[Shoreline evaluations, 1991].

Prince William Sound KN-128 to KN-133
SHORELINE EVALUATION

SEGMENT ST/ KN-128  SUBDIVISION A (1 OF 1) DATE 4/23/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
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: [Signature] DATE: 5/2/90

OILING CATEGORIZATION:
Wide 0 m; Medium 237 m; Narrow 195 m; V.Light 386 m; No Oil 0 m
Subsurface Oil Observed: Yes X No  Maximum Depth 5 cm

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

COMMENTS: Recommend manual pickup of debris and bioremediation of area of subsurface oil shown on attached sketch map. No specific time constraints identified.

TAG COMMENTS:

TAG APPROVAL DATE: 5/2/90
ADEC [Signature] DATE: 5/5/90
EXXON [Signature]
NOAA [Signature]
USCG [Signature]
- 5 meter band patchy tar coat 10% coverage
- 2 meter band continuous tar coat translucent sheen
- 1.5 meter band continuous tar coat broken coats up to 4 meters wide
- Tar coat band 4 meters wide 40% coverage boulders
- Special symbol: hexagons mark tar band up to one meter high, broken in places
- Downed trees
- Small streams
- Steep slope
- Tar cover under boulders handfuls of oiled grass
- Pompoms frozen in ice bio
- Trees
- Avacanche oil under boulders brown & mobile
- Knight Island

Legend:
1. A: Injection Oil
2. A: Injection Oil
3. CTC
4. OES
5. CTC
6. CTC
7. CTC
8. PHL
9. OES
10. PHL
11. CTC
12. PHL
13. CTC
14. PHL
15. CTC
16. PHL
17. CTC
18. PHL
19. CTC
20. PHL
21. CTC
22. PHL
1991 MAYSAP EVALUATION

SEGMENT: KN 128  SUB: A  REGION: FWS  SURVEY DATE: 5/24/91

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 Almond  Date: 6/10/91

RECOMMENDATIONS:

TREATMENT REQUIRED (Y or N)  N  N  

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

COMMENTS:
INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: June 6 1991  FOSC APPROVAL DATE: 6/10/91

ADBC

EXXON

USCG

NOAA
### ADEC
**NAME:** Jeff Gwaltz  
**SIGNATURE:** (signature)

- **NTR** No reasonable oil remains in this segment.

### EXXON
**NAME:** Larry D. Olson  
**SIGNATURE:** (signature)

- **NTR** No treatable oiling conditions exist.

### ND MANAGER
**NAME:** Marsha Hall of DNR  
**SIGNATURE:** Marsha Hall

- **NTR** Coast cover band thin out off Northern portion segment.

### USCG/NOAA
**NAME:** Scholtz  
**SIGNATURE:** (signature)

- **NTR** Nothing of significance remains.

- **High Angle Basaltic Breakout**  
  **Shoreline w/ Several Basaltic Flow Chutes**  
  **Oil seen at CT, CV, ST along Hitz-Sutte - Intermittent - Two Lawson Areas in the Sutte. No Subsurface Oil.**
# Maysap Shoreline Oilining Summary

**Team No.:** G. MacDonald  
**Bio.:** M. Fawcett  
**Adec.:** J. Grimaldi  
**Land Manager:** M. Hall  
**Exxon:** L. Olson  
**USCG/NOAA:** Schuks/Childs

**Time:** 12:26 to 13:35  
**Tide Level:** +3.2 ft. to +3.3 ft.  
**Energy Level:** M

**Surveyed From:** Foot  
**Weather:** Sun  
**Total Length Shoreline Surveyed:** 120 m  
**Near Shore Sheen:** None

**Estimated Oil Category Length:**  

<table>
<thead>
<tr>
<th>L</th>
<th>Surface Oil Character</th>
<th>Surface Sediment Type</th>
<th>Slope</th>
<th>Area Width</th>
<th>Area Length</th>
<th>Zone</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B B</td>
<td>P V</td>
<td>3/4</td>
<td>110</td>
<td>X X</td>
<td></td>
<td>Feeling tar, slippery</td>
</tr>
<tr>
<td>B</td>
<td>P P P</td>
<td>B Be M</td>
<td>5</td>
<td>25</td>
<td>X X</td>
<td></td>
<td>Li g to 50%</td>
</tr>
<tr>
<td>C</td>
<td>B B</td>
<td>Z H</td>
<td>1/2</td>
<td>220</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>P P</td>
<td>Z B H</td>
<td>1</td>
<td>120</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>S S</td>
<td>Z L</td>
<td>1</td>
<td>300</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>S</td>
<td>Z C L</td>
<td>1</td>
<td>20</td>
<td>X</td>
<td>10 50%</td>
<td></td>
</tr>
</tbody>
</table>

**Distribution:** C = 90-100%; 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-1-30  
**Frames:** 13-20

**Pit No.**  
**Depth (cm):**  
**Subsurface Oil Character:**  
**Oiled Zone:**  
**Clean Below:**  
**H2O Level:**  
**Sheen Color:**  
**Pit Zone:**  
**Surface-Subsurface Sediments:**  
**Notes:**

<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>I</td>
<td>10</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>BC - Cor</td>
<td></td>
</tr>
<tr>
<td>Z</td>
<td>13</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>BC - Cor</td>
<td></td>
</tr>
</tbody>
</table>

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

**OG Comments:** Steep E shore, w/ occasional BC guiltily.  
Surface oil only, as broken - sporadic CT, CV - decreasing northward, and soil patches trapped below boulder.
KN-128A
G. MACDONALD
5-24-91

[Diagram with various annotations and symbols, including:
- CT, ST < 10°
- CT, ST ≤ 20°
- CT, cv ≤ 60°
- Streamer
- Avalanche-blazed trees e R point
- Regulatory Marker
- HTZ and STZ]

Reviewed 5-27 91
MAISAY: Biological Summary Form

TEAM # 1  DATE 5/24/91
SEGMENT # KN 128  TIDAL HEIGHT (Range) +2.8 to +4.5 ft MLLW
SUBDIVISION A  BIOLOGIST Michael Fawcett
SEA STATE calm  WIND SPEED/DIRECTION calm

PHOTOGRAPHS: ROLL #  FRAME #

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):
This subdivision is mostly steep pillow lava shoreline, except for
small stream mouths and avalanche rubble. Remaining oil is light
nearly all above intertidal biota. See sketch map for description
of biota near oiled sites.

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>6 (3 mature)</td>
<td></td>
</tr>
<tr>
<td>Seabirds</td>
<td>2 (pigeon guillemot)</td>
<td>3 1/2</td>
<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td>1 (Canada goose)</td>
<td>1</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>
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<tbody>
<tr>
<td>Sea Otters</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pinnipeds(specific)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whales(specific)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Shoreline subdivision map showing important biological features attached.
KN 128 A 5/24/91 Fawcett
-2 eaglees flushed from shoreline tree
-1 pigeon gwilled
-2 murrelets
5/26 1825
CT/CC 16 BP +10-12 ft, above 60 ft
pale, dense beard +5-8 ft
mod. FmW
-305125 shoreline is clear, pillow lava
with Boone brothers now 200 m
some bees
-1230 - Pigeon flight - AP/SSR/072
+12 ft - aerial pt.
-1 Canada goose, 1 immature eagle
-50 ft good down to 80 ft among
upper edge of barnacles, littorinidae
(P.4 up to 12 ft deep
M2. done for barnacle draft
over everything - mod. focus
Endless barnacle
-3 more mature eagles flew over
1 fishing
1850 - CT/SSR w/ streets
C+ 510 ft along vertical walls
1900 - BRI - boulders, chute
CT/SSR above boulders below boulders
Journedy 9/2
Finish 1915
1991 MAYSAP EVALUATION

SEGMENT: KN 128  SUB:  A  REGION: FWS  SURVEY DATE: 5/24/91

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:

RECOMMENDATIONS: INITIAL  TAG  FOSC

TREATMENT REQUIRED (Y or N)  N

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

COMMENTS:

INITIAL:


TAG:


FOSC:


TAG APPROVAL DATE: ___________  FOSC APPROVAL DATE: ___________

ADEC

EXXON

USCG

NOAA
TEAM NO. 1  SEGMENT KN 128  SUBDIVISION A  DATE 5/24/91

ADEC
NAME  JEFF GREENS  SIGNATURE  Y

[ ] NTR  No recoverable oil remains in this segment.

EXXON
NAME  LARRY D. OLSON  SIGNATURE  Larry M. Olson

[ ] NTR  No treatable oiling conditions exist.

LANDMANAGER
NAME  MARSHA HALL  OF  DNR  SIGNATURE  Marsha Hall

[ ] NTR  Coat cover hard thin out off northern portion of segment.

USCG/NOAA
NAME  SCHULTZ  CHILDRESS  SIGNATURE  Z J

[ ] NTR  Nothing of significance remains.

High Angle Basaltic Break Shelf 11H Model 1  Several Boscan Flows Chutes
Oil sheens at CT, CV, ST along 11H-TE-SUPB - Intermittent - Two Low Soo
Areas in the SUPE. No Submarine Oil.
# MAYSAP SHORELINE OILING SUMMARY

**TEAM NO.** 1  
**OG:** G. Macdonald  
**BIO:** M. Cancetti  
**LDEC:** J. Grinawaj  
**LANDMANAGER:** M. Hall  
**USCG/NOAA SCHNEIDER/CHILDS**

**DATE:** 1/24/91  
**SEGMENT:** KJ-128  
**SUBDIVISION:** A

**TIME:** 10:25  
**TIDE LEVEL:** +3.2 ft  
**ENERGY LEVEL:** X

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

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

**TOTAL LENGTH SHORELINE SURVEYED:** 820 m  
**NEAR SHORE SHEEN:** □ BR □ RB □ SL □ NONE

**EST. OIL CATEGORY LENGTH:** 
- W - m
- M - m
- N - m
- V - m
- L - m
- US - m

---

<table>
<thead>
<tr>
<th>L</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT</th>
<th>SHORE SLOPE</th>
<th>AREA</th>
<th>ZONE</th>
<th>NOTES</th>
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<tbody>
<tr>
<td>A</td>
<td>BC</td>
<td>V</td>
<td>3½</td>
<td>110</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>BC</td>
<td>M</td>
<td>5</td>
<td>25</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>BC</td>
<td>H</td>
<td>1½</td>
<td>250</td>
<td>X</td>
<td></td>
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<tr>
<td>D</td>
<td>BC</td>
<td>H</td>
<td>1</td>
<td>120</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>BC</td>
<td>H</td>
<td>1</td>
<td>300</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>BC</td>
<td>H</td>
<td>6</td>
<td>20</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

**DISTRIBUTION:** 
- C = 71-100%
- B = 51-80%
- P = 1-40%
- T = <1%

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

**PHOTO ROLL # MAYSAP:** 1 - 30  
**FRAMES:** 17-20

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<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN H2O LEVEL</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
<th>SURFACE-SUBSURFACE SEDIMENTS</th>
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<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2</td>
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</tr>
</tbody>
</table>

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

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**OG COMMENTS:**

Steep 1 shore, w/ occasional BC gullies.
Surface oil only, as broken; sporadic CT, CV - decreasing northward, and soil patches tracked below boulders.
**MAYSAP BIOLOGICAL SUMMARY FORM**

**TEAM # 1**  
**SEGMENT # KN 128**  
**SUBDIVISION A**  
**SEA STATE calm**  
**TIDAL HEIGHT (Range) +2.8 to +4.5 ft MLLW**  
**WIND SPEED/DIRECTION calm**  
**BIOLIGIST Michael Fawcett**  
**PHOTOGRAPHS: ROLL 1**  
**FRAME 1**

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

This subdivision is mostly steep pillow lava shoreline, except for small stream mouths and avalanche rubble. Remaining oil is light, nearly all above intertidal benthos. See sketch map for description of benthos near oiled sites.

---

**WILDLIFE OBSERVATIONS**  
**TO BE COMPLETED IN ALL SUBDIVISIONS**

**BIRDS**

<table>
<thead>
<tr>
<th>Species</th>
<th># of Species</th>
<th>Total Birds</th>
<th>Species Present</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagles</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seabirds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Gulls/Kittiwakes</td>
<td></td>
<td></td>
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<tr>
<td>Shorebirds</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Corvids</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Birds</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

**MARINE MAMMALS**

<table>
<thead>
<tr>
<th>Species</th>
<th># Observed</th>
<th>Species</th>
<th># Observed</th>
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</thead>
<tbody>
<tr>
<td>Sea Otters</td>
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<td></td>
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<tr>
<td>Pinnipeds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whales</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**LAND MAMMALS**

Shoreline subdivision map showing important biological features attached.
KN-128A
Bio Sketch Map
M. Fawcett
5/24/91

[Diagram with handwritten notes and sketches]

- SoR above biota: dense barnacles downshore in PEZ
- Same as A
- Same as A
- CT/CV on BR +10-12 ft: above biota; pore by dense barnacles below +8 ft; also mott. Ecuva.
- Same as A
- CB
- CB/R
- R
- R

Avalanche blasted trees & R point.

Stream

R

SoR +8-12 ft: among upper edge of barnacles, limpets, limpetini; mott. has veined barnacles, limpet eggs, all covered by fine brown green algae.

Avalanching clearing

N

0 100 200 M
KN 128A 5/21/91  Fawcett
-2 eagles flushed from shore, one
-1 pigeon, gallon+
-2 murrelets
18 ft 5
CT/CV in RP +10-12 ft, above dot
pale, dense, exam +5-8 ft
mod, Fawn
-Canoeing is slow, pillows are
with boar brothers now. Be in
some area
-1830 - May 31, light - AP-185S12-
9.12 ft, marsh p.
-1 camping area, 1 immature eagle
-50 yard down to +8 ft among
upper edge of brush, litorine
(camp up to 7), camp
M.T. dense f., crum - ago, deep
over everything, mod. Fawn
Fishing, brushes
3 more nodes, eagles fly over,
-1 fishing
1850 - Eagle camp w/ 894
C + 10 ft along vertical walls
1700 - BRI/B, avalanche chute
CT/SOR above bird, dense bird
downhill M.T.
Finish 1915
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-128

SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION

SEGMENT ST/ KN-128 SUBDIVISION A (1 OF 1) DATE 4/23/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
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 0 m: Medium 237 m: Narrow 195 m: V.Light 386 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 5 cm

RECOMMENDATIONS:

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

COMMENTS: Recommend manual pickup of debris and bioremediation of area of subsurface oil shown on attached sketch map. No specific time constraints identified.

TAG COMMENTS: ______________________________________

TAG APPROVAL DATE: __________________
ADEC
EXXON
NOAA
USCG

FOSC: __________ DATE: __________
FIELD SHORELINE COMMENT SHEET

SEGMENT ST  KN 128  SUBDIVISION: A  DATE 4.23.94

USCG
NAME  Patrick Malley  SIGNATURE  Patrick T Malley

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS
This segment consisted of a lot of steep bedrock and boulder that contained heavily weathered stains and coats. Cleanup efforts should be concentrated in the vicinity of pit #3 where subsurface oil was found and the slope of the beach would allow treatment.

ADEC
NAME  M. Cunningham  SIGNATURE  M. Cunningham

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS
Flip over boulders & Bioremediate on all accessible parts of segment. Check storm beam for debris. Note rich fauna in lower intertidal areas.

LAND MANAGER
NAME  Steven Phillips  SIGNATURE  Steven Phillips

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS
PomPom remain frozen in supertidal - marked with a pallet. Bioremediate boulder areas of high intertidal along about the whole segment. Problem is that beach is higher angle and the fertilizer has to get stuck under the rocks where the oil is. Tar bands are not scrapable. Some visual degradation is present due to "bathtub rings" and wider tar bands. Break up some of the bands through methods as they develop.
SHORELINE OILING SUMMARY

OG: Deck Clancy USCG Pat Malay SEGMENT ST/ KN-128
BIO. LAND REP. DNR Steve Phillips SUBDIVISION A (LOFT)
EXXON Ray J. W. ADEC Mike Cunningham
TEAM NO. 14 TIDE LEVEL 4/17 1700 DATE 4/13/90
EST. SUBDIVISION LENGTH: 944 m
UPLANDS DESCRIPTION: Grass Forest Rock
SURVEYED FROM: Foot Boat Helo WORKING DIRECTION: North to South
SURFACE SEDIMENTS: R 70 % B 20 % C 5 % P 5 % G - S - M - V -
SLOPE: Land 5 % Hang 85 % Ven 50 % WAVE EXPOSURE: Low Med High
OIL CATEGORY LENGTH: W 0 m M 284 m N 255 m VL 405 m NO 0 m

SURFACE OIL

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<tr>
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<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
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PAVEMENT H F S sq. m by cm

PATTIES/TARBALLS collected BAGS

NEAR SHORE SHEEN? NO BR SI TL

OILED DEBRIS AMOUNT

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<td>Debris</td>
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Photographs:

Roll No. None
Frames None

SUBSURFACE OIL

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COMMENTS

See attached page.

REVIEWED MH DATE 4/25/90
Segment KN-128-A was surveyed under overcast skies. This segment runs along a steep bedrock and boulder face with very little fine sediment. The bedrock and littoral sediments were not entirely dry due to the falling tide and runoff from melting snow. Oil was present in some form along the entire length of the segment. This oil was primarily in the form of weathered tar coats and stains. It appeared that significant quantities of mobile oil had been present in the past but most of the oil had weathered to stable tar coats. This tar was often mixed with spruce and hemlock needles. In places tar cover was observed on the bottom of boulders. Although the surface oil present throughout the majority of the segment had weathered, brown mobile oil was still present under the boulders of the coarse beach at the southern end of the segment. Rainbow and translucent sheens observed in tide pools along the segment may be a result of this mobile subsurface oil. No pits were dug in the southern portion of the segment due to the rugged, coarse nature of this boulder beach. Three full bags of pospos were collected from this segment and more remain frozen in the supra tidal.
### SHORELINE ECOLOGICAL SUMMARY

**Segment ST / KN-128**  
**Subdivision** A  
**Date (mo / day / yr)** Apr 23, 90

**Time (24 hr)** 1745  
**Biologist** Roth

(A) **Substrate type and % of segments:**  
- (1) Bedrock 70%  
- (2) Boulder 20%  
- (3) Cobble 5%  
- (4) Pebble 5%  
- (5) Sand 1%  
- (6) Silt

(B) **Overall % cover of biota (% of segment):** Dense 10%  
Moderate 20%  
Low 70%

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

#### BARNACLES

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#### Wildlife Observations/ General Comments:

A good variety of invertebrate species were found in life tidal area in this segment. Overall percent cover of biota is low; however, especially in the mity. A few areas have "normal" Fucus/Barnacle/Gastropod communities, but ecological considerations: none noted.

It is speculated that intensive clean-up procedures during 1988 may have been responsible for denuding mity Bedrock/Boulder outcrops. Very few Mytilus were present in this segment. Barnacles appear to be quite abundant.
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT KN-128 SUBDIVISION A (1 of 1)

WORK WINDOW

<table>
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<tr>
<th>Manual Pickup</th>
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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 time-dependent ecological constraints.

OTHER ECOLOGICAL CONSIDERATIONS
Avoid any unnecessary disturbance or damage to unaltered biota and substrate.
SHORELINE EVALUATION

SEGMENT ST/ KN-128 SUBDIVISION A (1 OF 1) DATE 4/23/90

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

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

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

SHPO SIGNATURE: [Signature] DATE: 5/2/90

OILING CATEGORIZATION:
Wide 0 m: Medium 237 m: Narrow 195 m: V.Light 386 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 5 cm

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

COMMENTS: Recommend manual pickup of debris and bioremediation of area of subsurface oil shown on attached sketch map. No specific time constraints identified.

TAG COMMENTS:

See Addendum Dated 5/19/90

TAG APPROVAL DATE: 5/2/90
ADEC [Signature] [Date]
EXXON [Signature] [Date]
NOAA [Signature] [Date]
USCG [Signature] [Date]
FOSC: [Signature] [Date: 5-8-90]
ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 226-10-16975

SEGMENT KN-129 SUBDIVISION B

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream ADF&G catalogued anadromous stream (226-10-16975) is in Subdivision B. No constraint to manual pickup.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or banks. Avoid any unnecessary disturbance or damage to unrolled biota and substrate.

SEE SUBDIVISION CONSTRAINT ADDENDA KN-129A & KN-129B FOR ADDITIONAL CONSTRAINT INFORMATION.

TAG APPROVAL DATE 6/04/90
ADEC Ray McGee's Page
EXXON
NOAA
USCG
FOSC

Prepared by Andrew Meyer Date 6/3/90
ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-129 B STREAM NO: 226-10-16975 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)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Subject stream is located in Subdivision B (1 of 2).

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

SHPO SIGNATURE: [Signature]
DATE: 6/2/90

Subsurface Oil Observed: Yes X No Maximum Depth 8 cm

RECOMMENDATIONS:
X Treatment Recommended

__ No Treatment Recommended

__ Bioremediation
__ Manual Pickup
__ Tarmat Removal

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

COMMENTS: Recommended treatment includes 1) manual pickup of tar patties in area indicated on sketch map. Work should be conducted between 5/15 and 7/10 based on anadromous stream constraints.

See Addendum dated 6/3/90

TAG COMMENTS: MONITOR TO ASSESS SUITZ

TAG APPROVAL DATE: 5/7/90

ADEC Art Weeks, Director
EXXON [Signature]
NOAA [Signature]
USCG [Signature]
ANADROMOUS FISH STREAM ASSESSMENT

REGION: PRINCE WILLIAM SOUND
SEGMENT: KN-129 B
STREAM NO: 226-10-16975
ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/KN-129 B STREAM NO: 226-10-16975 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)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to uncoiled biota and substrate. Subject stream is located in Subdivision A (1 of 2).

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

SHPO SIGNATURE: ___________________________ DATE: ___________________________

Subsurface Oil Observed: Yes X No _____ Maximum Depth 8 cm

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

COMMENTS: Recommended treatment includes 1) manual pickup of tar patties in area indicated on sketch map. Work should be conducted between 5/15 and 7/10 based on anadromous stream constraints.

TAG COMMENTS: __________________________________________________________

TAG APPROVAL DATE: __________________________
ADEC ___________________________
EXXON ___________________________
NOAA ___________________________
USCG ___________________________
FOSC: __________________________ DATE: __________________________
Salmon stream mouth - fry outmigration (6/1 to 5/15) Salmon stream mouth - spawning (7/10 to 8/31)

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

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

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

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

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

10 Esthok Hatchery release (4/15 to 6/1)

1E Main Bay Hatchery release (4/20 to 6/10)

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

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

1H Remote release sites

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

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

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

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

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

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

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

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

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

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

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

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

3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)

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

AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 866-7235 ADF&G Don Galkins 267-2403

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377 ADF&G Tom Roth 267-2206

8T All Bald Eagle nests (6/1 to 6/1)

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

Recreation:

Tent sites (6/1 to 9/15)

Anchorage (6/1 to 9/15)

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

Lodge (6/1 to 9/15)

Special use destination

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

Finfish harvesting

Deer harvesting (8/15 to 2/28)

Invertebrate harvesting

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

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

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<th>DATE 1-31-90</th>
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**USCG**

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- [ ] NO TREATMENT RECOMMENDED
- [x] TREATMENT SUGGESTED

**COMMENTS**

Agree.

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- [ ] NO TREATMENT RECOMMENDED
- [x] TREATMENT SUGGESTED

**COMMENTS**

Snow pack covering upper portions of stream
send crew in after it melts warms up to assess oiling
monitor site for sheening
remove scattered tar patties in grassy area by boulder & avalanche chute.

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### SURFACE OIL

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### SUBSURFACE OIL

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**COMMENTS**

TAR/ASPHALT, PATCHES, MAT NOTE NO SHEEN OBSERVED

CONTINUE OFF BEACH - CHECK SAT RESULT MARCH 30TH 1990 SAT.

**REVIEWED** JW **DATE** 4/29/91
**ACPM Multi-Assessment Data Form**

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**Extent of Oil**

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<td>Categorized AND. Fish Benth (Y) N</td>
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<td>38</td>
<td>Stream Name:</td>
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<td>39</td>
<td>Oil in Stream Bed (Y) N</td>
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<tr>
<td>40</td>
<td>Oil on Stream Banks (Y) N</td>
</tr>
<tr>
<td>41</td>
<td>Oil on Beach Adjacent to Mouth (Y) N (within 50 meters)</td>
</tr>
<tr>
<td>42</td>
<td>Oil Within 1 Mile of Stream (Y) N</td>
</tr>
<tr>
<td>43</td>
<td>Anomalous Fish Present? (Y) N</td>
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</table>

**Additional Notes**

- Snow pack covering upper portions of stream noted several tar balls in grassy area surrounding boulder across from shore looks much better than last year and visible sheen at this time.
Recommended: treat after resurvey
access after snow melts & periodically check for sheening
remove scattered tar balls in grassy area by boulder chute

Agreed

Ken Cutcherow
SUBJECT STREAM LOCATED WITHIN SUBDIVISION KN-129B (ZCF-2)

KN-129

Sub segment length 232

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

Map Key: PWS-511
Name: Cheney/Sawyer
Date: 3-30-90
ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. KN-129A Uncatalogued Stream
SEGMENT KN-129 SUBDIVISION A

WORK WINDOW

<table>
<thead>
<tr>
<th>Tarmat Removal</th>
<th>OPEN</th>
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<tbody>
<tr>
<td>Bioremediation Less Than 100m From Stream</td>
<td>WORK PRIOR TO 7/10 (ADF&amp;G MONITOR REQ.)</td>
</tr>
</tbody>
</table>

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

An uncatalogued anadromous stream 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. No constraint to tarmat removal.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or banks. No flushing of pollutants or sediments into stream drainage; do not allow Inplo to enter stream flow. On-site examination and consultation by ADF&G monitor is required prior to bioremediation in order to authorize a setback distance from the stream during chemical application; if ADF&G monitor’s presence is impossible, authorization may be given by the ADEC monitor. Avoid any unnecessary disturbance or damage to unoDed biota and substrate.

SEE SUBDIVISION CONSTRAINT ADDENDA KN-129A & KN-129B FOR ADDITIONAL CONSTRAINT INFORMATION.

TAG APPROVAL DATE 6/14/90
ADEC Ray Morgan 6/14/90
EXXON Amy C. 6/14/90
NOAA Joseph Valiant 6/14/90
USCG G.A. Reiter 6/14/90
FOSC D. Jaworski Date 6/14/90

Prepared by Linda Meyer 6/1/90
KN-130

KN-127

KN-128

KN-120

Uncataloged Anadromous Stream
100m Zone

Anadromous Stream Evaluation: 226-10-16925

ECOLOGY MAP
SEGMENT KN-129

Subdivision A (of 32)

METERS

Exxon Company, USA
Map Key: KN-129

Seabird Colony

Eagle Nest
ANADROMOUS FISH STREAM EVALUATION
UNCATED 4/24/90

SEGMENT ST/ KN-129 A  STREAM NO: 226-10-16975  DATE  4/24/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Subject salmon stream, previously uncatalogued, now numbered 226-10-16975 (P, 2/90)
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to uniled biota and substrate. No additional ecological constraints. Subject stream is located in Subdivision B (2 of 2).

ARCHAEOLOGICAL CONSTRAINTS:
If cultural resources are uncovered during shoreline treatmcnt, 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:  5/23/90

Subsurface Oil Observed: Yes  No  Maximum Depth 10 cm

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

COMMENTS: Recommended treatment includes 1) manual tar mat removal, and 2) bioremediation of areas shown on attached sketch map. Work should be conducted between 5/15 and 7/10. Based on salmon constraints with approval of ADF&G regarding bioremediation near stream bank.

TAG COMMENTS: NO BIO WITHIN STREAM AREA (50m) PRIOR TO JUNE
Permit required for BIO AFTER JUNE

TAG APPROVAL DATE:  5/18/80
ADEC  EXXON  NOAA  USCG
ACT-UNDER DATE:  FOSCA  DATE:  MAY 25
ADAPATION DATED 5/23/90 (P)

TAG APPROVAL DATE:  5/18/80
ADEC  EXXON  NOAA  USCG
ACT-UNDER DATE:  FOSCA  DATE:  MAY 25
ADAPATION DATED 5/23/90 (P)
ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/KN-129 A STREAM NO: 226-10-16975 DATE 4/24/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Subject salmon stream, previously uncatalogued, now numbered 226-10-16975 (P, 2/90)
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to uncoiled biota and substrate. No additional ecological constraints. Subject stream is located in Subdivision B (2 of 2).

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

SHPO SIGNATURE: [Signature] DATE: 5/22/90

Subsurface Oil Observed: Yes X No Maximum Depth 10 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual tarmat removal, and 2) bioremediation of areas shown on attached sketch map. Work should be conducted between 5/15 and 7/10 based on salmon constraints with approval of ADF&G regarding bioremediation near stream bank.

TAG COMMENTS: NO BIO WITHIN STREAM AREA (50M) PRIOR TO JUNE 1 PERMIT REQUIRED FOR BIO AFTER JUNE 1

TAG APPROVAL DATE: 5/18/90
ADEC ACT/WEIWEI DATE: MAY 25, 1990
EXXON [Signature] FOSCO [Signature]
NOAA [Signature] DATE: [Signature]
USCG [Signature] [Signature]
LEGEND

For the survey, the following symbols are used:

1. No Subsurface Oil
2. Subsurface Oil

Notation:

- CT/C: Common Distribution
- CT: Spotted Distribution
- CT/P: Paltry Distribution
- CT/S: Secluded Distribution
- OIL: Oiled Vegetation

Additional marks:

- X: Photo location, direction, and number

Oil Character Length (ft): AP 5 PO 4 CV A 4 CT ST MS FT TB FL NO 21
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<tr>
<th>Pit</th>
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<th>Description</th>
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<tbody>
<tr>
<td>#41</td>
<td>15cm</td>
<td>15cm oil, 2cm water</td>
</tr>
<tr>
<td>#42</td>
<td>22cm</td>
<td>22cm oil, 2cm water</td>
</tr>
<tr>
<td>#43</td>
<td>22cm</td>
<td>22cm oil, 2cm water</td>
</tr>
</tbody>
</table>

Diagram showing oil distribution.
Subject stream is located in Heiling Bay. West 5 ft.

KN-129A 10 ft.

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

Map Key: PWS-311
Name: Greg Chanev/Tom Swearing
Date: March 30, 1990

KN-129A 300 meters
ANADROMOUS FISH STREAM ASSESSMENT

REGION: PRINCE WILLIAM SOUND

SEGMENT: KN-129

STREAM NO: 226-10-16975
ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/KN-129 A
STREAM NO: 226-10-16975
DATE: 4/24/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Subject salmon stream, previously uncatalogued, now numbered 226-10-16975 (P, 2/90)
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate. No additional ecological constraints. Subject stream is located in Subdivision B (2 of 2).

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

SHPO SIGNATURE: __________________ DATE: __________________

Subsurface Oil Observed: Yes X  No  Maximum Depth 10 cm

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

COMMENTS: Recommended treatment includes 1) manual tarmat removal, and 2) bioremediation of areas shown on attached sketch map. Work should be conducted between 5/15 and 7/10 based on salmon constraints with approval of ADF&G regarding bioremediation near stream bank.

TAG COMMENTS:_________________________________________

TAG APPROVAL DATE:____________________
ADEC   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 without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inpol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.
AGENCY CONTACT PERSON: ADF&G John Morison 267-2324

1C Salmon fry nursery areas (4/21 to 7/31)
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inpol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.
AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214

1D Esther Hatchery release (4/15 to 6/15)
1E Main Bay Hatchery release (4/15 to 6/15)
1F Sawmill Bay Hatchery release (4/15 to 6/15)
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 Inpol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.
AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214

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

2M Herring spawning (4/1 to 6/15)
Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to unooled Intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inpol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235

3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
3O, 3Q Harbor seal and sea lion molting (6/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 600m horizontal and 300m vertical distance from haulouts. No application of Inpol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235 ADF&G Don Calkins 267-2403

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

5S Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377 ADF&G Tom Potho 267-2208

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

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

7Z Subsistence area: Salmon harvesting (6/1 to 9/30)
HH Finfish harvesting
7I Deer harvesting (8/15 to 2/28)
7J Invertebrates harvesting
Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inpol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.
AGENCY CONTACT PERSON: ADF&G Jim Fail 267-2359
### FIELD SHORELINE COMMENT SHEET

**SEGMENT**  St1  **SUBDIVISION:** not documented  **DATE:** 24 APR 96

**USCG**  NAME: Kerwin L. Dreher  **SIGNATURE:** CWO H. R. Schuler

[ ] NO TREATMENT RECOMMENDED  [X] TREATMENT SUGGESTED

**COMMENTS**  Withhold recommendation at Bolsing (CoOH) method.

---

**ABEQ**  NAME: Rick Gustin  **SIGNATURE:** Richard Gustin

[ ] NO TREATMENT RECOMMENDED  [X] TREATMENT SUGGESTED

**COMMENTS**  Perform work during proper tide window 0-7 minus if possible  
Remove oiled gravels, patches etc. along east side of creek.  
Survey entire beach area and remove oiled vegetation or isolated oil patches where found.  
Use Bolsing Process on boulders on west bank of stream.

---

**LAND MANAGER**  NAME: None  **SIGNATURE:** Richard Gustin

[ ] NO TREATMENT RECOMMENDED  [X] TREATMENT SUGGESTED

**COMMENTS**  In the upper intertidal where oiled.  
Till areas after removal of oiled gravels/sediments.
**SHORELINE OILING SUMMARY (ANAD)**

**OIL CALL LARSON** USCG DREXL, CWE  SEGMENT ST/KN129E  
**BIO** USCG CREWSTOW LAND REP  
**EXXON** DARE VL VOGS ADP/ER KENTON-AIMEE WEATHERMAN  
**TEAM NO.** 146  TIDE LEVEL 4+  
**DATE** 4/24/90  
**EST. SUBDIVISION LENGTH:** 30 m  
**UPLANDS DESCRIPTION:**  
- ☑ Grass  
- ☑ Rock  
**SURVEYED FROM:** ☑ Foot  
**SURFACE SEDIMENTS:**  
- R: %B 40  %C 25  %P 25  %Q 5  %S 5  %M 5  %V  
**SLOPE:**  
- Lang 50  % Hang 50  % Vert 20  %  
**WAVE EXPOSURE:**  
- ☑ Low  
**OIL CATEGORY LENGTH:**  
- W 5 m  
**SURLFACE OIL**  

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<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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<tr>
<td>TARBALLS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
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<td></td>
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<tr>
<td>NO OIL</td>
<td></td>
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</tr>
</tbody>
</table>

**PAVEMENT H F ☑ 50 sq. m by ☑ 5**  
**PATTIES / TARBALLS ☑ BY**  
**NEAR SHORE SHEEN? NO BR RW SL**  

**SURFACE OIL**

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERNAL</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANA</th>
<th>REMs</th>
<th>SURFACE SEDIMENT</th>
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<tbody>
<tr>
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<td>20</td>
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<td>2</td>
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<tr>
<td>3</td>
<td>32</td>
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<td>525</td>
<td>✓</td>
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<td>25</td>
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<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>N</td>
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</table>

**COMMENTS**  
OILED UNDER CUBICLES/Boulders on south side of Pocket Cove.
**AQPAC MULTI-ASSESSMENT DATA FORM**

1. **SURVEY TYPE:** ES 0 DE TS AVS SDA RNAI PTA  
2. **REGION:**  
3. **METHOD:** Aerial  
4. **DATE:** 1-29-90  
5. **START TIME:** 0753  
6. **STOP TIME:** 1011  
7. **SECTON #:** KV 129 E  
8. **STATION #:** 10  
9. **LAT:** 11.  
10. **LNG:**  
11. **SOURCE:** Larum  
12. **LOCATION:** South Fluv. Henry Kay  
13. **DESCRIPTION:** Orathy X  

**EXTENT OF OIL**

| SHORELINE | STREAM  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>N</td>
</tr>
</tbody>
</table>

14. **OIL TYPE:** Pooled  
15. **OILED DEBRIS:** T  
16. **SHORELINE TYPE:** Heavily Lane-pipe: Rocks, Debris, Larum  
17. **WAVE EXPOSURE:** High  
18. **SUBSTRATE TYPE:** Bedrock  

19. **CATELOG #:** N/A  
20. **OIL IN STREAM BAY:** Y  
21. **OIL ON STREAM BANK:** Y  
22. **OIL ON BEACH:** Y  
23. **OIL IN STREAM:** Y  
24. **OIL IN SHORELINE:** Y  
25. **ANOMALOUS FISH PRESENT:** Y  
26. **ANOMALOUS FISH OBSERVATION:**  

**COMMENTS:**  
Oil on sand bank of stream.  
Cratered patch of oil, grass, oiled area, primarily east  
Bank - appears mid TPA. Mixed organisms.  
Shore at water: YG 20-40' deep.
Sample taken from 3 and shoe direction.
Remove with scrapers for boulders on face of bel-rocks cliffs.

Remove oiled vegetation or other debris as found.

Remove oiled tar bands and sediments along stream edge (primarily N side of stream from upper Y to top of L,I,T,B).

Remove and/or wash with some type of rock washer; the oiled portion on the north side of creek that are heavily oiled and penetrate up to 30cm.

Remove and/or wash with rock washer; areas of tar mats and deep oil penetration on south side of stream.

Remove sediments in stream that produce sheen.

Use Bolsing Process (ca.04) on large substrate on south side of stream in upper Y to T,B.

After removal of oiled sediments till the areas skimmed as well as other oiled areas and treat with the Bolsing Process (ca.04).

Consult with city council of Whittier, and Homer regarding acceptance of oiled gravel to be composted with Bolsing Process (ca.04) and used for road repair maintenance, and construction rather than shipping to Oregon. Perhaps arrangements to haul to Whittings by landing craft or barge + shipment to Homer by truck/ train could be arranged.

This is already being done by State cleanup crews.

(Kea Miller, Linda Hyde) State Oilspill Response.

Whiting Linda Rya 442-2345

Homer Planning Dept. 235-3106
About 25 percent of the UITZ, MITZ and LITZ were oiled (cover and asphalt pavement) on this small pocket beach. Subsurface oil was found in association with asphalt pavement on the east side of the stream in the lower UITZ and upper MITZ. Some stain was observed on a log in the STZ.

I suggest that oiled surface sediments be removed by shovel. If asphalt pavement proves difficult to remove completely, till beach sediments to the depth of oil penetration and apply Inipol. Oil stain on the log may be removed by scraping the surface. Boom-off the entire area, and use nose boom on the beach to minimize contamination of the stream and to contain sheen.

K.R. Critchlow
Subject stream is located in Herring BA: West & NE

KN-129A (16F?)

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

KN-129A 300 meters

Date: March 30, 1990

Map Key: PWS-311
Name: Greg Chase/Tim Swick
ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-129 B STREAM NO: 226-10-16975  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)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Subject stream is located in Subdivision A (1 of 2).

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

SHPO SIGNATURE: [Signature] DATE: 5/8/90
Subsurface Oil Observed: Yes  X  No  Maximum Depth  8 cm

RECOMMENDATIONS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Snare/Absorbent Booms</th>
<th>Oil Snares (pom poms)</th>
<th>Absorbents (pads, rolls, etc)</th>
<th>Spot Washing</th>
<th>Wands</th>
<th>Beach Cleaner</th>
<th>Other (see comments)</th>
</tr>
</thead>
<tbody>
<tr>
<td>X Treatment Recommended</td>
<td>X Manual Pickup</td>
<td>Bioremediation</td>
<td>Tarmat Removal</td>
<td></td>
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</tr>
</tbody>
</table>

COMMENTS: Recommended treatment includes manual pickup of tar patties in area indicated on sketch map. Work should be conducted between 5/15 and 7/10 based on anadromous stream constraints.

TAG COMMENTS: Monitoring to assess suit.

TAG APPROVAL DATE: 5/7/90.
ADEC Art Weimer Art Weimer
EXXON Amy C. Reiter
NOAA Ken Petree
USCG C.A. Belize C.A. Belize

FOSC: [Signature] DATE: 5-15-90
SEGMENT ST/KN129
STREAM 2/20-0-16975
DATE 4/12/99

CHECKLIST
- N Acres
- Approx. Scale
- Seg/Pod Sealed
- Oil Blot
- Width
- Length
- % Cover
- Substrate Character
- Est. Haul/VR
- SSL
- Profile Location(s)
- Positive(s)
- Pit Location(s)
- Photo Location(s)

LEGEND
- NT - No Subsurface Oil
- AT - Subsurface Oil

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

Oiled Vegetation
- Location, direction, and number

Oil Character Length (m): AP PO CV CT ST MS PT 52 TB FL NO

SKETCH MAP
Recommended - treat after resurvey

access after snow melts & periodically check for sheening

remove scattered tar balls in grassy area by boulder & chute

Agreed

Ken Cutelbow
1991 MAYSAP EVALUATION

SEGMENT: KN 129  SUB:  B  REGION:  PWS  SURVEY DATE:  4/27/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s) OPEN 5/1 - 7/10 (EXCEPT STREAM BED); RESTRICTED 7/10 - 9/15

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

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

COMMENTS:
INITIAL:
__________________________

TAG:
__________________________

FOSC:
__________________________

TAG APPROVAL DATE: ____________ FOSC APPROVAL DATE: ____________

ADEC ______________________ FOSC ______________________

EXXON ______________________

USCG ______________________

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

TEAM NO. 6 SEGMENT 4N-129 SUBDIVISION 3 DATE 04.27.91

ADEC Representing ADEC of UCES
NAME Aimee Wiseman SIGNATURE Aimee Wiseman

☐ NTR ☐ Treatment Recommended
The Exxon 6.1 acre (3.64 hectares) on the west side of the stream should be removed and replanted to allow sub-surface water. The small patch of remaining grass at the end of the stream should also be picked up at that time (Areas E&F).

EXXON NAME Scott C. Naurow SIGNATURE Scott C. Naurow

☐ NTR Very healthy intertidal zone with essentially no remaining surface oil. Vast majority of subsurface region free of oil. Small patches of primarily sand do not warrant treatment. Extensive grass bed at the head of the stream would definitely not recommend further intrusion for surveys/treatment.

LANDMANAGER RDLG
NAME Tom Crowe OF ADEG SIGNATURE For Case

☐ NTR ☐ Treatment Recommended
Buried oil lenses adjacent to stream near the pond should be manually tilled and exposed oil sheen mopped up with sorbent materials. Exposed HSAR and CSR sediments should be picked up and or tilled. This work could easily be accomplished by a small crew in a short amount of time.

USCG/NOAA
NAME MARK Persons SIGNATURE Persons

☐ NTR Subsurface oil in gravel seam (see site 378) could represent a potential source to shore. In this area would be manually tilled to allow sub-surface water. This would increase exposure to organisms in the stream in the short term. Since no current pathway was noticed (no threading) even with extensive freshwater north, the area will be left alone to weather.

Do not recommend any activities in area! Area is open water, tidal area (see site 378). Oil sheen area was detected (no threading) even with extensive freshwater north, the area will be left alone to weather.
**MAYSAP SHORELINE OILING SUMMARY**

**TEAM NO.** 6

**OG** D. L. LITTLE

**ADEC** TOM CROWE

**EXXON** SCOTT AMMAN

**BIO** TOM SCHROEDER

**LANDMANAGER** ANNE WEIJMAN

**USCG/NOAA** TWO SPARK/REBECCA MOTT

**TIME** 17:15 to 18:30

**DATE** 04/27/91

**TIDE LEVEL** 4 ft to 10 1/2 ft

**ENERGY LEVEL** H M L

**SURVEYED FROM:** XFOOT XBOAT XHELO

**WEATHER:** SUN CLOUDS FOG RAIN SNOW

**TOTAL LENGTH SHORELINE SURVEYED:** 375 m

**NEAR SHORE SHEEN:** XBR XRB XSL XNONE

**EST. OIL CATEGORY LENGTH:** W _15_ m M _15_ m N _30_ m VL _10_ m NO _200_ m US _120_ m

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### SURFACE OIL CHARACTER

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<thead>
<tr>
<th>L</th>
<th>O</th>
<th>C</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>
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<th>TYPE</th>
<th>SLOPE</th>
<th>WIDTH</th>
<th>LENGTH</th>
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<tr>
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<td>P</td>
<td>P</td>
<td>PCB</td>
<td>H</td>
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<td>0.5</td>
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<td>Light Sor</td>
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<td>Heavy Sor</td>
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</tbody>
</table>

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

**NOTES**

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**OIL COMMENTS:**

Surficial oil is restricted to 2 main types/locations:

1. Boulder/pebble talus: where SOR/SP is found in small patches, much was picked up on eastern side.
2. Vegetable, green, areas behind rock outcrop in SE corner of site.

Subsurface oil is towards a small well-sorted berm adjacent to a pond on minor stream inflow to site. Petroleum maxmum at 18 cm in one pit, elsewhere about 10 cm over a 5X10 m patch.
<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE cm-cm</th>
<th>CLEAN BELOW cm (cm)</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
<th>SURFACE-SUBSURFACE SEDIMENTS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>15</td>
<td></td>
<td>x</td>
<td>y</td>
<td>10</td>
<td>N</td>
<td>S</td>
<td>PG</td>
</tr>
<tr>
<td>1</td>
<td>30</td>
<td></td>
<td>x</td>
<td>y</td>
<td>25</td>
<td>N</td>
<td>S</td>
<td>FGV</td>
</tr>
</tbody>
</table>

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

OG COMMENTS:
**MAYSAP BIOLOGICAL SUMMARY FORM**

**TEAM #** 6  
**DATE** 4/27/91  
**SEGMENT #** KN-129  
**TIDAL HEIGHT (Range)** +5 ft to 2 feet  
**SUBDIVISION** B  
**BIOLGIST** T.K. Schroeder  
**SEA STATE** Calm  
**WIND SPEED/DIRECTION** N.E. 10  
**PHOTOGRAPHS:** ROLL #  
**FRAME #**

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

(+) = Extensive fouling/biofouling occurring in LITZ, sandbars, shores, and small egg layers under

(c) = OR present in grass bed along small stream.

(d) = Subtidal communities below OR is very healthy

(f) = Subtidal communities are very healthy and flourishing.

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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</thead>
<tbody>
<tr>
<td>Eagles</td>
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</tr>
<tr>
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<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>
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</tbody>
</table>

**MARINE MAMMALS**

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

**LAND MAMMALS**

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

**SEGMENT:** KN 129  **SUB:** A  **REGION:** PWS  **SURVEY DATE:** 4/27/91

**ENVIRONMENTAL SENSITIVITIES:**
Work Window(s) OPEN 5/1 - 7/10 (EXCEPT STREAM BED); RESTRICTED 7/10 - 9/15

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

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

**SHPO Signature:** _________________________ **Date:** __________________

**RECOMMENDATIONS:**

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

**COMMENTS:**

**INITIAL:** ____________________________________________

**TAG:** ------------------------------------------------------

**FOSC:** ________________________________________________

**TAG APPROVAL DATE:** __________________ __

**FOSC APPROVAL DATE:** __________________ __

**ADEC**__________________________ **FOSC**__________________________

**EXXON**__________________________

**USCG**__________________________

**NOAA**__________________________
MAYSAP FIELD SHORELINE COMMENT SHEET

<table>
<thead>
<tr>
<th>TEAM NO.</th>
<th>SEGMENT</th>
<th>SUBDIVISION</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>KN-127</td>
<td>A</td>
<td>5/1/91</td>
</tr>
</tbody>
</table>

**ADEC**
Representing ADEC & USFS
NAME: Aimee Westerman
SIGNATURE: Aimee Westerman

☐ NTR & Treatment Recommended
This site contains an ephemeral creek and a commercial
stream designation. The near stream area contains wet sediments (see p. 8
- 8, 9, 10 - 16 area) which should be manually removed or tilted. Treatment
of this area should occur during the window period.
A band of AP sediments in areas C & D should be manually removed, as well
as the sediments removed through areas A & B.

**EXXON**
NAME: Scott A. Nauman
SIGNATURE: Scott A. Nauman

☐ NTR
Further intrusion and treatment not warranted at this site. Subsurface oil
is very patchy and is generally thin and mixed with peat. Surface areas C & D
are very limited in extent and consist of oil residue mixed into small tufts
of still connected grass, interspersed in a fairly steep slope boulder shoreline. The
entire area has a healthy covering of green filamentosus algae. Due to the limited
distribution difficulty in access and healthy intertidal, strongly recommend no treatment.

**LANDMANAGER**
NAME: Tom Crowe
SIGNATURE: Crowe

☐ NTR & Treatment Recommended
Considering that there appears to be a substantial cause of
buried oil on both sides of this stream, I recommend mechanical
tilting with a small JD 450 cat with rake bars as was used
on KN 550 in 1990. Also concerning the HSZ on the west end
of this cove, it should be picked up and broken up by a small
crew.

**USCG/NOAA**
NAME: CWO R. SAILER
SIGNATURE: R. Sailer

☐ NTR
Small asphalt patches in areas C & D (partially removed) can high in intertidal
should not impact biological resources. Area A low in intertidal with S26 would
be left to weather on its own. The lower intertidal is beginning to recover, but
vegetation & invertebrates have probably been impacted by previous treatment.
No further impact to the area should be avoided.
**MAYSAP SHORELINE OILING SUMMARY**

**TEAM NO.** 6  
**OG** L. LITTLE  
**ADEC** TONY CROWE  
**EXXON** CLINT KLIBANOFF  
**BIO** TOM SCHROEDER  
**LANDMANAGER** MARY INEMAN FOR ADEQ  
**USCG/NOAA** C.W. SHERER/REBECCA HOFF  

**TIME** 18:35 to 20:00  
**TIDE LEVEL** 1.5 ft. to 1.5 ft.  
**ENERGY LEVEL**  □ H □ M □ L  
**WEATHER** □ SUN □ CLOUDS □ FOG □ RAIN □ SNOW  
**TOTAL LENGTH SHORELINE SURVEYED:** 408 m  
**NEAR SHORE SHEEN:** □ BR □ RB □ SL □ NONE  

**EST. OIL CATEGORY LENGTH:** \( W = 3 \text{ m} \)
\( M = 15 \text{ m} \)
\( N = 20 \text{ m} \)
\( VL = 10 \text{ m} \)
\( V = 200 \text{ m} \)
\( US = 120 \text{ m} \)

<table>
<thead>
<tr>
<th>LOC</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT</th>
<th>SHORE SLOPE</th>
<th>AREA</th>
<th>ZONE</th>
<th>NOTES</th>
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<tr>
<td>A</td>
<td>S</td>
<td>PG L 3 10</td>
<td></td>
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<tr>
<td>B</td>
<td>S</td>
<td>B P M 2 10</td>
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<td></td>
<td></td>
<td>Light Sor</td>
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<tr>
<td>C</td>
<td>P</td>
<td>VCPG H 2 15</td>
<td></td>
<td></td>
<td></td>
<td>Partially Picked Up</td>
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<tr>
<td>D</td>
<td>P</td>
<td>VCPG H 3 3</td>
<td></td>
<td></td>
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</tbody>
</table>

**DISTRIBUTION:** C = 0-100%; B = 1-50%; P = 10-50%; S = 50-100%; T = <1%

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

**PHOTO ROLL # MAYSAP - 16 - 01**

<table>
<thead>
<tr>
<th>PIT</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN BELOW</th>
<th>HYDRO LEVEL</th>
<th>SHEEN COLOR</th>
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<td>Y 20 N</td>
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<td>X</td>
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<td>9</td>
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<td>Y 15 W</td>
<td></td>
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<td>PG</td>
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</table>

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

**OG COMMENTS:**

Four small patches of surface oil remain. (A) in an area of pebble/gravel lower on the shore, where beneath the surface clean layer is an SOR which is less than 5 cm deep. (B) SOR is also very intermixed in B/P/C area near 2 large fallen trees. (C) and (B) are for high on its shore on either side of a small stream. The vegetated fringe of a pebble/pebbles area is affected but partially picked up in the case of location (C).

Subsurface oil is most concentrated west of stream - was SOR last August (PSA). but has been probably burned overwinter. on East of Stream 3 separate patches of subsurface oil were
### MAYSAP SHORELINE OILING SUMMARY (CONT.)

**SEGMENT:** ku-129  
**TEAM NO.:** 6  
**DATE:** 04/27/91

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>DEPTH (cm)</th>
<th>OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN BELOW ZONE</th>
<th>SHEEN COLOR</th>
<th>BRSN</th>
<th>S</th>
<th>U</th>
<th>M</th>
<th>L</th>
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<tr>
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<td>30</td>
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<td>Y</td>
<td>25</td>
<td>S</td>
<td>X</td>
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<td></td>
<td></td>
<td>P.S.G.V. Trace = small</td>
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<td>11</td>
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<td>X</td>
<td>9 - 10</td>
<td>Y</td>
<td>25</td>
<td>S</td>
<td>X</td>
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<td>P.S.G.V. Pocket OK.</td>
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<tr>
<td>12</td>
<td>20</td>
<td>X</td>
<td>23 - 26</td>
<td>Y</td>
<td>20</td>
<td>R</td>
<td>X</td>
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<td>P.G.S.</td>
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<td>X</td>
<td>-</td>
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<td>N</td>
<td>X</td>
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<td></td>
<td>P.S.P.</td>
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<td>4</td>
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<td>23 - 25</td>
<td>Y</td>
<td>25</td>
<td>S</td>
<td>X</td>
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<td></td>
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<td>G.S.P.C.</td>
</tr>
</tbody>
</table>

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

### OG COMMENTS:

**cont'd**

Located. Separate because they were isolated by one or more of the following - heavy surf ace run off, large builders/breach outcrops, and/or intervening oil-free pits.

Additional, isolated pits were also dug in Area A - 1 pit, both no oil - which were not logged.

Pits 10, 11, and 14 are shown as TR because the oil residue found were in very small (< 10 cm³) pockets, either associated with vegetation lenses or cobble pockets.
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 6  DATE 4/27/91
SEGMENT # KN-129  TIDAL HEIGHT (Range) +1.5 to 2.5 ft
SUBDIVISION A  BIOLOGIST T.R. Schreder
SEA STATE Light chop  WIND SPEED/DIRECTION NE 15-20
PHOTOGRAPHS: ROLL #  FRAME #

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

(A) Lower intertidal zone regrowth of fucus, kelp, and sea
litter is good. Numerous intertidal organisms present,
especially Brittle stars and mollusk species in the rocks.
Some additional picking of aid would be encouraged to
further recruitment.

(B) Some visible damage can be done from oil, but it
does not appear to be effective regrowth and
regeneration of intertidal area.

(C) Lower intertidal zone (K172) very healthy. Fucoids
thick and dense, daily regrowth is good.

Area is a typical ecologic beach. Some manmade wires
have been observed on tides, indicating man is
presumably for oil, but it would not impact biological community
in contact with this water.

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS
# OF SPECIES  TOTAL BIRDS  FISH OBSERVED
Eagles
Seabirds
Waterfowl
Gulls/Kittiwakes
Shorebirds
Corvids
Other Birds

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

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

SEGMENT: KN 129 SUB: B REGION: PWS SURVEY DATE: 4/27/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s) OPEN 5/1 - 7/10 (EXCEPT STREAM BED); RESTRICTED 7/10 - 9/15

Ecological/Constraints (see page two for details). Anadromous stream

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

SHPO Signature: Charles E. Holmes 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>Y</td>
<td>A</td>
<td>Y</td>
</tr>
</tbody>
</table>

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

COMMENTS:

INITIAL: __________________________

TAG: Manual Till at Pit #3 and vicinity rake in Customblen. Manually rake area of sor on east bank of the stream.

FOSC: __________________________

TAG APPROVAL DATE: May 9, 1991
FOSC APPROVAL DATE: 5/18/91

ADEC

EXXON

USCG

NOAA
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

Anadromous Stream: Unlimited treatment up to stream bank between May 15 and July 10. ADF&G approval required for work after July 10. Fish Habitat Permit required for instream work. ADF&G approval required for bioremediation within 100 meters of anadromous stream after July 10.
<table>
<thead>
<tr>
<th>TEAM NO.</th>
<th>SEGMENT</th>
<th>SUBDIVISION</th>
<th>DATE</th>
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<tr>
<td>G</td>
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<td>B</td>
<td>04/27/91</td>
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<table>
<thead>
<tr>
<th>ADEC Representing ADEC &amp; USES</th>
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<tbody>
<tr>
<td>NAME</td>
</tr>
<tr>
<td>NTR ☑ Treatment recommended:</td>
</tr>
<tr>
<td>The stream is anadromous and supports salmonid. The stream should be manually removed. Areas are adjacent to the stream, slopes towards it, in an anadromous nature.</td>
</tr>
<tr>
<td>Significant shoreline damage occurred.</td>
</tr>
<tr>
<td>The small patches of scattered OF sediments on the east side of the stream should also be picked up at that time. (areas EBD)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EXXON</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAME</td>
</tr>
<tr>
<td>NTR ☑</td>
</tr>
<tr>
<td>Very healthy intertidal zone with essentially no remaining surface oil. Vast majority of subsurface region free of oil. Small patches of primarily LR/OF do not warrant treatment. Extensive grass bed at the head of the stream, would definitely not recommend further intrusion for surveys/treatment.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LANDMANAGER ADEC &amp;</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAME</td>
</tr>
<tr>
<td>NTR ☑</td>
</tr>
<tr>
<td>Buried oil could be removed and exposed oil sheen mapped up with sandblasting. Exposed OR and CO2 sediments should be picked up and or tilled. This work could be accomplished by a small crew in a short amount of time.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>USCG/NOAA</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAME</td>
</tr>
<tr>
<td>NTR ☑</td>
</tr>
<tr>
<td>Subsurface oil in gravel bank (petro #3?4) could represent a potential source to the ecosystem. Travel in this area could be manually tilled to allow subsurface weathering. However, this would increase exposure to organisms in the stream in the short term. Since no current pathway was noticed (i.e. no sheening) even with extensive freshwater runoff, this area will be left alone to weather slowly.</td>
</tr>
<tr>
<td>Do not recommend any activities in receptors. Area in upper intended. Care must be taken when activities are removed to not disturb the quiescent (mud) or sediments.</td>
</tr>
<tr>
<td>Treatment is undertaken, asphalt patches on can be picked up.</td>
</tr>
<tr>
<td>ADEC &amp;</td>
</tr>
</tbody>
</table>
**MATSAP SHORELINE OILING SUMMARY**

**TEAM NO.**: D. I. LITTLE  
**BIO**: Tom Schroeder  
**AGEC**: Tom Grove  
**LANDMANAGER**: Mike Weisman for ADF&G  
**EXXON**: Scott Nowman  
**USCG/NOAA**: 200 Spurk/Rebetta Hoff

**DATE**: 04/27/91

**TIME**: 17:15 to 18:30  
**TIDE LEVEL**: 4 ft. to 1.5 ft.  
**ENERGY LEVEL**: □ H □ M □ L

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

**TOTAL LENGTH SHORELINE SURVEYED**: 375 m  
**NEAR SHORE SHEEN**: □ BR □ RB □ SL □ NONE

**EST. OIL CATEGORY LENGTH**: W = m M = 15 m N = 30 m V = 10 m NO = 200 m US = 120 m

---

### SURFACE OIL CHARACTER

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<th>MS</th>
<th>TB</th>
<th>SOR</th>
<th>CV</th>
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<th>ST</th>
<th>FL</th>
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<th>M</th>
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### SURFACE SEDIMENT

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<tr>
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<td>M</td>
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### AREA

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### ZONE

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<tr>
<td>Heavy Sor</td>
</tr>
<tr>
<td>Picked up</td>
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<tr>
<td>Light Sor</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:

- # MAYSP-10 - 61
- FRAMES: 15-18

### PIT

<table>
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<th>OILED ZONE</th>
<th>CLEAN BELOW</th>
<th>H2O SHEEN LEVEL</th>
<th>COLOR</th>
<th>PIT ZONE</th>
<th>SURFACE-SUBSURFACE SEDIMENTS</th>
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<td>X</td>
<td>P/G</td>
<td>Fibrous vegetation</td>
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<td>25</td>
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<td>X</td>
<td>PG</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### SHEEN COLOR:

- B = Brown
- R = Rainbow
- S = Silver
- N = None

---

**OG COMMENTS:**

Surface oil is restricted to 2 main types / locations: (1) Boulders/pebble talus where SOR/AS is found in small patches. Much was picked up on eastern side.

(2) Vegetated, grassy areas behind rock outcrop in SE corner of site. Subsurface oil is restricted to a small wet-sand term adjacent to a pond on minor stream inflow to site. Penetration measured at 18 cm in one pit, elsewhere about 10 cm over a 5 x 10 m patch.

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**Revised**: M.C. 4/30/91
<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>OIL CHARACTER</th>
<th>OILED ZONE cm-cm</th>
<th>CLEAN H2O LEVEL</th>
<th>SHEEN COLOR</th>
<th>ZONE NO TR NO cm-cm</th>
<th>SURFACE- SUBSURFACE SEDIMENTS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
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<td>X</td>
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<td>-</td>
<td>Y</td>
<td>25</td>
<td>N</td>
<td>X</td>
<td>S PG V</td>
</tr>
</tbody>
</table>

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

**OG COMMENTS:**

---

**REVIASO m.c. 4/3/91**
KN-129-B 04/27/91
OG map D1 Little
1980-82

HERRING BAY

A1 SCR 0.5 x 2
A2 " " " 20%
A3 " " "

B/C Talus
Fallen Tree

Subsurface patch
5 x 10 M
OF-HOR

OF/LGR
Snow

HOR pond

ANADROMOUS STREAM

KNIGHT IS.

C/P 02

D SOR 0.1 x 10
0.5%

E AP 0.1 x 0.5: PU

F SOR(L) + x 10
-5 1/2

G SOR x 15
15 1/2

X X Bedrock

[Revised by MC 11/30/91]

Vegetation
MA:JSAP
BIOLOGICAL
ST JOE'S MRY
FORM

TEAM #: 6
SEGMENT #: KN - 129
SUBDIVISION: B
SEA STATE: Calm
PHOTOGRAPHS: ROLL #: FRAMES:

DATE: 4/27/91
TIDAL HEIGHT (Range): +5' to 2 feet
WIND SPEED/DIRECTION: NE, 10

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

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(4, 4, 4, 4) = Extensive noise due to report occurring in 817.
Small clear water rivulet and snail egg clusters under
roads, sheet deposits present on roads. Intertidal
community flourishing.

(C) = SO# present in grass and along stream.
irrigation outfall system also stream would
be very intrusive and could destabilize stream banks.

(D + E) = Intertidal community below SO# is very healthy.
Small guppies and littlerly snail egg masses
present on roads and rocks.

Intertidal communities are very healthy and flourishing
even with considerable quantities of生活方式 contamination. Though
area containing subsurface oil as showning was
occurring in streams. Some small mammals could
be deployed on (D) but subsurface oil and SO# in
grass and at (C) should be self-cleaning. Any major
work on these would be very intrusive and potentially
detrimental to endangered species than remaining oil.

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

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

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

Shoreline subdivision map showing important biological features attached.
Herring Bay

Lots of juvenile fish, beginning some barnacle growth. Plenty of sand fleas and worms under rocks.

Small limpets < 1mm and littorine snails egg clusters under rocks.

Large perennial snail egg masses under rocks. Filamentous algae on rocks and worms plentiful. Small barnacles very numerous but no sign of spat.

Subsurface 5 x 10 m

Snow

Filamentous algae very thick in pond and stream outlet.

Anad Stream

Filar

A1 50% A2 50% A3 50%

Fallen trees

Small purple and violet species of algae on rocks and sand.

Filamentous algae on rock and in pool.
1991 MAYSAP EVALUATION


ENVIRONMENTAL SENSITIVITIES:
Work Window(s) OPEN 5/1 - 7/10 (EXCEPT STREAM BED): RESTRICTED
7/10 - 9/15

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

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

SHPO Signature:  Date: 5/9/91

RECOMMENDATIONS:

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

COMMENTS:
INITIAL: ________________________________________________________

TAG:  MANUAL RAKE/TILL TO THE DEPTH OF THE OIL IN AREAS INDICATED BY PITS 4, 5, 6, 8, 10, 12, (BOTH SIDES OF THE STREAM). RAKE IN CUSTOMBLEN.

FO SC: ________________________________________________________

TAG APPROVAL DATE:  MAY 9 1991  FO SC APPROVAL DATE: 5/13/91

ADE C  E. E. PAGE, CDR, USCG  FO SC  CHIEF OF STAFF, FO SC

EXXON  NOAA

USCG
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

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

ADEC Representing ADEC + USFS
NAME: Aimee Westman AFS4 SIGNATURE: Aimee Westman

☐ NTR Treatment Recommended
This site contains an Anaerobic fish stream & has a commercial
tourism designation. The near stream area contains HSR sediments (see p. 4, 5, 6, 7, 10, 11)
which should be manually removed. Treatment of
this area should occur during the window period.
A band of AP sediments in areas C&D, E, F, G, H, T, Z should be manually removed, as well
as the AP sediments scattered through areas A, J, B.

EXXON
NAME: Scott A Newman SIGNATURE: Scott A. Newman

☐ NTR
Further intrusion and treatment not warranted at this site. Subsurface oil
is very patchy and is generally thin and mixed with peat. Surface areas C&D
are very limited in extent and consist of oil residue matted into small tufts
of still-connected grass, interspersed in a fairly steep slope boulder shoreline. The
entire area has a healthy covering of green filamentous algae. Due to the limited
distribution, difficulty in access and healthy intertidal, strongly recommend no treatment.

LANDMANAGER
NAME: Tim Crowe OF ADF+G SIGNATURE: 

☐ NTR ☐ TREATMENT RECOMMENDED
Considering that there appears to be a substantial cause of
buried oil on both sides of this stream, I recommend mechanical
tunnels with a small 50 450 Cat with Baker bars as was used
on Kn 550 in 1990. Also concerning the HSR on the west end
of this oce, it should be picked up and broken up by a small
crew.

USCG/NOAA
NAME: CWO R. SPAHR/Rebecca HFF SIGNATURE: 

☐ NTR
Small asphalt patches in areas C&D (partially removed) are high in intentional
& should not impact biological resources. Area A, low in intentional with S & E should
be left to weather on its own. The lower intentional is beginning to recover, but
vegetation & intertidal have probably been impacted by previous treatment & oil. Further
proped impacts to the area should be avoided.
**OG COMMENTS:**

Four small patches of surface oil remain: (a) in an area of pebble/gravel low on the shore, where beneath the surface is a layer of sand which is less than 5 cm deep. (b) This area is also very intertidal in B/P/C area near 2 large fallen trees. (c) and (d) are at high on the shore on either side of a small stream. The vegetation fringe of a cobble/gravel area is affected but partially picked up in the case of location (c).

Subsurface oil is most concentrated near a stream - was SOR last August (ASAP), but has been probably buried overwinter. On East of stream 3 separate patches of subsurface oil were

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**Surface Oil Character**

<table>
<thead>
<tr>
<th>LOC</th>
<th>AP</th>
<th>MS</th>
<th>TB</th>
<th>SOR</th>
<th>CV</th>
<th>CT</th>
<th>ST</th>
<th>FL</th>
<th>DB</th>
<th>NO</th>
<th>Surface Sediment</th>
<th>Shore Slope</th>
<th>Width</th>
<th>Area</th>
<th>Zone</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td>S</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>PG</td>
<td>L</td>
<td>3</td>
<td>10</td>
<td>X</td>
</tr>
<tr>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td>P</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>BG</td>
<td>M</td>
<td>2</td>
<td>10</td>
<td>X</td>
</tr>
<tr>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td>P</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>VC PG</td>
<td>H</td>
<td>2</td>
<td>15</td>
<td>X</td>
</tr>
<tr>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td>P</td>
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<td></td>
<td></td>
<td></td>
<td>VC PG</td>
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<td>3</td>
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**Surface Sediment**

<table>
<thead>
<tr>
<th>Type</th>
<th>VHML</th>
<th>m</th>
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<tr>
<td>PG</td>
<td>L</td>
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<td>10</td>
</tr>
<tr>
<td>BG</td>
<td>M</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>VC PG</td>
<td>H</td>
<td>2</td>
<td>15</td>
</tr>
<tr>
<td>VC PG</td>
<td>H</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

**Notes:**
- Light Sor
- Partially picked up

**Distribution:**
- C = 91-100%
- B = 81-90%
- P = 51-60%
- S = 1-10%
- T = 0%

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

**Photo Roll:** MAYSAP-6

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**Pit No.**

<table>
<thead>
<tr>
<th>Pit No</th>
<th>Depth</th>
<th>Subsurface Oil Character</th>
<th>Oiled Zone</th>
<th>Clean Below</th>
<th>H20 Level</th>
<th>Sheen Color</th>
<th>Pit Zone</th>
<th>Surface Subsurface SEDIMENTS</th>
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<tbody>
<tr>
<td>1</td>
<td>20</td>
<td>X</td>
<td>Y</td>
<td>N</td>
<td>15</td>
<td>X</td>
<td>PG</td>
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<tr>
<td>2</td>
<td>25</td>
<td>X</td>
<td>Y</td>
<td>N</td>
<td>20</td>
<td>X</td>
<td>PG</td>
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</tr>
<tr>
<td>3</td>
<td>20</td>
<td>X</td>
<td>Y</td>
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<td>PC C</td>
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<td>PG</td>
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<td>9</td>
<td>20</td>
<td>X</td>
<td>Y</td>
<td>N</td>
<td>15</td>
<td>X</td>
<td>PG</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
- Light Sor
- Partially picked up

**Sheen Color:**
- B = Brown
- R = Rainbow
- S = Silver
- N = None
### MAYSAP SHORELINE OILING SUMMARY (cont.)

**TEAM NO. 6**

**SEGMENT** KVN-129

**DATE** 04/27/91

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>DEPTH (cm)</th>
<th>OILED ZONE</th>
<th>CLEAN BELOW (cm)</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
<th>SUBSURFACE-SEDIMENTS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>30</td>
<td>X</td>
<td>9-10</td>
<td>Y 25 S</td>
<td>X</td>
<td>PSCV</td>
<td>Trace = Small</td>
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<tr>
<td>11</td>
<td>30</td>
<td>X</td>
<td>9-10</td>
<td>Y 25 S</td>
<td>X</td>
<td>PSKV</td>
<td>S pocket of OR.</td>
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<tr>
<td>12</td>
<td>20</td>
<td>X</td>
<td>23-26</td>
<td>Y 20 R</td>
<td>X</td>
<td>PGS</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>35</td>
<td>X</td>
<td>-</td>
<td>Y 20 N</td>
<td>X</td>
<td>PS P</td>
<td></td>
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<td>14</td>
<td>30</td>
<td>X</td>
<td>23-26</td>
<td>Y 25 S</td>
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<td>GPSC</td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**
- Oil Comments: 
  - B = Brown; R = Rainbow; S = Silver; N = None

**OG COMMENTS:**

cont’d

Located: Separate because they were isolated by one or more of the following: heavy saltwater runoff, large boulders/bedrock outcrops, and/or intervening oil-free pits. Additional, unlogged pits were also dug in Area A - 2 pits, both no oil - which were not logged.

Pits 10, 11, and 14 are shown as TR because the (fr)oil residues found were in very small (<10 cm³) pockets, either associated with vegetation leaves or cobble pockets.
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 6  DATE 4/27/91
SEGMENT # KN-129  TIDAL HEIGHT (Range) +1½ to 2½ feet
SUBDIVISION A  BIOLOGIST T.R. Schroeder
SEA STATE Light chop  WIND SPEED/DIRECTION NE 15-20
PHOTOGRAPHS: ROLL #  FRAME #

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

(A) Lower estuarine zone, regrowth of beach grass and some
7% 2 flush is good. Numerous intertidal organisms present
able. Beach has many shells and mud flat turtles under rocks.
Any additional pickup of oil would be accutely-preditory
to near recruitment.

(B) Some sleeping oiled areas 3 feet from SH 10 but it
seems to be effecting regrowth and
regeneration of affected area.

(C + D) Lower intertidal zone (2 1/2) very healthy. No oiled
thick and few self regrowth is good.

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

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</tbody>
</table>

Shoreline subdivision map showing important biological features attached.
Sea lettuce and fucus kelp regrowth good in LITZ. Mussel regrowth and snails on rocks. Small mussels and snails on egg masses under many small rocks in LITZ. Barnacles present but not much spat.

Good fucus kelp regrowth. Filamentous algae cover on rocks mid to lower intertidal zone. Barnacle growth heavy on rocks and abundant 1st life snails on barnacle rocks.
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT KN-129 SUBDIVISION B (2 of 2)

WORK WINDOW

<table>
<thead>
<tr>
<th>Manual Pickup</th>
<th>OPEN</th>
</tr>
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<tbody>
<tr>
<td>Bioremediation and Manual Raking Less Than 100m From Stream</td>
<td>WORK PRIOR TO 7/10 (ADF&amp;G MONITOR REQ.)</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 (226-10-16975) is in Subdivision B. This subdivision is closed to bioremediation and manual raking less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation and manual raking are permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation and manual raking more than 100m from stream. No constraint to manual pickup.

OTHER ECOLOGICAL CONSIDERATIONS
No disturbance to stream bed or banks. No flushing of pollutants or sediments into stream drainage; do not allow lnipol to enter stream flow. On-site examination and consultation by ADF&G monitor is required prior to bioremediation in order to authorize a setback distance from the stream during chemical application; if ADF&G monitor's presence is impossible, authorization may be given by the ADEC monitor. Avoid any unnecessary disturbance or damage to unooled biota and substrate.

SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM (STREAM NO. 226-10-16975) FOR ADDITIONAL CONSTRAINT INFORMATION
KN-130

KN-127

KN-128

TREATMENT AREA

ANADROMOUS STREAM
(226.10 - 16975)
100m ZONE

UNCATALOGED ANADROMOUS STREAM
100m ZONE

ECOLOGY MAP
SEGMENT KN-129
SUBDIVISION B (2...of 3)

EXXON Company, USA
Map Key: KN1-KN-129
May 11, 1990

1 inch = 1157 feet

ST Seabird Colony

A Eagle Nest
SEGMENT KT-129 SUNDIVISION B (2 OF 2) DATE 3/30/90

SEGMENT ENVIRONMENTAL SENSITIVIES AND TIME CONSTRAINTS:
Salmon stream mouth (ADF&G catalogue Rev. 2190, #226-10-16975) - fry outmigration (1A) 3/1 to 5/15 and spawning (1B) 7/10 to 8/31.

SUNDIVISION ECOLOGICAL CONSTRAINTS:
(1A,1B) No disturbance of stream bed or banks unless authorized by ADF&G. Contact ADF&G Habitat Division prior to treatment for - nits.

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

SHPO SIGNATURE: DATE: 4/13/90

OILING CATEGORIZATION:
Wide 0 __ m: Medium 0 ___ m: Narrow 49 ___ m: V. Light 346 ___ m: No Oil 0 ___ m
Subsurface Oil Observed: Yes X No ___ Maximum Depth 15 cm

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

COMMENTS:
MANUAL PICKUP OF OILED DEBRIS AND TRASH: MANUAL RAKING IN AREA OF PIT 1 PRIOR TO BIOREMISSION (SEE SKETCH)

TAG COMMENTS: SEE REVISION 1, ADDENDUM DATE 6/4/90

TAG APPROVAL DATE: 4/18/90
ADEC Art Werner
EXXON Andy G.
NOAA Bud Wetherill
USCG G.A. Feiter

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT KN-129 SUBDIVISION A (1 of 2)

WORK WINDOW

<table>
<thead>
<tr>
<th>Tarmat Removal</th>
<th>OPEN</th>
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<tbody>
<tr>
<td>Bioremediation and Manual Tilling</td>
<td>WORK PRIOR TO 7/10 (ADF&amp;G MONITOR REQ.)</td>
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</table>

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A, 1B Salmon Stream

An uncatalogued stream is in Subdivision A. This subdivision is closed to bioremediation and manual tilling less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation and manual tilling are permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation and manual tilling more than 100m from stream. No constraint to tarmat removal.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or banks. No flushing of pollutants or sediments into stream drainage; do not allow Inpil to enter stream flow. On-site examination and consultation by ADF&G monitor is required prior to bioremediation in order to authorize a setback distance from the stream during chemical application; if ADF&G monitor's presence is impossible, authorization may be given by the ADEC monitor. Avoid any unnecessary disturbance or damage to unoined Fucus and barnacles in lower and mid-intertidal zones.

SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM (UNCATALOGUED STREAM) FOR ADDITIONAL CONSTRAINT INFORMATION

TAG APPROVAL DATE: 6/14/90
ADEC: Ray Mathews
EXXON: Rick Fosco
NOAA: Joseph Pallares
USCG: Wally Lewis

Prepared by Andrea Meyer Date 6/14/90
KN-130

KN-127

KN-128

KN-129

ANADROMOUS STREAM
(226.10 - 16975)
100m ZONE

UNCATAGORIZED ANADROMOUS STREAM
100m ZONE

WORK AREA

ECOLOGY MAP
SEGMENT KN-129

SUBDIVISION A_ (J_ of 3_)

METERS

0 307 603

1 inch = 1137 feet

Seabird Colony

Eagle Nest
SHORELINE EVALUATION

SEGMENT ST/ KN-129 SUBDIVISION A (1 OF 2) DATE 3/30/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Salmon stream mouth (ADF&G catalogue Rev. 2190, 4226-10-16679) - fry
outmigration (1A) 3/1 to 5/15 and spawning (1B) 7/10 to 8/31.

SUBDIVISION ECOCLOGICAL CONSTRAINTS:
(1A,1B) No disturbance of stream bed or banks unless authorized by ADF&G.
Contact ADF&G Habitat Division prior to treatment for permits. Restrict
disturbance of unoiled fucus and barnacles in L and M ITZ.

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: 4/18/90

OILING CATEGORIZATION:
Wide 0 m: Medium 34 m: Narrow 78 m: V.Light 296 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 25 cm

RECOMMENDATIONS:
____ No Treatment Recommended ______Snare/Absorbent Booms
X Treatment Recommended ______Oil Snare (pom poms)
____ Manual Pickup ______Absorbents (pads, rolls, etc)
X Bio remediation ______Spot Washing: ______Wands
X Tarmat: ____ Breakup _______Beach Cleaner
____ Removal _______ Other (see comments)

COMMENTS: Recommend manual removal of tarmats as shown on attached
sketch map. Work should be conducted between 5/15 and 7/10 based on
above constraints.

MANUAL TILL IN AREA OF ANAEROBIC CONDITION (PIT #7) PRIOR TO BIOREMEDIATION
WHERE APPLICABLE AS INDICATED ON SKETCH.

TAG COMMENTS: See Addendum Dated 5/20/90
                    Rec.
                    See Revision 1, Addendum Dated 6/4/90

TAG APPROVAL DATE: 4/18/90
ADEC [Signature] DATE: 4/18/90
EXXON [Signature] DATE: 4/18/90
NOAA [Signature] DATE: 4/18/90
USCG [Signature] DATE: 4/18/90
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT KN-129 SUBDIVISION B (2 of 2)

<table>
<thead>
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<tr>
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<td>Bioremediation</td>
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<td>Manual Raking</td>
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ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream Mouth

NO CONSTRAINT. ADF&G catalogued stream 226-10-16975 is in Subdivision A and more than 100m from work area.

OTHER ECOLOGICAL CONSIDERATIONS

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

TAG ADDENDUM DATE 5/16/90
ADEC  FOSC
EXXON  DATE 5/17/90
NOAA
USCG

Prepared by:  Date: 5/14/90
SEGMENT ENGINEERING SENSITIVITIES AND TIME CONSTRAINTS:
Salmon stream mouth (ADF&G catalogue Rev. 2190, #226-10-16975) - fry outmigration (1A) 3/1 to 5/15 and spawning (1B) 7/10 to 8/31.

SEGMENT ECOLOGICAL CONSTRAINTS:
(1A,1B) No disturbance of stream bed or banks unless authorized by ADF&G. Contact ADF&G Habitat Division prior to treatment for permits.

ARCHAEOLOGICAL CONSTRAINTS: If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a required prior 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 0 m: Narrow 49 m: V. Light 346 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 15 cm

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

COMMENTS:
MANUAL PICKUP OF OILY DEBRIS AND TRASH. MANUAL RAKING IN AREA OF PIT 1 PRIOR TO BIOREMEDIATION (SEE SKETCH)

TAG COMMENTS:

TAG APPROVAL DATE: 4/18/90
ADEC: ___________ DATE: 4-20-90
EXXON: ___________ FOSC: ___________ DATE: 4-20-90
NOAA: ___________ USCG: ___________
SEGMENT ST/KN-129  SUBDIVISION B (2 OF 2)  DATE 3/30/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Salmon stream mouth (ADF&G catalogue Rev. 2190, #226-10-16975) - fry outmigration (1A) 3/1 to 5/15 and spawning (1B) 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
(1A,1B) No disturbance of stream bed or banks unless authorized by ADF&G. Contact ADF&G Habitat Division prior to treatment for permits.

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

SHPO SIGNATURE:  

DATE: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 49 m: V.Light 346 m: No Oil 0 m
Subsurface Oil Observed: Yes X  No____ Maximum Depth 15 cm

RECOMMENDATIONS:

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

COMMENTS:

MANUAL PICKUP OF OILED DEBRIS AND TRASH. MANUAL RAKING IN AREA OF PIT PRIOR TO BIOREMEDIATION (SEE SKETCH)

TAG COMMENTS:

TAG APPROVAL DATE: 4/18/90.
ADEC  ART WILSON  ART WILSON  FOSC: __________ DATE: 4-27-90
EXXON  ARTHUR TAYLOR  ARTHUR TAYLOR
NOAA  RUDOLPH  QUALIENGEL
USCG  G.A. STEPHEN  G.A. STEPHEN

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of
CHECKLIST

- N Arrow
- Approx. Scale
- Site/Substudy
- Oil Site
- Width
- Length
- % Cover
- Substrate Character
- E.d. or Haul
- SSL
- Profile Location(s)
- Profile
- Pit Location(s)
- Photo Location(s)

LEGEND

1 △
   Pt - No Subsurface Oil

2 △
   Pt - Subsurface Oil

Continuous Distribution

Broken Distribution

Patchy Distribution

Splashed Distribution

Oiled Vegetation

Photo location, direction, and number

30 METERS

Sporatic Oil
Film & Subsurface Oil
In Grass (Shaded Area) 15 x 15 meters

Oil Character Length (m): AP—PO—CV—CGO ST—MS—PT/8O TB—FL/15 NO.
SHORELINE EVALUATION

SEGMENT ST/KN-129 SUBDIVISION A (1 OF 2) DATE 3/30/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Salmon stream mouth (ADF&G catalogue Rev. 2190, #226-10-16975) - fry outmigration (1A) 3/1 to 5/15 and spawning (1B) 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
(1A,1B) No disturbance of stream bed or banks unless authorized by ADF&G. Contact ADF&G Habitat Division prior to treatment for permits. Restrict disturbance of unoined fucus and barnacles in L and M ITZ.

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: 4/18/90

OILING CATEGORIZATION:

Wide 0 m: Medium 34 m: Narrow 78 m: V.Light 296 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 25 cm

RECOMMENDATIONS:

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

COMMENTS: Recommend manual removal of tarmats as shown on attached sketch map. Work should be conducted between 5/15 and 7/10 based on above constraints.

MANUAL TILL IN AREA OF ANAEROBIC CONDITION (PIT #7) PRIOR TO BIOREMEDIATION

TAG COMMENTS:

TAG APPROVAL DATE: 4/18/90
ADEC ART WEINER DATE: 4-22-90
EXXON ART WEINER
NOAA BUW WEINER
USCG C.A. HOFFER
Sub surface oiling not continuous. Pits excavated primarily where surficial oil observed.
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-129

SUBDIVISIONS: A (1 OF 2)
SHORELINE EVALUATION

SEGMENT ST/KN-129 SUBDIVISION A (1 OF 2) DATE 3/30/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Salmon stream mouth (ADF&G catalogue Rev. 2190, #226-10-16975) - fry outmigration (1A) 3/1 to 5/15 and spawning (1B) 7/10 to 8/31.

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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 34 m: Narrow 78 m: V.Light 296 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 25 cm

RECOMMENDATIONS:

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

COMMENTS: Recommend manual removal of tarmats as shown on attached sketch map. Work should be conducted between 5/15 and 7/10 based on above constraints.

TAG COMMENTS:

TAG APPROVAL DATE: __________
ADEC ______________________________
EXXON ______________________________
NOAA ______________________________
USCG ______________________________
FIELD SHORELINE COMMENT SHEET

EMENT ST / KN 129 SUBDIVISION: A (192) DATE 3-30-90

USCG
NAME: PST May / PS Ed White SIGNATURE: PST May / Ed White

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS
Broken pavement in U.I. zone. To remove manually. Boulders
in U.I. zone joined to expose coated area. Residual oil in subsurface U.I. zone
to 30 cm. End Silver & Rainbow sheen on both ends of the subdivision(25m²) at the
waterline. Sensitive stream runs through the middle of the subdivision.
Would not recommend bioremediation.

ADEC
NAME: Cunningham/Munson SIGNATURE: Cunningham / D. Munson

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS
On boulders at high to expose oil coating, use a beach crew to
beam and flush. From mid to high high where subsurface oil was
served at 15-20 cm use mechanical dredging/cleaning of native
alve materials with redeposition of the same materials on
site. Physical removal of asphalt/pavement. Use a type of
rent boom to collect mobile sheen which is leaking out at
aters edge. Note: possible anadromous stream.
how energy environment.

LAND MANAGER
NAME: Phillips (one)/Maurelahues SIGNATURE:tob Phillips / Dave Management

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS
Turn over boulders, scoop up asphalt
Disturb moderate oil layers
May need absorbent boom along creeks (sansorb)
Pick up debris especially pom-pom strands
Bioremediation around boulders
Sensitive stream SI 16.32 in A or B?
SHORELINE OILING SUMMARY

OG: Cheney / Sawyer  USCG M  / W  / White
BIO: Roth / Benson  LAND: Rep Phillips / Mandrel  SEGMENT: ST/ KN 129
EXXON: Sotelo / Katsimalis  ADEC: Cunningham / Nason
TEAM NO.: 7 and 8  TIDE LEVEL: -0.5 ft to 5.0 ft
DATE: March 30, 1990
EST. SUBDIVISION LENGTH: 300 m

UPLANDS DESCRIPTION:
- Grass
- Forest
- Rock
- Snow

SURVEYED FROM:
- On Foot
- On Boat
- On Helo

SURFACE SEDIMENTS:
- A - 10%
- B - 40%
- C - 10%
- D - 30%
- G - 10%
- S - 5%
- M - 30%
- V - 10%

SLOPE:
- Lang: 90%
- Hang: 10%
- Vert: 10%

WAVE EXPOSURE:
- Low
- Med
- High

OIL CATEGORY LENGTH:
- W = m
- M = 16 m
- L = 9 m
- N = 5 m
- VL = 70 m

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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PAVEMENT: H F

NEAR SHORE SHEEN? NO

SUBSURFACE OIL

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<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
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COMMENTS
ST/KN129A: low angle boulder and pebble beach bordered by high angle bedrock cliffs. Broken pavement in upper tidal zone appears to be erosional remnants of formerly more extensive pavement. Snow covering supratidal zone. Sub-surface oiling not continuous. At's excavated where surficial oil observed. Sporadic oil coats bottom of boulders in upper intertidal zone. Oil intervals of 0-5 cm in Pits 2, 3, 4 do not constitute a flow.
# Subsurface Oil (Continued)

<table>
<thead>
<tr>
<th>Pit No.</th>
<th>Pit Depth (cm)</th>
<th>Subsurface Oil Character</th>
<th>Oiled Interval</th>
<th>Below</th>
<th>Oil / Film Color</th>
<th>Pit Zone</th>
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<th>Subsurface Sediments</th>
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## Comments

REVIEWS: MH [Date: 4-2-10]
SHORELINE ECOLOGICAL SUMMARY

Segment ST/ KNO129 Subdivision A Date (mo/day/yr) 3/30/90

Time (24 hr) 10:50 Biologist Benson/Roth

(A) Substrate type and % of segments:
(1) Bedrock 10 (2) Boulder 40 (3) Cobble 10 (4) Pebble 30 (5) Sand 10 (6) Silt 0

(B) Overall % cover of biota (% of segment): Dense 10 Moderate 30 Low 60

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

BARNACLES

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<th>Moderate</th>
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MYTILUS

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GASTROPODS

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FUCUS

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Wildlife Observations/ General Comments:
1) 3 Killer Whales (Orcinus Orca) in mid-Herring Bay (2 large, 1 small)
2) Adult Sea Otter (Enhydra lutra) between ship (Yukon River) and

Logical Considerations:
Sensitivities: 1B (Salmon spawning)
Subsurface Oil
Not Continuous.
Pits excavated primarily where surficial oil observed

Profile

25 meters

Tractor Length (m): AP 16 PO - CV - CT 25 ST - MS - PT 5 TB - FL 40 NO 214

Profile observed approximately every 25 meters along subsegment. Total continuous swaths observed is 5m.
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-129

SUBDIVISIONS: B (2 OF 2)
SHORELINE EVALUATION

SEGMENT ST/ KN-129 SUBDIVISION B (2 OF 2) DATE 3/30/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Salmon stream mouth (ADF&G catalogue Rev. 2190, #226-10-16975) - fry outmigration (1A) 3/1 to 5/15 and spawning (1B) 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
(1A,1B) No disturbance of stream bed or banks unless authorized by ADF&G. Contact ADF&G Habitat Division prior to treatment for permits.

ARCHAEOLOGICAL CONSTRAINTS:
If 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 49 m: V.Light 346 m: No Oil 0 m
Subsurface Oil Observed: Yes ✗ No ___ Maximum Depth 15 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: ☒ Breakup ☒ Beach Cleaner
☒ Removal ☒ Other (see comments)

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE:______________
ADEC ____________________________ FOSC:______________ DATE:_________
EXXON ____________________________
NOAA ____________________________
USCG ____________________________

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of
FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN 125  SUBDIVISION: B  DATE 3-30-90

USCG
NAME: Cpl. Andy White  SIGNATURE: Andy White

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS:
Spradlic oil coating on bottom of boulder in U.I. zone. Grass in the upper intertidal should be monitored for recovery this summer. If it doesn't recover top layer should be removed. A stream runs through the middle of the subdivision. Small amount of trash and debris (pumpons). Suggest boulders in the upper intertidal be turned.

ADEC
NAME: Dianne Munson  SIGNATURE: Dianne Munson

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS:
Turn boulders at h.i.t.a. to expose oil coating, use a beach crew to steam and flush. Where oil was observed at 0-15 cm use mechanical dredging/cleaning of native beach materials with redeposition of the same materials on the site. At h.i.t.a. where oil was observed under grass mat to 5 cm, remove manually. Pick-up debris.

Note: Snow at supra tidal (unobserved)

Anadromous Stream

LAND MANAGER
NAME: Mandrell Phillips  SIGNATURE: Mandrell Phillips

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS:
Sensitive Stream # 16932
UI behind large rock: monitor for grass recovery (June)
Turn over boulders (UI)
May need absorbent boom along creek
If grass doesn't recover, pick up top 5 cm.
Pick up debris esp. pom-pom strands.
**SHORELINE OILING SUMMARY**

**TEAM NO.:** 1 2 3 4

**DATE:** March 30 1990

**EST. SUBDIVISION LENGTH:** 232 m

**TIDE LEVEL:** 5 to 7

**SLOPE:** Long 90 %, Hang 10 %, Vert 10 %

**WAVE EXPOSURE:** Low Med High

**OIL CATEGORY LENGTH:** W ~ m M ~ m N ~ m

### SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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**PAVEMENT:**
- H = S ~ sq. m by ~ cm
- FATTIES / TARBALLS ~ 1 BAGS

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

**OILED SHORE SHEEN?**
- Log
- Vegetation
- Trash
- Debris

**OILED DEBRIS AMOUNT**
- SM / MD / LG

**DEBRIS COLLECTED**
- YES
- NO

**TYPE:**
- Debris

**Photographs:**
- Roll No.: St ~ 3 ~ 1
- Frames: 4, 5

### SUBSURFACE OIL

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**COMMENTS:**
- St KN1298: Sporadic oil coats bottom of boulders in upper intertidal.
- Snow covers supratidal zone. Possible debris and trash within storm surge line.
- Oiled interval from 0 ~ 5 cm in Pit 4 does not constitute subsurface oil. 4 ~ 5

**REVIEWED:**
- LTH

**DATE:** 4 ~ 2 ~ 90

**PAGE:** 1 of 5
**SHORELINE ECOLOGICAL SUMMARY**

Segment ST/ KND 29, Subdivision: B

Date (mo/day/yr): 3/30/90

Time (24 hr): 1300, Biologist: Roth/Benson

(A) Substrate type and % of segments:

(B) Overall % cover of biota (% of segment): Dense 0, Moderate 30, Low 70

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

Photographs: Roll No. ST-B-2
Frames: 4, 5

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Wildlife Observations/ General Comments:

We did not observe the low intertidal zone in this Subdivision.

Ecological Considerations:

Sensitivities: 1B (Salmon spawning)
LEGEND

Pit - No Subsurface Oil

2 ▲ Pit - Subsurface Oil

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

Oiled Vegetation

Photo location, direction, and number
Sub segment length 232

XXX Wide  KN-129B
/// Medium
---- Narrow  ADEC Segment Length: 802m
TTTT Very Light  Exxon Segment Length: 532
0000 No Oil

Map Key: PWS-311
Name: Chaney/Sawyer
Date: 3-30-90
Data Entered:
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT KN-129 SUBDIVISION A (1 of 2)

WORK WINDOW

<table>
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<tr>
<th>Tarmac Removal</th>
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<tr>
<td>Bioremediation less than 100m from stream</td>
<td>PERMIT REQUIRED</td>
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<tr>
<td>Manual Tilling less than 100m from stream</td>
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ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon stream Uncatalogued anadromous stream. No constraint to tarmac removal. Subdivision is closed to bioremediation and manual tilling more than 100m from stream without ADF&G authorization.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance of stream bed or banks. No flushing of pollutants or sediments into stream drainage. Avoid any unnecessary disturbance or damage to unconsolidated substrate and biota.

Prepared by: Andrea Meyer Date: 5/20/90
ECOLOGY MAP
SEGMENT KN-129

EXxon Company, USA
Map Key: KNI-KN-129
M. = 1000

STAR: Seabird Colony
Δ: Eagle Nest

1 inch = 1137 feet
SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Salmon stream mouth (ADF&G catalogue Rev. 2190, #226-10-16975) - fry outmigration (1A) 3/1 to 5/15 and spawning (1B) 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
(1A,1B) No disturbance of stream bed or banks unless authorized by ADF&G. Contact ADF&G Habitat Division prior to treatment for permits. Restrict disturbance of unoilod fucus and barnacles in L and M ITZ.

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).

RECOMMENDATIONS:
- No Treatment Recommended
- Treatment Recommended
- Manual Pickup
- Bioremediation
- Tarmat: Breakup
- Removal

COMMENTS: Recommend manual removal of tarmats as shown on attached sketch map. Work should be conducted between 5/15 and 7/10 based on above constraints.

TAG COMMENTS:
See addendum dated 5/20/90.
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-130

SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION

SEGMENT ST/ KN-130 SUBDIVISION A (1 OF 1) DATE 4/23/90

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

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 956 m: V.Light 215 m: No Oil 0 m
Subsurface Oil Observed: Yes No X Maximum Depth

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

OTHER (see comments)

COMMENTS:

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

TAG COMMENTS:

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

TAG APPROVAL DATE: ________________
ADEC EXXON NOAA USCG

FOSC: ________________ DATE: ________________
FIELD SHORELINE COMMENT SHEET

SEGMENT ST1 KN 1.30 SUBDIVISION: A DATE 4-23-90

USCG
NAME RM3 David A. Syphsater SIGNATURE RM3 David A. Syphsater

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

There was a light sheen in the lower to subtidal zone. The tips on 3 logs were splattered with oil however it was less than 10% of the log. Removal of the tips of those logs could create a safety hazard due to the fact they support the other end of the log. This area should be reassessed at a later date.

ADEC
NAME Diane Munson SIGNATURE Diane Munson

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

- Primarily high angle boulder beach with bedrock cliff behind.
- Surface at high tides has sparsely, sporadic, patchy coats.
- Low tide area is actively sheening although no subsurface oil was detected in pits. Wading with slight agitation produces brown/rainbow sheen.
- Oiled trees and logs, 50% oiled.
- Recommend removal of oiled trees/logs and passive collection with sorbents where active sheening is taking place for interim protection of possible sensitive resources.

LAND MANAGER
NAME David Mandrella SIGNATURE David Mandrella

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

- Primarily low to high angle boulder cobble beach with 1-2 meter bare of patchy coats in upper intertidal zones.
- Remove oiled portions of logs and branches.
- No subsurface oil was noted in pits 8,9,10 however disturbance of substrates in shallow water produced a brown/rainbow sheen.
- This portion of segment could be rechecked at time of cleanup operations to determine whether further treatment techniques are necessary.
**SHORELINE OILING SUMMARY**

**SURFACE OIL**

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<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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**SUBSURFACE OIL**

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**COMMENTS**

**REVIEWED** 4/24/90
### Subsurface Oil (Continued)

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**Comments**

Reviewed: [Signature] 4/24/90
SHORELINE ECOLOGICAL SUMMARY

Segment ST / KN130 Subdivision A

Date (mo/day/yr): 4/23/90

Time (24 hr): 06:30-09:00 Biologist: Benson

(A) Substrate type and % of segments:
   (1) Bedrock 30% (2) Boulder 40% (3) Cobble 25% (4) Pebble 5% (5) Sand 0% (6) Silt 0%

(B) Overall % cover of biota (% of segment): Dense 40% Moderate 40% Low 20%

(C) Density, substrate preference (by number from A, above): &
   vertical zonation of major taxa: (upper-U; mid-M; low tidal-L; juveniles/adults (X); new settlement (O)) Photographs:
   Roll No. ST-8-4
   Frames: 15

BARNACLES

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Wildlife Observations/ General Comments:
mature bald eagle (Haliaeetus leucocephalus) flying over bay

Ecological Considerations: None

The number of species is moderately high. This is surprisingly high compared to nearby segments and considering the paucity of tidepools. Heterogeneity of substrate and crevice sizes may promote species diversity here. The standing stock of algae (primarily Fucus and filamentous green algae) is very high on the southern third of this segment and seems to be correlated with increased shade cast by surrounding hills.
SHORELINE EVALUATION

SEGMENT ST/ KN-130 SUBDIVISION A (1 OF 1) DATE 4/23/90

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

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

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

SHPO SIGNATURE: DATE: 5/3/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 956 m: V.Light 215 m: No Oil 0 m
Subsurface Oil Observed: Yes No X Maximum Depth

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

COMMENTS:

TAG COMMENTS: MONITOR TO ASSESS AREA CHECK SHEERING AND NEED FOR TARMAT Pickup

TAG APPROVAL DATE: 5/3/90
ADEC Art Wenzel, Admin.
EXXON Amy Torgwalp, Asst. Mgr.
NOAA Gary Peterson, Area Mgr.
USCG Ken Lang, Area Mgr.

FOSC: DATE: 5/8/90
ECOLOGY MAP (1 OF 1)

RESOURCE CODES FOR ENTIRE SEGMENT:

NONE

KN-130

Map Key: PWS-313

Name: Pittenger

Date: 4/23/90

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

ADEC Segment Length: 1171m
Exxon Segment Length: 1291m
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT KN-132 SUBDIVISION C (3 of 4)

WORK WINDOW

| Bioremediation More Than 100m From Stream | OPEN |
| Bioremediation Less Than 100m From Stream | PERMIT REQUIRED |

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,B Salmon Stream

ADF&G catalogued anadromous stream (226-10-16992) is located in this Subdivision. Subdivision is closed to bioremediation less than 100m from stream without ADF&G authorization. No constraint to bioremediation more than 100m from stream.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or bank. No flushing of pollutants or sediment into stream drainage. Avoid any unnecessary disturbance or damage to unrolled biota and substrate.

Prepared by: [Signature]
Date: 6/12/90
ECOLOGY MAP
SEGMENT KN-132
SUBDIVISION C (3.01 ha)
METERS

Exxon Company, USA
Map Key: KN-132
May 11, 1990

Seabird Colony
Eagle Nest

1 inch = 1164 feet
SHORELINE EVALUATION

SEGMENT ST/ KN-132  SUBDIVISION C (3 OF 4)  DATE  3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Stream mouth (anadromous catalogue 226-10-169821) - Salmon fry out-migration (1A) - 3/1 to 5/15; Salmon spawning (1B) - 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS: No disturbance of stream bed or banks unless authorized by ADF&G. Contact ADF&G Habitat Division prior to treatment for permits.

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

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

SHPO SIGNATURE: Charles E. Adams  DATE: April 14, 1990

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V. Light 63 m: No Oil 106 m
Subsurface Oil Observed: Yes  No  X  Maximum Depth

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

COMMENTS: Bioremediate area shown on sketch map. Work between 5/15 and 7/10 based on constraints.

See addendum dated 5/26/90

TAG COMMENTS: Suggest CustomBlend for Bioremediation as indicated on sketch.

TAG APPROVAL DATE:  4/19/90
ADEC  D. Whitten  DATE: 
EXXON  T. M. L.  DATE: 
NOAA  B. W. Koch  DATE: 
USCG  A. S.  DATE:
REGION: PRINCE WILLIAM SOUND

SEGMENT: KN-132

SUBDIVISIONS: A (1 OF 4)
SHORELINE EVALUATION

SEGMENT ST/ KN-132   SUBDIVISION A (1 OF 4) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Stream mouth (anadromous catalogue 226-10-16982) - Salmon fry out-
migration (1A) - 3/1 to 5/15; Salmon spawning (1B) - 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Avoid disturbance/damage to un-
oiled biota and substrate.

ARCHAEOLOGICAL CONSTRAINTS: If cultural resources are uncovered
during shoreline treatment, stop work in the vicinity, mark the
location of the find and contact a member of Exxon's Cultural Re-
source 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 235 m: No Oil 0 m
Subsurface Oil Observed: Yes No X Maximum Depth

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

COMMENTS: Manual pickup of rope/pom-pom found during survey. Biore-
mediation of area where surface coat found.

TAG COMMENTS:

TAG APPROVAL DATE: __________
ADEC EXXON NOAA USCG

FOSC: __________ DATE: ________
FIELD SHORELINE COMMENT SHEET

EGMENT ST # N 132.  SUBDIVISION:  A  DATE 3/31/90

USCG
NAME: W. F. White  SIGNATURE: W. F. White

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED
COMMENTS:
MANUALLY REMOVING OF OIL - DEBRIS AND TRASH REMOVED.

ADEC
NAME: Dianne Muscon  SIGNATURE: Dianne Muscon

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED
COMMENTS:
Low angle boulder beach. Coats are primarily on underside of boulders. Recommend turning boulders over and manually removing oil. Possible tools could be a putty knife or wire brush. Debris and trash removal.

LAND MANAGER
NAME: Dave Mardrella  SIGNATURE: David Mardrella

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED
COMMENTS:
Low angle boulder beach with sporadic coating of oil primarily on underside of boulders in the upper to lower intertidal zone. Suggest scraping and/or raking underside of boulders. Debris pickup in supratidal zone.
SHORELINE OILING SUMMARY

00. Sawyer UCG White SEGMENT ST/ KN132
BIO. Benson LAND REP. Mandroli SUBDIVISION A (10+4)
EXON Katsimplis ADEC Munson TIME 7:30 to 9:00
TEAM NO. 3 DATE Mar 31/90
EST. SUBDIVISION LENGTH: 350.290m
UPLANDS DESCRIPTION:  Gras 31  Forest 0  Rock 0
SURVEYED FROM:  Foot 0  Boat 0  Helo 0
WORKING DIRECTION:  N to S
SURFACE SEDIMENTS:  R - 5% B - 90% C - 5% P - 0% G - 0% M - 0% V - 0%
SLOPE:  Lang 100% Hang - %, Vert - %
WAVE EXPOSURE:  Low 0  Med 0  High 0
OIL CATEGORY LENGTH:  W - m  M - m  N - m  V - m

SURFACE OIL

<table>
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PAVEMENT:  H  F  S _sq. m by _cm

PATTIES / TARBALLS _BAGS

NEAR SHORE SHEEN?  NO  BR RW SL TL

OILED DEBRIS AMOUNT

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Photographs:

Roll No. St-8-1
Frames 6, 7

SUBSURFACE OIL

| PIT NO. | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER | OILED INTERVAL (cm) | BELOW OIL / FILM COLOR | PIT ZONE | A | SUBSURFACE OILS |
|---------|----------------|---------------------------|--------------------|------------------------|----------| | |
|         |                |                           |                    |                        |          | | |
|         |                |                           |                    |                        |          | | |

COMMENTS ST/KN132 Low angle boulder beach. Coats are primarily on the underside of boulders in the upper to lower intertidal zone. Subsurface pits were not excavated because of boulder substrate.
SHORELINE ECOLOGICAL SUMMARY

Segment ST / KN132 Subdivision A Date (mo/day/yr) 3/31/90

Time (24 hr) 0730 Biologist J. Benson

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

(B) Overall % cover of biota (% of segment): Dense 10 Moderate 60 Low 30

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

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Wildlife Observations/ General Comments:
Sea otter (Enhydra lutris)

Ecological Considerations:
Sensitivities: 1B (stream mouth - salmon spawning)
SEGMENT ST/KN132
SUBMISSION A(1of4)
DATE Mar. 31, 90

CHECKLIST
- N Amor
- Appr. Scale
- Bag/Sub Body
- Oil Gill
- Width
- Length
- % Cover
- Submers Character
- Est. HNW/PL
- SSL
- Profile Location(s)
- Photo(s)
- Pit Location(s)
- Photo Location(s)

LEGEND
1 A
Pt - No Submers Oil
2 A
Pt - Submers Oil

CENTRAL DISTRIBUTION

PENNY DISTRIBUTION

Oiled Vegetation

Oil Character Length (m): AP -- PO -- CV 2PO CT -- ST -- MS -- PT -- TB -- FL -- NO --
REGION: PRINCE WILLIAM SOUND

SEGMENT: KN-132

SUBDIVISIONS: B (2 OF 4)
SHORELINE EVALUATION

SEGMENT ST/KN-132  SUBDIVISION B (2 OF 4)  DATE  3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Stream mouth (anadromous catalogue 226-10-16982) - Salmon fry out-migration (1A) - 3/1 to 5/15; Salmon spawning (1B) - 7/10 to 8/31.

SEGMENT ECOLOGICAL CONSTRAINTS: No disturbance of stream bed or banks unless authorized by ADF&G. Contact ADF&G Habitat Division prior to treatment for permits.

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

SHPO SIGNATURE: ___________________________  DATE: ____________________

OILING CATEGORIZATION:
Wide 46 m: Medium 69 m: Narrow 55 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No  Maximum Depth 22 cm

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

COMMENTS: Bioremediate area of surface coat as shown on sketch map. Breakup and remove asphalt mats. Work between 5/15 and 7/10 based on constraints.

TAG COMMENTS:

TAG APPROVAL DATE: ___________
ADEC ____________________________  FOSC: ____________________________  DATE: ____________
EXXON __________________________
NOAA __________________________
USCG __________________________
FIELD SHORELINE COMMENT SHEET

SEGMENT ST1 KI 13 J SUBDIVISION: ___________ DATE 3-31-90

SCG
NAME: WA. E. White SIGNATURE: ___________

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

TREATMENT OF THIS SEDIMENT - RECOMMEND HIGH QUALITY TREATMENT - DUE TO FISH AND GAME - HEAVY OIL SHORELINE.

ADEC
NAME: Dianne Munson SIGNATURE: ___________

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

This subsegment adjacent to a high quality anadromous stream. Very extensive asphalt/pavement (ca. 1300 sq. meters with a maximum ration of greater than 22 cm). Oil saturates pore spaces between subsurface sediments. Black oil globules surface in pits interstitial water (definately mobile). This subsegment definately needs further attention. Because cobbles lie on top of the asphalt it would be difficult to remove manually. Recommend mechanical dredging or mechanical illing with water washing. Possible bioremediation polishing, etc. All recommendations pending Alaska Fish and Game Regulations.

LAND MANAGER
NAME: David Mandrelle SIGNATURE: ___________

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

Station is adjacent to high quality anadromous stream. Substantial rese of asphalt pavement occur, primarily in upper intertidal zone. Subsurface oil was measured to be up to 22 cm. thick in jet nearest stream. Iporeotic and patchy coats of oil occur in all zones.

Comment: Selective removal of asphalt pavement.

Scraping and absorbing underside of boulders and cobbles.

Manual illing of heavily impacted areas along with spot flooding and placement of samsels.

Possible bioremediation if in compliance with AK fish and game regulations.
SHORELINE OILING SUMMARY

OG Sawyer — USCG White
BIO Region — Land Rep: Mandrella
EXXON Hatzimpis: Adele Munson
TEAM NO.: 8
TIME: 9:00 to 11:30
EST. SUBDIVISION LENGTH: 310 m
DATE: Mar 31 1990

TEAM 1

SURVEYED FROM: Foot
WORKING DIRECTION: N to S

SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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PAVEMENT: H F

PATTIES / TARBALLS

NEAR SHORE SHEEN?

OIL CATEGORY LENGTH:

SURFACE OILS

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SUBSURFACE OIL

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COMMENTS: ST/KN132B Low angle cobble, boulder beach with patchy and splashes of pavement in upper intertidal zone. Subsurface oil was measured to be up to 22 cm thick in pit #3. Films occur occasionally within upper and middle intertidal zones throughout segment.

Page 1 of 5

REVIEWED: 4-4-10    DATE: 4-6-90
SHORELINE ECOLOGICAL SUMMARY

Segment ST  K132  Subdivision  B  Date (mo/day/yr)  3/31/90

Time (24 hr)  0820  Biologist  J. Benson

(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  (70)  Low  (30)

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

Photographs:
   Roll No.  ST-8-1
   Frames  8-12

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Wildlife Observations/ General Comments:

   gull

Ecological Considerations:
   sensitivities: 1B (stream mouth; salmon spawning)
REGION: PRINCE WILLIAM SOUND

SEGMENT: KN-132

SUBDIVISIONS: C (3 OF 4)
SHORELINE EVALUATION

SEGMENT ST/ KN-132 SUBDIVISION C (3 OF 4) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Stream mouth (anadromous catalogue 226-10-16982) - Salmon fry out-migration (1A) - 3/1 to 5/15; Salmon spawning (1B) - 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS: No disturbance of stream bed or banks unless authorized by ADF&G. Contact ADF&G Habitat Division prior to treatment for permits.

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

SHPO SIGNATURE: __________________ DATE: ____________________

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 63 m: No Oil 106 m
Subsurface Oil Observed: Yes No _ X Maximum Depth________

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

COMMENTS: Bioremediate area shown on sketch map. Work between 5/15 and 7/10 based on constraints.

TAG COMMENTS:__________________________________________

TAG APPROVAL DATE:______________
ADEC ____________________________________
EXXON ____________________________________
NOAA ____________________________________
USCG ____________________________________
FIELD SHORELINE COMMENT SHEET

SEGMENT ST: 4-7/132  SUBDIVISION: C  DATE: 3-31-90

USCG
NAME: W. E. White  SIGNATURE: W. E. White

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED
COMMENTS

Small amounts of oil on cobble, debris
and trash removal.

ADEC
NAME: Dianne Munson  SIGNATURE: Dianne Munson

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED
COMMENTS

Small amounts of coats on cobble, sheen in interstitial water. Debris and trash removal in supratidal.

LAND MANAGER
NAME: David Mendelsohn  SIGNATURE: David M. Mendelsohn

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED
COMMENTS

Sporadic coat noted on underside of cobble substrate. Debris picking in supratidal.
**SHORELINE OILING SUMMARY**

**OG: Sawyer**

**USCG: White**

**SEGMNT ST: KN132**

**BIO: Benson**

**LAND REP: Mondello**

**SUBDIVISION: C**

**TIME:** 11:30 to 11:40

**DATE:** Mar 1-31 1989

---

**TEAM NO.:** 8

**TIDE LEVEL:** -0.5 to -1

**EST. SUBDIVISION LENGTH:** 971 m

**UPLANDS DESCRIPTION:** ☐ Grass ☐ Forest ☐ Rock

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

**WORKING DIRECTION:** ☐ E to ☐ W

**SURFACE SEDIMENTS:** R 40% B 20% C 10% P 20% G 5% S 5% M 5% V 5%

**SLOPE:** Lang 60% Hang 40% Vert

**OIL CATEGORY LENGTH:** W _____ m M _____ m N _____ m VL _____ m NO 1.71 m

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### SURFACE OIL

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### PAVEMENT

- H F S 0 sq. m by 0 cm

### PATTTIES / TARBALLS

- 0 BAGS

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### NO OIL

- 0

**TYPE Part of Beach

Photographs:

- Roll No. 13-8-1
- Frames 13-14

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### SUBSURFACE OIL

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| 2       | 30             |                            |                |                |                  |          |     | N P G               |
| 3       | 15             |                            |                |                |                  |          |     | N P G S             |

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**COMMENT:** ST/KN132C: Pocket beaches separated by vertical bedrock cliffs.

*No oil layers observed in subsurface, however a sheen was noted in pit #3.*

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Page 1 of 5

REVIEWED: [Signature] DATE: 4-4-90
SKETCH MAP

Salmon Spawning Stream - boundary between St/KN132 B & C

LEGEND

1 A
- Pit - No Subsurface Oil

2 A
- Pit - Subsurface Oil

CT/C
- Continuous Distribution

CT/B
- Broken Distribution

CT/P
- Paucity Distribution

CT/T
- Splashed Distribution

Oiled Vegetation

1 o
- Photo location, direction, and number

Oil Character Length (m): AP -- PO -- CV -- CT -- 200 -- ST -- MS -- PT -- TB -- FL -- 30 -- NO. 300
SHORELINE ECOLOGICAL SUMMARY

Segment ST / KN 13a Subdivision C Date (mo / day / yr) 3/31/90

Time (24 hr) 1130 12:30 130 12:30
Biologist J. Benson

(A) Substrate type and % of segments:
(1) Bedrock 10 (2) Boulder 30 (3) Cobble 10 (4) Pebble 20 (5) Sand 0  (6) Silt 0

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

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

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Wildlife Observations/ General Comments:

Bald Eagle (Haliaeetus leucocephalus)
Overall % cover of biota was dense when a green filamentous alga (not among 4 groups above) covered many cobbles

Ecological Considerations:
sensitivities: 1B (stream mouth - salmon spawning)
SHORELINE EVALUATION

SEGMENT ST/ KN-132       SUBDIVISION D (4 OF 4) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Stream mouth (anadromous catalogue 226-10-16982) - Salmon fry out-migration (1A) - 3/1 to 5/15; Salmon spawning (1B) - 7/10 to 8/31.

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

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

SHPO SIGNATURE: [signature] DATE: April 14, 1990

OILING CATEGORIZATION:
Wide_0 m: Medium_0 m: Narrow_0 m: V.Light_246 m: No Oil_319 m
Subsurface Oil Observed: Yes_X No__ Maximum Depth_14 cm

RECOMMENDATIONS:
___No Treatment Recommended ___Snare/Absorbent Booms
X__Treatment Recommended  ___Oil Snares (pom poms)
___Manual Pickup ___Absorbents (pads, rolls, etc)
X__Bioremediation ___Spot Washing: Wands
X__Tarmat: ___Breakup ___Beach Cleaner
X__Removal ___Other (see comments)

COMMENTS: Bioremediate area(s) shown on sketch map. Remove asphalt mats. Work between 5/15 and 7/10 based on constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/15/90
ADEC  [signature] 
EXXON  [signature] 
NOAA [signature] 
USCG [signature] 

FOSC: [signature] DATE: 9-20-90
SEGMENT ST/KN132
SUBDIVISION 0 (4014)
DATE Mar 31, 90

CHECKLIST

LEGEND

Oil Character Length [m]: AP 5, PO, CV, CT 80, ST, MS, PT, TB, FL 60, NO.
REGION: PRINCE WILLIAM SOUND

SEGMENT: KN-132

SUBDIVISIONS: D (4 OF 4)
SHORELINE EVALUATION

SEGMENT ST/KN-132 SUBDIVISION D (4 OF 4) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Stream mouth (anadromous catalogue 226-10-16982) - Salmon fry out-migration (1A) - 3/1 to 5/15; Salmon spawning (1B) - 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Avoid disturbance/damage to un-oiled substrate and biota.

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

SHPO SIGNATURE: ___________________ DATE: ___________________

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 246 m: No Oil 319 m
Subsurface Oil Observed: Yes X No Maximum Depth 14 cm

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

COMMENTS: Bioremediate area(s) shown on sketch map. Remove asphalt mats. Work between 5/15 and 7/10 based on constraints.
FIELD SHORELINE COMMENT SHEET

SEGMENT ST  K.N. 132  SUBDIVISION:  DATE 3-31-90

JSCG  NAME  C.E. WHITE  SIGNATURE  C. E. WHITE

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

RECOMMEND REMOVAL OF OILED LOG, HOT WATER/STEAM WASHING.

ADEC  NAME  DIAMON MONSORE  SIGNATURE  DIAMON MONSORE

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

This subsegment is a boulder, cobble, cove separated by bedrock headlands. Coats on surface and undersides of boulders and cobbles. Pit shows sheen in interstitial water. Sporadic asphalt pavement at hitz.2. large log at hitz is 70% oiled. Recommend removal of oiled log, hot water/steam washing with cold water flush (shore crew).

LAND MANAGER  NAME  DAVID MARCHBELL  SIGNATURE  DAVID MARCHBELL

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Oiled condition consists of small patches of asphalt pavement which should be removed. Treat large woody debris covered with coat of oil. Gravel and pebble areas in intertidal have no apparent oiling. Sporadic coats on underside of rocks should be manually sprayed.
SHORELINE OILING SUMMARY

OG Sawyer USCG WHITE SEGMENT ST/ KN132
BIO Reason LAND REP Mandalay SUBDIVISION DL-4 (6o/11)
EXXON Katsina MARA Ship Monson TIME 11:40 to 13:00
TEAM NO.: B TIDE LEVEL: -0.5 to +3.0 DATE Dec 31, 1990
ST. SUBDIVISION LENGTH: 440 m ☐ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
UPLANDS DESCRIPTION: ☐ Grass ☐ Forest ☐ Rock
SURVEYED FROM: ☐ Foot ☐ Boat ☐ Helo WORKING DIRECTION: E to W
SURFACE SEDIMENTS: R-40% B-20% C-20% P-10% G-10% S-5% M-5% V-
SLOPE: Lang-70% Hang-30% Vert-0%
OIL CATEGORY LENGTH: W-50m M- m N- m VL-720 m NO-220 m

SURFACE OIL

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<tr>
<td>TARBALLS</td>
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PAVEMENT: H (F S 5) sq. m by 14 cm
PATTIES/TARBALLS _ BAGS
NEAR SHORE SHEEN? NO BR HW SL TL
OILED DEBRIS AMOUNT DEBRIS COLLECTED TYPE
Log _ _ SM MD LG YES NO
Vegetation _ _ _
Trash _ _ _
Debris _ _ _
Photographs:
Roll No. 57-8-1
Frames 15-16

SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT</th>
<th>OILED INTERVAL</th>
<th>BELOW</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
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<td>N</td>
<td>C, P, E, w</td>
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COMMENTS ST/KN132 D: Boulder and cobble beaches separated by bedrock ridges. Sporadic pavement occurs only in small areas (203 m²), but may be buried in places. Large oiled log in upper tidal zone of westernmost "pocket" beach. Pits 1, 3, and 4 had silver sheets (film on water in pits, but films were not observed on subsurface sediment.

Page 1 of 5

REVIEWED DATE 4-7-90
### SHORELINE ECOLOGICAL SUMMARY

**Segment ST:**  KN132  **Subdivision:** D  **Date (mo/day/yr):** 3/31/90  
**Time (24 hr):** 11:50  **Biologist:** J. Jensen  

### (A) Substrate type and % of segments:
- 1. Bedrock 40%
- 2. Boulder 20%
- 3. Cobble 20%
- 4. Pebble 5%
- 5. Sand 5%
- 6. Silt 0%

### (B) Overall % cover of biota (% of segment):
- Dense 50%
- Moderate 25%
- Low 25%

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

#### BARNACLES

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#### GASTROPODS

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#### FUCUS

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</tbody>
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### Wildlife Observations/ General Comments:

- High % cover of green filamentous algae  
- Gull  

### Ecological Considerations:

- Sensitivities: 1B (stream mouth - salmon spawning)
OG: Sawyer
SEGMENT ST/KN132
SUBDIVISION 0 (404)
DATE Mar 31 90

CHECKLIST
- N. Azimuth
- Apparent Scale
- Seg/Sab Unity
- Oil Dist.
- Width
- Length
- % Cover
- Substrate Character
- Ect. HNLUW
- 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 Patches Distribution

CT/S Splashed Distribution

Oil Vegetation

1 00
Photo location, direction, and number

SKETCH MAP

Herring Bay

Alaska dept. of Fish and Game
No fishing sign

Knight Island

Bedrock cliffs

Bedrock

CT/S

AP/p
~2m

Fracture lines

BIO

Fracture lines

AP/p
~5m

St--8-1-16

St--8-1-15

St--W--132D

Oiled log

CT/S

1 00

~100m

Oiled Vegetation

Oil Character Length (m): AP 5 PO -- CV -- CT 80 ST -- MS -- PT -- TB -- FL 60 NO

REVISION 9/8/90
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT KN-132 SUBDIVISION A (1 of 4)

WORK WINDOW
Manual Pickup
OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A, 1B Salmon Stream No constraint to Manual Pickup. ADF&G catalogued anadromous stream is in Subdivision C (226-10-16982) and more than 100m from the treatment area.

OTHER ECOLOGICAL CONSIDERATIONS

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

TAG ADDENDUM DATE 5/16/90
ADEC Art Weimer Art Weimer
EXXON Andy Pannell
NOAA Joseph Delanty
USCG 

FOSC 

DATE 5/16/90

Prepared by: Andew Meyer WTK Date: 5/17/90
SHORELINE EVALUATION

SEGMENT ST/ KN-132 SUBDIVISION A (1 OF 4) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Stream mouth (anadromous catalogue 226-10-16982) - Salmon fry out-migration (1A) - 3/1 to 5/15; Salmon spawning (1B) - 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Avoid disturbance/damage to un-oiled biota and substrate.

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

SHPO SIGNATURE: [Signature] DATE: April 14, 1990

OILING CATEGORIZATION:
Wide 0 m; Medium 0 m; Narrow 0 m; V.Light 235 m; No Oil 0 m
Subsurface Oil Observed: Yes No X Maximum Depth

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

COMMENTS: Manual pickup of rope/pom-pom found during survey. Bioremediation of area where surface coat found.

TAG COMMENTS:

TAG APPROVAL DATE: 4/13/90.
ADEC JOHN BAUER [Signature] FOSC: DATE:
EXXON ANDY TATE [Signature] NOAA [Signature]
NOAA [Signature] USCG [Signature]
## ADDENDUM: SUBDIVISION CONSTRAINTS

**SEGMENT KN-132 SUBDIVISION B (2 of 4)**

<table>
<thead>
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<th>WORK WINDOW</th>
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<tbody>
<tr>
<td>Tarmat Removal</td>
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<tr>
<td>Bioremediation Over 100m From Stream</td>
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<tr>
<td>Bioremediation less than 100m From Stream</td>
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</tbody>
</table>

## ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

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

## APPLICABLE ECOLOGICAL TIME CONSTRAINTS

| 1A,1B Salmon Stream | ADF&G catalogued anadromous stream (226-10-16982) is located in adjacent Subdivision C. Subdivision B is closed to bioremediation less than 100m from stream without ADF&G authorization. No constraint to bioremediation more than 100m from stream. No constraint to tarmat removal. |

## OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or bank. No flushing of pollutants or sediment into stream drainage. Avoid any unnecessary disturbance or damage to uncoiled biota and substrate.

---

Tag Addendum Date: 5/21/90

Prepared by: Andrew Mage Date: 5/20/90
SHORELINE EVALUATION

SEGMENT ST/ KN-132 SUBDIVISION B (2 OF 4) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Stream mouth (anadromous catalogue 226-10-169821) - Salmon fry out-migration (1A) - 3/1 to 5/15; Salmon spawning (1B) - 7/10 to 8/31.

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
No disturbance of stream bed or banks unless authorized by ADF&G. Contact ADF&G Habitat Division prior to treatment for permits.

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

SHPO SIGNATURE: DATE: April 14, 1990

OILING CATEGORIZATION:
Wide 46 m: Medium 69 m: Narrow 55 m: V.Light 0 m: No Oil 0 m:
Subsurface Oil Observed: Yes X No Maximum Depth 22 cm

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

COMMENTs: Bioremediate area of surface coat as shown on sketch map. Preserve and Remove asphalt mats. Work between 5/15 and 7/10 based on constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/13/90
ADEC JOHN BANZER JOHN FOSC: DATE:
EXXON NOAA USCG
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-132 SUBDIVISION B (2 of 4)

WORK WINDOW

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<tr>
<td>Bioremediation Less Than 100m From Stream</td>
<td>WORK PRIOR TO 7/10 (ADF&amp;G MONITOR REQ.)</td>
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ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

ADF&G catalogued anadromous stream (226-10-16982) forms the boundary between Subdivision B and C. Subdivision B 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. No constraint to tarmac removal.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or bank. No flushing of pollutants or sediment into stream drainage; do not allow Inpil to enter stream flow. On-site examination and consultation by ADF&G monitor is required prior to bioremediation in order to authorize a setback distance from the stream during chemical application; if ADF&G monitor's presence is impossible, authorization may be given by the ADEC monitor. Avoid any unnecessary disturbance or damage to unoiied biota and substrate.

SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM (STREAM NO. 226-10-16982) FOR ADDITIONAL CONSTRAINT INFORMATION

TAG ADDENDUM DATE 6/04/90
ADEC Ray Mears DATE 6/3/90
EXXON
NOAA 6/4/90
USCG

Prepared by: Jode May Date: 6/4/90
ECOLOGY MAP
SEGMENT KN-132
SUBDIVISION B (2 of 4)

METERS

0 335 710

1 inch = 1154 feet

EXON Company, USA
Map Key: KN-KN-132
May 11, 1990

Seabird Colony

Eagle Nest

KN-301
KN-132
KN-133
KN-131

† Incorporates USFWS
6/1/90 Active BALD EAGLE
NEST SURVEY MAP INFO.
SHORELINE EVALUATION

SEGMENT ST/KN-132 SUBDIVISION B (2 OF 4) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

stream mouth (anadromous catalogue 226-10-16982) - Salmon fry out-migration (1A) - 3/1 to 5/15; Salmon spawning (1B) - 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS: No disturbance of stream bed or banks unless authorized by ADF&G. Contact ADF&G Habitat Division prior to treatment for permits.

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

SHPO SIGNATURE: DATE: April 14, 1990

OILING CATEGORIZATION:
Wide 46 m: Medium 69 m: Narrow 55 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 22 cm

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

COMMENTS: Bioremediate area of surface coat as shown on sketch map. Breakup and remove asphalt mats. Work between 5/15 and 7/10 based on constraints.

TAG COMMENTS:

SEE ADDENDUM DATED 5/20/90
SEE REVISION 1, ADDENDUM DATED 6/4/90

TAG APPROVAL DATE: _/13/90
ADEC  (John Baker)
EXXON  (Andy Co.)
NOAA  (Fred Watts)
USCG  (E. A. Foster)
ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,B Salmon Stream

ADF&G catalogued anadromous stream (226-10-16982) is located in this subdivision. 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.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or bank. No flushing of pollutants or sediment into stream drainage. Avoid any unnecessary disturbance or damage to unrolled biota and substrate.

SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM (STREAM NO. 226-10-16982) FOR ADDITIONAL CONSTRAINT INFORMATION

TAG ADDENDUM DATE 6/14/90
ADEC
EXXON
NOAA
USCG

Prepared by: Linda Magar Date: 6/9/90
SHORELINE EVALUATION

SEGMENT ST/ KN-132 SUBDIVISION C (3 OF 4) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Stream mouth (anadromous catalogue 226-10-16982) - Salmon fry out-migration (1A) - 3/1 to 5/15; Salmon spawning (1B) - 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS: No disturbance of stream bed or banks unless authorized by ADF&G. Contact ADF&G Habitat Division prior to treatment for permits.

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

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

SHPO SIGNATURE: DATE: April 14, 1990

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V-Light 63 m: No Oil 106 m
Subsurface Oil Observed: Yes____ No–X__ Maximum Depth_____

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

COMMENTS: Bioremediate area shown on sketch map. Work between 5/15 and 7/10 based on constraints.

TAG COMMENTS: SUGGEST CUSTOM BLEND FOR BIOREMEDIATION AS INDICATED ON SKETCH.

TAG APPROVAL DATE: 4/19/90
ADEC 
EXXON
NOAA
USCG

FOSC: DATE:
ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A, 1B Salmon stream NO CONSTRAINT. ADF&G catalogued anadromous stream (226-10-16982) is in adjacent Subdivision C and more than 100m from treatment areas.

OTHER ECOLOGICAL CONSIDERATIONS

Avoid disturbance or damage to unrolled biota and substrate.
SHORELINE EVALUATION

SEGMENT ST/KN-132  SUBDIVISION D (4 OF 4)  DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Stream mouth (anadromous catalogue 226-10-169821) - Salmon fry out-migration (1A) - 3/1 to 5/15; Salmon spawning (1B) - 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Avoid disturbance/damage to un-oiled substrate and biota.

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

SHPO SIGNATURE: John D. Jaffe       DATE: April 14, 1990

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 246 m: No Oil 319 m
Subsurface Oil Observed: Yes X No    Maximum Depth 14 cm

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

COMMENTS: Bioremediate area(s) shown on sketch map. Remove asphalt mats. Work between (5/15 and 7/10) based on constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/15/90
ADEC  EXXON  NOAA  USCG
JOHN D JAFFE D. IMOY CAPT. CAPT. CAPT.

FOSC: ___________ DATE: ___________
SHORELINE EVALUATION

SEGMENT ST/ KN-132  SUBDIVISION A (1 OF 4) DATE  3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Stream mouth (anadromous catalogue 226-10-16982) - Salmon fry out-migration (1A) - 3/1 to 5/15; Salmon spawning (1B) - 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Avoid disturbance/damage to un-oiled biota and substrate.

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

SHPO SIGNATURE:  Date: April 14, 1990

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 235 m: No Oil 0 m
Subsurface Oil Observed: Yes  No X Maximum Depth

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

COMMENTS: Manual pickup of rope/pom-pom found during survey. Bioremediation of area where surface coat found.

TAG COMMENTS:

TAG APPROVAL DATE: 4/13/80
ADEC  EXXON  NOAA  USCG
John  Andy  By  C.A.
Andersen  Terpstra  Harbor
DATE:  4-30-90
Alaska Dept. of Fish & Game
No Fishing Sign

St/KN132A - coats occur primarily on the underside of rock fragments

large boulder marks boundary

LEGEND

1 Δ
Pt: No Subsurface Oil

2 Δ
Pt: Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/P
Patchy Distribution

CT/S
Splashed Distribution

Oiled Vegetation

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

DEC-12-1993
11:12
FROM
YUKON RIVER

P.14
SHORELINE EVALUATION

SEGMENT ST/KN-132 SUBDIVISION B (2 OF 4) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Stream mouth (anadromous catalogue 226-10-16982) - Salmon fry out-migration (1A) - 3/1 to 5/15; Salmon spawning (1B) - 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS: No disturbance of stream bed or banks unless authorized by ADF&G. Contact ADF&G Habitat Division prior to treatment for permits.

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

SHPO SIGNATURE: DATE: April 14, 1990

OILING CATEGORIZATION:
Wide 46 m: Medium 69 m: Narrow 55 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 22 cm

RECOMMENDATIONS:
___No Treatment Recommended X Treatment Recommended ___Snare/Absorbent Booms
___Manual Pickup ___Oil Snares (pom poms)
X Bioremediation ___Absorbents (pads, rolls, etc)
X Tarmat: ___Breakup ___Spot Washing: ___Wands
X Removal ___Beach Cleaner ___Other (see comments)

COMMENTS: Bioremediate area of surface coat as shown on sketch map. Breakup and Remove asphalt mats. Work between 5/15 and 7/10 based on constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/13/90
ADEC John Baker DATE: 4/20/90
EXXON Andy Ge DATE: 4/20/90
NOAA Bud Wright DATE: 4/20/90
USCG G.A. Keiser DATE: 4/20/90
OG Sawyer
SEGMENT ST/KN132
SUBDIVISION B (2af4)
DATE Mar 31, 90

CHECKLIST
- St Acre
- Apprx. Scale
- SoapStone Bnder
- Oil Dist.
- Weath
- Length
- % Cover
- Substrate Character
- Est. HNLWL
- St/ST
- Profile Location(s)
- Photo(s)
- Pit Location(s)
- Photo Location(s)

LEGEND
1 A
- Pit - No Subsurface Oil
2 A
- Pit - Subsurface Oil
   C/T/C
   Continuous Distribution
   C/T/B
   Broken Distribution
   C/T/P
   Patchy Distribution
   C/T/S
   Splashed Distribution

Oiled Vegetation
1
- Photo Incident, direction, and number

SKETCH MAP

Asphalt
Breakup, Rehab, and Asp.

Asphalt

Cobble, both distrib.

Salmon Spawning stream
- boundary between St/KN132B+C

Salt Creek
- boundary between St/KN132A+B

lower margin of snow at HNLWL

large boulder
Bay

- covered by snow

St/KN132B

Herring Bay

Approx limit of distrib.
both distrib. occur intersected.

Oil Character Length (m): AP 215 PO CV CT 140 ST MS PT TB FL 30 NO

- REV. MAR 03 1990
SHORELINE EVALUATION

SEGMENT ST/ KN-132  SUBDIVISION C (3 OF 4) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Stream mouth (anadromous catalogue 226-10-16982) - Salmon fry out-migration (1A) - 3/1 to 5/15; Salmon spawning (1B) - 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS: No disturbance of stream bed or banks unless authorized by ADF&G. Contact ADF&G Habitat Division prior to treatment for permits.

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

SHPO SIGNATURE: Charles E.__ DATE: April 14, 1990

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 63 m: No Oil 106 m
Subsurface Oil Observed: Yes ___ No ___ 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 Removal  X Beach Cleaner
X Other (see comments)

COMMENTS: Bioremediate area shown on sketch map. Work between 5/15 and 7/10 based on constraints.

TAG COMMENTS: SUGGEST CUSTOM BLEND FOR BIOREMEDIATION AS INDICATED ON SKETCH.

TAG APPROVAL DATE: 4/13/90
ADEC [Signature] DATE: 4-20-90
EXXON [Signature] FOSC: [Signature]
NOAA [Signature] USCG C.A. [Signature] C.A. [Signature]
1991 MAYSAP EVALUATION

SEGMENT: KN 132  SUB: D  REGION: PWS  SURVEY DATE: 5/24/91

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: [Signature] Date: 6/10/91

RECOMMENDATIONS:
INITIAL  TAG  FOSC

TREATMENT REQUIRED (Y or N)  N  N  N

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

COMMENTS:
INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: June 6 1991  FOSC APPROVAL DATE: 6/10/91

ADEC [Signature]  EXXON [Signature]  USCG [Signature]  NOAA [Signature]

FOSC [Signature]  E. E. PAIC, CDR, USCG  CHIEF OF STAFF, FOSC
MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 1 SEGMENT KN 132 SUBDIVISION 0 DATE 5/12/91

ADEC
NAME SEFF CINCUAS SIGNATURE

NTR

I recommend no treatment as I see no possible means to remove the
oil which is present. At CG map site "E", a subsurface LE-S runs pretty much the
length of the beach. Along MITZ, PEZZ UNAGI LOR. It is easily located, just below
the surface (5-10 cm). Manual treatment would not work. Mechanical would be too intrusive
when combined with the oil to be removed/removed. A few shovels/spade apples in a box
when finished with the oil to be removed/removed. A few shovels/spade apples in a box
may hinder mechanical operation. Plus humans being just apart, makes accurate containment
both difficult. Beach is not sheening unless aerial COREO observed and not likely not familiar
with past history of beach area at CG #2 (AG) zincform island, exposed and spread by
shoveling from treatment area. Males open for suggestions.

EXXON
NAME LARRY D. CLAYTON SIGNATURE LARRY D. CLAYTON

NTR

No remediable oil located. Beaches are healthy with very
good growth and healthy reclamation. Any further
interruption would destroy established inter tidal biota.

NDMANAGER
NAME MIKHAIL HALL OF DLR SIGNATURE M. HALL

NTR

Any remediable oil is too spreader - not centered
enough across beach to require crew. Much of
oil is weathered greatly.

USCG/NOAA
NAME SCHULTZ /CH193 SIGNATURE SCHULTZ 1/22

NTR

Any further intrusion would not be warranted, it would likely
cause more environmental harm than good.
**MAYSAP SHORELINE OILING SUMMARY**

**TEAM NO.** 1  
**OQ**  G. MACDONALD  
**BIO**  M. FAWCETT  
**ADEC**  J. GINNANS  
**EXXON**  L. OLSON  
**LANDMANAGER**  M. HALL  
**USCG/NOAA**  SCHULTZ/CHILD  
**DATE**  5/2/91  
**TIME**  16:50 to 18:05  
**TIDE LEVEL** +2.2 ft. to +2.4 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:**  553 m  
**NEAR SHORE SHEEN:**  \( \square \) BR  \( \square \) RB  \( \square \) SL  \( \square \) None  
**EST. OIL CATEGORY LENGTH:**  W m M 80 m N 75 m V 175 m  

**LAW**

<table>
<thead>
<tr>
<th>LOC</th>
<th>SLOPE</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>SUBSURFACE SEDIMENTS</th>
<th>NOTES</th>
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**OG COMMENTS:** Rocky shore w/ 2 c5 beach.  Surface oil on well weathered or, cv and associated sand on surf. The southern beach has rol-marl sub-surface, below a layer of oiled boulders w/ p or substrate.  No sheen was observed @ waterline during survey.

Reviewed: F.W. 5/27/91  
Reviewed: MC 5/28/91
### WILDLIFE OBSERVATIONS

**TO BE COMPLETED IN ALL SUBDIVISIONS**

<table>
<thead>
<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
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<td>Other Birds</td>
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<tr>
<th>MARINE MAMMALS</th>
<th># OBSERVED</th>
<th>SPECIES</th>
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<td>Pinnipeds(specify)</td>
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<tr>
<td>Whales(specify)</td>
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</table>

Shoreline subdivision map showing important biological features attached.

---

**COMMENTS/OBSERVATIONS**

The main areas of concern in this subdivision are two small NE facing coves (E & F on sketch map). At site D the residual oil is surficial and high on the beach in the supra-tidal zone. At site F buried oil extends through MTFZ and into LTZ, and lies beneath a healthy and fairly diverse boulder community typical of this region (see sketch map). Removing the buried oil would necessitate destroying the existing community.

The presence of oligochaete worms among surface oil residue in MTFZ-LTZ supports the hypothesis that they consume decaying oil. These worms normally occur in LTZ or SWTZ and feed on decaying seaweed.
KM 132.9 5/24/91  Faurett
Start 1645 -
- Same general description as C -
- Dense brush & Fagut M72 on Sogas,
  up to V72 on B R wall
- C 70 ft on walls + 10 ft on S 3
- Above must be 10 ft
- Porcupine carcas on north
- 1650 - pocket $/BR - CT/ST/CH/BR
+ 8 - 12 ft above dense brush
(10 to 8 ft), dense forest scene
+ 2 - 10 ft
- Single keeper, limp, no list
- L72 Rhod, Gledaphy, UVR
- Dense brush next to M72
1700 - 1st big corn - B/Cl/P bar
North end of corn has RF bar on
3 VT2, 1/C among the grass
+ 12 ft - Barred, limp, list
- 3005 S. humber
- Barred fox, led box in M72
- Furry spurs, both on longer
  cobble
- Hemiphragm, sparse long, left, M72-02
- Sparse must - bit of CT & Cumberland
  shells down to 72 ft
KN 132B (cont.) 5/24/91  Fawell

1730 - 2nd dig cave - same as 1st
for base - large Fucus bar, 1.5 x 2 ft
sponge in 8 ft except barnacles
10 ft west, 1 in 20 MTZ areas
on larger 0-2 B
- burrowed and burrow + 10 ft
among dense barn, sparse Fucus
dense Fucus (no many young nor
some larger), - sparse muscula
1 ft spaced down to about
+ 0.5 ft (unfortified) in dense
Fucus
LT2 MTZ - + 3 - 6 ft also in
mol dense spot; oligochaeta in depress
worm tubes (150 ft), somewhat
burrowed, - all seem buried
except presence of oligochaeta 1/2
same onshore
- sponge / thorin eggs
- cylindrical pellets

Finish 1805 hrs
1991 MAYSAP EVALUATION

SEGMENT:  KN 132  SUB:  A  REGION:  PWS  SURVEY DATE:  5/24/91

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. Smith  Date:  6/04/91

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:  JUNE 4, 1991  FOSC APPROVAL DATE:  6/16/91

ADEC  E. E. PAGE, CDR, USCG
EXXON  CHIEF OF STAFF, FOSC
USCG  NOAA
**MAYSAP FIELD SHORELINE COMMENT SHEET**

**TEAM NO.** 1  
**SEGMENT** KN 137  
**SUBDIVISION** A  
**DATE** 5/12/91

---

**ADEC**  
**NAME** JEFF GUALTAS  
**SIGNATURE**  

**NTR**  
NO RECOVERABLE OIL. ONLY OIL WAS OCCASIONAL COAT/COVER ON BOUDDS CHOUT INCLINE UTZ.

---

**EXXON**  
**NAME** LARRY D. ASHON  
**SIGNATURE**  

**NTR**  
NO RECOVERABLE OIL CONDITION FOUND.

---

**LANDMANAGER**  
**NAME** MARGARET HALL OF DNR  
**SIGNATURE**  

**NTR**  
COAT ON BUMBLE ONLY WAS OBSERVED.

---

**USCG/NOAA**  
**NAME** SCHULTZ  
**SIGNATURE**  

**NTR**  
NOTHING LEFT TO RECOVER.

---

**PROVISIONAL Hi-ANGLE BOUDDER - Corda Shoreline - Oiling Detected consists of CT & CV along Hi-SE, Typical for area, <10% Coverage, NO Source OIL.
**MAYSAP SHORELINE OILING SUMMARY**

**TEAM NO.**

OG  G. MACDONALD
MAYAP SHORELINE OILING SUMMARY

**BIO.** M. FAWCETT

**ADEC.** J. GINNIS

**LANDMANAGER.** M. HALL

**EXXON.** L. OLSEN

**USCG/NOAA.** SCHULTZ/CHILD

**DATE.** 5/24/91

**SEGMENT.** KN-132

**SUBDIVISION.** A

**TIME.** 15:55 to 16:15

**TIDE LEVEL.** +3.2 ft. to +3.0 ft.

**ENERGY LEVEL.** H [ ] M [ ] X [ ]

**SURVEYED FROM.** [X] FOOT [X] BOAT [ ] HELO

**WEATHER.** [X] SUN [ ] CLOUDS [ ] FOG [ ] RAIN [ ] SNOW

**TOTAL LENGTH SHORELINE SURVEYED.** 235 m

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

**EST. OIL CATEGORY LENGTH.** W [ ] m M [ ] m N [ ] m VI [ ] 235 m NO [ ] m US [ ] m

### SURFACE OIL CHARACTER

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</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 1 - 30 FRAMES 9

### PIT PIT SUBSURFACE OILED CLEAN H2O SHEEN PIT SURFACE

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</table>

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

### OG COMMENTS:

Steep 30° shore, over L. Surface oil only, no
sporadic CT or trace CV splatry. There was no
substrate adequate for sitting - no soil was
observed.

**REVIEWED.** F.W. 5/27/91

**REVIEWED.** MC 5/27/91
XX
Wide

//
Medium

--
Narrow

| Very Light | 5 |

0 0  No Oil

M-H angle, BC/R shore

CT, <10°, Hartz, ≤2 x 236, algae growth.
CV/I, ≤1% as splaty under B; A/A-

PROFILE
TYPICAL

BC/R

A

ADEC Subsegment Length: 235m

METERS

AK State Plane Zone 4

bxx0132a

Subdivision Field

Map Key: KNKH0132

Name: G. MacDonald

Date: 5-24-91

Date Entered: 

Reviewed: F.W. 5/29/91

Reviewed by: 5/14/91
## WILDLIFE OBSERVATIONS

**TO BE COMPLETED IN ALL SUBDIVISIONS**

### BIRDS

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<th>Eagles</th>
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</thead>
<tbody>
<tr>
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</tbody>
</table>

| Seabirds |              |              |                 |
| Waterfowl |              |              |                 |
| Gulls/Kittiwakes |              |              |                 |
| Shorebirds |              |              |                 |
| Corvids |                | Steller's Jay |                 |
| Other Birds |              |              |                 |

### MARINE MAMMALS

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<th>Sea Otters</th>
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<th>Species</th>
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</table>

| Pinnipeds (specify) | | |
| Whales (specify) | | |

### LAND MAMMALS

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<th># Observed</th>
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Shoreline subdivision map showing important biological features attached.
KN 132 A 5/24/91  Favotta

Start 1550

- narrow BR1B mod. angle shea
- M72 +3-6 ft - dense reeds, mod.
- barnacle, dense weed (v. lanellus)
- dense splot M72-UTZ - record 11th?
- CT +9 ft among upper edge of mod. barnacles
- (handwritten x line) am breeding below +4 ft
- other M72 - CTZ algae, UVR, fill in
- Scyto, Rhodo
- sparse lumps
- 1 Steller's Jay

End: 1550
1991 MAYSAP EVALUATION

SEGMENT: KN 132 SUB: C REGION: PWS SURVEY DATE: 5/24/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s) OPEN 5/1 - 7/10; RESTRICTED 7/10 - 9/15

Ecological/Constraints (see page two for details) 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.)
Spot Washing
Bio-Custoblen Only
Bio-Inipol/Customblen
Other
Other

COMMENTS:
INITIAL: ___________________________________________________________

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

FOSC:___________________________________________________________

TAG APPROVAL DATE:______________ FOSC APPROVAL DATE:______________

ADEC________________________ FOSC________________________

EXXON_________________________________________

USCG_________________________________________

NOAA_________________________________________
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

Anadromous Stream: Unlimited treatment up to stream bank between May 15 and July 10. ADF&G approval required for work after July 10. Fish Habitat Permit required for instream work. ADF&G approval required for bioremediation within 100 meters of anadromous stream after July 10.
TEAM NO. L I
SEGMENT KN 132
SUBDIVISION C
DATE 5.28.91

DEC
NAME JEFF QUIRD
SIGNATURE

☑ NTR
NO RECOVERABLE OIL. COBBLE/PEBBLE/Boulder beach, mid incline with reek headlands. Occasional coat/cover along H12. Let it be.

EXXON
NAME LARRY D. OLSON
SIGNATURE Larry D. Olsen

☑ NTR
No recoverable oil located.

LANDMANAGER
NAME MARSHA HALE OF DNR
SIGNATURE Marshal Hale

☑ NTR
No recoverable oil.

USCG/NOAA
NAME SCHULTZ
NAME SCHULTZ
SIGNATURE John Schultz

☑ NTR
Nothing left to recover.
MAYSAP SHORELINE OILING SUMMARY

TEAM NO. 1
OG G. MACDONALD
ADEC J. GINALIS
EXXON L. OLSON

BIO M. CAWSTT
LANDMANAGER M. HALE
USCG/NOAA SCHWARTZ/CHILDZ

SEGMENT KN-132
SUBDIVISION C
DATE 5/24/91

TIME 15:15 to 16:15
TIDE LEVEL +2.9 ft. to +2.3 ft.
ENERGY LEVEL: □ H □ L

SURVEYED FROM: □ FOOT □ BOAT □ HELO
WEATHER: □ SUN □ CLOUDS □ FOG □ RAIN
TOTAL LENGTH SHORELINE SURVEYED: 170 m
NEAR SHORE SHEEN: □ BR □ RB □ SL □ NONE

EST. OIL CATEGORY LENGTH:
W 0 m M 0 m N 0 m VL 170 m NO 0 m US 0 m

DISTIBUTION: C = 81-100%; B = 61-80%; P = 11-50%; S = 1-10%; T = <1%
SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE

OG COMMENTS: Rocky shore w/ CPB beach held in a rock headland. Surface oil only, as a trace of CT, ST, CV at HTZ; well weathered, rarely tacky; no odor.
KN-132C

CT, ST, CV, <1%
< 1/2 x 170 m

KEY

CT, ST, <1%
< 1/2 m wide, HTZ

CT, CV, <10%
< 1 m wide

3/10R, <10%
6 x 3 m, HTZ

CT, CV, v. well weathered, ≤ 1/10

LOR, 2 x 100 m

CT, brown oil
below B, HTZ
2.5 m x 80 m
60%

0

100 m

SUBSOIL/CO
≥ 8 x 75 m, LOR-MOR.

ADJ. S/F CT Marker

REVIEWED: F.W. 5/37/51

G. MACDONALD
5-24-91
TEAM # 1  DATE 24 May 91
SEGMENT # KN 132  TIDAL HEIGHT(Range) 4.0 ft MLLW
SUBDIVISION C  BIOLOGIST Michael Fawcett
SEA STATE 1/2 ft  WIND SPEED/DIRECTION N 5-10 KNOTS
PHOTOGRAPHS: ROLL 6  FRAME 

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):
This short subdivision includes a salmon stream with an active
ORES WWR operation. A small marsh and two pocket bays
beaches separated by steep rock walls. Residual oil consists
of light coat, cover, and stain in the upper intertidal zone at
1.5 to 10 ft MLLW. The oil in the beaches is above oil tits
except lichen and algal coat of worms on rock walls. The
oil is within the upper edge of the range of barnacles,
impacts, littorinids, and mussels. See sketch map.

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS  # OF SPECIES  TOTAL BIRDS  FISH OBSERVED

<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>
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<tr>
<td>Seabirds</td>
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<tr>
<td>Waterfowl</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shorebirds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corvids</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Other Birds</td>
<td></td>
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</tr>
</tbody>
</table>

MARINE MAMMALS  # OBSERVED  SPECIES  # OBSERVED

<table>
<thead>
<tr>
<th>Marine Mammals</th>
<th># Observed</th>
<th>Species</th>
<th># Observed</th>
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</thead>
<tbody>
<tr>
<td>Sea Otters</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Pinnipeds(specify)</td>
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<td></td>
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</tr>
<tr>
<td>Hales(specify)</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Shoreline subdivision map showing important biological features attached.
KEY

- CT, JT, <1%
  6/12 m wide, hitz
- CT, CV, <10%
  ≤1 m wide
132 C (KAN) 24 May 9 Fawcett
Start 1615 at OB6 wes
MT2 - ground flat in delta w
no red mussel/trash from delta
all over 17/18 sand bottoms
mussel near face in places
CT on R wall above creek
18-10ft among mud banks
1mp. lit, Feces

1625 - pocket behind creek
B/C/P beach, digger ends downs
CT on C/P UT2 - 5/12 + 9-10ft
Feces only - barbetts - short 3-4m
damper + 7-8ft
-dense on MT2 B/C - sparse
Feces of muscels - become sand
in LT2 at isolated cell-
dense muscels & bar to slope in LT2
MT2 where there are no B/C/P QR
-very dense algae on QR at mouth
of cave

1635 next small pocket B/C/P
rock wall - dense Feces & MT2-LT2
dense lit (many years) - small algae
little eggs - amp hydr - dense barn
d Feces on walls (END 1640)
CT/ST SUT2 above all but original
1991 MAYSAP EVALUATION

SEGMENT: KN 132  SUB: C  REGION: FWS  SURVEY DATE: 5/24/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s) OPEN 5/1 - 7/10; RESTRICTED 7/10 - 9/15

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

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

SHPO Signature:  [Signature] Date: 6/04/91

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: June 4/91  FOSC APPROVAL DATE: 6/01/91

ADEC  [Signature]  FOSC  [Signature]
EXXON  [Signature]  E. E. PAGE, CDR, USCG
USCG  [Signature]  CHIEF OF STAFF, FOSC
NOAA  [Signature]
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

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.
TEAM NO. 1  SEGMENT KN 137  SUBDIVISION C  DATE 5/24/91

ADEC NAME JEFF GUARDIAN SIGNATURE [Signature]

NTR NO RECOVERABLE OIL. COBBLE/PEBBLE/PEBBLE BEACH, MIDS INCLINE WITH TREES. HEADLANDS. OCEAN-WAY CONC/COVER ALONG HILZ. LET IT BE.

EXXON NAME LARRY D. OLSON SIGNATURE [Signature]

☑️ NTR NO RECOVERABLE OIL LOCATED.

MANAGER NAME MARSHA HALL OF DNR SIGNATURE [Signature]

☑️ NTR NO RECOVERABLE OIL.

USCG/NOAA NAME SCHULTZ SIGNATURE [Signature]

☑️ NTR NOTHING LEFT TO RECOVER.

Rugged Pillow Dam Beach Shoreline w/ Sheltered Tidal Marsh off Stream to Sub. A COBBLE PEBBLE BEACH in the CENTER OF THE SEGMENT. NO Subsurface Oil. ONLY Surface Oil Observed was "Typical" CT, CV, ST, TV HILZ-SUTZ.
**MAYSAP SHORELINE OILING SUMMARY**

**TEAM NO.**

OG  G. MACDONALD  BIO  M. CANNAN

ADEC  J. GINNALS

EXXON  L. OLSON

**OILpling Summary**

**DATE** 5/24/91

**TIME** 15:45 to 16:15

**TIDE LEVEL** +7.9 ft. to +2.3 ft.

**ENERGY LEVEL**

**SURVEYED FROM**

**WEATHER**

**TOTAL LENGTH SHORELINE SURVEYED** 170 m

**NEAR SHORE SHEEN**

**EST. OIL CATEGORY LENGTH**

**SLOPE**

**PHOTO ROLL** MAYSAP

**FRA MAMES** 10-12

**PIT NO.**

**PIT DEPTH** (cm)

**SUBSURFACE OIL CHARACTER**

**OILED ZONE**

**CLEAN BELOW** (cm)

**H2O LEVEL**

**SHEEN COLOR**

**PIT ZONE**

**NOTES**

**SURFACE-OIL CHARACTER**

**SURFACE SEDIMENT**

**ZONE**

**SLOPE**

**NOTES**

**Distribution:**

**SLOPE:**

**COLOR:**

**NOTES**

**OG COMMENTS:**

Rocky shore of CPB beach held in a rock headland. Surface oil only, as a trace of CT, CT, CV O H T Z; well weathered; rarely tacky; no odor.

**REVIEWED:** F.W. 5/27/91

**REVISED:** MC 5/27/91
MAYA/P. BIOLOGICAL SUMMARY FORM

TEAM # 1
SEGMENT # KW 132
SUBDIVISION C
SEA STATE 1/2 ft

DATE 2-4 May 91
TIDAL HEIGHT (Range) 4-0 ft MLLW
BIOLOGIST Michael Fawcett
WIND SPEED/DIRECTION N 5-10 knots

PHOTOGRAPHS: ROLL # FRAME #

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):
This short subdivision includes a salmon stream with an active AFEG weir operation, a small marsh and two pocket beaches separated by steep rock walls. Residual oil consists of light coat, cover, and stain in the upper intertidal zone at 11+4 to 10+5 MLLW. The oil in the beaches is above all except lichen and oligochaete worms on rock walls. The oil is within the upper edge of the range of barnacles, limpets, urchins, and Fucus. See sketch 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</th>
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</thead>
<tbody>
<tr>
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<tr>
<td>Corvids</td>
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<tr>
<td>Other Birds</td>
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</tbody>
</table>

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

Shoreline subdivision map showing important biological features attached.
182C (KAv.) 24 May 94 Fawcett
Start 1615 at 1 CRM
MTZ - gravel flat in Bella w1
most mussels/tufts F muy cel
all over it, dead bivalves -
mussels very fresh in places
- cr on R wall above creek
+ 8-10 ft among mud bar
1, mf + ltt, F. crna

1625 - pocket behind creek
B/C/P beach, biggs sand dunes
CT on C/P, UTZ-SUTZ + 9-10 ft -
- worms only, - bar needles almost 3-4 ft
- some cr.
- dense cr on MTZ B/C - spars
F crna or mussels - biggs sand
in MTZ w/ scattered...-
- dense mussels + bare to sand in MTZ
- very dense algae on B/C + DR
1635 read small pocket B/C/P
rock with dense F crna + MTZ-LTZ
- dense lift (many young) - shad some
- ltt eggs - amp hook - dense bar
1 crna on walls (End 1640)
CT/ST SUTZ above all but shoreline
1991 MAYSAP EVALUATION

SEGMENT: KN 132  SUB: B  REGION: PWS  SURVEY DATE: 5/1/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s) OPEN 5/1 - 7/10; RESTRICTED 7/10 - 9/15

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

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

SHPO Signature: ________________________ Date:____________________

RECOMMENDATIONS:

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

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

COMMENTS:

INITIAL: ______________________________________________________

TAG: _______________________________________________________ ___

FOSC: _______________________________________________________

TAG APPROVAL DATE: ________  FOSC APPROVAL DATE: ____________

ADEC_________________________  FOSC _________________________

EXXON________________________

USCG________________________

NOAA________________________
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

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

**TEAM NO.** 6  **SEGMENT** KN-132  **DATE** 5/1/91

<table>
<thead>
<tr>
<th>ADEC/LUSFS</th>
<th>NAME</th>
<th>SIGNATURE</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tom</td>
<td></td>
<td>This low energy beach area has greatly improved oiling conditions since last treated in 1990. However, there still remains a significant layer of oiling adjacent to the anadromous stream that traverses this segment. An effort should be made to reduce or remove the oil remaining. Suggested treatment of mechanical tilling such as used to till this area in 1990. This method has proven to be very effective.</td>
</tr>
</tbody>
</table>

**EXXON**

<table>
<thead>
<tr>
<th>NAME</th>
<th>SIGNATURE</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scott A. Nauman</td>
<td></td>
<td>Oiling on this subdivision is limited to the surface - pits were all free of oil with the exception of one shallow hole (10 cm). Surface band is patchy oil with sor and AP. The AP present adjacent to the stream was collected to its practical limit during the survey. Moving north down the beach, the shoreline gains more angular cobbles and boulders. The practicality of recovering the isolated patches in this area is low (would involve boulder flipping, etc.) I see no benefit to treatment.</td>
</tr>
</tbody>
</table>

**LANDMANAGER**

<table>
<thead>
<tr>
<th>NAME</th>
<th>SIGNATURE</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aimee Weseman</td>
<td></td>
<td>Treatment Recommended. This productive anadromous fish stream still contains appreciable amounts of AP, HSOR sediments along the stream bank. The resident ADFG personnel report that when the sun comes out, the AP liquifies and &quot;oozes&quot; out of the ground-down towards the channel. At the very least, the AP HSOR sediments should be removed. A more thorough treatment would include mechanically tilling these areas as well as the MOR oil located closer to the channel.</td>
</tr>
</tbody>
</table>

**USCG/NOAA**

<table>
<thead>
<tr>
<th>NAME</th>
<th>SIGNATURE</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scott Purdy/Rebecca Haefer</td>
<td></td>
<td>Areas with remaining oil in upper intertidal could be manually tilled over. Remaining asphalt pieces picked up. However, this activity should be restricted to upper tidal areas, i.e. areas E, H, I + B. Mechanical tilling is not called for &amp; would be too intrusive. Care should be taken not to impact marsh/peat areas, such as those above stream bed in B1-E.</td>
</tr>
</tbody>
</table>
MAYSAP SHORELINE OILING SUMMARY

TEAM NO. 6
OG: DAVID LITTLE
BIO: TOM SCHROEDER
ADEC: TOM CROWE
LANDMANAGER: ANNE WEGEHN
EXXON: SCOTT B. NAUMAN
USCG/NOAA: SUE SPURLING/BRENT HOFF

TIME: 08:05 to 09:15
TIDE LEVEL: 1 ft. to 0.5 ft.
ENERGY LEVEL: □ H □ M □ L
SURVEYED FROM: □ FOOT □ BOAT □ HELO
WEATHER: □ SUN □ CLOUDS □ FOG □ RAIN □ SNOW
TOTAL LENGTH SHORELINE SURVEYED: 170 m
NEAR SHORE SHEEN: □ BR □ RB □ SL □ NONE
EST. OIL CATEGORY LENGTH: W: - m M: 60 m N: - m VL: 52 m NO: 18 m US: - m

Surface Oil Character

<table>
<thead>
<tr>
<th>LOC</th>
<th>AP</th>
<th>MS</th>
<th>TB</th>
<th>SOR</th>
<th>CV</th>
<th>CT</th>
<th>ST</th>
<th>FL</th>
<th>DB</th>
<th>NO</th>
<th>SEDIMENT TYPE</th>
<th>SHORE SLOPE</th>
<th>WIDTH</th>
<th>LENGTH</th>
<th>ZONE</th>
<th>NOTES</th>
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<tbody>
<tr>
<td>A</td>
<td>S</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Rock</td>
<td>H</td>
<td>0.5</td>
<td>8</td>
<td>X</td>
<td>Heavy in vegetation wet</td>
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<tr>
<td>B</td>
<td>P</td>
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<td></td>
<td></td>
<td></td>
<td>Rock</td>
<td>D</td>
<td>0.5</td>
<td>2</td>
<td>X</td>
<td>Heavy SOR (PU A0)</td>
</tr>
<tr>
<td>C</td>
<td>S</td>
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<td></td>
<td>Rock</td>
<td>T</td>
<td>0.3</td>
<td>2</td>
<td>X</td>
<td>Space needles</td>
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<td>D</td>
<td>P</td>
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<td></td>
<td></td>
<td>Rock</td>
<td>T</td>
<td>0.3</td>
<td>2</td>
<td>X</td>
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<tr>
<td>F</td>
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<td></td>
<td>Rock</td>
<td>D</td>
<td>0.5</td>
<td>2</td>
<td>X</td>
<td>Heavy SOR spatters</td>
</tr>
<tr>
<td>G</td>
<td>S</td>
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<td>D</td>
<td>0.5</td>
<td>2</td>
<td>X</td>
<td>Heavy SOR spatters</td>
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</table>

Distribution: C = 01-100%; B = 11-50%; M = 1-10%; T = <1%
Slope: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE

PIT

<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>H20 LEVEL</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
<th>SURFACE-SUBSURFACE SEDIMENTS</th>
<th>NOTES</th>
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<tr>
<td>1</td>
<td>30</td>
<td>X</td>
<td>Y: 20</td>
<td>N</td>
<td>X</td>
<td>N</td>
<td>X</td>
<td>p - g9</td>
<td></td>
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<tr>
<td>2</td>
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<td>X</td>
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<td>25</td>
<td>X</td>
<td>Y: 10</td>
<td>N</td>
<td>X</td>
<td>N</td>
<td>X</td>
<td>p - g9</td>
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<td>X</td>
<td>Y: 10</td>
<td>N</td>
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<td>X</td>
<td>p - g9</td>
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<td>20</td>
<td>X</td>
<td>Y: 10</td>
<td>N</td>
<td>X</td>
<td>N</td>
<td>X</td>
<td>p - g9</td>
<td></td>
</tr>
</tbody>
</table>

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

OG COMMENTS:
Surface oil was found in a relatively wide (~10m) band of discontinuous AP and SOR in the VC72. Core oil was higher near the Beachside onshore at the latitude of the stream mouth or low tide, and also at the southern end of the band. Much (~50%) of the AP in this band was picked up, leaving patches of SOR. Locations A, C, and D were included in the form and map because of their proximity to the stream. However, they were in KN-132-C.

No subsurface oil was found except in a very discontinuous band of AP in connection with the major (southerly) location of the SOR. Maximum penetration depth was 15 cm.

REV 3 5/7/91 M
REV R ENDO: 5/7/91 ML
<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE (cm)</th>
<th>CLEAN BELOW (cm)</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
<th>SURFACE-SUBSURFACE SEDIMENTS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
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<td>X</td>
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<td>S</td>
<td>X</td>
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<td>11</td>
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<td>X</td>
<td>0 - 10</td>
<td>Y</td>
<td>S</td>
<td>X</td>
<td></td>
<td>p - 95</td>
</tr>
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<td>0 - 3</td>
<td>Y</td>
<td>S</td>
<td>X</td>
<td></td>
<td>p - 95</td>
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<td>X</td>
<td>0 - 7</td>
<td>Y</td>
<td>S</td>
<td>X</td>
<td></td>
<td>p - 9</td>
</tr>
</tbody>
</table>

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

OG COMMENTS:
**Team #: 6**
**Segment #: KN-132**
**Subdivision #: D**
**Sea State #: Light Chop**
**Photographs: Roll #:**

**Date: 5/1/91**
**Tidal Height (Range): +/- 1 ft**
**Biologist: T.A. Schroeder**
**Wind Speed/Direction: N - N 10 - 15 mph**

**Comments/Observations**

(F.G.1) = Hatchery area. Below these patches of CV, HP, and SOA, are very lush and productive. Fish and muskrat growth is excellent and largeable. River is prolific with many numbers of 5-6-7-8 inch salmon, 5-6-7-8 inch trout, ringlet, and kelpers.

(F.H.1) = Formerly a muskrat area. Re-establishing themselves, 1-7-8-9-10-11 areas are very lush and productive. River is prolific and virtually fishless in any raised life or vegetation. Salish, ringlet, and kelpers only abundant in 1-7-8-9-10-11 areas.

(F.C.1) = Located in close proximity to salmon stream. 1-7-8-9-10-11 areas are very lush and productive. River is prolific and should not be jeopardized by any intrusive cleaning methods.

While the area is expected to considerably harm aquatic life, the 1-7-8-9-10-11 areas are very rich with plant and animal life. The area treated with non-intrusive mechanical methods (F.G.1) is almost lacking in any plant or animal life, whereas the area treated with the intrusive method (F.C.1) is very rich and lush.

**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>
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<tbody>
<tr>
<td>Eagles</td>
<td></td>
<td>1 Salvin</td>
<td>1 salmon</td>
</tr>
<tr>
<td>Seabirds</td>
<td></td>
<td>17</td>
<td>500 pink salmon</td>
</tr>
<tr>
<td>Waterfowl</td>
<td>1</td>
<td>17</td>
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</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td>1</td>
<td>17</td>
<td>2 pink salmon</td>
</tr>
<tr>
<td>Shorebirds</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Corvids</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Birds</td>
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### Marine Mammals

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<tr>
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<th># Observed</th>
<th>Species</th>
<th># Observed</th>
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<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>

Shoreline subdivision map showing important biological features attached.
H. Fucus 25-50m along entire shore. Small ferns, kelp, corals, and barnacles. Hence, extremely rich intertidal area with good protection in large boulders.

Both areas in H17Z & U17Z at and below 117; very stable, virtually no organisms observed at all.

Fleshy algae, barnacles, and limpets present in H17Z evidence of sea urchin digging.

Barnacles, snails, and eelgrass, especially mussel beds in H17Z. Some mussels in U17Z.

Thick Fucus with some mussels, barnacles, limpets, and sand fleas very abundant.
1991 MAYSAP EVALUATION

SEGMENT: 
SUB: 
REGION: FWS 
SURVEY DATE: 5/24/91

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>
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</tbody>
</table>

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

COMMENTS:

INITIAL: ____________________________________________________

TAG: ________________________________________________________

FOSC: _______________________________________________________

TAG APPROVAL DATE: ____________ FOSC APPROVAL DATE: ____________

ADEC ______________________
EXXON ______________________
USCG ______________________
NOAA ______________________


MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. _______ SEGMENT _______ SUBDIVISION _______ DATE 5/24/91

ADEC
NAME: JEFF GINNANS

FIELD SHORELINE COMMENTS:

[Text]

EXXON
NAME: LARRY D. OLSON

[Text]

LAND MANAGER
NAME: MARK H. HALLE

[Text]

USCG/NOAA
NAME: SCHOLTZ

[Text]
## MAYSAP SHORELINE OILING SUMMARY

**TEAM NO.** 1  
OG: G. MACDONALD  
ADEC: J. GINNANS  
EXXON: L. O'CONNOR  
BIO: M. FAUCET  
LANDMANAGER: M. HALL  
USCG/NOAA: SCHULZ/CHILD  

**DATE:** 5/24/91  
**SEGMENT:** KN-132  
**SUBDIVISION:** D  
**TIME:** 16:50 to 18:05  
**TIDE LEVEL:** +2.2 ft. to +2.4 ft.  
**ENERGY LEVEL:**  
**SURVEYED FROM:** XFOOT  
**WEATHER:** xsUN  
**TOTAL LENGTH SHORELINE SURVEYED:** 535 m  
**NEAR SHORE SHEEN:**  
**EST. OIL CATEGORY LENGTH:** W  

<table>
<thead>
<tr>
<th>LOC</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT</th>
<th>SHORE SLOPE</th>
<th>AREA</th>
<th>ZONE</th>
<th>NOTES</th>
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<tbody>
<tr>
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<td>R B M</td>
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<tr>
<td>B</td>
<td>S</td>
<td>B L M</td>
<td>4</td>
<td>3</td>
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<td>x</td>
</tr>
<tr>
<td>C</td>
<td>P</td>
<td>R H</td>
<td>≤1</td>
<td>20</td>
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<tr>
<td>D</td>
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<tr>
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<tr>
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<td>B</td>
<td>C PB M</td>
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<td>80</td>
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</table>

**DISTRIBUTION:** C = 81-100%; 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 - 30  
**FRAMES:** 13 to 16  

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>DEPTH (cm)</th>
<th>OILED ZONE</th>
<th>CLEAN DIRT</th>
<th>H2O LEVEL</th>
<th>SHEEN COLOR</th>
<th>SUBSURFACE-OILED ZONE</th>
<th>SUBSURFACE SEDIMENTS</th>
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<tr>
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<td>15</td>
<td>S 5-B</td>
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<td></td>
<td></td>
<td>x</td>
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<td></td>
</tr>
<tr>
<td>2</td>
<td>20</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x CB-CP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>20</td>
<td>x</td>
<td></td>
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<td></td>
<td>x CB-CP</td>
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<tr>
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<td>x CB-CP</td>
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<td>x CB-CP</td>
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<tr>
<td>8</td>
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<td>x CB-CP</td>
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<td></td>
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<tr>
<td>9</td>
<td>15</td>
<td>x 5-7</td>
<td></td>
<td>20 S</td>
<td></td>
<td>x CB-CP</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

**OG COMMENTS:** Rocky shore w/ 2 CB beaches. Surface oil so well weathered CT, CV and associated surfactant lo soft. The southern beach has roll-nail subsurface, below a large oil sheen ball w/ a gunk substance. No sheen was observed at siteline during survey.

Reviewed: F.W. 5/27/91
Revised: MC 5/18/91
TEAM # 1  DATE 5/24/91
SEGMENT # KN 132  TIDAL HEIGHT (Range) +2.5 to +3.7 ft MLLW
SUBDIVISION B  BIOLOGIST Michael Faukett
SEA STATE 3/4 ft seas  WIND SPEED/DIRECTION N 5-10 knots
PHOTOGRAPHS: ROLL #  FRAME #

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

The main areas of concern in this subdivision are two small N.E.
lacing cores (E & F on sketch map). At site E the residual
oil is superficial andhigh on the beach in the supratidal zone.
At site F buried oil extends through MTZ and into LTZ, and
lies beneath a healthy and fairly diverse boulder community
consistent with this region (see sketch map). Removing the buried
oil would necessitate destroying the existing community.

The presence of Daphnia worms among surface oil residue
in MTZ-LTZ supports hypothesis that they consume decaying
oil. These worms normally occur in U TZ or S TZ and feed
on decaying seaweed.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS  # OF SPECIES  TOTAL BIRDS  FISH OBSERVED  SPECIES PRESENT

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

LAND MAMMALS

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

Shoreline subdivision map showing important biological features attached.
KMS 5/24/91  Fauquet
Start 1445

- Same general description as C
- Dense brown F & MTZ on bottom,
  up to MTZ on BR walls
  - CT/ST on walls + 10 ft or so
  above most diot
  - pos. of 3-plus calibers on roof
- 1050 pocket B/BR - CT/ST/CI/BR
+ 8-12 ft above dense barite
  (up to 8 ft) dense 4-6" barite
+ 2-5 ft
  - public bunk, amp, mad. diet,
- 112 Rhodo, chlorite, 0.049
- dense barite 80% 12 = MTZ
1700 - 157 big cone - B/CI/BR bars
North end of cone has MTZ bar in
MTZ 115 among bars, glass
+ 12 ft - barite, amp, lab,
+ 3-5 m. barite
  - Barite core, dense in MTZ,
  from aprons, both on "graves"
cobble
- hemispherical, sparse lump, CN, MTZ 0.2
  sparse mud - bit of CT & CO barite
shells down to 10 ft.
KN 1328 (cont) 5/24/91

1730 - 2nd big core - same as 1st
for both - dense Fuscina barn 0.7 in.
appear in BC except barnacles
which were gone in some MTZ areas
on larger 0.8
- barnacle down to 14.5 ft
among dense barnacles Fuscus
almost dead (many young 0.5 ft
some larger) - sound muscle
- lot green clear down to about
+0.5 ft (unforratable) in dense
Fuscus
- LT2 MTZ = +3 - 6 ft also no
and dense spot j. Cypriotes in ad-
vanced stage of LDET, numerous
hermit crabs, - all seem normal
except presence of Odiacontinus triis
now or there
- unsure if Horrid eggs
- cunabular pellies

finished 1805 hrs
1991 MAYSAP EVALUATION

SEGMENT: KW132  SUB: B  REGION: PWS  SURVEY DATE: July 8 - TAG

ENVIRONMENTAL SENSITIVITIES:
Work Window(s) RECOMMENDED

Ecological/Constraints (see page two for details) JUL 18 1991

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

SHPO Signature: Timothy Smith Date: 7/19/91

RECOMMENDATIONS:

TREATMENT REQUIRED (Y or N) INITIAL TAG FOSSC

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

COMMENTS:
INITIAL:

TAG: NO FURTHER MANUAL TREATMENT REQUIRED. INIPOL APPLICATION NOT RECOMMENDED DUE TO PRESENT LAND USE - ADF+G CAMP.
AND AT THE REQUEST OF ADF+G.

FOSC:

TAG APPROVAL DATE: 7/9/91  FOSSC APPROVAL DATE: 7/10/91

ADEC  FOSC
Exxon
USCG  L. E. Murphy
NOAA
1991 MAYSAP EVALUATION

SEGMENT: KN 132  SUB:  B  REGION:  PWS  SURVEY DATE:  5/1/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s)  OPEN 5/1 - 7/10;  RESTRICTED 7/10 - 9/15

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

ARCHAEOLOGICAL CONSTRAINTS:
Consultation and inspection with an Exxon archaeologist is required prior to treatment. Specific on-site monitoring requirements will be determined at that time. PHONE 564-3276; 564-3657; (Anchorage) or 229-1514 (24 hrs.).

RECOMMENDATIONS:

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

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

COMMENTS:

TAG WILL ASSESS FOLLOWING TREATMENT TO ASSESS THE NEED FOR FURTHER TILLING.

TAG:  MANUAL PICKUP OF AP / HSOR AREA (EASILY ACCESSIBLE LOCATIONS) FOLLOWED BY MANUAL RAKE / TILL + CUSTOMBLEN. EXXON RECOMMENDS INIPOL HOWEVER ADFC REQUESTED NOT TO APPLY INIPOL DUE TO PROXIMITY TO FISH CAMP.

TAG APPROVAL DATE:  MAY 14 1991  FOSC APPROVAL DATE:  5/21/91

ADEC:  John  FOSC:  E. E. PAGE, CDR, USCG
        Scull  CHIEF OF STAFF, FOSC
        Scull
EXXON:  Scull
USCG:  Scull
NOAA:  Scull
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

Anadromous Stream: Unlimited treatment up to stream bank between May 15 and July 10. ADF&G approval required for work after July 10. Fish Habitat Permit required for instream work. ADF&G approval required for bioremediation within 100 meters of anadromous stream after July 10.
This low energy beach area has greatly improved ocean conditions since last treated in 1990. However, there still remains a significant layer of oiling adjacent to the anomalous stream that traverses this segment. An effort should be made to reduce or remove the oil remaining. Suggested treatment of mechanical tilling such as used to till this area in 1990. This method has proven to be very effective.

Oiling on this subdivision is limited to the surface-pits were all free of oil with the exception of one shallow hole (10 cm). Surface band is patchy and present, adjacent to the stream was collected to its practical limit during the survey. Moving north down the beach, the shoreline gains more angular cobbles and boulders. The practicality of recovering the isolated patches in this area is low (would involve boulder flipping, etc.). I see no benefit to treatment.

This productive anomalous fish stream still contains appreciable amounts of AP, HSOR sediments along the stream bank. The resident ADF4G personnel report that when the sun comes out, the oil liquifies and "oozes" out of the ground-downhill towards the channel. At the very least the AP, HSOR sediments should be removed. A more thorough treatment would include mechanically filling these areas as well as the MOR oil located closer to the channel.

Areas with remaining oil in upper intertidal could be manually tilled over. Remaining asphalt pieces picked up. However, this activity should be restricted to upper tidal zone, i.e., areas E, H, I, and B. Mechanical tilling is not called for, would be too invasive. Care should be taken not to impact marsh/peat areas such as those above stream line LK in 32-C.
MAYSAP SHORELINE OILING SUMMARY

TEAM NO. G

OG  DAVID LITTLE  BIO  TOM SCHROEDER
ADEC  TOM CROWE  LANDMANAGER  AMIE WIEBE for 70-F-G
EXXON  SCOTT NAUMAN  USCG/NOAA

PAGE 1 OF 5

SEGMENT  KN-132
SUBDIVISION  B
DATE  05/01/91

TIME  08:05 to 09:15  TIDE LEVEL  1 ft. to 0.5 ft.
ENERGY LEVEL:  H  M  X  L

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

TOTAL LENGTH SHORELINE SURVEYED:  170 m  NEAR SHORE SHEEN:  ☑ BR ☐ RB ☐ SL ☐ NONE

EST. OIL CATEGORY LENGTH:  

<table>
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<tr>
<th>LO</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT TYPE</th>
<th>SHORE SLOPE</th>
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<th>LENGTH</th>
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<td>rock</td>
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<tr>
<td>B</td>
<td>P</td>
<td>p</td>
<td>M 10</td>
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<tr>
<td>C</td>
<td>S</td>
<td>M</td>
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<td>T</td>
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<td>M 10</td>
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<td>I</td>
<td>S</td>
<td>CP</td>
<td>L 5</td>
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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- 6 - 04  FRAMES  1-20

SURFACE-OILED ZONE:  

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN BELOW</th>
<th>HO2 LEVEL</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
<th>SURFACE-OIL SUBSURFACE SEDIMENTS</th>
<th>NOTES</th>
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<tbody>
<tr>
<td>1</td>
<td>20</td>
<td>X</td>
<td>Y</td>
<td>20</td>
<td>N</td>
<td>X</td>
<td>p-ep</td>
<td>Muscled shells</td>
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<td>25</td>
<td>X</td>
<td>Y</td>
<td>23</td>
<td>N</td>
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<td>10</td>
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<td>10</td>
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<td>X</td>
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<td>9</td>
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<td>X</td>
<td>Y</td>
<td>10</td>
<td>R</td>
<td>X</td>
<td>p-ep</td>
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</tbody>
</table>

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

OG COMMENTS:

Surface oil was found in a relatively wide (~10 m) band of discontinuous Ap and SOR in the UTR2.  Cover was higher near the Bedrock outcrop at the latitude of the stream mouth at low tide, and also at the southern end of the band.  Much (~50%) of the Ap in this band was picked up, leaving patches of SOR.  Location A/C and D were included on the form and map because of their proximity to the stream; however, they were in KN-132-C.

No subsurface oil was found except in a very discontinuous band of ~10 m in association with the major (southern) location of SOR.  Maximum penedible depth was 15 cm.

REVISED 5/13/91 KG
REVIEWED: 5/7/91 ML
## SEGMENT: KN-132

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT NO.</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN BELOW</th>
<th>H2O LEVEL</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
<th>SURFACE-SUBSURFACE SEDIMENTS</th>
<th>NOTES</th>
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<td>10</td>
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<td>X</td>
<td>0-15</td>
<td>Y</td>
<td>--</td>
<td>S</td>
<td>X</td>
<td>p-95p</td>
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<td>--</td>
<td>S</td>
<td>X</td>
<td>p-95 surface only</td>
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<td>13</td>
<td>20</td>
<td>X</td>
<td>0-7</td>
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<td>--</td>
<td>S</td>
<td>X</td>
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**SHEEN COLOR:**
- B = BROWN
- R = RAINBOW
- S = SILVER
- N = NONE

**OG COMMENTS:**

Reviewed 5/1/91 KG
Reviewed 5/3/91 KG
HAYSAP BIOLOGICAL SUMMARY

TEAM # 6
SEGMENT # KN-132
SUBDIVISION B.
SEA STATE Light Chop

TIDAL HEIGHT(Range) +1 ft -1 ft
BIOLIGIST T.A. Schroeder
WIND SPEED/DIRECTION N > 10-15 mph

DATE 5/1/91

PHOTOGRAPHS: ROLL # FRAME #

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

(F.G) = A portion of the shoreline is very rich and productive. Fungi and mussel growth is excellent and large crowds of shorebirds are present. Waterfowl are often found in large numbers of boulder-carrying, bottom-feeding limpets and barnacles.

(H, T + 4) = Fungi and mollusks are reestablishing themselves. Shells of limpets and mussels are scattered throughout the area. The intertidal zone is very rich and productive.

(C, + 2) = The intertidal zone is very rich and productive, and should not be jeopardized by any intrusive cleaning methods.

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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</thead>
<tbody>
<tr>
<td>Eagles</td>
<td></td>
<td></td>
<td>1 Sculpin</td>
</tr>
<tr>
<td>Seabirds</td>
<td></td>
<td></td>
<td>50 fish salmon</td>
</tr>
<tr>
<td>Waterfowl</td>
<td>1</td>
<td>17</td>
<td>Pig in bucket</td>
</tr>
<tr>
<td>Gulls/kittiwakes</td>
<td>1</td>
<td>17</td>
<td>Pig in bucket</td>
</tr>
<tr>
<td>Shorebirds</td>
<td></td>
<td></td>
<td>2 pig in Stream</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>
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</thead>
<tbody>
<tr>
<td>Sea Otters</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pinnipeds(specify)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whales(specify)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

LAND MAMMALS

Shoreline subdivision map showing important biological features attached.
Fucuses bed along entire shore, snails, barnacles, limpets and barnacle glue banding. Extremely rich intertidal area with good protection in large boulders.

Bush areas in H1TZ & U1TZ at and below B, H, C are very sterile, virtually no organisms observed at all.

Filamentous algae throughout stream. Clams and peacock wulms present in U1TZ - evidence of sea star digging.

Littorine snails and egg masses, barnacles and mussels along entire rock outcropping on southeast stretch.

Thick Fucus with some mussels in U1TZ. Seals, limpets and sand fleas very abundant.
ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/KN-132 STREAM NO: 226-10-16982 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)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Subject stream is located at boundary of Subdivision B and C (2 and 3 of 4).

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

SHPO SIGNATURE: __________________________ DATE: __________
Subsurface Oil Observed: Yes X No Maximum Depth __ cm

RECOMMENDATIONS:

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

Other (see comments)

COMMENTS: Recommended treatment includes 1) manual removal of tarmat and pickup oiled vegetation and mousse patties, 2) spot wash area under tarmat after removal, and 3) bioremediation of area shown on attached sketch map. Work should be conducted between 5/15 and 7/10 with approval of ADF&G regarding bioremediation of stream bank.

TAG COMMENTS: ____________________________________________

TAG APPROVAL DATE: __________
ADEC ________________________________ EXXON ________________________________
NOAA  ________________________________ USCG  ________________________________
XXX Wide
/// Medium
--- Narrow
TTTT Very Light
0000 No Oil

KN-132

Map Key: PWS-315
Name: Sawyer
Date: 3-31-90
Data Entered:

---Subject Anadromous Stream at boundary of subdivision B & C

St/KN132 B
ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 226-10-16982

SEGMENT KN-132 SUBDIVISION B

WORK WINDOW

<table>
<thead>
<tr>
<th>Manual Pickup</th>
<th>OPEN</th>
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<tbody>
<tr>
<td>Tarmac Removal</td>
<td>OPEN</td>
</tr>
<tr>
<td>Spot Washing</td>
<td>OPEN</td>
</tr>
<tr>
<td>Bioremediation More Than 100m From Stream</td>
<td>WORK PRIOR TO 7/10 (ADF&amp;G MONITOR REQ.)</td>
</tr>
<tr>
<td>Bioremediation Less Than 100m From Stream</td>
<td></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 (226-10-16982) forms the boundary between Subdivision B and C. Subdivision B is closed to bioremediation less than 100m from stream 7/10 to 8/31. Prior to 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. No constraint to manual pickup, tarmac removal and spot washing.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or bank. No flushing of pollutants or sediment into stream drainage; do not allow inflow to enter stream flow. On-site examination and consultation by ADF&G monitor is required prior to bioremediation in order to authorize a setback distance from the stream during chemical application. If ADF&G monitor's presence is impossible, authorization may be given by the ADEC monitor. Avoid any unnecessary disturbance or damage to unrolled biota and substrate.

SEE SUBDIVISION CONSTRAINT ADDENDUM KN-132B FOR ADDITIONAL CONSTRAINT INFORMATION
ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/KN-132 STREAM NO: 226-10-16982 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 9/31)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Subject stream is located at boundary of Subdivision B and C (2 and 3 of 4).

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

SHPO SIGNATURE: J. M. [Signature] DATE: 5/18/90

Subsurface Oil Observed: Yes X No____ Maximum Depth 8 cm

RECOMMENDATIONS:
X Treatment Recommended
X Manual Pickup
X Bioremediation
X Tarmat Removal

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

COMMENTS: Recommended treatment includes 1) manual removal of tarmat and pickup oiled vegetation and mousse patties, 2) spot wash area under tarmat after removal, and 3) bioremediation of area shown on attached sketch map. Work should be conducted between 6/15 and 7/10 with approval of ADF&G regarding bioremediation of stream bank.

TAG COMMENTS: [See Addendum Date 5/28/90]

TAG APPROVAL DATE: 5/10/90
ADEC [Signature] DATE: 5/15/90
EXXON [Signature] DATE: 5/15/90
NOAA [Signature] DATE: 5/15/90
USCG [Signature] DATE: 5/15/90
ANADROMOUS FISH STREAM ASSESSMENT

REGION: PRINCE WILLIAM SOUND
SEGMENT: KN-132
STREAM NO: 226-10-16982
ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-132 STREAM NO: 226-10-16982 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)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Subject stream is located at boundary of Subdivision B and C (2 and 3 of 4).

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

SHPO SIGNATURE: ______________________ DATE: __________

Subsurface Oil Observed: Yes X No _____ Maximum Depth 8 cm

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

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

COMMENTS: Recommended treatment includes 1) manual removal of tarmat and pickup oiled vegetation and mousse patties, 2) spot wash area under tarmat after removal, and 3) bioremediation of area shown on attached sketch map. Work should be conducted between 5/15 and 7/10 with approval of ADF&G regarding bioremediation of stream bank.

TAG COMMENTS: ____________________________________________________________
__________________________________________________________
__________________________________________________________

TAG APPROVAL DATE: __________
ADEC ____________________ FOSC: __________ DATE: __________
EXXON ____________________
NOAA ____________________
USCG ____________________
Salmon stream mouth - fry outmigration (3/1 to 5/15)
Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bio remediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or lnipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.

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

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

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

1D Esther Hatchery release (4/15 to 6/1)
1E Main Bay Hatchery release (4/20 to 6/10)
1F Sawmill Bay Hatchery release (4/15 to 6/1)
1G Cannery Creek Hatchery release (4/21 to 6/1)
1H Remote release site
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or lnipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.

AGENCY CONTACT PERSON: 1E ADF&G Larry Peitz 424-3214
1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzomoto 424-7511

1L Gill net area (6/7 to 8/31)
1J Purse seine area (7/22 to 9/30)
1K Purse seine hook-off (7/22 to 9/30)
1L Set net sites (6/11 to 7/25)
Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or lnipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

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

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

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

3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of lnipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and/or USFWS prior to treatment for confirmation.

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

5R Seabird colony (6/1 to 9/1)
Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
ADF&G Tom Roth 267-2206

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

6U Recreational: 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 are: Salmon harvesting (5/1 to 9/30)
7H1 Finfish harvesting
7H1 Deer harvesting (8/15 to 2/28)
7L1 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. It plans for treatment include methods such as hot water wash or application of lnipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.

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

SEGMENT ST 1  UN-132  SUBDIVISION: 286-10-16982  DATE 4-21-90

USCG
NAME Kerwin L. Drehar  SIGNATURE cwo2 K. R. Drehar

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS
This is a heavily oiled area and does need special attention. I concur with the below recommendation but would also consider bioremediation after those steps.

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS
Heaviest oiling occurs within a 60m x 10m band in MU 4T2 on west bank of stream.
Put aside top layer of rocks & manually remove oil saturated fines in areas of highest oil concentration. Replace rocks & wash area with hot water. Recover oil. String 60 pompoms at intervals to prevent erosion & oil deposition in stream. Removal of oiled material would be facilitated by use of 4-wheeler with trailer

- LAND MANAGER- NONE

NAME ___________________________ SIGNATURE ___________________________

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS
SHORELINE OILING SUMMARY

Ogilvie Larson
USCG, Tiller, CWI
SEGMENT ST/ KN 1/3
ECO, REU, CRITCHEW, LAND REP
OIL, DAIHEL, YEH, ADFG & K-ETH, AMEE, WESER
TEAM NO. 14
TIDE LEVEL +2.21
DATE 1/21/90
EST. SUBDIVISION LENGTH: 750 m
UPLANDS DESCRIPTION: ☑ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
SURVEYED FROM: "" "" "" "" ""
SURFACE SEDIMENTS: R % B % C % D % F % G % H % S % O % M % V %
SLOPE: Lang % Hang % Vert %
WAVE EXPOSURE: ☑ Low ☐ Med ☐ High
OIL CATEGORY LENGTH: W 60 m M 40 m N 5 m V 45 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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<td>ASPHALT</td>
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<tr>
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<tr>
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<tr>
<td>NO OIL</td>
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</table>

PAVEMENT: H ☑ 500 sq. m by: ☑ 8 or
PATTIES/TARBALLS ☑ BAGS
NEAR SHORE SHEEN? ☑ NO BR RW ☑ TL

OILED

<table>
<thead>
<tr>
<th>DEBRIS</th>
<th>AMOUNT</th>
<th>Did You Collect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logs</td>
<td>SM MD LG</td>
<td>YES ☑ NO ☐</td>
</tr>
<tr>
<td>Vegetation</td>
<td>☑</td>
<td></td>
</tr>
<tr>
<td>Trash</td>
<td>☑</td>
<td></td>
</tr>
<tr>
<td>Debris</td>
<td>☑</td>
<td></td>
</tr>
</tbody>
</table>

Photographs:
Roll No.: __________
Frames: __________

SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED MATERIAL</th>
<th>BELOW</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANNA SHEEN (y/n)</th>
<th>SURFACE SUBSURFACE SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>16</td>
<td>☑</td>
<td>5.8</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>CB/PB/63.5%</td>
</tr>
<tr>
<td>2</td>
<td>14</td>
<td>☑</td>
<td>6.9</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>CB/PB/64.5%</td>
</tr>
<tr>
<td>3</td>
<td>14</td>
<td>☑</td>
<td>5.8</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>CB/PB/50%</td>
</tr>
<tr>
<td>A</td>
<td>18</td>
<td>☑</td>
<td>5.8</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>CB/PB/41%</td>
</tr>
</tbody>
</table>

COMMENTS: EAST SIDE OF CUEF, COATING ON BORDERS BED IS DRY, NON MOBIL, RICH HEALTHY BIOTA IN LOWER TIDAL ZONE.

REVIEWED: __________ DATE: 4-23-90
ADFG Multi-Assessment Data Form

1. Survey Type: BS OS TS AVE SCHA 1993 PTA

2. Region: PFS KPC KAP

3. Date: 4-21-90

4. Start Time: 1600

5. Stop Time: 1715

6. Segment #: KN-132

7. Station #: 19

8. K-Units: Ebh Slack Flood Slack

9. Stat Area: 20 Use quad sec B-3

10. Lat: 11 Long:

11. Source: bat

12. Location: West Side Herring Bay

13. Description: ADFG study site

Extent of Oil

<table>
<thead>
<tr>
<th>Shoreline</th>
<th>Stream</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>Y</td>
</tr>
<tr>
<td>60m</td>
<td>10m</td>
</tr>
</tbody>
</table>

27. Surface Coverage:

28. Surface Thickness

29. Permeation:

30. Overall Oil Impact:

31. Oil Type:

32. Oil Debris:

33. Shoreline Type:

34. Wave Exposure:

35. Substrate Type:

36. Cataloged Adult Fish Present:

37. Catalog #: 29-10-1993

38. Stream Name:

39. Oil in Stream Bed:

40. Oil on Stream Banks:

41. Oil on Beach Adjacent to Mouth (within 50 meters):

42. Oil within 1 Mile of Stream:

43. Anomalous Fish Present:

44. Anomalous Fish Observation

- Species
- Aerial
- Ground

Common: Heaviest oiling occurs in a 60m long 10m wide band in the unit on the west bank of the stream. A thin layer of angular rock/cobble covers the oil saturated fines. The underside of the surface rocks have a sporadic oil coat. Scattered tar balls are present within the grassy tide pool.
On east bank - manually remove scattered tar balls within grassy tide pool area.

- Removel of tar balls within grassy tide pool area, also remove any oil layer.

- For location of tar ball layers, refer to Section 2 of site plan.

- Please note that the removal of tar balls within grassy tide pool area will be enhanced by use of water wash trailer.

- During the cleanup period, water wash trailer will be used to wash the area. Water wash trailer will be placed upstream of the area, then water wash trailer will wash the area.

- Right side of the area - remove of oil sediment.

- Left side of the area - remove of tar balls.
TREATMENT RECOMMENDATION OF 60X10X8 CM CUBE/MALES

Move large cobbie and manually remove AP segments as practical. Line citz with AM AM to protect stream and spot with remaining cobbie / rubble in AP drained area. Bioremediate citz area after treatment if necessary will allow.
Comments of Ken Gitchlow:
Agree with ADFE cleanup recommendations, but also suggest use of bioremediation as last step to provide enhanced longer term cleaning to degrade residual oil.
SUBJECT ANOMALOUS STREAM AT BOUNDARY OF SUBDIVISION B & C
**1991 MAYSAP EVALUATION**

**SEGMENT:** KN 132  **SUB:** A  **REGION:** PWS  **SURVEY DATE:** 5/24/91

**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/Customblen
- Other__________________________
- Other__________________________

**COMMENTS:**

INITIAL: ____________________________________________________

TAG: ________________________________________________________

FOSC: ______________________________________________________

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

ADEC________________________  FOSC________________________

EXXON________________________

USCG________________________

NOAA________________________
**MATAK HELD SHORELINE COMMENT SHEET**

<table>
<thead>
<tr>
<th>TEAM NO.</th>
<th>SEGMENT</th>
<th>SUBDIVISION</th>
<th>DATE</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>KN 132</td>
<td>4</td>
<td>5/24/91</td>
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</table>

<table>
<thead>
<tr>
<th>ADEC NAME</th>
<th>SIGNATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>JEFF GINATAS</td>
<td>J.G.</td>
</tr>
</tbody>
</table>

- **NTR** NO RECOVERABLE OIL. ONLY OIL WAS OCCASIONAL COAT/Cover
  on boulders, steep incline UITZ.

<table>
<thead>
<tr>
<th>EXXON NAME</th>
<th>SIGNATURE</th>
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</thead>
<tbody>
<tr>
<td>LARRY D. ROSEN</td>
<td>L.D.R.</td>
</tr>
</tbody>
</table>

- **NTR** No treatable oil conditions found.

<table>
<thead>
<tr>
<th>ANDMANAGER NAME</th>
<th>SIGNATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARSHA HALL</td>
<td>M.H.</td>
</tr>
</tbody>
</table>

- **NTR** Coat on boulders only was observed.

<table>
<thead>
<tr>
<th>USCG/NOAA NAME</th>
<th>SIGNATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCHOLTZ</td>
<td>S.</td>
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</tbody>
</table>

- **NTR** Nothing left to recover.

**EROSIONAL HI-ANGLE Boulder - Codale Shoreline - Oiling detected consists of CT & CV along HI-SE, Typical for area, <10% Coverage. No Subsurface Oil.**
**MAYSAP SHORELINE OILING SUMMARY**

**Team No.** 1

**Section** K-132

**Subdivision** A

**Date** 5/24/91

**Surveyed from:**
- **FOOT**
- **BOAT**
- **HELO**

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

**Tide Level:** +3.2 ft. to +3.0 ft.

**Surface Oil Character**

<table>
<thead>
<tr>
<th>LOC</th>
<th>AP</th>
<th>MS</th>
<th>TB</th>
<th>SR</th>
<th>CV</th>
<th>CT</th>
<th>ST</th>
<th>FL</th>
<th>DB</th>
<th>NO</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>S</td>
<td>BCR</td>
<td>H</td>
<td>&lt;2</td>
<td>235</td>
<td></td>
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</tbody>
</table>

**Distribution:**
- **C = 91-100%**
- **B = 81-90%**
- **P = 71-80%**
- **S = 1-10%**
- **T = <1%**

**Pit Pit No. Depth**

| OP | HOR | MOR | MOR | TR | NO | ZONE | OILED CLEAN H2O SHEER PITH SURFACE-SUBSURFACE SEDIMENTS |
|----|-----|-----|-----|----|----|-------|----------------|-------------------------------|

**Sheen Color:**
- **B = BROWN**
- **R = RAINBOW**
- **S = SILVER**
- **N = NONE**

**OG Comments:**
Steep BC shore, over L... Surface oil only, as sporadic CT w/ trace CV splatter. There were no substrate adequate for fitting ~ no soil was observed.

**Reviewed:** FW 5/27/91

**Reviewed:** NC 5/27/91
XX Wide
// Medium
-- Narrow
T Very Light
00 No Oil

KN0132 A

ADEC Subsegment Length: 235m
METERS

Subdivision Field
Map Key: KN1KNO132
Name: G. Macdonald
Date: 5-24-91

Data Entered:

Reviewed: F.W. 5/27/91
APPROVED: M.A. 6/14/91

CT, < 10% HFTZ, 
< 2 x 10^5 algae growth
CV% < 1% as splat
under B; Alk.

PROFILE TYPICAL

trace CT, CV
BC/R WL
 TEAM # 1  DATE 24 May 91
SEGMENT # KN 132  TIDAL HEIGHT (Range) + 3.2 ft MLLW
SUBDIVISION A  BIOLOGIST Michael Fawcett
SEA STATE 1/2 ft seas  WIND SPEED/DIRECTION N 5-10 Knots

COMMENTS/ OBSERVATIONS (to be completed in oiled subdivisions only):
Short subdivision, narrow, medium-to-high angle,alack/boulder shoreline dominated rockweed, and other algae in MTL-ETZ,
and barnacles in UTZ. Only traces of oil coating remain
at the upper edge of the barnacles' distribution (N1/2 ft
MLLW). (See sketch Map) CT often covered by filamentous
green algae.

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>Seabirds</td>
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<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Shorebirds</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Corvids</td>
<td>1</td>
<td>Steller’s Jay</td>
<td></td>
</tr>
<tr>
<td>Other Birds</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

Snoreline subdivision map showing important biological features attached.
CT n + 9 ft among upper edge of barnacles; d.e. spat, rockweed, whelks, or moderate littorinids, sestos, fr. Rhodomenia, Ulva, aus. filamentous brown algae below; also tree whelks and nudibranchs.
KN 132 A 5/24/91  \[arrow\]
Start 1530
- narrow BRIB mid. angle star MT2 15-25' dense F. vox. mod.
barbed, dense whiskers (\(n\) larvalosa)
- dense spr. MT2-UT2 g. med. lift
CT 19'ft among upper edge of mod. barbed
- lamed.adora 4'1m. dr. seeding below + 4'ft
Other MT2-CT2 algo. vibe, fill in coyto, pheno
- sparse lams.
1 Stellar's jay
End 1530
1991 MAYSAP EVALUATION

SEGMENT: KN 133  SUB: A  REGION: PWS  SURVEY DATE: 5/25/91

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-Customblen Only
Bio-Inipol/Customblen
Other
Other

COMMENTS:
INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE:       FOSC APPROVAL DATE:

ADEC

EXXON

USCG

NOAA
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

Eagle Nest: Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.
DATE: 12/25/91

NAME: JEFF GREADY 
SIGNATURE: [Signature]

TEAM NO. 1 SEGMENT KN 133 SUBDIVISION A 

NTR LOSE PRODUCT MORE RECOVERABLE OIL EXISTS. MANUAL REMOVAL BY 
MAN POWERED LOCOMOTIVES AT SITE C6-11 NOV 1991. IF REMOVED MANUALLY AT TIME 2.1 SOME OIL REMAINS ON SUB. 
MAY BE DIFFICULT TO ACCESS ALONG SHORE. 
SOME OIL MAY EVENTUALLY BLEND. BUT DIFFICULT TO ACCESS NOW SHORES. 
CONTINUE TO WEATHER, MAY WANT TO OBSERVE AT END SUMMER TO SEE 
IF REMAINING OIL IS BECOMING INORGANIC.

NAME: LARRY D. OLSNER 
SIGNATURE: [Signature]

NTR SURVEY LOCATED REMNANTS OF OLD TARMAK. BETWEEN TIDE CYCLES, THE 
V80 KUW RETURNED TO AN AREA OF BEACH AND INSPECTED 22600 
BOATS. NO FURTHER TREATMENT NEEDED AS WEATHERING WILL 
DEGRADE AND DETERIORATE WHAT REMAINS.

NAME: MARSHA HALL OF DNR 
SIGNATURE: [Signature]

NTR AREA H, I, J, K AT SITE D4 HAD SEDIMENT REMOVED BY 
REMOVAL. THERE IS REMAINING OIL - LO 50% TO AP 
at boulder bases. DIFFICULTY IN WORKING AREA DUE 
SIZE OF Boulders.

NAME: SCHIEFZ 
SIGNATURE: [Signature]

NTR WHAT WAS PRACTICAL TO REMOVE WAS, THAT REMAINING IS LOCATED UNDER 
BOULDERS TO LARGE TO MOVE.

TWO SEPARATE ISLANDS - RUGGED SHORELINE WITH NUMEROUS BCP AND ROCK PICKETS. 
MASLAFRIC OIL LOCATED IN SITE C-6 AT MORE IN AREAS 10 X 20 M. ALL REMAINING OIL WAS 
WEATHERED OBLIQUE TO TIDE - BERT-SITE 1.0% -- SOUR DETECTED ON ALL BEACHES 
AT THE BERT-SITE. AP/EXF-1 EXCERPT REPORT ON SITE "B" WHICH WAS PICKED UP 
OR WORKED OVER BY TEAM.
**MAYSAP SHORELINE OILING SUMMARY**

**TEAM NO.**

OG: G. Macdonald  
ADEC: J. Ginasias  
EXXON: L. Olson

**SEGMENT**

KN-133

**SUBDIVISION**

A

**DATE**

5/26/91

**TIME**

10:26:10-10:30

**TIDE LEVEL**

+2.5 ft, 10.7 ft

**ENERGY LEVEL**

\[ L, H, X \]

**SURVEYED FROM**

\[ X: F O O T B O A T, H E L O \]

**WEATHER**

\[ S U N, C L O U D S, F O G, R A I N, S N O W \]

**TOTAL LENGTH SHORELINE SURVEYED**

\[ 51 \text{ m} \]

**NEAR SHORE SHEEN**

\[ \text{BR, RB, SL, NONE} \]

**EST. OIL CATEGORY LENGTH**

\[ \text{W = } 21 \text{ m, N = } 56 \text{ m, VL = } 400 \text{ m, NO = } 23 \text{ m, US = } 3348 \text{ m} \]

<table>
<thead>
<tr>
<th>LOC</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT</th>
<th>SHORE SLOPE</th>
<th>AREA</th>
<th>ZONE</th>
<th>NOTES</th>
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<tbody>
<tr>
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<td>L</td>
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</tr>
</tbody>
</table>

**DISTRIBUTION:**

\[ C = 91-100%; B = 81-90%; P = 71-80%; S = 1-10%; T = <1\% \]

**SLOPE:**

\[ V = \text{VERTICAL, H = HIGH ANGLE, M = MEDIUM ANGLE, L = LOW ANGLE} \]

**PHOTO ROLL**

\[ MAYSAP-1-31 \]

**FRAMES**

\[ 1-31 \]

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>DEPTH (cm)</th>
<th>OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN BELOW</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
<th>SUBSURFACE SEDIMENTS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
<td></td>
<td>0-5</td>
<td>Y</td>
<td>X</td>
<td>BCP-CV</td>
<td>BCP-CV</td>
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<td>X</td>
<td>BCP-PC</td>
<td>BCP-PC</td>
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<td>3</td>
<td>16</td>
<td></td>
<td>3-8</td>
<td>Y</td>
<td>3 SR</td>
<td>BC-CVF</td>
<td>BC-CVF</td>
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<tr>
<td>4</td>
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<td>1-16</td>
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<td>BC-CM</td>
<td>BC-CM</td>
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<tr>
<td>5</td>
<td>25</td>
<td></td>
<td>3-5</td>
<td>Y</td>
<td>3</td>
<td>PC-PFM</td>
<td>PC-PFM</td>
<td>10 SOR</td>
</tr>
<tr>
<td>6</td>
<td>20</td>
<td></td>
<td>5-5</td>
<td>Y</td>
<td>X</td>
<td>BC-CM</td>
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<tr>
<td>7</td>
<td>25</td>
<td></td>
<td>3-5</td>
<td>X</td>
<td>5</td>
<td>CP-PCV</td>
<td>CP-PCV</td>
<td>ORGANIC</td>
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<tr>
<td>8</td>
<td>30</td>
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<td>2-5</td>
<td>Y</td>
<td>X</td>
<td>BC-BCP</td>
<td>BC-BCP</td>
<td>10 SOR</td>
</tr>
</tbody>
</table>

**SHEEN COLOR:**

\[ B = \text{BROWN, R = RAINBOW, S = SILVER, N = NONE} \]

**OG COMMENTS:**

2 rocky islands w/ coarse-grained beach and channels

5 sites were surveyed; all had surface oil. In general, surface oil was sparce CT, CV w/ associated patches of sol above BCV sediments. Site 4, on the east shore

d1) the northern island, had some thick (\( \geq 20 \text{ cm} \)) patches

Revised: F.W. 5/27/91
OG COMMENTS:

All of the oil was picked up at this time (22 bags). The remaining oil was typically light, often covering a peaty layer, and was difficult to detect without rolling boulders.

Subsurface oil was present at site 3b, where a bar of merr was found downstream of the oil.

All sites showed evidence of having had severe oiling. No nearshore sheen were observed during the survey.

NOTE: TO AVOID CONFUSION, SITE DESIGNATIONS A, B, C, D, and E have been changed to 1, 2, 3a, 3b, 4, and 5.

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN BELOW</th>
<th>H2O LEVEL</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
<th>SURFACE-SUBSURFACE SEDIMENTS</th>
<th>NOTES</th>
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<td>Be - Pe</td>
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<td>11</td>
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<td>1 - 2</td>
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<td>Gr, Ve, Gr, diesel</td>
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<td>16</td>
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<td>Y, S, S</td>
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<td>x</td>
<td>Gr, Ve, Gr, in beat</td>
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</tr>
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</table>
Comments/Observations (to be completed in oiled subdivisions only):

Subdivision contains two islands... oiled sites are pocket beaches on north shore of smaller south island, and north, south, and east shores of north island. The sites on the south island are typical boulder/cobble beaches with moderate to dense barnacles, vessels, limpets, and algae in MTZ-LTZ. Low densities in UTZ and generally higher densities and higher upper limits on bedrock walls. However, the beaches on the north island have quite low overall abundance of biota in the boulder/cobble areas and typical abundance on steep walls. The MTZ boulder/cobble have a slippery bacterial film and brown brown algae, and abundant oligochaete worms beneath them (these worms are usually associated with decaying vegetation and in the spill region with decaying sot or CV), but have few limpets, barnacles, mussels, or mussel algae. These areas give the impression of having been heavily treated and disturbed probably in 1990, and are in early stage of succession and recovery.

see sketch maps for descriptions of biota near oiled sites.

Wildlife Observations To Be Completed in All Subdivisions

<table>
<thead>
<tr>
<th>Birds</th>
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<th>Fish Observed</th>
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<td>Eagles</td>
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<td>Waterfowl</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gulls/kittiwakes</td>
<td>2 (S. Kittiwake, G. Glauc)</td>
<td>25-30</td>
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<tr>
<td>Shorebirds</td>
<td>1 (B. stelleri)</td>
<td>3</td>
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<tr>
<td>Corvids</td>
<td>2 (S. Stelleri)</td>
<td></td>
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<tr>
<td>Other Birds</td>
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Land Mammals

<table>
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<tr>
<th>Marine Mammals</th>
<th># Observed</th>
<th>Species</th>
<th># Observed</th>
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<tr>
<td>Sea Otters</td>
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</tr>
<tr>
<td>Pinnipeds (specify)</td>
<td></td>
<td></td>
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<tr>
<td>(specify)</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Shoreline subdivision map showing important biological features attached.
KN-133A
Bio Sketch Map
M. Fawcett
5/25/91

Site B

Loc. Sor t10-12 ft in B/ above most biota, but reaches upper edge of sparse litorinids, limpets, barnacles, mussels.

ct on br. walls +8 ft, above dense barnacles; Sor on peat +8-12 ft, among sparse barnacles in lower part, worms & amphipods higher.

Site A

ct on walls +9-12 ft, among or above upper edge of dense barnacles; dense spat below.

Same as B2

Hi Sor down to +4 ft among dense barnacles, litorinids, a - d lamortor brown algae.

KN0133 A
KAJ33A, 25 May 91 - Fawcett

Start 0825 - South Island

CTm water + above jeti + barn
- Bkt P shallow, deep, barn + P
- Shal in Pts 18 - 12 m - S Prum
- Barn, deep, dark, crows, gosh, dyke
- LOR or lo, in point in SUTZ - woman
- Heard water - very
- Many kiiuttaes overh, in F0

0840

0815 - on wall, one barn
- Beach, kin, barn, hill, down
- Mist Forms, In, N, wind, nyunk
- Tr CT next wall + 1 by a man
- Upper edge large barn - stare 3 spot below
- 20 m west 0845 - 100 R + 10 ft
- 11 B above here, but reached
down to upper edge of
- Sparse lift, hung, barn, void
- 1 Stellar's Jay
- Flock, many, shows 110 R goes
down to typt among deep barn
- luggage or agae

Finish 0855
WR 1339

Finish 10:30

CT on wall 10:30.

Bun in A/C: 80/10 to 84/10 and 89/10. Eaten.

Dinner: Bean salad + Raisin bread.

Breakfast: Omelet + toast + coffee.

Lunch: B.L.T. + chips.

Dinner: Bean salad + toast + coffee.

Milk in A/C: 80/10 to 84/10 and 89/10. Eaten.

Dinner: Bean salad + toast + coffee.

Breakfast: Omelet + toast + coffee.

Lunch: B.L.T. + chips.

Dinner: Bean salad + toast + coffee.

Milk in A/C: 80/10 to 84/10 and 89/10. Eaten.

Dinner: Bean salad + toast + coffee.
This is a subdivision field map indicating the KN-133 and KN-125 areas. The map includes symbols and annotations that are typical of geological or survey maps, with specific notes and measurements. The legend at the bottom includes categories such as 'Wide', 'Medium', 'Narrow', 'Very Light', and 'No Oil', with corresponding line weights and symbols. The map also includes a scale for meters and a key for interpretation. The map is reviewed and dated.
1991 MAYSAP EVALUATION

SEGMENT: KN 133  SUB:  A  REGION: PWS  SURVEY DATE: 5/25/91

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:  

RECOMMENDATIONS:

<table>
<thead>
<tr>
<th>TREATMENT REQUIRED (Y or N)</th>
<th>INITIAL</th>
<th>TAG</th>
<th>FOSC</th>
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</thead>
<tbody>
<tr>
<td>N</td>
<td>N</td>
<td>N</td>
<td>1</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  FOSC APPROVAL DATE:  6/8/91
ADEC  
EXXON  
USCG  
NOAA  

E. E. PAGE, CDR, USCG  CHIEF OF STAFF, FOSC
Eagle Nest: Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.
MAYSAFE FIELD SHORELINE COMMENT SHEET

TEAM NO. 1  SEGMENT KN 133  SUBDIVISION A  DATE 5/25/91

ADEC
NAME: JEFF GINNIS  SIGNATURE: [Signature]

NTR
LOCATED WHETHER MORE RECOVERABLE OIL EXISTS. MANUAL RECOVERY BY
MAYSAFE CREW OCCURRED AT SITE 6. (4) CUPS H, E, K, KILL, K. REMAINS IN H172
RECOVERY RECOVERED MANUALLY AT SITE K1. SOME SEEM TO BE SEIPED REMAINS
ARE V172 BUT OVER WEATHERED AND TAKE VARIOUS 5 TO 10 MINUTES TO RECOVER
SOME OIL MAY JUST WAVE BUBBLES BUT DIFFICULT TO ACCESS. AREA SHOWS
CONTINUE TO WEATHER. MIGHT WANT TO OBSERVE AT END SUMMER TO SEE
IF REMAINING OIL IS BECOMING MORE

EXXON
NAME: LARRY D. OLSON  SIGNATURE: [Signature]

NTR
SITUATION TO REMAIN AS OLD VESSEL IS CONTINUED TO WEATHER AS OIL IS
REMOVED FROM SITE. NO FURTHER TREATMENT NEEDED AS WEATHERING WILL
DEGRADE AND DETRIMENT TO WHAT REMAINS.

NDMANAGER
NAME: MARSHA HALL  OF: DNR  SIGNATURE: [Signature]

NTR
AREAS H, I, J, K AT SITE B4 LAY SEDIMENT REMOVED BY
VECO CREW. THERE IS REMAINING OIL - 60 SQUARE TO AP
AT BAYSHORE BAY. DIFFICULTY IN WORKING DUE
TO SIZE OF Boulders.

USCG/NOAA
NAME: SCHULTZ  SIGNATURE: [Signature]

NTR
WHAT WAS PRACTICAL TO REMOVE WAS, THAT REMAINDER IS LOCATED UNDER
Boulders TO LARGE TO MOVE.

TWO SEPARATE ISLANDS - RUGGED SHORELINE WITH NUMEROUS BCP AND ROCK PIECES.
SUBSURFACE OIL LOCATED IN SITE 6-B AS MORE IN AREA 10 X 20 M. ALL REMAINING OIL WAS
SUBSURFACE ONLY - TYPICAL OLD OIL H172 SITE 6-B. OIL DETECTED ON ALL BEACHES
THE H172 SITE. AP/ES HISOR FOCUS ON SITE "W" WHICH WAS PICKED UP
2 WORKED OVER BY TEAM.
**MAYSAP SHORELINE OILING SUMMARY**

**TEAM NO. 1**
- O. G. Macdonald
- BIO: M. Fawcett
- ADEC: J. Gialamas
- LANDMANAGER: M. Hall
- USCG/NOAA: Schuster/Chalups

**TIME**: 08:25 to 10:20
- TIDE LEVEL: +2'-1/2 ft. to +7'-1 ft.
- ENERGY LEVEL: □ H □ L □ XL

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

**TOTAL LENGTH SHORELINE SURVEYED**: 512m
- NEAR SHORE SHEEN: [ ] BR [ ] DB [ ] SL [ ] NONE

**EST. OIL CATEGORY LENGTH**: W = m M = 21m N = 66m VL = 400m NO = 35m US = 3,348m

### SURFACE OIL CHARACTER

<table>
<thead>
<tr>
<th>LOC</th>
<th>SEDIMENT</th>
<th>AREA</th>
<th>ST</th>
<th>FL</th>
<th>DB</th>
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<th>TYPE</th>
<th>SLOPE</th>
<th>WIDTH</th>
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<tr>
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<td>&lt;37'</td>
<td>M</td>
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<td></td>
<td></td>
<td>B</td>
<td>M</td>
<td>7</td>
<td>15</td>
</tr>
</tbody>
</table>

### DISTRIBUTION

- C = 91-100%
- B = 61-90%
- P = 11-50%
- S = 1-10%
- T = <1%

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

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

---

**OG COMMENTS**

2 rocky islands of coarse-grained beaches and channels. 5 sites were surveyed; all had surface oil. In general, surface oil was sporadic; CT, CV with associated patches of oil amongst BCV sediments. Site 4, on the east shore of the northern island, had some thick (> 20 cm) patches.
OG COMMENTS:

Although the oil was picked up at this time (22 bags), the remaining oil was typically light, often covering a peaty layer, and was difficult to detect without rolling boulders. Subsurface oil was present at site 3 b), where a band of mol was found, downwasting of the oil. All sites showed evidence of having had severe oiling. No nearshore sheens were observed during the survey.

NOTE: TO AVOID CONFUSION, 'SITE' DESIGNATIONS A, B, C, D, E, AND F HAVE BEEN CHANGED TO 1, 2, 3A, 3B, 4, AND 5.

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN ZONE BELOW (cm)</th>
<th>H2O LEVEL (%)</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
<th>SUBSURFACE SEDIMENTS</th>
<th>NOTES</th>
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<td>10</td>
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<td>x</td>
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<td>x</td>
<td>B, C</td>
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<td>10-18</td>
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<td>Y</td>
<td>5 S</td>
<td>x</td>
<td>G</td>
<td>- peel</td>
</tr>
</tbody>
</table>

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

REVISED: F.W. 5/37/91
KN-133 A

G. Macdonald
6-25-91

Site 2

CT, <10%, <1/2 x 20
10 yr SO2, <10%
H1T2

Site 1

CT, <1/2, H1T2
<1/2 x 25 on R wall

10 yr SO2, <10%
5 x 8 m, H1T2

Site 3

Hi SO2, <10%
3 x 6 m, H1T2

Note: hand-drawn map with various symbols and annotations.
KN-133A

Site 5

Site 4

Site 3a

Site 3b

Site 4

A

G. MACDONALD
5.25.91

Refer to sketch B, children (p. 392).
MAYAP BIOLOGICAL SUMMARY FORM

TEAM # 1        DATE 25 May 91
SEGMENT # KN 133        TIDAL HEIGHT(Range) +2.5 to 7.0 ft MLLW
SUBDIVISION A        BIOLOGIST Michael Fawcett
SEA STATE 1/4 seas        WIND SPEED/DIRECTION N 5-10 Knots

PHOTOGRAPHS: ROLL #        FRAME #

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):
Subdivision contains two islands - oiled sites are pocket beaches on south shore of smaller south island, and north south west shore of north island. The sites on the south island are typical boulder/cobble beaches with moderate to dense barnacles, mussels, limpets, and algae in MTZ-LTZ. Few densities in VTZ and generally higher densities and higher upper limits on bedrock walls. However, the beaches on the north island have quite low overall abundance of bivalve in the boulder/cobble area and typical abundance on steep walls. The boulder/cobble have a slippery bacterial film and drab brown color, and abundant holothurian worms beneath them (these worms are usually associated with decaying vegetation, and in the spill region, with decaying cor, or CV), but have few limpets, littorinids, barnacles, mussels, or macroalgae. These areas give the impression of having been heavily treated and disturbed probably in 1990, and are in early stage of succession and recovery.
See sketch maps for descriptions of sites near oiled sites.

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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<td>Eagles</td>
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<tr>
<td>Seabirds</td>
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<td></td>
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</tr>
<tr>
<td>Waterfowl</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gulls/Kittiwakes 2 (6.0-9.0 ft Kittiwake x 1)</td>
<td>15-30</td>
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<tr>
<td>Shorebirds</td>
<td>1 (black skimmer)</td>
<td>3</td>
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</tr>
<tr>
<td>Corvids 2 (stellers x 1)</td>
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<td></td>
</tr>
<tr>
<td>Other Birds</td>
<td></td>
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<table>
<thead>
<tr>
<th>MARINE MAMMALS</th>
<th># OBSERVED</th>
<th>SPECIES</th>
<th># OBSERVED</th>
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<td>Sea Otters</td>
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</tr>
<tr>
<td>Pinnipeds(specify)</td>
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</tr>
<tr>
<td>Whales(specify)</td>
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</tr>
</tbody>
</table>

Shoreline subdivision map showing important biological features attached.
KN-133A
Bio Sketch Map
M. Faukett
5/25/91

Ct on Br. walls +8ft, above dense barnacles;
SOR on peat +8-12ft, among sparse barnacles
in lower part, worms & amphipods higher

LO SOR +10-12ft in
B/above most barnacles,
but reaches upper
edge of sparse limpet
limpets, barnacles,
& mussels.

Site [1]

B1

Site [A]

Same as B2

Ct on walls +9-12ft,
among or above upper
everse of dense barnacles;
dense spot below
KN-133A  25 May 91  - Fawcett

Start: 20°25'South Island

- Sea water +8 above deck
- Bklep channel: dead calm, SSW
- Shivering, +26°C, +12°F
- Sardine
- Barnacles, barnacles, barnacles
- OR - sear in water +50°F - NOSCOPE
- Heard undershotMargin
- Many Kittiwakes overheard in fog

0840

0745: 2 Yet - on wall near bough
- Dense fIsh, 4 barn, litt, mackerel
- Mix Finm, larg, seafer, mackerel
- Trct next well +9ft among
- upper edge dense bany - alaska
- spat below

- 20m west 0845 - SOR +10'2" in B anchor down, but hard
- down to upper edge of
- sparse litt, barn, barn, mackerel
- 1 Steller's Jay
- Full inspection shows no SOR gone.
- Down to 10ft among dense bany
- with fI. br algae

Finish: 0855
Start 0900 north island

vgs: 2 gulls, 1 eagle

1 crow - 2 magpies

6 Kittiwakes, hammer gulls

BRI B/C: postcode: mordialloc

1000 - 25m north of 0935

heavier A/P 300 on 8-10 m work

bear in B/C - heavy work

above 8 ft - mooring

below 4 ft - head mooring

spare born Focus, 10th

down to return line of 9 ft

length bow 6 (unusual) in

bouys

500 - go down to MBZ

in gravel - severe current

dense musculi, ECV

0930 - pothole 30m East A/B 1:10

mod: born, sparse Focus MBZ

dense musculi below 4 ft also

mod: Focus - dense born on wall

4-6 ft - also with lift, sparse work

at term nearby

crow

0935 - whole night - 3 barnacle crab

moderate wave energy

sparse born, MBZ - MBZ, Focus

500 - Kurnell, 15 and...
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/ KN-133

SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION

SEGMENT ST/KN-133 SUBDIVISION A (1 OF 1) DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:


SUBDIVISION ECOLOGICAL CONSTRAINTS: Restrict boat traffic, air
traffic and general disturbance to minimum essential. Contact
ADF&G habitat director prior to treatment.

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 Re­
source Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: ______________________ DATE: ______________________

OILING CATEGORIZATION:

- Wide 41 m: Medium 673 m: Narrow 3813 m: V.Light 0 m: No Oil 0 m
- Subsurface Oil Observed: Yes X No
- Maximum Depth 30+ 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: Breakup
- Beach Cleaner
- Removal
- Other (see comments)

COMMENTS: Manual pickup of oiled vegetation. Tarmat breakup and
removal where indicated on sketch maps. Patchy distribution of coat
and tar patties does not require treatment as area not a high human
use location. Bioremediate broken coat area found on smaller is­
land (2nd sketch map). Work prior to 8/15 based on molting con­
straints. The two small areas with subsurface oil indicated on the
larger island may require hand raking prior to bioremediation.

TAG COMMENTS:__________________________________________________

TAG APPROVAL DATE:______________

ADEC EXXON FOSC: DATE: __________
NOAA
USCG
FIELD SHORELINE COMMENT SHEET

SEGMENT ST 1N 133

SUBDIVISION: None

DATE 4-1-90

USCG
NAME W.E. WHITE
SIGNATURE

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

Comments:
Recommended treatment - manual removal of asphalt/pavement.
Subsurface oil, mechanical - Hot water/steam washing with cold water flush.

ADEC
NAME Dianne Musson
SIGNATURE

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

Comments:
Sheen was consistently observed surrounding the island segment. Several pocket beaches have subsurface sediments with residual, free floating brown oil. Recommended treatment includes manual removal of asphalt/pavement and removal of subsurface oil via mechanical or manual tilling and hot water/steam washing with cold water flush (shore crew).

LAND MANAGER
NAME David Mandrellla
SIGNATURE

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

Comments:
Treatments on northern island are primarily needed in cobble and pebble cover where pits 1 and 6 were excavated. Suggested methods include manual tilling, steam washing and cold water flush along with bioremediation. Other treatments include manual pickup of asphalt pavement and spot washing of underside of coated rocks along 3m bend.
SHORELINE OILING SUMMARY

OG: Sawyer
USCG White

NO: Benson
LAND REP Mandrella

SEGMENT ST: KN133
SUBDIVISION: None

XXON: Katsimpalis
ADEC Munson

TIME: 10:00 to 14:30
DATE: Apr 7 1990

TEAM NO.: B
TIDE LEVEL: +4 to +3

EST. SUBDIVISION LENGTH: 4764 m
Sun Clouds Fog Rain Snow

UPLANDS DESCRIPTION: Grass Forest Rock

SURVEYED FROM: Foot Boat Helo
WORKING DIRECTION: E to W

SURFACE SEDIMENTS: R 70 % B 20 % C 5 % P 5 % G -- % S -- % M -- % V -- %

SLOPE: Lang 20 % Hang 0 % Vert 30 %

OIL CATEGORY: N LOS M V

OIL LENGTH: W 70 m M 950 m N 3774 m

TEAM NO.

BASE

HEIGHT

OIL LENGTH

OIL CHARACTER

OILED INTERVAL (CM-CM)

OIL / FILM COLOR

OILED INTERVAL

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Oiled Sheen on water in pit 5, not subsurface oil as defined.
### SHORELINE ECOLOGICAL SUMMARY

**Segment:** ST / **Subdivision:** None

**Date (mo/day/yr):** 4/1/90

**Time (24 hr):** 1:00 - 1:30 **Biologist:** J. Benson

(A) Substrate type and % of segments:
   - Bedrock: 10
   - Boulder: 20
   - Cobble: 30
   - Pebble: 40
   - Sand: 50
   - Silt: 60

(B) Overall % cover of biota (% of segment):
   - Dense: 40
   - Moderate: 30
   - Low: 30

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

#### BARNACLES

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Wildlife Observations/ General Comments:

- Sea otter (Enhydra lutris) observed near island all day
- Cormorants, merganser, golden eye
- The north and south ends of each island are more different from each other than the two islands from one another. Also, the biological diversity was markedly higher

Ecological Considerations:

- Sensitivities: 3 N, P: Harbor seal & sea lion pupping
- 3 O, Q: molting
- 1 B: stream mouth - salmon spawning

The north end of the large island, probably due to the increased wave exposure and especially the intertidal tidepools found there. Much of the "dense" overall % cover (B) above is filamentous green algae, which may be seasonally abundant and unanticipated.
SKETCH MAP

LEGEND
1 △
Pt - No Subsurface Oil
2 ▲
Pt - Subsurface Oil

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

Oil Character Length (m): AP 90 PO CV CT 3000 ST 1000 MS PT 50 TB FL 300 NO
SEGMENT ST\ KN133

SUBDIVISION

DATE Apr 1 90

CHECKLIST
  - N Arrow
  - Approx. Scale
  - Seg/Sub Boundary
  - Oil Dis
  - Width
  - Length
  - % Cover
  - Substrate Character
  - Est. HWL/WL
  - SSL
  - Prone Location(s)
  - Profile(s)
  - Pit Location(s)
  - Photo Location(s)

LEGEND

1 △
Ph: No Subsurface Oil

2 ▲
Ph: Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/P
Patchy Distribution

CT/S
Splashed Distribution

Oiled Vegetation

Photo location, direction, and number

See other map

Oil Character Length (m): AP _____ PO _____ CV _____ CT _____ ST _____ MS _____ PT _____ TB _____ FL _____ NO _____
Map Key: PWS-316b

Name: [Signature]

Date: Apr. 7, 1990

XXXX Wide

/// Medium

----- Narrow

TTTT Very Light

0000 No Oil

ADEC Segment Length: 3860m

DEC-12-1999 13:00 FROM YUKON RIVER TO
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT KN-133 SUBDIVISION A (1 of 1)

WORK WINDOW

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<td>Bioremediation</td>
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<td>Manual Raking</td>
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ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

3N,O,P,Q Harbor Seal and Sea Lion Pupping and Molting Area NO TIME CONSTRAINT. Authorized per memorandum dated 5/14/90 from Kathryn Froet/ADF&G to Mark Kuwada/ADF&G.

OTHER ECOLOGICAL CONSIDERATIONS

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

TAG ADDENDUM DATE 5/21/90
ADEC Art Weiner Art Weiner FQSC
EXXON
NOAA NOAA
USCG USCG

Prepared by: [Signature]  Date: 5/20/90
SHORELINE EVALUATION

SEGMENT ST/ KN-133       SUBDIVISION A (1 OF 1) DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Harbor seal and sea lion molting (20. 0) - 8/15 to 9/15.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Restrict boat traffic, air traffic and general disturbance to minimum essential. Contact ADF&G habitat director prior to treatment.

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: April 14, 1990

OILING CATEGORIZATION:
Wide 41 m: Medium 673 m: Narrow 3813 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 30+ cm

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

COMMENTS: Manual pickup of oiled vegetation. Tarmat breakup and removal where indicated on sketch maps. Patchy distribution of coat and tar patties does not require treatment as area not a high human use location. Bioremediate broken coat area found on smaller island (2nd sketch map). Work prior to 8/15 based on molting constraints. The two small areas with subsurface oil indicated on the larger island may require hand raking prior to bioremediation.

TAG COMMENTS: See Addendum Dated 5/20/90

TAG APPROVAL DATE: 4/13/90
ADEC  EXXON  NOAA     USCG
JOHN BARMAN  ANDY GAY  G.J. HETTER  G.A. REITER
SEGMENT ST/KN-133 SUBDIVISION A (1 OF 1) DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Harbor seal and sea lion molting (30, 0) - 8/15 to 9/15.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Restrict boat traffic, air traffic and general disturbance to minimum essential. Contact ADF&G habitat director prior to treatment.

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: April 14, 1990

OILING CATEGORIZATION:
Wide 41 m: Medium 673 m: Narrow 3813 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No
Maximum Depth 30+ cm

RECOMMENDATIONS:

X Treatment Recommended

X Manual Pickup

X Bioremediation

X Removal

X Other (see comments)

COMMENTS: Manual pickup of oiled vegetation. Tarmat breakup and removal where indicated on sketch maps. Patchy distribution of coat and tar patties does not require treatment as area not a high human use location. Bioremediate broken coat area found on smaller island (2nd sketch map). Work prior to 8/15 based on molting constraints. The two small areas with subsurface oil indicated on the larger island may require hand raking prior to bioremediation.

TAG COMMENTS:

TAG APPROVAL DATE: 4/3/90

ADEC EXXON NOAA USCG
SKETCH MAP

Low angle bedrock beach

High angle bedrock and boulder beaches

St-8-1-21

St-8-1-19

St-8-1-20

B1o

Low angle bedrock and boulder beach with AP/B

St-8-1-22

PT/P

Sheen

ct/s

Narrow to medium wide "bathtub" ring of ct/p and ct/s around entire island.

Medium width of AP/B 30m long

Silver Sheen

B1o

~150m
Sketch Map

- Plywood trash
- Ringed by CTP
- Silver sheen
- Low angle boulder and cobble beach with AP/B and CTP
- Low angle boulder beach
- Silver sheen
- Low angle cobble beach with medium broken cover
- AP/B, droplets and sheen in pools of water

LEGEND
- 1 A
  - CTP
  - CTP/C
  - Continuous Distribution
  - CTP/B
  - Broken Distribution
  - CTP/P
  - Patches Distribution
  - CTP/S
  - Splattered Distribution
- CTP
  - Oiled Vegetation
  - No Subsurface Oil

Checklist:
- N Arrow
- Approx. Scale
- Scale/Soil Boundary
- Oil Dist.
- Width
- Length
- % Cover
- Substrate Character
- Est. HYD/WDL
- SSL
- Profile Location(s)
- Pit Location(s)
- Photo Location(s)

Date: April 1, 1990

See other map

Oil Character Length (m): AP________PO________CV________CT________ST________MS________PT________TB________FL________NO________
XXX Wide
/// Medium
---- Narrow
TTTT Very Light
0000 No Oil

Map Key: PWS-316b
Name: Surveyor
Date: Apr. 1, 1990
Entered:

ADEC Segment Length: 3860m
ARLIS
Alaska Resources
Library & Information Services
Anchorage, AK