harm nor enhance marine biota or life.
**MAYSAP SHORELINE OILING SUMMARY**

**TEAM NO:** 3  
**OG:** HARPER  
**ADEC:** ORTON  
**AERIAL:** CRANEZKI  
**CIVIL:** JOHNSON for CVC  
**USCG/NOAA:** MOONEY/BARRETT  
**TIME:** 07:05 to 08:05  
**DATE:** 3 MAY 1991

**SEGMENT:** KN-26  
**SUBDIVISION:** A  
**TIDE LEVEL:** 4.55 ft. to 2.25 ft.  
**ENERGY LEVEL:**  

**SURVEYED FROM:**  
- [ ] FOOT  
- [ ] BOAT  
- [ ] HELO  
**WEATHER:**  
- [ ] SUN  
- [ ] CLOUDS  
- [ ] FOG  
- [ ] RAIN  
- [ ] SNOW

**TOTAL LENGTH SHORELINE SURVEYED:** 687 m  
**NEAR SHORE SHEEN:**  
- [ ] BR  
- [ ] RB  
- [ ] SL  
- [ ] NONE

**EST. OIL CATEGORY LENGTH:**  
- W: 0 m  
- M: 8 m  
- N: 0 m  
- V: 0 m  
- L: 0 m  
**TOTAL OIL SURVEYED:** 679 m  
**US OIL SURVEYED:** 679 m

**SURFACE OIL CHARACTER**

<table>
<thead>
<tr>
<th>LOC</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT</th>
<th>SLOPE</th>
<th>WIDTH (m)</th>
<th>LENGTH (m)</th>
<th>ZONE</th>
<th>NOTES</th>
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<tbody>
<tr>
<td>A</td>
<td></td>
<td></td>
<td>V</td>
<td>5</td>
<td>8</td>
<td>X</td>
<td>CARGO UNDER LOFS</td>
</tr>
</tbody>
</table>

**DISTRIBUTION:**  
- C = 81-100%  
- B = 61-80%  
- P = 11-60%  
- N = 1-10%  
- T = <1%

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

**PIT NO.**  
- [ ] DETERMINATION  
- [ ] MGS  
- [ ] HAMS  
- [ ] STNTS  
- [ ] DISTRIB.

**PIT DEPTH (cm):**  
<table>
<thead>
<tr>
<th>NO.</th>
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<th>OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN BELOW</th>
<th>H2O LEVEL</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
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<tr>
<td>3</td>
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<td>10-25</td>
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<td>4</td>
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<td>-</td>
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<td>-</td>
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</table>

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

**OG COMMENTS:**  
Pebble and cobble material at the west end of this beach is very well-rounded pebble and cobble, indicating high erosion exposure.  

The only surface oiling present was a patchy area of light oil on logs at the western-most portion of the beach (Location A).

*Petroleum-like smell but largely water soluble - classified as LR*
### MAYSAP SHORELINE OILING SUMMARY (cont.)

#### SEGMENT KN-26

<table>
<thead>
<tr>
<th>TEAM NO. 3</th>
<th>SUBDIVISION A</th>
<th>DATE 3 MAY 1991</th>
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</thead>
</table>

<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</th>
<th>H20 LEVEL</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
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<td>R/B/G</td>
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<tr>
<td>13</td>
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<td>-</td>
<td>X</td>
<td>B/G</td>
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</tbody>
</table>

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

### OG COMMENTS:

Subsurface oiling was variable but the most significant concentrations appeared in the west part of the subdivision. An area of "significant" oiling was defined in Pits #3 and #14 - the HOR area was estimated at 5 x 10 m.

**OG 2/95**

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

**EDITED:** May 7
MAYSAF BIOLOGICAL SUMMARY FORM

TEAM 3
SEGMENT KN 26
SUBDIVISION A
SEA STATE 1-2
PHOTOGRAPHS: ROLL 1

DATE 5/3/91
TIDAL HEIGHT (Range) 3-6'
BIOLeST 10 kr
WIND SPEED/DIRECTION NE 5-10

COMMENTS/ OBSERVATIONS (to be completed in oiled subdivisions only):
High energy wave break on cobble/boulder/bedrock.
Biot as very sparse or absent on cobble/boulder above 1st due to
substrate instability in central NW portion of segment. Bedrock in the
vicinity colonized by sparse barnacles and mussels, with small limpets
and urchins in protected cracks. Biot as increases in both overall
abundance and diversity to the SE an all substrates due to more
sheltered aspect, characterized by patchily dense barnacles and urchin,
mussels, limpets, urchins, mussels, Nucella, Fucus, and filamentous red algae.
Biota within/adjoining to oiling on west portion of segment
(location A, east 7 1/4) is sparse or absent, and remains sparse.
Shoreline subdivision map showing important biological features attached.
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-101

SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION

SEGMENT ST/ KN-101 SUBDIVISION A (1 OF 1) DATE 4/8/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: __________________ DATE: __________________

OILING CATEGORIZATION:
Wide 0 m: Medium 29 m: Narrow 298 m: V.Light 543 m: No Oil 36 m
Subsurface Oil Observed: Yes____ No X____ Maximum Depth____

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

COMMENTS: Recommend bioremediation of oil-coated areas, avoid eel grass during treatment. Work should be conducted after 6/1 and only with permission of USFWS due to eagle nest constraint.

TAG COMMENTS:

TAG APPROVAL DATE: __________
ADEC EXXON ________________ FOSC: ______________ DATE: __________
NOAA ________________ USCG ________________
Salmon stream mouth - fry outmigration (3/1 to 5/15)
Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage.
No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.

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

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

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

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

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

Remote release site

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

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

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

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

Hermit spawning (4/1 to 6/15)

Restrict boat traffic to essential minimum. Avoid damage to unoolied intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.

Seabird colony (5/1 to 9/1)

Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

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

Restrict all activity to essential minimum, especially air traffic.

Recreation: Tent sites (5/1 to 9/15)

Anchorages (6/1 to 9/15)

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

Lodge (6/1 to 9/15)

Special use destination

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

Finfish harvesting

Deer harvesting (8/15 to 2/28)

Invertebrates harvesting

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

SEGMENT ST 1 KN-101-A   SUBDIVISION: A   DATE 4/10/90

USCG NAME: David A. Schneider   SIGNATURE: David A. Schneider

☐ NO TREATMENT RECOMMENDED   ✓ TREATMENT SUGGESTED

I concur with ADEC's Land Manager's comments below. This subdivision should have various areas of impact cleaned manually to remove concentrations of cover and mousse/tar-patties.

ADEC NAME: Peter Montesano   SIGNATURE: Peter J. Montesano

☐ NO TREATMENT RECOMMENDED   ☑ TREATMENT SUGGESTED

At First Pocket beach, the large rocks outcropping at shore requires scraping of cover (thick, black), especially on North Side. The few tar/mousse patches on the 40x3m + 3x75 ft/B beaches should be removed and could use some additional scraping. Spotty wiping/scraping would be appropriate on the various bands along this segment.

LAND MANAGER NAME: Martha Pitcher   SIGNATURE: Martha Pitcher

☐ NO TREATMENT RECOMMENDED   ☑ TREATMENT SUGGESTED

Scrap away coating/cover on rock outcroppings. Manually remove tar-patties and reuse.
OG: C. Dillon  USCG D. Schneider  SEGMENT ST/ KN-101
BIO: T. Barry  LAND REP: L. Pritchard  SUBDIVISION A
EXXON A. Snook  ADEC: P. Montesano  TIME 18:30 to 19:30
TEAM NO.: 0
TIDE LEVEL: +1 to +5
DATE 04/01/90

EST. SUBDIVISION LENGTH: 1026 m

UPLANDS DESCRIPTION: ☐ Grass ☑ Forest ☑ Rock
SURVEYED FROM: ☑ Foot ☐ Boat ☐ Helo

SURFACE SEDIMENTS: R 65 % B 34 % C 1 % P 0 % G 0 % S 0 % M 0 % V 0
SLOPE: Long 2 % Hang 33 % Vert 65 %
WAVE EXPOSURE: ☑ Low ☑ Med ☑ High
OIL CATEGORY LENGTH: W 0 m M 420 m N 380 m V 656 m NO 30 n

SURFACE OIL

<table>
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<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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<tr>
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PAVEMENT: H F S 0 sq.m by 0

PATTIES/TARBALLS 1 BAG:

NEAR SHORE SHEEN? ☑ BR RW SL TL

OILED DEBRIS AMOUNT

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Photographs:

Roll No. NONE

Frames 0

SUBSURFACE OIL

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<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL (COLORS)</th>
<th>BELOW OIL / FILM COLOR</th>
<th>PIT ZONE ANA</th>
<th>SUBSURFACE SEDIMENTS</th>
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</table>

COMMENTS

SUBDIVISION IS ENTIRELY VERTICAL AND HANG ROCK AND BOULDER SLOP WITH A BROKEN DBRON STAIN AND BROKEN, PATCHY OR SPORADIC COAT ACROSS THE HIGH TIDE LINE UP TO 1M WIDE.


No sketch map attached due to lack of variation in geomorphology and oil characteristics and width. REVIEWED: DATE 4/11/90
### Shoreline Ecological Summary

**Segment ST KN101**  
**Subdivision** A  |  **Date** (mo/day/yr)  |  8 April 1980  
**Time (24 hr)** |  1830 - 1930  
**Biolist** Jim Berry  
**Length** ?

### 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 (S)

#### Barnacles

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<th>Sparse</th>
<th>Rare</th>
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#### Mytilus

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#### Gastropods

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<tr>
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### Wildlife Observations/General Comments:
- Sea Otter  
- Pigmy gull

### Ecological Considerations:
- ST - Eagle nest -  
  - A nest was observed near adjacent to kelp or kelp - This may be the nest on question. Eagles were observed several times during the survey. A small clean up crew should have no adverse effects on the eagle foraging activity.
General Comments.

A. KU101 encompasses the NW coastline of Lewis Bay. The northern end of the segment is exposed to moderately exposed to sunlight. Most of the segment is vertical cliffs and boulder beaches. Core of benthos is moderate to dense. Mussels occur in exposed regions, and algae generally are dense below.

B. Oil-related patterns of benthos are nearly undetectable, except for the core of oil in the high intertidal zone, where oil cover may interfere with benthos. Long-term effects, if any, will likely recover with no additional treatment.

II. Major Species.

A. Barnacles - Moderate Cover by 3 species. Percentage of dead individuals is low for all 3 species.

B. Mussels - Dense beds of mussels characteristic of most headland areas were less evident at this area segment than in several others. This may be a consequence of oil-related activity, or a natural pattern.

C. Gastropods - Lithobates mussels are moderate in density, but whelks are dense in low intertidal and mid-intertidal zones. Limpets are moderate.

D. Eels - Juveniles and spawners are den more abundant than adults in the high zone.

III. Other Species.

Several species of algae, coralline anemones by a group of finely branched or filamentous species, cover the low zone. Sea stars, sea anemones in the extreme low zone and subtidal. Seaweeds and other large brown algae are abundant in the subtidal. Eel grass beds are patchy and sparse in the subtidal zone.
Species List

A. Marine Plants

1) Diatoms/Blue Green Algae m-o 123
2) Green Algae - Chlorophyta
   Acrosiphonia M 123
   Closterium S12
   Enteromorpha M12
   Green Grass
   Ulva M12
   Urospora M12
3) Red Algae - Rhodophyta
   Bossiella S12
   Calliarthron S12
   Corallina S12
   Cryptosiphonia m-o 123
   Endocladia muriata S12
   Halosaccion Glauciformes M12
   Irisaea S12
   Mastocarpus S12
   Membranoptera M12
   Microcladia m-o 123
   Lithothamnion pacificum S12
   Peyrocellis midendorffii S12
   Porphyra spp. S-M 12
   Rhodomela clava-g. M12
   Rhodymena precuma M12

4) Brown Algae - Phaeophyta
   Alaria marginata D U
   Alarum spp. D U
   Costaria M U
   Fucus distichus M123
   Hedophyllum sessile M U
   Halimeda M U
   Laminaria M U
   Nereocystis S U
   Ralpsia S12
   Scytosiphon comontaria S12
B) MARINE INVERTEBRATES

1) Anemones
   - Euphyllia divisa - 52
   - Urticina crassicornis - 51
   - Antipathes elegans - 51
   - Anthothoea simplex - 51

2)annelid Worms
   - Polychaetes
     - Nereis diversicolor - 51
     - Nephtys elegans - 51

3) Peanut Worms - Sipunculid
   - Prascolosoma tenerae - 52

4) Molluscs
   a) Clams
      - Cittarina tuncata - M12
      - Taneica lanceolata - S12
      - Mortuary - APP. RI
   b) Snails - Gastropods
      - Lithophora scuta - M23
      - L. australis - M12
      - Nucella lamellosa - D12
      - N. emarginata - D12
      - Semis aorta - S-m 23
      - Amphix colymbreana - R23
      - Tachyphilothoe APP. R23
   c) Nudibranchs
      - Flamellidorsa fusca - S12

5) Cephalopods
   - Lolita digitata - MIA
   - Alcea mivra - 28
   - Lolita phasmat - S12

6) Crustaceans
   a) Brachyura
      - Semibalanus conicus - M1012
      - Balanus glandula - M1012
      - Chthamalus dalli - M012
   b) Crabs
      - Haplogastri APP. S-923
      - Hemigrapsus squinter - S2
      - Pagurina APP. S-923
      - Hemigrapsus - Paguridea - M14
   c) Beach Hopper
      - STAPPDA - S23
      - AMPHIPODA
      - Orchesta APP. M14

7) Bryozoa
   - Schizoporella - APP. R23

8) Schmolderms
   a) Sea Stars
      - D345 Pyrosoma hebraeae
      - D234 Dendroaster mbekee
      - M23 Echinaster hebræis
      - S12 Echinoidea trecheli
      - R23 Orthaster kochleri
      - M12 Pisaster ochraceus
SPECIES LIST (cont)

2) Brittle Star
   Ophiura spp.? ?

3) Sea Cucumber
   Echinometra minorat

5) Sea Urchin
   Strongylocentrotus droebachiensis  R 23

C. Neochytraeidae

7) Fish: PARMADE  M 23
    COTTIDAE    S 12

Other Species

Unknown Orange Sponge.  1  R 23
KN-1

3-5m wide, 40m long, U-SITZ Hang B/E

Vert Rock - along high tide line

3m wide, 25m long, U-SITZ Hang B/E

Vert Rock face along high tide line.

Hang B Vert R
1m wide along high tide line.

S/8

Hang R/B
<1m wide along high tide line

KN-101-A 1006m

Oil Character lengths (m):
CV 5, ET 200, ST 761, PT 10, NO 30

(No sketch map)

XXX Wide

///// Medium

--- Narrow

TTTT Very Light

No Oil

Map Key: PWS-281
Name: C. Dillon
Date: 4/8/90
Data Entered:
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-101 SUBDIVISION A (1 of 1)

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 CONSTRAINTS

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

SEGMENT ST/KN-101 SUBDIVISION A (1 OF 1) DATE 4/8/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ST-1 All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: DATE: 4/23/90

OILING CATEGORIZATION:

Wide 0 _m: Medium 29 _m: Narrow 298 _m: V.Light 543 _m: No Oil 36 _m
Subsurface Oil Observed: Yes ___ No ___ Maximum Depth ______

RECOMMENDATIONS:

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

COMMENTS: Recommend bioremediation of oil-coated areas. Avoid eel grass during treatment. Work should be conducted after 6/1 and only with permission of USFWS due to eagle nest constraint.

TAG COMMENTS: Awaiting to assess prior to bioremediation.

TAG APPROVAL DATE: 4/13/90
ADEC ART WEINER DATE: 4/17/90
EXXON 1700 (3/2/90)
NOAA C. B. WARREN DATE: 4/17/90
USCG 1700 (3/2/90)
SEGMENT ST/ KN-101 SUBDIVISION A (1 OF 1) DATE 4/8/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ST-1  All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
6Y  Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: Charles Efford DATE: 4/23/90

OILING CATEGORIZATION:

<table>
<thead>
<tr>
<th>Subsurface Oil Observed: Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Depth: ______</td>
<td></td>
</tr>
</tbody>
</table>

RECOMMENDATIONS:

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

COMMENTS: Recommend bioremediation of oil-coated areas, avoid eel grass during treatment. Work should be conducted after 6/1 and only with permission of USFWS due to eagle nest constraint.

TAG COMMENTS: Monitor to assess prior to bioremediation

TAG APPROVAL DATE: 4/26/90
ADEC  ART WEINER  DATE: 4/17/90
EXXON  Arthur  DATE: 4/17/90
NOAA  Neil  DATE: 4/17/90
USCG  Kenneth  DATE: 4/17/90
KN-101-A 1006m

Oil Character lengths (m):
CV 5  CT 200 ST 761 PT 10 NO 30

(No sketch map)
1991 MAYSAP EVALUATION

SEGMENT: KN 101  SUB: A  REGION: PWS  SURVEY DATE: 5/17/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s)  RESTRICTED 3/1 - 9/1

Ecological/Constraints (see page two for details)  Eagle nest

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

SHPO Signature: [Signature] Date: 6/8/91

RECOMMENDATIONS:

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

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

COMMENTS:

INITIAL: ____________________________________________________

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

FOSC: ______________________________________________________

TAG APPROVAL DATE: June 4 1991  FOSC APPROVAL DATE: 6/8/91
ADEC  [Signature]  FOSC  [Signature]
EXXON  [Signature]  E. E. PAGE, CDR, USCG
USCG  [Signature]  CHIEF OF STAFF, FOSC
NOAA  [Signature]
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

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

TEAM NO. 2 SEGMENT KN-101 SUBDIVISION A DATE 5/17/91

<table>
<thead>
<tr>
<th>ADEC</th>
<th>NAME Peter Montesano SIGNATURE P. Montesano</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NTR TREATMENT RECOMMENDED</td>
</tr>
<tr>
<td></td>
<td>The NTR will area &quot;C&quot; is largely in beachside under Boulder and is not treatable. The cove area it is successfully in jagged rocks.</td>
</tr>
<tr>
<td></td>
<td>The Southern end of this Subdivision was not surveyed because the cove flew just as we neared completion. At that point the ADEC apparerntly took picks up slightly ahead of mapped area. Most of the APBDR to that point was inaccessible, hence the data should be reconvened when survey is completed. The cove in area &quot;C&quot; is thick and shows little change from my SSAT visit. The cove is removeable but at difficult footing. The breakdown of this cove will be slow since it is protected by the outcrop that is mapped to the north.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EXXON</th>
<th>NAME C. M. Katsimparis SIGNATURE C. M. Katsimparis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NTR NO TREATABLE OIL REMAINS ON THIS SEGMENT. ACCURATE INFO. IN OG REPORT</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LANDMANAGER</th>
<th>NAME Dennis S. Kennedy OF USFS SIGNATURE D.S. Kennedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTR</td>
<td>Only 2 people were given access to beach by directed by USFS's Eagle monitor. OG and ADEC reps went this to i, this big info. is missing. Eagle is nesting and was disturbed by survey—did return to nest after crew left area.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>USCG/NOAA</th>
<th>D. SIMPSON-GEITY NOAA D. Simpso-Geity West</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAME</td>
<td>BILL H.P. ZENDER USCG SIGNATURE B. H.P. Zender</td>
</tr>
<tr>
<td>NTR</td>
<td>As the OG noted, most of the remaining oil is on a sandstone, bands of fogg rock and return in the ATR. The overing in area C could be physically limiting the growth of barnacle spot. Quietly beneath thebay, anemones were observed, since this is a relatively small sand area near a channel habitat, no treatment is recommended. D3-3</td>
</tr>
</tbody>
</table>

SUMMARY - NO TREATMENT RECOMMENDED. Good on Port 3.
MATSAP SHORELINE OILING SUMMARY

TEAM NO. 2
OG Reimer BIO S. Ban
ADEC P. Montesano LANDMANAGER D. Kennedy for USFS
EXXON C. Katsimbalis UMSC/NOAA D. Suncek-Bailey

TIME 11:27 to 12:57
SURVEYED FROM: □ Foot □ Boat □ Helo
TOTAL LENGTH SHORELINE SURVEYED: 566 m
SURVEYED FROM: □ Foot □ Boat □ Helo
WEATHER: □ Sun □ Clouds □ Fog □ Rain □ Snow
DATE 5/17/91

EST. OIL CATEGORY LENGTH:

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<thead>
<tr>
<th>LOC</th>
<th>AP</th>
<th>MS</th>
<th>TB</th>
<th>SOR</th>
<th>CV</th>
<th>CT</th>
<th>ST</th>
<th>FL</th>
<th>DB</th>
<th>NO</th>
<th>SLOPE</th>
<th>WIDTH</th>
<th>LENGTH</th>
<th>ZONE</th>
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<td>S</td>
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<td>S</td>
<td>R</td>
<td>0.5</td>
<td>45</td>
<td>X</td>
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<td>B</td>
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<td>R</td>
<td>R</td>
<td>0.5</td>
<td>450</td>
<td>X</td>
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</table>

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

P坑 NO. | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER | OILED ZONE | CLEAN ZONE | H2O LEVEL | SHEEN COLOR | PIT ZONE | SURFACE-SUBSURFACE SEDIMENTS | NOTES |
<table>
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<tr>
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<td>N</td>
<td>-</td>
<td>-</td>
<td>Y</td>
<td>B-EP</td>
<td>See Below</td>
</tr>
<tr>
<td>2</td>
<td>10</td>
<td>X</td>
<td>0-10</td>
<td>N</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>B-EP</td>
<td>See Below</td>
</tr>
<tr>
<td>3</td>
<td>10</td>
<td>X</td>
<td>0-5</td>
<td>Y</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>B-EP</td>
<td>See Below</td>
</tr>
<tr>
<td>4</td>
<td>10</td>
<td>X</td>
<td>0-5</td>
<td>Y</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>B-EP</td>
<td>See Below</td>
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<tr>
<td>4B</td>
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<td>7-9</td>
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<td>-</td>
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</tr>
</tbody>
</table>

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

OG COMMENTS:

Pit #1 - interstitial (crevice) bed between boulders and bedrock, angular material hindered further digging

Pit #2/3 - interstitial bed between boulders - does not appear to be a subsurface layer, but oil trapped in finer sediments between and partially under boulders

Pit #4 - crevice between boulder and bedrock outcrop

REVISED 5/21/91
REVIEWED 5/21/91, 5/21/91
**OG COMMENTS:**

This segment is predominantly rock cliff with occasional boulder lag deposits. Three shoreline sections, where access was possible were surveyed by foot. The remainder was near vertical Rock cliff and was surveyed by skiff. Note: The southern ⅓ of the segment was not surveyed due to Eagle constraints.

The majority of the oily found were the remains of BTR on rock cliffs and boulders along the H12. Most of these are sporadic in nature and are highly weathered. There are a few exceptions where cover with pine needles was found on the sheltered sides of rock faces.
WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS

<table>
<thead>
<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagles</td>
<td>107, 19(total)</td>
<td>12</td>
</tr>
<tr>
<td>Seabirds</td>
<td>Cormorant</td>
<td>9</td>
</tr>
<tr>
<td>Waterfowl</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shorebirds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corvids</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Birds</td>
<td>Parasitic Jaeger</td>
<td>1</td>
</tr>
</tbody>
</table>

FISH OBSERVED

Shoreline subdivision map showing important biological features attached.
USFS MONITOR ACCOMPANIED TEAM TO SUBSEDMENT. EAGLE WAS IN NEST DURING SURVEY. MONITOR ALLOWED TWO TEAM MEMBERS ACCESS TO BEACHES WITHIN 200 YDS. AS MEMBERS REACHED THE STARTED (X) AREA, EAGLE LEFT THE NEST. PERSONNEL WERE PICKED UP BY SKIFF AND EAGLE RETURNED TO NEST AFTER SEVERAL MINUTES.

KN-101-1

PROFILE

EAGLE NEST

Segment Reference Key
Key Key: KNO101

AT State Plane Zone 4

Attachment 1
SITE #1 (walk)

E: CT/ST in Sickly Moss Zone, SOR with Fucus. Adjacent kelp beds under rocks.

Focus requires 1: Horizons a muscle.

Am-B: 
Green algae + Lichen

Diving 1: Horizons + limpets on cv. Barren shelf within cv. Area immediately below cv supports gonio niella. Boulder at base of g. rock have onemones. Focus di Helicia t. limpets

D: Lichen in CV Zone, Sparsa barnacles beneath.

F: Lichen + Algae

Site #2

G: Lichen near CT/CV

High Rock (rocky)

H: Seacliff

Recently settled g. sp.

I, J, K, L: Lichen + green algae upper edge of Euno zone

Survey stopped due to Eagle, unsurveyed beyond this line.

OG SKETCH
KN-101-A
MAY 17, 1991
11:27-12:57
D. Reimer

Average beach width = 20 meters
1991 MAYSAP EVALUATION

SEGMENT: KN 101 SUB: A REGION: PWS SURVEY DATE: 5/17/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s)  RESTRICTED 3/1 - 9/1

Ecological/Constraints (see page two for details)  Eagle nest

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

SHPO Signature: ______________________ Date: __________________

RECOMMENDATIONS:

TREATMENT REQUIRED (Y or N)  N

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

COMMENTS:
INITIAL: ____________________________________________________

TAG: __________________

FOSC: ____________________________________________________

TAG APPROVAL DATE:_____________  FOSC APPROVAL DATE:_____________

ADEC __________________________  FOSC __________________________

EXXON _________________________

USCG _________________________

NOAA _________________________
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.
**MAYNAP FIELD SHORELINE COMMENT SHEET**

**TEAM NO.** 2  
**SEGMENT** KN-101  
**SUBDIVISION** A  
**DATE** 5/27/91

<table>
<thead>
<tr>
<th>NAME</th>
<th>Signature</th>
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<tbody>
<tr>
<td>Peter Montenegro</td>
<td>P. A. Martin</td>
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**EXXON**

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<tr>
<td>C.M. Larson</td>
<td>Paris. C. Stengels</td>
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**USCG/NOAA**

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</thead>
<tbody>
<tr>
<td>D.S. Kennedy</td>
<td>USF5</td>
</tr>
</tbody>
</table>

The Beg Win area "E" is larger than necessary under Boulder and is not treatable; the larger area is successfully on lagged rocks.

The southern end of this subdivision was not surveyed because the area now just on the north completion. At that point the AP/Sp area appeared to pick up slightly, and the mapped area. Most of the AP/Sp to that point was unacceptable, hence the data should be reconsidered. Redhill survey completed.

The south in area "C" is thick and showing little change from my SSAT visit. This area is somewhat flat and will be difficult footing. The breakdown of the cove will be slow since it is protected by the dunes that is mapped to the north.

**NO TREATABLE**  
**OIL REMAINS ON THIS SEGMENT**  
**ACCURATE INFO IN OG REPORT**

**ANDMANAGER**

<table>
<thead>
<tr>
<th>NAME</th>
<th>Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dennis S. Kennedy</td>
<td>P.S. Kennedy</td>
</tr>
</tbody>
</table>

**NTR**

Only 2 people were given access to beach as directed by USF5 Eagle monitor. OG and ADEC rep. went this to. This BLM info is missing.

Eagle is nesting area was disturbed by survey - old return to nest after crew left area.

**NTR**

As the Og noted, nothing remaining of area other than indication of beach and return on the OGs. The mapping in area C could be physically limiting the growth of brown/white spout. Quietly beneath this area, another source was observed. Since this is a relatively small area and a dive team at no treatment is recommended 83-13

**NTR**

No treatment recommended. Copy of Fig. 3.

---

*Note: The document contains several entries and notations, indicating discussions and observations related to shoreline conditions and treatment recommendations.*
**Team No. 2**

**Bio:** S. Ban

**ADEC:** P. Montesano

**LandManager:** D. Kennedy for USES

**Exxon:** C. Katsimpolis

**USCG/NOAA:** B. Simecek-Reeby

**Time:** 11:27 to 12:57

**Tide Level:** -1.81 ft to 2.04 ft

**Energy Level:** ☑ H ☐ M ☐ L

**Surveyed From:** ☑ Foot ☐ Boat ☐ Helo

**Weather:** ☑ Sun ☑ Clouds ☑ Fog ☐ Rain ☐ Snow

**Total Length Shorline Surveyed:** 546 m

**Near Shore Sheen:** ☐ BR ☐ RB ☐ SL ☐ None

**Est. Oil Category Length:** W — 25 m M 34 m L 492 m NO 15 m US 340 m

---

### Surface Oil Character

<table>
<thead>
<tr>
<th>LOC</th>
<th>AP</th>
<th>MS</th>
<th>TB</th>
<th>OR</th>
<th>GV</th>
<th>CT</th>
<th>ST</th>
<th>FL</th>
<th>DB</th>
<th>NO</th>
<th>Clean Zone</th>
<th>Width</th>
<th>Length</th>
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### Surface Sediment

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### Area

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### Zone

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### Notes

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<th>Notes</th>
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<tbody>
<tr>
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**Distribution:** C = 91-100%; B = 81-90%; P = 11-50%; S = 1-10%; T = <1%

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

**Photo Roll # Maysap:**

### Surface Subsurface Sediments

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<th>Subsurface Sediments</th>
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### Notes

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<th>Notes</th>
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</table>

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**OG Comments:**

**Pit #1** - Interstitial (crevice) between boulders and bedrock, angular material hindered further digging

**Pit #2, 3** - Interstitial between boulders - does not appear to be a subsurface layer, but oil trapped in finer sediments between and partially under boulders

**Pit #4** - Crevice between boulder and bedrock cutaway (continued)
**OG COMMENTS:**

This segment is predominantly rock cliff with occasional boulder lag deposits. Three shoreline sections where access was possible were surveyed by foot. The remainder was near vertical Rock and was surveyed by skiff.

Note: The southern 1/3 of the segment was not surveyed due to eagle constraints.

The majority of the oily found was the remains of BTR on rock cliffs and boulders along the HITEC. Most of these are sporadic in nature and are highly weathered. There are a few exceptions where cover with pine needles was found on the sheltered sides of rock faces.

Reviewed: 5/24/91
reviewed 5/24/91
SEGMENT BOUNDARY

SITE #1 (walk)

SITE #2

OG-SKETCH
KN-101-A
MAY 17, 1991
11:27-12:57
Doug Reimer

AVERAGE BEACH WIDTH = 20 METERS

CT/CU 1/2 x 65m (62%) Remains of BTR on Vertical Rock HILT
CT 1/2 x 20m (2%) Remains BTR - Vert, Rock
CU 2 x 4m 80% Pine needles - Vert, Rock
CU/CT 1 x 4m 20% Vert, Rock - Pine needles
CT ST 5% - SOR 1% 4 x 20m Rock and Boulders
CT/CU 1 x 30m < 5% Remains of BTR on Vertical Rock
CT/CU 2 x 30m < 5% discontinuous BTR on Rock/BLD HILT
CT 2% 5 x 10m SOR, (Heavy) 10% bedded Boulders (interstitial)
CT/ST 10% BLD/Rock
SOR/AR 2% patchy between Boulders (GVIS)
CT/CU 1 x 6m 60% Vert, Rock - Pine needles
CT 1 x 20m 20% Vertical Rock
CT/ST 5% SOR 1% 4 x 20m BLD/Rock

segment boundary

Survey stopped due to eagle
unsurveyed (eagle)
TEAM # 2
SEGMENT # 1K-101A
SUBDIVISION A
SEA STATE Calm
WIND SPEED/DIRECTION Calm

DATE 17 May 91
TIDAL HEIGHT (Range) 3 to 4 ft
BIOLeGIST Mr. Brown

PHOTOGRAPhS: Holo - FRAME 

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

A. B: CT/CV in lichen + green algae zone, lower ITZ with dense algae, barnacles,
C. SV op thin rock is in the barnacle zone. If removed, area could
   be open for recolonization by barnacles, etc. However, area immediately
   barnacle free supports a diverse habitat including ascidians, mollusks,
   gast. However, taintors in this area should he protected.
D: As documented on map, barnacles, squatte mussels, and limpetes on
   boulders below oil. Not as sensitive as "C".
E: As documented, area sensitive of oil has fewer recruits + adults, limpetes
   and mussels.
F: CT/CV high in ITZ, lower intertidal zone = diverse.

F, G, H: These areas not walked by bio due to eagle constraint. ODEP
    and ADEC reported that CT/CV/ST was situated within ITZ in the
    lichen + green algae zone. Oil also found at upper edge of
    barnacles zone.

IC treatment is recommended at "C". Core should be taken to protect
the surrounding area from physical disturbance.

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS

<table>
<thead>
<tr>
<th>Birds</th>
<th>No. of Species</th>
<th>Total Birds</th>
<th>Fish Observed Species Present</th>
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<tbody>
<tr>
<td>Eagles</td>
<td>1 M, 1 (juvenile)</td>
<td>2</td>
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<tr>
<td>Seabirds</td>
<td>Cormorant</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td>Tern</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Shorebirds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corvids</td>
<td></td>
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<td></td>
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<tr>
<td>Other Birds</td>
<td>Arctic Tern</td>
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MARINE MAMMALS

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<th>No. Observed</th>
<th>Species</th>
<th>No. Observed</th>
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<td>Pinnipeds(specify)</td>
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<tr>
<td>Sealion</td>
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LAND MAMMALS

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<th>No. Observed</th>
<th>Species</th>
<th>No. Observed</th>
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</thead>
</table>

Shoreline subdivision map showing important biological features attached.
USFWOS Monitor Accompanied Team to Subsegment. Eagle was in nest during survey. Monitor allowed the team members access to beaches within 200 yds. As members reached the starred (*) area, Eagle left the nest. Personnel were picked up by skiff and Eagle returned to nest after several minutes.

Note: KN-101-1

Map Key: KN0101

Segment Reference Key

\[\text{EAGLE NEST}\]
OG SKETCH
KN-101-A
MAY 17, 1981
11:27 - 12:57
J. Reimer
AVERAGE BEACH WIDTH = 20 METERS
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-102

SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION

SEGMENT ST/KN-102 SUBDIVISION A (1 OF 1) DATE 4/8/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

6Y Recreation: Special use destination
No specific 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 13 m: Medium 0 m: Narrow 12 m: V.Light 830 m: No Oil 0 m
Subsurface Oil Observed: Yes X No: Maximum Depth 18 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual removal of surface and subsurface tarmat, 2) manual pickup of mousse, 3) bioremediation of areas shown on attached sketch map. No specific work window constraints.

TAG COMMENTS: ____________________________

TAG APPROVAL DATE: ______________

ADEC  EXXON  FOSC: __________ DATE: ______

NOAA  USCG
<table>
<thead>
<tr>
<th>Code</th>
<th>Activity Description</th>
<th>Date Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A</td>
<td>Salmon stream mouth - fry outmigration</td>
<td>3/1 to 5/15</td>
</tr>
<tr>
<td>1B</td>
<td>Salmon stream mouth - spawning</td>
<td>7/10 to 8/31</td>
</tr>
</tbody>
</table>
|      | No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No biomedia
tion or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits. |
| 1C   | Salmon fry nursery area | 4/31 to 7/31 |
| 1D   | Esther Hatchery release | 4/15 to 6/1 |
| 1E   | Main Bay Hatchery release | 4/20 to 5/10 |
| 1F   | Sawmill Bay Hatchery release | 4/15 to 6/1 |
| 1G   | Cannery Creek Hatchery release | 4/21 to 6/1 |
| 1H   | Remote release site |
| 1I   | Gill net area | 6/7 to 8/31 |
| 1J   | Purse seine area | 7/20 to 9/30 |
| 1K   | Purse seine hook-off | 7/20 to 9/30 |
| 1L   | Set net sites | 6/11 to 7/25 |
|      | For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints. |
| 2M   | Herring spawning | 4/1 to 6/15 |
|      | Restrict boat traffic to essential minimum. Avoid damage to uncult intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations. |
| 3N, 3P | Harbor seal and sea lion pupping | 5/15 to 7/1 |
| 3O, 3Q | Harbor seal and sea lion molting | 8/15 to 9/15 |
|      | Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. |
| 5R   | Seabird colony | 5/1 to 9/1 |
|      | Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment. |
| 5S   | Shorebird/waterfowl concentration | 4/1 to 5/15 |
|      | Restrict all activity to essential minimum, especially air traffic. |
| 5T   | All Bald Eagle nests | 3/1 to 6/1 |
|      | Active Bald Eagle nests | 3/1 to 9/1 |
|      | Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates. |
| 6U   | Recreation: Tent sites | 6/1 to 9/15 |
| 6V   | Anchorages | 6/1 to 9/15 |
| 6W   | Forest Service cabins | 6/1 to 9/15 |
| 6X   | Lodge | 8/1 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 ST1 K4-1Oz-A SUBDIVISION: A DATE 4/10/90

☐ USCG NAME David A. Schneider SIGNATURE David A. Schneider 133/USCG
☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

I concur with both ADEC's of the Land Manager's comments below:
Cobble/pebble beach at the southern end of the subdivision will require extensive manual clean up measures to remove asphalt patch and scraping of large boulders and rock faces. Band of cement on Hangar and vertical rock faces should be scraped off by using a stiff brush (along rest of subdivision).

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

ADEC NAME Peter Montesano SIGNATURE Peter Montesano

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

LAND MANAGER
NAME: Hazel Pitchard SIGNATURE: Hazel Pitchard

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

Manual removal of tar patches! Scrap continuing tar from large boulders! Remove asphalt. Boulders, clean up large asphalt patch and replace rocks. Also area in supratidal.
SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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<tbody>
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<tr>
<td>PAVEMENT</td>
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<tr>
<td>TARBALLS</td>
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</tr>
<tr>
<td>FILM</td>
<td></td>
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<tr>
<td>NO OIL</td>
<td>Snow on beach only</td>
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</tbody>
</table>

PAVEMENT: H F (3 50 sq. m) 2-6

PATTIES / TARBALLS: 0 BAG

NEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS AMOUNT

<table>
<thead>
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<td>Vegetation</td>
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<td>Trash</td>
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<td>Debris</td>
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Debris Collecte TYPE 0

OIL CHARACTER

Photographs:
Roll No. ST-6-5
Frames 1/2

SUBSURFACE OIL

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<th>PIT NO.</th>
<th>PIT DEPTH</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>BELOW</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
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<tr>
<td></td>
<td>(cm)</td>
<td></td>
<td>(cm-cm)</td>
<td>SU</td>
<td>LI</td>
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</tr>
<tr>
<td>1</td>
<td>25</td>
<td>X</td>
<td>15-18</td>
<td>X</td>
<td>X</td>
<td>P/G(Pig.2-6)</td>
</tr>
<tr>
<td>2</td>
<td>12</td>
<td>X</td>
<td>5-10</td>
<td>X</td>
<td>X</td>
<td>P/G</td>
</tr>
</tbody>
</table>

Comments: Subdivision is entirely hang and vert rock and boulder with a patchy or broken stain and sporadic coat up to 1m wide across the high tide line.

A long cobble/pebble beach, with long boulders at the north end and a vertical rock face at the south end, is more heavily oiled with a variety of oil characters. This beach is shown on the attached sketch map. 2 pits on this beach.

Page 1 of

Reviewed: CED  Date: 4/1/90
**SHORELINE ECOLOGICAL SUMMARY**

Segment ST/KN 12  Subdivision A - ALL  Date (mo/day/yr) 8 APRIL 1990

Time (24 hr)  Biologist JIM BARRY

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

(B) Overall % cover of biota (% of segment): Dense 10 Moderate 50 Low 10

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

**BARNACLES**

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<tr>
<td>1L</td>
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**MYTILUS**

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**GASTROPODS**

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**FUCUS**

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Wildlife Observations/General Comments:
EAGLES - 3  COMMON MARGARET - 2  Pigeon Guillemeot
Seabrook - 2

Ecological Considerations: No special considerations relevant to cleaning operations
KN102-A
April 8 1990

Start 1930 Tide window 0.5 - 1.0
Stop 1045

General Comments:
Segment includes a section of moderately exposed east coast line with vertical cliffs and boulder beaches as the primary habitat types. Biotas are generally moderate in abundance. This segment is typical of other segments with similar topography and exposure.

Oil related distributions of biotopes that only in the high upper zone where oil is present as a cover that may inhibit frequent high intertidal organisms. Oil related activities this summer may have impacted the intertidal to a minor degree.

Major Species:

A. Barnacles - Generally moderate to high abundance for 3 major species.

B. Mussels - Mussels are moderate to sparse along most of the segment, and dense in small patches. This rarity may be affected by oil-related activity, but it is very unlikely unless there is oil contamination and cleaning operations were extensive. One beach and one headland at the south end of the segment has been a moderate to dense benthos.

C. Gastropods - Moderate, small numbers and lookers, but high densities (240/0.25) in some areas, of whelks (Buccella fluminea)

Focus - Generally, dense on the mud to low zone for juveniles, adults, and spat.
II. Other Species

"Slime-forming" algae were abundant in the lower zone. Several species of red and green algae comprise this group, including Acetabularia, Cryptophyceae, diatoms, Entomoptera, Ulva, and others.
B. MARINE INVERTEBRATES

1) Annelids
   - Echinodermata ? S12
   - Urticinae? Echinodermata
   - Antedonina elegansiforms?
   - A. articulata S12
   - A. feathetopiforms?

2)annelid worms
   - Polychaetes
     - Nereidae?
     - Neopygidae?
     - Serpulidae
     - C. spicata S12
     - C. spicata S12
     - Spirorbidae
     - Spirorbis M-01/23

3) polychaetes - sipunculid
   - Paracolosoma thersites?

4) Molluscs
   a) cuttoms
      - Cuttoms nucata S12
      - Tunicata limata R12
      - Morula spp.?

   b) snails - gastropods
      - Littorina saxatilis M123
      - L. saxatilis M123
      - Nucella lamellosa D123
      - N. emarginata D123
      - Semisulcata direa M123
      - Amphipecten columbiana R12
      - Tachygryseus spp. R12

   c) nudibranchs
      - Lamellidens fusca R12

   d) limpets
      - Lottia digitorum S12
      - L. edulis. ssp. R12
      - Lottia penacea M12

   e) mussels
      - Macoma calcarea
      - Mytilus edulis m-512

f) clams
   - Jingle - pocillopora sept. c.512
   - Harpellus spp.?
   - Proctoidea stolbina?
   - Plocamia spp.?

3) crustaceans

4) other
   a) barnacles
      - Semibalanus cariosus M-01/23
      - Balanurus glandula. M123
      - Chthamalus dalli M123

2) crabs
   - Haplogaster spp. S23
   - Hemigrapsus agresticola
   - Pajetella spp. R23
   - Heteroclid crabs - Pajetellidae M12

3) beach hoppers
   - Isopoda?
   - AMPHIPODA
     - Orchestia? S23

4) pogonopods
   - Schizoponella? M-023

5) echinoderms
   a) sea stars
     - Asterina d123 Pyenopodida helicarchoidea
     - Poeta d23 Echinodermata
     - D23 Echinodermata
     - D23 Echinodermata
     - D23 Echinodermata
     - D23 Echinodermata
     - R23 Echinodermata knobcali
     - M124 Pisaster ochraceus
III. Species List

A. Marine Plants

1) Diatoms/Blue Green Algae M-0123
2) Green Algae - Chlorophyta
   - Acrospiiona Dl23
   - Cladophora 5123
   - Enteromorpha M123
   - Green Crust.7
   - Ulva M123
   - Uropsora M-0123
3) Red Algae - Rhodophyta
   - Bossiella K12
   - Calliarthron K12
   - Colallina K12
   - Cryptopsisophyta D123
   - Endocladia mucicata S12
   - Halosaccion clandoforme M123
   - Iridaea M-0123
   - Mastocarpus S12
   - Membranoptera D123
   - Micralladia D123
   - Lithothamnion Patricium S12
   - Petroleis Midendorffii M12
   - Porphyra spp. "a" S-M12
   - Rhodomea carva M-012
   - Rhodomena Preciosa M12
4) Brown Algae - Phaeophyta
   - Alaria marina M-012
   - Alaria min. M-012
   - Costaria S-M12
   - Fucus distichus D123
   - Hedophyllum sessile M12
   - Hildenbrandia M12
   - Laminaria M12
   - Nereocystis S12
   - Ralspsia M12
   - Scytosiphon Comonartia D12

A Spot or Juveniles Present

- D Denil
- M Midwinter
- S Sparse
- R Rare
- 1 Bedrock
- 2 Boulder
- 3 Cobble
- 4 Pebble
- U Subtidal
SPECIES LIST (cont)

2. Echinodermata (cont)
   2) Brittle Star
      Ophiocomaeus sp.? ?

3) Sea Cucumber
   Cucumaria minuta ?

4) Seaurchin
   Strongylocentrotus droebachensis K 234

C. Mollusca Unidentified

7) Fish: PSEIDAE M-0234
   COTTIDAe S124
## ADDENDUM: SUBDIVISION CONSTRAINTS

### SEGMENT KN-102 SUBDIVISION A (1 of 1)

### WORK WINDOW

<table>
<thead>
<tr>
<th>Activity</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual Pickup</td>
<td>OPEN</td>
</tr>
<tr>
<td>Tarmat Removal</td>
<td>OPEN</td>
</tr>
<tr>
<td>Bioremediation</td>
<td></td>
</tr>
<tr>
<td>Manual Raking</td>
<td></td>
</tr>
</tbody>
</table>

### ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

### APPLICABLE ECOLOGICAL TIME CONSTRAINTS

**5T** Bald Eagle Nest NO CONSTRAINT. Bald eagle nest present in this Subdivision is not within 400m of recommended treatment area.

### OTHER ECOLOGICAL CONSIDERATIONS

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

---

Prepared by: \[\text{WJK}\]  
Date: 5/14/90
SHORELINE EVALUATION

SEGMENT ST/ KN-102 ___ SUBDIVISION A (1 OF 1) DATE 4/8/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

SY Recreation: Special use destination
No specific constraints identified.

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 13 m: Medium 0 m: Narrow 12 m: V.Light 830 m: No Oil 0 m:
Subsurface Oil Observed: Yes X No Maximum Depth 18 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual removal of surface and subsurface tarmat, 2) manual pickup of mousse, 3) bioremediation of areas shown on attached sketch map. No specific work window constraints.

TAG COMMENTS:

MONITORS TO ASSIST SUITZ DURING TREATMENT.

TAG APPROVAL DATE: 4/20/90

ADEC Art Welter, Art Welter
EXXON Amy Test, [Signature]
NOAA [Signature], [Signature]
USCG [Signature], [Signature]
SHORELINE EVALUATION

SEGMENT ST/ KN-102 SUBDIVISION A (1 OF 1) DATE 4/8/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

6Y Recreation: Special use destination
No specific 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: 4/20/90

OILING CATEGORIZATION:

Wide 13 m: Medium 0 m: Narrow 12 m: V.Light 830 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 18 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual removal of surface and subsurface tarmat, 2) manual pick up of mousse, 3) bioremediation of areas shown on attached sketch map. No specific work window constraints.

TAG COMMENTS: Monitors to assess site during treatment.

TAG APPROVAL DATE: 4/20/90
ADEC DATE: 4/8/90
EXXON
NOAA
USCG
FOSC: 4-26-90 DATE: 4-26-90
1991 MAYSAP EVALUATION

SEGMENT: KN 102  SUB: A  REGION: FWS  SURVEY DATE: 5/22/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s)  RESTRICTED 3/1 - 9/1

Ecological/Constraints (see page two for details)  Eagle nest

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

SHPO Signature: __________________________       Date: 6/27/91

RECOMMENDATIONS:  INITIAL  TAG  FOSC

TREATMENT REQUIRED (Y or N)  N  N  F
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: 6/12/91
ADEC  [Signature]
EXXON  [Signature]
USCG  [Signature]
NOAA  [Signature]

The State will evaluate the need to treat this subdivision.
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.
MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. | SEGMENT | K1 102 | SUBDIVISION | A | DATE | 5/22/91

**ADEC NAME** | Peter Montesawo | **SIGNATURE** | 

- **TREATMENT RECOMMENDED**

The oiled on this Subdivision is well documented. Areas E + D both have remaining s.0. and AP, which warrants further treatment. Only a portion of the oiled in E was removed by the crew, with the vast majority remaining. The oiled is in a thin Boulder Cover, and easily accessible for trowel and shovel work. There would not be an extensive undertaking but it would resolve.

**EXXON NAME** | Fred J. | **SIGNATURE** | 

- The area of being s.0. in section E were quite well removed and broken up. If any remaining activity is on site I would possibly recommend the application of

**LANDMANAGER NAME** | Dennis S. Kennedy of USF & S | **SIGNATURE** | 

- Much of the s.0. in location E was picked up and broken up by crow. This was the only area that would have benefited from treatment. There still is s.0. left in E that is workable. I feel it is now a lower priority for future action.

**USCG/NOAA NAME** | USA National Incident | **SIGNATURE** | 

- Section E had the highest concentrations of s.0. and AP's. They also removed all of the visible s.0. and filled four cleanup bags with soil. Surface oil was observed on the west of the segment, no treatment recommended. 5/15

- No TREATMENT Recommended. 5/15
TEAM NO. 2
OG Reimer
ADEC Montesano
DOXON Gor

SURVEYED FROM: ☑ FOOT ☑ BOAT ☑ HELO
WEATHER: ☑ SUN ☑ CLOUDS ☑ FOG ☑ RAIN ☑ SNOW
TOTAL LENGTH SHORELINE SURVEYED: 854 m
NEAR SHORE SHEEN: ☑ BR ☑ RB ☑ SL ☑ NONE
EST. OIL CATEGORY LENGTH: W: 0 m M: 35 m N 3 m VL: 556 m NO: 260 m US: 0 m

<table>
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<tr>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT TYPE</th>
<th>SLOPE</th>
<th>AREA</th>
<th>ZONE</th>
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<td>C AP MS TB BOR CV CT ST FL FL DB NO</td>
<td>B H 0.5 200</td>
<td>S UI MI LI</td>
<td>NOTES</td>
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<tr>
<td>A T</td>
<td>B H 0.5 200</td>
<td>X</td>
<td>H-SOR</td>
<td></td>
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<tr>
<td>B T S</td>
<td>B H 0.5 300</td>
<td>X</td>
<td>H-SOR</td>
<td></td>
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<tr>
<td>C T S S</td>
<td>B H 5 20</td>
<td>X</td>
<td>H-SOR</td>
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<td>D S</td>
<td>B H 2 30</td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td>E P S S</td>
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<td>H-SOR</td>
<td></td>
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<tr>
<td>F S S</td>
<td>B H 3 15</td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td>G S S</td>
<td>A H 2 30</td>
<td>X</td>
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</table>

DISTRIBUTION: C = 01-100%; B = 51-90%; P = 11-50%; S = 1-10%; T = <1%
SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE cm cm</th>
<th>CLEAN BELOW cm</th>
<th>M2O LEVEL</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
<th>SURFACE-SUBSURFACESEDIMENTS</th>
<th>NOTES</th>
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<td>YIN</td>
<td>BR SN</td>
<td>S</td>
<td>UI XI MI LI</td>
<td>C-PG</td>
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<tr>
<td>2 10</td>
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<td>-</td>
<td>YIN</td>
<td>BR SN</td>
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<tr>
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<td>YIN</td>
<td>BR SN</td>
<td>X</td>
<td>P-PG</td>
<td></td>
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<tr>
<td>4 20</td>
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<td>YIN</td>
<td>BR SN</td>
<td>X</td>
<td>P-PG</td>
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<td>5-7</td>
<td>X</td>
<td>X</td>
<td>P-PG</td>
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<td>X</td>
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<td>P-PG</td>
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<td>8 15</td>
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<td>X</td>
<td>X</td>
<td>X</td>
<td>P-G-</td>
<td></td>
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</tbody>
</table>

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

OG COMMENTS: Steep Rocky and boulder bay shoreline with one pocket beach at the South end. Oiliness consists of Sporadic Coat (BTR) oiled bld/Rocky shoreline decreasing in concentration from the beach. The East side of Pocket beach is a 2-7x20 bed of SOE in boulders, this is the heaviest oiling on the Segment. One pit with MOR was found in boulders on the West side of the beach, but appears to be an isolated pocket shaped behind bld, 1x2 m.
**MAYSAP BIOLOGICAL SUMMARY FORM**

<table>
<thead>
<tr>
<th>TEAM #</th>
<th>DATE</th>
<th>SEGMENT #</th>
<th>TIDAL HEIGHT (Range)</th>
<th>SUBDIVISION</th>
<th>BIOLOGIST</th>
<th>SEA STATE</th>
<th>WIND SPEED/DIRECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>5/21/91</td>
<td>KN-10A</td>
<td>+2 to +2.5</td>
<td>A</td>
<td>S M Bur</td>
<td>Oil</td>
<td>&lt;2kts</td>
</tr>
</tbody>
</table>

**PHOTOGRAPHS:** ROLL #__ FRAME __

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

A: CT/EP high in T2 within lichen zone. The BIP sporadically reached to the upper edge of the barnacle zone. Recently, neither barnacle spotted; found below the CT zone.

B: Intact biota encountered in the barnacle zone. No oiled barnacles were observed. CT/EP line observed near dense patches of elkhorn. Lower zones support dense algal growth.

C: CT/EP for upper barnacle zone - no oiled barnacles noted. Lower T2 of the rock platform supports dense Fucus, barnacle-impacted mussels. Fissures with mussels, coralline algae.


E: Oils high in T2, above you within lichen zone, occasionally reaching to upper edge of barnacle. Lower zones support dense Fucus - mussels.

As team approaches the north end of Subsegment, the 9 Eagles on the head of the segment KN-10A became restless and left the site. Both Skiffs immediately headed offshore at the geese. Returned to the west within 3 minutes.

**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>
<th>SPECIES PRESENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagles</td>
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</tr>
<tr>
<td>Seabirds</td>
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<tr>
<td>Waterfowl</td>
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<tr>
<td>Gulls/Kittiwakes</td>
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<tr>
<td>Shorebirds</td>
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</tr>
<tr>
<td>Corvids</td>
<td></td>
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<tr>
<td>Other Birds</td>
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</table>

**MARINE MAMMALS**

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

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

Shoreline subdivision map showing important biological features attached.

Reviewed MC: 5/21/91
Reviewed MB: 5/24/91
1991 MAYSAP EVALUATION

SEGMENT: KN 102 SUB: A REGION: FWS SURVEY DATE: 5/22/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s) RESTRICTED 3/1 - 9/1

Ecological/Constraints (see page two for details) Eagle nest

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

SHPO Signature: _________________________ Date: __________________

RECOMMENDATIONS: INITIAL TAG FOSC

TREATMENT REQUIRED (Y or N) N

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

COMMENTS:
INITIAL: __________________________________________________

TAG: ____________________________

FOSC: ____________________________________________

TAG APPROVAL DATE: ____________ FOSC APPROVAL DATE: ____________

ADEC
EXXON
USCG
NOAA
Eagle Nest: Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.
TEAM NO. 2  SEGMENT KN 102  SUBDIVISION A  DATE 5/1/91

ADEC Name: Peter Montesano  Signature: [Signature]

TREATMENT RECOMMENDED

The oiling on this Subdivision is well documented. Areas E + D both have remaining SOR and AP which warrants further treatment. Only a portion of the oiling in E was removed by the crew, with the vast majority remaining. The oiling is in a thin boulder cover and very accessible for hand and shovel work. This would not be an extensive undertaking, but it would require

EXXON Name: Eric T. Eric  Signature: [Signature]

The area along SOR in section 5 was quite well removed and broken up. If any remaining activity is viewed it should probably occur at the application of dispersant.

ANDMANAGER Name: Dennis J. Kennedy of USFS  Signature: DS Kennedy

Much of the SOR in location [E] was picked up and/or broken up by hand. This was the only area that would have benefited from treatment. There still is SOR left in [E] that is workable but it is now a low priority for further action.

USCG/NOAA Name: Sam M. R. Zavala  Signature: [Signature]

Sector E had the heaviest concentration of SOR, however, VECO manually broke up the AP. They also removed all of the visible SOR and put in a clean up bag with solids and surface sediments from sector E. A very scattered surface oil was observed on the rest of the segment. No treatment is

No TREATMENT Recommended.
**OG Comments:** Rocky and boulder shorelines with one pocket
beach at the south end. Oil staining consists of Sporadic Coats (STC) on
boulders. Rocky shorelines decreasing in concentration from the beach. The
East side of pocket beach is a R-7 X 20 berm by SUR in boulders. This
is the heaviest oiling on this Segment. One pit with MUR was found in
boulders on the west side of the beach, but appears to be an isolator
pocket shaped behind boulders, 1 X 1 m.
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM 2

SEGMENT K-10A A

TIDAL HEIGHT (Range) +2 to +2.5

SUBDIVISION

BIOLIGIST SB

SEA STATE Calm

WIND SPEED/DIRECTION <2kts

PHOTOGRAPHS: ROLL # FRAME #

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

A: CT/FTZ high in FTZ within lichen zone. The oil spread beyond
   to the upper edge of the overhang zone. Recently, sheeted mud
   was found below the CT zone.

B: Intact, topographically intact in the lichen zone. No oilen
   barriers were observed. CT/Lichen observed near dense
   patches of lichens. Lower zones support dense algae growth
   (CTAP/upper-basal zone) - no oilen barriers noted. Lower
   FTZ of the rock platform supports dense Fucus, barnacles
   and mussel.

C: CT in Lichen/Basal zone. Patch of green algae observed growing on
   upper 4 mini-FTZ. Pebble/cobble beach is naturally surrounded by large zones
   (more cobble) moderately dense - diverse as mapped.

D: Oil is high in FTZ above lichen zone, occasionally reaching
   to upper edge of lichen - lower zones support dense Fucus - mussels.

As team approaches the north end of segment, the eagle on
the west 4 of segment, Kw-10, became engaged and left the team. Both
members immediately headed offshore to the west within 3 minutes.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

<table>
<thead>
<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
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<tr>
<td>Eagles</td>
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<td>Gulls/Kittiwakes</td>
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<td>Shorebirds</td>
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<tr>
<td>Corvids</td>
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<td></td>
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<tr>
<td>Other Birds</td>
<td></td>
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</table>

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

Shoreline subdivision map showing important biological features attached.

Reviewed 6/1/91

Reviewed 7/3/91
OG SKETCH
KN-102A
MAY 22, 1991
15:30 - 16:35
Dovy Reimer

Reviewed M.B. 5/26/91
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-103

SUBDIVISIONS: A (1 OF 1)
SEGMENT ST/KN-103 SUBDIVISION A (1 OF 1) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
5T All bald eagle nest (3/1 to 6/1)-Active eagle nest (3/1 to 9/1)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE:_____________________ DATE:_____________________

OILING CATEGORIZATION:
Wide 74 m: Medium 0 m: Narrow 744 m: V.Light 1044 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
X Tarmat: ____Breakup ____Beach Cleaner
 _______ Removal ____Other (see comments)

COMMENTS: Recommend manual removal of tarmats and manual pick up of patties and tarballs. Work should be conducted from 5/16 to 7/9 based on salmon constraints and with approval from ADF&G and USFWS regarding eagle nest.

TAG COMMENTS:______________________________________________________

TAG APPROVAL DATE:___________
ADEC ____________ __ DATE:________
EXXON ________________________ FOSC: ____________ __ DATE:________
NOAA ________________________
USCG ________________________
PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

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

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

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

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

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

Remote release site

Gill net area (6/7 to 6/31)

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 uncoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.

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

Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and all 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.

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

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

Recreation:
    Tent sites (6/1 to 9/15)
    Anchorages (6/1 to 9/15)
    Forest Service cabins (6/1 to 9/15)
    Lodge (6/1 to 9/15)
    Special use destination

Subsistence area:
    Salmon harvesting (5/1 to 9/30)
    Finfish harvesting
    Deer harvesting (8/15 to 2/28)
    Invertebrate harvesting

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

SEGMENT ST 1 KN-103-A  SUBDIVISION: A  DATE 4/10/90

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

USCG NAME: David A. Schneider  SIGNATURE: David A. Schneider

Comments:

Manual removal of asphalt matting, tar patties and tar balls throughout the mite e'rite of the entire subdivision. Areas where boulders and rock faces are accessible to workers should be wire brushed/scraped of coating. Area that borders the anadromous stream should be carefully cleaned prior to salmon runs. Supra ITE reaccessed after the snow.

ADEC NAME: Peter Montesano  SIGNATURE: Peter Montesano

☑ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

Comments: In varying degrees, this entire segment has a soft algae lining the mite e'rite (some mite), which lessens past the stream area. Only the E side of this stream has the AP band extending back of the beach. This stream is anadromous and lies above an extended fertile mite. ADE should examine the stream for specific treatment recommendations. All of the AP is easily shoveled and removed.

LAND MANAGER
NAME: Janice Litchard  SIGNATURE: Janice Litchard

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

Comments:

Manual removal of tar balls, matting and patties. Non-removal of tar balls, matting and patties. Here is an anadromous stream which has a coat of algae and appears to never have been aggressively cleaned. This area should be addressed during the ADE's effort. Areas in the SUPs this board should be a non-maintenance area.
SURFACE OIL

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

PAVEMENT: NO F 315 sq. m by 4 ft

PATTIES/TARBALLS - 2 BAGS

NEAR SHORE SHEEN? NO

OILIED DEBRIS AMOUNT

Loga

Vegetation

Trash

Debris

Photographs:

Roll No. None

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>BELOW OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>SUBSURFACE SEDIMENTS</th>
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COMMENTS: MAJORITY OF SUBDIVISION IS A LONG, WIDE, LAVAG, COBBLE AND PEBBLE BEACH WITH SCATTERED SMALL AND LARGE BOULDERS. THE LIMITS HAS A NARROW TO WID BAND OF STAIN AND COAT AS WELL AS OCCASIONAL AREAS OF SPORADIC TAR PATTIES AND ASPHALT PAVEMENT. THESE CONDITIONS EXIST HOMOGENEOUSLY ALONG THE SUBDIVISION VARYING ONLY SLIGHTLY IN DISTRIBUTION.

Page 1 of THE LONG, WIDE GAVE WITH THE ANAPHRAGMATIC STREAM IS SHOWN REVIEWED: 7/4 DATE: 4/1/90
**SHORELINE ECOLOGICAL SUMMARY**

**Segment ST** 1  
**Subdivision** A - ALL  
**Date (mo/day/yr)** 04/09/90  
**Time (24 hr)** 0750-0930  
**Biolist** Jim Bunyan  
**Length** 1862 m

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

(B) **Overall % cover of biota (% of segment):**
- Dense 50%
- Moderate 30%
- Low 10%

(C) **Density, substrate preference (by number from A, above), & vertical zonation of major taxa:**
- Juveniles / adults (X), new settlement (3)

**BARNACLES**

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<tr>
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<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
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**MYTILUS**

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**GASTROPODS**

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**FUCUS**

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</tbody>
</table>

**Wildlife Observations/General Comments:**

- **RIVER OTTER**
- **SURF BIRDS**
- **ST Allows**
- **BAR TAIL**
- **Great Blue Heron or Crane?**

**Ecological Considerations:** 6B, J

- 6B - Special use destination
- J - Stream mouth spawning - this is probably an important site for spawning as well as foraging for piscivorous predators.
and into the subtidal zone, eel grass is abundant. I suspect that eel grass continues into slightly deeper water, where it helps the eels to disperse. Eel grass beds are important for eel nurseries.

3) Stream Outlet: The stream outlet flows from out in an area with relatively fine sediments. Clay beds are present in this area. Biologically, this segment is significant due to the presence of these habitats. River otter activities are evident throughout the beach area where others release clams and oysters. Sea otters are also in my estimate this as a feeding habitat. The outlet stream is probably used as a spawning habitat by salmon. Thus, the high concentration of food serves as a feeding area for other species as well. Bald eagles, and others to likely utilize the beach resources for food. Migratory shorebirds and resident birds also utilize this habitat.

II Wildlife Observations

Deer - dead on beach
River otter - scent, feeding traces
Eagles - met, 3-4 in air
Sheep - dogs - grazing on rocky headland and island
Great Blue Heron on same Great Egret - Foraging on beach
Common Raven, 1 pair
Pigeon, common

•
General Comments:

1. Habitat description. KN103 is an interesting segment. It includes 2 or 3 major habitat types. 1) Rocky headlands with mussels and microalgae, and barnacles. 2) Small cobble and pebble beaches that are flat and contain poorly sorted, but fine sand sediments. 3) Stream mouth with pebble/band slate and peat deposits. All of these habitats contain a distinct fauna and flora that have important effects on the local environment.

2. Oil pollution and removal activities have had minor effects relative to many other segments. The flat intertidal beach and stream outlet have been impacted, but appear to be recovering.

3. Beche Characteristics of major habitats:

   1) Rocky headlands - the habitat type is common on the sound near Knight Elen Island. Pruned heads are moderate to dense, with a high percentage of dense cover. 2) Beach and several other microalgae.

   2) Cobble Pebble Beach - The flat intertidal beach begins as large cobble at the north end of the segment and grades into finer sediments towards the stream outlet. Several interesting biological features occurs along this beach. 3) The mudflats to high fringing mussel banks, and cobble beaches and intertidal features. Although the sedi-bid is broken, spat and juveniles appear to be replenishing damage caused by human and non-human disturbances. Lower in the beach a clam bed is present, with moderate to dense mussels and associated fauna (eg. barnacles, echinids, rhinidae, etc). The clam bed is more towards the SW portion. Still lower in the intertidal...
April 19, 1990

Major Species:

A. Pteropodes - Abundant (moderate to dense) on headlands and on cobble & pebble beaches.

B. Mytilus - Abundant throughout segment - this species is in part an essential feed on the intertidal beach. Heavy traffic may disturb the birds. Avoid placing machinery on beach if possible and avoid foot traffic.

C. Gastropods - Moderate densities

D. Fucus. Spars on the beach, but more abundant on the headland.

Other Species:

In addition to the above discussion of clams and shellfish, not clams are particularly dense on this beach.

Clams are present, but I could not find if live individuals of Saxidomus (butter clam), even though large shells are found on the beach. The source of mortality for the individuals is unclear. No identifying marks were found on 10 individuals. The related causes can not be ruled out, but are most clearly the cause. Their species may be present in the subtidal zone. Steam clams (Protocardia) and baird's clams (Scrobicularia) are present as adults, juveniles and protobranches are present as small juveniles. Hiatella, another species, also is found as small juveniles.
Species List

A. Marine Plants

1) Diatoms/Blue Green Algae M-0 123
2) Green Algae - Chlorophyta
   - Acrosiphonia C2-3 M
   - Cladophora L R1
   - Entomorpha m 123 M
   - Green Crust 7 M
   - Ulva D 23 Y
   - Urospora D 3

3) Red Algae - Rhodophyta
   - Bossiella R1
   - Calliarthron R1
   - Corallina R1
   - Cryptosiphonia D 23 M
   - Endocladiu muricata R1
   - Halosaccion cramiforme M 123 M
   - Iridaea M 123 M
   - Mastocarpus R 5 12 M
   - Membranoptera M 123 M
   - Microcladia M 123 M
   - Lithothamnia pacificum R1
   - Petrocelis miogynum R1
   - Porphyra spp. 5 12 M
   - Rhodomela emila M 12 M
   - Rhodomenia palmata M 123 M

4) Brown Algae - Phaeophyta
   - Alaria marginata M u
   - Abarum spp. M u
   - Costaria S fn
   - Fucus distichus M 123
   - Hedophyllum sessile M u
   - Hildenbrandia S 12 M
   - Laminaria M L
   - Nereocystis S u
   - Raphia M 12
   - Scytosiphon laevior R1 2

A Spat or Juveniles Present

D Dense
M Moderating
S Sparse
R Rare
1 Bedrock
2 Boulder
3 Cobble
4 Pebble
5 Subtidal
3) **MOLLUSC**

a) **Cephalopods**
   - Calamari trimaculata m12x
   - *Torquella longipilosa*
   - Morula spp. ?

b) **Snails - Gastropods**
   - *Littorina saxatilis* M12x
   - *Nucella lamellosa* M12x
   - *N. margaritacea* M12x
   - *Scaliscia dalea* M 123x
   - *Amphissa columbiana* 5-34x
   - *Tachydirychus* spp. ?

3) **Beach Hopper**

b) **Brachyuran**
   - *Scolopendra* spp. ?
   - Amphiura (echinoderm) m.23x
   - *Ophiohols* Orchestad m12x

i) **Scolopendrom**
   - *Ctenodesmus* m12x
   - *Dunlopopsis helicophoros* m.123x
   - *Dendrobus unidentata* M123x
   - *Scolopendra* lepadonis m23x
   - *Euprostoma longipes* m.12x
   - *Euprostoma fuscum* 512x
   - *Pisaster ochraceus* m.23x
SPECIES LIST (cont)

2) Brittle Star

Echinodermata
Ophiuroidea
R. 5-12

3) Sea Anemone


corallimorpharia

3) Sea Urchin

Strongylocentrotus droebachiensis
R. 12-23

C. Mollusca

1) Fish

Phoniidae
Cottidae

23-27
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-103 SUBDIVISION A (1 of 1)

WORK WINDOW

<table>
<thead>
<tr>
<th>Manual Pickup and Tarmat Removal</th>
<th>OPEN</th>
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<tbody>
<tr>
<td>Outside Active Eagle Nest Buffer Zone</td>
<td></td>
</tr>
<tr>
<td>Manual Pickup and Tarmat Removal</td>
<td>CLOSED</td>
</tr>
<tr>
<td>Inside Active Eagle Nest Buffer Zone</td>
<td></td>
</tr>
</tbody>
</table>

ARCHAEOLOGICAL MONITOR REQUIRED ON SITE.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream  ADF&G catalogued anadromous stream (226-10-16922) is in Subdivision A. No constraint to manual pickup and tarmat removal.

5T Bald Eagle Nest  USFWS bald eagle impact assessment conducted on 5/27/90 by Mike Lockhart indicates an active eagle nest in Subdivision A. Closed to manual pickup and tarmat removal within the active nest buffer zone established by USFWS. No constraint to manual pickup and tarmat removal outside the buffer zone.

OTHER ECOLOGICAL CONSIDERATIONS

No personnel or boats within the active eagle nest buffer zone. Restrict air traffic and all disturbance to essential minimum. Air approach and takeoff from and to seaward only; maintain 300m horizontal, 300m vertical distance from active nests. No disturbance to stream bed or banks. Avoid any unnecessary disturbance or damage to rich lower intertidal.

SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM (STREAM NO. 226-10-16922) FOR ADDITIONAL CONSTRAINT INFORMATION

TAG APPROVAL DATE 6/04/90.

FOSC 7/24/90  Date 6/90

Prepared by 6/3/90
Incorporates information from USFWS bald eagle survey 4/27/90

Exxon Company, USA
Map Key: KN-109-103
May 11, 1990

1 inch = 1336 feet
SHORELINE EVALUATION

SEGMENT ST/KN-103  SUBDIVISION A (1 OF 1)  DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
5T All bald eagle nest (3/1 to 6/1)-Active eagle nest (3/1 to 9/1)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

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

ARCHAEOLOGICAL CONSTRAINT: An Exxon archaeological monitor is required on-site during shoreline treatment.
>>>
PHONE 564-3274 (Anchorage) OR 229-1508 (24 hrs.) <<<

SHPO SIGNATURE: Lafean Oar  DATE: 5/22/90

OILING CATEGORIZATION:

Wide 74 m: Medium 0 m: Narrow 744 m: V.Light 1044m: 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)
X Bioremediation || Spot Washing: Wands
X Tarmat: Breakup || Beach Cleaner
X Removal || Other (see comments)

COMMENTS: Recommend manual removal of tarmats and manual pick up of patties and tarballs. Work should be conducted from 5/16 to 7/9 based on salmon constraints and with approval from ADF&G and USFWS regarding eagle nest.

TAG COMMENTS: DUE TO RICH LOWER INTERTIDAL NO BIORECOMMEND

TAG APPROVAL DATE:  4/18/96
ADEC Art Weinert Art Weinert FOSBP
EXXON
NOAA
USCG C.D. Reiter C.D. Reiter

DATE: MAY 25 1990
SHORELINE EVALUATION

SEGMENT ST/ KN-103 SUBDIVISION A (1 OF 1) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
5T All bald eagle nest (3/1 to 6/1) - Active eagle nest (3/1 to 9/1)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

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

ARCHAEOLOGICAL CONSTRAINT: An Exxon archaeological monitor is required on-site during shoreline treatment.

SHPO SIGNATURE: Rachel Joan Date DATE: 5/22/90

OILING CATEGORIZATION:

Wide 74 m: Medium 0 m: Narrow 744 m: V.Light 1044 m: No Oil 0 m
Subsurface Oil Observed: Yes No Maximum Depth

RECOMMENDATIONS:

X Treatment Recommended ___ Snare/Absorbent Booms
X Manual Pickup ___ Oil Snares (pom poms)
___ Bioremediation ___ Absorbents (pads, rolls, etc)
X Tarmat: ___ Breakup ___ Spot Washing: ___ Wands
___ Removal ___ Beach Cleaner ___ Other (see comments)

COMMENTS: Recommend manual removal of tarmats and manual pick up of patties and tarballs. Work should be conducted from 5/16 to 7/9 based on salmon constraints and with approval from ADF&G and USFWS regarding eagle nest.

TAG COMMENTS: DUE TO RICH LOWER INTERTIDAL NO BIOREMEDIATION

MONITORS TO REASSESS STOTZ DURING TREATMENT

TAG APPROVAL DATE: 4/18/90
ADEC Art Weimer Art Weimer
EXXON May Tell May Tell
NOAA Bud Weimer Bud Weimer
USCG (D. Keiter Certifier)
BENCH SPECIES:
(at 0' to +1 tide)
- approx. length: 150m
- approx. width: 250m
- Sedge: long C/P
- Some B
- L-UITZ has a fairly dense veg cover of algae and grass (grass on L-UITZ)
- Snow on SITZ
- Subsurface: no pits could be dug; ground is moist and frozen.

Anadromous stream

LENGTH ALONG UITZ ~ 500m

(Lengths for sketch area only)
Oil Character Lengths (m):
AP 215  CT 485  ST 215  TB 45  FL 5
PT 25

UITZ 2-3m wide
ST on tops of beds  ST/B
CT on sides and ST/P
bottoms of beds
AP to 50m
diameter, 2 to 3in thick

UITZ tops of C/P
6-8m wide
50m long

On backsides
of large C
on UITZ

UITZ ST/S
0P/S

UITZ ST/S
CT/S

UITZ ST/S
CT/B
Tar splitters on UITZ B
Tar balls at head of stream

Hang CIP &
UITZ

Hang grizzy
CIP &
UITZ

UITZ

AP/B
4cm-3m wide

45m long
Hard AP to 4cm thick

LANG C/P (some B/R)

UITZ ST/P
ST/B

UITZ ST/P
AP/B

2.5m wide x 25 m long
AP soft, 2-3 cm thick

UITZ C/P/B

UITZ LANG R

SKETCH MAP AREA

Map Key: PWS-203
Name: C. Dillon
Date: 04/10/90

XXX Wide
/// Medium
--- Narrow
TTTT Very Light
1991 MAYSAP EVALUATION

SEGMENT: KN 0103 SUB: A REGION: PWS SURVEY DATE: 5/1/91

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

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

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

SHPO Signature: Date: 5/10/91

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>N</td>
<td>N</td>
</tr>
</tbody>
</table>

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

COMMENTS:

INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: MAY 10 1994  FOSC APPROVAL DATE: 5/14/91

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.

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.
<table>
<thead>
<tr>
<th>ADEC/USFS</th>
<th>NAME</th>
<th>SIGNATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tom Crowe</td>
<td></td>
</tr>
</tbody>
</table>

> NTR

The existing surface oiling at this segment was picked up or manually tilled during the Maysap survey.

<table>
<thead>
<tr>
<th>EXXON</th>
<th>NAME</th>
<th>SIGNATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Scott A. Newman</td>
<td></td>
</tr>
</tbody>
</table>

> NTR

The survey results speak for themselves - no further treatment needed. Lots of wildlife (eagle, otter, heron, waterfowl) observed.

<table>
<thead>
<tr>
<th>LANDMANAGER</th>
<th>NAME</th>
<th>SIGNATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Aimee Wesemanof</td>
<td></td>
</tr>
</tbody>
</table>

> NTR

The majority of the SOR remaining on the ANAD portion of subdivision were removed during the survey. Remaining SOR was manually tilled. No subsurface oil was detected.

<table>
<thead>
<tr>
<th>USCG/NOAA</th>
<th>NAME</th>
<th>SIGNATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Elio Spurr</td>
<td></td>
</tr>
</tbody>
</table>

> NTR

AP picked up by workers during segment survey (B), SOR manually tilled (A).

No further treatment required.
**MAYSAP SHORELINE OILING SUMMARY**

**TEAM NO. 6**
- OG: DAVID LITTLE
- BIO: TOM SCHROEBER
- ADEC: TOM CROWE
- LANDMANAGER: TIMME WEBB
- EXXON: SCOTT NAUMAN

**DATE:** 05/01/91

**TIME:** 12:00 to 13:00

**TIDE LEVEL:** 2 ft to 5 ft

**ENERGY LEVEL:** $\square$ H $\square$ M $\square$ L

**SURVEYED FROM:** $\square$ FOOT $\square$ BOAT $\square$ HELO

**WEATHER:** $\square$ SUN $\square$ CLOUDS $\square$ FOG $\square$ RAIN $\square$ SNOW

**TOTAL LENGTH SHORELINE SURVEYED:** 1217 m

**NEAR SHORE SHEEN:** $\square$ BR $\square$ RB $\square$ SL $\square$ NONE

**EST. OIL CATEGORY LENGTH:** W --- m M --- m N --- m VL --- m

**SURFACE OIL CHARACTER**

<table>
<thead>
<tr>
<th>LOC</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT TYPE</th>
<th>SLOPE</th>
<th>WIDTH</th>
<th>LENGTH</th>
<th>ZONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>T</td>
<td>cpg V</td>
<td>H</td>
<td>1</td>
<td>20</td>
<td>X</td>
</tr>
<tr>
<td>B</td>
<td>T</td>
<td>p.g H</td>
<td>0.1</td>
<td>10</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>S</td>
<td>rock V</td>
<td>1</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>S</td>
<td>rock V</td>
<td>0.5</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>S</td>
<td>p.g M</td>
<td>0.1</td>
<td>0.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**
- [2U only light sor]
- [S remaining]
- [light sor]

** SUBSURFACE OIL CHARACTER**

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>OILED ZONE</th>
<th>CLEAN BELOW H2O LEVEL</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>X</td>
<td>Y</td>
<td>20</td>
<td>N</td>
</tr>
</tbody>
</table>
| 2       | X          | Y                      | 40          | N        | X  | p -- 3q
| 3       | X          | Y                      | 20          | N        | X  | p -- 3q | shared film/pea
| 4       | X          | Y                      | 10          | N        | X  | p -- 3q
| 5       | X          | Y                      | N           | N        | X  | p -- 3q |
| 6       | X          | Y                      | 28          | N        | X  | p -- 3q |
| 7       | X          | Y                      | 30          | N        | X  | p -- 3q |
| 8       | X          | Y                      | 30          | N        | X  | p -- 3q |
| 9       | X          | Y                      | N           | N        | X  | p -- 3q |

**SURFACE- SUBSURFACE SEDIMENTS**

**NOTES:**

**OG COMMENTS:**

Surface oil was present only in 3 places in the eastern portion of the Anachonous stream beach. Locations A and B were thoroughly picked up, leaving only a light sor. Location C was a cover of rocks, with sparse weather.

Subsurface oil was not detected in 10 pits.

Reviewed 5/3/91 KG
Revised: 5/19/91 WC
<table>
<thead>
<tr>
<th>PIT</th>
<th>PIT NO</th>
<th>DEPTH (cm)</th>
<th>OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN LEVEL</th>
<th>H20</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></td>
<td></td>
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</tbody>
</table>

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

OG COMMENTS:
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></td>
<td></td>
</tr>
<tr>
<td>Seabirds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Gulls/kittiwakes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shorebirds</td>
<td></td>
<td>(4)</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>

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>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pinnipeds(specify)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whales(specify)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Here) Shoreline subdivision map showing important biological features attached.
Fucus kelp, red algae and mussels abundant along entire L172 to M172. Littoral snails, limet crabs and barnacles present on all rocks. Kelp mats on large rocks.

1 x 3 m
50% C.U.

0.1 x 10 m
≤ 10% A.P.

1 x 20 m
≤ 1% SO2(%)
1991 MAYSAP EVALUATION

SEGMENT: EN 0103  SUB: A  REGION: PWS  SURVEY DATE: 5/1/91

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

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

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.)  ______________________ Tag: ______________________
Spot Washing  ______________________ Tag: ______________________
Bio-Customblen Only  ______________________ Tag: ______________________
Bio-Inpol/Customblen  ______________________ Tag: ______________________
Other ______________________ Tag: ______________________
Other ______________________ Tag: ______________________

COMMENTS:
INITIAL: ____________________________________________________________

TAG: ______________________________________________________________

FOSC:________________________________________________________________

TAG APPROVAL DATE: __________  FOSC APPROVAL DATE: __________

ADEC ______________________  FOSC ______________________
EXXON ______________________
USCG ______________________
NOAA ______________________
Eagle Nest: Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.

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

The existing surface oiling at this segment was picked up or manually tilled during the MARSAP survey.

Scott A. Newman

NTR

The survey results speak for themselves - no further treatment needed. Lots of wildlife (eagle, otter, heron, waterfowl) observed.

Aimee Weseman

NTR

The majority of the SOR remaining on the ANAD portion of subdivision were removed during the survey. Remaining SOR was manually tilled. No subsurface oil was detected.

Chad Spurr / Rebecca Hoff

NTR

AP picked up by workers during segment survey (B), SOR manually tilled (A), no further treatment required.
**Team No.: C**

**OG: David Little**
**BIO: Tom Schroeder**
**ADEC: Tom Krone**
**Land Manager: Timi Weitzman**
**Exxon: Scott Kauffman**
**USCG/NOAA COO: S outdoor Rebecca Hoff**

**Time:** 12:00 to 13:00

**Tide Level:** 2 ft. to 5 ft.
**Energy Level:** ☐ H ☐ M ☑ L

**Surveyed From:** ☑ Foot ☑ Boat ☑ Helo

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

**Total Length Shoreline Surveyed:** 127 m

**Near Shore Sheen:** ☐ BR ☐ RB ☐ SL ☑ None

**Est. Oil Category Length:** W_- m M_- m N_- m VL 4-2 m NO 1.75 m US 650 m

<table>
<thead>
<tr>
<th>LOC</th>
<th>Surface Oil Character</th>
<th>Surface Sediment Type</th>
<th>Shore Slope</th>
<th>Width</th>
<th>Length</th>
<th>Zone</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>T</td>
<td>cpg V</td>
<td>H</td>
<td>1</td>
<td>2.0</td>
<td>X</td>
<td>light oil only light sor</td>
</tr>
<tr>
<td>C</td>
<td>T</td>
<td>V</td>
<td>0.1</td>
<td>10</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>S</td>
<td>pg</td>
<td>M</td>
<td>0.1</td>
<td>0.5</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

**DISTRIBUTION:**

- C = 01-100%
- B = 11-90%
- P = 11-60%
- S = 1-10%
- T = <1%

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

**Photo Roll # Maysap:** 04 - 04 Frames 16-17

**Pit Depth Table**

<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</th>
<th>Subsurface Sediments</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>40</td>
<td>X</td>
<td>Y</td>
<td>2.0</td>
<td>N</td>
<td>X</td>
<td></td>
<td>p - 5g</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>45</td>
<td>X</td>
<td>Y</td>
<td>2.0</td>
<td>N</td>
<td>X</td>
<td></td>
<td>p - 5g</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>25</td>
<td>X</td>
<td>Y</td>
<td>10</td>
<td>N</td>
<td>X</td>
<td></td>
<td>p - 5g</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>15</td>
<td>X</td>
<td>Y</td>
<td>28</td>
<td>N</td>
<td>X</td>
<td></td>
<td>p - 5g</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>35</td>
<td>X</td>
<td>Y</td>
<td>28</td>
<td>N</td>
<td>X</td>
<td></td>
<td>p - 5g</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>30</td>
<td>X</td>
<td>Y</td>
<td>30</td>
<td>N</td>
<td>X</td>
<td></td>
<td>p - 5g</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>35</td>
<td>X</td>
<td>Y</td>
<td>30</td>
<td>N</td>
<td>X</td>
<td></td>
<td>p - 5g</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>30</td>
<td>X</td>
<td>Y</td>
<td>30</td>
<td>N</td>
<td>X</td>
<td></td>
<td>p - 5g</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>20</td>
<td>X</td>
<td>Y</td>
<td>30</td>
<td>N</td>
<td>X</td>
<td></td>
<td>p - 5g</td>
<td></td>
</tr>
</tbody>
</table>

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

**OG Comments:**

Surface oil was present only in 3 places in the eastern portion of the Anchorage stream beach. Locations A and B were thoroughly picked up, leaving only a light sor. Location C was coated on rocks, with sparse needle.<br><br>Subsurface oil was not detected in 10 pits.

**Reviewed by:**
**Revised:** 5/13/01 M.C.
<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>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>10</td>
<td>35</td>
<td>X</td>
<td>Y</td>
<td>30</td>
<td>N</td>
<td>X</td>
<td>cp-s pear</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

**OG COMMENTS:**

Reviewed 5/21

Reviewed: 5/3/91 ME
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 6  DATE 5/1/91
SEGMENT # KN-103  TIDAL HEIGHT (Range): +2.5 to +5.5 ft
SUBDIVISION A  BIOLGIST T. R. Schroeder
SEA STATE Light chop  WIND SPEED/DIRECTION N.E. 10-15 mph

PHOTOGRAPHS: ROLL #  FRAME #

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

WIDE OF SEAING AREA OF THE STREAM IS HIGHLY PRODUCTIVE FOR ALL ANIMALS. FOCUS, TAC, AND HABITAT
PLANTS GROWTH PROVIDES EXCELLENT FOOD AND SHELTER FOR YOUNG, PREDATORS. TIDES ERODING THE
FEATURES GENTLY, SLOWLY, AND IS SUPPORTING VARIOUS COMMUNITIES OF FISH, MOLLUSCS, INVERTEBRATES,

REMAINING OIL DOES NOT APPEAR TO BE AFFECTING THE HEALTH OR PRODUCTIVITY OF THE OLIGOTHELIC BiotPLAN.
ANY REMOVAL OR TREATMENT SHOULD USE THE LEAST INTRUSIVE METHOD POSSIBLE.

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

<table>
<thead>
<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagles</td>
<td></td>
<td></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/Kittiwake</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shorebirds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cormorants</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>

BIRDS BY SPECIES

| Eagles     | 1 | 1 | Species Present |
| Seabirds   |   |   | Species Present |
| Waterfowl  |   | 4 |                |
| Gulls/Kittiwake | | | |
| Shorebirds | 1 | 1 | Heron |
| Cormorants |   |   |                |
| Corvids    |   |   |                |
| Other Birds|   |   |                |

MARINE MAMMALS

| Sea Otters | 1 | Species | # Observed |
| Pinnipeds (specify) | | | |
| Whales (specify) | | | |

LAND MAMMALS

Shoreline subdivision map showing important biological features attached.
Fucus kelp, red algae, and mussels abundant along entire LITZ to MITZ. Lithine snails, limpet crabs, and barnacles present on all rocks, zygodont on large rocks.

Fucus and mussel beds

Runoff Stream

anadromous Stream

A 0.1 x 10 m < 10% AP

8 1.5 x 5 m <1% SOR(N)

C 1.5 x 5 m 5% CU

marsh

Fucus kelp and filamentous algae
ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/KN-103 STREAM NO: 226-10-16922 DATE 4/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
5T-1 All bald eagle nests (3/1 to 6/1) within 400m
6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Subject stream is located within subdivision A (1 of 1). 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: 

Subsurface Oil Observed: Yes X No ___ Maximum Depth ___8cm___

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 in the UITZ and bark from oiled log in the UITZ as indicated on the attached sketch map. Work from 6/2 to 7/9 with approval of USFWS regarding eagle nest.

TAG COMMENTS: BIOREMEDICATE (CUSTOMER) IF REQUIRED FOR OIL TARMAT REMOVAL

TAG APPROVAL DATE: 5/19/90
ADEC Art Weller Art Weller
EXXON John Tan Neal Johnson
NOAA Gary Retta Nancy Peterman
USCG S. A. Hetler C. A. Bates

DATE: MAY 25 1990
**PHOTOLOG**

**DESCRIPTION**

- Pit 1-20cm no visible oil
- Pit 2-20cm no visible oil
- Pit 3-20cm no visible oil
- Pit 4 - 20cm subsurface - no oil
- Pit 5 - 20cm subsurface - 8cm penetration shown on peeled water
- Pit 6 - 12cm km oil penetration
- 140 meters from X to dead fall

**OIL DISTRIBUTION DIAGRAM**

*Treatment Recommendations*

- Remove & wipe larger rocks in oiled band on east side of stream then scrape up thin oil layer with rake or shovel & remove
- Remove oiled parts of downed tree on east bank
- Remove sporadic tar patches at discontinuous oiled tar band on west side
- The majority of work needs to be done on the east side
- Treat during wind-up period.

*Agree with ADFG recommendations*
ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 226-10-16922

SEGMENT KN-103 SUBDIVISION A

WORK WINDOW

<table>
<thead>
<tr>
<th>Manual Pickup</th>
<th>CLOSED (Eagle Nest Buffer Prevents Access)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tarmat Removal</td>
<td></td>
</tr>
<tr>
<td>Bioremediation More Than 100m From Stream</td>
<td>CLOSED (Eagle Nest Buffer Prevents Access)</td>
</tr>
<tr>
<td>Bioremediation Less Than 100m From Stream</td>
<td>CLOSED (Eagle Nest Buffer Prevents Access)</td>
</tr>
</tbody>
</table>

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

ADF&G catalogued anadromous stream (226-10-16922) is in Subdivision A. This subdivision is closed to bioremediation less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation is permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation more than 100m from stream.

5T Bald Eagle Nest

USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to manual pickup, tarmat removal, and bioremediation. Eagle nest buffer zone prevents access to treatment area.

OTHER ECOLOGICAL CONSIDERATIONS

If eagle nest constraint is removed, other ecological considerations will apply.

SEE SUBDIVISION CONSTRAINT ADDENDUM KN-103A FOR ADDITIONAL CONSTRAINT INFORMATION.

FOSC [ signature ] Date 6-10-90

Prepared by [ signature ] Date 6/9/90
ANADROMOUS FISH STREAM EVALUATION (226-10-16922)

* Incorporates USFWS 6/1/90
BALD EAGLE NEST MAP.

ECOLOGY MAP
SEGMENT KN-103
SUBDIVISION ( _of _)
ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-103  STREAM NO: 226-10-16922  DATE  4/21/90

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)
ST-1  All bald eagle nests (3/1 to 6/1) within 400m
6Y  Recreation:  Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOCLOGICAL CONSTRAINTS:

Subject stream is located within subdivision A (1 of 1).  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:  5/31/90

Subsurface Oil Observed:  Yes X  No  Maximum Depth  8cm

RECOMMENDATIONS:

No Treatment Recommended  Snare/Absorben; Booms
X Treatment Recommended  Oil Snares (pom poms)
X Manual Pickup  Absorbents (pads, rolls, etc)
X Bioremediation  Spot Washing: Wands
X Earmat Removal  Beach Cleaner
X Tar mat Removal  Other (see comments)

COMMENTS: Recommend manual removal of pavement in the UITZ and bark from oiled log in the UITZ as indicated on the attached sketch map. Work from 6/2 to 7/9 with approval of USEFS regarding eagle nest.

TAG COMMENTS:  Bioremediate (customized) if required following tar mat removal.

TAG APPROVAL DATE:  5/18/90
ADEC  EXXON  NOAA  USCG

FOSC:  DATE:  

_________________________  __________________________
_________________________  __________________________
ANADROMOUS FISH STREAM ASSESSMENT

REGION: PRINCE WILLIAM SOUND
SEGMENT: KN-103
SUBDIVISION: A
STREAM NO: 226-10-16922
ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-103  STREAM NO: 226-10-16922  DATE  4/21/90

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)
ST-1  All bald eagle nests (3/1 to 6/1) within 400m
6Y  Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Subject stream is located within subdivision A (1 of 1). 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 X No____ Maximum Depth 8cm

RECOMMENDATIONS:

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

COMMENTS:  Recommend manual removal of pavement in the UITZ and bark from oiled log in the UITZ as indicated on the attached sketch map. Work from 6/2 to 7/9 with approval of USFWS regarding eagle nest.

TAG COMMENTS:

__________________________

TAG APPROVAL DATE:__________

ADEC ______________________ FOSC:__________ DATE:__________

NOAA ______________________

USCG ______________________
PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

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

No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inpilot 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. In any case, contact ADF&G or PWS Aquaculture Association for confirmation and authorization.

AGENCY CONTACT PERSON: ADF&G John Morison 257-2324

1C Salmon fry nursery area (4/31 to 7/21)

No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inpilot 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 8/15)

1E Main Bay Hatchery release (4/20 to 8/15)

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 Inpilot application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.

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

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

1J Gill net area (6/7 to 9/21)

1J Purse seine area 1 (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 Inpilot 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

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 unripped Intertidal and Subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inpilot 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

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

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

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

AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 566-7235

ADF&G Don Calkins 257-2403

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 786-3377

ADF&G Don Calkins 257-2403

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

ADF&G Tom Rothy 267-2206

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

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

ADF&G Tom Rothy 267-2206

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

6V Anchorage (6/1 to 9/15)

6W Forest Service cabin (6/1 to 9/15)

6X Lodge (6/1 to 9/15)

6Y Special use destination

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

7HH Finfish harvesting

Deer harvesting (9/15 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 Inpilot 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 STI K-105 SUBDIVISION: 226-10-14922 DATE 4-21-90

USCG NAME Kevin L. Draper SIGNATURE CWO2 K. P. Draper

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

Agree

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS We recommend removal + wiping of larger rocks in oiled band on the east side of the stream, followed by scraping up the thin oil layer with rake or shovel and remove. Remove oiled parts of damaged tree on east bank. Remove sporadic tar patties a discontinuous oiled tar band on west side.

The majority of work needs to be done on the east side. Treat during window period.

LAND MANAGER: NONE

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS
SHORELINE OILING SUMMARY (ANAD)  

**OG**: CAL LARSON  
**USCG**: DREWELL, CWE  
**BIO**: KEN GLITCHEW  
**LAND REP**: SEGMENT ST/KN/103  
**TIME**: 12:55:14  
**TEAM NO.**: 14  
**DATE**: 12/1/90  

**EST. SUBDIVISION LENGTH**: 230 m  
**TIDE LEVEL**: +6 ft  
**SURVEYED FROM**: NIP  
**UPLANDS DESCRIPTION**: Grass  
**SURFACESEDIMENTS**: R  
**SLOPE**: Lang 70 % Hang 70 % Vert  

**OIL CATEGORY LENGTH**: W _m M 120 m N _m VL _m NO 110 m  
**OIL DISTRIBUTION**: OIL/FILM COLOR  
**IMPACTED ZONES**:  

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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<tbody>
<tr>
<td>ASPHALT PAVEMENT</td>
<td>X</td>
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<tr>
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<td>TARBALLS</td>
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<tr>
<td>FILM</td>
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**OILED DEBRIS AMOUNT**:  

<table>
<thead>
<tr>
<th>DEBRIS</th>
<th>SM/MD/LG</th>
<th>[ ] YES [ ] NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logs</td>
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<tr>
<td>Vegetation</td>
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<td></td>
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<tr>
<td>Trash</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Debris</td>
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</tr>
</tbody>
</table>

**NEAR SHORE SHEEN**:  
**PITTED / TARBALLS**:   
**BAGS**:  
**OILED AMOUNT**:  
**PIT ZONE**:  
**ANALYZE SHEEN**:  
**SURFACE - SUBSURFACE SEDIMENTS**:  

**COMMENTS**: West side of oil column band extending beyond 120 meter. No sheen observed. Volcanic ash observed upper unit.  

**REVIEWED**: [Signature]  
**DATE**: 5-1-90
ADPAC MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: ES GS TS AVS SCA HMA5 PTA

METHOD: Aerial Ground

2 REGION: PV CI KP CI LIN

3 DATE: 4-21-90

4 START TIME: 1300

5 STOP TIME: 1405

6 SEGMENT #: KN-103

7 STATION #: K-103

8 X-UNITs:

9 Y-UNITs: Ebb Stack Flood Stack

10 LAT.: 11 LONG.: 1

11 SOURCE: Map

12 LOCATION: Knight Island

13 DESCRIPTION: NE tip south of passage point

14 EXTENT OF OIL

15 SURFACE COVERAGE

16 SURFACE THICKNESS

17 PENETRATION

18 OIL SPILL IMPACT Y N

19 OIL TYPE: Pooled House Tar Asphalt Sedaky Gasoil

20 OILED DEBRIS Y N Tree

21 SMORELIE TYPE: Headland Low-lying Rocks Beach

22 WAVE EXPOSURE: High Moderate Low

23 SUBSTRATE TYPE: Bedrock Boulder S5 Gravel Sand Mud/site

24 OIL ON STREAM BANKS Y N

25 OIL ON BEACH ADJOINING TO MOUTH Y N

26 CATALOGED ANAD. FISH STREAM Y N

27 CATALOG #: 226-10-16922

28 OIL IN STREAM BED Y N

29 OIL IN STREAM BANKS Y N

30 OIL WITHIN 1 KILOMETER Y N

31 ANOMALOUS FISH PRESENT Y N

32 ANOMALOUS FISH OBSERVATION

33 SHALLOW SURFACE OIL-OILY BAND ON EAST SIDE OF STREAM IN SITZ. WHEN BRUSH IS BROKEN OIL APPEARS DARK-BLACK/BROWN, VERY MOBILE. SPARSE 30CM-WIDE BAND RUNNING ON WEST SIDE - NO PENETRATION.
**Treatment Recommendations**

- Remove & wipe larger rocks in oiled band on east side of stream then scrape up thin oil layer with rake or shovel & remove.
- Remove oiled parts of downed tree on east bank.
- Remove sporadic tar patties & discontinuous oiled tar band on west side.

The majority of work needs to be done on the east side. Treat during winter period.

Sample taken: Agree with ADEC recommendations.
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-104

SUBDIVISIONS: A (1 OF 2)
SHORELINE EVALUATION

SEGMENT ST/ KN-104 SUBDIVISION A (1 OF 2) 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)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

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

ARCHAEOLOGICAL CONSTRAINTS:
An Exxon archaeological monitor is required on-site during shoreline treatment.

SHPO SIGNATURE: ______________________ DATE: ______________________

OILING CATEGORIZATION:

Wide 0 m: Medium 118 m: Narrow 648 m: V. Light 285 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 10 cm

RECOMMENDATIONS:

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

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

COMMENTS: Recommend manual pick up of tarmats, tar balls and oiled debris. Bioremediate areas indicated in sketch map. Work should be conducted after 6/1 with ADF&G and USFWS approval regarding eagle nest constraint.

TAG COMMENTS:________________________________________________________
________________________________________________________
________________________________________________________
________________________________________________________

TAG APPROVAL DATE:____________________

ADEC EXXON FOSC: __________ DATE: ______
NOAA USCG

---
FIELD SHORELINE COMMENT SHEET

SEGMENT ST/KN-104-A, SUBDIVISION: A, DATE: 4/10/90

NAME: DAVID A. SCHNEIDER, SIGNATURE: David A. Schneider

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS: This subdiv will require extensive manual treatment and bioremediated. Tar talls should be removed throughout the MITZ. Surface and subsurface oiled cobble and pebble should be removed. MITZ should be tilled and bioremediated. Tar mats located throughout the subdiv in the MITZ and MITZ should be broken up and removed. On the pocket beach drawn on sketch #2, tar mat extends beneath the MITZ berm. Top lying sediments should be moved, tar removed and then surface sediments replaced. Debris in MITZ should be removed. (ES)

ADEC NAME: Peter Mantosano, SIGNATURE: Peter J. Mantosano

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

See Attached

LAND MANAGER

NAME: JUANITA Pitchard, SIGNATURE: Juanita Pitchard

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS: Manually remove water on vertical face adjacent to the beach. Scrap the asphalt and tar material in the MITZ and MITZ. Tar penetrates the subsurface, ticking and bioremediation is recommended. Remove asphalt & tar. Draw on the sketch. Beach on Map 1 would provide access to the uplands.
Besides the areas to be described in detail, KN 104- A is best characterized as patchy stain/ sporadic coat with random 2-3 cm accumulations of oiled sediments trapped in boulders and bedrock. On the map of the Entire Segment, the Northernmost medium splash ("x") is a small pocket beach requiring some handwork. The majority of the scraping is to be done on the "covered" rocks outcropping at the central shoreline - most oil on North Face.

Sketch map #1: Not shown is an area at the NE corner where a coat + surface penetration need some scraping and removal. Otherwise, soft asphalt extends on either side of the central rock outcropping. Several of the large cobbles at the base of this bedrock showed SB oil when flipped. When the AP is removed, the large cobbles in the vicinity should be checked underneath and wiped accordingly.

Sketch Map #2: The N end of this beach has a coat which could use some minimal handwork. Toward the S half of this beach is an extensive AP area to be removed. The concentration and dimensions of this oiling are not evident by the sketch. It is important to note that the AP at its N end and under the berm, gravel/pebbles, cover the AP. The snow-covered supratidal should be inspected for additional A. Finally, remove the oiled snares and spill debris initially indicated on the sketch.
**SURFACE OIL**

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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<td>POOLED</td>
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<td>MOUSSE</td>
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<tr>
<td>PATTIES</td>
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<tr>
<td>TARBALLS</td>
<td>✓</td>
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<tr>
<td>FILM</td>
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<tr>
<td>NO OIL</td>
<td>Snow on SIZ of beaches S X</td>
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</table>

**PAVEMENT:**
- 4.0 ft - 225 sq. m by 4 - 6 c
- Patties, Tarballs, 1 Bags
- Near Shore Sheen? NO
- BR RW SL TL

**OILED DEBRIS:**
- Logs
- Vegetation
- Trash
- Debris
- Debris Collected: YES
- Type of Trash: Pan Pan
- # Bags: 1

**PHOTOGRAPHS:**
- Roll No. ST-6-6
- Frames: 20, 21, 22, 23, 24

**SUBSURFACE OIL**

<table>
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<th>PIT NO.</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
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<tr>
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<td>7-10</td>
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<td>X</td>
<td>PG (soft API layer)</td>
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**COMMENTS:**
- MAJORITY OF SUBDIVISION IS HANG. VERT. ROCK WITH NARROW AND VL COAT/STAIN BAND ACROSS THE HIGH TIDE LINE/UNIT. THERE ARE TWO LAND C/P/G/S BEACHES WITH MEDIUM WIDTH COVERAGE INCLUDING ASPHALT PAVEMENT AND COVER. THESE AREAS ARE SHOWN ON THE 2 ATTACHED SKETCHES.
- AN OTTER CARCASS WAS COLLECTED FROM THE NORTHERNMOST BEACH. OILING IS SUSPECTED BUT QUESTIONABLE.

**REVIEWED:**
- Pit 1 and trash/debris are on the southernmost beach.
- Date: 4/11/90
SHORELINE ECOLOGICAL SUMMARY

Segment ST. KN104 Subdivision A Date (mo/day/yr) 9 April 1990

Time (24 hr) 1000-1100 Biologist Jim Barry Length =

(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 20 Moderate 75 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 (O)

BARNACLES

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<th>Rare</th>
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Wildlife Observations/General Comments:

EAGLES, SHOREBIRDS (SURF BIRDS NEW)

PILOTE COASTAL AND

STELLAR'S JAN-2

Ecological Considerations: ST - EAGLE NEST - 1 NEST SITED AT THE JUNCTION

OF KN103 AND KN104 -
PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

1C Salmon fry nursery area (4/31 to 7/31)
1D Esther Hatchery release (4/15 to 6/1)
1E Main Bay Hatchery release (4/20 to 5/10)
1F Sawmill Bay Hatchery release (4/15 to 6/1)
1G Cannery Creek Hatchery release (4/21 to 6/1)
1H Remote release site
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)

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 unseeded intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.

3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
3Q, 3R Harbor seal and sea lion molting (6/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

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

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

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

6U Recreation: Tent sites (6/1 to 9/15)
6V Anchorage (6/1 to 9/15)
6W Forest Service cabins (6/1 to 9/15)
6X Lodge (6/1 to 9/15)
6Y Special use destination

7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
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.
I. General Comments

1. Habitat types - 3 primary habitat types are found in this segment:
   1. Rocky headland with patchy mussel covers, moderate barnacle and
gastropod densities, and moderate to high cover of algae in the lower
   zones
   2. Cobble/boulder shorelines with similar abundances of biota to (1).
   3. Cobble/Pebble Beaches, some with mussel beds, and generally
      sparse algal cover.

2. Oil Effects - Vertical cliffs and rocky shore generally show only
   mild effects of oil within upper zones. Pebble beaches have more severe oil effects, including asphalt
   pavement.

II. Major Species

A. Barnacles - All 3 species present.
B. Mussels - Patchy in abundance, particularly on vertical headland
walls. 1 or 2 beaches have broken mussel beds in
the middle to high zone, with some trampling damage
evident - recovery in progress as indicated by recruiting
juveniles and spat.
C. Gastropods - Panorreales, (Haliotids) moderate heights and
shells are similarly moderate in abundance
D. Echinus - Sparsely mapped zone, though some juveniles are present
   Moderate to sparse in the lower zones.
III. Other Species

Filamentous and finely branched red algae are abundant in the lower zone. Red grass beds are present adjacent to some shores.
Species List

A. MARINE PLANTS

1) DIATOMS / BLUE GREEN ALGAE M-0123

2) GREEN ALGAE - CHLOROPHYTA

- ACROSIPHONIA D123
- CLADOPODIA 512
- ENTEROMORPHA M-0123
- GREEN CRUST 7
- ULVA M123
- UROSPORA M123

3) RED ALGAE - RHODOPHYTA

- BASSIELLA R1
- CALLIARATHRON R1
- CORALLINA R1
- CRYPTOSIPHONIA M-0123
- ENOCLEA MURICATA 512
- HALOSACHLON CHLOROFORME M123
- IRIDIUM M123
- NASICAPUS 512
- MEMBRANOPTERIA M123
- MIROCLEA 0123
- LITHOTHAMNION PACIFICUM 512
- PORPHYRIS MIOENDOPIII 512
- PORPHYRI SPP. 5123
- RHODOMELA M123
- RHODOMELA PALMATA M-0123

4) BROWN ALGAE - PHAEOPHYTA

- ALARIA MARGINATA M12
- ALGARUM SPP. M12
- COSTARYA M12
- FUCUS DISTICHUS M-0123
- HEDOPHYLLUM SESSILE M12
- HILDAI BRANDEA 512
- LAMINARIA M12
- NERIOCYSTIS 512
- RALPISIA 512
- SCYTOSIPHON LAMENTARIA 512
B. MARINE INVERTEBRATES

D) Anemones
   Euphialis ritteri ? S12
   Urticina gracileavis ?
   Anthopleura elegansima ?
   A. ornithesca ?
   A. kantheromica ?

E) Annelid Worms
   Polychaeta
   Neridae ?
   Nephthydae ?
   Serpulidae D12A
   Serpula S12A
   Cassidae S12A
   Spirorbidae
   Spirorbis D12A

F) Peanut Worms - Spionculid
   Paracoeloma terebula ?

G) Mollusks
   a) Chitons
      Katharina pulchra S12A
      Tomocula lineata R1
      Modula spp. R1
   b) Snails - Gastropods
      Littorina scutulata M12A
      Littorina M12A
      Nucella lamellosa M12A
      N. eavesi M12A
      Semisula discus M12A
      Amphisoea chelmona R12
      Amphisoea chelmon sp. R12
   c) Nudibranches
      Lamellibraris fusca S12A
      Melibe leonina * S12A
   d) Cephalopods
      Lolita digiti ? M12A
      Amaea mitra ?
      Lolita penna ?

d) Cephalopods (cont)
   Teuthina secunda M12A
   T. penuma ?
   Sepia officinalis S12A
   Diadema aspera ?

e) Mussels -
   Mytilus edulis M12A

f) Clams
   Single - P. depressus spp. S12
   Harpella sp. S12A
   Protobranchs ?
   Macea spp. ?

g) Crustaceans
   a) Brachyurans
      Sambalanus conicus M012A
      Balanus glandula M012A
      Chthamalus dalli M012A
   b) Crabs
      Haplogastris spp. ?
      Hemigrapsus oregonensis S12A
      Pulex spp. ?
      Hermit Crabs - Paguridi M012A

h) Beach Hoppers
   ITOPDA ?
   AMPHIPDA
   Orchesia ? M12A

i) Echinodermata
   a) Sea Stars
      * M12A Echinopora helianthoides
      * M12A Dendraster imbricata
   b) Echinoderms
      * M12A Lepidoceratidae
      ? Echinoderms
      ? Orthasteridae kochi
      S12A Pisaster ochraceum
SPECIES LIST (cont)

1. Echinoderms (cont)

2) Brittle Star
   Ophiuridae spp.? ?

3) Sea Anemones
   Ceramium sp.? ?

4) Sunflower
   Strongylometra droebachensis ?

C. Mammals Vertebrates

D. Fish
   PHOXIDAE M 23 A
   COTTIDAE 5 12 A
Oil character lengths for sketch only

Oil Character Length (m): AP 1 PO 0 CV 50 CT 50 ST 100 MS 0 PT 0 TB 0 FL 0 NO 0
KN-104-A Oil Character lengths (m)
AP 50 CV 50 CT 915 ST 350 PT 10

Boxed Area on Sketch, Map #1

Hang Rock
C/P [P] 1-3m wide UITZ
CV 5m wide
1m long
M-UITZ in rock fracture

Lang C/P/PS with hang R in center of UITZ
CTB C/P CV P AP/PS Other carcass collected - UC

--- XXXX Wide
/// Medium
---- Narrow
TTTT Very Light
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-104

SUBDIVISIONS: B (2 OF 2)
SEGMENT ST/ KN-104 SUBDIVISION B (2 OF 2) DATE 4/10/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
- All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
- Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

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

ARCHAEOLOGICAL CONSTRAINTS:
Cultural resource survey in progress. Shoreline treatment cannot proceed until field data have been assessed and a formal archaeological constraint entered on the shoreline evaluation form.

SHPO SIGNATURE: __________________ DATE: ______________________

OILING CATEGORIZATION:
Wide 31 m: Medium 27 m: Narrow 124 m: V.Light 978 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 10 cm

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

COMMENTS: Recommend manual pick up and removal of mousse and tar mats as indicated on sketch map. Work should be conducted after 6/1 with ADF&G and USFWS approval regarding eagle nest constraint.

TAG COMMENTS:

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

1A
Salmon stream mouth - fry outmigration (3/1 to 5/15)
Salmon stream mouth - spawning (7/10 to 8/31)

1B
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 releases site

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

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

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

1L
Set net sites (6/11 to 7/25)
For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

2M
Herring spawning (4/1 to 6/15)
Restrict boat traffic to essential minimum. Avoid damage to unoiled intertidal and subtidal algae and seagrass.
Contact ADF&G for specific dates and locations.

3N, 3P
Harbor seal and sea lion pupping (5/15 to 7/1)

3O, 3Q
Harbor seal and sea lion molting (5/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

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

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

5T
"All Field Engineers" (3/1 to 6/1)  
"Active Field Engineers" (6/7 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)
Anchorages (6/1 to 9/15)
Forest Service cabins (6/1 to 9/15)
Lodge (6/1 to 9/15)
Special use destination

7Z
Subsistence area: Salmon harvesting (5/1 to 9/30)

7HH
Finfish harvesting

7II
Deer harvesting (8/15 to 2/28)

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

SEGMENT ST: KN-104-B  SUBDIVISION: B  DATE: 4/14/90

SCG NAME: David A. Schneider  SIGNATURE: David A. Schneider

• NO TREATMENT RECOMMENDED  □ TREATMENT SUGGESTED

COMMENTS: The three pocket beaches in this subdivision will require manual treatment. Sporadic deposits of tar balls, asphalt mats and mousse should be removed. Where accessible, coating should be scraped from exposed rock faces and boulders. Traffic in the middle and lower intertidal zones should be minimized as much as possible to protect concentrations of mussels in these areas.

ADEC NAME: Peter Montesano  SIGNATURE: Peter Montesano

• NO TREATMENT RECOMMENDED  □ TREATMENT SUGGESTED

COMMENTS: The OES comments and maps thoroughly depict the oiling on this subdivision. The various locations of asphalt and coating can all be addressed by hand wash and removal. The oiling on the sketch map is washable (after AP removal), however, the wide mussel bed should be considered before such treatment occurs. A hand crew could better protect the mussel bed by avoiding them entirely. The mussel bed is on an unusually flat and washable area and mussel beds are not common in this segment.

LAND MANAGER
NAME: Janet M. Prestidge  SIGNATURE: J. Prestidge

• NO TREATMENT RECOMMENDED  □ TREATMENT SUGGESTED

COMMENTS: Review with ADEC's comments.
**DISTRIBUTION Oil/Film Color Character**

**UPLANDS DESCRIPTION:**
- Grass
- Forest
- Rock

**SURVEYED FROM:**
- Foot
- Boat
- Helo

**SURFACE SEDIMENTS:**
- 65% B
- 20% C
- 10% P
- 5% G
- 0% S
- 0% M
- 0% V

**OIL CATEGORY LENGTH:**
- W 7 m
- M 20 m
- N 25 m
- V 1023 m
- NO oil

---

**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>X</td>
<td>X</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>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Mouss</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Patties</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Patties</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Tarballs</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Film</td>
<td>Snow on beach</td>
<td>Snow on beach</td>
<td>Snow on beach</td>
</tr>
</tbody>
</table>

**PAVEMENT:**
- (N) F
- (S) 90 sq. m by 3 bags

**NEAR SHORE SHEEN?:**
- Bl BR RW SL TL

**OILED DEBRIS AMOUNT:**
- Logs
- Vegetation
- Trash
- Debris
- No bags

**OILED DEBRIS COLLECTED:**
- Yes
- No

---

**SUBSURFACE OIL**

*Oiled interval less than 5 cm input does not constitute 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 INTERVAL BELOW</th>
<th>OIL/FILM COLOR</th>
<th>PIT ZONE</th>
<th>A N A</th>
<th>SUBSURFACE SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
<td>X</td>
<td>0 - 10</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>P/L G/Bedrock</td>
<td></td>
</tr>
</tbody>
</table>

**COMMENTS:**

The subdivision is primarily vertical and hang rock and boulder slopes. There is a long C/R/B beach at the north end of the subdivision which is significantly oiled and is shown on the sketch map. There is a second long C/R/B beach at the south end of the subdivision which has only a VL sporadic stain on some larger sediments. This beach was reviewed 700 feet by 4/1/90 and had snow on the city and the manner were **Page 1 of 2**.
Subdivision: B
Date: 4/10/90

Checklist:
- Field Notes
- Approx. Scale
- Site/Sub Surface
- Oil Data
  - Width
  - Length
  - % Cover
- Substrate Character
  - Est., HWL, LWL
  - SSL
  - Profile Location (x)
  - Product (x)
  - Photo Location (x)

Legend:
1. A
   - Pr - No Subsurface Oil
2. A
   - Pr - Subsurface Oil

Map Note:
- UTZ
  - Width: 1-5 m
  - Length: 20 m
- AP/B
  - Width: 1-2 m
  - Length: 10 m
- Soft, clay

LEGEND:
- CT/C: Continuous Distribution
- CT/B: Broken Distribution
- CT/P: Patchy Distribution
- CT/S: Splashed Distribution

Oil Character Lengths for Sketch Area Only (Total Length of Beach ~100 m)

Oil Character Length (m): AP 10 PO 0 CV 0 CT 85 ST 0 MS 5 PT 0 TB 0 FL 0 NO 0

Photo ST-6-6-3/7 Overall Beach View

Dillon/Schneider
ORELINE ECOLOGICAL SUMMARY

Segment ST1 / KN104  Subdivision A / B  Date (mo/day/yr)  10 April 1990
Time (24 hr)  0800-1100  Biologist Jim Carey  Length - see form 17

(A) Substrate type and % of segments:

<table>
<thead>
<tr>
<th>Substrate Type</th>
<th>(1) Bedrock</th>
<th>(2) Boulder</th>
<th>(3) Cobble</th>
<th>(4) Pebble</th>
<th>(5) Sand</th>
<th>(6) Silt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(B) Overall % cover of biota (% of segment): Dense 25  Moderate 75  Low 5

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

<table>
<thead>
<tr>
<th>Substrate Preference</th>
<th>Barnacles</th>
<th>Mytilus</th>
<th>Gastropods</th>
<th>Fucus</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dense</td>
<td>Moderate</td>
<td>Sparse</td>
<td>Rare</td>
</tr>
<tr>
<td></td>
<td>1U 2M 1L</td>
<td>1U 1M 1L</td>
<td>1U 1M 1L</td>
<td>1U 2M 1L</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Wildlife Observations / General Comments:

Sea Otter  Steller's Jay
Bald Eagle  Pigeons/Seagulls

Ecological Considerations: ST - Ecola reef - this reef is located at the northern end of 50 Subdivision KN104-A.
I. General Comments

A. HABITAT TYPES - Rocky vertical cliffs and cobble beaches
are the primary habitat types. Rock vertical cliffs have
moderate to dense cover of barnacles, little mytilids, and
moderate Fucus with a thick cover of filamentous
and blade-like red algae in the lower zone.
Cobble beaches (3) to (4) have to moderate cover
of kelps. Mytilids was most abundant where fresh-
water runoff streams washed over the intertidal zone.
Fucus is sparse to moderate on these beaches.
Gastropods often are dense.

B. Oil-related activities comments. As on KA104-A,
oil is generally restricted to the upper and upper
intertidal zones where it may interfere with
lichen and other
minor elements of the intertidal zone.

II. MAJOR SPECIES

A. BARNACLES - All 3 major species present as adults and spat
B. Mytilids - Patchy on vertical walks with occasional dense
patches. On cobble beaches Mytilids appears to be forming
a band of mussels in the middle to upper zone.
C. Gastropods - Littorina often dense, whelks usually
dense, with counts of up to approximately 60-100/m².
Major Species:

I. Purple:

Files - involved to dense in all but cobble/pellet
beaches where it is usually sparse.

III. Other Species:

Sea-Stars very abundant (Clawless Star, Acropodia)

Gumboot Slates (5) (Cryptochiton stellaris) was
found on the middle to low zone on rocks. 2 individuals
were found ~ 1/2 in apart. Each was releasing gametes
(o, e)
Species List

A. Marine Plants

1) Diatoms/Blue Green Algae M-0123
2) Green Algae - Chlorophyta
   - Acrospirionia D123
   - Cladophora S-M123
   - Enteromorpha P-M123
   - Green crust?
   - Ulva M123
   - Urospora M123

3) Red Algae - Rhodophyta
   - Bossiella 512
   - Calliarthron 512
   - Corallina 512
   - Cryptosiphonia D23
   - Endocladia muricata 512
   - Halosaccion blandiforme M123
   - Iridaea M123
   - Mastocarpus 512
   - Membranoptera D123
   - Microcaldia D123
   - Lithothamnion Pacificum 512
   - Petrocelis midendorffii 512
   - Porphyrilum spp. # 512
   - Rhodomela levit M123
   - Rhodymena palmata 1212

4) Brown Algae - Phaeophyta
   - Alaria marginata D-I
   - Abarbium spp. D-I
   - Costaria M-I
   - Fucus distichus D-M123
   - Hedophyllum sessile ?U
   - Hildenbrandia M12
   - Laminaria M12U
   - Nereocystis S-U
   - Ralspsia S123
   - Scytosiphon comantarria S12-
<table>
<thead>
<tr>
<th>1CN 104-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. MOLLUSKS INVESTIGATED</td>
</tr>
<tr>
<td>1) ANEMONAS</td>
</tr>
<tr>
<td>Euphrosina Ritteri 5/12</td>
</tr>
<tr>
<td>Urticina equestris 5/12</td>
</tr>
<tr>
<td>Anthopleura elegansima 5/12</td>
</tr>
<tr>
<td>A. arctica m/12</td>
</tr>
<tr>
<td>A. xanthogrammica 5/12</td>
</tr>
<tr>
<td>2) Annelid Worms</td>
</tr>
<tr>
<td>Polydora 5/12</td>
</tr>
<tr>
<td>Nereisana m/12</td>
</tr>
<tr>
<td>Nephtyidae 5/12</td>
</tr>
<tr>
<td>Serpulid 5/12</td>
</tr>
<tr>
<td>Serpula m/12</td>
</tr>
<tr>
<td>Coscinia m/12</td>
</tr>
<tr>
<td>Spirorbidae</td>
</tr>
<tr>
<td>Spirorbis D/23 5/12</td>
</tr>
<tr>
<td>3) Peanul Worms - Spumelid</td>
</tr>
<tr>
<td>Parasclosoma herephea 5/12</td>
</tr>
<tr>
<td>4) Mollusc</td>
</tr>
<tr>
<td>a) Chitonias</td>
</tr>
<tr>
<td>C. Tunicata s/12</td>
</tr>
<tr>
<td>Tunicella lusator s/12</td>
</tr>
<tr>
<td>Monsella spp. R/12</td>
</tr>
<tr>
<td>b) Snails - Gastropods</td>
</tr>
<tr>
<td>Littorina sectaleta m/0/2</td>
</tr>
<tr>
<td>L. sitkana m/0/2</td>
</tr>
<tr>
<td>Nucella lamellosa D/2</td>
</tr>
<tr>
<td>N. amarginata D/12</td>
</tr>
<tr>
<td>Semilunata direa m/12</td>
</tr>
<tr>
<td>Amphora columbiana R/2</td>
</tr>
<tr>
<td>Tachypeltis spp. R/2</td>
</tr>
<tr>
<td>e) Nudibranchs</td>
</tr>
<tr>
<td>Lampetrellids p/2</td>
</tr>
<tr>
<td>d) Limpets</td>
</tr>
<tr>
<td>Lotha digitata s/12</td>
</tr>
<tr>
<td>Amala mibra R/2</td>
</tr>
<tr>
<td>Lotha pacifica s/12</td>
</tr>
<tr>
<td>1) Manus Clun - Cryptochitina Stellaris s/12</td>
</tr>
</tbody>
</table>

| d) Crabs |
| Haplogaster s/12 |
| Hemigrapsus elongatus s/2 |
| Pugetia spp. 5/12 |
| Hermit Crab - Papureinae R/12 |
| 3) Beach Hopper |
| ISOPods 5/12 |
| Anhipidae |
| Orchestina 5/12 |
| a) Britons |
| Schizopetella spp. D/23 |
| e) Schmiderito |
| T. Sha Stone |
| 0/12 |
| Crenophila media blochii |
| D. D. Heberhia 6/23 |
| 0/23 |
| 0/23 |
| 0/23 |
| ? Articula kocheri |
| M2 Pisanina ochracea |
SPECS LIST (cont)

2) Brittle Stab
    Opodes spp.? ?

3) Sea Worms
    Eucnemus minorata 5/12 11

C. Marine Underfoots

7) Fish Phasmidae 0/23 1/1
    Cottidae 5/12
KN-104

Boxed area on sketch map.

Hang B UITZ 1-2 m wide.

Hang B slope 1 m wide, 2-3 cm thick (soft, dark brown - under Boulders).

Hang B/R CTP 3 m long, 1-3 m wide.

Hang Rock CTP's UITZ High tide line.

Hang B/UITZ AP/B 1 m wide, 3 cm long, under UITZ.

Lang AP beach CTP's UITZ AP/B 1 m wide, 3 cm long, under UITZ.

No pit dug, UITZ frozen, Snow on UITZ.

Lang ctp beach CTP's UITZ AP/B 1 m wide, 3 cm long, under UITZ.

Hang Rock CTP's UITZ High tide line.

Lang AP beach CTP's UITZ AP/B 1 m wide, 3 cm long, under UITZ.

No pit dug, UITZ frozen, Snow on UITZ.

Hang B/R CTP 35 m long.

Hang B/R CTP 35 m long.

Lang AP beach CTP's UITZ AP/B 1 m wide, 3 cm long, under UITZ.

Hang B/R CTP 35 m long.

Lang AP beach CTP's UITZ AP/B 1 m wide, 3 cm long, under UITZ.

Hang B/R CTP 35 m long.

Hang B/R CTP 35 m long.

Lang AP beach CTP's UITZ AP/B 1 m wide, 3 cm long, under UITZ.

Hang B/R CTP 35 m long.

Hang B/R CTP 35 m long.

Lang AP beach CTP's UITZ AP/B 1 m wide, 3 cm long, under UITZ.

Hang B/R CTP 35 m long.

Hang B/R CTP 35 m long.

Lang AP beach CTP's UITZ AP/B 1 m wide, 3 cm long, under UITZ.

Hang B/R CTP 35 m long.

Hang B/R CTP 35 m long.

Lang AP beach CTP's UITZ AP/B 1 m wide, 3 cm long, under UITZ.

Hang B/R CTP 35 m long.

Hang B/R CTP 35 m long.

Lang AP beach CTP's UITZ AP/B 1 m wide, 3 cm long, under UITZ.

Hang B/R CTP 35 m long.

Hang B/R CTP 35 m long.

Lang AP beach CTP's UITZ AP/B 1 m wide, 3 cm long, under UITZ.

Hang B/R CTP 35 m long.

Hang B/R CTP 35 m long.

Lang AP beach CTP's UITZ AP/B 1 m wide, 3 cm long, under UITZ.

Hang B/R CTP 35 m long.

Hang B/R CTP 35 m long.

Lang AP beach CTP's UITZ AP/B 1 m wide, 3 cm long, under UITZ.

Hang B/R CTP 35 m long.

Hang B/R CTP 35 m long.

Lang AP beach CTP's UITZ AP/B 1 m wide, 3 cm long, under UITZ.

Hang B/R CTP 35 m long.

Hang B/R CTP 35 m long.

Lang AP beach CTP's UITZ AP/B 1 m wide, 3 cm long, under UITZ.

Hang B/R CTP 35 m long.

Hang B/R CTP 35 m long.

Lang AP beach CTP's UITZ AP/B 1 m wide, 3 cm long, under UITZ.

Hang B/R CTP 35 m long.

Hang B/R CTP 35 m long.

Lang AP beach CTP's UITZ AP/B 1 m wide, 3 cm long, under UITZ.

Hang B/R CTP 35 m long.

Hang B/R CTP 35 m long.
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT KN-104 SUBDIVISION A (1 of 2)

WORK WINDOW

| Manual Pickup | CLOSED |
| Tarmat Removal |
| Bioremediation | CLOSED |
| Manual Raking |

ARCHAEOLOGICAL MONITOR REQUIRED ON SITE.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T Bald Eagle Nest

USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to manual pickup, tarmat removal, bioremediation, and manual raking within USFWS designated buffer zone per 5/27/90 survey conducted by Mike Lockhart (see map).

OTHER ECOLOGICAL CONSIDERATIONS

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

Prepared By: [Signature] Date 6/10/90

FOSC [Signature] Date 6/19/90
SHORELINE EVALUATION

SEGMENT ST/ KN-104  SUBDIVISION A (1 OF 2)  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)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

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

ARCHAEOLOGICAL CONSTRAINTS:
An Exxon archaeological monitor is required on-site during shoreline treatment.

SHPO SIGNATURE: [Signature]  DATE: 4/23/90

OILING CATEGORIZATION:
Wide 0 m: Medium 118 m: Narrow 648 m: V.Light 285 m: No Oil 0 m
Subsurface Oil Observed: Yes X No  Maximum Depth 10 cm

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

COMMENTS:  Recommend manual pick up of tarmats, tar balls and oiled debris. Bioremediate areas indicated in sketch map. Work should be conducted after 6/1 with ADF&G and USFWS approval regarding eagle nest constraint. RATE PRIOR TO BIO AS INDICATED ON SKETCH
See Addendum Dated 8/3/90

TAG COMMENTS:  MONITORS TO CHECK NE CORNER OF POCKET BEACH
SHOW ON SKETCH TO DETERMINE NEED TO EXTEND BIO
MONITORS NEED TO ASSESS NEED FOR AVOIDANCE OF RICH GUTZ

TAG APPROVAL DATE:  4/23/90
ADEC  [Signature]  DATE:  4/17/90
EXXON  [Signature]  FOCS:  [Signature]  DATE:  4/17/90
NOAA  [Signature]  USCG  [Signature]
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 work site.

OTHER ECOLOGICAL CONSIDERATIONS

Avoid any unnecessary disturbance or damage to unölled biota and substrate.
ECOLOGY MAP
SEGMENT KN-104
SUBDIVISION B (2 of 2)

* INCORPORATES USFS/WS
61/190 MAP OF ACTIVE
Bald Eagle Nests.

Seabird Colony
Eagle Nest
SHORELINE EVALUATION

SEGMENT ST/ KN-104 SUBDIVISION B (2 OF 2) DATE 4/10/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ST All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

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

ARCHAEOLOGICAL 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: [Signature] DATE: 5/10/90

OILING CATEGORIZATION:

Wide 31 m: Medium 27 m: Narrow 124 m: V.Light 978 m: No Oil 0 m
Subsurface Oil Observed: Yes X No____ Maximum Depth 10 cm

RECOMMENDATIONS:

___ No Treatment Recommended
___ Treatment Recommended
___ Manual Pickup
___ Bioremediation
___ Tarmat: ___ Breakup
___ Removal
___ Oil Snares (pom poms)
___ Absorents (pads, rolls, etc)
___ Spot Washing: ___ Wands
___ Beach Cleaner
___ Other (see comments)

COMMENTS: Recommend manual pick up and removal of mousse and tar mats as indicated on sketch map. Work should be conducted after 6/1 with ADF&G and USFWS approval regarding eagle nest constraint.

___ See Constraint Addendum 6/18/90

TAG COMMENTS:

TAG APPROVAL DATE: 4/23/90
ADEC Act. Weaber [Signature] DATE: 5/15/90
EXXON Murray [Signature] FOSC: [Signature]
NOAA Joseph T. Tallman
USCG Kenneth Keane
SHORELINE EVALUATION

SEGMENT ST/ KN-104 SUBDIVISION B (2 OF 2) DATE 4/10/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5T All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

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

ARCHAEOLOGICAL 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: [Signature] DATE: 5/10/90

OILING CATEGORIZATION:
Wide 31 m: Medium 27 m: Narrow 124 m: V.Light 978 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 10 cm

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

COMMENTS: Recommend manual pick up and removal of mousse and tar mats as indicated on sketch map. Work should be conducted after 6/1 with ADF&G and USFWS approval regarding eagle nest constraint.

TAG COMMENTS:__________________________________________

TAG APPROVAL DATE: 4/12/90
ADEC ART WEIMER DAVE WEELEY
EXXON [Signature] [Signature]
NOAA [Signature] [Signature]
USCG KENNEDY KERANE

FOSC: [Signature] DATE: 5/15/90
SEGMENT ST_ KN-104
SUBDIVISION _B
DATE 4/10 90

CHECKLIST
1. A
2. A

LEGEND
Continuous Distribution
Broken Distribution
Patchy Distribution
Spotted Distribution
Oiled Vegetation

Oil Character Lengths for sketch area only (Total length of beach = 100 m)

Photo ST-6-6 #27 Overall beach view

Dillon/SCHNEIDER
SHORELINE EVALUATION

SEGMENT ST/ KN-104 SUBDIVISION A (1 OF 2) 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)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

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

ARCHAEOLOGICAL CONSTRAINTS:
An Exxon archaeological monitor is required on-site during shoreline treatment.

SHPO SIGNATURE: [Signature] DATE: 4/23/90

OILING CATEGORIZATION:
Wide 0 m: Medium 118 m: Narrow 648 m: V.Light 225 m: No Oil 0 m
Subsurface Oil Observed: Yes X No ___ Maximum Depth 10 cm

RECOMMENDATIONS:

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

COMMENTS: Recommend manual pick up of tarmats, tar balls and oiled debris. Bioremediated areas indicated in sketch map. Work should be conducted after 6/1 with ADF&G and USFWS approval regarding eagle nest constraint. RAKE PRIOR TO BIO AS INDICATED ON SKETCH

TAG COMMENTS: MONITORS TO CHECK NE CORNER OF POCKET BEACH
SHOWN ON SKETCH 1 TO DETERMINE NEED TO EXTEND BIO
MONITORS ALSO TO ASSSS NEED FOR AVOIDANCE OF RICH LITZ

TAG APPROVAL DATE: 4/23/90
ADEC ___ WEIGM MASTER ___ FOSC: ___ DATE: 4/17/90
EXXON ___ ___ ___ ___ USCG ___ ___ ___ ___
KN-104 - A Oil Character lengths (m)
AP 50 CV 50 CT 915 ST 350 PT 10

Hang Rock
CTP P/Sl 1-3 m wide UITZ
LV S 1 m long
M UITZ in rock fracture
Lang C/P/S with hang R in center of UITZ
Sub CTP CVP AP/S Other carcass collected - HI
CTB UITZ Hung Rock

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

Map Key: PWS-284b
Name: C. DILLON
Date: 4/9-10/90
Data Entered:
1991 MAYSAP EVALUATION

SEGMENT: KN 104  SUB: A  REGION: PWS  SURVEY DATE: 5/19/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s)  RESTRICTED 3/1 - 9/1

Ecological/Constraints (see page two for details)  Eagle nest

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

SHPO Signature:  Timothy Smith  Date: 6/10/91

RECOMMENDATIONS:

TREATMENT REQUIRED (Y or N)  N  TAG  N  FOSC

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

COMMENTS:
INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE:  6/10/91  FOSC APPROVAL DATE:  6/10/91

ADEC  FOSC

EXXON  E. E. PAGE, EDR, USCG

USCG  CHIEF OF STAFF, FOSC

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.
**MAYSAP FIELD SHORELINE COMMENT SHEET**

**TEAM NO.** 2  
**SEGMENT** KN-104  
**SUBDIVISION** A  
**DATE** 5/19/91

---

**ADEC**

NAME: Peter Montesano  
SIGNATURE: [Signature]

**TREATMENT RECOMMENDED**

The survey of this subdivision should be completed when the eagle restrictions are lifted. Areas D, E, F, and G have a low distribution and difficult access in Boulder - NTR. Area H has a high surface layer from 1/50 to 1/5S which is largely not visible from the surface, caused by smaller sediments. The covering is easily raised back for access. The heavier oiling is in distinguishers and is easily removed. The lighter oiling should be raised. Limited removal by shovels/shovels is possible in areas L, M and could easily be incorporated with the treatment of K.

---

**EXXON**

NAME: Frank Fox  
SIGNATURE: [Signature]

---

**LANDMANAGER**

NAME: Dennis S. Kennedy  
SIGNATURE: [Signature]

---

**USCG/NOAA**

NAME: M. P. Zenowe  
SIGNATURE: [Signature]

---

**NTR**

- Did not survey north beach as there is an active eagle nest. Areas with remaining SOR & SOR could use some hand removal and site/10h. I believe this will be marginally successful as a site of work and Boulder will make this difficult. Any large scale operation would make the beach look disturbed for quite a long time as this is a mod. energy beach.

---

**NO TREATMENT RECOMMENDED. AGREE W/USFSS+NOAA REPS. ENVIRONMENTAL DAMAGE CERTAINLY OUTWEIGS THE NEED TO REMOVE MINOR AMOUNTS OF OILING IN THIS SEGMENT.**

---

**Note:** The document contains handwritten text and some symbols and abbreviations. The text is a detailed report on shoreline surveys and recommendations for treatment, including observations on bird restrictions, surface oiling, and environmental damage considerations.
MAYSAP SHORELINE OILING SUMMARY

TEAM NO. 2

OG: D. Reiner
BIO: S. R. N.

ADEC: P. Montesano
LANDMANAGER: D. Kennedy for USFS
USCG/NOAA: B. Janport

TIME: 14:00 to 15:15
TIDE LEVEL: 1.30 ft to 4.21 ft
ENERGY LEVEL: H X M X L

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

TOTAL LENGTH SHORELINE SURVEYED: 1046 m
NEAR SHORE SHEEN: B R R B S L X

EST. OIL CATEGORY LENGTH: 0.35 m M 15 m N 27.5 m V 140 m NO 290 m US 341 m

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

SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE
PHOTO ROLL # MAYSAP_2 - 24 FRAMES 20-24

OG COMMENTS: This segment is predominantly a rocky shoreline with small high angle pocket boulder beaches. Oiling along these sections consists of Bath Tub Ring (bTR) at the NITZ (cTR). Some interstitial SOR/AP/MS was found forming a matrix in finer material on some of the Boulder beach sections. A large portion of the segment was surveyed by skiff (Vertical Pack); however, landings were made when possible. The Northern section of the segment was NOT surveyed.

REVISED 5/24/94
REVIEWS: F.W. 5/12/94
MAYSAP SHORELINE OILING SUMMARY (cont.)

TEAM NO. 2
SEGMENT KN-104
SUBDIVISION A
DATE 5/19/91

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<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>OILED ZONE</th>
<th>CLEAN BELOW H2O LEVEL (cm)</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
<th>SURFACE-SUBSURFACE SEDIMENTS</th>
<th>NOTES</th>
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</table>

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

OG COMMENTS:
due to Eagle constraints. Site # 2 (see OG sketch #2) is
a pebble/cobble beach with boulder banks on either side. Oil was
found as coat/cover on boulders and SOR/MS/AP forming part
g of the finer matrix material between boulders, similar to the
other pocket boulder beaches on the segment. Across the center
of the beach is a pebble/cobble layer, a layer of SOR was found that
was exposed at the surface toward the South, and was buried
by 3-4 cm of clayey sediment toward the North end. Several pits
were dug to determine the thickness of the layer, which appears
to be 5-8 cm on average. Technically this area is both surface
and subsurface oiled, however it is all the same layer. The
extent of the area was determined by scraping off the top 3-4 cm
to expose the underlying oiled sediments.

Reviewed: 5.24.91
Reviewed: F.W. 5.27.91
10 x 35 meters
SOR 60% (light-heavy)
This area has a lens of SOR which is exposed near the S end and is covered by 3-4 cm of pebble/cobble debris. The north-extent of oiling was determined by scraping off surface cover.

CT/ST 5% on BLDS
CT/CU 5% (mostly under BLDS)
SOR 5% fines matrix between Boulders
A x 10 m

OG SKETCH (#2)
KN 104 A
MAY 19, 1991
14:15 - 15:15
Doug Reimer

CT/CU 30%
SOR/MS 5%? matrix between Boulders
A P 2%
H x 15 m

CT/CU 20%
AP/I 5%
(matrix between Boulders - this continued along coast see sketch map #1)

2 x 3 x 15 m

SKETCH MAP # 2
(See map #1 for location)

Subsurface extent estimated at 2 x 6 m
Based on surrounding pits and racist outcrops
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM #  2
SEGMENT # YD-104
SUBDIVISION A
SEA STATE calm
PHOTOGRAPHS: ROLL #

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

ABC: All east cv is high in HIZ. "A" consists of rock glue with BTP in lichen zone. "B" is a small rock beach with cv in algae & lichen zone. Area at upper edge of the barren zone. "C" has greater Eucalyptus Forest recruits in the HIZ.

DEF: CV/so also in HIZ. Lower zones support Eucalyptus, Ulivae. Dry mosses, recently settled parasites, spot also observed.

GHI: As represented on map.

EY: CV/so, rock in lichen + algae zone high in HIZ. Sep observed adjacent to Eucalyptus, moss, several small pools observed above boulders. Pools support dense littorello, limpets, Pygmys, algae.

K: The pebble cobble beach does not sustain dense birds as expected. Upper areas are naturally depauperate, however, elichochas are common under rocks in the oiled areas.

CT/so generally in lichen zone, lower HIZ. With sparse Eucalyptus + Eucalyptus

ML: oil here is in lichen zone & may be reaching to upper edge of barren zone. Boulder close to the water support mussel beds + other patches of Eucalyptus

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS
# OF SPECIES  TOTAL BIRDS  FISH OBSERVED
Eagles
Seabirds
Waterfowl
Gulls/kittiwakes
Shorebirds
Corvids
Other Birds

LAND MAMMALS

MARINE MAMMALS
# OBSERVED  SPECIES  # OBSERVED
Sea Otters
Pinnipeds (specify)

陆 MAMMALS

Shoreline subdivision map showing important biological features attached.
OG SKETCH (H2)
KN 104 A
MAY 15, 1981
14:00 - 15:15
Doug Reimer

SKETCH MAP #2
(See MAP #1 for location)

K: Naturally
Depauperate Area
Oligochaetes under
Rocks in lower-oiled
Zones

L+M: Lichen Zone,
Upper edge Barren
Zone, Sphagnum
Impedes and Recent
Spatt

Forest

Skewer Forest
Barnacles

Fire
Pools

Rev. M.B. [Signature]
As per recommendation of USEWS monitors, teams did not go north of line XXX.

SM3 19 May 91
1991 MAYSAP EVALUATION

SEGMENT: KN 104 SUB: A REGION: FWS SURVEY DATE: 5/19/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s) RESTRICTED 3/1 - 9/1

Ecological/Constraints (see page two for details) Eagle nest

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

SHPO Signature: ____________________ Date: __________________

RECOMMENDATIONS:

<table>
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<tr>
<th>TREATMENT REQUIRED (Y or N)</th>
<th>INITIAL</th>
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<tr>
<td>N</td>
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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 ___________________
Eagle Nest: Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.
TEAM NO. 2 SEGMENT KN-104 SUBDIVISION A DATE 5/19/91

ADEC NAME: Peter Montesano SIGNATURE:

☐ NTR ☐ TREATMENT RECOMMENDED The survey of this subdivision should be completed when the eagle restrictions are lifted.

Areas D+E have a low distribution and difficult access in Boulder - NTR.

Area K has a near surface lens from HSOR A MS which is largely not visible from the surface, covered with smaller sediments. The covering is easily raised back for access. The heavier oiling is indiscernible and is easily removed. The lighter oiling should be raised. Limited removal of young/undeveloped is possible in areas K and could easily be incorporated with the treatment of K.

EXXON NAME: FRANK DEO SIGNATURE: 

☐ NTR

ANDMANAGER NAME: DENNIS S. KENNEDY OF USFS SIGNATURE: D. S. Kennedy

☐ NTR Did not survey north beach as there is an active eagle nest. Areas with remaining SOBAP could be some hand removed and taken/bo. I believe this will be marginally successful as size of roots and boulders will make this difficult. Any large scale operation would make the beach look dotted for quite a long time as this is a mod. energy beach.

USCG/NOAA NAME: BILL M. P. ZEISE, USCG. SIGNATURE: BILL M. P. ZEISE

☐ NTR Within this segment section K has the greater amount of surface and subsurface oiling. However, this section in most very acute (moderate energy). The south beach is not using mobile; physical disturbance by clean-up workers is likely to remain for sometime. D=18

☐ NTR No treatment recommended. Agree w/USFS+NOAA Reps. Environmental damage certainly outweighs the need to remove minor amounts of oiling in this segment.
**OG COMMENTS:** This Segment is predominately a rocky shoreline with small high and low pocket boulder beaches. Oiling along these sections consists of Ball tool Ring (BTR) at the NITZ (Ci/ev). Some intestinal SOR/AP/MS was found forming a matrix in finer material on some of the boulder beach sections. A large portion of the Segment was surveyed by skirt (Vertical Pack), however landings were made where ever possible. The Northern section of the Segment was not surveyed.

---

**TEAM:** O. D. Reiner  
**BIO:** S. Gan  
**ADEC:** P. Montesano  
**LANDMANAGER:** D. Kennedy for USFS  
**USCG/NOAA:** D. Simecek-Brady

**TIME:** 14:00 to 15:15  
**TIDAL LEVEL:** 1:30 Ht. to 4:31 Ht.  
**ENERGY LEVEL:** □ H □ M □ L

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

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

**TOTAL LENGTH SHORELINE SURVEYED:** 1046 m

**EST OIL CATEGORY LENGTH:** W 35 m M 15 m N 22.5 m V 140 m NO 290 m US 341 m

---

**NO.:** 9

---

**SEGMENT:** KN-104

---

**DATE:** 5/19/91

---

**SUBDIVISION:** A

---

**NOTES:**

---

**PIT NO.**

---

**SURFACE OIL CHARACTER**

---

**SURFACE SEDIMENT**

---

**SHORELINE SLOPE**

---

**WIDTH**

---

**LENGTH**

---

**ZONE**

---

**NOTES**

---

**SURFACE-SUBSURFACE SEDIMENTS**

---

**NOTES**

---

**PHOTO ROLL # MAYSAP:**

---

**FRAMES:**

---

**DISTRIBUTION:**

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

**SLOPE:**

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

---

**REVISED:** 5/24 91

---

**REVIEWED:** E. W. 5/27/91
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**SHEEN COLOR:** B = BROWN; R = RAINBOW; S = SILVER; N = NONE

**OG COMMENTS:**

due to Eagle constraints. Site # 2 (see OG Sketch #2) is a pebble/cobble beach with boulder banks on either side. Oil was found as coat/cover on boulders and SOR/MS/AP forming part of the finer matrix material between boulders, similar to the other pocket boulder beaches on the segment. Access the center of the beach in pebble/cobble; a layer of SOR was found which was exposed at the surface toward the South, and was buried by 3-4 cm of sediment toward the North end. Several pits were dug to determine the thickness of the layer, which appears to be 5-8 cm on average. Technically, this area is both surface and subsurface oiling, however it is all the same layer. The extent of the area was determined by scraping off the top 3-4 cm to expose the underlying oiled sediments.
OG SKETCH (#1)
KN 104 A
MAY 19, 1991
14:00 - 15:30
Doug Reimer

SITE #2
SEE SKETCH MAP #2

CT/CU
1 x 20m
10% BLD/ROCK
HITZ

CT (BTR) C
1 x 20m
5% HITZ

CT (BTR) B
1/4 x 140m
30 - 30%
HITZ

CT/CU A
2 x 15m
10% mostly under
Boulders on small
Pocket Beach

2 x 3m
CT 5%
SoS (Heavy) 5%
Interstitial Matrix
between Boulders

CT 1 x 10m
L 1% Vert Rock

Knight Island

High Angle Boulder Beach

Rock Cliffs

Boulder Clay
Material over Rock

SITE #1
SEE SKETCH MAP # 1

CT/CU
2 x 5m
CT 5%
Interstitial Matrix / BLDs

2 x 5m
CT 5%
SoS (Heavy) 5%
Interstitial Matrix
between Boulders

Rock Cliffs

Segment Boundary

No access (Eagle)

2 x 3m x 20m
CT/CU 20%
AP/2 5%
Matrix between Boulders

Water
(Lower Passage)
CT/CU 5% on BLDs
2 x 5 m

CT/CV 5%
CT/CU 30%
BLDS
5% finer matrix between Boulders
4 x 15 m

10 x 3.5 meter
SOR 60% (light-Heavy)
This area has a lens of SOR which is
exposed near the S end
and is covered by 3-4 cm
of Pebble/Gravelly soil
The north extent of oiling
was determined by scraping
off surface cover

SKETCH MAP #2
(See MAP #1 for)

SUBSURFACE EXTENT
ESTIMATED AT 2 x 15 m
BASED ON SURROUNDING PITS AND RUSC OUTCUPS

OG SKETCH (#2)
KN 104A
MAY 19, 1991
1400 - 15:15
Doug Reimer

AP/I 5%
BLDS
5% finer matrix between Boulders
4 x 15 m

2 x 3 x 15 m
CT/CU 20%
AP/I 5%
( Matrix Between Boulders - This
Continues along Coast See Sketch
MAP #1)
**MAYSAP BIOLOGICAL SUMMARY FORM**

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**PHOTOGRAPHS:**
- Roll #
- Frame#

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

**ABYC:** All CT or CV is high in ETZ. "A" consists of rock (base, with BTR in lichen zone). A small rocky beach with CT/CV in algae + lichen zone and at upper edge of the barnacle zone. "A" has sparse Fucus also. Fucus reverts in the ETZ.

**DEF:** CT or CV is high in ETZ. Lower zones support Fucus, Ulva, Ulvophyta. Recently settled barnacles also observed.

**RIA:** As represented on map

**E+Y:** CT/CV is high in lichen + algae zone high in ETZ. Some observed adjacent to Fucus relicts. Several tide pools appear and base of boulders. Pools support dense lichen, flotsam, aquatic vegetation.

**K:** The pebble/cobble beach does not sustain dense biology as expected. Upper zones are normally devoid, however, fucoids can be found under rocks in the oiled area.

**CT/CV in general high in lichen zone, lower ETZ with sparse Fucus + barnacles**

N° oil here is in lichen zone but reaches to upper edge of barnacle + Ulvophyta zone. Boulders closer to the water support mussel beds. A few patches of Fucus.

**WILDLIFE OBSERVATIONS**
**TO BE COMPLETED IN ALL SUBDIVISIONS**

**BIRDS**

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<td>Other Birds</td>
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**MARINE MAMMALS**

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<tr>
<td>Whales (specify)</td>
<td></td>
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</tbody>
</table>

**LAND MAMMALS**

Shoreline subdivision map showing important biological features attached.
OG SKETCH (42)
KN 104 A
MAY 19, 1991
14:00 - 15:15
Doug Reimer

SKETCH MAP #2
(See MAP #1 for location)

K: Naturally Depauperate Area
Oligochaetes under
Rocks in lower-oiled
Zones

I+J: Lichen-korean algae, small
Ferns, recrudescent

L+M: Lichen zone; upper
edge barnacle
zone, small limpets
and recent spat

Tide pools

Forest

Ferns, recrudescent

Green algae

Gastropods

Barnacles

Forest

North

3W3
19 May 91
As per recommendation of OSEWS monitor teams did not go north of line XXX.

SMB 19 May 91
**1991 MAYSAP EVALUATION**

**SEGMENT:** KN 104  **SUB:** B  **REGION:** PWS  **SURVEY DATE:** 5/19/91

**ENVIRONMENTAL SENSITIVITIES:**

Work Window(s)  OPEN

Ecological/Constraints (see page two for details)  NONE

**ARCHAEOLOGICAL CONSTRAINTS:**

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

SHPO Signature: ___________________________  Date: ___________________________

**RECOMMENDATIONS:**

<table>
<thead>
<tr>
<th>INITIAL</th>
<th>TAG</th>
<th>FOSC</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
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</tbody>
</table>

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

**COMMENTS:**

INITIAL: __________________________________________________

TAG:_____________________________________________________

FOSC:____________________________________________________

TAG APPROVAL DATE: ___________  FOSC APPROVAL DATE: ___________

ADEC  ________________________  FOSC  ________________________

EXXON  ________________________

USCG   ________________________

NOAA  ________________________
MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 2  SEGMENT KN-104  SUBDIVISION B  DATE 5/18/91

ADEC NAME Peter Montesano  SIGNATURE P. Montesano

TREATMENT RECOMMENDED

Area "H" has a small area of SOR/AP/MS combination which could be removed
along with the same combination of oiling in area "K." Area "K" has a small
% over a large area while the overall amount of oil is sufficient to warrant
removal. Some of the above oiling is not visible from looking at the surface
proper.

The SOR/MS in area "E" is inaccessible in tagged sediments and insufficient distribution for treatment.
Area "T" has sufficient degree, distribution, and accessibility around Boulders for treatment. This
area is a SOR/MS/SP combination of some of the removable oiling dipping out of site. Under clean sediment:

EXXON NAME ENIIL Box  SIGNATURE Y and T. Bot

NTR  I recommend the manual removal of the small area
of Tangy SOR and then followed by Ice.

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

NTR  This subdivision has an extremely good sensory, the bank of
SOR with ooze removal pockets was found most of the
would be nonworkable. Area [H] would be the most
workable although still very difficult. Possibly hand tools
with Bio-remediation.

USCG/NOAA NOAA NAME Mike P. Zenone  SIGNATURE Mike P. Zenone

NTR  Observed a discontinuous band of intertidal mussels, oysters and
Sor along the barge segment on your transect. The oil affiliated with
these animals would vary later intensive due to the oil's patches.

CG: Clean up measures would be excessively costly in view of these
insignificant contribution to minimizing a threat to the public health
or welfare, or the environment. The amount of oiling in area A would be
very labor intensive as indicated by NOAA. Hand tires and Sorrent Pads
would be the only tools able to be used. A cleanup crew could spend the whole
day and the area would look as if it had not been touched, i.e.
and very little if not, no benefit would be gained.
# MAY SAP SHORELINE OILING SUMMARY

**Team No.:** Reimen  
**Bio.:** Ben  
**LandManager:** Kennedy for USFS  
**USCG/NOAA:** Sincel-Beathy  
**Segment:** KN 104  
**Subdivision:** B  
**Date:** 5/19/91

**Time:** 12:10 to 14:00  
**Tide Level:** -0.31 m to -2.9 m  
**Energy Level:** H X M L  
**Surveyed From:** Foot  
**Weather:** Sun  
**Total Length Shoreline Surveyed:** 1160 m  
**Near Shore Sheen:** None  
**Est. Oil Category Length:** W 0 m, M 150 m, N 410 m, V 250 m, No 714 m, US 0 m

### Surface Oil Character

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<tr>
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<th>AP</th>
<th>MS</th>
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</tbody>
</table>

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

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

### Subsurface Oil Character

<table>
<thead>
<tr>
<th>Pit No.</th>
<th>Depth (cm)</th>
<th>Oiled Zone</th>
<th>Clean Below Zone</th>
<th>Sheen Color</th>
<th>Pit Zone</th>
<th>Surface-Subsurface Sediments</th>
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</tbody>
</table>

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

**OG Comments:** Rocky Shoreline with pocket B/E beaches. Oiling consists of coat along sections of Rock cliff in the form of weathered Black Tub Ring (BTR). Boulder areas along side of beach areas. Have higher concentrations of oil with some cover, mostly on under side of boulders. These areas usually have SOR (light-heavy) and small patches of RS forming pond on matrix material between boulders.
**MAYSAF SHORELINE OILING SUMMARY**

**TEAM NO. 2**

**Crew**
- REINECK, O.
- MONTEVANO, J.
- BAO, E.

**ADEC**
- Manager: Kennedy
- USCG/NOAA: Simonsen

**TIME**
- 2:10 to 4:00

**TIDE LEVEL**
- 0.1 ft to 1.2 ft

**SURVEYED FROM**
- FOOT, BOAT, HELO

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

**TOTAL LENGTH SHORELINE SURVEYED**
- 1160 m

**NEAR SHORE SHEEN**
- BR, RB, SL, NONE

**EST. OIL CATEGORY LENGTH**
- W 0 m, M 110 m, N 70 m, VL 340 m, NO 640 m, US 0 m

<table>
<thead>
<tr>
<th>LOC</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT TYPE</th>
<th>SLOPE</th>
<th>WIDTH</th>
<th>LENGTH</th>
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</table>

**DISTRIBUTION**
- C = 51-100%; 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**
- MAYSAF-2-21

**FRAMES**
- 7-9

**PIT NO. DEPTH**
- (cm)

**SUBSURFACE OIL CHARACTER**
- OP, H, M, O, R, L, OF, TR, NO

**OILED ZONE**
- cm-cm

**CLEAN H2O LEVEL**
- Y/N

**MORPHOLOGY**
- CM, BR, SN

**SHEEN COLOR**
- S = BROWN, R = RAINBOW, S = SILVER, N = NONE

**OG COMMENTS:**
IIAYSAP BIOLOGICAL SUMMARY FORM

TEAM 2
SEGMENT # KU - 104
SUBDIVISION B
SEA STATE Calm

TIDAL HEIGHT (Range) + 1 FT
BIOLOGIST SMAN
WIND SPEED/DIRECTION Calm

PHOTOGRAPHS: ROLL #
FRAME #

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

ABC: cp/cv is high on vertical rock faces in lichen zone. Recent spot and green algae immediately below oiled zone.
D: AS "ABC" but focus recruits below oiled zone.
EF: As recorded on map - lower /TZ on boulders dense with algae, spot barnacles & large limpets
H: As noted on map. Pebble area adjacent to pit is naturally depressive
IKLnop: these areas are high in /TZ as indicated on map
M: CT reaches to upper edge of barnacles
O: CT /CV reaches to barnacles. Focus recruits and li horrors
P: CT /CV reaches to barnacles.
Q: CT /CV reaches to barnacles. Focus recruits and li horrors
R: CT /CV reaches to barnacles. Focus recruits and li horrors
S: CT is thick on sides of several large boulders. If the CT is
removed it may open up the area. Add--additional areas colonized by barnacles and recolonizing occurs. These areas should be protect

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS                  # OF SPECIES       TOTAL BIRDS       FISH OBSERVED
Eagles                      - unflighted    1
Seabirds                      - unflighted     
Waterfowl                     - unflighted     
Gulls/kittiwake               - unflighted     
Shorebirds                    - unflighted     
Corvids                       - unflighted     
Other Birds                  - unflighted     

MARINE MAMMALS   # OBSERVED  SPECIES  # OBSERVED
Sea Otters
Pinnipeds (specify)            
Phocidae (specify)        

LAND MAMMALS

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

SEGMENT: KN-104  SUB: A  REGION: PWS  SURVEY DATE: 6/26/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s) Restricted 3/1 - 9/1

Ecological/Constraints (see page two for details) Eagle Nest

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

SHPO Signature: ______________________ Date: ____________________

RECOMMENDATIONS:

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

TAG: ____________________________________________________________

FOSC: __________________________________________________________

TAG APPROVAL DATE: ___________________ FOSC APPROVAL DATE: _____________

ADEC ___________________ FOSC ___________________

EXXON ___________________

USCG ___________________

NOAA ___________________
ADEC

NAME: Dianne Munson
SIGNATURE: Dianne Munson

Treatment Recommended:

□ NTR

Oiling of concern consisted of soft AP or HSOA near area of pit #3 in a 2x30 meter area. Most was removed leaving some no. Recommend reassessment later this summer as it may be possible for new AP to form. 10 Super Geo Bags collected and stored for pickup by another crew.

EXXON

NAME: Mike Barker
SIGNATURE: Mike Barker

NTR

Not bad, but we filled 10 sacks. The team did a good job. Rich biota, Eagles looked fine. We got all of the oil.

LANDMANAGER

NAME: 
SIGNATURE: 

NTR

ORIGINAL COPY

USCG/NOAA

NAME: Evan Nance
SIGNATURE: Evan Nance

NTR

All significant oiling was removed and bagged, when the bags are picked up it may be desirable to apply WDM Remediation.
MAYSAP SHORELINE OILING SUMMARY

TEAM NO. 1

OG G. MACDONALD

ADEC D. MUNSON

EXXON M. BARKER

SEGMENT Kni-104

LANDMANAGER - for -

DATE 6/1/91

TIME 11:00 to 12:10

TIDE LEVEL 4′-1″ ft. to 6′-5″ ft.

ENERGY LEVEL: ☐ M ☐ L

SURVEYED FROM: ☐ FOOT ☐ BOAT ☐ HELO

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

TOTAL LENGTH SHORELINE SURVEYED: 275 m

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

EST. OIL CATEGORY LENGTH:

<table>
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<tr>
<th>L</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT TYPE</th>
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DISTRIBUTION: C = 91-100%; B = 81-90%; P = 71-80%; S = 61-70%; T = <60%

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

PHOTO ROLL # MAYSAP - FRAMES

OG COMMENTS: P beach between steep rock wall. Surface oil only, as (i) CT, CV bands on H and as (ii) to sol across P beach/face. Coated pebbles were noted across the beachface while the sol/sift at 20 cups collected between B & H T2. 10 bags cached for future retrieval.
WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS

<table>
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<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED SPECIES PRESENT</th>
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<tr>
<td>Seabirds</td>
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<td>1-2 adults</td>
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<td>Waterfowl</td>
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<td>Gulls/kittiwakes</td>
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<tr>
<td>Other Birds</td>
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MARINE MAMMALS

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<td>Dall's Porpoise</td>
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LAND MAMMALS

Shoreline subdivision map showing important biological features attached.
- 104

Note:
CT flaking at R, S in algae zone, dry powder in lichen zone.

KEY
- CT, CV <10°C
- Hi SOR patches

Same as A.

Same as B.
SUPPLEMENTAL 1991 MAYSAP EVALUATION


ENVIRONMENTAL SENSITIVITIES:
Work Window(s) Restricted 3/1 - 9/1

Ecological/Constraints (see page two for details) Eagle Nest

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

SHPO Signature: Timothy A. Smith Date: 7/3/91

RECOMMENDATIONS:

TREATMENT REQUIRED (Y or N)  INITIAL  TAG  FOSC

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

COMMENTS:
INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: 7/2/91

ADEC
EXXON
USCG
NOAA

FOSC APPROVAL DATE: 7/18/91

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

Eagle Nest: Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.
<table>
<thead>
<tr>
<th>ADEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAME: Dianne Masong</td>
</tr>
<tr>
<td>SIGNATURE: Dianne Masong</td>
</tr>
<tr>
<td>Treatment Recommended</td>
</tr>
</tbody>
</table>

- Oiling of concern consisted of soft AP or HSOA near area of pit #3 in a 2x30 meter area. Most was removed leaving some on. Recommend reassessment later this summer as it may be possible for new AP to form. 10 Super Scoop Bags collected and stored for pickup by another crew.

<table>
<thead>
<tr>
<th>EXXON</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAME: Mike Barker</td>
</tr>
<tr>
<td>SIGNATURE: Mike Barker</td>
</tr>
<tr>
<td>NTR</td>
</tr>
</tbody>
</table>

- Not bad, but we filled 10 sacks. The team did a good job. Rich biota. Eagles looked fine. We got all of the oil.

<table>
<thead>
<tr>
<th>LANDMANAGER</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAME</td>
</tr>
<tr>
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</table>

<table>
<thead>
<tr>
<th>USCG/NOAA</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAME: Evan Nance</td>
</tr>
<tr>
<td>USCG</td>
</tr>
<tr>
<td>NTR</td>
</tr>
</tbody>
</table>

- All significant oiling was removed and bagged. When the bags are picked up it may be desirable to apply remediation.
## MAYSAP SHORELINE OILING SUMMARY

**Team No.** 1  
**OG** G. Macdonald  
**BIO** D. McCormick  
**ADEC** J. Neumann  
**Oxson** M. Barker  
**LandManager** for  
**USCG/NOAA**  
**Date** 6/17/91

<table>
<thead>
<tr>
<th>Time</th>
<th>Tide Level</th>
<th>ENERGY LEVEL</th>
<th>Surveyed From</th>
<th>Weather</th>
<th>Total Length Shoreline Surveyed</th>
<th>Near Shore Sheen</th>
<th>Est. Oil Category Length</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:00 to 12:10</td>
<td>4.1 ft. to 6.3 ft.</td>
<td>□ H □ M □ L</td>
<td>□ Foot □ Boat □ Helo</td>
<td>□ Sun □ Clouds □ Fog □ Rain □ Snow</td>
<td>275 m</td>
<td>□ BR □ RB □ SL □ X</td>
<td>None</td>
<td>Floating.</td>
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</table>

**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>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>S</td>
<td>S</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>B</td>
<td>T</td>
<td>T</td>
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<tr>
<td>C</td>
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<tr>
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**Shoreline Surveyed**

<table>
<thead>
<tr>
<th>Shore Sediment Type</th>
<th>Slope</th>
<th>Width</th>
<th>Length</th>
<th>Zone</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>V</td>
<td>H</td>
<td>10</td>
<td>30</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>M</td>
<td>5</td>
<td>15</td>
<td>X</td>
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<tr>
<td>M</td>
<td>M</td>
<td>15</td>
<td>45</td>
<td>X</td>
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<tr>
<td>L</td>
<td>H</td>
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<td>15</td>
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</tr>
<tr>
<td>L</td>
<td>M</td>
<td>20</td>
<td>60</td>
<td>X</td>
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</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

**PHOTO ROLL # MAYSAP**

<table>
<thead>
<tr>
<th>Pit No.</th>
<th>Pit Depth (cm)</th>
<th>Subsurface Oil Character</th>
<th>Oiled Zone</th>
<th>Clean Below</th>
<th>H2O Level</th>
<th>Sheen Color</th>
<th>Pit Zone</th>
<th>Surface-Subsurface Sediments</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>25</td>
<td>X</td>
<td>5-8</td>
<td>Y</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>PS-SPV</td>
<td>boat, roots</td>
</tr>
<tr>
<td>2</td>
<td>30</td>
<td>X</td>
<td>5-8</td>
<td>Y</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>P-PSG</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>30</td>
<td>X</td>
<td>5-8</td>
<td>Y</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>G-F-Ph</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>25</td>
<td>X</td>
<td>5-8</td>
<td>Y</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>P-PhV</td>
<td>boat.</td>
</tr>
<tr>
<td>5</td>
<td>20</td>
<td>X</td>
<td>5-8</td>
<td>Y</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>P-PhV</td>
<td></td>
</tr>
</tbody>
</table>

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

**OG Comments:** P beach between steep rock wall. Surface oil only, as (i) CT, CV bands on R and as (ii) lo sol across P beach face. Coated pebbles were noted across the beach face, while the sol/silt at top was collected between B & Hitz. 10 bags cached for future retrieval.
10 bags oily

CT, ≤20%
≤5 x 65 mm
R Site to
overhanging.

10 bags oily

CT, ≤20%
≤5 x 65 mm
R Site to
overhanging.

CT, CV, < 10%
≤10 x 130 m
HTZ

P beach

CT, ST, < 1%
≤10 x 75 m

CT, flaking H, R, G
in algae zone,
dry, powdery in
lichen zone.
## WILDLIFE OBSERVATIONS

**TO BE COMPLETED IN ALL SUBDIVISIONS**

<table>
<thead>
<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagles</td>
<td></td>
<td></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>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></td>
</tr>
<tr>
<td>Pinnipeds(specific) h. seal</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whales(specific)</td>
<td>2</td>
<td></td>
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</tr>
<tr>
<td>Dall's Porpoise</td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Shoreline subdivision map showing important biological features attached.
<table>
<thead>
<tr>
<th>Width</th>
<th>Subsegment Length: 1040m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wide</td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td></td>
</tr>
<tr>
<td>Narrow</td>
<td></td>
</tr>
<tr>
<td>Very Light</td>
<td></td>
</tr>
<tr>
<td>No Oil</td>
<td></td>
</tr>
</tbody>
</table>

Map Key: KN1KN0104Ab

Name: GM

Date: 1-26-31

Data Entered:

Subdivision Field Map

AE State Plane Zone 4

EXON
1991 MAYSAP EVALUATION

SEGMENT: Kn 104 SUB: B REGION: PWS SURVEY DATE: 5/19/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s) OPEN

Ecological/Constraints (see page two for details) NONE

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

SHPO Signature: Timothy A. W. Date: 6/1/91

RECOMMENDATIONS:

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

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

COMMENTS:
INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: June 4, 1991 FOSC APPROVAL DATE: 6/10/91
ADEC John Bauer FOSC E. E. Page, CDR, USCG
EXXON Beach
USCG Z. M. McGary
NOAA
<table>
<thead>
<tr>
<th>Field</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEAM NO. 2</td>
<td>SEGMENT KN-104</td>
</tr>
<tr>
<td>SUBDIVISION C</td>
<td>DATE 5/19/91</td>
</tr>
</tbody>
</table>

**ADEC**

<table>
<thead>
<tr>
<th>Field</th>
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<tbody>
<tr>
<td>NAME</td>
<td>Peter Montesaio</td>
</tr>
<tr>
<td>SIGNATURE</td>
<td></td>
</tr>
</tbody>
</table>

**TREATMENT RECOMMENDED**

Area "H" has a small area of SOR/AP/MS combination which could be removed along with the same combination of oiling. Area "K" has a small area of oiling over a large area while the overall amount of oil is sufficient to warrant removal. Some of the above oiling is not visible upon looking at the surface proper.

Area "E" is inaccessible in seagrass sediments and with sufficient distribution for treatment. This area "F" has sufficient degree, distribution, and accessibility around boulders for treatment. This area is a SOR/MS/AP combination by some of the demarcated oiling, dipping out of side under clean sediments.

**EXXON**

<table>
<thead>
<tr>
<th>Field</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAME</td>
<td>F. Hall Box</td>
</tr>
<tr>
<td>SIGNATURE</td>
<td>i. E. Box</td>
</tr>
</tbody>
</table>

**RECOMMEND NOT HAND TREATMENT**

Recommend the manual removal of all small area of thin-scrap and then followed by sea.

**LANDMANAGER**

<table>
<thead>
<tr>
<th>Field</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAME</td>
<td>Dennis S Kennedy</td>
</tr>
<tr>
<td>SIGNATURE</td>
<td>J. S. Kennedy</td>
</tr>
</tbody>
</table>

**RECOMMEND NOT HAND TREATMENT**

The subdivision had an extremely good survey, by hand of SOR with some possible pockets were found most of this would be non-workable. Area [H] would be the most workable although very difficult. Possibly hand treat with Bio remediation.

**USCG/NOAA**

<table>
<thead>
<tr>
<th>Field</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAME</td>
<td>Bill M. P. Zeneke</td>
</tr>
<tr>
<td>SIGNATURE</td>
<td>B. M. P. Zeneke</td>
</tr>
</tbody>
</table>

**RECOMMEND NOT HAND TREATMENT**

Observe a discontinuous band of intertidal marsh poles and SOR along the entire segment. In general, the oil is found between larger boulders in the HST. Removal and breaking up of oil within this area is very labor intensive due to the oil's patchy and location - 23-13.

**NOTE**

Clean-up measures would be excessively costly in view of these insignificant contribution to imminent threat to the public health or welfare, or the environment. The amount of oiling to area H would be very labor intensive as indicated by NOAA. Hand trowels and sorbent pads would be the only tools able to be used. A clean-up crew could spend the whole day and the area would look as if it had not been touched. And very little if not, no benefit would be gained.

...
**OG Comments:** Rocky Shoreline with pocket B/C beaches. Oil slick originated from Rock Cliff in the form of weathered Brazil Nut Rain (BNR). Boulder aprons along shore have higher concentrations of oil. Highest oil content along shore, mostly on under side of boulders. These areas usually have SUR (light-heavy) and small patches of WMS forming ponded oil on matrix bedrock boulders.
MAYSAP SHORELINE OILING SUMMARY

TEAM NO. 2
OG: Reine
BIO: Bar
ADEC: Montesano
LANDMANAGER: Kennedy, for USFS
USCG/NOAA: Siemck-Berry

TIME: 2:10 to 14:00
TIDE LEVEL: -0.91 ft. to 12.9 ft.
ENERGY LEVEL: H M L

SURVEYED FROM: XFOOT XBOAT @HELO
WEATHER: X SUN X CLOUDS @FOG @RAIN @SNOW

TOTAL LENGTH SHORELINE SURVEYED: 160 m
NEAR SHORE SHEEN: BR RB SL NONE

EST. OIL CATEGORY LENGTH:

<table>
<thead>
<tr>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT TYPE</th>
<th>SLOPE</th>
<th>WIDTH</th>
<th>LENGTH</th>
<th>ZONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>LO CC</td>
<td>AP</td>
<td>MS</td>
<td>TB</td>
<td>SOR</td>
<td>CV</td>
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</tr>
<tr>
<td>Y</td>
<td>T</td>
<td></td>
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</tr>
</tbody>
</table>

DISTRIBUTION: C = 91-100%; B = 51-90%; P = 11-50%; S = 1-10%; T = <1%
SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE
PHOTO ROLL: MAYSAP-2 - 21 FRAMES: 7-9

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

OG COMMENTS:

Reviewed: F.W. 5/17/91
DATE: 19 MAY 91

TIDAL HEIGHT (Range): 7 ft

BIOLeST: SDM

WIND SPEED/DIRECTION: calm

PHOTOG РаHS: ROLL #

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

ABC: CT/CU is high on vertical rock face in lichen zone, recent spat and dense algae immediately below oiled zone.

D: AS "ABC" but fewer recruits below oiled zone.

E: F: AS recorded on map - Lower ETZ on boulders dense with algae, spat, barnacles & large limpets.

H: AS noted on map - Pebble area adjacent to ETZ is naturally depauperate.

IJKLNP: These areas are high in ETZ as indicated on map.

M: CT reaches to upper edge of barnacles.

D: CT/CU reaches to barnacles, fewer recruits and littorises.

O: ETWXY: Oil is high in ETZ as indicated.

CT is thick on sides of several large boulders. If the CT is removed it may open up the area for additional barnacle settlement. Areas beneath the other boulders support mussels and recolonizing from plants. These areas should be protected.

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

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

<table>
<thead>
<tr>
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<th># OBSERVED</th>
<th>SPECIES</th>
<th># OBSERVED</th>
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<tbody>
<tr>
<td>Sea Otters</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pinnipeds (specify)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whales (specify)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
See Sketch Map #3

(Skiff) Vertical Rock Cliff

(BKC) Vertical Rock Cliff

Boulder lag deposits over Rock (walk)

Boulder Beach (lava deposits) (walk)

(Skiff) Vertical Rock Cliff

A: Lichen-Algae Zone, Recent Spat below CT

See Sketch Map #2

Segment Boundary

D: Green algae + lichen Fu nos retooikt immediately seaward

E: Lichen + green algae

Corals + recent spat + limpets

SKIFF
(See sketch map #1 for location)

OC sketch #3

Q: Lichen & green algae
P/C: Interbedded mussels
R: Lichen & green algae

W: Upper intermarchal lichenes
V: Green algae growing on cr/cv

Wxys: Algae & lichen zone

6: Oil in karstic caves (Alive) 
Lithotrophic shells in oil. Mussels in crevices below oil zone. Oil. Fucus recruits also.

OC-3 (9 May 1981)

Dory Reimer

Beach width = 227
SHORELINE EVALUATION

SEGMENT ST/ KN-105 SUBDIVISION B (2 OF 2) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
6U Recreation: Tent sites (6/1 to 9/15)
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: DATE: 4/25/90

OILING CATEGORIZATION:

<table>
<thead>
<tr>
<th>Width</th>
<th>Subsurface Oil Observed</th>
<th>Maximum Depth</th>
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<td>0 m</td>
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<tr>
<td>0 m</td>
<td>No</td>
<td>___</td>
</tr>
<tr>
<td>0 m</td>
<td>X</td>
<td>___</td>
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<tr>
<td>111 m</td>
<td>No</td>
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<td>145 m</td>
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RECOMMENDATIONS:

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<tr>
<th>Treatment</th>
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<tbody>
<tr>
<td>No Treatment Recommended</td>
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<tr>
<td>X Manual Pickup</td>
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<tr>
<td>X Bioremediation</td>
</tr>
<tr>
<td>X Tarmat: Breakup</td>
</tr>
<tr>
<td>X Removal</td>
</tr>
</tbody>
</table>

COMMENTS: Recommended treatment includes 1) manual pick up of debris and mousse, 2) tarmat removal and 3) bioremediation of oil-coat and stain areas (see attached sketch map for locations).

TAG COMMENTS:

TAG APPROVAL DATE: 4/24/90
ADEC: Art Weiner
EXXON: Art Weiner
NOAA: Joseph Tidball
USCG: M.S. Hall
FOSC: W. L. DATE: 5-5-90
1991 MAYSAP EVALUATION

SEGMENT: KN 105  SUB: B  REGION: PWS  SURVEY DATE: 5/19/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s)  OPEN

Ecological/Constraints (see page two for details)  NONE

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

SHPO Signature:  Timothy [Signature] Date: 6/07/91

RECOMMENDATIONS:  INITIAL  TAG  FOSC

TREATMENT REQUIRED (Y or N)  N  N  N

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

COMMENTS:
INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: MAY 31 1991  FOSC APPROVAL DATE: JUN 17 1991

ADEC  [Signature]  FOSC  [Signature]
EXXON  [Signature]  E. E. PAGE, CDR, USCG
USCG  [Signature]  CHIEF OF STAFF, FOSC
NOAA
MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 2 SEGMENT KN-105 SUBDIVISION B DATE 5/19/91

ADEC NAME Peter Montesano SIGNATURE

TREATMENT RECOMMENDED

Well documented. Area "L" has SOR that has settled into boulders and plateau and is inaccessible. Most of the other oiling is on CT Ring.

EXXON NAME [Handwritten] SIGNATURE

TREATMENT RECOMMENDED

Not enough oiling to warrant activity on this side.

LANDMANAGER NAME DENNIS S. KENNEDY OF USFS SIGNATURE J. S. Kennedy

TREATMENT RECOMMENDED

A light amount of oiling was found along most of the subdivision. No treatment is required.

USCG/NOAA NAME NOAA D. SINEKER CATEGORY ADMIRAL SIGNATURE

TREATMENT RECOMMENDED

No treatment is recommended.

CG - NO TREATMENT RECOMMENDED.
MAYSAP SHORELINE OILING SUMMARY

TEAM NO. 2

OG: O. Reimer
ADEC: A. Montesano
EXxon: E. Box

BIO: S. M. Ban
LANDMANAGER: P. Kennedy
USCG/NOAA: D. S. Novak - Berry

TIME: 10:00 to 10:16
TIDE LEVEL: 3.74 ft to 0.15 ft
ENERGY LEVEL: □ H □ M □ L

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

TOTAL LENGTH SHORELINE SURVEYED: 756 m
NEAR SHORE SHEEN: □ BR □ BB □ SL □ NONE

EST. OIL CATEGORY LENGTH: W 0 m M 0 m N 140 m V 580 m NO 36 m U 0 m

<table>
<thead>
<tr>
<th>LOC</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT TYPE</th>
<th>SHORE SLOPE</th>
<th>WIDTH</th>
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<tr>
<td>A</td>
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<td>RB</td>
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<td>B</td>
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<td>RB</td>
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<td>M</td>
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<td>R</td>
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<td>10</td>
<td>Y</td>
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DISTRIBUTION: C = 91-100%; B = 51-60%; P = 11-50%; S = 1-10%; T = <1%
SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE

PHOTO ROLL: MAYSAP-______________________ FRAMES

<table>
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<tr>
<th>PIT</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEANS BELOW</th>
<th>H2O LEVEL</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
<th>SURFACE-SUBSURFACE SEDIMENTS</th>
<th>NOTES</th>
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<td>2</td>
<td>X</td>
<td>-</td>
<td>Y</td>
<td>9</td>
<td>B</td>
<td>X</td>
<td>C-PC</td>
<td>Brown 3x3</td>
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<td>X</td>
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<td>Y</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>BC-CC</td>
<td>CT/KV on clasts</td>
</tr>
</tbody>
</table>

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

OG COMMENTS:
Rocky Shoreline with narrow Boulder Beaches and lag deposits. Oil consists mainly of narrow 1 m BTR along N127. It varies from sporadic drips up to 30% coverage along the Coast. Three Sections of Oil with pine needles were found along sheltered rock faces (E, J, K). Small patches of sor were found at A, I, J, L.

revised 5.22.94
CT 5% MS ≤ 0.01% in crevices, 1 x 60m

CT 5%
SOR (light) 2%
2 x 20m

CV 30%
1 x 10m
Vertical Rock Cliff (skiff)
Pocket B/C Beach (walk)

CT 2% (BTR)
1 x 70m

CT/CV 30%
SOR 2%
2 x 20m

CT/CV 40%
1 x 10m

CT 2% (BTR)
1 x 60m

CT 5 - 30% Discontinuous
TB < 1%
1 x 100m

CT (BTR)
1/2 x 80
≤ 1%

High Angle Boulder lay deposits
over Rock (walk)

CT (BTR)
1/2 x 80
≤ 1%

High Angle Rock
and Boulder lay deposits
(walk)

CT < 2%
TB < 1%
SOR/AP ≥ 1%
Matrix ≥ 3%
3 x 10m

Vertical Rock, large blocks
and boulder lay deposits
(walk)

OG SKETCH
KN-105-B
MAY 19, 1991
10:00 - 11:16
Doug Reimer

Reviewed 5.22.91
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 2
SEGMENT # K00-165
SUBDIVISION B
SEA STATE calm

TIDAL HEIGHT (Range) 2 to 0 ft
PHOTOGRAPHS: ROLL # - FRAME # -

BIOLOGIST SMGG
WIND SPEED/DIRECTION calm

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

<table>
<thead>
<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED</th>
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<tbody>
<tr>
<td>Eagles</td>
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<tr>
<td>Waterfowl</td>
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<tr>
<td>Gulls/kittiwakes</td>
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<td>Shorebirds</td>
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<td>Other Birds</td>
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<table>
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<tr>
<th>MARINE MAMMALS</th>
<th># OBSERVED</th>
<th>SPECIES</th>
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<tbody>
<tr>
<td>Sea Otters</td>
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<td></td>
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<tr>
<td>Pinnipeds(specific)</td>
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<tr>
<td>Whales(specific)</td>
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<table>
<thead>
<tr>
<th>LAND MAMMALS</th>
<th>SPECIES</th>
<th># OBSERVED</th>
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</table>

Shoreline subdivision map showing important biological features attached.

Reviewed M.B. 5/2/91
OG SKETCH
KN - 105 B
MAY 19, 1991
10:00 - 11:16
Doug Reimer

Reviewed M.B. 5/22/91
1991 MAYSAP EVALUATION

SEGMENT: KN 105 SUB: A REGION: PWS SURVEY DATE: 5/19/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s) OPEN

Ecological/Constraints (see page two for details) NONE

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

SHPO Signature: ___________________________ Date: __________

RECOMMENDATIONS:

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

TAG: _______________________________________________________

FOSC: ___________________________

TAG APPROVAL DATE: _______ FOSC APPROVAL DATE: _______

ADEC _________________________ FOSC _______________________

EXXON __________________________

USCG __________________________

NOAA __________________________
MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 2  SEGMENT KN105  SUBDIVISION A  DATE 5/17/91

ADEQ
NAME Petre Montesano
SIGNATURE

Nut
TREATMENT RECOMMENDED

Many pits, no SS oil found, CT on surface.

EXXON
NAME FRANK RAY
SIGNATURE

Nut
Due to the small amount of oiling observed on this segment, I feel that any activity would not
produce any benefit.

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

Nut
Very light oiling was found along the entire
subdivision. No work is called for.

USCG/NOAA
NAME Bill M.P. Zenone, USCG
SIGNATURE

Nut
Aerosol amounts of oil were detected. No treatment recommended.

Con. No treatment recommended.
MAYSAP SHORELINE OILING SUMMARY

TEAM NO. 2
OG D. Reimer
ADEC P. Montagnese
EXXON F. Bow

BIO S. M. van
LANDMANAGER D. Kennedy for USFS
USCG/NOAA R. Simons

DATE 5/19/91
TIME 11:18 to 11:42
ENERGY LEVEL: H M L
SURVEYED FROM: FOOT BOAT HELO
WEATHER: SUN CLOUDS FOG RAIN SNOW
TIDE LEVEL -0.22 ft. to -0.69 ft.
TOTAL LENGTH SHORELINE SURVEYED: 3.27 m
NEAR SHORE SHEEN: BR RB SL X

EST. OIL CATEGORY LENGTH:

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT</th>
<th>SHORE SLOPE</th>
<th>WIDTH</th>
<th>LENGTH</th>
<th>ZONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

ENTIRE SEGMENT

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

OG COMMENTS: Rocky Shoreline with predominantly Boulder/Cobble Beach or Boulder lag deposits on Rock. Two small pocket beaches have Pebble beach/fill deposits in VATZ with B/C in MITZ. The Rock cliffs sections are steep (vertical to overhang). Oil was found along the entire segment in the form of sporadic drips or descendants removals of BTR and drip lines. Even access the pebble beach section where rock outcrops and/or scattered boulders had oil traces.

Reviewed: 5/21/91
OG- SKETCH
KN 105 A
MAY 19, 1991
11:18 - 11:42
Doug Reimer

CT < 1%
1m x 3.27m
The entire segment had
very sporadic drips or
remains of ETR along
NITZ on rock and boulders

Beach width = 5-20 meters
**KAYSAP BIOLOGICAL SUMMARY FORM**

**TEAM #:** 2  
**DATE:** 19 May '91

**SEGMENT #:** KB-105  
**TIDAL HEIGHT (Range):** 0 to 1.9 ft

**SUBDIVISION:** A  
**BIOLOGIST:** SMB

**SEA STATE:** Calm  
**WIND SPEED/DIRECTION:** Calm

**PHOTOGRAPHS:** ROLL #:  
FRAME #: —

**COMMENTS/ OBSERVATIONS**

(to be completed in oilied subdivisions only):

- Minimal oil in this segment - all oil high to very high in FIZ
- Biota as indicated on map.

---

**WILDLIFE OBSERVATIONS**

**TO BE COMPLETED IN ALL SUBDIVISIONS**

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

<table>
<thead>
<tr>
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**LAND MAMMALS**

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

Shoreline subdivision map showing important biological features attached.
CT < 1% 
1m x 3.27m
The entire segment had very sporadic drips or remains of BTR along N17 on rock and cliffs

A: Remains of BTR in lichen zone
B: In upper edge of bennets, focus zone

Beo width = 5-20 meters

OG - SKETCH
KN 105 A
MAY 19, 1981
11:18 - 11:42
Doug Reimer

SMB 19 May '91

Reviewed M. B. 5/22/94
1991 MAYSAP EVALUATION

SEGMENT: KN 105  SUB: B  REGION: PWS  SURVEY DATE: 5/19/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s)  OPEN

Ecological/Constraints (see page two for details)  NONE

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

SHPO Signature: ____________________________ Date: ____________

RECOMMENDATIONS:

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

EXXON_______________________

USCG_______________________

NOAA_______________________
MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 2  SEGMENT KN-105  SUBDIVISION B  DATE 5/19/91

ADEC NAME: Peter Montesano  SIGNATURE: [Signature]

☐ TREATMENT RECOMMENDED

Well documented. Area "C" has SOR that has settled into boulders and plateau, and is inaccessible. Most of the oil is on CTRing.

EXXON NAME: LONNIE Box  SIGNATURE: [Signature]

☐ TREATMENT RECOMMENDED

Not enough oiling to warrant action on this side.

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

☒ TREATMENT RECOMMENDED

A light amount of oiling was found along most of the subdivision. No treatment is required.

USCG/NOAA NAME: ROYA D. SINGER - BARTY  SIGNATURE: [Signature]

☐ TREATMENT RECOMMENDED

The oiling in this segment is mostly discontinuous, occurring along a rocky shoreline. As the area is remote, no treatment is recommended.

CG - NO TREATMENT RECOMMENDED. 3
MAYSAP SHORELINE OILING SUMMARY

TEAM NO. 2

OG D. Reimer BIO S. M. Brown

ADEC P. Montecano LANDMANAGER D. Kennedy for USFS

EXON E. Box USCG/NOAA B. L. S. Mel—Beatty

SEGMENT KN 105

SUBDIVISION B

DATE 5-19-91

TIME 10:00 to 11:16

TIDE LEVEL 3.74 ft to 0.15 ft

ENERGY LEVEL: H X M L

SURVEYED FROM: FOOT BOAT HELO

WEATHER: SUN CLOUDS FOG RAIN SNOW

TOTAL LENGTH SHORELINE SURVEYED: 756 m

NEAR SHORE SHEEN: BR RB SL NONE

EST. OIL CATEGORY LENGTH: W 0 m M 0 m N 140 m V 580 m NO 36 m US 0 m

<table>
<thead>
<tr>
<th>LOC</th>
<th>SURFACE OIL CHARACTER</th>
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<th>SHORE SLOPE</th>
<th>WIDTH</th>
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<td>10</td>
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<tr>
<td>B</td>
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<td>F</td>
<td>G R</td>
<td>R</td>
<td>V</td>
<td>1</td>
<td>10</td>
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<td>G</td>
<td>H SP</td>
<td>RC</td>
<td>N</td>
<td>1</td>
<td>60</td>
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<tr>
<td>H</td>
<td>J SP</td>
<td>R</td>
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<td>40</td>
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<td>I</td>
<td>K SP</td>
<td>PC</td>
<td>M</td>
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<td>X</td>
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<tr>
<td>J</td>
<td>L B</td>
<td>R</td>
<td>V</td>
<td>1</td>
<td>60</td>
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</tbody>
</table>

DISTRIBUTION: C = 91-100%; B = 81-90%; P = 51-80%; S = 1-10%; T = <1%

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

PHOTO ROLL # MAYSAP-______ FRAMES _______

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN ZONE</th>
<th>H2O BELOW</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
<th>SURFACE-SUBSURFACE SEDIMENTS</th>
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<tbody>
<tr>
<td>1</td>
<td>15</td>
<td>X</td>
<td>Y</td>
<td>Y</td>
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<td>S</td>
<td>X</td>
<td>C-PC Brown drops</td>
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<td>X</td>
<td>Y</td>
<td>9</td>
<td>B</td>
<td>X</td>
<td>X</td>
<td>C-PC Brown drops</td>
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<tr>
<td>3</td>
<td>8</td>
<td>X</td>
<td>Y</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>BE-CB GT/EU on Clays</td>
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</table>

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

OG COMMENTS: Rocky Shoreline with narrow Boulder Beaches and clay deposits. Oil consists mainly of narrow < 1 m BTR along H12. It varies from sporadic drips up to 30% coverage along the coast. Three sections of river with pine needles were found along shrined creek faces (C, J, K). Small patches of SOR were found at A, F, J, L.

revised 5-22-94
**MAYSAP BIOLOGICAL SUMMARY FORM**

**TEAM #** 21  
**DATE** 5/14/91  
**SEGMENT #** 12-16  
**TIDAL HEIGHT (Range)** 2 to 4 ft  
**SUBDIVISION** 13  
**BIOLOGIST** SM RAP  
**SEA STATE** calm  
**WIND SPEED/DIRECTION** calm  
**PHOTOGRAPHS: ROLL #**  
**FRAME #**  

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

- Oil rate is high in T12, reaching only the uppermost edge of the bermacle zone. Foam necklets were encountered near the T12 edge. Amphipods, small mollusks & crustaceans were found on and between boulders lower in the T12.

- BC41-5: As represented on Map, rock ledge and steep boulder areas support dense Algae & barnacles in lower zones.

- Flight CT in upper-upper mtn T12. Bighorn as mapped in oilen zone. PCB beach below-blen zone supports dense fields clumps (fig. 4) Vulpes. Litorine egg masses a frequent sight also found.

- GH81-1: Oil is high in T12, generally in lichen zone. One area ("H") extends to upper edge of 12 Litorine's barnacles. Sense gastropods were encountered on the shore small cafe.

---

**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>
<th>SPECIES PRESENT</th>
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<tbody>
<tr>
<td>Eagles</td>
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<td>Seabirds</td>
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<td>Waterfowl</td>
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<td>Gulls/kittiwakes</td>
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<td>Other Birds</td>
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**MARINE MAMMALS**  
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<tr>
<td>Pinnipeds(specify)</td>
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<tr>
<td>Whales(specify)</td>
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**LAND MAMMALS**

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Shoreline subdivision map showing important biological features attached.

Reviewed M.B. 5/27/91
OG SKETCH
KN-105-B
MAY 19, 1991
10:00 - 11:16
Doug Reimer

Reviewed M.B. 5/23/91
1991 MAYSAP EVALUATION

SEGMENT: KN 105  SUB: A  REGION: PWS  SURVEY DATE: 5/19/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s) OPEN

Ecological/Constraints (see page two for details) NONE

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

SHPO Signature: Timothy Smith  Date: 6/03/91

RECOMMENDATIONS:

TREATMENT REQUIRED (Y or N) N

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

COMMENTS:
INITIAL: __________________________________________

TAG: __________________________________________________________

FOSC: ______________________________________________________

TAG APPROVAL DATE: 4/1 31 1999   FOSC APPROVAL DATE: 6/15/91

ADEC  [Signature]   FOSC  [Signature]
EXXON  [Signature]   E. E. PAGE, CDR, USCG
USCG  [Signature]   CHIEF OF STAFF, FOSC
NOAA  [Signature]
TEAM NO.: 2  SEGMENT: KN105  SUBDIVISION: A  DATE: 5/19/91

ADEC
NAME: Peter Montesano  SIGNATURE: [Signature]

☐ TREATMENT RECOMMENDED

Many pits, no SS oil found, CT on surface.

EXXON
NAME: FRANK LAVO  SIGNATURE: [Signature]

☐ TREATMENT RECOMMENDED

Due to the small amount of oiling observed on this segment, I feel that any activity would not produce any benefit.

LANDMANAGER
NAME: Dennis S. Kennedy  OF USFS  SIGNATURE: [Signature]

☐ TREATMENT RECOMMENDED

Very light oiling was found along the entire subdivision. No work is called for.

USCG/NOAA
NAME: Bill M.P. Zenone  USCG  SIGNATURE: [Signature]

☐ TREATMENT RECOMMENDED

[Signature]

CG: No treatment recommended.
MAYSAP SHORELINE OILING SUMMARY

TEAM NO.

O.G. D. Reimer

BIO. S. M. R. van

ADEC P. Montagne

LANDMANAGER D. Kennedy for USFS

EXXON E. Boy

USCG/NOAA D. Simon

SEGMENT KN 105

SUBDIVISION A

DATE 5/19/91

TIME 11:18 to 11:42

TIDE LEVEL -0.31 ft. to -0.69 ft.

ENERGY LEVEL: □ H □ M □ L

SURVEYED FROM: ☑ FOOT ☑ BOAT ☑ HELO

WEATHER: ☑ SUN ☑ CLOUDS ☑ FOG ☑ RAIN ☑ SNOW

TOTAL LENGTH SHORELINE SURVEYED: 327 m

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

EST. OIL CATEGORY LENGTH:

W—m M—m N—m V—327 m NO—m US—m

<table>
<thead>
<tr>
<th>L</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT</th>
<th>AREA</th>
<th>ZONE</th>
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<tr>
<td>LOC</td>
<td>AP</td>
<td>MS</td>
<td>SB</td>
<td>SG</td>
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<tr>
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DISTRIBUTION: C = 91-100%; B = 51-90%; P = 11-50%; S = 1-10%; T = <1%

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

PHOTO ROLL # MAYSAP- 2 - 21 FRAMES 16-12

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<th>PIT NO.</th>
<th>PIT</th>
<th>DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN ZONE</th>
<th>H2O LEVEL</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
<th>SURFACE SUBSURFACE SEDIMENTS</th>
<th>NOTES</th>
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</tbody>
</table>

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

OG COMMENTS: Rocky Shoreline with predominantly Boulder/Cobble Beaches or Boulder Clay deposits on Rock. Two small pocket beaches have Pebble Beach/Berm deposits in UITZ with B/C in MITZ. The Rock cliff sections are steep (vertical to overhang). Oil was found along the entire segment in the form of sporadic drips or discontinuous remainders of BTR and drip lines. Cuts access across the Pebble beach sections where rock outcrops and/or scattered boulders had oil traces.

Reviewed: MC 5/22/91

R. W. G. B.
OG-SKETCH
KN 105 A
MAY 10, 1981
11:18 - 11:42
Doug Reimer

CT < 1%
1m x 3.27m
The entire segment had very sporadic dips or remains of BTR along N170 on Rock and Boulders

Beach width = 5-20 meters

Reviewed: 5/22/94
**MAYSAP BIOLOGICAL SUMMARY FORM**

<table>
<thead>
<tr>
<th>TEAM #</th>
<th>DATE</th>
<th>TIDAL HEIGHT (Range)</th>
<th>BIOLGIST</th>
<th>WIND SPEED/DIRECTION</th>
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<tr>
<td>2</td>
<td>19 May '91</td>
<td>0 to 1 ft</td>
<td>SM Brown</td>
<td>Calm</td>
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</tbody>
</table>

**PHOTOGRAPHS:**

- **ROLL:**
- **FRAME:**

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

- Minimal oil in this segment - all oil high to very high in ITZ.
- Birds as indicated on map.

**WILDLIFE OBSERVATIONS**

**TO BE COMPLETED IN ALL SUBDIVISIONS**

**BIRDS**

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

**FISH OBSERVED SPECIES PRESENT**

- Sand lance 1

**LAND MAMMALS**

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

Shoreline subdivision map showing important biological features attached.

Reviewed M.B. 5/26/91
OG SKETCH
KN 105 A
MAY 19, 1981
11:18 - 11:42
Doug Reimer

SMBS 19 MAY '91

CT < 1%
1m x 327m
The Entire Segment had
very sporadic drips or
Remains of BTR along
NITE on Rock and Cliffs

CT in upper edge of bammac, Focus

Beo width = 5 - 20 meters

Reviewed M.B. 5/22/91
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-105

SUBDIVISIONS: A (1 OF 2)
SEGMENT ST/ KN-105 SUBDIVISION A (1 OF 2) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
6U Recreation: Tent sites (6/1 to 9/15)
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: ______________________ DATE: ______________________

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 22 m: V. Light 290 m: No Oil 15 m
Subsurface Oil Observed: Yes___ No X___ Maximum Depth_____

RECOMMENDATIONS:
X ___ No Treatment Recommended
____ Treatment Recommended
____ Manual Pickup
____ Bioremediation
____ Tarmat: Breakup
____ Removal

Absorbents (pads, rolls, etc)
Spot Washing: Wands
Beach Cleaner
Other (see comments)

COMMENTS: __________________________________________________________

__________________________________________________________

TAG COMMENTS: ________________________________________________

__________________________________________________________

TAG APPROVAL DATE: ___________
ADEC ___________________________ FOSC: ___________ DATE: ________
EXXON ________________________
NOAA _________________________
USCG _________________________
SEGMENT ST1 KN105

SUBDIVISION: A (1 of 2)

DATE 04-09-90

USCG
NAME AEC Vandepels
SIGNATURE AEC Vandepels

☑ NO TREATMENT RECOMMENDED
☐ TREATMENT SUGGESTED

COMMENTS
I recommend no treatment. To labor intensive for such little gain.

ADEC
NAME Michele Baer
SIGNATURE Baer

☐ NO TREATMENT RECOMMENDED
☑ TREATMENT SUGGESTED

COMMENTS
- Manually remove asphalt splashes.
- On SE part of section, the band of C/S expands to 7 in width. Scrubbing of BS is recommended.
- No subsurface oil was found in between smaller shale.

LAND MANAGER
NAME Dan Logan
SIGNATURE Logan

☐ NO TREATMENT RECOMMENDED
☐ TREATMENT SUGGESTED

COMMENTS
Manually remove asphalt splashes and scrub CT/C sections.
### SHORELINE OILING SUMMARY

**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>A N A</th>
<th>SUBSURFACE SEDIMENTS</th>
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<tbody>
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**COMMENTS**

No pits dug boulders too big.
**SHORELINE ECOLOGICAL SUMMARY**

Segment ST/KN 105 Subdivision A Date (mo/day/yr) 4/9/90

Time (24 hr) 1900-2020 Biologist Crank pg 1 of 2

(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 30 Moderate 20 Low 50

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

**BARNACLES**

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<th>Moderate</th>
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<th>Rare</th>
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**MYTILUS**

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**GASTROPODS**

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**FUCUS**

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</table>

**Wildlife Observations/General Comments:**
1. - Other Adult 4. - Alcids - unidentified
2. - Mergansers

**Ecological Considerations:**

**LUL - Tent Sites**

- This subdivision has a high Fucus recruitment; gastropods are dense throughout zones.
- Figures show in detail corruptions under cobble in the L172 and M172 (see picture 57.5-39)
- Mytilus are sparse throughout most of subdivision. There is a 50m x 3m discontinuous zone (adopted for tenting) on the steep cobble slope at the northern end. (see abc map)
PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

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

1D
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 uncollected intertidal and subtidal algae and seagrass.
Contact ADF&G for specific dates and locations.

3N, 3P
Harbor seal and sea lion pupping (5/15 to 7/1)

3O, 3Q
Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

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

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

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

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

6V
Anchorage (6/1 to 9/15)

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

6X
Lodge (6/1 to 9/15)

6Y
Special use destination

7Z
Subsistence area: Salmon harvesting (5/1 to 9/30)

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.
<table>
<thead>
<tr>
<th>SPECIES</th>
<th>UIITZ</th>
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<td>CLADOPHORA SPP</td>
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**FAUNA:**
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-105

SUBDIVISIONS: B (2 OF 2)
SHORELINE EVALUATION

SEGMENT ST/KN-105 SUBDIVISION B (2 OF 2) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
6U Recreation: Tent sites (6/1 to 9/15)
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: _______________ DATE: _______________

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 145 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
X Tarmat: ___ Breakup ___ Beach Cleaner
_____ Removal ___ Other (see comments)

COMMENTS: Recommended treatment includes 1) manual pick up of debris and mousse, 2) tarmat removal and 3) bioremediation of oil-coat and stain areas (see attached sketch map for locations).

TAG COMMENTS: ______________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
TAG APPROVAL DATE: ____________
ADEC ______________ DATE: ____________
EXXON ______________
NOAA ______________
USCG ______________
FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN105 SUBDIVISION: B DATE 04-09-90

USCG
NAME AEC Vandepek SIGNATURE AEC Vandepek

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS
I recommend no treatment. Too labor intensive for what would be gained.

ADEC
NAME Michelle Baer SIGNATURE

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS
KN105B is a low energy zone with B fields and E, C beaches. A bathtub ring of S/B and T/B continuing throughout the segment. The ring is about 5 cm wide. Areas of APP were found in the Northern part of the segment. I recommend manual removal of the asphalt patches, scrubbing (with a wire brush) the areas of heavier coats on the boulders, and tar splashes. No subsurface oil was found.

LAND MANAGER
NAME DAN LOGAN SIGNATURE

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS
MANUALLY REMOVE TAR SPLASHES/ASPHALT SPLASHES.
SHORELINE OILING SUMMARY

SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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<tr>
<td>Asphalt Pavement</td>
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<td>Pooled</td>
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<tr>
<td>Cover</td>
<td>X</td>
<td>X</td>
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</tr>
<tr>
<td>Coat</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Stain</td>
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<td></td>
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</tr>
<tr>
<td>Mousse</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Patties</td>
<td>X</td>
<td></td>
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<tr>
<td>Tarballs</td>
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<td>Film</td>
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<td>X</td>
<td></td>
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<tr>
<td>No Oil</td>
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</tbody>
</table>

PAVEMENT: H F 11 sq. m by 2 on

PATTIES / TARBALLS: 10 BAGS

NEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS AMOUNT

Log
Vegetation
Trash
Debris

Photographs:
Roll No. 5T5.5
Frames 4-8

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 / FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANA</th>
<th>SUBSURFACE SEDIMENTS</th>
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<tr>
<td>1</td>
<td>20</td>
<td>X</td>
<td></td>
<td>X</td>
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<td>SGSM</td>
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COMMENTS: Surveyed the first ~200 m of KN-106 during first ~1/2 hour.
SHORELINE ECOLOGICAL SUMMARY

Segment ST/II 10E Subdivision 2

Time (24 hr) 00, 09, 1990 472-2301 WD03 P10

I

Subdivision

Date (mo / day / yr) 4/3/90

I

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

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)

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<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
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<td>GASTROPODS</td>
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<tr>
<td>FUCUS</td>
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</table>

Wildlife Observations/General Comments:

- Duck, unidentified
- Great Blue Heron
- Bald Eagle - Adult
- Other

Ecological Considerations:

W.U. (Wetland Sites)
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<thead>
<tr>
<th>Code</th>
<th>Activity</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A</td>
<td>Salmon stream mouth - fry outmigration</td>
<td>3/1 to 5/15</td>
</tr>
<tr>
<td>1B</td>
<td>Salmon stream mouth - spawning</td>
<td>7/10 to 8/31</td>
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<tr>
<td></td>
<td>No disturbance of stream bed or banks unless authorized by ADF&amp;G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&amp;G Habitat Division prior to treatment for permits.</td>
<td></td>
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<tr>
<td>1C</td>
<td>Salmon fry nursery area</td>
<td>4/31 to 7/31</td>
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<td>1D</td>
<td>Esther Hatchery release</td>
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<td>1L</td>
<td>Set net sites</td>
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<td>For Codes 1C through 1L contact ADF&amp;G for specific dates, locations and constraints.</td>
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<td>2M</td>
<td>Herring spawning</td>
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<td>Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. Contact ADF&amp;G for specific dates and locations.</td>
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<td>Harbor seal and sea lion pupping</td>
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<td>Harbor seal and sea lion molting</td>
<td>8/15 to 9/15</td>
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<td>5R</td>
<td>Seabird colony</td>
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<td>Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&amp;G and USFWS prior to treatment.</td>
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<td>5S</td>
<td>Shorebird/waterfowl concentration</td>
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<td>Restrict all activity to essential minimum, especially air traffic.</td>
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<td>5T</td>
<td>All Bald Eagle nests</td>
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<td>Active Bald Eagle nests</td>
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<td>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.</td>
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ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-105 SUBDIVISION A (1 of 2)

WORK WINDOW

<table>
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<tr>
<th>Manual Pickup</th>
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<tbody>
<tr>
<td>Tar mat Removal</td>
<td>OPEN</td>
</tr>
<tr>
<td>Bioremediation</td>
<td>OPEN</td>
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</tbody>
</table>

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 unceded biota and substrate.
SHORELINE EVALUATION

SEGMENT ST/ KN-105  SUBDIVISION A (1 OF 2) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
U Recreation: Tent sites (6/1 to 9/15)
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: Charles B. Elmes DATE: 5/2/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 22 m: V. Light 290 m: No Oil 15 m
Subsurface Oil Observed: Yes_____ No  X  Maximum Depth_______

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

COMMENTS: 
  MANUAL PICKUP OF TARMATS AND BIOREMEDIATION OF COAT AS INDICATED ON SCHEMAT

TAG COMMENTS: 

TAG APPROVAL DATE: 4/24/90
ADEC:rex Wellen DATE: 5-5-90
EXXON 564-3657 564-3658
NOAA: Joseph Talbot
USCG: M. J. Hall
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT KN-105 SUBDIVISION B (2 of 2)

WORK WINDOW

<table>
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<th>Manual Pickup</th>
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<td>Tarmat Removal</td>
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<tr>
<td>Bioremediation</td>
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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 unoiled biota and substrate.
SEGMENT ST/  KN-105  SUBDIVISION B (2 OF 2) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
6U Recreation: Tent sites (6/1 to 9/15)
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: [Signature]  DATE: [Date]

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 611 m: No Oil 145 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: Breakup  X Beach Cleaner
X Removal  X Other (see comments)

COMMENTS: Recommended treatment includes 1) manual pick up of debris and mousse, 2) tarmat removal and 3) bioremediation of oil-coat and stain areas (see attached sketch map for locations).

TAG COMMENTS:

TAG APPROVAL DATE: 4/24/90
ADEC [Signature]  FOSC: [Signature]  DATE: 5-8-90
EXXON [Signature]  NOAA [Signature]
NOAA [Signature]  USCG [Signature]
SHORELINE EVALUATION

SEGMENT ST/ KN-105  SUBDIVISION A (1 OF 2) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
6U Recreation: Tent sites (6/1 to 9/15)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unincinerated 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: 5/2/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 22 m: V.Light 290 m: No Oil 15 m
Subsurface Oil Observed: Yes No

RECOMMENDATIONS:

X No Treatment Recommended  X Snare/Absorbent Booms
X Treatment Recommended   Oil Snares (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:
MANUAL PICKUP OF TARMATS AND BIOREMEDIATION OF OIL AS INDICATED ON DETECT

TAG COMMENTS:

TAG APPROVAL DATE: 5/31/90
ADEC __________ DATE: 5/5/90
EXXON __________
NOAA __________
USCG __________