[Shoreline evaluations, 1991].

Kenai WB-07 to YP-02

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REGION: KENAI

SEGMENT: ST/WB-07

SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION

SEGMENT ST/ WB-07 SUBDIVISION A (1 OF 1) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5S Shorebird/Waterfowl concentration (4/25 to 5/15)
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 13 m: Medium 116 m: Narrow 0 m: V.Light 27 m: No Oil 14 m
Subsurface Oil Observed: Yes ___ No X ___ Maximum Depth ______

RECOMMENDATIONS:

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

COMMENTS: Recommend tarmat removal, manual pick up of pooled oil and mousse and bioremediation of oil cover, coat and pooled oil areas (see attached sketch map for locations). Work should be conducted after 5/15 due to shorebird/waterfowl constraint.

TAG COMMENTS: __________________________________________________________

TAG APPROVAL DATE: __________

ADEC ___________ EXXON ___________ FOSC: ___________ DATE: ___________

NOAA __________________________ USCG ___________
PWS ECOLOGICAL CONSTRAINTS

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

1C  Salmon fry nursery area (4/31 to 7/31)
1D  Esther Hatchery release (4/15 to 6/1)
1E  Main Bay Hatchery release (4/20 to 5/10)
1F  Sawmill Bay Hatchery release (4/20 to 5/10)
1G  Cannery Creek Hatchery release (4/21 to 6/1)
1H  Remote release site
1I  Gill net area (6/7 to 8/31)
1J  Purse seine area (7/21 to 9/30)
1K  Purse seine hook-off (7/20 to 9/30)
1L  Set net sites (6/11 to 7/25)
   For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

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

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

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

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

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

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

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

SEGMENT ST 1 W B - 7  SUBDIVISION: A  DATE 4/17/94

[ ] NO TREATMENT RECOMMENDED  [ ] TREATMENT SUGGESTED

Agree with Shoreline Oiling Summary Sheet

ADEC
NAME Russell Kunibe  SIGNATURE Russell Kunibe

[ ] NO TREATMENT RECOMMENDED  [ ] TREATMENT SUGGESTED

Comments:
There were spots of asphalt and mums between the 

LANK MANAGER
NAME Patrick Gro hinder, the surface of the rocks in these areas had a sticky 

NAME Patrick Gro
SIGNATURE Peter Davis

[ ] NO TREATMENT RECOMMENDED  [ ] TREATMENT SUGGESTED

Comments:
Some manual pickup in this area will get some oil out. But 

The area and collect more of the oil at the same time.
SHORELINE OILING SUMMARY

AM NO: 17  
TIDE LEVEL: -3.5 ft  
DATE 4/7/90

EST. SUBDIVISION LENGTH: 123 m

SURFACES DESCRIPTION:
- [ ] Grass  
- [ ] Forest  
- [ ] Rock

SURFACE SEDIMENTS:
- 30 % R  
- 50 % B  
- 20 % F  
- 10 % S  
- 0 % M  
- 0 % V

SLOPE:
- [ ] Lang  
- 10 % Hang  
- 50 % Vert  
- 10 % P  
- 5 % O  
- 5 % G  
- 5 % S

WAVE EXPOSURE:
- [ ] Low  
- [ ] Med  
- [ ] High

OIL CATEGORY LENGTH:
- W 10 m  
- M 30 m  
- N 340 m  
- V 25 m  
- NO 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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PAVEMENT:
- [ ] H  
- 500 sq. m by 3 cm

PATTIES/TARBALLO 100 BAGS

NEAR SHORE SHEEN?: [ ] NO  
BR RW SL T

OILED DEBRIS AMOUNT

<table>
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<tr>
<th>DEBRIS COLLECTED</th>
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</table>
| YES  
| NO

Photographs:
- Roll No. S-17-5
- Frames 59, 10, 16, 17, 18

SUBSURFACE OIL

No pits dug due to the presence of large boulders

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>OILED DEBRIS</th>
<th>OIL/FILM COLOR</th>
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COMMENTS

This segment contains only 1 subdivision. It consists of a southerly cliff shoreline largely covered with boulders. Boulders are very large. 40% of the shoreline, measured from 406 meters. Several areas of lesser oiling were observed. The size of the boulders prevented digging pits, and largely concealed much of the asphalt.

RU 17  
APR 1  19 90
CHECKLIST
- N Arrow
- Approx. Scale
- Top/Side Study
- Oil Dist.
- Width
- Length
- % Cover
- Substrate Character
- Est. HUAOM
- SSL
- Pit Location(s)
- Profile(s)
- Photo Location(s)

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

CT/C
Continuous Distribution
CT/B
Bounded Distribution
CT/IP
Patchy Distribution
CT/S
Splashed Distribution
Oil Vegetation

1 ▲
Sample location, direction, and number

The island dimensions are scaled down according to Evans published report lengths - I believe the dimensions of the island are significantly larger than those indicated.

Character Length (m): AP 105 PO 105 CV 95 CT 105 ST 105 MS N/A PR 10 TB 10 FL N/A NO 18
**SHORELINE ECOLOGICAL SUMMARY**

Segment ST, WB 7, Subdivision: A  
Time (24 hr): 1735-1800, Biologist: M. H. Fawcett

Date (mo/day/yr): 4/7/90

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

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

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:**
- Dense Scoloplos carurus in LTZ, & Callinectes sapidus throughout MTZ & UTZ.
- Oystercatchers abundant in LTZ.

**Ecological Considerations:**
- 5-5 Bird concentration area
WB-7
Subdivision A
(only 1 subdivision)
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT WB-7 SUBDIVISION A (1 of 1)

WORK WINDOW

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

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1J Purse Seine Area       No constraint to manual pickup and tarmat removal; closed to bioremediation after 7/1.

5S Shorebird/Waterfowl Concentration

5T Bald Eagle Nest        NO CONSTRAINT. USFWS bald eagle impact assessment completed on 5/19/90 by Mary Portner indicates no active nests within 400m of the work area.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic to essential minimum after 7/1. Avoid any unnecessary disturbance or damage to uncollied biota and substrate.

TAG APPROVAL DATE 5/24/90
ADEC Art Weinert
EXXON Art Weinert
NOAA Alex Weinert
USCG Walter Neilson

Prepared By: Orville Meyer
Date 5/22/90
ECOLOGY MAP
SEGMENT WB-7
SUBDIVISION A (101.1)
METERS

- Seabird Colony
- Eagle Nest

Inactive Nest

Probably Active

No nest observed
No adults seen

Workbook area

Exxon Company, USA
SHORELINE EVALUATION

SEGMENT 52/ WB-07 SUBDIVISION A (1 OF 1) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5S Shorebird/Waterfowl concentration (4/25 to 5/15)
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: [Signature] DATE: 4/20/90

OILING CATEGORIZATION:

Wide 13 m: Medium 116 m: Narrow 0 m: V.Light 27 m: No Oil 14 m
Subsurface Oil Observed: Yes No X
Maximum Depth

RECOMMENDATIONS:

____ No Treatment Recommended
X Treatment Recommended
____ Snare/Absorbent Booms

____ Oil Snares (pom poms)

____ Manual Pickup

____ Absorbents (pads, rolls, etc)

____ Bioremediation

____ Spot Washing

____ Wands

____ Tarmat: Breakup

____ Other (see comments)

____ Removal

____ Beach Cleaner

COMMENTS: Recommend tarmat removal, manual pick up of pooled oil and mousse and bioremediation of oil cover, coat and pooled oil areas (see attached sketch map for locations). Work should be conducted after 5/15 due to shorebird/waterfowl constraint.

TAG COMMENTS:

____________________________________________________

TAG APPROVAL DATE: 4/19/90

ADEC Art Weiner Art Weiner
Exxon
NOAA
USCG

TAG APPROVAL DATE: 4/19/90

FOSC: [Signature] DATE: 5/22/90

NOAA Bullwinkle
USCG

USCG
SHORELINE EVALUATION

SEGMENT ST/ WB-07 SUBDIVISION A (1 OF 1) DATE 4/7/90

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

COMMENTS: Recommend tarmat removal, manual pick up of pooled oil and mousse and bioremediation of oil cover, coat and pooled oil areas (see attached sketch map for locations). Work should be conducted after 5/15 due to shorebird/waterfowl constraint.

TAG COMMENTS: ______________________________________________________

TAG APPROVAL DATE: 4/19/90

ADEC Art Weiner Art Weiner
EXXON
NOAA
USCG

FOSC: ______________________ DATE: 5-2-90
**LEGEND**

1. **Δ**
   - Pit - No Subsurface Oil

2. **Δ**
   - Pit - Subsurface Oil

- Continuous Distribution
- Broken Distribution
- Patchy Distribution
- Splashed Distribution

- CTP
- AP/B
- Oilfield Vegetation

**CHECKLIST**

- N Aquifer
- Approx. Scale
- Seg/Suit Boundary
- Oil Dist.
- Water
- Length
- % Cover
- Caltrate Character
- East, North
- SSL
- Puddle Location(s)
- Puddle(s)
- Pit Location(s)
- Pit Location(s)

**DATE:** 1-1-90

**SEGMENT:** 8.7

**SUBDIVISION:**

**MAP**

- ST-CT/B (75%) on oilers
- Bank of AP/PT-75 (30%)
- B.C. Hair (10 x 1 meter)
- ST-CT/B (75%) on oilers
- Bank 10 x 1 meter
- AP/B (30%) on oilers
- Bank 10 x 1 meter
- AP/B (75%)
- Bank 10 x 4 meter
- End of 10 cm base

**TARMAK REMOVAL**
- Manual Pick up of Pooled Oil & Mousse

**ST-CT/B (80%)**
- on oilers
- Bank 80 x 1 meter

**ST-CT/B (80%)**
- on oilers
- Bank 80 x 1 meter

**ST-CT/B (80%)**
- on oilers
- Bank 80 x 1 meter

**AP/B (75%)**
- Bank 30 x 9 meter
- End of 9 cm base

**The island dimensions are scaled down according to Envo's published segment lengths. I believe the dimensions of the island are significantly larger than those indicated.**

**Character Length (m): AP 105 PO NA CV 95 CT 105 ST 105 MS NA PT 10 TB 10 FL NA NO 8**
WB006 \[ \rightarrow \] WB008
WB007 \[ \rightarrow \] WB009

6, 9, 10 (aerial)

500.0
WB-7

Subdivision A
(only 1 subdivision)
1991 MAYSAP EVALUATION

SEGMENT: WB 007  SUB: A  REGION: KEN  SURVEY DATE: 5/27/91

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

Ecological/Constraints (see page two for details)  Eagle nest, Fish harvest area

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

SHPO Signature: ___________________________  Date: ___________________________

RECOMMENDATIONS:

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

OTHER ____________________________

COMMENTS:
INITIAL: ___________________________________________________

TAG: _______________________________________________________

FOSC: _____________________________________________________

TAG APPROVAL DATE:       FOSC APPROVAL DATE:________________

ADEC ______________________  FOSC _________________________

EXXON ______________________

USCG ______________________

NOAA ______________________
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

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

Fish Harvest Area: Unlimited treatment unless otherwise directed by ADF&G. Sheen containment/recovery procedures required for mechanical treatment.
TEAM NO. 4  SEGMENT WB-007  SUBDIVISION A  DATE 5/27/91

ADEC NAME: Steve Forgason  SIGNATURE: [Signature]
[ ] TREATMENT RECOMMENDED

THE AP/MSOR IS DEPOSITED AT THE BASE OF THE VERTICAL BEDROCK IN THE CRACKS AND SEAMS OF BOULDERS AND BOBBLES. THERE ARE A NUMBER OF OPEN AREAS < 4.0 m² WHERE THE AP/MSOR ALSO IS DEPOSITED. THESE OPEN AREAS WOULD MAKE UP < 4% OF THE OVERALL < 10% AP/MSOR AREA.

EXXON NAME: George P. Styles  SIGNATURE: [Signature]  5/27/91
[ ] TREATMENT RECOMMENDED

Very low percentage of soil left in the bedrock cracks and around the protected edges of the larger boulders. Very little remaining oil would be recovered with trawls.

LANDMANAGER NAME: Pat Keeney  SIGNATURE: [Signature]  5/27/91
[ ] TREATMENT RECOMMENDED

Recommend manual pick-up of AP/MSOR. It has become exposed and accessible. The bid applications had little to no effect on the oil that is left here. The remaining exposed oil can be removed with trawls, shovels. This is a subsistence survey site.

USCG/NOAA NAME: [Signature]  5/27/91
[ ] TREATMENT RECOMMENDED

This island segment had a lot of shear bore with sand boulder bedrock. Continue some weathered gravel and AP. Clear up weathered and excessively patchy hillside of this amount. Contributary morrogeneity a threat to public health or environment.

The initial part of NOAA's subsistence study.

[Signature]
**OG Comments:** Southern coast of largest of the two islands in Woody Bay. Segment consists of low but steep, black rock bluffs and a flat of large angular boulders and rocks cubita. Oiling occurs on 8-9 and 11 on the bedrock high tide line and on boulders. A band of AP/NSO extends along the segment but the quantity of oil decreases rapidly from the eastward and more rapidly past the large intermediate barrier island tree located near the center of the segment.
Legend

- Redrock cliffs/bluffs
- Intertidal outcrops
- Redrock remnant
- Boulder/cobble

Sketch Map

WB-007-A

Legend:

- Redrock cliffs/bluffs
- Intertidal outcrops
- Redrock remnant
- Boulder/cobble

May 26/91

0910 - 0935

Reviewed 5:30 98

Meters
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 4
SEGMENT # WB007
SUBDIVISION A
SEA STATE FLAT

DATE 26 MAY '91
TIDAL HEIGHT (Range) +1.0 to 2.0
BIOLOGIST Jim Roth
WIND SPEED/DIRECTION

PHOTOGRAPHS: ROLL # FRAME #

GENERAL COMMENTS: THIS SUBDIVISION HAS A HEALTHY AND THRIVING INTRERTIDAL BIOTA, WITH DENSE FUCUS GROWING IN THE MIDDLE ZONE. WHICH ALSO HAS DENSE BARNACLES, MUSSELS, LITTORINES (2 SPECIES), LIMPETS, AND DOGWINKLES (NUCELLA). OIL FOUND HERE MOSTLY OCCURS IN ZONES ABOVE THE TYPICAL INTRERTIDAL BIOTA.

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

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

MARINE MAMMALS

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

LAND MAMMALS

Shoreline subdivision map showing important biological features attached.
Map of Bio Region

Legend:
- Redock Cliffs/Bluffs
- Inter tidal Outrops/Redock Ramps
- Rubble/cobbles

Locations:
- WB-006-A
- WB-007-A

Note:
- May 26/91
- 0958-0956

Sparse Barnacles, Littorines
- Ch, st, Ap/sea, 3 x 75
- <6% c 2 cm thick
- <2.5% size

Mussels, Barnacles, Littorines, Limpets
- Worked on
- 7.14.85

Map by Roth

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

Ecological/Constraints (see page two for details) Eagle nest, Fish harvest area

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

SHPO Signature: Timothy A. Smith Date: 6/7/91

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

COMMENTS:
INITIAL: ____________________________

TAG: __________________________________

FOSC: __________________________________

TAG APPROVAL DATE: JUNE 7 91
ADEC John R. Clear
EXXON E. E. Page CDR, USCG
USCG Chief of Staff, FOSC
NOAA

FOSC APPROVAL DATE: 6/4/91
E. E. Page CDR, USCG
Chief of Staff, FOSC
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

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

Fish Harvest Area: Unlimited treatment unless otherwise directed by ADF&G. Sheen containment/recovery procedures required for mechanical treatment.
**MAYSAP FIELD SHORELINE COMMENT SHEET**

**TEAM NO. 4**  
**SEGMENT W8-007**  
**SUBDIVISION A**  
**DATE 5/27/91**

### ADEC

**NAME** Steve Ferguson  
**SIGNATURE** [Signature]  

☑ NTR  
TREATMENT RECOMMENDED

The AP/MSOR is deposited at the base of the vertical bedrock in the cracks and seams of boulders and cobbles.

There are a number of open areas <1/4 m² where the AP/MSOR also is deposited. These open areas would make up <4% of the overall <10% AP/MSOR area.

### EXXON

**NAME** George P. Smith  
**SIGNATURE** George P. Smith  

☑ NTR  
Very low percentage of soil left in the bedrock cracks and around the protected edges of the larger boulders. Very little remaining oil would be recovered with trawls.

### LANDMANAGER

**NAME** Pat Brower  
**SIGNATURE** [Signature]  

☐ NTR  
Recommend manual pick up of AP/MSOR. It has become exposed and accessible. The 610 applications had little to no effect on the oil that is left here. The remaining exposed oil can be removed with trawls, shovels. This is a subsurface survey site.

### USCG/NOAA

**NAME** John McManus  
**SIGNATURE** [Signature]  

☐ NTR  
This eroded segment had a lot of clean bedrock with mud to help.

Evidence continuing some weathered material and AP. Clean up measures were excessive, costly in view of low environmental impact. Site may require a threat to public Health and Safety.

This site is part of NOAA's subsistence study.
**TEAM NO.:** 4

**BIO:** J. Roll
**LANDMANAGER:** P. Nelson
**USCG/NOAA:** J. Nelson/D. McDonell

**SEGMENT:** W.B-007
**SUBDIVISION:** A
**DATE:** May 11, 1991

**TIME:** 09:10 to 09:35

**TIDE LEVEL:** 1 ft. to 2 ft.

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

**SURVEYED FROM:** [X] Foot [ ] Boat [ ] Helo

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

**TOTAL LENGTH SHORELINE SURVEYED:** 171 m

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

**EST. OIL CATEGORY LENGTH:** W — m M — m N — m VI — m NO. 9 — m US — m

---

**SURFACE OIL CHARACTER**

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<thead>
<tr>
<th>LOC</th>
<th>AP</th>
<th>MS</th>
<th>TB</th>
<th>SOF</th>
<th>CV</th>
<th>CT</th>
<th>ST</th>
<th>FL</th>
<th>DB</th>
<th>NO</th>
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**SURFACE SEDIMENT**

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**SHORE SLOPE**

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**AREA**

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**ZONE**

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<th>U</th>
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**NOTES**

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**DISTRIBUTION:** C = 91-100%; B = 81-90%; P = 71-80%; L = 61-70%; T = <60%

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

**PHOTO ROLL # MAYSEAP-**

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**PIT NO.**

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<tr>
<th>OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN ABELVE</th>
<th>SHEEN COLOR</th>
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**PIT DEPTH**

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<th>cm/cm</th>
<th>YN</th>
<th>(cm)</th>
<th>B &amp; S</th>
<th>N</th>
<th>S</th>
<th>U</th>
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<th>L</th>
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**SUBSURFACE OIL CHARACTER**

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<th>OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN ABELVE</th>
<th>SHEEN COLOR</th>
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</table>

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

---

**OG COMMENTS:**

Southern coast of largest of the two islands in Wandy Bay. This segment consists of low but strong bedrock bluffs and a trail of sltoDate boulders and rock rubble. Oiling occurs as N and S on the bedrock. High tide line ends on boulders. A band of Ap/No extends along the segment but no precipitous oil because predominantly toward the east! and more rapidly good the lying included boulder/dead tree: located on the inner side of transport

---

**REVIEWED:** 5:30 PM
**REVIEWER:** JS 5/1/91
## MAYSAP Biological Summary Form

**Team #** 4  
**Segment #** WB007  
**Subdivision** A  
**Sea State** Flat  
**Photographs** Roll #  
**Biologist** Jim Roth  
**Date** 26 May '91  
**Tidal Height (Range)** +1.0 to 2.0  
**Wind Speed/Direction**

### Comments/Observations (to be completed in oiled subdivisions only):
- A1 - Boulders in Hit Hit w/ sparse barnacles, littorines.
- A2 - Boulders w/ sparse barnacles, littorines.
- A3 - Boulders in Hit Hit w/ mussels, barnacles, littorines, limpets.

### General Comments:
This subdivision has a healthy and thriving intertidal biota, with dense fucus growing in the middle zone which also has dense barnacles, mussels, littorines (Z. sp.), limpets, and dogwhelks (Nucella). Oil found here mostly occurs in zones above the typical intertidal biota.

### Wildlife Observations
To be completed in all subdivisions.

<table>
<thead>
<tr>
<th>Birds</th>
<th># of Species</th>
<th>Total Birds</th>
<th>Fish Observed Species Present</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagles</td>
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<tr>
<td>Seabirds</td>
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<td>Gulls/Kittiwakes</td>
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<td>Shorebirds</td>
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<tr>
<td>Corvids</td>
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<tr>
<td>Other Birds</td>
<td></td>
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<table>
<thead>
<tr>
<th>Marine Mammals</th>
<th># Observed</th>
<th>Species</th>
<th># Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sea Otters</td>
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<td></td>
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<tr>
<td>Pinnipeds (specify)</td>
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<tr>
<td>Seals (specify)</td>
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</table>

<table>
<thead>
<tr>
<th>Land Mammals</th>
<th>Species</th>
<th># Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Shoreline subdivision map showing important biological features attached.

Reviewed MB, 5/1/91
REGION: KENAI
SEGMENT: ST/WB-08
SUBDIVISIONS: A (1 OF 1)
SEGMENT ST/ WB-08 SUBDIVISION A (1 OF 1) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
55 Shorebird/Waterfowl concentration (4/1 to 5/15)
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: ______________________ DATE: ______________________

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V. Light 23 m: No Oil 127 m
Subsurface Oil Observed: Yes ___ No X___ Maximum Depth_____

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

COMMENTS: Recommend tarmat removal and manual pick up of mousse. Work should be conducted after 5/15 based on above bird constraints.

TAG COMMENTS:__________________________________________________

TAG APPROVAL DATE:___________
ADEC ________________________ FOSC:_________________ DATE:___________
EXXON ________________________ NOAA ______________________
NOAA ________________________ USCG ______________________
1A  Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B  Salmon stream mouth - spawning (7/10 to 8/31)

No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.

1C  Salmon fry nursery area (4/31 to 7/31)
1D  Esther Hatchery release (4/15 to 6/1)
1E  Main Bay Hatchery release (4/20 to 5/10)
1F  Sawmill Bay Hatchery release (4/20 to 5/10)
1G  Cannery Creek Hatchery release (4/21 to 6/1)
1H  Remote release site
1I  Gill net area (6/7 to 8/31)
1J  Purse seine area (7/21 to 9/30)
1K  Purse seine hook-off (7/20 to 9/30)
1L  Set net sites (5/11 to 7/25)

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

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

3N, 3P  Harbor seal and sea lion pupping (5/15 to 7/1)
3O, 3Q  Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

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

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

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

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

7Z  Subsistence area: Salmon harvesting (5/1 to 9/30)
7HH  Finfish harvesting
7II  Deer harvesting (8/15 to 2/28)
7JJ  Invertebrate harvesting

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

SEGMENT ST/WB-8  SUBDIVISION:  A.  DATE 4/7/90

☐ USCG  NAME:  R. Bryan Hirth  SIGNATURE:  R. Bryan Hirth  DC1

☒ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

I agree with the finding of the Shoreline Oiling Summary Sheet

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

There was only a small 1m x 3m area of asphalt and mousse was found between the boulders and cobbles

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

LAND MANAGER
NAME:  Patrick Norman  SIGNATURE:  Patrick Norman
SHORELINE OILING SUMMARY

ST. SUBDIVISION LENGTH: 127 m

UPLANDS DESCRIPTION: Grass Forest Rock

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

SURFACE SEDIMENTS: R 40 % B 50 % C 10 % P 5 % G 2 % S 0 % M 0 % V 0 %

SLOPE: Lang 10 % Hang 20 % Vert 10 %

OIL CATEGORY LENGTH: W 116 m M 140 m N 116 m VL 10 m NO 117 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 PAVEMENT POOKED</td>
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<td>X</td>
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<tr>
<td>COVER</td>
<td>X</td>
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<td>COAT</td>
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<td>STAIN</td>
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<td>MOUSSE</td>
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<td>PATTIES</td>
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<td>FILM</td>
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<tr>
<td>NO OIL</td>
<td>X</td>
<td>X</td>
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</tr>
</tbody>
</table>

PAVEMENT: H (2) 5 sq. cm by 2 cm cm

PATTIES/TARBALLS / # BAGS

NEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS AMOUNT

- Logs
- Vegetation
- Trash
- Debris

DEBRIS COLLECTED

- YES
- NO

TYPE

# BAGS

Photographs:

- Roll No. 5T-17-5
- Frames 6, 9, 10

SUBSURFACE OIL

No pits dug due to presence of large boulders.

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

This segment consists of north-facing beach on an island. The beach is quite rugged and contains primarily bedrock outcrops and large boulders. Steep cliffs lie above the beach. No oiling was observed over most of this segment. No pits were dug due to the presence of large boulders on beach. Only 1 subdivision in this segment.

Page 1 of 1
The island dimensions are scaled down according to Enron's published segment lengths. I believe the dimensions of the island are significantly larger than those indicated.
**SHORELINE ECOLOGICAL SUMMARY**

Segment ST 1, Subdivision A

Date (mo/day/yr) 4/7/90

**Time (24 hr) 1800-1935**

**B.** Biologist M. H. Fawcett

<table>
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<tr>
<th>Substrate Type and % of Segments:</th>
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</thead>
<tbody>
<tr>
<td>(1) Bedrock 20%</td>
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</table>

**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)

**Photographs:**

Roll No. ST-17-

Frames 6, 9, 10

---

**BARNACLES**

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

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**GASTROPODS**

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**FUCUS**

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**Wildlife Observations/General Comments:**

*Animal generally more dense and diverse on this side than on other side of island.*

**Ecological Considerations:**

Bird concentration area
WB-8
subdivision A
(only 1 subdivision)

Wide
Medium
Narrow
Very Light
No Oil

ADEC Segment Length: 513m
ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1J Purse Seine Area
No constraint to manual pickup and tarmat removal.

5S Shorebrd/Waterfowl Concentration
No constraint to manual pickup and tarmat removal after 5/15.

5T Bald Eagle Nest
NO CONSTRAINT. USFWS bald eagle Impact assessment completed on 5/19/90 by Mary Portner indicates no active nests within 400m of the work area.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic to essential minimum after 7/1. Avoid any unnecessary disturbance or damage to unoiled biota and substrate.
SEGMENT ST/WB-08 SUBDIVISION A (1 OF 1) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
SS Shorebird/Waterfowl concentrations: (4/1 to 5/15)
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: 4/20/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 23 m: No Oil 127 m
Subsurface Oil Observed: Yes ___ No X ___ Maximum Depth ______

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

COMMENTS: Recommend tarmat removal and manual pick up of mousse. Work should be conducted after 5/15 based on above bird constraints.

TAG COMMENTS: ____________________________

TAG APPROVAL DATE: 4/18/90

ADEC [Signature] DATE: 5-8-90

EXXON [Signature] DATE: 5-8-90

NOAA [Signature] DATE: 5-8-90

USCG [Signature] DATE: 5-8-90
SHORELINE EVALUATION

SEGMENT ST/ WB-08 SUBDIVISION A (1 OF 1) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
55 Shorebird/Waterfowl concentration (4/1 to 5/15)
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: 4/20/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 23 m: No Oil 127 m
Subsurface Oil Observed: Yes X No __ Maximum Depth ______

RECOMMENDATIONS:

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

COMMENTS: Recommend tarmat removal and manual pick up of mousse. Work should be conducted after 5/15 based on above bird constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/18/90
ADEC [Signature] DATE: 5-8-90
EXXON [Signature] FOSC: [Signature] DATE: 5-8-90
NOAA [Signature] USCG [Signature]
WB-8
subdivision A
(only 1 subdivision)

Map Key: KEM-143
Name: Rusty Dreyd
Date: 4/7/90

XXX Wide
/// Medium
----- Narrow
TTTT Very Light
0 100 200 300

ADEC Segment Length: 513m

XX

WB-7

WB
1991 MAYSAP EVALUATION

SEGMENT: WB 008  SUB: A   REGION: KEN  SURVEY DATE: 5/27/91

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

Ecological/Constraints (see page two for details) Eagle nest, Fish harvest area

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

SHPO Signature: _____________________________ Date: 6/07/91

RECOMMENDATIONS:

TREATMENT REQUIRED (Y or N)  INITIAL  TAG  FOSC

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

COMMENTS:

INITIAL:

TAG: _____________________________

FOSC: _____________________________

TAG APPROVAL DATE: June 7 1991  FOSC APPROVAL DATE: 6/14/91

ADEC: _____________________________  FOSC: _____________________________

EXXON: _____________________________  CHIEF OF STAFF, FOSC

USCG: _____________________________  

NOAA: _____________________________
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

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

Fish Harvest Area: Unlimited treatment unless otherwise directed by ADF&G. Sheen containment/recovery procedures required for mechanical treatment.
A Trace oiling of stains and coats were found on vertical bedrock and boulders. No treatment recommended.

No appreciable oil located.

Very little oil found.
## MAYSAP SHORELINE OILING SUMMARY

**SEGMENT** D.W.R - 08

**SUBDIVISION** A

**DATE** MAY 12, 1991

**TIME** 08:35 to 09:43

**TIDE LEVEL** 2' to 3' T.M.L.

**ENERGY LEVEL** □ H □ M □ L

**WEATHER** □ SUN □ CLOUDS □ FOG □ RAIN □ SNOW

**TOTAL LENGTH SHORELINE SURVEYED:** 150 m

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

**SURVEYED FROM:** □ FOOT □ BOAT □ HELO

**TOTAL LENGTH SHORELINE SURVEYED:** 150 m

### SURFACE OIL CHARACTER

<table>
<thead>
<tr>
<th>L</th>
<th>C AP</th>
<th>MS</th>
<th>TB</th>
<th>SB</th>
<th>CV</th>
<th>CT</th>
<th>ST</th>
<th>FL</th>
<th>DB</th>
<th>NO</th>
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**SURFACE OIL CHARACTER:** Raw Oil

**SLOPE:** 150 m

**ZONE:**

**NOTES:** See map

### DISTRIBUTION:

- C = 81-100%
- B = 51-80%
- P = 11-50%
- S = 1-10%
- T = <1%

### SLOPE:

- V = VERTICAL
- H = HIGH ANGLE
- M = MEDIUM ANGLE
- L = LOW ANGLE

### SUBSURFACE CHARACTER

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>DEPTH (cm)</th>
<th>OILED ZONE</th>
<th>CLEAN ZONE</th>
<th>OILED COLOR</th>
<th>OILED SURFACE</th>
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**OILED ZONE:**

**CLEAN ZONE:**

**OILED COLOR:**

**OILED SURFACE:**

**NOTES:**

### SURFACE SUBSURFACE SEDIMENTS

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<th>OILED COLOR</th>
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</table>

**SHEEN COLOR:**

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

### OG COMMENTS:

"W.B. 0-08 A forms the northern shore of the largest of the two inlets in Windy Bay. It consists of a narrow and steep slope of angular boulder boulders; except at the eastern extremity where it gives way to a wider bedrock platform with boulders. A few pieces of rosin and coal were found on the bedrock at the eastern extremity of the segment and on boulder boulders."
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 4
SEGMENT # WB 008
SUBDIVISION A
SEA STATE Flat
PHOTOGRAPHS: ROLL # Frame #
TIDAL HEIGHT (Range) +2.0 - +3.0

BIOLeGIST Jim Roth

WIND SPEED/DIRECTION

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):
A1 - INFREQUENT OIL COAT + STAIN OCCURS IN HIGH INTERTIDAL ABOVE MOST BIOTA

GENERAL COMMENTS: THIS SUBDIVISION HAS A HEALTHY INTERTIDAL BIOTA, WHICH REFLECTS ITS SOMEWHAT SHELTERED LOCATION. THE MIDDLE ZONE HAS DENSE FUCUS ON BOULDERS AND COGBLES ALONG THE NORTH SHORE. ALSO FOUND HERE ARE BARNAKLES, LITTORINES, LIMPETS, AND SMALL MUSSELS WHICH ARE VERY DENSE IN PLACES. FUCUS IS MORE DENSE TOWARD THE WEST END OF THE SUBDIVISION.

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS # OF SPECIES TOTAL BIRDS FISH OBSERVED SPECIES PRESENT

Eagles
Seabirds
Waterfowl
Gulls/kittiwakes
Shorebirds
Corvids
Other Birds

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

LAND MAMMALS

Shoreline subdivision map showing important biological features attached.

Reviewed MB 5/88AM
1991 MAYSAP EVALUATION

SEGMENT: WB 008   SUB: A   REGION: KEN   SURVEY DATE: 5/27/91

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

Ecological/Constraints (see page two for details) **Eagle nest, Fish harvest area**

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

SHPO Signature: ___________________________ Date: __________________

RECOMMENDATIONS:  INITIAL   TAG   FOSC

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

TAG: __________________________________________

FOSC: __________________________________________

TAG APPROVAL DATE: ___________  FOSC APPROVAL DATE: ___________

ADEC ___________________________  FOSC ___________________________

EXXON __________________________

USCG __________________________

NOAA __________________________
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

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

Fish Harvest Area: Unlimited treatment unless otherwise directed by ADF&G. Sheen containment/recovery procedures required for mechanical treatment.
A Trace oiling of stains and coats were found on vertical bed rock and boulders. No treatment recommended.

No appreciable oil located.

Very little oil found.
TOTAL LENGTH SHORELINE SURVEYED: **150 m**
NEAR SHORE SHEEN:  

<table>
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<tr>
<th>L</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT</th>
<th>SHORE SLOPE</th>
<th>AREA WIDTH</th>
<th>LENGTH</th>
<th>ZONE</th>
<th>NOTES</th>
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DISTRIBUTION: C = 91-100%; B = 61-90%; P = 11-60%; S = 1-10%; T = <1%

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

PHOTO ROLL # MAYBE-4"(4) - 11
FRAMES 3

OG COMMENTS:

W3-008 A forms the northern shore of the largest of the two islands in Witty Bay. It consists of a narrow and steep talus of angular boulders; except at the eastern extremity where it gives way to a wider bedrock platform with boulders. A few pieces of stone and coal were found on the bedrock at the eastern extremity of the upthrown side of the scarp and on boulder talus.
TEAM # 4
DATE 26 May '91

SEGMENT # WB 008
TIDAL HEIGHT (Range) +2.0 - +3.0

BIOLOGIST Jim Roth

SUBDIVISION A
SEA STATE Flat
WIND SPEED/DIRECTION

PHOTOGRAPHS: ROLL # FRAME #

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):
A1 - INFREQUENT OIL COAT + STAIN OCCURS IN HIG
INTER TIDAL ABOVE MOST BIOTA

GENERAL COMMENTS: THIS SUBDIVISION HAS A HEALTHY
INTER TIDAL BIOTA, WHICH REFLECTS ITS SOMEWHAT
SHELTERED LOCATION. THE MIDDLE ZONE HAS DENSE
FUCUS ON BOULDERS AND COBBLES ALONG THE NORTH SHORE.
ALSO FOUND HERE ARE BARNACLES, LITTORINES, LIMPETS,
AND SMALL MUSSELS WHICH ARE VERY DENSE IN PLACES.
FUCUS IS MORE DENSE TOWARD THE WEST END OF THE
SUBDIVISION.

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS

<table>
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<th># OF SPECIES</th>
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<td>Waterfowl</td>
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<tr>
<td>Gulls/kittiwakes</td>
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<tr>
<td>Shorebirds</td>
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<tr>
<td>Corvids</td>
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<tr>
<td>Other Birds</td>
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MARINE MAMMALS

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

Shoreline subdivision map showing important biological features attached. Reviewed MB 3/86
REGION: KENAI

SEGMENT: ST/WB-09

SUBDIVISIONS: A (1 OF 1)
SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
55 Shorebird/Waterfowl concentration (4/1 to 5/15)
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:
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 116 m: Medium 9 m: Narrow 0 m: V.Light 137 m: No Oil 22 m
Subsurface Oil Observed: Yes X No____ Maximum Depth 10 cm

RECOMMENDATIONS:
___No Treatment Recommended _____Snare/Absorbent Booms
X_Treatment Recommended _____Oil Snares (pom poms)
X_Manual Pickup _____Absorbs (pads, rolls, etc)
X_Bioremediation _____Spot Washing: _____Wands
X_Tarmat: Breakup _____Beach Cleaner
X_Removal _____Other (see comments)

COMMENTS: The recommended treatment includes, 1) tarmat removal, 2) manual pick up of mousse, patties, oiled debris and vegetation, and 3) bioremediation of subsurface oil in UITZ (see attached sketch map). Work should be conducted after 5/15 based on above bird constraints.

TAG COMMENTS:__________________________________________________________

TAG APPROVAL DATE:___________
ADEC ___________________________
EXXON _________________________ FOSC:___________ DATE:__________
NOAA ___________________________
USCG ___________________________
FIELD SHORELINE COMMENT SHEET

SEGMENT ST/WB-9 SUBDIVISION: A DATE 4/7/90

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

ADEC
NAME: Russell Humbe SIGNATURE: Russell Humbe

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

LAND MANAGER
NAME: Patrick Darnell SIGNATURE: Patrick Darnell

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

Manual pickup and back up of the asphalt and moosue saturated
salvages. Some boxes of ice passing during treatment. Alternatively
washing may be more appropriate in the large oiled area.
Bioremediation is recommended as a follow up treatment

Manual pickup of asphalt and moosue concentrations should
be done on WB-9-A. This will take a lot of man hours to
do based on the work we did last year on this island. washing
flushing with heated water would do more for the appearance,
and also remove more of the oil I feel.
**SHORELINE OILING SUMMARY**

**OIL**

- **OG**: Panama
- **BIO**: USCG
- **LAND REP**: Pat Harrison
- **SEGMENT ST/EXXON**: Tidal Oasis
- **DATE**: 4/7/90
- **AM NO.**: 6:20
- **TIDE LEVEL**: +0.5
- **SUBDIVISION**: A
- **DATE**: 4/7/90
- **TIME**: 15:40
- **SUBDIVISION LENGTH**: 639 m
- **UPLANDS DESCRIPTION**: Grass, Forest, Rock
- **SURVEYED FROM**: Foot
- **SURFACE OIL**: Pooled
- **OIL CATEGORY**: Surface Oil

### Surface Oil

<table>
<thead>
<tr>
<th>Character</th>
<th>Distribution</th>
<th>Oil/Film Color</th>
<th>Impacted Zones</th>
</tr>
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<tbody>
<tr>
<td>Asbestos Pavement</td>
<td>X + / 1</td>
<td>X</td>
<td>U, V</td>
</tr>
<tr>
<td>Pooled</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cover</td>
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<tr>
<td>Coat</td>
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<td>Mousse</td>
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**Surface Sediments**

- **Type**: Paved
- **Amount**: 100 Bags
- **Debris Collected**: YES
- **Type**: Logs, Vegetation, Trash
- **Frames**: 6, 9, 12, 13, 14

**Subsurface Oil**

<table>
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<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
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**Comments**

This segment contains only 1 subdivision. The segment is an island, much of which was inaccessible due to steep cliffs. A west-facing beach, covered largely in pebbles and cobbles, contained a continuous asphalt mat (25 x 20 m) within a distance of about 20 meters from the shore. The asphalt became patchy closer to the shore (12 x 12) and was represent 20 m from the continuous asphalt mat above.

*Film on pooled water in B.5, M.5, U.1*
SHORELINE ECOLOGICAL SUMMARY

Segment ST/WB 9 Subdivision A Date (mo/day/yr) 4/7/90

Time (24 hr) 15:40 - 17:00 Biologist M. Fawcett

Substrate type and % of segments:

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

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

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Wildlife Observations/General Comments:
1) eagle, nature
2) white-winged scoters

Ecological Considerations:

55 bird concentration area
PWS ECOLOGICAL CONSTRAINTS

1A  Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B  Salmon stream mouth - spawning (7/10 to 8/31)
    No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage.
    No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
1C  Salmon fry nursery area (4/31 to 7/31)
1D  Esther Hatchery release (4/15 to 6/1)
1E  Main Bay Hatchery release (4/20 to 5/10)
1F  Sawmill Bay Hatchery release (4/20 to 5/10)
1G  Cannery Creek Hatchery release (4/21 to 6/1)
1H  Remote release site
1I  Gill net area (6/7 to 8/31)
1J  Purse seine area (7/21 to 9/30)
1K  Purse seine hook-off (7/20 to 9/30)
1L  Set net sites (6/11 to 7/25)
    For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
2M  Herring spawning (4/1 to 6/15)
    Restrict boat traffic to essential minimum. Avoid damage to unoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
3N, 3P  Harbor seal and sea lion pupping (5/15 to 7/1)
3O, 3Q  Harbor seal and sea lion molting (8/15 to 9/15)
    Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
5R  Seabird colony (5/1 to 9/1)
    Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
5S  Shorebird/waterfowl concentration (4/1 to 5/15)
    Restrict all activity to essential minimum, especially air traffic.
5T  All Bald Eagle nests (3/1 to 6/1)
    Active Bald Eagle nests (3/1 to 9/1)
    Restrict air traffic to essential minimum. No personnel within 400m. 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
6U  Recreation:
    Tent sites (6/1 to 9/15)
    Anchorages (6/1 to 9/15)
6W  Forest Service cabins (6/1 to 9/15)
6X  Lodge (6/1 to 9/15)
6Y  Special use destination
7Z  Subsistence area: Salmon harvesting (5/1 to 9/30)
7HH  Finfish harvesting
7II  Deer harvesting (8/15 to 2/28)
7JJ  Invertebrate harvesting
    For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.
The boulder field on the west side of the island had considerable surface oil remaining in the middle and upper intertidal areas. Below the main oiled zone there is a dense bed of mussels and a well-developed community including Fucus, litorina and limpets (Notoacmaea seatum). Some sheen was seen drifting downshore into the mussel bed.

On the northeast (exposed) side of the island and on around to the southwest side, the small brown acorn barnacle (Chthamalus dalli) has recently settled in vast numbers blanketing the upper and middle shore levels from about +3 to +11 ft, mainly on vertical faces and large boulders. I also observed one small patch (≈ 20 x 40 cm) of newly settled mussels just on the NE side. There are dense beds of juvenile mussels (3-12 mm) as well, mainly on the north and east sides. Large anemones (Tealia), chitons, katherina and limpets (N. scintillans) are common in the low intertidal zone on the north and east sides of the island.
SEGMENT ST/ WB-09 SUBDIVISION A (1 OF 1) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
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:
Consultation and inspection with an Exxon archaeologist is required prior to treatment. Specific on-site monitoring requirements will be determined at that time.

SHPO SIGNATURE DATE: 4/18/90

OILING CATEGORIZATION:

Wide 116m: Medium 9 m: Narrow 0 m: V.Light 137 m: No Oil 22 m
Subsurface Oil Observed: Yes X No__ Maximum Depth 10 cm

RECOMMENDATIONS:

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

COMMENTS: The recommended treatment includes. 1) tarmat removal, 2) manual pick up of mousse, patties, oiled debris and vegetation, and 3) bioremediation of subsurface oil in UITZ (see attached sketch map). Work should be conducted after 5/15 based on above bird constraints.

TAG COMMENTS: ____________________________________________________________

TAG APPROVAL DATE: 5/12/90

ADEC EXXON NOAA USCG
Photos: ST-17-5
Frames: 6, 9, 10, 12-1014

WB006  WB008  WB007  WB009

CENLINE

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<th>Light</th>
<th>Very Light</th>
<th>None</th>
<th>Not Surveyed</th>
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Distance in Meters

500.0
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT WB-9 SUBDIVISION A (1 of 1)

WORK WINDOW

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<td>Tarmat Removal</td>
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<tr>
<td>Bioremediation</td>
<td>WORK PRIOR TO 7/1</td>
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</table>

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1J Purse Seine Area
No constraint to manual pickup and tarmat removal; closed to bioremediation after 7/1.

5S Shorebird/Waterfowl Concentration
No constraint to manual pickup, tarmat removal and bioremediation after 5/15.

5T Bald Eagle Nest
NO CONSTRAINT. USFWS bald eagle impact assessment completed on 5/19/90 by Mary Portner indicates no active nests within 400m of the work area.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic to essential minimum after 7/1. Avoid any unnecessary disturbance or damage to unaltered biota and substrate.

TAG APPROVAL DATE 5/24/90
ADEC Art Westman
EXXON Tony Tesh
NOAA William McCallum
USCG

Prepared By: Linder Meyer DSC
Date 5/23/90

FOSC
DATE 5/24/90
SHORELINE EVALUATION

SEGMENT ST: WB-09        SUBDIVISION A (1 OF 1) DATE: 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
5S Shorebird/Waterfowl concentration (4/1 to 5/15)
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:
Consultation and inspection with an Exxon archaeologist is required prior to treatment. Specific on-site monitoring requirements will be determined at that time.

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

OILING CATEGORIZATION:

Wide 116m: Medium 2 m: Narrow 0 m: V.Light 137 m: No Oil 22 m
Subsurface Oil Observed: Yes X No Maximum Depth 10 cm

RECOMMENDATIONS:

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

COMMENTS: The recommended treatment includes: 1) tarmat removal, 2) manual pick up of mousse, patties, oiled debris and vegetation, and 3) bioremediation of subsurface oil in UITZ (see attached sketch map). Work should be conducted after 5/15 based on above bird constraints.

TAG COMMENTS: ____________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

TAG APPROVAL DATE: 4/11/90

ADEC:    [Signature] DATE: 5/12/90

EXXON:   [Signature] FOSC:    DATE:

NOAA:    [Signature] 

USCG:    [Signature]
1991 MAYSAP EVALUATION


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

Ecological/Constraints (see page two for details)  Eagle nest, Fish harvest area

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

SHPO Signature:  ___________________________ Date:  ___________________________

RECOMMENDATIONS:

TREATMENT REQUIRED (Y or N)  N  ______________

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

COMMENTS:
INITIAL:  ___________________________

TAG:  ___________________________

FOSC:  ___________________________

TAG APPROVAL DATE:  __________  FOSC APPROVAL DATE:  __________

ADEC:  ___________________________
EXXON  ___________________________
USCG  ___________________________
NOAA  ___________________________
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

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

Fish Harvest Area: Unlimited treatment unless otherwise directed by ADF&G. Sheen containment/recovery procedures required for mechanical treatment.
MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 4 SEGMENT W5-009 SUBDIVISION A DATE 5/27/91

ADEC
NAME: Steve Ferguson SIGNATURE:

TREATMENT RECOMMENDED

THE SURVEY CONDUCTED AT WB-9A WAS COMPLETED IN 30 MINUTES.
SITE A2 IS 10m(w) x 25 m(l) AP/MSOR WITH < 5% OILING.
THIS OILED AREA IS LOCATED ON THE PROTECTED SIDE OF THE ISLAND AND
WILL TAKE A VERY LONG TIME TO WEATHER AWAY NATURALLY IF IT DOES AT ALL. SITE
A1 IS ALSO VERY WELL PROTECTED BY VERTICAL BEDROCK. SUGGEST MANUAL
REMOVAL OF REMAINING AP/MSOR AT BOTH SITES.

EXXON
NAME: George F. Stiles SIGNATURE:

AP, + MSOR remain in areas A1, A2.

LANDMANAGER
NAME: Pat Vannier OF PoHotham SIGNATURE: Pat Vannier 5-27-91

TREATMENT RECOMMENDED

EXPOSED AP, + MSOR can be removed manually.
This will complete work on W0-9.

USCG/NOAA
NAME: Jamie McCorkle SIGNATURE:

NTR: Sting AP found and picked up at site by VECO about 50%.

This site is site number WMB-3 of NOAA's toxicity fisheries
study project. Donald M. McDonald
The document contains a table and some handwritten notes. Here is the table in a structured format:

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<th>AREA Type</th>
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<th>H</th>
<th>M</th>
<th>L</th>
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**Distribution:**
- C = 0-10%
- S = 11-50%
- P = 51-90%
- T = >90%

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

**Notes:**
- P1: 6/26/89
- M: 50.8
- See map

**OG Comments:**
- Saddle of chert and dol/phy between bedrock outcrops.
- Obtained vitrified stone in summer 89 and 90.
- Oil occurs in the same location (1) quantitatively, in the next occurrence, the bedrock coverage and thickness have decreased considerably.
- Rest of island was not surveyed according to previous analysis; reporting no oil.

**Reviewed:** 5/30/91 KG
**Revised:** 3/26/91 MC
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 4
SEGMENT # WB-9
SUBDIVISION A
SEA STATE Flat
PHOTOGRAPHS: ROLL # FRAME #

DATE 26 MAY '91
TIDAL HEIGHT (Range) +0.25 to +0.9

BIOLOGIST Jim Roth
WIND SPEED/DIRECTION

COMMENTS/ OBSERVATIONS (to be completed in oiled subdivisions only):
A1 - Cobble Bank in Lower Nitzjut above dense fucus, w/ locally dense mussels, barnacles, juveniles, moderately dense barnacles.
A2 - Cobble/Pea shell Beach w/ most oil occurring above the level of intertidal biota. At the west end oil was found further down, in the mire, where had locally dense small mussels, dense barnacles, and fairly abundant limpets.

GENERAL COMMENTS: this small island has a healthy - thriving intertidal biota, with evidence of recent recruitment in mussels, barnacles.

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

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

LAND MAMMALS

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

Whales(specify)

Shoreline subdivision map showing important biological features attached.

Reviewed 7/3/91
### Legend
- Redrock cliff/bluff
- Intertidal outcrops/bedrock ramp
- Boulders/cobble

### DB Sketch Map
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<td>![Legend Image]</td>
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### Bio Map
- Roth

- Map: WB-006.A
- WB-007.A
- WB-009.A

- **Mussels, Barnacles**
  - Al
  - Ch, Ap, n SoR
  - 6X8 <10% in
  - Litz deposition
  - June 20-10-19-20
  - Worked on May 4-19-10

- **Dense Mussels, Littorines, Limpets**
  - AP 750 cm
  - <5%
  - Max live portion
  - Patch roost
  - Also ch. in fractures in bed of cobble

- **Moles**
1991 MAYSAP EVALUATION


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

Ecological/Constraints (see page two for details)  Eagle nest, Fish harvest area

ARCHAEOLOGICAL CONSTRAINTS:
Consultation and inspection with an Exxon archaeologist is required prior to treatment. Specific on-site monitoring requirements will be determined at that time.  PHONE 564-3276; 564-3657; (Anchorage) or 229-1514 (24 hrs.).

RECOMMENDATIONS:  INITIAL  TAG  FOSC

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<th>Tag</th>
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COMMENTS:
INITIAL: ____________________________________________________

TAG: Manual Pick up of Easily Accessible AP in Locations A1 + A2

TAG APPROVAL DATE: June 7 1991  FOSC APPROVAL DATE: 6/7/91

ADEC  John Bauer  EXXON  
USCG  T.M. Murphy  NOAA  
FOSC  E. E. PAGE, CD2, USCG  

CHIEF OF STAFF, FOSC
ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

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

**Fish Harvest Area:** Unlimited treatment unless otherwise directed by ADF&G. Sheen containment/recovery procedures required for mechanical treatment.
ADEC

NAME Steve Ferguson

SIGNATURE

☐ NTR □ TREATMENT RECOMMENDED

THE SURVEY CONDUCTED AT WB-9A WAS COMPLETED IN 30 MINUTES.

SITE A2 IS 10m(W) x 25 m(L) APIMSAR WITH < 5% OIL/N.

THIS OILED AREA IS LOCATED ON THE PROTECTED SIDE OF THE ISLAND AND

WILL TAKE A VERY LONG TIME TO WEATHER AWAY NATURALLY IF IT DOES AT ALL. SITE

A1 IS ALSO VERY WELL PROTECTED BY VERTICAL BEDROCK. SUGGEST MANUAL

REMOVAL OF REMAINING APIMSAR AT BOTH SITES.

EXXON

NAME George P. Stiles

SIGNATURE

☐ NTR □ AP, + MSAR remain in areas A1, A92.

LANDMANAGER

NAME Pat Hammond

OF Badenham

SIGNATURE Pat Hammond

☐ NTR □ exposed AP, + MSAR can be removed manually

This will complete work on WB-9.

☐ NTR □ Some AP found and picked up at site

by 1500 onto boat 50%.

USCG/NOAA

NAME

Signature

☐ NTR □ [Handwritten note: This site is site number WB-3 of NOAA offshore intensive study project.]

Dr. Donald M. McDonald
**MAYSAP SHORELINE OILING SUMMARY**

**TEAM NO.**

**OG**

**BIO**

**ADEC**

**USCG/NOAA**

**TIME**

**TIDE LEVEL**

**SURVEYED FROM**

**TOTAL LENGTH SHORELINE SURVEYED:**

**EST. OIL CATEGORY LENGTH:**

<table>
<thead>
<tr>
<th>LOC</th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT</th>
<th>SHORE SLOPE</th>
<th>AREA</th>
<th>ZONE</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL1</td>
<td>S</td>
<td>Adtc</td>
<td>H</td>
<td>5</td>
<td>Y</td>
<td>Park4 Oil in M-saw</td>
</tr>
<tr>
<td>AL2</td>
<td>S</td>
<td>Lh/Bh</td>
<td>L</td>
<td>10</td>
<td>25</td>
<td>See map</td>
</tr>
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</table>

**SEGMENT**

**SUBDIVISION**

**DATE**

**ENERGY LEVEL**

**FOOT**

**BOAT**

**HELO**

**WEATHER**

| DISTRIBUTION: C = 0-100%; B = 1-50%; P = 5-25%; S = 25-50%; T = <25% |
| SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE |

**PIT NO.**

**SUBSURFACE OIL CHARACTER**

**OILED ZONE**

**CLEAN BELOW**

**ZONE**

**ZONE**

**NOTES**

**OG COMMENTS:**

Saddle of clb/txt and ch/pb between bidock outcrop. Site visited site in summer 89 and 90; oil occurs in the same location and is: quantitii in terms of bulk coverage and thickness have decreased considerably. Rest of island was not surveyed according to previous survey. Nothing reported.

**REVIEWS:**

SL30H1 KG

SL33/91 MC
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM #  4                         DATE  26 MAY 91
SEGMENT # W8-9                      TIDAL HEIGHT (Range) +0.28 to +0.9
SUBDIVISION A                      BIOMONIST Jim Roth
SEA STATE Flat                      WIND SPEED/DIRECTION
PHOTOGRAPHS: ROLL # FRAME #

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):
A2 - Cobble/Pebble Beach w/ Most Oil occurring above the level of Intertidal Biota. At the west end oil was found further down, in the Mire, which had locally dense small Mussels, dense Littorines, and fairly abundant Limpets.

GENERAL COMMENTS: THIS SMALL ISLAND HAS A HEALTHY & THRIVING INTERTIDAL BIOTA, WITH EVIDENCE OF RECENT RECRUITMENT IN MUSSELS, LITTORINES.

WILDLIFE OBSERVATIONS
TO BE COMPLETED IN ALL SUBDIVISIONS

<table>
<thead>
<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED</th>
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<tbody>
<tr>
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<tr>
<td>Seabirds</td>
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<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
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<td>Shorebirds</td>
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<td></td>
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<tr>
<td>Corvids</td>
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<td>Other Birds</td>
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<th>SPECIES</th>
<th># OBSERVED</th>
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<td>Pinnipeds(specify)</td>
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<tr>
<td>Whales(specify)</td>
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<table>
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<th>LAND MAMMALS</th>
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Shoreline subdivision map showing important biological features attached.
REGION: KENAI

SEGMENT: ST/YB-01

SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION

SEGMENT ST/ VB-01 SUBDIVISION A (1 OF 1) DATE 4/26/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 232-22-10190 (Ps, 2/90)
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
1J Purse seine area (7/10 to 8/20)
2M Herring spawning (4/1 to 6/15)
4LL National Parks
6U Recreation: Tent sites (6/1 to 9/15)

See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: ______________________ DATE: ______________________

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 466 m: No Oil 2212 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 _________________________
PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

\( \sqrt{B} \)
Bald Eagle - 1, 3/1D
Restrict air and boat traffic to essential minimum. Avoid damage to unoiled or toxic areas. Contact ADF&G prior to treatment for confirmation and advice.
AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214

\( \sqrt{C} \)
Salmon fry nursery area (4/31 to 7/31)
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or lnipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.
AGENCY CONTACT PERSON: ADF&G John Morison 267-2324

\( \sqrt{D} \)
Esthwaite Hatchery release (4/15 to 6/15)
Restrict boat and air traffic to essential minimum. Avoid damage to unoiled or toxic areas. Contact ADF&G prior to treatment for confirmation and advice.
AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214

\( \sqrt{E} \)
Main Bay Hatchery release (4/20 to 6/15)
Restrict boat and air traffic to essential minimum. Avoid damage to unoiled or toxic areas. Contact ADF&G prior to treatment for confirmation and advice.
AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214

\( \sqrt{F} \)
Swanell Bay Hatchery release (4/15 to 6/1)
Restrict boat and air traffic to essential minimum. Avoid damage to unoiled or toxic areas. Contact ADF&G prior to treatment for confirmation and advice.
AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214

\( \sqrt{G} \)
Cannery Creek Hatchery release (4/21 to 6/1)
Restrict boat and air traffic to essential minimum. Avoid damage to unoiled or toxic areas. Contact ADF&G prior to treatment for confirmation and advice.
AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214

\( \sqrt{H} \)
Remote release site
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or lnipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.
AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214

\( \sqrt{I} \)
Gill net area (6/7 to 8/31)

\( \sqrt{J} \)
Purse seine area (7/20 to 9/30)

\( \sqrt{K} \)
Purse seine hook-off (7/20 to 9/30)

\( \sqrt{L} \)
Set net sites (6/11 to 7/25)
Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or lnipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
AGENCY CONTACT PERSON: ADF&G Evelyn McMillan 424-3235

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

3Q, 3Q
Harbor seal and sea lion pupping (6/15 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 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 (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/waterbird concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
ADF&G Tom Poth 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)
- Anchorage (5/1 to 9/15)
- Forest Service cabin (6/1 to 9/15)
- Lodge (6/1 to 9/15)
- Special use destination

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

7HH
Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of lnipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.
AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359
FIELD SHORELINE COMMENT SHEET

SEGMENT ST V801 SUBDIVISION: A (ENTIRE SEGMENT) DATE 4/26/9

USCG NAME Jerry Scholtz SIGNATURE Jerry Scholtz

[ ] NO TREATMENT RECOMMENDED [ ] TREATMENT SUGGESTED

COMMENTS

ADEC NAME Mike Ebel SIGNATURE Michael Ebel

[ ] NO TREATMENT RECOMMENDED [ ] TREATMENT SUGGESTED

COMMENTS

Y8-O1-A: Very light oiling found here, the majority of which was found near the north end of segment along a pebbly beach. Outside of the few spots of stain and debris elsewhere found in segments (very infrequent), the floating bands that contained tarballs, patties and pooled mousse type oil were either collected or broken up (before degraded enough). One lone tar patty was found 5m from a stream (possibly groundwater). No subsurface oil seen in any of the 12 test pits. No further repair recommended.

LAND MANAGER NAME Mike Tetreau NPS SIGNATURE

[ ] NO TREATMENT RECOMMENDED [ ] TREATMENT SUGGESTED

COMMENTS

Good survey. The bayhead looks surprisingly clean compared to what was there last year. The few patties and tarballs we found were scattered/broke up. Other patties and tarballs may have been missed, but there is not enough to warrant any treatment.

63/63
SHORELINE OILING SUMMARY

SURFACE OIL

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

PAVEMENT H F S S/M/D/L G | | |
PATTIES / TARBALLS | | |
NEAR SHORE SHEEN | NO |
OILED DEBRIS | | |
AMOUNT | | |
DID YOU COLLECT DEBRIS? | YES |
TYPE | |
Photographs: | None |
Roi: No | None |
Frames |

SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>AN A SHEEN (Y/N)</th>
<th>SURFA SUBSURF SEDIMENT</th>
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COMMENTS: Segment consists of large bay surrounded by pebble beaches; several amusement streams within segment. Very light oiling to no observed oiling throughout segment. Occasional coat-stain or tarball/patty. All sides no oil observed in pits.

REVIEWED | 4/27/92 |
DATE | 5/10/92 |
### Subsurface Oil (Continued)

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

**Comments**

**Reviewed:** [Signature]  **Date:** 4/27/80
--------------------

Map Key: KEN-132b
Name: P. J. Siegel
Date: 4/14/82

Data Entered: 1
SHORELINE ECOLOGICAL SUMMARY (Page 1 of 3)  
Segment ST / YB-1  Subdivision _________ A _________ Date (mo/day/yr) 4/28/90  
Time (24 hr) / 1990-2000 Biologist ___________ S. H. A. N. M.  
(A) Substrate type and % of segments:  
(1) Bedrock __ (2) Boulder __ (3) Cobble __ (4) Pebble __ (5) Sand __ (6) Silt __  
(B) Overall % cover of biota (% of segment): Dense __ 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)  

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<th>BARNACLES</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
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<th>Sparse</th>
<th>Rare</th>
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<th>GASTROPODS (ANACNA, LITTORINA, EUCAP)</th>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Wildlife Observations/General Comments: 20 pairs barnacle collision, 10 barnacle  
after 5 pairs harpignathous, 5 pairs surf  
after 5 pairs harpignathous. 5 pairs clam, 1 pair common  
periwinkle, 4 pairs common in sand, 3 pairs in front edge, varied  
thermals in surf, min. 1000 feet in expected spot.  
Interidal  
range of shell cover, evidence of sand substrate in SHREUUN.  

Ecological Considerations:  
We receive no information regarding previously identified resource  
sensitivity for this segment. However, some information about the  
strain was gleaned from a recent NPS report by Alexandra  
Milner. Please see attached map. As always, resource selection  
communities are fairly sensitive to physical disturbance. This  
segment cannot benefit directly from further human intrusion.
General Comments (cont.):

Locally dense Exuvia on ledrock cliffs, platforms, + giant boulders. Edginess in ledrock tidpools. As in NC-1 the LTZ of the ledrock/large boulder habitat is very rich and productive (please refer to the section of that segment summary). Although few actual barnacles exist are present, there are very abundant newly settled cyprid larvae, again as in NC-1. Where Exuvia and barnacles are established, there appears to be satisfactory recruitment. Similarly, batters and limpets are recruiting well, especially on the more stable substrates (ledrock, giant boulders). There are Macoma shells (and some terebratulids spp.) on the cobbles/pebble stshingle breche, and there is discontinuous with sparse edgewise point offshore in the shallow subtidal. The large bayrock fine-grained beach appears to have (literally) withstood last summer's intense manual treatment quite well.
showing anadromous streams.
Southern stream via catalogue AD 410.
Both are often desiccated, but at least the lower S. stream produces some pike & chum fry (or, rather, these fry have been collected from the eelgrass bed at its mouth). Pikes have been observed spawning in the stream & intermittently at the mouth.
Legend:

- XXXX Wide
- /// Medium
- ---- Narrow
- TTTT Very Light
- NN No Oil

YB-1

ADEC Segment Length: 2678m

Map Key: KEN-132c
Name: [Signature]
Date: 4/25/90
Date Entered:
SHORELINE EVALUATION

SEGMENT ST/ YE-01 SUBDIVISION A (1 OF 1) DATE 4/26/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
ADF&G anadromous stream no. 232-22-10190 (Ps, 2/90)
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
1J Purse seine area (7/10 to 8/20)
2M Herring spawning (4/1 to 6/15)
4LL National Parks
6U Recreation: Tent sites (6/1 to 9/15)
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: [Signature] DATE: 5/9/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 466 m: No Oil 2212 m
Subsurface Oil Observed: Yes No Maximum Depth

RECOMMENDATIONS:

X No Treatment Recommended
_Treatment Recommended
_Manual Pickup
_Bioremediation
_Tarmat Removal

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 5/11/90
ADEC [Signature] DATE: 5/12/90
EXXON [Signature] FOSC: [Signature] DATE: 5-12-90
NOAA [Signature] USCG [Signature]
XXXX Wide
//// Medium
----- Narrow
TTTT Very Light
0000 No Oil

YB-1

Map Key: KEN-132A
Name: B.L. liley
Date: 4/11/80
Data Entered: 5263
Southernly stream via Catalogued ADFs at beyond.

Both are often deeneralized, but at least the deep.

S. stream produces some pink & brown fry (or, rather, these fry have been collected from the seagrass bed at its mouth). Pinkies have been observed spawning in the stream & intermittently at the mouth.
XXXX Wid e
/// Medium
---- Narrow
TTTT Very Light
0000 No Oil

A

Map Key: KEN-132c
Name: Rudy Siegel
Date: 4/25/90
Data Entered:

XXX X W id e
/// Medium
---- Narrow
TTTT Very Light
0000 No Oil

A

Map Key: KEN-132c
Name: Rudy Siegel
Date: 4/25/90
Data Entered:
REGION: KENAI

SEGMENT: ST/YB-02

SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION

SEGMENT ST/ YB-02 SUBDIVISION A (1 of 1) DATE 4/26/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Uncataloged and not seen in field scat
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
1J Purse seine area (7/10 to 8/20)
2M Herring spawning (4/1 to 6/15)
4LL National Parks
6U Recreation: Tent sites (6/1 to 8/15)
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: ______________________ DATE: ______________________

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 47 m: No Oil 4715 m
Subsurface Oil Observed: Yes___ No X___ Maximum Depth________

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

COMMENTS: ____________________________________________________________

___________________________
___________________________

TAG COMMENTS: ______________________________________________________

___________________________

TAG APPROVAL DATE: __________

ADEC _______________________

EXXON _______________________

NOAA _______________________

USCG _______________________

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

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

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

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

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

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

2M
Harbor seal and sea lion pupping (5/15 to 7/1)
Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 600m 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

3C, SQ
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 (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)
  Anchorage (6/1 to 9/15)
  Forest Service cabins (8/1 to 9/15)
  Lodge (6/1 to 9/15)
  Special use destination
  Subsistence area: Salmon harvesting (5/1 to 9/30)
  Finfish harvesting
  Deer harvesting (8/15 to 2/28)
  Invertebrates harvesting
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 YB-02

SUBDIVISION: A (SEGMENT) DATE 4/26/9

USCG NAME Jerry Schultz SIGNATURE Jerry Schultz

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

ADEC NAME Mike Ebel SIGNATURE Michael J. Ebel

VAND MANAGER NAME Mike Tetreau- NPS SIGNATURE

COMMENTS

Did a limited survey of this segment by boat due to the past history of no oiling over most of this segment. We checked the area where oil was noted previously very carefully and found small areas of coat and a little pooled oil. This oil is well-hidden and does not appear to be recoverable. Further

38/63
SHORELINE OILING SUMMARY

OG: Randy Siegel  USCG  Jerry Schultze  SEGMENT STY: YR-2
BIO: Lewis Sharman  LAND REP: Mike Taffe  CSS: (CNS)  SUBDIVISION: A  (OF: 
EXXON: Leonard Mierst  ADEC: Mike Ebel  TIME: 14:51 OCT 05
TEAM NO: 12  TIDE LEVEL: 1.75'  1.75'  DATE: 10/25/90
EST: SUBDIVISION LENGTH: 1270'  3960'  Sun  Clouds  Fog  Rain  Snow
UPLANDS DESCRIPTION:  Grass  Forest  Rock
SURVEYED FROM:  Foot  Boat  Helo  WORKING DIRECTION: SW to NE
SURFACE SEDIMENTS:  R  70%  B  20%  C  8%  P  2%  G  0%  S  0%  M  0%  V  0%
SLOPE:  Lang  15%  Hang  0%  Ven  25%  WAVE EXPOSURE:  Low  Med  High
OIL CATEGORY LENGTH:  W  P  M  Q  N  V  L  75'  m  NO  3965

SURFACE OIL

<table>
<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OIL / FILM COLOR</th>
<th>IMPACTED ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt Pavement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pooled</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cover</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coat</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mousse</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patties</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tarballs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Film</td>
<td>X</td>
<td>X</td>
<td>X</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
PATTIES / TARBALLS O BA:
NEAR SHORE SHEEN? NO BR RW SL T

OILED DEBRIS AMOUNT

Did you collect debris? YES  NO
Type

Photographs: None

Ro: No ---
Frames: ---

SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED DEBRIS (cm)</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANA SHEEN (cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20</td>
<td>X</td>
<td>0.0</td>
<td>X</td>
<td>X</td>
<td>-</td>
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</tr>
<tr>
<td>3</td>
<td>20</td>
<td>X</td>
<td>0.0</td>
<td>X</td>
<td>X</td>
<td>-</td>
</tr>
</tbody>
</table>

COMMENTS: Most of segment consisted of triangle or vertical bedrock cliffs.
Segment length is about 7 miles, oiling previously reported along one short stretch of shoreline. Therefore, we surveyed most of segment by boat, until reaching the portion whereoiling was reported previously. The remainder of the segment where no oiling was observed previously was not surveyed due to tidal window and history of no oiling.

Reviewed dated 10/23/90
Map Key: KEN-133a
Name: RE SIEG
Date: 4/26/90

Pool oil (<=1%) behind sheltered bedrock outcrop and builders within 24 m x 24 m area, 50 metres north of a band of cTB 0.5 x 0.5 m high on east side, cTB buried underwater.

Bedrock cliff surveyed by boat, no oiling observed.

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

ADEC Segment Length: 10792 m

Eagle Nest

NOTES

No oil observed.
NOT surveyed
No oil previously observed
by ADEC in 9/10/89
**SHORELINE ECOLOGICAL SUMMARY**

- **Segment:** ST1
- **Subdivision:** YB-2
- **Biologist:** SHARMAN
- **Date:** 4/23/90
- **Time:** 2:00-2:10

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

<table>
<thead>
<tr>
<th>Type</th>
<th>1U</th>
<th>1M</th>
<th>1L</th>
<th>2U</th>
<th>2M</th>
<th>2L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bedrock</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Boulder</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Cobble</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Pebble</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Sand</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

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

- **Dense**
- **Moderate**
- **Sparse**
- **Low**

### (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>
</tr>
</thead>
<tbody>
<tr>
<td>Barnacles</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mytilus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gastropods</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fucus</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Wildlife Observations/General Comments

- 15 pairs harbor seal, 1 pair common murre, 1 pair black guillemot, 1 rafting sanderling, 3 coves, 6 grasshopper crabs, 1 oyster. The segment is quite similar to NC-1 (refer to detail in NC-1 segment report). (Continued at end of report.)

### Ecological Considerations

We received no information regarding previously identified resource sensitivities for this segment. We observed one possibly inactive bald eagle nest (see attached map). No apparent anachronistic stream/principal haulout etc. Sea caves and anchor were single nest location may soon become common marine habitat. As in YB-2, gelidian areas are quite valuable and also fairly sensitive.
General Comments (cont.):

Recruitment among established adults; this applies also to
juvenile. Barnacle recruitment is presently still in the form of
newly arrived cyprids. Excellent spat development should
follow shortly. Some sparse areas of edgeweed in shallow
nearshore subtidal sections.

Ecological Considerations (cont.):

from further human radiation/extremism.
Eco. Map showing angle next, presently inactive.

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

Map Key: KEH-133o
Name: 
Date: 
Date Entered:
ADEC Segment Length: 10792m
End of YB-2

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

Map Key: KEH-133b
Name: [signature]
Date: 4/26/90
Data Entered:
SHORELINE EVALUATION

SEGMENT ST/ YB-02 SUBDIVISION A (1 OF 1) DATE 4/26/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
Uncatalogued and not seen in field scat
1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
1J Purse seine area (7/10 to 8/20)
2M Herring spawning (4/1 to 6/15)
4LL National Parks
6U Recreation: Tent sites (6/1 to 8/15)
See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: [Signature] DATE: 5/8/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 47 m: No Oil 4715 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: 5/8/90

ADEC Art Waterman DATE: 5/12/90
EXXON Art Waterman
NOAA
USCG

FOSC: [Signature]
YB-2

ADEC Segment Length: 10732m

---Narrow---

NOT surveyed
No oil previously observed by ADEC in 9/10/89
Eco. Map showing angle neat, presently inactive.
YB-2

ADEC Segment Length: 10792m

Map Key: KEN-133a
Name: L.B. Diegel
Date: 4/26/90

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

Map: YB-1
Not 3:1

Notations:

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

Scale: 1:300, 1:1000, 1:3000
REGION: KENAI

SEGMENT: ST/YB-05

SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION

SEGMENT ST/____YB-05____ SUBDIVISION A (1 OF 1) DATE 4/29/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
1J Purse seine area (7/10 to 8/20)
2M Herring spawning (4/1 to 6/15)
4LL National Parks
6U Recreation: Tent sites (6/1 to 9/15)

See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE:________________________ DATE:________________________

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 7442 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

COMMENTS:

___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________

TAG COMMENTS:
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________

TAG APPROVAL DATE:__________

ADEC ___________________________ FOSC: __________ DATE:__________
EXXON ___________________________ NOAA ___________________________
USCG ___________________________
PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

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

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

Il Gill net area (6/7 to 8/31)
No set net sites (6/11 to 7/25)
Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or lnipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
AGENCY CONTACT PERSON: ADF&G James Brady 424-3212

1J Purse seine area (7/20 to 9/30)
1K Purse seine hook-off (7/20 to 9/30)
1L Set net sites (6/11 to 7/25)
Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or lnipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235

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

3V, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
3Q Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of 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 (5/1 to 9/1)
Restrict air and boat traffic to essential minimum. No personnel within 600m. 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 Rothly 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

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

7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
7HH Finfish harvesting
7HH Door harvesting (8/15 to 2/28)
7J Invertebrate harvesting

Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of lnipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.
AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359
FIELD SHORELINE COMMENT SHEET

SEGMENT ST / YB5   SUBDIVISION: A (SEGMENT) DATE 4/27/90

USCG  NAME JERRY SCHULTZ SIGNATURE Jerry Schultz

☑️ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

YB-5-A: Most of area surveyed by boat; inspected areas indicating oil from the 1989 ADEC maps (none was found). No treatment necessary.

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Good survey, no oil observed.

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

12/12
### SHORELINE OILING SUMMARY

**OG** | Party: Stegel | USCG | Jerry Schultz **SEGMENT ST:** YB-S

**BIO** | Lewis | Simons | LAND REP | Mike | Takawa | **CUPS** | SUBDIVISION A (10F1)

**EXXON** | Leonard | Harb | ADEC | Mike | Ebel | **TIME:** 09/10/90 08:20

**TEAM NO.** | 12 | **TIDE LEVEL:** | 3-17 | **A-D** | DATE | 09/14/90

**EST SUBDIVISION LENGTH:** | 7649 m | | Sun. | | Clouds | | Fog | | Rain | | Snow 42° 23' 00" 20' 00" 00' 00"

**UPLANDS DESCRIPTION:** | | Grass | | Forest | | Rock

**SURVEYED FROM:** | | Foot | | Boat | | Helo | **WORKING DIRECTION:** W to S

**SURFACE SEDIMENTS:** | R 75 % | B 15 % | C 5 % | P 2 % | G 2 % | S 1 % | M 1 % | V 1 %

**SLOPE:** | Lang 5 % | Hang 95 % | Vert 5 % | **WAVE EXPOSURE:** | Low | Med | High

**OIL CATEGORY LENGTH:** | W 0 m | M 0 m | N 0 m | VL 0 m | NO 7649 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>
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<tr>
<td>POOLED</td>
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<tr>
<td>TARBALLS</td>
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<td>FILM</td>
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</table>

### PAVEMENT

- H F S % sq. m by % c

### PATTIES / TARBALLS

- % BAGS

### NEAR SHORE SHEEN?

- BR RW SL TL

### OILED DEBRIS

<table>
<thead>
<tr>
<th>AMOUNT</th>
<th>SM</th>
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<th>LG</th>
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<tr>
<td>Vegetation</td>
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<tr>
<td>Trash</td>
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<tr>
<td>Debris</td>
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</tbody>
</table>

### DID YOU COLLECT DEBRIS?

- YES | NO

### TYPE

-

### Photographs:

- None

### Roll No.

- None

### Frames

- None

### 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>IMPACTED ZONES</th>
<th>PIT ZONE</th>
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<td>x</td>
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</tbody>
</table>

### COMMENTS

Long segment consisting largely of hi-angle cliff faces and occasional pocket beaches. No oiling at all was observed in this segment. All pits were oiled. Most of segment surveyed from boat with occasional stops on beach.

**2/12**

**REVIEWED:** [Signature] | **DATE:** 4-29-90
### SHORELINE OILING SUMMARY (PAGE 2)

**SEGMENT ST: 28-5, SUBDIVISION: A (2 OF 2)**

#### SUBSURFACE OIL (CONTINUED)

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL (cm)</th>
<th>BELOW</th>
<th>OIL/FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANA SHEEN (Y/N)</th>
<th>SURFACE SUBSURFA SEDIMENT</th>
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**COMMENTS**

**REVIEWED: [Signature]**  **DATE: 4-27-70**

[Signature]  

**3/12**
SKETCH MAP

Approximate scale
400 metres

LEGEND

1 •
- Pit - No Subsurface Oil

2 •
- Pit - Subsurface Oil

Continuous Distribution
Broken Distribution
Patchy Distribution
Spleat Distribution

Oiled Vegetation

Photo location, direction, and number

Oil Character Length (m): AP PO CV CT ST MS PT TB FL NO 7694
SHORELINE ECOLOGICAL SUMMARY (Page 1 of 3)

Segment ST 1 YD-5  Subdivision A Date (mo/day/yr) 4/22/70

Time (24 hr) 0700-0900  Biologist SHARMAN

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

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

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

Wildlife Observations/General Comments:
   40 pairs glaucus-winged gulls, 1 pair hoots, 1 murrelet, 3 cormorants, 1 osprey, 15 pairs harlequin ducks, 6 pairs pigeon
guillemots, 3 pairs eider-crested auklet, 4 pairs Barrow's goldeneye, 3 ravens, 10 crows, 3 harlequin ducks, 5 pairs common merganser, 4 tufted ducks, 1 pair
   eiders, barnacle geese, 1 pair cormorants, 6 on drift at 3 end of segment; 1 sea lion, 1 stellar; (cont.)

Ecological Considerations:
   We received no information regarding previous land use or activities for this segment. See the attached floor map for location of
   a recently active saline well, and a stream identified by ADFG map as anadromous (but not ADFG #2). I suspect that if the stream is
   indeed anadromous it produces fish numbers in the 10's. Biologically, this area is clearly unimproved, less dense and productive. Also, it is sheltered,
   further human interaction cannot in any way benefit this area.

8/12
General Comments (cont.):

1 mink + 1 river otter in intertidal zone; abundant river otter tracks in UTH sand of pocket beaches, mouse tracks in UTH sand of one beach. Good stands of last year's temperate off rocky points. Extremely productive and diverse intertidal zone. The site (a very small along this coast) evidently untouched during the '64 earthquake (dead trees along beach fringes). The occasional black sand beaches are quite barren, as would be expected, but they are bound all by very thickly colonized boulder/sediment substrates. The great majority of this segment is composed of exceedingly productive boulder/sediment intertidal communities. The ecological data form quite entirely the wrong impression re. the abundance and diversity of the intertidal biota. The LTE in particular is certainly among the most diverse and productive in the world. A list of species is essentially an exercise (and a long one at that) - quick reference to the section in the summary for WC-1 may be helpful.
SHORELINE EVALUATION

SEGMENT ST/ ___YB-05___ SUBDIVISION A (1 OF 1) DATE 4/29/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1A  Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B  Salmon stream mouth - spawning (7/10 to 8/31)
1J  Purse seine area (7/10 to 8/20)
2M  Herring spawning (4/1 to 6/15)
4LL National Parks
6U  Recreation: Tent sites (6/1 to 9/15)

See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: __________________________ DATE: 5/8/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 7442 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: 5/15/90

ADEC  Art Wente  Art Wente  FOSC: ______________ DATE: 5/15/90

EXXON  ____________________________

NOAA  Gary Peterson  Gary Peterson

USCG  C.A. Reed  C.A. Reed
Map Key: KEN-YB-50
Name: [Handwritten]
Date: 5/27/80
REGION: KENAI

SEGMENT: ST/YG-02

SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION

SEGMENT ST/ YG-02 SUBDIVISION A (1 OF 1) DATE 4/28/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
4GG Alaska State Parks

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

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

SHPO SIGNATURE: ______________________ DATE: ______________________

OILING CATEGORIZATION:
Wide 147 m: Medium 470 m: Narrow 0 m: V.Light 568 m: No Oil 985 m
Subsurface Oil Observed: Yes X No ___ Maximum Depth 7 cm

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

COMMENTS: Recommended treatment includes 1) manual pickup of mousse patties 2) removal of tarmat, 3) bioremediate areas shown on attached sketch maps. No specific ecological time constraints identified.

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

TAG APPROVAL DATE:_________
ADEC EXXON NOAA USCG
FOSC: ____________ DATE: ________
Salmon stream mouth - fry outmigration (3/1 to 5/15)
Salmon stream mouth - spawning (7/10 to 8/31)

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

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

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

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

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

Esther Hatchery release (4/15 to 6/15)
Main Bay Hatchery release (4/20 to 6/15)
Seawmill Bay Hatchery release (4/15 to 6/1)
Cannery Creek Hatchery release (4/21 to 6/1)

Remote release site

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

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

1D Gill net area (6/7 to 8/31)
1J Purse seine area (7/20 to 9/30)
1K Purse seine hook-off (7/20 to 9/30)
1L Set net sites (6/11 to 7/25)

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

AGENCY CONTACT PERSON: ADF&G James Brady 424-3212

Herring spawning (4/1 to 6/15)

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

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

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

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

Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of 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: USFWS Jill Parker 788-3377

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 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 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

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

Deer harvesting (9/15 to 2/20)
Invertebrate harvesting

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

AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2350
SEGMENT ST 96-002  SUBDIVISION:  A  DATE  9/25/94

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

Comments not available at this time.

will be faxed later.
SEGMENT ST/ YG - 2

SUBDIVISION: __________________________ DATE 29 April 1992

NAME: Miles O. Hayes

SIGNATURE: ____________________________

[ ] NO TREATMENT RECOMMENDED

[ ] TREATMENT SUGGESTED

COMMENTS

The asphalt pavement over 800m long was
the largest accumulation that our team viewed. Cleanup is
necessary by one of these methods:

1) Break up into smaller particles and allow wave-reworking.
3) Apply a new method of rock washing, whereby the rock

sediment is returned to the beach.

ADEC

NAME: __________________________

SIGNATURE: ____________________________

[ ] NO TREATMENT RECOMMENDED

[ ] TREATMENT SUGGESTED

COMMENTS

LAND MANAGER

NAME: __________________________

SIGNATURE: ____________________________

[ ] NO TREATMENT RECOMMENDED

[ ] TREATMENT SUGGESTED

COMMENTS
FIELD SHORELINE COMMENT SHEET

SEGMENT ST  YG-002  SUBDIVISION:  A  DATE  4/29/90

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

LAND MANAGER
NAME  SHARIE METHVEN-TONEY  SIGNATURE  SHARIE METHVEN-TONEY

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS

Yakutat Beach Segment YG-002 is within Kachemak Bay State Wilderness
Park. The area has high wilderness values and wildlife values. The area is
heavily used by commercial fishermen and pleasure boaters. We recommend manual
cleanup of the asphalt oil and mousse patties in this segment. The Cencla Study
will need to be removed when the project is completed. The Exxon ASI stack
will need removed when the project is completed.
### SHORELINE OILING SUMMARY

**OG** N. BICLAIR USCG (NOAA) MILES HAYES SEGMENT STI TG-002

**BIO** D. ROGEE LAND REP SHERRI MERT-VAUGHN SUBDIVISION A (10F1)

**EXXON** J. DEAN ADEC RUSSEL KUNDE TIME 8:00 10/13/90

**TEAM NO.** 17 TIDE LEVEL +3 +2 +1 +0 +1 +2 +3 DATE 4/12/90

**EST. SUBDIVISION LENGTH:** 1841 m

- Sun
- Clouds
- Fog
- Rain
- Snow

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

**WORKING DIRECTION:**
- Middle to End Words

**SURFACE SEDIMENTS:**
- R 0
- B 5
- S 35
- C 35
- P 30
- G 30
- S 0
- M 0
- V 0
- O 0

**SLOPE:**
- Long 100%
- Hang 0%
- Vert 0%

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

**OIL CATEGORY LENGTH:**
- W 160 m
- M 450 m
- N 750 m

#### SURFACE OIL

<table>
<thead>
<tr>
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**PAVEMENT** H F @ 3800 sq. m by 7 cm

**PATTIES / TARBALLS** 40,000 BAGS

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

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

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

**TYPE** __

**Photographs:**
- Roll No. 5
- Frames 2105

#### SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL (cm)</th>
<th>BELOW</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>AN A SHEEN (y/n)</th>
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**COMMENTS**

The heaviest impacted area of this segment is covered by an asphaltic pavement. The largest area of pavement is about 35 m (115 ft) wide and 150 m (500 ft) long. The remainder of continuous pavement is 1 to 3 m wide (the "sidewalk"). The area of the asphalt extends another 175 m to the E, and 450 m to the W. Random patches of asphalt and similar patches can be found up to 1 km from the nearest storm drains. Therefore, the sketch map shows a "general limit" of these occurrences. The asphalt is 5 to 10 cm thick. In the section 3, some occurrences occurred. The section is reviewed dated May 90.
SHORELINE OILING SUMMARY (PAGE 2)
SEGMENT ST: VG-002  SUBDIVISION: A  (  OF 1)

SUBSURFACE OIL (CONTINUED)

<table>
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<tr>
<th>PIT NO</th>
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<th>OILED INTERVAL</th>
<th>BELOW</th>
<th>OIL / FILM COLOR</th>
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<th>ANALYTICAL</th>
<th>SHEEN (mL)</th>
<th>SURFACE SEDIMENTS</th>
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COMMENTS
The asphalt is being broken and moved away by wave action. The asphalt has a firm outer surface, but is soft, flaky, and glossy underneath. It separates into three areas: development of a brown, gaseous character around obstacles, usually three to five feet beneath the surface. Outsides the asphalt area, obstacles commonly exhibit oil slicks in the wake of the waves.

The ADEC maps show an asphaltic pavement in the western storm of the area. We saw no surface evidence of this.

The beach is very broad and low angle, and subject to low dunes. The area, and its predominately e.g. Boulder (up to 1 ft diameter), seems to be the E. side.

The part of the area along the coastline toward the E. and west was not surveyed. In calculating the length of the character (see sketch maps), the length of Pit represents a generalization of random occurrences along the length of the track.

REVIEWED: [signature]
DATE: May 92
SUBDIVISION
DATE 4/1/88/90

CHECKLIST
- N Arrow
- Approx. Scale
- Seep/Sub. Boundary
- Oil Dist.
- Width
- Length
- % Cover
- Substrate Character
- Ext. HW/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
Oil Vegetation

Photo location, direction, and number

Oil Character Length (m): AP, 515 PO - CV - CT - ST - MS - PT 516 TB - FL - NO 750

150m to bank of stream at E. end of segment
SHORELINE ECOLOGICAL SUMMARY

Segment ST / UC 002 Subdivision A Date (mo/day/yr) 4/23/70

Time (24 hr) 8:00 Biologist DANIEL RAIDER

(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 10 Low 70

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

Photographs:
Roll No. 5
Frames 1-5

BARNACLES

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Wildlife Observations/ General Comments:

Harbor Seal - 1

Dense adult & adults bed and dense 6/2 with algae

Provisioned sites in 11/5 to be sent at a later date

Ecological Considerations:

- 4/06
ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT YG-2 SUBDIVISION A (1 of 1)

WORK WINDOW

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<tr>
<td>Bioremediation</td>
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<td>Mechanical Removal</td>
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ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

No ecological time constraints.

OTHER ECOLOGICAL CONSIDERATIONS

Avoid any unnecessary disturbance or damage to unooled biota and substrate. Avoid damage to dense mussel bed.

TAG APPROVAL DATE 6/04/20
ADEC Key Markets
EXXON Andy Gas
NOAA Jason Wilks
USCG

Prepared By: Andrew McG
Date 6/3/10
ECOLOGY MAP
SEGMENT YG-2
SUBDIVISION A (1 of 1)

- YG-2
- YG-1
- YG-3

- Seabird Colony
- Eagle Nest
SHORELINE EVALUATION
SEGMENT ST/ YG-02 SUBDIVISION A (1 OF 1) DATE 4/28/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
4GG Alaska State Parks

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: Michael Antoquity, DATE: 5/15/90

OILING CATEGORIZATION:
Wide 147 m; Medium 470 m; Narrow 0 m; V.Light 568 m; No Oil 985 m
Subsurface Oil Observed: Yes X No____ Maximum Depth 7 cm

RECOMMENDATIONS:
____ No Treatment Recommended
____ Snare/Absorbent Booms
X 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 2) removal of tarmat, 3) bioremediate areas shown on attached sketch maps. No specific ecological time constraints identified. See Action Plan dated 6/3/90/91

TAG COMMENTS: MECHANICAL REMOVAL OF ASPHALT PATTIES IS
RECOMMENDED

TAG APPROVAL DATE: 5/15/90
ADEC Exxon [Signature]
NOAA [Signature] FOSC: DATE: 5-20-90
USCG [Signature] Notify State DNR 24 hrs in advance of work.
SHORELINE EVALUATION
SEGMENT ST/ YG-02 SUBDIVISION A (1 OF 1) DATE 4/28/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
4GG Alaska State Parks

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: Michael A. Weiss DATE: 5/15/90

OILING CATEGORIZATION:
Wide 147 m: Medium 470 m: Narrow 0 m: V.Light 568 m: No Oil 985 m
Subsurface Oil Observed: Yes X No Maximum Depth 7 cm

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

COMMENTS: Recommended treatment includes 1) manual pickup of mousse patties 2) removal of tarmat, 3) bioremediate areas shown on attached sketch maps. No specific ecological time constraints identified.

TAG COMMENTS: MECHANICAL REMOVAL OF ASPHALT PATCHES IS RECOMMENDED

TAG APPROVAL DATE: 5/15/90
ADEC Exxon NOAA USCG
DATE: 5-20-90
SKETCH MAP

LEGEND

1 ▲
PI - No Subsurface Oil

2 ▲
PI - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/P
Patchy Distribution

CT/V
Splashed Distribution

LEGEND

Oil Character Length (m): AP 515 PO - CV - CT - ST - MS - PT 516 TB - FL - NO 750
1991 MAYSAP EVALUATION

SEGMENT: YG 002  SUB:  A  REGION:  KEN  SURVEY DATE:  5/17/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s)  OPEN

Ecological/Constraints (see page two for details)  NONE

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

SHPO Signature: ___________________________ Date: __________________

RECOMMENDATIONS:

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

COMMENTS:

INITIAL: ____________________________________________________

TAG: ________________________________________________________

FOSC:----------------~----------------------------------------

TAG APPROVAL DATE: __________   FOSC APPROVAL DATE: __________

ADEC  ______________________  FOSC  ______________________

EXXON  ______________________

USCG  ______________________

NOAA  ______________________
ADEC

Clara S. Crooks
SIGNATURE: Clara S. Crooks

Manual removal by AP - using Proven's shovel. Surface asphalt/hoke is accessible & easily removed. Survey crew attempted to recover AP throughout seg. but the area was too good-large for time allotted. Area picked up were satisfactory -on SW end.

EXXON

George P. Stokes
SIGNATURE: George P. Stokes 5/7/91

Very weathered AP was found on this long, wide break segment with no subsurface oiling. The survey crew picked up 1 bag from the western end of the segment. Pickup was discontinued due to the amount still remaining.

ANDMANAGER

NAME: Jeff Johnson OF NDVE
SIGNATURE: [Signature]

Agree with comments of DEC & Exxon. Manual/pickup would be very beneficial. Segment is within Eau Claire City Park, and removal would be effective at reducing visual impact.

USCG/NOAA

NAME: [Signature]

[Signature]

Recommend manual treatment only from the point marked by tree. Going right on the O9's map, left of the line was picked up by veto crew. There is AP mainly as indicated by O8.
**MAYSAP SHORELINE OILING SUMMARY**

**DATE:** May 17, 1991

**TIME:** 06:45 to 10:30

**TIDE LEVEL:** 2.0 ft. to 2.5 ft. energy level:
- H
- M
- L

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

**TOTAL LENGTH SHORELINE SURVEYED:** 217 m

**NEAR SHORE SHEEN:**
- BR
- RB
- SL
- X

**EST. OIL CATEGORY LENGTH:**
- W m
- M m
- N m
- V ml
- 370 m
- NO
- US
- m

**LOCATION**

<table>
<thead>
<tr>
<th></th>
<th>SURFACE OIL CHARACTER</th>
<th>SURFACE SEDIMENT TYPE</th>
<th>SUBDIVISION</th>
<th>SEGMENT</th>
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**SURFACE OIL CHARACTER**

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<th>AP</th>
<th>MS</th>
<th>TB</th>
<th>SR</th>
<th>CV</th>
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<th>ST</th>
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**SURFACE SEDIMENT TYPE**

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<th>L E N G T H</th>
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<th>N O T E S</th>
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<tr>
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**SUBSURFACE OIL CHARACTER**

<table>
<thead>
<tr>
<th>PIT</th>
<th>PIT</th>
<th>NO. DEPTH</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN</th>
<th>H2O</th>
<th>SHEEN COLOR</th>
<th>PIT ZONE</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>(cm)</td>
<td></td>
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</table>

**SUBSURFACE SEDIMENTS**

<table>
<thead>
<tr>
<th>SHEEN COLOR</th>
<th>B = BROWN</th>
<th>R = RAINBOW</th>
<th>S = SILVER</th>
<th>N = NONE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**OG COMMENTS:**

Long with bead of oil and very low slope. The oil occurring was toward end of the western side of the area. It was picked up in three main areas of very dispersed parts of the area. No indication on the map. Adjacent segments 46-001 and 46-003 were also surveyed and found to be free of oil.
Oiled Site Comments

Oil at this region is confined to the upper intertidal zone where patches of asphalt or HSOR are present in the beach cobbles and pebbles. In some areas, filamentous green algae, small patches of black lichens, littorine snails and oligochaete worms are the most common organisms at the location and are often on or very near the oiled sediments. A few mussels and barnacles also are found near the oiled (and unoiled) sediments, but are quite rare at this tidal level.

Oil (AP patches) found along the eastern portion of the segment often had little biota in the vicinity of the oil, other than filamentous green algae and a few littorine snails. The lack of littorine snails may be due to natural variation and patchiness of the beach fauna, or may have been related to the removal of the surface sediments during clean up activities last year. Littorine snails graze filamentous algae from the cobbles, and under the present low densities, growth by green algae appear to have covered the cobbles. These grazers are generally able to recover rapidly from such disturbances. Scattered individuals are now present in the cobbles and should soon increase in numbers.

No other biota are found near (within 10 m) of the oiled sediments. Beach grass and eskimo grass are found in clumps to dense stands in the higher and supratidal zone. Lower on the beach, barnacles, Fucus, red and brown algae, and mussels are densely abundant in distinct patches (see zonation below). No oiled sediments were found in the vicinity of these assemblages.

(continued)
YG002 Biology Summary, continued

Manual removal of some (most?) AP was performed during the survey. Additional removal will not harm the biota at this beach, unless the low zone mussel and clam beds are disturbed. These beds are a considerable distance from the oiled site and should not interfere with potential cleanup.

General Features of YG002-A

This subdivision encompasses a long wide beach of cobble, pebble, and sand, with several small streams. The beach previously had extensive asphalt pavement, of which most have been removed.

The beach has fairly distinct vertical zonation, from the drift logs in the storm berm to the dense brown algal beds in the shallow subtidal zone. A characterization of this zonation is presented below.

The major biological features of the beach are 1) the upper zone beach grass and eskimo grass zone, located below the storm berm, 2) the rockweed zone located in the middle zone and often following the contour of several streams entering the beach from the upland, 3) the mussel and clam bed in the middle to low zone, and 4) the red and brown algal beds of the low to subtidal zones. Each zone may be of importance to upland species or migrating birds. Bears forage in the intertidal zone (black bear tracks were found) and river and sea otters (3 observed offshore) also forage in the mussels and clam beds. Migratory waterfowl and shorebirds utilize this beach heavily, as indicated by the nearly 800 birds from 25 species that were observed during this survey. One or more streams are anadromous streams.

Intertidal Zonation Pattern on YG002

<table>
<thead>
<tr>
<th>Biota:</th>
<th>Tide Level</th>
<th>Supratidal</th>
<th>Upper</th>
<th>Middle</th>
<th>Low</th>
<th>Subtidal</th>
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</thead>
<tbody>
<tr>
<td>Oil (AP)</td>
<td></td>
<td>-</td>
<td>-</td>
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</tr>
<tr>
<td>Beach Drift Line</td>
<td>-</td>
<td>-++-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Beach Grass (Elymus)</td>
<td>-</td>
<td>-+++-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Eskimo Grass (Honckenya ?)</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Black Lichen</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Bare Rock</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Filamentous Green Algae</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Rockweed (Fucus)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>++</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>Mussels (Mytilus)</td>
<td>-</td>
<td>-</td>
<td>+**</td>
<td>**</td>
<td>++</td>
<td>-</td>
</tr>
<tr>
<td>Clams</td>
<td>-</td>
<td>-</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>-</td>
</tr>
<tr>
<td>Barnacles (Balanus)</td>
<td>-</td>
<td>+</td>
<td>++</td>
<td>-</td>
<td>*</td>
<td>***</td>
</tr>
<tr>
<td>Bladelike Red Algae</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>*</td>
<td>***</td>
</tr>
<tr>
<td>Green Algae (Ulva/other)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>++</td>
</tr>
<tr>
<td>Upright Brown Algae (not Fucus)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+++</td>
</tr>
</tbody>
</table>

Legend: (-) Sparse to rare, (+) Moderate, (*) Abundant
YG002-A Biological Summary, continued

Common Species on YG002

A. Marine Plants
1. Diatoms, Blue Greens
2. Green Algae - Chlorophyta
   Enteromorpha sp., Ulva sp., Urospora sp.
3. Brown Algae - Phaeophyta
   Alaria marginata, Agarum fimbriatum, Costaria costata, Ectocarpus ssp.,
   Fucus distichus, Hildenbrandia sp., Laminaria groenlandica, L.
   saccharina,
4. Red Algae - Rhodophyta
   Endocladia muricata, Iridaea sp., Lithothamnion sp., Membranoptera
dimorpha, Odonthalia floccosa, Palmaria palmata, Petrocelis sp.,
   Porphyra sp.
5. Higher Plants - Leymus mollis (beach rye grass), Eskimos Grass (Honckeneya
   sp.?)

II. Marine Animals
1. Sponges - Porifera
2. Anenomes - Anthopleura artemesia, Epiactis ritteri
3. Hydroids - Sertulariidae, Aqlaophenia sp., Abietinaria sp.
4. Flatworms - Platyhelminthes - Polyclads
5. Nemertean Worms - Ribbon Worms - Emplectonema gracile
6. Polychaete Worms
   Glyceridae
   Nepthyidae
   Nereidae - Nereis ssp.
   Serpulidae - Serpula sp., Crucigera sp., Eudistylia polymorpha
   Spiorbidae - Spiorbis sp.
7. Peanut worms - Sipunculids - Phascolosoma agassizii
8. Crustaceans
   a. Amphipods - Orchestia sp.?
   b. Barnacles - Balanus glandula, Chthamalus dalli, Semibalanus cariosus
   c. Crabs - Acantholithodes hispidus, Haplogaster sp., Hemigrapsus
      oregonensis, Paguridae (hermit crabs), Oregonia gracilis,
      Pugettia sp.,
   d. Isopods - Cirdana harbordi, Idotea wosnesenskii, Gnornimorsphaeroma
      oregonensis
9. Mollusca
   a. Chitons - Mopalia sp., M. mucosa, Katharina tunicata, Tonicella
      lineata,
   b. Snails - Gastropods
      Amphissa columbiana, Fusitriton oregonensis, Lirularia sp.,
      Littorina sitkana, L. keenae, Natica clausa, Nucella lamellosa, N.
      lima, N. emarginata, Searlesia dira, Tachyrhynchus sp.
   c. Limpets - Lottia digitalis, L. persona, Tectura fenestrata, T.
      persona, T. scutum, Siphonaria thersites
   e. Bivalves - Clinocardium sp., C. nuttalli, Hiattella arctica, Macoma
      balthica, Macoma nasuta, Modiolus modiolus, Mya arenaria
      (soft-shell clam), Mytilus californianus, M. edulis,
      Pododesmus cepio, Prototheca staminea, Saxidomus giganteus,
12. Echinoderms
   a. Brittle Stars - Ophiolus aculeatus?, Ophiothrix spiculata?, Amphipholis?
   b. Sea stars - Dermasterias imbricata, Evasterias truscheli, Leptasterias hexactis, Pycnopodia helianthoides
   c. Sea Cucumbers - Holothurians - Eupentacta sp.
   d. Urchins - Strongylocentrotus droebachiensis


15. Fishes
    Cottidae
    Stichaeidae - Xiphister atropurpureus, X. mucosus

III. Birds
    Eagles - Bald Eagle (3)
    Seabirds - Common Loon (1), Marbled Murrelet (2), Red-faced cormorant (4)
    Waterfowl - Barrow's Goldeneye (5), Brandt (25), Bufflehead (10), Canada Goose (20), Common Merganser (10), Harlequin Duck (50), Mallard (20), Northern Shoveler (200), Green-winged Teal (100), Green-winged Teal (100)
    Gulls/Kittiwakes - Glaucous-winged Gull (10), Black-legged Kittiwake (5)
    Shorebirds - Greater Yellowlegs (4), Semi-palmated Plover (1), Short-billed Dowitcher (5), Least Sandpiper (20), Western Sandpiper (100)
    Corvids - Raven (1)
    Other Species - Peregrine Falcon (1), Tree Swallow (10)
Oiled Site Comments

No oiled sediments were observed on this segment.

General Features of YG001

This segment includes the eastern end of a long wide beach of cobble, pebbles, and sand. An anadramous stream is located on the segment. The beach has fairly distinct vertical zonation, from the storm berm to the dense brown algal beds in the shallow subtidal zone. A characterization of this zonation is presented below.

The major biological features of the beach are 1) the upper zone beach grass and eskimo grass zone, located below the storm berm, 2) the rockweed zone located in the middle zone and often following the contour of several streams entering the beach from the upland, 3) the mussel and clam bed in the middle to low zone, 4) the red and brown algal beds of the low to subtidal zones, and 5) the anadramous stream. Each feature is of some importance to upland species or migrating birds. Bears forage in the intertidal zone (black bear tracks were found) and river and sea otters (3 observed offshore) also forage in the mussels and clam beds. Migratory waterfowl and shorebirds utilize this beach heavily, as indicated by the nearly 800 birds from 25 species that were observed during this survey. The biological importance of the anadramous stream is obvious.

(continued)

WILDLIFE OBSERVATIONS - YG001, YG002, YG003 Completed on all subdivisions

<table>
<thead>
<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagles</td>
<td>1</td>
<td>2</td>
<td>SPECIES PRESENT</td>
</tr>
<tr>
<td>Seabirds</td>
<td>3</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td>10</td>
<td>640</td>
<td></td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td>2</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Shorebirds</td>
<td>6</td>
<td>130</td>
<td></td>
</tr>
<tr>
<td>Corvids</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Other Birds</td>
<td>2</td>
<td>11</td>
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<table>
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<th>MARINE MAMMALS</th>
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<th>SPECIES</th>
<th># OBSERVED</th>
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<tr>
<td>Sea Otters</td>
<td>3</td>
<td>Black Bear</td>
<td>Tracks</td>
</tr>
<tr>
<td>Pinnipeds (specify)</td>
<td>1</td>
<td>Sea Lion</td>
<td></td>
</tr>
<tr>
<td>Harbor Seal</td>
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</tbody>
</table>

Shoreline subdivision map showing important biological features attached.
An eagle nest is located at the eastern end of this segment, on a small island/outcrop in the beach. One adult eagle flew from the nest as we approached to within 100m, landing on a nearby tree. Another adult approached from the upland and landed nearby. We left the area immediately.

Intertidal Zonation Pattern on YG001

<table>
<thead>
<tr>
<th>Biotaz</th>
<th>Tide Level</th>
<th>Supratidal</th>
<th>Upper</th>
<th>Middle</th>
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<th>Subtidal</th>
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<tr>
<td>Beach Grass (Elymus)</td>
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<td>+</td>
<td>+++</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Eskimo Grass (Honckenya ?)</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Bare Rock</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Filamentous Green Algae</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Rockweed (Fucus)</td>
<td>-</td>
<td>+</td>
<td>**</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Mussels (Mytilus)</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Clams</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Barnacles (Balanus)</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Bladelike Red Algae</td>
<td>-</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>-</td>
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<td>-</td>
</tr>
</tbody>
</table>

Legend: (-) Sparse to rare, (+) Moderate, (#) Abundant
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 4  DATE/TIME May 17, 1991 0656 - 0730
SEGMENT # YG003  TIDAL HEIGHT (Range) +7.1 => +5.1
SUBDIVISION A  BIOLOGIST JIM BARRY
SEA STATE Calm  WIND SPEED/DIRECTION Calm, cloudy/rain

COMMENTS / OBSERVATIONS - OILED SUBDIVISIONS

Oil-Related Comments

A1 Very little oil was found along this subdivision. Small spots of HSOR were found and removed. Sparse littorine snails, black lichen, and a few barnacles were the only biota in the vicinity of the oil.

General Features of YG003

This subdivision is located at the western end of a long wide beach and includes a runoff stream. Small groups of salmonid fishes (ca 3 cm long) were scattered in the mouth of the stream. The beach is composed of cobble, pebble, and sand. The beach has fairly distinct zonation. Beach grass and drift are found in the very high zone and supratidal zone. The runoff stream has dense filamentous green and brown algae covering most rocks. Larger cobble in the middle zone has sparse to moderate cover of Fucus, with patchy, but occasionally dense, mussels and barnacles. Mussels for sparse beds in the middle zone with scattered clams in the sediment. Film-like green algae cover most of the cobble in the middle zone of the beach. Red and brown algae appear common in the low zone, but observations were limited by tidal height.

This beach, and the adjacent segments (YG001, YG002) appear to be important resources for bear, otters, and local and migrating birds. Many species of birds were observed on the segment. Otters were observed in the nearshore. Black bear tracks were present on the beach.

(continued)

WILDLIFE OBSERVATIONS - YG001, YG002, YG003 - Completed on all subdivisions

<table>
<thead>
<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED</th>
<th>SPECIES PRESENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagles</td>
<td>1</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seabirds</td>
<td>3</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td>10</td>
<td>640</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td>2</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shorebirds</td>
<td>6</td>
<td>130</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corvids</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Birds</td>
<td>2</td>
<td>11</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MARINE MAMMALS</th>
<th># OBSERVED</th>
<th>SPECIES</th>
<th># OBSERVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sea Otters</td>
<td>3</td>
<td>Black Bear</td>
<td>Tracks</td>
</tr>
<tr>
<td>Pinnipeds (specify)</td>
<td>1</td>
<td>Sea Lion</td>
<td></td>
</tr>
<tr>
<td></td>
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<td>3</td>
</tr>
<tr>
<td>Whales (specify)</td>
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</tr>
</tbody>
</table>

Shoreline subdivision map showing important biological features attached.
### Intertidal Zonation Pattern on YG003

<table>
<thead>
<tr>
<th>Biota</th>
<th>Tide Level</th>
<th>SupraTidal</th>
<th>Upper</th>
<th>Middle</th>
<th>Low</th>
<th>Subtidal</th>
</tr>
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<tbody>
<tr>
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</tr>
<tr>
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<tr>
<td>Beach Grass (Elymus)</td>
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<td>- + + **</td>
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Legend: (-) Sparse to rare, (+) Moderate, (*) Abundant
1991 MAYSAP EVALUATION

SEGMENT: YG 002  SUB: A  REGION: KEN  SURVEY DATE: 5/17/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s) OPEN

Ecological/Constraints (see page two for details)  NONE

ARCHAEOLOGICAL CONSTRAINTS:
Consultation and inspection with an Exxon archaeologist is required prior to treatment. Specific on-site monitoring requirements will be determined at that time. PHONE 564-3276; 564-3657; (Anchorage) or 229-1514 (24 hrs.).

RECOMMENDATIONS:

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

COMMENTS:
INITIAL:

TAG: MANUAL P/U OF AP AT LOCATIONS A1 + A3

TAG APPROVAL DATE: MAY 31 1991  FOSC APPROVAL DATE: 6/15/91

ADEC  EXXON  USCG  NOAA

FOSC  E. E. PAGE, CDR, U.S. CHIEF OF STAFF, FOSC
**MAYSAP SHORELINE OILING SUMMARY**

**TEAM NO.**

**BIOS**

**LANDMANAGER**

**USCG/NOAA**

**DATE**

**TOTAL LENGTH SHORELINE SURVEYED:** 917 m

**WEATHER:**

**TOTAL OIL SURVEYED FROM:**

**TOTAL LENGTH SURVEYED:**

**EST. OIL CATEGORY LENGTH:**

**SURFACE OIL CHARACTER**

**SURFACE SEDIMENT TYPE**

**SHORE SLOPE**

**AREA**

**ZONE**

**NOTES**

**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**

**FRAMES**

**PIT NO.**

**PIT DEPTH**

**SUBSURFACE OIL CHARACTER**

**OILED ZONE**

**CLEAN BELOW H2O LEVEL**

**SHEEN COLOR**

**PIT ZONE**

**SUBSURFACE SEDIMENTS**

**NOTES**

**OG COMMENTS:**

Long wide band of dark oily sheen low slope. The oil occurring in the western part of the area was less than 3 main areas of very dispersed patches. A pit remains on the map. Adjacent areas 40.001 and 40.003 were also surveyed and found to be free of oil.

See map for details.

**Reviewed:** 5/21/91

**Reviewed:** 5/22/91
TEAM NO. 21
SEGMENT 76
SUBDIVISION A
DATE 7/21/91

ADEC
NAME: Clara S. Crosby
SIGNATURE: Clara S. Crosby

TREATMENT RECOMMENDED:
Manual removal by AP using tweezers & shears. Surface asphalt & tar is accessible & easily removed. Survey crew attempted to recover AP throughout seg. but the area was too good a range for time allotted. Area picked up were satisfactory on SW end.

EXXON
NAME: George D. Styles
SIGNATURE: George R. Styles 5/17/91

Very weathered AP was found on this long wide break segment with no subsurface oiling. The survey crew picked up 41 bags from the western end of the segment. Pickup was discontinued due to the amount still remaining.

REVIEW MANAGER
NAME: Jeff Johnson
SIGNATURE: Jeff Johnson

NTR
Agree with comments of DEC + Exxon. Manual pickup would be very beneficial. Segment is within Kachemak Bay State Park, and removal would be effective at reducing visual impact.

USCG/NOAA
NAME: Michael Medieval
SIGNATURE: Michael Medieval

NTR
Recommend manual treatment only from the point marked by tree going right on the OH's map. Left of the line was picked up by VEO crew. There is AP mainly as indicated by OH.
Oil-Related Comments

AI Very little oil was found along this subdivision. Small spots of HSOR were found and removed. Sparse littorine snails, black lichen, and a few barnacles were the only biota in the vicinity of the oil.

General Features of YG003

This subdivision is located at the western end of a long wide beach and includes a runoff stream. Small groups of salmonid fishes (ca 3 cm long) were scattered in the mouth of the stream. The beach is composed of cobble, pebble, and sand. The beach has fairly distinct zonation. Beach grass and drift are found in the very high zone and supratidal zone. The runoff stream has dense filamentous green and brown algae covering most rocks. Larger cobble in the middle zone has sparse to moderate cover of Fucus, with patchy, but occasionally dense, mussels and barnacles. Mussels for sparse beds in the middle zone with scattered clams in the sediment. Film-like green algae cover most of the cobble in the middle zone of the beach. Red and brown algae appear common in the low zone, but observations were limited by tidal height.

This beach, and the adjacent segments (YG001, YG002) appear to be important resources for bear, otters, and local and migrating birds. Many species of birds were observed on the segment. Otters were observed in the nearshore. Black bear tracks were present on the beach.

(continued)

WILDLIFE OBSERVATIONS - YG001, YG002, YG003 - Completed on all subdivisions

<table>
<thead>
<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED SPECIES PRESENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagles</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Seabirds</td>
<td>3</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td>10</td>
<td>640</td>
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</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td>2</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Shorebirds</td>
<td>6</td>
<td>130</td>
<td></td>
</tr>
<tr>
<td>Corvids</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Other Birds</td>
<td>2</td>
<td>11</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MARINE MAMMALS</th>
<th># OBSERVED</th>
<th>LAND MAMMALS SPECIES</th>
<th># OBSERVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sea Otters</td>
<td>3</td>
<td>Black Bear</td>
<td>Tracks</td>
</tr>
<tr>
<td>Pinnipeds (specify)</td>
<td>1</td>
<td>Sea Lion</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Harbor Seal</td>
<td>3</td>
</tr>
<tr>
<td>Whales (specify)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Shoreline subdivision map showing important biological features attached.
An eagle nest is located at the eastern end of this segment, on a small island/outcrop in the beach. One adult eagle flew from the nest as we approached to within 100m, landing on a nearby tree. Another adult approached from the upland and landed nearby. We left the area immediately.

Intertidal Zonation Pattern on YG001

<table>
<thead>
<tr>
<th>Biota</th>
<th>Tide Level</th>
<th>Supratidal</th>
<th>Upper</th>
<th>Middle</th>
<th>Low</th>
<th>Subtidal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beach Grass (Elymus)</td>
<td>-+++</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eskimo Grass (Honckenya ?)</td>
<td>-+</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Bare Rock</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Filamentous Green Algae</td>
<td>-</td>
<td>-++</td>
<td>++</td>
<td>++</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rockweed (Fucus)</td>
<td>-</td>
<td>++ ** ++</td>
<td>** **</td>
<td>+**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mussels (Mytilus)</td>
<td>-</td>
<td>++ ++ +***</td>
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</tr>
<tr>
<td>Clams</td>
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<td>***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barnacles (Balanus)</td>
<td>-</td>
<td>-++ +*</td>
<td>*-+++</td>
<td>++</td>
<td></td>
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</tr>
<tr>
<td>Bladelike Red Algae</td>
<td></td>
<td>-</td>
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</tbody>
</table>

Legend: (-) Sparse to rare, (+) Moderate, (*) Abundant
**YG003 Biological Summary, continued**

**Intertidal Zonation Pattern on YG003**

<table>
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<tr>
<th>Biota</th>
<th>Tide Level</th>
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<th>Low</th>
<th>Subtidal</th>
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<tbody>
<tr>
<td>All (AP)</td>
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<tr>
<td>Beach Drift Line</td>
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LEGEND

• SNOW

□ WATERS

■ AREA OF OCCURRENCE OF OIL

□ BEDROCK CLIFFS

□ COBBLE/PEBBLE SAND/BOULDER

□ PEBBLE/SAND

□ SAND/MUD

BRAIDED STREAM

ALLUVIAL FAN

YG-001

YG-002

[Map with various symbols and annotations for geological features, reviewed 5-21.]
MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 4 DATE/TIME May 17, 1991 0730 - 1000
SEGMENT # YG002 TIDAL HEIGHT (Range) 5.1 => -2.3
SUBDIVISION A BIOLOGIST JIM BARRY
SEA STATE Calm WIND SPEED/DIRECTION Calm, cloudy/rain

COMMENTS / OBSERVATIONS - OILED SUBDIVISIONS

Oiled Site Comments

A1 Oil at this region is confined to the upper intertidal zone where patches of asphalt or HSOR are present in the beach cobble and pebbles. In some areas, filamentous green algae, small patches of black lichen, littorine snails and oligochaete worms are the most common organisms at the location and are often on or very near the oiled sediments. A few mussels and barnacles also are found near the oiled (and unoiled) sediments, but are quite rare at this tidal level.

Oil (AP patches) found along the eastern portion of the segment often had little biota in the vicinity of the oil, other than filamentous green algae and a few littorine snails. The lack of littorine snails may be due to natural variation and patchiness of the beach fauna, or may have been related to the removal of the surface sediments during clean up activities last year. Littorine snails graze filamentous algae from the cobble, and under the present low densities, growth by green algae appear to have covered the cobble. These grazers are generally able to recover rapidly from such disturbances. Scattered individuals are now present in the cobble and should soon increase in numbers.

No other biota are found near (within 10 m) of the oiled sediments. Beach grass and eskimo grass are found in clumps to dense stands in the higher and supratidal zone. Lower on the beach, barnacles, Fucus, red and brown algae, and mussels are densely abundant in distinct patches (see zonation below). No oiled sediments were found in the vicinity of these assemblages.

WILDLIFE OBSERVATIONS - Completed on all subdivisions

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

(continued)

Shoreline subdivision map showing important biological features attached.

Reviewed: M. 5/24/91
Reviewed M. 13, 5/26/91
YG002 Biology Summary, continued

Manual removal of some (most?) AP was performed during the survey. Additional removal will not harm the biota at this beach, unless the low zone mussel and clam beds are disturbed. These beds are a considerable distance from the oiled site and should not interfere with potential cleanup.

General Features of YG002-A

This subdivision encompasses a long wide beach of cobble, pebble, and sand, with several small streams. The beach previously had extensive asphalt pavement, of which most have been removed.

The beach has fairly distinct vertical zonation, from the drift logs in the storm berm to the dense brown algal beds in the shallow subtidal zone. A characterization of this zonation is presented below.

The major biological features of the beach are 1) the upper zone beach grass and eskimo grass zone, located below the storm berm, 2) the rockweed zone located in the middle zone and often following the contour of several streams entering the beach from the upland, 3) the mussel and clam bed in the middle to low zone, and 4) the red and brown algal beds of the low to subtidal zones. Each zone may be of importance to upland species or migrating birds. Bears forage in the intertidal zone (black bear tracks were found) and river and sea otters (3 observed offshore) also forage in the mussels and clam beds. Migratory waterfowl and shorebirds utilize this beach heavily, as indicated by the nearly 800 birds from 25 species that were observed during this survey. One or more streams are anadromous streams.

Intertidal Zonation Pattern on YG002

<table>
<thead>
<tr>
<th>Biota: Tide Level</th>
<th>Supratidal</th>
<th>Upper</th>
<th>Middle</th>
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<td></td>
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<td>Beach Drift Line</td>
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</tr>
<tr>
<td>Beach Grass (Elymus)</td>
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<td></td>
<td></td>
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<td></td>
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<tr>
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</tr>
<tr>
<td>Rockweed (Fucus)</td>
<td>- - + + ** +* +* -</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mussels (Mytilus)</td>
<td>- --- + ++++++++++++ - -</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clams</td>
<td>- - - - - -</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barnacles (Balanus)</td>
<td>- - ++ + - - +*---++ ++ ++</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bladelike Red Algae</td>
<td>- - -+++++++---++**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green Algae (Ulva/other)</td>
<td>- - --+ -- ++ **-+ +</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upright Brown Algae (not Fucus)</td>
<td>- - ++++++++++++</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Legend: (-) Sparse to rare, (+) Moderate, (*) Abundant
Common Species on YG002

Marine Plants
1. Diatoms, Blue Greens
2. Green Algae - Chlorophyta
   Enteromorpha sp., Ulva sp., Urospora sp.
3. Brown Algae - Phaeophyta
   Alaria marginata, Agarum fimbriatum, Costaria costata, Ectocarpus spp.,
   Fucus distichus, Hildenbrandia sp., Laminaria groenlandica, L.
   saccharina,
4. Red Algae - Rhodophyta
   Endocladium muricata, Irdaea sp., Lithothamnion sp., Membranoptera
dimorpha, Odonthalia floccosa, Palmarea palmata, Petrocelis sp.,
   Porphyra sp.
5. Higher Plants - Leymus mollis (beach rye grass), Eskimos Grass (Honckenya
   sp.?)

II. Marine Animals
1. Sponges - Porifera
2. Anemones - Anthopleura artemesia, Epiactis ritteri
3. Hydroids - Sertulariidae, Aglaophenia sp., Abietinaria sp.
5. Flatworms - Platyhelminthes - Polyclads
6. Nemertean Worms - Ribbon Worms - Emplectonema gracile
8. Polychaete Worms
   Glyceridae
   Nepthidae
   Nereidae - Nereis sp.
   Serpulidae - Serpula sp., Crucigera sp., Eudistyliia polymorpha
   Spiorbidae - Spiorbis sp.
9. Peanut worms - Sipunculids - Phascolosoma aqassizii
10. Crustaceans
   a. Amphipods - Orchestia sp.?
   b. Barnacles - Balanus glandula, Chthamalus dalli, Semibalanus cariosus
   c. Crabs - Acantholithodes hispidus, Haplogaster sp., Hemigrapsus
      oregonensis, Paguridae (hermit crabs), Oregonia gracilis,
      Pugettia sp.,
   d. Isopods - Cirdana harfordi, Idotea wosnesenskii, Gnorimorsphaeroma
      oregonensis
11. Mollusca
   a. Chitons - Mopalia sp., M. mucosa, Katharina tunicata, Tonicella
      lineata,
   b. Snails - Gastropods
      Amphissa columbiana, Fusitriton oregonensis, Lirularia sp.,
      Littorina sitkana, L. keenae, Natica clausa, Nucella lamellosa, N.
      lima, N. emarginata, Searlesia dira, Tachyrhynchus sp.
   c. Limpets - Lottia digitalis, L. persona, Tectura fenestrata, T.
      persona, T. scutum, Siphonaria thersites
   e. Bivalves - Clinocardium sp., C. nuttalli, Hiattella arctica, Macoma
      balthica, Macoma nasuta, Modiolus modiolus, Mya arenaria
      (soft-shell clam), Mytilus californianus, M. edulis,
      Pododesmus cepio, Prototheca staminea, Saxidomus giganteus,
12. Echinoderms
   a. Brittle Stars - Ophiolus aculeatus?, Ophiobrix spiculata?, Amphipholis?
   b. Sea stars - Dermasterias imbricata, Evasterias truscheli, Leptasterias hexactis, Pycnopodia helianthoides
   c. Sea Cucumbers - Holothurians - Eupentacta sp.
   d. Urchins - Strongylocentrotus droebachiensis


15. Fishes
   Cottidae
   Stichaeidae - Xiphister atropurpureus, X. mucosus

III. Birds
   Eagles - Bald Eagle (3)
   Seabirds - Common Loon (1), Marbled Murrelet (2), Red-faced cormorant (4)
   Waterfowl - Barrow's Goldeneye (5), Brandt (25), Bufflehead (10), Canada Goose (20), Common Merganser (10), Harlequin Duck (50), Mallard (20), Northern Shoveler (200), Green-winged Teal (100), Green-winged Teal (100)
   Gulls/Kittiwakes - Glaucous-winged Gull (10), Black-legged Kittiwake (5),
   Shorebirds - Greater Yellowlegs (4), Semi-palmated Plover (1), Short-billed Dowitcher (5), Least Sandpiper (20), Western Sandpiper (100)
   Corvids - Raven (1)
   Other Species - Peregrine Falcon (1), Tree Swallow (10)
No oiled sediments were observed on this segment.

General Features of YG001

This segment includes the eastern end of a long wide beach of cobble, pebbles, and sand. An anadromous stream is located on the segment. The beach has fairly distinct vertical zonation, from the storm berm to the dense brown algal beds in the shallow subtidal zone. A characterization of this zonation is presented below.

The major biological features of the beach are 1) the upper zone beach grass and eskimo grass zone, located below the storm berm, 2) the rockweed zone located in the middle zone and often following the contour of several streams entering the beach from the upland, 3) the mussel and clam bed in the middle to low zone, 4) the red and brown algal beds of the low to subtidal zones, and 5) the anadromous stream. Each feature is of some importance to upland species or migrating birds. Bears forage in the intertidal zone (black bear tracks were found) and river and sea otters (3 observed offshore) also forage in the mussels and clam beds. Migratory waterfowl and shorebirds utilize this beach heavily, as indicated by the nearly 800 birds from 25 species that were observed during this survey. The biological importance of the anadromous stream is obvious.

(continued)

WILDLIFE OBSERVATIONS - YG001, YG002, YG003 Completed on all subdivisions

<table>
<thead>
<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED</th>
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<tbody>
<tr>
<td>Eagles</td>
<td>1</td>
<td>2</td>
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</tr>
<tr>
<td>Seabirds</td>
<td>3</td>
<td>7</td>
<td></td>
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<tr>
<td>Waterfowl</td>
<td>10</td>
<td>640</td>
<td></td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td>2</td>
<td>7</td>
<td></td>
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<tr>
<td>Shorebirds</td>
<td>6</td>
<td>130</td>
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<tr>
<td>Corvids</td>
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<td>1</td>
<td></td>
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<tr>
<td>Other Birds</td>
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<th>MARINE MAMMALS</th>
<th># OBSERVED</th>
<th>LAND MAMMALS</th>
<th>SPECIES</th>
<th># OBSERVED</th>
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<tbody>
<tr>
<td>Sea Otters</td>
<td>3</td>
<td>Black Bear</td>
<td>Tracks</td>
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</tr>
<tr>
<td>Pinnipeds (specify)</td>
<td>1</td>
<td>Sea Lion</td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Harbor Seal</td>
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</tbody>
</table>

Shoreline subdivision map showing important biological features attached.
ASAP TAG REVIEW SHEET

Segment: YG 02  Subd: A  Site: 1  Date: PRE-Review 144.6620

Priority For Addressing In 1990

HIGH  MEDIUM  LOW  NTR  X None

Treatment Recommended: NTR

Sporadic - SOR - ASPHALT

Matrix calls for NTR

Note: 40 to 50 bags of waste?

Priority Site For Reassessment In 1991

YES NO  YES NO  YES NO  YES NO

CG  ADEC  EXXON  LAND MGR

TAB 15 Aug 90

NTR
WORK PLAN MODIFICATION RECOMMENDATION

SEGMENT Y4 - 02  SUBDIVISION A  DATED 3/1/90

MODIFICATION  CLASS I  CLASS II  CLASS III

1. REASON FOR MODIFICATION
   Scattered Asphalt pavement, to approximately 6cm, remains over an area approximately 20m x 500m. An estimated 40-60 bags of oiled sediments can be removed, and is on the surface. The asphalt is now readily available and can be removed as per the original TAG work order.

2. SUGGESTED ADJUSTMENT TO WORK PLAN
   A crew should manually remove soft asphalt along the entire length of the segment to complete treatment. This does not represent an adjustment to the existing TAG work order, but simply addresses remaining work to be done.

3. TIMING ISSUES
   Work should be completed prior to Sept 15, 1990.

ADEC  John R. Reed
EXXON  Keith MCH
USCG  AEC Sandgren
LAND MANAGER  (If field rep is on scene)
FIELD SHORELINE COMMENT SHEET

SEGMENT ASYGN. SUBDIVISION: A SITE: 1 DATE 08/04/90

AEC VANDERPELS

YES ☐ NO ☐ PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: Some tar mats were found on eastern half of beach ranging in size up to 1 x 2 ft. These could be picked up. I recommend waiting for further work until after winter storms and reassess in 1991.

JOHN R. REED

YES ☐ NO ☐ PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: This is an area were extensive mechanical cleanup was done. After cleanup some scattered tar mats still remain. These tar mats are concentrated on east and west ends. Some surface R and CT also remain on cobble and pebbles. An estimated 40-50 bags could be removed this year. 1980.

DAVID K. KENAGY

YES ☐ NO ☐ PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: See attached.

KEITH MILS

YES ☐ NO ☐ PRIORITY SITE FOR REASSESSMENT IN 1991
REASON: Mechanical methods on this segment appeared to be quite successful. Though a few tar mats remain on the eastern end of the impacted area I feel any further work in 1990 would not be environmentally advantageous.
Reason: Observed tar mats remaining after effort with mechanical equipment ended. Tar mats vary in size from several centimeters to several meters in diameter, over an area approximately 20m x 55m. Though classified as largely VL by the 04, an estimated 40-60 bags of asphalt could be removed, and are on the surface. The remaining asphalt is old sediment which Exxon was directed to remove as per the original 1990 work order; some work, obviously, remains to be done. In addition, a depression remains where a cobble "armor" layer was removed prior to mechanical work Exxon agreed to smooth the area with a tined "scraper" prior to equipment demobilization. This was completed on the western portion of the work area. However, on the far eastern portion of the subdivision, beginning where small dead standing trees are located, a depression approximately 30m in length remains. The cobble armor layer is absent and a fine to coarse sand layer is exposed. ADNR would like the remaining tar mats to be removed to complete the original work order and the exposed fine sediments covered with cobble. This beach is within the Kachemak Bay State Wilderness Park. Mechanical equipment removed the majority of the tar mat, but sufficient tar mats remain to warrant additional removal. An addendum for this subdivision (class 1) would serve to complete work originally prescribed by the THA. Even after addition work is done this summer, oiled sediments will no doubt remain. Therefore, this subdivision should be reassessed during the Spring 1991 survey.
**ASAP SHORELINE OILING SUMMARY**

TEAM No. 4  
EXXON  
OG Rich  
ADEC Randy  
 DATE 08/01/90  
TIME 07:00  
TIDE LEVEL 25'-10+4.0'  

**SURFACE OIL**

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<thead>
<tr>
<th>CHARACTER</th>
<th>DISTRIBUTION</th>
<th>OILED ZONES</th>
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</thead>
<tbody>
<tr>
<td>ASPHALT</td>
<td>X</td>
<td>X</td>
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<tr>
<td>S.O.P.</td>
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<td>X</td>
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<tr>
<td>POOLED</td>
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<td>X</td>
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<tr>
<td>COVER</td>
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<tr>
<td>COAT</td>
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<td>X</td>
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<tr>
<td>STAIN</td>
<td>X</td>
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<tr>
<td>MOUSSE</td>
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<tr>
<td>PATTIES/T.B.</td>
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<tr>
<td>FILM</td>
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<tr>
<td>NO OIL</td>
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**EST. SITE LENGTH**  
575 m  

**SURFACE OIL**

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</tr>
<tr>
<td>3</td>
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**SUBSURFACE OIL**

<table>
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<tr>
<th>SITE NO.</th>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED INTERVAL</th>
<th>CLEAN BELOW (Y/N)</th>
<th>PIT ZONE</th>
<th>SURFACE-SSUBSURFACE SEDIMENTS</th>
<th>Photographs:</th>
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<td>Frames: None</td>
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**COMMENTS**  
Area is not a candidate for subsurface oiling. The change at this site is remarkable. Cleaning was the most thorough seen by the OG to date. Some scattered, probably recoverable, patches of asphalt remain, but overall the oiling is very light.
SEGMENT YG-2A
ASAP: SIGNIFICANT OILING
MAP

METERS

Segment Location Map
Map Key: KENYG-2
July 10, 1990
SEGMENT YG-2

Segment Location Map

Map Key: KENYG-2

July 18, 1990
REGION: KENAI

SEGMENT: ST/YG-04

SUBDIVISIONS: A (1 OF 1)
SHORELINE EVALUATION
SEGMENT ST/ YG-04  SUBDIVISION A (1 OF 1) DATE  4/28/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
4GG Alaska State Parks
5T-1 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 0 m: No Oil 3618 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  __ Absorbs (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 __________________________
Salmon stream mouth - fry outmigration (3/1 to 5/15)

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

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

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

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

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

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

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

Remote release site

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

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

PWS net area (8/7 to 8/31)

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

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

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

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

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

Herring spawning (4/1 to 6/15)

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

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

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

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

Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inpol within two weeks of arrival dates. No mechanical removal. Contact USFWS prior to treatment.

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

ADF&G Don Calcina 267-2403

Seabird colony (5/1 to 9/1)

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

ADF&G Tom Rothby 267-2206

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

Recreation:

Tent sites (6/1 to 9/15)

Anchorages (6/1 to 9/15)

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

Lodge (6/1 to 9/15)

Special Use destination

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

7H-H Fishing harvesting

7T Deer harvesting (6/15 to 2/28)

7U Invertebrate harvesting

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

AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359
No oil was observed in this segment. No treatment is recommended.

No oil was observed on Segment 1.

Do to the massive asphalt/Pavement area on the Ylik Glacier Segment 1, depending on types of clean-up deployed there monitoring of YG-4 may be necessary when operations start on YG-2.

Segment YG-4A, within Kachemak State Wilderness Park, is characterized by narrow relatively steep, cobble/boulder beaches separated by rocky headlands. Vertical rock faces ascend directly behind the beaches and evidence of avalanches is abundant. I noted Douglas a alken offer and abundant shellfish in some areas. One clade was examined at the north end of the segment. No oil was noted.
**SHORELINE OILING SUMMARY**

OG & DEBRA SCHEME

**NAME**  |  **STEARNS STURM**  |  **SEGMENT**  |  **ST/VG-4**

**BIO-REP**  |  **EDDIE S. BROWN**  |  **ADEC/WEIDEN**  |  **TIME**  |  **7:45 TO 1:25**

**TEAM NO.**  |  **9**  |  **TIDE LEVEL**  |  **5**  |  **DATE**  |  **4/28/90**

**EST. SUBDIVISION LENGTH**  |  **3,824 m**  |  **UNIT**  |  **Yard**  |  **WEATHER**  |  **Sun**  |  **Clouds**  |  **Snow**  |  **RAIN**

**UPLANDS DESCRIPTION**  |  |  **FOOT**  |  **Boat**  | **HELICOPTER**

**SURVEYED FROM**  |  **Working Direction**  |  **N**  |  **S**

**SURFACE SEDIMENTS**  |  **Lang**  |  **60 %**  |  **Hang**  |  **30 %**  |  **Vert**  |  **10 %**

**WAVE EXPOSURE**  |  **Low**  |  **Med**  |  **High**

**OIL CATEGORY LENGTH**  |  **W**  |  **D**  |  **M**  |  **O**  |  **N**  |  **O**  |  **M**  |  **V**  |  **L**

**PAVEMENT**  |  **H**  |  **F**  |  **S**  |  **O**  |  **sq. m**  |  **by**  |  **0**  |  **0**

**PATTERNS / TARBALLS**  |  **0**  |  **Bags**

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

**OILED DEBRIS**

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<tr>
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<th>AMOUNT</th>
<th>DID YOU COLLECT DEBRIS?</th>
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**Photographs:**

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**SURFACE OIL**

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<th>IMPACTED ZONES</th>
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<tr>
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**SUBSURFACE OIL**

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<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED DEBRIS</th>
<th>BELOW</th>
<th>OIL / FILM COLOR</th>
<th>PIT ZONE</th>
<th>N W H S</th>
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**COMMENTS**

- The shoreline is dominated by SCUFF-DEPOSITS (Boulders and Cobble) interspersed with some bedrock. WAVE EXPOSURE IS RELATIVELY LOW.
- NO OIL WAS OBSERVED THROUGHOUT THE SEGMENT.

---

**REVIEWED**  |  **DATE**
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<td>MAY 90</td>
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---

2/18
XXX Wide
/// Medium
--- Narrow
TTTT Very Light
0000 No Oil

ST-YG-4-17

Map Key: KEN-1576
Name: K. DeRus Sore
Date: 4/23/90
Data Entered:

ADEC Segment Length: 3824 m

X = Skip
W = Walk
SHORELINE ECOLOGICAL SUMMARY

Segment ST 1  YG-04  Subdivision  A  Date (mo/day/yr)  04/28/90

Time (24 hr) 0730  Biologist  D. REED

(A) Substrate type and % of segments:
(1) Bedrock  15  (2) Boulder  40  (3) Cobble  30  (4) Pebble  13  (5) Sand  2  (6) Silt  0

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

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

WILDLIFE OBSERVATIONS/GENERAL COMMENTS:

Photographs:

Roll No.

Frames  NONE

BARNACLES

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Ecological Considerations: NO OIL OBSERVED

This segment is a low wave exposure stretch of shoreline with few noteworthy ecological considerations. A broken distribution of relatively dense mussels (<20-30 mm total length) was common in the lower mid zone. The low zone consisted of a dense cover of brown (Alaria), laminaria, desmarestia), red (Polysiphonia sp., Plocamium sp., Calliphilus sp., Irriodera sp., Halosaccion), and green (Ulva, Cladophora) algae. No sea otters or evidence of sea otter foraging was observed.
ологии

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

ST-YG-4-H

ADEC Segment Length: 382 m

Date: 4/24/90

Data Entered:

LOG 1578

NAME: K.DERBUSCH

Nop Key: KEN-1578

OIL MAP
ST-Y64-A
(3.824 meters)

- Bedrock, cobble/boulder
  mostly high angle shoreline
- No oil was observed
- No Treatment Recommended
  by Exxon Representative.
SEGMENT ST/ VG-04 SUBDIVISION A (1 OF 1) DATE 4/28/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

4GG Alaska State Parks
5T-1 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: [Signature] DATE: 5/14/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 3618 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
____ Tarimat Removal  Beach Cleaner
____ Other (see comments)

COMMENTS:

_________________________________________________________

_________________________________________________________

_________________________________________________________

_________________________________________________________

TAG COMMENTS:_________________________________________________________

_________________________________________________________

_________________________________________________________

TAG APPROVAL DATE: 5/12/90
ADEC Art Weimer Art Weimer
EXXON Andy Ten Paul
NOAA Gary Petrace Amy Rosier
USCG D.B. Rome W.D. Rome

FOSC: [Signature] DATE: 5/15/90
Bedrock, cobble/boulder mostly high angle shoreline

- No oil was observed
- No Treatment Recommended by Exxon Representative.
1991 MAYSAP EVALUATION

SEGMENT:  YG 004  SUB:  A  REGION:  KEN  SURVEY DATE:  5/17/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s)  OPEN

Ecological/Constraints (see page two for details)  NONE

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

SHPO Signature: ___________________________ Date: ____________________

RECOMMENDATIONS:

TREATMENT REQUIRED (Y or N)  N

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

COMMENTS:

INITIAL: ________________________________________________________________

TAG: ________________________________________________________________

FOSC: ________________________________________________________________

TAG APPROVAL DATE:___________  FOSC APPROVAL DATE:___________

ADEC_____________________________  FOSC_____________________________

EXXON___________________________

USCG____________________________

NOAA____________________________
ADEC
NAME: Clara S. Crosby
SIGNATURE: Clara S. Crosby

NTR
Peer 

 ANNEXE: 

EXXON
NAME: George P. Stiles
SIGNATURE: George P. Stiles

NTR
Concur with ADEC.

ANDMANAGER
NAME: Terry S. Johnson of DNR
SIGNATURE: [Signature]

NTR
No oil seen; concur with other comments.

USCG/NOAA
NAME: [Redacted]
SIGNATURE:

NTR

NTR/Donald A. McDonald

HANDMANAGER
NAME: [Redacted]
SIGNATURE: [Signature]

NTR
Memorial stating, 409 feet, cleaned by
Vico Crew

NTR/Donald A. McDonald
**MAYSAP SHORELINE OILING SUMMARY**

- **TEAM NO.** 4
- **OG** J. Morgado
- **BIO** B. Barry
- **ADEC** Crosby
- **LANDMANAGER** J. Johnson for DOE
- **USCG/NOAA** McManus/McKeon
- **ST.** 1.5

**TIME:** 10:30 to 11:30

**TIDE LEVEL:** 2.7 ft. to 2.1 ft.

**ENERGY LEVEL:** ☑️ H ☑️ M ☑️ L

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

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

**TOTAL LENGTH SHORELINE SURVEYED:** 361.8 m

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

**EST. OIL CATEGORY LENGTH:** W  m  M  m  N  m  VI  m  NO 361.8  m  US  m

---

### SURFACE OIL CHARACTER

<table>
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<th>SURFACE OIL CHARACTER</th>
<th>SURFACE OIL CHARACTER</th>
<th>SHORE SLOPE</th>
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<th>LENGTH</th>
<th>ZONE</th>
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<tr>
<td></td>
<td></td>
<td></td>
<td>V</td>
<td>H</td>
<td>M</td>
<td>L</td>
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**DISTRIBUTION:**
- **C = 61-100%**
- **B = 51-60%**
- **P = 11-50%**
- **S = 1-10%**
- **T = <1%**

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

**PHOTO ROLL:** MAYSAP 4-31 to 5-2

**FRAMES**

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<th>PIT</th>
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<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED ZONE</th>
<th>CLEAN ZONE</th>
<th>H2O</th>
<th>SHEEN</th>
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**SHEEN COLOR:**
- **B = BROWN**
- **R = RAINBOW**
- **S = SILVER**
- **N = NONE**

---

**OG COMMENTS:** Long section of beach of mixed CLBP/CLB sediments in front of bedrock cliff. Subdivision was surveyed by foot where accessible and by boat as soon as immedia...
No Oil was found on this subdivision.

General Characteristics of YG004-A

This subdivision is located along the northwestern boundary of Nuka Passage. It experiences low and occasional moderate waves. The shores comprise bedrock cliffs, boulder and cobble talus, and cobble and pebble/sand beaches. In general, the abundance of biota along the subdivision is very high, particularly in the low zone where red and brown algae form a very dense cover over the bottom. The invertebrate populations within the boulder and cobble talus of the low shore also are very diverse and abundant. Fucus and mussels are dense in the middle zone over several sections of the subdivision.

A black bear (approximately 2 years old) was observed foraging in the intertidal zone (eating red algae) at low tide. This individual appeared to be weak and thin.

Common Species on YG004-A

A. Marine Plants
   1. Diatoms, Blue Greens

(continued)
2. Green Algae - Chlorophyta
   Acrosiphonia sp., Cladophora sp., Enteromorpha sp., Prasiola meridionalis, Ulva sp., Urospora sp.

3. Brown Algae - Phaeophyta
   Alaria marginata, Agarum fimbriatum, Costaria costata, Ectocarpus spp., Fucus distichus, Hildenbrandia sp., Laminaria groenlandica, L. saccharina, Ralsfia sp., Sycstophion lomentaria

4. Red Algae - Rhodophyta
   Bossiella sp., Calliarthron sp., Corallina sp., Endocladia muricata, Halosaccion glandiforme, Lithothamnion sp., Mastocarpus sp., Membranoptera dimorpha, Odonthalia floccosa, Palmaria palmata, Petrocelis sp., Porphyra sp., Ptilota filicina, Rhodomela larix

5. Higher Plants - Leymus mollis (beach rye grass)

II. Marine Animals
1. Sponges - Porifera - Halichondria panicea
3. Hydroids - Sertulariidae, Aclaophenia sp., Abietinaria sp.
5. Flatworms - Platyhelminthes - Polyclads
6. Nemertean Worms - Ribbon Worms - Emolectona gracile
8. Polychaete Worms
   Glyceridae
   Neathyidae
   Nereidae - Nereis spp.
   Serpulidae - Serpula sp., Crucigera sp., Eudistyli polymorpha
   Spiorbidae - Spirorbis sp.

9. Peanut worms - Sipunculids - Phascolosoma agassizii

10. Crustaceans
   a. Amphipods - Orchestia sp.?, Traskorchestia sp., Traskorchestia traskiana
   b. Barnacles - Balanus glandula, Chthamalus dalli, Semibalanus cariosus
   c. Crabs - Haplogaster sp., Hemigrapsus oregonensis, Paguridae (hermit crabs), Pugettia sp.,
   d. Isopods - Cirdana harfordi, Idotea wosnesenskii, Gnorimorphaeoma orionensis

11. Brachiopods (Lamp Shells) - Terebratalia transversa?

11. Mollusca
   a. Chitons - Cryptochiton stelleri, Mopalia sp., M. mucosa, Katharina tunicata, Tonicella lineata,
   b. Snails - Gastropods
      Amphissa columbiana, Fusitriton oregonensis, Lithoria sp.,
      Littorina sitkana, L. keenea, Mucella lamellosa, N. lima,
      Searlesia dira, Tachyrhynchus sp., Margarites sp.
   c. Limpets - Lottia digitalis, L. limatula, L. persona, Tectura fenestrata, T. persona, T. scutum, Siphonaria thersites
   d. Nudibranches - Lamellidorsis fusca, Onchidella borealis
   e. Bivalves - Chlamys hastata, Hiattella arctica, Macoma nasuta, Modiolus modiolus, Mytilus edulis, Pododesmus cepio, Prototheca staminea

12. Echinoderms
   a. Brittle Stars - Ophiolus aculeatus?, Ophiothrix spiculata?, Amphipholis?
   b. Sea stars - Crossaster papposus, Dermasterias imbricata, Evasterias truscheli, Henricia leviuscula, Leptasterias hexactis, Orthasterias koehleri, Pisaster ochraceus, Pycnopodia helianthoides, Solaster dawsoni
c. Sea Cucumbers - Holothurians - Eupentacta sp.,
d. Urchins - Strongylocentrotus droebachiensis

15. Fishes
   Cottidae -
   Stichaeidae - Xiphister atropurpureus, X. mucosus

III. Birds
Bald Eagle (2), Common Murre (2), Red faced Cormorant (2), Marbled murrelet (2), Harlequin Ducks (5), Glaucous-winged Gull (3), Black-legged Kittiwake (2), Western Sandpiper (1)
1991 MAYSAP EVALUATION

SEGMENT: YG 004  SUB: A  REGION: KEN  SURVEY DATE: 5/17/91

ENVIRONMENTAL SENSITIVITIES:
Work Window(s) OPEN

Ecological/Constraints (see page two for details) NONE

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

SHPO Signature: Timothy Adams Date: 5/30/91

RECOMMENDATIONS:

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

COMMENTS:

INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: May 29 1991  
FOSC APPROVAL DATE: 6/13/91

ADEC  
EXXON  
USCG  
NOAA

E. E. Page, Capt, USCG  
CHIEF OF STAFF, FOSC
MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 11 SEGMENT 7G-001 SUBDIVISION A DATE 4/17/91

ADEC
NAME Clara S. Crosby
SIGNATURE Clara S. Crosby

NTR

Part silt data indicated no oil observed
Spot check of this segment revealed no oil.

EXXON
NAME George P. Stiles
SIGNATURE George P. Stiles

NTR

Concur with ADEC

MANAGER
NAME Johnny Johnson
OF DNR
SIGNATURE

NTR

No oil seen, concur with other comments

USCG/NOAA
NAME W.O. McManus
SIGNATURE

NTR

Minimal sheen of AP/IP—cleaned by
Vice crew.

NOAA/David A. McDermott
Paula M. Macdonald
**MAYSAP SHORELINE OILING SUMMARY**

**TEAM NO.** 4  
**OCEANIC SERVICES**  
**ADEC** Crosby  
**USCG/NOAA** McGovern/McDonald

**DATE** May 17, 1991

**SEGMENT** 4-A-04

**SUBDIVISION** A

**TIME** 10:50 to 11:30

**TIDE LEVEL** 2.7 ft. to 2.1 ft.

**ENERGY LEVEL:** H [High] M [Medium] L [Low]

**SURVEYED FROM:** δ [Foot] δ [Boat] δ [HELO]

**WEATHER:** ☀ [SUN] ☄ [CLOUDS] ☄ [FOG] ☄ [RAIN] ☄ [SNOW]

**TOTAL LENGTH SHORELINE SURVEYED:** 3618 m

**NEAR SHORE SHEEN:** δ [BR] ☄ [RB] ☄ [SL] ☄ [NONE]

**EST. OIL CATEGORY LENGTH:** W __ m M __ m N __ m V __ m L __ m NO __ m US __ m

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

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

**PHOTO ROLL** MAY 17-44 - 31 TO 52

**FRAMES**

**PIT NO. DEPTH** (cm)

**SUBSURFACE OIL CHARACTER**

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<th>OILED ZONE</th>
<th>CLEAN H2O LEVEL</th>
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**SHEEN COLOR:** B = BROWN; R = RAINBOW; S = SILVER; N = NONE

**OG COMMENTS:** Long section of beach of mixed 61/31 bed sediments in front of bedrock cliff. Subdivision was surveyed by foot where wave and tide action were intense. Made up of bedrock cliff. No oil was found. No sketch map provided.

**Reviewed:** AC S 5/91

**Reviewed:** 5/21/91
Spot deck
with house
Oil Related Comments

No Oil was found on this subdivision.

General Characteristics of YG004-A

This subdivision is located along the northwestern boundary of Nuka Passage. It experiences low and occasional moderate waves. The shores comprise bedrock cliffs, boulder and cobble talus, and cobble and pebble/sand beaches. In general, the abundance of biota along the subdivision is very high, particularly in the low zone where red and brown algae form a very dense cover over the bottom. The invertebrate populations within the boulder and cobble talus of the low shore also are very diverse and abundant. Fucus and mussels are dense in the middle zone over several sections of the subdivision.

A black bear (approximately 2 years old) was observed foraging in the intertidal zone (eating red algae) at low tide. This individual appeared to be weak and thin.

Common Species on YG004-A

A. Marine Plants
   1. Diatoms, Blue Greens

(continued)

WILDLIFE OBSERVATIONS - Completed on all subdivisions

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<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED SPECIES PRESENT</th>
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<tr>
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<td>Corvids</td>
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<td>Other Birds</td>
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MARINE MAMMALS

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<td>Black Bear</td>
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<td>Pinnipeds (specify)</td>
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<tr>
<td>Whales (specify)</td>
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</table>

Shoreline subdivision map showing important biological features attached.

Reviewed M.B. 5/26/91
II. Marine Animals

1. Sponges - Porifera - Halichondria panicea
3. Hydroids - Sertulariidae, Aqlaophenia sp., Abietinaria sp.
5. Flatworms - Platyhelminthes - Polyclads
6. Nemertean Worms - Ribbon Worms - Empelctonema gracile
8. Polychaete Worms
   a. Glyceridae
   b. Nepthyidae
   c. Nereidae - Nereis spp.
   d. Serpulidae - Serpula sp., Crucigera sp., Eudistylia polymorpha
   e. Spiorbidae - Spirorbis sp.
9. Peanut worms - Sipunculids - Phascolosoma agassizii
10. Crustaceans
   a. Amphipods - Orchestia sp.?, Traskorchestia traskiana
   b. Barnacles - Balanus glandula, Chthamalus dalli, Semibalanus cariosus
   c. Crabs - Haplogaster sp., Hemigrapsus oregonensis, Paguridae (hermit crabs), Pugettia sp.,
   d. Isopods - Cirdana harfordi, Idotea wosnesenskii, Gnorimorsphaeroma oregonensis
11. Brachiopods (Lamp Shells) - Terebratalia transversa?
11. Mollusca
   a. Chitons - Cryptochiton stelleri, Mopalia sp., M. mucosa, Katharina tunicata, Tonicella lineata,
   b. Snails - Gastropods
      a. Amphiassa columbiana, Fusitriton oregonensis, Lirularia sp.,
      b. Littorina sitkana, L. keenae, Nucella lamellosa, N. lima,
      c. Searlesia dira, Tachyrhynchus sp., Margarites sp.
   c. Limpets - Lottia digitalis, L. limatula, L. persona, Tectura fenestra, T. persona, T. scutum, Siphonaria thersites
   d. Nudibranches - Lammelldoris fusca, Onchidella borealis
   e. Bivalves - Chlamys hastata, Hiattella arctica, Macoa nasuta, Modiolus modiolus, Mytilus edulis, Pododesmus cepio, Prototheca stamiae
12. Echinoderms
   a. Brittle Stars - Ophiolus aculeatus?, Ophiothrix spiculata?, Amphiopholis?
   b. Sea stars - Crossaster papposus, Dermasterias imbricata, Evasterias truscheli, Henricia leviacula, Leptasterias hexactis, Orthasterias keohleri, Pisaster ochraceus, Pycnopodia helianthoides, Solaster dawsoni

Reviewed A. B. 5/22/41
c. Sea Cucumbers - Holothurians - Eupentacta sp.,
d. Urchins - Strongylocentrotus droebachiensis

15. Fishes
   Cottidae -
   Stichaeidae - Xiphister atropurpureus, X. mucosus

III. Birds
   Bald Eagle (2), Common Murre (2), Red faced Cormorant (2), Marbled murrelet (2), Harlequin Ducks (5), Glaucous-winged Gull (3), Black-legged Kittiwake (2), Western Sandpiper (1)
REGION: KENAI

SEGMENT: ST/YP-04

SUBDIVISIONS: A (1 OF 1)
SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

4GG Alaska State Parks
5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and contacts.

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

ARCHAEOLOGICAL CONSTRAINTS:
If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact 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_0 m: No Oil_0 m
Subsurface Oil Observed: Yes X No _____ Maximum Depth 16 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
___ X Other (see comments)

COMMENTS: Recommended treatment includes 1) manual pickup of mousse patties, 2) manual tilling of areas shown on attached sketch map followed by 3) bioremediation of areas shown on attached sketch map. Work should be conducted after 6/1 with approval of USFWS regarding eagle nest constraint.

TAG COMMENTS: ________________________________________________________
______________________________________________________________
______________________________________________________________
______________________________________________________________

TAG APPROVAL DATE: ________
ADEC ____________________________ FOSC: __________ DATE: ________
EXXON ____________________________
NOAA ____________________________
USCG ____________________________
PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bio remediation or other chemical treatment within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels. Treatment which will not affect nearshore oil or toxicity levels such as manual or mechanical removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G and/or Habitat Division prior to treatment for consultation and/or permit application.

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

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

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

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

AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
PWS Aquaculture Association John McMillan or Bruce Suzumo 424-7511

1I Gill net area (6/7 to 8/31)
1J Purse seine area (7/20 to 9/30)
1K Purse seine hook-off (7/23 to 9/30)
1L Set net sites (6/11 to 7/25)
Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
PWS Aquaculture Association John McMillan or Bruce Suzumo 424-7511

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

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

3M Herring spawning (4/1 to 6/15)
Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to unfolly intertidal and subtidal algal and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

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

3N Harbor seal and sea lion pupping (5/15 to 7/1)
Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates. Consult ADF&G and USFWS prior to treatment for confirmation.

AGENCY CONTACT PERSON: USFWS 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/waterbird 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 Tom Rothu 267-2205

5T All Bald Eagle nests (5/1 to 8/1).
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:
6V Tent sites (6/1 to 9/15)
6W Anchorage (8/1 to 9/15)
6X Forest Service cabin (8/1 to 9/15)
6Y Lodge (6/1 to 9/15)
6Z Special use destination

7Z Subsistence area:
7A Salmon harvesting (5/1 to 9/30)
7B Finfish harvesting
7C Deer harvesting (8/15 to 2/28)
7D Invertebrate harvesting
Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.

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

SEGMENT ST  YP-4  SUBDIVISION: A  DATE 4-28-90
NAME Stephen Sturm  SIGNATURE Stump

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Patches of mussels were located around the perimeter of a restricted low energy tidal flat. The majority of this area is underlain by impermeable silt and clay keeping oil/mussels from penetrating to any significant depth. Oil sheens were observed down dip from oiled areas, being released from peached patches of mussels covered by creep algae on the SE part of the tidal flat (see sketch).

The most effective method of clean-up would be to manually remove oiled areas and till/plow/rake remaining sediments to prevent formation of the mats and increase microbial degradation. Under no circumstances should DPU/OL be used due to very low tidal flushing.

ADEC
NAME Wesley Showler  SIGNATURE Wesley Showler

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Segment YP-4 has only one area that consisted of oil according to ADEC map. However, oil was observed & inspected by ADEC rep outside of oiled area quite a ways to the East. This oiling consisted of a very weathered coat of splashes. Recommend Evaluation of entire segment.

Location #1 - Consists of a small low energy tidal flat. Mussels patches were observed on both the surface & subsurface in a broken condition. Manual removal is recommended for surface patches both on the surface & under the thick growth of algae. Tilling of the mite suit to expose chocolate brown mussels patches is suggested! Then raking to retrieve oil, bag & remix. Hot H2O should not be a consideration do to mud flats in the lower mite suit would make it impossible to retrieve oil. Very poor flushing also occurs in this area.

LAND MANAGER
NAME J. Donald McManus (ADEC) SIGNATURE

☐ NO TREATMENT RECOMMENDED  ☑ TREATMENT SUGGESTED

COMMENTS

Segment YP-4A, within Kachemak State Wilderness Park, is bordered by vertical rock faces interspersed with boulder/cobble pocket beach at oiling, spotly and up to about 1" thick, was noted in a small tidal lagoon at the western end of the segment (location #1). Treatment consistent with NOAA/ADEC recommendations is warranted. However a cultural resource site may be present and is subject to CTA. It is recommended that further study on vertical faces in the area is recommended for 11/12.
**SHORELINE OILING SUMMARY**

**OG** (1976)  
**BIO** (1984)  
**EXXON** (1990)

**SUBDIVISION:**  
**TEAM NO.:** 9  
**TIDE LEVEL:** -2  
**DATE:** 4/1/90

**ST. SUBDIVISION LENGTH:** 130 m  
**SURFACE SEDIMENTS:**  
- Asphalt Pavement  
- Pool  
- Cover  
- Coating  
- Stain  
- Mousse  
- Patties  
- Tarballs

**SURFACE OIL**

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<td>Tarballs</td>
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</table>

**OIL CATEGORY**

- Asphalt Pavement
- Pool
- Cover
- Coating
- Stain
- Mousse
- Patties
- Tarballs

**OIL CHARACTER DISTRIBUTION**

- Oiled Debris
- Logs
- Vegetation
- Trash
- Debris

**OILED DEBRIS AMOUNT**

- Logs
- Vegetation
- Trash
- Debris

**NEAR SHORE SHEEN**

- BR
- RW
- SL
- TL

**OILED AMOUNT**

- Logs
- Vegetation
- Trash
- Debris

**DEBRIS**

- Bags

**PIT NO.**

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**COMMENTS**

- Sheen is present in tidal pools near MS/MB.
- Subdivision consists of a protected, low energy tidal mudflat with cobbles and pebbles dominated shoreline in US.
- Oiling is very light because of overall "shiny" distribution of oil; Subsurface oil is not continuous. Mousse, patties, and tarballs in this low energy environment into the mud up to 15-16 cm below the surface. Surface oil consists of isolated broken mousse layer (± 0.5 cm thick) under flots in US and some isolated areas of patchy cover on cobbles and pebbles in US.
- The remaining shoreline of YP-Y was reviewed on May 7th, 1990 and not surveyed. B/C indicated no oil on ADEC map, a thin ring of oil was observed during a fast sniff at high oil on US map.

**REVIEWED DATE:** May 7, 1990
SHORELINE ECOLOGICAL SUMMARY

Segment ST/VP-4  Subdivision: A  Date (mo/day/yr) 04/28/90

Time (24 hr) 1020-1230  Biologist: D.A. REED

(A) Substrate type and % of segments:
(1) Bedrock 20  (2) Boulder 2  (3) Cobble 13  (4) Pebble 15  (5) Sand 0  (6) Silt 50

(B) Overall % cover of biota (% of segment): Dense 30  Moderate 40  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 (A), new settlement (3)

BARNACLES

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MYTILUS

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FUCUS

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</table>

Wildlife Observations/General Comments:

*NO ECOLOGY MAP IS INCLUDED BECAUSE NO NOTEWORTHY RESOURCES WERE FOUND.
SEE SKETCH MAP FOR LOCATION OF PHOTOGRAPHS.

ONLY A SMALL COVE OF THIS SEGMENT WAS SURVEYED. THE UNSEVERELY OILED
MUSSEL WAS PREVIOUSLY REPORTED AS NO OIL. MODERATE DENSITIES OF
MUSSEL ON BEDROCK, LOW ZONE HAS DENSE ALGAL COVER CONSISTING
PRIMARILY OF KELPS (CARMINARIA COSTARIA, ALARIA &
CUNA-BHERE). MUDD IN MID ZONE HAS MODERATE
TO DENSE ALGAL COVER (ENTEROMORPHA, FILAMENTOUS
BROWN ALGAE) THAT APPEARS TO BE GROWING DIRECTLY ON AN OIL
MOUSE COVING OF THE MUDD SURFACE. A PREDATORY FALCON
MUSSELS ON THE MUDD SURFACE. A PREDATORY FALCON
WAS OBSERVED IN THIS COVE.

These appear to be few "SENSITIVE" BIOLOGICAL RESOURCES IN
THIS COVE.
SHORELINE EVALUATION

SEGMENT ST/ YP-04 SUBDIVISION A (1 OF 1) DATE 4/28/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
- 4 GG Alaska State Parks
- 5T-1 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 unoiied biota and substrate.

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

SHPO SIGNATURE: [Signature] DATE: 5/11/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V. Light 183 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 16 cm

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

COMMENTS: Recommended treatment includes 1) manual pickup of mousse patties, 2) manual tilling of areas shown on attached sketch map followed by 3) bioremediation of areas shown on attached sketch map. Work should be conducted after 6/1 with approval of USFWS regarding eagle nest constraint.

TAG COMMENTS: 

TAG APPROVAL DATE: 5/11/90
ADEC
EXXON
NOAA
USCG

FOSC: [Signature] DATE: 5/15/90
SKETCH MAP
ST-YP-4-A
(loc. #1)

Profile A-

SEGMENT

SUBDIVISION A

DATE 4/28/90

CHECKLIST
N Asce
App. Scale
Bag/Bag Holder
Oil Dist.
Wires
Length
% Cover
Surface Character
Est. MW/ULW
- ESL
Profile Location(s)
Pits(s)
Pit Location(s)
Photo Location(s)

LEGEND

1 △
P1 - No Subsurface Oil

2 △
P1 - Subsurface Oil

CT/C Concentric Distribution

CT/B Broads Distribution

LCT/P Pachy Distribution

LCT/B Spattered Distribution

ELL Oiled Vegetation

Photo location, direction, and number

Oil Character Length (ft): AP \( \_P \_O \_C_1 \_2 \_7 \_C \_T \_O \_S \_T \_0 \_M \_S \_3 \_P \_T \_0 \_B \_E \_F \_L \_0 \_N \_O \_9 \)
UNCOVERED BECAUSE INDICATED NO OIL.

THIN RING OF OIL WAS OBSERVED DURING A FIRST SKIFF ALONG SHORELINE.
ST-YP-A-1/2km

- Only loc. 1 surveyed
- Remainder of segment "No Oil" on ROV Map
- Location 1
  - Small, low-energy, protected cove consisting of mudflats, pebble, and cobble beach.
  - Erosion is very light, patchy surface cover and mousse underlain by impermeable substrate
  - Recommend tilling only oilied areas and bioremediation
1991 MAYSAP EVALUATION

SEGMENT: YP 004  SUB: A  REGION: KEN  SURVEY DATE: 5/18/91

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

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

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

SHPO Signature: Timothy P. Hill Date: 6/03/91

RECOMMENDATIONS:

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

COMMENTS:
INITIAL:____________________________________________________

TAG:__________________________

FOSC:________________________________________________________

TAG APPROVAL DATE: MAY 21 1991  FOSC APPROVAL DATE: 6/15/91

ADEC  --  EXXON  --  USCG  --  NOAA

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

John Lane  --  Lee  --  Joy Phillips
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.
Due to the light oily & sensitivity of this area, I don't believe any additional treatment of this type would be effective.

The majority of the segment's surface area is covered by a cobble/silt layer on top of peat. A silvery sheen is produced when the armor coat is removed and the silt and peat is worked. A 3m x 6m area of 1cm thick RP was removed while surveying (160gr). I feel no additional surface or subsurface oil can be effectively removed manually.

Concern with other agency comments. Though the segment is within Rockefeller Bay State Park, it would be impractical to attempt to remove the little oil that remains.

Very light oiling found among cobble. Further clean-up procedures severely reduce clean-up team threat.
### MAYSAP SHORELINE OILING SUMMARY

**Team No.:** 4  
**OG:** J. Semple  
**BIO:** J. Barry  
**Land Manager:** Johnson  
**USCG/NOAA:** McMichael/McDonald  
**Date:** May 18, 1991

**Time:** 08:00 to 08:55  
**Tide Level:** +6.0 ft. to +3.2 ft.  
**Energy Level:** □ H □ M □ L  
**Surveyed From:** □ Foot □ Boat □ Helo  
**Weather:** □ Sun □ Clouds □ Fog □ Rain □ Snow  
**Total Length Shoreline Surveyed:** 183 m

**Estimated Oil Category Length:**
- W: 0 m  
- M: 0 m  
- N: 0 m  
- V: 34 m  
- L: 59 m  
- US: 0 m

**Surface Oil Character**  
<table>
<thead>
<tr>
<th>LOC</th>
<th>AP</th>
<th>MS</th>
<th>TB</th>
<th>SHR</th>
<th>DB</th>
<th>NO</th>
<th>S</th>
<th>UI</th>
<th>MI</th>
<th>LI</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>FL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mostly picked up</td>
</tr>
</tbody>
</table>

**Surface Sediment**  
<table>
<thead>
<tr>
<th>Type</th>
<th>Slope</th>
<th>Width</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>□ V □ H □ M □ L</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Near Shore Sheen**  
- □ BR  
- □ AR  
- □ SL  
- □ None

**Oil Distribution**
- C: 91-100%  
- D: 61-90%  
- S: 1-10%  
- T: ≤1%

**Subsurface Oil Character**  
<table>
<thead>
<tr>
<th>LOC</th>
<th>OP</th>
<th>HOR</th>
<th>MOR</th>
<th>LOR</th>
<th>TR</th>
<th>NO</th>
<th>Oil Clean</th>
<th>H2O Clean</th>
<th>Sheen Color</th>
<th>Pit Zone</th>
<th>Subsurface Sediments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

**OG Comments:**
Small cove, bedrock, very bleached shore and bedrock outcrops. Pockets of pilch and substantial sheen areas in the intertidal. Oiling consists of LOR, 3999, FL and some AP at the head of the cove (one may) very nautical small patches. Look like remnants of more extensive oiled areas that were manually clean up. Oil very weathered, not very sticky, but relatively minor viscosity medium.

**Reviewed:** MC 5/13/91  
**Reviewed:** 5/21/91
Dej Sketch Map

Legend
1 Bedrock / Gruff
2 Vegetated minterland

Notes:
- Trees, grass
- Gentle slope

Location:
- A1
- A2
- A3

Observations:
- MSOR, 1x3
- LSOR, 1-5% < 10 cm
- Bld / esbect
- Well rooted / dry pl. storm
- Ridge

Legend:
- AP, MSOR, LSOR, 3x10
- < 1%; all soil appears
- weathered, some "FL
- patches, max 30 cm dia.
- max 5 cm thick
- Worked on

Reviewed: MC 5/22/91
Reviewed: 5/21/94
A1-A4 This small cove has small patches of LSOR or MSOR and a band of LSOR which has been tilled and bioremediated. This area produces small sheens with films on some cobble. appears to have been well mixed with the poorly sorted fined grained sediments.

The oiled sediments are in the upper intertidal zone, where biota are generally sparse. Filamentous green algae are the most apparent organisms at the oiled area and form a sparse cover over some cobble. Littorine snails are found in high densities under some cobble, but are most abundant at the lower tidal level of the oiled site and much more abundant in the middle to low intertidal. Limpets are sparse at the oiled site. Oligochaete worms, amphipods, and isopods also are present under cobble in the oiled area.

The middle zone has a dense cover of Fucus over most of the larger cobble, boulders, and bedrock outcrops. Barnacles are similarly abundant from the lower edge of the upper zone to the lower zone. Mussels are sparsely distributed in the finer sediments, but occur in fairly dense patches in crevices on bedrock. Fucus, amphipods, mussels, barnacles, limpets, and littorine snails all show evidence of recruitment.

(continued)
Thick peat layers are probably the most biologically sensitive feature of the site. This peat layer extends throughout the cove and probably into the lower intertidal, which was not observed during this tidal window. Clams are present in the sediments of the middle zone and may be much more abundant below.

Manual cleanup was performed at this site. Additional cleanup, if recommended, should not cause the removal of the peat layer. Manual tilling and bioremediation was performed in this area last year. A film and occasional coat of oil is present in the sediments, but treatment appears to have accelerated the degradation of the remaining oil.

Wildlife Observations

<table>
<thead>
<tr>
<th>Wildlife</th>
<th>Count or Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harlequin Duck</td>
<td>1</td>
</tr>
<tr>
<td>Western Sandpiper</td>
<td>15</td>
</tr>
<tr>
<td>Pigeon Guillemot</td>
<td>2</td>
</tr>
<tr>
<td>Glaucous-winged Gull</td>
<td>1</td>
</tr>
<tr>
<td>Killer Whale</td>
<td>4 offshore</td>
</tr>
</tbody>
</table>
A1-A4: Sparse to moderate green filamentous algae, smut grass (seaweeds, limpet), cheilostome barnacles, barnacles
Moderate Fucus (barnacle) on cobble/boulders below
Patches of mussels on bedrock outcrops, scattered mussels in cobble. Thick peat-containing sediments nearby & under oiled sediments.
YG

YP004 A

Subdivision Field Map
Map Key: KENYP004A

ADEC Subsegment Length: 183 m

Name: M. Sampson

Date: MAY 18 '90

Date Entered:

Reviewed 5-21-91

XXX Wide

/ / / Medium

---- Narrow

TT TT Very Light

0000 No Oil

AK State Plane Zone 6

YP004A

ATM fT, no oil on both sides.
1991 MAYSAP EVALUATION

SEGMENT: YP 004  SUB: A  REGION: KEN  SURVEY DATE: 5/18/91

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

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

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

SHPO Signature: __________________________  Date: __________________________

RECOMMENDATIONS:

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

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

COMMENTS:

INITIAL: ____________________________________________

TAG: ____________________________________________

FOSC: ____________________________________________

TAG APPROVAL DATE: __________________________  FOSC APPROVAL DATE: __________________________

ADEC __________________________
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.
I don't believe any additional treatment of this area would be effective.

The majority of the segment's surface area is covered by a cobble/silt layer on top of peat. A silty sheet is produced when the armor coat is removed and the silt and peat is worked. A 3m x 6m area of 1cm thick AP was removed while surveying (46m²). I feel no additional surface or subsurface oil can be effectively removed manually.

Concur with other agency comments. Though the segment is within Ketchikan Bay state Park, it would be impractical to attempt to remove the little oil that remains.

As light oiling found among cobble, further scour operations caused more debris that good.
MAYSAP SHORELINE OILING SUMMARY

TEAM NO. 4
K. Semplica

BIO: J. Barry

ADEC: Crosby

LANDMANAGER: Johnson for Rowe

USCG/NOAA: McMichael/McDonell

DATE: May 18, 1991

TIME: 8:00 to 8:55

TIDE LEVEL: +0.0 ft. to +3.2 ft.

ENERGY LEVEL: □ H □ M □ L

SURVEYED FROM: □ FOOT □ BOAT □ HELO

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

SURVEYED LENGTH: 183 m

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

EST. OIL CATEGORY LENGTH:

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

TOTAL LENGTH SURVEYED:

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

DISTRIBUTION: C = 61-100%; B = 61-90%; P = 11-50%; S = 1-10%; T = <1%

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

PHOTO ROLL # MAYASAP-

FRAMES

OG COMMENTS:

Small cove, bedrock bluff, backshore and bedrock outcrops 22 rods. Pockets and substantial oil present. Oil consists of L, S, M, F, and none. Aprox. 3 rods of the cove (see map) very welling. Small pockets look like remnants of more extensive oiled areas. Relatively little clean up.
A1-A4 This small cove has small patches of LSOR or MSOR and a band of LSOR which has been tilled and bioremediated. This area produces small sheens with films on some cobble, appears to have been well mixed with the poorly sorted fine grained sediments.

The oiled sediments are in the upper intertidal zone, where biota are generally sparse. Filamentous green algae are the most apparent organisms at the oiled area and form a sparse cover over some cobble. Littorine snails are found in high densities under some cobble, but are most abundant at the lower tidal level of the oiled site and much more abundant in the middle to low intertidal. Limpets are sparse at the oiled site. Oligochaete worms, amphipods, and isopods also are present under cobble in the oiled area.

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(continued)

WILDLIFE OBSERVATIONS - Completed on all subdivisions

<table>
<thead>
<tr>
<th>BIRDS</th>
<th># OF SPECIES</th>
<th>TOTAL BIRDS</th>
<th>FISH OBSERVED SPECIES PRESENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagles</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seabirds</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Waterfowl</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Gulls/Kittiwakes</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Shorebirds</td>
<td></td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Corvids</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Birds</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MARINE MAMMALS</th>
<th># OBSERVED</th>
<th>SPECIES</th>
<th># OBSERVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sea Otters</td>
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<td></td>
</tr>
<tr>
<td>Pinnipeds (specify)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Whales (specify)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Killer Whales</td>
<td></td>
<td></td>
<td>4, in channel off Nuka Island</td>
</tr>
</tbody>
</table>

Shoreline subdivision map showing important biological features attached.
Thick peat layers are probably the most biologically sensitive feature of the site. This peat layer extends throughout the cove and probably into the lower intertidal, which was not observed during this tidal window. Clams are present in the sediments of the middle zone and may be much more abundant below.

Manual cleanup was performed at this site. Additional cleanup, if recommended, should not cause the removal of the peat layer. Manual tilling and bioremediation was performed in this area last year. A film and occasional coat of oil is present in the sediments, but treatment appears to have accelerated the degradation of the remaining oil.

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<td>1</td>
</tr>
<tr>
<td>Killer Whale</td>
<td>4 offshore</td>
</tr>
</tbody>
</table>
LEGEND

- Bedrock cliffs
- Vegetated upland
- Flat angular flake/cobble
- Peat

SKEWED | SPARSE TO MODERATE GREEN FILAMENTOUS ALGAE, SQUID GUTWORMS, LIMPETS, COELACANTH WORMS, BARNACLES

MODERATE FOCUS (BARNACLES) ON COBBLE/BOULDERS BELOW.

PATCHES OF NAUSOLS ON BARE ROCK OUTCROPS. SCATTERED NAUSOLS IN COBBLE. THICK PEAT-CONTAINING SEDIMENTS NEARBY & UNDER Oiled SEDIMENTS

BLD SKETCH MAP
4 POOL A
J P BARRY
MAY 18 1991
0800 - 0900
YP004 A

Subdivision Field Map
Map Key: KENYP004A

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

ADEC Subsegment Length: 103m
METERS

AK State Plane Zone 4

EXXON

Date: MAY 18/0
Date Entered:

Reviewed 5.21.91

SIGNATURES:

Date: M. 5.13.91
ADDENDUM: SUBDIVISION CONSTRAINTS
SEGMENT YP-4 SUBDIVISION A (1 of 1)

WORK WINDOW

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

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

**USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to manual pickup, bioremediation, and manual tilling within 400m of active nest. No constraint to manual pickup, bioremediation, and manual tilling more than 400m from active nest.**

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC: [Signature]

Prepared by: [Signature]  Date: 6/14/90
ECOLOGY MAP
SEGMENT YP-4
SUBDIVISION A (of L)
METERS
0 337 1114

★ Seabird Colony
▲ Active Eagle Nest
△ Inactive Eagle Nest

1 inch = 1827 feet

Exxon Company, USA
Map Keys: KEN-YP-4
June 10, 1990
SHORELINE EVALUATION

SEGMENT ST/ XP-04 SUBDIVISION A (1 OF 1) DATE 4/28/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
4GG Alaska State Parks

• 5T-1 All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
  See attached Ecological Constraint sheet for specific constraints and contacts.

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

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

SHPO SIGNATURE: DATE: 5/11/90

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 183 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 16 cm

RECOMMENDATIONS:

- No Treatment Recommended
- X Treatment Recommended
- X Manual Pickup
- X Bioremediation
- X Tarmat Removal
- *X Other (see comments)

COMMENTS: Recommended treatment includes 1) manual pickup of mousse patties, 2) manual tilling of areas shown on attached sketch map followed by 3) bioremediation of areas shown on attached sketch map. Work should be conducted after 6/1 with approval of USFWS regarding eagle nest constraint.

TAG COMMENTS: 

TAG APPROVAL DATE: 5/11/90
ADEC
EXXON
NOAA
USCG

FOSC: DATE: 5/14/90
REGION: KENAI

SEGMENT: ST/YP-02

SUBDIVISIONS: A (1 OF 1)
SEGMENT ST/YP-02 SUBDIVISION A (1 OF 1) DATE 4/26/90

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

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

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

SHPO SIGNATURE: __________________________  DATE: __________________________

OILING CATEGORIZATION:
Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 51 m: No Oil 2084 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 __________________________
FIELD SHORELINE COMMENT SHEET

SEGMENT ST1  VP-2  SUBDIVISION: A  DATE 4-26-90

NAME  Stephen Sturm  SIGNATURE  Stephen Sturm

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS
Narrow band of broken coat was present on vertical rock faces at location #1. No subsurface oil was present on the pebble/gravel beach itself as previously reported in ADEC fall survey map. Pits were dug along an Exxon survey transect. As stated previously no oil was present in the subsurface. Simply stated there was not enough oil present to warrant treatment. Very Scenic Area.

ADEC

NAME  Wesley Grumley  SIGNATURE  Wesley Grumley

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS
- Only a very small portion of oil consisting of coat was observed on this segment. It was located on the west side of gravel beach in location #1. Exxon had a test site on location dated 3-15-90. Exxon subsurface test site. 5 pits were dug at an average of 30 cm to try to locate subsurface oil. None was observed. A very large portion of this segment was classified as no oil on ADEC walkathon map. It was surveyed by team via staff due to vertical bedrock cliffs. No oil was observed.
- Small amount of coat that was present was extremely weathered; beach seems to be a very high energy beach due to overturned boulders.

LAND MANAGER

NAME  David M. Melan  ADU SIGNATURE  David M. Melan

☐ NO TREATMENT RECOMMENDED  ☐ TREATMENT SUGGESTED

COMMENTS
ST-VP-2A location # 1 is a small pocket beach and adjacent vertical rock exposures. A drowned forest is situated just above the existing storm beaches. Only traces of oil were noted on the vertical rock faces. No cleanup is recommended.
Due to close proximity of cultural resource site JEL-119 it is desirable to keep clean in the area to a minimum. Area is not recommended for public use. Fresh black bear
**SHORELINE OILING SUMMARY**

OG K. DUBOISCHER

NOFF: STEPHEN STURH

BIO D. REED

LAND REP: DAVID MCKINLEY

ADWR SUBDIVISION: J

EXXON T. OIL II

ADEC WEST LU: CHARLES

TIME: 12:30 TO 23:00

**TEAM NO. 9**

TIDE LEVEL: 2 to 1.75 FT

DATE: 4/26/90

EST. SUBDIVISION LENGTH: 2.821 m

SURFACE OIL

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

PAVEMENT

H F S D sq. m by cm

PATTIES/TARBALLS

BAGS

NEAR SHORE SHEEN?

BR RW SL TL

OILED DEBRIS

AMOUNT

SM MD LG

DID YOU COLLECT DEBRIS?

YES NO

TYPE

C

Photographs:

Roll No. ST-9-3

Frames 29

SUBSURFACE OIL

<table>
<thead>
<tr>
<th>PIT NO.</th>
<th>PIT DEPTH (cm)</th>
<th>SUBSURFACE OIL CHARACTER</th>
<th>OILED DEBRIS</th>
<th>OIL/FILM COLOR</th>
<th>PIT ZONE</th>
<th>ANALYSIS</th>
<th>SURFACE \nSUBSURFACE SEDIMENTS</th>
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<tr>
<td>1</td>
<td>60</td>
<td>X</td>
<td></td>
<td>X</td>
<td>N</td>
<td>P-P-K-S</td>
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<tr>
<td>2</td>
<td>50</td>
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<td>3</td>
<td>50</td>
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<td>P-P-K-S-PK+CG</td>
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<tr>
<td>Y</td>
<td>60</td>
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<td></td>
<td>X</td>
<td>N</td>
<td>P-P-K-S</td>
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<tr>
<td>C</td>
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<td>X</td>
<td>N</td>
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COMMENTS

- SEGMENT IS DOMINATED BY VERTICAL TO HIGH ANGLE BEDROCK WITH SOME PEbble/Cobble/SHAND BENCHES. - RELATIVELY HIGH ENERGY ENVIRONMENT
- LOCATION ( ) A LOW ANGLE NE/S BENCH, IS THE ONLY HIGH WHERE OIL OBSERVED - OIL CONSISTED OF VERY WEATHERED OIL ON VERTICAL BEDROCK WALLS TO THE N AND S OF THE BENCH AT LOCATION ( )
- SUBSURFACE OIL INDICATED ON FILL 09 (DEWZ SURVEY ND) WRS NOT OBSERV (PITS 1-5 )
- NOTE: A MARKER WITH THE "EXXON SUBSURFACE MARCH 15 1990" IS LOCATED AN OUTFLOW AT LOCATION ( )

REVIEWED W 4/23/90
SHORELINE ECOLOGICAL SUMMARY

Segment ST: YP-2  Date (mo / day / yr): 09/26/90

Subdivision: A

Barnacles

<table>
<thead>
<tr>
<th>Substrate Type</th>
<th>Dense</th>
<th>Moderate</th>
<th>Sparse</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
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<td>1M 1L</td>
<td>2 2 2</td>
<td>1U 1M 1L</td>
<td>2 2 2</td>
</tr>
<tr>
<td>Boulder</td>
<td>1M 1L</td>
<td>2 2 2</td>
<td>1U 1M 1L</td>
<td>2 2 2</td>
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<tr>
<td>Cobble</td>
<td>1M 1L</td>
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<td>1U 1M 1L</td>
<td>2 2 2</td>
</tr>
<tr>
<td>Pebble</td>
<td>1M 1L</td>
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<td>1U 1M 1L</td>
<td>2 2 2</td>
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<tr>
<td>Sand</td>
<td>1M 1L</td>
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<td>1U 1M 1L</td>
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Mytilus

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Gastropods

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Fucus

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</tbody>
</table>

Wildlife Observations/ General Comments: 15 Harlequin ducks, 2 oyster catchers, 35 glaucous winged gulls, dense bands of mussels 20' wide, on vertical algal cover bedrock. Mostly 12cm in length, low zone is dense algae. Cover consisting primarily of Averrhoa, Helicea, Pedum, and Callitrya. In subtidal.

Ecological Considerations:

None - very little oil on this segment. Recovery of intertidal coastline if cleaning is recommended, recovery of intertidal shoreline. If cleaning is recovered, recovery of intertidal shoreline from disturbances incurred during cleaning would probably be rapid.

Photographs:

Roll No. ST-9-3

Frames 29
ECOLOGY MAP
Resource codes for entire segment

START YP-2-A

Possible Tent Site

END YP-2-A

XXXX Wide
\\\\ Medium
--- Narrow
TTTT Very Light
0000 No Oil

ADEC Segment Length: 1891 m

Map Key: KEN-1366
Name: Dan Reed
Date: 04/26
Data Entered:
SHORELINE EVALUATION

SEGMENT ST/YP-02 SUBDIVISION A (1 OF 1) DATE 4/26/90

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

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

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

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

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 51 m: No Oil 2084 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
___ Tarimat Removal Beach Cleaner
___ Other (see comments)

COMMENTS:

______________________________________________
______________________________________________
______________________________________________

TAG COMMENTS:

______________________________________________
______________________________________________
______________________________________________

TAG APPROVAL DATE: 5/4/90
ADEC Art Wehrner William
EXXON Angel Ten. Allen
NOAA Cary Peterson
USCG G.A. Peter G.A. Peter