[Shoreline evaluations, 1991].

Kodiak K0921 KU 005 to K1002 AS 007

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SHORELINE EVALUATION

SEGMENT ST/ K09-21-KU-005 SUBDIVISION A (1 OF 1) DATE 5/5/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1C  Salmon by nursery area (4/31 to 7/31)
2M  Herring spawning (4/1 to 6/15)
4LL  National Park - Katmai
7JJ  Subsistence area: Invertebrate harvesting
7Z  Subsistence area: Salmon harvesting
9LM  Land mammals

See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: [Signature] DATE: 5/25/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 32 m: No Oil 1935 m

Subsurface Oil Observed: Yes No X

RECOMMENDATIONS:

X No Treatment Recommended
Treatment Recommended
Manual Pickup
Bioremediation
Tarmat Removal

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

COMMENTS:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

TAG COMMENTS: __________________________________________________________
________________________________________________________________________
________________________________________________________________________

TAG APPROVAL DATE: 5/24/90

ADEC
EXXON
NOAA
USCG
Possible old nest in disrepair (top of inlet rock cliff)

Active nest (upper cliff)
2 adults incubating

Ecology Map
(1 of 2)
ST + SK identified in NOAA database dated 3/15/92, but not documented on 1989 USFWS eagle nest monitoring Colony map. Eagle nests marked were not documented on 3/15/89 USFWS eagle nest map.
1C (fag nursery area)
2M (denial area, 8/15-8/30)
3F/S (subadults single & tribette on 8/30)
3R (subadults single, harvesting 8/10-8/20)

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

KU-5

Map Key: AKP-KU-5a
Name: 
Date: 

Approx. Segment Length: 2314m
I'm very light

XXX Wide

/// Medium

---- Narrow

TTTT Very Light

Approx. Segment Length: 2314m

Map Key: AKP-KU-5a

Name: B. Heyman

Date: 5-5-90
REGION: KODIAK

SEGMENT: ST/K09-21-KU-005

SUBDIVISIONS: A (1 OF 1)
SEGMENT ST/ K09-21-KU-005 SUBDIVISION A (1 OF 1) DATE 5/5/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
1C Salmon nursery area (4/31 to 7/31)
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Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

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

SHPO SIGNATURE:________________________ DATE:______________________

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 32 m: No Oil 195 m
Subsurface Oil Observed: Yes____ No X____ Maximum Depth_____

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

COMMENTS: __________________________________________________________

______________________________________________________________________

______________________________________________________________________

TAG COMMENTS: _________________________________________________________

______________________________________________________________________

TAG APPROVAL DATE:___________

ADEC ________________________ NOAA ________________________ USCG

FOSC:____________________ DATE:___________
KODIAK ECOLOGICAL CONSTRAINTS

1A Salmon stream mouth - fly outmigration (4/15 to 7/31)
1B Salmon stream mouth - spawning (7/15 to 8/10; PEAK 8/15)

No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or inlipol application, unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual mechanical 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 Ken Middleton 267-2238

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

No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or inlipol application, unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual 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 Kodiak Bay Hatchery release

Pink salmon - late May, early June; Chum salmon - June; Sockeye salmon - early July.

1H Remote release sites

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

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

1I Gill net areas

1J Purse seine areas

Mainland, West side Kodiak, Shuyak & Moser/Olga Bay (8/9 to 10/1)
East side Kodiak, East side Afgna (7/4 to 10/1)

1K Purse seine hook-off

1L Set net sites

Contact ADF&G for confirmation - dates and locations may vary. 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 inlipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

AGENCY CONTACT PERSON: ADF&G Larry Nicholson 486-4791

2A Herring spawning (4/15 to 8/20)

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

AGENCY CONTACT PERSON: ADF&G Larry Nicholson 486-4791

3B Harbor seal and sea lion pupping (6/10 to 7/1)

Harbor seal and sea lion resting (8/15 to 9/16)

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 inlipol 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 Calkin 267-2403

5R Seabird colony (6/1 to 9/1)

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

AGENCY CONTACT PERSON: USFWS Jim Parker 786-3377

5S Shorebird/waterfowl concentration (4/1 to 8/15)

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

AGENCY CONTACT PERSON: USFWS Jim Parker 786-3377

ADF&G Tom Roth 257-2208

5T All Bald Eagle nests (3/1 to 8/1)

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 8/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.

AGENCY CONTACT PERSON: USFWS Jim Parker 786-3377

5U Recreation:

Tent sites (6/1 to 9/16)
Anchorage (6/1 to 8/15)
Dock Service cabins (6/1 to 8/15)
Lodge (8/1 to 8/15)
Special use destination

5V Subsistence areas:

Salmon harvesting (6/1 to 9/30)

Finnich Inlet:
Deer harvesting (3/1 to 7/1)
Invertebrates harvesting:

Kodiak:
Bear harvesting (4/1 to 8/15 and 10/25 to 11/30)

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

SEGMENT ST: K09-21-K4005  SUBDIVISION: A    DATE 5/5/90

NAME: Stephen Lehmann    SIGNATURE: A. M. ~

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

Very little evidence of oil. In light of the very light and the presence of a pair of nesting eagles- treatment is not recommended.

ADEC

NAME: Terry Ellsworth    SIGNATURE: Terry Ellsworth

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

Only sporadic stain, coat and cover was observed in this segment. Treatment is not recommended.

LAND MANAGER

NAME: Carl Leich    SIGNATURE: C. Leich

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

The ecological summary indicates 1 pair of nesting eagles, which is correct (see note above). Only a negligible amount of recoverable oil was observed in this segment.
SHORELINE OILING SUMMARY

OG. G. HEYMAN NOAA S. LEUMANN SEGMENT STK 0931-KU-005
BIO. L. SHAPIRA LAND REP. C. SMITH SUBDIVISION A (6252)
EKKON NOT PRESENT ADEC T. ELLSWORTH TIME 10:30-10:45
EAM NO. 19 TIDE LEVEL +2.75 TO +1.75 DATE 5/5/90
EST. SUBDIVISION LENGTH: 2314 m 
UPPLANDS DESCRIPTION: Grass [ ] Forest [ ] Rock [ ]
SURVEYED FROM: Foot [ ] Boat [ ] Helo [ ] WORKING DIRECTION: N to S
SURFACE SEDIMENTS: R 35 % B 45 % C 10 % P 0 % G 0 % S 0 % V 0 %
SLOPE: Lang 40 % Hang 50 % Ven 10 %
WAVE EXPOSURE: Low [ ] Med [ ] High [ ]
OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 30 m NO 1924 m

SURFACE OIL

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

- PAVEMENT: H 3.0 m by 0 cm
- PATTIES/TARBALLS: 0 BAGS
- NEAR SHORE SHEEN: NO
- BR RW SL TL

OILED DEBRIS AMOUNT

- Logs
- Vegetation
- Trash
- Debris

- YES [ ] NO [ ]

DID YOU COLLECT DEBRIS?

PHOTOGRAPHS:
- Roll No.
- Frames

SUBSURFACE OIL

<table>
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<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
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<tr>
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<table>
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<tr>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED DEBRIS</th>
<th>OILED DEBRIS AMOUNT</th>
<th>OIL/FILM COLOR</th>
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<tbody>
<tr>
<td>OP OR OL OIL</td>
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</table>

- OIL Zone: W - -
- SURFACE SUBSURFACE SEDIMENTS:
- CP/PGC

COMMENTS: This segment consists of 6 pocket beaches separated by rock points. The beaches were coarse gravel, predominantly cobble- boulder- pebbles & some gravel. The northernmost beach was unsurveyed as it is south immediately to the south. Oiling consisted generally of taro splatters. Most oiling on the segment was on Beach 3 in the SE corner. At this location, a 2x20 m band of M+ ST at CT is reviewed. BAT DATE: 10/MA/90. Observed, total cover < 1.9%, MS occurred on splatters 1-2 mm thick, 2x20cm area.
SEGMENT STK 09-21-KU-005

SUBDIVISION A

DATE 5/15/90

CHECKLIST

Narrow
Approach Scale
Segment Boundary
Oil Dil.
Width
Length
% Cover
Substrate Character
Est. HAU/VHL
SSIL
Profile Location(s)
Profile(s)
Plot Location(s)
Photo Location(s)

LEGEND

1 A
Pt - No Subsurface Oil

2 A
Pt - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/P
Patchy Distribution

CT/S
Splashed Distribution

Oil Character Length (m): AP __ PO__ CV__ CT __ 20 ST __ S MS S __ PT __ TB __ FL __ NO 1924

REVISION 03/26/90
**SHORELINE ECOLOGICAL SUMMARY**

**Segment ST1, Line 5: Subdivision A**

Date (mo/day/yr) 5/15/90

**Time (24 hr) 1940 - 2130, Biologist SHARMAN**

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

- Bedrock (2)
- Boulder (2)
- Cobble (3)
- Pebble (10)
- Sand (5)
- Silt

(B) **Overall % cover of biota (% of segment):** Dense (x) Moderate (y) Low (z)

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

<table>
<thead>
<tr>
<th>Taxa</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rate</th>
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<tr>
<td>BARNACLES</td>
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<td>1U 1M 1L</td>
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<td>MYTILUS</td>
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<td>1U 1M 1L</td>
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<tr>
<td>GASTROPODS (AEGAE, LITTORINA, LIMAETS)</td>
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<td>1U 1M 1L</td>
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<td>FUCUS</td>
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**Wildlife Observations/General Comments:** 15 adult winged insects, 4 red snail comments, 2 brown herring gulls, 3 unidentified comments, 2 dead eels with active meat (see 'red'.

**Ecological Considerations:**

- Please see attached 'taxa map', note the 2 eagle nest locations. The 2 eagle nest locations are important for further study.

- The segment is also identified as important and sensitive from the standpoint of herring angling, salmon for rearing, athenian hardening, and land removal. The area appears to be used by a variety of wildlife, and clearly the habitat is important to recreational fishers, brown bears, and probably other species.
General Comments (cont.):

Barnacles, littorines, tube worms, and Fusaro are all locally scarce, particularly in the MTZ, but rare to sparse over the entire segment. MTZ tidal pools contain Cordelia algae (not Pseudolithodes), Chthamalus (dominant), littorines, Katherine, Antedonidae spp., limacina, tectum macleaya, etc. The lower MTZ is experiencing very dense settlement of barnacle cyprids presently - this is the only beach where I have seen this spring's distinct barnacle recruitment on the mainland coast since I arrived a week ago. These cyprids are presently successfully metamorphosing into spat. Few spat have been observed on other mainland beaches thus far (by me), indicating to me that this is the seasonal spring settlement event (lagging 2-3 weeks behind PWS).

Nudibranchs and Fusaro are also recruiting well since adults are established. The LIZ includes continuous removal Banks along with locally abundant larger Halocera conica, 3 Pricaster (first time seen on this coast ever), and also abundant Enteromorpha. Barnacle abundance near marram, littorines, pricklebacks, and amphipods - not a particularly rich amphipode fauna. The amphipods, however, are breeding (recruiting). Amongst the barnacles on the pebbled beach, shell of Spheciosoma (juvenile clam) are common. Submerged intertidal rock surfaces are covered with barnacle molts.
XXX Wide

/// Medium

---- Narrow

TTTT Very Light

Approx. Segment Length: 2314m

Map Key: AKP-KU-5a

Name: C. Heyzen

Date: 5-5-90
REGION: KODIAK

SEGMENT: ST/K09-21-KU-06

SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION

SEGMENT ST/K09-21-KU-06 SUBDIVISION A (1 OF 1) DATE 4/24/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Katmai National Park

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 214 m: Narrow 93 m: V.Light 3672 m: No Oil 0 m
Subsurface Oil Observed: Yes No X Maximum Depth

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

COMMENTS: Recommended treatment includes 1) manual pickup of mousse and oiled debris (debris, trash, vegetation and logs) followed by bioremediation in the areas indicated on the sketch map. No specific working time constraints identified.

TAG COMMENTS:

TAG APPROVAL DATE: __________
ADEC
EXXON
NOAA
USCG
FOSC: __________ DATE: ______

---End---
FIELD SHORELINE COMMENT SHEET

SEGMENT ST 1 K4.21 K4.000 SUBDIVISION: A DATE 1-24-80

NAME: Douglas J. Larson SIGNATURE: 

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS:

Main areas that need attention are the easternmost coves and even the 3rd cove to a less extent.

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS:

Manual cleanup is recommended for the significantly oiled areas within this segment (please see SSAT Map). Four such areas exist (medium oil):

1. A 3m x 15m band of MS saturated fine sediments among cobble, a 5x10m area of reverse deposited in supratidal zone grasses.

2. A 6m x 15m band of oil CR CS MS (sketch map)

3. A 10m x 30m band + 13m x 35m band of MS, NS pattern, 1.5m saturated fine sediments (sketch map)

4. A 6m x 35m band of oil CR, CV, P MS

Manual treatment should include the use of shovels & funnel. A SSAT field map should accompany report. Ocean oil present is not recoverable by manual method.

LAND MANAGER
NAME: Will TROYER SIGNATURE: 

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS:

on sketch Map # 1, the first Haven guy from last to west have considerable moss that could be recovered by manual methods. The last two areas were brushed with huge brushes and are probably not recoverable.

REVISION NO. 02/21/99
SHORELINE OILING SUMMARY

OG Acten USCG Haven SEGMENT ST/ K9-21- KU-6
BIO Davis LAND REP NPS Troyer, James SUBDIVISION K9-21 KU-6-4 (1 OF 2)
EXXON Avery ADEC Benn's TIME 2:30 10/11/95

TEAM NO. 30 TIDE LEVEL -2.5 to 6 DATE 4/24/90

ST. SUBDIVISION LENGTH: 3920 m

MATERIAL DESCRIPTION: ☑️ Grass ☑️ Forest ☑️ Rock

SURVEYED FROM: ☐ Foot ☑️ Boat ☑️ Helo WORKING DIRECTION: SE to NW

SURFACE SEDIMENTS: R 30 % B 30 % C 10 % P 10 % G 10 % S 10 % M 0 % V 0 %

SLOPE: Lang 40 % Hang 40 % Vert 20 %

WAVE EXPOSURE: ☑️ Low ☑️ Med ☑️ High

OIL CATEGORY LENGTH: W 0 m M 130 m N 180 m VL 360 m NO 0 m

SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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<tr>
<td>ASPHALT PAVEMENT</td>
<td>☑️ ☑️ ☑️ ☑️</td>
<td>☑️ U</td>
<td>☑️ M</td>
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<tr>
<td>COAT</td>
<td>☑️ ☑️ ☑️</td>
<td>☑️ U</td>
<td>☑️ M</td>
</tr>
<tr>
<td>STAIN</td>
<td>☑️ ☑️ ☑️</td>
<td>☑️ U</td>
<td>☑️ M</td>
</tr>
<tr>
<td>MOUSSE</td>
<td>☑️</td>
<td>☑️ U</td>
<td>☑️ M</td>
</tr>
<tr>
<td>PATTIES</td>
<td>☑️</td>
<td>☑️ U</td>
<td>☑️ M</td>
</tr>
<tr>
<td>TARBALLS</td>
<td>☑️</td>
<td>☑️ U</td>
<td>☑️ M</td>
</tr>
</tbody>
</table>

OILED DEBRIS

<table>
<thead>
<tr>
<th>AMOUNT</th>
<th>DID YOU COLLECT DEBRIS?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logs</td>
<td>☑️ Yes ☑️ No</td>
</tr>
<tr>
<td>Vegetation</td>
<td>☑️</td>
</tr>
<tr>
<td>Trash</td>
<td>☑️</td>
</tr>
<tr>
<td>Debris</td>
<td>☑️</td>
</tr>
</tbody>
</table>

Photographs:

Roll No. ST-20-6 ST-20-7
Frames 35, 36 2-7

PAVEMENT H F $0 sq. m by 0 cm

NEAR SHORE SHEEN? ☑️ BR RW SL TL

OIL CHARACTER | OILED MILLIMETER | OIL / FILM COLOR | PIT ZONE | ANA SHEEN (Y/N) | SURFACE - SUBSURFACE SEDIMENTS |
<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED MILLIMETER</th>
<th>BELOW</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANA SHEEN (Y/N)</th>
<th>SURFACE - SUBSURFACE SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>20</td>
<td></td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>3</td>
<td>20</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>4</td>
<td>10</td>
<td></td>
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<tr>
<td>5</td>
<td>10</td>
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<td></td>
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<tr>
<td>6</td>
<td>10</td>
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<td></td>
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</tr>
</tbody>
</table>

COMMENTS: Oil was observed in narrow and medium category in the area noted in sketch map (230 m total). The remainder of the segment was categorized as very light oil, which consisted of very light, very occasional, very sporadic, splash on cobbles, rocks, or drift material in VITN or SITZ.

REVIEWED BAT DATE 25 Apr 95
### Subsurface Oil (Continued)

<table>
<thead>
<tr>
<th>Pit No.</th>
<th>Pit Depth (cm)</th>
<th>Subsurface Oil Character</th>
<th>Oiled Interval</th>
<th>Below Oil/Film Color</th>
<th>Pit Zone</th>
<th>Ana</th>
<th>% Oil</th>
<th>Surface Subsurface Sediments</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>10</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td></td>
<td>c, b</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>10</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td></td>
<td>c, b</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>20</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td></td>
<td>c, p</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>20</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td></td>
<td>c, p</td>
<td></td>
</tr>
</tbody>
</table>

**Comments**

REVIEWED: BAT 
DATE: 25Apr90
SEGMENT K9-21 - KJ-6A
SUBDIVISION K9-21 - KJ-6A

DATE 4/24/90

CHECKLIST
- N Arrow
- Approx. Scale
- Spill/Sub Erosion
- Oil Drat
- Width
- Length
- % Corros
- Subsurface Character
- Ect. Water
- SSL
- Profile Location(s)
- Profiles
- Pit Location(s)
- Photo Location(s)

LEGEND

1 A
- Pit - No Subsurface Oil

2 A
- Pit - Subsurface Oil

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

Oiled Vegetation

1
- Photo location, direction, and number

Oil Character Length (m): AP _ PO _ CV 230 CT 230 ST 3690 MS 230 PT _ TB _ FL _ NO _
SHORELINE ECOLOGICAL SUMMARY

Segment ST/ KQ-21  Subdivision KU-06  Date (mo / day / yr) 4/24/90

Time (24 hr) 8:20  Biologist H. Davis

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

(B) Overall % cover of biota (% of segment): Dense 10%  Moderate 50%  Low 40%  (60%)

(C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L):
   Photographs: Roll No. St-20-6/ St-20-7
   Frames 35, 36/2-7

BARNACLES continuous along segment, dense on rock overtopping boulders.

<table>
<thead>
<tr>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

NOT PRESENT

MYTILUS small, common upper tidal crevice, patchy motes between cobbles.

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

NOT PRESENT: 4, 5, 6

GASTROPODS continuous limpet/ littorines, small groups 20-30 Nucella.

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

NOT PRESENT: 4, 5, 6

FUCUS moderate, continuous, patches

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

NOT PRESENT: 4, 5, 6

Wildlife Observations/General Comments: Cormorant, oystercatchers, seaduck, eagle, and Harlequin ducks all feeding in the area. Red fox seen in the low intertidal, mouse, small birds in the intertidal, brown pelican upper intertidal, in one area control Cormorants were still alive and feeding.

Ecological Considerations: None. There are anadromous streams above and below this area.
PHOTOGRAPHY LOG

ROLL NO. ST-20-6 FROM 4/24 TO __________
TEAM NO. #20 PWS/KENAI/KODIAK/AK. PENINSULA

<table>
<thead>
<tr>
<th>FRAME</th>
<th>NUMBER</th>
<th>SHOOTER</th>
<th>DATE</th>
<th>ROLL</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>35</td>
<td>H. Davis</td>
<td>4/24/90</td>
<td></td>
<td></td>
<td>Sand and mousse larger</td>
</tr>
<tr>
<td>36</td>
<td></td>
<td></td>
<td>√</td>
<td></td>
<td>Stream and Coast</td>
</tr>
<tr>
<td>37</td>
<td></td>
<td></td>
<td>√</td>
<td></td>
<td>Don salmon on rock(s)</td>
</tr>
</tbody>
</table>
# PHOTOGRAPHY LOG

**ROLL NO.** ST-20-7  **FROM** 4/24  **TO** 7/31  
**TEAM NO.** 20  **PWS/KENAI/KODIAK/AK. PENINSULA**

<table>
<thead>
<tr>
<th>FRAME</th>
<th>NAME</th>
<th>DATE</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>N. Davis</td>
<td>4/24/90</td>
<td>Oiled &amp; coated barren area</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td>View oiled area</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td>Close-up of oiled area</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td>Stain on rock face</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td>Oil and mousse strip</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td>Oil stain on boulder</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
XXX Wide

/// Medium

---- Narrow

TTTT Very Light

0000 No Oil

KU-6

K9-21-KU-6A

Map Key: AKP-KU-6A

Name: Action

Date: 4-14-20

Data Entered:

Sketch map A1 →
XXX Wide
/// Medium
---- Narrow
TTTT Very Light

KU-6

Map Key: AKP-KU-66
Name: Action
Date: 4-24-90
Data Entered:
SHORELINE EVALUATION

SEGMENT ST/ K09-21-KU-06 SUBDIVISION A (1 OF 1) DATE 4/24/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Katmai National Park

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: John A. Hecker DATE: 5/5/90

OILING CATEGORIZATION:
Wide 0 m: Medium 214 m: Narrow 93 m: V.Light 3672 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth

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

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

COMMENTS: Recommended treatment includes 1) manual pickup of mousse and oiled debris (debris, trash, vegetation and logs) followed by bioremediation in the areas indicated on the sketch map. No specific working time constraints identified.

TAG COMMENTS: Monitors to assess logs

TAG APPROVAL DATE: May 5 1990
ADEC Art Weber Arthur Kas
EXXON Mark N. Whitm, Mark E. Skelton
NOAA Gary Petree
USCG CPT. Karl Swanson

Treat after 30 May. This for wet approved. However, could not approved to be treated by boat only.
SUBDIVISION: K9-21-KW-6A

DATE: 9/24/90

CHECKLIST

- Arrow
- Appr. Scale
- Spy/Sub Bndry
- Oil Dbl
- Whln
- Length
- % Cover
- Substrate Character
- Est. H/R/A/W.
- SSL
- Profile Location(s)
- Profile
- Pit Location(s)
- Photo Location(s)

LEGEND

1 △
- Pit - No Subsurface Oil

2 △
- Pit - Subsurface Oil

CT/C
- Continuous Distribution

CT/B
- Graded Distribution

CT/P
- Patchy Distribution

CT/S
- Splashed Distribution

Oil Vegetation

\[\frac{\text{Oil Character Length (m): AP____PO____CV____CT____ST____MS____PT____TB____FL____NO____}}{\text{REVIEW DATE: 8/12/90}}\]
XXX Wide
/// Medium
--- Narrow
TTTT Very Light
0000 No Oil

K9-21 KU-6A

Approx. Segment Length: 3950m
Name: Acton
Date: 4-24-90
Data Entered:

Map Key: AKP-KU-6a
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT K09-21-KU-06 SUBDIVISION A (1 of 1)

WORK WINDOW

<table>
<thead>
<tr>
<th>Manual Pickup</th>
<th>OPEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioremediation</td>
<td>WORK PRIOR TO 7/1</td>
</tr>
</tbody>
</table>

*No lnpl - Use Customblen Only

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

7Z Subsistence: Salmon Harvesting Closed to bioremediation after 7/1. No constraint to manual pickup.

OTHER ECOLOGICAL CONSIDERATIONS

Access by boat only. Restrict boat and air traffic and beach disturbance to essential minimum after 7/1. Avoid any unnecessary disturbance or damage to unciled biota and substrate.

FOSC

Prepared by

Date 6/16/90

Date 6/15/90
SHORELINE EVALUATION

SEGMENT ST/K09-21-KU-06 SUBDIVISION A (1 OF 1) DATE 4/24/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Katmai National Park

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

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

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

OILING CATEGORIZATION:
Wide 0 m: Medium 214 m: Narrow 93 m: V.Light 367 m: No Oil 0 m
Subsurface Oil Observed: Yes __ No _
Maximum Depth ___

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

COMMENTS: Recommended treatment includes 1) manual pickup of mousse and oiled debris (debris, trash, vegetation and logs) followed by bioremediation in the areas indicated on the sketch map. No specific working time constraints identified.

TAG COMMENTS: Monitor to assess logs

TAG APPROVAL DATE: May 5, 1990
ADEC ART WENGER [Signature]
EXXON [Signature]
NOAA [Signature]
USCG [Signature]
REGION: KODIAK

SEGMENT: ST/K09-22-CG-01

SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION

SEGMENT ST. K92.22.CG-01 SUBDIVISION A (1 OF 1) DATE 4/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
No specific ecological constraints identified.
Katmai National Park.

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

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

SHPO SIGNATURE: __________________ DATE: __________________

OILING CATEGORIZATION:
Wide 90 m; Medium 227 m; Narrow 276 m; V.Light 91 m; No Oil 1271 m
Subsurface Oil Observed: Yes X No Maximum Depth 15 cm

RECOMMENDATIONS:

X Treatment Recommended

X Manual Pickup

X Bioremediation

_____Tarmat Removal

_____Snare/Absorbent Booms

X Oil Snares (pom poms)

_____Absorbents (pads, rolls, etc)

_____Spot Washing: Wands

_____Beach Cleaner

_____Other (see comments)

COMMENTS: Recommended treatment includes 1) manual pickup of mousse, oiled debris and oiled logs in conjunction with pom poms followed by 2) bioremediation (access permitting) in areas indicated on attached sketch map.

TAG COMMENTS: ______________________________________________________

TAG APPROVAL DATE: __________

ADEC ______________________

EXXON _____________________

NOAA _____________________

USCG _____________________

FOSC: __________ DATE: ________
SEGMENT ST / K-22 66.001 SUBDIVISION: 1A DATE 4-21-90

SCG MED. D. Hauser Jr. GM Spinner SIGNATURE

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

Concur fully with ADEC Rep.

ADEC NAME: Francisco J. Bruns SIGNATURE: Francisco J. Bruns

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

ADEC LANDMANAGER MPS NAME: WILL TROYER SIGNATURE: Will Troyer

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

Manual pick-up of remaining oil is HIGHLY RECOMMENDED.

Main band of mousse/mousse saturated sediments is approximately 300 meters long, varying in width from 4 to 12 meters, patchy distribution but certainly collectable. Mousse is present in crevices & cracks of rock outcrop that extends into this baylet, it can be removed with towels. Some oiled debris is present in supralittoral zone to the east of main band of oil. There are isolated pockets of mousse saturated sediments visible along rock outcrops that border gull filled bielts. (Please see field map). Much of this is collectable, it should be removed.

In general I concur with ADEC and U.S.G. if more hands on this end with some effort it would be possible to remove a significant amount of the mousse with pick and shovel.
SHORELINE OILING SUMMARY

OG: Acton
BIO: Davis
EXXON: Avery
TEAM NO.: 20
DATE: 4/2/80
TIME: 3:15:00

SEGMENT ST: K-22-66
LENG: 1,555

DATE: 4/2/80
TIME: 3:15:00

VEGETATION:
Grass
Forest
Rock

UPLANDS DESCRIPTION:
Foot
Boat
Helo

WORKING DIRECTION:
Nw to S

SURFACE SEDIMENTS:
Asphalt
Pooled

COVER:

STAIN:

MOUSSE:

PATTERNS:

TAR BALLS:

FILM:

OC OIL:

PAVEMENT:

H F S

square m by cm

OILED DEBRIS:

AMOUNT:

DID YOU COLLECT

DEBRIS?

Logs

Vegetation

Trash

Debris

Photoraphs:

Roll No.: ST-20-6
Frames: 2-19

NEAR SHORE SHEEN?

NO

BR

RW

SL

TL

OILED AMOUNT:

SM MD LG

DID YOU COLLECT

DEBRIS?

YES

NO

TYPE:

BAGS:

SUBSURFACE OIL

PIT NO.

PIT DEPTH (cm)

10

10

10

20

20

OP OR OL OF HOLE

OILED

INTERVAL

BELOW

OIL / FILM COLOR

10

10

10

20

20

SU UO OA U

SU UO OA U

SU UO OA U

SU UO OA U

SU UO OA U

ANALYSIS

FREQUENCY

(VOL.

SURFACE- SUBSURFACE SEDIMENTS

BR

BR

BR

CP

P O

COMMEN:

Main oil accumulation is in the baylet depicted in sketch map. Oiled band is
present in VITZ varying in width from approx 12m in SE to 6m in NW end of baylet.
At either end of segment, oil was observed up in recesses in the upper VITZ. Baylet is
empty of water at minus tide.

Pits,
were dry in areas where surface oiling was observed.
### Subsurface Oil (Continued)

<table>
<thead>
<tr>
<th>Pit No.</th>
<th>Pit Depth (cm)</th>
<th>Subsurface Oil Character</th>
<th>Oiled Interval</th>
<th>Below Oil</th>
<th>Oil/Film Color</th>
<th>Pit Zone</th>
<th>Azimuth</th>
<th>Sheen (Y/N)</th>
<th>Surface - Subsurface Sediments</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>25</td>
<td>✓</td>
<td>-</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>Y</td>
<td>N, P.G.S</td>
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<td>-</td>
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<td>N, R.B</td>
</tr>
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<td>N, R.B</td>
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**Comments**
SHORELINE ECOLOGICAL SUMMARY

Segment ST / K09-29
Subdivision C0 01

Date (mo/day/yr) 4/21/90

Time (24 hr) 4:30

Biologist H. Davis

(A) Substrate type and % of segments:
1. Bedrock 20%
2. Boulder 20%
3. Cobble 35%
4. Pebble 25%
5. Sand 10%
6. Silt 10%

(B) Overall % cover of biota (% of segment):
- Dense 30%
- Moderate 30%
- Low 40%

(C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa:
- Juveniles / Adults
- New settlement

Photographs:
- Roll No. ST-20-6
- Frames 2-18

BARNACLES
- Continuous or sparse with patches of Dense, Moderate, Rare

<table>
<thead>
<tr>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
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MYTILUS
- Very Patchy

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<td>7</td>
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GASTROPODS
- Continuous, moderate, sparse

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</tr>
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<td>6</td>
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FUCUS
- Very Patchy

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<td></td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Wildlife Observations/General Comments:
- Cormorants, Glaucous-winged gull, Harlequin ducks and two adult eagles
- The upwelling was feeding in the LITZ. Relatively high energy area.
- Small breakers offshore, Pipers Point continues to be protected over 30% in bedrock pools.
- Bluffs with spruce, willow and alder, Juniper, and elder. (Much?) Rock outcropping with more species diversity than central area.

Ecological Considerations:
- Gulf rookeries in the area. Two adult eagles out on pumice.
- Possibly nesting, No terns. No anadromous streams in the section. Pipers, Chum, and Sockeye spawners in streams above and below the segments.
<table>
<thead>
<tr>
<th>FLORA:</th>
<th>SPECIES</th>
<th>UITZ</th>
<th>MITZ</th>
<th>LITZ</th>
<th>COMMENTS</th>
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<tbody>
<tr>
<td>BOSSELLA/CORALLINA</td>
<td>CALLIARTHRO/CORALLINA</td>
<td>1</td>
<td>1</td>
<td>1.2</td>
<td>In Pools</td>
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<tr>
<td></td>
<td>CLADOPHORA SPP</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td></td>
<td>COSTARIA SPP</td>
<td>1</td>
<td>1.2</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>ENDOCLADIA MURICATA</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>Found in drift</td>
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<tr>
<td></td>
<td>FILAMENTS GREENS</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>On Rock</td>
</tr>
<tr>
<td></td>
<td>FILAMENTS REDS</td>
<td>-</td>
<td>-</td>
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<td>GLOIOPELTIS FURCATA</td>
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<td>HALOSACCION GLANDIFORME</td>
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<tr>
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<td>LAMINARIA SPP</td>
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<td>In drift</td>
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<tr>
<td></td>
<td>LITHOTHAMNION</td>
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<td>As drift on cem boundary of shore</td>
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<td>NEREOCYSTIS SPP</td>
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<td>RALPHSIA/HILDENBRANDIA/PATRICKI</td>
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<td></td>
<td>RHODOMELA LARIX</td>
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<tr>
<td></td>
<td>RHODOMENIA PALMATA</td>
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<tr>
<td></td>
<td>SCYTOSIPHON SPP</td>
<td>1</td>
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<td>Vertical Flow</td>
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<td>ULVIA SPP</td>
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<td>1.2</td>
<td>3</td>
<td>Fann in pools and slightly in core</td>
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<tr>
<td></td>
<td>ZOSTERA MARINA</td>
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<tr>
<td></td>
<td>ENTEROMORPHA</td>
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<tr>
<td></td>
<td>Olenethalia clarea</td>
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<td>1.2</td>
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<th>UITZ</th>
<th>MITZ</th>
<th>LITZ</th>
<th>COMMENTS</th>
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<td>(SEM) BALUNUS CAERUS</td>
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<td>In crevices and pools</td>
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<td>B. GLANDULA</td>
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<td>BRYOZOANS</td>
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<td>CHITONS (other than K. TUNICATA)</td>
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<td>CLAMS</td>
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<td>CRABS</td>
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<td>DERMATERIAS IMBRICATA</td>
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<td>KATHARINA TUNICATA</td>
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<td></td>
<td>LEPTASTERIAS HEXACTIS</td>
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<td></td>
<td>LIMPET</td>
<td>1.2</td>
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<td>1.2</td>
<td>Large nitrogen</td>
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<td></td>
<td>LITTORINA SPP</td>
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<td>1.2</td>
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<td>NUCELLA SPP</td>
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<td>PAGURUS SPP</td>
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<td>1.2</td>
<td>-</td>
<td>In pools under boulders + cobble</td>
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<td>PISASTER OCHRACEUS</td>
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<tr>
<td>1</td>
<td>H. Davis</td>
<td>4/19/90</td>
<td>K1-2-00-0001</td>
<td>View to the west from south side of small core</td>
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<tr>
<td>2</td>
<td>H. Davis</td>
<td>4/21/90</td>
<td>K1-2-00-0001</td>
<td>Oil and mangrove upper intertidal</td>
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<td>3</td>
<td>H. Davis</td>
<td>4/21/90</td>
<td>K1-2-00-0001</td>
<td>Steaming and mangrove coat upper intertidal</td>
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<tr>
<td>4</td>
<td>H. Davis</td>
<td>4/21/90</td>
<td>K1-2-00-0001</td>
<td>Panorama of the southeast half of C0-01 mill section</td>
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<td>5</td>
<td>H. Davis</td>
<td>4/21/90</td>
<td>K1-2-00-0001</td>
<td>Southern section of panorama (taken from east)</td>
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<tr>
<td>6</td>
<td>H. Davis</td>
<td>4/21/90</td>
<td>K1-2-00-0001</td>
<td>Oil stain and globule</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>H. Davis</td>
<td>4/21/90</td>
<td>K1-2-00-0001</td>
<td>Oil pool upper intertidal</td>
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<tr>
<td>8</td>
<td>H. Davis</td>
<td>4/21/90</td>
<td>K1-2-00-0001</td>
<td>Oil collection by D.C. - water not allowed to the South of 0-01</td>
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<tr>
<td>9</td>
<td>H. Davis</td>
<td>4/21/90</td>
<td>K1-2-00-0001</td>
<td>Sheen and mangrove in upper intertidal near small stream</td>
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<td>10</td>
<td>H. Davis</td>
<td>4/21/90</td>
<td>K1-2-00-0001</td>
<td>Stain and coat on rocks in</td>
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<td>11</td>
<td>H. Davis</td>
<td>4/21/90</td>
<td>K1-2-00-0001</td>
<td>Stain and coat on rocks (Floyd Perry)</td>
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<tr>
<td>12</td>
<td>H. Davis</td>
<td>4/21/90</td>
<td>K1-2-00-0001</td>
<td>2-c on mangrove and sand in upper intertidal</td>
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</tr>
<tr>
<td>13</td>
<td>H. Davis</td>
<td>4/21/90</td>
<td>K1-2-00-0001</td>
<td>Mangrove pooled up with gravel on bedrock</td>
<td></td>
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<tr>
<td>14</td>
<td>H. Davis</td>
<td>4/21/90</td>
<td>K1-2-00-0001</td>
<td>Close up of pooled mangrove</td>
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<tr>
<td>15</td>
<td>H. Davis</td>
<td>4/21/90</td>
<td>K1-2-00-0001</td>
<td>Mangrove and sediment on bedrock crevice (pit)</td>
<td></td>
</tr>
</tbody>
</table>
During a minus tide this baylet has no standing water and is comprised of S+M sediments.
SHORELINE EVALUATION

SEGMENT ST/K09-22-CG-01 SUBDIVISION A (1 OF 1) DATE 4/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
No specific ecological constraints identified.
Katmai National Park.

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

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

SHPO SIGNATURE: ______________________ DATE: 5/5/90

OILING CATEGORIZATION:
Wide 90 m: Medium 227 m: Narrow 276 m: V.Light 91 m: No Oil 1211 m
Subsurface Oil Observed: Yes X No ___ Maximum Depth 15 cm

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

COMMENTS: Recommended treatment includes 1) manual pickup of mousse, oiled debris and oiled logs in conjunction with pom poms followed by 2) bioremediation (access permitting) in areas indicated on attached sketch map.

TAG COMMENTS: Monitors to assess logs.

TAG APPROVAL DATE: May 5, 1990
ADEC Art Wetzer Art Acien
EXXON Mark N. Gilbert Mark N. Gilbert
NOAA Gary Petrie
USCG G.H. Beiter G.H. Beiter

Treat prior to 1st June or after 15 Aug. Bioremediation not approved. Access shoreline by boat only.
**Checklist**
- N Arrow
- Approx. Scale
- Seg/Std. Brandy
- Oil DSL
- Width
- Length
- % Cover
- Substrate Character
- Est. HWL/PL
- SSL
- Profile Location(s)
- Profile(s)
- Pit Location(s)
- Photo Location(s)

**Legend**

- **Pr**: No Subsurface Oil
- **Pr**: Subsurface Oil
  - **CT/C**: Continuous Distribution
  - **CT/B**: Broken Distribution
  - **CT/P**: Patchy Distribution
  - **CT/S**: Splashed Distribution

**Oil Character Length (m):**
- **AP**
- **PO**
- **CV**
- **300**
- **OT**
- **300**
- **ST**
- **300**
- **MS**
- **300**
- **PT**
- **0**
- **TB**
- **0**
- **FL**
- **0**
- **NO**
- **1105**

**Sketch Map**
- Approx. Scale
  - 1 cm = 15 m

**Map Description**
- Manual Pick-up from MD of Mouse
- M3/P observed was interspersed with cobbles and boulders to a thickness up to 4.5 cm.
- No oil was observed in the substrate in any pits in this sketch map area.

**Notes**
- During a minus tide, this bog/marsh has no standing water and is comprised of 5m sediments.
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT K09-22-CG-01 SUBDIVISION A (1 of 1)

WORK WINDOW

<table>
<thead>
<tr>
<th>Manual Pickup</th>
<th>WORK-AFTER 8/15: Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Approved Treatment (Oil Snares)</td>
<td>WORK-AFTER 8/15: Open</td>
</tr>
</tbody>
</table>

No bio remediation as per FOSC

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS
No specific ecological constraints identified for manual pickup or other approved treatment (oil snares).

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

ADDENDUM REvised PER CONVERSATION WITH DAN HAMSON (NPS) AND BURE ROME (USCG).
Rex Coulter 06/27/90

concurred DD ROME 06/29/90

APPROVED

FOSC L \ Date 6-19-90
Prepared by W. Date 6/14/90
ECOLOGY MAP
SEGMENT K9N-22 CG-1
SUBDIVISION A (Lot 1)

★ Seabird Colony
△ Active Eagle Nest
△ Inactive Eagle Nest
SHORELINE EVALUATION

SEGMENT ST/K09-22-CG-01 SUBDIVISION A (1 OF 1) DATE 4/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
No specific ecological constraints identified.
Katmai National Park.

SUBDIVISION ECOCPLICAL CONSTRAINTS:
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ARCHAEOLOGICAL CONSTRAINTS:
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SHPO SIGNATURE: ___________________________ DATE: 5/5/90

OILING CATEGORIZATION:
Wide 90 m: Medium 227 m: Narrow 276 m: V. Light 91 m: No Oil 1211 m
Subsurface Oil Observed: Yes X No _____ Maximum Depth 15 cm

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
______ Other (see comments)

COMMENTS: Recommended treatment includes 1) manual pickup of mousse, oiled debris and oiled logs in conjunction with pom poms followed by 2) bioremediation (access permitting) in areas indicated on attached sketch map.

SEE CONSTRAINTS ADDENDUM DATED 6/16/90.

TAG COMMENTS: Mem to assess logs.
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT K09-22-CG-01 SUBDIVISION A (1 of 1)

<table>
<thead>
<tr>
<th>WORK WINDOW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual Pickup</td>
</tr>
<tr>
<td>Other Approved Treatment (Oil Snares)</td>
</tr>
</tbody>
</table>

No bioremediation as per FOSC

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

No specific ecological constraints identified for manual pickup or other approved treatment (oil snares).

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC ____________________ Date 6-19-90

Prepared by ____________________ Date 6-14-90
SHORELINE EVALUATION

SEGMENT ST_K09-22-CG-01 SUBDIVISION A (1 OF 1) DATE 4/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
No specific ecological constraints identified.
Katmai National Park.

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

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

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

OILING CATEGORIZATION:
Wide 90 m: Medium 227 m: Narrow 276 m: V.Light 91 m: No Oil 1211 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 Removal ___Beach Cleaner

COMMENTS: Recommended treatment includes 1) manual pickup of mousse, oiled debris and oiled logs in conjunction with pom poms followed by 2) bioremediation (access permitting) in areas indicated on attached sketch map.

SEE CONSTRAINTS ADDENDUM DATED 6/16/90.

TAG COMMENTS: Memory to assess logs.

TAG APPROVAL DATE: 5/5/90

ADEC Art Seven Art Seven
EXXON Mark N. Silver Mark N. Silver FOJC: ___ DATE: 5/12/90
NOAA Gary Peterson / Gary Peterson
USCG CDR REITER / CDR REITER

Treat plant to 1 time or after 15 Aug
Bioremediation is not approved. Access allowed by boat only.
SHORELINE EVALUATION

SEGMENT ST/ K09-22-CG-02 SUBDIVISION A (1 OF 1) DATE 4/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

3N,3P Harbor seal and sea lion pupping (5/10 to 6/30)
3O,3Q Harbor seal and sea lion molting (8/15 to 9/15)
4LL National Parks
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: __________________________ DATE: 5/1/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 13 m: No Oil 557 m
Subsurface Oil Observed: Yes___ No X___ Maximum Depth ___

RECOMMENDATIONS:

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

COMMENTS: __________________________________________

____________________________________________________

____________________________________________________

TAG COMMENTS: _____________________________________

____________________________________________________

____________________________________________________

TAG APPROVAL DATE: 5/1/90
ADEC Art Webber Art Webber
EXXON Amoco Alan Anderson
NOAA Larry Peterson
USCG Kenneth Adams

FOSC: ______ DATE: 5-9-90
REGION: KODIAK

SEGMENT: ST/K09-22-CG-02

SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION

SEGMENT ST_K09-23-CG-02_SUBDIVISION_A (1 OF 1) DATE 4/21/90

ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
3N,3P Harbor seal and sea lion pupping (5/10 to 6/30)
3O,3Q Harbor seal and sea lion molting (8/15 to 9/15)
4LL National Parks
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: __________________________ Date: __________________________

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 13 m: No Oil 557 m
Subsurface Oil Observed: Yes__ No X Maximum Depth____

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

COMMENTS: ____________________________________________________________
___________________________________________________________
___________________________________________________________

TAG COMMENTS:________________________________________________________
___________________________________________________________
___________________________________________________________

TAG APPROVAL DATE: __________________ ADEC: __________________
EXXON: __________________ FOSC: __________________ DATE: __________
NOAA: __________________ USCG: __________________
KODIAK ECOLOGICAL CONSTRAINTS

1A Salmon stream mouth - fry outmigration (4/15 to 7/31)
1B Salmon stream mouth - spawning (7/15 to 9/10; PEAK 8/15)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
1C Salmon fry nursery area (4/31 to 7/31)
1D Koot Bay Hatchery release
Pink salmon - late May, early June; Chum salmon - June; Sockeye salmon - early July.
1E Remote release site
1F Gill net area
1G Purse seine area
Mainland, West side Kodiak, Shuyak & Moser/Oliga Bay - 6/3 to 10/1.
East side Kodiak, East side Afognak - 7/4 to 10/1.
1H Purse seine hook-off
1I Set net sites
USFWS setnet uplands permit 5/15 to 9/15.
For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
1J
1K
1L
2M Herring spawning (4/15 to 6/30)
Restrict boat traffic to essential minimum. Avoid damage to un-oiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
3N, 3P Harbor seal and sea lion pupping (5/10 to 6/30)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
3Q Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
5R Seabird colony (5/1 to 8/31)
Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
5S Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic.
5T All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 400m. 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
6U Recreation:
Tent sites (6/1 to 9/15)
Anchorage (6/1 to 9/15)
6V Forest Service cabins (6/1 to 9/15)
6W Lodge (6/1 to 9/15)
6Y Special use destination
7Z Subsistence area: Salmon harvesting (6/1 to 9/30)
7GH Finfish harvesting
7II Deer harvesting (8/1 to 1/7)
7JJ Invertebrate harvesting
7HK Bear harvesting (4/1 to 5/15 and 10/25 to 11/30)
For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
FIELD SHORELINE COMMENT SHEET

SEGMENT ST1 K9.22 S60°2' SUBDIVISION: A DATE 4.21.90

SCG
NAME: D.D. Haven Jr., GM3, USCG SIGNATURE

☑ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS
Not enough oil to justify cleanup. Only one small patch of mousse.

ADEQ
NAME: Francis J. Beanis SIGNATURE

☑ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS
Only a very small amount of mousse is present in VITE, in the accessible area of this segment.

LAND MANAGER NP5
NAME: Will Troyer SIGNATURE

☑ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS
Only one or two small gobs of mousse found in this segment of high energy beach. Not possible to remove small amount to improve beach.
**SHORELINE OILING SUMMARY**

**OG** Exxon ADEC Segment ST/ USCG Hagen  
**BIO** Avryland rep. NPS Troyer, James  
**TEAM NO.** 20  
**LAND REP.**  
**TIME** 4:30  
**LOCATION** 90  
**DATE** 4/21/90  
**SEASON**  
**UNIT**  
**TIDE LEVEL**  
**SUN**  
**CLOUDS**  
**FOG**  
**RAIN**  
**SNOW**  
**SURVEYED FROM**  
**FOOT**  
**BOAT**  
**HELICOPTER**  
**WORKING DIRECTION**  
**W**  
**E**  
**SURFACE SEDIMENTS**  
**GRASS**  
**FOREST**  
**ROCK**  
**OIL CATEGORY**  
**LENGTH**  
**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>
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<td>POSEIDON</td>
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<tr>
<td>COVER</td>
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<td>STAIN</td>
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<td>MOUSSE</td>
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<tr>
<td>PATTIES</td>
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<tr>
<td>TARBALLS</td>
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<td>FILM</td>
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<td>NO OIL</td>
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<th>PAVEMENT P</th>
<th>$</th>
<th>sq. m by</th>
<th>cm</th>
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<th>BR</th>
<th>RW</th>
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<th>TL</th>
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<th>OILED DEBRIS</th>
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<th>DEBRIS?</th>
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<tr>
<td>Logs</td>
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</tr>
<tr>
<td>Vegetation</td>
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<td>Type</td>
</tr>
<tr>
<td>Trash</td>
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<tr>
<td>Debris</td>
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<td>#BAGS</td>
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**Photographs:**

- Roll No.  
- Frames  

**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>OILED DEBRIS</th>
<th>OIL / FILM COLOR</th>
<th>OILED DEBRIS</th>
<th>PIT ZONE</th>
<th>ANNA SHEEN (VAN)</th>
<th>SURFACE-SUBSURFACE SEDIMENTS</th>
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<tr>
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**COMMENTS**

NW portion (200m) was surveyed on foot. One cobble w/ mouse was observed in the SSL. The SE portion (341m) was surveyed by boat due to cliffs and wave exposure.
### SHORELINE ECOLOGICAL SUMMARY

**Segment ST** / 1509-32  
**Subdivision** G-02  
**Date (mo/day/yr)** 4/21/90

**Time (24 hr)** 19:00  
**Biologist** H. Davis

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

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

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

#### BARNACLES
- Continuous along segments  
- Sparse patches of Dense biota

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
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<tbody>
<tr>
<td></td>
<td>1M</td>
<td>1L</td>
<td>1M</td>
<td>1L</td>
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</table>

#### MYTILUS
- Very patchy, not many mussels

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<th>Sparse</th>
<th>Rare</th>
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</table>

#### GASTROPODS
- Continuous sparse to moderate density along segments

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#### FUCUS
- Very patchy

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</table>

**Wildlife Observations/General Comments:**
- A loon, winged gull, Harlequin ducks, and two adult eagles on perches off shore  
- This segment is a small boulder range, large boulders in front of cliffs.  
- The lower intertidal area have fewer cobble. Filamentous green algae cover the tops of rocks.

**Ecological Considerations:**
- Cull reservoir in the area. 2 eagles possibly nesting on perches off shore. No freshwater streams in the section. Pink, Chum, and Sockeye spawn in streams above and below the segments.
<table>
<thead>
<tr>
<th>SPECIES</th>
<th>UTTZ</th>
<th>MITZ</th>
<th>LITT</th>
<th>COMMENTS</th>
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<tr>
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<td>species Id not certain</td>
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<tr>
<td><strong>CLADOPHORA SPP</strong></td>
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<tr>
<td><strong>COSTARIA SPP</strong></td>
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<tr>
<td><strong>ENDOCALIA MURICATA</strong></td>
<td>1.2-2</td>
<td>1.2</td>
<td>1.2</td>
<td>covers tops of boulders, cobbles etc</td>
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<tr>
<td><strong>FILAMENTOUS GREENS</strong></td>
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<td><strong>FILAMENTOUS REDS</strong></td>
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<tr>
<td><strong>GLOIOPELTIS FURCATA</strong></td>
<td>1.2</td>
<td>1.2</td>
<td>2</td>
<td>on top of boulders, cobbles</td>
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<tr>
<td><strong>HALOACCCION GLANDIFERMA</strong></td>
<td>1.2</td>
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<td><strong>LAMINARIA SPP</strong></td>
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<td><strong>LITHOTHAMNION</strong></td>
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<td>in drift</td>
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<tr>
<td><strong>NEREOCYSTIS SPP</strong></td>
<td></td>
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<td>in pools</td>
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<tr>
<td><strong>PORPHYRA SPP</strong></td>
<td></td>
<td></td>
<td></td>
<td>off shore in drift</td>
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<tr>
<td><strong>RAPHIAS/HILDENBRANDIA</strong></td>
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<td><strong>RHODOMELA LARIX</strong></td>
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<td><strong>RHROMENIA PALMATA</strong></td>
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<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
<td></td>
</tr>
<tr>
<td><strong>BRYOZOANS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CHITONS (other than K. TUNICATA)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CLAMS</strong></td>
<td></td>
<td></td>
<td></td>
<td>Shells tossed up</td>
</tr>
<tr>
<td><strong>CRABS</strong></td>
<td></td>
<td></td>
<td></td>
<td>See Pagonia spp</td>
</tr>
<tr>
<td><strong>DERMASTERIAS IMBRICATA</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>KATHARINA TUNICATA</strong></td>
<td>1.2</td>
<td></td>
<td>1.2</td>
<td>in pools and rocks without cobbles</td>
</tr>
<tr>
<td><strong>LEPTASTERIAS HEXACTIS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>LIMPETS</strong></td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
<td>large numbers</td>
</tr>
<tr>
<td><strong>LITTORINA SPP</strong></td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
<td></td>
</tr>
<tr>
<td><strong>NUCELLA SPP</strong></td>
<td>1.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PAGURUS SPP</strong></td>
<td>1.2</td>
<td>1.2</td>
<td></td>
<td>marine around pools</td>
</tr>
<tr>
<td><strong>PISASTER OCHRACEUS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>POLYCHAETES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PYCNOPODIA HELIANTHOIDES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>SARLBSIA DIRA</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SERPULIDS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SIPHONARIA THERSITES</strong></td>
<td></td>
<td>1.2</td>
<td></td>
<td>in area protected from cobbles around</td>
</tr>
<tr>
<td><strong>TEALIA</strong></td>
<td></td>
<td></td>
<td>1.2</td>
<td></td>
</tr>
</tbody>
</table>
REGION: KODIAK

SEGMENT: ST/K09-22-KF-001

SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION

SEGMENT ST/ K09-22-KF-001 SUBDIVISION A (1 OF 1) DATE 5/11/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

● 5T All Bald Eagle nests (3/1 to 6/1)
   Active Bald Eagle nests (3/1 to 9/1) - (Adjacent segment)

4LL State Marine Park National Parks
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 12 m: V.Light 951 m: No Oil 3713 m
Subsurface Oil Observed: Yes X No Maximum Depth

RECOMMENDATIONS:

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

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

COMMENTS:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

TAG COMMENTS:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

TAG APPROVAL DATE: ____________
ADEC __________________________
EXXON __________________________
NOAA __________________________
USCG __________________________
Salmon stream mouth - fry oviposition (4/15 to 7/31)
Salmon stream mouth - spawning (7/15 to 9/10; PEAK 8/15)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or in situ application, 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 Ken Middleton 287-2259

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 in situ application, 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 Pelz 424-3214

Kodiak Bay Hatchery release
Pink salmon - late May, early June; Chum salmon - June; Sockeye salmon - early July.

Remote release sites
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or in situ application, 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 for confirmation and authorization.

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

Gill net area
Purse seine area
Mainland, West side Kodiak, Shuyak & Moser/Olga Bay (6/9 to 10/1)
East side Kodiak, East side Afognak (7/4 to 10/1)

AGENCY CONTACT PERSON: ADF&G Jim Fall 287-2259

Harvesting
4/15 to 6/30
Contact ADF&G for confirmation - dates and locations may vary. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or in situ application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

AGENCY CONTACT PERSON: ADF&G Larry Nicholson 424-4791

Harbor seal and sea lion pupping (5/10 to 7/1)
Harbor seal and sea lion molting (6/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of in situ within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

Shorebird/waterfowl concentration (4/1 to 6/15)
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 Total
ADF&G Tom Roth 287-2206

All Bald Eagle nests (8/1 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 such sites. 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 (8/1 to 9/15)
Anchorage (8/1 to 9/15)
Forest Service cabins (6/1 to 9/15)
Lodge (8/1 to 9/15)
Special use destination

7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
7H Finfish harvesting
7B Deer harvesting (9/1 to 1/7)
7H Invertebrate harvesting
7K Bear harvesting (4/1 to 5/15 and 10/25 to 11/30)

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

AGENCY CONTACT PERSON: ADF&G Jim Fall 287-2359

KODIAK ECOLOGICAL CONSTRAINTS
FIELD SHORELINE COMMENT SHEET

SEGMENT ST 1  K-9 - 22. KF-01  SUBDIVISION:  A  DATE  5-11-90

USCG
NAME  Kenneth M. Teague  SIGNATURE  [Signature]

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

A very little splash of coal and stain on boulders.
Occasional mouse.

ADEC
NAME  Francis T. Dennis  SIGNATURE  [Signature]

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

Crew will be conducting clean-up in adjacent segment (66-1, K-9-22). To wrap up treatment in this area, 4 or 5 people could shift over to specific locations in KF-1 as indicated on SSTM field map to retrieve oiled debris and small amounts of chicken.

LAND MANAGER
NAME  Will Troyer  SIGNATURE  [Signature]

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

A few splatter fringes and stain remain, most difficult to retrieve, glinty debris with oiled sand, rock or mud and suit could be removed.
Segment STKOS-22-KF001 consists of rocky headlands and pocket beaches. Little oil was observed however the oil which was found was spread thinly along the segment. It occurred primarily in the form of splattered tar coats and stain. A few small mousse patches were located. The mousse had melted into the sediments and was not easy to find. One very oiled pompon was recovered from the segment as well as a lightly oiled hard hat. Roughly one bag of oiled trash remains. In addition, a lightly oiled survival suit was found on the beach but was too big to be carried out by our helicopter team. A small amount of the tar drips noted were very hard, black and friable. These broke like obsidian. A few lightly oiled logs were also noted.
### Shoreline Oiling Summary

**OG/Unit:** Chappaquiddick USCG
**Bio/Transect:** Beach, Surf
**EOL/Segment:** ST/K09228-001
**Exxon/ADEC/Date:** 5/11/90
**Team No:** 20
**Tide Level:** 1.0 ft
**Date:** May 11, 1990

**Estimated Subdivision Length:** 444.2 m

**Uplands Description:** Grass, Rock

**Surveyed From:** Foot, Boat

**Working Direction:** North to South

**Surface Sediments:** R 35%, B 35%, G 10%, P 16%, S 5%, M 0%, V 0%

**Slope:** Long 10%, Hang 60%, Vert 30%

**Wave Exposure:** Low, Med, High

**Oil Category Length:** W 0 m, M 0 m, N 5 m, V 2000 m, NOS 567 m

#### Surface Oil

<table>
<thead>
<tr>
<th>Character</th>
<th>Distribution</th>
<th>Oil/Film Color</th>
<th>Impacted Zones</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt Pavement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pooled</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cover</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mousse</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patties</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tarballs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Film</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO Oil</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Pavement H F S:** O sq. m by O cm

**Patties/Tarballs:** BAGS

**Near Shore Sheen?** No

**Oiled Debris:**
- Logs: X
- Vegetation: X
- Trash: X
- Debris: X

**Did You Collect Debris?** Yes [✓] No [ ]

**Type:** Compatible

**Photos:**
- Roll No.: ST-20-10
- Frames: 30, 31, 32, 33

#### Subsurface Oil

<table>
<thead>
<tr>
<th>Pit No.</th>
<th>Pit Depth (cm)</th>
<th>Subsurface Oil Character</th>
<th>Oiled Interval</th>
<th>Below Oil/Film Color</th>
<th>Pit Zone</th>
<th>Analysis (cm)</th>
<th>Surface Subsurface Sediments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Comments:**

See attached.

**Reviewed:** JN Date: 5/15/90
KAFLIA BAY

SPLATTERS & Drips TAR COAT ALONG ROCK FACE

OILED POMPOM RECOVERED

OILED HARD HAT RECOVERED

BAND TAR COAT 0.5 METERS HIGH 5 METERS LONG

LIGHTLY STAINED LOGS

ONE BAG LIGHTLY OILED TRASH, LARGE RUSTY TANK ON BEACH AS WELL

LIGHTLY OILED SURVIVAL SUIT

ALASKA PENINSULA

LEGEND

1 △ Pt - No Subsurface Oil

2 △ Pt - Subsurface Oil

CIV Consensus Distribution

CT/0 Broken Distribution

CT/2 Patchy Distribution

CT/5 Splashed Distribution

Oiled Vegetation

1 ▲ Photo location, direction, and number

CHECKLIST

- N Arrow
- Appox. Scale
- Seg/Sub Entry
- Oil Class
- Width
- Length
- % Cover
- Substrate Character
- Est. Haul/Val
- SSL
- Profile Location(s)
- Probe(s)
- Pit Location(s)
- Photo Location(s)

MANNING

31,32

DATE May 11 90

SEGMENT 0922K001

SUBDIVISION A

200 METERS

Oil Character Length (m): AP Q PO CV Q CT 400 ST 400 MS 20 PT 0 TB 0 FL 0 NO 3607
## SHORELINE ECOLOGICAL SUMMARY

**Segment ST K9 - 22**  
**Subdivision KF-01**  
**Date (mo / day / yr) 5/11/90**

**Time (24 hr) 07:30**  
**Biologist H. Davis**

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

- Bedrock 38%
- Boulder 36%
- Cobble 10%
- Pebble 15%
- Sand 15%
- Silt 3%

### (B) Overall % cover of biota (% of segment):

- Dense 10%
- Moderate 40%
- Low 50%

### (C) Vertical zonation of major taxa:

#### BARNACLES
- Dense: 1L, 1M, 1H  
- Moderate: 1L, 1M, 1H  
- Sparse: 1U, 1M, 1H  
- Rare: 1U, 1M, 1H

#### MYTILUS
- Dense: 1L, 1M, 1H  
- Moderate: 1L, 1M, 1H  
- Sparse: 1U, 1M, 1H  
- Rare: 1U, 1M, 1H

#### ASTROPODAS
- Dense: 1L, 1M, 1H  
- Moderate: 1L, 1M, 1H  
- Sparse: 1U, 1M, 1H  
- Rare: 1U, 1M, 1H

#### FUCUS
- Dense: 1U, 1M, 1H  
- Moderate: 1U, 1M, 1H  
- Sparse: 1U, 1M, 1H  
- Rare: 1U, 1M, 1H

**Wildlife Observations / General Comments:** See attached page.

**Ecological Considerations:**

- Sockeye, Pink, and Chum migrate past this segment to the stream at the head of the bay. There is an eagle nesting on a pinnace (KF-3) to the north of the west end of the segment. On a promontory to the east of the segment there was a second eagle nest (EG-I).
This segment was made up of bedrock platforms, boulder fields, and cobble beaches. The cobble beaches had very little life on them.

Here bedrock was under cobble, and in the middle from the UTZ to the LTZ, cobble in the LTZ was dominated by Balanus sp. a few species of Chondropilla, impets (Notomen rubens), Ulva, and Pyura. 

Below this Fucus, Mytilus, and Rhodomela start becoming more prominent. Under the boulder, the species (browning eggs), Odontina, Cypriidae, Pagurus sp., Pycnopodiah sp., Eupenaeus, and holothurian were all common. In the LTZ Ulva, Alaria, Rhodomela, Scyphopteron, Centaria, Talkia, Holochoerina, Antedonidae, and Balanus was the most visible life. On one beach (see map) the UTZ was a sand flat with Ulva, Dracena, and Phuarphycus gardenia on cobbles. Chironocirius mutabilis, Sarcodias sp., and ecotone st drawings and Maconema manta were found in the sand (Chironocirius has a shell only).

Birds
- Oyster catchers (2)
- Eagles (1)
- Black Skimmers (4)
- Harlequin Duck (20 +)
- Golden Crowned Sparrow

Mammals
- Fox (3)
- Otter (3)
- Bear (1)
SHORELINE EVALUATION

SEGMENT ST/ K09-22-KF-001 SUBDIVISION A (1 OF 1) DATE 5/11/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ST All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1) - (Adjacent segment)
4LL State Marine Park National Parks
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: 5/11/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 12 m: V.Light 951 m: No Oil 3713 m
Subsurface Oil Observed: Yes ___ No ___ Maximum Depth ______

RECOMMENDATIONS:

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

COMMENTS:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

TAG COMMENTS: Fred Beyers, returned & pickup the survival suit

TAG APPROVAL DATE: 5/29/90
ADEC Art Wagen Art Wagen FOSC: __________ DATE: 6-19-90
EXXON Tim Tetz Tim Tetz
NOAA __________
USCG __________
This segment was made up of bedrock platforms, boulder fields, and cobble beaches. The cobble beaches had very little life on them. The boulder fields were dominated by Balanus sp., in the light of Coriolisella, Umera (Podaster rakunica), Ulvina, and Pyura. Further this area, Mytilus and Rhodomenia start becoming more prominent. Under the boulders: Placopinaea (brooding eggs), Ichtiia, Amphipods, Pagurus sp., Pycnogonida sp., EupYPDecta, Sculpins and Priabonidae were all common. In the LFZ, Aaria, Uria, Tribaea, Rhodomenia, Sciwyomyxon, Coelia, Helochondria, Anthiphora, and Pocillo were the most visible brista. On one beach (see map) the LFZ was a sand flat with Uria, Tribaea, and Plocomyxa and many cobbles. Clypeaster mullisina, Saxidomus giganteus, Atrina, Numidia, and Macoma masuta were found in the sand. (Clypeaster has a shell only).

Birds
- Osprey (catchers)
- Eagles (4)
- Black Scaler (4)
- Harlequin Duck (70-38)
- Golden Crowed Sparrow

Mammals
- Fox
- Otter
- Bear

Written by N. Davis
KAFLIA BAY

SKETCH MAP

SPLATTERS & Drips
TAR COAT ALONG
ROCK FACE

PLT HD-01

DATE: May 11, 1990

CHECKLIST

LEGEND

PH - No Subsurface Oil

PH - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splashed Distribution

Oil Vegetation

Photo location, direction, and number

200 METERS

SPLATTERS & Drips
TAR COAT ALONG
ROCK FACE

ISLAND
NOT SURVEYED

SPECIAL SYMBOLS

• TAR SPLATTER
  COAT & STAIN

• MOUSSE
  PATCHES

ONE BAG LIGHTLY
OILED TRASH, LARGE
RUSTY TANK ON
BEACH AS WELL
MANUAL PICKUP

LIGHTLY
OILED SURVIVAL
SUIT

ALASKA PENINSULA
REGION: KODIAK

SEGMENT: ST/X09-24-KU-01

SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION

SEGMENT ST/ K09-24-KU-01 SUBDIVISION A (1 OF 1) DATE 4/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

- 3N,3P Harbor seal and sea lion pupping (5/10 to 6/30)
- 30,3Q Harbor seal and sea lion molting (8/15 to 9/15)
- Katmai National Park
- Seabird colony in NOAA data base (unmapped)

See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: __________________ DATE: ______________________

OILING CATEGORIZATION:

- Wide: 0 m; Medium: 0 m; Narrow: 0 m; V. Light: 1510 m; No Oil: 1542 m
- Subsurface Oil Observed: Yes No Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: Recommend manual removal of mousse and tarmats in areas shown on sketch map. Work should be conducted between 7/1 and 8/15 based on pinniped constraints.

TAG COMMENTS:

TAG APPROVAL DATE: ________________

ADEC EXXON FOSC: ________________ DATE: ________________

NOAA USCG
KODIAK ECOLOGICAL CONSTRAINTS

1A Salmon stream mouth - fry outmigration (4/15 to 7/31)

1B Salmon stream mouth - spawning (7/15 to 9/10; PEAK 8/15)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage.
No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.

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

1D Kotzebue Hatchery release
Pink salmon - late May, early June; Chum salmon - June; Sockeye salmon - early July.

1E Remote release site

1F Gill net area

1G Purse seine area
Mainland, West side Kodiak, Shuyak & Moser/Olga Bay - 6/9 to 10/1.
East side Kodiak, East side Afognak - 7/4 to 10/1.

1H Purse seine hook-off

1I Set net sites
USFWS setnet uplands permit 5/15 to 9/15.
For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

2M Herring spawning (4/15 to 6/30)
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 (5/10 to 6/30)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

5R Seabird colony (5/1 to 8/31)
Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.

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

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

5U Recreation:
Tent sites (8/1 to 9/15)
Anchorage (8/1 to 9/15)
Forest Service cabins (6/1 to 9/15)
Lodge (8/1 to 9/15)
Special use destination

7Z Subsistence area: Salmon harvesting (8/1 to 9/30)

7HH Finfish harvesting

7II Deer harvesting (8/1 to 1/7)

7JJ Invertebrate harvesting

7KK Bear harvesting (4/1 to 5/15 and 10/25 to 11/30)
For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
NOAA
NAME John Naughton
SIGNATURE

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

Concentrations of medium oil in two locations in this segment, appears like pavement but actually a mousse cover, approximately 2 meters wide in upper intertidal. Several areas continue for 10 meters and varying in depth from 2 to 5 cm. Should be fairly easy to manually pick up and bag.

ADEC
NAME Terry Ellisworth
SIGNATURE Terry Ellisworth

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

This segment contains approximately 1400 m of sporadic stain and mousse/sediment patches and 3 areas of broken mousse/sediment mat (soft asphalt) in the mid-intertidal zone. These areas have a thickness of up to 5 cm and widths up to 3 m. This area should be fairly easy to clean by manual methods.

LAND MANAGER
NAME Carl Schell
SIGNATURE Carl Schell

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

The indicated mats of asphalt/mousse can be manually removed. The remaining impacted sections should be walked by the work crew to manually remove scattered mousse patches.
### SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>OILED INTERVAL</th>
<th>OIL CHARACTER</th>
<th>OILED AREA</th>
<th>OILED PAINTS</th>
<th>OILED TAR BALLS</th>
<th>OILED VEGETATION</th>
<th>OILED TRASH</th>
<th>OILED DEBRIS</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>1.5m</td>
<td>X</td>
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<tr>
<td>2</td>
<td>0.5m</td>
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</tr>
<tr>
<td>3</td>
<td>0.4m</td>
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### SURFACE OIL

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<tr>
<th>OILED AREA</th>
<th>OILED PAINTS</th>
<th>OILED TAR BALLS</th>
<th>OILED VEGETATION</th>
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<td>X</td>
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</tr>
</tbody>
</table>

### COMMENTS

- No subsurface oil observed.
- All observations made within the oil spill area.
- Detailed notes on oil characteristics and distribution.

---

**Notes:**
- Photographs: Frames 1-13
- Review date: 2-4-90
- Revised 7-29-90

---

**Table:**

- **PIT NO.**
- **OILED INTERVAL**
- **OIL CHARACTER**
- **OILED AREA**
- **OILED PAINTS**
- **OILED TAR BALLS**
- **OILED VEGETATION**
- **OILED TRASH**
- **OILED DEBRIS**

---

**Diagram:**

- Graphical representation of oil spill distribution.
- Key to symbols and colors.

---

**OIL AREA:**

- Detailed analysis of oil area and its impacts.

---

**Surfaced Oiled Sediments:**

- Analysis of sediments impacted by the oil spill.

---

**Impacted Oil Film Color Zones:**

- Color and distribution of oil films.

---

**Subsurface Oil Impacted Zones:**

- Detailed analysis of subsurface oil impacts.

---

**Pavement:**

- Condition and impacts on pavement.

---

**Oil Category:**

- Classification of oil based on characteristics.

---

**Wave Exposure:**

- Analysis of wave exposure to the spill.

---

**Oil Exposure:**

- Analysis of oil exposure to different elements.

---

**Oil Response:**

- Strategies and responses to the oil spill.
SHORELINE ECOLOGICAL SUMMARY

Segment ST 1924H001, Subdivision A

Date (mo/day/yr) 4/1/90

Time (24 hr) 1400-1625, Biologist D. McCormick

(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 5 Moderate 50 Low 45

(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 Gently continuous throughout segment.

   Dense Moderate Sparse Rare
   1U 1M 1L 1U 1M 1L 1U 1M 1L 1U 1M 1L
   2 2 X 2 2 2 2
   3 3 3 3 3 3 3
   4 4 4 4 4 4 4
   5 5 5 5 5 5 5
   6 6 6 6 6 6 6

MYTILUS Very patchy over the course of segment.

   Dense Moderate Sparse Rare
   1U 1M 1L 1U 1M 1L 1U 1M 1L 1U 1M 1L
   2 2 X 2 2 2 2
   3 3 3 3 3 3 3
   4 4 4 4 4 4 4
   5 5 5 5 5 5 5
   6 6 6 6 6 6 6

GASTROPODS Littorina, limpets, 

   Dense Moderate Sparse Rare
   1U 1M 1L 1U 1M 1L 1U 1M 1L 1U 1M 1L
   1 1 1 1 1 1 1
   2 2 2 2 2 2 2
   3 3 3 3 3 3 3
   4 4 4 4 4 4 4
   5 5 5 5 5 5 5
   6 6 6 6 6 6 6

FUCUS Very patchy throughout, often dense when it occurs.

   Dense Moderate Sparse Rare
   1U 1M 1L 1U 1M 1L 1U 1M 1L 1U 1M 1L
   1 1 1 1 1 1 1
   2 2 2 2 2 2 2
   3 3 3 3 3 3 3
   4 4 4 4 4 4 4
   5 5 5 5 5 5 5
   6 6 6 6 6 6 6

Wildlife Observations/General Comments:

   38. Baja seen: surf shearers, ravens, glauc-winged gulls;
   39. Francis photic zone predators. Heavy recruitment in the lower ITZ of littorina and
   girls. Flamingos seen gorging on the mid ITZ. Ulva patchy in lower ITZ.
   40. Vannamee Eubalaena, feeding near east end of segment. No fur seal in direct contact with oil
   (primarily in ITZ)

Ecological Considerations:

   41. Salmon spawning stream (pinks, chums) at head of bay (segment). No known
   eagle nests. No marine mammals observed.
SHORELINE EVALUATION

SEGMENT ST/K09-24-KU-01 SUBDIVISION A (1 OF 1) DATE 4/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

3P Harbor seal and sea lion pupping (5/10 to 6/30)
3Q Harbor seal and sea lion molting (8/15 to 9/15)
Katmai National Park
Seabird colony in NOAA data base (unmapped)
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: DATE: 5/1/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 1510 m: No Oil 1542 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
Tarmat Removal  Beach Cleaner
Tarmat Absorption  Other (see comments)

COMMENTS: Recommend manual removal of mousse and tarmats in areas shown on sketch map. Work should be conducted between 7/1 and 8/15 based on pinniped constraints.

TAG COMMENTS: 

TAG APPROVAL DATE: 5/1/90
ADEC  EXXON  NOAA  USCG
Art Weinrich  Don Miller  Gary Peraza  Noll
WEIL DATE: 5/12/90
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT K09-24-KU-01 SUBDIVISION A (1 of 1)

WORK WINDOW

Manual Pickup OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream  
ADF&G catalogued anadromous stream (262-35-10010) is more than 100m from work site. No constraint to manual pickup.

3N,O,P,Q Harbor Seal & Sea Lion  
Pupping and Molting  
No constraint to manual pickup (Donald Calkins/ADF&G) per 6/11/90 memorandum from Sam Stoker.

5R Seabird Colony  
No documented seabird colonies. No constraint to manual pickup as per Shih (ADF&G) to Rex Coulter/Exxon from WALISA, STERLITZ, USFWS.

OTHER ECOLOGICAL CONSIDERATIONS

Beach is to be approached with caution, by boat, and carefully scrutinized. If seals are present on the beach or in the water nearby, operations are to be suspended until after expiration of the previously defined constraint period. If seals are not present, treatment is to be completed as quickly as possible, with as few personnel and equipment as possible, and with an absolute minimum level of noise and general disturbance. Any application of bioremediation should be confined to above the mid-tide zone.

FOSC: [Signature] Date: 6/16/90
Prepared by: [Signature] Date: 6/15/90
SHORELINE EVALUATION

SEGMENT ST/ K09-24-KU-01 SUBDIVISION A (1 OF 1) DATE 4/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

- Harbor seal and sea lion pupping (5/10 to 6/30)
- Harbor seal and sea lion molting (8/15 to 9/15)
- Katmai National Park seabird colony in NOAA data base (unmapped)
- See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: DATE:

OILING CATEGORIZATION:

Wide 0 m; Medium 0 m; Narrow 0 m; V. Light 1510 m; No Oil 1542 m
Subsurface Oil Observed: Yes No
Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: Recommend manual removal of mousse and tarmats in areas shown on sketch map. Work should be conducted between 7/3 and 8/15 based on pinniped constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 5/1/90
ADEC Act Werner Oehlers
EXXON Andy Van Arnum
NOAA Gary Peterson
USCG

FOSC: DATE: 5-12-90
SEGMENT ST/ K09-23-CG-03  SUBDIVISION A (1 OF 1) DATE 4/23/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
1A Salmon stream mouth - fry outmigration (4/15 to 7/31)
1B Salmon stream mouth - spawning (7/15 to 9/10; PEAK 8/15)
5R Seabird colony (5/1 to 8/31)
5T All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: ___________________________ DATE: 5/1/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 10 m: V. Light 0 m: No Oil 3548 m

Subsurface Oil Observed: Yes __ No __ Maximum Depth ______________

RECOMMENDATIONS:

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

COMMENTS:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

TAG COMMENTS: __________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

TAG APPROVAL DATE: 5/1/90.

ADEC Art Weiner Art Weiner
EXXON Away for Real
NOAA Gary Patrice Gary Patrice
USCG Kenneth Kane

FOSC: ___________________________ DATE: 5/1/90
CHECKLIST
- N Arrow
- Approx. Scale
- Seg/Salt Body
- Oil Dist
- Width
- Length
- % Cover
- Sediment Character
- Est. HWL/LWL
- SSL
- Profile Location(s)
- Profile(s)
- Pit Location(s)
- Photo Location(s)

LEGEND
1 ▲
Ph - No Subsurface Oil

2 ▲
Ph - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/I
Patchy Distribution

CT/S
Splashed Distribution

Oiled Vegetation

Oil Character Length (m): AP ○ PO ○ CV ○ GT ○ ST ○ MS ○ PT ○ TB ○ FL ○ NO 3508
REGION: KODIAK

SEGMENT: ST/K09-23-CG-03

SUBDIVISIONS: A (1 OF 1)
SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
1A Salmon stream mouth - fry outmigration (4/15 to 7/31)
1B Salmon stream mouth - spawning (7/15 to 9/10; PEAK 8/15)
5R Seabird colony (5/1 to 8/31)
5T All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and contacts.

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

ARCHAEOLOGICAL CONSTRAINTS:
If 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 10 m: V.Light 0 m: No Oil 3548 m
Subsurface Oil Observed: Yes ___ No X ___ Maximum Depth ______

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

COMMENTS: ____________________________________________________________
______________________________________________________________
______________________________________________________________
______________________________________________________________

TAG COMMENTS: _________________________________________________________
______________________________________________________________
______________________________________________________________

TAG APPROVAL DATE: ____________
ADEC __________________________________ FOOSC: ______________ DATE: ____________
EXXON __________________________________
NOAA __________________________________
USCG __________________________________
**KODIAK ECOLOGICAL CONSTRAINTS**

**SUPERCEDED**

1A
Salmon stream mouth - fry outmigration (4/15 to 7/31)
Salmon stream mouth - spawning (7/15 to 9/10; PEAK 8/15)
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.

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

1D
Kokol Bay Hatchery releases
Pink salmon - late May, early June; Chum salmon - June; Sockeye salmon - early July.

1H
Remote release sites

1I
 Gill net area

1J
Purse seine area
Mainland, West side Kodiak, Shuyak & Moser/Olga Bay - 6/9 to 10/1.
East side Kodiak, East side Afognak - 7/4 to 10/1.

1K
Purse seine hook-off

1L
Set net sites
USFWS setnet uplands permit 5/15 to 9/15.
For Cod 1C through 1L contact ADF&G for specific dates, locations and constraints.

2M
Herring spawning (4/15 to 8/30)
Restrict boat traffic to essential minimum. Avoid damage to unlined intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.

3N, 3P
Harbor seal and sea lion pupping (5/10 to 6/30)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

3O, 3Q
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.

5R
Seabird colony (5/1 to 8/31)
Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.

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

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

6U
Recreation:
Tent sites (8/1 to 9/15)
Anchorage (8/1 to 9/15)
Forest Service cabins (8/1 to 9/15)
Lodge (8/1 to 9/15)
Special use destination

7Z
Subsistence area:
Salmon harvesting (8/1 to 9/30)

7H
Finfish harvesting

7I
Deer harvesting (9/1 to 1/7)

7J
Invertebrate harvesting

7K
Bear harvesting (4/1 to 5/15 and 10/25 to 11/30)
For Codes 7Z through 7J contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
NO TREATMENT RECOMMENDED  

Oil not recoverable.

One small area of light oil remains here in the form of CT, CV, ST, and MS. The mouse is trapped in rock crevices and under boulders, it is relatively unrecoverable by manual methods.

oil very scattered and not much thick. Don't feel it is possible to clean by manual means or would be worth the effort.
SHORELINE OILING SUMMARY

NO. [Z.O]

EST. SUBDIVISION LENGTH: 351.8 m

UPLANDS DESCRIPTION: Grass Forest Rock Snow

SURVEYED FROM: Foot Boat Helo

SURFACE SEDIMENTS:

SLOPE: Lang 66% Hang 20% Vert 20%

OIL CATEGORY LENGTH: W O m M O m N O m VL O m NO 350.8 m

SURFACE OIL

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

PAVEMENT H F $ 0 sq. m by 0 cm

PATTIES / TARBALLS 0 BAGS

NEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS AMOUNT SM MD LG DID YOU COLLECT DEBRIS?

Logs Vegetation

Trash Debris

# BAGS 0

Photographs:

Roll No.______

Frames _______

SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>BELOW</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANA SHEEN (CM)</th>
<th>SURFACE-SUBSURFACE SEDIMENTS</th>
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<td>3</td>
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<td>0.5 or Oil of NO</td>
<td></td>
<td></td>
<td>B,R</td>
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</table>

COMMENTS: Oil was observed at one location in sand approx 5 m wide x 10 m long, S1, CT/SP and MS/P. MS was in between some B/R up to 3 cm thick. This area is classified as narrow. Other than this area, only very light, very occasional spots on driftwood were observed. The 5 x 10 m sand is located in and around a rock cave.

REVIEWED BAT DATE 24/Nov 90
CHECKLIST

- N Arrow
- Approx. Scale
- Seg/Segs Boundary
- Off Dist.
- Width
- Length
- % Cover
- Selective Character
- Est. HWL/WL
- SSL
- Profile Location(s)
- Profile(s)
- Pic 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

Oiled Vegetation

1 →
Photo location, direction, and number

Oil Character Length (m): AP O PO O CV O OT 10 ST 10 NS 10 PT O TB O FL O NO 3508
SHORELINE ECOLOGICAL SUMMARY

Segment ST K09-23  Subdivision CG-03  Date (mo/day/yr) 4/23/90

Time (24 hr) 07:15  Biologist H. Davis

(A) Substrate type and % of segments:
(1) Bedrock 25  (2) Boulder 25  (3) Cobble 20  (4) Pebble 20  (5) Sand 20  (6) Silt

(B) Overall % cover of biota (% of segment): Dense 15%  Moderate 40%  Low 45% (50%)

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

<table>
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<tr>
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<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
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<td>6</td>
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</table>

BARNACLES dense except in sand covered areas

<table>
<thead>
<tr>
<th></th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

MYTILUS very patchy in LTZ. No belts.

<table>
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</table>

GASTROPODS continuous except in sand covered areas. Limpet within or under of rocks.

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FUCUS patchy. top of rock is relatively.

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Ecological Considerations: LA, LB, ST-1, anomalous stream on the northern end of the segment. On the northern end of CG-03 there is a pair of lesser sand plover. 5R
<table>
<thead>
<tr>
<th>SPECIES</th>
<th>UITZ</th>
<th>MITZ</th>
<th>LITZ</th>
<th>COMMENTS</th>
</tr>
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<tbody>
<tr>
<td><strong>BOSSIHELLA/CORALLINA</strong></td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>In pools only</td>
</tr>
<tr>
<td><strong>CALLIARCTHON/CORALLINA</strong></td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>In pools only</td>
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<tr>
<td><strong>CLADOPHORA SPP</strong></td>
<td>-</td>
<td>-</td>
<td>2.3</td>
<td></td>
</tr>
<tr>
<td><strong>COSTARIA SPP</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>ENDOCLEDIA MURICATA</strong></td>
<td>1, 2</td>
<td>1, 2</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>FILAMENTOUS GREENS</strong></td>
<td>2, 3</td>
<td>2, 3</td>
<td>1, 2</td>
<td>On the tops of cobble/boulders</td>
</tr>
<tr>
<td><strong>FILAMENTOUS REDS</strong></td>
<td>-</td>
<td>2, 7</td>
<td>1, 7</td>
<td>On the tops of cobble/boulders</td>
</tr>
<tr>
<td><strong>GLOIOPELTIS FURCATA</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>HALOSACCION GLANDIFORME</strong></td>
<td>1, 2</td>
<td>1, 2</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>LAMINARIA SPP</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>LITHOTHAMNION</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>NEROCYSTIS SPP</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
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<tr>
<td><strong>PORPHYRRA SPP</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>RALPHSIA/HILDENBRANDIA/FAGUAT</strong></td>
<td>-</td>
<td>1, 7</td>
<td>1, 7</td>
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</tr>
<tr>
<td><strong>RHODOMELA LARDI</strong></td>
<td>-</td>
<td>1, 7</td>
<td>1, 7</td>
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<tr>
<td><strong>RHOBOMENIA PALMATA</strong></td>
<td>1, 2</td>
<td>1, 2</td>
<td>1, 2</td>
<td>In pool, the MITZ</td>
</tr>
<tr>
<td><strong>SCYOTOSIphon SPP</strong></td>
<td>1, 2</td>
<td>1, 2</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>ULVA SPP</strong></td>
<td>-</td>
<td>1, 2</td>
<td>1, 2</td>
<td></td>
</tr>
<tr>
<td><strong>ZOSTERA MARINA</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>ENTOROMORPHA</strong></td>
<td>1, 2</td>
<td>1, 2</td>
<td>-</td>
<td>Neat fresh water flow</td>
</tr>
<tr>
<td><strong>ANTHOPLEURA SPP</strong></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>Seen in pools</td>
</tr>
<tr>
<td><strong>(SEMI) BALUNUS CARIOUS</strong></td>
<td>-</td>
<td>1, 2</td>
<td>1, 2</td>
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<tr>
<td><strong>B. GLANDULA</strong></td>
<td>1, 2</td>
<td>1, 2</td>
<td>1, 2</td>
<td></td>
</tr>
<tr>
<td><strong>BRYOZOANS</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>CHITONS (other than K. TUNCATA)</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>CLAMS</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>As shell debris gone well drifted</td>
</tr>
<tr>
<td><strong>CRABS</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
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<tr>
<td><strong>DERMASTERIAS IMBRICATA</strong></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>KATHARINA TUNCATA</strong></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>LEPTASTERIAS HEXACTIS</strong></td>
<td>1, 2</td>
<td>1, 2</td>
<td>1, 2</td>
<td>One large (7cm) specimen alone on a stone Mooreed in the underside of rocks.</td>
</tr>
<tr>
<td><strong>LIMPETS</strong></td>
<td>1, 2</td>
<td>1, 2</td>
<td>1, 2</td>
<td></td>
</tr>
<tr>
<td><strong>LITTORINA SPP</strong></td>
<td>1, 2</td>
<td>1, 2</td>
<td>1, 2</td>
<td>Very dense in pools under rocks (20cm)</td>
</tr>
<tr>
<td><strong>NUCELLA SPP</strong></td>
<td>2</td>
<td>1, 2</td>
<td>-</td>
<td>Found eating barnacles</td>
</tr>
<tr>
<td><strong>PAGURUS SPP</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>PISASTER OCHRACEUS</strong></td>
<td>-</td>
<td>-</td>
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<tr>
<td><strong>POLYCHAETES</strong></td>
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</tr>
<tr>
<td><strong>PYCNOPODIA HELIANTHOIDES</strong></td>
<td>-</td>
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<tr>
<td><strong>SEARLESIA DIRA</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td><strong>SERPULIDS</strong></td>
<td>-</td>
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</tr>
<tr>
<td><strong>SIPHONARIA THERSITES</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>TEALIA</strong></td>
<td>-</td>
<td>1, 2</td>
<td>1</td>
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</tr>
</tbody>
</table>
XXX Wide
/// Medium
---- Narrow
TTTT Very Light
0000 No Oil

CG-3

ADEC Segment Length: 3557m

K9-23-CG-3A

Map Key: GOA-52a
Name: Acton
Date: 4-25-90
Data Entered:
REGION: KODIAK

SEGMENT: ST/K09-24-KU-02

SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION

SEGMENT ST/ K09-24-KU-02  SUBDIVISION A (1 OF 1) DATE  4/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE:________________________  DATE:________________________

OILING CATEGORIZATION:

Wide  0_m: Medium 90_m: Narrow 215_m: V.Light 4535_m: No Oil 1286_m
Subsurface Oil Observed: Yes___ No X__ Maximum Depth_____

RECOMMENDATIONS:
____No Treatment Recommended  ______Snare/Absorbent Booms
____Treatment Recommended  ______Oil Snares (pom poms)
____Manual Pickup  ______Absorbents (pads, rolls, etc)
____Bioremediation  ______Spot Washing:____Wands
____Tarmat Removal  ______Beach Cleaner
____Other (see comments)

COMMENTS: Recommended treatment includes 1) manual pickup of mousse, patties, and oiled debris, 2) bioremediation in areas indicated on sketch map. Work should be conducted between 6/30 and 8/1 due to above pinniped constraints.

TAG COMMENTS:-----------------------------------------------------------

DATE: __________ 
FOSC: _______________ DATE: ___________

TAG APPROVAL DATE:____________

ADEC  ___________________________ FOSC: _______________ DATE: ___________

EXXON  ___________________________  
NOAA  ___________________________

USCG  ___________________________
KODIAK ECOLOGICAL CONSTRAINTS

1A   Salmon stream mouth - fry outmigration (4/15 to 7/31)
1B   Salmon stream mouth - spawning (7/15 to 9/10; PEAK 8/15)
     No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage.
     No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to
treatment for permits.
1C   Salmon fry nursery area (4/31 to 7/31)
1D   Kodiak Bay Hatchery release
     Pink salmon - late May, early June; Chum salmon - June; Sockeye salmon - early July.
1H   Remora release site
1I   Gill net area
1J   Purse seine area
     Mainland, West side Kodiak, Shuyak & Moser/Olga Bay - 6/9 to 10/1.
     East side Kodiak, East side Afognak - 7/4 to 10/1.
1K   Purse seine hook-off
1L   Set net sites
     USFWS setnet uplands permit 5/15 to 9/15.
     For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
2M   Herring spawning (4/15 to 8/30)
     Restrict boat traffic to essential minimum. Avoid damage to unoiled intertidal and subtidal algae and seagrass.
     Contact ADF&G for specific dates and locations.
3M, 3P   Harbor seal and sea lion pupping (5/10 to 6/30)
     Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m
     horizontal and 300m vertical distance from haulouts.
3O, 3Q  Harbor seal and sea lion molting (8/15 to 9/15)
     Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m
     horizontal and 300m vertical distance from haulouts.
5R   Seabird colony (5/1 to 8/31)
     Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m
     vertical distance. Contact ADF&G and USFWS prior to treatment.
5S   Shorebird/waterfowl concentration (4/1 to 5/15)
     Restrict all activity to essential minimum, especially air traffic.
5T   All Bald Eagle nests (3/1 to 6/1)
     Active Bald Eagle nests (3/1 to 9/1)
     Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from
     and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to
     treatment for confirmation of dates.
6U   Recreation:
     Tent sites (8/1 to 9/15)
6V   Anchorages (8/1 to 9/15)
6W   Forest Service cabins (8/1 to 9/15)
6X   Lodge (8/1 to 9/15)
6Y   Special use destination
7Z   Subsistence area:
     Salmon harvesting (8/1 to 9/30)
7HH  Finfish harvesting
7I   Deer harvesting (8/1 to 1/7)
7JJ  Invertebrate harvesting
7KK  Bear harvesting (4/1 to 5/15 and 10/25 to 11/30)
     For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

KODIAC ECOLOGICAL CONSTRAINTS
This extensive segment had very little oil on the main (north) face-thirds portion, with accessory splatters and stain observed high in the upper intertidal. As approach Kukile Bay mouth more high energy environment with few areas of continuous stain and or on large boulders. Mousse pooled at base of large boulders. However very difficult for manual removal without moving large rocks. Science of high energy will weather and dissipate naturally—recommended no treatment.

Two areas in the segment, a narrow area in the middle of segment and a medium area near the SE end of segment, contain coats, stains and mousse/sediment trapped at the base of large (5-6') boulders. Although in high energy areas the mousse trapped between the boulders will not quickly or easily be removed naturally. I recommend manual treatment of these areas, best accomplished by use of small hand tools.
**SURFACE OIL**

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt Pavement</td>
<td>Pool</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Cover</td>
<td>Coat</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Stain</td>
<td>Mousse</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Patties</td>
<td>Tarballs</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Film</td>
<td>Oil</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

- **PAVEMENT**: H, F, S _none_ sq. m by _cm_
- **Patties/Tarballs**: _none_ _250_ _Bags_
- **Near Shore Sheen?**: _No_ BR RW SL TL

**SUBSURFACE OIL** - NO PITS DUE OIL TO SUBSTRATE CHARACTER

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL (cm)</th>
<th>BELOW</th>
<th>OIL / FILM COLOR</th>
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- **Comments**: Tide falling at start of survey, rising at end of survey
- **Last 100 m not surveyed**

**REVISED** 4/23

**REVIEWED** _BAT_ 2/1/96
SHORELINE ECOLOGICAL SUMMARY

Segment ST - K924 KUDDA Subdivision A Date (mo/day/yr) 4-21-90

Time (24 hr) 1640 - 2000 Biologist D. McCornick

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

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

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

BARNACLES Generally continuous, moderately dense esp. in LITZ, not on pebbles/cobble beaches

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MYTILUS Present mostly in patchy dense clumps on boulders - new recruits in cavities

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</table>

GASTROPODS Littorina continuous throughout segment; recruits abundant; not present on sand/pocket beaches

<table>
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<td>1L</td>
<td>2</td>
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<td>5</td>
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</tbody>
</table>

FUCUS Usually patchy - juveniles prevalent

<table>
<thead>
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<th>Moderate</th>
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<th>Rare</th>
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<td>1U</td>
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<tr>
<td>1M</td>
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<tr>
<td>1L</td>
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</tbody>
</table>

Wildlife Observations/General Comments: Algae noted: Polerolia or Poleriales occasionally seen in mid to upper ITZ, Lithothamnium in tidal pools. Red tides seen in some tidal pools. Enteromorpha commonly dense in lower ITZ at eastern end of segment, completely covering boulders. Asterina fragilis - filamentous red-green algae in mid to lower ITZ; Calliethamnus + Tealia in tidal pools; partially dense nursely eating barnacles. No found in direct contact with oil.

Ecological Considerations:

A) Bald eagles seen off Imi W of Cape Kidak - no nest observed. Clausornis winged gulls. No marine mammals observed.
Map Key: GOA-148a
Name: C. D. A. Hethera
Date: 4/24/90

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

ADEC Segment Length: 8995m

KU-2
SHORELINE EVALUATION

SEGMENT ST/K99-24-KU-02 SUBDIVISION A (1 OF 1) DATE 4/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

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

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

SHPO SIGNATURE: DATE: 5/2/90

OILING CATEGORIZATION:

Wide 0 m: Medium 90 m: Narrow 215 m: V.Light 4535 m: No Oil 1286 m
Subsurface Oil Observed: Yes____ No X__ Maximum Depth____

RECOMMENDATIONS:

X Treatment Recommended
X Manual Pickup
X Bioremediation
Tarmat Removal

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

COMMENTS: Recommended treatment includes 1) manual pickup of mousse, patties, and oiled debris, 2) bioremediation in areas indicated on sketch map. Work should be conducted between 6/30 and 8/1 due to above pinniped constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 5/2/90

ADEC EXXON NOAA USCG

TAG COMMENTS: [Signature] 

TAG APPROVAL DATE: 5/2/90

FOSC: DATE: 5-8-90

No In-PK - Custom blended only for upper, Super intermittent at discretion of NPS monitor.
KU-2

Segment length: 8995m

Map Key: GA-118B

Date: 7-6-83

Legend:

Wide
Meduim
Narrow

Depth (ft)
Map Key: GOA-148a
Name: L. PARKER
Date: 4/21/40

ADEC Segment Length: 8995m

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

KU-2

GUA 1/488
Map Key: GOA-148e
Name: S. NAKASHIMA
Date: 4/21/80

Legend:
- XXXX Wide
- ///// Medium
- ---- Narrow
- TTTT Very Light
- OOOO Oil

ADEC Segment Length: 8995 m
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT K09-24-KU-02 SUBDIVISION A (1 of 1)

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

*No InLpol - Use Customblen only in upper supra intertidal at discretion of NPS monitor.

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

| 3N,O,P,Q | Harbor Seal & Sea Lion | No constraint to manual pickup and bioremediation (Donald Calkins/ADF&G) per 6/11/90 memorandum from Sam Stoker. |
| 5R | Seabird Colony | No documented seabird colonies. No constraint to manual pickup as per LETTER dated 6/11/90 Rex Coulter/Exxon from WALTER STIEGLITZ, USFWS. |

OTHER ECOLOGICAL CONSIDERATIONS

Beach is to be approached with caution, by boat, and carefully scrutinized. If seals are present on the beach or in the water nearby, operations are to be suspended until after expiration of the previously defined constraint period. If seals are not present, treatment is to be completed as quickly as possible, with as few personnel and equipment as possible, and with an absolute minimum level of noise and general disturbance. Any application of bioremediation should be confined to above the mid-tide zone. Avoid any unnecessary disturbance or damage to uncollected biota and substrate.

Date: 6/16/90
Prepared by: [Signature]
Date: 6/15/90
Site Ku-2
1. Access denied within buffer zone. Recheck may be possible after end of July.
Mike Luke 6/13/90

ECOLOGY MAP
SEGMENT K9N-24 KU-2
SUBDIVISION 1 of 1

METERS

★ Seabird Colony
△ Active Eagle Nest
△ Inactive Eagle Nest

Exxon Company, USA
Map Key: K9N-KU-2
1000

TREATMENT
SHORELINE EVALUATION
SEGMENT ST/ K09-24-KU-02 SUBDIVISION A (1 OF 1) DATE 4/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)
3O,3Q Harbor seal and sea lion molting (8/15 to 9/15)
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: 5/2/90

OILING CATEGORIZATION:
Wide 0 m; Medium 90 m; Narrow 215 m; V.Light 4535 m; No Oil 1286 m
Subsurface Oil Observed: Yes No X Maximum Depth

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

COMMENTS: Recommended treatment includes 1) manual pickup of mousse, patties, and oiled debris, 2) bioremediation in areas indicated on sketch map. Work should be conducted between 6/30 and 8/1 due to above pinned constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 5/2/90
ADEC  [Signature] EXXON  [Signature] NOAA  [Signature] USCG  [Signature]
FOSC: [Signature] DATE: 5/2/90

NO IN PDS - CUSTOMER ONLY IN UPPER,
Supra intetradal at discretion of WPS monitor.
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT K09-24-KU-02 SUBDIVISION A (1 of 1)

WORK WINDOW

| Manual Pickup | Greater Than 400m From Eagle Nest | OPEN |
|              | Less Than 400m From Eagle Nest    | WORK AFTER 7/1 ** |

| Bioremediation | Greater Than 400m From Eagle Nest | OPEN |
|                | Less Than 400m From Eagle Nest    | WORK AFTER 7/1 ** |

*No Inpol - Use Customblen only in upper supra intertidal at discretion of NPS monitor.
**USFWS monitor on site during treatment.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

3N,O,P,Q Harbor Seal & Sea Lion Pupping and Molting
No constraint to manual pickup and bioremediation (Donald Calkins/ADF&G) per 6/11/90 memorandum from Sam Stoker.

5R Seabird Colony
No documented seabird colonies. No constraint to manual pickup as per memorandum to Rex Coulter/Exxon from Mary Portner/USFWS.

5T Eagle Nest
No constraint to manual pickup and bioremediation less than 400m from eagle nest, USFWS needs to be present.

OTHER ECOLOGICAL CONSIDERATIONS

Beach is to be approached with caution, by boat, and carefully scrutinized. If seals are present on the beach or in the water nearby, operations are to be suspended until after expiration of the previously defined constraint period. If seals are not present, treatment is to be completed as quickly as possible, with as few personnel and equipment as possible, and with an absolute minimum level of noise and general disturbance. Any application of bioremediation should be confined to above the mid-tide zone. Avoid any unnecessary disturbance or damage to unclled biota and substrate.

FOSC

Prepared by

Date 6-22-90

Date 6/20/90
SHORELINE EVALUATION

SEGMENT ST/ K09-24-KU-02 SUBDIVISION A (1 OF 1) DATE 4/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
GN,3P Harbor seal and sea lion pupping (5/15 to 7/1)
30,3Q Harbor seal and sea lion molting (8/15 to 9/15)
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: 5/2/90

OILING CATEGORIZATION:

Wide 0 m: Medium 90 m: Narrow 215 m: V.Light 4535 m: No Oil 1286 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)
X Bioremediation ____ Spot Washing: ____ Wands
_____ Tarmat Removal ____ Beach Cleaner
____ Other (see comments)

COMMENTS: Recommended treatment includes 1) manual pickup of mousse, patties, and oiled debris. 2) bioremediation in areas indicated on sketch map. Work should be conducted between 6/30 and 8/1 due to above pinnipeled constraints. 

TAG COMMENTS:

TAG APPROVAL DATE: 5/2/90

ADEC [Signature] DATE: 5/2/90
EXXON [Signature]
NOAA [Signature]
USCG [Signature]
FOSC: [Signature] DATE: 5/2/90
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT K09-24-KU-02 SUBDIVISION A (1 of 1)

WORK WINDOW

<table>
<thead>
<tr>
<th>Manual Pickup</th>
<th>Greater Than 400m From Eagle Nest</th>
<th>OPEN</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Less Than 400m From Eagle Nest</td>
<td>WORK AFTER 7/1 **</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bioremediation</th>
<th>Greater Than 400m From Eagle Nest</th>
<th>OPEN</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Less Than 400m From Eagle Nest</td>
<td>WORK AFTER 7/1 **</td>
</tr>
</tbody>
</table>

*No Inpol - Use Customblen only in upper supra intertidal at discretion of NPS monitor.
**USFWS monitor on site during treatment.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

<table>
<thead>
<tr>
<th>3N,O,P,Q</th>
<th>Harbor Seal &amp; Sea Lion Pupping and Molting</th>
</tr>
</thead>
<tbody>
<tr>
<td>5R</td>
<td>Seabird Colony</td>
</tr>
<tr>
<td>5T</td>
<td>Eagle Nest</td>
</tr>
</tbody>
</table>

No constraint to manual pickup and bioremediation (Donald Calkins/ADF&G) per 6/11/90 memorandum from Sam Stoker.
No documented seabird colonies. No constraint to manual pickup as per memorandum to Rex Coulter/Exxon from Mary Portner/USFWS.
No constraint to manual pickup and bioremediation less than 400m from eagle nest, USFWS needs to be present.

OTHER ECOLOGICAL CONSIDERATIONS
Beach is to be approached with caution, by boat, and carefully scrutinized. If seals are present on the beach or in the water nearby, operations are to be suspended until after expiration of the previously defined constraint period. If seals are not present, treatment is to be completed as quickly as possible, with as few personnel and equipment as possible, and with an absolute minimum level of noise and general disturbance. Any application of bioremediation should be confined to above the mid-tide zone. Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

FOSC |  [Signature] | Date 6-20-90
Prepared by |  [Signature] | Date 6/20/90
Treatment in eagle nest restriction area may proceed after July 1 with USFWS monitor on site.
Mike Luke 4/98

Site KU-3

Site KU-2

ECOLOGY MAP
SEGMENT K9N-24 KU-2
SUBDIVISION A (1 of 1)

METERS

★ Seabird Colony
△ Active Eagle Nest
△ Inactive Eagle Nest
SHORELINE EVALUATION

SEGMENT ST/ K09-24-KU-02 SUBDIVISION A (1 OF 1) DATE 4/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

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

OILING CATEGORIZATION:

• Wide 0 m: Medium 90 m: Narrow 215 m: V.Light 4535 m: No Oil 1286 m

Subsurface Oil Observed: Yes No

Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual pickup of mousse, patties, and oiled debris. 2) Bioremediation in areas indicated on sketch map. Work should be conducted between 6/30 and 8/1 due to above pinniped constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 5/2/90

ADEC

NOAA

USCG

FOSC: DATE: 5/2/90

EXXON

Kathleen K. Free

TAG REVISION 1 CONSTRAINT ADDITION DATE: 6/20/90
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)
3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
3Q Harbor seal and seal lion molting (8/15 to 9/15)
9LM Other: Land Mammals
4LL State Marine Park National Parks

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

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

SHPO SIGNATURE: __________ DATE: 5/25/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 1099 m: No Oil 5705 m Subsurface Oil Observed: Yes __ No X __ Maximum Depth ______

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

COMMENTS:

TAG COMMENTS:______________________________________

TAG APPROVAL DATE: 5/23/90
ADEC Arctic Wildlife Art Wilkin
EXXON Art Weiss
NOAA Art Weiss
USCG Art Weiss

DATE: 5/4/90
CHECKLIST

LEGEND

Oiled Vegetation

Oil Character Length (m): AP O PO O CV O CT O ST 100.00 MS O PT O TB O FL O NO 56 29
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)
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)
9LM Other: Land Mammals
4LL State Marine Park National Parks

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

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

SHPO SIGNATURE: [Signature] DATE: 5/18/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 1099 m: No Oil 5705 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 Removal  ______ Beach Cleaner
_____________  ______ Other (see comments)

COMMENTS: ________________________________________________

_________________________________________________________________

_________________________________________________________________

_________________________________________________________________

TAG COMMENTS: ________________________________________________

_________________________________________________________________

_________________________________________________________________

TAG APPROVAL DATE: 5/17/90

ADEC Art Young Art Young

EXXON Ernie Clark Ernie Clark

NOAA Gary Petree Gary Petree

USCG G.T. Mann G.T. Mann

FOSC: [Signature] DATE: 5/23/90
SEGMENT K9-24-KU-3
SUBDIVISION K9-24-KU-3A

DATE 5/4/90

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

LEGEND
1 △
Pit - No Subsurface Oil

2 △
Pit - Subsurface Oil

Continuous Distribution
Broken Distribution
Patchy Distribution
Splashed Distribution

Oiled Vegetation

Photo location, direction, and number

Oil Character Length (m): AP O PO O CV O CT O ST 1000 MS O PT O TB O FL O NO 5629

REV: 05/06
REGION: KODIAK

SEGMENT: ST/K09-24-KU-003

SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION

SEGMENT ST/ K09-24-KU-003 SUBDIVISION A (1 OF 1) DATE 5/4/90

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)
- 3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
- 3O, 3Q Harbor seal and seal lion molting (8/15 to 9/15)
- 9LM Other: Land Mammals
- 4LL State Marine Park National Parks

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

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

SHPO SIGNATURE: ______________________ DATE: ______________________

OILING CATEGORIZATION:

- Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 1099 m: No Oil 5705 m
- Subsurface Oil Observed: Yes No
- Maximum Depth

RECOMMENDATIONS:

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

COMMENTS:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

TAG COMMENTS:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

TAG APPROVAL DATE: __________

ADEC
EXXON
NOAA
USCG

FOSC: ______________________ DATE: __________
KODIAK ECOLOGICAL CONSTRAINTS

Salmon stream mouth - fry outmigration (4/15 to 7/31)
Salmon stream mouth - spawning (7/15 to 6/10; PEAK 8/15)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or inpulp application, 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 Ken Middleton 267-2298

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 inpulp application, 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

Kokol Bay Hatchery release
Pink salmon - late May, early June; Chum salmon - June; Sockeye salmon - early July.

Remote release sites
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or inpulp application, 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 for confirmation and authorization.
AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214

Gill net area

Purse seine area
Mainland, West side Kodiak, Shuyak & Moser/Olga Bay (6/9 to 10/1)
East side Kodiak, East side Afognak (7/4 to 10/1)

Purse seine hook-off

Set net areas
Contact ADF&G for confirmation - dates and locations may vary. Restrict boat and air traffic to essential minimum. When set net sites 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 inpulp application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
AGENCY CONTACT PERSON: ADF&G Larry Nicholson 424-4791

Herring spawning (4/15 to 6/30)
Contact ADF&G for confirmation - dates and locations may vary. Restrict boat and air 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 inpulp application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
AGENCY CONTACT PERSON: ADF&G Larry Nicholson 424-4791

Hunting season

Harbor seal and sea lion pupping (5/10 to 7/1)
Harbor seal and sea lion molting (6/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 600m horizontal and 300m vertical distance from haulouts. No application of inpulp within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
ADF&G Don Calkins 267-2403

Seabird colony (5/1 to 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 794-3377

Shorebird/waterfowl concentration (4/1 to 6/15)
Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
AGENCY CONTACT PERSON: USFWS Jill Parker 794-3377
ADF&G Tom Rothby 267-2208

All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 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 794-3377

Recreation:
Tent sites (8/1 to 9/15)
Anchorage sites (8/1 to 9/15)
Forest Service cabins (8/1 to 9/15)
Lodge (8/1 to 9/15)
Special use destination

Subsistence area: Salmon harvesting (8/1 to 9/30)
Finfish harvesting
Deer harvesting (8/1 to 10/7)
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 inpulp application 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 Faul 257-2359
FIELD SHORELINE COMMENT SHEET

SEGMENT ST 1 K+924 KU 3 SUBDIVISION: K924-KU-3A DATE 5-4-97

SCG
NAME: Duren J. Combs, Sr. SIGNATURE: [Signature]

☑ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

ADEC
NAME: Francis J. Bennis SIGNATURE: [Signature]

☑ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

Only VL oil observed: stain + splatters.

LAND MANAGER NPS
NAME: Will Troyer SIGNATURE: [Signature]

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

[Comments]

REVISION NO. 03/21/99
**SHORELINE OILING SUMMARY**

**OG**  Acton  USCG  Holm  **SEGMENT** K9-24-1K-3  **BIO**  Davis  LAND REP NPS  Traylor  Pezner  SUBDIVISION K9-24-1K-3  (1 OF 1)  
**EXXON**  Avery  ADEC  Bangs  **TIME**  5:10  **DATE**  5/4/90  
**TEAM NO.**  20  **TIDE LEVEL**  +2.75  **DATE**  5/4/90  

**EST. SUBDIVISION LENGTH:**  1247.45 m  
**UPLANDS DESCRIPTION:**  ☑ Grass  ☐ Forest  ☐ Rock  
**SURVEYED FROM:**  ☑ Foot  ☐ Boat  ☐ Helo  
**SURFACE SEDIMENTS:**  ☑ Asphalt  ☐ Pavement  ☐ Pooled  
**COATING:**  ☑ Cover  ☐ Coat  
**STAIN:**  ☑  ☑  ☑  
**MOUSSE:**  ☑  ☑  ☑  
**PATTIES:**  ☑  ☑  ☑  
**TARBALLS:**  ☑  ☑  ☑  
**FILM:**  ☑  ☑  ☑  

**SURFACE OIL**

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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**OIL OIL**  ☑  ☑  

**PAVEMENT**  ☑  ☑  ☑  

**PATTIES/TARBALLS**  ☑  ☑  ☑  

**NEAR SHORE SHEEN?**  ☑  

**OILED SHORE SHEEN?**  ☑  

**AMOUNT**  ☑  ☑  ☑  

**DID YOU COLLECT DEBRIS?**  ☑  

**TYPE**  ☑  

**#BAGS**  ☑  

**PHOTOGRAPHS:**  Roll No. ST-20-9  
Frames 33, 34  

**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</th>
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**COMMENTS:**  Shoreline in this segment is primarily narrow width (< 20m) boulder, 
flint cobbles beach. Area of oiling was approx 1000m long and was comprised of 
VL stain on boulders (very occasional). The tip of the peninsula was 
surveyed by boat due to vertical cliffs. The stream area at the extreme 
NW segment end was not surveyed due to the presence of bears.  

**REVIEWED**  BAT  **DATE**  8/5/90
SHORELINE ECOLOGICAL SUMMARY

Segment ST/ K9 - 24  Subdivision KU - 3  Date (mo / day / yr ) 5/4/90

Time (24 hr ) 18:00  Biologist  H. Davis

(A) Substrate type and % of segments:
(1) Bedrock 30  (2) Boulder 30  (3) Cobble 25  (4) Pebble 15  (5) Sand 10  (6) Silt 10

(B) Overall % cover of biota (% of segment): Dense 20%, Moderate 30%, Low 50% (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 Dense Moderate Throughout the Segment.

<table>
<thead>
<tr>
<th>Dense</th>
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<th>Sparse</th>
<th>Rare</th>
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MYTILUS Small(3 x 1 meter) dense patches of large Mytilus

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GASTROPODS Continuous along segment. Within: Dense, Moderate, Limpet, Mod, Nassella Sp.

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FUCUS Dense patches scattered along whole segment.

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Wildlife Observations/General Comments: The southern side had a sharper boundary
between the rocky slope and tiles flat than the northern side. All the oil was found on
the southern side above the inhabited area.

Ecological Considerations: Harbor Seal and Sea Lion haulout, for molting and having
pups. Streams coming into the south side of the segment
have Pink and Chum Salmon spawning in it. Schools of dry
were observed in the water along the segment.
Birds:
Mallards
Ruff
Rural dippers
cToucanet
Cormorant

Surf Scoter
Chuck-will's-widow

The northern side of the segment was a more
quietly sloping area. Shingle and sand in the
UTZ with mud and sand below. Balanus sp.
were very dense on all hard substrates.
Mytilus beds were patchy with large Mytilus and
some Modiolus. Dominant algal are Ulva,
Halosaccus, some small patches of Odonthalia, and Fucus.
Zostera marina beds were in the ETZ. Animals
found among the shingles are: littorina, limpets,
Katharina, Tunicata, Serpula, Serpulidae, athenaeum,
Holothurians, Ophiacantha, and Platychelmeidae.

On the mud flats phoronids

On the slopes: Balanus glandula, Fucus
Porphyra, Odonthalia, Scyptosiphon, green
filamentous, Chydomorpha patchy bands of
dense large Mytilus, littorina, limpets
Nucellea, and Katharina tunicata. On the
sand and silt flat phoronids, Ulva, some Zostera,
Gigartinales sp., Halosaccus, Cinocardiun nutallii
Protocanthus, Serpula, cuttle magista, and Terminus.
Salmon fry were in small schools around slope
and interface.

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

KU-3

Approx. Segment Length: 9878m

Map Key: AKP-KU-3a
Name: Acton
Date: 5-4-92
Data Entered:
REGION: KODIAK

SEGMENT: ST/K09-24-KU-003

SUBDIVISIONS: A (1 OF 1)
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)
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)
9LM  Other:  Land Mammals
4LL  State Marine Park National Parks

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

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

SHPO SIGNATURE: ________________________ DATE: ________________________

OILING CATEGORIZATION:
Wide 0 m: Medium _0 m: Narrow 0 m: V.Light 1099 m: No Oil 5705 m
Subsurface Oil Observed: Yes ____ No X__ Maximum Depth _______

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

COMMENTS: ____________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

TAG COMMENTS: _______________________________________________________
_____________________________________________________________________
_____________________________________________________________________

TAG APPROVAL DATE: ________________________

ADEC ________________________  FOSC: ________________________ DATE: _______
EXXON ________________________
NOAA ________________________
USCG ________________________
KODIAC ECOLOGICAL CONSTRAINTS

1A
Salmon stream mouth - fry outmigration (4/15 to 7/21)
Salmon stream mouth - spawning (7/15 to 9/10; PEAK 8/15)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or in situ application, 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 Ken Middleton 267-2299

1B
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 in situ application, 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

1C
Kokol Bay Hatchery release
Pink salmon - late May, early June; Chum salmon - June; Sockeye salmon - early July.

1D
Remote release site
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or in situ application, 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 for confirmation and authorization.

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

1E
Gill net area

1J
Purse seine area
Mainland, West side Kodiak, Shuyak & Moser/Olga Bay (6/9 to 10/1)
East side Kodiak, East side Afognak (7/4 to 10/1)

1K
Purse seine hook-off

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

AGENCY CONTACT PERSON: ADF&G Larry Nicholson 486-4781

2A
Herring spawning (4/15 to 5/30)
Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to unveiled intertidal and subtidal areas. If plans for treatment include methods such as hot water wash or in situ application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

AGENCY CONTACT PERSON: ADF&G Larry Nicholson 486-4781

3A
Herring and sea lion pupping (6/10 to 7/11)
Herring 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 in situ within two weeks of arrival days (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 Calline 267-2403

5A
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

5B
Shorebird/waterfowl concentration (4/1 to 5/7)
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 Retby 267-2208

5T
All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff only 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

6A
Recreation: Tent sites (8/1 to 9/15)

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

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

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

6E
Special use destination

7A
Subsistence area: Salmon harvesting (6/1 to 9/30)

7B
Shrimp harvesting (6/1 to 6/1)

7C
Deer harvesting (6/1 to 7/7)

7D
Invertebrate harvesting

7E
Bear harvesting (4/1 to 5/15 and 10/25 to 11/30)

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

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

SEGMENT 1K-24 KU-3 SUBDIVISION: KQ-24-KU-3A DATE 5-4-93

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

Only VL oil observed: stain + splatter.

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

OIL spot + splatter + stain observed.
**SHORELINE OILING SUMMARY**

**OG**

**USCG**

**Haven**

**SEGMENT ST/ K924-KV-3**

**BIO**

**Davis**

**LAND REP**

**MP5**

**Troyer, Pentland**

**SUBDIVISION ST/K924-KV-3 (1 OF 1)**

**EXXON**

**Ayres**

**ADEC**

**Benedu**

**TIME**

5:50

**DATE**

5/1/90

**TEAM NO.**

20

**TIDE LEVEL**

+2 to +3.5

**ST. SUBDIVISION LENGTH:**

2579 m

**LANDS DESCRIPTION:**

- Grass
- Forest
- Rock
- Sun
- Clouds
- Fog
- Rain
- Snow

**SURVEYED FROM:**

- Foot
- Boat
- Helo

**WORKING DIRECTION:**

W to E

**SURFACE SEDIMENTS:**

- R 30%
- B 30%
- C 15%
- P 15%
- G 5%
- S 10%
- M 10%
- V 10%

**SLOPE:**

- Lang 70%
- Hang 15%
- Vert 15%

**WAVE EXPOSURE:**

- Low
- Med
- High

**OIL CATEGORY**

**LENGTH:**

W: m
M: m
N: m
VL: m
NO: m

**SURFACE OIL**

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**PAVEMENT**

- H: 0 sq. m
- F: 0 cm
- S: 0

**PATTIES / TARBALLS:**

- 0

**NEAR SHORE SHEEN?**

- NO

**OILED DEBRIS**

- Logs
- Vegetation
- Trash
- Debris

**AMOUNT**

- SM
- MD
- LG

**DID YOU COLLECT DEBRIS?**

- YES

**TYPE**

- 

**#BAGS:**

- 0

**Photographs:**

- Roll No. ST-20-9
- Frames 33, 34

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**COMMENTS**

Shoreline in this segment is primarily narrow width (< 20 m) boulder, flat cobble beach. Area of oiling was approx. 1000 m long and was comprised of VL stain on boulders (very occasional). The tip of the peninsula was surveyed by helo due to vertical cliffs. The stream area at the extreme NW segment end was not surveyed due to the presence of bears.

**REVIEWED**

- BAT
- DATE 8 May 90
SHORELINE ECLOGICAL SUMMARY

Segment ST / k9 - 24 Subdivision Ku-3
Date (mo / day / yr.) 5/4/90

Time (24 hr.) 18:00 Biologist H. Davis

(A) Substrate type and % of segments:
1) Bedrock 20% 2) Boulder 30% 3) Cobble 15% 4) Pebble 5% 5) Sand 10% 6) Silt 10%

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

Photographs:
Roll No. ST - 20 - 9
Frames 33 34

BARNACLES Dense through out the Segment.

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GASTROPODS Continuous along segment, utterance dense, moderate, limpet; Mod, Nassula sp.

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FUCUS Dense patches scattered along whole segment.

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Wildlife Observations/ General Comments: The southern side had a sharper boundary between the rocky slope and the tidal flat than the northern side. All the oil was found on the southern side above the inhabited area.

Ecological Considerations: Large seal and sea lion haul out for molting and having pups. Streams coming into the south side of the segment have ?bets and Chum salmon spawning in it. Schools of ?er were observed in the water along the segment.
Birds:
- Mallards
- Buffleheads
- Glaucous-winged gulls
- Adult eagle
- Juvenile eagle
- Great Sculp
- Harlequin
- Surf scoter
- Oystercatcher
- Cormorant

The northern side of the segment was a more gentle sloping area. Shingle and sand in the LTZ with mud and sand below. Balanus sp. were very dense on all hard substrates. Mytilus beds were patchy with large Mytilus and some Modiolus. Dominant algae are Ulva, Halosaccion, small patches of Odonthalia and Fucus. Zostera marina beds are in the LTZ. Animals found among the shingles are littorina, limpets, Katharina tunicata, Serpula, Spirobranchus, Nereidae, Annelids, and polychaetes.

On the mud flats: polychaetes, Nereis sp., Astarte, Arnemis, Ophiothrix, Nephthys, Nereis, and Dentex. Diatom mats present.

The south side of the segment is a sand and silt mix leading up to a slope of bedrock, boulders and shingles.

On the slope: Balanus glandula, Fucus, Porphyra, Odonthalia, Scytosiphon, green filamentous, Chorda, patty bed, some dense large Mytilus, littorina, limpets, Nucella and Katharina tunicata. On the sand-silt flat: polychaetes, Ulva, some Zostera, and some Zostera marina beds. In the LTZ: Nereis, Halosaccion, Clinocardium, protobranch, Protobranch, Nereis sp., Annelids, Arctium, Nephthys, and Ophiura. Salmon fry were in small schools around slope and interface.

Ecology Sketch Map
SHORELINE EVALUATION

SEGMENT ST/ K09-30-1K-001 SUBDIVISION A (1 OF 1) DATE 5/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5R Seabird colony (5/1 to 9/1)
4LL State Marine Park National Parks
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: Rachel Doe DATE: 5/18/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 376 m: No Oil 6826 m
Subsurface Oil Observed: Yes____ No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

TAG COMMENTS:________________________________________________________________________

TAG APPROVAL DATE: 5/17/90

ADEC
EXXON
NOAA
USCG
**CHECKLIST**
- N Arrow
- Approx. Scale
- Seg/Sub Brdy
- Oil Dist.
- Width
- Length
- % Cover
- Substrate Character
- Est. HWL/LWL
- 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 ●●
- Photo location, direction, and number

**OIL CHARACTER LENGTH (m):**
- AP O PO O CV O CT O ST 460 MS O PT O TB O FL O NO 712

**SKETCH MAP**
- Approx Scale
  - km = 2 zoom

400m section where VL ST/S was observed (very occasional)
SUBDIVISION K9-20-IK-1A
DATE 5/4/80

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

LEGEND
1 Δ
- Pit - No Subsurface Oil

2 Δ
- Pit - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/P
Patchy Distribution

CT/V
Splashed Distribution

Oil Character Length (m): AP    PO    CV    CT    ST    400    MS    PT    TB    FL    NO    7/2
K9-30-IK-1A

XXX Wide  IK-1
/// Medium
--- Narrow  Approx. Segment Length: 7156m
T T T Very Light
0000 No Oil

Map Key: AKP-IK-1c
Name: Acton
Date: 5-4-90
Date Entered:
XXX Wide
/// Medium
--- Narrow
TTT Very Light
0000 No Oil

Approx. Segment Length: 7156m

Map Key: AKP-IK-1a
Name: Acen
Date: 5-4-90
Data Entered:

K9-30-IK-1A
REGION: KODIAK

SEGMENT: ST/K09-30-IK-001

SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION

SEGMENT ST/ K09-30-IK-001 SUBDIVISION A (1 OF 1) DATE 5/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5R Seabird colony (5/1 to 9/1)
4LL State Marine Park National Parks
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: __________________ DATE: _______________________

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 376 m: No Oil 6826 m
Subsurface Oil Observed: Yes No X Maximum Depth_____

RECOMMENDATIONS:

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

COMMENTS: ____________________________________________

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

TAG COMMENTS: ____________________________________________

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

TAG APPROVAL DATE:__________________
ADEC ______________________ EXXON ______________________ FOSC:__________________ DATE:____________
NOAA ______________________
KODIAK ECOLOGICAL CONSTRAINTS

1A Salmon stream mouth - fry outmigration (4/15 to 7/31)
1B Salmon stream mouth - spawning (7/15 to 9/10; PEAK 8/15)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100 m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or in situ application, 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 Ken Middleton 267-2259

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 in situ application, 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 Kodiak Bay Hatchery release
Pink salmon - late May, early June; Chum salmon - June; Sockeye salmon - early July.

1E Remote release site
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or in situ application, 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 for confirmation and authorization.

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

1I Gill net area
1J Purse seine area
Mainland, West side Kodiak, Shuyak & Moser/olga Bay (6/10 to 10/1)
East side Kodiak, East side Afgnag (7/14 to 10/1)

1K Purse seine hook-off
1L Set net sites
Contact ADF&G for confirmation - dates and locations may vary. 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 in situ application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

AGENCY CONTACT PERSON: ADF&G Larry Nicholson 428-4781

2M Herring spawning (4/15 to 6/30)
Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to unrolled intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or in situ application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

AGENCY CONTACT PERSON: ADF&G Larry Nicholson 428-4781

3P Harbor seal and sea lion pupping (5/10 to 7/1)
Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of in situ within two weeks of arrival dates. (Work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

4S Seabird colony (5/1 to 9/1)
Restrict air and boat traffic to essential minimum. No personnel within 500m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

ST 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. Aircraft to 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:
6V Placement sites (8/1 to 9/15)
6W Anchorages (8/1 to 9/15)
6X Forest Service cabins (6/1 to 9/15)
6L Lodge (5/1 to 9/15)
6Y Special use destination

7U Subsistence area: Salmon harvesting (6/1 to 9/30)
7H Harvesting
7I Deer harvesting (5/1 to 7/1)
7J Invertebrate harvesting
7K Bear harvesting (4/1 to 5/15 and 10/25 to 11/30)
Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of in situ which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.

AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2259
SEGMENT ST/K 9.30  TO 1K.1  SUBDIVISION: K9.30 - 1K.1A  DATE 5/4/92

SCG
NAME: Haren Jr., Lewis  SIGNATURE:

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

ADEC
NAME: Francis J. Beaudin  SIGNATURE:

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

Only VL oil observed in the form of stains & splatters.

LAND MANAGER

NAME: Will Troper  SIGNATURE: Will Troper

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

Only light splatters & stain observed.
SHORELINE OILING SUMMARY

OG: Acton  USCG   Haven  SEGMENT ST/ K-3a  -  Jk-1
BIO: David  LAND REP  NPi Traylor  James  SUBDIVISION K-3a-Jk-1B  (p OF 1)
EXXON: Avery  ADEC  Benne  TIME  3:00 10 5:40
TEAM NO.  20  TIDE LEVEL  +5  to  +2  DATE  5/4/90
EST. SUBDIVISION LENGTH:  711.2  m
SURVEYED FROM:  Foot  Boat  Helo  WORKING DIRECTION:  SSW  to  NNE
SURFACE SEDIMENTS:  R  20%  B  30%  C  25%  P  5%  G  5%  S  5%  M  0%  V  0%
SLOPE:  Lang  70%  Hang  15%  Vert  15%
OIL CATEGORY LENGTH:  W  -  m  M  -  m  N  -  m  VL  400  m  NO  671.2  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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<tr>
<td>ASPHALT PAVEMENT</td>
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<td>POOLED COVER</td>
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<td>COAT STAIN</td>
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<td>MOUSSE PATTIES</td>
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<td>TARBALLS FILM</td>
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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

OILED DEBRIS AMOUNT
SM MD LG
(Logs)

Vegetation
Trash
Debris

DID YOU COLLECT DEBRIS?
YES  NO

TYPE

#BAGS  0

Photographs:
Roll No. ST-20-9
Frames  #32

SUBSURFACE OIL

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<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>BELOW</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>AN A SHEEN (Y/N)</th>
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COMMENTS
SSW end of segment is cliff/rack platform and was surveyed by helo; no oil was observed. Rocky cliff at NNE end was surveyed by helo; no oil was observed. Effectiveness of helo survey in observing oil is limited. Most of the segment is basalt/rubble/rubble shoreline (where accessible) with the exception of a small pocket beaching the extreme NNE end. Oil was observed at one area in the form of VL stain on basalt in the SSW. Frequency of observed stain was very occasional.

REVIEWS 5/4/90"
Sketch Map

Date 5/4/90

Legend

1 ⬤ No Subsurface Oil

2 ⬤ Subsurface Oil

CT/C Continuous Distribution

CT/B Broken Distribution

CT/P Patchy Distribution

CT/V Splashed Distribution

Oiled Vegetation

Photo location, direction, and number

Oil Character Length (m): AP PO CV CT ST 400 MS PT TB FL NO4712

400m section where VL ST/3 was observed (very occasional)
SHORELINE ECOLOGICAL SUMMARY

Segment ST/IK-30  Subdivision I K-0  Date (mo/day/yr) 5/4/9

Time (24 hr) 15:00  Biologist  H. Davis

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

(B) Overall % cover of biota (% of segment):
   Dense 40%  Moderate 30%  Low 30% (50%)

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

BARNACLES Continuous except where cobble-sand beaches occur.

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MYTILUS Patchy, are size (1/16 meter) Dense clusters.

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GASTROPODS Continuous with variable numbers.

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FUCUS Patchy but dense cover where it occurs.

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Wildlife Observations/General Comments: Oil observed (very light and only occasionally) was
above the inhabited area of the intertidal. This segment had a very diverse and
abundant biota. Birds seen were: Rock Ptarmigan, Glaucous-winged Gulls,
Common Loons, Great Blue Herons, Ravens, Crows, Harleldos, Wandering Tattlers, Bald Eagles,
and Osprey. Eagles were seen mating but no nests were seen.
The 400 m area with very light stain paralleled an extremely rich intertidal area. Mostly boulders and cobbles over a bedrock and sand base. The upper intertidal had a very dense Balanus and Littorina population. Small <3 mm Littorina were found in empty Balanus shell or in crevices. Littorina egg masses were found under boulders and cobbles. Limpets (Lottocarina + cal大力士) were found in protected areas (crevices and the under-sides of boulders). Porphyras was on the tops of boulders. Fucus covered large cobbles and raised bedrock. Odonthalia ringed pools and covered flat areas. Callithamnion, Corallina and Lithothamnion were in pools. MTZ pools also had Zoella marina. The tops of boulders had tufts of both Ectocarpus and Gloeopeltis. Alaria started in the MTZ and increased into the LTZ. Ulva, Rhotophora, Siria, Enteromorpha, Nantes aequan and Patrophilus was present. Some species observed:
Kallithamnion paniculatum, Haeckelum sp, Fella trachecanis,
Anthopleura anemonea, Epicontis sp, Unknown Polycelidae,
Tonicella lineata, Myophila sp, Karkoma truncata, Notoceras
sadenum and persica, Callistoma ligatum, Macella, Fissellula thol
Mytilus edulis, modulosus, Podocarpus cepia, Clinothamnium
mattalicum (shells), Nereis sp, Terbellidiidae, Spirotrich, acipula,
Melanostomia sp, Sabrella sp, Strongylostomatidae sp shells,
Holothuroidea (small slate grey 5 rows tube feet), Amphipods
Pagurus, Membranipora sp, Lepidastias hexactis.
Sculpins and pipefish types were seen in larger pools. Narceycs was off shore around rocky points and around the island. A harbor seals were seen off shore.
SEGMENT ST/K9-3co - IK-1
SUBDIVISION K9-3co - IK-1A
DATE 5/4/90

CHECKLIST
N Arrow
Approx. Scale
Seg/Sub Bdry
Oil Dist.
Width
Length
% Cover
 substrate character
Est. HWL/AWL
SSL
Profile Location(s)
Profile(s)
Pit Location(s)
Photo Location(s)

LEGEND
1△
P1H - No Subsurface Oil
2△
P1H - Subsurface Oil
CT/C Continuous Distribution
CT/B Broken Distribution
CT/P Patchy Distribution
CT/S Splashed Distribution

400m section where VL ST/3 was observed (very occasional)

Oil Character Length (m): AP PO EV CT ST-400 MS PT TB FL NO/712
XXX Wide
/// Medium
--- Narrow
TTTT Very Light
0000 No Oil

IK-1

K9-30-1K-1A

Mop Key: AKP-1K-1a

Name: Acton

Date: 5-4-90

Data Entered:
REGION: KODIAK

SEGMENT: ST/K09-30A-TL-001

SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION

SEGMENT ST/ KO9-30A-TL-001 SUBDIVISION A (1 OF 1) DATE 5/13/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5R  Seabird colony  (5/1 to 9/1)
5T  All Bald Eagle nests  (3/1 to 6/1)
4LL  State Marine Park National Parks

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 334 m: Narrow 245 m: V.Light 1165 m: No Oil 5800 m

Subsurface Oil Observed: Yes  No  X  Maximum Depth

RECOMMENDATIONS:

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

--- Snare/Absorbent Booms  --- Oil Snares (pom poms)  --- Absorbents (pads, rolls, etc)

Spot Washing: Wands  Beach Cleaner  Other (see comments)

COMMENTS: Recommend manual pick up of mousse as indicated on attached sketch map. Consult USFWS for appropriate work dates, regarding eagle nests and seabird colonies.

TAG COMMENTS: ________________________________________________________________

---

TAG APPROVAL DATE: ____________

ADEC  ________________  FOSC: ________________  DATE: ____________

EXXON  __________________

NOAA  __________________

USCG  __________________
KODIAK ECOLOGICAL CONSTRAINTS

1A Salmon stream mouth - fly outmigration (4/15 to 7/31)
1B Salmon stream mouth - spawning (7/15 to 9/10; PEAK 8/15)

No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or in-pool application, 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 Ken Middleton 287-2259

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 in-pool application, 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 Kortal Bay Hatchery release

Pink salmon - late May, early June; Chum salmon - June; Sockeye salmon - early July.

1H Remote release site

No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or in-pool application, 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 for confirmation and authorization.

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

1I Gill net area

1J Purse seine area

Mainland, West side Kodiak. Shuyak & Moser/Olga Bay (6/8 to 10/1)
East side Kodiak, East side Alognak (7/4 to 10/1)

1K Purse seine hook-off

1L Set net sites

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

AGENCY CONTACT PERSON: ADF&G Larry Nicholson 424-4791

2M Herring spawning (4/15 to 6/30)

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

AGENCY CONTACT PERSON: ADF&G Larry Nicholson 424-4791

3A Harbor seal and sea lion pupping (5/10 to 7/1)

Harbor seal and sea lion molting (6/15 to 9/15)

Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulout. No application of in-pool 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: USFWS Dru Calkins 267-2403

3B 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 780-3377

3S Shorebird/wader/nest concentration (4/1 to 6/15)

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

AGENCY CONTACT PERSON: USFWS Jill Parker 780-3377

ARD &G Tom Pohl 287-2206

5A 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 780-3377

6A Recreation: Tent sites (3/9 to 9/15)

6B Anchorage (6/9 to 9/15)

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

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

6E Special use destination

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

Finish harvesting

Drift harvesting (9/1 to 1/7)

Invertebrate harvesting

Bear harvesting (4/1 to 8/15 and 10/25 to 11/30)

Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of in-pool 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 Fell 287-2359
FIELD SHORELINE COMMENT SHEET

SEGMENT STK 01-304-71-4 SUBDIVISION: A DATE 5/13/90

USCG NAME: Kenneth M. Trabue SIGNATURE: K Trabue

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS:

Three different wide (>6m) sections of broken coasts and stain with sporadic mounds. Occasional stain throughout rest of segment. The oil and substrate characteristics make clean-up unfeasible. The oily section near on SE part of segment (PA #2) does have recoverable oil.

ADEC NAME: Francis J. Benis SIGNATURE:

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS:

Manual clean-up recommended in areas designated as 'rough sand' area. SSAT map on western side of islands located in 4m. Crude bog oil from our survey starting in lagoon (SW corner of Takki). Other areas of light oil exist but are not worth recovering. This oil could be cleaned w/trucks to remove persistent mounds among cobbles & boulders.

LAND MANAGER NPS NAME: Will Traber SIGNATURE:

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS:

Beach #2 in the lagoon are close to and adjacent, long reformed beach, little recoverable oil. Beach probably will not receive clean-up effort. Need to keep an alerting system of measures that is effective. It does not engage the capacity that would be how to it can be resolved with manual cleanup methods.
**SHORELINE OILING SUMMARY**

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

- PAVEMENT HF S
- PATTIES/TARBALLS
- NEAR SHORE SHEEN?
- NO BR RW SL

**SUBSURFACE OIL**

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<th>BELOW</th>
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<th>PIT ZONE</th>
<th>AREA SHEEN (cm²)</th>
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</table>

**COMMENTS**

See attached.
Subdivision "A" of segment 8T-K09-30A-TL1 consists of the small fjord like embayments along Takli Island's southern coast. Although the linear distance from the beginning to the end of the subdivision is just over a mile, the length along it's meandering coastline is roughly six miles. The shore is composed of rocky headlands, steep sided bays and pocket sand beaches. At the western edge of the subdivision is a protected lagoonal system. Within this lagoon, between pits 1 and 2, are two low boulder strewn rocky points. These features retain splatters of cover, coat and stain. Also scattered randomly in this area are mousee patties which have weathered to dark black on the surface. Since the local rock is also black, these patties are very difficult to see. When the surface of the mousee is disturbed it is a rich chocolate brown. In a few locations mousee was pooled at least 2 centimeters deep in bedrock cracks and between boulders. Along the protected shores of the rest of the segment small splatters of stain and tar coats were occasionally observed as noted on the sketch map. The agency personal on our team did not feel that these rare splatters and drops were of serious consequence. The exceptions to this were noted near the center of the subdivision. In the location where three low islands are clustered in a small bay the wave energy was low enough that oil remained from last year. Scattered pooled mousee and patches of tar cover, coat and stain were observed near the intersection of the two western islands in a rough band 6 meters wide, 75 meters long with 10% coverage. Random pooled mousee was lodged between the boulders at least 5 centimeters deep. Although the total area affected by oil was less than in the western lagoon, mousee between the two islands ceased more concentrated and recoverable. Estimates of mousee concentration were very difficult to develop in both locations due to the very dark nature of both mousee and bedrock. Translucent sheen was observed on tide pools associated with local mousee deposits. The final notable concentration of mousee was located near the eastern edge of the subdivision. Here a rough band of sporadic splattered cover, coat, stain and pooled mousee was deposited along a 30 meter section of boulder beach, 4 meters wide. Again coverage within this band was near 10%, with rare pooled mousee to 4 centimeters deep. Recovery of mousee mentioned in this report, although tedious, is possible with hand trowels etc.
SHORELINE ECOLOGICAL SUMMARY

Segment ST/109-30A Subdivision TL-01 A

Date (mo/day/yr) 5/13/90

Substrate type and % of segments:
(1) Bedrock 10%, (2) Boulder 25%, (3) Cobble 5%, (4) Pebble 5%, (5) Sand 15%, (6) Silt

Overall % cover of biof ( % of segment): Dense 20%, Moderate 40%, Low 40% (40%)

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

Photographs: Roll No. ST-20-11

Frames 2-8

BARNACLES continuous except across the sand and grass at the heads of inputs.

New settlement had occurred recently.

MYTILUS patchy all along the segment.

GASTROPODS littorina, dense-sparse, Unio moderately sparse, Drupella, moderate-sparse, Ulva were patchy.

FUCUS patchy, along some places there was dense band of Fucus in others only patches on the tops of boulders.

Wildlife Observations: General Comments: See ecology map.

Ecological Considerations: SR. On the western edge of the island, north of the lagoon, there is a common roostery (flapjacks and red-faced) There is also an eagle nest on the southwest corner of the island (see map) and possibly another.
This segment is made up of several deep inlets alternating with sloping rocky points. The inlets have sand bottoms with boulders, boulders and cobble walls that get smaller toward the head of the inlet. The heads of these inlets are usually sloping grass hillsides with grasses and debris. At the south-west end of the segment was a large area with bottom and boulder/boulder edges. In the lagoon, the rocks were generally occupied by: Liver, Septoppia, In Eothuria, Gladar, Ficus, Ochtopus, Octopus. Debris, V. polita, Lithoria, Balanus and Pagonia. On the sand, shells of Cantharidium, Canthamna, pretox, and Chione were found. One had drilled holes from a predation snail possibly Pleurocera. A few Chitonids were found near the mouth of the lagoon, the boulders had been settled by. (Barnacle larvae)

The flora and fauna in the inlets were very similar to that of the lagoon with the addition of Cancer magister, Pecten opercularis, Linnaea, Valvata, Atrina, and Sculpins. On the rocky headlands there was a more diverse community including Halophylus, Porphyra, Ulva, Fucus, Ochrothamnus, Rhodomenia, Bridia, Balanus balanoides, Bouchieria, and Barnacles (Balanus granulatus and conicus). Collared, digitate, Helcion, Scutum, heterocera, personula, Nucula canaliculata, Sabellaria, Katharina limicola, Cryptochiton stelleri (ideal), Bussarum sp., Epicedium prolifera, Lepidopoma, oropunaria, Cantharidium, Cantharidium, Actinaria, coccus, Polychaetes, Trechella leucos, Balanella, Chonodina, ennezia, Euphria propylon, Heliancusa tachellis and Stenocladotes droebachianus. (Maps)

Birds
Peale's Petrel (January)
Kelp Gull (60-40)
Soyl Sooty
White-Winged Scoter
Red-Billed Merganser
Glacier Baying Gull
Pelagic Red-Crested Cormorant
Herring Throated
Oregon (2)
Song Sparrow
For Sparrow
Osprey caged (2)
SHORELINE EVALUATION

SEGMENT ST/K09-30A-TL-001 SUBDIVISION A (1 OF 1) DATE 5/13/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5R Seabird colony (5/1 to 9/1)
5T All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
4LL State Marine Park National Parks

See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

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

SHPO SIGNATURE: Michael Armstrong DATE: July 12, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 334 m: Narrow 245 m: V. Light 1165 m: No Oil 5800 m
Subsurface Oil Observed: Yes ___ No X ___ Maximum Depth ________

RECOMMENDATIONS:

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

COMMENTS: Recommend manual pick up of mousse as indicated on attached sketch map. Consult USFWS for appropriate work dates, regarding eagle nests and seabird colonies.

TAG COMMENTS: Monitors to assess oiled logs

TAG APPROVAL DATE: 6/14/90
ADEC Ray Moews, Refiner
EXXON Amy Terrell
NOAA Bears Island
USCG CAIPPER Offord

DATE: 7-20-90
KODIAK ECOLOGICAL CONSTRAINTS

1A Salmon stream mouth - try authorization (4/15 to 7/31)
1B Salmon stream mouth - spawning (7/16 to 8/15; PEAK 8/15)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or inipol application, 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 Ken Middleton 267-2259

1C Salmon fry nursery area (4/30 to 7/31)
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or inipol application, 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 for treatment confirmation and advice.
AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214

1D Koko Bay Hatchery releases
Pink salmon - late May, early June; Chum salmon - June; Sockeye salmon - early July.

1H Remote release sites
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or inipol application, 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 for confirmation and authorization.
AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214

1I Gill net area
1J Purse seine area
Mainland, West side Kodiak, Shuyak & Moser/Oga Bay (6/9 to 10/1)
East side Kodiak, East side Atognak (7/4 to 10/1)
1K Purse seine hook-off
1L Set net sites
Contact ADF&G for confirmation - dates and locations may vary. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-4791

2M Herring spawning (4/15 to 6/30)
Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to uncolled intertidal and subtidal sites 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 Larry Nicholson 486-2502

30, 35 Harbor seal and sea lion pupping (5/10 to 7/1)
30, 35 Harbor seal and sea lion molting (6/16 to 9/16)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
ADF&G Don Callies 267-2403

5R Seabird colony (6/1 to 9/1)
Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

55 Shorebird/waterfowl concentration (4/1 to 9/15)
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 Reby 267-2208

5T All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to selected remote sites 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:
6V Tent sites (6/1 to 9/15)
6V Anchorage (6/1 to 9/15)
6W Forest Service cabin (6/1 to 9/15)
6X Lodge (6/1 to 9/15)
6Y Special use destination

710C Subsistence area: Salmon harvesting (6/1 to 9/30)
Fish harwesting
Duck harvesting (6/1 to 7/7)
Invertebrate harvesting
Bear harvesting (4/1 to 5/16 and 10/28 to 11/30)
Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of inipol which might affect intertidal or treatment oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.
AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2350
FIELD SHORELINE COMMENT SHEET

SEGMENT STK09-304-11-1 SUBDIVISION: A DATE 5/13/90

USCG
NAME: Kenneth T. Tregue SIGNATURE: K. Tregue

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS:

Three different wide (>6m) sections of broken coat and stain with sporadic mousse. Occasional stain throughout rest of Segment. The oil and substrate characteristics make clean-up un-feasible. The only section near bar (no arc of bar) does have recoverable oil.

ADEC
NAME: Francis J. Benzie SIGNATURE: F. J. Benzie

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS:

Manual clean-up recommended in area designated as rough sand (75%). SSSAT map on western side of island located 400 m away, 150 ft from our survey starting in legon (sw corner of Takk). [Our crew of light oil exist but are not worth recovering]. This could be cleaned w/trucks to remove persistent mousse among cobbles & boulders

LAND MANAGER
NAME: Will Tregue SIGNATURE: W. Tregue

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS:

Both 9.4 in the legon are close to shoreline site. Eagle needs further study. Little available silt on sand and probably should not perform clean-up effort. Both 7.0 have no creosote layer of mousse that is negotiable. It doesn't look like the mousse that would be here do it can be removed with manual cleaning methods.
### Shoreline Oil Spill Summary

**Date:** May 17, 1990

**Team No.:** 20

**Tide Level:** 0.5 ft

**Working Direction:** West to East

**Surface Sediments:** 50% B, 25% C, 5% F, 5% G, 5% S, 0% M, 0% V0

**Slope:** Lang 16%, Hang 50%, Vent 30%

**WAVE EXPOSURE:** Low

**Oil Category Length:** W 0 m, M 350 m, N 190 m, VL 1200 m, NO 70 ft

### Surface Oil

<table>
<thead>
<tr>
<th>Character</th>
<th>Distribution</th>
<th>Oil/Film Color</th>
<th>Impacted Zones</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt Paving</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Pooled</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
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<tr>
<td>Cover</td>
<td>n/a</td>
<td>n/a</td>
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</tr>
<tr>
<td>Coat</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Stain</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Mousse</td>
<td>n/a</td>
<td>n/a</td>
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<tr>
<td>Patties</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Tarballs</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Film</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>No Oil</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>

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

**Patties/Tarballs:** 4 bags

**Near Shore Sheen?** No

**BR RW SL:** 0

**Photographs:**

- Roll No.: ST-20-11
- Frames: 2 to 7

### Subsurface Oil

<table>
<thead>
<tr>
<th>Pit No.</th>
<th>Pit Depth (cm)</th>
<th>Subsurface Oil Character</th>
<th>Oiled Interval</th>
<th>Below</th>
<th>Oil/Film Color</th>
<th>Pit Zone</th>
<th>Anaerobic Sheen</th>
<th>Surface Subsurface Sediments</th>
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<tbody>
<tr>
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<td></td>
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<td>N 0 S</td>
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</table>

**Comments:**

See attached.
Subdivision "A" of segment ST-K09-30A-TL1 consists of the small fjord like embayments along Takli Island's southern coast. Although the linear distance from the beginning to the end of the subdivision is just over a mile, the length along it's meandering coastline is roughly six miles. The shore is composed of rocky headlands, steep sided bays and pocket sand beaches. At the western edge of the subdivision is a protected lagoonal system. Within this lagoon, between pits 1 and 2, are two low boulder strewn rocky points. These features retain splatters of cover, coat and stain. Also scattered randomly in this area are mouse patties which have weathered to dark black on the surface. Since the local rock is also black, these patties are very difficult to see. When the surface of the mouse is disturbed it is a rich chocolate brown. In a few locations mouse was pooled at least 2 centimeters deep in bedrock cracks and between boulders. Along the protected shores of the rest of the segment small splatters of stain and tar coats were occasionally observed as noted on the sketch map. The agency personnel on our team did not feel that these rare splatters and drops were of serious consequence. The exceptions to this were noted near the center of the subdivision. In the location where three low islands are clustered in a small bay the wave energy was low enough that oil remained from last year. Scattered pooled mousae and patches of tar cover, coat and stain were observed near the intersection of the two western islands in a rough band 3 meters wide, 75 meters long with 10% coverage. Random pooled mouse was lodged between the boulders at least 5 centimeters deep. Although the total area affected by oil was less than in the western lagoon, mouse between the two islands seemed more concentrated and recoverable. Estimates of mouse concentration were very difficult to develop in both locations due to the very dark nature of both mouse and bedrock. Translucent sheen was observed on tide pools associated with local mouse deposits. The final notable concentration of mouse was located near the eastern edge of the subdivision. Here a rough band of sporadic splattered cover, coat, stain and pooled mouse was deposited along a 30 meter section of boulder beach, 4 meters wide. Again coverage within this band was near 10%, with rare pooled mouse to 4 centimeters deep. Recovery of mouse mentioned in this report, although tedious, is possible with hand trowels etc.
This segment is made up of several deep inlets alternating with sloping rocky points. The inlets have sand bottoms and pebbly, cobbles, and cobble walls that get smaller toward the head of the inlet. The heads of these inlets are usually sloping grass hills with runnels and debris. At the south-west end of the segment were large runnels and bottom and boulder/cobble edges. In the lagoon the rocks were commonly occupied by: Hora, Scyphophora, En Allotria, Clio, Polyplax, Pteroa, Oo, Gula, Scanum, Littorina, Calliostoma and Porcellana. On the sand shelves of Clavis, Conchium, polyplax, and Chiton were found. Some had drill holes from a predatory snail possibly Pseudax of Natal. A few Pteroa were found.

Near the mouth of the lagoon the boulder had been settled by scutum, Porcellana (adult).

The flora and fauna in the inlets was very similar to that of the lagoon and with the addition of Cancer magister, Porcellana orthacaniformes, rugiger, ovomonticulatus, miti, and sculptum. On the rocky headlands there was a more diverse community with flora: Pleurocera, Pleurocera, litorina, Turritella, Phragmocyclus, Epitonium, and the Pteroa. In the inlets there was a good fauna: Burchamia, Calliostoma, Bliteida, Lycectus, and Cassis. In the lagoon there are many species: Burchamia, Porcellana, and Calliostoma. The shore was covered with Porcellana.
SHORELINE ECOLOGICAL SUMMARY

Segment ST/K09-30A Subdivision TL-01A

Date (mo/day/yr) 5/13/90

Time (24 hour) 4:50 a.m. Dawn

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

B) Overall % cover of biota (% of segment): Dense 20%; Moderate 40%; Low 40% (90%)

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

Photographs:
Roll No. ST-20-11
Frames 2-8

BARNACLE Continuous except across the sand and gravel of the beds of interits.

New settlement and covered recently.

MYTILUS Present all along the segment

GASTROPODS Littorina, Dense-Sparse, Lingula Moderate-Sparse, Nerita Moderate-Sparse, 35 were present

FUCUS Patchy, along some places there was a dense band of Fucus in others only patches on the tops of boulders


Ecological Considerations: 52. On the western edge of the island, North of the lagoon.
There is a common rookery (Reagan and Red Social). There is also an eagle
nest on the southwest corner of the island (see map) and possibly another
REGION: KODIAK

SEGMENT: ST/K09-34-KB-001

SUBDIVISIONS: A (1 OF 1)
SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
- SN, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
- 3Q Harbor seal and seal lion molting (8/15 to 9/15)
- 9LM Other: Land Mammals
- 4LL State Marine Park National Parks

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

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

SHPO SIGNATURE: _____________________ DATE: _____________________

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 1753 m: No Oil 2583 m
Subsurface Oil Observed: Yes No X Maximum Depth

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

COMMENTS: __________________________________________________________
________________________________________________________
________________________________________________________
________________________________________________________

TAG COMMENTS: _______________________________________________________
________________________________________________________
________________________________________________________
________________________________________________________

TAG APPROVAL DATE: __________
ADEC
EXXON
NOAA
USCG

FOSC: __________ DATE: ________
KODIAK ECOLOGICAL CONSTRAINTS

1A Salmon stream mouth - fry outmigration (4/15 to 7/31)

1B Salmon stream mouth - spawning (7/15 to 9/10; PEAK 8/15)

No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, 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 Ken Middleton 267-2259

1C Salmon fry nursery area (4/30 to 7/31)

1D Koota Bay Hatchery releases

1E Remote release site

No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, 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

1F Gill net area

1G Purse seine area

Mainland, West side Kodiak, Shuyak & Moser/Olga Bay (6/9 to 10/1)

East side Kodiak, East side Alognak (7/4 to 10/1)

1H Purse seine hook-off

1I Set net sites

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

AGENCY CONTACT PERSON: ADF&G Larry Nicholson 486-4791

2M Herring spawning (4/15 to 6/30)

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

AGENCY CONTACT PERSON: ADF&G Larry Nicholson 486-4791

Harbor seal and sea lion pupping (5/10 to 7/1)

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

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

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

ADF&G Don Calkins 267-2403

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

ADF&G Tom Rothy 267-2206

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

Active Bald Eagle nests (5/1 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:

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

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

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

6Y Special use destination

7Z Subsistence area: Salmon harvesting (6/1 to 9/30)

7BH Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.

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

SEGMENT ST 1 K9-24 KB 1 SUBDIVISION: K9-24-KB-1A DATE 4-28-94

CG
NAMES: D. Harris
SIGNATURE

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

Very small amount of hardened mauve patties + tarballs.

ADOE
NAME: Frances J. Bennis
SIGNATURE

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

Manual pick-up of encrusted mauve (w/pumice), MS patties, the balls
recommemend along this beach if crews will be in the area
anyway.

Beach is High Energy, very dynamic. Over the course of the winter,
I've observed a band of oil (encrusted pumice) in November that was
not evident in September. With that in mind, as a precautionary measure,
a clean-up crew should walked this beach w/boards & a pick-up for
collectable oil.

LAND MANAGER NPS
NAME: Will Troyer
SIGNATURE: Will Troyer

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

A few tarballs and paddies remain on the
twice that could be picked up with a small
crew in a half day of work. Basically most
of the oil found this last year is gone.
SHORELINE OILING SUMMARY

OG Acton USCG Hovender SEGMENT ST/ K9-34- K3-1
BIO Dan LAND REP UFS Traylor SURVEY SUBDIVISION K9-34- K8-10 (11 OF)
EXXON Arey ADEC Beani TIME 8:19 10/11 2:0
TEAM NO. 20 TIDE LEVEL 5.5 to -3.6 DATE 11/23 90
ST. SUBDIVISION LENGTH: 5.47 m ☑ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
UPLANDS DESCRIPTION: ☑ Grass ☐ Forest ☑ Rock
SURVEYED FROM: ☑ Foot ☐ Boat ☐ Helo WORKING DIRECTION: NE to SW
SURFACE SEDIMENTS: R - % B - % C - % P - % G 20 % S 35 % M - % V - %
SLOPE: Lang - % Hang - % Ven - % WAVE EXPOSURE: ☑ Low ☐ Med ☐ High
OIL CATEGORY LENGTH: W - m M - m N - m VL 2000 m NO 2314 m

SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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<tbody>
<tr>
<td>ASPHALT</td>
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<tr>
<td>PAVEMENT</td>
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<tr>
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<td>TARBALLS</td>
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</table>

PAVEMENT H F S 0 sq. m by 0 cm
PATTIES/TARBALLS 4-6 BAGS
NEAR SHORE SHEEN? ☑ BR RW SL TL

OILED DEBRIS

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<tr>
<th>AMOUNT</th>
<th>DID YOU COLLECT DEBRIS?</th>
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<tr>
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<td>VEGETATION</td>
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<td>TRASH</td>
<td>TYPE_</td>
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<td>DEBRIS</td>
<td><em>BAGS</em> O</td>
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Photos:
Roll No. ST-20- 8
Frames 31 - 35

SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>BELOW OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANA SHEET (MN)</th>
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</table>

COMMENTS
Segment consists of wide (100+ meter) low angle beach. Oil was observed in upper V12 and S12 and consisted of small 1-10 cm tar balls (hard mousse mixed w/ sand and/or pumice) in a 50x200
bound of very light oiling (very occasional, very sporadic).
Approx 100 pits up to 70 cm were dug by the team, no subsurface oil was encountered. In many pits, frozen sand/pumice was encountered at approx. 30 cm. below wav. 1...

REVIEWED BAC DATE 5/490

30 cm. below wav. 1...
SHORELINE ECOLOGICAL SUMMARY
Segment ST / K9-34 Subdivision KB-001 Date (mo/day/yr) 4/28/90

Time (24 hr) 8:10 Biologist N. Davis

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

B) Overall % cover of biota (% of segment): Dense _ Moderate _ Low 100% (1%)

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

Dense Moderate Sparse Rare

1U 1M 1L 1U 1M 1L 1U 1M 1L 1U 1M 1L
2 2 2 2 2 2 2 2 2 2 2
3 3 3 3 3 3 3 3 3 3 3
4 4 4 4 4 4 4 4 4 4 4
5 5 5 5 5 5 5 5 5 5 5
6 6 6 6 6 6 6 6 6 6 6

NOT PRESEN

1 - 6

MYTILUS

Dense Moderate Sparse Rare

1U 1M 1L 1U 1M 1L 1U 1M 1L 1U 1M 1L
2 2 2 2 2 2 2 2 2 2 2
3 3 3 3 3 3 3 3 3 3 3
4 4 4 4 4 4 4 4 4 4 4
5 5 5 5 5 5 5 5 5 5 5
6 6 6 6 6 6 6 6 6 6 6

NOT PRESEN

1 - 6

GASTROPODS

Dense Moderate Sparse Rare

1U 1M 1L 1U 1M 1L 1U 1M 1L 1U 1M 1L
2 2 2 2 2 2 2 2 2 2 2
3 3 3 3 3 3 3 3 3 3 3
4 4 4 4 4 4 4 4 4 4 4
5 5 5 5 5 5 5 5 5 5 5
6 6 6 6 6 6 6 6 6 6 6

NOT PRESEN

1 - 6

FUCUS

Dense Moderate Sparse Rare

1U 1M 1L 1U 1M 1L 1U 1M 1L 1U 1M 1L
2 2 2 2 2 2 2 2 2 2 2
3 3 3 3 3 3 3 3 3 3 3
4 4 4 4 4 4 4 4 4 4 4
5 5 5 5 5 5 5 5 5 5 5
6 6 6 6 6 6 6 6 6 6 6

NOT PRESEN

1 - 6

Wildlife Observations/ General Comments: For a plain with willow alder hock and grass. Shells common in the area include Chionocardium reticulatum, Mytilus edulis, Fusus gigantea. Walrus tracks were common on the beach, Winter 90.

Ecological Considerations: No PA, GLM, seabird colony. Seaweed and harbor seals molt and have pups on sand spits in this segment. Cliffs at the eastern end of the segment have interesting visual gulls, and Cormorants (Red-faced, Pelagic and 3 sandpipers) nesting.
SHORELINE EVALUATION

SEGMENT ST/ K09-34-KB-001 SUBDIVISION A (1 OF 1) DATE 4/28/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

- N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
- 3Q Harbor seal and seal lion molting (8/15 to 9/15)
- 9LM Other: Land Mammals
- 4LL State Marine Park National Parks

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: Raul Deiner DATE: 5/8/90

OILING CATEGORIZATION:
Wide 0 m; Medium 0 m; Narrow 0 m; V.Light 1753 m; No Oil 2583 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:
X No Treatment Recommended
X Treatment Recommended
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 TARSPILLS

TAG APPROVAL DATE: 5/17/90
ADEC Art Wimmer Art Wimmer FOJC:
EXXON Ron Waza DATE: 5/23/90
NOAA Gary Peterson
USCG C. Ritter
XXX Wide
/// Medium
---- Narrow
TTTTT Very Light
00000 No Oil

KB-1

ADEC Segment Length: 4335m

Map Key: GOA-128f
Name: Acton
Date: 4-28-80

Data Entered:

K9-34-KB-1A

Map Key: GOA-128f
Name: Acton
Date: 4-28-80

Data Entered:
ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

<table>
<thead>
<tr>
<th>Code</th>
<th>Activity</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A,1B</td>
<td>Salmon Stream</td>
<td>ADF&amp;G catalogued anadromous stream (262-60-1006, 262-60-1008, and 262-60-10010) are more than 100m from work site. No constraint to manual pickup.</td>
</tr>
<tr>
<td>3N,O,P,Q</td>
<td>Harbor Seal &amp; Sea Lion Pupping and Molting</td>
<td>Closed to manual pickup prior to 7/1 and after 8/15.</td>
</tr>
<tr>
<td>5R</td>
<td>Seabird Colony</td>
<td>NO CONSTRAINT. Work site is more than 800m from seabird colony.</td>
</tr>
</tbody>
</table>

OTHER ECOLOGICAL CONSIDERATIONS

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

Date 6-16-90

Prepared by ____________________________ Date ____________________________
SHORELINE EVALUATION

SEGMENT ST/ K09-34-KB-001 SUBDIVISION A (1 OF 1) DATE 4/28/90

ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

- 3P Harbor seal and sea lion pupping (5/15 to 7/1)
- 3Q Harbor seal and seal lion molting (8/15 to 9/15)
- 9LM Other: Land Mammals
- 4LL State Marine Park National Parks

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: Dalber Daag DATE: 5/8/90

OILING CATEGORIZATION:

- Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 1753 m: No Oil 2583 m
- Subsurface Oil Observed: Yes X No
- Maximum Depth: __

RECOMMENDATIONS:

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

COMMENTS: SEE CONSTRAINTS ADDENDUM DATED 6/15/90

TAG COMMENTS: MANUAL PICKUP OF TARMAILS

TAG APPROVAL DATE: 5/17/90

ADEC App. Wm. Art Weems
EXXON App. Art Ter
NOAA Gary Peterson, Navy
USCG Cpt. Peter B. Austin

FOSC: DATE: 5/23/90
SHORELINE EVALUATION

SEGMENT ST/K09-35-KA-002 SUBDIVISION A (1 OF 1) DATE 4/29/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

- 5R  Seabird colony (5/1 to 9/1)
- 5T  All Bald Eagle nests (3/1 to 6/1)
- Active Bald Eagle nests (3/1 to 9/1)
- 7JJ  Subsistence area: Invertebrate harvesting
- 9LM  Other: Land Mammals

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: DATE: 5/18/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 178 m: V.Light 99 m: No Oil 1367 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: Recommend manual pick-up of mousse in UITZ and MITZ as indicated on attached sketch map. Spot wash if not accessible. Work after 9/1 due to eagle nest and seabird colony constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 5/17/90

ADEC  EXXON  NOAA  USCG

W. Weiser  A. Wein  G. J. P.  G. A. R.
SEGMENT ST/K9-35-KA-2

SUBDIVISION K9-35-KA-2A

DATE 4/29/90

CHECKLIST

- N Acre
- Approx. Scale
- Site/Sub/Entry
- Oil Dis.
- Water
- Length
- % Cover
- Subsurface 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

Cont. Distribution

Broken Distribution

Patchy Distribution

Splashed Distribution

Oil Vegetation:

Photo location, direction, and number

Oil Character Legals (e): AP____PO____CV____CT____ST____MS____PT____TB____FL____NO____

A-A' = 100m

B-G' = 100m

10m x 40m VC to narrow band in M12 and lower VIL2
ST/CT/S+P, M2/P
MS = 5cm thick

3m cliff

2m x 100m VC to narrow band in M12 and lower VIL2
ST/CT/S+P, M2/P

REVISION: 03/30/1990
ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Constraint</th>
</tr>
</thead>
<tbody>
<tr>
<td>5R</td>
<td>Seabird Colony</td>
<td>NO CONSTRAINT. Work site is more than 800m from seabird colony.</td>
</tr>
<tr>
<td>5T</td>
<td>Bald Eagle Nest</td>
<td>NO CONSTRAINT. USFWS 4/9/90 map indicates no active nest within 400m of Subdivision A work site.</td>
</tr>
<tr>
<td>7JJ</td>
<td>Subsistence: Invertebrate Harvesting</td>
<td>No constraint to manual pickup and spot washing.</td>
</tr>
</tbody>
</table>

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC  
Date 6-16-90  
Prepared by  
Date 6/15/90
SHORELINE EVALUATION

SEGMENT ST/K09-35-KA-002 SUBDIVISION A (1 OF 1) DATE 4/29/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

SPR Seabird colony (5/1 to 9/1)
5T All Bald Eagle nests (3/1 to 6/1)
7JJ Active Bald Eagle nests (3/1 to 9/1)
9LM Subsistence area: Invertebrate harvesting

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Rachel Dorn DATE: 5/18/90

DILLING CATEGORIZATION:

Wide 0 m: Medium 178 m: Narrow 99 m: No Oil 1367 m

Subsurface Oil Observed: Yes No

Maximum Depth

RECOMMENDATIONS:

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

Comments: Recommend manual pick-up of mousse in UITZ and MITZ as indicated on attached sketch map. Spot wash if not accessible. Work after 9/1 due to eagle nest and seabird colony constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 5/17/90

ADEC
EXXON
NOAA
USCG

FOSC: DATE: 5-24-90
WORK PLAN ADDENDUM

Segment K-09-35-KA-002 Subdivision A. Dated 06/20/90.

MODIFICATION

1. REASON FOR MODIFICATION

- Land Manager Request - No Spot Wash.

2. ADJUSTMENT TO WORK PLAN

- No Spot Wash.

SHPO APPROVAL NEEDED YES [ ] NO [X]

SHPO SIGNATURE [ ]

TAG APPROVAL DATE 06/20/90

ADEC Ray Means [ ]

EXXON Amos Trel [ ]

NOAA John Teller [ ]

USCG C.A. Reiner [ ]

DATE 7/5/90
REGION: KODIAK

SEGMENT: ST/K09-35-KA-002

SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION

SEGMENT ST/K09-35-KA-002 SUBDIVISION A (1 OF 1) DATE 4/29/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5R  Seabird colony (5/1 to 9/1)
5T  All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
7JJ  Subsistence area: Invertebrate harvesting
9LM  Other: Land Mammals

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: ___________________________ DATE: ___________________________

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 178 m: V.Light 99 m: No Oil 1367 m
Subsurface Oil Observed: Yes X No

Maximum Depth

RECOMMENDATIONS:

X Treatment Recommended
X Manual Pickup
_____ Bioremediation
_____ Tarmat Removal
_____ Other (see comments)

COMMENTS: Recommend manual pick-up of mousse in UITZ and MITZ as indicated on attached sketch map. Spot wash if not accessible. Work after 9/1 due to eagle nest and seabird colony constraints.

TAG COMMENTS:

TAG APPROVAL DATE:

ADEC
EXXON
NOAA
KODIAK ECOLOGICAL CONSTRAINTS

1A Salmon stream mouth - fry outmigrating (4/15 to 7/31)
1B Salmon stream mouth - spawning (7/15 to 9/10; PEAK 8/15)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or lnipol application, 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 Ken Middleton 267-2299

1C Salmon fry nursery area (4/31 to 7/31)
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or lnipol application, 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 Kotsel Bay Hatchery releases
Pink salmon - late May, early June; Chum salmon - June; Sockeye salmon - early July.

1H Remote release sites
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or lnipol application, 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 for confirmation and authorization.

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

1I Gill net area
1J Purse seine area
Mainland, West side Kodiak, Shuyak & Moser/Olga Bay (6/9 to 10/1)
East side Kodiak, East side Afognak (7/4 to 10/1)

1K Purse seine hook-off

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

AGENCY CONTACT PERSON: ADF&G Larry Nicholson 424-4791

2M Herring spawning (4/15 to 6/30)
Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to unoinferted 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 Larry Nicholson 486-4791

3H Harbor seal and sea lion pupping (5/10 to 7/1)

3I Harbor seal and sea lion molting (6/15 to 8/15)
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

5R Seabird colony (6/1 to 9/1)
Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

ADF&G Tom Rotha 267-2206

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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

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

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

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

6Y Special use destinations

7Z Subsistence area: Salmon harvesting (6/1 to 9/30)
7H-1 Finfish harvesting

7H-2 Deer harvesting (6/1 to 1/7)

7H-3 Invertebrates harvesting

7H-4 Bear harvesting (4/1 to 5/15 and 10/25 to 11/30)
Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of lnipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.

AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359
**SHORELINE OILING SUMMARY**

**EXXON KODIAK TO SSAT PQ**

**EXXON**

**USCG**

**DATE**

**TIME**

**TEAM NO.**

**TIDE LEVEL**

**DATE**

**SEGMENT**

**SUBDIVISION**

**LENGTH**

**UPLANDS DESCRIPTION**

**SURVEYED FROM**

**WORKING DIRECTION**

**SURFACE SEDIMENTS**

**SLOPE**

**WAVE EXPOSURE**

**OIL CATEGORY**

**LENGTH**

**SURFACE OIL**

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

**PAVEMENT**

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

**PATTERNS / TARBALLS**

**NEAR SHORE SHEEN?**

**OILED AMOUNT**

**DEBRIS**

**DID YOU COLLECT**

**TYPE**

**BAGS**

**Photographs:**

**Roll No.**

**Frames**

**SUBSURFACE OIL**

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED DEPOSITION INTERVAL</th>
<th>OILED DEPOSITION BELOW</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANALYSIS SHEEN (Y/N)</th>
<th>SURFACE - SUBSURFACE SEDIMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C</td>
</tr>
</tbody>
</table>

**COMMENTS**

Area of primary interest was where Exxon cleanup took place last year. Many stains and coats of mousse between Boeing/Kodiak.
NO TREATMENT RECOMMENDED

MANUAL CLEAN-UP WITH SHOVELS & TROWELS HIGHLY RECOMMENDED.

There are 2 main areas with st, cr, ms, & ms saturated sediments which lie within the bents described as 'Narrow'.

1) 10m x 45m in the SE part of the segment

2) 10m x 60m area in the NW part of the segment.

Both have collectable mousse/mousse saturated sediments which have percolated throughout the winter, it should be removed. Only a small scale effort is required.

NAME: William T. C. Troyer
SIGNATURE: William T. C. Troyer

TREATMENT SUGGESTED

This bank of soil near the eastern end of the segment has salt marsh that could be cleaned by hand and trowel. The middle section of the segment received intense cleaning last year adjacent storm washed the impacted u. A few days within this area still remain

NAME: Will TROYER
SIGNATURE: Will TROYER

TREATMENT SUGGESTED

SYMPTOMS/ADVICE: A small team could probably get this major job done in 2 days.
SEGMENT ST/K1-56-LA-2
SUBDIVISION K9-26-LA-2A
DATE _4/29/00

CHECKLIST
- N Arrow
- ApproX. Scale
- Sekel/Sub Bndry
- Oil Dist.
- Width
- Length
- % Cover
- Selectate Character
- Est. HWL/WL
- SSL
- Profile Location(s)
- Profile(s)
- Pit Location(s)
- Photo Location(s)

LEGEND
1 △
- Pit - No Subsurface Oil

2 △
- Pit - Subsurface Oil

CT/C
- Condensed Distribution

CT/B
- Biota Distribution

CT/P
- Payday Distribution

CT/S
- Splashed Distribution

Cited Vegetation

Photo location, direction, and number

Oil Character Length (m): AP_____PO____CV____CT____ST____MS____PT____TB____FL____NO____1307
SHORELINE ECOLOGICAL SUMMARY

Segment ST/KA-35   Subdivision KA-002   Date (mo/yr) 4/29/90

Time (24) 10:10   Biologist H. Davis

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

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

BARNACLES Continuous across Rock-Cobble areas

<table>
<thead>
<tr>
<th>Substrate</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bedrock</td>
<td>3/3</td>
<td>4/4</td>
<td>5/5</td>
<td>6/6</td>
</tr>
<tr>
<td>Boulder</td>
<td>2/2</td>
<td>3/3</td>
<td>4/4</td>
<td>5/5</td>
</tr>
<tr>
<td>Cobble</td>
<td>1/1</td>
<td>2/2</td>
<td>3/3</td>
<td>4/4</td>
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<td>Pebble</td>
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<td>1/1</td>
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<td>3/3</td>
</tr>
<tr>
<td>Sand</td>
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<tr>
<td>Silt</td>
<td>0/0</td>
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</tbody>
</table>

Photographs:
Roll No: ST-20-9
Frames 2-10

MYTILUS Man patches in crevices in large beds, patchy across segment

<table>
<thead>
<tr>
<th>Substrate</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
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</thead>
<tbody>
<tr>
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GASTROPODS (continued)

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<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
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<tbody>
<tr>
<td>Bedrock</td>
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<td>6/6</td>
</tr>
<tr>
<td>Boulder</td>
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<td>3/3</td>
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<tr>
<td>Cobble</td>
<td>1/1</td>
<td>2/2</td>
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<td>4/4</td>
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<tr>
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<td>1/1</td>
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FUCUS Patchy, large dense areas to small sparse tufts

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</table>

Wildlife Observations/General Comments:
Rocky areas, low-intertidal, laminaria, Ulva, Pleurophyll, Chorda, Ulva, Idorea, Lepidaria, Asterias, Anthopleura, MTZ-Rhodomenia, Fucus, Rhodophyta, Zostera, Odontalia, Corallina, Halidrys, Enteromorpha, Anthocystis, epiphytes. MTZ - Ephyraeides, Muricella, Porphyra, Enteromorpha, Rhodophyta, Gulls and yellowlegs were the only birds observed. Dungeness crabs appear to be in large numbers. Eagles and Glaucous-winged Gulls are also present.

Ecological Considerations:
Two pairs of seagulls were seen, but not in the area. One pair of eagles was seen in the area. Pinkos, Chum and Dolly Varden spawn at the head of Kachemak Bay. Silica and Sandfjord harvested, no colonies of seaweed in the segment. According to the N.P.S. Rep. None seen.
SEGMENT GT/KA-35 KA-Z

SUBDIVISION K9-25 - KA-2A

DATE 4/29/90

CHECKLIST
- N Arrow
- Approx. Scale
- Stop/Sub Entry
- Oil Out
- Width
- Length
- % Cover
- Substrate Character
- Ext. MT/UT/VL
- SSL
- Profile Location(s)
- Profile(s)
- Pit Location(s)
- Photo Location(s)

LEGEND
1 △
   PO - No Subsurface Oil

2 △
   CT/C - CT/C - CT/C - CT/C
   CT/B - CT/B - CT/B - CT/B
   CTC - CTC - CTC - CTC
   CT/P - CT/P - CT/P - CT/P
   CT/CT - CT/CT - CT/CT - CT/CT
   Splashed Distribution

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

DATE: 4/29/90

CHECKLIST:
- N Arrow
- Approx. Scale
- Step/Sub-Bany
- Oil Dist.
- Length
- % Cover
- Substrate Character
- Ext. HWL/WL
- SSL
- Profile Location(s)
- Pit Location(s)
- Photo Location(s)

LEGEND:

1

Fr: No Subsurface Oil

2

Fr: Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/P
Patchy Distribution

CT/S
Splashed Distribution

Oiled Vegetation


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

SEGMENT: ST/K09-35-KA-03

SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION

SEGMENT ST/ K09-35-KA-03 SUBDIVISION A (1 OF 1) DATE 4/29/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ADF&G anadromous stream no: 262-65-10030 and 262-65-10040
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
4LL National Parks
57-2 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
7JJ Subsistence area: Salmon harvesting (5/1 to 9/30)
9IM Land Mammals
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE:________________________ DATE:______________________

OILING CATEGORIZATION:

Wide _0 m: Medium _0 m: Narrow _0 m: V.Light _1560 m: No Oil _9155 m
Subsurface Oil Observed: Yes ___ No X ___ Maximum Depth _______

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

COMMENTS: Recommended treatment is manual pickup of mousse from areas indicated on attached sketch map. Work should be conducted between 6/1 and 7/10 based on eagle nest and salmon constraints with approval of USFWS regarding eagle nest. Consult ADF&G for specific working times regarding invertebrate harvesting.

TAG COMMENTS: ______________________________________________________

TAG APPROVAL DATE:_________ ADEC
EXXON ______________________ FOSC: ___________ DATE:_____
NOAA ________________________
USCG ________________________
KODIAK ECOLOGICAL CONSTRAINTS

Salmon stream mouth - fry outmigration (4/15 to 7/31)
Salmon stream mouth - spawning (7/15 to 9/10; PEAK 8/15)

No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioengineering 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, unless authorized by ADF&G. Treatment which is not intrusive and 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 Ken Middleton 267-2209

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, 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 Koot Bay Hatchery release

Pink salmon - late May, early June; Chum salmon - June; Sockeye salmon - early July.

1H Remote release sites

No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, 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 for confirmation and authorization.

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

1I Gill net area

1J Purse seine area

Mainland, West side Kodiak, Shuyak & Moser/Olga Bay (6/9 to 10/1)
East side Kodiak, East side Afognak (7/4 to 10/1)

1K Purse seine hook-off

1L Set net sites

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

AGENCY CONTACT PERSON: ADF&G Larry Nicholson 486-4791

2M Herring spawning (4/15 to 6/30)

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

AGENCY CONTACT PERSON: AOF&G Larry Nicholson 486-4791

3 Harbor seal and sea lion pupping (5/10 to 7/1)

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

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

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

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/Alaska Oystercatcher 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 267-2208

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

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

6U Recreation:

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

7Z Subsistence area: Salmon harvesting (6/1 to 9/30)

Finfish harvesting
Deer harvesting (8/1 to 1/7)
Invertebrate harvesting
Bear harvesting (4/1 to 5/15 and 10/25 to 11/30)

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

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

SEGMENT ST 1 KO936-KA003 SUBDIVISION: KA003A DATE 4/29/90

NAME John Naughton SIGNATURE John J. Naughton

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS
This segment at the head of Kashvik Bay had only very light oil. Patches of mousse were found in a few locations, primarily along rocky outcrops adjacent to an anadromous stream. This area is a rich resource area consisting primarily of extant tidal mud/sand flats, anadromous streams, eagle nesting, bear and other large land mammal habitats. Because of potential disturbance from clean-up activities and small amounts of oil observed, recommend no treatment.

ADEC
NAME Terry Ellsworth SIGNATURE Terry Ellsworth

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS
Four areas containing recoverable mousse were found in this segment. Mousse occurs interstitially between boulders and cobbles and in crevices. One area is located along the north side of Kashvik Bay easterly from the head of the bay. The remaining areas occur along the south side of the bay. Manual removal is recommended and would be best accomplished using shovels and small garden tools. The possible presence of nesting eagles should be considered when scheduling clean-up.

LAND MANAGER
NAME Carl Saboeh SIGNATURE Carl Saboeh

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS
Recoverable oil consists primarily of scattered mousse patches with entrained sediments. The larger patches could be removed with shovels or trowels. The clean-up crew should access oiled sections only and not disturb sensitive eagle and bear habitats adjacent to these sections. Helicopters should avoid flying along bluffs were eagles commonly roost. Oil along the north shore is limited to the banks of an anadromous stream.
SHORELINE OILING SUMMARY

SEGMENT ST: K0936 -K0007
SUBDIVISION: K003A (LORI)

TEAM NO. 19
TIDE LEVEL: 4:00 TO 4:30 PM
DATE: 4/1/90

EST. SUBDIVISION LENGTH: 10388 m

&~ ~ 

J91f11 t31ftM.'( 

L11ND REP?L SCI@CI( 

SUBDIVISION KM0319- 

EXXON 

ADEC 

TEAM NO. 

TIDE LEVEL # 

DATE 

TEAM NO. 19
TIDE LEVEL: 4:00 TO 4:30 PM
DATE: 4/1/90

SURFACE OIL

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SURFACE OIL

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<td>Trash</td>
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<td>Debris</td>
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</table>

NEAR SHORE SHEEN? NO

OILED AMOUNT

DID YOU COLLECT DEBRIS?

YES NO

TYPE

# BAGS

Photographs:

Roll No.

Frames

SUBSURFACE OIL

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<tr>
<th>PIT NO.</th>
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<th>BELOW</th>
<th>OIL/FILM COLOR</th>
<th>PIT ZONE</th>
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COMMENTS

THE NORTH SHORE IS PRIMARILY INTERTIDAL TO A HIGH CLIFF BASE. OTHER AREAS TO THE WEST ARE COMPOSED OF LOOSE ROCK CLIFFS OR PIC, WHICH IS ENDING AN CONTRIBUTING SEGMENT TO THE KASHIAK BAY. OIL CONSISTS OF ISOLATED SPOTS ON A FEW (5-10) ROULDES IN THE CENTRAL AND EASTERN PORTION OF THE NORTH SIDE OF KASHIAK BAY. THE WESTERN END HAS MOUSSE, COAT, STAIN ON A BOCK OUTCROP/APRON THAT PROTECTS INTO THE BAY. MOUSSE AND STAIN SPOTS OCCUR ON THE ROULDES TO THE WEST OF THE ROCK OUTCROP. THE SOUTH SIDE OF KASHIAK BAY HAS MOUSSE/COPP/STRAIN.

REVIEWED: BAT
DATE: 3 May 90
**SHORELINE ECOLOGICAL SUMMARY**

**Segment ST**/ Subdivision A Date (mo / day / yr) 4/29/90

Time (24 hr) 10:25-19:49 Biologist Jim Barry

(A) Substrate type and % of segments:

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

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

### BARNACLES

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### GASTROPODS

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### Wildlife Observations/ General Comments:

See attached

### Ecological Considerations:

- **150-20** Coho Salmon (Spawning) Pink Salmon (Spawning)
- **190-25** Coho Salmon (Spawning) Pink Salmon (Spawning)
I. GENERAL COMMENTS

A. Exposure - This segment includes moderate to highly exposed headlands and low to moderately exposed sand flats and cobble shores.

B. Habitats

1. Sand Flats
   Extensive intertidal sand flats are by far the dominant habitat type on this segment. Sand flats extend to as much as 1000 m or more from the upper shore. The biota occupying this habitat are patchy. Clams are moderately abundant (razor clams - *Siliqua patula*; *Macoma balthica*, *M. nasuta*, and *Tresus capax*). Polychaete worms also are dense in patches (Neridae?). Well defined patches of an unidentified infaunal worm are evident from their castings on the surface. These worms (Sipunculids?) are dense (>30/m²) in some locations and sparse in others. Few algae are present on the sand flat. Occasional boulders are covered by barnacles, a few mussels, and *Ulva lactuca* and filamentous green algae.

2. Flat Bedrock Shores
   This habitat is located in a large patch (ca. 200 x 600 m) in the northern section of the segment, as well as much smaller patches along the southern end. Most of this habitat is located in the middle to low zone and is occupied by a high cover of macroalgae. Dominant species include *Ulva lactuca*, *Laminaria dentigera*, *Alaria marginata*, *Fucus distichus*, *Palmaria palmata*, *Rhodomela larix*, *Zostera marina* (a higher plant), and crustose corallinaceae. Other species include *Grateloupio sp.*,
Iridaea sp., Membranoptera? sp.). Occasional boulders and cobble that extend into the middle zone are covered by filamentous and bladelike green algae, and a sparse cover of mussels.

3. High Angle Bedrock and Boulder Headlands
Most of these shores have a dense cover of barnacles (Balanus glandula) and periwinkles (Littorina sp.) in the upper zone, with a moderate to sparse cover of mussels (Mytilus edulis) in slightly lower levels. The middle zone often has a dense to moderate cover of Fucus distichus, Rhodomela larix, and eel grass (Zostera marina). Lower zones are covered by Fucus distichus, Laminaria dentigera, Odonthalia floccosa, Palmaria palmata, and others. Common invertebrates include anemones (Anthopleura artimesia), sponges (Halichondria sp.), chitons, limpets, worms (polychaeta and echiura), hermit crabs, whelks, sea stars, sea cucumbers, isopods and amphipods.

4. Cobble Beaches
Cobble beaches vary considerably in terms of biotic characteristics. In upper zones, cobble beaches usually are nearly devoid of biota, especially on moderate to highly exposed beaches where scour by wave action is severe. On protected beaches, upper zones cobbles have barnacles and mussels, while lower zones are covered by the algae and invertebrates similar to those discussed above. Several intertidal fishes (pricklebacks, gunnels, sculpins) inhabit this area.

5. Cobble and Boulder Fields
This habitats also varies. Flat cobble beaches are present in some parts of the extensive sand flats. Barnacles are moderately abundant on cobble in this habitat. Filamentous green algae are sparse, as are macroalgae. Amphipods, isopods, and a few other invertebrates are present and variable in abundance.
C. Oil-Related Comments

1. Oil or Cleanup Related Mortality
   None evident.

2. Ecological Sensitivities to oil or cleanup.
   Oil cover on this segment was very light or zero and treatment will likely not be recommended for any of the segment. As such there are no ecological sensitivities that will be affected. Ecological sensitivities are:
   a. Anadromous streams (see map)
      Streams number 10030 and 10040. Both are utilized by Dolly Varden, Chum Salmon (spawning), and Pink salmon (spawning).
   b. Eagle Nesting sites (see map)
      One (or possibly two) bald eagle nests are located in the segment.
KA-3

Approx. Segment Length: 1055m

Map Key: AKP-KA-3c
Name: Lindsay Nakashima
Date: 4/29/40
SHORELINE EVALUATION

SEGMENT K09-35-KA-03 SUBDIVISION A (1 OF 1) DATE _4/29/90_

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

- ADF&G anadromous stream no: 262-65-10030 and 262-65-10040
- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
- 1B Salmon stream mouth - spawning (7/10 to 8/31)
- 2 National Parks
- 5T-2 All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
- 7JJ Subsistence area: Salmon harvesting (5/1 to 9/30)
- 9LM Land Mammals

See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: Michael Ortigowy DATE: 5/15/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 1560 m: No Oil 9155 m
Subsurface Oil Observed: Yes No X Maximum Depth

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

COMMENTS: Recommended treatment is manual pickup of mousse from areas indicated on attached sketch map. Work should be conducted between 6/1 and 7/10 based on eagle nest and salmon constraints with approval of USFWS regarding eagle nest. Consult ADF&G for specific working times regarding invertebrate harvesting.

TAG COMMENTS:

TAG APPROVAL DATE: 5/15/90

ADEC Art Weiner Art Weiner
EXXON
NOAA
USCG
ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A, 1B Salmon Stream
ADF&G catalogued anadromous streams (262-65-10030 and 262-65-10040) are more than 100m from work site. No constraint to manual pickup.

5R Seabird Colony
NO CONSTRAINT. Work site is more than 800m from seabird colony.

5T Bald Eagle Nest
NO CONSTRAINT. USFWS 4/9/90 map indicates no active nest within 400m of Subdivision A work site.

7JJ Subsistence:
Invertebrate Harvesting
No constraint to manual pickup.

OTHER ECOLOGICAL CONSIDERATIONS

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

SEGMENT ST/ K09-35-KA-03 SUBDIVISION A (1 OF 1) DATE 4/29/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no: 262-65-10030 and 262-65-10040

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
4LL National Parks
5T-2 All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
7JJ Subsistence area: Salmon harvesting (5/1 to 9/30)
9LM Land Mammals

See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

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

OILING CATEGORIZATION:

Wide_0_m: Medium_0_m: Narrow_0_m: V.Light_1560_m: No Oil_9155_m
Subsurface Oil Observed: Yes_ No_ X_ Maximum Depth_____

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment is manual pickup of mousse from areas indicated on attached sketch map. Work should be conducted between 6/1 and 7/10 based on eagle nest and salmon constraints with approval of USFWS regarding eagle nest. Consult ADF&G for specific working times regarding invertebrate harvesting.

TAG COMMENTS:

______________________________

TAG APPROVAL DATE: 5/15/90
ADEC [Signature] FOSC: [Signature] DATE: 5/15/90
EXXON [Signature]
NOAA [Signature]
USCG [Signature]
1991 MAYSAP EVALUATION

SEGMENT: K0935KA003 SUB: A REGION: KOD SURVEY DATE: 5/19/91

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

Ecological/Constraints (see page two for details) Seabird colony, Anadromous stream, Subsistence - Deer harvesting

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

SHPO Signature:  [Signature] Date: 5/31/91

RECOMMENDATIONS:
INITIAL    TAG    FOSC

TREATMENT REQUIRED (Y or N)  N  N  D

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

COMMENTS:
INITIAL: ____________________________

TAG: __________________________________

FOSC: __________________________________

TAG APPROVAL DATE: 6/15/91  FOSC APPROVAL DATE: 6/15/91

ADEC  [Signature]  FOSC  [Signature]
EXXON  [Signature]  E. E. PAOS, CDR, USCG
USCG  [Signature]  CHIEF OF STAFF, FOCS
NOAA  [Signature]  ____________________________
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES


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

Subsistence - Deer Harvesting: Unlimited treatment prior to 8/15.
TEAM NO. 6-416 SEGMENT KA-3 SUBDIVISION A DATE 19/05/91

ADEC
NAME: J. Bannhart of ADEC SIGNATURE: Jeff Bannhart

☐ NTR  □ Treatment Suggested

T he segment was reduced by VEco personnel. Trace amounts of oil remain around the cobbles. No additional treatment is recommended. Approx 4-40 round bags, 160 pounds total was removed.

EXXON
NAME: R. Hannelson SIGNATURE: RC Hannel

☐ NTR  Further work on this site would have no NEB.

LANDMANAGER
NAME: W. Benham of NPS SIGNATURE: W. Benham

☐ NTR

Oil observed in 4 small separate bands near the waterfalls has been largely collected by VEco workers. No further clean-up is warranted in these areas. No oil observed in sites 2 to the south, a very little soil persists to the north of the waterfalls.

USCG/NOAA
NAME: CWO Spute/G. Shigemaka SIGNATURE: G. Shigemaka

☐ NTR

Recoverable oil found during survey was removed by VEco workers.

SURVEYED PORTION OF THE SEGMENT CONSISTED OF BOTH IRREGULAR BEDROCK PLATFORMS WITH BOULDER-COBBLE BEACHES IN THE MID/UPPER 1/2, AND BOULDER-COBBLE BEACHES FRONTED IN THE MID/LOWER 1/2 BY VERY BROAD LOW-SLOPING SANDY TIDAL FLATS. SOME DIFFICULTY WAS ENCOUNTERED IN IDENTIFYING EXACT LOCATION ALONG THE SEGMENT. AERIAL PHOTOGRAPHS SUPPLIED BY NPS WERE HELPFUL. THE RUGGED, ROCKY AREA BETWEEN THE BOULDER OF SEGMENTS KA-2 AND KA-3, AND SITE 1, WAS HEAVILY POPULATED BY LARGE LITTORAL SITELANNA, SITE 1, WHERE OILING HAD APPARENTLY BEEN OBSERVED IN 1980, SHOWED LID SIGN RESIDUES ON THIS SURVEY. SHIFTING BY HELD TO A POSITION FARTHER NORTH ALONG THE SEGMENT TO A RESECTION JUST SOUTH OF A LARGE WATERFALL, WHERE BROAD SANDY TIDAL FLATS WERE PRESENT BELOW BOULDER/COBBLE BEACHES, RATHER, FLUID MOUSE WAS FOUND UNDER COBBLES WITH WEATHERED SOR IN THE VEGETATION BETWEEN COBBLES INDICATING PRESENCE OF OIL. THE MOST HEAVILY OILED SECTION OF THE BEACH WAS EXTENSIVELY WORKED BY THE VEco CREW AND A LARGE AMOUNT OF MATERIAL WAS REMOVED. FLUID MOUSE REMAINING ON COBBLE WAS WIPED OFF WITH ABSORBENT PADS.
**MAYSAP SHORELINE OILING SUMMARY**

**DATE:** 19 May 1991

**SUBDIVISION:** A

**TEAM NO.:** 6-160

**LANDMANAGER:** F. Bennett

**SURVEYED FROM:** 6-160 FOOT BOAT OHELO

**WEATHER:** Sun, Clouds, FOG, Rain, Snow

**TOTAL LENGTH SURVEYED:** 1950 m

**NEAR SHORE SHEEN:** None

**EST. OIL CATEGORY LENGTH:**
- W 0 m
- M 15 m
- N 18 m
- VL 47 m
- NO 1370 m
- US 8765 m

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**SURFACE OIL CHARACTER**

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<td>L</td>
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**SHEEN COLOR:**
- B = Brown
- R = Rainbow
- S = Silver
- N = None

---

**OG COMMENTS:**

This segment is located along the southwest irregular beach shoreline of Kanuva Bay. The shoreline is backed by moderate to low bedrock cliffs and fronted by wave-cut rock platforms and massive sandy tidal flats. The beaches are moderate to low angle and consist of boulders and cobbles underlain by bedrock and fine-grained sediment. The oiling occurs in widely separated short, narrow bands, consisting of ms/sox under and in the cracks between boulders and cobbles (±%). The most concentrated oiling was found just south of a “heat” waterfall. VECO workers removed accessible ms/sox from these. Sites and sun-warmed runny mouse was wiped from the rocks.

Four bags of oiled sediment were retrieved from this area.

**Revised:** 11 May 1991
PU * VECO WORKERS PICKED UP ALL ACCESSIBLE OIL AT SITE A, WHICH AMOUNTED TO 4 BAGS.
**MAYSAP BIOLOGICAL SUMMARY FORM**

**TEAM** # G. Helo  
**DATE** May 19, 1991  
**SEGMENT** # KA-03  
**TIDAL HEIGHT** (Range) - 5 ft - 6 ft (14:10-17:15)  
**SUBDIVISION A**  
**SEA STATE** < 1 ft  
**WIND SPEED/DIRECTION** 10-20 kt Strong Breeze NW  
**PHOTOGRAPHS: ROLL** # G-17  
**BIOLoGIST** H. Davis  
**FRAME** # 15-24

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

- **KA-03** had a narrow bedrock/boulder/cobble area in front of an extensive sandy tidal flat. The rocky intertidal area is forested by the sandy area and has a moderate kelp.

- From **A-F**. Amphipods, snails, Enchytraeidae, and a few littorinids in the PS/SOR area. Above these spots is a small kelp-draft line with more amphipods and kelp fleas. Most of the organisms lived about five meters below the oil-littering periwinkle (*Littorina*), limpet (*Fucus*), rotifers (*Adhae*), *Mytilus* sp., *Diporeia* sp., *Diporeia* sp., and filaments. Gulls were the most common. Shells found on the sandy flat were *Littorina*, *Chlamys*, and a few *Mytilus*.

- Sandpipers (3), Pintail (3), Labrador Duck (2), Unidentified wader (1+)
- Eagles (2), Ravens (2), Glaucous-winged Gulls (5+), Kittiwakes (4+), Swallows (5), Yellowlegs (2)

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

<table>
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<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED</th>
<th>SPECIES PRESENT</th>
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<tr>
<td>Eagles</td>
<td>1</td>
<td>1 juvenile, 2 adults *</td>
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<td>5</td>
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<tr>
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<td>2+?</td>
<td>15+</td>
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<td>2</td>
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<tr>
<td>Other Birds (swallows)</td>
<td>1</td>
<td>5</td>
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* In uplands.

**LAND MAMMALS**

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<td>Pelicans (species)</td>
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<td><em>Canis</em></td>
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Shoreline subdivision map showing important biological features attached.

D. 1 112/91 NM
BEDROCK CLIFF
CRASSY AREA
ROCK CLIFF
PHOTO SITES

ALASKA PENINSULA

MAJOR STREAM
Does not appear to be anadromous

KASHVIC BAY

PU & VECo WORKERS PICKED UP ALL ACCESSIBLE OIL AT SITE A WHICH AMOUNTED TO 4 BAGS.

INSET
WATER FALL

A. ms/50K
1. 5 by 15 m, 5-10%
2. 1 by 12 m, 5-10%
3. 7 by 3 m, 10-15%
UETZ, I/I, BH

B. ms/50K
2 by 3 m, 10%
UETZ, I/I, BH

ANAO STREAM

0 — 400 METERS

SEE INSET

BEGIN SEGMENT KA-2

A-E
Illived

Subdivision Field Map
Subsegment Length: 10715m

Map Key: 66AX0935KA003Ac
Name: Fitzgerald (S)

Date: 14 May 1991
Data Entered:

---

Unsurveyed

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

K0935 KA003 A

AK State Plane Zone A

revised 5.24 99
1991 MAYSAP EVALUATION

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

Ecological/Constraints (see page two for details) **Seabird colony, Anadromous stream, Subsistence - Deer harvesting**

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

SHPO Signature: __________________________ Date: __________________

RECOMMENDATIONS:

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

COMMENTS:
INITIAL: ____________________________________________

TAG: __________________________________________________________

FOSC: _________________________________________________________

TAG APPROVAL DATE: ___________ FOSC APPROVAL DATE: ___________

ADEC__________________________ FOSC__________________________

EXXON________________________

USCG________________________

NOAA________________________

ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES


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.

Subsistence - Deer Harvesting: Unlimited treatment prior to 8/15.
SUVERED PORTION OF THE SEGMENT CONSISTED OF BOTH IRREGULAR BEDROCK PLATFORMS WITH BOULDER-Cobble BEACHES IN THE MID/UPPER 1/2, AND BOULDER-Cobble BEACHES PROLIFERATED IN THE MID/LOWER 1/2 BY VERY BROAD LOW SLOPING SANDY TIDAL FLATS. SOME DIFFICULTY WAS ENCOUNTERED IN IDENTIFYING EXACT LOCATION ALONG THE SEGMENT, AERIAL PHOTOGRAPHS SUPPLIED BY NPS WERE HELPFUL. THE RUGGED, ROCKY AREA BETWEEN THE BORDER OF SEGMENTS KA-2 AND KA-3, AND SITE 1, WAS HEAVILY POPULATED BY LARGE LILOEINA SITANA, SITE 1, WHERE OILING HAD APARENTLY BEEN OBSERVED IN 1990, SHOWED NO SIGN OF RESIDUES ON THIS SURVEY, SHIFTING BY HELD TO A POSITION NORTH ALONG THE SEGMENT TO A LOCATION JUST SOUTH OF A LARGE WATERFALL, WHERE BROAD SANDY TIDAL FLATS WERE PRESENT BELOW BOULDER-Cobble BEACHES, RATHER FLUID MOSS WAS FOUND UNDER COBBLES WITH WEATHERED SURF IN THE INTERSTICES BETWEEN COBBLES INDICATING PRESENCE OF OIL. THE MOST HEAVILY OILED SECTION OF THE BEACH WAS EXTENSIVELY WDED BY THE VECO CREW AND A LARGE AMOUNT OF MATERIAL WAS REMOVED. FLUID MOSS REMAINING ON COBBLE WAS Wiped OFF WITH ADBSorbENT PADS.
**MAYSAP SHORELINE OILING SUMMARY**

**TEAM NO. C-Helo**

**OG** D. Fitzgerald  **BIO** H. Daves

**ADEC** J. Barnhalt  **ADAF**  **LANDMANAGER** F. Bennett for NPS

**EXXON** P. Harkelson  **USCG/NOAA** CWO Spurr/G. Shigenaka

**TIME** 14:15 to 17:20  **TIDE LEVEL** 9 ft to 6.0 ft  **ENERGY LEVEL** □ H  □ M  □ L

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

**TOTAL LENGTH SHORELINE SURVEYED:** 1950 m  **NEAR SHORE SHEEN:**  □ BR  □ RB  □ SL  □ NONE

**EST. OIL CATEGORY LENGTH:**  W: 0 m  M: 15 m  N: 18 m  V: 47 m  NO: 1870 m  US: 876.5 m

### SURFACE OIL CHARACTER

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</table>

**DISTRIBUTION:** C: 91-100%; B: 51-80%; P: 11-50%; S: 1-10%; T: <1%

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

### SURFACE SUBSURFACE OIL CHARACTER

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>DEPTH (cm)</th>
<th>OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN</th>
<th>H20 LEVEL</th>
<th>SHEEN</th>
<th>COLOR</th>
<th>PIT ZONE</th>
<th>SURFACE- SUBSURFACE</th>
<th>SEDIMENTS</th>
<th>NOTES</th>
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</table>

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

**OG COMMENTS:** This segment is located along the southwest irregular shoulder shoreline of Icanwic Bay. The shoreline is backed by moderate to low beach cliffs and fronted by wave-cut rock platforms and broad sandy tidal flats. The beaches are moderate to low angle and consist of boulders and cobbles underlain by bedrock and fine-grain sediment. The oiling occurs in widely separated short, narrow bands, consisting of ms/sox units and in the cracks between boulders and cobbles (1/4). The most concentrated oiling was found just south of a "heath" waterfall. VECO workers removed all access ms/sox from these sites and sun-warmed runny mouse was wiped from the rocks. Four bags of oiled sediment were retrieved from this area.
KASHVIC BAY

PU * VECO WORKERS PICK UP ALL ACCESSIBLE OIL AT SITE A, WHICH AMOUNTS TO 4 BAGS.

SKETCH MAP

O. Fitzgerald
19 May 1991
1415 - 1720

ALASKA PENINSULA

BEGIN SEGMENT KA-2

NO OIL FOUND

INSET

WATER FALL

BEDROCK CLIFF

Cobble Beach

Tidal Flat

UNSURVEYED

ANAO STREAM

K0935-KA-3-A

D. ms/50x
1 by 2m, <170
17TZ, I/u

C. ms/50x
1 by 5m, <190
17TZ, I/u

E. ms/50x
1 by 40m, < 170
17TZ, I/u

INSET

WATER FALL

BEDROCK CLIFF

Cobble Beach

Tidal Flat

A. ms/50x
1. 5 by 15m, 5-10%
2. 1 by 12m, 5-10%
3. 1 by 3m, 10-15%
17TZ, I/u, BKC

B. ms/50x
1 by 3m, 10%
17TZ, I/u

REVIEWED 5/23/94
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # G Hels          DATE May 19 1991
SEGMENT # KA-03        TIDAL HEIGHT (Range) -0.5 ft - 6 ft (14:10 - 17:15)
SUBDIVISION A          BIOLOGIST H. Davis
SEA STATE < 1 ft        WIND SPEED/DIRECTION 10 - 20 kt Strong Breeze NW
PHOTOGRAPHS: ROLL # G-17 FRAME # 15 - 24

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

KA-03 had a narrow bedrock/cobble/cobble area in front of an extensive sandy tidal flat. The rocky intertidal area is foreshortened by the sandy area and has a moderate biota. (A - E). Amphipods, keel blem, echinoderms and a few bivalves are in the PS/SS flat area. Above these spots is a small, deep drift line with more amphipods and keel blem. Most of the organisms lived about five meters below the tidal flat. Nereisid, Nereida, (nodules dense), Mytilus borgei, Nucella, Anthopleura, various gold-vein and filamentous green were the most common. Shells found in the sandy flat were Littorina, Chione aaradia and a few Mytilus.

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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<tr>
<td>Eagles</td>
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<td>1 (Juvenile 2 Golden Eagles)</td>
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<td>Seabirds</td>
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<td>0</td>
<td>0</td>
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<td>2+?</td>
<td>15+</td>
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<tr>
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<td>Other Birds</td>
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* In uplands

MARINE MAMMALS

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<td>Whales (specify)</td>
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LAND MAMMALS

Shoreline subdivision map showing important biological features attached.
PU VECO WORKERS PICK UP ALL ACCESSIBLE OIL AT SITE A, WHICH AMOUNTS TO 4 BAGS.
WORK PLAN ADDENDUM

Segment 609-35-KA003

Subdivision A

Dated 7/24/80

MODIFICATION

1. REASON FOR MODIFICATION

   REQUEST BY FIELD

   TAG FIELD ASSESSMENT

2. ADJUSTMENT TO WORK PLAN

   REMOVE TURBIDITY AS INDICATED IN ATTACHED DOCUMENT.

   RAKE REMAINING OILED SEDIMENTS AND CUSTOMER

SHPO APPROVAL NEEDED YES X

SHPO SIGNATURE

1.

FOSC DATE

ADEC JOHN BAUER

EXXON

NOAA C. W. WESSELT R. W. BUCHHOLZ

USCG C. A. REITER
SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

- National Parks

ST

- All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Michael Autzgoway DATE: 5/15/90

OILING CATEGORIZATION:

Wide m: Medium m: Narrow m: V.Light m: No Oil m: Subsurface Oil Observed: Yes _ No _

Maximum Depth ______

RECOMMENDATIONS:

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

COMMENTS:

________________________

________________________

________________________

TAG COMMENTS:

________________________

________________________

TAG APPROVAL DATE: 5/15/90

ADEC Art Weiner Date: ______

EXXON [Signature] Date: ______

NOAA Joseph Taylor Date: ______

USCG [Signature] Date: ______
Wide
Medium
Narrow
Very Light
No Oil

KA-1

ADEC Segment Length: 4151m

Map Key: GOA-1251
Name: Lindsay Hessler
Date: 4/28/90
Date Entered: APR-29-1990 16:41 FROM EXON KODIAK

GOA 1250
REGION: KODIAK

SEGMENT: ST/K09-36-KA-01

SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION

SEGMENT ST/K09-36-KA-01 SUBDIVISION A (1 OF 1) DATE 4/28/90

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

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

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

SHPO SIGNATURE: ______________________ DATE: ______________________

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 82 m: No Oil 4069 m
Subsurface Oil Observed: Yes No

RECOMMENDATIONS:

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

COMMENTS: ______________________________________________________

______________________________________________________________

TAG COMMENTS: __________________________________________________

______________________________________________________________

TAG APPROVAL DATE: __________

ADEC ______________________ FOSC: __________ DATE: __________
EXXON ______________________
NOAA ______________________
USCG ______________________
KODIAK ECOLOGICAL CONSTRAINTS

1A Salmon stream mouth - fry outmigration (4/15 to 7/31)
1B Salmon stream mouth - spawning (7/15 to 8/10; PEAK 8/15)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or infopl application, 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 Ken Middleton 267-2299

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 infopl application, 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 Koltal Bay Hatchery release
Pink salmon - late May, early June; Chum salmon - June; Sockeye salmon - early July.

1H Remote release site
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or infopl application, 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 for confirmation and authorization.

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

1L Gili net area

1J Purse seine area
Mainland, West side Kodiak, Shuyak & Moser/Algna Bay (6/9 to 10/1)
East side Kodiak, East side Afognak (7/4 to 10/1)

1K Purse seine hook-off

1L Set net sites
Contact ADF&G for confirmation - dates and locations may vary. 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 infopl application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

AGENCY CONTACT PERSON: ADF&G Larry Peitz 424-4791

2M Herring spawning (4/15 to 6/30)
Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to unnoised intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or infopl application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

AGENCY CONTACT PERSON: ADF&G Larry Nicholson 466-4791

3C Harbor seal and sea lion pupping (5/10 to 7/11)
Harbor seal and sea lion mating (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 infopl 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.


5R Seabird colony (6/1 to 9/1)
Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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

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

5T All Bald Eagle nests (3/1 to 9/1)
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 Subsistence area: Salmon harvesting (6/1 to 9/30)
Finfish harvesting
Deer harvesting (8/1 to 1/7)
Invertebrate harvesting

7X 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 infopl 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 / K0936- KA001_SUBDIVISION: KA001 A DATE 4/28/90

NAME: John Naughton SIGNATURE: John J. Naughton

NO TREATMENT RECOMMENDED TREATMENT SUGGESTED

COMMENTS:

This long segment (4151 m) at Cape Kukugakli had very light oil and only in the northern sector. This consisted of mostly stain and a few splatters of mousse, considerable requires in area — bears, eagle nesting, gry whales, moose, otters, camouflaged head and water birds. This area should not be treated.

ADEC NAME: Terry Ellsworth SIGNATURE: Terry Ellsworth

NO TREATMENT RECOMMENDED TREATMENT SUGGESTED

COMMENTS: No oil was observed in the southern portion of this segment. At mid segment in a high energy environment mousse occurs very sporadically in a 30 x 8 m area and several small areas contain stain and coat in splashes in the northern portion. Numerous animals were observed in the area, note NOAA’s comments. Because of the high energy environment the small volume of recoverable mousse and the disturbance of clean-up to the animals and birds, no treatment is recommended.

LAND MANAGER

NAME: Carl Schoch SIGNATURE: Carl Schoch

NO TREATMENT RECOMMENDED TREATMENT SUGGESTED

COMMENTS:

The small amount of recoverable oil may not warrant the disturbance to wildlife by cleanup crews. Eagle nests, in particular, are vulnerable to beach traffic and low flying aircraft. Brown bear activity is high in this area. Oiled debris located in the supratidal may persist for a very long time. A lot of this debris has been chewed on by bears.
# Shoreline Oiling Summary

**Surveyor:** NOAA  
**Land Rep:** COAST SURVEY  
**Subdivision:** Kokoaia (LOF)

**Exxon Field Reps:** ADAM TERRY  
**Time:** 7:20 AM - 2:30 PM

**Team No.:** 15  
**Tide Level:** 2.7 to -2.2  
**Date:** 4/19/90

## Uplands Description
- Grass  
- Forest  
- Rock  

## Surface Sediments
- R 50%, B 25%, C 10%, P 10%, O 3%, S 4%, M 9%, F 0%

## Slope
- Lang 30%, Hang 45%, Vert 5%

## Wave Exposure
- Low 4, Med 9, High 0

## Oil Category Length
- W 0 m, M 0 m, N 0 m, V 35 m, No 416 m

### Surface Oil

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<th>Character</th>
<th>Distribution</th>
<th>Oiled Film Color</th>
<th>Impacted Zones</th>
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<td>Pooling</td>
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<td>Stain</td>
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### Subsurface Oil

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<th>Subsurface Oil Character</th>
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<th>Below Oil Film Color</th>
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<th>Surface Subsurface Sediments</th>
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**Comments:**

The length of this segment is 415.1 m and is principally not oiled. The oil occurs in 3 embayments/pocket beaches. The largest area occurs in the southern embayment within a 30x38 m area as light splatters/salus/ mousse. Stain and coat the embayment to the north. Has 6 individual splatters or coverage in the top of the wave. Intertidal zone, the intervening areas were not oiled.
SHORELINE ECOLOGICAL SUMMARY

Segment ST1 KAI Subdivision A

Date (mo/day/yr) 4/28/90

Time (24 hr) 1330 Biologist Jim Barry

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

(B) Overall % cover of biota (% of segment): Dense 16 Moderate 76 Low 10

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

BARNACLES

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MYTILUS

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GASTROPODS

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FUCUS

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Wildlife Observations/General Comments:

SEE ATTACHED

Ecological Considerations:

1) EAGLE NESTS - 3 - located on segment - NO CLEANUP IS RECOMMENDED, thus Eagle nesting will not be impacted.

2) NO OTHER SENSITIVITIES ARE LISTED.
Segment KA-1  Subdivision A
April 28, 1990
Time: 0900-1245
Tidal Window: +2.7 -> -2.2 ft.

1. GENERAL COMMENTS

A. Exposure KA-1A is located at Cape Kubugakli, a highly exposed shoreline adjacent to the Shelikof Strait.

B. Habitat types
   1. Bedrock Platforms
      Much of the segment (>75%) is comprised by gently sloping bedrock leading from the extreme low zone to the high zone shoreline where cobble or high angle boulders and bedrock are dominant. Biota generally are moderate to dense in this habitat. Low zones are dominated by stipitate brown algae, mainly Alaria marginata and Laminaria dentigera. Eel grass (Zostera marina), Ulva lactuca, Fucus distichus, and Rhodomela larix dominate the lower middle zone. The upper middle zone is dominated by bare space, barnacles (Balanus glandula, Chthamalus dalli), and littorine snails (Littorina sitkana, L. scutulata). Several other invertebrates and algae are common in this zone. The giant feather duster worm (Eudistylia polymorpha) is most notable and is present in sparse to moderate densities.

   2. Cobble Beaches
      Towards the upper zone, large cobble covers most of the segment, except along exposed headlands. Biota are very low in abundance along such shores, especially in the upper zone, due to the high rate of disturbance caused by high waves and rolling cobble. In the middle zone, a sparse to moderate cover of algae are present, including Ulva lactuca, Rhodomela larix, Fucus distichus, and eel grass. Invertebrates are moderate to dense. Littorine snails and isopods (Idotea) are very dense, with sparse
abundances of barnacles, mussels, and other invertebrates (colonial polychaete worms, anemones, whelks, limpets, and sponges (Halichondria sp.?)).

3. **Pebble/Sand Beaches**
Unlike cobble beaches, occur where wave energy is slightly lower, often where the width of the tidal flat is 50 m or more. Sand flats occur only in the lower zone of parts of the segment, where brown algae are usually abundant. Live clams were not observed on sand flats, but probably were present. In the middle to upper zone of some portions of the segment mussels (Mytilus edulis) forms extensive beds covering nearly 100% of the substratum and acting to consolidate the pebble substratum.

4. **High angle boulders and bedrock outcrops**
Headlands and exposed outcrops are occupied by a moderate and occasionally dense cover of barnacles (Balanus glandula) and a moderate to sparse cover of mussels. Fucus distichus is mostly absent from the upper zones, and is usually sparse to moderate in the middle zone of this habitat. Gastropods (mainly littorine snails) are moderate and occasionally dense.

B. **OIL-RELATED COMMENTS**
Oil contamination is very low on this segment and undetectable in all but the extreme upper intertidal zone. No treatment is recommended for the segment. As such no ecological sensitivities will be impacted. Three eagle nest occur on the segment.
XXX Wide
/// Medium
---- Narrow
TTTT Very Light
0000 No Oil

KA-1

Map Key: GOA-1251
Name: Lindsay Messinger
Date: 4/28/90
Data Entered:

ADEC Segment Length: 4151m
REGION: KODIAK

SEGMENT: ST/K10-02-AB-002

SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION

SEGMENT ST/_K10-02-AB-002  SUBDIVISION A (1 OF 1)  DATE 5/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

4QQ National Wildlife Refuge
8AA Sensitive estuary
1A Salmon stream mouth - fry outmigration (4/15 to 7/31)
1B Salmon stream mouth - spawing (7/15 to 9/10; PEAK 8/15)
(None found on ADF&G map)
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE:_________________________ DATE:_________________________

OILING CATEGORIZATION:

Wide 0 m: Medium 395 m: Narrow 175 m: V.Light 402 m: No Oil 940 m
Subsurface Oil Observed: Yes X No____ Maximum Depth 15cm

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
______ X Other (see comments)

COMMENTS: Recommended treatment includes 1) manual pick up of mousse, 2) manual raking and 3) bioremediation using Custonblen areas indicated on attached sketch map.

TAG COMMENTS:________________________________________________________________________________________________________________________
________________________________________________________________________________________________________________________
________________________________________________________________________________________________________________________
________________________________________________________________________________________________________________________

TAG APPROVAL DATE:______________

ADEC EXXON FOSC:______________ DATE:______________
NOAA USCG
KODIAK ECOLOGICAL CONSTRAINTS

Salmon stream mouth - fry outmigration (4/15 to 7/31)
Salmon stream mouth - spawning (7/15 to 9/10; PEAK 8/15)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or inripol application, 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 Ken Middleton 267-2299

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 inripol application, 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

Kokot Bay Hatchery release
Pink salmon - late May, early June; Chum salmon - June; Sockeye salmon - early July.

AGENCY CONTACT PERSON: AOF&G Tom Paltz 267-2201

Gill net area

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

Purse seine area
Mainland, West side Kodiak, Shuyak & Moser/Olga Bay (6/9 to 10/1)
East side Kodiak, East side Afognak (7/4 to 10/1)

AGENCY CONTACT PERSON: USFWS Jill Parker 788-3377

Purse seine hook-off

AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-4791

Herring spawning (4/15 to 6/30)
Contact ADF&G for confirmation - dates and locations may vary. Restrict boat and air traffic to essential minimum. When set net sites are present (1) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or inripol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

AGENCY CONTACT PERSON: ADF&G Larry Nicholson 486-4791

Harbor seal and sea lion pupping (5/10 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 colony. Contact USFWS prior to treatment.

AGENCY CONTACT PERSON: USFWS Lori Parker 788-3377

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 788-3377

Shorebird/waterfowl concentration (4/1 to 8/15)
Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.

AGENCY CONTACT PERSON: USFWS Jill Parker 788-3377

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

AGENCY CONTACT PERSON: USFWS Jill Parker 788-3377

Recreation:
Tent sites (6/1 to 9/15)
Anchorage (8/1 to 9/15)
Forest Service cabin (6/1 to 9/15)
Lodge (6/1 to 9/15)
Special use destination

AGENCY CONTACT PERSON: USFWS Jill Parker 788-3377

Subsistence area: Salmon harvesting (6/1 to 9/30)
Finfish harvesting
Deer harvesting (9/1 to 1/7)
Invertebrate harvesting
Bear harvesting (4/1 to 5/15 and 10/25 to 11/30)

Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of inripol 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 K 10-2 (AB-2) SUBDIVISION: A

DATE 31 May 1990

NO TREATMENT RECOMMENDED

TREATMENT SUGGESTED

COMMENTS

Manual pick-up recommended for mousse patties located on west bank of the small un-named river that divides this segment. Small amount found on east bank. No other areas of segment recommended for treatment.

TREATMENT RECOMMENDED

TREATMENT SUGGESTED

COMMENTS

Manual pick-up recommended for mousse patties. Large mousse patties are present throughout sand flat just west of river. Smaller patties are present along river banks, as well as along high tide mark on east side of river. Clean-up crew should 'polar' these areas to pick-up mousse. Mousse is buried under sand in one location at western end of segment can be easily located by the presence of oil spot on boulders scattered from the sand. Should be collected.

TREATMENT RECOMMENDED

TREATMENT SUGGESTED

COMMENTS

River edge flat had large amount of mousse - sand patties. Agreed with above recommendations for area. Manual picking should take place ASAP on flats exposed to severe sand erosion and washing - see attachment # 2.
**SHORELINE OILING SUMMARY**

OG: R. Marty  USCG  Susan Shanahan  SEGMENT ST 2-2 (AB-2)
BIO: Tim Davis  LAND REP: Otto Florschutz  SUBDIVISION: A
ONON: ADEC  Francis Bernik  TIME: 14:45 10 1990

NO: 20  TIDE LEVEL: 20.19m 10 1.69m  DATE: 31/1 May 1990

GEO. SUBDIVISION LENGTH: 35.90 m  Sun  Clouds  Fog  Rain  Snow

UPLANDS DESCRIPTION:  Grass  Forest  Rock

SURVEYED FROM:  Foot  Boat  Helo  WORKING DIRECTION:  W  to  E

SURFACE SEDIMENTS:  R  S  B  C  S  P  G  S  M  V

SLOPE:  Lang 100%  Hang 0%  Vert 0%  WAVE EXPOSURE:  Low  Med  High

OIL CATEGORY LENGTH:  W  m  M  922 m  N 38 m  VL 496 m  NO 1294 m

### SURFACE OIL

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### SURFACE OIL

- **OILED AMOUNT**: Debris COLLECTED:
  - Debris COLLECTED
  - Type Mousse
    - Yes
    - No
  - Bags:
    - 1

- **POAVEMENT**: H  F  S  sq. m by  cm
- **PATTIES/TARBALLS**: 100  BAGS

- **NEAR SHORE SHEEN**: NO

### SUBSURFACE OIL

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- **COMMENTS**: A highly concentrated area of mousse patties is located on the west bank of the river which divides the segment into two. These patties are large and fresh. They are on sand and should be easily removed by a small crew. Oil is also present through much of the remainder of the segment. This oil is primarily scattered mousse patties. Locally, these patties are buried under the wall sorted sand. Primary sediment is sand.

- **REVIEWED**: B A T  DATES: June 90
SHORELINE ECOLOGICAL SUMMARY

Segment ST/10-02  Subdivision A/B-002  Date (mo/day/yr) 5/31/72

Time (24 hr) 14:30  Biologist H. Davis

Substrate type and % of segments:
(1) Bedrock 5  (2) Boulder 5  (3) Cobble 5  (4) Pebble 5  (5) Sand 80  (6) Silt 5

Overall % cover of biota (% of segment):
Dense 5%  Moderate 20%  Low 75% (20%)

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

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

The rocky area contained most of the fauna and flora. The Barnacles, impets, Polychaetes, Spionidae, Pholadomya, Fucuses and Chthamalid had their habitat in this area. The other areas were barren of life except for a few Barnacles, Chironomus, and Polychaetes.

Ecological Considerations:

The rocky area contained most of the fauna and flora. The Barnacles, impets, Polychaetes, Spionidae, Pholadomya, Fucuses and Chthamalid had their habitat in this area. The other areas were barren of life except for a few Barnacles, Chironomus, and Polychaetes.
## PHOTOGRAPHY LOG

**ROLL NO.: ST-20-13**  
**FROM:** 5/26  
**TO:**  
**TEAM NO.: 80**  
**PWS / KENAI / KODIAK / AK PENINSULA**

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**PHOTOLOG.WK1 03/26/90 BAT**
SHORELINE EVALUATION

SEGMENT ST/ K10-02-AB-002 SUBDIVISION A (1 OF 1) DATE 5/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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8AA Sensitive estuary
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SHPO SIGNATURE: [Signature] DATE: [Date]

OILING CATEGORIZATION:

Wide 0 m: Medium 395 m: Narrow 175 m: V.Light 4022 m: No Oil 940 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 Removal ______ Beach Cleaner
_____ Other (see comments)

COMMENTS: Recommended treatment includes 1) manual pick up of mousse, 2) manual raking and 3) bioremediation using Customblend areas indicated on attached sketch map.

TAG COMMENTS: __________________________________________________________

TAG APPROVAL DATE: 5/16/90

ADEC [Signature] DATE: 5/16/90
EXXON [Signature] DATE: 5/16/90
NOAA [Signature] DATE: 5/16/90
USCG [Signature] DATE: 5/16/90
ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/K10-2-AB-002  STREAM NO: 262-65-655  DATE 5/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
1A  Salmon stream mouth - fry outmigration (4/15 to 7/31)
1B  Salmon stream mouth - spawning (7/15 to 9/10)
8AA  Sensitive estuary

ADFG Anadromous stream # 262-65-655.
Sensitivity code and general time constraints. 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 disturb marsh area.

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: 6/20/90

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

COMMENTS: ____________________________________________

TAG COMMENTS: Manual pickup of mouse patties and tarballs

TAG APPROVAL DATE: 6/16/90
ADEC ___________________________ EXXON ___________________________
NOAA ___________________________ USCG ___________________________

FOSC: ___________________________ DATE: 6-27-90
Sample taken
Photo frame # and shot direction.

A to B sporadic T/I band located 1-4 m from high tide line. App. dist 15 cm; 6.5% coverage.
**ADDENDUM: SUBDIVISION CONSTRAINTS**

**SEGMENT K10-2-AB-2N SUBDIVISION A (1 of 1)**

### WORK WINDOW

<table>
<thead>
<tr>
<th>Activity</th>
<th>Time Frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual Pickup</td>
<td>OPEN</td>
</tr>
<tr>
<td>Bioremediation and Manual Raking</td>
<td>WORK PRIOR TO 7/10 &amp; AFTER 8/31 (ADF&amp;G MONITOR REQ.)</td>
</tr>
<tr>
<td>Less Than 100m From Stream</td>
<td>OPEN</td>
</tr>
<tr>
<td>Bioremediation and Manual Raking</td>
<td>OPEN</td>
</tr>
<tr>
<td>More Than 100m From Stream</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 unmapped catalogued anadromous stream (262-65-655) is more than 100m from work site. 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 manual raking.

**OTHER ECOLOGICAL CONSIDERATIONS**

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

**SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM K10-2-AB-2NA FOR ADDITIONAL CONSTRAINT INFORMATION**

FOSC  
Prepared by R. Courtney  
Date 7/6/90
Stream not shown with # on ADF+G catalogued ANAD. Stream map.

ECOLOGY MAP
SEGMENT K10-2 AB-2N
SUBDIVISION

★ Seabird Colony
▲ Active Eagle Nest
△ Inactive Eagle Nest
SHORELINE EVALUATION

SEGMENT ST/ K10-02-AB-002 SUBDIVISION A (1 OF 1) DATE 5/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

QQ National Wildlife Refuge
8AA Sensitive estuary
1A Salmon stream mouth - fry outmigration (4/15 to 7/31)
1B Salmon stream mouth - spawing (7/15 to 9/10; PEAK 8/15)
(None found on ADF&G map)
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: __________________ DATE: ___________ 6/14/90

SPE WILDLIFE

OILING CATEGORIZATION:

de 0 m: Medium 395 m: Narrow 175 m: V. Light 4022 m: No Oil 940 m
Absurface Oil Observed: Yes X No Maximum Depth 15 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual pick up of mousse, 2) manual raking and 3) bioremediation using Customeblend areas indicated on attached sketch map.

TAG COMMENTS:

____________________________________________________

----- OIL APPROVAL DATE: 6/16/90
SRX

EXXON

NOAA

USCG

FOSC: __________________ DATE: 7/5/90

Note: Limited check for oil

lane in vicinity of K10-02-AB-002
1991 MAYSAP EVALUATION

SEGMENT: K1002AB002  SUB: A  REGION: KOD  SURVEY DATE: 5/19/91

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

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

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

Timothy A. Smith Jr. SIT date: may 31, 1991

RECOMMENDATIONS:

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

COMMENTS:
INITIAL:

TAG: Manual P/V of Surface mouse patties. No picking or searching for patties that may be buried.

TAG APPROVAL DATE: May 31 1991  FOSC APPROVAL DATE: 6/5/91

ADEC  EXXON  USCG  NOAA

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

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

TEAM NO. 6-Helo SEGMENT AB-2N SUBDIVISION B A DATE 19/1/91

ADEC
NAME J. BARNHART OF ADFG SIGNATURE Jeffrey L. Barhant

[ ] NTR [ ] Treatment Recommended
Area E & F as shown on the sketch map contain significant quantities of oil. Area E is a tapered band ranging from 3m wide to 60m wide, 50m long, containing 2% to 70% oil coverage respectively. Area F is 30m long, 5m wide with 30% oil coverage with the band. At the end of this band scattered patches can be found for at least an additional 10m. Patches thickness up to 10cm, 7% an average thickness of 2.5-5cm. Additional oil is covered by 5-7cm of sand. It is easy to locate as it is within the concentrated bands. Two ve-volunteers (worked after one hour and removed 10,000) 45 pound bags of oil. Based on past cleanup efforts I was involved with at this site I estimate a maximum of one ton of oil can be removed from areas E & F. Manual treatment is strongly recommended in areas E & F adjacent to this anadromous stream. Patches should be removed from the surface followed by raking the concentrated areas to locate and remove the oil located 3.5-7cm under the sand.

[ ] TREATMENT RECOMMENDED, Concurred with comments Green shelter (Katie Isom Group)

EXXON
NAME R. Harrell SIGNATURE L A

[ ] NTR I disagree with the coverage % quoted by the ADEC representative. I would agree with the NOAA figures below. However, the tar patches that were found on the beach have a high and apparent and contain relatively low concentrations of oil. They would be recoverable, with a reasonable effort. The net environmental benefit would not be significant

LANDMANAGER
NAME J. HUCKSTEBEN OF USFWS SIGNATURE John P. Hucksteben

[ ] NTR [ ] Treatment Recommended
I concur with the ADFG comments and recommendations. On July 17, 1990 the TAG team visited area E. The oily material was largely buried under the sand. The survey team found the material exposed. Manual removal is strongly recommended for areas E & F now that the extent and quantity of oily material has been exposed.

USCG/NOAA
NAME CWO SPENCE 6. SHIGENAKA SIGNATURE

[ ] NTR Removal of sor patches indicated on OS sketch as C and F is highly recommended. 9 bags were removed from this area and it is estimated that an additional 20-30 bags can be recovered by manual pickup

SURVEYED PORTION OF THE SEGMENT CONSISTED OF THE TERMINAL END OF A WINDING STREAM CHANNEL AND THE BEACH. SAVAN Tidal Flat it crossed. Bear tracks were observed along the high tide line. A BAND OF WASHED UP ALGAL DEBRIS ON THE NORTH SIDE OF THE BEACH, Tidal Flat. A possible artifact was found on the north side of the beach in the site. The survey team found out across the flat to best facilitate assessment for oil residues. On the north side of the stream channel, scattered occurrences of sor and asphalt were seen and collared. It was along the south side of the stream that patches of relatively high concentrations (max 15% cover) of sor were encountered in the site and area. Although the survey team began the TASCOP pickup of material encountered, it became heavily apparent after the rapid filling of eleven bags with little impact on removing the visible oil that the cleanup was beyond the capabilities of both the team to pick up and able to haul. The

REMAINING OF THE BEACH WAS SURVEYED (NO OTHER OIL WAS FOUND BEYOND THE CHANNEL BANK. ON THE South Side, bags were hauled to a helo pickup site and loaded and the team departed. The material collected consisted largely of sand and oil weathered into soft patches. Shifting sandy substrate may complicate relocation but the quantity present makes it likely that the residues will be fairly easy to find.
**MAYSAP SHORELINE OILING SUMMARY**

**TEAM NO.** 6-1-Ho  
**OCC** D. Etzgerald  
**BIO** H. Davis  
**ADEC** J. Baehnhaet  
**LANDMANAGER** J. Hardistem for USFWS  
**EXXON** R. Harrelson  
**USCG/NOAA** CWO Spurr/G. Shegenara

**DATE** 19 May 1991  
**SEGMENT** K10-2-46-3N  
**SUBDIVISION** A  
**TIME** 11:20 to 13:50  
**TIDE LEVEL** 2.0 ft. to -1.4 ft.  
**ENERGY LEVEL** H F M L

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

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

**TOTAL LENGTH SHORELINE SURVEYED:** 440 m  
**NEAR SHORE SHEEN:**  
- ☐ BR  
- ☐ RB  
- ☐ SL  
- ☑ NONE

**EST. OIL CATEGORY LENGTH:**  
- W - m  
- 90 m

<table>
<thead>
<tr>
<th>LOC</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT</th>
<th>SHORE SLOPE TYPE</th>
<th>AREA WIDTH</th>
<th>LENGTH</th>
<th>ZONE</th>
<th>NOTES</th>
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<tr>
<td>A</td>
<td>T</td>
<td>S-RC</td>
<td>L</td>
<td>20</td>
<td>250</td>
<td>X X</td>
<td>PATVTE VLY SCATTERED</td>
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<td>B</td>
<td>T</td>
<td>S-RC</td>
<td>L</td>
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<td>S</td>
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<td>50</td>
<td>90</td>
<td>X X</td>
<td>PATVTE SORC DE SCYTE</td>
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<tr>
<td>F</td>
<td>T</td>
<td>S</td>
<td>L</td>
<td>15</td>
<td>250</td>
<td>X X</td>
<td>OCAONAL PATTCHES</td>
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</table>

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

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

**PHOTO ROLL # MAYSAP-6-17**  
**FRAMES** 7-14

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN H2O BELOW</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
<th>SURFACE-SUBSURFACE SEDIMENTS</th>
<th>NOTES</th>
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</table>

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

**OG COMMENTS:**  

**REVISED 6/24-94 by D.F.**
A. TB
20 by 250 m, <1% 
Widely scattered
Uitz - Fort.

C. TB
10 by 200 m, <1%
Occasional paths

B. AP/5DR/TB
2 by 35 m, <1%
Uitz

D. TB
2 by 10 m, <1%
Base of bench

F. TB
10-25 by 250 m, <1%
Becoming more extensive
towards the southeast

E. TB
50 by 90 m, 5-10%
Patches conc.
in places
5-60 cm in diam
Some covered by sand

ALINCHAK BAY ↓
A. TB
20 by 250m, <1%
Widely scattered
UITZ - MITZ

B. AP/SOR/TB
2 by 35m, <1%
UITZ

C. TB
10 by 200m, <1%
Occasional Panes

D. TB
2 by 10m, <1%
Base of Beach

E. TB
50 by 90m, <1%
Parties Conc.
In Places
5-60cm in Diam.
Some covered by sand

F. TB
10-25 by 250m, <1%
Becoming more intersized
To the Southeast

Photo Sites:
AB-2NA
ROLL 6-17
FRAMES 7 THRU 14

Survey Team
Collected 3 bags of
Oiled Sediment from
Locations A-B and
Retrieved all Oiled
Sediment that was seen

Sketch Map
K10-2-AB-2N-A
19 MAY 1991
1120-1350

Vegetated Dunes
Logs & Driftwood
Seaweed
Photo Sites

ALINCHAK BAY

Bay
Tidal Flat
Tidal Flat
Bedrock Cliff
Low Sandy Beach
Super to Intertidal

METERS
0 200

PHOTO SITES
AB-2NA
ROLL 6-17
FRAMES 7 THRU 14

D. Fitzgerald
19 MAY 1991
1120-1350
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM #: G. Helle
SEGMENT #: AA-30
SUBDIVISION #: 2
SEAS STATE: 1-2 ft

DATE: May 19, 1991
TIDAL HEIGHT (Range): 2.04 ft - 3.44 ft (11:30-14:00)
BIOLGIST: H. Davis
WIND SPEED/DIRECTION: 20-14 ft NW

PHOTOGRAPHS: ROLL #: G-17
FRAME #: 7-14

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

The anadromous stream # 56-2-65 (555) flows from the lagoon, and across a large sandy tidal flat area. The flat has a variable tidal height due to migrating sand and wrack layers. There is very little bird life on the flat except for debris eating amphipods, keeping myxosoma, brine, and barnacles probably inhabiting some areas. An area in the center of the flat will have myxosoma being uncovered by the stream. They appeared to have all died at one time, probably by being buried. A hole dug on the other side of the stream (from freshly deposited wrack) showed alternating layers of sand and clay substrate. Shells found in the wrack were Drakes, Tellins, Cyprids, Scapulidae, and Trema sp. The wrack was made of Nereocystis, Laminaria, Fucus, Alaria, and various kelp (kelpweed).
C. E. F. These areas had no brent close to them except for the anadromous stream which had pink and chum (possibly Dolly Varden). Kelp wrack may move into the area which would attract birds.
A. B. D. These sites are up against the drift log below the dune scarp.


BIRDS

<table>
<thead>
<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED</th>
<th>SPECIES PRESENT</th>
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<tbody>
<tr>
<td>Eagles</td>
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<td>None Seen</td>
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<tr>
<td>Seabirds</td>
<td></td>
<td></td>
<td>Dolly Varden</td>
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<td>Watertowl</td>
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<td>2</td>
<td>27</td>
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<td>Shorebirds</td>
<td>2-3 ?</td>
<td>7</td>
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<tr>
<td>Corvids</td>
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<td>Other Birds</td>
<td>2-5</td>
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WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

MARINE MAMMALS

| SPECIES | # OBSERVED | LAND MAMMALS
<table>
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<tr>
<td>Sea Otters</td>
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<td>Bear Tracks</td>
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<tr>
<td>Sables (specify)</td>
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</table>

Shoreline subdivision map showing important biological features attached.
ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 262-65-655
SEGMENT K10-2-AB-002 SUBDIVISION A

WORK WINDOW

- Manual Pickup
- OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

ADF&G uncatalogued anadromous stream (262-65-655) is in Subdivision A. No constraint to manual pickup.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or banks. Avoid any unnecessary disturbance or damage to un oi led biota and substrate. Sensitive Estuary.

SEE SUBDIVISION CONSTRAINT ADDENDUM K10-2-AB-002A FOR ADDITIONAL CONSTRAINT INFORMATION.

[Signatures and dates]

Prepared by Ray R. Coates
Date 6-28-90

[Signatures and dates]
ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/K10-2-AB-002  STREAM NO:  262-65-655    DATE  5/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
1A Salmon stream mouth - fry outmigration (4/15 to 7/31)
1B Salmon stream mouth - spawning (7/15 to 9/10)
8AA Sensitive estuary

ADF&G Anadromous stream # 262-65-655.
Sensitivity code and general time constraints. 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 disturb marsh area.

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: 5/20/90

Obsurface Oil Observed: Yes No X Maximum Depth __________

RECOMMENDATIONS:

X No Treatment Recommended

Oil Snares (pom poms)

Absorbsents (pads, rolls, etc)

Spot Washing: Wands

Beach Cleaner

Other (see comments)

TAG COMMENTS: MANUAL PICKUP OF MOUSE PATTIES AND TABBLES

TAG APPROVAL DATE: 6/16/90

ADEC ________________ DATE: 6-27-90

EXXON ________________

FOSC: ___________ DATE: 6-27-90

DAA ________________

SCG ________________
ANADROMOUS FISH STREAM ASSESSMENT

REGION: KODIAK

SEGMENT: K10-02-AB-002

SUBDIVISION: A

STREAM NO: 262-65-655
ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/K10-2-AB-002  STREAM NO: 262-65-655   DATE  5/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
1A  Salmon stream mouth - fry outmigration (4/15 to 7/31)
1B  Salmon stream mouth - spawning (7/15 to 9/10)
8AA  Sensitive estuary

ADF&G Anadromous stream # 262-65-655.
Sensitivity code and general time constraints. 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 disturb marsh area.

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

COMMENTS:

_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________

TAG COMMENTS: _____________________________________________________

_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________

TAG APPROVAL DATE: __________

ADEC  _______________  FOSC: ___________  DATE: __________
EXXON____________________
NOAA ____________________
USCG ____________________
Salmon stream mouth - try outmigration (4/15 to 7/31)
Salmon stream mouth - spawning (7/15 to 9/10; PEAK 8/15)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G prior to treatment for consultation and/or permit application.

AGENCY CONTACT PERSON: ADF&G Ken Middleton 267-2299

Salmon try 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, 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

Kokol Bay Hatchery release
Pink salmon - late May, early June; Chum salmon - June; Sockeye salmon - early July.

Remotely released sites.
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, 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 for confirmation and authorization.

AGENCY CONTACT PERSON: ADF&G Larry Nicholson 465-4791

Gill net area.
Purse seine area.
Mainland, West side Kodiak, Shuyak & Moser/Olga Bay (6/9 to 10/1)
East side Kodiak, East side Afganik (7/4 to 10/1)
Purse seine hook-off
Set net sites
Contact ADF&G for confirmation - dates and locations may vary. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

AGENCY CONTACT PERSON: ADF&G Larry Nicholson 465-4791

Harbor seal and sea lion pupping (5/10 to 7/1)
Harbor seal and sea lion molting (6/8 to 9/13)
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 588-7235 ADF&G Don Calkins 267-2403

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

AGENCY CONTACT PERSON: USFWS Jill Parker 788-3377

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

AGENCY CONTACT PERSON: USFWS Jill Parker 788-3377 ADF&G Tom Rothy 307-2202

All Bald Eagle nests (2/1 to 9/1)
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 788-3377

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

AGENCY CONTACT PERSON: ADF&G Jim Fell 267-2359

Subsistence area: Salmon harvesting (6/1 to 9/30)
Finfish harvesting
Deer harvesting (8/1 to 1/7)
Invertebrate harvesting
Bear harvesting (4/1 to 5/15 and 10/25 to 11/30)

Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of 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 Fell 267-2359
FIELD SHORELINE COMMENT SHEET

SEGMENT ST 2602

SUBDIVISION: 262-65-655

DATE 5-2-90

USCG NAME CINDY M. NELSON

SIGNATURE

NO TREATMENT RECOMMENDED

COMMENTS

TREATMENT SUGGESTED

NAME JEFFREY BARNHART

SIGNATURE

NO TREATMENT RECOMMENDED

COMMENTS

TREATMENT SUGGESTED

ANADROMOUS FISH STREAM, STU area 262-65. This lagoon is used by brown bears, caribou, waterfowl and land otters as evidenced by the tracks we observed. I suggest manual cleanup of the T/P, T/B.

LAND MANAGER

NAME

SIGNATURE

NO TREATMENT RECOMMENDED

COMMENTS

TREATMENT SUGGESTED

REVISION NO. 05/21/90
**SURFACE OIL**

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<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
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**SUBSURFACE OIL**

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<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
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<th>OILED INTERVAL</th>
<th>OILED BELOW</th>
<th>OIL / FILM COLOR</th>
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<th>ANA SHEEN (Y/N)</th>
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**COMMENTS**

Reviewed 1974

Date 5/10/90
Segment AB002
Bear Lake Creek
Stream 262-65-655
Ecological Summary

This large stream has a large floodplain/delta consisting mainly of sand, with some patches of cobbles. Some bedrock bluffs on the west side of the stream have sparse barnacles, feces and littering in the MTZ, but otherwise there is no macro-biota in the intertidal area. The only oil found was a few widely scattered tar balls and patties, very weathered, and spread over a large area. Cleanup is not recommended, as these few bits of weathered oil are unlikely to cause any environmental damage if left to decompose. One mature eagle was roosting on the bluff overlooking the stream mouth. Tracks of caribou, bears, and river otters were seen along the stream banks.
**ADFAQ MULTI-ASSESSMENT DATA FORM**

1. **SURVEY TYPE:** BS 55 DE TS AVE CHA MARU PTA
2. **METHODS:** Aerial Ground
3. **DATE:** 5/21/80
4. **START TIME:** 11:30
5. **STOP TIME:** 2:43
6. **SEASON:** ABOC
7. **STATION:** 262-65 (655)
8. **K-UNIT:** 219-01
9. **STAT AREA:** 262-65
10. **LAT:** 57° 51' 5" N
11. **LONG:** 155° 11' 5" W
12. **SOURCE:** Map
13. **LOCATION:** Appro 5 air miles South of Cape Kukumak, AK PWS
14. **DESCRIPTION:** Bear Lake Creek
15. **EXTENT OF OIL**

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

16. **CATALOGED ADAG. FISH STREAM:** Y N
17. **CATALOG #:** 262-65 (655)
18. **STREAM NAME:** Bear Lake Creek
19. **OIL IN STREAM BED:** Y R
20. **OIL ON STREAM BANKS:** Y N
21. **OIL ON BEACH ADJACENT TO MOUTH:** Y N (within 50 meters)
22. **OIL WITHIN 1 MILE OF STREAM:** Y N
23. **SHORELINE TYPE:** Headland Lowlying Rocks Beach Cove
24. **WAVE EXPOSURE:** High Moderate Low
25. **WAVE EXPOSURE:** High Moderate Low
26. **WAVE EXPOSURE:** High Moderate Low
27. **SURFACE COVERAGE:** 45
28. **SURFACE THICKNESS:**
29. **PENETRATION:**
30. **OVERALL OIL IMPACT:** M L N H
31. **OIL TYPE:** Pegged Hueso Asphalt Sticky Stain
32. **OILED DEBRIS:** Y N
33. **OILED DEBRIS:** Y N
34. **OIL ED DEBRIS:** Y N
35. **OIL ED DEBRIS:** Y N
36. **OIL ED DEBRIS:** Y N
37. **ANOMALOUS FISH PRESENT:** Y N
38. **ANOMALOUS FISH OBSERVATION:**

- **Species**
- **Aerial**
- **Ground**

**COMMENTS:**

This area is used by brown bears, caribou, moose, wolves, and several other species of wildlife. In addition, it is an anomalous fish stream. I suggest regular cleanup of the oil between A to B and area C. Jeff Lambert

I recommend no treatment as remaining oil is very oily and very weathered.
A to B spaced T/JB band located 1-4 m from high tide line. Approx. dist. 150 yd; 65% coverage.

- Photo frame 8 and shot direction.
WORK PLAN ADDENDUM

Segment K10-2-AB-002
Subdivision A
Dated 07/24/80

MODIFICATION

1. REASON FOR MODIFICATION

REQUEST FROM FIELD FOR ADDITIONAL WORK EFFORT.

2. ADJUSTMENT TO WORK PLAN

AREAS 1 - 4 ON ATTACHED SKETCH.
- MANUAL PICKUP OF SURFACE MOUSE PATTIES

SHPO APPROVAL NEEDED YES NO

SHPO SIGNATURE ________

TAG APPROVAL DATE 07/24/80
ADEC JOHN BAUER
EXXON ANN TEL
NOAA BURL WILCOX
USCG G.A. BASTER

FOSC ___________________ DATE 7-26-80
WORK PLAN MODIFICATION RECOMMENDATION

SEGMENT K10-2-AB-002  SUBDIVISION A  DATE July 23, 1990

MODIFICATION

1. REASON FOR MODIFICATION:

Noncompliance with original work order for beach portion of the segment (Areas 1, 3, and 4 on attached map). TAG Group visited the site on July 17, 1990 when some members agreed that the work crew should return to complete manual removal of mousse patties on the surface of the sand spit (Area 2) along Bear Lake Creek (Anadromous Stream No. 262-65-655) and in the stream.

TAG visited this site. We decided to do surface pick up near the stream and in the stream bed. No raking or tilling. I strongly disagree with the removal of "mousse-impregnated" sand in area #1.

2. SUGGESTED ADJUSTMENT TO WORK PLAN:

Remove remaining surface mousse patties on sand spit adjacent to the stream and in the stream. Complete manual removal of mousse patties on the surface of the beach portion of the segment (Areas 1, 3, and 4). Rake and bioremediation on Area 1 was modified on July 18, 1990 to delete bioremediation component of the work order. We recommend that the bioremediation component of the work order be entirely deleted from this segment. Also, we recommend manual removal of mousse-impregnated sand from Area 1.

3. TIMING ISSUES:

As soon as possible because of returning salmon to Bear Lake Creek and resulting congregation of bears on the sand spit and beach.

USCG

ADEC

LAND MANAGER (If field representative is on site)

EXXON: Disagree with recommendations as noted. Win Stalling - Exxon

ADF&G: Jeffrey Chambard
REGION: KODIAK
SEGMENT: ST/K10-02-AS-007
SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION

SEGMENT ST/ K-02-AS-007 SUBDIVISION A (1 OF 1) DATE 6/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T All Bald Eagle nests (3/1 to 6/1)
   Active Bald Eagle nests (3/1 to 9/1)
1A Salmon stream mouth - fry outmigration (4/15 to 7/31)
1B Salmon stream mouth - spawning (7/15 to 9/10; PEAK 8/15)
   (Stream ID # 251-65-10040)
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: ____________________ DATE: ____________________

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 106 m: V.Light 3907m: No Oil 4019 m
Subsurface Oil Observed: Yes X No Maximum Depth ______

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

COMMENTS: Recommended treatment is manual removal of mousse in areas shown on attached sketch map.

TAG COMMENTS: ____________________________________________________________

TAG APPROVAL DATE: __________
ADEC ________________ FOSC: __________ DATE: __________
EXXON ________________
NOAA ________________
USCG ________________

SHPO SIGNATURE: ____________________ DATE: ____________________
KODIAK ECOLOGICAL CONSTRAINTS

1A Salmon stream mouth - fry outmigration (4/15 to 7/31)
Salmon stream mouth - spawning (7/15 to 9/15; PEAK 8/15)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or lnipol application, 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 Ken Middelton 267-2298

1C Salmon fry nursery area (4/31 to 7/31)
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or lnipol application, 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 Peitz 424-3214

1D Kinkel Bay Hatchery release
Pink salmon - late May, early June; Chum salmon - June; Sockeye salmon - early July.

1H Remote release sites
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or lnipol application, 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 authorization.

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

1L Gill net area
1J Purse seine area
Mainland, West side Kodiak, Shuyak & Moser/Isgra Bay (6/9 to 10/1)
East side Kodiak, East side Agognak (7/4 to 10/1)

1K Purse seine hook-off

1L Set net area
Contact ADF&G for confirmation - dates and locations may vary. 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. It plans for treatment include methods such as hot water wash or lnipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

AGENCY CONTACT PERSON: ADF&G Larry Nicholson 486-4791

2M Herring spawning (4/15 to 6/30)
Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal benthos and seagrass. It plans for treatment include methods such as hot water wash or lnipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

AGENCY CONTACT PERSON: ADF&G Larry Nicholson 486-4791

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 780-3377

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 780-3377

5T All Bald Eagle nests (2/1 to 6/1)
Active Bald Eagle nests (6/1 to 9/1)
Restrict air traffic and all disturbance to essential minimum. No personnel within 800m 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 780-3377

6J Recreation:
Tent sites (6/1 to 9/15)
Anchorage (6/1 to 9/15)
Hiking trails (6/1 to 9/15)
Lodge (6/1 to 9/15)
Special use destination

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

AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359

AGENCY CONTACT PERSON: ADF&G Ken Middelton 267-2298
FIELD SHORELINE COMMENT SHEET

SEGMENT ST 1 K 1000 AS F SUBDIVISION: A (of A) DATE 1 June 1990

USCG
NAME Michael B. Miller SIGNATURE Michael B. Miller, Jr.

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

Manual pick-up is recommended for NE segment. Large tar-mat, 100 cm x 40 cm in size, 15 cm in thickness. Accessability may cause problems due to the tide fluctuations in this area.

ADEC
NAME Francine J. Beaulz SIGNATURE

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

Manual pick-up of mouse patties, X mouse mat recommended.
The main concentration of oil in this segment is on the northeastern boundary of segment, and extends for approximately 100 meters. Spills into adjacent segment, AS-18. It lies in the UPS, but cleanup crew should also check the MSE sand flats for mouse patties. Recomendable oil can be collected by crew using shovel & tromela.

LAND MANAGER
NAME Gino Florescu SIGNATURE FWS

☐ NO TREATMENT RECOMMENDED ☑ TREATMENT SUGGESTED

COMMENTS

Agree with above ADEC recommendation to manually recover large concentration of mouse patties by shore line of large tidal flat. Aquatic birds colonies on 3 small islands off shore of area. See attachment # 2.
Attachment 2
U.S. Fish and Wildlife Service Shoreline Cleanup Disclaimer

This comment sheet is based on current observations and is solely for the purpose of planning and scheduling of 1990 response treatment actions. It in no way implies that the State or Federal government will not in the future determine that further restoration or other treatment, or compensation is warranted regarding this area, or that the area is considered by the Federal or State government to be adequately "clean" or "restored" for the purpose of any claim which the State or Federal government has brought or may bring against Exxon, Incorporated or any other potentially responsible party.
SHORELINE OILING SUMMARY

SURFACE OIL

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<th>CHARACTER</th>
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<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
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</table>

PAVEMENT: H F S —— sq. m by —— cm
PATTIES/TARBALLS 20’—— BAGS

NEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS No AMOUNT SM MD LG
Logs              X                
Vegetation       X                
Trash            X                
Debris           X                

Photographs:
Roll No. __________
Frames __________

SUBSURFACE OIL

COMMENTS Segment includes a sandy beach and extensive mud flats which are exposed at low tide. There are some mousse balls on mud flat. These are small and scattered, but commonly are surrounded by an ring of diffuse sheen.

Mousse "pavement" is formed at far eastern margin of segment. This is down in cobbles + boulders and should be difficult to remove. * Bags are primarily at east end of segment.

Page 1 of 1

REVIEWED BAT DATE 6 Jul 90
SHORELINE ECOLOGICAL SUMMARY

Segment ST/K10-02 Subdivision AS-007 Date (mo/day/yr) 6/1/90

Biologist: N. Davis

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

(B) Overall % cover of biota (% of segment): Dense 10% Moderate 10% Low 80% (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: Oenest in rugose areas. Density variable.

<table>
<thead>
<tr>
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MYTILUS: A few dense patches.

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GASTROPODS: Littorina - Dense, Sparse, limpets - Sparse, Nucella - Rare

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FUCUS: Patchy on rockpavement.

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<td>U</td>
<td>M</td>
<td>L</td>
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Wildlife Observations/General Comments: Mammals: S (Porcupine), deer in field; 2 Bears in brush; Fox tracks in the intertidal; Bird: Seagull, gulls, summer plumage Plovers, Yellow Legged Plover, Curlew Sandpipers; Starling, Herring Gull, Pigeon, Tall, Coopers Hawk, Pigeon, Bald Eagle, Cormorant, and a few Pheasants. X-Wildlife, Pheasants, Phalacrocorax, Limpets, Barnacles, Littorina, Camelbuck, Silver, and Mussels.

Ecological Considerations: No Eagle Nests were seen on the Segment but nearby on a pinnacle in AS-006 there was a nest with 2 adult Eagles. It was not on the list of Wildlife/birds 1977 - 1981. No other interesting findings. IAS-007 River, Chum, and Sable Vison spawn in the stream.

*Note: On the sand flats occasional rocks would have Barnacles, Mussels, limpets, littorina, Uva Strycker, and some Fucus. Phoroides, Clam, Limpets, Phalacrocorax, Cormorant, Silver, Moxa, Saridomada, and Silagun were also found on the mudflats.
# PHOTOGRAPHY LOG

**ROLL NO.** SF-20-14  **FROM 6/1/90 TO** PWS / KENAI / KODIAK / AK. PENINSULA

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<tr>
<th>FRAME</th>
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<th>DATE</th>
<th>n</th>
<th>PHOTOGRAPHER</th>
<th>OBJECT DESCRIPTION</th>
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<tr>
<td>1</td>
<td>H. Davis</td>
<td>6/1/90</td>
<td>K400AS-007</td>
<td>Sandy/oil mixture</td>
<td>UTZ</td>
<td></td>
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<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>Mousse and coat</td>
<td>UTZ</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td>&quot;</td>
<td>UTZ</td>
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</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td>Mousse &quot;balle&quot; 1-2 in. diam, 2-3 in. thick</td>
<td>UTZ</td>
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<td>Mousse patite, coat and cover</td>
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</table>

Control No. [Office Use Only]
SHORELINE EVALUATION

SEGMENT ST/K01-02-AS-007 SUBDIVISION A (1 OF 1) DATE 6/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ST All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
IA Salmon stream mouth - fry outmigration (4/15 to 7/31)
1B Salmon stream mouth - spawning (7/15 to 9/10; PEAK 8/15)
(Stream ID # 251-65-10040)
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: [Signature]
DATE: June 19, 1990

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 106 m: V.Light 3997 m: No Oil 4019 m
Subsurface Oil Observed: Yes____ No X Maximum Depth______

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

COMMENTS: Recommended treatment is manual removal of mousse in areas shown on attached sketch map.

TAG COMMENTS:

TAG APPROVAL DATE: 6/16/90
ADEC Ray Morgan Band
EXXXON [Signature]
NOAA [Signature]
USCG [Signature]
ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B  Salmon Stream  ADF&G catalogued anadromous stream (262-65-10040)* is more than 100m from work site. *(Shoreline evaluation form cites ADF&G stream number incorrectly)  No constraint to manual pickup.

5T  Bald Eagle Nest  NO CONSTRAINT. USFWS 4/9/90 map indicates no active nest within 400m of Subdivision A work site.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or banks. Avoid any unnecessary disturbance or damage to unoiled bloata and substrate.
ECOLOGY MAP
SEGMENT K10-2 AS-7
SUBDIVISION A (___ of ___)
METERS

Stream
262-65-10040

WORK AREAS

Active Nest

Seabird Colony

Active Eagle Nest

Inactive Eagle Nest
SHORELINE EVALUATION

SEGMENT ST_K01-02-AS-007 SUBDIVISION A (1 OF 1) DATE 6/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

T All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
1A Salmon stream mouth - fry outmigration (4/15 to 7/31)
1B Salmon stream mouth - spawing (7/15 to 9/10; PEAK 8/15)
(Stream ID # 251-65-10040)
See attached Ecological Constraint sheet for specific constraints and
contacts.

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

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

SHPO SIGNATURE: [Signature] DATE: June 19, 1990

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 106 m: V.Light 3907m: No Oil 4019 m
Absurface Oil Observed: Yes No Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment is manual removal of mousse in areas
shown on attached sketch map.

See constraint addendum
dated 7/6/90, Rex C.

TAG COMMENTS:

TAG APPROVAL DATE: 6/16/90

LDEC [Signature] MonitorsAssess M113

AA [Signature] FOSC: [Signature] DATE: ?/80

USCG [Signature]
1991 MAYSAP EVALUATION

SEGMENT: K1002A8007 SUB: A REGION: KOD SURVEY DATE: 5/27/91

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

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

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

SHPO Signature: __________________________ Date: ______________

RECOMMENDATIONS:

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

RECOMMENDATIONS:

INITIAL TAG FOSC

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.

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.
TIE NO. 6-HELO  SEGMENT AS-7  SUBDIVISION A  DATE 5/27/91

ADEC
NAME: J. Barnhart  ADF&G  SIGNATURE: Jeff Barnhart

☐ NTR ☑ Treatment Recommended

Alinak Bay, site of concern is located at the segment division line with AS008. The oiled area is 30 m long x 1.5 m wide, 5% Sor weathered on the surface. Wet "mousse" under the weathered surface. An anomalous stream is located in this segment. Note: AS007 should be considered together with segments AS008 A and AS008 B both of which require cleanup. Recommend cleanup using simple manual pickup. Cleanup can be best accomplished using a hole squad.

EXXON
NAME: R. Coulter  EXXON  SIGNATURE: Reg R. Coulter

☑ NTR  All recoverable oil has been removed.

LANDMANAGER
NAME: J. Hardister  OF USFWS  SIGNATURE: Jon P. Hardister

☐ NTR  No further treatment necessary, except for the small amount of Sor that is adjacent to AS008A. Offer manual pickup occur at site AS008A, then pickup at this site is recommended.

USCG/NOAA
NAME: CWO R. Spurr  SHIGENAKA  SIGNATURE: R. Spurr  G. Shigenaka

☑ NTR  Recoverable Sor/MS removed by Veeco workers during survey.

Surveyed portion of the segment consisted of a narrow beach characterized by flat boulder cobble substrate. Layered between the very broad tidal sand flat and low bedrock cliffs, scattered littorines and barnacles were observed on rocky substrate below the site while very large mussels were found primarily in sandy substrate just below the bank of flat boulder cobble. One 30x2 (as estimate) band of oiling was located in which weathered Sor was either recovered or broken up. Some sheen was observed in the area as well. The band of residue occurred in the site between and under the flattish boulder cobbles. No other oiling was observed along the surveyed section.
OG COMMENTS: THIS SEGMENT IS LOCATED ALONG THE INNER PORTION OF THE NORTHERN MOST EMOTMENT OF ALINCHEK BAY ON THE NORTH SIDE OF THEッシュ STRAND ZONE. THE SURVEYED SHORELINE CONSISTS OF A NARROW FLAT BOULDER BEACH BACKED BY BEDROCK CLIFFS AND FRONTED BY AN INCREASINGLY WIDE TIDAL FLAT THAT TRENDS IN A SOUTHEASTERN DIRECTION. THE OILING AREA FOUND ALONG THIS SEGMENT IS LOCATED AT THE CORTEEN AND CONSISTING OF SOIL AROUND THE FLAT BOULDER BEACH AT THE VI72.
**Comments/Observations** (to be completed in oiled subdivisions only):

Rock cliff with a boulder/cobble rubble band at their base and a large muddy tidal flat extending out made up the surveyed area.

Along the rock cliff face, Vexillum and Xanthospira growing, Vernaciella extends down into the UITT. Other common organisms on the boulder/cobble rubble are: Vexillum, barnacles (l. serrata), latella, Fucus, amphipods, and enchytraeid annelids. The littoral area along the 1/4 mile of the mudflat has oysters, lugworms (mytilus), masonina up and some littoral can be found.

At Site A the for was located in the middle of the boulder/cobble rubble. All of the organisms were present in the area. Enchytraeids were very dense under notes surrounded by for.

Anadromous Stream # 262-65-100 40 run through this area.

---

**Wildlife Observations**

**To be completed in all subdivisions**

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<thead>
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<th>Fish Observed</th>
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</thead>
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<td>0</td>
</tr>
<tr>
<td>Seabirds</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Waterfowl</td>
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</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td>1</td>
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<td>0</td>
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<td>Shorebirds</td>
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</tr>
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<td>Crows</td>
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<td>Other Birds</td>
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**Marine Mammals**

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<tr>
<td>Pinnipeds (specify)</td>
<td>0</td>
<td>Caribou</td>
<td>3</td>
</tr>
<tr>
<td>Whales (specify)</td>
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<td></td>
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</table>

Shoreline subdivision map showing important biological features attached.

Reviewed M.B. 3/31/87
### 1991 MAYSAP EVALUATION

**SEGMENT:** K1002AS007  **SUB:** A  **REGION:** KOD  **SURVEY DATE:** 5/27/91

---

**ENVIRONMENTAL SENSITIVITIES:**

- Work Window(s) **RESTRICTED 3/1 - 9/1**

- 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:** Timothy Adams  **Date:** 6/7/91

---

**RECOMMENDATIONS:**

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<th>TAG</th>
<th>FOSC</th>
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<tr>
<td>N</td>
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</table>

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

**COMMENTS:**

**INITIAL:**

---

**TAG:**

---

**FOSC: NTR - RECOVERABLE OIL PICKED UP DURING SURVEY**

---

**TAG APPROVAL DATE:** June 7 1991  **FOSC APPROVAL DATE:** 6/12/91

- **ADEC:** John Jones
- **EXXON:** [signature]
- **USCG:** Ernest Moore
- **NOAA:** [signature]
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

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

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.
Treatment Recommended

Alien Bay, site of concern is located at the segment division line with AS008. The oil area is 30 m long x 1.5 m wide, 5% SOR weathered on the surface, wet "mousse" under the weathered surface. An anomalous stream is located in this segment.

NOTE: AS007 should be considered together with segments AS008A and AS008B, both of which require cleanup. Recommend cleanup using simple manual pickup. Cleanup can be best accomplished using a helo squad.

Concur with USFWS and ADF&G, Nome, Arctic Borough.

All recoverable oil has been removed.

No further treatment necessary, except for the small amount of SOR that is adjacent to AS 008A. If manual pickup occurs at site AS 008A, then pickup at this site is recommended.

Recoverable SOR/INS removed by Veco workers during survey.

Surveyed portion of the segment consisted of a narrow beach characterized by flat boulder cobble substrate, lying between a very broad tidal sand flat and low bedrock cliffs. Scattered limpets and barnacles were observed on rocky substrate below the site, while very large mussels were found primarily in sandy substrate just below the band of flat boulder cobbles. One 30x2 (as estimate) band of oiling was located in which weathered SOR was either recovered or broken up. Some sheen was observed in the area as well. The band of sheens occurred in the upper and upper left of the flatter boulder cobbles. No other oiling was observed along the surveyed section.
**SHORELINE OILING SUMMARY**

**TEAM NO. 6 - Helo**

**OG** D. Fitzgerald

**BIO** M. Davis

**ADEC** J. Barnhart ADF&G

**LANDMANAGER** J. Hanoester for USFWS

**EXON** R. Coulter

**USCG/NOAA** CWO Spuhler/6. Shigenaka

**TIME** 7:45 to 8:10

**TIDE LEVEL** -10 ft. to -17 ft.

**ENERGY LEVEL:**
- H
- M
- X

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

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

**TOTAL LENGTH SHORELINE SURVEYED:** 1000 m

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

**EST. OIL CATEGORY LENGTH:**
- W:
- M:
- N:
- VL:
- 30 m
- NO:
- 970 m
- US:
- 7072 m

**SURFACE OIL CHARACTER**

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<th>L</th>
<th>O</th>
<th>C</th>
<th>AP</th>
<th>MS</th>
<th>TB</th>
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<th>ENERGY</th>
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</tr>
</tbody>
</table>

**SUBSURFACE OIL CHARACTER**

- OP
- HON
- MOR
- LOR
- OF
- TR
- NO

**OILED ZONE**

- cm-cm

**CLEAN BELOW LEVEL**

- Y/N

**SHEEN COLOR**

- BR
- GN

**PICT ZONE**

- S
- U
- M
- L

**ZONE**

- X

**NOTES**

- 5/14 around boulder

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

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

**PHOTO ROLL #** MAYSAP= 6 - 23

**FRAMES 6-7**

**OG COMMENTS:**

**This segment is located along the inner portion of the northernmost embayment of Allakak Bay on the Northside of the Amro.**

**Stream #: 242-65-1004**

The surveyed shoreline consists of a narrow flat boulder beach backed by bedrock cliffs and fronted by an increasingly wide tidal flat that trends in a southeasterly direction.

The only oiled area found along this segment is located at the eastern end consisting of SOX around the flat boulder beach at the ULT.

**REVIEWED:** MC 5/31/91

**reviewed 5/31/91 GC**
Sketch Map (06)
K10-02-AS-07-A
D.M. Fitzgerald
27 May 1991
745-810

Alaska Peninsula

Begin Segment
AS-08-A

Area:
26.3 km
I/U Around Boulders, USGS
RB Sheen Occurs in Tidal Pools

Alinchat Bay (Muddy Tidal Flat)
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 6 Helo
SEGMENT # K10-02 AS-07
SUBDIVISION
SEA STATE: Tidal out
PHOTOGRAPHS: ROLL #: 6-23

DATE: May 27, 1991
TIDAL HEIGHT (Range): -1.5 - 3.6 (7:45 - 8:10)

BIOLOGIST: H. Davis
WIND SPEED/DIRECTION: Gusty (50-60kt) NW

FRAME #: G+7

COMMMENTS/observations (to be completed in oiled subdivisions only):

Rockcliffs with a boulder/cobble rubble band at their base and a large
muddy tidal flat extending out make up the surveyed area.

Along the rockcliff face barnacles and mussels are growing. Barnacles extend
down into the water. The common organisms in the boulder/cobble
rubble are: littorina, barnacles (and anemones), isopods, fish, amphipods
and echinoderms (anemones), the littorina are laying eggs. Out in the
wind, flat, open area, lugworms (very dense), mantis shrimp and some
littorina can be found.

At site B the 50R was located in the middle of the boulder/cobble rubble
and all the organisms were present in the area. Echinhedra were very dense
and semi-pelleted. Surrounded by 50R.

Anadromous stream #262-65-100740 run through this area.

Glaucous-winged Gull (10)

Yellow-rumped (4) Raven (4) Sandpiper (3) Yellow legs (5) Semi-pelleted (2)

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

<table>
<thead>
<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED</th>
<th>SPECIES PRESENT</th>
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<tbody>
<tr>
<td>Eagles</td>
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<td>Seabirds</td>
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<tr>
<td>Waterfowl</td>
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<tr>
<td>Gulls/Kittiwakes</td>
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<td>10</td>
<td></td>
</tr>
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<td>Shorebirds</td>
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<td>Ixion, Vesper</td>
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<td>Other Birds</td>
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<table>
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<th>MARINE MAMMALS</th>
<th># OBSERVED</th>
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<td>Brown</td>
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<td>Pinnipeds(specific)</td>
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<td>Elephant</td>
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<tr>
<td>Seals(specific)</td>
<td></td>
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</tr>
</tbody>
</table>

shoreline subdivision map showing important biological features attached.

Reviewed M.B. 5/31/91
Site: Away up among the boulders, littoring barnacles, limpets, amphipods, echinoids, and barnacles were present in moderate to sparse densities. Echinoids became dense around the SOR and along drift.

Solet: with nesting gulls and an eagle nest.