[Shoreline evaluations, 1991].

Prince William Sound KN-106 to KN-112

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ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-106 STREAM NO: 226-10-16890 DATE 4/27/90

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

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Subject stream is located within an unsurveyed subdivision (U, one of 4 unsurveyed subdivisions and 5 surveyed subdivisions).

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

SHPO SIGNATURE: DATE: 5/18/90

Subsurface Oil Observed: Yes No X Maximum Depth

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

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

COMMENTS: ______________________________________________________________________________________________________________________________________________________

TAG COMMENTS: MANUAL PICKUP OF TARPATTIES / TARPAILS AS INDICATED ON SKETCH

TAG APPROVAL DATE: 5/4/90
ADEC__ Art Weaver
EXXON __ Ann R. Beal
NOAA __ Bill Wessett
USCG __ D. D. Rome
FOSC: __________ DATE: 6 June 90
SEWARD EAGLE NESTS AND

ECOLOGICAL MAP

SUBJECT ANADROMOUS STREAM

LOCATED IN UNSURVEYED SECTION (U)
(U OF 9 TOTAL SUBDIVISIONS;
A thru E; plus H unsurveyed)
No treatment recommended
ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONTRAINTS FOR STREAM NO. 226-10-16890
SEGMENT KN-106 SUBDIVISION A

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream ADF&G catalogued anadromous stream (226-10-16890) is in this Subdivision. No constraint to manual pickup.

OTHER ECOLOGICAL CONSIDERATIONS

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

SEE SUBDIVISION CONSTRAINT ADDENDUM KN-106A FOR ADDITIONAL CONSTRAINT INFORMATION.

FOSC [Signature] Date 3/13/80
Prepared by [Signature] Date 6/12/90
ECOLOGY MAP
SEGMENT KN-106
SUBDIVISION --- (UNsurveyed section)

METERS

EXxon Company, USA
Map Key: PKS-KN-106
June 09, 1990

★ Seabird Colony
△ Active Eagle Nest
△ Inactive Eagle Nest

1 inch = 1902 feet
ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-106 STREAM NO: 226-10-16890 DATE  4/27/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
1A  Salmon stream mouth - fry outmigration (3/1 to 5/15)
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See attached Ecological Constraint sheet for specific constraints and contacts.

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Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Subject stream is located within an unsurveyed subdivision (U, one of 4 unsurveyed subdivisions and 5 surveyed subdivisions).

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

SHPO SIGNATURE:  DATE: 5/2/90

Subsurface Oil Observed:  Yes  No X  Maximum Depth  

RECOMMENDATIONS:

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

COMMENTS:  SEE CONSTRAINT ADDENDUM DATED 6/12/90

TAG COMMENTS:  MANUAL PICKUP OF TARP PATIES FROM AS INSTRUCTED ON SKETCH.

TAG APPROVAL DATE: 5/4/90
ADEC  EXXON  NOAA  USCG

DATE: 6 June 90
ANADROMOUS FISH STREAM ASSESSMENT

REGION: PRINCE WILLIAM SOUND

SEGMENT: KN-106

STREAM NO: 226-10-16890
ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-106  STREAM NO: 226-10-16890  DATE  4/27/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
1A    Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B    Salmon stream mouth - spawning (7/10 to 8/31)
6Y    Recreation: Special use destination
6V    Recreation: Anchorages (6/1 to 9/15)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unaltered biota and substrate. Subject stream is located within an unsurveyed subdivision (U, one of 4 unsurveyed subdivisions and 5 surveyed subdivisions).

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

SHPO SIGNATURE: ___________________________ DATE: ___________________________

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: ___________
PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B* Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or inpool 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/permit application.

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

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 inpool application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.

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

1D Esther Hatchery release (4/15 to 6/15)
1E Main Bay Hatchery release (4/20 to 6/15)
1F Sawmill Bay Hatchery release (4/15 to 6/1)
1G Cannery Creek Hatchery release (4/21 to 6/1)
1H Remote release site
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or inpool 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 areas 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 inpool 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 uneiled Intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or inpool application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3336

3 Harbor seal and sea lion pupping (5/15 to 7/1)
3Q, 3D Harbor seal and sea lion molting (9/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of inpool within two weeks of arrival dates. No use of methods which might affect nearshore oil or toxicity levels, contact AOF&G for consultation and authorization.

AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7325
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 and 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 Pethy 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 southeast only; maintain 800m horizontal and 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)
6VP Anchorage (6/1 to 9/15)
6W Forest Service cabins (6/1 to 9/15)
6X Lodge (6/1 to 9/15)
6Y Special use destination

7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
7HH Finfish harvesting
7H Deer harvesting (9/15 to 2/28)
7II 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 inpool 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 257-2359

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

PWS-C002 AWD 4/25/90
<table>
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</tr>
<tr>
<td>USCG</td>
</tr>
<tr>
<td>DATE: 27 APR 96</td>
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<tr>
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<tr>
<td>AEC</td>
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<td>DATE: 27 APR 96</td>
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<tr>
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<tr>
<td>LAND MANAGER</td>
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<tr>
<td>DATE: 27 APR 96</td>
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**SURFACE OIL**

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<tr>
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<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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<tr>
<td>ASPHALT PAVEMENT</td>
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<td>POOLED</td>
<td>☑</td>
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<td>PATTIES</td>
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<td>TARBALLS</td>
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<tr>
<td>FILM</td>
<td>☑</td>
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</tr>
<tr>
<td>NO OIL</td>
<td>☑</td>
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</table>

**PAVEMENT**
- H F S ______ sq. m by ______
- PATTIES / TARBALLS ______

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

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

- Did you Collect DEBRIS?
  - YES ☑ NO ☑

**PHOTOGRAPHER:**
- Roll No. 10
- Frames 1-8

**SUBSURFACE OIL**

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED DEBRIS INTERVAL</th>
<th>OILED DEBRIS</th>
<th>OILED OIL COLOR</th>
<th>OILED OIL COLOR</th>
<th>OILED OIL COLOR</th>
<th>PITT ZONE ANA</th>
<th>S SHEEN</th>
<th>O O O O</th>
<th>SURFACE SUBSURFACE SEDIMENT</th>
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<tr>
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</table>

**COMMENTS:**
- Observed 5 sub oiled areas, in outer cove area.
- Observed Small rain bow sheen 3 meters from shore.

9 x 5^2

**REVIEWED:**
- DATE: 4-29-90
Seg ID: KN-106  Subdiv: 226-10-16890  
Survey Date: 4/27/90  
Comments by: Ken Critchlow

This stream site was characterized by a narrow band of broken patties and tarballs in the ST on the right side of the stream. The pocket beach containing the stream is a very productive and diverse intertidal area.

I suggest that no treatment be done; however if the site is cleared, a two person crew using shovels and trowels could accomplish the job in two hours.

K R Critchlow
ADP/ES MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: B 
2 REGION: PGC KPC A
METHOD: Aerial Ground Boat
DATE: 4-07-90
START TIME: 10:20
STOP TIME: 11:45
SEGMENT #: KN-106
STATION #: TIDE HT AT SURVEY:
K-UNIT:
STAY AREA: USCG QUAD S-BQ
LAT:
LONG:
SOURCE: Loran
LOCATION: Knight Et - Southern arm Louis Bay
DESCRIPTION:

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>15</td>
<td>6</td>
</tr>
</tbody>
</table>

SPECS

27 SURFACE COVERAGE

28 SURFACE THICKNESS

29 PENETRATION

30 OVERALL OIL IMPACT

31 OIL TYPES: Peated Maasive TAP Asphalt Sticky Sustin

32 OILED DEBRIS

33 SHORELINE TYPE: Headland Low-lying Rocks Beach Cove

34 WAVE EXPOSURE: High Moderate Low

35 SUBSTRATE TYPE: Sediment Boulder Cobble Gravel Sand Mud/Silt

36 CATALOGED AMAD. FISH SNAKE? Y N

37 CATALOG #: A26-10-16890

OIL IN STREAM BED? Y N

OIL ON STREAM BANKS? Y N

OIL ON BEACH ADJACENT TO BAY? N

ANOMALOUS FISH PRESENT? Y N

ANOMALOUS FISH OBSERVATION

1. Very rich intertidal zone
2. Several small mouse patties were noted in the WITZ on west side of stream
3. 1 patty on the east side
4. Yellow and purple vegetation
5. Numerous mussel beds
6. Small fish noted in the WITZ.
<table>
<thead>
<tr>
<th>PHOTOLOG</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>pit 1 0am no oil</td>
<td></td>
</tr>
<tr>
<td>pit 3 15am no oil</td>
<td></td>
</tr>
</tbody>
</table>

**OIL DISTRIBUTION DIAGRAM**

- Bedrock
- Baby
- Gravel/rock beach area
- Massive mousse patches
- Gravel/rock area

- N
- Bedrock mountain
- 1.7 lbs ball
- Large buoys
- Waterfall
- Large bowl

*No treatment recommended*
1991 MAYSAP EVALUATION

SEGMENT: _KN 106_ SUB: _B_ REGION: _PWS_ SURVEY DATE: _5/19/91_

ENVIRONMENTAL SENSITIVITIES:
Work Window(s) __OPEN__

Ecological/Constraints (see page two for details) __NONE__

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

SHPO Signature: __Timothy A. Smith__ Date: _6/03/91_

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: _5/7/91_ ADEC: ____________________________

FOSC APPROVAL DATE: _6/15/91_ USCG: ____________________________

NOAA: ____________________________

E. E. PAGE, CDR, USCG
CHIEF OF STAFF, FOSC
<table>
<thead>
<tr>
<th>Team No.</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Segment</td>
<td>KN-106</td>
</tr>
<tr>
<td>Subdivision</td>
<td>B</td>
</tr>
<tr>
<td>Date</td>
<td>5/17/91</td>
</tr>
</tbody>
</table>

**ADEC**

**NAME:** Peter Montesano  
**SIGNATURE:** [Signature]

**TREATMENT RECOMMENDED**

Short and relatively unoiled subdivision. Most treatable Remnants Removed or Broken Up.

**EXXON**

**NAME:** Frank A. Box  
**SIGNATURE:** [Signature]

**NTR**

Nothing was found on this segment other than a few toe splashes and some light foot splatter.

**LANDMANAGER**

**NAME:** Dennis S. Kennedy, OF USFS  
**SIGNATURE:** [Signature]

**NTR**

Almost no oiling remains.

**USCG/NOAA**

**NAME:** Brian P. Zenone, USCG  
**SIGNATURE:** [Signature]

**NTR**

Minimal amount of oil within this segment. MAYSAF boom membrane remained old. Weather fairly calm. No waves, [Date] 6-5-13

Ch. Recommend no treatment. 3
MAYSAP SHORELINE OILING SUMMARY

TEAM NO. 2

TEAM

OGE D. Raine

BIO

SMRAN

ADEC P. Montignano

LANDMANAGER D. Kennedy for USFS

EXXON F. Roy

USCG/NOAA D. Simecek-Boothy

TIME 08:35 to 08:54

TIDE LEVEL 4.81 ft. to 5.92 ft.

ENERGY LEVEL: □ H □ M □ L

SURVEYED FROM: □ FOOT □ BOAT □ HELO

WEATHER: □ SUN □ CLOUDS □ FOG □ RAIN □ SNOW

TOTAL LENGTH SHORELINE SURVEYED: 24.7 m

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

EST. OIL CATEGORY LENGTH: W___m M___m N___m V___m L___m NO. 24.7 m US___m

<table>
<thead>
<tr>
<th>L</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT TYPE</th>
<th>SHORE SLOPE</th>
<th>AREA</th>
<th>ZONE</th>
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<td>0</td>
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</tbody>
</table>

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

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

PHOTO ROLL # MAYSAP-2-21 FRAMES 12

PIT No. PIT DEPTH (cm) SUBSURFACE OIL CHARACTER OP HCR MOR LOR OF TR NO. OILED ZONE CLEAN BELOW LEVEL H2O SHEEN COLOR PIT ZONE SUBSURFACE SUBSURFACE SEDIMENTS NOTES

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

OG COMMENTS: Rocky shoreline with high angle Boulder Beaches and.jpg

Launched out Deck. One Small pocket P/L Beach. The only oil found were three tar splats (very brittle - possibly not Exxon-745) and one small patch of Interstitial Mousse (1%). These were broken up and or Removed. The entire segment is coded as Location "A" and is marked as No Oil remaining.

Reviewed: MC 5/22/91
reviewed 5.22.91
**MAYSAP BIOLOGICAL SUMMARY FORM**

**TEAM #** 2  
**SEGMENT #** 1D-106  
**SUBDIVISION** A  
**SEA STATE** Calm  
**DATE** 2 May 91  
**TIDAL HEIGHT (Range)** +6 ft.  
**BIOLANT** SIMAN  
**WIND SPEED/DIRECTION** Calm  

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

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

All oil on this segment was high in the water zone. All +3 and 1.5 ft. were retained and broken up.

---

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

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

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<th>Pinnipeds (specify)</th>
<th># OBSERVED</th>
<th>SPECIES</th>
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<tr>
<td>Les (specify)</td>
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**LAND MAMMALS**

Shoreline subdivision map showing important biological features attached.

Reviewed M.B. 5/22/91
(MS/I in area of lichens at the upper edge of the boulder, 'limpet', li'Hoonie zone)

Single tar splat
BRKEN UP
VERY BRITTLE

MS/I 1/8
5 cm x 1/8 m
Boulevard Cables (Removed)

1/4 x 1/2 Tor splats
BRKEN UP
VERY BRITTLE

Boulevard Beach

NSW 19 May 91

Doug Reimer

OG SKETCH
KN 106 B
MAY 19, 1991
08:35 - 08:54

MS/I 1/8
5 cm x 1/8 m
Boulevard Cables (Removed)

1/4 x 1/2 Tor splats
BRKEN UP
VERY BRITTLE

Boulevard Beach
1991 MAYSAP EVALUATION

SEGMENT: KN 106  SUB:  A  REGION:  PWS  SURVEY DATE: 5/19/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s): OPEN

Ecological/Constraints (see page two for details)  NONE

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

SHPO Signature: ______________________ Date: 6/3/91

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: MAY 31 1991  FOSC APPROVAL DATE: 6/5/91

ADEC  E. E. PAGE, CDR, USCG
EXXON  CHIEF OF STAFF, FOSC
USCG
NOAA
Dead Eagle found and flagged above area "c". The water in area 'b' was partially picked up. Overall the area is well documented by O.G. The degree, distribution and sediment type forbid further treatment.

Very little oil observed on this segment. I believe cleanup would not yield any net benefit.

Oiling found in the water. Concentration was normal, needs no treatment.

Very little oil observed on surface and very little on the subsurface. (See ADEC and silent echo sounder). No treatment recommended. -DS-13

CG - No Treatment Recommended.
# MAYSAP SHORELINE OILING SUMMARY

** TEAM NO. 2 **

** DATE **: 5.19.91

** SEGMENT **: KN 106

** SUBDIVISION **: A

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

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

** ENERGY LEVEL **: [H, M, L]

** TOTAL LENGTH SHORELINE SURVEYED **: 688 m

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

** EST. OIL CATEGORY LENGTH **: [W - m, M - m, N - m]

## SURFACE OIL CHARACTER

![Table](https://via.placeholder.com/150)

<table>
<thead>
<tr>
<th>C</th>
<th>AP</th>
<th>MS</th>
<th>TB</th>
<th>SOR</th>
<th>CV</th>
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</tbody>
</table>

** DISTRIBUTION **: [C = 91-100%, B = 51-90%, P = 11-50%, S = 1-10%, T = <1%]

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

** PHOTO ROLL # MAYSAP **: 2-21

** FRAMES **: 3-6

## SUBSURFACE OIL CHARACTER

![Table](https://via.placeholder.com/150)

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>OILED ZONE</th>
<th>CLEAN</th>
<th>H2O LEVEL</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
<th>SUBSURFACE SEDIMENTS</th>
<th>NOTES</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>20</td>
<td>O</td>
<td>-15</td>
<td>Y</td>
<td>S</td>
<td>CT on large clips</td>
<td></td>
</tr>
</tbody>
</table>

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

** OG COMMENTS **: Predominantly Rocky Shoreline with narrow high angle Boulder beaches and bay deposits, except for southern end of Segment where a pocket-like beach has formed at fresh water stream. Oiling consists mostly of sporadic remains of drip line along NITZ on Rock and Bldgs. Small amounts of MS/SUR/AP were found in crevices in Rock and forming matix between Cobble/Bldgs. The concentrations were < 1% over most of Segment, except for locations B and C. A lot of the Tar splats noted are very brittle and may NOT be Exxon Valdez.

Revised: 5/3/91 Revisied 5/22/91
WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

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

**Total Birds**

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**LAND MAMMALS**

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<th>MARINE MAMMALS</th>
<th># OBSERVED</th>
<th>SPECIES</th>
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<td>Pinnipeds(specify)</td>
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<td>Whales(specify)</td>
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</table>

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

SEGMENT: KN 106  SUB: A  REGION: PWS  SURVEY DATE: 5/19/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s) OPEN

Ecological/Constraints (see page two for details) NONE

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

SHPO Signature: ___________________________ Date: _______________________

RECOMMENDATIONS:

TREATMENT REQUIRED (Y or N) N

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

COMMENTS:

INITIAL: __________________________________________________________

TAG: _____________________________________________________________

FOSC: __________________________________________________________

TAG APPROVAL DATE: ___________ FOSC APPROVAL DATE: ___________

ADEC____________________ FOSC____________________

EXXON____________________

USCG____________________

NOAA____________________
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<tr>
<th>ADEC</th>
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<tbody>
<tr>
<td>NAME</td>
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<tr>
<td>SIGNATURE</td>
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</table>

| NTR |
| TREATMENT RECOMMENDED |
| Dead Eagle Found and flagged above area "C". The debris in area A was partially picked up. Overall the area is well documented by AD. The debris, distribution and sediment types forbid further treatment. |

<table>
<thead>
<tr>
<th>EXXON</th>
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</thead>
<tbody>
<tr>
<td>NAME</td>
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<td>SIGNATURE</td>
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</table>

| NTR |
| Very little oil observed on this segment. I believe clean-up would not yield any real benefit. |

<table>
<thead>
<tr>
<th>LANDMANAGER</th>
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</thead>
<tbody>
<tr>
<td>NAME</td>
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<tr>
<td>OF USFS</td>
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<tr>
<td>SIGNATURE</td>
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</table>

| NTR |
| Oiling found in the upper intertidal web marine, needs no treatment |

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

| NTR |
| Very little oil observed on surface and no trace of oiled vegetation. (SEE ADEC's note above). Notation: -10-93 |

| CG |
| No Treatment Recommended. |
**MAYSAP SHORELINE OILING SUMMARY**

**TEAM NO. 2**

OG D. Reimer  
ADEC P. Montesano  
EXXON F. Box  

**BIO S. Raw**  
LANDMANAGER D. Kennedy  
USCG/NOAA A. Surcek - Acuity

**DATE 5/19/91**  
**TIME 08:55 to 09:55**  
**TIDE LEVEL 5.87 ft to 2.94 ft.**  
**ENERGY LEVEL: □ H □ M □ L**

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

**TOTAL LENGTH SHORELINE SURVEYED: 688 m**  
**NEAR SHORE SHEEN: □ BR □ RB □ SL □ NONE**

**EST. OIL CATEGORY LENGTH:**

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<tr>
<th>Zone</th>
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<th>N</th>
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**SURFACE OIL CHARACTER**

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**SURFACE OIL CHARACTER**:  

- **AP**:  
- **MS**:  
- **TB**:  
- **SOL**:  
- **CV**:  
- **CT**:  
- **ST**:  
- **FL**:  
- **DB**:  
- **NO**:  

**ZONE**:  

- **S**:  
- **UI**:  
- **MI**:  
- **LI**:  

**NOTES**:  

**SHEEN COLOR**:  

- **B**: BROWN  
- **R**: RAINBOW  
- **S**: SILVER  
- **N**: NONE

**OG COMMENTS**:  

Predominant Rocky shoreline with narrow high angle Boulder beach and lag deposits, except for Southern end of segment where a pocket of beach has formed at fresh water stream. Oilings consist mostly of sporadic remainders of drip line along NITZ on Rock and Shells. Small amounts of MS/SOAPI were found in cavities in rock and forming mats between Cobble / Shells. The concentrations were ≤ 1%. Over most of Segment, except for locations B and C, a lot of the Tar splats noted are very brittle and may not be Exxon Worker.

**Reviewer: M. J. 5/19/91  Revised 5.22.91**
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>
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<td>Shorebirds</td>
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<td>Corvids</td>
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<tr>
<td>Other Birds</td>
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</table>

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

SEGMENT: KN 106  SUB: B  REGION: PWS  SURVEY DATE: 5/19/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s)__________________________ OPEN

Ecological/Constraints (see page two for details)__________________________ NONE

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

SHPO Signature:__________________________ Date:__________________________

RECOMMENDATIONS:

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

TAG:____________________________________________

FOSC:___________________________________________

TAG APPROVAL DATE:_________  FOSC APPROVAL DATE:_________

ADEC_________________________  FOSC_________________________

EXXON________________________

USCG________________________

NOAA________________________
Maysap Field Shoreline Comment Sheet

Team No. 2  Segment  K10-106  Subdivision G  Date 5/19/91

ADEC
Name: Peter Montesano  Signature: Ray

- NTR  TREATMENT RECOMMENDED

Short and relatively unspilled Subdivision. Most treatable
Remnants Removed or Broken up.

Exxon
Name: Frank A. Box  Signature: Frank A. Box

- NTR
Nothing was found on this segment other than
a few toe splashes and some light coat splatters.
No treat.

Landmanager
Name: Dennis S. Keever USFS  Signature: D S Keever

- NTR  almost no oiling remains.

UsCG/NOAA
Name: Ball M P Zenone USCG  Signature: Ball M P Zenone

- NTR
Minimal amount of oil within this segment. MAYSAP team
members, unmanned OIB, and M2 were not impacted.

CB: Recommend No Treatment.
**MAYSAF SHORELINE OILING SUMMARY**

**TEAM NO.** 2  
**OG** D. Raines  
**BIO** S. Ban  
**ADEC** P. Montignano  
**LANDMANAGER** P. Kennedy  
**USCG/NOAA** D. Sinex-Booth

**DATE** 5.19.91  
**TIME** 08:35 to 08:54  
**TIDE LEVEL** 4.81 ft. to 5.92 ft.  
**ENERGY LEVEL**  

**SURVEYED FROM:**  
- FOOT  
- BOAT  
- HELICOPTER  
**WEATHER:**  
- SUN  
- CLOUDS  
- FOG  
- RAIN  
- SNOW

**TOTAL LENGTH SHORELINE SURVEYED:** 247 m  
**NEAR SHORE SHEEN:**  
- BR  
- RB  
- SL  
- NONE

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

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<tr>
<th>L</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT</th>
<th>SHORE SLOPE</th>
<th>AREA</th>
<th>NOTES</th>
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<tbody>
<tr>
<td>C</td>
<td>AP</td>
<td>MS</td>
<td>TB</td>
<td>SOR</td>
<td>CV</td>
</tr>
</tbody>
</table>

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

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

**PHOTO ROLL # MAYSAF - 2 - 21**

**PIT NO.**  
**PIT DEPTH** (cm)  
**SUBSURFACE OIL CHARACTER**  
**OILED ZONE** (cm-cm)  
**CLEAN ZONE** Y/N  
**H2O LEVEL** (cm)  
**SHEEN COLOR**  
**PIT ZONE**  
**SURFACE-SUBSURFACE SEDIMENTS**  
**NOTES**

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

**OG COMMENTS:** Rocky Shoreline with high angle Boulder Beaches and Lay deposits over Rock. One small pocket of beach. The only oil found were three tar splats (very brittle - Possibly Not Exxon) and one small patch of Interstitial Mousse (1%). These were broken up and or removed. The entire Segment is coded as Location "A" and is marked as No oil remaining.
OG SKETCH
KN 106 B
MAY 19, 1991
08:35 - 08:54
Doug Reimer
**KAYSAP BIOLOGICAL SUMMARY FORM**

<table>
<thead>
<tr>
<th>TEAM #</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATE</td>
<td>12 May 91</td>
</tr>
<tr>
<td>SEGMENT #</td>
<td>KU-106</td>
</tr>
<tr>
<td>TIDAL HEIGHT (Range)</td>
<td>+6 ft</td>
</tr>
<tr>
<td>SUBDIVISION</td>
<td>B</td>
</tr>
<tr>
<td>BIOLeGIST</td>
<td>SMAN</td>
</tr>
<tr>
<td>SEA STATE</td>
<td>Calm</td>
</tr>
<tr>
<td>WIND SPEED/DIRECTION</td>
<td>Calm</td>
</tr>
</tbody>
</table>

**PHOTOGRAPHS:** ROLL # | FRAME #

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

All oil on this segment was high in the inter-tidal zone. DRH and MCE were returned to brokenup survey team.

---

**WILDLIFE OBSERVATIONS**

**TO BE COMPLETED IN ALL SUBDIVISIONS**

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

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

**LAND MAMMALS**

Shoreline subdivision map showing important biological features attached.

Reviewed M.B. 3/22/91
SHORELINE EVALUATION

SEGMENT ST/KN-106       SUBDIVISION C (3 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ADFG anadromous stream no. 226-10-16890
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
6V Recreation: Anchorages (6/1 to 9/15)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: DATE: 4/25/90

OILING CATEGORIZATION:
Wide 0__m: Medium 0__m: Narrow 13 m: V.Light 117 m: No Oil 418 m
Subsurface Oil Observed: Yes____ No X____ Maximum Depth____

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

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

COMMENTS: Recommend bioremediation of areas indicated on sketch map. Do not bioremediate within 100m of anadromous fish stream.

TAG COMMENTS: NTR Recommended due to lack of significant oil + damage biota.

TAG APPROVAL DATE: 1/23/90
ADEC ARTURINAR Arturinart
EXXON Brian G. Oates
NOAA Joseph T. Jaffe
USCG Kenneth W. Neale

FOSC: DATE: 5-6-90
OG I : NGER
SEGMENT ST/ KM - 106
SUBDIVISION C
DATE 04/10/90

CHECKLIST
- M A Anon
- Approx. Scale
- Seg/Sub Boundary
- Oil Dist.
- Width
- Length
- % Cover
- Substrate Character
- EEL, HWL, WL
- SSL
- Profile Location(s)
- Profiles(s)
- Pt Location(s)
- Photo Location(s)

LEGEND
1 △
Pt - No Subsurface Oil

2 △
Pt - Subsurface Oil

Continuous Distribution

Broken Distribution

Patchy Distribution

Splashed Distribution

Oil Vegetation

Photo location, direction, and number

Oil Character Length (m): AP PO CV CT 152 ST MS PT TB FL NO 350
KN-106

- PWS 2862

- PWS 2868

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

ADEC Segment Length: 9214m

Map Key: PWS-286d
Name: James Springe
Date: 4/10/90
SHORELINE EVALUATION

SEGMENT ST/ KN-106 SUBDIVISION B (2 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ADF&G anadromous stream no. 226-10-16890
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
6V Recreation: Anchorages (6/1 to 9/15)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: Charles H. Deane DATE: 5/3/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V. Light 25 m: No Oil 222 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
___ Tar Mat: Breakup ___ Other (see comments)
___ Removal ___ Beach Cleaner

COMMENTS: Manual pick up of mousse followed by bioremediation as indicated on sketch map. Work should be conducted between 5/16 and 7/9 based on constraints.

TAG COMMENTS: ***DELETE BIOREMEDIATION DUE TO LACK OF OIL AND DENSE BISTA

TAG APPROVAL DATE: 4/23/90 ADEC
EXXON
NOAA
USCG
SEGMENT ST/RN - 106

SUBDIVISION B

DATE 04/10/90

CHECKLIST

N Arrow
Approx. Scale
Seg/Sub Entry
Or Dist
Wash
Length
% Cover
Subsoil Character
Ext. NW/PW
SSL
Profile Location(s)
Profile(s)
Pt. Location(s)
Photo Location(s)

LEGEND

\[ \Delta \]
- No Subsurface Oil
- Subsurface Oil

\[ CT/C \]
Continuous Distribution

\[ CT/S \]
Broken Distribution

\[ CT/P \]
Patchy Distribution

\[ CT/S \]
Splashed Distribution

\[ \] Oiled Vegetation

[ ] Photo location, direction, and number

2m x 2.5m TB/5xMS/5 (max. 3cm thick)
between breakers and rocks, stays on few rocks;
total cover 2-19%

METERS

Character Length (m): AP PO CV CT ST MS PT TB 2.5 FL NO 195
SHORELINE EVALUATION

SEGMENT ST/ KN-106 SUBDIVISION D (4 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-10-16890
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
6V Recreation: Anchorages (6/1 to 9/15)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: Charles H. Paul DATE: 5/9/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 12 m: V.Light 24 m: No Oil 550 m
Subsurface Oil Observed: Yes __ No X Maximum Depth________

RECOMMENDATIONS:

____ No Treatment Recommended _______Snare/Absorbent Booms
X ___ Treatment Recommended _______Oil Snares (pom poms)
X ____ Manual Pickup _______Absorbents (pads, rolls, etc)
_____ Bioremediation _______Spot Washing: Wands
X _ Tarmat: _______Breakup _______Beach Cleaner
__X__ Removal _______Other (see comments)

COMMENTS: Recommend asphalt removal. Work should be conducted between 5/16 and 7/9 based on salmon constraints if closer than 100m of anadromous fish stream.

TAG COMMENTS:

____________________________________

TAG APPROVAL DATE: 4/25/90

ADEC: Art Weiser DATE: ___________
EXXON: Mary Con DATE: 5-8-90
NOAA: Joseph Talbot DATE: ___________
USCG: Kathleen Keane DATE: ___________
EGMENT ST/ N-106
UbDIVISION D
ATE 04/10/90

CHECKLIST

1. Areas
2. Approx. Scale
3. Title/Subtitle
4. Dist.
5. Height
6. Cover
7. Subsurface Character
8. Ext. HMBL/HNL
9. Profile Location(s)
10. Pit Location(s)
11. Photo Location(s)

LEGEND

1. ▲
   1. No Subsurface Oil
   2. Subsurface Oil

CT/C
Continuous Distribution
CT/B
broken Distribution
CT/P
patchy Distribution
CT/S
spotted Distribution

Vegetation
1. 0
   1. crop location, direction, adm. number

Character Length (m): AP 30 PO CV CT ST 7 MS PT TB FL NO 563
SHORELINE EVALUATION

SEGMENT ST/ KN-106 ----- SUBDIVISION E (5 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ADF&G anadromous stream no. 226-10-16890
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
6V Recreation: Anchorages (6/1 to 9/15)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: [Signature] DATE: 4/23/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 24 m: V.Light 151 m: No Oil 48 m
Subsurface Oil Observed: Yes ___ No ___ 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: Breakup _____ Beach Cleaner
_____ Removal _____ Other (see comments)

COMMENTS:

______________________________

TAG COMMENTS:

______________________________

TAG APPROVAL DATE: 4/23/90
ADEC [Signature] DATE: 4/23/90
EXXON [Signature] DATE: 4/23/90
NOAA [Signature] DATE: 4/23/90
USCG [Signature] DATE: 4/23/90
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-106 SUBDIVISION A (1 of 5)

WORK WINDOW

<table>
<thead>
<tr>
<th>Manual Pickup</th>
<th>OPEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioremediation</td>
<td>OPEN</td>
</tr>
</tbody>
</table>

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A, 1B Salmon Stream | ADF&G catalogued stream (226-10-16890) is not located in Subdivision A. No Constraint to Manual Pickup and Bioremediation.

OTHER ECOLOGICAL CONSIDERATIONS

Avoid any unnecessary disturbance or damage to unaltered substrate and biota. Do not trample or otherwise damage mussel beds.
SHORELINE EVALUATION

SEGMENT ST/9N-106 SUBDIVISION A (1 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ADFG anadromous stream no. 226-10-16890
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
6V Recreation: Anchorages (6/1 to 9/15)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Do not trample or otherwise damage mussel bed.

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: 5/3/90

OILING CATEGORIZATION:
Wide 0 m; Medium 53 m; Narrow 23 m; V.Light 177 m; No Oil 435 m
Subsurface Oil Observed: Yes X No Maximum Depth 20 cm

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

COMMENTS: Manual pick up of mousse followed by bioremediation as indicated on sketch map. Work should be conducted between 5/16 and 7/92 based on above salmon constraints. Contact ADFG for salmon constraints. For Dates See Addendum 5/17/90

TAG COMMENTS:

TAG APPROVAL DATE: 4/23/90
ADEC XX Watts 5/12/90
EXXON ___ XX Watts 5/6/90
NOAA ___ XX Watts 5/6/90
USCG ___ Watts 5/6/90
FOSC: ___ Watts DATE: 5/6/90

[Signature]
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT KN-106 SUBDIVISION B (2 of 5)

ARCHAEOLOGICAL STANDARD CONSTRAINT
If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS
1A,1B Salmon Stream ADF&G catalogued anadromous stream (226-10-16890) is located outside Subdivision B in an unsurveyed portion of Segment KN-106. No constraint to manual pickup.

OTHER ECOLOGICAL CONSIDERATIONS
Avoid any unnecessary disturbance or damage to unölled biota and substrate.

TAG ADDENDUM DATE 5/21/90.
ADEC Not Used Not Used
EXXON
NOAA Joseph Sallott
USCG

Prepared by: Claude Meyer
Date: 5/19/90
SHORELINE EVALUATION

SEGMENT ST/ KN-106 SUBDIVISION B (2 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ADP&G anadromous stream no. 226-10-16890
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
6V Recreation: Anchorages (6/1 to 9/15)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: [Signature] DATE: 5/3/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 25 m: No Oil 222 m
Subsurface Oil Observed: Yes____ No_x____ Maximum Depth_____

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

COMMENTS: Manual pick up of mousse followed by bioremediation as indicated on sketch map. Work should be conducted between 5/16 and 7/9 based on constraints.

TAG APPROVAL DATE: 4/23/90
ADEC [Signature] DATE: 5-8-90
EXXON [Signature] FOSC: [Signature]
NOAA [Signature] USCG [Signature]

TAG COMMENTS: DELETE BIOREMEDIATION DUE TO LACK OF OIL AND DENSE BIOTA
ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

ADF&G catalogued anadromous stream (226-10-16890) is located outside Subdivision D in an unsurveyed portion of Segment KN-106. No constraint to manual pickup or tarmat removal.

OTHER ECOLOGICAL CONSIDERATIONS

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

SEGMENT ST/ KN-106 SUBDIVISION D (4 OF 5) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ADFG anadromous stream no. 226-10-16890
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
6V Recreation: Anchorages (6/1 to 9/15)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: __________ DATE: 5/9/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 12 m: V.Light 24 m: No Oil 550 m
Subsurface Oil Observed: Yes___ No X___ Maximum Depth______

RECOMMENDATIONS:

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

COMMENTS: Recommend asphalt removal, work should be conducted between 5/16 and 7/9 based on salmon constraints if closer than 100 m of to anadromous fish stream.

TAG COMMENTS:

TAG APPROVAL DATE: 4/25/90
ADEC ___ Trever __ AN: 732
EXXON ___ Trever __ AN: 650
NOAA ___ Trever __ AN: 6890
USCG ___ Trever __ AN: 4905

TAG: __________ DATE: 5-8-90
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-106 SUBDIVISION D (4 of 5)

WORK WINDOW

Manual Pickup
Tarmat Removal

CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

ADF&G catalogued anadromous stream (226-10-16890) is located outside Subdivision D in an unsurveyed portion of Segment KN-106. No constraint to manual pickup or tarmat removal.

5T Bald Eagle Nest

USFWS 6/1/90 map indicates an active nest in Subdivision D. Closed to manual pickup and tarmat removal within 400m of active nest.

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC ____________________________ Date 6-10-90

Prepared by ____________________________ Date 6-10-90
ECOLOGY MAP
SEGMENT KN-106
SUBDIVISION △ (4 of 5)
METERS

Exxon Company, USA
P.O. Box PUS-KN-106

★ Seabird Colony
△ Active Eagle Nest
△ Inactive Eagle Nest

ANADROMOUS STREAM
226-10-16890

WOUY AREA

Seabird Colony
Active Eagle Nest
Inactive Eagle Nest
SHORELINE EVALUATION

SEGMENT ST/KN-106  SUBDIVISION D (4 OF 5)  DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ADF&G anadromous stream no. 226-10-16890
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
6V Recreation: Anchorages (6/1 to 9/15)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiied 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: 5/9/90

OILING CATEGORIZATION:
Wide 0_m: Medium 0_m: Narrow 12_m: V.Light 24_m: No Oil 550_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  ___ Absorents (pads, rolls, etc)
___ Bioremediation  ___ Spot Washing:  ___ Wands
X Tarmat:  ___ Breakup  ___ Beach Cleaner
 ___ Removal  ___ Other (see comments)

COMMENTS: Recommend asphalt removal. Work should be conducted between 5/16 and 7/9 based on salmon constraints if closer than 100m of to anadromous fish stream.

MANUAL PICKUP NOT TIME RESTRICTED  See Appendix dated 5/9/90

TAG COMMENTS:

TAG APPROVAL DATE: 4/23/90
ADEC [Signature]  DATE: 5-5-90
EXXON [Signature]  DATE: 5-5-90
NOAA [Signature]  DATE: 5-5-90
USCG [Signature]  DATE: 5-5-90
SHORELINE EVALUATION

SEGMENT ST/ KN-106  SUBDIVISION A (1 OF 5) DATE  4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ADF&G anadromous stream no. 226-10-16890
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
6V Recreation: Anchorages (6/1 to 9/15)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Do not trample or otherwise damage mussel bed.

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

SHPO SIGNATURE:  DATE:  5/3/90

OILING CATEGORIZATION:

Wide 0 m: Medium 53 m: Narrow 23 m: V.Light 177 m: No Oil 435 m
Subsurface Oil Observed: Yes __ X__ No____ Maximum Depth 20 cm

RECOMMENDATIONS:

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

COMMENTS: Manual pick up of mousse followed by bioremediation as indicated on sketch map. Work should be conducted between 5/16 and 7/9 based on above salmon constraints. Contact ADF&G for salmon constraints.

TAG COMMENTS:

_____________________________________________________

TAG APPROVAL DATE:  4/23/90
ADEC Art Weiner  FOSC:  DATE:  5-6-90
EXXON  Ady Yen
NOAA Joseph Blount
USCG Kenneth Keane
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-106

SUBDIVISIONS: C (3 OF 5)
SHORELINE EVALUATION

SEGMENT ST/ KN-106  SUBDIVISION C (3 OF 5)  DATE  4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ADFG anadromous stream no. 226-10-16890
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
6V Recreation: Anchorages (6/1 to 9/15)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: __________________  DATE: ______________________

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 13 m: V.Light 117 m: No Oil 418 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:  Recommend bioremediation of areas indicated on sketch map.
Do not bioremediate within 100 m of anadromous fish stream.

TAG COMMENTS:________________________________________________________

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

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

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

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

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

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

Remote release site

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

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

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

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

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

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

Harbor seal and sea lion pupping (5/15 to 7/1)
Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

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

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

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

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

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

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

SEGMENT ST 106 SUBDIVISION: C DATE 10 April 90

USCG NAME AEC Vandepeels SIGNATURE AEC Vandepeels

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

I recommend no treatment.

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

Comments:
Occasional CFLs and patches need manual scrubbing to a stain. No other treatment necessary. Low priority segment.

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

Comments:
No treatment were on beach, patrol southern half for CFLs. I rank this as very low priority.
SHORELINE OILING SUMMARY

OG J. Sprinkler USCG R. Vandevels SEGMENT ST/I KN-106
BIO P. Granik LAND REP D. Logan SUBDIVISION C(3,0RS)
EXXON T. Tarnblim ADEC M. Brat TIME 08:15 to 08:30
TEAM NO.: 5 TIDE LEVEL: -1 to -1 DATE 04/10/90
EST. SUBDIVISION LENGTH: 500 m [Sun] [Clouds] [Fog] [Rain] [Snow]

UPLANDS DESCRIPTION: [Grass] [Forest] [Rock]
SURVEYED FROM: [Foot] [Boat] [Helo] WORKING DIRECTION: N to S

OIL CATEGORY LENGTH: [W] 0 m [M] 0 m [N] 20 m [VL] 130 m NO 350 m

### SURFACE OIL

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<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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<td>PATTIES</td>
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<tr>
<td>TARBALLS</td>
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### SUBSURFACE OIL

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COMMENTS

No pits dug. Boulders too large.
**SHORELINE ECOLOGICAL SUMMARY**

*Segment ST/KN 10U Subdivision C*  
*Date (mo/day/yr) 4/10/90*

**Time (24 hr) 0610-0830**  
**Biologist Cranke**

(A) Substrate type and % of segments:

- (1) Bedrock 40%
- (2) Boulder 50%
- (3) Cobble 10%
- (4) Pebble 5%
- (5) Sand 1%
- (6) Silt

(B) Overall % cover of biota (% of segment): Dense 30%, Moderate 50%, 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* (G)

**BARNACLES**

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<th>Sparse</th>
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**MYTILUS**

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**Wildlife Observations/General Comments:**

- Most of subdivision is a thin, multi-
  phyletically diverse algal turf.
- The 1st year of a dense, diverse turf was noted.
- *Gastropods* are the dominant fauna with a high recruitment.
- *Laminaria* which are common in Unit IV became sparse in Unit V. This may be due to special conditions in Unit V.
- *Mytilus* are rare, found in lower % coverage.

**Ecological Considerations:**

- Uniform turf in thin subdivision
- Laminaria appears healthy
<table>
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<tr>
<th>SPECIES</th>
<th>UTZ</th>
<th>MITZ</th>
<th>LITZ</th>
<th>COMMENTS</th>
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<td><strong>FLORA:</strong></td>
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<tr>
<td>Bossiella/Coralina</td>
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<td>Calliarthron/Coralina</td>
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<tr>
<td>Cladophora spp.</td>
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<td>Costaria spp.</td>
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<td>Endocladia Muricata</td>
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<tr>
<td>Filamentous greens</td>
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<td>Filamentous reds</td>
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<td>Halosaccion Glandiforme</td>
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<td>Laminaria spp.</td>
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<td>Lithothamnion</td>
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<td>Nereocystis spp.</td>
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<td>Porphyra spp.</td>
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<td>Raphisia/Nildenbrandia</td>
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<td>Rhodomela Larix</td>
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<td>Rhodomenia Palmata</td>
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<td>Scytosiphon spp.</td>
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<td>Dense, concentration 3 - 5/g/m²</td>
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<td>Leptasterias hexactis</td>
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<td>Aequa v. Eke</td>
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1 = Bedrock  2 = Boulder  3 = Cobble  4 = Pebble  5 = Sand  6 = Silt
SEGMENT ST/ km-106

SUBDIVISION C

DATE 24/10/90

CHECKLIST

- Approx. Scale
- Seg/Sub Boundary
- Oil Date
- Length
- % Cover
- Substrate Character
- Est. HWA/HL
- SSL
- Profile Location(s)
- Photo(s)
- Pt. Location(s)

LEGEND

1. Δ
   Pt: No Subsurface Oil

2. Δ
   Pt: Subsurface Oil

CT/C
Conversion/Extension

CT/B
Broken Distribution

CT/P
Patchy Distribution

CT/S
Splashed Distribution

Oil Character Length (m): AP PO CV CT 150 ST MS PT TB FL NO 350
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-106

SUBDIVISIONS: D (4 OF 5)
SHORELINE EVALUATION

SEGMENT ST/KN-106       SUBDIVISION D (4 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ADFG anadromous stream no. 226-10-16890
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
6V Recreation: Anchorages (6/1 to 9/15)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE:_________________________ DATE:_________________________

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 12 m: V.Light 24 m: No Oil 550 m
Subsurface Oil Observed: Yes___ No X___ Maximum Depth____

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

COMMENTS: Recommend asphalt removal. Work should be conducted between 5/16 and 7/9 based on salmon constraints if closer than 100 m of anadromous fish stream.

TAG COMMENTS:__________________________________________________________

TAG APPROVAL DATE:______________
ADEC ___________________________ FOSC:_________ DATE:_________
EXXON __________________________
NOAA __________________________
USCG __________________________
PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

1A
Salmon stream mouth - fry outmigration (3/1 to 5/15)
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 biomediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.

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

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

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

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

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

1H
Remote release site

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

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

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

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

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

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

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

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

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

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

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

6V
Subsistence area:
Salmon harvesting (5/1 to 9/30)

6W

6X

6Y

7Z
Finfish harvesting

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

7I
Invertebrates harvesting

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

PWS-CODE 4/11/90
SEGMENT ST 104

SUBDIVISION: D
DATE 04-10-90

USCG
NAME: AEC Vandenpels
SIGNATURE: AEC Vandenpels

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

I recommend no treatment in KN106 Sub. D. To labor intensive. to remove the few tar balls and asphalt patch there.

ADEC
NAME: Michele Baer
SIGNATURE: Baer

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

For this area, I recommend manual pick-up of AP/L and Th/L mentioned on flu map. There are only a few in this area. No surface oil was found and splashes did not penetrate the upper shale surface. This area is low publicity.

LAND MANAGER
NAME: Dan Logan
SIGNATURE: Logan

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

REMOVE T.D. IN SOUTHERN PORTION OF SEGMENT SUBDIVISION
REMOVE ASPHALT IN 3X30M SECTORS
VERY LOW PRIORITY
# Shoreline Oiling Summary

**Date:** 04/10/90

**Surveyor:** J. Springer
**LandRep:** R. Vandepels
**Subdivision:** D

**Time:** 3:10
**Team No.:** 5
**Tide Level:** -1

**Distance:** 600 m

**Surveys From:** Foot
**Uplands Description:** Grass
**Surface Sediments:** 30% R, 60% C, 10% P
**Slope:** 20% Lang, 10% Hang, 70% Vert

**Working Direction:** N to S

**Surface Oil:***

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<th>Distribution</th>
<th>Oil/Film Color</th>
<th>Impacted Zones</th>
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<td>Tarballs</td>
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**Subsurface Oil:**

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<th>Pit Depth (cm)</th>
<th>Subsurface Oil Character</th>
<th>Oiled Interval (cm-cm)</th>
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**Debris Collected:**
- Logs: Yes
- Vegetation: Yes
- Trash: Yes
- Debris: No

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

**Comments:**

**Reviewed:** T4 4/13/90
SHORELINE ECOLOGICAL SUMMARY

Segment ST1/KN106 Subdivision O Date (mo/day/yr) 4/10/40
Time (24 hr) 0830 - 0855 Biologist Grant

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

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

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

Photographs: No photos
Roll No. __________
Frames __________

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Wildlife Observations/General Comments:
- Subdivision approx. 150m S of KN100C. Smaill species distribution consistent with KN100C through KN100P, no, do we know.
- This area has been subjected to intensive fishing, and another 200 or so, as well.
- Again are several areas subject to heavy fishing, and another 200 or so, as well.
- Barnacles and kelp are dense in 1/178 octile. 1/178 octile.

Ecological Considerations:
Low: 70% adults, 30% juveniles. Special Net Exclusion
**Species** | **LITT** | **MITZ** | **LITZ** | **Comments**
--- | --- | --- | --- | ---
**Flora:**
Bosellia/corallina | 2 | 2 | 2 | 
Calliarthron/corallina | 2 | 2 | 2 | 
Cladophora spp | 2 | 2 | 2 | 
Costaria spp | 2 | 2 | 2 | 
Endoclada muricata | 2 | 2 | 2 | 
Filamentous greens | 2 | 2 | 2 | 
Filamentous reds | 2 | 2 | 2 | 
Gloiopeletis puricata | 2 | 2 | 2 | 
Haloaccion glandiforme | 2 | 2 | 2 | 
Laminaria spp | 2 | 2 | 2 | 
Lithothamnion | 2 | 2 | 2 | 
Nereocystis spp | 2 | 2 | 2 | 
Porphyra spp | 2 | 2 | 2 | 
Rahphia/hildenbrandia | 2 | 2 | 2 | 
Rhodemia larix | 2 | 2 | 2 | 
Rhodomenia palmata | 2 | 2 | 2 | 
Scyotosiphon spp | 2 | 2 | 2 | 
Ulva spp | 2 | 2 | 2 | 
Zostera marina | 2 | 2 | 2 | 
**Fauna:**
Anthopleura spp | 2 | 2 | 2 | 
(<EMI) balanus cariosus | 2 | 2 | 2 | 
B. glandula | 2 | 2 | 2 | 
Bryozans | 2 | 2 | 2 | 
Chitons (other than k. tunicata) | 2 | 2 | 2 | 
Clams | 2 | 2 | 2 | 
Crabbed | 2 | 2 | 2 | 
Dermoasterias imbricata | 2 | 2 | 2 | 
Katharina tunicata | 2 | 2 | 2 | 
Leptasterias hexactis | 2 | 2 | 2 | 
Limpets | 2 | 2 | 2 | 
Littorina spp | 2 | 2 | 2 | 
Nucella spp | 2 | 2 | 2 | 
Paugurus spp | 2 | 2 | 2 | 
Pisaster ochraceus | 2 | 2 | 2 | 
Polychaetes | 2 | 2 | 2 | 
Pydnopodia helianthoides | 2 | 2 | 2 | 
Sealesea dira | 2 | 2 | 2 | 
Serpulids | 2 | 2 | 2 | 
Siphonaria thersites | 2 | 2 | 2 | 
Tealia | 2 | 2 | 2 |
Low energy shoreline

Legend:
1 △
   - No Subsurface Oil
2 △
   - Subsurface Oil
CT/C: continuous distribution
CT/B: broken distribution
CT/V: very broken distribution
CT/S: surface distribution

character Length (m): AP 30 PO CV CT ST 7 MS PT TB FL NO 563
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-106

SUBDIVISIONS: E (5 OF 5)
SEGMENT ST/KN-106 SUBDIVISION E (5 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ADF&G anadromous stream no. 226-10-16890
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
6V Recreation: Anchorages (6/1 to 9/15)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

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

ARCHAEOLOGICAL CONSTRAINTS:
If 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 24 m: V. Light 151 m: No Oil 48 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:
___Tarmat:  Breakup
_____Removal  Beach Cleaner
__________ Other (see comments)

COMMENTS:

______________________________________________________________

______________________________________________________________

______________________________________________________________

TAG COMMENTS:

______________________________________________________________

______________________________________________________________

______________________________________________________________

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

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

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

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

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

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

Remote release site

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

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

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

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

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

Harbor seal and sea lion pupping (5/15 to 7/1)
Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

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

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

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

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

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

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

SEGMENT ST1 KN: 106  SUBDIVISION: E  DATE: 04-10-90

USCG
NAME: AEC Vandepels  SIGNATURE: AEC Vandepels

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

I recommend no treatment.

ADEC
NAME: Michele Baer  SIGNATURE: M Baer

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

Manual scrubbing on the coats/p and splashes to bring until they are only a stain. No other treatment required.

LAND MANAGER
NAME: Dan Heenan  SIGNATURE: D Heenan

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED
**SHORELINE OILING SUMMARY**

**OG: J. Springer**  USCG  **R. Vandepeels**  SEGMENT ST/  **KN-106**

**BIO: P. Cruse**  LAND REP:  **m. Boer**  SUBDIVISION:  **E(5,0FT)**

**EXXON: T. Tomlin**  **ADEC: m. Boer**  TIME:  **07:00 to 07:15**

**TEAM NO.: S**  **TIDE LEVEL: -1 to 0**  **DATE: 04/10/90**

**EST. SUBDIVISION LENGTH:**  **240 m**  **DATE: 04/10/90**

**TIDE LEVEL:**  **-1 to 0**  **DATE: 04/10/90**

**SURVEYED FROM:**  **Foot**  **Boat**  **Helo**  **WORKING DIRECTION:**  **N to S**

**SURFACE SEDIMENTS:**  **R 30% B 40% C 24% P 5% G 0% S 0% M 0% V 0**

**SLOPE:**  **Lang 15% Hang 25% Veg 0%**  **WAVE EXPOSURE:**  **Low**  **Med**  **High**

**OIL CATEGORY LENGTH:**  **W 0 m M 0 m N 20 m V 100 m NO 20 m**

### SURFACE OIL

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

**PATTIES / TARBALLS**  **0 BAGS**

**NEAR SHORE SHEEN?**  **NO**

**BR RW SL TL**

**SURFACE OIL**

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

**PATTIES / TARBALLS**  **0 BAGS**

**NEAR SHORE SHEEN?**  **NO**

**BR RW SL TL**

**SURFACE OIL**

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**Photographs:**  **No**

**Roll No.:**

**Frames:**

### SUBSURFACE OIL

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**COMMENTS**

**Photographs:**  **No**

**Roll No.:**

**Frames:**

**Comment:**

**Jul**  **4/13/90**
### SHORELINE ECOLOGICAL SUMMARY

**Segment:** ST1  
**Subdivision:** E  
**Biolist:** [Name]  
**Date (mo/day/yr):** 4/10/90  
**Time (24 hr):** 0955-0920

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

#### (B) Overall % cover of biota (% of segment):
- Dense 3%
- Moderate 5%
- 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 (S)

### Photographs:
- Roll No:
- Frames:

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### Wildlife Observations/ General Comments:
- Subspecies/subspecies of Fucus vesiculosus
- Observations of sub species of Fucus vesiculosus

### Ecological Considerations:
- Low tide site
- Special use designated

...and they sailed off...
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REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-106

SUBDIVISIONS: A (1 OF 5)
SHORELINE EVALUATION

SEGMENT ST/ KN-106  SUBDIVISION A (1 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ADF&G anadromous stream no. 226-10-16890
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
6V Recreation: Anchorages (6/1 to 9/15)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Do not trample or otherwise damage mussel bed.

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

SHPO SIGNATURE:_________________________ DATE:_________________________

OILING CATEGORIZATION:
Wide 0 m: Medium 53 m: Narrow 23 m: V.Light 177 m: No Oil 435 m
Subsurface Oil Observed: Yes X No ___
Maximum Depth 20 cm

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

COMMENTS: Manual pick up of mousse followed by bioremediation as indicated on sketch map. Work should be conducted between 5/16 and 7/9 based on above salmon constraints. Contact ADF&G for salmon constraints.

TAG COMMENTS:____________________________________________________________

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

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

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

Harbor seal and sea lion pupping (5/15 to 7/1)
Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

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

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

All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 600m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

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

Subsistence area: Salmon harvesting (5/1 to 9/30)
Finfish harvesting
Deer harvesting (8/15 to 2/28)
Invertebrate harvesting
For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN106  SUBDIVISION: A  DATE 04-09-90

USCG
NAME ___________________________ SIGNATURE ______________________

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

I suggest bio. sprayed around cobbles and boulders

ADEC
NAME Michelle Pan  SIGNATURE _______________________________________

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

KN106 is in good condition. Sub-segment A + B has the

heaviest coverage with 5-10% mousse penetrating under the

bs. The mousse is only under the bs, not in between or on top,

so the fertilizer would have to be concentrated into the

spaces rather than a coat on the surface of the bs. Manual

scrubbing is recommended on the 2-3 x 15 m area band at the

end of the sub-segment A. This allows low energy and had a wide

band of coverage reported in fall. The only visible oil upon entering

the beach is a 5 cm drip of TAR and STAIN at the waterline.

The tarballs and mousse patches are infrequent throughout the rest of KN10

with the exception of sub-segment A, I should consider the rest of the segment

LAND MANAGER
NAME Dan Keck  SIGNATURE _______________________________________

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Hand remove tar balls and scrub band on north beach

The mousse on the southern beach is on cobbles, underneath clean boulder

and rocks. The cobbles are well arranged and the mousse penetrates to a

depth of 5 cm. I think a fertilizer application that is carefully

strategized under the boulders will be adequate.
**SHORELINE OILING SUMMARY**

**BIO**: P. Craig  
**LAND REP**: D. Logan  
**SUBDIVISION**: A (10F5)  
**EST. SUBDIVISION LENGTH**: 600 m  
**TIDE LEVEL**: +1 to +1  
**DATE**: 04/10/91  
**TEAM NO.**: 5  
**USCG**: Vo11clf J('  
**SEGMENT ST**: KN-106  
**TIME**: 20:00 to 20:15

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

**SURFACE SEDIMENTS**:  
- A 30%  
- B 20%  
- C 10%  
- D 5%  
- E 5%  
- F 5%  
- G 5%  
- H 5%  
- M 5%  
- N 5%  
- V 5%

**SURFACE OIL**

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<tr>
<td>MOUSSE</td>
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<tr>
<td>PATTIES/TARBALLS</td>
<td>X</td>
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<tr>
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<td>X</td>
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<tr>
<td>FILM</td>
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<tr>
<td>NO OIL</td>
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</table>

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

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

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

**DEBRIS COLLECTED**:  
- YES  
- NO

**TYPE**:  
- BAGS

**PHOTOGRAPHS**:  
- Roll No.: 57-5-5

**FRAMES**:  
- 10

**SURFACE OIL**

**OILED INTERVAL**: 5-20

**OIL/FILM COLOR**:  
- X

**SUBSURFACE OIL**

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>OIL/FILM COLOR</th>
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<tbody>
<tr>
<td>1</td>
<td>20</td>
<td>X</td>
<td>5-20</td>
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</table>

**COMMENTS**  
Surveyed north ~200 m from 17:45 to 18:15.
SHORELINE ECOLOGICAL SUMMARY

Segment ST: KN 106
Subdivision: A

Date (mo/day/yr): 4/9/79

Time (24 hr): 2050-2020
Biologist: Carl

(A) Substrate type and % of segments:
(1) Bedrock: 40
(2) Boulder: 30
(3) Cobble: 20
(4) Pebble: 10
(5) Sand: 10
(6) Silt: 10

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

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

Photographs:
Roll No.: ______
Frames: ______

BARNACLES

Dense: ______
Moderate: ______
Sparse: ______
Rare: ______

MYTILUS

Dense: ______
Moderate: ______
Sparse: ______
Rare: ______

GASTROPODS

Dense: ______
Moderate: ______
Sparse: ______
Rare: ______

FUCUS

Dense: ______
Moderate: ______
Sparse: ______
Rare: ______

Wildlife Observations/General Comments:

Ecological Considerations:

NOT PRESENT

NOT PRESENT

NOT PRESENT

NOT PRESENT

- Dense intertidal mussel beds in and around fresh water streams. New recruits.
- Much is a drift collection pocket. Many legs in stream and dense drift seen in U12.
- Moderate wave action. Potential for deposition.
<table>
<thead>
<tr>
<th>SPECIES</th>
<th>LITZ M</th>
<th>MITZ</th>
<th>LITZ</th>
<th>COMMENTS</th>
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<td>CLADOPHORA SPP</td>
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<td>COSTARIA SPP</td>
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<td>ENDOCLADIA MUCICATA</td>
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<td>FILAMENTOUS GREENS</td>
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<td>FILAMENTOUS REDS</td>
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<td>GLOSACCIOPN GLANDIFORME</td>
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<td>Dense Egg Cases in LITZ</td>
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<td>TEALIA</td>
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</table>
OG S. 51 LIGHT
SEGMENT STL/KN-106
SUBDIVISION A
DATE 04.1999

CHECKLIST
✓ N Arrow
✓ Approx. Scale
✓ Seg/Sub Border
✓ Oil Dist.
✓ Width
✓ Length
✓ % Cover
✓ Substrate Character
✓ Est. HWL/ML
✓ SSL
✓ Profile Location(s)
✓ Photo(s)
✓ Pit Location(s)
✓ Photo Location(s)

LEGEND

1
- Pt - No Subsurface Oil

2
- Pt - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/P
Patchy Distribution

CT/S
Splashed Distribution

Oilied Vegetation

1
- Photo location, direction, and number

Oil Character Length (m): AP PO CV CT 45 ST 20 MS PT TB FL NO 355
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-106

SUBDIVISIONS: B (2 OF 5)
SEGMENT ST/KN-106  SUBDIVISION B (2 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ADF&G anadromous stream no. 226-10-16890
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
6V Recreation: Anchorages (6/1 to 9/15)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: __________________ DATE: ____________________

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 25 m: No Oil 222 m
Subsurface Oil Observed: Yes No X Maximum Depth

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

COMMENTS: Manual pick up of mousse followed by bioremediation as indicated on sketch map. Work should be conducted between 5/16 and 7/9 based on constraints.

TAG COMMENTS:

TAG APPROVAL DATE: ____________
ADEC
EXXON
NOAA
USCG

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

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

Gill net area (6/7 to 8/31)
Purse seine area (7/20 to 9/30)
Purse seine hook-off (7/20 to 9/30)
Set net sites (6/11 to 7/25)
For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

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

Habor seal and sea lion pupping (5/15 to 7/1)
Habor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m
horizontal and 300m vertical distance from haulouts.

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

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

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

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

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

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

SEGMENT ST 4N 106     SUBDIVISION: B     DATE 10/Apr/90

USCG NAME AEC Vandepek   SIGNATURE AEC Vandepek

☐ NO TREATMENT RECOMMENDED       ☑ TREATMENT SUGGESTED

Manual pickup of mousse patties and bio.

ADEC
NAME Michelle Bar
SIGNATURE Michelle Bar

☐ NO TREATMENT RECOMMENDED       ☑ TREATMENT SUGGESTED

- Manual pickup of mousse patties
- Breakup and pickup of tarballs
- In a few areas the tar drops to the underlying BO, but these areas are infrequent and small
- No subsurface oil was found

LAND MANAGER
NAME Dan Lacey    SIGNATURE Dan Lacey

☐ NO TREATMENT RECOMMENDED       ☑ TREATMENT SUGGESTED

This area is located in an excellent anchorage and moderate to poor tent site.
I recommend removing tar balls and mousse or applying fertilizer.
# SHORELINE OILING SUMMARY

**OG J. Springer** USCG R. Vandegei
**SEGMENT** KN-106
**BIO** F. Catan
**LAND REP** D. Lewis
**SUBDIVISION** B (2 of 5)
**EXXON** T. Tarnblad ADEC M. Bechet
**TEAM NO:** 5
**TIDE LEVEL:** T to T
**DATE:** 04/10/90

**EST. SUBDIVISION LENGTH:** 220 m
**SURVEYED FROM:** Foot
**SURFACE DESCRIPTION:** Grass
**WORKING DIRECTION:** NE to SW
**SLOPE:** Lang 15%, Hang 15%, Vert 70%
**WAVE EXPOSURE:** Low

**OIL CATEGORY LENGTH:** W 0 m M 0 m N 0 m V 25 m NO 195 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>COVER</td>
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<td>COAT</td>
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<td>STAIN</td>
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<td>X</td>
<td>X</td>
</tr>
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<td>MOUSSE</td>
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</tr>
<tr>
<td>PATTIES</td>
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<td>X</td>
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<tr>
<td>TARBALLS</td>
<td>X</td>
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</tr>
<tr>
<td>FILM</td>
<td>X</td>
<td>X</td>
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<tr>
<td>NO OIL</td>
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</tbody>
</table>

**PAVEMENT:** H F S 0 sq m by 0 cm
**PATTIES / TARBALLS:** 3 BAGS

**NEAR SHORE SHEEN?:** NO

## SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>DEPTH (cm)</th>
<th>OILED INTERVAL</th>
<th>OILED DEBRIS</th>
<th>AMOUNT</th>
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<tbody>
<tr>
<td>1</td>
<td>25</td>
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</table>

**DEBRIS COLLECTED:**
- Logs
- Vegetation
- Trash
- Debris

**BAGS:** 0

**PHOTOGRAPHS:**
- Roll No.: 0
- Frames: 0

**COMMENTS**

**REVIEWED:** W 4/15/90
**SHORELINE ECOLOGICAL SUMMARY**

Segment ST 1/KN104 Subdivision B  
Date (mo/day/yr) 4/9/90

Time (24 hr) 2020-2040 Duration

(A) Substrate type and % of segments:
- Bedrock 75%
- Boulder 15%
- Cobble 5%
- Pebble 5%
- Sand 5%
- Silt

(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:
- Barnacles
  - Dense
    - 1U: 2
    - 1M: 3
    - 1L: 2
  - Moderate
    - 1U: 2
    - 1M: 3
    - 1L: 2
  - Sparse
    - 1U: 2
    - 1M: 3
    - 1L: 2
  - Rare
    - 1U: 2
    - 1M: 3
    - 1L: 2

- Mytilus
  - Dense
    - 1U: 2
    - 1M: 2
    - 1L: 2
  - Moderate
    - 1U: 2
    - 1M: 2
    - 1L: 2
  - Sparse
    - 1U: 2
    - 1M: 2
    - 1L: 2
  - Rare
    - 1U: 2
    - 1M: 2
    - 1L: 2

- Gastropods
  - Dense
    - 1U: 2
    - 1M: 2
    - 1L: 2
  - Moderate
    - 1U: 2
    - 1M: 2
    - 1L: 2
  - Sparse
    - 1U: 2
    - 1M: 2
    - 1L: 2
  - Rare
    - 1U: 2
    - 1M: 2
    - 1L: 2

- Fucus
  - Dense
    - 1U: 2
    - 1M: 2
    - 1L: 2
  - Moderate
    - 1U: 2
    - 1M: 2
    - 1L: 2
  - Sparse
    - 1U: 2
    - 1M: 2
    - 1L: 2
  - Rare
    - 1U: 2
    - 1M: 2
    - 1L: 2

Wildlife Observations/General Comments:
- Low Barnacle recruitment is moderate or high.
- Fucus recruitment was not present.

Ecological Considerations:
- Special Use Destination - Fucus recruitment was not present.
- Tenting - Not in this subdivision.
<table>
<thead>
<tr>
<th>SPECIES</th>
<th>UIITZ</th>
<th>MITZ</th>
<th>LITZ</th>
<th>COMMENTS</th>
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<tr>
<td>RHODOMENIA PALMATA</td>
<td>2/3</td>
<td></td>
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</tr>
<tr>
<td>SCYTOSIPHON SPP</td>
<td>2/3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ULVA SPP</td>
<td>1/3</td>
<td></td>
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<tr>
<td>ZOSTERA MARINA</td>
<td></td>
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<tr>
<td><em>Cryophylica</em></td>
<td>1/3</td>
<td>1/3</td>
<td>1/3</td>
<td>Dense</td>
</tr>
<tr>
<td><strong>FAUNA:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ANTHOPOLEURA SPP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(SEMI) BALANUS CARIOUS</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>B. GLANDULA</td>
<td>1/3</td>
<td>1/3</td>
<td>1/3</td>
<td></td>
</tr>
<tr>
<td>BRYOZOAIS</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>CHITONS (OTHER THAN K. TUNICATU)</td>
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</tr>
<tr>
<td>CLAMS</td>
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</tr>
<tr>
<td>CRABS</td>
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<td>DERMATERIAS IMBICATA</td>
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<td>KATHEARIA TUNICATA</td>
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<tr>
<td>LEPTASTERIAS HEXACENT</td>
<td></td>
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<tr>
<td>LIMPETS</td>
<td>1/3</td>
<td>1/3</td>
<td>1/3</td>
<td>Dense</td>
</tr>
<tr>
<td>LITTORINA SPP</td>
<td>1/3</td>
<td>1/3</td>
<td>1/3</td>
<td>Dense</td>
</tr>
<tr>
<td>NUCELLA SPP</td>
<td>1/3</td>
<td>1/3</td>
<td>1/3</td>
<td></td>
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<tr>
<td>PAGURUS SPP</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>PISASTER OCHRACEUS</td>
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<tr>
<td>POLYCHAETES</td>
<td>3</td>
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<tr>
<td>PYZOPODIA HELIANTHOIDES</td>
<td>1/2</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>SEARLESIA DINA</td>
<td>2/3</td>
<td>1/3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SERPULIDIES</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIFONARIA THERSITES</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>TEALIA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>G. wicki</em> GIL.</td>
<td>1/3</td>
<td>1/3</td>
<td>1/3</td>
<td>Dense</td>
</tr>
</tbody>
</table>
1991 MAYSAP EVALUATION

SEGMENT: KM 107 SUB: A REGION: PWS SURVEY DATE: 5/13/91

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. Darby Date: 5/30/91

RECOMMENDATIONS:

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

COMMENTS:
INITIAL: __________________________________________________

TAG: TAG VISIT CONFIRMED NTR ON 6/12/91.

ADEC - Exxon

FOSC: __________________________________________________

TAG APPROVAL DATE: MAY 29 1991 FOSC APPROVAL DATE: 6/10/91

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

The state will evaluate the need for further treatment.

Reassessment conducted - NTR

John Plamondon 6/13/91
JIAYSAP BIOLOGICAL SUMMARY FORM

TEAM #: 2  DATE: 13/May/91
SEGMENT #: KO 107  TIDAL HEIGHT (Range): +1 to +3 ft
SUBDIVISION: A  BIOLOGIST: S. Byn
SEA STATE: Calm  WIND SPEED/DIRECTION: Calm

PHOTOGRAPHS: ROLL #: --  FRAME #: --

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

A: Fucus, Ulva, Tridera contain extremely dense algae in lower 1/2.
- Porphyra and the tube building Asterid Brachyphora sp. are absent at waterline. Older barnacle spot in SOR zone. Moderately dense recent spot on boulder. Mussels in crevices.

C: Oil band on steep rock face. Fucus x Balamus below oil
- Hermit crab above oil

D: Oil also on steep rock face with angular boulders/cobbles below
- Fucus x Balamus on boulders/cobbles. Sparse mussels. Spot is probably fall 1990. White fuzzy recent spot

E: H. horizontalis dense on lower 1/2 boulders - adults & juveniles also dense in oilen zone. H. horizontalis observed on SOR. Few adult Barnacles but some recent spot observation under rocks. Mussels inter-bedded with cobbles below oil zone

F: Green algae in oilen zone. H. horizontalis also dense throughout lower 1/2. H. horizontalis observed in oilen zone

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS

<table>
<thead>
<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagles</td>
<td>2</td>
<td>Wet stream - lost in Nest - No nest visible</td>
<td></td>
</tr>
<tr>
<td>Seabirds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shorebirds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corvids</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Birds</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

MARINE MAMMALS

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

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

Shoreline subdivision map showing important biological features attached.
SKETCH MAP
KN107-A
13-MAY-91
0921 - 1001

**A & B:** Dense algae in lower ETZ. *Fucus ulna* etc.
**older spat at R:** more recent spat/lawn/algae

**C:** Rock face
*Fucus vesiculosus* colonization below oil stains

**D:** Oil on rock face at C. Also few mussels

**E:** Lithoria sp. on SOR. Recent spat under rocks. Mussels interbedded with pebbles

**F:** green algae. Adult Lithoria. Dense in oil zone

SMB 13 May 91

Peter's Notes

North

0 100 meters

Reviewed M.B. 5/18/92

KN107-B
SEGMENT: KN 107  SUB: B  REGION: PWS  SURVEY DATE: 5/13/91

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: 5/30/91

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: 4/29/91  FOSC APPROVAL DATE: 6/15/91
ADEC  E. E. PAGE, CDR, USCG
EXXON  CHIEF OF STAFF, FOSC
USCG
NOAA
ADEC
NAME Peter Montesano
SIGNATURE [Signature]

TREATMENT RECOMMENDED

TB Frequent throughout Subdivision, a large % broken up. THE MOR IS not easily tilled and the SOR is leff over from a poor removal job last year. THE SOR in area B is removable but it is thin. The SOR in area C has Peek just below it and therefore difficult to clearly remove.

EXXON
NAME C.M. Torres Polis
SIGNATURE [Signature]

AREA B & C COULD BENEFIT FROM MANUAL BREAK-UP - Removal.

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

This is a small beach which shows obvious root and cover. Hand work is possible in location B to remove the heavy SOR.

USCG/NOAA
NAME Paul Zénone USCG
SIGNATURE [Signature]

Although the percent of invasion in area B is small, the SOR is in a low energy area. The SOR is within exposed dunes in the UPTE and could be manually broken up. OSB

CG AREA B IS GOOD CANDIDATE FOR POSSIBLE MANUAL WORK. Y
## MAYSAP SHORELINE OILING SUMMARY

**TEAM NO. 2**

- OG: B. Trimm
- BIO: S. Ruan
- ADEC: Peter Montesano
- LANDMANAGER: D. Kennedy
- EXXON: C. Katsumo
- NOAA: D. Smedstrom-Bratly

**SEGMENT:** KU-107

**SUBDIVISION:** B

**DATE:** MAY 13, 1981

**TIME:** 06:00 to 10:53

**TIDE LEVEL:** M to M+1.2 ft.

**ENERGY LEVEL:** X M X L

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

**TOTAL LENGTH SHORELINE SURVEYED:** 620 ft.

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

**EST. OIL CATEGORY LENGTH:** W 0 m M 15 m N 40 m V L 400 m NO 70 m US 0 m

### SURFACE OIL CHARACTER

<table>
<thead>
<tr>
<th>LOC</th>
<th>AP</th>
<th>MS</th>
<th>TB</th>
<th>SOR</th>
<th>CV</th>
<th>CT</th>
<th>ST</th>
<th>FL</th>
<th>DB</th>
<th>NO</th>
<th>SURFACE SEDIMENT TYPE</th>
<th>SLOPE</th>
<th>WIDTH (m)</th>
<th>LENGTH (m)</th>
<th>ZONE</th>
<th>NOTES</th>
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</thead>
<tbody>
<tr>
<td>B</td>
<td>12</td>
<td>X</td>
<td>4</td>
<td>9</td>
<td>Y</td>
<td>12</td>
<td>G</td>
<td>X</td>
<td>B</td>
<td>R</td>
<td>V</td>
<td></td>
<td>1.0</td>
<td>20.0</td>
<td>X</td>
<td>AT Base Rock Outcrop</td>
</tr>
<tr>
<td>C</td>
<td>15</td>
<td>X</td>
<td>4</td>
<td>9</td>
<td>Y</td>
<td>12</td>
<td>B</td>
<td>X</td>
<td>P</td>
<td>R</td>
<td>V</td>
<td></td>
<td>1.5</td>
<td>85.0</td>
<td>X</td>
<td>HVY-SOR</td>
</tr>
<tr>
<td>D</td>
<td>24</td>
<td>X</td>
<td>1</td>
<td>5</td>
<td>Y</td>
<td>12</td>
<td>A</td>
<td>X</td>
<td>P</td>
<td>R</td>
<td>V</td>
<td></td>
<td>1.0</td>
<td>335.0</td>
<td>X</td>
<td>HVY-SOR near GRAMS</td>
</tr>
</tbody>
</table>

### DISTRIBUTION:

- C = 91-100%, B = 81-90%, P = 11-50%, S = 1-10%, T = <1%

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

**PHOTO ROLL:** No. 2 - 11 FRAMES 21-22

### SURFACE- SUBSURFACE SEDIMENTS

- OILED ZONE
- CLEAN BELOW
- SHEEN COLOR
- P IT ZONE
- SEDIMENTS

### PIT NO. PIT DEPTH

<table>
<thead>
<tr>
<th>NO</th>
<th>DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN BELOW</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
<th>SEDIMENTS</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>12</td>
<td>x</td>
<td>4 - 9</td>
<td>y</td>
<td>12</td>
<td>G</td>
<td>B - PA5 10% Custom Ben in Pit</td>
</tr>
<tr>
<td>2</td>
<td>12</td>
<td>x</td>
<td>4 - 9</td>
<td>y</td>
<td>12</td>
<td>B</td>
<td>P - PA5 10% Custom Ben in Pit</td>
</tr>
<tr>
<td>3</td>
<td>15</td>
<td>x</td>
<td>11</td>
<td>y</td>
<td>-</td>
<td>-</td>
<td>PG - PG 5</td>
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<tr>
<td>4</td>
<td>15</td>
<td>x</td>
<td>11</td>
<td>y</td>
<td>-</td>
<td>-</td>
<td>PC - GP5M Sor. HVY Above</td>
</tr>
<tr>
<td>5</td>
<td>24</td>
<td>x</td>
<td>11</td>
<td>y</td>
<td>-</td>
<td>-</td>
<td>PC - PG Paste</td>
</tr>
</tbody>
</table>

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

### OG COMMENTS:

It is difficult to distinguish stain coat from black lichen in location 'G.' Subdivision is a small stream mouth. A little oiling found near stream Rts 1/2 delineate 'mor' area (1.5 x 2.0 m) & is associated with heavy sor (location 'B'). The subsurface 'mor' oiling is close to HOR.

Revised 5.18.9199

Revised US 18 MAY
IIAYSAP BIOLOGICAL SUMMARY FORM

TEAM 2

DATE 13 May 9

SEGMENT KN-107

TIDAL HEIGHT (Range) +1 to +3 ft

SUBDIVISION B

BIOLeST G. B.

SEA STATE calm

WIND SPEED/DIRECTION calm

PHOTOGRAPHS: ROLL # - FRAME #

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

A: Oil in this area is well above intertidal zone. Spots of barnacles and mussels were observed near pits #1 & #2. Dense focus beds are intermittent and become larger approaching the stream.

B: Green algae high in FE; Focus recruits and barnacles below oil. Deliberate patches of adult Focus to water. Light brown, egg mats, and c Респиры under rocks. Large limpets.

C: Have oil on a peat base. Beach grass & lichen are found in the vicinity.

D: Dense mussels interbedded with pebbles and cobbles. Mortality due to predation - skirling evident. Put no Xor bella or other preys evident. Deliberate patches of mostly adults dense on cobbles close to stream. Patches of very small, recently hatched, littorines on barnacles. Focus beds dense off.

E: Stream mouth - mostly adults but small areas of recruits also observed. Squids & Abrotolithus shells substantially - clam beds offshore.

F: Similar to E: but dense, recent spat also observed in lower zones.

G: Steep rock face with oil bar - Focus & Barnacle community below lichen above.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS

# OF SPECIES TOTAL BIRDS SPECIES PRESENT

Eagles

Seabirds

Waterfowl

Gulls/kittiwakes 1 (gulls) ±5

Shorebirds

Corvids

Other Birds

LAND MAMMALS

# OBSERVED SPECIES # OBSERVED

Sea Otters land otters 1

Pinnipeds (specify)

Whales (specify)

FISH OBSERVED

Shoreline subdivision map showing important biological features attached.

REVIEWED 26 MAY 1991
Pm 12:17 PM
SKETCH MAP
KN107-B
13-MAY-91
1901-1053

G: Oil band above Fucus x Balaninus assemblage on step rock face B

A+B
Oil band above intentional Biot a. Few barnacles, mussels near pits no spat

Tidal pool Argunios, algae

C: Green algae high in ITZ. Fucus recruits seaweed of algae, dense patches of adult Focus down to east

D: Oil over peat, beach grass + lichen. vicinity of oil

E: Dense mussels interbedded with pebbles and cobbles. Spat on cobbles close to stream. Very small, healthy

F: Dense mussels interbedded with pebbles and cobbles. No Fucus recruits seaweed of algae. Dense recent spat also lower ITZ

SMB 13 May 91
1991 MAYSAP EVALUATION

SEGMENT: KN 107 SUB: A REGION: FWS SURVEY DATE: 5/13/91

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:

TREATMENT REQUIRED (Y or N) N

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

COMMENTS:
INITIAL:____________________________________

TAG:________________________________________

FOSC:_______________________________________

TAG APPROVAL DATE:________________________ FOSC APPROVAL DATE:_________________

ADEC_________________________ FOSC____________________
EXXON________________________
USCG__________________________
NOAA__________________________
ADEC
Peter Montesano

TREATMENT RECOMMENDED

AREA WELL CHARACTERIZED BY OG. AREA 'D' IS SHADOWED FROM ABOUT EVERY FORCE OF NATURE (WAVES, SUN, ETC.) AND REMAINS THICK WITH LITTLE SIGN OF WEATHERING. THIS AREA SHOULD BE CLEANED WITH EITHER WIRE BRUSHES OR A STEAM UNIT. THIS IS ONE IMPRESSIVE CV.

EXXON
Name: C.M. Krismer
Signature: C.M. Krismer

SUGGEST TAG DETERMINE IF COVER SHOULD BE TREATED.

LANDMANAGER
Name: Dennis S. Kennedy
Signature: D.S. Kennedy

Small beach with thick cover. Good survey.

USCG/NOAA
Name: NOAA
Signature: NOAA

Area that contained sand was broken up by members of the Maysap survey team. In area B, the coming or the vertical rock in a combination of oil and pine needles. The bio trapped sparse mussels and very sparse macroalgae. The thick oil/pine needle cover could be affecting the physical environment of these organisms.
MAYSAP SHORELINE OILING SUMMARY

TEAM NO. 2

OG B. Trimm BIO S. Ban
ADEC P. Montesano LANDMANAGER D. Kennedy for USFS
EXXON C. Katsimpalis USCG/NOAA D. Simeck-Beatty

TIME 09:21 to 10:01
TIDE LEVEL 0.66 ft. to 2.63 ft.
ENERGY LEVEL: H M L
SURVEYED FROM: FOOT BOAT HELO
WEATHER: SUN CLOUDS FOG RAIN SNOW
TOTAL LENGTH SHORELINE SURVEYED: 165 m
NEAR SHORE SHEEN: BR RB SL NONE
EST. OIL CATEGORY LENGTH: W 0 m M 0 m N 60 m V 0.5 m V 0.5 m US 347 m

<table>
<thead>
<tr>
<th>L</th>
<th>O</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT</th>
<th>SHORE SLOPE</th>
<th>WIDTH</th>
<th>LENGTH</th>
<th>ZONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>CB</td>
<td>N</td>
<td>1.5</td>
<td>30°</td>
<td>X</td>
<td>Under Talus</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>CB</td>
<td>H</td>
<td>1.0</td>
<td>25°</td>
<td>X</td>
<td>Medium Under Talus</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>CB</td>
<td>V</td>
<td>1.5</td>
<td>30°</td>
<td>X</td>
<td>Rock Face</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>CB</td>
<td>M</td>
<td>1.0</td>
<td>20°</td>
<td>X</td>
<td>Thick Noodles in CV</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>CB</td>
<td>N</td>
<td>1.0</td>
<td>60°</td>
<td>X</td>
<td>Rock Face</td>
<td></td>
</tr>
</tbody>
</table>

DISTRIBUTION: C = 81-100%; B = 61-80%; P = 51-60%; S = 1-10%; T = <1%
SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE

<table>
<thead>
<tr>
<th>PIT</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>F</td>
<td>CB</td>
<td>N</td>
<td>17</td>
<td>N</td>
<td>X</td>
<td>CB</td>
<td>CV at Depth</td>
<td></td>
</tr>
</tbody>
</table>

OG COMMENTS:
* Pit #1 excavated at base of cliff & location 'D' (thick cover), found LOR (cover at depth) in pit.
* Shoreline is generally vertical rock & high angled rock with talus base outside sketch.
* Difficult to distinguish stain from black lichen - especially on rock faces.
* ADEC rep briefly stopped on a steep boulder talus beach, just north of the boundary with KN107 & located SOR under talus.

REVIEWED BY: C. O. 13 MAY

SEGMENT KN-107
SUBDIVISION A
DATE 13-13-91
OG SKETCH MAP
KN107-A
13-MAY-91
0921 - 1001
Bryan 131mm

B
Sor. Med 98%
1x1m
under Boulder 915

C
CV, CT, ST 5%
1x25m

D
CV 98%
1.5 x 30m
Tuff Needles

E
ST 2%
2 x 20m

F
CT, CV, ST 5%
1x60m

Sor. Hvy 1x1m
Broken Up

Steep Boulder Talus
Sor. Under Talus

KING
ISLAND

Reviewed Site on KO
13 MAY
**WAYSAP BIOLOGICAL SUMMARY FORM**

<table>
<thead>
<tr>
<th>TEAM #</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEGMENT #</td>
<td>KN 107</td>
</tr>
<tr>
<td>SUBDIVISION</td>
<td>A</td>
</tr>
<tr>
<td>BIOLOGIST</td>
<td>S. Ban</td>
</tr>
<tr>
<td>SEA STATE</td>
<td>Calm</td>
</tr>
<tr>
<td>WIND SPEED/DIRECTION</td>
<td>Calm</td>
</tr>
</tbody>
</table>

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

A: Fucus, Ulva, Frondes cordata, extremely dense in lower 1/2


G: Oil band on steep rock face. Fucus Balanus below oil. Thermocline above oil.

D: Oil algal on steep rock face, with angular boulders/cobbles below. Fucus Balanus on boulders/cobbles. Sparse mussels. Spot is probably fall 1990. SOR debris recent spot

E: 2 Horntails dense on lower 1/2 boulders - adults & juveniles also dense in oil zone. 2 Horntails observed on SOR. Few adult Horntails but more recent spot observed under rocks. Mussels interbedded with pebbles below oil zone.

F: Green algae in oil zone. 2 Horntails also dense throughout lower 1/2. 2 Horntails observed in oiled zone.

**WILDLIFE OBSERVATIONS**

**TO BE COMPLETED IN ALL SUBDIVISIONS**

<table>
<thead>
<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagles</td>
<td>2</td>
<td>Near stream, not in oil - NO NECK visible</td>
<td></td>
</tr>
<tr>
<td>Seabirds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shorebirds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corvids</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Birds</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

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

Shoreline subdivision map showing important biological features attached.

Reviewed: 9/13/91
SKETCH MAP
KN107-A
13-MAY-91
0921 - 1001

A & B: Dense algae in lower FZ. Fucus ulna, etc.
Older spat at B.
Recent spat/young pecnopoda sporois at water line.

C: Rock face. Fucus vesiculosus. Zotonia below.
Oil seepage.

D: Oil on rock face as at C. Also few mussels.

E: Lithorinids on some recent spat under rocks. Mussels interbedded with pebbles.

F: Green algae. Adult Lithothamnion dense in oil zone.

Peter's Notes

KN107-B

SMB 13 May 91

Reviewed M.B. 5/1991

North

0 100 meters
ENVIRONMENTAL SENSITIVITIES:
Work Window(s) OPEN

Ecological/Constraints (see page two for details) NONE

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

SHPO Signature: _________________________ Date: _________________________

RECOMMENDATIONS:

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

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

COMMENTS:
INITIAL: __________________________________________________

TAG: ________________________________________________________

FOSC: ________________________________________________________

TAG APPROVAL DATE: __________ FOSC APPROVAL DATE: __________

ADEC _______________________________________________

EXXON _______________________________________________

USCG _______________________________________________

NOAA _______________________________________________
MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 3 SEGMENT KN 07 SUBDIVISION A DATE 5/2/91

ADEC
NAME Wesley G. Groswell
SIGNATURE Wesley G. Groswell

☐ NTR ☐ TREATMENT RECOMMENDED
- The only speakable oil lies in the set-a-side, which seems to be weathering. Signs of 1990 work (rocks have been rolled) Area looks good, crew did a good job.
- No further treatment, monitor set-a-side

EXXON
NAME Jon P. Czernick
SIGNATURE Jon P. Czernick

☐ NTR This beach segment was and is clean with a few sea grass, which have picked up a better up. The beach now a fairly healthy life system and appears to be coming back quite well.

LANDMANAGER
NAME John Johnson OF C&F
SIGNATURE

☐ NTR 0

USCG/NOAA
NAME Tim Noonan/ Drugs
SIGNATURE Tim Noonan/ Drugs

☐ NTR SEGMENT WAS MANUALLY TRENCH IN 1990. LOOK EXCEPTIONALLY GOOD. ANY REMAINING SOE (TAR PATTIES) WERE BROKEN UP OR REMOVED BY SURVEY TEAM.
OG HARPER  
BIO STOKER  
LANDMANAGER JOHNSON  
USCG/NOAA MOONEY/PHARIS

DATE 5/2/91

TIME 07:25 to 08:10

TIDE LEVEL 1.8 ft to -28 ft

ENERGY LEVEL: [ ] H [ ] M [ ] C

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

TOTAL LENGTH SHORELINE SURVEYED: 538 m

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

EST. OIL CATEGORY LENGTH:

**Surface Oil Character**

<table>
<thead>
<tr>
<th>LO</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT</th>
<th>SHORE SLOPE V HM L</th>
<th>AREA WIDTH m</th>
<th>AREA LENGTH m</th>
<th>ZONE S U I M L</th>
<th>NOTES</th>
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<tbody>
<tr>
<td>A1</td>
<td>P</td>
<td>BR / R H</td>
<td>2</td>
<td>100</td>
<td>X</td>
<td>[ ] BROKEN-UP</td>
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<tr>
<td>A2</td>
<td>P</td>
<td>BR / R H</td>
<td>2</td>
<td>100</td>
<td>X</td>
<td>[ ] ON POINT (SET ASIDE)</td>
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<tr>
<td>B2</td>
<td>P</td>
<td>BR / R M</td>
<td>10</td>
<td>10</td>
<td>X X</td>
<td>[ ] ON POINT</td>
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<tr>
<td>B2</td>
<td>P</td>
<td>BR / R M</td>
<td>10</td>
<td>10</td>
<td>X X</td>
<td>[ ] ON POINT</td>
<td></td>
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<tr>
<td>C</td>
<td>P</td>
<td>BR / R M</td>
<td>2</td>
<td>150</td>
<td>X X</td>
<td>[ ] ON POINT</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>P</td>
<td>BR / R M</td>
<td>5</td>
<td>30</td>
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<td>[ ] ON POINT</td>
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**Surface Sediment**

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<th>LENGTH m</th>
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<tr>
<td>C</td>
<td>BR / R M</td>
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<td>150</td>
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<tr>
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<td>BR / R M</td>
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**Zone**

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<tr>
<td>C</td>
<td>X</td>
<td></td>
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<tr>
<td>C</td>
<td>X</td>
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**Notes**

<table>
<thead>
<tr>
<th>LO</th>
<th>NOTES</th>
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<td>[ ] BROKEN-UP</td>
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<tr>
<td>A2</td>
<td>[ ] ON POINT (SET ASIDE)</td>
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<td>B2</td>
<td>[ ] ON POINT</td>
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<tr>
<td>C</td>
<td>[ ] ON POINT</td>
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<tr>
<td>C</td>
<td>[ ] ON POINT</td>
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**Surface Subsurface Sediments**

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<tr>
<th>PIT NO.</th>
<th>DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN</th>
<th>H2O COLOR</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
<th>SURFACE SUBSURFACE SEDIMENTS</th>
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<td>-</td>
<td>Y</td>
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<td>X</td>
<td>PC / SG</td>
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<td>Y</td>
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<td>X</td>
<td>PC / SG</td>
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<td>Y</td>
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<td>Y</td>
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<td>PC / SG</td>
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<td>Y</td>
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<td>-</td>
<td>X</td>
<td>PC / SG</td>
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</tbody>
</table>

**Sheen Color**

- B = BROWN
- R = RAINBOW
- S = SILVER
- H = NONE

- PC / SG

**OG COMMENTS:**

This low-energy site within the Bay of Islands includes a set aside near the eastern end. The naturalized surface oiling is concentrated in a narrow band generally 1m wide, and has the appearance of a mouse patella, classified as SOR / H and AP.

No significant subsurface oiling was identified or is likely.

REVIEWED: May 9, 1991  85 revised, May 8 OG 1047
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 3  DATE 5/2/91
SEGMENT # KNO7  TIDAL HEIGHT (Range) 3-4'
SUBDIVISION A  BIOLOGIST Signature
SEA STATE 0-1  WIND SPEED/DIRECTION E 10-15
PHOTOGRAPHS: ROLL  

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):
Low energy shore varying from fairly steep cobble/beach/sediment to low-angle pebble/cobble flats.
Biotas generally extend well into the upper intertidal in the form of sparse to moderate barnacle populations, Mysius patches, limpets and Fucus. Abundance generally increases downslope through the mid intertidal, consisting of moderate to dense barnacles and soft variable densities of intertidal and attached Mysius, patchily distributed and variable Fucus, generally dense limpets, sparse Littorina (same age), Amphipods, Nuculites, pebble/cobble flats, dominated by extensive intertidal Mysius, barnacles, limpets, and sometimes Fucus (patchy and variable). A small stream crosses the subdivision. No observations were possible at the lower intertidal due to tide height.

Biotas in surface oil areas A-E consists of sparse barnacles, increasing abundance in both abundance and diversity. Mid intertidal biota in this area consists of sparse to moderately dense barnacles and sparse, sparse patches of Mysius, patchy Fucus, generally dense limpet populations, and sparse Littorina.

Biotas in oiled areas D-E consists of sparse Fucus and barnacles, sparse Littorina, sparse patches of Mysius, dense limpet, and Amphipods. Lower slope biota of similar composition, increased abundance. Biotas in the area varies considerably according to substrate and exposure.

If further treatment is undertaken avoid undue disturbance/damage to established biota, which appears to be healthy and recovering.

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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<tr>
<td>Gulls/kittiwakes</td>
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<td>Shorebirds</td>
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<tr>
<td>Corvids</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Birds</td>
<td></td>
<td></td>
<td></td>
</tr>
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</table>

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

<table>
<thead>
<tr>
<th>LAND MAMMALS</th>
<th># OBSERVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheep/Goats</td>
<td></td>
</tr>
</tbody>
</table>

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

SEGMENT: KN 007    SUB: A    REGION: PWS    SURVEY DATE: 5/2/91

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: 5/17/91

RECOMMENDATIONS:
TREATMENT REQUIRED (Y or N) N

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

RECOMMENDATIONS:

COMMENTS:
INITIAL: Date: ___

TAG: ___

FOSC: ___

TAG APPROVAL DATE: MAY 17, 1991    FOSC APPROVAL DATE: 5/05/91

ADEC    EXXON    USCG    NOAA

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

NOAA
ADEC
NAME Wesley Gibbons
SIGNATURE

TREATMENT RECOMMENDED
- The only speakable oil lies in the set-a-side, which seems to be weathering. Signs of 1990 work (rocks have been rolled) area looks good, crew did a good job.
- No further treatment, monitor set-a-side.

EXXON
NAME Jon P. Caucasian
SIGNATURE

TREATMENT RECOMMENDED
This beach segment was and is clean with a few sea stars which did pick up or burrow up. The beach has a fairly healthy life system and appears to be comming back quite well.

LANDMANAGER
NAME
SIGNATURE

TREATMENT RECOMMENDED
This parties noted.

USCG/NOAA
NAME
SIGNATURE

TREATMENT RECOMMENDED
Segment was manually rolled in 1990. Look exceptionally good. Any remaining tar (tar patties) were broken up or removed by survey team.
**MAYSAP SHORELINE OILING SUMMARY**

**TEAM NO. 3**

**OG**: Harper  **BIO**: Stoker  **ADEC**: Chormey  **LANDMANAGER**: Johnson  **EXXON**: Czarnecki  **USCG/NOAA**: Mooney / Baratz

**TIME**: 07:25 to 08:10  **TIDE LEVEL**: 1.8 ft. to 0.28 ft.  **ENERGY LEVEL**: [Blank]

**SURVEYED FROM**: Box BOAT HELO  **WEATHER**: [Blank]  **SURVEYED FROM**: Box BOAT HELO  **WEATHER**: [Blank]

**TOTAL LENGTH SHORELINE SURVEYED**: 538 m  **NEAR SHORE SHEEN**: [Blank]  **EST. OIL CATEGORY LENGTH**: [Blank]

**SURVEYED FROM**: Box BOAT HELO  **WEATHER**: [Blank]  **SURVEYED FROM**: Box BOAT HELO  **WEATHER**: [Blank]

### Table: SURFACE OIL CHARACTER

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<thead>
<tr>
<th>LOC</th>
<th>L</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>
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<th>DB</th>
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<th>SURFACE SEDIMENT</th>
<th>SHORE SLOPE</th>
<th>AREA</th>
<th>ZONE</th>
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<td>BPR R</td>
<td>M</td>
<td>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-3 - 05  **FRAMES**: A - 1

### Table: SUBSURFACE OIL CHARACTER

<table>
<thead>
<tr>
<th>PIT</th>
<th>NO.</th>
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<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN ZONE</th>
<th>H2O LEVEL</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
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</table>

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

**OG COMMENTS**:

This low energy site within the Bay of Islands includes a discontinuous surface ailing is concentrated in a narrow band generally 2 m wide, and has the appearance of mouse patina, classified as SOR/14 and AP.

No significant subsurface ailing was identified or is likely.

**REVIEWED**: MMY 9/91  **REVIEWED**: MMY 9/91
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 3  DATE 5/12/91
SEGMENT # KNO 7  TIDAL HEIGHT (Range) 3-4'
SUBDIVISION A  BIOLOGIST SFL
SEA STATE O-1  WIND SPEED/DIRECTION E 10-15
PHOTOGRAPHS: ROLL #  FRAME #

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

Low energy shore varying from fairly steep cobble/bedrock to low-angle pebble/cobble flats.

Rota generally extends well into the upper intertidal in the form of sparse to moderate barnacle populations, Mytilus patches, limpets and Fanus. Abundance generally increases downslip through the mid intertidal, consisting of moderate to dense barnacles and spat, variable densities of interbedded and attached Mytilus, patchily distributed and variable Fanus, generally dense limpet, sparse littorina (tusks and eggs), angophodes, murex. Pebble/cobble flats dominated by extensive interbedded Mytilus, barnacle, limpet, and sometimes Fanus (patchy and variable).

A small stream crosses the subdivision. No observations were possible of the lower intertidal due to tide height.

Rota in intertidal areas A-C consists of sparse barnacle, occupying downslip in both abundance and diversity, 1st intertidal rota in this area consists of sparse to moderately dense barnacles and spat, sparse patches of Mytilus, patchy Fanus, generally dense limpet population, and sparse littorina.

Rota in oiled areas D-E consists of sparse Fanus and barnacles, sparse littorina, sparse patches of Mytilus, dense limpet, and oligochaetes. Shoreline fauna of similar composition, increased abundance. Rota in this area varies considerably according to substrate and exposure.

If further treatment is undertaken avoid undue disturbance/damage to established rota, which appears to be healthy and recovering.

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

<table>
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<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
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<td>Corvids</td>
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<td>Other Birds</td>
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<td>ales(specify)</td>
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Shoreline subdivision map showing important biological features attached.
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-107 SUBDIVISION A (1 of 2)

WORK WINDOW

Bioremediation WORK PRIOR TO 7/20

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1F Sawmill Bay Hatchery Release No constraint to bioremediation.
1K Purse Seine Hookoff Closed to bioremediation after 7/20.
7II Subsistence: Deer Harvesting Closed to bioremediation after 8/15.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic and beach disturbance to essential minimum after 7/20. Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

FOSC

Prepared by

Date 6/14/90

Date 6/15/90
SHORELINE EVALUATION

SEGMENT ST/KN-107  SUBDIVISION A (1 OF 2)  DATE  4/22/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: Rachel  DATE:  6/1/90

OILING CATEGORIZATION:
Wide 17 m: Medium 0 m: Narrow 207 m: V.Light 230 m: No Oil 58 m
Subsurface Oil Observed: Yes  No  Maximum Depth

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

OTHER (see comments)

COMMENTS: Recommend bioremediation of area shown on sketch map. No specific ecological time constraints.

TAG COMMENTS:

TAG APPROVAL DATE: May 1990
ADEC: Art Werner
EXXON: Mark N. Willett
NOAA: David Reiter
USCG: G.A. Reiter  DATE:  6-8-90
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT KN-107 SUBDIVISION B (2 of 2)

WORK WINDOW

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<tr>
<td>Bioremediation Other Approved Treatment</td>
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ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

No applicable ecological time constraints.

OTHER ECOLOGICAL CONSIDERATIONS

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

SEGMENT ST/KN-107 SUBDIVISION B (2 OF 2) DATE 4/22/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
6X Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: ___________________________ DATE: __________

OILING CATEGORIZATION:
Wide 255 m: Medium 0 m: Narrow 27 m: V.Light 0 m: No Oil 338 m
Subsurface Oil Observed: Yes X No Maximum Depth 7 cm

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

COMMENTS: Recommended treatment includes 1) manual removal of tarmat, and 2) bioremediation of areas shown on sketch map, avoid bioremediation of mussel beds. No specific ecological time constraints identified.

TAG COMMENTS: RAKE in vicinity of pit/#1 if necessary.

TAG APPROVAL DATE: May 5/90
ADEC A. W. Weatherhead
EXXON Karen E. West Mark N. Silverman FOSC: 
NOAA Cary Petree New Mexico
USCG G.A. Reiter California
ECOLOGY MAP
SEGMENT KN-107
SUBDIVISION B (2 of 2)
METERS

Exxon Company, USA

MAP KEY: KN-107

★ Seabird Colony
△ Active Eagle Nest
△ Inactive Eagle Nest

- 1977 feet
SHORELINE EVALUATION

SEGMENT ST/ KN-107   SUBDIVISION A (1 OF 2)   DATE  4/22/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: Rachel Decre __ DATE: 6/1/90

OILING CATEGORIZATION:

Wide 17 m: Medium 0 m: Narrow 207 m: V. Light 230 m: No Oil 58 m
Subsurface Oil Observed: Yes No X
Maximum Depth

RECOMMENDATIONS:

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

OTHER (see comments)

COMMENTS: Recommend bioremediation of area shown on sketch map. No specific ecological time constraints.

TAG COMMENTS:

TAG APPROVAL DATE: May 5, 1990
ADEC Art Vennt Art Vennt
EXXON Mark N. Willet Mark N. Willet
FOSC:  DATE: 6-8-90
NOAA Gary Pettis Mark Pettis
USCG C.R. Reiter C.R. Reiter
SHORELINE EVALUATION

SEGMENT ST/ KN-107  SUBDIVISION B (2 OF 2) DATE 4/22/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: __________________________ DATE: __________

OILING CATEGORIZATION:
Wide 255 m: Medium 0 m: Narrow 27 m: V.Light 0 m: No Oil 338 m
Subsurface Oil Observed: Yes __ X __ No ___ Maximum Depth 7 cm

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

COMMENTS: Recommended treatment includes 1) manual removal of tarmat, and 2) bioremediation of areas shown on sketch map. Avoid bioremediation of mussel beds. No specific ecological time constraints identified.

TAG COMMENTS: Rake in vicinity of pit #1 if necessary.

TAG APPROVAL DATE: May 5, 1990
ADEC ________________ DATE: __________
EXXON ________________ DATE: __________
NOAA ________________ DATE: __________
USCG ________________ DATE: __________
General Comments

- Subdivision is a cove with one stream that appears to be year round. Stream is not listed as Salmon although there is some potential habitat for Pinks. Stream takes a sharp turn immediately past SUKRA.

- Most of subdivision is an angular cobble field with a moderate mussel bed. 40% Mortality — 95% of the shells have been drilled. There are living mussels w/oil droplets on shell.

- Moderate = Sparse Clam bed - both Prothoera & Saxidom

- Otter dens present from Boulder on East side to west of runoffs. Frequent # of dens between stream and runoffs = heavy otter. There was a otter swimming in the cove throughout survey.

- Otter hip bones: vertebrae were found in SUKRA.

- On headlands 30% of Fucus fronds were reproductive.

- Light Barnacle Scarring on W12 headlands.

- One marsh patch in SUKRA = 12 x 5m. Above patch is grass-
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-107

SUBDIVISIONS: A (1 OF 2)
SHORELINE EVALUATION

SEGMENT ST/ KN-107 SUBDIVISION A (1 OF 2) DATE 4/22/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: ___________________________ DATE: ___________________________

OILING CATEGORIZATION:
Wide 17 m: Medium 0 m: Narrow 207 m: V. Light 230 m: No Oil 58 m
Subsurface Oil Observed: Yes__ No X Maximum Depth____

RECOMMENDATIONS:
____ 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: Recommend bioremediation of area shown on sketch map. No specific ecological time constraints.

TAG COMMENTS:________________________________________________________________________
___________________________________________________________________________________
___________________________________________________________________________________

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

1A Salmon stream mouth - fry outmigrant (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream beds 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 Inpil 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 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 Inpil application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.
AGENCY CONTACT PERSON: ADF&G Larry Peitz 424-3214

1D Esther Hatchery release (4/15 to 6/1)
1E Main Bay Hatchery release (4/20 to 6/10)
1F Snowhill Bay Hatchery release (4/15 to 6/1)
1G Canoeville Creek Hatchery release (4/21 to 6/1)
H Remote release site
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inpil 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 and/or PWS Aquaculture Association for confirmation and authorization.
AGENCY CONTACT PERSON: ADF&G Larry Peitz 424-3214

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

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

3P Harbor seal and sea lion pupping (5/15 to 7/1)
3Q Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inpil 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 596-7235
ADF&G Don Calkins 267-2403

5R Sea bird 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 792-3377

5S Shorbird/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 792-3377
ADF&G Tom Roth 267-2206

5T All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (8/1 to 9/1)
Restrict all traffic and disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
AGENCY CONTACT PERSON: USFWS Jill Parker 792-3377

6U Recreation: Tag salt water (8/1 to 9/15)
6V Anchorage (8/1 to 9/15)
6W Forest Service cabin (9/1 to 9/15)
6X Lodge (6/1 to 9/15)
Special use destination

7Z Subsistence area: Salmon harvesting (6/1 to 9/30)
7H Fish farming (6/1 to 2/29)
7I Deer harvesting (8/15 to 2/29)
7JJ Invertebrate harvesting
Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or Inpil which might affect Intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for consultation and/or permit application - 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 KN107  SUBDIVISION: A  DATE 04-22-96

USCG NAME: AEC Vandegrift  SIGNATURE: AEC Vandegrift

☒ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

ADEC NAME: Michelle Bass  SIGNATURE: Bass

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

On the cobble, pebble beach:

1) Remove cobble, till upper layer only in 25mx25mA
2) Replace cobble leaving underside exposed
   and allow natural washing to occur
3) No treatment recommended for headlands

LAND MANAGER

NAME: Carol S Huber  SIGNATURE: Carol S Huber

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Oil on rocky headlands appears stable. Recommend continued natural cleansing for headlands.
Use manual methods to expose oil for weathering to progress more efficiently (cobble, pebble beach see OG map)
Resource sensitivity—Special Use Destination.
### Surface Oil

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</table>

**Pavement**
- H: 0
- F: 0
- S: 0

**Patties / Tarballs**
- 0

**Near Shore Sheen?**
- No

**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>Anaerial Sheen (m)</th>
<th>Surfac / Subsurf Sediment</th>
</tr>
</thead>
</table>

**Comments**
- No pits dug - too many rocks.
SHORELINE ECOLOGICAL SUMMARY

Segment ST1 KN107, Subdivision A, Date (mo/day/yr) 4/12/90

Time (24 hr) 15:10-15:40, Biologist: Crenk, Length: 590

Tick Height: 60

(A) Substrate type and % of segments:
1. Bedrock 10, Boulder 10, Cobble 15, Pebble 5, Sand 6

(B) Overall % cover of biota (% of segment): Dense: 0, Moderate: 20, Low: 80, Uncovered: LITZ

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

BARNACLES

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Wildlife Observations/General Comments:
1. Other Seal
   Merganser: adult

Ecological Considerations:
1. Special Use Restriction

- Barnacles in oil tend to stick.
- Barnacles: mussel on rock, but recruitment in cracks.
- Mussels: consolidated intertidal mussel bed.
- Small pockets of mussels (5) of moderate fauna both mussels &
  barnacles on cobble dense & hard, 8-10 invertebrates. Some barnacles
  extend on wide areas of 15% cobble.
- Barnacles: 1.5-2.8 cm, recruitment: 1-2 cm, growth on
  cobble, 15% mortality of all substrates; grows
  on cobble: cobble, rocks: 15% mortality;
- Barnacles: 1.8 cm, recruitment: 1.2 cm, growth on
  cobble, 15% mortality of all substrates; grows
  on cobble: rocks, 15% mortality;
- Barnacles: 1.6 cm, recruitment: 1.2 cm, growth on
  cobble, 15% mortality of all substrates; grows
  on cobble: rocks, 15% mortality;
- Barnacles: 1.4 cm, recruitment: 1.2 cm, growth on
  cobble, 15% mortality of all substrates; grows
  on cobble: rocks, 15% mortality;
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-107

SUBDIVISIONS: B (2 OF 2)
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 Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.

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

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

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

Esther Hatchery release  (4/15 to 6/1)
Main Bay Hatchery release  (4/20 to 6/10)
Seawmill Hatchery release  (4/15 to 6/1)
Cannery Creek Hatchery release  (4/21 to 6/1)
Remote release site
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.

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

Gill net area (6/7 to 8/31)
Purse seine area (7/20 to 9/30)
Purse seine hook-off (7/20 to 9/30)
Set net areas (6/11 to 7/25)
Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set nets are present (11) 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 Evelyn Biggs  424-3235

Herring spawning  (4/1 to 6/15)
Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to uncollected intertidal and subtidal 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

Harbor seal and sea lion pupping (5/15 to 7/15)
Harbor seal and sea lion molting (6/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of lnipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.

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

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

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

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

All Bald Eagle nests  (3/1 to 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 (9/15 to 2/28)
Invertebrate harvesting

Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of 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
SHORELINE EVALUATION

SEGMENT ST/ KN-107 SUBDIVISION B (2 OF 2) DATE 4/22/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: __________________ DATE: __________________

OILING CATEGORIZATION:
Wide 255 m: Medium 0 m: Narrow 27 m: V.Light 0 m: No Oil 338 m
Subsurface Oil Observed: Yes X No Maximum Depth 7 cm

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

COMMENTS: Recommended treatment includes 1) manual removal of tarmat, and 2) bioremediation of areas shown on sketch map, avoid bioremediation of mussel beds. No specific ecological time constraints identified.

TAG COMMENTS: ____________________________________________

TAG APPROVAL DATE: __________________
ADEC _______________ FOSC: _______________ DATE: _______________
EXXON ____________________________
NOAA ____________________________
USCG ____________________________
FIELD SHORELINE COMMENT SHEET

SEGMENT ST1 KN-107 SUBDIVISION: B DATE 4-23-90

USCG NAME AEC VANDERPOOLS SIGNATURE AEC VANDERPOOLS

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

I suggest till & bio. of 20 x 30 M area north of marsh.

ADEC NAME Michele Enor SIGNATURE M Enor

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

1) area by pits #1 & #2, till and bio. 3 x 10 M or penetrating to 7 cm

2) Take soil area between MITZ and LITZ, oil found in upper 5 cm, stay out of marsh area in and above MITZ and SUTZ (area of pit #3)

3) At the SE portion of the cove, attention is on a 3 cm or layer (called a CYP on map) throughout the area upstream, this area needs reassessment by the TYP teams due to the sensitivity and resources (anchorage, clam beds, special use destination) in the area.

LAND MANAGER NAME Carol J. Huber SIGNATURE Carol J. Huber

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

Eastern half heavily oiled. Mobil oil seeping out of oiled sediments. Recommend tilling affected area to allow natural weathering to progress. Resource sensitivity: Special use destination.
**SURFACE OIL**

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<th>CHARACTER</th>
<th>DISTRIBUTION</th>
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<th>IMPACTED ZONES</th>
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**PAVEMENT**

- Surface
- Pavement
- Holes
- 30
- 80
- 10

**PATTIES/TARBALLS**

- 0
- Black

**NEAR SHORE SHEEN?**

- No
- Brown
- Red
- Sludge

**OILED DEBRIS**

- Amount
- Small
- Medium
- Large

**DID YOU COLLECT DEBRIS?**

- Yes
- No

**TYPE**

- 0

**Photographs:**

- Roll No.
- Frames

**SUBSURFACE OIL**

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**COMMENTS**

Reviewed by: J.W. Date: 4/24/90
SHORELINE ECOLOGICAL SUMMARY

Segment ST 1KN107 Subdivision B

Date (mo/day/yr) 4/22/90

Length 490

Biologist: Crank

Tide Height 15g.0.5 A

(A) Substrate type and % of segments:
   1) Bedrock 45 (2) Boulder 20 (3) Cobble 15 (4) Pebble 8 (5) Sand 12 (6) Silt

(B) Overall % cover of biota (% of segment): Dense 0 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 (J)

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Wildlife Observations/General Comments:

Pair of Mergansers

Ecological Considerations:

- Special Use Area
- 12m x 5m Marsh area - Restrict Access
- Area between streams has frequent oyster digs - high oyster use area.
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<td><strong>FLORA:</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Bossiella/corallina</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calliarthron/corallina</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Cladophora Spp</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Costaria Spp</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Endocladia Muricata</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Filamentous greens</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Filamentous reds</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Gloioptites Furcata</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Halosaccion Glandiforme</td>
<td></td>
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</tr>
<tr>
<td>Laminaria Spp</td>
<td></td>
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</tr>
<tr>
<td>Lithothamnion</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Nereocystis Spp</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Porphyra Spp</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raphsia/hildenbrandia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phodomea Lax</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rhodeomena Palmata</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Scytosiphon Spp</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ulva Spp</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Zostera Marina</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Enteromorpha</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Admontana</td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>FAUNA:</strong></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Anthopleura Spp</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Sem) Balanus cariosus</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Glundula</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bryozoans</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Chitons (other than K. Tunicata)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clams</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crabs</td>
<td></td>
<td></td>
<td></td>
<td>Portasen i Saxidornus</td>
</tr>
<tr>
<td>Dermasterias imbricata</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Katharina Tunicata</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptasterias hexactis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limpets</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Littorina Spp</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nucella Spp</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Pagurus Spp</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Pisaster ochraceus</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Polychaetes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pycnopodia helianthoides</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Searlesia Diria</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serpulids</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Siphonaria Thersites</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tealia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tolerent souper</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
General Comments

- Subdivision is a cave with one stream that appears to be year-round. Stream is not listed as salmon although there is some potential habitat for pinks. Stream takes a sharp incline immediately pass SUNRA.

- Most of subdivision is an angular cobble field with a moderate mussel bed. 40% Mortality – 95% of the shell have been drilled. There are living mussels w/oil droplets on shell.

- Moderate → Sparse Clam bed – both Protholothoda & Saxidomus.

- Other digs present from Boulder on East side to west of runoffs. Frequent # of digs between stream and runoffs = heavy otter.

- There was a otter swimming in the cave throughout survey. Otter hip bones & vertebrae were found in SUNRA.

- On headlands 30% of Fucus fronds were reproductive.

- Light Barnacle scarring on U12 headlands.

- One marsh patch in SUNRA = 12m x 5m. Above patch is grassy – this area should have restricted access.
1991 MAYSAP EVALUATION

SEGMENT: KN 008  SUB: A  REGION: PWS  SURVEY DATE: 5/2/91

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: 5/17/91

RECOMMENDATIONS:

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

COMMENTS:

INITIAL: 

TAG: 

FOSC: 

TAG APPROVAL DATE: MAY 17 1991  FOSC APPROVAL DATE: 5/25/91

ADEC  EXXON  USCG  NOAA

E. E. PAGE, CDR, USCG
CHIEF OF STAFF, FOSC
Remaining oil broke up or picked up by survey team.

Beach segment is clean manually tilled up or picked up or during survey of beach.

Flats mats noted. Any remaining mousse we removed.

Segment was manually tilled in 1990. Look real coco. Any remaining tar patties removed or broken up by survey team.
**MAYSAP SHORELINE OILING SUMMARY**

**SEGMENT** KN-008  
**SUBDIVISION** A  
**DATE** 2/15/91

**TIME** 09:15 to 09:50  
**TIDE LEVEL** -6.3 ft. to -3.8 ft.  
**ENERGY LEVEL**: [ ] H [ ] M [X] L

**SURVEYED FROM:**  
- [ ] Foot  
- [ ] Boat  
- [ ] Helo  
**WEATHER:**  
- [ ] Sun  
- [ ] Clouds  
- [ ] Fog  
- [ ] Rain  
- [ ] Snow

**TOTAL LENGTH SHORELINE SURVEYED:** 650 m  
**NEAR SHORE SHEEN:**  
- [ ] BR  
- [ ] RB  
- [ ] SL  
- [ ] NONE

**EST. OIL CATEGORY LENGTH:**  
- W: 0 m  
- M: 0 m  
- V: 0 m  
- N: 35B m

**SURFACE OIL CHARACTER**

<table>
<thead>
<tr>
<th>LOC</th>
<th>AP</th>
<th>MS</th>
<th>TB</th>
<th>BOR</th>
<th>CV</th>
<th>CT</th>
<th>ST</th>
<th>FL</th>
<th>DB</th>
<th>NO</th>
<th>TYPE</th>
<th>V</th>
<th>H</th>
<th>M</th>
<th>L</th>
<th>ZONE</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td>S</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>B</td>
<td>H</td>
<td>2</td>
<td>35B</td>
<td></td>
<td>X</td>
<td>DISCONTINUOUS MOUSE BAND - PATTIES; MOSTLY BROKEN</td>
</tr>
</tbody>
</table>

**SLOPE:**  
- V = Vertical  
- H = High Angle  
- M = Medium Angle  
- L = Low Angle  
**PHOTO ROLL # MAYSAP:** 2 - 08

**F RAMES 20, 21, 22**

**PIT NO.**  
- 1

**PIT DEPTH (cm):** 40

**SUBSURFACE OIL CHARACTER**

<table>
<thead>
<tr>
<th>PIT</th>
<th>OILED ZONE</th>
<th>CLEAN BELOW</th>
<th>H2O LEVEL</th>
<th>SHEEN COLOR</th>
<th>PIT</th>
<th>SUBSURFACE SEDIMENTS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>PC/18m</td>
</tr>
</tbody>
</table>

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

**OG COMMENTS:**

Virtually no surface oil remains. The remaining band of discontinuous mouse paties (50R/P) was largely broken up during the survey. No subsurface oil was identified or is likely.
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 3    DATE 5/2/91
SEGMENT # 1N 08    TIDAL HEIGHT (Range) 0
SUBDIVISION A    BIOLOGIST STOKER
SEA STATE 0-1    WIND SPEED/DIRECTION E 15-20
PHOTOGRAPHS: ROLL #    FRAME #

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

Low energy shore ranging from fairly stable cobble/pebble/rock
To low-angle pebble/pebble beach.
Relatively species biota in the form of barnacles, limpets, mussels
patches, Detrioceps 'all spot' algae and sometimes Fuca extends well
into the upper intertidal. Biota increases in abundance though not
necessarily diversity, downslope through the mid intertidal down
to lower intertidal and is likewise composed for the most part of
barnacles, mussels (both interbedded and attached), limpets (often dense)
patches and variable new growth Fuca, sponge littering and egg
masses, and sometimes mussels, amphipods, and eel slippings
No significant substrate or subterranean oil remains on this segment.

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

<table>
<thead>
<tr>
<th>BIRDS</th>
<th>SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagles</td>
<td></td>
<td></td>
<td>Cal Trencher</td>
</tr>
<tr>
<td>Seabirds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gulls/kittiwakes</td>
<td></td>
<td></td>
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<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>SPECIES</th>
<th># OBSERVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sea Otters</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pinnipeds (specify)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(es (specify)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

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


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

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

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

SHPO Signature: ______________________ Date: 5/17/91

RECOMMENDATIONS:

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

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

COMMENTS:
INITIAL:

TAG: ____________________________________________________

FOSC: ___________________________________________________


ADEC
EXXON
USCG
NOAA

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

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

TEAM NO. 1  SEGMENT KN-108  SUBDIVISION A  DATE 5/4/91

ADEC
NAME: Jeff Giukas  SIGNATURE: [Signature]

☑ NTR  Not enough recoverable oil to justify treatment.

EXXON
NAME: [Signature]

☐ NTR  Not enough oil on this segment to justify action.

LANDMANAGER
NAME: MARSHA  MALL OF DNR  SIGNATURE: [Signature]

☑ NTR  Area has dry oil at base of boulders. Amount of
recoverable oil is minimal. Interesting to check this type of oil a couple months into
summer and/or after the sun has been out.

USCG/NOAA
NAME: Jensen  SIGNATURE: [Signature]

☑ NTR  Barely a trace of Subsurface oil. Further removal
operations would cause more harm than the oil
to be removed.
**MAYSAF SHORELINE OILING SUMMARY**

**TEAM NO.** 1  
**OG** G. MacDonalD  
**BIO** M. Fawcett  
**ADEC** J. GiMALLAS  
**LANDMANAGER** M. HALL for DA∞  
**EXXON** F. Box  
**USCG/NOAA** Jensen/Childs  
**DATE** 5/4/91  

**SEGMENT** KJ-108  
**SUBDIVISION** A  
**TIME** 14:20 to 16:20  
**TIDE LEVEL** + 4.1 ft. to + 3.9 ft.  
**ENERGY LEVEL** [X]  

**SURVEYED FROM:** [X] FOOT  
**WEATHER:** [ ] SUN  [ ] CLOUDS  [ ] FOG  [ ] RAIN  [ ] SNOW  
**TOTAL LENGTH SHORELINE SURVEYED:** 694 m  
**NEAR SHORE SHEEN:** [ ] BR  [ ] RB  [ ] SL  [ ] NONE  
**EST. OIL CATEGORY LENGTH:** 559 m  

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<table>
<thead>
<tr>
<th>LO</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT TYPE</th>
<th>SHORE SLOPE</th>
<th>WIDTH</th>
<th>LENGTH</th>
<th>ZONE</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>T</td>
<td>RB</td>
<td>H</td>
<td>≤10</td>
<td>X</td>
<td></td>
<td>biodegraded</td>
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<tr>
<td>A2</td>
<td>T</td>
<td>BRP</td>
<td>M</td>
<td>≤1/2</td>
<td>25</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>A3</td>
<td>X</td>
<td>BRP</td>
<td>M</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A4</td>
<td>X</td>
<td>RB</td>
<td>M</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A5</td>
<td>S</td>
<td>BL</td>
<td>M</td>
<td>≤10</td>
<td>60</td>
<td>X</td>
<td>biodegraded</td>
</tr>
</tbody>
</table>

---

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

**OG COMMENTS:**  
Steep rocky shore w/ small BRP pockets.  
Surface oil as trace w/ ot, ms, cv, fl & e up until & SZT (oil is biodegraded and often refuses to sheen), in crevices and under boulders.  
Subsurface oil limited to a trace, found in pit #6, (8)

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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-1-19  
**FRAMES:** 1-9

---

<table>
<thead>
<tr>
<th>PIT</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE cm-cm</th>
<th>CLEAN &amp; H2O</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>20</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td></td>
<td>x</td>
<td>BC-CP</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>20</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td></td>
<td>x</td>
<td>BC-CP</td>
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</tr>
<tr>
<td>3</td>
<td>20</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td></td>
<td>x</td>
<td>BO-P</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>20</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td></td>
<td>x</td>
<td>BC-CP</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>20</td>
<td>X</td>
<td>10-15</td>
<td>Y</td>
<td>20</td>
<td>S</td>
<td>CP-RG</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>20</td>
<td>X</td>
<td>5-10</td>
<td>Y</td>
<td>20</td>
<td>S</td>
<td>CPB-PC</td>
<td></td>
</tr>
</tbody>
</table>

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**SHEEN COLOR:**  
B = BROWN  
R = RAINBOW  
S = SILVER  
N = NONE
KN-108A
G. Macdonald
5-4-91

100
200 m

CT, FL, MS, CV/IR
<1% @ SURF, 1up, H17Z
4.2m x 25m total.

CT/5-P ≤ 10% - biodegraded
SOR, MS/IR ≤ 3°
under B. ≤ 2x60m.
(occurs 85/40% biocd CT).

TRACE SUBSURFACE OIL -
NO significant oil 0-35cm.
WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS

<table>
<thead>
<tr>
<th>Species</th>
<th># of Species</th>
<th>Total Birds</th>
<th>Fish Observed Species Present</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagles</td>
<td>1</td>
<td>2 sitting in tree</td>
<td>tidepool sculpin</td>
</tr>
<tr>
<td>Seabirds</td>
<td></td>
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<tr>
<td>Waterfowl</td>
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<tr>
<td>Gulls/Kiltiwakes</td>
<td>2 (Bickley; Gull Gulls)</td>
<td>12</td>
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<tr>
<td>Shorebirds</td>
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<tr>
<td>Corvids</td>
<td></td>
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<tr>
<td>Other Birds</td>
<td></td>
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LAND MAMMALS

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

Marine mammals # observed of species # observed

Shoreline subdivision map showing important biological features attached.
KA 1086 4 May 91  Fawcett
Ave. 1420  Wind 300°E  seas 2 ft
North facing  pocket  60°
Pebley / large boulders  & BR woods
CT on small  N + 11 ft - 3 ft
mod. deep bays  : Fawcett 2 ft below
Dense mussels  in shell / patches
Space N. Lam.

Site 2
Same description as Site 1
but more open  dense barren
(with Caricinus)  more mussels  weeds
Most animals on lee side of
boulders / barren

Depart 1445

moderate frames  dense barren
CT - large mussels  long
BR - in boulders near Trace
M2 sobla  (9-7 ft)  dense
Mixed algae - From Rhodo  Halos
Ulva  Leafy  etc. etc. Sept. 89
Little Endocladia  Codophora - depart 1136

-1 long + 3 core,  glutatraces 6-8 small
- dense old cavities on CT BR 3-10 ft
- being overgrown by dense + 3 ft
- 1-10 mussels - dense near margin / eating mussels.
1450 Site J KN109 A Farwell
43°59'91"
- weedy pocket beach there 1 to 3
- (n 40' wide) - polished cobbles/pebbles
- above (trans. marks?) - BRs beach
- each side w/ same birds as above.
Tidal (142)
C. (Rosparra)

Scanned Porphyre, ScoB
No. 61/
Finish: 1455

Site 4 1500 - (same description
as Site 3 - mature eagle in
tree watching 45 - Definitely
SO R at 4 + 12 ft in brush
2 long - no birds except 1500+
lichen, Fil. gr. algae

Depart 1530

Arrive 1535 KN109 Site
- protected west-facing gravel/brn
- 3' to 10' DW + 10 ft land
- CT on BR at north end + 10 ft
- "white grey, frosted on cobble"
(at 10 ft DW)
- sparse bracknea, filgs below
- then gravel

Site 1500 - (same description
as Site 3 - mature eagle in
tree watching 45 - Definitely
SO R at 4 + 12 ft in brush
2 long - no birds except 1500+
lichen, Fil. gr. algae

Depart 1530

Arrive 1535 KN109 Site
- protected west-facing gravel/brn
- 3' to 10' DW + 10 ft land
- CT on BR at north end + 10 ft
- "white grey, frosted on cobble"
(at 10 ft DW)
- sparse bracknea, filgs below
- then gravel
CT in SUTZ at +11 ft
moderately dense barnacles, rockweed 2 ft directly below CT; sparse mussels, limpets, littorinids in boulders near oil traces

Residual oil traces in boulders above +9 ft; among seaweed, limpets, sparse rockweed & barnacles; dense young mussels; young & old barnacles, whelks, etc on massive boulders

SOF in SUTZ at +7 ft
no biota except lichen, filamentous green algae, 15 cm old; downshore boulders & bedrock near sides of beach; with mussels, barnacles, rockweed, whelks, etc; polished cobble/pebble beach with no biota except filamentous green algae (sediment movement limits biota)
1991 MAYSAF EVALUATION

SEGMENT: KN 008  SUB:  A  REGION:  PWS  SURVEY DATE:  5/2/91

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:

TREATMENT REQUIRED (Y or N)  N

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

COMMENTS:
INITIAL: ___________________________________________________ ___

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

FOSC: ________________________________________________________

TAG APPROVAL DATE:  _______________  FOSC APPROVAL DATE:  _______________

ADEC  ___________________________  FOSC  ___________________________

EXXON  __________________________________

USCG  ___________________________

NOAA  ___________________________
MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 3 SEGMENT KNOB SUBDIVISION A DATE 5/3/91

ADEC
NAME Wesley C. Irwin
SIGNATURE Wesley C. Irwin

☐ NTR ☑ Treatment Recommended

Remaining oil broke up or picked up by survey team.

EXXON
NAME Joe P. O'Connor
SIGNATURE Joe P. O'Connor

☐ NTR Beach segment is clean manually broke up or picked up or during survey of beach.

LANDMANAGER
NAME [Name]
SIGNATURE [Signature]

☐ NTR 8

[Notes: Holes were noted. Any remaining masses of patties should be removed.]

USCG/NOAA
NAME [Name]
SIGNATURE [Signature]

☐ NTR Segment was manually tilled in 1990. Look real close. Any remaining tar patties removed or broken up by survey team.
<table>
<thead>
<tr>
<th>Segment</th>
<th>Segment KN-003</th>
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</thead>
<tbody>
<tr>
<td>Date</td>
<td>2 May 1991</td>
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</table>

**Survey Details**

- **Time**: 09:15 to 09:50
- **Tide Level**: -13 ft. to -14 ft.
- **Energy Level**: M
- **Surveyed From**: Foot
- **Weather**: Sun
- **Total Length Shoreline Surveyed**: 150 m
- **Near Shore Sheen**: None

**Surveyed From:**

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

**Survey Data**

- **Total Length Shoreline Surveyed**: 150 m
- **Near Shore Sheen**: None
- **Est. Oil Category Length**: W 0 m, M 0 m, N 0 m, V 358 m, US 0 m

**Surface Oil Character**

<table>
<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>
<th>NO</th>
<th>Type</th>
<th>Width</th>
<th>Length</th>
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<tbody>
<tr>
<td>A</td>
<td></td>
<td></td>
<td>S</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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**Pit Data**

<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>Subsurface-Sediments</th>
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<tbody>
<tr>
<td>1</td>
<td>40</td>
<td>OP</td>
<td>X</td>
<td>-</td>
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<td>-</td>
<td>X</td>
<td>PC/gal</td>
</tr>
</tbody>
</table>

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

**OG Comments**

Virtually no surface oil remains. The remaining band of discontinuous mouse patties (SOP/2 kg) was largely broken up during the survey.

No subsurface oil was identified or is likely.

**Reviewed**: AC 5/9/91

**Crossed, May 06, 10/4**
KAYMAP BIOLOGICAL SUMMARY FORM

TEAM # 3        DATE 5/2/91
SEGMENT # KN 08  TIDAL HEIGHT (Range) -1 to 0
SUBDIVISION A    BIOLOGIST Stoker
SEA STATE 0-1    WIND SPEED/DIRECTION E 15-20
PHOTOGRAPHS: ROLL # FRAME #

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):
Low energy shore ranging from fairly stable cobble/boulder/badrock to low-angle pebble/cobble beach.
Relatively sparse biota in the form of barnacles, limpets, Mytilus, Pagodas, Detrioic (all spot) algae and sometimes Fucus extend well into the upper intertidal. Biota increases in abundance though not necessarily diversity, downslope through the mid intertidal and lower intertidal and is likewise concentrated for the most part at barnacles, Mytilus (both interbedded and attached), limpets (often dense) quahog and variable new-growth Fucus, sparse litter and egg masses, and sometimes Nucula, amphipods, and cal clams.
No significant surface or subsurface oil remains on this segment.

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS
BIRDS No birds # OF SPECIES TOTAL BIRDS FISH OBSERVED SPECIES PRESENT
Eagles                                    Cal Clam
Seabirds                                   
Waterfowl                                  
Guilis/kittiwakes                          
Shorebirds                                 
Crows                                     
Other Birds                                

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

LAND MAMMALS

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

**SEGMENT:** KN 108  **SUB:** A  **REGION:** PWS  **SURVEY DATE:** 5/4/91

**ENVIRONMENTAL SENSITIVITIES:**

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

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

**ARCHEOLOGICAL CONSTRAINTS:**

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

**SHPO Signature:** ___________________________  **Date:** ___________________________

### RECOMMENDATIONS:

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

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

**COMMENTS:**

**INITIAL:** _______________________________________________

**TAG:** _______________________________________________

**FOSC:** _______________________________________________

**TAG APPROVAL DATE:** __________  **FOSC APPROVAL DATE:** __________

**ADEC** ___________________________  **FOSC** ___________________________

**EXXON** ___________________________

**USCG** ___________________________

**NOAA** ___________________________
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

Eagle Nest: Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.
TEAM NO. 1  SEGMENT   KN-108  SUBDIVISION   A  DATE 5/4/91

ADEC
NAME  JEFF GINSBURG  SIGNATURE  JEFF GINSBURG

☐ NTR  NOT ENOUGH RECOVERABLE OIL TO JUSTIFY TREATMENT.

ONLY AREA OF CONCERN WOULD BE AS (SEE CG MAP). PATCHY AREA OF SOR UNDER/NEAR Boulders AT URTZ (2 X 60). Boulders too large to
provide access. NO SUBSURFACE EVIDENT. AREA DOES NOT APPEAR TO BE
suffering injury from remaining oil. Allow natural processes.

EXXON
NAME  Ferral A. Barnow  SIGNATURE  Ferral A. Barnow

☐ NTR  Not enough oil on this segment to justify work, just a trace. No action recommended.

LANDMANAGER
NAME  MARISSA HALL OF DNR  SIGNATURE  MARISSA HALL

☑ NTR  Area AS had oil at base of boulders. Amount of
recoverable oil is minimal. Interesting to
check this type of oil a couple months into
summer and/or after the sun has been out.

USCG/NOAA
NAME  Jensen  SIGNATURE  Jensen

☑ NTR  Barely a trace of subsurface oil. Further removal
operations would cause more harm than the oil
to be removed.
**MAYSAP SHORELINE OILING SUMMARY**

**TEAM NO.**

**OG** G. Macdonald  
**BIO** M. Fawcett  
**ADEC** J. G. Najar  
**USCG/NOAA** Jensen/Churl

**TIME** 14:20 to 15:20  
**TIDE LEVEL** +4.1 ft, +5.7 ft  
**ENERGY LEVEL** L

**SURVEYED FROM:**  
- **FOOT**  
- **BOAT**  
- **HELHO**

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

**TOTAL LENGTH SHORELINE SURVEYED:** 694 m  
**NEAR SHORE SHEEN:**  
- **BR**  
- **RB**  
- **SL**  
- **NONE**

**EST. OIL CATEGORY LENGTH:**
- **W** m  
- **M** m  
- **N** m  
- **Co** m  
- **VL** m  
- **NO** m  
- **599** m  
- **US** m

**SEGMENT**  

**SUBDIVISION** A

**DATE** 5/4/91

---

**Table: L.O.S.**

<table>
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<tr>
<th>NO</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></td>
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<td>LENGTH m</td>
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<td>A1</td>
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<td>BR</td>
<td>M ≤ 25</td>
<td>x</td>
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<tr>
<td>A3</td>
<td>x BR V</td>
<td>M</td>
<td></td>
<td></td>
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<tr>
<td>A4</td>
<td>x RB V</td>
<td>M</td>
<td></td>
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<tr>
<td>A5</td>
<td>S S S S</td>
<td>BR V</td>
<td>M ≤ 60</td>
<td>x</td>
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</table>

**DISTRIBUTION:**  
- **C:** ≥ 1-100%;  
- **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:**  
- **1-19**  
- **FRAMES:** 1-9

---

**Table: PITS**

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>OILED ZONE</th>
<th>OILED ZONE SUBSURFACE</th>
<th>OILED SUBSURFACE</th>
<th>OILED SUBSURFACE SUBSURFACE</th>
<th>OILED SUBSURFACE SEDIMENTS</th>
<th>NOTES</th>
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<tr>
<td>2 25</td>
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<td>-</td>
<td>-</td>
<td>-</td>
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</tr>
</tbody>
</table>

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

**OG COMMENTS:**  
- **Steep rocky shore w/ small BRP packets**  
- **Surface oil as trace of CV/FL & H2O**  
- **Oils biodegraded and often refused to shear**  
- **in crevices and under boulder**

**Subsurface oil limited to a trace, found in pit #6.**

*Revised: 9/1/91  
ES revised: 9/28/91*
KN-108A
G. Macdonald
5. 4. 91

≤1m wide X 10
CT, MS / TR
≤1/o; biodegraded CT, V.

Passage Pt.

CT, FL, MS, CV/TR
<1% @ SUPP; up. HTZ
<2m x 25m total.

NO OIL

BRP

R

NT-OIL

A1

A2

A3

RB

NO OIL

BSP

NSSL

IL

Throughout:

SOR, MS / I ≥ 2%
under B. ≤ 2 x 60 m
(occurs 2 m / 40% b/d ct).

TRACE: SUBSURFACE OIL

NO significant oil 0-35 cm.

Review: MC 5/1/91
ER reviewed, May 7
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM 1
SEGMENT K IN 108
SUBDIVISION A
EA STATE 2 ft. seas
HOTOGRAF: ROLL # FRAME #

DATE 4 May 91
TIDAL HEIGHT (Range) +4.3 to +5.7 ft MLLW
BIOLOGIST Michael Fawcett
WIND SPEED/DIRECTION NE 15-20 Knots

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):
This subdivision contains exposed bedrock cliffs, massive boulders, and pocket beaches consisting of unstable, polished cobble and pebbles, with boulders in sub-supralittoral zones. The main beaches have very sparse biota (mainly only filamentous green algae), owing to sediment instability. Larger sediments and bedrock at ends of beaches and mx exposed shoreline have well-developed intertidal community, with dense and diverse algae in LTE (rockweed, Phaeophyta, Halophyta, Blug, Scavenger, Littorina, filamentous green, and filamentous and leafy red algae); dense barnacles and mussels, whelks, limpets, littorina, starfish, anemones, etc. Descriptions of biota near residual oil sites is provided in accompanying sketch map.

WILDLIFE OBSERVATIONS TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS # OF SPECIES TOTAL BIRDS FISH OBSERVED SPECIES PRESENT
Eagles 1 2 sitting in tree tidepool Sculpin
Seabirds
Waterfowl
Gulls/Kittiwakes 2 (B), Kih, Sw Gull 12
Shorebirds
Corvids
Other Birds

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

LAND MAMMALS

Snoreline subdivision map showing important biological features attached.
Site 1

KN 108A  4 May 91  Fawcett

Arr. 1420  Wind 220°  S.E.  Grad 2°F

- North-facing, pocket beaches
- Pebbles in large boulders of BR well
- CT on E wall v. + 1 ft - 8
- Mod. dense barn. of Fucus 2 ft below
- Dense mussels in shelled patches
- Sparse N. Lam.

- BR

Site 2

-Same deposit as Site 1,
but more exposed - dense barnacles
(incl. Cariosus): more mussels, weals
Most animals on leeward side of
main barnacle, less algae on
E. F. 30°

- Depart 1445

- BR

Notes:

- Mixed mussels, barnacles, limpets - some barnacles in boulders - green algae present
- Mussels near tree - E. 6-8 ft. south
- Dense foliose Cariosus on BR + 3-4 ft
- But being overgrown by dense 1 yr old

Mussels - dense N. rhombea eating mussels
14.50 Site 3  KN108  Fawlett 4 May 91
- very pocket beach than 1.52
  (w. 4m wide) - polished cobbles/pebbles
  bed (flavan. mottled) - BR at top
  each side w/ same brine as old
  sides (1.52) (urospora)
  Scattered Porphyra + Scy\n  No: 61
  Finta: 14.55

Site 4  15.00 - (same description
  as Site 3 - mature seagrass
  in tree watching 45 - definitely
  Sort out N + 12 ft in bristle
  0 large - no brine except Isopods
  Lichen, Fl, gr. algae

Depart 15.20
Arr Site 5  15.30  KN109  site
  - protected west-facing gravel
  beach in bay - Width 300 of both
  at BR at north end + 10 ft
  - bright green Pterosera on cobbles
  at +6.8
  sparse D. marina, Sili on bottom
  then gravel
Bio Sketch Map
KN-108A
4 May 91
M. H. Fauckett

CT in SUTZ at +11 ft; moderately dense barnacles, rockweed 2 ft directly below CT; sparse mussels, limpets, littorins in boulders near oil traces

Residual oil traces in boulders above reef, among isopods, limpets, sparse rockweed & barnacles. Dense young mussels, young & old barnacles, whelks, etc. on massive boulders

SO in SUTZ at +12 ft - no biota except lichen, filamentous green algae, isopods, downshore boulders & bedrock near sides of beach with mussels, barnacles, rockweed, whelks, etc.; polished cobble/pebble; beach with no biota except filamentous green algae (sediment movement limits biota)
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-108

SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION

SEGMENT ST/KN-108 SUBDIVISION A (1 OF 1) DATE 4/24/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T (1) All Bald Eagle nests (3/1 to 6/1) within 400m in adjacent segment
5T Active Bald Eagle nests (3/1 to 9/1)
See attached Ecological sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. (See above)

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: __________________ DATE: __________________

OILING CATEGORIZATION:

Wide 0 m: Medium 283 m: Narrow 0 m: V.Light 411 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 40+cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes: 1) Manual movement of logs from upper ITZ in area indicated on sketch map, 2) Manual raking of upper ITZ into mid ITZ, and 3) Bioremediation of raked area as indicated on sketch map. Work should be conducted after 6/1 with approval of USFWS due to eagle nest constraint.

TAG COMMENTS: ____________________________________________________________

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

1A Salmon stream mouth - fry outmigration (5/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 9/30)
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 267-2224

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 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 John Morison 267-2314

1D Esther Hatchery release (4/15 to 6/15)
1E Main Bay Hatchery release (4/20 to 6/15)
1F Sewmill 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 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: 1E ADF&G, 1F, 1G PWS Aquaculture Association John McMillan or Bruce Suzukoto 242-7511

1I Gill net area (6/7 to 6/31)
1J Purse seine area (7/20 to 9/30)
1K Purse seine hook-up (7/20 to 6/30)
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 242-3212

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 unlogged 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 242-3225

3N, 3P Harbor seal and sea lion hopping (5/15 to 7/1)
30, 3Q Harbor seal and sea lion marking (6/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of 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 586-7335
ADF&G Don Caldes 267-2403

5R Seabird colony (5/1 to 6/1)
Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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 Rothby 267-2206

5T Bald Eagle nests (5/1 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)
6X Lodge (6/1 to 9/15)
6Y Special use destination
7Z Subaice area: Salmon harvesting (6/1 to 9/30)
Troll fishing
Troll harvest
Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of inpol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.
AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359
FIELD SHORELINE COMMENT SHEET

SEGMENT ST 1 KN-108  SUBDIVISION:  A  DATE 4-24-90

USCG
NAME  BM3 David A. Skeeter  SIGNATURE  BM3 David A. Skeeter

□ NO TREATMENT RECOMMENDED  ☒ TREATMENT SUGGESTED

COMMENTS
There is oil on the surface and subsurface on one of the beaches in this segment, composed of cobbles, boulders, and pebbles. There is residual oil in uppersidal zone. There is a number of large trees that will have to be removed in order to get to the oil on part of this beach.

ADEC
NAME  Dianne Manson  SIGNATURE  Dianne Manson

□ NO TREATMENT RECOMMENDED  ☒ TREATMENT SUGGESTED

COMMENTS
- Primarily bedrock cliff w/pocket beaches.
- Surface coats and tarballs.
- Subsurface o.r. & o.p. oil, at pit areas #6, 7.
- Oiled logs and Debris

Recommend removal of oiled logs/debris, manual tilling, warm water flooding, steam washing and bioremediation at pit areas #6, 7.

LAND MANAGER
NAME  David Mandrella  SIGNATURE  David Mandrella

□ NO TREATMENT RECOMMENDED  ☒ TREATMENT SUGGESTED

COMMENTS
- Primarily vertical high bedrock and rock rubble with high angle pocket beach
- Priority area within segment, which warrants treatment occurs in the upper littoral in the vicinity of pits 6 and 7. This 40 m. x 4 m. area is susceptible to testing due to presence of OP sediments.
- Remove oiled logs and debris.
- Recommend manual tilling, spot washing and flooding, followed by bioremediation.
**SHORELINE OILING SUMMARY**

**OG:** A. Pittenger
**USCG:** D. Sullivan
**BIO:** J. Benson
**LAND REP:** B. Mandrella
**EXXON:** C. Katsimpolis
**ADEC:** D. Munson

**TEAM NO.:** #8
**TIDE LEVEL:** S+1.7 ft
**DATE:** 12/24/90

**EST. SUBDIVISION LENGTH:** 728 m
- Sun
- Clouds
- Fog
- Rain
- Snow

**UPLANDS DESCRIPTION:**
- R 0
- Grass
- Forest
- Rock

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

**WORKING DIRECTION:** North to South

**SURFACE SEDIMENTS:**
- R 50%
- B 20%
- C 15%
- P 15%
- G 2%
- S 1%
- M 0%
- V 0%

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

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

**OIL CATEGORY LENGTH:**
- W 0 m
- M 200 m
- N 0 m
- VL 528 m
- NO 0 m

---

### SURFACE OIL

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<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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<td>POOLED COVER</td>
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<td>COAT STAIN</td>
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<tr>
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<tr>
<td>FILM NO OIL</td>
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**PAVEMENT H F S** ___ sq. m by ___ cm
**PATTIES / TARBALLS** ___ ___ BAGS
**NEAR SHORE SHEEN?** NO BR RW SL TL

---

### SUBSURFACE OIL

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<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED MATERIAL</th>
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<th>PIT ZONE</th>
<th>ANA SHEEN (Y/N)</th>
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**COMMENTS**

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**REVIEWS:**

**DATE:** 4/26/90
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<th>PIT NO.</th>
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<th>OILED INTERVAL (CM)</th>
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COMMENTS

REVIEWED DATE 4-26-90
HERING BAY

MANUALLY MOVE OILED LOGS OUT OF WAY, RAISE UPPER ITZ INTO MID ITZ AND BIOREMEDIATE RAKED AREA

Symbols
- Oiled Interval
- Bedrock
- Sediment
- B.C.P. Grain Size
- Eagles Nest

Scale

[Sketch Map with various geological and ecological notes and features labeled]
SHORELINE ECOLOGICAL SUMMARY

Segment ST / KN 108 Subdivision A ___________________________ Date (mo/day/yr) 4/24/90

Time (24 hr) - 1905-1915 Biologist Benson

(A) Substrate type and % of segments:
   (1) Bedrock (50) (2) Boulder (20) (3) Cobble (15) (4) Pebble (15) (5) Sand (6) Silt (5)

(B) Overall % cover of biota (% of segment): Dense 60 Moderate 10 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 (0)

BARNACLES

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FUCUS

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Wildlife Observations/ General Comments:
1 mature Bald Eagle (Haliaeetus leucocephalus)
1 eagle, nest within segment - it is not known if the nest is active (sketching)
3 long stipes of Fucus just offshore
Ecological Considerations: No sensitivities (e.g. nest within 400 m of south boundary)

Wave exposure here is high. This is reflected in the presence of Alaria
the predominance of "weedy" species of algae (green & red filamentous spp.,
Rhodymenia, Ulva), the absence of organisms on cobbles, and the presence
of algae on the boulders as well as the tops of boulders. The number of species
is moderate and the standing stock on stable substrates is high. Evidence
suggests that Fucus stipes and barnacle scours on accessible rocks suggests
ECOLOGY MAP

RESOURCE CODES FOR ENTIRE SEGMENT:
NONE

Bald Eagle Nest ≤ 400m of Segment (KN-109)

KN-108

NEW? Eagle's Nest
I could not determine whether it is an active nest

Bald Eagle Nest?

Map Key: PWS-288
Name: Benson
Date: 4/24/90

ADEC Segment Length: 694m

Wide

Medium

Narrow

Very Light
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-108 SUBDIVISION A (1 of 1)

WORK WINDOW

<table>
<thead>
<tr>
<th>Manual Pickup</th>
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<tbody>
<tr>
<td>Bioremediation Manual Raking</td>
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</table>

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T Bald Eagle Nest  USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to bioremediation, manual raking and manual pickup within 400m of active nest. No constraint to bioremediation, manual raking and manual pickup more than 400m from active nest.

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC [Signature]  Date 6/14/90

Prepared by [Signature]  Date 6/14/90
SHORELINE EVALUATION

SEGMENT ST/ KN-108  SUBDIVISION A (1 OF 1)  DATE 4/24/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T (1) All Bald Eagle nests (3/1 to 6/1) within 400m in adjacent segment
5T Active Bald Eagle nests (3/1 to 9/1)
See attached Ecological sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and
substrate. (See above)

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

SHPO SIGNATURE: ___________________ DATE: 6/1/90

OILING CATEGORIZATION:

Wide 0 m: Medium 283 m: Narrow 0 m: V.Light 411 m: No Oil 0 m
Subsurface Oil Observed: Yes X  No____ Maximum Depth 40+cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes: 1) Manual movement of logs
from upper ITZ in area indicated on sketch map, 2) manual raking of
upper ITZ into mid ITZ, and 3) bioremediation of raked area as indicated
on sketch map. Work should be conducted after 6/3 with approval of USFWS
due to eagle nest constraint.

TAG COMMENTS: Manual Pickup of OILY OBRIS, Monitor 20

TAG APPROVAL DATE: 5/21/90
ADEC  ANG WENNER  Art Winsor  DATE: 6-5-90
EXXON  ANDY __________  FOSC:
NOAA  ANDY TALBOT
USCG  ANDY RIEDEL  C. A. BARTON
SHORELINE EVALUATION

SEGMENT ST/ KN-108 SUBDIVISION A (1 OF 1) DATE 4/24/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T (1) All Bald Eagle nests (3/1 to 6/1) within 400m in adjacent segment
5T Active Bald Eagle nests (3/1 to 9/1)
See attached Ecological sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to uncoiled biota and substrate. (See above)

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

SHPO SIGNATURE: __________________ DATE: 6/1/90

OILING CATEGORIZATION:

Wide 0 m: Medium 283 m: Narrow 0 m: V.Light 411 m: No Oil 0 m
Subsurface Oil Observed: Yes X No____ Maximum Depth 40+cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes: 1) Manual movement of logs from upper ITZ in area indicated on sketch map, 2) Manual raking of upper ITZ into mid ITZ, and 3) Bioremediation of raked area as indicated on sketch map. Work should be conducted after 6/1 with approval of USFWS due to eagle nest constraint.

TAG COMMENTS: Manual Pickup of Oiled Debris, Monitors to Assess the Losses

TAG APPROVAL DATE: 5/21/90
ADEC Art Wetter A. Quinn
EXXON Amy Ten Frye FOSC: __________ DATE: 6-4-90
NOAA Laura Talon
USCG Capt. Peters Capt. Beck
ECOLOGY MAP

RESOURCE CODES FOR ENTIRE SEGMENT:
NONE

Bald Eagle Nest 400m of Segment (KN-109)

KN-108

[Diagram with a map and a note: "new? eagle's nest, I could not determine whether it is an active nest"]

XXX Wide
/// Medium
--- Narrow

ADEC Segment Length: 694m

Map Key: PWS-288
Name: Benson
1991 MAYSAP EVALUATION


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

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

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

SHPO Signature:  
Date:  5/17/91

RECOMMENDATIONS:

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COMMENTS:
INITIAL:  

TAG:  

FOSC:  


ADEC  
EXXON  
USCG  
NOAA  

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

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

TEAM NO. 1  SEGMENT Kn 109  SUBDIVISION A  DATE 5/4/91

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<th>NAME</th>
<th>JEFF GINWALT</th>
<th>SIGNATURE</th>
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- This segment is a close call, especially at Site A2. Here, heavy to medium oil runs most of the length of the beach approx 20-25 cm below surface. Only feasible means of retrieving/exposing oil would be mechanical removal of armor & filling. Equipment landing is accessible and incline. Engine beach is small enough to set up containment boom. However, effort and resources involved in removing oil are not greater than benefits. Oil gained from removal oil sheens when exposed to H2O, and beach may sheen if bleeds at temperatures rise. I would recommend no present treatment, but periodic monitoring over the summer for oil escaping from beach.

<table>
<thead>
<tr>
<th>EXXON</th>
<th>NAME</th>
<th>FRANK A. BAX</th>
<th>SIGNATURE</th>
</tr>
</thead>
</table>

- Not enough oil on the segment to justify the intrusion of clean up activity.

<table>
<thead>
<tr>
<th>LANDMANAGER</th>
<th>NAME</th>
<th>MARSHA HALL</th>
<th>OF DNR</th>
<th>SIGNATURE</th>
<th>Marsha Hall</th>
</tr>
</thead>
</table>

- Treatment
  - At south beach, Area A2: Feel away armor layer, cobble, using small mechanical to access oil. Use shovel to remove debris, manually or agitation in strips (manual, mechanical). Do release oil (perpendicular to beach). String boom and monitor containment.

<table>
<thead>
<tr>
<th>USCG/NOAA</th>
<th>NAME</th>
<th>JENSEN CHILD</th>
<th>SIGNATURE</th>
<th>ушки</th>
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</thead>
</table>

- Mostly subsurface oil on A1 & A2. OG doesn't believe biological doing OK. Further removal operations would cause more environmental harm than the oil to be removed.
MAYSAP SHORELINE OILING SUMMARY

SEGMENT: KN-103

ADEC: J. GINNIAH
LANDMANAGER: M. HALL
SUBDIVISION: A

DATE: 5/4/91

TEAM NO.

OG: G. MACDONALD
BIO: M. FAUCETT

TIME: 15:25 to 16:36
TIDE LEVEL: +6.9 ft. to +7.0 ft.
ENERGY LEVEL: 2

SURVEYED FROM: FOOT
WEATHER: SUN
TOTAL LENGTH SHORELINE SURVEYED: 895 m
NEAR SHORE SHEEN: BR
EST. OIL CATEGORY LENGTH: W 5 m M S 5 m N 35 m V 35 m
US 125 m

SURFACE OIL CHARACTER

<table>
<thead>
<tr>
<th>LOC</th>
<th>AP</th>
<th>MS</th>
<th>TB</th>
<th>SOR</th>
<th>CV</th>
<th>CT</th>
<th>ST</th>
<th>FL</th>
<th>DB</th>
<th>NO</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE 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>A1</td>
<td>P</td>
<td>S</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>BR R L 3 5 X</td>
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</tr>
<tr>
<td>A2</td>
<td>T</td>
<td>BC</td>
<td>L</td>
<td>0.1</td>
<td>10</td>
<td>X</td>
<td>n exposure &amp; sub-</td>
<td>surface oil</td>
<td></td>
<td></td>
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</tbody>
</table>

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

OG COMMENTS:

Steep rocky shore w/ two CP pocket beaches
Surface oil as CT; CV/S, SOL/P @ N beach; plus a
silver sheen @ waterline - MITZ @ S beach.
Subsurface oil was found in both beaches.
MAYSAP SHORELINE OILING SUMMARY (cont.)

TEAM NO.
SEGMENT      SUBDIVISION    DATE
K4-109    A    5/14/91

OG COMMENTS:

Subsurface oil cartoon.

N. beach: 10 deep pits outlined an area of
MOR about 4 x 15 m. Instantaneous
rainbow-brown sheen, usually w/;

copious brown globules were typical.

Oil thickness ≤ 5 cm, between 5 & 20 cm deep.

S. beach: 8 deep pits outlined subsurf. oil > 8 x 25 m;

about 5-10 cm thick, between 5 & 25 cm below surface. The silver sheen @ waterline

is probably the surface expression of this layer.

Sheen as above.

<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>SUBSURFACE-SUBSURFACE SEDIMENTS</th>
<th>NOTES</th>
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<tbody>
<tr>
<td>10</td>
<td>35</td>
<td>X</td>
<td>10-15</td>
<td>Y</td>
<td>5</td>
<td>E.B</td>
<td>X</td>
<td>BC-PCG</td>
<td>globules</td>
</tr>
<tr>
<td>11</td>
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<td>P-PCG</td>
</tr>
<tr>
<td>12</td>
<td>25</td>
<td>X</td>
<td>20-25</td>
<td>Y</td>
<td>30</td>
<td>B.R</td>
<td>X</td>
<td>PC-PCG</td>
<td>globules</td>
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<tr>
<td>13</td>
<td>20</td>
<td></td>
<td>12-15</td>
<td>Y</td>
<td>5</td>
<td>S</td>
<td>X</td>
<td></td>
<td>PC-PCG</td>
</tr>
<tr>
<td>14</td>
<td>20</td>
<td>X</td>
<td>5-8</td>
<td>Y</td>
<td>5</td>
<td>B</td>
<td>X</td>
<td>C-PCG</td>
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<td>15</td>
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<td>BC-PCG</td>
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<td>16</td>
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<td>X</td>
<td>BC-PCG</td>
<td>PC</td>
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</tbody>
</table>

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

REVIEWS: MC 5/7/91 Rev 5, May 8
KN-109A

G. MACDONALD

S. 4. 91
MiW~AP
BIOLOGICAL SUMMARY FORM

TEAM # 1
DATE 4 May 91

SEGMENT # KN 109
TIDAL HEIGHT (Range) 4.9 to 7.1 ft MLLW

SUBDIVISION A
BIОLOGIST Michael Faucett

STATE 2.5 ft
WIND SPEED/DIRECTION nor SE 25 knots

PHOTOGRAPHS: ROLL # FRAME #

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):
There are two pocket beaches with residual oil in this subdivision. Both beaches have central cobble/pebble substrates of polished granite. Frequent movement of these sediments limits community development to early successional species such as the filamentous green algae, Urospora, and young stages of other species, such as limpets, that must either move away to more protected substrates or die from crushing whenever large waves move the sediments. Bedrock and boulders near the ends of the beaches have well-developed intertidal community dominated by barnacles and mussels in Littoral zone, and by algae and/or large thalated barnacles Balanus cariosus in LTZ. Descriptions of biota near residual oil at each site are provided in accompanying sketch maps.

Although the tide stage was fairly high (6-7 ft) during this survey, I waded out to +2 ft zone below the buried oil at site A2, overturned boulders and cobble and agitated sediments beneath to confirm that oil was not present (or at least was not near the surface as it was in the oiled zone at +2 ft). Also observed that the dominant biota from about +2 to +6 ft consisted of sparse patches of rockweed and barnacles.

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS

<table>
<thead>
<tr>
<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>
<td>Seabirds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shorebirds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corvids</td>
<td></td>
<td></td>
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<tr>
<td>Other Birds</td>
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</tbody>
</table>

MARINE MAMMALS

<table>
<thead>
<tr>
<th>OF SPECIES</th>
<th>LAND MAMMALS</th>
<th>OBSERVED</th>
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<tbody>
<tr>
<td>Sea Otters</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pinnipeds (specify)</td>
<td>1 harbor seal</td>
<td></td>
</tr>
<tr>
<td>Whales (specify)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Shoreline subdivision map showing important biological features attached.
CT on bedrock at +10 ft; sparse barnacles, filamentous green algae below thin gravel, dense green algal film (Urospora) and young limpets (Notacoma scutum) on cobble near buried oil at +6-8 ft MLLW.

dense *Urospora* and dense young (3-4 cm) limpets (*N. scutum*) on cobble near buried oil at +6-7 ft - sparse rockweed, barnacles downshore.

*Bio Sketch Map
KN 109-A
4 May 91
M. H. Fawcett*
1450 site 3 KN108 cont
4 May 91
- under pocket beach than site 142
(n 40m wide) - polished cobbles/pebbles
beach Filaminopsis, BR boulders
each side w/ same biota as site 142
(3) Turbospira
Scaphid Porphyrus, Scyph
W0: 0:11
Finish: 1455

Site 4 1500 - (same description
as site 3 - native eagle in
tree watchig as definitely
S R at 2 + 12 ft in boulders
of logs - no biota except isopods
L I 167, F I 99, ga algae

Depart 1520
Arr 1525 KN 109 site
- protected west facing gravel
beach in bay - wave action at back
of BR at north end + 10 ft
- slight green Turbospira on cobbles
at + 6 ft
- sparse barnacles, filament below
then gravel

site 18 (cont) KN 109 cont
buried shore in gravel at + 8 ft
durf - no biota except green algae
on pebbly cobbles
- Murex Turbospira, moderate Frondal
barnacles down to 1/2 (underwater)
below + 5 ft
- sea RA + a, pre-99 had flat
on cobbles /BR at + 16-18 ft at
north and (behind BR outline w/ coin
on previous page) - amphipod worms
among Scyph, boulders, fil green algae
- gravel downturn

Notes on BR & boulders generally
more sparse, less diverse than
on similar substrate in more
exposed area on KN 108
departure 1600

KN 109 Site 2 1605 hrs
B/C/P NN facing, more exposed
than site 18 - both moderate energy
- dense film of filament green algae
(13 500) on BR at 6-7 ft
- sparse Fucoids, barnest at BR on
DB at + 6-10 ft at side of beach
bunched at 7 ft q up among
- Crocoda spore barnacles, Scyph plank
but the young tine, 0:11

1991
KAT 10:30 AM
Under rocks
Same gun touch
MF worked out to + 7 ft zone
Also turned 20 ft rocks
Bound beneath - no break
Depth 16.25
- 5 tffed along shore west of
out 2 to end of segment
- dense tress up to +9 ft along
segment
- BR faced a little islet
- 1 has 10 seal near 15 ft
-Segment 16.32
Wind now SE 25 knots, increasing
now 2 ft
1991 MAYSAK EVALUATION


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

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

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

SHPO Signature: ___________________________  Date: ___________________________

RECOMMENDATIONS:

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

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.
THIS SEGMENT IS A CLOSE CALL, ESPECIALLY AT SITE A2. HERE, HEAVY TO MEDIUM OR RUNS MOST OF THE LENGTH OF THE BEACH APPROX. 20-25 CM BELOW SURFACE. ONLY FEASIBLE MEANS OF REACHING EXPOSURE OIL WOULD BE MECHANICAL REMOVAL OF ARMOR & TILLING. EQUIPMENT LANDINGS IS ACCESSIBLE AND MID INCLUDES EXPOSED BEACH IS SMALL ENOUGH TO SETUP CONTAINMENT BOOM. HOWEVER, EFFORTS AND RESOURCES INVOLVED IN REMOVING OIL 600 LTR / DAY ARE NOT GREATER THAN BENEFITS OF OIL REMOVAL. OIL SHEENED WHEN EXPOSED TO WTR, AND BEACH MAY SHEDT BUBBIES AS TEMPERATURES RISE. I WOULD RECOMMEND NO PRESENT TREATMENT, BUT PERIOD MONITORING OVER THE SUMMER FOR OIL ESCALATING FROM BEACH.

Not enough oil on the segment to justify the intensity of cleanup activity.

At south beach Area A2, peel away armor layer of cobble using small mechanical to access oil lens. Remove sheen manually or agitate it in strips (Manual: mechanical) to release oil. (Perpendicular to beach) String boom and monitor containment.

Mostly subsurface oil on A1/A2. DG doesn't believe there will be any sheening problems this summer. Tidal biology doing OK (Thus far) further removal operations would cause more environmental harm than the oil to be removed.
**MAYSAP SHORELINE OILING SUMMARY**

**TEAM NO.**

**NO.**

**BIO** M. FAUCETT

**LANDMANAGER** M. HALL

**USCG/NOAA** JENSEN/CHILD

**TIME** 15:25 to 16:25

**TIDE LEVEL** +5.9 ft. to +7.0 ft.

**ENERGY LEVEL**

**SURVEYED FROM:** BOX

**WEATHER:** SUN CLOUDS FOG RAIN SNOW

**TOTAL LENGTH SHORELINE SURVEYED:** 695 m

**NEAR SHORE SHEEN:** OR

**EST. OIL CATEGORY LENGTH:** 5 m

**SEGMENT** KN-109

**SUBDIVISION** A

**DATE** 5/4/93

<table>
<thead>
<tr>
<th>LOC</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT</th>
<th>SLOPE</th>
<th>WIDTH</th>
<th>LENGTH</th>
<th>ZONE</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>P</td>
<td>RB</td>
<td>L</td>
<td>2</td>
<td>5</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>S</td>
<td>S</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A2</td>
<td>T</td>
<td>SC</td>
<td>L</td>
<td>0.1</td>
<td>10</td>
<td>X</td>
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</tbody>
</table>

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

**SURFACE-SUBSURFACE SEDIMENTS**

**PIT**

**PIT NO.**

**DEPTH**

**OP**

**HOR**

**MOR**

**LOR**

**OF**

**TR**

**NO.**

**ZONE**

**CM-CM**

**Y/N**

**H2O LEVEL**

**COLOR**

**BRSN**

**S**

**U1**

**M1**

**LI**

**NOTES**

**OG COMMENTS:**

Steep rocky shore w/ two CP pocket beaches

Surface oil as CT x CV/5, SOL/P @ N beach, plus a silver sheen @ waterline. MI2 @ S beach.

Subsurface oil was found in both beaches.
OG COMMENTS:

Subsurface oil cartel.

1. Beach: 10 deep pits outlined an area of MOS: about 4 x 15 m. Instantaneous rainbow-brown sheen, usually w/ copious brown globules were typical. Oil thickness ≤ 5 cm, between 5 & 20 cm deep.

5. Beach: 8 deep pits outlined subsurf. oil = 8 x 25 m; about 5-10 cm thick, between 5 & 25 cm below surface. The silver sheen @ waterline is probably the surface expression of thin layer.

Sheene as above.
SUBSURFACE = 4 x 15 m

1. Sor, ≤ 20%
2. ≤ 3 m
- between boulders
3. ≤ 5%
4. ≤ 2 x 30; B:K
- clumps of non-ANS tar also present.

No Field Data
Assume:
- 4 x 20 m ± 0.5 m

"Old" shadow lines
E05 K:35°40'00"

KN-109A
G. Macdonald
S. 4. 91

Return 20: MCD'S
5. 10. 91
Team: 1
Segment: KN109
Subdivision: A
Date: 2/5

Tidal Height (Range): +5.9 to +7.1 ft MLW
Biol. (Name): Michael Fawcett

Wind Speed/Direction: Now: SE 25 knots

Graphs: Roll: 
Frame: 

Comments/Observations (to be completed in oiled subdivisions only):

There are two pocket beaches with residual oil in this subdivision. Both beaches have central cobble/pebble substrates or polished granite -- frequent movement of these sediments limits community development to early successional species such as the filamentous green algae, Ulva, and young stages of other species such as limpets, that must either move away to more protected substrates or die from crushing whenever large waves move the sediments.

Bedrock and boulders near the ends of the beaches have well-developed intertidal community dominated by barnacles and mussels in Mytilus, and by algae and/or large thatched barnacles Balanus carinatus in H2. Descriptions of benthic near residual oil at each site are provided in accompanying sketch map.

Although the tide stage was fairly high (6-7 ft) during this survey, I waded out to +4 ft zone below the buried oil at site A7; overturned boulders and cobble and agitated sediments beneath to confirm that oil was not present (or at least was not near the surface, as it was in the tidal zone at +7 ft). Also observed that the dominant biota from about +2 to +4 ft consisted of sparse patches of rockweed and barnacles.

Life Observations
To be completed in all subdivisions

<table>
<thead>
<tr>
<th>DS</th>
<th># of Species</th>
<th>Total Birds</th>
<th>Fish Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagles</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eabirds</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Cormorant</td>
<td></td>
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<tr>
<td>Ush/Kittiwakes</td>
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<td>Horebirds</td>
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<tr>
<td>Or Birds</td>
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<table>
<thead>
<tr>
<th>Land Mammals</th>
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<tbody>
<tr>
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<tr>
<td>Hiped(specify)</td>
<td>Harbor seal</td>
<td></td>
</tr>
<tr>
<td>Specify)</td>
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</tr>
</tbody>
</table>

Reline subdivision map showing important biological features attached.
CT on bedrock at +10 ft; sparse barnacles, filamentous green algae below then gravel, dense green algal film (Urospora) and young limpets (Notocoma scutum) on cobbles near buried oil at +6-8 ft MLLW.

Dense Urospora and dense young (2-8 cm) limpets (N. scutum) on cobbles near buried oil at +6-7 ft. Sparse rockweed, barnacles downshore.

Bio Sketch Map
KN 109-A
4 May 91
M. H. Fawcett

Reviewed: MC 5/8/91
1450 site 3 KN108 A. Fawalt
4 May 91
- wide pocket beach than in 142
- ripples on inside - polkaed cabs/pebbles
- sand (F. minerals) - BR/BE to left
- each side of same beds as other
- sites (142) (Prosopora)
- scattered Porphyra, Scy.
- NO. 0.1
- Finish 1455

Site 4 1500 - (same description as site 3) - narrow ledge in
- tree watching 45-60 min
- SOR at 7 ft in boulders
- O. spp. - no kelp except 150 psi
- Lichen, F. gn. algae

Depart 1520
Arr site 1525 KN109 site
- protected west-facing gravelly
- beach in bay - weed free at top
- CR BR at north end + 10 ft
- bright green Prosopora on cabs
- at +6 ft
- Prosopora, Barnacles, SS below
- then gravel

site 10 (cont) KN109 cont
- burned soil in gravel at +8 ft
- deep water except green algae
- on sandy cabs
- - More Prosopora - moderate toward
- barnacles down 5m (underwater
- below +5 ft
- -50 ft - at +99 Karman
- in cabs at 1011 ft at
- and (behind BR bay) w/coal
- on previous page - amphipods worms
- among SOR debris, fil grainal
- - gravel downstream
- - kelp on BR boulders generally
- more sparse, less dense than
- on similar outcrops in more
- exposed areas in KN108
- - Depart 1600

KN109 Site 2 1605 hr
- Bluff on NW-facing, more exposed
- than site 3 with both moderate algae
- - dewfilm of F. gen. algae (Vasa)
- on BR at 5-7 ft
- - Space Fallen Barn top rump on
- BR +5 to 8 ft at side of beach
- turned at 7 ft up among
- Prosopora, Space barn - Scy. (pl)
WT 1:40 a.m.  moon
under rooks on same gory tank
MF washed out to 7 ft gory
Q turned over rocking agilely
tugged below - no shen
- depth 16.25
- stiffed along shoal east 4 9 ft gory
- dense fences up 9 9 ft abob
exp - BR faces a little islet
1 hour 36 and near 15
end segment 16.37
wind now SE 25 knots, increasing
near 2 ft
REGION: PRINCE WILLIAM SOUND

SEGMENT: KN-109

SUBDIVISIONS: A (1 OF 1)
SEGMENT ST/ KN-109  SUBDIVISION A (1 OF 1) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Active bald eagle nest (5T) - 3/1 to 9/1.

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

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

SHPO SIGNATURE: ___________________ DATE: _____________________

OILING CATEGORIZATION:
Wide 0 m: Medium 668 m: Narrow 369 m: V.Light 0 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 Snares (pom poms)
Manual Pickup ______ Absorbents (pads, rolls, etc)
Bioremediation ______ Spot Washing: ______ Wands
Tarmat: ______ Breakup ______ Beach Cleaner
Removal: ______ Removal ______ Other (see comments)

COMMENTS: Recommend manual pick up of oiled debris and bioremediation of areas where subsurface oil found, as shown on attached sketch map. Contact USFWS prior to treatment per above constraints.

TAG COMMENTS:

TAG APPROVAL DATE:__________
ADEC ________________________ FOSC:__________ DATE:_________
EXXON ______________________
NOAA _______________________
USCG ______________________

FOSC:
FIELD SHORELINE COMMENT SHEET

SEGMENT STK N 109  SUBDIVISION:  None    DATE: 4-2-90

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

☐ NO TREATMENT RECOMMENDED    ☑ TREATMENT SUGGESTED

COMMENTS

Manual removal of surface oil - washing and tilling of bedrock's - (Surface cobbles)

ADEC
NAME: Dianne Mckson  SIGNATURE: Dianne Mckson

☐ NO TREATMENT RECOMMENDED    ☑ TREATMENT SUGGESTED

COMMENTS

Residual oil in subsurface sediments. Subsurface clearly mobile brown/black oil, free floating in interstitial water coats on cobbles and bedrock outcroppings, oiled vegetation in supratidal. It appears that the cobbles act as a glue over an oiled sand gravel substrate does not allow natural wave cleansing, where surface terrain is and and gravel there is very little subsurface oiling. Recommended treatment includes removal of oiled vegetation, manual removal of surface cobbles and tilling and washing to remove the subsurface mobile oil.

LAND MANAGER
NAME: David Mandrellla  SIGNATURE: David Mandrellla

☐ NO TREATMENT RECOMMENDED    ☑ TREATMENT SUGGESTED

COMMENTS

Thin coating on boulder, cobble areas in small pockets in upper intertidal zones requires manual tilling and bioremediation. Small patches of cobble/boulder cover in intertidal zone in northwest cove may require spot washing followed by bioremediation.
**SHORELINE OILING SUMMARY**

**OG Sawyer** USCG White

**BIO** Benson

**LAND REP** Mandrella

**EXXON** Kotsimpalis

**ADCO** Munson

**TIME** 13:00 to 14:30

**DATE** Apr 2, 1990

**TEAM NO.** 8

**SUBDIVISION** 4 (726)

**SURVEYED FROM** Foot

**WORKING DIRECTION** S to N

**TIDE LEVEL** +1 to +1

**UPLANDS DESCRIPTION** Sun

**SURFACE SEDIMENTS**

**SLOPE** Lang.

**OIL CATEGORY**

**LENGTH**

**SURFACE OIL**

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**SUBSURFACE OIL**

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<td>C, G, P, wt</td>
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**COMMENTS** ST/KN109 has three cobbled and boulder beaches separated by bedrock (pillow basalt) headlands. Oil at Pit 6 was apparently buried and not infiltrated. Films were observed on water in Pits 1 and 3 only [i.e., not on sediment]. (Comment from T.S. on 4-6-90, NYA).
# SHORELINE ECOLOGICAL SUMMARY

Segment ST / KN 109  Subdivision: None  Date (mo/day/yr): 4/2/90

Time (24 hr): 12/90  Biologist: J. Benson

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

1. Bedrock 50%
2. Boulder 25%
3. Cobble 15%
4. Pebble 10%
5. Sand 0%
6. Silt 0%

## (B) Overall % cover of biota (% of segment):

- Dense 50%
- Moderate 40%
- Low 10%

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

- Juveniles / Adults (√)
- New settlement (○)

### Barnacles

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**Wildlife Observations/ General Comments:**
- Adult Bald Eagle (Haliaeetus leucocephalus): seen in water far away.
- This site is characterized by high productivity; the % cover overall is high due to abundant Fucus, barnacles, and green filamentous algae.

**Ecological Considerations:**
- The diversity of species was not as high as the sensitivity to ST KN 133 yesterday, probably because there are fewer tidespools & other habitat types. The high productivity may result in part from the direct exposure to the N & NW.
Sketch Map

SEGMENT ST/K1109

SUBDIVISION: NONE

DATE: Apr 12 90

CHECKLIST

- N Arrow
- Approx. Scale
- Seg/Sub Endway
- Oil Dirt
- Width
- Length
- % Cover
- Substrate Character
- Est. HWY/VAL
- SSL
- Profile Location(s)
- Profile(s)
- Pit Location(s)
- Photo Location(s)

LEGEND

1 △
- Pit - No Subsurface Oil

2 △
- Pit - Subsurface Oil

CT/C
- Continuous Distribution

CT/B
- Broken Distribution

CT/P
- Patchy Distribution

CT/S
- Splashed Distribution

Oiled Vegetation

1 ↔
- Phase location, direction, and number

Oil Character Length (m): AP ____ PO ____ CV 90 CT 1100 ST ____ MS ____ PT ____ TB ____ FL ____ NO ____
ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T Bald Eagle Nest NO CONSTRAINT. USFWS 6/1/90 map indicates an active nest within 400m of Subdivision A work site, however, USFWS has granted access to work site per 5/27/90 survey conducted by Mike Lockhart (see map). No constraint to manual pickup and bioremediation.

OTHER ECOLOGICAL CONSIDERATIONS

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

SEGMENT ST/ KN-109 SUBDIVISION A (1 OF 1) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Active bald eagle nest (5T) - 3/1 to 9/1.

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

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

SHPO SIGNATURE: DATE: 4/12/90

OILING CATEGORIZATION:
Wide 0 m: Medium 668 m: Narrow 369 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 15 cm

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

COMMENTS: Recommend manual pick up of oiled debris and bioremediation of areas where subsurface oil found, as shown on attached sketch map. Contact USFWS prior to treatment per above constraints. SEE ADDENDUM dated 6/9/90 APP

TAG COMMENTS:

TAG APPROVAL DATE: 4/16/90
ADEC Al Kiehle
EXXON ANDY TAYLOR
NOAA BU'Z WATTS
USCG G.A. KEENE C.T. BAILEY
SHORELINE EVALUATION

SEGMENT ST/ KN-109      SUBDIVISION A (1 OF 1) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Active bald eagle nest (5T) - 3/1 to 9/1.

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

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

SHPO SIGNATURE:        DATE: 4/17/90

OILING CATEGORIZATION:
Wide 0 m: Medium 668m: Narrow 369 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 15 cm

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

COMMENTS: Recommend manual pick up of oiled debris and bioremediation
of areas where subsurface oil found, as shown on attached sketch map.
Contact USFWS prior to treatment per above constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/16/90
ADEC AL KELLER X DATE: 4-20-90
EXXON ANDY TEAL
NOAA Paul Waple
USCG C.G. Keeler
SHORELINE EVALUATION

SEGMENT ST/ KN-110 SUBDIVISION A (1 OF 1) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-10-16928.
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. Do not trample or otherwise damage mussel beds.

ARCHAEOLOGICAL CONSTRAINTS: An Exxon archaeological monitor is required on-site during shoreline treatment. The number will be determined at that time.

SHPO SIGNATURE: ______________________ DATE: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 844 m: Narrow 209 m: V. Light 251 m: No Oil 0 m
Subsurface Oil Observed: Yes X No____ Maximum Depth 20 cm

RECOMMENDATIONS:

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

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

COMMENTS: Recommended treatment includes 1) manual removal of asphalt
2) manual removal of logs if oil coverage exceeds 10%, 3) bioremediate
areas as indicated on sketch map. Work should be conducted between
5/15 and 7/10 based on salmon constraints.

TAG COMMENTS: ____________________________________________________

TAG APPROVAL DATE: 4/21/90
ADEC Art Wright Art Wright
EXXON Art Wright Art Wright
NOAA Art Wright Art Wright
USCG Kenneth Krenn Kenneth Krenn

FOSC: ______ DATE: 5-6-90
SEGMENT ST/KN110

SUBDIVISION None

DATE Apr 2, 90

CHECKLIST

N Arrow
Approx. Scale
Seg/Sub Entry
Oil Dist.
Width
Length
% Cover
Subsurface Character
Est. HWY/LNL
SSL
Profile Location(s)
Profile(s)
Pit Location(s)
Pit(s)

LEGEND

1 △
Pt - No Subsurface Oil

2 △
Pt - Subsurface Oil

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

Oil Character Length (m): AP -- PO -- CV -- CT -- 1200 ST 400 MNS -- PT 50 TB -- FL 300 NO --
**SHORELINE ECOLOGICAL SUMMARY**

**Segment ST** / **KN 110**  
Subdivision: **None**  
Date (mo/day/yr): **4/2/90**

Time (24 hr): 1040-1330  
Biologist: **J. Benson**

(A) Substrate type and % of segments:
1. Bedrock 24%
2. Boulder 30%
3. Cobble 10%
4. Pebble 10%
5. Sand 0%
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 L tidal):
- **Barnacles**
  - Dense: 1U 1M 1L
  - Not Present
- **Myltilus**
  - Dense: 1U 1M 1L
  - Not Present
- **Gastropods**
  - Dense: 1U 1M 1L
  - Not Present
- **Fucus**
  - Dense: 1U 1M 1L
  - Not Present

Wildlife Observations/ General Comments:
- Adult (2) bald eagles (Haliaeetus leucocephalus), cormorants
  - The overall % cover was much lower here than in KN 109, primarily because the cover of green filamentous algae was low. The mouth of the stream contains a cobble/pebble substrate (as at KN 132) in which there is an abundant bed of small (1-3" long) *Mytilus*. These mussels are easily damaged by foot traffic.
ASAP TAG REVIEW SHEET

Segment: KN 110  Subd: A  Site: 2  Date PRE-Review 17 Aug 90

Priority For Addressing In 1990

___ HIGH  ___ MEDIUM  ___ LOW  ___ NTR

Treatment Recommended: UTR

Priority Site For Reassessment In 1991

YES  NO  YES  NO  YES  NO  YES  NO

CG  ✓  ADEC  ✓  EXXON  ✓  LAND MGR

23776

AVG

BIO

(LOW)
RAFT

ASAP FOLLOWUP RECOMMENDATIONS

Segment: AS/KN-110 Subd: A Site: 2 Date: 3/12/1990

Conditions Observed: 0% H leaf in MITX. leaf it below
robble amount of does not appear to be degraded.

Followup Recommendations: Reason to determine extent of leaf and
other zones oil.

Post-it™ brand fax transmittal memo 7671

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<th>Dept.</th>
<th>Phone #</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
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</table>

Completed by Pickup Crew:

ADEC

John Hayes

Comments: 0 TILL all inside MITZ @ Deploy some been @ Blo.
1. Re-eval

Exxon

Mattman Rd

Comments: Degree of oiling doesn't warrant any more work.

USCO

Michael D. Brown

Comments: NO ACTION REQUIRED

Land Rep.

DOUGLAS GIBSON

Comments: RECOMMEND TILLING AND BIO TREATMENT DEPLOY Boom.
SEGMENT AS KN-110  SUBDIVISION:  A  SITE:  1  DATE:  8/13/90

USCG  
NAME:  Michael D. Brown  SIGNATURE:  

☐ YES  ☒ NO  PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

ADEC  
NAME:  John Hoye  SIGNATURE:  

☐ YES  ☒ NO  PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:  No treatment necessary at this time.

Dining observed was very light on this site.

LAND MANAGER  
NAME:  Douglas Gibson  SIGNATURE:  

☐ YES  ☒ NO  PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

EXXON  
NAME:  Martinez  M.J.  SIGNATURE:  

☐ YES  ☒ NO  PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:
SEGMENT AS: KN-110  SUBDIVISION:  A  SITE:  2  DATE:  8/13/90

NAME: Michael D. Geary  SIGNATURE: Michael D. Geary

☐ YES  ☒ NO  PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:  Following recommendation sent in for this site.

Assessing observed was in MSTZ below cobble armor, oil did not appear to be degrading. Recommend more treatment and reasessment to determine extent of subsurface oil.

NAME: John Heyer  SIGNATURE: John Heyer

☒ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:  STRONGLY RECOMMEND REASSESSMENT IN '91 TO DETERMINE EFFECTIVENESS OF '90 BIO TREATMENT AND WINTER WAVE ACTION ON HEAVY SUBSURFACE OIL

NAME: Douglas Gibson  SIGNATURE: Douglas Gibson

NAME: Martinez, M.D.  SIGNATURE: Martinez, M.D.

☐ YES  ☒ NO  PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:  Degree of oiling does not warrant reassessment. Further work by NaN would be questionable on environmental benefit. Little is left.
### SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OILED ZONES</th>
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**SITE 1**

**SITE 2**

**SITE 3**

**EST. SITE LENGTH**

**TOTAL EST. LENGTH OF SHORELINE SURVEYED:** 220 m

**SURVEYED FROM:** Foot  □ Boat  □ Helo

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

**OIL CATEGORY LENGTH:** W 0 m  M 30 m  N 0 m  V 190 m  NO 0 m  US 101 m

### SUBSURFACE OIL

<table>
<thead>
<tr>
<th>SITE NO.</th>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>CLEAN BELOW (Y/N)</th>
<th>PIT ZONE</th>
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<tr>
<td>1</td>
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<td>25</td>
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<td>/X</td>
<td>CP-PS5</td>
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<td>2</td>
<td>1</td>
<td>15</td>
<td>H</td>
<td>0-12</td>
<td>Y</td>
<td>/X</td>
<td>CP-GC-Rocks</td>
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**Notes:** BIO TREATMENT SITES

**APPEAR TO BE MAPPED ON THE WRONG BEACH**

### COMMENTS

**Site 1** had a small tumolo feature with CT's on rock (17%) and patchy stain on buldors on the back side of a Pebble Bomm.

**Site 2** had CT's on rock cliff and across cobble/boulder beach...
ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-110 STREAM NO: 226-10-16928 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 salmon stream is located in Subdivision A (1 of 1). No ecological constraints re: intertidal biota.

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

SHPO SIGNATURE: ___________________________ DATE: ___________________________

Subsurface Oil Observed: Yes____ No X_____ Maximum Depth_____

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

COMMENTS:

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

TAG COMMENTS:--------------------------------------------------------

TAG APPROVAL DATE: 5/3/90.
ADEC ___________________________ FOSC: ___________________________
EXXON ___________________________ DATE: 5/15/90
NOAA ___________________________
USCG ___________________________
No treatment recommended

Agreed Ken Creachlow
ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 226-10-16928
SEGMENT KN-110 SUBDIVISION A

WORK WINDOW
NO TREATMENT RECOMMENDED

ARCHAEOLOGICAL STANDARD CONSTRAINT

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

OTHER ECOLOGICAL CONSIDERATIONS

SEE SUBDIVISION CONSTRAINT ADDENDUM KN-110A FOR ADDITIONAL CONSTRAINT INFORMATION.

FOSC  
Date 6-12-90

Prepared by  
Date 6/11/90
ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-110 STREAM NO: 226-10-16928 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 salmon stream is located in Subdivision A (1 of 1). No ecological constraints re: intertidal biota.

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

SHPO SIGNATURE: __________ DATE: __________________________

Subsurface Oil Observed: Yes____ No X Maximum Depth____

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

COMMENTS: _____________________________________________________________

TAG COMMENTS: __________________________________________________________

TAG APPROVAL DATE: 5/2/90
ADEC: ______________________ FOSC: _____________________ DATE: 5-15-90
EXXON: ____________________ NOAA: ______________________
NOAA: ____________________ USCG: ______________________

ANADROMOUS FISH STREAM ASSESSMENT

REGION: PRINCE WILLIAM SOUND
SEGMENT: KN-110
STREAM NO: 226-10-16928
ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-110 STREAM NO: 226-10-16928 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 salmon stream is located in Subdivision A (1 of 1).
No ecological constraints re: intertidal biota.

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

SHPO SIGNATURE: ___________________ DATE: ___________________
Subsurface Oil Observed: Yes____ No X_____ Maximum Depth_____

RECOMMENDATIONS:
__X__ No Treatment Recommended ______Snare/Absorbent Booms
_____ Treatment Recommended ______Oil Snares (pom poms)
_____Manual Pickup ______Absorbents (pads, rolls, etc)
_____Bioremediation ______Spot Washing: _____Wands
_____Tarmat Removal ______Beach Cleaner
_____ Other (see comments)

COMMENTS: ___________________________________________________
_________________________________________________________________
_________________________________________________________________

TAG COMMENTS: _________________________________________________
_________________________________________________________________
_________________________________________________________________

TAG APPROVAL DATE: ____________
ADEC _____________________________ FOSC: ____________ DATE: ________
EXXON ___________________________
NOAA ____________________________
USCG ____________________________
FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ KN-110 SUBDIVISION: 226-10-14788 DATE 4-21-90

USCG
NAME Kerwin L. Dreher SIGNATURE CWO2 K. P. Dreher

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

NAME Aimee Waseem SIGNATURE Aimee Waseem

COMMENTS

Oil band on bedrock - more harm than good to attempt removal

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

NAME ___________________________ SIGNATURE ___________________________

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
Salmon stream mouth - fry outmigration (3/1 to 5/15)
Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which 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 Morrison 267-2324

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

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

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

1I Gill net area (5/7 to 8/31)
1J Purse seine area (7/20 to 9/30)
1K Purse seine hook-off (7/20 to 9/30)
1L Set net 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 boat operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

AGENCY CONTACT PERSON: ADF&G Larry Peltz 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 eelgrass and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

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

3P Harbor seal and sea lion pupping (5/15 to 7/1)
3Q Harbor seal and sea lion molting (5/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31).
Contact ADF&G and USFWS prior to treatment for confirmation.

AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 566-7235 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/strandbird concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

ADF&G Tom Rothy 267-2206

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. Island approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

6U Recreation:
Tent sites (5/1 to 9/15)
Anchorage (5/1 to 9/15)
Forest Service cabin (6/1 to 9/15)
Lodge (6/1 to 9/15)
Special use destination

7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
7HH Finfish harvesting
7HJ Deer harvesting (5/15 to 2/28)
7JJ 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 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 257-2359
### SHORELINE OILING SUMMARY

**USCG: CREUSE, CWE SEGMENT ST/KN 110 26/51**

**EXXON: DARWILL YOONG ADFOUSK KUETH-AIMEE WATMAN TIME 14:25 to 14:50**

**DATE: 4/3/90**

**EST. SUBDIVISION LENGTH:** 800 m  
**TIDE LEVEL:** +4 ft  
**DATE:** 4/3/90

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

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

**SURFACE SEDIMENTS:**  
- % B 20  
- % C 60  
- % P 10  
- % G 5  
- % S 5  
- % M 5  
- % V 5

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

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

**OIL CATEGORY LENGTH:**  
- W m  
- M m  
- N m  
- V 60 m  
- NO 40 m

### SURFACE OIL

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<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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<td>PAVEMENT</td>
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**PAVEMENT**  
- H F S 64 m by  

**PATTIES / TARBALLS**  
- BAGS

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

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

**Loga**  
**Vegetation**  
**Trash**  
**Debris**  

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

### SUBSURFACE OIL

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**COMMENTS**  
- WEATHERED COAT/STAIN ON ROCKS/BOULDERS  
- OIL IS DRY TO TOUCH

**REVIEWED:**  
- DATE: 4/23/90
ADFG MULTI-ASSESSMENT DATA FORM

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**EXTENT OF OIL**

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<td>L</td>
<td>V</td>
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<td>27 SURFACE COVERAGE</td>
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<th>OIL ON BEACH</th>
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<td>Needles</td>
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<td>Marsh</td>
<td>High</td>
<td>Cobble</td>
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<th>OIL</th>
<th>ANADROMOUS FISH PRESENCE</th>
<th>ANADROMOUS FISH OBSERVATION</th>
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<th>OIL IN STREAM DEPT</th>
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**CONSERNS**

- Oil noted on this site was restricted to a 1-15 meter wide coat running along the bedrock cliffs 1 mile from the UTZ. Many barnacles were dead within this here. The focus was...
49 PHOTOLOG

FRAME(3)

4-52 - Oily-revised oil

46 OIL DISTRIBUTION DIAGRAM

No treatment recommended

Agreed Ken Crotchlow
1991 MAYSAP EVALUATION

SEGMENT: KN 110  SUB: A  REGION: FWS  SURVEY DATE: 5/5/91

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

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

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

SHPO Signature: Date: 5/17/91

RECOMMENDATIONS:

TREATMENT REQUIRED (Y or N)  N

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

INITIAL:  TAG:  FOSC:

COMMENTS:
INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: MAY 17 1991  FOSC APPROVAL DATE: 5/23/91

ADEC

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

NOAA

USCG  Z. M. Musgrove

PA

FAXON
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

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

Anadromous Stream: Unlimited treatment up to stream bank between May 15 and July 10. ADF&G approval required for work after July 10. Fish Habitat Permit required for instream work. ADF&G approval required for bioremediation within 100 meters of anadromous stream after July 10.
TEAM NO. 1  SEGMENT  KN-110  SUBDIVISION A  DATE 5/5/91

ADEC
NAME: JEFF GINNATUS  SIGNATURE: [Signature]

☐ NTR  HEAVIEST OILING IN SEGMENT NEAR AREAS OF A3 & A4. OIL RELATIVELY CLOSE TO SURFACE (20 CM), BUT NOT CLOSE ENOUGH FOR MECHANICAL REMOVAL. MOST FAVORABLE MEANS OF TREATMENT WOULD BE MECHANICAL REMOVAL OF SURFACE AMOR & SEDIMENTS, FOLLOWED BY MECHANICAL REMOVAL OF OIL. REMOVAL OF OIL AR, OIL مركز مركزي وأعشان من شرائح تلعب دور في معركة. 하지만، لا تجد النزاعات مع ما يمكن أن يفضلها. معظم الطرق المناسبة للتعامل مع هذه المشاعر هي إزالة الجهل أو الأعشان من الطبقات السطحية، وتعزيزها.

EXXON
NAME: FRANK A. BOY  SIGNATURE: [Signature]

☐ NTR  Subsurface oil was observed in part of the segment. Treatment at oil, it should be noted, facilitates for subsurface. The beach should not be torn up.

LANDMANAGER
NAME: MARSHA HALL  SIGNATURE: [Signature]

☐ NTR  TREATMENT
TILL AREA A4 TO RELEASE OIL LENS, OR EXPOSE LENS AND MANUALLY REMOVE IT. OIL LENS CONTINUES TO AREA A3 ON WEST SIDE OF TEST SITE. SENSITIVITY TO PEAT LAYER NEEDS TO BE EXERCISED.

USCG/NOAA
NAME: JENSEN  SIGNATURE: [Signature]

☐ NTR  SUBSURFACE OIL (SOME HOR) AT A-4. ALSO APPEAR AT A1. RECOMMEND THESE TWO SITES BE EVALUATED FOR TREATMENT. A3 EPA TEST SITE. A2
NTR, IT SHOULD BE NOTED THAT AREA IS ACCESSIBLE.
**MAYSAP SHORELINE OILING SUMMARY**

**TEAM NO.**

**OG** E. M.  
**ADEC** J. GINNAAS  
**LANDMANAGER** M. HALL for DNL  
**USCG/NOAA** JENSEN

**TIME** 09:30 to 10:45  
**TIDE LEVEL** +1.0 ft. to +2.8 ft.  
**ENERGY LEVEL**  

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

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

**DATE** 5/5/91

**TOTAL LENGTH SHORELINE SURVEYED:** 991 m  
**NEAR SHORE SHEEN:**  
- **BR**
- **RB**
- **SL**
- **NONE**

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

**TOTAL SURVEYED:** 1,260 m

**NOTE:** NEARSHORESHEEN:

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

**OG COMMENTS:**
Round rocky embayment w/ broad cpg beachfront. Surface oil as: A1, sal/s in boulder trap; A1A/S up. HRZ on BSL; ST as trace on some cpg across headface @ A1. ELA clean site @ A2 had no surface oil.

Subsurface oil was located @ A3 & A4.
OG COMMENTS:

Subsurface cont'd.

(A3) EPA Test site: MOR (typical) was found on the side of the outfall west of EPA site e MITZ. Depths of 5-10 cm were typical at (A2), with this very surface oil producing an instant sheen. Subsurface area est. 4 x 20 m minimum.

(A4) Hole 2 MITZ between 5-11 cm deep. Brown sheen trend appears confined to the MITZ and was estimated at 4 x 20 m by 4 peripheral pits. A silver sheen was noted at waterline on arrival.

<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>
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SHEEN COLOR: B = BROWN; R = RAINBOW; S = SILVER; N = NONE
WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS

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<th>Eagles</th>
<th># OF SPECIES</th>
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<td>prickleback</td>
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Seabirds
Waterfowl
Gulls/Kittiwakes
Shorebirds
Corvids
Other Birds

MARINE MAMMALS

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Sea Otters
Pinnipeds(specific)
Whales(specific)

LAND MAMMALS

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Shoreline subdivision map showing important biological features attached.
KN HA 5May 91 Forcell

2940

Site 1 Pocket 6/1/2/3/4/BR Beach
Facing South
Trace coast 8SR UTZ-5UTZ on west side of anch at base of R-
Lichen, Fil, gr, sparse barn, Lingulodiscus
Moderately dense barn, Litt. foras
On MTZ BR 14-7 ft

Side 2 - Some gravelly bottom pockets
- Mod barn, Fursa on rocks
E.R. of boulders - sparse mussels
- Mod lilt., lima, fish, etc - SPAT
- Traces of utz - no biota -
- Mod. Foras, dense barn down 24
- 1,1/4, lima, etc
0005 - proved to EPA today
From barn up to 9ft
in chimney

16x6

Cobble at foot wall 3-7 ft
fill green (dense or sparse 4-6")
spare lint, darn, lompam, dense
barn on directly south

EPA result: K NOA sub 3

10-05

small possible and sparse - scallied

Encourage lint, lomp in cobble 3-7 ft
dense or sparse 4-6" - make air

much more new

season at foot wall 3-7 ft

fill green (dense or sparse 4-6")
spare lint, darn, lompam, dense
barn on directly south
11/110-A cont.

next half of post beach has 0 boulders
in MTZ around +3-4ft w/dense
barn nearby at - insulated
measured at west 90 1c 6860 5-7 ft
- sparse barn, lmp, lty, t/fph, near 3rd
downshore where bergy rocks
- snow depth spot - lty 1cm, 4/110
eggs & chicks under boulders +3 ft

- 3 bldt beds at head of bay
- side 4 (9 cont. of 3) -
- high bi over b @ east end
- barn ct on back above dne barn naval
- barn bed w w 0c & b/p & meat of over b
- 7 ft among dense 1f 1st gen
- n dontly sp w barn & Fencing
- 1.6 ft. lty. downshore at 0-6 ft
- barn, dne barn, mod lmp, lty
- sparse Fstcs, llt, eggs & breeding
- 1cm, t/p bks
- sparse N. eny, mod lty young N snail
- 3 mergansers (common)

1. 5 cm x 5.5 mm

defect 12.5 - gery, suff. swimming
chain hole

sh
1991 MAYSAP EVALUATION

SEGMENT: KN 110     SUB: A     REGION: PWS     SURVEY DATE: 5/5/91

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

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

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

SHPO Signature: __________________________ Date: __________________________

RECOMMENDATIONS:

TREATMENT REQUIRED (Y or N)     INITIAL     TAG     FOSC

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.

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-110  **Subdivision** A  **Date** 5/15/91

### ADEC
**Name:** Jeff Giwaltus  
**Signature:** [Signature]

**NTR** Hermit oiling in Segment NE at areas of A3 & A4. Oil relatively close to surface (20 cm), but not close enough for manual removal. Most feasible methods of treatment would be mechanical removal of surface layers & sediments, followed by removal and/or removal. However, I believe that the intrusion of this procedure greater than amount of oil to be recovered. Interesting that oil lower/closer to water than most beaches. Instable sheen, but oil not readily mobile. Area should be reviewed later this season to see if mobility & sheening increase as temperatures rise.

### EXXON
**Name:** Frank A. Box  
**Signature:** [Signature]

**NTR** Subsurface oil was observed in part of the segment of treatment at oil. It should be with customer for subsurface. The beach should not be torn up.

### LANDMANAGER
**Name:** Marksha Hall  
**Signature:** [Signature]

**NTR** Treatment

- Till area A4 to release oil lens, or expose lens and manually remove it. Oil lens continues to area A3 on west side of test site.

- Beach sheen on water. Sensitivity to peat layer needs to be exercised.

### USCG/NOAA
**Name:** [Signature]

**NTR** Sub-surface oil (some H2S) at A-4. Also AP at A1. Recommend these two sites be evaluated for treatment. A3 EPA test site. A2 NTR. It should be noted that area is accessible.
**MAYSAP SHORELINE OILING SUMMARY**

**Team No.**

**Segment**

**Subdivision**

**Date**

**Surveyed From:**

**Weather:**

**Tide Level:**

**Energy Level:**

**Total Length Shoreline Surveyed:**

**Near Shore Sheen:**

**Est. Oil Category Length:**

**Surface Oil Character**

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<th>C</th>
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<th>MS</th>
<th>TB</th>
<th>BOR</th>
<th>CV</th>
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**Surface Sediment**

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**Zone**

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**Notes**

**Distribution:**

**Slope:**

**Photo Roll:**

**Pit Pit Subsurface Oiled Clean H2O Sheen**

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<th>Pit Depth (cm)</th>
<th>Subsurface Oil Character</th>
<th>Oiled Clean Below</th>
<th>H2O Level</th>
<th>Sheen Color</th>
<th>Pit Zone</th>
<th>Subsurface-Sediments</th>
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**Sheen Color:**

**Notes**

**OG Comments:**

Round rocky embayment w/ broad cpg beach. Surface oil as :-A1, sail/s in bottle trap; cm/ls @ up, hill on B-2k. ST as trace on same cpg across beachface @ A3. EST Test Site (A3) had no surface oil. Subsurface oil was located @ A3 & A4.
OG COMMENTS:

Subsurface cont'd.

A3) E&P site: MOR (typical) was found either side of the outer west of E&P site A. MITZ. Depths of 5-10 cm were typical at A2, with the near surface oil producing an instant sheen. Subsurface area est. 4 x 20 m minimum.

A4) Hol e MITZ between 5-11 cm deep. Brown sheen.

Trend appears confined to the MITZ and was estimated at 4 x 20 m by 4 peripheral pits. A silver sheen was noted at waterline on arrival.

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

TO BE COMPLETED IN ALL SUBDIVISIONS

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<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED</th>
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<td>Other Birds</td>
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MARINE MAMMALS

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<td>Pinnipeds(specific)</td>
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<td>Whales(specific)</td>
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LAND MAMMALS

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3.附有重要生物学特征的地图。
Kn 110A 5 May 91 Forecast

0940

Site 1 pocket G/P/C/B/BR beach
Facing south

Trace center 20R UTZ-50T2 on west side of beach at base of RR
-Eleven, fil, gray, sparse barn imp dom
- Moderately dense barn, litt., Funes
- On M72 BR +4-7pt

Site 2 - same gradually bath, no barn
- Mod barn, Funes on near
- ER of boulders - sparse musk
- Mod litt., limp, fish, etc. - SPF
- Traces at 50T2 - no data
- Mod. Funes, dense barn down stream
- Litt., limp, etc.
- 1005 - passed to EPA for site
N 110-A 003
west half of east beach has 0 boulders

- in MTZ around +3 - +4 ft with
beach usually at -4.9.3 ft
reasonably
at best end in cobble +5 - 7 ft

- sparse barn, line little, if/ft. reared,
deeper down can where larger rocks

- at dense spot - little Brachyurus
eggs &主旨 under boulders +3 ft

- east end at head of bay

- sel 4 (on cent. of 3) -

- high BR overall at east end
too "oat" on east above due barn rocky
only break of "clam shell" bank west of Orig.

- 7 ft among dense eel grass

- grey eel barn 4, Fucus

- 1 ft 1 ft - downstream at 0 - 6 ft

- grey barn, mod little littl

- sparse Fucus, little eggs & breeding

- parcellaria, possibly barn

- sparse N eel, mod barn very N

- 3 mergansers (common)

- size 5.5 mm

- dwarf 16.5 - grey skull sinking

chum Bonds shift
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-110

SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION

SEGMENT ST/ KN-110  SUBDIVISION A (1 OF 1) DATE  4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ADF&G anadromous stream no. 226-10-16928.
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. Do not trample or otherwise damage mussel beds.

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

SHPO SIGNATURE: ___________________ DATE: __________________

OILING CATEGORIZATION:
Wide 0 m: Medium 844 m: Narrow 209 m: V.Light 251 m: No Oil 0 m
Subsurface Oil Observed: Yes X No ___ Maximum Depth 20 cm

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

COMMENTS: Recommended treatment includes 1) manual removal of asphalt 2) manual removal of logs if oil coverage exceeds 10%, 3) bioremediate areas as indicated on sketch map. Work should be conducted between 5/15 and 7/10 based on salmon constraints.

TAG COMMENTS: ________________________________

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

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

1B

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

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

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

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

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

1H
Remote release sites

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

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

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

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

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

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

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

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

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

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

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

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

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

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

6Y
Special use destination

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

7HH
Finfish harvesting

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

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

SEGMENT ST1  KN 110  SUBDIVISION:  None  DATE  4-2-90

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

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Manual removal of coats on bedrock and surface oil by dredging/tilling and washing also hope 50% oiled.

ADEC NAME  Dianne Munson  SIGNATURE  Dianne Munson

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Residual oil in subsurface sediments. Subsurface clearly shows mobile brown/black free floating oil in interstitial water. Coats on cobbles and bedrock outcroppings. Large log 50% oiled.
Recommend removal of oiled log, manual removal of coats on bedrock and remove subsurface oil by dredging/tilling and washing.
Note: Tested a wire brush on the bedrock coats. This worked very well and resulted in complete removal of the coat. A

LAND MANAGER NAME  David Mardella  SIGNATURE  David Mardella

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Anadromous stream located in southeast cove of segment adjacent to an apparent bioremediation study site. Three

A band of coated cobble and boulder in upper tidal areas of wet coats should be treated by manually scraping and absorbing coats of oil tarry oil w/pine needles. Subsurface

Note in situ mix sman requires manual tilling and continued
SHORELINE OILING SUMMARY

DATE: Apr 12 /30
TIME: 10:30 TO 13:45

SEGMENT ST/KN110
TIME: 10:30 TO 13:45

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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<td>PATTIES</td>
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<td>TAR BALLS</td>
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<td>FILM</td>
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<tr>
<td>NO OIL</td>
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PAVEMENT: H F S 5 sq.m by 0 cm
PATTIES/TARBALLS: / BAGS
NEAR SHORE SHEEN? NO BR RW SL TL

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

Photographers:
Roll No. 5t-8-1
Frames 28-31

SUBSURFACE OIL

<table>
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<th>PIT NO.</th>
<th>OILED INTERVAL</th>
<th>OILED DEBRIS</th>
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COMMENTS
ST/KN110: Large cove with several pebble and cobble beaches. Splash and few broken coats in upper and middle intertidal occur throughout most of segment. Pit 6 was excavated in a 1-2 m² pavement in the upper intertidal zone. Pit 3: Film observed on water in pit, but oil interval not

Page 1 of 5 observed
REVIEWED

DATE 1/2/90
SEGMENT ST/KN110

SUBDIVISION: None

DATE: Apr 27, 90

CHECKLIST:
- Amor
- Aspect, Scale
- Sagar Map
- Size
- Width
- Length
- % Cover
- Substrate Character
- Est. SWL
- SSL
- Profile Location(s)
- Profile(s)
- Plot Location(s)
- Plot Location(s)

LEGEND:
1 △
Pt - No Subsurface Oil

2 △
Pt - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/P
Patchy Distribution

CT/S
Spalshed Distribution

Oiled Vegetation

- Photo location, direction, and number

Oil Character Length (m): AP. - PO. - CV. - CT. 1200 ST. 400. MS. - PT. 50. TB. - FI. 300. NO.
SHORELINE ECOLOGICAL SUMMARY

Segment ST_ KN 110 Subdivision _None_ Date (mo/day/yr) 4/2/90

Time (24 hr) 10:06-12:30 Biologist J. Benson

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

BARNACLES

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FUCUS

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Wildlife Observations / General Comments:

Adult (2) bald eagles (Haliaeetus leucocephalus); cormorants
The overall % cover was much lower here than in KN 109, primarily
because the cover of green filamentous algae was low. The mouth
Ecological Considerations:
The stream contains a cobble/pebble substrate
(Sensitivity: 1B) which there is an abundant bed
of small (1'-3' long) Mytilus. These mussels
are easily damaged by foot traffic.
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-110 SUBDIVISION A (1 of 1)

WORK WINDOW

<table>
<thead>
<tr>
<th>Manual Pickup</th>
<th>OPEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tarmat Removal</td>
<td></td>
</tr>
</tbody>
</table>

| Bioremediation More Than 100m From Stream | OPEN |
| Bioremediation Less Than 100m From Stream | WORK PRIOR TO 7/10 (ADF&G MONITOR REQ.) |

ARCHAEOLOGICAL MONITOR REQUIRED ON SITE.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream
ADF&G catalogued anadromous stream (226-10-16928) is present 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 manual pickup and tarmat removal.

5T Bald Eagle Nest
NO CONSTRAINT. Recommended treatment areas are more than 400m from eagle nest site.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or banks. No flushing of pollutants or sediments into stream drainage. Avoid any unnecessary disturbance or damage to unzoned biota and substrate.
Do not trample or otherwise damage mussel beds.

SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM (STREAM NO. 226-10-16928) FOR ADDITIONAL CONSTRAINT INFORMATION

TAG ADDENDUM DATE 6/4/90
ADEC Ray Fish DATE 6/4/90
EXXON
NOAA
USCG

Prepared by: [Signature] Date: 6/4/90
E C O L O G Y  M A P
SEGMENT KN-110

SUBDIVISION A (L of J)

STAR = Seabird Colony

triangle = Eagle Nest

1 inch = 1250 feet

Measuring: Meters

0 377 755

Exxon Company, USA
Map Keys KN-103
June 11, 1990

Incorporates FWS 6/11/90 BACO
Eagle Nest Survey Map.
SEGMENT S7/ KN-110  SUBDIVISION A (1 OF 1) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ADF&G anadromous stream no. 226-10-16928.
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. Do not trample or otherwise damage mussel beds.

ARCHAEOLOGICAL CONSTRAINTS: An Exxon archaeological monitor is required on-site during shoreline treatment. The will be determined at that time.

SHPO SIGNATURE: Charles F. Holmes DATE: 4/23/90

OILING CATEGORIZATION:
Wide 0 m: Medium 844 m: Narrow 209 m: V. Light 251 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 20 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual removal of asphalt
2) manual removal of logs if oil coverage exceeds 10%. 3) Bioremediate areas as indicated on sketch map. Work should be conducted between 5/15 and 7/10 based on salmon constraints.

TAG COMMENTS: See Revision 1, Appendix dated 6/4/90/PP

TAG APPROVAL DATE: 4/21/90
ADEC EXXON NOAA USCG

FOSC: DATE: 5-6-90
### ADDENDUM: SUBDIVISION CONSTRAINTS

#### SEGMENT KN-110 SUBDIVISION A (1 of 1)

<table>
<thead>
<tr>
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<tr>
<td>Manual Pickup</td>
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<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 MONITOR REQUIRED ON SITE.**

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

---

**APPLICABLE ECOLOGICAL TIME CONSTRAINTS**

<table>
<thead>
<tr>
<th>Constraint</th>
<th>Location</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A,1B</td>
<td>Salmon Stream</td>
<td>ADF&amp;G catalogued anadromous stream (226-10-16928) is present in Subdivision A. Subdivision is closed to bioremediation less than 100m from stream without ADF&amp;G authorization. No constraint to bioremediation more than 100m from stream. No constraint to manual pickup and tarmat removal.</td>
</tr>
<tr>
<td>5T</td>
<td>Bald Eagle Nest</td>
<td>NO CONSTRAINT. Recommended treatment areas are more than 400m from eagle nest site.</td>
</tr>
</tbody>
</table>

---

**OTHER ECOLOGICAL CONSIDERATIONS**

No disturbance to stream bed or banks. No flushing of pollutants or sediments into stream drainage. Avoid any unnecessary disturbance or damage to unoined biota and substrate. Do not trample or otherwise damage mussel beds.

---

**TAG ADDENDUM DATE 5/21/90**

ADEC Asst. \[Signature\]
EXXON \[Signature\]
NOAA \[Signature\]
USCG \[Signature\]

FOSC \[Signature\]
DATE 5/21/90

Prepared by: \[Signature\] Date: 5/20/90
SHORELINE EVALUATION

SEGMENT ST/ KN-110 SUBDIVISION A (1 OF 1) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ADFG anadromous stream no. 226-10-16928.
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. Do not trample or otherwise damage mussel beds.

ARCHAEOLOGICAL CONSTRAINTS: An Exxon archaeological monitor is required on-site during shoreline treatment. Required prior to the start of work will be determined at that time.

SHPO SIGNATURE: [Signature] DATE: 4/23/90

OILING CATEGORIZATION:
Wide 0 m: Medium 844 m: Narrow 209 m: V.Light 251 m: No Oil 0 m
Subsurface Oil Observed: Yes X No ___ Maximum Depth 20 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual removal of asphalt 2) manual removal of logs if oil coverage exceeds 10%, 3) bioremediate areas as indicated on sketch map. Work should be conducted between 5/15 and 7/10 based on salmon constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/21/90
ADEC AEC/WEATHER FOSC: ___ DATE: ___
EXXON NOA ___
NOAA ___
USCG ___

TAG APPROVAL DATE: 5/6/90
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-111

SUBDIVISIONS: A (1 OF 1)
SEGMENT ST/ KN-111     SUBDIVISION A (1 OF 1) DATE  4/2/90

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

SUBDIVISION ECOLOGICAL CONSTRAINTS:
Avoid any unnecessary disturbance or damage to unoiied 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 19 m: Medium 216 m: Narrow 216 m: V.Light 26 m: No Oil 674 m
Subsurface Oil Observed: Yes X  No__ Maximum Depth 40+ 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: Recommend manual pick up of debris and trash, removal of tarmats, spot washing and bioremediation of areas indicated on sketch map. Reassessment of oiling prior to treatment is recommended because the snow cover limited the Phase I SSAT evaluation. Treatment should be conducted after 6/1 and with permission of USFWS due to eagle nesting constraint.

TAG COMMENTS: ____________________________
__________________________
__________________________
__________________________

TAG APPROVAL DATE: __________
ADEC _______________________
EXXON _____________________  FOSC: ______________  DATE: __________
NOAA ______________________
USCG ______________________

---END OF DOCUMENT---
PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

1C  Salmon fry nursery area (4/31 to 7/31)
1D  Esther Hatchery release (4/15 to 6/1)
1E  Main Bay Hatchery release (4/20 to 5/10)
1F  Seward Bay Hatchery release (4/15 to 6/1)
1G  Cannery Creek Hatchery release (4/21 to 6/1)
1H  Remote release site
1I  Gill net area (9/7 to 8/31)
1J  Purse seine area (7/20 to 9/30)
1K  Purse seine hook-off (7/20 to 9/30)
1L  Set net sites (6/11 to 7/25)
For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

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

3N, 3P  Harbor seal and sea lion pupping (5/15 to 7/1)
3O, 3Q  Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 300m vertical distance from haulouts.

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

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

5T  All Bald Eagle nesting (5/1 to 6/15)
Active Bald Eagle nests (5/1 to 6/15)
Restrict air traffic to essential minimum. No personnel within 400m. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

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

6V  Special use designation

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

7HH  Deer harvesting (8/15 to 2/26)
Invertebrate harvesting
For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

PWS-CODE 4/11/90
FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ KN III SUBDIVISION: A DATE 4-2-90

USCG
NAME Patrick Malby SIGNATURE Richard Malby

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS
The segment is a good candidate for further tag team evaluation due to the amount of subsurface oil present. It is probably a recurrent bleeder but I don’t have access to that info. The continuous and broken areas of cover may need to be spot washed then bioremediated. Natural cleansing is the best treatment oiled up to the shoreline. There was a large amount of heavily oiled logs in the supratidal zone that should be manually removed.

ADEC
NAME M. Cunningham SIGNATURE M. Cunningham

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS
Spot wash w/ hot H2O during incoming tide (to avoid excess contamination of lower tidal areas) area nr pt #7. Dredge w/ backhoe upper intertidal areas nr sites 8, 9 using boom (sarsorb) to expose subsurface mobile oil + tar lens to wave action. Bioremediate several times if method proves effective. Biorem beaches sites 1-5. Debris pickup + inspection all beaches. Leave headland coat to continue weathering. Note: this part of the coast has been respon for numerous winter sheens observed by oversight teams - there is still a significant quantity of hardening oil in mud to supratide areas.

LAND MANAGER
NAME Steven Phillips SIGNATURE

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS
This segment needs TAG review.
Scout storm berm for debris. Some logs need removal.

Suggest boom with absorbent boom during high
**SHORELINE OILING SUMMARY**

G. Greg Chaney USCG, Patrick Malay SEGMENT ST/KY III
10 John Rath LAND REP, Steve Phillips SUBDIVISION
EXXON, Rep. Stelo ADEC Mike Cunningham TIME 10:15 10/13/90

TEAM NO: 7 TIDE LEVEL: 6.0 Ho 1.0 ft DATE: 11/2/90

EST. SUBDIVISION LENGTH: 1235 m ☑ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow

SURVEYED FROM: ☑ Foot ☐ Boat ☐ Helo WORKING DIRECTION: North to South
SURFACE SEDIMENTS: R 70% B 20% C 5% % % % % % % % SLOPE: Lang 10% Hang 30% Vert 60% % % % % % %

---

**SURFACE OIL**

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL/FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT PAVEMENT</td>
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</tr>
<tr>
<td>POOLED COVER</td>
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<td>COAT</td>
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<td>NO OIL</td>
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PAVEMENT: H F @ 15 sq.m by 5 cm

PATTIES/TARBALLS ☐ BAGS

NEAR SHORE SHEEN? NO BR [MW SL TI]

---

**OILED DEBRIS AMOUNT**

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<th>DEBRIS CHARACTER</th>
<th>AMOUNT</th>
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<tr>
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<tr>
<td>Vegetation</td>
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<td>Trash</td>
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<td>Debris</td>
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</table>

DEBRIS COLLECTED ☑ YES ☐ NO

TYPE Pom Pom, Repe Net, Padlock

BAGS 2

Photographs:

Roll No. ST-7-1
Frames 23, 24, 25, 26, 27

---

**SUBSURFACE OIL**

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>OILED INTERVAL (cm)</th>
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</table>

COMMENTS: Significant quantities of mobile oil are still present on the surface of sediments near pit #7.

---

G.C. 4-11-90
M/1 4-24-90
## Subsurface Oil (continued)

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

Reviewed ___________ Date _________

Page 2 of 2
SHORELINE ECOLOGICAL SUMMARY

Segment ST/KN 111 Subdivision _ _ _ Date (mo/day/yr) Apr 2, '90
Line (24 hr) LR 1050 Biologist _ _ _ Roth

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

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

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

### BARNACLES

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### MYTILUS

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### GASTROPODS

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### FUCUS

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<td>6 6 6</td>
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</tbody>
</table>

Wildlife Observations/General Comments:

EN ROUTE TO SEGMENT SAW 1 SEA OTTER, AND ONE BALD EAGLE PERCHED ON ROCKY ISLET. 3 BALD EAGLES ON WING SEEN OVER SEGMENT THREE. 4

THIS SITE IS A MODERATE IMPACT SITE, MORE EXPOSED TO WAVE ENERGY THAN OTHERS EXAMINED DURING THE LAST TWO DAYS (E.G. EN 14, 18). LARGE BARNACLES (BALanus CARUS) IN ECOCAL Considerations: MORE CONSPICUOUS HERE, AS WEA LEMPS AND HELMUS

5T - ACTIVE BALD EAGLE NESTS (nuSSLa JANNOSZII) SMALL COBBLE BEACHES EVIDENTLY 6Y - RECREATION - SPECIAL USE DESTINATION WERE HOT-WATER WASHED DURING 1989; THESE CONTAINED LITTLE BIOFA IN THE UPPER AND MIDDLE INTERTIDAL ZONES.
ASAP TAG REVIEW SHEET

Segment: Kn 111   Subd: A Site: 1   Date 1/2 Aug

Priority For Addressing In 1990

___ HIGH   ___ MEDIUM   ___ LOW   ___ NTR

Treatment Recommended:

___ MEDIUM SOUR PATCH

Site 2 Work Then Site 1 Should Work On Site 2!!!

Priority Site For Reassessment In 1991

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>YES</th>
<th>NO</th>
<th>YES</th>
<th>NO</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>CG</td>
<td></td>
<td>ADEC</td>
<td></td>
<td>EXXON</td>
<td></td>
<td>LAND MGR</td>
<td></td>
</tr>
</tbody>
</table>

The 23 Aug

Reapply BIO
ASAP FOLLOWUP RECOMMENDATIONS

Segment: AS/KV-II Subd.: A Site: 1 Date: 8/13/1990

Conditions Observed: Oiled wood + logs in UTZ & storm berm area. Sorted logs between logs on berm. Sort for UTZ.

Followup Recommendations: Remove oiled wood. Sort for UTZ.

Completed by Pickup Crew: [Signature]

Priority for Addressing in 1990: [Options]

Comments: [Handwritten notes]

Land Rep.: [Signature]

Comments: Recommend combination of tilling and bio-treatment. Remove oiled wood.

FIELD SHORELINE COMMENT SHEET

SEGMENT AS 45N-111 SUBDIVISION: __ SITE: __ DATE 8-14-90

SCG
NAME Michael O. Brown
SIGNATURE

☑ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: Heavy song issue indicates a need for re-BQ 1990 Fall and
followup R.

ADEQ
NAME John Hay
SIGNATURE

☑ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: Followup recommendation sent in for this site.
See followup.

HIGH PRIORITY for re-assessment.

LAND MANAGER
NAME Douglas Gibson
SIGNATURE

☑ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: STRONGLY RECOMMEND REASSESSMENT IN '91 DUE TO PRESENCE
OF MODERATE LEVELS OF SURFACE AND SUBSURFACE
OIL.

EXXON
NAME Martinez N.
SIGNATURE

☑ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: Beach has a moderate amount of both
surface and subsurface oiling. Winter storms
should help but it is a definite
priority for 1991
USCG
NAME Michael O. Reason SIGNATURE Michael O. Reason

YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: Heavy shore stress indicates need for re-095 1990 and following.

ADEC
NAME John Heyer SIGNATURE

YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: Follow up recommendations see if oiling observed needs treatment this fall and reassessment in 1991.

LAND MANAGER
NAME Douglas Gibson SIGNATURE Douglas Gibson

YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: This beach must be reassessed in '91. Heavy amounts of sor present.

EXXON
NAME Martinez N.J. SIGNATURE

YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: Beach is moderately contaminated both surface and sub surface. Will need to be reassessed after winter storms.
SEGMENT AS A-III  SUBDIVISION: A  SITE: 3  DATE 8-13-90

USCG
NAME: Michael D. Brown  SIGNATURE: Michael D. Brown

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

ADEC
NAME: John Hoey  SIGNATURE: John Hoey

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

JOGH at FS. Oil observed in MZ12. Should be removed in 1991 to determine extent of subsurface oil & remaining surface oil.

LAND MANAGER
NAME: Douglas Gibson  SIGNATURE: Douglas Gibson

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

EXXON
NAME: Martinez, N.J.  SIGNATURE: Richard G. Martinez

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:
Beach is high energy with relatively little contamination. Winter storms to nature should take care of what remains.
SEGMENT AS/MD-III  SUBDIVISION:  U  SITE:  4  DATE 8-13-90

USCG
NAME:  Michael D. Carson  SIGNATURE:  Michael D.

☐ YES  ☑ NO  PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

☐ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:  Subsurface oiling is the likely UST site should be recovered to determine extent of oiling and effectiveness.

ADEC
NAME:  John Hey  SIGNATURE:  John Hey

☑ YES  ☐ NO  PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

☐ YES  ☑ NO  PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

LAND MANAGER
NAME:  Douglas Gibson  SIGNATURE:  Douglas Gibson

☐ YES  ☑ NO  PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

EXXON
NAME:  Madison M.  SIGNATURE:  Madison M.

☐ YES  ☑ NO  PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:
**ASAP SHORELINE OILING SUMMARY**

<table>
<thead>
<tr>
<th>TEAM NO</th>
<th>ONE</th>
<th>SEGMENT AS/</th>
<th>KN-11</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO One</td>
<td>EXXON</td>
<td>MARTINEZ</td>
<td>SEGMENT AS/KN-11</td>
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<tr>
<td>ADEC</td>
<td>HAYES</td>
<td>LAND REP</td>
<td>GIBSON</td>
</tr>
</tbody>
</table>

**DATE** 8/15/90  
**TIME** 9:30  
**TIDE LEVEL** 6.10 3

**TOTAL EST LENGTH OF SHORELINE SURVEYED:** 5,600 m

**SURVEYED FROM:** Foot  
**WEATHER:** Sun  
**OIL CATEGORY LENGTH:** W 20 m M 180 m N 41 m V L 429 m N O m US 490 m

<table>
<thead>
<tr>
<th>Surface Oil</th>
<th>Site 1</th>
<th>Site 2</th>
<th>Site 3</th>
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<tbody>
<tr>
<td><strong>Character</strong></td>
<td><strong>Distribution</strong></td>
<td><strong>Oiled Zones</strong></td>
<td><strong>Distribution</strong></td>
</tr>
<tr>
<td>Asphalt</td>
<td>/C /B /P /S</td>
<td>SU UI MI LI</td>
<td>/C /B /P /S</td>
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<tr>
<td>SO.R.</td>
<td>M M</td>
<td>M M</td>
<td>M M</td>
</tr>
<tr>
<td>Pooled</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Cover</td>
<td>x x</td>
<td>x x</td>
<td>x x</td>
</tr>
<tr>
<td>Coat</td>
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<td>x x</td>
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<tr>
<td>Stain</td>
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<tr>
<td>Mousses</td>
<td>x x</td>
<td>x x</td>
<td>x x</td>
</tr>
<tr>
<td>Patties/T.B.</td>
<td>x x</td>
<td>x x</td>
<td>x x</td>
</tr>
<tr>
<td>Film</td>
<td>x x</td>
<td>x x</td>
<td>x x</td>
</tr>
<tr>
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<tr>
<td>EST. SITE LENGTH</td>
<td>190 m</td>
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**Subsurface Oil**

<table>
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<tr>
<th>Site No.</th>
<th>Pit No.</th>
<th>Pit Depth (cm)</th>
<th>Subsurface Oil Character</th>
<th>Oiled Interval</th>
<th>Clean Below (yn)</th>
<th>Pit Zone</th>
<th>Surface/Subsurface Sediments</th>
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<tr>
<td>1 1</td>
<td>35</td>
<td>M</td>
<td>5-20</td>
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<td>M</td>
<td>CP-PG-H_2O</td>
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<tr>
<td>1 2</td>
<td>30</td>
<td>M</td>
<td>5-15</td>
<td>Y</td>
<td>M</td>
<td>CP-PG</td>
<td></td>
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<tr>
<td>2 1</td>
<td>10</td>
<td>H</td>
<td>5-10</td>
<td>Y</td>
<td>H</td>
<td>CP-PG_5</td>
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<td>H</td>
<td>5-30</td>
<td>N</td>
<td>H</td>
<td>CP-PG_5-R</td>
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<tr>
<td>2 3</td>
<td>20</td>
<td>H</td>
<td>0-15</td>
<td>N</td>
<td>H</td>
<td>BC-CMPG-R</td>
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<tr>
<td>2 4</td>
<td>15</td>
<td>X</td>
<td>5-10</td>
<td>Y</td>
<td>Y</td>
<td>PG-G-3</td>
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<td>2 5</td>
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<td>5-10</td>
<td>Y</td>
<td>H</td>
<td>PG-PG</td>
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<tr>
<td>3 1</td>
<td>25</td>
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<td>N</td>
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<td>3 2</td>
<td>25</td>
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<td>20-35</td>
<td>N</td>
<td>M</td>
<td>BC-PG-R</td>
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<tr>
<td>3 3</td>
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<td>20-35</td>
<td>N</td>
<td>M</td>
<td>BC-PG-R</td>
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</table>

**PHOTOGRAPHS:**

- Roll No. 811  
- Frames 13, 12, 11  

- Photographs:

- Black Oil on H_2O  
- Reviewed 8/15/90  
- REVIEWED 8/15/90  

**COMMMENTS** Rocky Coastline with packed pebbles, caliche, Boulder Beach. Nearest oiling was found in Site 1 and 2 when patchy and broken cover/concrete were found predominately on the west and supine etc., with subsurface oil in pits. One locality of Pooled oil was...
ASAP SHORELINE OILING SUMMARY
SEGMENT AS/KN-11

SURFACE OIL (CONTINUED)

<table>
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<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OILED ZONES</th>
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<td>SUUI MFU</td>
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<tr>
<td>ASPHALT</td>
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<tr>
<td>S.O.R.</td>
<td>M</td>
<td>X</td>
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<tr>
<td>POOLED</td>
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<tr>
<td>COVER</td>
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<tr>
<td>COAT</td>
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<td>X</td>
</tr>
<tr>
<td>STAIN</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>MOUSSE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PATTIES/T.B.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILM</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NO OIL</td>
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</table>

EST. SITE LENGTH: 180

SUBSURFACE OIL (CONTINUED)

<table>
<thead>
<tr>
<th>SITE NO.</th>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>CLEAN BELOW (Y/N)</th>
<th>PIT ZONE</th>
<th>SURFACE-SUBSURFACE SEDIMENTS</th>
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<tr>
<td>4</td>
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<td>0-15</td>
<td>Y</td>
<td>X</td>
<td>CP, CS-H₂O</td>
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<tr>
<td>4</td>
<td>2</td>
<td>38</td>
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<td>14-38</td>
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<td>H</td>
<td>CP, CS-H₂O</td>
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<td>3</td>
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<td>M</td>
<td>5-15</td>
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<td>M</td>
<td>BC, CS-H₂O</td>
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<td>20</td>
<td>H</td>
<td>10-20</td>
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<td>H</td>
<td>CP, CS-H₂O</td>
</tr>
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</table>

COMMENTS

REVIEWED 6/15/00
SEGMENT ST/ KN- 111
SUBDIVISION A
DATE 8/13/90

CHECKLIST
N Amper
Approx. Scale
Seg/ Sub Div
On Dist.
Off Dist.
Width
Length
% Cover
Substrate Character
Est. HWL/WL
SSL
Profile Location(s)
Profile(s)
Pit Location(s)
Photo Location(s)

LEGEND

1 A
No Subsurface Oil

2 A
Subsurface Oil

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

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

SEGMENT KN-111 SUBDIVISION A (1 of 1)

<table>
<thead>
<tr>
<th>WORK WINDOW</th>
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<tr>
<td>Manual Pickup &amp; Tarmat Removal</td>
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</tr>
<tr>
<td>Outside Eagle Nest Buffer Zone</td>
<td></td>
</tr>
<tr>
<td>Manual Pickup &amp; Tarmat Removal</td>
<td>CLOSED</td>
</tr>
<tr>
<td>Inside Eagle Nest Buffer Zone</td>
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</tr>
<tr>
<td>Bioremediation, Manual/Mechanical Raking/Tilling</td>
<td>OPEN</td>
</tr>
<tr>
<td>Spot Washing, and Snare/Absorbent Booms</td>
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<tr>
<td>Outside Eagle Nest Buffer Zone</td>
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</tr>
<tr>
<td>Bioremediation, Manual/Mechanical Raking/Tilling</td>
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<tr>
<td>Spot Washing, and Snare/Absorbent Booms</td>
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<tr>
<td>Inside Eagle Nest Buffer Zone</td>
<td></td>
</tr>
</tbody>
</table>

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T Bald Eagle Nest

USFWS 6/1/90 map indicates an active nest in Subdivision B. Closed to bioremediation, manual pickup, tarmat removal, manual/mechanical raking/tilling, spot washing, and snare/absorbent booms within 400m of active nest. No constraint to all treatments outside eagle nest buffer zone.

OTHER ECOLOGICAL CONSIDERATIONS

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

Prepared by: [Signature] Date 6/10/90

FOSC [Signature] Date 6/10/90
SHORELINE EVALUATION

SEGMENT ST/KN-111  SUBDIVISION A (1 OF 1) DATE 4/2/90

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

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

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

SHPO SIGNATURE: [Signature] DATE: 4/2/90

OILING CATEGORIZATION:
Wide 19 m: Medium 216 m: Narrow 216 m: V. Light 26 m: No Oil 674 m
Subsurface Oil Observed: Yes X No____ Maximum Depth 40+ cm

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

COMMENTS: Recommend manual pick up of debris and trash, removal of tarmats, spot washing and bioremediation of areas indicated on sketch map. Reassessment of oiling prior to treatment is recommended because the snow cover limited the Phase I SSAT evaluation. Treatment should be conducted after 6/1 and with permission of USFWS due to eagle nesting constraint.

TAG COMMENTS: PRIOR TO BIOREMEDIATION MANUALLY/MECHANICAL IN
AREAS OF TEST PITS 7, 8, 9 AND TEST PIT 3.
USE SNARE BOOMS + ABSORBENT BOOMS TO RECOVER OIL AND
MOUNT MONitors TO ASSESS THE CONDITION OF L0G3S AND DETERMINE SIGNIFICANCE

TAG APPROVAL DATE: 4/17/90
ADEC ART WESSELT IAN WESSELT  DATE: 4/27/90
EXXON  NOAA  USCG

FOSC: [Signature] DATE: 4/27/90
1991 MAYSAP EVALUATION

SEGMENT: KN 111  SUB: A  REGION: PWS  SURVEY DATE: 5/5/91

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

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

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

SHPO Signature: _______________________ Date: _________________

RECOMMENDATIONS:

TREATMENT REQUIRED (Y or N)  Y  _____  _____

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

COMMENTS:
INITIAL:  Remove mousse at location A5. Apply Customblen in area of pits 22, 23, 24, 25, 26, and 27.

TAG: ______________________________________________________

FOSC: ____________________________________________________

TAG APPROVAL DATE:  ________________  FOSC APPROVAL DATE:  ________________

ADEC  ______________________  FOSC  ______________________

EXXON  ______________________

USCG  ______________________

NOAA  ______________________
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

Eagle Nest: Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.
TEAM NO. 1 SEGMENT KIN-111 SUBDIVISION A DATE 5/5/91

ADEC NAME: JEFF GINNIALIAS SIGNATURE: 

☑ NTR ☐ TREATMENT RECOMMENDED

MANUAL & MECHANICAL. SITE A5 IS A MESS, OILED VEGETATION & NEBBLES AT THE SURFACE NEEDS REMOVAL (SINCE LAST YEAR NO IMPROVEMENT). IT IS TRAPPED BEHIND STORM BLOW OUT. OILY/HARD GROUND AT HIDE OUT SITES. OIL GATHERED ON BEEHIVE. THE OIL SHOULDN'T BE MANUALLY REMOVED. SUBSURFACE OIL IN THICK & LENS THROUGHOUT HIDE OUT. NEEDS MACHINERY TO MECHANICALLY SCRAPED BACK COBBLE LAYER & REMOVE OILED LAYER OR - HIDE WITH TIME. BENCH IS GOOD FOR SPREADING OIL, CAN CURTAIL FREQUENCY. MAY TAKE CONTINUOUS TREATMENTS, SIMULATION LEVEL SO HIGH THAT TREATMENT IS MORE BENEFICIAL THAN LEAVING ALONE. BENCH BLOOMS HIDDEN (A8/248). SITE A2 HAS SIMILAR OILY CHARACTERS, BUT SANS BEACH. REMOVED SAME PRECEDURE. LARGE LABEL AREA. HIDE BEINGS

EXXON NAME: RANDY A. ROY SIGNATURE: 

☐ NTR ☐ TREATMENT

RECREATIONAL AREA. Mechanical till to release oil. Caution containment. Same for area A2 & A1. A5 IS A MESS. In the MTZ & lower zone is a lot of algae, feces etc. oil. Pretty thick into water, oiled vegetation & logs in supra zone. Mechanically remove cobble layer then manually remove oiled lens. Concern about perfect underlying fines. Tilling may just coat surface area. Area A6 isn't drastic as is A5.

LANDMANAGER NAME: MARSHA HALL OF DNR SIGNATURE: }

☑ NTR ☐ TREATMENT

Recommend sub-surface oil (SP/100/1000) on Area A5 be treated. Area accessible for work. Manual pickup for AP, IMS & oiled vegetation. NTR recommended for the site. Remaining operations would cause more environmental harm than the oil removed.
**MAYSAP SHORELINE OILING SUMMARY**

**SEGMENT**  KN - III  
**SUBDIVISION**  A  
**DATE**  5/5/91  
**TIME**  11:00 to 12:30  
**TIDE LEVEL**  +2'4 ft to +1'8 ft  
**ENERGY LEVEL**  [ ] H [ ] M [ ] L  
**FOOTPRINT**  [ ] FOOT  [ ] BOAT  [ ] HELO  
**WEATHER**  [ ] SUN  [ ] CLOUDS  [ ] FOG  [ ] RAIN  [ ] SNOW  
**SURVEYED FROM**  [ ] USCG/NOAA  
**TOTAL LENGTH SHORELINE SURVEYED**  1020 m  
**NEAR SHORE SHEEN**  [ ] BR [ ] RB [ ] SL [ ] NONE  
**EST. OIL CATEGORY LENGTH**  

<table>
<thead>
<tr>
<th>LO</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></td>
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<td>TYPE</td>
<td>V</td>
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<tr>
<td>6</td>
<td>B</td>
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</tbody>
</table>

**TOTAL SURFACE-OIL CHARACTER DISTRIBUTION:**  
C = 91-100%; B = 81-90%; P = 61-80%; S = 1-14%  
**SLOPE:**  V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE  
**PHOTO ROLL # MAYSAP-**  

**PIT NO.**  
**DEPTH**  (cm)  

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN (cm)</th>
<th>H2O</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
<th>SURFACE-SUBSURFACE SEDIMENTS</th>
<th>NOTES</th>
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<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td>40-45</td>
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<td>P-P</td>
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<td>x</td>
<td>CV-PE</td>
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<td>6</td>
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<td>x</td>
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<td>7</td>
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<td>x</td>
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<td>8</td>
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<td>20-40</td>
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<td></td>
<td>x</td>
<td>BG-PA</td>
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</tr>
</tbody>
</table>

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

**OG COMMENTS:**  
Rugged, steep rocky shore w/ small pockets.  
Surface oil as (i) clear water - surf, weathered.  
(ii) Salt, oiled vegetation @ surf; bio-degraded in part; w/ small patches.
OG COMMENTS:

(iii) ST/PK as biodegraded & naturally cleaned CT, CV, and as surface expression of subsurface oil - respectively. Note - sweet "silage" odor & (A3) - likely treatment artifact?

Subsurface oil common in S out 16 packed;
- thick,apy, instantaneous Beg & shear common. Total subsurface oil area summarized as n = 1,350 m² x n < 100 m², between surface and 35 cm - typical.

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

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

- **DATE:** 5/5/91
- **SEGMENT:** KN-111
- **SUBDIVISION:** A
- **TEAM NO.:** 1

#### PIT SUBSURFACE NO.

**PIT NO.** | **PIT DEPTH (cm)** | **OIL CHARACTER** | **OILED ZONE cm-cm** | **CLEAN BELOW ZONE cm** | **N** | **H2O LEVEL** | **SHEEN COLOR** | **PIT ZONE** | **SURFACE-SUBSURFACE SEDIMENTS** | **NOTES** |
<table>
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<td>CB-CB</td>
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<td>X</td>
<td>CB-CB</td>
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</table>

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

*Reviewed 6/11/1*
WAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 1  DATE 5 May 91
SEGMENT # KN III  TIDAL HEIGHT (Range) +1.9 to +2.6 ft MLW
SUBDIVISION A  BIOLOGIST Michael Faustt
SEA STATE 0.5 ft  WIND SPEED/DIRECTION SE 5 knots

PHOTOGRAPHS: ROLL #  FRAME #

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

Site (A) has moderately abundant rockweed barnacles, littorinids, limpets, etc. beneath boulders downshore (+10 ft) from buried oil, but most of the oil is above +10 ft in UTZ-5UTZ in cobble/w/ no biota except green algal film.

Site (C) is a tiny cove with some cr. on walls above sparse barnacles, with barren cobble below barnacles. Further down the beach the walls have more dense cover of barnacles, young mussels, etc.

Site (E) has buried oil in UTZ-1LTZ cobble/boulders among dense algae, brending littorinids, limpets, nudibranchs (breeding), isopods, hermit crabs, prickled-backs, clams, etc. a diverse and abundant community that appears to be thriving despite the presence of significant amounts of residual oil. Mechanical removal of oil in UTZ-1LTZ at this site could not be accomplished without destroying the existing community.

Site (G) is similar to (E), but biota near and downshore from buried oil is relatively sparse, except under the larger boulders.

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

<table>
<thead>
<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED</th>
<th>SPECIES PRESENT</th>
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<td>Seabirds</td>
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<tr>
<td>Waterfowl</td>
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<tr>
<td>Gulls/kittiwakes</td>
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<td>3</td>
<td>7-8</td>
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<td>Shorebirds</td>
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<tr>
<td>Corvids</td>
<td>1 (crows)</td>
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<tr>
<td>Other Birds</td>
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<th>SPECIES</th>
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<td>Pinnipeds(specify)</td>
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<tr>
<td>Whales(specify)</td>
<td>2</td>
<td>finwhales moving north</td>
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</table>

Shoreline subdivision map showing important biological features attached.

Reviewed M. B. 5/10/91
KN/11A (Cont) Smaller Farm
2nd site - same type pocket as #1, but here BR shell is house
slightly different w/ more stone
barn, cow in front of young muskrat
in one - CT again up 1
cheese on side of BR - gray, brown, red algal, white, wams

Nebraska near burned oil in wells
(e.g. #1 here), but direct farming. Young
husband & Flour on nearby buildings
of dense clusters of luff around barn
laying eggs

3rd site KN/11A
1125 hrs
- stream on path at 2:47
- muddy c/o & burned BR
- dense algal (vita, Reading, Rhode
- 51 FDR on BR, green film on
cobble

- 2 eggs

1 pig in well
- can see eggs nest, no activity
- no eagle seen
- burned oil in cattle wagon
- fly by but nest in UT2-502
+ 10 proximity - no birds
- dead here are more c/o, but
also burners w/ Flour,
beet, lint, barn, etc
- CT on wall 17/14 FT

Depart 1110
KN11A - Side 4 5 Mar 1974

- Tiny sand flaring; cone of R-
- One tube +10 ft - sparse barn
deer
- Dense barn on 1970 buildings near
down, +3 - 6 ft - dense new
mussel in clumps, molt, shells,
scattered old clumps
- Sparsely, 1 or 2, chiton, seaanemone

- 50 m south is side B
- B/c - many boulders in MT-2
- LT2 - dense algae - pickley
- Litt, eggs, lump, barnacle
- Eagle in tree
- 2 fin whales went by 20 m
offshore
- Young South
- 3 gulls
- 2 May?
1 Sea otter, brown oil in MT-2
- MT-2 - SUT-2 - small bird
down in lower part, unmade graph
dense open fish in MT-2
- dense breeding Ht under rocks

- 10+ large cal x +4.5 ft; gave
- Above fish zone - also
- Material...
KN 113A (cont) sub lots

5 May 17

4.2 acres

- rock, energy grade / C / B
- from top to bottom
- sparse back in center down to waterline @ 11.5 ft
- 0.5 ft herring formation
- a bump makes sense

- brown forays, bird, vga erk
- no boulders / B R at side

patches seen mussels
- mod. water, lift, slugs

grey

- from wh at lown by going north

Tall rock wall on the side of west
- small barrier has bréeding
- T. lanellusa, plus numerous
- san long geese (2000?)

- wh (39) mussel scattered among
- boulders / dead
- also lanellusa eggs

- total 12 50
inactive eagle nest

Glaucous-winged gulls
Pigeon guillemot

No birds near buried oil in UTZ-2UTZ above +10 ft.
downshore green algal film
rockweed, barnacles, limpets, hermit crabs, fish, etc.
Dense algae on BR walls

Sea otter

Buried oil in MTZ-LTZ near or upslope from
dense algal (4-9 species)
dense breeding limpets
moderate limpets + worms
isopods, amphipods, hermit crabs, prickle backs,
hubbie ranch; clams, cockles, starfish, anemones, etc.

2 Fin whales
2 gray whales

Breeding limpets
+ hermit crabs and limpets under boulders
near buried oil. Dense rockweed, barnacles, whelks,
mussels, littorinids on BR
at sides of beach.
Breeding whelks (Nucella
lamellosa) and midbranched
crenillidaris fusca on BR

KN0111 A
Bio Sketch Map (1)
KN 111-A
5 May 91
M. H. Fawcett

Reviewed 11/3/91
B. Sketch Map
KN III-A
5 May 91
M. H. Fawcett

- Dense algae
- Prickles
- Starfish
- Green crabs
- Clams, anemones, etc.

- Breeding
- Limpets
- Hermit crabs
- Rockweed
- Barnacles

- Worms
- Fil green algae
- Amphipods
- Limpets

- Outcrops
- Steep rock wall
- Water

- EC
- MTZ
- LTZ
- UTZ

- CF
- TR
- A21
SHORELINE EVALUATION

SEGMENT ST/ KN-111  SUBDIVISION A (1 OF 1)  DATE  4/2/90

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

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

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

SHPO SIGNATURE: [Signature]  DATE: 4/25/90

OILING CATEGORIZATION:
Wide 19 m: Medium 216 m: Narrow 216 m: V.Light 26 m: No Oil 674 m
Subsurface Oil Observed: Yes X  No  Maximum Depth 40+ cm

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

COMMENTS: Recommend manual pick up of debris and trash, removal of tarmats, spot washing and bioremediation of areas indicated on sketch map. Reassessment of oiling prior to treatment is recommended because the snow cover limited the Phase I SSAT evaluation. Treatment should be conducted after 6/1 and with permission of USFWS due to eagle nesting constraint.

TAG COMMENTS: PRIOR TO BIOREMEDIATION MANUAL/MECHANICAL IN AREAS OF TEST PITS 7, 8, +9 AND TEST PITS USE SNARE BOOMS + ABSORBENT BOOMS TO RECOVER OIL AND MONITORS TO ASSESS THE CONDITION OF LOCS AND DETERMINE SIGNIFICANCE

TAG APPROVAL DATE: 4/17/90
ADEC AGT. WEINER DATE: 4/27/90
EXXON AMY TCH DATE: 4/27/90
NOAA SW I WESSERT DATE: 4/27/90
USCG KENNETH KEANE DATE: 4/27/90
XXX Wide
/// Medium
---- Narrow
TTTT Very Light

Map Key: PWS-292
Name: Greg Chang
Date: April 3, 1990

ADEC Segment Length: 1150m
Exxon Segment Length: 1285
1991 HAYSAP EVALUATION

SEGMENT:  KN 111  SUB:  A  REGION:  PWS  SURVEY DATE: 5/5/91

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

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

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>
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<tbody>
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<td>Spot Washing</td>
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</tr>
<tr>
<td>Bio-Customblen Only</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bio-Inpol/Custoblen</td>
<td>X</td>
<td>x</td>
<td>y</td>
</tr>
<tr>
<td>Other MANUAL RELOCATION</td>
<td></td>
<td>x</td>
<td>y</td>
</tr>
<tr>
<td>Other MECHANICAL TILLING</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

COMMENTS:
INITIAL: Remove mousse at location A5. Apply Customblen in area of pits 22, 23, 24, 25, 26, and 27.

TAG:  REMOVE MOUSSE / MOS OR OIL-NO DEGREES (SPRING MUES) AT A5. RELOCATE OIL-NO ORGANICS + MOS OR OIL-NO DEGREES (SPRING MUES) AT A5. MESSINATE ORGANICS OR MOS OR OIL-NO DEGREES (SPRING MUES) ON SKETCH MAP AND RATE IN CUSTOMBLEN/INPOL. MECHANICAL TILLING OF HDR SEDIMENTS IN THE UITZ + MITZ. AVOID FOCUS 8505.

FOSC:

TAG APPROVAL DATE:  JUNE 4, 1991  FOSC APPROVAL DATE:  6/18/91

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

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

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

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

FEASIBILITY OF MECHANICAL TILLING WILL BE ASSESSED PRIOR TO IMPLEMENTATION. IF IT CANNOT BE COMPLETED SAFELY, NO TILLING WILL OCCUR. SWAGE AND SOLVENTS MUST BE USED TO CONTROL SEDIMENT AND PROTECT THE LITZ, FOLLOWED BY BIO.
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

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

TEAM NO. 1 SEGMENT KN - II SUBDIVISION A DATE 5/5/91

ADEC
NAME: JEFF GINAILAS SIGNATURE: 

[ ] TREATMENT RECOMMENDED

[ ] NTR

MANUAL & MECHANICAL. Site A5 is a fairly mess. Oiled vegetation & debris at the SUTZ needs removal (there since last year with no improvement). It is trapped behind storm boom lines. Avoid & not recommended at site. Both sides of conf, caught in eddies. This should be manually removed. Subsurface oil in thick lens throughout SUTZ. Necessary to mechanically scrape back cobble layer & remove oiled layer or not with top. Beach is open for spreading from on shore released oil. May take continuous treatments. Saturation level so high that treatment more beneficial than leaving alone. Beach blushed seaward (causal). Site A2 has similar oiling characteristics, but smaller beach. Recommend same procedure: large log access area, remove debris

EXXON
NAME: FANNET A. ROY SIGNATURE: 

[ ] NTR

Taking SAR - Subsurface was found in yard of this debris. Before anything else is done, similar consideration should be given, to the life that is apparently absent in the same area. Custom plan could be the answer. Could maybe till to.

LANDMANAGER
NAME: MARSHA HALL OF DNR SIGNATURE: MARSHA HALL

[ ] NTR

[ ] TREATMENT

Recreational AREA. Mechanical tills to release oil. Cautious containment. Same for area A2 & A1. A5 is a mess. In the A2 & lower zone is algal bloom. Algae, oars, etc., oil pretty thick into water, oiled vegetation & logs in supra zone. Mechanically remove cobble layer then manually remove oiled layer. Concern about peat underlying fines. Tilling may just rein surface areas. Area A6 isn't drastic as is A5.

USCG/NRA
NAME: JENSEN SIGNATURE: GLENN JENSEN

[ ] NTR

Recommend sub-surface oil (SP/1 HR/1 msr) on A5 be treated. Area accessible for work. Manual pickup for AP, IMS & oiled vegetation.

NTR recommended for the sites remaining. Further removal operations would cause to more environmental harm than the oil removed.
MAYSAP SHORELINE OILING SUMMARY

SEGMENT: KN - III
SUBDIVISION: A
DATE: 5/5/91

TIME: 11:00 to 12:50
TIDE LEVEL: +2/4 ft. to +1/8 ft.
ENERGY LEVEL: HX:HP

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

TOTAL LENGTH SHORELINE SURVEYED: 1020 m
NEAR SHORE SHEEN: □ BR □ RB □ SL □ NO
EST. OIL CATEGORY LENGTH: W 5 m M 120 m N 20 m VI 110 m NO 765 m US 130 m

<table>
<thead>
<tr>
<th>LOC</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT TYPE</th>
<th>AREA</th>
<th>ZONE</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>P</td>
<td>R3</td>
<td>5</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>A2</td>
<td>T</td>
<td>R2</td>
<td>20</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>A3</td>
<td>T 5 3</td>
<td>R6</td>
<td>25</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>A4</td>
<td>P</td>
<td>R6</td>
<td>20</td>
<td>x</td>
<td>x</td>
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<tr>
<td>A5</td>
<td>T S P S</td>
<td>R6</td>
<td>50</td>
<td>x</td>
<td>x</td>
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<tr>
<td>A6</td>
<td>B S</td>
<td>8</td>
<td>5</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>A7</td>
<td>T P</td>
<td>R</td>
<td>20</td>
<td>x</td>
<td>x</td>
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</tbody>
</table>

DISTRIBUTION: C = 91-100%; B = 51-90%; P = 11-50%; S = 1-10%; T <1%
SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE
PHOTO ROLL: MAYSAP

<table>
<thead>
<tr>
<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 NO.</th>
<th>SURFACE-SUBSURFACE SEDIMENTS</th>
<th>NOTES</th>
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<tbody>
<tr>
<td>1</td>
<td></td>
<td>cm-cm</td>
<td>YN</td>
<td>B &amp; S</td>
<td>S</td>
<td></td>
<td>P-VP</td>
<td>thick asphalt</td>
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<tr>
<td>2</td>
<td></td>
<td>40-65</td>
<td>20</td>
<td>B</td>
<td>X</td>
<td></td>
<td>CV-PS2</td>
<td>B sheen</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>20-25</td>
<td>20</td>
<td>B</td>
<td>X</td>
<td></td>
<td>CV-PS</td>
<td>B sheen</td>
</tr>
<tr>
<td>4</td>
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<td>3-10</td>
<td>10</td>
<td>R</td>
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<td>10</td>
<td>EB</td>
<td>X</td>
<td></td>
<td>CV-PS</td>
<td>B sheen</td>
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</tbody>
</table>

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

OG COMMENTS: Rugged, steep rocky shore w/ small pockets.
Surface oil as (1) c/c, ST/B-T. EHTZ - SWLZ, weathered.
(ii) soil, oiled vegetation @ surz; bio-degraded in part; in small patches.
**OG COMMENTS:**

(iii) ST; FL as biodegraded & naturally cleaned CT, CV, and as surface expression of subsurface oil - respectively. Note - sweet "silage" odor? - likely treatment artifact?

Subsurface oil common in 5 out of 6 packed; - thick, cloudy, instantaneous. B or L sheen common. Total subsurface oil area summarized as N 1,260 m² x N 500 m², between surface and 25 cm - typical.

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN LEVEL</th>
<th>H₂O SHEEN</th>
<th>PIT ZONE</th>
<th>SURFACE-SUBSURFACE SEDIMENTS</th>
<th>NOTES</th>
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<tr>
<td>9</td>
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<td>CP - PGC</td>
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<tr>
<td>10</td>
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<td>CP - PGC</td>
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<td>CB - PGC</td>
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<td>12</td>
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<td>13</td>
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<td>BC - BV</td>
<td>trace sheen</td>
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<tr>
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<td>20</td>
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<td>BC - BV</td>
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</table>

Sheen Color: B = Brown; R = Rainbow; S = Silver; N = None
<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN BELOW</th>
<th>H2O LEVEL</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
<th>SURFACE-SUBSURFACE SEDIMENTS</th>
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<tbody>
<tr>
<td>P1</td>
<td>10</td>
<td>X</td>
<td>-</td>
<td>5</td>
<td>N</td>
<td>X</td>
<td>CB-CB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P2</td>
<td>25</td>
<td>X</td>
<td>15-20°</td>
<td>N</td>
<td></td>
<td>X</td>
<td>CB-PA</td>
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</tr>
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<td>P3</td>
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<td>X</td>
<td>20-30°</td>
<td>N</td>
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<td>X</td>
<td>BC-VA</td>
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<td>P4</td>
<td>30</td>
<td>X</td>
<td>25-30°</td>
<td>N</td>
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<td>BC-VA</td>
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<td>P5</td>
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<td>X</td>
<td>30-40° (NP)</td>
<td>33</td>
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<td>X</td>
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<td>N</td>
<td></td>
<td>X</td>
<td>P-VA</td>
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</table>

SHEEN COLOR: B = BROWN; R = RAINBOW; S = SILVER; N = NONE
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 1

SEGMENT # Kd III

TIDAL HEIGHT (Range) +1.8 to +2.6 ft MLLW

SUBDIVISION A

BIOLOGIST Michael Fauvelle

SEA STATE 0.5 ft

WIND SPEED/DIRECTION SE 5 Knots

PHOTOGRAPHS: ROLL # FRAME #

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

- Site (A3) Pocket beaches exposed to northerly fetch; unstable, biologically barren pebble/cobble beaches with bedrock walls. The walls have dense cover of barnacles, rockweed with patches of dense mussels and scattered limpets, littorinids, whelks, and other organisms. No birds near buried oil except filamentous green algae. No birds downshore until about +10 ft MLLW, where other algal species appear (this zone underwater during survey).
- Site (A6) has moderately abundant rockweed barnacles, littorinids, limpets, etc. beneath boulders downshore (+80 ft +20 ft) from buried oil; but most of the oil is above +10 ft in UTZ-LTZ in cobble. No birds except green algal film.
- Site (A7) is a tiny cove with some cr on walls above sparse barnacles, with barren cobble below barnacles. Further down the beach the walls have more dense cover of barnacles, young mussels, etc.
- Site (S) has buried oil in UTZ-LTZ cobbles/boulders among dense algae, breeding barnacles, limpets, nudibranchs (breeding), isopods, hermit crabs, prickles, etc. Many criticisms of a diverse and abundant community that appears to be thriving despite the presence of significant amounts of residual oil. Mechanical removal of oil in UTZ-LTZ at this site could not be accomplished without destroying the existing community.
- Site (R6) is similar to (A5), but (A5) near and downshore from buried oil is relatively sparse, except under the larger boulders.

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

<table>
<thead>
<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED</th>
<th>SPECIES PRESENT</th>
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<tbody>
<tr>
<td>Eagles</td>
<td>1</td>
<td>1</td>
<td>prickleback</td>
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</tr>
<tr>
<td>Seabirds</td>
<td>1 (pigeon guillemot)</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td>1 (emu merganser)</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gulls/kittiwakes</td>
<td>1 (gw gull)</td>
<td>2-8</td>
<td></td>
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</tr>
<tr>
<td>Shorebirds</td>
<td></td>
<td>1 (crow)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corvids</td>
<td></td>
<td>2</td>
<td></td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>MARINE MAMMALS</th>
<th># OBSERVED</th>
<th>SPECIES</th>
<th># OBSERVED</th>
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<tbody>
<tr>
<td>Sea Otters</td>
<td>2</td>
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</tr>
<tr>
<td>Pinnipeds(specific)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Les(specific)</td>
<td>2</td>
<td>finwhales moving south</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>grey whales moving north</td>
<td></td>
</tr>
</tbody>
</table>

Shoreline subdivision map showing important biological features attached.
KN III-A 5 May 91 Faucett

1100 - moving peaks
G/Pic - exp to low shoal
buried ML + 4 ft to 5 ft
no bora in paddle
- dead bar
- pigeon far out
- half mile further
- scalloped canyon
- peak 1/20 down to +3 ft in channel
- wade across algae beds + 1
- less chlordane, reef, reef (underwater)

BR

BR G/Pic

\[ \text{depth} \]
KN111A (cont) Small Fauklet
2nd sit - same type pocket as 
#1, but does BR shelf above
clip - trailing r ++ ft w/ dens.
barren, patches of young musk
in cracks - c7 for 100 yd
Channel on side of BR - f1 grays, 
brown, red algea, lym, w am)
webbed nest leaning off in cobble 
(ex. f1 green), but dense.
young
noodle & Fauklet on nearby shore
shoal classes of lli around base 
laying eggs
1144

3rd sit KN111A
1125 hrs
- shrun on pool at 2 yd
- mod away c/p + beakw a BR
- dens. algea lyma, Tony Rhode
- stall on BR, green film on 
cobbles
- string
1 pg quill
- can see eagles nest, no activity
- no eagles seen
- banded ad in cobble wigan 
- film but must in UTZ-502
+ 10 ft up - no biote
- dome hie are more c/l, wtr
also boulou w/ Fauklet
BR L1 H1 Barn BR
- CU on walk 12-14 pt

Depart 11:20
KN11A - page 4 5 May 1944

- tiny sand-faces coral - P/R -
- coral oil +10 ft - sparse barnacles
- dense barnacles on boulders below
- plumose anemones 3-6 ft - dense on mussel mounds - mostly whites
- scattered red corallines
- sponge, lily, star, chiton, anemones

- 50 m south is rock
- B/C - muddy boulders in MTZ
- LTZ - dense algae - pilikia
- l/t, eggs, lump, barnacles
- eagle in tree
- 2 fin whales west by zoom offshore - young
- 3-4 Gulls
- 2 May
- 1 scuba other boulders in MTZ
- YTZ - SUTZ - dense barnacles down in l/t, partly normal, partly dense, green, algae in MTZ
- deeper - bleeding l/t under rocks
- m/bunked at 2:45 - 3 ft just
- about 0700 - clear

Rich boulders downhere from boulder oil
- boulders, P/R. Pelican, red tide pool
- at south edge of beach at base of BK
- many algae, small fish -
- 2 cockles

Blk

Bull 8-1840

DEPART 120
K1111 (cont) 30 6 (05)
SMAP[11
Fawcett

Apr 12
- wet, energy grant/P/C/B
- from top to bottom
- sparsely packed in center down
- to middle line of 1.5 feet,
( but littlebreeding of lizards;
- a limp under sandbars)
- brown for us hat,
- very tall
- on sandbars V R at side
- patching these
- weed. What less, litt 11 ago
- grey
- Fawcet also went by going north

- Tall rock wall pale side of 1
- without lamds in has breeding
- I lamellosa, plane numerous
- same long general (1x 10)
- 1 cm (3 cm?) gnats scattered among
- lamellosa (dense)
- also lamelloso eggs

Finish 12:30
inactive eagle nest

Glaucous-winged gulls
Pigeon guillemot

No biota near buried oil in
UT-2-4UT above +10 ft;
downshore green algal film,
rockweed, barnacles, limpets,
littorinids, fish, etc.
Dense algae on BR walls

sea otter

Buried oil in MT-2-UT
near or upshore from
dense algae (6-7 species)
dense breeding littorinids,
moderate limpets + worms,
isopods, amphipods, hermit
crabs, prehistoric
crabshells, nudibranchs, clams, cockles,
starfish, anemones, etc.

2 fin whales
2 gray whales

breeding littorinids,
+ hermit crabs and
limpets under ledges
near buried oil. Dense
rockweed, barnacles, whelks,
mussels, littorinids on BR
at sides of beach.
Breeding whelks (Nucella
laevigata) and nudibranchs
Lamellididus fusca on BR

KNO111A Bio Sketch Map

KN 111-A
5 May 91
M. H. Fawcett

Reviewed M.B. 5/6/91
B. Sketch Maps
KN III-A
5 May 91
M. H. Fawcett

dense algae
prickly backs
starfish
hernia crabs
clams, anemons
etc.

steep
rock
wall

LTZ
breeding
Littorina
mudflats
hernia-crabs
red quar. algae
rockweed
barnacles

MTZ

UTZ

worms
fil. green algae
amphipods
limpets

CF, TR A21

HOR

outcrop

R

steep
rock
wall

R

1991 MAYSAP EVALUATION

SEGMENT: KN 0112  SUB: A  REGION: PWS  SURVEY DATE: 4/30/91

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

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

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

SHPO Signature: __________________________ Date: __________________________

RECOMMENDATIONS:

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

COMMENTS:
INITIAL: ______________________________________________________

TAG: ______________________________________________________

FOSC: ______________________________________________________

TAG APPROVAL DATE: __________  FOSC APPROVAL DATE: __________

ADEC __________________________  FOSC __________________________

EXXON __________________________

USCG __________________________

NOAA __________________________
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

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

TEAM NO. 1 SEGMENT Kn 112 SUBDIVISION A DATE 4/30/91

ADEC NAME JEFF GINIALIS SIGNATURE

NTR EASILY DISCERNIBLE LENS OF MOR ALONG ULT1/ULT2 SUBSURFACE 30-35 CM. BROWN SHEENS WHEN AGITATED. HOWEVER, COBBLE/BOULDER BEACH MAKES TREATMENT DIFFICULT AS EXPOSURE OF LENS DISRUPTIVE TO BEACH COMPARED TO OIL EXPOSED OR REMOVED.

EXXON NAME FRANK A. BOY SIGNATURE

NTR VISIBL SUBSURFACE, BUT NOT ENOUGH CR FUEL ENOCH TO WARRANT ACTIVITY.

LANDMANAGER NAME MARSHA HALL OF DNR SIGNATURE

NTR CAMPSITE IN PROXIMITY, BUT I AGREE THAT DUE TO DEPTH OF OIL AND COVER TYPE OF BEACH, ACCESSING THE OIL LENS WOULD BE DISRUPTIVE COMPARED TO AMOUNT OF LENS RECOVERED OR RELEASED.

USCG/NOAA NAME JENSEN/CHILDS SIGNATURE

NTR FURTHER REMOVAL OPERATIONS WOULD CAUSE MORE ENVIRONMENTAL HARM THAN THE SMALL AMOUNT OF OIL TO BE REMOVED.

THE ONLY SURFACE OIL OBSERVED WAS CT & 5T ON RE N1/4 SEC 6, PT.
SUBSURFACE OIL - MOR- IS APPROX 5X20M AREA 1-20CM DEEP & 1-3 CM THICK.
### MAYSAP SHORELINE OILING SUMMARY

**TEAM NO.** 1

**BIO** M. FANCOURT

**LANDMANAGER** M. HALL

**USCG/NOAA** JENSEN/CHILD

**TIME** 19:40 to 19:55

**TIDE LEVEL** +4'4 ft to +3'0 ft

**WEATHER** SUN CLOUDS FOG RAIN SNOW

**SURVEYED FROM** FOOT BOAT HELO

**TOTAL LENGTH SHORELINE SURVEYED:** 243 m

**SURF. OIL CHARACTER**

<table>
<thead>
<tr>
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<tr>
<td>C</td>
<td>AP</td>
<td>MS</td>
<td>TB</td>
<td>SOR</td>
<td>CV</td>
<td>CT</td>
<td>SF</td>
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<td>1</td>
<td>35</td>
<td>S</td>
<td>R</td>
<td>1/2</td>
<td>3</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

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

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

**PHOTO ROLL # MAYSAP-1-10 FRAMES L#1**

**OG COMMENTS:** BP beach set in steep rock shore.

Surface oil as cr/S/I in narrow crev in rock.

Subsurface oil as mol (4 x 25 x 30cm) @ MITZ on south end of beach.

**REVIEWED:** W. 5/2/91
CT/S, <10\%
1/2 x 3 @ 111111

BP beach

Estimated subsurface oil
4 x 25 m x 33 m thick

Subdivision
Map Key: KN11
Name: G.M
Date: 4.30.91

AK State Plane Zone 4
KN0112ab

Reviewed: F.W. 5/3/91
Reviewed: M.C. 5/13/91
**WILDLIFE OBSERVATIONS**

**TO BE COMPLETED IN ALL SUBDIVISIONS**

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

**MARINE MAMMALS**

<table>
<thead>
<tr>
<th></th>
<th># OBSERVED</th>
<th>SPECIES</th>
<th># OBSERVED</th>
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<tbody>
<tr>
<td>Sea Otters</td>
<td></td>
<td></td>
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</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.
...karat 1940 30 Apr 91...

Gravel/pebbles/cobble beach across bedrock close to...bedrock well at ND 42/342...

Very sparse blast...
1991 MAYSAP EVALUATION

SEGMENT: KM 0112 SUB: B REGION: FWS SURVEY DATE: 4/30/91

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: __________________________ Date: __________________________

TAG: __________________________

FOSC: __________________________

TAG APPROVAL DATE: __________________________ FOSC APPROVAL DATE: __________________________

ADEC: __________________________

EXXON: __________________________

USCG: __________________________

NOAA: __________________________
Eagle Nest: Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.
TEAM NO. 1 SEGMENT Kx 112 SUBDIVISION B DATE 4/7/91

ADEC
NAME: JEFF GALEAS
SIGNATURE: [Signature]

[ ] NTR TREATMENT RECOMMENDED
BEACH IS 30'x30' POCKET COVE MID-EXLUSIVELY BOUNDER BEACH. OIL AT VITAGE IN BAND 20'x5', NOT VERY DEEP. ARMOR SHELL SURFCE MAKES MANUAL REMOVAL DIFFICULT. TREATMENT COULD BE 30E MANUAL AGITATION AND TILLING, WITH EORT TO CONSERVE SHEEN NARROW WIDTH OF BEACH MAKES THIS POSSIBLE.

EXXON
NAME: FRANK A. LOVE
SIGNATURE: [Signature]

[ ] NTR SURFACE OIL
OIL VITAGE AT SITE A: PIT 2. SURFACE OILING WAS VERY MINIMAL.

LANDMANAGER
NAME: MARSHA HALL OF DNR
SIGNATURE: [Signature]

[ ] NTR TREAT
IN AREA A1. DITS AT APPROX 8 FOOT LEVEL.
SMALL CREW. MANUAL REMOVAL OF MDR LENS.

USCG/NQAA
NAME: James JOHNSON
SIGNATURE: [Signature]

[ ] NTR FURTHER REMOVAL OPERATIONS WOULD CAUSE MORE ENVIRONMENTAL HARM THAN THE OIL TO BE REMOVED.

SURFACE OIL WAS NOTED ONLY ON A-2. SMALL PATCH N: 1.5M
SUBSURFACE OIL OBSERVED ON AAB 5m X 7.5m AT ABOUT 5CM DEEP. 3-4CM THICK. A2 NO SUBSURFACE OIL | A3 MORE 30CM DEEP AROUND A1.
ADEC

<table>
<thead>
<tr>
<th>TIME</th>
<th>SURVEYED FROM:</th>
<th>TOTAL LENGTH SHORELINE SURVEYED:</th>
<th>EST. OIL CATEGORY LENGTH:</th>
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<tbody>
<tr>
<td>13:30 to 19:35</td>
<td>FOOT ☑ BOAT ☑ HELO ☑</td>
<td>201 m</td>
<td>W - m M - m N - m V - 20 m</td>
</tr>
<tr>
<td></td>
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<td>US 718 m</td>
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<table>
<thead>
<tr>
<th>L</th>
<th>O</th>
<th>Surface Oil Character</th>
<th>Surface Sediment Type</th>
<th>Shore Width</th>
<th>Length</th>
<th>Zone</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>I</td>
<td>S</td>
<td>E</td>
<td>H 1/2</td>
<td>20</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>I</td>
<td>S</td>
<td>E</td>
<td>G 2</td>
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<td>X</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>I</td>
<td>X</td>
<td>RG</td>
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</tbody>
</table>

DISTRIBUTION: C = 01-100%; B = 51-60%; P = 11-50%; S = 1-10%; T = <1%

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

PHOTO ROLL # MAYSAP-1 - 10 FRAMES 12

<table>
<thead>
<tr>
<th>Pit No</th>
<th>Pit Depth (cm)</th>
<th>Subsurface Oil Character</th>
<th>Oiled Zone</th>
<th>Clean Below Zone</th>
<th>H2O Level</th>
<th>Sheen Color</th>
<th>Pit Zone</th>
<th>Surface-Subsurface Sediments</th>
<th>Notes</th>
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<tbody>
<tr>
<td>1</td>
<td>10</td>
<td>X</td>
<td>5 - 8</td>
<td>4</td>
<td>R</td>
<td>x</td>
<td></td>
<td>B - PC</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>10</td>
<td>X</td>
<td>3 - 6</td>
<td>-</td>
<td>-</td>
<td>x</td>
<td></td>
<td>B - PG</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>10</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>x</td>
<td></td>
<td>P - PR</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>30</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>x</td>
<td></td>
<td>P - PG</td>
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</tr>
<tr>
<td>5</td>
<td>40</td>
<td>X</td>
<td>-</td>
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<td>x</td>
<td></td>
<td>P - PG</td>
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<td>-</td>
<td>-</td>
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<td>P - PG</td>
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<td>7</td>
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<td>X</td>
<td>30 - 40</td>
<td>33</td>
<td>3</td>
<td>x</td>
<td>P - PG</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

OG COMMENTS: 3 Areal pocket beaches set in steep rocky shore. Trace surface oil at CT/S, ST/S @ HTZ in sheltered areas. Subsurface oil at MOL w/ 2 small (<35 in²) areas @ lower HTZ.
WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS

<table>
<thead>
<tr>
<th>SPECIES</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED</th>
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</thead>
<tbody>
<tr>
<td>Eagles</td>
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<td>(mature)</td>
<td>prickleback</td>
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<tr>
<td>Seabirds</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td></td>
<td>1</td>
<td>common loon</td>
</tr>
<tr>
<td>Gulls/kittiwakes</td>
<td>2</td>
<td>31 (30 b. Kittiwake)</td>
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</tr>
<tr>
<td>Shorebirds</td>
<td></td>
<td>2</td>
<td>(crows)</td>
</tr>
<tr>
<td>Corvids</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Birds</td>
<td></td>
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</tr>
</tbody>
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MARINE MAMMALS

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<tbody>
<tr>
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<tr>
<td>Pinnipeds(specific)</td>
<td></td>
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<tr>
<td>Whales(specific)</td>
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</table>

LAND MAMMALS

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

Shoreline subdivision map showing important biological features attached.
dense barnacles up to +10 ft -- the top 2-3 ft of barnacles in coat zone, littorinids scattered among barnacles

Massive boulder (+20 ft)

boulders (smooth, bare, abraded by pebbles)

Pebbles (no biofilm)

Point C: Small boulder

A2

waterline +60 ft

buried oil in upper edge of barnacles, rockweed, and barnacles

steep BR

dense tangle of green algae in boulders above +10 ft

steep BR

dense rockweed, barnacles

sparse mussels, limpets, littorinids on BR walls up to +9 ft

moderately dense mussels (0-2 yrs old), barnacles (dense spot), sparse littorinids, limpets, rockweed +5 to +8 ft

---

Subdivision Field Map

Map Key: KN1KNO112B

Name: G. MARDONARD

Date: 4/30/91

KL-Plan, Zone 4
KN 112 B 30 Apr 91 Ferrell
Arrive 1830 site 1

N 30' off mottled pebble beach rear shore - small pebble
beach

Boulders - large film of green algae

Sleep FR 9:30

W 1 + 640 ft

on walls
dense Forthweed & barnacles
Spona mussels, 1 4/2
up to @ 19 ft

N 30 E - Spray Focus

1/2 in radi of covering barnacle + 8-10 ft - about 40% of top face of barnacles dead red OK - hitone among the barnacles - B glabella - chitons - new spot all over

1 eagle flying - 2 crews
1 loon sitting @ 400 ft

Depart 1910
Arrive Site 3 1915 hrs

paddle Tomato going over
to island with trees

Br Island

Free Trees pebble gravel

Boat

Flounder

Pot

Som e-Sea

N

Wind N Wind N 15 kn

1 ft Seas

depot 1935

Raining
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-112 SUBDIVISION B (2 of 2)

WORK WINDOW

| Bioremediation Inside Eagle Nest Buffer Zone | CLOSED |
| Bioremediation Outside Eagle Nest Buffer Zone | OPEN |

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T Bald Eagle Nest

USFWS 6/1/90 map indicates an active nest in Subdivision B. Closed to bioremediation within 400m of active nest. No constraint outside bald eagle nest buffer zone.

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC DATE 6/10/90

Prepared By: [Signature] Date 6/8/90
SHORELINE EVALUATION

SEGMENT ST/KN-112 SUBDIVISION B (2 OF 2) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
Eagle nest in subdivision A, but close to border with B.

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

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

SHPO SIGNATURE: DATE: 4/23/90

OILING CATEGORIZATION:
Wide 0 m: Medium 40 m: Narrow 346 m: V.Light 485 m: No Oil 0 m
Subsurface Oil Observed: Yes X No__ Maximum Depth 30+ cm

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

COMMENTS: Recommend bioremediation of areas shown on sketch map. Work should be conducted after 6/1 with the approval of USFWS and ADF&G regarding eagle nest constraint.

TAG COMMENTS:

TAG APPROVAL DATE: 4/21/90.

ADEC Art Verkuyl
EXXON Art Verkuyl
NOAA Bob Weisert
USCG Kenneth Kiernan

FOSC: DATE: 5-12-90
SEGMENT ST/ KN-112  SUBDIVISION A (1 OF 2) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ST-1  All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
Eagle nest in subdivision A.

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

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

SHPO SIGNATURE
DATE: 4/23/90

OILING CATEGORIZATION:
Wide 0 m: Medium 223 m: Narrow 140 m: V.Light 49 m: No Oil 435 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 Bioremediation  ___ Spot Washing: ___ Wands
___ Tarmat: ___ Breakup  ___ Beach Cleaner
___ Removal  ___ Other (see comments)

COMMENTS: Recommend bioremediation of areas shown on sketch map. Work should be conducted after 6/1 with the approval of USFWS and ADF&G regarding eagle nest constraint.

TAG COMMENTS: Monitors to assess the suit at time of treatment and determine the need for debris pick up.

TAG APPROVAL DATE: 4/21/90
ADEC  Not Werner  Not Werner
EXXON  Not Werner  Not Werner
NOAA  Not Wescott  Not Wescott
USCG  Kenneth Wescott  Kenneth Wescott
KN-112

South Boundary Subsegment A

Map Key: PWS-293a
Name: Greg 
Date: April 2, 1990

Legend:
- XXXX Wide
- ///// Medium
- ----- Narrow
- TTTT Very Light
- NNNN None

Segment Length: 850
ADEC Segment Length: 1766m
Exxon Segment Length: 1788
1991 MAYSAP EVALUATION

SEGMENT: KN 0112  SUB: A  REGION: PWS  SURVEY DATE: 4/30/91

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: 5/10/91

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: 5/10/91  FOSC APPROVAL DATE: 5/15/91

ADEC  EXXON  USCG  NOAA

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

Eagle Nest: Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.
EASILY DISCRIMINABLE LENS OF WOR ALONG U/I or U/I SUB-SURFACE
80-25 cm. Brown stlens when AGITATED. HOWEVER, COBBLE/BOULDER
BEACH MAKES TREATMENT DIFFICULT AS EXPOSURE OF LENS DISRUPTIVE TO
BEACH COMPARED TO OIL EXPOSED OR REMOVED.

visibly subsurface, but not enough to benefit
involved in current activities.

CAMPSITE IN PROXIMITY, BUT I AGREE THAT DUE TO
DEPTH OF OIL AND COVER TYPE OF BEACH, ACCESSING
THE OIL LENS WOULD BE DISRUPTIVE COMPARED TO
AMOUNT OF LENS REMOVED OR RELEASED.

FURTHER REMOVAL OPERATIONS WOULD CAUSE MORE
ENVIRONMENTAL HARM THAN THE SMALL AMOUNT OF OIL TO
BE REMOVED.

The only surface oil observed was CT 81 50 8KNNY Sec 41 PB.
Subsurface oil there is approx 5 x 20m area 120cm deep & 12cm thick.
# MAYSAP SHORELINE OILING SUMMARY

**TEAM NO.:**

**BIO:** M. Fawcett

**ADEC LANDMANAGER:** M. Hall

**EXXON BIO:** F. Boz

**USCG/NOAA LANDMANAGER:** Jensen/Childs

**TIME:** 19:00 to 19:55

**TIDE LEVEL:** +4.5 ft. to +3.0 ft.

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

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

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

**TOTAL LENGTH SHORELINE SURVEYED:** 215 m

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

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

**TOTAL LENGTH SHORELINE SURVEYED:** 240 m

**US C-04 m**

## SURFACE OIL CHARACTER

<table>
<thead>
<tr>
<th>LOC</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT TYPE</th>
<th>SHORE SLOPE</th>
<th>AREA</th>
<th>ZONE</th>
<th>NOTES</th>
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<td>X</td>
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**DISTRIBUTION:**

- C = 91-100%
- 8 = 81-90%
- P = 11-50%
- S = 1-10%
- T = <1%

**SLOPE:**

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

**PHOTO ROLL # MAYSAP:** 1-10

**FRAMES:** 17-19

## SUBSURFACE OIL CHARACTER

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<tr>
<th>PIT</th>
<th>OILED ZONE</th>
<th>CLEAN BELOW LEVEL</th>
<th>SHEEN COLOR</th>
<th>PIT</th>
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**SHEEN COLOR:**

- B = BROWN
- R = RAINBOW
- S = SILVER
- N = NONE

**OG COMMENTS:**

BP beach set in steep rock shore.

Surface oil as cat/s/l in narrow area in rock.

Subsurface oil as mol (4 x 25 x 3m) @ Midz on south end of beach.

**REVIEWED:** MC 5/3/91

**REVIEWED:** F.W. 5/8/91
**MAYSAP BIOLOGICAL SUMMARY FORM**

**TEAM # 1**

**DATE 30 April 91**

**SEGMENT # KN 112**

**TIDAL HEIGHT (Range) 3.3 - 4.0 ft MLLW**

**SUBDIVISION A**

**BIOLOGIST Michael Fawcett**

**SEA STATE 1 ft**

**WIND SPEED/DIRECTION 15 knots N, rain**

**PHOTOGRAPHS: ROLL # FRAME #**

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

This is a moderate to low energy gravel/cobble/cobble beach with bedrock walls at each end, and some large boulders near south end. Overall, biota is sparse in main beach area, littorinids breeding under boulders within and downshore from buried MacR—also sparse barnacles, limpets, rockweed, and dense filamentous green algae. Boulders and bedrock at south end have dense barnacles. Sparse rockweed, littorinids, mussels, etc. Bedrock at north end near small area of cr (traces in crevices) has very sparse biota, mainly a few barnacles and a film of green algae and diatoms.

---

**WILDLIFE OBSERVATIONS**

**TO BE COMPLETED IN ALL SUBDIVISIONS**

**BIRDS**

<table>
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<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
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<td>Seabirds</td>
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<td>Waterfowl</td>
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<td>Gulls/kittiwakes</td>
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<td>Shorebirds</td>
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<td>Corvids</td>
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<td>Other Birds</td>
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**MARINE MAMMALS**

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

**LAND MAMMALS**

- Shoreline subdivision map showing important biological features attached.
Gravel/pebb/cobble beach
Gravel beds above +4 ft
Littoral zone - dense shell hash
Bar
More CT in exact
Very sparse b/c

CT
Scallop
tower
R.

30 m
15 m

Intermixed spines
Sparse barnacles
Rockward

R.

Dense barnacles, fur un
+3-+5 ft

Depart 2010, return to ship
1991 MAYSAP EVALUATION

SEGMENT: KN 0112  SUB: A  REGION: FWS  SURVEY DATE: 4/30/91

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: Charles A. Holman Date: 5/10/91

RECOMMENDATIONS:

<table>
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<tr>
<th>TREATMENT REQUIRED (Y or N)</th>
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<th>TAG</th>
<th>FOSC</th>
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<td>Spot Washing</td>
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<td>Bio-Customblen Only</td>
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<td>Bio-Inipol/Customblen</td>
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COMMENTS:
INITIAL: ________________________________________________________

TAG: ____________________________________________________________

FOSC: __________________________________________________________

TAG APPROVAL DATE: 4/31/91  FOSC APPROVAL DATE: 5/15/91

ADEC  EXXON  USCG  NOAA

E. E. PAGE, CDR, USCG

CHIEF OF STAFF, FOSC
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

Eagle Nest: Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.
EASILY DISCERNIBLE LENS OF MOR ALONG UTT/UTZ SURFACE
30-25 CM. BROWN SPILLS WHEN AGITATED. HOWEVER, COBBLE/BOULDER
BEACH MAKES TREATMENT DIFFICULT AS EXPOSURE OF LENS DISRUPTIVE TO
BEACH COMPARED TO OIL EXPOSED OR REMOVED.

NTR

VISIBLE SUBSURFACE, BUT NOT ENOUGH MET BENEFIT
INVOLVED TO WORTH ACTIVITY.

FURTHER REMOVAL OPERATIONS WOULD CAUSE MORE
ENVIRONMENTAL HARM THAN THE SMALL AMOUNT OF OIL TO
BE REMOVED.

THE ONLY SURFACE OIL OBSERVED WAS CT 75 AT PK 949.5 SE OF D-0.
SUBSURFACE OIL AT MOR IS APPX 5X20M AREA 20CM DEEP 3.5 CM THICK.
MAYSAP SHORELINE OILING SUMMARY

TEAM NO. 1
ADEC -
J. GRACIA
EXXON -
F. BOX

BIO M. FANCHEY
LANDMANAGER M. HALL
USCG/NOAA JENKINS/CHILD

SEGMENT KN-112
SUBDIVISION A
DATE 4/30/91
TIME 19:40 19:55
TIDE LEVEL +4'-12" +3'-0".
ENERGY LEVEL: [ ] H [X] M [ ] L

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

TOTAL LENGTH SHORELINE SURVEYED: 243 m
NEAR SHORE SHEEN: [ ] BR [ ] RB [ ] SL [X] NONE
EST. OIL CATEGORY LENGTH: W - m M - m N - m V - m 3 - m NO 240 m US - m

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DISTRIBUTION: [ ] C = 91-100%; [ ] B = 81-90%; [ ] P = 71-80%; [ ] S = 61-70%; [ ] T = <1%
SLOPE: [ ] VERTICAL [ ] H = HIGH ANGLE; [ ] M = MEDIUM ANGLE; [ ] L = LOW ANGLE
PHOTO ROLL # MAYSAP-1-10 FRAMES 13-19

PIT NO. DEPTH (cm) | SUBSURFACE OIL CHARACTER | OILED ZONE | CLEAN | M2O | SHEEN COLOR | PIT ZONE | SURFACE SUBSURFACE SEDIMENTS | NOTES |
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</table>

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

OG COMMENTS: BP beach set in steep rock shore.
Surface oil as cr/s/I in narrow crev in rock
Subsurface oil at Mol (4-325 x 3m) @ Mfz on South end of beach.
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 1     DATE 30 April 91

SEGMENT # KN 112     TIDAL HEIGHT (Range) 3.3 - 4.0 ft MLLW

SUBDIVISION A     BIOLOGIST Michael Faurest

SEA STATE 1 ft     WIND SPEED/DIRECTION 15 Knots NW, rain

PHOTOGRAPHS: ROLL #     FRAME #

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

This is a moderate to low energy gravel/pebble/cobble beach
with bedrock walls at each end and some large boulders near
south end. Overall biota is sparse in main beach area, littorinids
breeding under boulders within and downshore from buried MAR
also sparse barnacles, limpets, rockweed, and dense filamentous
green algae. Boulders and bedrock at south end have dense barnacles
and sparse rockweed, limpets, mussels, etc. Bedrock at north end
near small area of CR (cracks in crevices) has very sparse biota;
mainly a few barnacles and a film of green algae and diatoms.

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

<table>
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<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED</th>
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<tr>
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<th># OBSERVED</th>
<th>SPECIES</th>
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<tbody>
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<td>Sea Otters</td>
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<td>Pinnipeds (specify)</td>
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<td>Whales (specify)</td>
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<th># OBSERVED</th>
<th>SPECIES</th>
<th># OBSERVED</th>
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</table>

Shoreline subdivision map showing important biological features attached.
gravel/pebble/beach
sparse beda alone + 2 ft -
litt dreening - dense fil. green, 5 ft
bedrock well at Nev. Res.
area rt in eacts
very sparse biota

\[ \begin{array}{c}
\text{boulder} \\
\text{cobbles} \\
\text{pebbles} \\
\text{grains of eggs} \\
\text{basalt} \\
\text{dense boulders} \\
\text{N} \\
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\end{array} \]

depart 2010, return to ship
Bio Sketch Map
KN 112-A
30 April 91
Michael Fawcett
1991 MAYSAP EVALUATION

SEGMENT: KN 0112 SUB: B REGION: PWS SURVEY DATE: 4/30/91

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

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: 5/10/91

FOSC APPROVAL DATE: 5/15/91

ADEC

Exxon

USCG

NOAA

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

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

TEAM NO. 1 SEGMENT K6112 SUBDIVISION B DATE 4/20/91

ADEC
NAME JEFF GINA LIAS SIGNATURE

☐ NTR ☑ TREATMENT RECOMMENDED

□ NTR Treatment recommended

BEACH IS 30' X 30'. POCKET CORE MID-LEVEL BOULDER BEACH. OIL AT LAT IN BAND 20' X 5'. NOT VERY DEEP. AVOID OTHER SURFACE MAKE MAINTAIN MANUAL REMOVAL DIFFICULT. TREATMENT COULD BE MANUAL AGITATION AND TILLING, WITH COEUR TO CORRECT SHEEX NARROW WIDTH OF BEACH MAKES THIS POSSIBLE.

EXXON
NAME FRANK A. BUR SIGNATURE

☐ NTR Subsurface noted at site A+ 2. Surface oiling was very minimal.

LANDMANAGER
NAME MARSHA HALL OF DNR SIGNATURE Marsh Hall

☐ NTR ☑ TREAT

In AREA A+. Pits at approx 8 foot level.

Small area, manual removal of MOR lens.

☐ NTR ☑ TREAT

Further removal operations would cause more environmental harm than the oil to be removed.

USCG/NOAA
NAME SENNA CHILDS SIGNATURE

Further, surface oil was noted only on A+2 small patch x 15m.

Surface oil observed on surface 5m x 5m @ 5cm deep X 3-4cm thick - A+2 had no subsurface oil @ 3m MOR x 30cm deep around A-
TEAM NO. 1

MAYSAP SHORELINE OILING SUMMARY

OG G. MACDONALD
BIO M. FAWCETT
ADEC J. GINANAS
LANDMANAGER M. HALL for DNL
EXXON E. BAX
USCG/NOAA JENSEN/CHILDs

SEGMENT KH-112
SUBDIVISION B
DATE 4/30/91

TIME 18:30 to 19:35
TIDE LEVEL +6.0 ft. to +4.1 ft.
ENERGY LEVEL: L
C

DISTRIBUTION: C = 91-100%; B = 51-80%; P = 11-50%; S = 1-10%; T <1%
SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE
PHOTO ROLL # MAYSAP 1 - 10 FRAMES 12

OG COMMENTS:
3 small pocket beaches set in steep rocky
shore.
Trace surface oil as CT/S, ST/S @ HTTZ in sheltered areas.
Subsurface oil at MOL in 2 small (<35 m²) areas
@ lower HTTZ.

REVIEWED: F.W. 5/6/91
REVIEWED: M.C. 5/3/91
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 1
DATE 30 April 1991

SEGMENT # RN 1 1/2
TIDAL HEIGHT (Range) 4.2 to 6.2 ft MLLW

SUBDIVISION B
BIOLGIST Michael Fawcett

SEA STATE 1 F
WIND SPEED/DIRECTION 15 knots N, rain

PHOTOGRAPHS: ROLL #
FRAME #

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

Site A1 is a narrow boulder beach between steep bedrock walls. The boulders have moderately dense populations of young mussels, barnacles (dense spot), and sparse limpets and rockweed in +6 to +8 ft zone just downslope from buried MOA. The MOA lies in upper edge of barnacles, rockweed, & limpets at about +8 ft MLLW. Dense filamentous green algae covers boulders above +10 ft. Rock walls - either side have dense barnacles and rockweed, sparse mussels, limpets, and limpets.

Site A2 has dense barnacle populations (2 species) on vertical face of a massive boulder - barnacles cover +5 to +9 ft zone, upper 2-3 ft of which has weathered off coast of and among barnacles. About 60 percent of barnacles in top 10 ft are dead; old barnacles; other barnacles OK and include new spot and scattered limpets. Almost no biota except film of green algae exists on or among smaller boulders and pebbles (see sketch).

Site A3 is a very narrow pebble tombolo connecting a massive rock islet covered with trees. No biota except filamentous green algae among pebbles (see sketch). Dense rockweed/barnacles, and patchy dense mussels and Rhodomena occupy bedrock south of tombolo. Dense barnacles (incl. spot), sparse, young rockweed and mussels, and sparse limpets and limpets occupy bedrock north of tombolo.

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS

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<th># of Species</th>
<th>Total Birds</th>
<th>Fish Observed Species Present</th>
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<tr>
<td></td>
<td></td>
<td>(mature)</td>
<td>pricklebacks</td>
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<tr>
<td>Seabirds</td>
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<td>1</td>
<td>common loon</td>
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<tr>
<td>Waterfowl</td>
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<tr>
<td>Gulls/Kittiwakes</td>
<td>2</td>
<td>31 (30 bl. Kittiwakes)</td>
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<td>Shorebirds</td>
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<tr>
<td>Corvids</td>
<td></td>
<td>2 (crow)</td>
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<tr>
<td>Other Birds</td>
<td></td>
<td>1 (m. 3/4)</td>
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MARINE MAMMALS

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<tr>
<th>Sea Otters</th>
<th># Observed</th>
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<tr>
<td>Pinnipeds(specify)</td>
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<td>Whales(specify)</td>
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LAND MAMMALS

horizon line subdivision map showing important biological features attached.
Bioc Sketch Map
KN 112-B site B1
30 April 91
M. H. Fawcett

SEG: BND'y

No biota except
fil. green algae on pebbles
No surface oil

dense mussels, barnacles
and Rockweed

KN-112B
G. Macdonald
4-20-91

X-SECTION

P/G tumbole
3m cliff

WL @ 20 hrs
5 + 3 ft
KN 112 B 30 Apr 91 Fawcett
Arrive 1830 site 1

N 30 ft Kittiwakes feeding near shore - small pebble boulder beach

---

CT
Sleep BR

---

N
Sleep BR

---

Upper edge

molokai mussels 0-2 yrs
moderate barnacles
spoon shell

---

NE
Space Fucus

on walls

dense Rockweed & barnacles
spoon shell
up to 0 + 9 ft

---

Depart 1910

---

KN 112 B site 2

Narrow pebble beach, boulders
Br on North end, Br on S. end

---

N

Pebbles

BR huge boulder

---

smooth barnacles, almost

in 6 ft

dense barnacles, 2-4 + 4 ft

1/2 - 1 m wall of covering barnacles
2-10 ft - about 40% of top foot
of barnacles dead, past OK - 1 ft
among the barnacles - B. glandula +
chitomalea, new spat all over
1 eagle flying - 2 crows
1 loon fishing - 1 gull 9 ft
Arrive Site 3 1915 hrs
paddle Tonolo 4 going over
to unlabelled feature
By island
Of dense
Bam, wood
Tree
Pebble
Gravel
Spotted
Wasota
Layer
Grey
N
Windy NW Wind N 15km
1st seas
Depot 1935
Rain
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-112 SUBDIVISION A (1 of 2)

WORK WINDOW

BIOREMEDIATION  CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T  Bald Eagle Nest         USFWS 6/1/90 map indicates an active nest in Subdivision B. Closed to bioremediation within 400m of active nest.

OTHER ECOLOGICAL CONSIDERATIONS

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

Prepared By:                 Date 6/9/90
Incorporates USFWS 6/11/90 map of Active Bald Eagle Nests.
SHORELINE EVALUATION

SEGMENT ST/ KN-112  SUBDIVISION A (1 OF 2) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5T-1  All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
Eagle nest in subdivision A.

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

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

SHPO SIGNATURE: ______________________ DATE: 4/23/90

OILING CATEGORIZATION:
Wide 0 m: Medium 223 m: Narrow 140 m: V.Light 49 m: No Oil 435 m
Subsurface Oil Observed: Yes X No  Maximum Depth 25+ cm

RECOMMENDATIONS:

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

COMMENTS: Recommend bioremediation of areas shown on sketch map. Work should be conducted after 6/1 with the approval of USFWS and ADF&G regarding eagle nest constraint.

TAG COMMENTS: Monitor to assess the suit at time of treatment and determine the need for debris pickup.

TAG APPROVAL DATE: 4/21/90
ADEC [Signature]  DATE: 4/27/90
EXXON [Signature]  FOSC: [Signature]
NOAA [Signature]  DATE: [Signature]
USCG [Signature]
SEGMENT ST/KN-112  SUBDIVISION B (2 OF 2) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ST-1 All bald eagle nests (3/1 to 6/1) -Active eagle nests (3/1 to 9/1)
Eagle nest in subdivision A, but close to border with B.

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

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

SHPO SIGNATURE: [Signature] DATE: 4/23/90

OILING CATEGORIZATION:
Wide 0 m: Medium 40 m: Narrow 346 m: V.Light 485 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 30+ cm

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

COMMENTS: Recommend bioremediation of areas shown on sketch map. Work should be conducted after 6/1 with the approval of USFWS and ADF&G regarding eagle nest constraint.

TAG COMMENTS:

TAG APPROVAL DATE: 5/1/90.
ADEC ART WEISS; ART WEISS
EXXON ARLISE WEAVER; ARNISE WEAVER
NOAA BULL WEAVER; BULL WEAVER
USCG KENNETH KEOGE; KENNETH KEOGE
130 cm HIGH, 80% COVERAGE, BAND OF COATED TAR.

COAT TAR SPLATTERED ON ROCKS, SHEEN IN TIDE POOLS (RAINBOW)

DISTINCTIVE BRIGHT GREEN BAND ALONG FORMER HIGH TIDE LINE. POSSIBLY RELATED TO BIOMEDIATION EFFORTS IN THE VICINITY.

COAT 80 CM. HIGH X 6 METERS LONG BEHIND LARGE BOULDER.

ROUGH BAND OF PATCHY COAT TAR ON BEDROCK FACE. VERY DIFFICULT TO QUANTIFY DUE TO CLOSE ASSOCIATION WITH BLACK LICHEAN BAND. AVERAGE PROBABLY CLOSE TO 40% COVERAGE AND 40 CM. HIGH. LOCALY HEAVIER COATS BEHIND BOULDERS.

Boulder Pocket 9 X 3 METER 80% COAT

Small Pocket Beach ~20 Meters

Long, small amount of mobile oil located along edge of pocket beach in cobbles, localized rainbow sheen in sediments.

Tar concentration increasing to 1-2 meters high, 50% coverage thicker behind boulders and in bedrock cracks.

Herring Bay

South KN-112-B

North KN-112 B

Profile Looking North

Avalanche Area

Segment ST-KA-112

DATE 4/15/09

Subdivision B

Sketch Map
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-112

SUBDIVISIONS: A (1 OF 2)
SHORELINE EVALUATION

SEGMENT ST/ KN-112 SUBDIVISION A (1 OF 2) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5T-1 All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
Eagle nest in subdivision A.

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 223 m: Narrow 140 m: V.Light 49 m: No Oil 435 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
Removal
Oil Snares (pom poms)
Absorbents (pads, rolls, etc)
Spot Washing: Wands
Beach Cleaner
Other (see comments)

COMMENTS: Recommend bioremediation of areas shown on sketch map. Work should be conducted after 6/1 with the approval of USFWS and ADF&G regarding eagle nest constraint.

TAG COMMENTS:

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

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

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

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

Harbor seal and sea lion pupping (5/15 to 7/1)
Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

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

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

All Bald Eagle nests (3/1 to 8/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 5/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

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

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

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

SEGMENT ST/KN 112  SUBDIVISION: A  DATE OR APR 90

USCG NAME  Patrick Malay  SIGNATURE  Patrick Malay

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Recommend bioremediation in area where pit 1 was dug. The other areas of stain and weathered (coated) would be impractical to remove. This segment is located on the outer fringes of Homer Bay and is exposed to more wave action than some of the more secluded segments in the bay therefore natural sea action would be the best treatment for the coated & stained areas.

ADEC NAME  M. Cunningham  SIGNATURE  M. Cunningham

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Bioremediate upper intertidal areas near site 1 ok storm berm for trash/debris. Coat/stain on headlands weathermy nicely in low-mod exposure areas.

LAND MANAGER

NAME  Steven Phillips  SIGNATURE  Steven Phillips

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Scout storm berm for debris as it was snow covered. Oil on vertical not very thick so just monitor. In small concentrated pockets, roll 60ders and remove tarry debris. Bioremediate on beaches with surface and subsurface oil.
**SHORELINE OILING SUMMARY**

**Character**

<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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<td>Pave.</td>
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<td>Pooled</td>
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<td>No Oil</td>
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</table>

**Surface Oil**

**Pavement:** H F S ___ sq. m by ____ cm

**Patties/Tarballs:** _____ Bags

**Near Shore Sheen?** No BR RW SL TL

**Surface Sediments:** R 80 % B 10 % C 5 % P 5 % G 1 % S 1 % M 1 % V ___ %

**Slope:** Long 15 % Hanging 10 % Vertical 75 %

**Wave Exposure:** Low Med High

**Oil Category Length:** W ___ m M 100 m N 150 m V 40 m NO 650 m

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<td>Logs</td>
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<td>Vegetation</td>
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<tr>
<td>Trash</td>
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<td>Debris</td>
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**Debris Collected:**

**Yellow Rope, lock, Type:** net, copper tube

**Photographs:**

**Roll No.** ST-7-1

**Frames** 28

**Subsurface Oil**

<table>
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<tr>
<th>Pit No.</th>
<th>Pit Depth (cm)</th>
<th>Subsurface Oil Character</th>
<th>Oiled Interval</th>
<th>Below Oil/Film Color</th>
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**Comments**
**SHORELINE ECOLOGICAL SUMMARY**

**Segment ST** /  KN112 
**Subdivision** A  
**Date (mo/day/yr)** Apr 2, '90  
**Time (24 hr)** 1V 1520  
**Biologist** Roth  

(A) Substrate type and % of segments:  
(1) Bedrock 70  
(2) Boulder 15  
(3) Cobble 10  
(4) Pebble 5  
(5) Sand  8  
(6) Silt  

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

(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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**Mytilus**  

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**Gastropods**  

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**Fucus**  

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**Wildlife Observations/ General Comments:**

This site is similar in exposure and degree of cover of biota to KN111. Mytilus locally dense on mid-intertidal bedrock + boulders, and in upper intertidal despite extensive oil (weathered coat) on rocks. Cobble reman beaches and adjacent bedrock + boulder outcroppings evidently washed during 1989. Examination of this segment was interrupted due to worsening weather conditions at 1520. Examined portion of segment designated KN112A.
REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/KN-112

SUBDIVISIONS: B (2 OF 2)
SEGMENT ST/ KN-112  SUBDIVISION B (2 OF 2) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ST-1  All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
Eagle nest in subdivision A, but close to border with B.

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 40 m: Narrow 346 m: V.Light 485 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 30+ cm

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

COMMENTS: Recommend bioremediation of areas shown on sketch map. Work
should be conducted after 6/1 with the approval of USFWS and ADF&G regard-
ing eagle nest constraint.

TAG COMMENTS: ______________________________________________________

TAG APPROVAL DATE: _____________
ADEC _________________
EXXON _________________ FOSC: _______________ DATE: _____________
NOAA __________________
USCG __________________
PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

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

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

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

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

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

1H Remote release site

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

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

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

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

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

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

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

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

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

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

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

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

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

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

6Y Special use destination

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

7H-H Finch harvesting

7I Deer harvesting (9/15 to 2/28)

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

USCG NAME: David Sylvester   SIGNATURE: David Sylvester

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

Due to the nature of the area it would do more harm to use bioremediation than the good that would be obtained. The majority of the area was steep and not very accessible. We did pick-up some oiled pom poms. Approximately 3 bags weighing about 40 lbs. each. We also picked up other assorted debris, approximately 100 lbs. Most of the area was inhabited by large numbers of marine life that appear to be doing well. The weather is having a positive impact on the oil.

ADEC NAME: M. Cunningham   SIGNATURE: M. Cunningham

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

In other than ch Joe debris, ... we picked up all we saw. Area nr pits 1 & 2 contained subsurface oil. However, rich biological communities in area could be harmed by invasive techniques. Bioremediation inappropriate due to high angle nature of headland boulders.

LAND MANAGER NAME: Steven Phillips   SIGNATURE: Steven Phillips

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

Check storm berms for debris
Bioremediation in "Medium" band to North and South
Scrape or otherwise remove tar on rock faces where coat exceeds 2mm thickness.

Try to find a method to treat tar coats on bedrock faces which are between 1mm and 2mm thick.
**SHORELINE OILING SUMMARY**

**OG Greg Cheney USCG, Dave Sylvester SEGMENT ST/KM 12**

**BIO Tom Bank, LAND REP Steve Phillips SUBDIVISION B**

**EXXON Ray Settle, ADEC Mike Cunningham TIME 14:15 to 15:30**

**TEAM NO.: 7 TIDE LEVEL: 6 ft. to 2 ft. DATE April 1, 5, 1990**

**EST. SUBDIVISION LENGTH: 938 m □ Sun □ Clouds □ Fog □ Rain □ Snow**

**UPLANDS DESCRIPTION: □ Grass □ Forest □ Rock □ Snow**

**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: % Lang 10 % Hang 20 % Vert 60 %**

**WAVE EXPOSURE: □ Low □ Med □ High**

**OIL CATEGORY LENGTH: W - m M - m N - m TIME - □ 80 360 498 0 6.0**

### SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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<tbody>
<tr>
<td>ASPHALT PAVEMENT</td>
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</tr>
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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**

<table>
<thead>
<tr>
<th>DEBRIS COLLECTED</th>
<th>AMOUNT</th>
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<tbody>
<tr>
<td>Logs</td>
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<td>Trash</td>
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<td>Debris</td>
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**Photographs:**

**Roll No. ST-7-2**

**Frames 2**

### SUBSURFACE OIL

<table>
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<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>BELOW</th>
<th>OIL / FILM COLOR</th>
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<td>(cm)</td>
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</tr>
<tr>
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<td>30</td>
<td>×</td>
<td>0.15</td>
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<tr>
<td>2</td>
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<td>×</td>
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<td>×</td>
<td>15.30</td>
<td>×</td>
<td>×</td>
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</table>

**COMMENTS**

Pit #1: couldn't get to bottom of oil layer due to boulders in the area.

**REVIEWED 7W DATE 4/14/90**