[Shoreline evaluations, 1989].

Volume 28, pt.1

Kodiak section 6, pt. 1

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Kodiak ScAT Section 6
TYPE A SHORELINE CLEANUP WORK ORDER

Date: 19 June 89

Location: (Attach map) Chiniak Bay area, Alaskan Penn.

ADEC No. K9-17

Recommended Cleanup Activity(ies):
(See Attached Work Plans)

Priority Considerations:

Ecological Constraints (from site survey):

Archaeological Constraints:
If any archaeological or historical sites or artifacts are discovered during the cleanup activity, they must remain undisturbed and the Exxon archaeologist C. Mobley contacted (as per procedures in the "Guideline for Shoreline Cleanup") and the State Historic Preservation Office notified as soon as possible.

Submitted by: Jack A. Richner
Exxon

State Historic Preservation Officer Telephone Approval (Required)

Approved: Assistant OSC Western Alaska (If appropriate)

Approved: Federal On-Scene Coordinator

4/30/89
ACE 8708813
SHORELINE CLEANUP PROGRAM

DATE: May 9, 1989

SHORELINE SEGMENT: CC-1

LOCATION: (see enclosed map) Beach north of Cape Chiniak.

ADEC NO. SHORELINE ASSESSMENT DATE: 5/8/89

Recommended Cleanup Activity(ies):
Manually scoop up tar balls along the high-tide wash line.

Priorities Considerations:
High Priority, Bears and other scavengers are eating the numerous dead birds killed by the oil.
The tar balls are being buried by wave action and wind blown sand.
Large bladders may be well suited to transport cleaned-up oil, tarry sand and gravel, if slung by helicopters. Burning of oiled combustibles may be desired, but would shift cleanup from Type A to Type B.

Ecological Constraints (from site survey):
None. Manual cleanup of high zone will not impact uncontaminated mid/lower zones on beach #1. Take precautions to leave lagoon channel areas undisturbed (beach #2) during cleanup of channel banks.

Archeological Constraints (from site survey):
The conditions for type A lightly oiled shorelines should be applied to the cleanup of this segment. If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

State Historic Preservation Officer *

EXXON: Jack Bak

FOSC: __________________________ Date: ________________

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
SHORELINE OIL EVALUATION

Date: 8 May 89  Time: 1300 - 1530  Observer: R. Dugan
Surveyed From: Foot/Boat/Helio/Plane  Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

Beach north of
Cape Colville
SEGMENT NUMBER CC-1

LENGTH OF SHORELINE SEGMENT: 5000 m
ACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane

SHORELINE:

Shoreline Type: SPI/BEA/COV/HLD/STRT  Slope: LANG/HANG/VER
Wave Exposure: High/Med/Low
Sediment: B_7 / C_5 / P_50 / G_7 / S_50 / M_7 / R_1
Drift Debris on Beach: Yes/No  Type: SUPRA/UPPER/MID/LOWER

OIL:

Degree of Oiling: Heavy/Moderate/Light/No Oil/Unobserved
Area of Beach Impact: SU/SP H/M/L
Continuous: Y/N  % of Segment: 80
Sporadic: Y/N  % of Segment: 20

Est. Oil Thickness where > 1 cm: 10 cm  Est. Oil Penetration: 2 - 5 cm
Pooled Oil: %  "Free" Oil: %  Coated: H/M/L
Fresh Mousse: %  Tar Formation: %
Drift Debris Oiled?: Yes/No  Type: SUPRA/UPPER/MID/LOWER

Amount: H/M/L

Comments: ACE 8708815

Oil occurs as tar balls ranging from 1 cm to 400 cm diameter. Tar balls are concentrated in the swash line left by a high tide and are widely scattered in the surf zone. Wind and waves are covering the tar balls and mixing with them. Manual pickup of tar balls and oilied debris is recommended. Priority is high for removing debris (beach etc.) and eating the oiled dead birds & animals. Tar is
ECOLOGICAL EVALUATION

LOCATION: Cape Crown
SITE: 
LOCATION PREFIX: SEG. NO.: CC-1 LENGTH: 5000 (M)
DATE: 5/8/89 TIME (HHMM): 1300 TIDE HT.: -0.5 (M)
OILED ZONE: Splash High Medium Low
SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Fucus observed primarily in debris at water line.

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Sparse clumps in lagoon channel.

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Noted in lagoon channel.

Littorina Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Noted in lagoon channel.

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

OTHER OBSERVATIONS: Bear tracks observed along lagoon channel banks; few jellyfish
(lawn oiled) in lower ITZ; approximately 30 dead oiled birds

CLEANUP PRECAUTIONS: None for Beach #1; avoid lagoon channel when
cleaning oiled areas on banks (Beach #2)

MAMMALS: Otters Harbor Seals Sea Lions Whales

BIRDS:

GENERAL OBSERVATIONS: This segment consists of 3 beaches: #1 is a 750-
wide gravel and high impact beach; #2 is a lagoon beach behind (wet of)
Beach #1. Lagoon Channel flows out to the south of Beach #1

ACE 8708816
Segment: Channel

Date: May 8

Time: 1300

Tide: Mid Tide

Oil: Heavy, sporadic, HML 172

Type: Amber, tar balls, 1 m to several meters

Occurrence: Left in concentrated bank by high tides 1 - 10 meters

H: Continuous - 2 - 3 m, hard, thickness 1 - 10 cm

M: Scattered balls 1 - 40 cm in diameter, 1 - 10 cm thick, 100 meters wide

L: Scattered blocks, same as M...but probably less eg 1 - 100 meters wide
SHORELINE CLEANUP PROGRAM

DATE: May 9, 1989

SHORELINE SEGMENT: CC-1

LOCATION: (see enclosed map) Beach north of Cape Chiniak.

ADEC NO. ___________ SHORELINE ASSESSMENT DATE: 5/8/89

Recommended Cleanup Activity(ies):
Manually scoop up tar balls along the high-tide wash line.

Priorities Considerations:
High Priority, bears and other scavengers are eating the numerous dead birds killed by the oil.
The tar balls are being buried by wave action and wind blown sand.
Large bladders may be well suited to transport cleaned-up oil, tarry sand and gravel, if slung by helicopters. Burning of oiled combustibles may be desired, but would shift cleanup from Type A to Type B.

Ecological Constraints (from site survey):
None. Manual cleanup of high zone will not impact uncontaminated mid/lower zones on beach #1. Take precautions to leave lagoon channel areas undisturbed (beach #8) during cleanup of channel banks.

Archeological Constraints (from site survey):
The conditions for Type A lightly oiled shorelines should be applied to the cleanup of this segment. If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

(Handwritten Signature)

State Historic Preservation Officer *

EXXON: Jack A. Bentrup

FOSC: _______________________________

Date: 17 May 89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.

ADEC Rep: ___________ Date: ___________ Time: ___________

NPS Rep: ___________ Date: ___________ Time: ___________

Native Land Rep: ___________
(version 5/13/89)

Submitted: Jack A. Richardson  Date: 17 May 89

POSSE Approval: Date:

Distribution:
Exxon Shoreline Coordinator
Exxon Shoreline Supervisor
Exxon SCAT file

POOR QUALITY ORIGINAL

ACE 8708821
TYPE A SHORELINE CLEANUP WORK ORDER

Date: 19 June 89  Shoreline Segment: CC-1, CC-2, CC-3, CC-4
Location: (Attach map) Chiniak Bay area, Alaskan Penn.

ADEC No. K9-17  Shoreline Assessment Date: CC-1 May 9, 1989
CC-2 May 9, 1989
CC-3 May 15, 1989
CC-4 May 17, 1989

Recommended Cleanup Activity(ies):
(See Attached Work Plans)

Priority Considerations:

Ecological Constraints (from site survey):

Archaeological Constraints:
If any archaeological or historical sites or artifacts are discovered during the cleanup activity, they must remain undisturbed and the Exxon archaeologist C. Mobley contacted (as per procedures in the "Guideline for Shoreline Cleanup") and the State historic Preservation Office notified as soon as possible.

Submitted by: Jack A. Ricker  Date: 19 June 89
Exxon

State Historic Preservation Officer Telephone Approval (Required)  Date: See Attachments

Approved:  Date: 4/30/89
A. M. Zorn, A
Assistant OSC Western Alaska (if appropriate)

Approved:  Date: 6-21-89
Federal On-Scene Coordinator

ACE 8708823
SHORELINE CLEANUP PROGRAM

DATE: May 15, 1989
SHORELINE SEGMENT CC-2

LOCATION: (see enclosed map) South shore Chiniak Lagoon

ADEC NO. SHORELINE ASSESSMENT DATE: 5/9/89

Recommended Cleanup Activity(ies):
Manual pickup recommended.
If mechanical equipment is used it will constitute Type B cleanup.

Priorities Considerations:
High - heavy wildlife usage

Ecological Constraints (from site survey):
Avoid cross contamination of clean areas, particularly lagoon channels, during manual clean-up.

Archeological Constraints (from site survey):
No access above the active beach. Site should definitely be monitored by an archaeologist during clean-up.

[Signature]
State Historic Preservation Officer

EXXON:

[Signature] Date: 5/15/89

FOSC:

Date:

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
TYPE A SHORELINE CLEANUP WORK ORDER

Date 7/28/89   Shoreline Segment CC-2

Location (see map)
South Shore Chiniak Lagoon

ADEC No. K9-17    Shoreline assessment date 5/9/89

Recommended cleanup activities
Manual pickup recommended.
CC-1, CC-3, CC-4 demobilization was signed off on 7/21/89

Priority considerations
High - heavy wildlife usage

Ecological constraints
Avoid cross contamination of clean areas, particularly lagoon channels, during manual cleanup.

Archaeological constraints (from site survey)
No access above the active beach, site should definitely be monitored by an archaeologist during cleanup.
If any archaeological or historical sites or artifacts are discovered during the clean up activity, they must remain undisturbed and the Exxon archaeologist Jim Haggarty contacted (486-5680) (take action prescribed in the "Guideline for Shoreline Cleanup" dated 4/21/89 as amended.)

Submitted by: Exxon
Approved: Federal On-Scene Coordinator

Date 8/1/00    Date 5/6/87

ACE 8708825
TYPE A SHORELINE CLEANUP WORK ORDER

Date 8/7/89 Shoreline Segment K9-17 CC-2

Location (see map)

South Shore of Chinak Lagoon

ADEC No. K9-17 Shoreline assessment date 5/9/89

Recommended Cleanup Activities

Manual removal of oiled debris/moise patties

Priority Considerations

High-heavy wildlife usage

Ecological Constraints

Avoid cross contamination of clean areas, particularly lagoon channels during manual cleanup

Archaeological Constraints (from site survey)

If any archaeological or historical sites or artifacts are discovered during the clean up activity, they must remain undisturbed and the Exxon archaeologist Jim Haggarty contacted (486-5680) (take action prescribed in the "Guideline for Shoreline Cleanup" dated 4/21/89 as amended)

No access to area above the active beach. Archaeological monitor required during cleanup

Submitted by: Exxon

Approved: Federal On-Scene Coordinator Representative

ACE 8708826
SHORELINE OIL EVALUATION

Date: 9 May 89  Time: 1800-1700
Surveyed From: Foot/Boat/Helio/Plane  Observer: Bob Dugan
Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

South shore

Chinigak Lagoon

SEGMENT NUMBER

LENGTH OF SHORELINE SEGMENT: 1500 m
ACCESS: (Foot/Vehicle/Boat/Barge/Helio/Float Plane)

SHORELINE:

Shoreline Type: SPI/BEA/COV/HLD/STRT  Slope: LANG/HANG/VER
Wave Exposure: High/Med/Low
Sediment: B / C / P S D / G / S S D / M / R
Drift Debris on Beach: Yes/No  Supra/Upper/Mid/Lower Type

OIL:

Degree of Oiling: Heavy/Moderate/Light/No Oil/Unobserved
Area of Beach Impact: SU / SP / H / M / L
  Continuous: /% of Segment 100  Width of Band: 2 - 5 m
  Sporadic: /% of Segment
Est. Oil Thickness where > 1cm: / 0.1 cm  Est. Oil Penetration: / cm
Pooled Oil: 10 %  "Free" Oil: 100 %  Coated: H / M / L
Fresh  Mousse 100 %  Tar Formation:
Drift Debris Oiled?: Yes/No  Supra/Upper/Mid/Lower Amount: H/M/L

Comments:

Confederal blocks on floor of lagoon (light)
(1) Cleanup priority: High, intense cleanup, etc.
Several hundred square yards of contaminated boulders to be picked up.
(2) Mode of cleanup: Manual, tractor, & mechanical pickup recommended. On site burning of oil should be seriously considered if thorough, rapid cleanup is to be achieved.
9 May 89

TIME 1800 - 1900

SEGMENT: CC-2 (Soft, Delicately)

TIDE: high

LMM: measure band (brown)

START

VERT R

LANC

STOP

HANG

Caygorn

Oil: 3.5 meter band of mousse at HTZ stand layer - up to 10cm thick

- moderate, semidesert pack; melts into sediment in sunlight

- HTZ: scattered 1-5cm blocks covering 2% of green surface

probably typical for HTZ too

- penetration = 5 to 25cm; depending on degree of melting

- buried by mousse/wind

- debris: lots of bags, many have mousse on them

Priority: high - more can be picked up earlier, intense been use

Cleaning: manual picking, ATVs or rolling bars would help
ECOLOGICAL EVALUATION

LOCATION: CHINIAC LAGOON  SITE:  OBSERVER: D. McCuearnick
LOCATION PREFIX:  SEG. NO.: CC-2  LENGTH: 1500 (M)
DATE: 5/9/89  TIME (HHMM): 1800  TIDE HT.: +2.0 (M)
OILED ZONE: Splash  High  Medium  Low
SUBSTRATUM: Rocks  Boulder  Cobble  Gravel  Sand  Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Most Fucus seen as debris along strand line - oil coated

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Most Mytilus seen as debris at high ITZ

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Littorina
Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

OTHER OBSERVATIONS: Large clam shells; lots of murine in high ITZ and sparse in low ITZ. Bird clean-up crew reports seeing bald eagles feeding on oiled birds - may be feeding their young with this!

CLEANUP PRECAUTIONS: Avoid cross-contamination to clean areas, particularly lagoon area. During manual clean-up.

MAMMALS: Otters  Harbor Seals  Sea Lions  Whales
Other Bears (3), fox (1)

BIRDS: Ducks, bald eagles

GENERAL OBSERVATIONS: Known area of clams,ungenue crabs, clams is very rich in fauna - should be given a very high cleanup priority to avoid further impact to lagoon fauna and scavenging of oiled birds.

ACE 8708830
SHORELINE CLEANUP PROGRAM

REQUEST TO AREA: SHORELINE SEGMENT CC-2
LOCATION ( ) South shore Chiniak Lagoon

DATE: ___________ SHORELINE ASSESSMENT DATE: 5/9/89

Recommended Cleanup Activity(ies):
Manual pickup recommended.
If machine is used it will constitute Type B cleanup.

Site Considerations:
High - heavy wildlife usage

Environmental Considerations (from site survey):
Potential contamination of clean areas, particularly lagoon channels, during manual cleanup.

Archaeological Considerations (from site survey):
Site should definitely be monitored by an archaeologist during clean-up.

[Signature]
Supervising Historic Preservation Officer

EXXON: [Signature] Date: May 17, 1989

POSC: [Signature] Date: ___________

* These are required to satisfy stipulations in Alaska DNR Title 16 permits for tide and submerged lands.
Shipping/Uni-Cleanup Assessment Block Report

Section: 4, 5, 6, 7, 8, 9

Mittal - Cape Zeppelin North Block

Included Shoreline Segments: CC-1, CC-2

Submitted: Jack A. Richman
(for Exxon)  Date: May 12, 1989

FOSC Approval:  Date: 

The cleaning procedures identified in the Shoreline Cleanup Program are typical. Modifications to these systems can be made in the field. The FOSC and other field personnel are encouraged to suggest modifications and productivity enhancements to the FOSC's on-scene representative. The FOSC's representative has the authority to approve these modifications. The Field Resource Team should be consulted if these actions do not fit within the ecological guidelines of the Shoreline Cleanup Program. Requirements for safety and the protection of cultural material must be observed.

Distribution:
- Exxon Shoreline Coordinator
- Exxon Shoreline Supervisor
- Exxon SCAT file
- FOSC
- CDFU
- NOAA
- FPA
- USDA (FS)
- USFW
- A. DEC
- A. FG
- A. DNR
- CAC
- PWSCA
- USFS
- SHPO

ACE 8708834

POOR QUALITY ORIGINAL
Date: 19 June 89  Shoreline Segment: CC-1, CC-2, CC-3, CC-4
Location: (Attach map) Chiniak Bay area, Alaskan Penn.

ADEC No. K9-17  Shoreline Assessment Date:
CC-1 May 8, 1989
CC-2 May 7, 1989
CC-3 May 15, 1989
CC-4 May 17, 1989

Recommended Cleanup Activity(ies): (see Attached Work Plans)

Priority Considerations:

Ecological Constraints (from site survey):

Archaeological Constraints:
If any archaeological or historical sites or artifacts are discovered during the cleanup activity, they must remain undisturbed and the Exxon archaeologist C. Mobley contacted (as per procedures in the "Guideline for Shoreline Cleanup") and the State historic Preservation Office notified as soon as possible.

Submitted by: Jack A. Dickens

State Historic Preservation Officer Telephone Approval (Required)

Approved: Assistant OSC Western Alaska (if appropriate)

Approved: Federal On-Scene Coordinator

Date: 19 June 89

Date: 20 June 89

Date: 6-21-89

ACE 8708836
SHORELINE CLEANUP PROGRAM

DATE 5/15/89  SHORELINE SEGMENT CC-3

LOCATION: (see enclosed map) Cape Chiniak

Beach North of Cape Chiniak

ADEC NO. SHORELINE ASSESSMENT DATE: 5/15/89

Recommended Cleanup Activity (ies)

1) Rake and shovel mousse and pancake.
2) Remove debris coated with mousse.
3) Shovel light coating of sand on mousse affixed to logs; this will speed the natural weathering process.

Priorities Considerations:

Shovel and collect thick mousse in backwater area near stream.

Ecological Constraints (from site survey):

Avoid disturbing large stream.

Archeological Constraints (from site survey):

Archeological monitoring is required during cleanup. No cleanup activity should take place within 25 meters (75 feet) of wave cut terrace in south west half of segment. Cleanup crews are to remain on seaweed side of drift wood piles.

State Historic Preservation Officer

Date: 5/16/89

EXXON: Jack A. Ruston

Date: 5/June 89

FOSC:

Date:

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
SHORELINE OIL EVALUATION

Date: 15 May 89 / Time: 1740
Surveyed From: Foot/Boat/Helio/Plane
Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

LOCATION Beach North of C. Chiniak
Alaska Pen. (Kotzebue Nat. Ik.)

SEGMENT NUMBER CC - 3

LENGTH OF SHORELINE SEGMENT: 1750 m

ACCESS: Foot/Vehicle/Boat/Barge/Plane

SHORELINE:

Shoreline Type: SPI/HBA/COV/HLD/STRT
Slope: HANG/HANG/VER
Wave Exposure: High/Med/Low

Sediment: B - t / C - t / P - t / G35 t / S5O t / M - t / R 5 t

Drift Debris on Beach: Yes/No
Supra/Upper/Mid/Lower

OIL

Degree of Oiling: Heavy/Moderate/Light/No Oil/Unobserved

Area of Beach Impact: SU / GF / H / M / L
Continuous: Yes % of Segment 1%
Width of Band: 1 to 2 m
Sporadic: Yes % of Segment 5%

Est. Oil Thickness where > 1 cm: 5 cm
Est. Oil Penetration: 0.2 cm

Pooled Oil: 15 t "Free" Oil: 75 t Coated: H t / M t / L 10 t

Fresh 0 t Mousse 100 t Tar Formation: 0 t

Drift Debris Oiled? Yes/No Supra/Upper/Mid/Lower
Amount: H/M/L/

Comments:

Drying mousse 'pancake' from South Point of Segment to Wash outlet has a zone
of discontinuous patches (1 cm to 3/4 m diameter) in the high intertidal zone. The south end of the segment has
a 4 m wide zone containing 25% mousse to a 4 m wide zone containing 5% mousse at the wash
outlet. A pool of mousse 5 cm thick in an area of 30 m² is located against the berm at the
wash outlet. At the north side of the segment, the sandy beach meets a flat rock outcrop against
the headland. A 55 m stretch of 2 m continuous mousse covered by a thin layer of sand
and seaweed debris is against the berm.
ECOLOGICAL EVALUATION

LOCATION: Cape Chiniak
SITE: Cape Chiniak
LOCATION PREFIX: CC
SEG. NO.: CC - 3
LENGTH: 1750 (M)
DATE: 5/15/89
TIME (HHMM): 1240
TIDE HT.: -140 (M)
OILED ZONE: Splash
SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Ittornina

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

OTHER OBSERVATIONS: Green and red algae on rocks

CLEANUP PRECAUTIONS: None

MAMMALS: Otters Harbor Seals Sea Lions Whales
Other

BIRDS: One dead, heavily oiled, decayed

GENERAL OBSERVATIONS: Marine diminishes as you head north
Some marine pooled in backwater area.

ACE 8708839
Cape Chiniak Beach North of Cape Chiniak

ADEC No. K9-17

Shoreline assessment date 5/15/89

Recommended cleanup activities

Carefully remove overburden of sand from the buried mousse located in the stream bank. Place removed sand in a pile for replacement back to the affected area. Remove mousse with shovels, bags, and haul off. Replace sand which was removed. Do Not dig into stream. Avoid stream contamination.

Priority considerations

Layer of mousse covered by a layer of beach sand near the stream bank.

Ecological constraints

Avoid disturbing the stream. Minimize walking in stream. Do not block stream with removed sand. If salmon migration has begun, do not begin operation.

Archaeological constraints (from site survey)

Archaeological monitoring is required during cleanup. No cleanup activity should take place within 25 meters (75 feet) of wave cut terrace in south west half of segment. Cleanup crews are to remain on seaward side of drift wood piles. If any archaeological or historical sites or artifacts are discovered during the clean up activity, they must remain undisturbed and the Exxon archaeologist Jim Haggarty contacted (486-5680) (take action prescribed in the "Guideline for Shoreline Cleanup" dated 4/21/89 as amended).

Submitted by: Jack Ritter
Exxon 9-4-89

Recommended Approval

State Historic Preservation Officer 3/5/89

Interagency Shoreline Committee Representative 5/4/89

Approved:

Federal On-Scene Coordinator

ACE 8708842
(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE: 5/15/89

SHORELINE SEGMENT: CC-3

LOCATION: (see enclosed map) ________ CAPE CHINIAK

Beach North of Cape Chiniak

ADEC NO. __________ SHORELINE ASSESSMENT DATE: 5/15/89

Recommended Cleanup Activity (ies):

1) Rake and shovel mousse and pancake.
2) Remove debris coated with mousse.
3) Shovel light coating of sand on mousse affixed to logs; this will speed the natural weathering process.

Priorities Considerations:

Shovel and collect thick mousse in backwater area near stream.

Ecological Constraints (from site survey):

Avoid disturbing large stream.

Archeological Constraints (from site survey):

Archeological monitoring is required during cleanup. No cleanup activity should take place within 25 meters (75 feet) of wave cut terrace in southwest half of segment. Cleanup crews are to remain on seaweed side of drift wood piles.

State Historic Preservation Officer *

Date: 5/16/89

EXXON: ____________________________ Date: __________

FOSC: ____________________________ Date: __________

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.

ACE 8708843
SHORELINE OIL EVALUATION

Date: 15 May 89 / Time: 1740
Surveyed From: Foot/Boat/Helio/Plane
Observer: Bryan Trim

Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

Location: Beach North of C. Chiniak
Alaska Pen. (Kamai Nat.'l Pk.),
LENGTH OF SHORELINE SEGMENT: 1750 m

ACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane

SHORELINE:

Shoreline Type: SPI/ERR/COV/HLD/STR
Wave Exposure: High/Med/Low

Sediment: B- t / C- t / PLo t / G35 t / SS0 t / M- t / R 5 t

Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower
Type: Log/Sticks Steam/Seaweed

OIL:

Degree of Oiling: Heavy/Moderate/Light/No Oil/Unobserved

rea of Beach Impact: SU / SP / H / M / L
Continuous: B N % of Segment 1%. Width of Band: 1 to 2 m
Sporadic: D N % of Segment 5%.

Est. Oil Thickness where > 1cm: 5 cm Est. Oil Penetration: 0.2 cm

Pooled Oil: 15 t "Free" Oil: 75 t Coated: H t / M t / L 10 t

Fresh 0 t Mousse 100 t Tar Formation: 0 t

Drift Debris Oiled? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L

Comments:

Drying Mousse "Pancake" from South Point of Segment to Wash outlets has a Band of Discontinuous patches (1 cm to 3/4 in diameter) in the High Intertidal Zone. The South End of the Segment has a 4 m wide Zone containing 25% mousse to a 4 m wide Zone containing 5% mousse at the Wash outlet.

A Peel of Mousse 5 cm thick in an area of 30 m^2 is located against the beam at the Wash outlet. At the North side of the Segment, the sandy beach meets a flat rock outcrop against the headland. A 55 m stretch of 2 m continuous mousse covered by a thin layer of sand and seaweed debris is against the beam.

ACE 8708844
DOCUMENTATION:

~/Aerial photo marking segment boundaries Attached

TR: Y/N Tape Number(s) __________________________________________

Photography: Y/N Roll Number(s) TA-SMB-8

Sample Numbers Collected: None
ECOLOGICAL EVALUATION

LOCATION: Cape Girardeau  SITE: Beach B-6  OBSERVER: S.M. Brown
LOCATION PREFIX: CC  SEG. NO.: CC-3  LENGTH: 1750 (M)
DATE: 5/15/89  TIME (HHMM): 1740  TIDE HT.: -1 40 +/- (M)
OILED ZONE: Splash High Medium Low
SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Dense only on rocks in N part of Bay, None on Sandy Beaches

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Very sparse on rocks — None on Sandy gravel area

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Dense only on rocks in N part of Bay, None on Sandy Beaches

Coracias: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Few seen on rocks

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Few seen on rocks

OTHER OBSERVATIONS: Olive and red algae on rocks

CLEANUP PRECAUTIONS: None

MAMMALS: Otters  Harbor Seals  Sea Lions  Whales
              Other  Pdek Fox - Not Moving - Lethargic, Sick or Injured

BIRDS: One dead, heavily oiled, decayed

GENERAL OBSERVATIONS: Mousse diminishes as you head north
                       One mousse pool in backwater area

ACE 8708846
SHORELINE CLEANUP PROGRAM

DATE 5/15/89
SHORELINE SEGMENT CC-3

LOCATION: (see enclosed map) KATMAI - CAPE CHINIAK
Beach North of Cape Chiniak

ADEC NO. ___________ SHORELINE ASSESSMENT DATE: 5/15/89

Recommended Cleanup Activity (ies)

1) Rake & shovel mousse and pancake.
2) Remove debris coated with mousse.
3) Shovel light coating of sand on mousse affixed to logs; this will speed the natural weathering process.

Priorities Considerations:
Shovel and collect thick mousse in backwater area near stream.

Ecological Constraints (from site survey):
Avoid disturbing large stream.

Archeological Constraints (from site survey):
Archaeological monitoring is required during cleanup. No cleanup activity should take place within 25 meters (75 feet) of wave cut terrace in south west half of segment. Cleanup crews are to remain on seaweed side of drift wood piles.

State Historic Preservation Officer *

Date: 5/16/89

EXXON: Jack A. Peterson
Date: May 17, 1989

FOSC: ____________________________ Date: ____________________________

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Location (see enclosed map): KODIAK - CAPE CHINIAK BAY (KATMAI)

Includes Shoreline Segments: CC-1. CC-2. CC-3. CC-4

Submitted: ______________________________ Date: ______________
(for Exxon)

FOSC Approval: ______________________________ Date: ______________

The cleanup procedures identified in the Shoreline Cleanup Program are recommended. Modifications to these systems can be made in the field. Exxon and other field personnel are encouraged to suggest innovations and productivity enhancements to the OSC's on-scene representative. The OSC's representative has the authority to approve on-site modifications. The Field Resource Team should be consulted if these actions do not fit within the Ecological Constraints of the Shoreline Cleanup Program. Requirements for safety and the protection of cultural material must be observed.

Distribution:
Exxon Shoreline Coordinator
Exxon Shoreline Supervisor
Exxon SCAT file

FOSC
CDFU
NOAA
EPA
USDA (FS)
USFWS
A. DEC
A. FG
A. DNR
CAC
PWSCA
USFS
SHPO

ACE 8708851
Date: 19 June 89  Shoreline Segment: CC-1, CC-2, CC-3, CC-4
Location: (Attach map) Chiniak Bay area, Alaskan Penn.

ADEC No. K9-17  Shoreline Assessment Date: CC-1 May 8, 1989
CC-2 May 8, 1989
CC-3 May 15, 1989
CC-4 May 17, 1989

Recommended Cleanup Activity(ies):
(See Attached Work Plans)

Priority Considerations:

Ecological Constraints (from site survey)

Archaeological Constraints:
If any archaeological or historical sites or artifacts are discovered during the cleanup activity, they must remain undisturbed and the Exxon archaeologist C. Mobley contacted (as per procedures in the "Guideline for Shoreline Cleanup") and the State historic Preservation Office notified as soon as possible.

Submitted by: Jack A. Rickner  Date: 19 June 89
Exxon

State Historic Preservation Officer Telephone Approval (Required)  Date: See Attachments

Approved:  Date: 26 June 89
Assistant OSC Western Alaska (If appropriate)
by direction

Approved:  Date: 6-21-89
Federal On-Scene Coordinator

ACE 8708853

4/30/89
(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 5/18/89         SHORELINE SEGMENT CC-4

LOCATION: (see enclosed map) CHINIAK BAY - KATMAI

ADEC NO.                SHORELINE ASSESSMENT DATE: 5/17/89

Recommended Cleanup Activity(ies):

1) For south 350 meters, use shovel to remove continuous mousse if mechanized equipment not permitted.

2) For remainder of segment, use shovel and rake to remove discontinuous and continuous pancake.

Priorities Considerations:

Remove thick and buried mousse near southern boundary of site.

Ecological Constraints (from site survey):

Avoid large stream (river) banks at southern terminus of segment.

Archaeological Constraints (from site survey):
Archaeology monitor required during cleanup. Cleanup personnel must be restricted to the seaward side of the driftwood line in the northern half of the segment.

Charles E. Holmes
State Historic Preservation Officer

EXXON:                Date: May 18, 1989

FOSC:                  Date: 5/21/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tidal and submerged lands.

ACE 8703854
SHORELINE OIL EVALUATION

Date: 17 May '89  /  Time: 1700 Hrs
Surveyed From: Foot / Boat / Helio / Plane
Observer: Revan Trim
Weather: Sun / Cloud / Rain / Snow / Fog

LOCATION

S. Boundary Creek / Northwest Kasuyak Site

LOCATION

Beach N. of C. Chinak
SEGMENT NUMBER: CC-4

LENGTH OF SHORELINE SEGMENT: 1750 m
ACCESS: Vehicle / Boat / Barge / Helio / Float Plane

SHORELINE:

Shoreline Type: SPI COV / HLD / STRT
Slope: LANG / HANG / VER
Wave Exposure: High / Med / Low
Sediment: B- t / C- t / P-35 t / G-35 t / S-30 t / M- t / R - t
Drift Debris on Beach: Yes / No

OIL:

Degree of Oiling: Heavy / Moderate / Light / No Oil / Unobserved

Area of Beach Impact: SU / SP / H / M / L
Continuous: 0 / N % of Segment 10
Sporadic: 0 / N % of Segment 60

Est. Oil Thickness where > 1cm: 2 cm
Est. Oil Penetration: 3 cm

Pooled Oil: 0 % "Free" Oil: 90 % Coated: H- t / M- t / L- t
Fresh: 0 % Mousse: 100 % Tar Formation: 0 %

Drift Debris Oiled?: Yes / No

SUPRA / UPPER / MID / LOWER

Type: Log / Sticks / Stal

SEAWEED

Comments:

5. 200 m of segment H/T to 5m wide continuous mousse. Sand covers mousse, pianoing the mousse up to 5m deep. Light mechanized vehicles should remove this! The pancake mousse on the north side portion of this segment is 35% coverage of pancake mousse for a 6cm wide zone in the H/T at the far 1 segment. Thins to no oil/mousse, 800m to the south. Shovel / rakes can easily remove this deposit. Enclosed field map details beach (segment CC-4) oil accumulation.

ACE 8708855
95% Drift above H1TZ, Drift in SP clean In zone, no penetration.
CC-3

100m long section of 5mm wire disconnected from top of segment south.

SCAT team walked whole segment.

200m long continuous 5mm wire buried up to 40cm deep in sand, found in high integrity zone. Bone starts at point where creek enters day.
ECOLOGICAL EVALUATION

LOCATION: Chinook Bay  SITE: N of Chinook  OBSERVER: S.M. Ban
LOCATION PREFIX: CC  SEG. NO.: CC-4  LENGTH: 1750 (M)
DATE: 05/17/89  TIME (HHMM): 1000  TIDE HT.: +2 (M)
OILED ZONE: Splash  High   Medium   Low
SUBSTRATUM: Rocks  Boulder  Cobble  Gravel  Sand  Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None
Some dead uncoiled Fucus washed ashore at Sheno line

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse None
One small patch on rocks behind sand bar

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse None

Littorina
Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None

OTHER OBSERVATIONS:
Red algae on rocks behind sand bar.
Sheen on water behind sand bar.

CLEANUP PRECAUTIONS:
Dense Aquatic Large Stream (River)
at S end of site - Do not disturb stream banks

MAMMALS: Otters  Harbor Seals  Sea Lions  Whales  Other  None

BIRDS: Sandpipers, gulls, 4 dead piper birds sp. unknown

GENERAL OBSERVATIONS:
Pancake zone thins with movement toward south thickens to pools and buried mosses as the stream is approached. No oil in immediate vicinity of the stream.

ACE 8708860
ECOLOGICAL EVALUATION

LOCATION: Chiniak Bay
SITE: N. of Chiniak
OBSERVER: S.M. Ban

LOCATION PREFIX: CC
SEG. NO.: CC-4
LENGTH: 1750 (M)

DATE: 05/17/89
TIME (HHMM): 1900
TIDE HT.: +2 (M)

OILED ZONE: Splash
High
Medium
Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None

Some dead unoi(e)ed Fucus washed ashore at strand line

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None

One small patch on rocks behind sand bar

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None

Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None

OTHER OBSERVATIONS:

Red algae on rocks behind sand bar.
Shore on water behind sand bar

CLEANUP PRECAUTIONS:

Mammals: Otters Harbor Seals Sea Lions Whales Other None

BIRDS: Sandpipers, gulls, 4 dead, piker birds spec. unknown

GENERAL OBSERVATIONS:

Pancake zone thins with movement towards south thickens to pools and butter mousse as the stream is approached. No oil in immediate vicinity of the stream.

ACE 8708861
SHORELINE CLEANUP PROGRAM

DATE: 5/18/89  SHORELINE SEGMENT: CC-4

LOCATION: (see enclosed map) CHINI-AK BAY - KATMAI

ADEC NO. ___________ SHORELINE ASSESSMENT DATE: __5/17/89__________

Recommended Cleanup Activity(ies):

1) For south 350 meters, use shovel to remove continuous mousse if mechanized equipment not permitted.

2) For remainder of segment, use shovel and rake to remove discontinuous and continuous pancake.

Priorities Considerations:

Remove thick and buried mousse near southern boundary of site.

Ecological Constraints (from site survey):

Avoid large stream (river) banks at southern terminus of segment.

Archeological Constraints (from site survey):

Archaeology monitor required during cleanup. Cleanup personnel must be restricted to the seaward side of the driftwood line in the northern half of the segment.

Date: May 18, 1989

State Historic Preservation Officer

Date: 5/21/89

EXXON: 

Date: ____________________________

FOSC: ____________________________

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Location (see enclosed map): KODIAK - CAPE CHINIAK BAY (KATHMAI)

Includes Shoreline Segments: CC-1, CC-2, CC-3, CC-4

Submitted: [Signature] Date: 5/21/89
(for Exxon)

FOSC Approval: ___________________________ Date: ___________________________

The cleanup procedures identified in the Shoreline Cleanup Program are recommended. Modifications to these systems can be made in the field. Exxon and other field personnel are encouraged to suggest innovations and productivity enhancements to the OSC’s on-scene representative. The OSC’s representative has the authority to approve on-site modifications. The Field Resource Team should be consulted if these actions do not fit within the Ecological Constraints of the Shoreline Cleanup Program. Requirements for safety and the protection of cultural material must be observed.

Distribution:
Exxon Shoreline Coordinator
Exxon Shoreline Supervisor
Exxon SCAT file

FOSC
CDFU
NOAA
EPA
USDA (FSA)
USFW
A.DEC
A.FG
A.DNR
CAC
PWSCA
USFS
SHPO
SEGMENT INSPECTION RECORD

ADEC # K9-17

Shoreline Treatment Process(es) Completed for this Segment

- Hot water wash
- Warm water wash
- Non-mechanical
- Mechanical
- Water deluge
- Other

Exxon

Treatmen as indicated above has been completed. Request demobilization from this segment.

Comments: Manually scoop up tar balls along the high tide wash line.

Signature

Printed Name Jim Wade

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

Percent

Degree of Oiling

Heavy

Medium

Light

Very Light

100%

Subsurface Oil

[ ] Yes

[ ] No

Comment Below

[ ] Yes - Necessary

[ ] No - Not necessary unless re-oiled

ADEC Rep Comments

Please see other side.

Signature

Printed Name Clarke R. Pelz

FOSC Rep

Date 7-21-89 Time 5:15 PM

Comments: Demobilization approved

FOSC Rep

Date 7-21-89 Time 5:15 PM

Printed Name Phillip C. Smith

Copy: Exxon ADEC FOSC ISCC Return All Signed Originals to Exxon

ACE 8708860
Area still has considerable oil in broken layer at high tide line, this needs and could be fairly easy to remove.

ADEC Comments: A quarter mile section at the south end of CC4 has a light oiling at the HIZ which should not be on a treated beach. I imagine what has happened here is this oil has been redeposited or exposed. If crews return to Cape Chinak this area should receive a quick finishing treatment.
SHORELINE CLEANUP PROGRAM

DATE  8/05/89  SHORELINE SEGMENT K9-18-CN-01

LOCATION: (see enclosed map) Cape Chiniak

ADEC NO. ___________ SHORELINE ASSESSMENT DATE: 8/05/89

Recommended Cleanup Activity(ies):
- Manual removal of oil deposits and oiled drift material (small) do not remove logs.

Priorities/Considerations: Class 3/4-A
- Access to much of this shoreline will be by foot from pocket beaches.
- Oil deposits consist of mousse in cracks between boulders, mousse and tar patties, tar balls and pavement.

Ecological Constraints (from site survey):
- Avoid salmon stream located at the west end of the segment.
- Avoid cross-contamination to clean areas of the intertidal zone.

Archaeological Constraints (from site survey):
- If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archaeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

EXXON: __________________________ Date: __________________

FOSC: __________________________ Date: __________________

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
SHORELINE OIL EVALUATION

A. General
1. Date: 5 Aug 89 2. Time: 1230 3. Observer: Duncan M. F. Koelsch
10. Access: Foot/Vehicle/Boat/Barge/Helio/Float Plane
11. Total Percentage of Segment Accessible: 30%
12. Access Restrictions: Access can only be gained at pocket beaches

B. Shoreline
13. Shoreline Type: SPI/SEAOV/MLD/STRT/CLE/DAF
14. Slope: LANG-HANG VERT
15. Wave Exposure: HIGH/MED/LOW
16. Sediment: B0/2 / C1/2 / P0/2 / G5/2 / S1/2 / M1/2 / R0/2
17. Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type driftwood and seaweed

C. Oil Summary
18. Degree of Oiling: Heavy/Moderate/Light Very Light/No Oil Observed
19. Area of Beach Impact: Width of Band: 2 to 5 yds
   Continuous: Total % of Segment 50%
   Sporadic: Total % of Segment 40%
   No Oil: Total % of Segment 10%
20. Est. Oil Thickness where >1in: 2-3 in
21. Est. Oil Penetration: 2-3 in
22. Pooled Oil: 0 % "Free" Oil: 10 % Coated: H 40 % / M 30 % / L 20 %
23. Fresh _______ % Mousse _______ % Tar Formation: _______ %
24. Drift Debris Oiled? Yes/No Supra/Mid/Low Amount: _______ HML

Comments:
Most of this shoreline will be cleaned. However, access will be difficult except at pocket beaches. Oiling consists of mousse between crevices and crevices of boulders, mouse and tar patches, tar balls, movement, and oiled driftlines. Mouse and oil spread particularly widespread on the backland segment and at pocket beaches oiling is concentrated at the bases of the beach.

SEE PAGE 2 FOR SUPPLEMENTAL INFORMATION

and along supra tidal (sham) and spring high tide driftlines. For type examples see maps #1 and #2.
SUPPLEMENTAL SHORELINE OIL EVALUATION

25. Oil Type

<table>
<thead>
<tr>
<th>Type</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh</td>
<td>10</td>
</tr>
<tr>
<td>Mousse</td>
<td>20</td>
</tr>
<tr>
<td>Weathered</td>
<td>20</td>
</tr>
<tr>
<td>Tar</td>
<td>100</td>
</tr>
</tbody>
</table>

26. Total Oil Coverage

<table>
<thead>
<tr>
<th>Type</th>
<th>Length (yd)</th>
<th>Width (yd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Light:</td>
<td>800</td>
<td>1-2</td>
</tr>
<tr>
<td>Light:</td>
<td>3000</td>
<td>2-4</td>
</tr>
<tr>
<td>Moderate:</td>
<td>2000</td>
<td>3-5</td>
</tr>
<tr>
<td>Heavy:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

27. Oil Distribution

- pooled/continuous
- coating/splat
- cracks/crevices
- patties (>10 cm diameter)
- balls (<10 cm diameter)
- asphalt pavement

28. Preliminary Cleanup Est.

<table>
<thead>
<tr>
<th>Type</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE A</td>
<td>1000</td>
</tr>
<tr>
<td>TYPE B</td>
<td></td>
</tr>
<tr>
<td>TYPE A/B</td>
<td></td>
</tr>
</tbody>
</table>

29. Remobilization Potential: High/Medium/Low

DOCUMENTATION:

Map/Aerial photo marking segment boundaries: Attached

VTR: Y N Tape Number(s):

Photography: Y N Roll Number(s): DMC - 27

Additional Comments:

ACE 8708870
Map #1

Typical Bedrock Headland

- Bedrock
- Vegetation slope
- Band of split
- Usually 2-4 yds wide, continuous for 100-400 yds long

Map #2

Typical Pocket Beach

- Cobble beach
- Oil in drift material
- Pockets of mousse and debris
- Vegetation

ACE 3708371
**ECOLOGICAL EVALUATION**

**LOCATION:** AK PENINSULA  
**SITE:**  
**LOCATION PREFIX:** K-9-18-CN  
**SEG. NO.:** 1  
**LENGTH:** 5800 (M)  
**DATE:** 8/16/89  
**TIME (HHMM):** 0830  
**TIDE HT.:** + 6.0 FT  
**OILED ZONE:** Splash High Medium Low  
**SUBSTRATUM:** Rocks Boulder Cobble Gravel Sand Mud  

### LIVE BIOTA

**Fucus (algae):** Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

**Nyttlus (Mussels):** Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

**Balanus (Barnacles):** Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N  
Approx. 50% are oiled

**Littorina:** Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

**Limpets:** Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

### OTHER OBSERVATIONS:
- Tidepools from Fascliria, Neu Teela, Cabbage, Tea, etc., with or without algae  
- Fucoporia, Seriabina, Seriabina, Henricia, Other Balanuses,  
- Foliose, Sublittoral, Clamshells, Ruditorn, seagrasses, Calothrix, Salmon weed  

### CLEANUP PRECAUTIONS:
- No cleanup required. No visible petroleum at use end of segment. No cleanup restrictions.

### MAMMALS:
- Otters ___  
- Harbor Seals ___  
- Sea Lions ___  
- Whales ___  

### BIRDS:
- Bald eagle (1)  

### GENERAL OBSERVATIONS:
- Shiny, commonly occurred many tide pools on this segment  
- Where moss occurs in boulders/rock crevices. Oil condition on this segment range from some light splatter to moderately oiled boulders and pebble beaches  
- Boulders should be left to be cleaned naturally, but pockets of moss and oiled patches of beach materials should be cleaned manually.
Walked entire segment
COMPLETE JAN 11 1990

ACE 7963988
(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE: May 2, 1989  SHORELINE SEGMENT HB-1

LOCATION: (see enclosed map) South side of Hallow Bay.

ADEC NO. __________ SHORELINE ASSESSMENT DATE: 5/8/89

Recommended Cleanup Activity(ies):
Manually scoop up tar balls along the high tide wash line.

Priorities Considerations:
High priority, bears and other scavengers are eating dead oiled birds.
The tar balls are being buried and mixed with sediments by successive tide cycles which will make it more difficult to remove them.
Large balloon tired vehicles would be ideal for transporting the large volumes of material to be disposed, but that would constitute Type B clean-up rather than Type A.

Ecological Constraints (from site survey):
None. Manual removal of tar balls and oiled debris at wash zone will not adversely impact uncontaminated lower ITZ.

Archeological Constraints (from site survey):
The conditions for Type A shorelines should be applied to the cleanup of this segment. If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

State Historic Preservation Officer *

Date: May 9, 1989

EXXON: ____________ Date: May 17, 1989

FOSC: ____________ Date:

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Location (see enclosed map): HALLO BAY BLOCK

Includes Shoreline Segments: HB-1, HB-2, HB-3, HB-4

Submitted: Jack A. Paschke (for Exxon) Date: 5/17/89

FOSC Approval: Date:

The cleanup procedures identified in the Shoreline Cleanup Program are recommended. Modifications to these systems can be made in the field. Exxon and other field personnel are encouraged to suggest innovations and productivity enhancements to the OSC's on-scene representative. The OSC's representative has the authority to approve on-site modifications. The Field Resource Team should be consulted if these actions do not fit within the Ecological Constraints of the Shoreline Cleanup Program. Requirements for safety and the protection of cultural material must be observed.

Distribution:
- Exxon Shoreline Coordinator
- Exxon Shoreline Supervisor
- Exxon SCAT file

FOSC
CDFU
NOAA
EPA
USDA (FS)
USFW
A.DEC
A.FG
A.DNR
CAC
PWSCA
USFS
SHPO

ACE 8708877
SEGMENT INSPECTION RECORD

ADEC # K9-19
Shoreline Segment: HB-1

Shoreline Treatment Process(es) Completed for this Segment

- Hot water wash
- Warm water wash
- Water deluge
- Mechanical
- Non-mechanical
- Other

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments: Manually scoop up tar balls along the high tide wash line.

Signature: ___________________________ Date: 7/14/89

Printed Name: Jim Wade

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

<table>
<thead>
<tr>
<th>Percent</th>
<th>Degree of Oiling</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Heavy</td>
</tr>
<tr>
<td></td>
<td>Medium</td>
</tr>
<tr>
<td></td>
<td>Light</td>
</tr>
<tr>
<td></td>
<td>Very Light</td>
</tr>
</tbody>
</table>

100% Subsurface Oil

- Yes
- No

Comment Below: Resettlement

Yes - Necessary

ADEC Rep

Comments: Conditions were poor for an inspection today but from

Signature: ___________________________ Date: 7-17-89

Printed Name: Clarke A. Pelz

FOSC Rep

Demobilization approved/disapproved

Comments: as comments on reverse.

Signature: ___________________________ Date: 7/9/89

Printed Name: Phillip C. Smith

Copy: Exxon ADEC FOSC ISCC Return All Signed Originals to Exxon

ACE 8703879 ++
A previous visit and since the crews have already moved on ADL agrees to demobilization and reassessment.

NOAA SSC Comments

Beach is recommended for demobilization. Small amounts of spatter and dried tarballs (small in size) remain on beach oil is not mobile and is not considered to be a significant environmental hazard. Reassessment should be performed at low tide.

J C Talcott
J C Talbot, NOAA SSC
(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 5/13/89  SHORELINE SEGMENT HB-2

LOCATION: (see enclosed map) Hallo Creek Lagoon at Hallo Bay

SHORELINE ASSESSMENT DATE: 5/9/89

Recommended Cleanup Activity (ies)

Manual pickup.
Mechanical pickup would speed it up, if permitted.

Priorities Considerations: HIGH

Wind and waves will bury the oil.
Intense wildlife use.

Ecological Constraints (from site survey):

During manual cleanup of dead birds and mousse, avoid introducing or tracking mousse into relatively clean lower ITZ and Hallow Creek channels.

Archeological Constraints (from site survey):
If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

[Signature]
State Historic Preservation Officer
Date: 5/13/89

[Signature]
EXXON
Date: 5/17/89

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
TYPE: A SHORELINE CLEANUP WORK ORDER

Date: 19 June 1989  Shoreline Segment: HB-1, HB-2, HB-3, HB-4
Location: (Attach map) Halle Bay

ADEC No. K-9-19 Shoreline Assessment Date: HB-1 May 8, 1989
HB-2,3,4 May 9, 1989
Recommended Cleanup Activity(ies): SEE ATTACHED

Priority Considerations:

Ecological Constraints (from site survey):

Archaeological Constraints:
If any archaeological or historical sites or artifacts are discovered during the cleanup activity, they must remain undisturbed and the Exxon archaeologist C. Mobley contacted (as per procedures in the "Guideline for Shoreline Cleanup") and the State historic Preservation Office notified as soon as possible.

Submitted by: Exxon
Date: 19 Jun

State Historic Preservation Officer Telephone Approval (Required) Date: See Attachments

Approved: Assistant OSC Western Alaska (if appropriate) Date: 21 Jun 89

Federal On-Scene Coordinator Date: 21 Jun 89

ACE 8705882

4/30/89
SHORELINE OIL EVALUATION

Date: 9 May 89  Time: 1600 - 1700  Observer: Bob Dugan

Surveyed From: Foot/Boat/Helio/Plane  Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION Halla Creek Lagoon

LOCATION Halla Bay  SEGMENT NUMBER HB-2

LENGTH OF SHORELINE SEGMENT: 900 m plus another 1000 m inside lagoon

ACCESS: Vehic/Helio/Float Plane

SHORELINE:

Shoreline Type: SPI/BEA/COV/HLD/STRT  Slope: LANG/HANG/VER

Wave Exposure: High/Med/Low

Sediment: B+/C+/P+/G+/S+/M+/R-

Drift Debris on Beach: Yes/No  Supra/Upper/Mid/Lower Type

OIL:

Degree of Oiling: Heavy/Moderate/Light/No Oil/Unobserved

Area of Beach Impact: SU/SP/H/M/L

Continuous: Y/N  % of Segment 100

Sporadic: O/N  % of Segment 1-2%

Est. Oil Thickness where > 1 cm: 10 cm  Est. Oil Penetration: 1-25 cm

Pooled Oil:  % "Free" Oil: 100 % Coated: H/M/L

Fresh  % Mousse 100  % Tar Formation:

Drift Debris Oiled?: Yes/No  Supra/Upper/Mid/Lower Amount: H/M/L/

Comments:

1) 90% of mousse concentrated in H/IT/ strand lines.  2) Mousse rapidly melts or flows in direct sunlight exposure  3) High priority cleanup due to heavy wildlife use & natural burial of oil by wind & waves.
DOCUMENTATION:
ap/Aerial photo marking segment boundaries
See Attached

TR: Y/N Tape Number(s)
hotography: Y/N Roll Number(s) TIB-9
ample Numbers Collected: None
ECOLOGICAL EVALUATION

LOCATION: Hello Creek Lagoon  SITE: ________  OBSERVER: D. McCauley

LOCATION PREFIX: ______  SEG. NO.: HB-2  LENGTH: 900 + 1000 (M)

DATE: 5/9/89  TIME (HHMM): 1600  TIDE HT.: + 1.1 (M)

OILED ZONE: Splash  High  Medium  Low

SUBSTRATUM: Rocks  Boulder  Cobble  Gravel  Sand  Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

Fucus present as debris at strand line only

'Pytilus (Mussels): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

'Smilia (Barnacles): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

Limpets: Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

MAMMAL: Otters  Harbor Seals  Sea Lions  Whales  Other  Bear-tracks

BIRDS: 300 beak tracks seen along Hello Creek 1 set poor for

points; mussels in Hello Creek; counted approx. 20iled birds at high TTZ

CLEANUP PRECAUTIONS: Use manual clean-up to pick up mouse - avoid

introducing oil to uncontaminated areas of low TTZ and Creek channel

GENERAL OBSERVATIONS: This site should be cleaned ASAP (dead birds and

extensive mouse on surface) due to presence of scavengers and high

use by shorebirds. There are known clam beach areas here that may be

impacted if oil becomes buried. Known salmon streams in area.
9 May 89

Time: 1600 - 1700

Segment: HB-2

Tide: mid to high
Mass = mouse

Scale: 0 - 100m

HB3 → VERT

Vert

Vert → new B, contact sand

new B, contact sand

pooled water

HB3

ACE: N - numerous dead birds

alb : mouse, 100% in high tide areas

90% concentrated in 1 - 5m

hundreds, widely scattered patches about

between 1.172 & 1.173 (1% area

runoff: up to 3 in thick but

rapidly settling into the sand by the

blobs 90%, partial 10%
SHORELINE CLEANUP PROGRAM

DATE 5/13/89  SHORELINE SEGMENT HB-2

LOCATION: (see enclosed map) Hallo Creek Lagoon at Hallo Bay

ADEC NO. SHORELINE ASSESSMENT DATE: 5/9/89

Recommended Cleanup Activity (ies)

Manual pickup.
Mechanical pickup would speed it up, if permitted.

Priorities Considerations: HIGH

Wind and waves will bury the oil.
Intense wildlife use.

Ecological Constraints (from site survey):

During manual cleanup of dead birds and mousse, avoid introducing or tracking mousse into relatively clean lower ITZ and Hallow Creek channels.

Archeological Constraints (from site survey):
If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

State Historic Preservation Officer *

EXXON: 

FOSC: 

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.

Date: 5/13/89

Date: 5/17/89

ACE 8708889 +/5
SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Location (see enclosed map): HALLO BAY BLOCK

Includes Shoreline Segments: HB-1, HB-2, HB-3, HB-4

Submitted: Jack A. Peterson __________________________ Date: 5/17/89
(for Exxon)

FOSC Approval: __________________________ Date: ________

The cleanup procedures identified in the Shoreline Cleanup Program are recommended. Modifications to these systems can be made in the field. Exxon and other field personnel are encouraged to suggest innovations and productivity enhancements to the OSC's on-scene representative. The OSC's representative has the authority to approve on-site modifications. The Field Resource Team should be consulted if these actions do not fit within the Ecological Constraints of the Shoreline Cleanup Program. Requirements for safety and the protection of cultural material must be observed.

Distribution:
- Exxon Shoreline Coordinator
- Exxon Shoreline Supervisor
- Exxon SCAT file
- FOSC
- CDPU
- NOAA
- EPA
- USDA (FS)
- USFW
- A.DEC
- A.FG
- A.DNR
- CAC
- PWSCA
- USFS
- SHPO

ACE 8708890
SEGMENT INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

- Hot water wash
- Warm water wash
- Water deluge
- Mechanical
- Non-mechanical
- Other

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments: Manually scoop up tar balls along the high tide wash line.

Existing Shoreline Condition As Visually Determined by USCG

<table>
<thead>
<tr>
<th>Percent</th>
<th>Degree of Oiling</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Heavy</td>
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<tr>
<td></td>
<td>Medium</td>
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<tr>
<td></td>
<td>Light</td>
</tr>
<tr>
<td></td>
<td>Very Light</td>
</tr>
</tbody>
</table>

Existing Shoreline Condition As Visually Determined by ADEC

<table>
<thead>
<tr>
<th>Percent</th>
<th>Degree of Oiling</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td></td>
<td>Light</td>
</tr>
<tr>
<td></td>
<td>Very Light</td>
</tr>
</tbody>
</table>

ADEC Rep Comments: Survey conditions today on offshore tide, but from

Signature: [Signature]
Printed Name: Jim Wade

FOSC Rep Comments: Demobilization approved/disapproved

Signature: [Signature]
Printed Name: Clarke B. Pelz

Copy: Exxon  ADEC  FOSC  ISCC  Return All Signed Originals to Exxon
Initial Comments

previous visits and since the crew has already moved on ADEC agrees to demobilization.

NPS Comm: 
Child care to NE of Hella Creek, this area has some mouse prey and诗虫l Tolakhaan dry high table to be checked at low. Trees from same feam ties with near creek reflect area looked pretty clean

NWC Report No. 7/19/87

NOAA SSC Comments

Small amount of tar balls (Quarter & dime size) and dried spattering on logs/rocks. Tar balls drying out and not significant from an environmental hazard standpoint. Beach is recommended for demobilization. Reassessment should be done at low ride.

JC Talbott
JC Talbott, NOAA SSC
TY. \ A SHORELINE CLEANUP WORK ORDER

Date: 19 June 1989  Shoreline Segment: HB-1, HB-2, HB-3, HB-4
Location: (Attach map) Halle Bay

ADEC No. K-9-19 Shoreline Assessment Date: HB-1 May 8, 1989
     HB-2,3,4 May 7, 1989

Recommended Cleanup Activity(ies):
SEE ATTACHED

Priority Considerations:

Ecological Constraints (from site survey):

Archaeological Constraints:
If any archaeological or historical sites or artifacts are discovered during the cleanup activity, they must remain undisturbed and the Exxon archaeologist C. Mobley contacted (ns per procedures in the "Guideline for Shoreline Cleanup") and the State historic Preservation Office notified as soon as possible.

Submitted by: Jack A. Rickman
Exxon

State Historic Preservation Officer Telephone Approval (Required)

Approved: 
Assistant OSC Western Alaska (if appropriate) D. J. LeBlanc

Approved: 
Federal On-Scene Coordinator

4/30/89

ACE 8708894 t/
(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE: 5/13/89

SHORELINE SEGMENT: HB 3

LOCATION: (See enclosed map) HALLO BAY

North side of Nuka'ak Point

ADPC NO: ___________________ SHORELINE ASSESSMENT DATE: ___________________

Recommended Cleanup Activity (ies)

Let nature take its course because it's a very high energy coast which will probably self clean.

Priorities Considerations:

LOW

Biological Constraints (from site survey):

None. This is a high energy beach (self-cleaning), less damaging to let waves clean beaches than washing crews.

Archaeological Constraints (from site survey):

If heretofore undisturbed cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the operational guidelines for shoreline cleanup dated 4/21/89 as amended.

State Historic Preservation Officer: Douglas Reyer

Date: 5/13/89

EXXON: Jack R. Rehman

Date: 5/13/89

FOSC: ___________________

Date: ___________________

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
SHORELINE OIL EVALUATION

Date: 9 May 89  Time: 1600  Observer: Bob Dugan
Surveyed From: (Foot/Boat/Helio/Plane)  Weather: (Sun/Cloud/Rain/Snow/Fog)

LOCATION

Northeast side of Nuksah Point, Hallo Bay  SEGMENT NUMBER HB-3

LENGTH OF SHORELINE SEGMENT: 4000 m

ACCESS: Foot/Vehicle, Boat/Barge/Helio/Float Plane

SHORELINE:

Shoreline Type: SPI/BEA/COV/HLD/STRT  Slope: (LANG/HANG/VER)
Wave Exposure: (High/Med/Low)
Sediment: B 40% / C 20% / P 10% / G 15% / S 5% / M 40% / R 40%

Drift Debris on Beach: (Yes/No)  Upper/Mid/Lower Type

OIL

Degree of Oiling:  Heavy/Moderate/Light/No Oil/Unobserved
Area of Beach Impact:  SU / SP / (H) / M / L

Continuous: (Y/N)  % of Segment 95  Width of Band: 5-20 m
Sporadic: (Y/N)  % of Segment 5

Est. Oil Thickness where > 1 cm: 10 cm  Est. Oil Penetration: 0 cm
Pooled Oil: 5%  "Free" Oil: 10%  Coated: H 70% / M 15% / L 15%

Fresh ____%  Mousse 100%  Tar Formation: ____%

Drift Debris Oiled?: (Yes/No)  Upper/Mid/Lower Amount: H/M/L

Comments:

Very high energy boulder coast. Access could be limited by tides. Very difficult to clean & house. Priority is low - let nature take its course. Cleanup would require hot water, pressure, & means of people which is probably not acceptable to NPS.
DOCUMENTATION:

Map/Aerial photo marking segment boundaries: See attached

TR: Y/Ø Tape Number(s) 

Photography: Y/Ø Roll Number(s): None taken

Sample Numbers Collected: None

ACE 8708897
**ECOLOGICAL EVALUATION**

**LOCATION:** North side of Mudhol

**SITE:** First Hill Bay

**LOCATION PREFIX:** SEG. NO.: HB-3

**LENGTH:** 4000 (M)

**DATE:** 5/9/89

**TIME (HHMM):** 1600

**TIDE HT.:** +1.0 (M)

**OILED ZONE:** Splash High Medium Low

**SUBSTRATUM:** Rocks Boulder Cobble Gravel Sand Mud

**LIVE BIOTA**

<table>
<thead>
<tr>
<th>TAXONOMY</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Fucus</em></td>
<td>algae: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N</td>
</tr>
<tr>
<td><em>Mytilus</em></td>
<td>(Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N</td>
</tr>
<tr>
<td><em>Balanus</em></td>
<td>(Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N</td>
</tr>
<tr>
<td><em>Littorina</em></td>
<td>Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N</td>
</tr>
<tr>
<td><em>Limpets</em></td>
<td>Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N</td>
</tr>
</tbody>
</table>

**OTHER OBSERVATIONS:** Light oiling at mid-FTZ - *fucus* / *laminaria* debris

**CLEANUP PRECAUTIONS:** None, since no cleanup is recommended.

**MAMMALS:**

- **Otters (2)**
- **Harbor Seals **
- **Sea Lions **
- **Whales **

**BIRDS:** Gulls, Eagles

**GENERAL OBSERVATIONS:** This is a very high energy coast with moderate oiling - self-cleaning
9 May 89

H-3 Scale

Time 1100 0 300 m

HB-3

N

Start HB-3

HB-2

R

R

R

12/16 Bn

- medium waves in H-12 on cobbles & boulders in long bedrock
- scattered boulders in H-12
- very high energy beach, very little debris
- plenty of clean up, low natural wave action will clean it

difficult to access due to cliff
at head of H-12
difficult to clean in boulders & cobbles
(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE: 3/13/89

LOCATION: (See enclosed map) HAILA BAY

North side of Nunavik Point

ADBC No.: SHAORELINE ASSEMBLY UNIT

Recommended Cleanup Activity (ies)

Let nature take its course because it is a high energy coast which will probably self clean.

Priorities Considerations:

LOW

Ecological Constraints (from site survey):

None. This is a high energy beach (erosion, etc.) damaging to let waves clean itself than altering clean.

Archaeological Constraints (from site survey)

If herebefore undisturbed cultural material are disturbed by cleaning, contact Exxon's archeological field expert for actions prescribed in the archeological field report. Cleanup dated 4/21/89 as amended.

Douglas Deyen
State Historic Preservation Officer

EXXON: Jack Redman

Date: 5/13/89

FOSC: ______________________

Date: ______________________

* Signature required to satisfy Alaska Fish and Game and land use permits for tidal and submerged lands.
SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Location (see enclosed map): HALLO BAY BLOCK

Includes Shoreline Segments: HB-1, HB-2, HB-3, HB-4

Submitted: Jack A. Pihl
(for Exxon)

Date: 5/17/89

FOSC Approval: ________________________________ Date: ____________

The cleanup procedures identified in the Shoreline Cleanup Program are recommended. Modifications to these systems can be made in the field. Exxon and other field personnel are encouraged to suggest innovations and productivity enhancements to the OSC's on-scene representative. The OSC's representative has the authority to approve on-site modifications. The Field Resource Team should be consulted if these actions do not fit within the Ecological Constraints of the Shoreline Cleanup Program. Requirements for safety and the protection of cultural material must be observed.

Distribution:
Exxon Shoreline Coordinator
Exxon Shoreline Supervisor
Exxon SCAT file

FOSC
CDFU
NOAA
EPA
USDA (FS)
USFW
A.DEC
A.FG
A.DNR
CAC
PWSCA
USFS
SHPO

ACE 8708903
TYPE: A SHORELINE CLEANUP WORK ORDER

Date: 19 June 1989  Shoreline Segment: HB1, HB-2, HB-3, HB-4
Location: (Attach map) Halle Bay

ADEC No. K-9-19 Shoreline Assessment Date: HB-1 May 8, 1989
Recommended Cleanup Activity(ies): SEE ATTACHED

Priority Considerations:

Ecological Constraints (from site survey):

Archaeological Constraints:
If any archaeological or historical sites or artifacts are discovered during the cleanup activity, they must remain undisturbed and the Exxon archaeologist C. Mobley contacted (as per procedures in the "Guideline for Shoreline Cleanup") and the State historic Preservation Office notified as soon as possible.

Submitted by: Jack A. Rickman  Date: 19 Jun
Exxon

State Historic Preservation Officer  Telephone Approval (Required)  Date: See Attachment

Approved: Assistant OSC Western Alaska (if appropriate)  Date: 21 Jun 89

Approved: Federal On-Scene Coordinator  Date: 21 Jun 89

4/30/89
SHORELINE CLEANUP PROGRAM

DATE May 9, 1989

SHORELINE SEGMENT HB-1

LOCATION: (see enclosed map) South side of Hallow Bay.

ADEC NO. __________ SHORELINE ASSESSMENT DATE: __________

Recommended Cleanup Activity(ies):
Manually scoop up tar balls along the high tide wash line.

Priorities Considerations:
High priority, bears and other scavengers are eating dead oiled birds.
The tar balls are being buried and mixed with sediments by successive tide cycles which will make it more difficult to remove them.
Large balloon tired vehicles would be ideal for transporting the large volumes of material to be disposed, but that would constitute Type B clean-up rather than Type A.

Ecological Constraints (from site survey):
None. Manual removal of tar balls and oiled debris at wash zone will not adversely impact uncontaminated lower ITZ.

Archeological Constraints (from site survey):
The conditions for Type A shorelines should be applied to the cleanup of this segment. If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Charles E. Adams
State Historic Preservation Officer

Date: May 9, 1989

EXXON: Jack A. Richen
Date: May 17, 1989

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
SHORELINE OIL EVALUATION

Date: 8 May 89  Time: 1530
Observer: R. Dugan

Surveyed From: Foot/Boat/Helio/Plane
Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

South Side Bay

SEGMENT NUMBER HB-1

LENGTH OF SHORELINE SEGMENT: 700 m
ACCESS: Foot/Vehicle/Boat/Barge/ Helio/Float Plane

SHORELINE:

Shoreline Type: SPI/BEA/COV/HLD/STRT
Slope: LANG/HANG/VER

Silt Exposure: High/Med/Low

Sediment: B--/C--/P--/G--/S--/M--/R--

Silt Debris on Beach: Yes/No

Supra/Upper/Mid/Lower Type

Degree of Oiling: Heavy/Moderate/Light/No Oil/Unobserved

Debris on Beach Impact: SU/SP/H/M/L

Continuous: Y/N % of Segment 75

Width of Band: 2-3 m

Sporadic: Y/N % of Segment 25

St. Oil Thickness where > 1 cm: 1-25 cm

Est. Oil Penetration: 3-1 cm

Poled Oil: /100/ "Free" Oil: ___% Coated: H___/M___/L___

Resh ____% Mousse /100___% Tar Formation: ____%

Silt Debris Oiled?: Yes/No Supra/Upper/Mid/Lower Amount: H/M/L

Comments:

Tar balls are concentrated in high tide swash line and have mixed with some sand & gravel. Scattered tar balls, usually smaller, are widely distributed in the mid and low tide zone. Some are partially buried. Manual scooping of tar balls along the high tide line would be effective.
DOCUMENTATION:

Map/Aerial photo marking segment boundaries

USGS AFOGMARK

Y/N Tape Number(s) ____________________________

Photography: Y/N Roll Number(s) TIB-9

Sample Numbers Collected: None

ACE 8708908
ECOLOGICAL EVALUATION

LOCATION: South Side Harbour Bay
SITE: 
SEG. NO.: 4B-1 LENGTH: 700 (M)
DATE: 5/8/89 TIME (HHMM): 1530 TIDE HT.: 2.0 (M)
OILED ZONE: Splash High Medium Low
SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud
LIVE BIOTA

**Fucus** (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

**Mytilus** (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

**Balanus** (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

**Littorina**: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

**Limpets**: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

OTHER OBSERVATIONS: 

CLEANUP PRECAUTIONS: Manual cleanup of tar-balls and only decontaminate line will not adversely impact mid-lower zones. No avian life observed.

MAMMALS: Otters ____ Harbor Seals ____ Sea Lions ____ Whales ____

BIRDS: 

GENERAL OBSERVATIONS: Primary concern here is oiled birds washing up here. Rough estimate is 125 birds in 200m stretch of beach. Zone put under quarantine and should be removed ASAP. Additional oiled birds observed with incoming tide.
8 May 89
Segment: Hello Bay -1 (148.1)
Time: 1530 - 1635
- Landed in H-3 w/ USCG
- Surveyed @ M-4 HWP

- Heavy oil in 2-3 meter band on
  high tide line (lots of wood debris along)
- Many dead birds
- H172 - Heavy 1 to 2.5 cm thick, containing 3 meter bars
  mixed w/ sand/gravel
- M172 - Scattered blues, mostly sand covered
- Oil doesn't penetrate but does get buried by wind/waves
  - Manual scoop up

Note: Remarked w/ markers in January
(version 5/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Location (see enclosed map): HALLO BAY BLOCK

Includes Shoreline Segments: HB-1, HB-2, HB-3, HB-4

Submitted: Jack A. Rehem
(for Exxon) Date: 5/12/89

FOSC Approval: Date:

The cleanup procedures identified in the Shoreline Cleanup Program are recommended. Modifications to these systems can be made in the field. Exxon and other field personnel are encouraged to suggest innovations and productivity enhancements to the OSC's on-scene representative. The OSC's representative has the authority to approve on-site modifications. The Field Resource Team should be consulted if these actions do not fit within the Ecological Constraints of the Shoreline Cleanup Program. Requirements for safety and the protection of cultural material must be observed.

Distribution:
Exxon Shoreline Coordinator
Exxon Shoreline Supervisor
Exxon SCAT file
FOSC
CDFU
NOAA
EPA
USDA (FS)
USFS
A. DEC
A. FG
A. DNR
CAC
PWSCA
USFS
SHPO
DATE: 19 June 1989

Shoreline Segment: HB-1, HB-2, HB-3, HB-4

Location: (Attach map) Halle Bay

ADEC No. K-9-19 Shoreline Assessment Date: HB-1 May 8, 1989

Recommended Cleanup Activity(ies):

SEE ATTACHED

Priority Considerations:

Ecological Constraints (from site survey):

Archaeological Constraints:
If any archaeological or historical sites or artifacts are discovered during the cleanup activity, they must remain undisturbed and the Exxon archaeologist C. Mobley contacted (as per procedures in the "Guideline for Shoreline Cleanup") and the State historic Preservation Office notified as soon as possible.

Submitted by: Jack A. Richner

Exxon

State Historic Preservation Officer Telephone Approval (Required)

Approved: 

Assistant OSC Western Alaska (if appropriate)
By direction

Approved: 

Federal On-Scene Coordinator

Date: 21 Jun 89

ACE 8708915 /S

4/30/89
(version 5/02/89)

SHORELINE CLEANUP PROGRAM

Water W/ V._____

SHORELINE SEGMENT HR-1

DEPARTMENT (for lead map) HALLO BAY

______

STAND._________SHORELINE ASSESSMENT DATE:__________

Recommended Cleanup Activity (ieo)

Manual pickup.

Priorities Considerations, HIGH

Oil being gradually buried.
Intensive wildlife use area.

Technical Find Date (from site survey):

Date: 5/13/89

[Signature] Date: 5/13/89

STATE HISTORIC PRESERVATION OFFICER

EXXON: [Signature] Date: 5/17/89

POSC: [Signature] Date: ______________

The findings required to satisfy stipulations in Alaska DNR
Historic Preservation for Oil and Submerged Lands.

ACE 8708916 +/5

POOR QUALITY ORIGINAL
SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Location (see enclosed map): __HALLO BAY BLOCK__

Includes Shoreline Segments: __HB-1, HB-2, HB-3, HB-4__

Submitted: ___________________________ Date: 5/17/89
(for Exxon)

FOSC Approval: ___________________________ Date: ______________

The cleanup procedures identified in the Shoreline Cleanup Program are recommended. Modifications to these systems can be made in the field. Exxon and other field personnel are encouraged to suggest innovations and productivity enhancements to the OSC's on-scene representative. The OSC's representative has the authority to approve on-site modifications. The Field Resource Team should be consulted if these actions do not fit within the Ecological Constraints of the Shoreline Cleanup Program. Requirements for safety and the protection of cultural material must be observed.

Distribution:

Exxon Shoreline Coordinator
Exxon Shoreline Supervisor
Exxon SCAT file

FOSC
CDFU
NOAA
EPA
USDA (FS)
USFW
A.DEC
A.FG
A.DNR
CAC
PWSCA
USFS
SHPO

ACE 8708917
SHORELINE CLEANUP PROGRAM

DATE 5/19/89
SHORELINE SEGMENT HB-4
LOCATION: (see enclosed map) Hhallo Bay

SHORELINE ASSESSMENT DATE: __________________

Recommended Cleanup Activity(ies):
Manual pickup

Priorities Considerations:
High - oil being gradually buried
- immature wildlife area

Ecological Constraints (from site survey):
None. During manual cleanup avoid tracking or introducing oil/moisture in cleaner, low ITZ.

Archeological Constraints (from site survey):
If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon archaeologist C. Mobley and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.
The coordinating for type A cleanup on lightly oiled shorelines should be applied to this segment.

State Historic Preservation Officer *
Date: __________________

EXXON: __________________________ Date: __________________

FOSC: __________________________ Date: __________________

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
SHORELINE OIL EVALUATION

Date: 9 May 89  Time: 1730  Observer: Bob Dugan
Surveyed From: (Foot/Boat/Helio/Plane)  Weather: (Sun/Cloud/Rain/Snow/Fog)

LOCATION

LOCATION  Helio  Boat  Plane  SEGMENT NUMBER  HB  -  4

LENGTH OF SHORELINE SEGMENT: 5000 m
ACCESS:  Foot/Vehicle/Boat/Barge/Helio/Float Plane

SHORELINE:
Shoreline Type: SPI/BEA/COV/HLD/STRT  Slope: (LANG/HANG/VER)
Wave Exposure: (High/Med/Low)
Sediment: B__% / C__% / P__% / G__% / S__% / M__% / R__%
Drift Debris on Beach: (Yes/No)  Supra/Upper/Mid/Lower Type (Log)

OIL
Degree of Oiling: (Heavy/Moderate/Light/No Oil/Unobserved)
Area of Beach Impact: (SU/SP/H/M/L)
Continuous: Y/N  % of Segment  20  Width of Band: 1.3 m
Sporadic: Y/N  % of Segment  80  % in %

Est. Oil Thickness where > 1cm: 6 cm  Est. Oil Penetration: 1 - 25 cm
Pooled Oil: /0% "Free" Oil: 70% Coated: H__% / M__% / L__%
Fresh ________%  Mousse  100%  Tar Formation: _______
Drift Debris Oiled?: (Yes/No)  Supra/Upper/Mid/Lower Amount: H/M/L

Comments:
South 1000 m of segment is moderately oiled in H/M area; lightly oiled over the northern 4000 m.
Priority = high  Cleanup = manual

ACE 8708920
DOCUMENTATION:

Map/Aerial photo marking segment boundaries See Attached.

VTR: Y/N  Tape Number(s) ________________

Photography: Y/N  Roll Number(s) TIB-9

Sample Numbers Collected: None
<table>
<thead>
<tr>
<th>ISLANDS (Locations)</th>
<th>GEOLOGIC SEDIMENT TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naked Is.</td>
<td>NA</td>
</tr>
<tr>
<td>Peak Is.</td>
<td>PE</td>
</tr>
<tr>
<td>Stoney Is.</td>
<td>ST</td>
</tr>
<tr>
<td>Eleanor Is.</td>
<td>EL</td>
</tr>
<tr>
<td>Ingot Is.</td>
<td>IN</td>
</tr>
<tr>
<td>Block Is.</td>
<td>BL</td>
</tr>
<tr>
<td>Entrance Is.</td>
<td>EN</td>
</tr>
<tr>
<td>Sphinx Is.</td>
<td>SP</td>
</tr>
<tr>
<td>Disk Is.</td>
<td>DI</td>
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<tr>
<td>Knight Is.</td>
<td>KN</td>
</tr>
<tr>
<td>Smith Is.</td>
<td>SM</td>
</tr>
<tr>
<td>Seal Is.</td>
<td>SE</td>
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<tr>
<td>Applegate Is.</td>
<td>AP</td>
</tr>
<tr>
<td>Green Is.</td>
<td>GR</td>
</tr>
<tr>
<td>L. Green Is.</td>
<td>LG</td>
</tr>
<tr>
<td>Agnes (Bass) Is.</td>
<td>AB</td>
</tr>
<tr>
<td>L. Smith Is.</td>
<td>LS</td>
</tr>
<tr>
<td>Gore Point</td>
<td>GP</td>
</tr>
<tr>
<td>Montague Is.</td>
<td>MN</td>
</tr>
<tr>
<td>Aguliak Is.</td>
<td>AG</td>
</tr>
<tr>
<td>Squirrel Is.</td>
<td>SL</td>
</tr>
<tr>
<td>New Year Is.</td>
<td>NY</td>
</tr>
<tr>
<td>Murray Is.</td>
<td>MU</td>
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<tr>
<td>Squire Is.</td>
<td>SQ</td>
</tr>
<tr>
<td>Crafton Is.</td>
<td>CR</td>
</tr>
<tr>
<td>Pt. Nowell</td>
<td>PN</td>
</tr>
<tr>
<td>Junction Is.</td>
<td>JU</td>
</tr>
<tr>
<td>Chenega Is.</td>
<td>CH</td>
</tr>
<tr>
<td>Pleiades Is.</td>
<td>PL</td>
</tr>
<tr>
<td>Bainbridge Is.</td>
<td>BA</td>
</tr>
<tr>
<td>Flemming Is.</td>
<td>FL</td>
</tr>
<tr>
<td>Evans Is.</td>
<td>EV</td>
</tr>
<tr>
<td>Elrington Is.</td>
<td>ER</td>
</tr>
<tr>
<td>Latouche Is.</td>
<td>LA</td>
</tr>
<tr>
<td>Danger Is.</td>
<td>DA</td>
</tr>
</tbody>
</table>

* Multiple entry is acceptable, use decreasing order of type found. (i.e. C/G/S where C is most predominant type and S is the least one.)

** DEGREE OF OILING

<table>
<thead>
<tr>
<th>AREA OF BEACH IMPACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supratidal (+SHWL)</td>
</tr>
<tr>
<td>HWL to SHWL</td>
</tr>
<tr>
<td>Upper 1/3 ITZ</td>
</tr>
<tr>
<td>Middle 1/3 ITZ</td>
</tr>
<tr>
<td>Lower 1/3 ITZ</td>
</tr>
</tbody>
</table>

ADEC IMPACT SURVEY

<table>
<thead>
<tr>
<th>SHORELINE TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beach</td>
</tr>
<tr>
<td>Cove</td>
</tr>
<tr>
<td>High Angle</td>
</tr>
<tr>
<td>Low Angle</td>
</tr>
<tr>
<td>Vertical</td>
</tr>
<tr>
<td>Headland</td>
</tr>
<tr>
<td>Spit</td>
</tr>
</tbody>
</table>

Comments:

** Heavy (>6m wide and/or >1.0 cm thick)
Moderate (3-6m wide and/or 0.2-1.0 cm thick)
Light (0.1 -3m wide and/or <0.2 cm thick)
No Oil (free of visible oil)
9 May 89

TIME - 1730

Segment: HB-4, helicopter, foot

Tide: near high tide, phys.

Distance:

2000 m

3000 m

HB-1

mod mouse

- LT mouse

some large patches

BEA

BEA - continuous, sandy beach

elevation - south 1000 m has: moderate noise, 70% of HB12 stand line

10% scattered in HB12

ACE 8708923

occurrence - occur as...blobs...pothy, dead, sick

weights - melt into sand, direct sun light

Primary - extended to high purity (numerous beers in area, sighted 2

Cleanup - manual pickup, ATV or galleon would help efficiency

- use skis, was snow
ECOLOGICAL EVALUATION

LOCATION: Hello Bay  SITE: ________  OBSERVER: D. McComb
LOCATION PREFIX: _______  SEG. NO.: HB-4  LENGTH: 5000 (M)
DATE: 5/9/89  TIME (HHMM): 1730  TIDE HT.: +1.5 (M)
OILED ZONE: Splash  High  Medium  Low
SUBSTRATUM: Rocks  Boulder  Cobble  Gravel  Sand  Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N
Fucus and Laminaria present and debris only in mid-high tide zones

Mytilus (Mussels): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N
Mytilus present and debris only at strand line.

Balanus (Barnacles): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

Littorina
Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

Limpets: Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

OTHER OBSERVATIONS:
Clam beaches

CLEANUP PRECAUTIONS:

MAMMALS: Otters ______ Harbor Seals ______ Sea Lions ______ Whales ______
Other ______ Bear(1) at nine

BIRDS: ______

GENERAL OBSERVATIONS:
High priority for cleanup due to presence of clam beds,
dead birds should be picked up ASAP due to potential for scavenging
by bears, birds.

ACE 8708924
SEGMENT INSPECTION RECORD

ADEC # K9-19  Shoreline Segment: HB-4

Shoreline Treatment Process(es) Completed for this Segment

- Hot water wash
- Warm water wash
- Water deluge
- Mechanical
- Non-mechanical
- Other

Exxon

Treatment as indicated above has been completed. Request demobilization from this segment.

Comments

Manually scoop up tar balls along the high tide wash line.

Signature: [Signature]  Date: 7/14/89  Time: 

Printed Name: Jim Wade

Existing Shoreline Condition As Visually Determined by USCG

<table>
<thead>
<tr>
<th>Percent Degree of Oiling</th>
<th>Heavy</th>
<th>Medium</th>
<th>Light</th>
<th>Very Light</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subsurface Oil</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reassessment

Yes - Necessary

No - Not necessary unless re-oiled

ADEC Rep

Comments

Surface conditions were poor for an inspection today

Signature: [Signature]  Date: 7-19-89  Time: 6:40 PM

Printed Name: Clarke J. Pelz

FOSC Rep

Demobilization approved/disapproved

Comments

All comments on reverse.

Signature: [Signature]  Date: 7/19/89  Time: 19:41

Printed Name: Phillip C. Smith

Copy: Exxon  ADEC  FOSC  ISCC  Return All Signed Originals to Exxon

ACE 8708927
but from previous visits and since the crews have already moved on, ADEC agrees to demobilization and reassessment.

NOAA SSC Comment

Beach recommended for demobilization. Reassessment to be done at low tide.

JCT: Talbot, NOAA SSC
SHORELINE CLEANUP PROGRAM

DATE 8/05/89

SHORELINE SEGMENT K9-19-HB-5

LOCATION: (see enclosed map) Northern Hallo Bay

ADEC NO. __________ SHORELINE ASSESSMENT DATE: 8/05/89

Recommended Cleanup Activity(ies):
-No cleanup recommended due to the very light, highly sporadic nature of the oiling. Subject to FOSC reassessment at a later date.

Priorities/Considerations:

Ecological Constraints (from site survey):

Archaeological Constraints (from site survey):

-If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

EXXON: ____________________________ Date: __________________

FOSC: ____________________________ Date: __________________

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
SHORELINE OIL EVALUATION

A. General
1. Date: 09-01-89
2. Time: 1540
3. Observer: Duncan M. E. Yarbrough

4. Surveyed From: Foot/Boat/ Helio/Plane
5. Weather: Sun/Cloud/ Rain/Snow/Fog

6. Location: North Bar
7. Segment #: K-9-19-HB-S

8. Length of shoreline segment: 1100 yds
9. Tidal Stage ± ___ ft.

10. Access: Foot/ Vehicle/ Boat/ Barge/ Helio/ Float Plane

11. Total Percentage of Segment Accessible: 50%

12. Access Restrictions: difficult at some headland regions

B. Shoreline
13. Shoreline Type: SPL/ BEA/ COV/ AML/ STRT/ CLE/ DAF

14. Slope: LANG/ HANG/ VERT

15. Wave Exposure: High/ Med/ Low


17. Drift Debris on Beach: Yes/ No

18. Oil Summary

19. Degree of Oiling: Heavy/ Moderate/ Light/ Very Light/ No Oil Observed

20. Area of Beach Impact: Width of Band: 1-2 yds
   Continuous: Total % of Segment
   Sporadic: Total % of Segment
   No Oil: Total % of Segment

21. Est. Oil Thickness where >1 in: ___ in

22. Pooled Oil: ___
   "Free" Oil: ___
   Coated: H___/ M___/ L___

23. Fresh _______
   Mousse _______
   Tar Formation: ___

24. Drift Debris Oiled? Yes/ No
   Sup/ Up/ Mid/ Low
   Amount: ______

Comments:
Most of this shoreline is free of oil and the area that do have oil, the condition is very light and sporadic. At the eastern end of the segment the oiling consists of tar spots on buildings and very sporadic mouse patches. Along the southern beach very sporadic tar balls were found along the shore and high tides and spring tides do drift lines. Due to the lack of oil in this area, no cleanup is recommended.

SEE PAGE 2 FOR SUPPLEMENTAL INFORMATION

ACE 8708930
SUPPLEMENTAL SHORELINE OIL EVALUATION

25. Oil Type

<table>
<thead>
<tr>
<th>Type</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh</td>
<td></td>
</tr>
<tr>
<td>Mousse</td>
<td></td>
</tr>
<tr>
<td>Weathered</td>
<td></td>
</tr>
<tr>
<td>Tar</td>
<td>100</td>
</tr>
</tbody>
</table>

26. Total Oil Coverage

<table>
<thead>
<tr>
<th>Type</th>
<th>Length (yd)</th>
<th>Width (yd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Light</td>
<td>2000</td>
<td>1-2 yd</td>
</tr>
<tr>
<td>Light</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heavy</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

27. Oil Distribution

- Pooled/continuous
- Coating/ splot
- Cracks/ crevices
- Patties (>10cm diameter)
- Balls (<10cm diameter)
- Asphalt pavement

28. Preliminary Cleanup Est.

- Total TYPE A:________ yds.
- Total TYPE B:________ yds.
- Total TYPE A/B:________ yds.

29. Remobilization Potential: High/Medium/Low

DOCUMENTATION:

- Map/Aerial photo marking segment boundaries See Attached
- VTR: Y/ N Tape Number (s) ____________
- Photography: Y/ N Roll Number (s) DMC-27

Additional Comments:

__________________________________________

ACE 8708931
ECOLOGICAL EVALUATION

NORTHERN

LOCATION: HALLO BAY

SITE: ____________

OBSERVER: D. McComb

LOCATION PREFIX: K-9-19-1B

SEG. NO.: __________

LENGTH: 11,180 (M)

DATE: 8/6/89

TIME (HHMM): 1230

TIDE HT.: +10 Ft. (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Palanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

OTHER OBSERVATIONS: Kelphesia laminae, Halocynthia Ulva, Ectocidaria, Phyllophora, Chondrus crispus, Tethya, Shell of Solenopora, Chlorophyllum, dead genera, scours, algae clumps, major ebb-tide stream (pink channel). Extensive clam bar.

CLEANUP PRECAUTIONS: None, since no cleanup is recommended.

MAMMALS: Otters __________ Harbor Seals __________ Sea Lions __________ Whales __________

Other __________ 5 Ursus maritimus

BIRDS: Pair of eagles (+1 dead one w/seed - adult - not oiled), yellowlegs, gulls

GENERAL OBSERVATIONS: Ribbons here as very light splatters or oily film. Several sea lions on rock. Light oil conditions no cleanup is warranted.

ACE 8708932
K-9-19-HB-5

Walked entire segment

ACE 8708934
No oil observed
----- V. Light
----- Light
----- Moderate
----- Heavy
SHORELINE CLEANUP PROGRAM

DATE 8/07/89

LOCATION: (see enclosed map) Ninagiak Island (Hallo Bay)

ADEC NO. SHORELINE ASSESSMENT DATE: 7/21/89

Recommended Cleanup Activity(ies):
- Manual wiping of oiled rocks and mousse pools.
- Cut and remove heavily oiled logs.

Priorities/Considerations: Class: 4/5-A
- Segment located within Katmai National Monument.
- Large seabird nesting colonies on island.
- Clam beds on north side of island.
- Pinniped handout sites around the island.

Ecological Constraints (from site survey):
- Avoid oil contamination of lower intertidal zone.
- On north side of island - avoid walking into log line and grassy areas due to seabird nests on the ground.
- Clean up should occur later in the summer to ensure all chicks have fledged.
- Avoid pinniped haul out areas.

Archaeological Constraints (from site survey):
- If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

[Signature]
State Historic Preservation Officer

EXXON:

FOSC:

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
**SHORELINE OIL EVALUATION**

**Date:** 07/21/89  **Time:** 10:10  **Observer:** Rick Gillie  
**Surveyed From:** Foot/Boat/Hello/Plane  **Weather:** Sun/Cloud/Rain/Snow/Fog  

**LOCATION:** Ninagiak Island  **Segment ID:** K09-19-HB-50

**Segment Length:** 4,800 m  **Access:** Vehicle/Boat/Log/Plane  **Access Restrictions:** EXCEPT EAST AND NORTH

**SHORELINE**

**Shoreline Type:** SPI/BEA/COV/HL/D STRT  **Slope:** Lo/Med/Hi/Vert

**Wave Exposure:** (High/Med/Low)  **Sediment:** B 2/O C 3/O P 1/O G&S 2/M 1/R 0/O

**OIL**

**Avg. Degree of Oiling:** HEAVY / MODERATE / LIGHT / VERY LIGHT / NONE OBSERVED

**Area of Impact:** SU/SP/H/M/L

**OIL DISTRIBUTION**

<table>
<thead>
<tr>
<th>Continuous % of Segment</th>
<th>SU/SP/H/M/L</th>
<th>H/M/L/VL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sporadic % of Segment</td>
<td>SU/SP/H/M/L</td>
<td>H/M/L/VL</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total</th>
<th>Length(m)</th>
<th>Width(m)</th>
<th>Thickness &gt;1cm</th>
<th>Penetration/Rework</th>
<th>Burial Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very light:</td>
<td>300</td>
<td>1</td>
<td>5 cm</td>
<td>5 cm</td>
<td>SU/SP/H/M/L</td>
</tr>
<tr>
<td>Light:</td>
<td>100</td>
<td>1-2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderate:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heavy:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Mobilization Potential:** High/Medium/Low  **Drift Debris Oiled? Y/N:** Y  **Amount:** H/M/L/VL  **SU/SP/H/M/L Type:**

**OIL MORPHOLOGY**

<table>
<thead>
<tr>
<th>Pooled Oil:</th>
<th>1</th>
<th>SU/SP/H/M/L</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Free&quot; Oil:</td>
<td>SU/SP/H/M/L</td>
<td></td>
</tr>
<tr>
<td>Splattered:</td>
<td>SU/SP/H/M/L</td>
<td></td>
</tr>
<tr>
<td>Coated:</td>
<td>SU/SP/H/M/L</td>
<td></td>
</tr>
<tr>
<td>Pancakes/Balls:</td>
<td>49</td>
<td></td>
</tr>
</tbody>
</table>

**OIL WEATHERING**

| Fresh: | SU/SP/H/M/L |
| Membrane: | H/M/L/VL |
| Weathered Mousse: | SU/SP/H/M/L |
| Asphalt Mousse: | SU/SP/H/M/L |
| Tar: | SU/SP/H/M/L |

**COMMENTS**

1. Very Light Oiling Except for Light Oil Band (1-2 m wide) 600 m long on east side of SP/IN/PH
2. See field notes and detailed map (to be photographed)

ACE 8708937
DOCUMENTATION:
Map/Aerial photo marking segment boundaries K09-19-HB-80

VTR: Y/N Tape Number(s) N/A
Photography: Y/N Roll Number(s) RG-2
Sample Numbers Collected: N/A
SEGMENT K09-19-HB-50

NINAGIHMK ISLAND (Hallo Bay)

Drop anchor 09:14
LT @ 11:05 (193)

10:30 - Land Island - Cuspate Foreland

Site 1
- Cuspate Spit
- Westward - more mouse pockets
- V. light oiling
- sand/gravel HTZ
- apparent pockets/to balls v. rare
- conc. along HTZ - between driftwood
- to balls/appl. 5-10 cm diameter/more every 10 m of beach
- very large wave-cut platform

Site 2
- oil splattered M-HTZ
- mouse coating, every 5 ft of HTZ
- discontinuous band
- wipe absent
- small pool of mouse

12:30 Finish Island

- oiled logs + debris (dead booms)

N.B. East Side
- oil bob above HTZ to Supraline
- Im/wide - 60 cm deep
- mouse (shallow) pooled oil
- mouse - 10 cm thick
- oiled logs + debris (dead booms)

Fades out to the East
- also oiled debris - driftwood
ECOLOGICAL EVALUATION

LOCATION: Halo Bay  SITE: Ninagiak Island  OBSERVER: J. Tarpley
LOCATION PREFIX: K9/HB  SEG. NO.: K9-10-HB-50  LENGTH: 
DATE: 7/11/89  TIME (HDDM): 1010-1700  TIDE HT.: -1.0 m
OILED ZONE: Splash  High  Medium  Low
SUBSTRATUM: Rocks  Boulder  Cobble  Gravel  Sand  Mud

LIVE BIOTA
Fucus (algae): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N
Fucus only on North side of Island; Other algae includes Laminariae, Phaeophyta, Chlorophyta, Floating Plants
Mytilus (Mussels): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N
Mytilus seen only on North side of Island; Sandy intertidal at base of boulder slope. M. tuberculatus also on South side of Island.
Balanus (Barnacles): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

Littorina
Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

Limpets: Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

OTHER OBSERVATIONS: Clam beds on North side of island  Square Raker Littleneck: Cobble + 2 Land Otters seen on South side of Island in ITZ (Horseshoe Crab intended).

CLEANUP PRECAUTIONS: Avoid oil contamination of low ITZ/Beach on beach/on North Side of Island, avoid walking into leg line and grass due to seabird nests on the ground.

MAMMALS: Otters  Harbor Seals  Sea Lions  Whales

BIRDS: 2 dead oiled birds - Island is nesting colony for Glaucomys-winged Gulls, Slaty-backed, Horned, Puffins

GENERAL OBSERVATIONS: Sand covered wave cut bedrock; intertidal from Island to beach.

Seed on North side sandy. Untouched East side of island fire behavior below cliffs. Fish were seen running out onto North Beach. 22 bear tracks observed on Halo Bay beach!
This island is a large seabird nesting colony for Glaucomys-winged gulls, Horned and Tufted Puffins, Pigeon guillemots and black oystercatchers. Eggs found in nest on beach.

ACE 8708941
KODIAK SHORELINE PRIORITY FORM

Shoreline Segment ID Number: K9-19-DO37

Description (8 words or less): Small island and reef north of Ninogiak Island

Oil Contamination Level: Heavy / Moderate / Light / Very Light / None Observed

Natural Resources Present (Circle One): Yes / No

Socioeconomic Resources Present (Circle One): Yes / No

ESI Shoreline Index (Circle All That Apply): 1 2 3 4 5 (6) 7 8 9 10

Natural Resource Present (Check all applicable)

- Sea Lion rookeries
- Sea Otter concentration area
- Seal pupping/mating area haul out
- Anadromous fish streams/intertidal areas
- Bald eagle nests
- Seabird colonies
- Herring spawning areas
- Brown bear habitat
- Shorebird staging areas - spring
- Waterfowl staging areas - fall
- Peregrine Falcon nests
- Mussels/Clams
- Sea Lion haulouts

Most Vulnerable Time Period: June - sea gull hatching

Socioeconomic Values (Check all applicable):

- Upland Owner/Agency (Circle One): Native Land / State Park / State / NPS / USFWS
- Recreation/Tourism: Yes / No
- Commercial Fishing: Yes / No
- Subsistence Use: Yes / No
- Cultural Resources: Yes / No
- Wilderness: Yes / No
- Log Transfer: Yes / No

Comments (e.g. Legal Mandates):

- NPS Enabling Legislation 1916
- Presidential Procl., Coastal Segment 1971
- ANILCA 1980
- Wilderness Act 1964-1980

Priority for Treatment: High / Medium / Low ACE 8708944

Survey Form filled out by: Katherine Swift
SHORELINE CLEANUP PRIORITY NARRATIVE

KAKTMAI NATIONAL PARK
Hallo Bay - Small Island North of Ninagiak Island
K9-19

Date: August 14, 1989

General Description: This island-reef complex is located one mile north of Ninagiak Island. The reef, surrounding the island, is exposed during certain tide levels and area becomes part of the Hallo Bay tideflats at very low tides. A 15 yard by 15 yard part of the island rises 8-10 feet from mean high tide levels and is covered with grass. This area is surrounded by a thin cobble beach then a gradually sloping sand with boulder shoreline.

Critical Resources within the Unit: Glaucous-winged gulls nest on the small grassy area. Oystercatches utilize the area also. Harbor Seals haul out on the reef. Grizzly bears clam in the area when the tidal flats are at negative tide. Ninagiak Island, one mile away, is a major seabird colony.

Extent of Impact: Within the reef and outside of the island a 400 by 20 yard broken up band of tar conglomerated with sand and mixed between boulders exists. The tar is 1-3" thick and buried partially in the sand in places. Splotches exist within the band of 1-10". Some splatter is on the rocks.

Land Manager/Resource Agency: National Park Service

Cleanup Recommendations: Type A cleanup is recommended as soon as possible to prevent any impacts to wildlife utilizing the area. These tar segments will be easy to pick up with shovelling and a small satellite crew from a larger crew already in the area would be adequate.

Special Notes: Project may be submitted as a separate priority or may be included as an extension of Priority #9, Ninagiak Island, K9-19, per memo dated 27 July 1989.

ACE 8708946
### EXXON VALDEZ OIL SPILL

**PHOTO CLIP SHEET**

**CIRCLE ONE: COLOR - BLACK & WHITE**

**CASE: AK-NPS-01**

<table>
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<td>OIL IN SAND - ON ROCKS</td>
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<td>OIL IN SAND - ON ROCKS</td>
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<td>OIL ON REEF</td>
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<td>NORTHEAST END OF ISLAND</td>
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<td>OIL SPATTER</td>
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**DATE: 5/13/89**

**PHOTO INDEX**

**PHOTOGRAPHER: M. DENTON**

**ITEM NO. (PARK CODE & NO): 8708947**

**CAMERA TYPE:** 110

**LOCATION:** WHITEPASS
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Shoreline Assessment Form

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Shoreline / Segment Name
Island north of Ninagiak Island

Predominant Sediment Impact Classification (circle one)
- Boulder (>256 mm)
- Pebble (4-24 mm)
- Sand (0.06-2 mm)
- Rock
- Cobble (64-256 mm)
- Gravel (2-4 mm)
- Mud (<0.06 mm)
- Vertical Cliff

Oiling On Debris (circle one)
- Heavy
- Moderate
- Light
- Very Light
- No Oil
- Unobserved

Segment Length
Examined (yds) 700

% of Seg. Oiled Width (yds) 20

Penetration (In.) 3"

Recommended Treatment / Comments
Type A cleanup recommended as soon as possible

Pre-assessment Done
By (circle one)
- SCAT
- ADEC
- ADF&G
- NPS
- USFWS
- USCG
- NOAA
- Other____

Assessment Date 8/13/99

Observer: Will Troyer

Reviewed By:

* Heavy - >50% discontinuous coverage or >6m continuous band.
* Moderate - 10 to 50% discontinuous coverage or 3 to 6 m continuous band.
* Light - 1 to 10% discontinuous coverage or 1 to 3m continuous band.
* Very Light - <1% discontinuous coverage
SHORELINE CLEANUP PROGRAM

DATE 7/28/89  SHORELINE SEGMENT K9-20-CN-02

LOCATION: (see enclosed map) Cape Nukshak
          Alaska Peninsula, Kodiak

ADEC NO. ___________ SHORELINE ASSESSMENT DATE: 7/24/89

Recommended Cleanup Activity(ies):
- Manual removal of oil in boulders and logs in cove on
  north side Nukshak Island and mousse patties on beach at
  southern end of segment. (see map)
- No cleanup recommended for remainder of segment due to
  apparent absence of oil.

Priorities/Considerations: Class 4-A
- Segment located within Katmai National Monument.
- Seabird nesting colonies on Nukshak Island.
- Harbor seal handout.

Ecological Constraints (from site survey):
- Clean later in summer to avoid disturbance of seabird
  nesting colony.
- Work at mid tide plus or take appropriate measures to
  protect intertidal zone.

Archaeological Constraints (from site survey):
- If heretofore undiscovered cultural materials are uncovered
  during cleanup, contact Exxon's Archaeological Field
  Director and take actions prescribed in the Operational
  Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

State Historic Preservation Officer

EXXON: __________________________ Date: __________________

FOSC: ___________________________ Date: __________________

*Signature required to satisfy stipulations in Alaska DNR land
use permits for tide and submerged lands.
SHORELINE OIL EVALUATION

Date: 07/29/89 Time: 10:20
Observer: Rick Crane
Surveyed From: Foot/Boat/Helio/Plane
Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

Location: CAPE NAGARDCHE Segment ID: KQ9-20-EN-02
Segment Length: 10,300 m. Access: Vehicle/Boat/Barge/Helio/Float Plane
Access Restrictions: None

SHORELINE

Shoreline Type: SPI/BEAT/LOB/L/TTRT Slope: Lo/Med/Hi/Vert
Wave Exposure: High/Med/Low
Sediment: B:\C:\P:\G:\S 10\M\R 30

OIL

Avg. Degree of Oiling: HEAVY / MODERATE / LIGHT / VERY LIGHT / NONE OBSERVED
Area of Impact: SU/SP/H/M/L

OIL DISTRIBUTION

Continuous % of Segment SU/SP/H/M/L H/M/L/VL
Sporadic % of Segment SU/SP/H/M/L H/M/L/VL

Total Length(m) Width(m) Thickness >1cm: cm SU/SP/H/M/L
Penetration/Rework: cm SU/SP/H/M/L
Burial Depth: cm SU/SP/H/M/L

Mobilization Potential: High/Medium/Low
-ift Debris Oiled? Y/N Amount: H/M/L/VL SU/SP/H/M/L Type:

OIL MORPHOLOGY

Pooled Oil: % SU/SP/H/M/L
"Free" Oil: % SU/SP/H/M/L
Splattered: % H/M/L/VL
Coated: % H/M/L/VL
Pancakes/Balls: % SU/SP/H/M/L

OIL WEATHERING

Fresh: % SU/SP/H/M/L
Mousse: % SU/SP/H/M/L
Weathered Mousse: % SU/SP/H/M/L
Asphalt Mousse: % SU/SP/H/M/L
Tar: % SU/SP/H/M/L

COMMENTS

Preliminary Cleanup Est.:
Total TYPE A: m
Total TYPE B: m
Total TYPE A/B: m
DOCUMENTATION:

Map/Aerial photo marking segment boundaries ____________________________

VTR: Y/N Tape Number(s) ________________________________

Photography: Y/N Roll Number(s) ________________________________

Sample Numbers Collected: ________________________________________

ACE 8708952
July 24/09

**SEGMENT** K09-20-CW-02
- Cape Nukshuk

10:20 Nukshuk Island
- No oil on south side
- Oil on north side cove
- Oil on log, cable, etc.
- Splash
- Wiper, etc.
- Oil in one location only - deep cove
- No oil on island

10:40 Beach at end of CW (2)
- Steep, cobble beach (200m)
- No oil

10:51 Cruise beach south of (2)
- No oil
- Cliff, volcniclastic turbidites

11:06 South facing cliff - little or none on cliff
MTZ beach
Cliff 30m high

11:15 Stop #3
- 1 km long mixed sand gravel beach
- Moderate slope
- Sandy subtidal
- Wide backshore, beach
- Mud
- VV, LV oil
- Rare pieces of splintered driftwood
- No cleanup

11:21 Stopped by VECO contract boat "skimming" to show latest survey

11:45 On the "Killer Paddi"
12:25 Away for the KD
<table>
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<th>13:00</th>
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<td>Long (30 m) meandering bend</td>
<td>Long bend</td>
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<td>Near round patterns</td>
<td>H2</td>
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<td>1.1000</td>
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<tr>
<td>tentatively No Oil</td>
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</tbody>
</table>
CAPE NUKSHIK
K09-20-CN-02
LENGTH = 10,300 M

1. NORTH COVE
   - Oiled Logs/Boilers
   - Seabird Colonies

2. COBBLE BEACH
   - No Oil

3. MIXED SAND AND GRAVEL BEACH
   - Rare splatter on driftwood

4. MIXED SAND + GRAVEL BEACH
   - 2-3 Mounds Patrized in HTZ
ECOLOGICAL EVALUATION

LOCATION: Kuskokwim Bay
SITE: South of Cape Naknek

LOCATION PREFIX: K9/CN SEG. NO.: K9-20-CN-2 LENGTH: 10.300 (M)
DATE: 7/24/89 TIME (HHMM): 1200-1500 TIDE HT.: +2n to 0m (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Littorina

Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

OTHER OBSERVATIONS: Portions of segment observed were long sandy or cobble beaches with no living biota.

CLEANUP PRECAUTIONS: Boats in Segment

MAMMALS: Otters 3 Harbor Seals 1 Sea Lions — Whales —

BIRDS: Nesting Cormorant Gulls, Pigeon Guillemot, Puffins on Naknek Island; Cormorants, Ravens, Eagles

GENERAL OBSERVATIONS: High energy beaches. Drift debris is light.
SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Block (see enclosed map): K9-20

Includes Shoreline Segments: CN-01, CN-02

Location: Cape Nukshak

Submitted: ___________________________ Date: ______________
(for Exxon)

FOSC Approval: ___________________________ Date: ______________

The cleanup procedures identified in the Shoreline Cleanup Program are recommended. Exxon and other field personnel are encouraged to suggest innovations and productivity enhancements to the OSC's on-scene representative. Requirements for safety and the protection of cultural material must be observed.

CC: KISCC
SHORELINE CLEANUP PROGRAM

DATE _7/28/89_  SHORELINE SEGMENT K9-20-CN-01

LOCATION: (see enclosed map)  Cape Nukshak  
Alaska Peninsula, Kodiak

ADEC NO. _______  SHORELINE ASSESSMENT DATE: 7/17/89

Recommended Cleanup Activity(ies):
- Manual removal of oiled dead birds and debris from beach.

Priorities/Considerations: Class 4-A
- Segment located within Katmai National Monument.
- Clam bed in sandy bay offshore.
- Seabird colonies and salmon streams within segment.

Ecological Constraints (from site survey):
- Avoid oil contamination of streams and healthy low intertidal zone.
- Avoid heavy foot traffic across healthy biota and sand dunes.

Archaeological Constraints (from site survey):
- No access to the gross/upland zone be beach cres during cleanup.
- If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archaeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

___ State Historic Preservation Officer *  Date:  7/3/89

EXXON: _______________________________  Date: __________________

FOSC: _________________________________  Date: __________________

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
**SHORELINE OIL EVALUATION**

**Date:** 07/17/1989  **Time:** -21:30  **Observer:** Rick Gillie  
**Surveyed From:** Foot/Boat/Hielo/Plane  **Weather:** Sun/Cloud/Rain/Snow/Fog

**LOCATION**
**Location:** CAPE NUKSHAK  **Segment ID:** K09-20-CN-01
**Segment Length:** 333 m  **Access:** Vehicle/Boat/Barge/Hielo/Float Plane  **Access Restrictions:** VERY SHALLOW SAND BOTTOM, NUMEROUS ROCKS + REEFS

**SHORELINE**
**Shoreline Type:** SPI BEAV/COV/LD/STRT  **Slope:** Lo/Med/Hi/Vert
**Wave Exposure:** High/Med/Low
**Sediment:** B2O $/C10 $ / P20 $ / G&S 20 $ / M $ / R30 $

**OIL**
**Avg. Degree of Oiling:** HEAVY / MODERATE / LIGHT / VERY LIGHT / NONE OBSERVED  **Area of Impact:** SU/SP/O/H/M/L

**OIL DISTRIBUTION**
- **Continuous % of Segment**
  - SU/SP/H/M/L
  - H/M/L/VL
  - Total Length(m) | Width(m) | Thickness >1cm | Penetration/Rework | Burial Depth |
  - Very light: 380 | -/A | N/A cm | N/A cm | N/A cm |
  - Light: [ ] | [ ] | [ ] | [ ] | [ ] |
  - Moderate: [ ] | [ ] | [ ] | [ ] | [ ] |
  - Heavy: [ ] | [ ] | [ ] | [ ] | [ ] |

**OIL MORPHOLOGY**
- **Pooled Oil:** [ ]
- **"Free" Oil:** [ ]
- **Splattered:** 10 $ H/M/L/VL
- **Coated:** 80 $ H/M/L/VL
- **Pancakes/Balls:** 10 $ H/M/L/VL

**OIL WEATHERING**
- **Fresh:** [ ]
- **Mousse:** [ ]
- **Weathered Mousse:** 90 $ SU/SP/H/M/L
- **Asphalt Mousse:** [ ]
- **Tar:** [ ]

**COMMENTS**
1. SEE MAP AND FIELD NOTES.
2. VERY LIGHT OIL SPATTER ON BOULDER/WAVE-CUT PLATFORM.
3. DEAD OILED BIRDS, ONE QM 100-200 M OF SHORELINE.
4. RARE MOUSSE PATTIES ON HT & CUBBLE BEACH.

**PRELIMINARY CLEANUP EST.**
- **Total TYPE A:** 30 $ m
- **Total TYPE B:** [ ]
- **Total TYPE A/B:** [ ]
**DOCUMENTATION:**
Map/Aerial photo marking segment boundaries  **KO9-20-CN-01**

**VTR:**  Y/N  Tape Number(s) ___________________________
**Photography:**  Y/N  Roll Number(s)  **RG-2**
**Sample Numbers Collected:**  **N/A**

![Map Diagram]

Stream

Little Beach

Diet and mud

Low Tide

Very Light Oil

No oil

Rare oil splatter

KUKAK PT

KO9-20-CN-01

ACE 8708963
ECOLOGICAL EVALUATION

LOCATION: Kukak Bay
SITE: Kukak Pt. and Bay
LOCATION PREFIX: K9
SEG. NO.: K09-21
LENGTH: 3650 (M)
DATE: 7/17/89
TIME (HHMM): 2000
TIDE HT.: +1.25 m (N)
OILED ZONE: Splash
SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Littorina (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

OTHER OBSERVATIONS: Shell debris included Mytilus. Barnacles, Barrels, Barnacles.

CLEANUP PRECAUTIONS: Avoid beards & healthy sea life.

MAMMALS: Otters Harbor Seals Sea Lions Whales
Other Bear on beach Fox tracks

BIRDS: Dead oiled birds & Glaucous-winged gull, Kittiwakes, Cormorants

GENERAL OBSERVATIONS: Seals, bottomless, ringed by beards and boulders
at high T2s. Little drift wood on gravel in front of high T2.
COMPLETE JAN 05 1990

ACE 7963990
SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Block (see enclosed map): K9-21

Includes Shoreline Segments: K9-1, K9-2, K9-3, K9-4, K9-5, K9-6, K9-7, K9-8, K9-9, K9-10

Location: Kukak Bay

Submitted: ___________________________ Date: ___________________________ (for Exxon)

FOSC Approval: ___________________________ Date: ___________________________

The cleanup procedures identified in the Shoreline Cleanup Program are recommended. Exxon and other field personnel are encouraged to suggest innovations and productivity enhancements to the OSC's on-scene representative. Requirements for safety and the protection of cultural material must be observed.

CC: KISCC
SHORELINE CLEANUP PROGRAM

DATE: 7/28/89

LOCATION: (see enclosed map) Kukak Bay, AK Peninsula

ADEC NO._________ SHORELINE ASSESSMENT DATE: 7/14/89

Recommended Cleanup Activity(ies):
- No cleanup recommended due to very light to no oil observed. (Only rare mouse patties on cobbles). Subject to FOSC reassessment at a later date.

Priorities/ Considerations: Class 5-A
- Segment located within Katmai National Monument.
- Numerous salmon rivers in Kukak Bay, as well as extensive clam beds and dungeness crab nursery grounds.

Ecological Constraints (from site survey):
- Should cleanup become necessary, avoid traffic through and recoiling of healthy lower intertidal zone.

Archeological Constraints (from site survey):
- If cleanup is conducted and heretofore undiscovered cultural materials are uncovered, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

State Historic Preservation Officer

Date: 7/30/89

EXXON: ____________________________ Date: ________________

FOSC: ____________________________ Date: ________________

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
SHORELINE OIL EVALUATION

Date: 07/14/939  Time: 07:15
Surveyed From: Foot/Boat/ Helio/Plane  Observer: J.C. J. E.
Weather: Sun/ Cloud/Rain/ Snow/ Fog

LOCATION

Location: KO7 - KUKAC FY  Segment ID: KO7-21-KU-0
Segment Length: 5,500 m. Access: Vehicle/Boat/ Barge/ Helio/ Float Plane
Access Restrictions: ROCK ROCKS

SHORELINE

Shoreline Type: SPI/ BNA/ COV/ HL/ STRT  Slope: LO/ Med/ HI/ Vert
Wave Exposure: High/ Med/ Low  Sediment: B20% / C 30% / P 10% / G&S 10% / M 10% / R 10%

OIL

Avg. Degree of Oiling: HEAVY / MODERATE / LIGHT / VERY LIGHT / NONE OBSERVED
Area of Impact: SU/H/M/L

OIL DISTRIBUTION

Continuous % of Segment N/A  Sporadic % of Segment < 1
SU/SP/H/M/L SU/SP/H/M/L H/M/L/VL

Total Length(m) Width(m) Thickness >1cm: _______ cm
Very light: 100  Light: _______  Moderate: _______  Heavy: _______
Penetration/Rework: _______ cm Burial Depth: _______ cm

Mobilization Potential: High/ Medium/ Low
Drift Debris Oiled? Y/N Amount: H/M/L/VL SU/SP/H/M/L Type:

OIL MORPHOLOGY

Pooled Oil: _______  "Free" Oil: _______  Splattered: _______  Coated: _______
Pancakes/Balls: 100

SU/SP/H/M/L

OIL WEATHERING

Fresh: _______  Mousse: _______  Weathered Mousse: _______
Asphalt Mousse: 100  Tar: _______

SU/SP/H/M/L

Preliminary Cleanup Est.

TYPE A: 100 Total TYPE A: 100
Total TYPE B: N/A Total TYPE A/B: N/A

COMMENTS

1) Less than a dozen, small (< 0.2m) weathered mousse patties observed on entire segment. Appearing to cobbles mostly on South side of Agnus Island.
2) Essentially very very light degree of oil.
DOCUMENTATION:

Map/Aerial photo marking segment boundaries

VTR: Y/N Tape Number(s) ____________________________

Photography: Y/N Roll Number(s) __________________

Sample Numbers Collected: ________________________
ECOLOGICAL EVALUATION

LOCATION:  Kukak Bay  SITE:  Agashke Isf Marshall  OBSERVER:  J. Tappan
LOCATION PREFIX:  K9/KU  SEG. NO.:  K9-21-KU-01  LENGTH:  5500 (M)
DATE:  7/14/89  TIME (H:M):  07:10  TIDE HT.:  +0.7m (M)
OILED ZONE: Splash  High  Medium  Low
SUBSTRATUM: Rocks  Boulder  Cobble  Gravel  Sand  Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N  Contin.  Y/N  Dense  Y/N  Sparse  Y/N  None  Y/N

Mytilus (Mussels): Patchy Y/N  Contin.  Y/N  Dense  Y/N  Sparse  Y/N  None  Y/N
At this density in available space, shell debris higher on barnacles.

Balanus (Barnacles): Patchy Y/N  Contin.  Y/N  Dense  Y/N  Sparse  Y/N  None  Y/N

Littorina
Patchy  Y/N  Contin.  Y/N  Dense  Y/N  Sparse  Y/N  None  Y/N

Limpets: Patchy Y/N  Contin.  Y/N  Dense  Y/N  Sparse  Y/N  None  Y/N

OTHER OBSERVATIONS: Shell debris consists of Mytilus, Cobble & Spartinae.
Filamentous red & green algae also present.

CLEANUP PRECAUTIONS: Avoid entering for ETA. Numerous seals in the area.
Clear baby and crab nursery area.

MAMMALS: Otters  Other  Harbor Seals  Sea Lions  Whales

BIRDS: 1 dead oiled bird, Kittiwakes in bay, 2 Pigeon Guillemots, Gulls

GENERAL OBSERVATIONS: 1 dead Starfish, 4 dead jellyfish 15-25 cm diameter.

ACE 8708973
SHORELINE CLEANUP PROGRAM

DATE 7/28/89

SHORELINE SEGMENT E9-21-K0-2

LOCATION: (see enclosed map) Kukak Bay, AK Peninsula

ADEC NO. __________________ SHORELINE ASSESSMENT DATE: 7/15/89

Recommended Cleanup Activity(ies):
- Manual removal of mousse patties and oiled seaweed debris with rakes and shovels on beaches #2 and #3 on segment map.

Priorities/ Considerations: Class 5-A
- Segment located within Katmai National Monument.
- Numerous salmon rivers in Kukak Bay, as well as extensive clam beds and dungeness crab nursery grounds.

Ecological Constraints (from site survey):
- For beaches 2 and 3 where cleanup is recommended:
  - Avoid foot traffic over healthy biota on rocky points at each end of the beach.
  - Avoid oil contamination of stream on beach #3.

Archeological Constraints (from site survey):
- If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
SHORELINE OIL EVALUATION

Date: 07/15/89  Time: 12:30  Observer: Rick Gillie
Surveyed From: Foot, Boat, Helio, Plane  Weather: Sun, Cloud, Rain, Snow, Fog

LOCATION
Location: KUKUCK BAY  Segment ID: KQ9-21-KU-02
Segment Length: 3,300 m  Access: Vehicle, Boat, Barge, Helio, Float Plane
Access Restrictions: NEARshore ROCKS

SHORELINE
Type: SPI/BEACH/COV/HLD/STRT  Slope: Low/Med/High/Vert
Wave Exposure: High/Med/Low
Sediment: B 20 / C 20 / P 20 / G&S 10 / M 5 / R 30

OIL
Avg. Degree of Oiling: HEAVY / MODERATE / LIGHT / VERY LIGHT / NONE OBSERVED
Area of Impact: SU/SP/H/M/L

OIL DISTRIBUTION
Continuous % of Segment  SU/SP/H/M/L  H/M/L/VL
Sporadic % of Segment  SU/SP/H/M/L  H/M/L/VL

Total
Very Light: 300 m
Light: 1
Moderate: 1
Heavy: 1

Mobilization Potential: High/Medium/Low
Drift Debris Oiled?  Yes

OIL MORPHOLOGY
Pooled Oil: 10
"Free" Oil: 10
Splattered: 10
Coated: 10
Pancakes/Balls: 90

OIL WEATHERING
Fresh: 90
Mousse: 10
Weathered Mousse: 10
Asphalt Mousse: 10
Tar: 10

COMMENTS
0 Oiled Drifted Debris Drifting at high tide on Beaches 2 and 3.

Mousse Patties (Continuous) on Beach 2.

ACE 8708970
DOCUMENTATION:
Map/Aerial photo marking segment boundaries

VTR: Y/N Tape Number(s) ________________________________

Photography: Y/N Roll Number(s) RG-1

Sample Numbers Collected: N/A

K09-21-KU-02 SEE ATTACHED

ACE 8708977
LOCATION: Kukak Bay  SITE: Aguskik Is.  OBSERVER: J. Tarpey
LOCATION PREFIX: KG/KH  SEG. NO.: KG-21-KH-02  LENGTH: 3500 (M)
DATE: 7/15/89  TIME (HHMM): 1000  TIDE HT.: +1.3 m (M)
OILED ZONE: Splash  High  Medium  Low
SUBSTRATUM: Rocks  Boulder  Cobble  Gravel  Sand  Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

Mytilus (Mussels): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

Balanus (Barnacles): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

Littorina

Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

Limpets: Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

OTHER OBSERVATIONS: Petrolium present on low ITZ rocks which looks like oil.
Black lichens above high tide line appear to be oil stained rocks.
Small Diphens on Isthmus between mainland and Aguskik Is.
Shell debris consists of mytilus, s-aclones, cobles & soft clams.

CLEANUP PRECAUTIONS:

Avoid heavy oil ITZ and numerous * bears in the area.

MAMMALS: Otters  Harbor Seals  Sea Lions  Whales

Other  1 Bear, 2 cubs

BIRDS:

GENERAL OBSERVATIONS: Other algae occur in low ITZ - Odonthella, Ulva, filamentous, red & green, little Nematocysta Spiculae
ECOLOGICAL EVALUATION

LOCATION: Kukak Bay  SITE: Agashik I;  OBSERVER: J. Taschler
LOCATION PREFIX: K9/KU  SEG. NO.: K9-21-KU-02  LENGTH: 3500 (M)
DATE: 7/15/89  TIME (HHMM): 1050  TIDE HT.: +1.5 (M)
OILED ZONE: Splash (High) Medium Low
SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. O/N Dense Y/N Sparse Y/N None Y/N

Mytilus (Mussels): Patchy Y/N Contin. O/N Dense Y/N Sparse Y/N None Y/N
Shell debris consists of Mytilus saxidomus, etc.

Balanus (Barnacles): Patchy Y/N Contin. O/N Dense Y/N Sparse Y/N None Y/N

Littorina
Patchy Y/N Contin. O/N Dense Y/N Sparse Y/N None Y/N

Limpets: Patchy Y/N Contin. O/N Dense Y/N Sparse Y/N None Y/N

OTHER OBSERVATIONS: Gravel, cobble, beach essentially void of life (High Energy) Above description is for rocky points at each end of beach.

CLEANUP PRECAUTIONS: Avoid traffic over rocky points with healthy flora & fauna. Numerous bears in the area. Avoid cleanup foiling in stream on beach #3.

MAMMALS: Otters — Harbor Seals — Sea Lions — Whales —

BIRDS: Kittiwakes; Magpie and other terrestrial birds on beach; 1 dead oiled bird

GENERAL OBSERVATIONS: 1 dead Sea Star — Dendraster sp. 1 Stream runs through beach. Oiled drift material, primarily Fucus, at high tide line and strand area.
ECOLOGICAL EVALUATION

LOCATION: Kukak Bay  SITE: Aquahile Is  OBSERVER: J. Tappy
LOCATION PREFIX: K9/KU  SEG. NO.: K9-21-KU-02  LENGTH: 3500 (M)
DATE: 7/15/89  TIME (HH:MM): 11:45  TIDE HT.: +3.0m (M)
OILED ZONE: Splash High Medium Low
SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Littorina
Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

OTHER OBSERVATIONS: Petrochemical on rocks - looks like oil spill
Other algae present are filamentous cells and green.

CLEANUP PRECAUTIONS: Numerous bears in the area. Avoid traffic through and
 oil contamination into low P2Z

MAMMALS: Otters  Harbor Seals  Sea Lions  Whales

OTHER

BIRDS: 1-Magpie, Kittiwakes & Gulls offsite

GENERAL OBSERVATIONS: Moderate amount of drift material, primarily focus
At this tidal height Fucus took almost submerged

ACE 8708980
(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE  7/29/89  SHORELINE SEGMENT K9-21-K9-3

LOCATION: (see enclosed map)  Kukak Bay, AK Peninsula

ADEC NO.  289L----  SHORELINE ASSESSMENT DATE:  7/16/89

Recommended Cleanup Activity(ies):
- Manual removal of oiled debris (seaweed, sticks, logs) at high tide berm.
- Manual removal of oil coatings from rocky/boulder areas at end of pocket beaches.

Priorities/Considerations: Class 4-A
- Segment located within Katmai National Monument.
- Harbor seal handouts and Dungeness crab nursery in Bay.
- Herring spawning area across bay in Devils Cove.

Ecological Constraints (from site survey):
- Avoid excessive foot traffic on healthy biota and rocky points.
- Work at mid-tide plus or take appropriate measures to protect lower intertidal zone.

Archeological Constraints (from site survey):
- No access to the gross/upland zone by beach crews during cleanup.
- If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.

State Historic Preservation Officer  Date:  7/31/89

EXXON:  Date:

FOSC:  Date:
version July 05, 1989

SHORELINE OIL EVALUATION

Date: 07/16/89  Time: 12:00  Observer: Rick Gillie
Surveyed From: Foot Boat/Helio/Plane  Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

Station: KUKAK BAY  Segment ID: K09-21-KU-03
Segment Length: 2.100 m. Access: Vehicle/Boat/Barge/Helio/Float Plane
Access Restrictions: NEARSHORE ROCKS

SHORELINE

Shoreline Type: SPI/REA  Cove/HL Dol STRT
Wave Exposure: High/Med/Low
Deposition: B/H/C/P/G & S/ M/ R 50

IL

Vg. Degree of Oiling: Heavy/Moderate/Light/Very Light/None Observed
Area of Impact: SU/SP/H/M/L

IL DISTRIBUTION

Continuous % of Segment  SU/SP/H/M/L  H/M/L/VL
Poradic % of Segment 45  SU/SP/H/M/L  H/M/L/VL

Very Light:
Length (m): 600
Width (m): 1

Light:
Length (m): 350
Width (m): 1

Moderate:

Easy:

Obilization Potential: High/Medium/Low
Rift Debris Oiled? Y N Amount: H/M/L/VL  SU/SP/H/M/L Type:

Seaward Debris

IL MORPHOLOGY

Oiled Oil: SU/SP/H/M/L

Free* Oil: SU/SP/H/M/L

Plattered: 5 H/M/L/VL

Oated: 90 H/M/L/VL

Cakes/Balls: 5

IL WEATHERING

Resh: 25

Rousse: 20

Rethered Mousse: 20

Rphalt Mousse: 30

OMMENTS

1) Rock portion of shore has very little oil.
2) Most oil on beaches is at high tide berm.
3) Oiled focus debris, wood and rope.
4) Mousse buried penetration to 0.3 m.

Preliminary Cleanup Est.

Total TYPE A: 950 m
Total TYPE B: __________ m
Total TYPE A/B: __________ m

ACE 8708984
DOCUMENTATION:
Map/Aerial photo marking segment boundaries

VTR:  Y/N  Tape Number(s) _________________________
Photography:  Y/N  Roll Number(s)  RG
Sample Numbers Collected: ____________________________

KUKAK BAY

BEACHES 1-6
- SEE FIELD NOTES

ACE 8708985
ECOLOGICAL EVALUATION

LOCATION: Kureko Bay  SITE: South Inlet entry  OBSERVER: J. Troup

LOCATION PREFIX: K9/KU  SEG. NO.: K9-2-I-KU-O3  LENGTH: 3100 m (M)

DATE: 7/16/89  TIME (HHMM): 0600-1200  TIDE HT.: 0.0 +2.5 m (M)

OILED ZONE: Splash  High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N


Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Littorina  Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Marginella & Naticka also present

Limpeta: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

OTHER OBSERVATIONS: Heavy Balanus settlement. Bald Eagles roosting in area.

Shell debris included Mytilus, Sedemum.

CLEANUP PRECAUTIONS: Avoid oil contamination and excessive foot traffic on healthy low ITZ and sandy points.

MAMMALS: Otters ___ Harbor Seals ___ Sea Lions ___ Whales ___ Other Bear Fox tracks

BIRDS: Glacera - waxed Gulls, Kittiwakes, (4 dead oiled birds)

GENERAL OBSERVATIONS: This segment comprised of cobble bedrock packet beaches bordered by boulder, bedrock cliffs. Oiled zone in High ITZ seems with generally healthy track low ITZ.
SHORELINE CLEANUP PROGRAM

DATE 7/28/89

LOCATION: (see enclosed map) Kukak Bay, AK Peninsula

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 7/16/89

Recommended Cleanup Activity(ies):
- Manual removal of mousse coatings (rocky/boulder areas) and pools where present.

Priorities/ Considerations: Class 4-A
- Segment located within Katmai National Monument.
- Harbor seal handouts and Dungeness crab nursery in Bay.

Ecological Constraints (from site survey):
- Avoid oil contamination of streams.
- Work at mid-tide plus or take appropriate measures to protect lower intertidal zone.

Archeological Constraints (from site survey):
- If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

STATE Historic Preservation Officer *

EXXON: ___________________________ Date: ________________

FOSC: ___________________________ Date: ________________

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
**SHORELINE OIL EVALUATION**

Date: 07/16/89  
Time: 17:30  
Observer: Rick Gillie  
Weather: Sunny/Cloud/Rain/Snow/Fog

**LOCATION**

Location: KUKUX BAY  
Segment ID: K09-21-KA-04

Segment Length: 1450 m  
Access: Vehicle, Boat, Helio/Plane  
Access Restrictions:

**SHORELINE**

Shoreline Type: SPI/BEA/COV/HLD/STRT  
Slope: Lo/Med/Hi Vert

Wave Exposure: High/Med/Low  
Sediment: B/C/E/ P/G/S  
H/M/L

Avg. Degree of Oiling: HEAVY / MODERATE / LIGHT  
Very Light / None Observed

Area of Impact: SU/SP/H/M/L

**OIL DISTRIBUTION**

Continuous % of Segment: SU/SP/H/M/L  
H/M/L/VL

Sporadic % of Segment 80  
SU/SP/H/M/L  
H/M/L/VL

Total Very Light: 100 m  
Width (m): 1  
Thickness >1 cm: 0.3 cm  
SU/SP/H/M/L

Light: 200 m  
2  
Penetration/Rework: 0.3 cm  
SU/SP/H/M/L

Moderate: 200 m  
Burial Depth: 0.5 cm  
SU/SP/H/M/L

Heavy:  

Mobilization Potential: High/Medium/Low  
Amount: H/M/L/VL  
SU/SP/H/M/L Type:

**OIL MORPHOLOGY**

Pooled Oil: 1  
'Free' Oil:  
Splattered: 5  
Coated: 90  
Pancakes/Balls: 4

**OIL WEATHERING**

Fresh:  
Mousse:  
Weathered Mousse:  
Asphalt Mousse:  
Tar:  

**COMMENTS**

1) MOUSED OIL BAND, APPROX 300 m LONG, 3 m WIDE
2) OILED LOGS
3) OILED DEBRIS AND COBBLES/PEBBLES

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ACE 8708990
DOCUMENTATION:
Map/Aerial photo marking segment boundaries  K9? - 21 - KU - 04

VTR: Y/N  Tape Number(s) _______________________________
Photography: Y/N  Roll Number(s)  RT-1
Sample Numbers Collected: N/A

KUKAK BAY
KU-04
SHE

58° 18' / 154° 08'
ECOLOGICAL EVALUATION

LOCATION: Kukak Bay
SITE: Mainland head-Kukak Bay
LOCATION PREFIX: K9/KU
SEG. NO.: K9-21-KU-D4
LENGTH: 1450 (M)
DATE: 7/14/89
TIME (HH:MM): 19:30
TIDE HT.: +1.25 M (M)
OILED ZONE: Splash High Medium Low
SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Or by boulders and subside points adjacent to beaches

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Palanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Heavy settlement of this year's recruits

Littorina Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Mussels and theirs also abundant

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

OTHER OBSERVATIONS: Moderate amounts of algal drift (oiled). Very little shell debris.

CLEANUP PRECAUTIONS: Be aware present in area. Avoid oil contamination and foot traffic through healthy less 24. Avoid contamination of streams

MAMMALS: Otters Harbor Seals Sea Lions Whales
Other Bear Seal & Tracks 2/14/89 Newton & Dallas Perissody

BIRDS: 15-18 White-winged Scoters; 3 Glacken-ripped geese; Fly by. Others Undecided

GENERAL OBSERVATIONS: Large streams run through back of middle and south end of segment. Degree of oiling increases at the south end of segment.

ACE 8708992
SHORELINE CLEANUP PROGRAM

DATE 7/28/89

LOCATION: (see enclosed map) Kukak Bay, AK Peninsula

ADEC NO. SHORELINE ASSESSMENT DATE: 7/16/89

Recommended Cleanup Activity(ies):
- Manual removal of contaminated drift debris, patches of mousse, more heavily oiled cobbles/pebbles and any pooled oil.
- Manual removal of oil coatings on large boulders and rocks.

Priorities/Considerations: Class 4/5-A
- Segment located within Katmai National Monument.
- Bald eagle nest at northern end of segment.
- Harbor seal handouts.

Ecological Constraints (from site survey):
- Avoid oil contamination and heavy foot traffic across healthy low intertidal zone and rocky boulder points between pocket beaches.
- Avoid oil contamination of streams.

Archaeological Constraints (from site survey):
- If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

State Historic Preservation Officer *
Date: 7/30/89

EXXON: Date:

FOSC: Date:

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
SHORELINE OIL EVALUATION

Date: 07/10/89  Time: 15:56

Surveyed From: Foot/Boat/Helio/Plane

Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

Footprint: K19-21-KU-JC

Segment ID: K19-21-KU-JC

Segment Length: 2,300 m

Access: Vehicle/Boat/Barge/Helio/Float Plane

Access Restrictions:

MORELINE

Shoreline Type: SPI/BEA/COV/HLD/STRT

Slope: Lo/Med/Hi/Vert

Average Exposure: High/Med/Low

Erosion: B/10/C/10 / P/10 / G&I/1 / M/1 / R/1

IL

Degree of Oiling: HEAVY / MODERATE / LIGHT / VERY LIGHT / NONE OBSERVED

Area of Impact: SU/SP/H/M/L

IL DISTRIBUTION

Continuous % of Segment: SU/SP/H/M/L

Poradic % of Segment: SU/SP/H/M/L

TOTAL

Very Light: 200 m

Light: 100 m

Moderate: 10 m

Heavy: 1 m

Obilization Potential: High/Medium/Low

Rift Debris Oiled? Y

Amount: H/M/L/VL

SU/SP/H/M/L Type:

IL MORPHOLOGY

Oiled Oil: %

Free Oil: %

Plastered: 10 %

Spilled: 90 %

Spilled/Balls:

IL WEATHERING

Resh:

Ousse:

Weathered Mousse:

Asphalt Mousse:

IL COMMENTS

1) THREE (3) POCKET BANDS (VERY - EXT. OIL)

2) ONE BAND (500 M) - SPORADIC BANDS OF OIL AT HT

Preliminary Cleanup Est:

TYPE A: 300 m

TYPE B:

TYPE A/B:

ACE 8708996
DOCUMENTATION:

Map/Aerial photo marking segment boundaries  K09-21- KU-05

VTR: Y/N  Tape Number(s) __________________________

Photography: Y/N  Roll Number(s)  RG-1

Sample Numbers Collected: N/A

ACE 8708997
ECOLOGICAL EVALUATION

LOCATION: Kukak Bay  SITE: Cape Douglas  OBSERVER: J. Toepfer
LOCATION PREFIX: K9/KU  SEG. NO.: K9-21-KU-05  LENGTH: 23.00 (M)
DATE: 7/16/89  TIME (HHMM): 2045  TIDE HT.: ~ +1.5 m (M)
OILED ZONE: Splash  High  Medium  Low
SUBSTRATUM: Rocks  Boulder  Cobble  Gravel  Sand  Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N
Other algae present: Scytophora, Algae, Enteromorpha, Phycodiscus, Ceramium

Mytilus (Mussels): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

Balanus (Barnacles): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

Littorina
Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

Limpet:
Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

OTHER OBSERVATIONS:
2 Large streams through beach. F/W seep creating F/P pool.
Moderate cont. of oiled algae drift.

CLEANUP PRECAUTIONS:
Bees present in area. Avoid oil contamination.
By streams and healthy low ITZ

MAMMALS: Otters  Harbor Seals  Sea Lions  Whales
Other  Bear  Tracks and scrap

BIRDS:
15 White-winged Scoters: Bald Eagle + rent, Sandpipers, Pigeon Guillemot

GENERAL OBSERVATIONS:
Oil splatter & penetrating methane at high tide line

ACE 8703993
SHORELINE CLEANUP PROGRAM

DATE 7/28/89

LOCATION: (see enclosed map) Kukak Bay, AK Peninsula

ADEC NO. SHORELINE ASSESSMENT DATE: 7/17/89

Recommended Cleanup Activity(ies):
- Manual removal of contaminated debris, patches of mousse and small pools of oil.
- Manual removal of oil soaked sediments (pebble and cobble)
- Manual removal of oil coatings from rocks and boulders.

Priorities/ Considerations: Class 4-A
- Segment located within Katmai National Monument.
- Eagle nests located within this segment.
- Harbor seal handouts and seabird colonies within segment.
- Extensive reefs and rocks offshore.

Ecological Constraints (from site survey):
- Avoid oil contamination of healthy lower intertidal zone streams.
- Avoid foot traffic on healthy biota and rocky points.
- Do not disturb eagle nests or seabird colonies on offshore rocks.

Archeological Constraints (from site survey):
- If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

State Historic Preservation Officer * Date: 7/30/89

EXXON: ___________________________ Date: ________________

FOSC: ___________________________ Date: ________________

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
SHORELINE OIL EVALUATION

Observer:             Weather:  
Surveyed From: Foot/Boat/ Helio/Plane

LOCATION

Location:   SAY  
Segment ID: K09-21-K1-06
Segment Length: 2,600 m. Access: Vehicle/Boat/Barge/Helio/Float Plane
Access Restrictions:  

SHORELINE

Shoreline Type: SPL/BEACH/OVL/HLDS/STRT  
Wave Exposure: High/Med/Low
Sediment:  

Avg. Degree of Oiling:  
Area of Impact:  

OIL DISTRIBUTION

Continuous  % of Segment  
Sporadic  % of Segment

Total Very light: 100 1-2

Light: 100 1-2

Moderate:  

Heavy:  

Mobilization Potential: High/Med/Low
Drift Debris Oiled?  

OIL MORPHOLOGY

Pooled Oil: 1
"Free" Oil: 
Splattered: 5
Coated: 90
Pancakes/Balls: 4

OIL WEATHERING

Fresh: 40
Mousse:  
Weathered Mousse: 50
Asphalt Mousse:  
Tar: 10

COMMENTS

1. Pocket Beaches have variable contaminated debris and light oiling or high tide pebbles/cobble sediments.
2. See field notes (attached) for description of pocket beach oiling.

Preliminary Cleanup Est.

Total TYPE A: 200 m
Total TYPE B:  
Total TYPE A/B:  

ACE 8709002
DOCUMENTATION:
Map/Aerial photo marking segment boundaries

VTR: Y/N Tape Number(s)

Photography: Y/N Roll Number(s) RG-1

Sample Numbers Collected: N/A

- Beaches 1 to 5

Kulichkof Island

CAPE USCMAK

ACE 8709003
ECOLOGICAL EVALUATION

LOCATION: Kukak Bay  SITE: Headland South of Bay  OBSERVER: J. Trepole
LOCATION PREFIX: K9 / KU  SEG. NO.: K9-21 - KU-36  LENGTH: 3050 (M)
DATE: 7/17/89  TIME (HHMM): 0845 - 1300  TIDE HT.: 0.0m - + 3.0m (M)
OILED ZONE: Splash [High] Medium [Low]
SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Other algae present on rocky points - Ulva, Chondria, Alaria, Phyllophora, Halogymnion.

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Loosely packed throughout most of this segment.

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Heavily settled are just recruits throughout this segment.

Littorina
Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Other snails included: Margarites,uccellina.

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

OTHER OBSERVATIONS: Clean beach, offshore sandbar, lily ponds; Eagle nests within this segment. Many tidal pools rich with life in this segment.

At Cape Uyak 100s of jellyfish? European Sp. in the water.

CLEANUP PRECAUTIONS: Bad Cerams in this area. Avoid oil contamination of streams and healthy lower ITZ canoers and rocky points.

MAMMALS: Otters  Harbor Seals  Sea Lions  Whales

Other: Bear tracks, fox tracks, small carbon skeletons

BIRDS: Glaciers, eagle, eagles, seagulls, Kittiwakes, Falling Eagles, Harlequin Ducks

GENERAL OBSERVATIONS: This segment contains 5 "beaches" separated by rocky points and cliffs. Oil contamination splatter through mid-tidal to polselouse and penetrating into rocks at high ITZ to splash zone.

ACE 8709005
SHORELINE CLEANUP PROGRAM

DATE  7/28/89  

LOCATION: (see enclosed map)  Kukak Bay, AK Peninsula

ADEC NO.  SHORELINE ASSESSMENT DATE:  7/23/89

Recommended Cleanup Activity(ies):
-No cleanup recommended due to apparent absence of oil. Subject to FOSC reassessment at a later date.

Priorities/Considerations:  Class 4-A
- Segment located within Katmai National Monument.
- Seabird nesting colonies in segment.
- Dungeness crab nursery in Bay.

Ecological Constraints (from site survey):

Archeological Constraints (from site survey):
- If cleanup is conducted and heretofore undiscovered cultural materials are uncovered, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

State Historic Preservation Officer:  
Date:  7/30/89

EXXON:  
Date:

FOSC:  
Date:

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
Date: 07/29/89  Time: 14:00  Observer: Rick Guise
Surveyed From: Foot/Boat/Plane  Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION: Kukak Bay (North Side)  Segment ID: K09-21-KU-07
Segment Length: 9,000 m  Access: Vehicle/Boat/Barge/Plane/Float Plane
Access Restrictions: No Horseback

SHORELINE
Shoreline Type: SPI/CB/COV/HLD/TXT  Slope: Low/Med/High
Wave Exposure: High/Med/Low
Sediment: B26/Cl0/P10/G&S H/M/L/60%

OIL
Avg. Degree of Oiling: HEAVY / MODERATE / LIGHT / VERY LIGHT / NONE OBSERVED
Area of Impact: SU/SP/H/M/L N/A

OIL DISTRIBUTION
Continuous % of Segment N/A  SU/SP/H/M/L H/M/L/VL
Sporadic % of Segment N/A  SU/SP/H/M/L H/M/L/VL

Total
Length (m) Width (m)
Very Light: _______ _______
Light: _______ _______
Moderate: _______ _______
Heavy: _______ _______

Thickness >1 cm: ______ cm  SU/SP/H/M/L
Penetration/Rework: ______ cm  SU/SP/H/M/L
Burial Depth: ______ cm  SU/SP/H/M/L

Mobilization Potential: High/Medium/Low N/A
Drift Debris Oiled? Y/N Amount: H/M/L/VL SU/SP/H/M/L Type: N/A

OIL MORPHOLOGY
Pooled Oil: _______ %  SU/SP/H/M/L
"Free" Oil: _______ %  SU/SP/H/M/L
Splattered: _______ %  H/M/L/VL  SU/SP/H/M/L
Coated: _______ %  H/M/L/VL  SU/SP/H/M/L
Pancakes/Balls: _______ %  SU/SP/H/M/L

OIL WEATHERING
Fresh: _______ %  SU/SP/H/M/L
Mousse: _______ %  SU/SP/H/M/L
Weathered Mousse: _______ %  SU/SP/H/M/L
Asphalt Mousse: _______ %  SU/SP/H/M/L
Tar: _______ %  SU/SP/H/M/L

TOTAL MORPHOLOGY
Preliminary Cleanup Est.
Total TYPE A: _________ m
Total TYPE B: _________ m
Total TYPE A/B: _________ m

COMMENTS
1) No oil observed
2) No clean-up recommended
DOCUMENTATION:

Map/Aerial photo marking segment boundaries K09-21-KU-08

VTR: Y N Tape Number(s) ________________

Photography: Y N Roll Number(s) RG-3

Sample Numbers Collected: N/A
<table>
<thead>
<tr>
<th>Time</th>
<th>Segment</th>
<th>Action</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:00</td>
<td>K09:21</td>
<td>Left</td>
<td>On the waters surface, no oil observed.</td>
</tr>
<tr>
<td>12:20</td>
<td>Stop #2</td>
<td></td>
<td>Deep, stony bed, rain of splashes. No oil observed.</td>
</tr>
<tr>
<td>12:40</td>
<td>Stop #3</td>
<td></td>
<td>Cove with horseface; much stony rocky bed. No oil observed. Very low energy.</td>
</tr>
<tr>
<td>13:03</td>
<td>Stop #4</td>
<td></td>
<td>40m long, gravel bed. No oil observed.</td>
</tr>
</tbody>
</table>
ECOLOGICAL EVALUATION

LOCATION: Luxor Bay  SITE: North Shore  OBSERVER: J. Tarpagen

LOCATION PREFIX: K9/4U  SEG. NO.: K9-21-KU-07  LENGTH: 9,800 (M)

DATE: 7/23/89  TIME (HH:MM): 12:00-13:30  TIDE HT.: -0.5m (M)

OILED ZONE: Splash  High  Medium  Low

SUBSTRATUM: Rocks  Boulder  Cobble  Gravel  Sand  Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N  Contin. Y/N Dense Y/N  Sparse Y/N  None Y/N

Phytoplankton: present

Enteromorpha  Ulva  Porphyra  Fucus  Ecklonia  etc.

Mytilus (Mussels): Patchy Y/N  Contin. Y/N Dense Y/N  Sparse Y/N  None Y/N

Balanus (Barnacles): Patchy Y/N  Contin. Y/N Dense Y/N  Sparse Y/N  None Y/N

Littorina

Patchy Y/N  Contin. Y/N Dense Y/N  Sparse Y/N  None Y/N

Limpets: Patchy Y/N  Contin. Y/N Dense Y/N  Sparse Y/N  None Y/N

OTHER OBSERVATIONS: Sea birds nesting colonies: Area around Tiny Island & Denis' Cove is a Herring Spawning area.

CLEANUP PRECAUTIONS: No cleanup recommended

MAMMALS: Otters  Harbor Seals  Sea Lions  Whales

Other

BIRDS: Red-Footed Cormorant  Kaitoke  Nesting Colonies: Bald Eagles, Ravens, Pigeons, Guillemots, Halswells, Dakhls

GENERAL OBSERVATIONS: No oil observed

ACE 8709013
Recommended Cleanup Activity(ies):
- Removal of occasional tar balls and oiled cobbles on beaches #1 and #2 (see map).
- No cleanup recommended on remainder of segment due to apparent absence of oil.

Priorities/Considerations: Class 5-A
- Segment located within Katmai National Monument.
- Segment contains bald eagle nests, harbor seal handouts and Dungeness crab nursery.

Ecological Constraints (from site survey):
- Avoid heavy foot traffic across healthy lower intertidal and intertidal rocky boulder outcrops.

Archeological Constraints (from site survey):
- If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/81 as amended.

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
**SHORELINE OIL EVALUATION**

**Date:** 07/25/89  **Time:** 14:45  **Observer:** Rick Gilie  
**Surveyed From:** Foot/Boat/Hello/Plane  **Weather:** Sun/Cloud/Rain/Snow/Fog  
**Location:** KUKAK BAY (South Side)  **Segment ID:** K09-21-KU-08  
**Segment Length:** 14,000 m.  **Access:** Vehicle/Boat/Barge/Hello/Float Plane  
**Access Restrictions:** LIMITED NEARMORE 2 MILES

**SHORELINE**

<table>
<thead>
<tr>
<th>Shoreline Type</th>
<th>SPI/BEACO/HLD/STRT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ave Exposure</td>
<td>High/Med/Low</td>
</tr>
<tr>
<td>Sediment</td>
<td>B/20% C/10% P/LO% G&amp;S/10% M/1% R/0%</td>
</tr>
</tbody>
</table>

**IL**

<table>
<thead>
<tr>
<th>Degree of Oiling</th>
<th>HEAVY / MODERATE / LIGHT / (VERY LIGHT) / NONE OBSERVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area of Impact</td>
<td>SU/SP/H/M/L</td>
</tr>
</tbody>
</table>

**OIL DISTRIBUTION**

<table>
<thead>
<tr>
<th>Continuous % of Segment</th>
<th>SU/SP/H/M/L</th>
<th>H/M/L/VL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poradic % of Segment</td>
<td>SU/SP/H/M/L</td>
<td>H/M/L/VL</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Very Light</th>
<th>10</th>
<th>Width (m)</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light</td>
<td></td>
<td>Thickness &gt;1cm:</td>
<td>cm</td>
</tr>
<tr>
<td>Moderate</td>
<td></td>
<td>Penetration/Rework:</td>
<td>cm</td>
</tr>
<tr>
<td>Heavy</td>
<td></td>
<td>Burial Depth:</td>
<td>cm</td>
</tr>
</tbody>
</table>

**Mobilization Potential:** High/Medium/Low

**Drift Debris Oiled?** Y

**Amount:** H/M/L/VL  **SU/SP/H/M/L Type:** NONE

**OIL MORPHOLOGY**

<table>
<thead>
<tr>
<th>Pooled Oil:</th>
<th>SU/SP/H/M/L</th>
</tr>
</thead>
<tbody>
<tr>
<td>'Free' Oil:</td>
<td>SU/SP/H/M/L</td>
</tr>
<tr>
<td>Splattered:</td>
<td>H/M/L/VL</td>
</tr>
<tr>
<td>Coated:</td>
<td>H/M/L/VL</td>
</tr>
<tr>
<td>Pancakes/Balls:</td>
<td>H/M/L/VL</td>
</tr>
</tbody>
</table>

**OIL WEATHERING**

<table>
<thead>
<tr>
<th>Fresh:</th>
<th>SU/SP/H/M/L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mousse:</td>
<td>SU/SP/H/M/L</td>
</tr>
<tr>
<td>Weathered Mousse:</td>
<td>SU/SP/H/M/L</td>
</tr>
<tr>
<td>Asphalt Mousse:</td>
<td>SU/SP/H/M/L</td>
</tr>
<tr>
<td>Tar:</td>
<td>SU/SP/H/M/L</td>
</tr>
</tbody>
</table>

**COMMENTS**

1. **RARE TAR BALLS ON BEACHES.** APPROX 1 PIECE OF MOUND (5 CM DIAMETER DIAMETER / 20 M OF BEACH).

2. **OTHER AREA (3-6) NO OIL.**

ACE 8709016
DOCUMENTATION:
Map/Aerial photo marking segment boundaries KO9-21-KU-08

VTR: Y/N Tape Number(s) _______________________

Photography: Y/N Roll Number(s) RG-3

Sample Numbers Collected: N/A
July 23/09

**SEGMENT** K09-21-KU-08

**Stop #1** 14:00
- Single cobble beach
- Light silt
- Rare oil sheen (woody)
- Recommend removal of oil
- Depth (metres)
- 1 in 1.2 - 1.75
- Concretion - 1 piece (10 cm diam.)
  - Very 80 cm of reach

- Walk approx. 800 m of shoreline
- Smaller marine patches (5 cm dia.)
  - 20 m of beach
  - Very, very light oil

- Cleanup - walk shoreline
  - Store rubble around site

**$\text{---}$**

**RAHPHERE**
- Cliff/boulders
- Pocket gravel/cobble beaches
  - N W light silt

14:25 **Stop #2**
- Pocket beach in deep swag
  - 1 Fur bell observed
  - Sketches - No Oil!

14:50 **Stop #3**
- Head of protected bay
  - No oil on beaches

15:10 **Stop #4**
- No Oil

15:23 **Stop #5**
- Pocket gravel beach
  - 1-2 tubules/moore only

15:45 **Then Canoe Passage**
- No Oil
KUKAK BAY
(KU9-21-KU-08)
ECOLOGICAL EVALUATION

LOCATION: Kukak Bay 
SITE: South Shore 
OBSERVER: J. Tazewell

LOCATION PREFIX: KA 
SEG. NO.: KA-21-KU-08 
LENGTH: 14,000 (M)

DATE: 7/23/89 
TIME (HHMM): 1430-1600 
TIDE HT.: -0.1m (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Littorina
Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Margaretia and Nucula also present

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

OTHER OBSERVATIONS: Bald Eagle nest in segment. Shell debris on beaches indicated.
Mytilus and Sagittariae. Jellyfish in small bags.

CLEANUP PRECAUTIONS: Avoid heavy foot traffic across rocky low ITZ and on intertidal.
Rocky boulder entries.

MAMMALS: Otters --- Harbor Seals --- Sea Lions --- Whales ---
Other: Bear tracks. Bear diet: Harbor seals, clams, hands out of Agulik Island.

BIRDS: Eagles, Gulls, Kittiwakes, Harlequin Ducks

GENERAL OBSERVATIONS:
SHORELINE CLEANUP PROGRAM

DATE: 7/28/89

SHORELINE SEGMENT: K9-21-KW-10

LOCATION: (see enclosed map) Kukak Bay, AK Peninsula

ADEC NO. SHORELINE ASSESSMENT DATE: 7/24/89

Recommended Cleanup Activity(ies):
- No cleanup recommended due to apparent absence of oil. Subject to POSC reassessment at a later date.

Priorities/ Considerations: Class
- Segment located within Katmai National Monument.
- Clam beds in segment.

Ecological Constraints (from site survey):

Archeological Constraints (from site survey):
- If cleanup is conducted and heretofore undiscovered cultural materials are uncovered, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Signature: State Historic Preservation Officer
Date: 7/30/89

EXXON: ____________________________ Date: ____________________________

POSC: ____________________________ Date: ____________________________

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
**SHORELINE OIL EVALUATION**

*Date:* 07/24/89  
*Time:* 16:25  
*Observer:* Rick Gwe  
*Weather:* Sun Cloud/Rain/Snow/Fog

**LOCATION:**  
- **Surveyed From:** Foot/Boat/Helio/Plane
- **Segment ID:** K09-21-KU-10
- **Segment Length:** 11.750 m
- **Access:** Vehicle/Boat/Barge/Helio/Float Plane
- **Access Restrictions:** TIDM FLAT

**SHORELINE**  
- **Type:** SPI/BET/COW/HLD/STRT
- **Slope:** Lo/Med/Hi/Vert
- **Wave Exposure:** High/Med/Low
- **Sediment:** B 5% / C 5% / P 10% / G & S 50% / M 10% / R 20%

**OIL**  
- **Avg. Degree of Oiling:** HEAVY / MODERATE / LIGHT / VERY LIGHT / NONE OBSERVED
- **Area of Impact:** SU/SP/H/M/L

**OIL DISTRIBUTION**  
- **Continuous % of Segment:** SU/SP/H/M/L
- **Sporadic % of Segment:** H/M/L/VL

<table>
<thead>
<tr>
<th>Type</th>
<th>Length (m)</th>
<th>Width (m)</th>
<th>Thickness &gt;1cm: cm</th>
<th>Penetration/Rework: cm</th>
<th>Burial Depth: cm</th>
<th>SU/SP/H/M/L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very light</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heavy</td>
<td></td>
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</tr>
</tbody>
</table>

- **Mobilization Potential:** High/Medium/Low
- **Drift Debris Oiled? Y/N:** Amount: H/M/L/VL  
  - **SU/SP/H/M/L Type:** None

**OIL MORPHOLOGY**  
- **Pooled Oil:** %  
- **Free Oil:** %  
- **plattered:** %  
- **Coated:** %  
- **Pancakes/Balls:** %  

**OIL WEATHERING**  
- **Fresh:** %  
- **Mousse:** %  
- **Weathered Mousse:** %  
- **Asphalt Mousse:** %  
- **Tar:** %  

**COMMENTS**  
- **0 No Oil Observed**
DOCUMENTATION:
Map/Aerial photo marking segment boundaries  

VTR:  Y/N  Tape Number(s)  
Photography:  Y/N  Roll Number(s)  
Sample Numbers Collected:  N/A
July 9 1891

K07 - 21 - K11 - 10

16:23
- Head of Kakele Bay

16:45 Complete helms survey at 30' off the ground.
- No trace of oil observed
- No oiled debris
- Smoke clear
- Mud flat
- Icebergs observed

Rich Gilkie
ECOLOGICAL EVALUATION

LOCATION: Kukak Bay  SITE: Head of Bay  OBSERVER: J. Terpsey
LOCATION PREFIX: K9/KU  SEG. NO.: K9-21-KU-10  LENGTH: 11.200 (M)
DATE: 7/24/89  TIME (HHMM): 1630  TIDE HT.: ~+ 2.5m (M)
OILED ZONE: Splash High Medium Low
SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud
LIVE BIOTA * See Note Below *
Fucus (algae): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

Mytilus (Mussels): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

Balanus (Barnacles): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

Littorina
Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

Limpets: Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

OTHER OBSERVATIONS: Extensive mudflats & marshes. Bears very abundant
in the area. Clam beds.

CLEANUP PRECAUTIONS: Bears in Segment. No cleanup recommended

MAMMALS: Otters  Harbor Seals  Sea Lions  Whales  Other
      1 Bear on beach. Bear tracks

BIRDS: Gulls, Kittiwakes.

GENERAL OBSERVATIONS: *Survey this segment from helicopter fly over.
Did not land or get out onto beach. Living biota could not
be evaluated from the air. No oil observed.

ACE 8709027
SHORELINE CLEANUP PROGRAM

DATE 7/28/89

SHORELINE SEGMENT K9-21-K5-9

LOCATION: (see enclosed map) Kukak Bay, AK Peninsula

ADEC NO. SHORELINE ASSESSMENT DATE: 7/24/89

Recommended Cleanup Activity(ies):
- No cleanup recommended due to apparent absence of oil. Subject to FOSC reassessment at a later date.

Priorities/ Considerations: Class
- Segment located within Katmai National Monument.
- Clam beds and Herring spawning area in cove.

Ecological Constraints (from site survey):

Archeological Constraints (from site survey):
- If cleanup is conducted and heretofore undiscovered cultural materials are uncovered, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

State Historic Preservation Officer: ____________________________ Date: 7/30/89

EXXON: ____________________________ Date: ________________

FOSC: ____________________________ Date: ________________

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
SHORELINE OIL EVALUATION

Date: 07/14/89  Time: 13:40  Observer: Rick Stone
Surveyed From: Foot/Boat/Helio/Plane  Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

Location: Kukak Bay (Devils Cove)  Segment ID: K09-21-KU-09
Segment Length: 13700 m  Access: Vehicle/Boat/Barge/Helio/Float Plane
Access Restrictions: None

SHORELINE

Shoreline Type: SPI/SEAFLO/HLW/STRT  Slope: Low/Med/Hi/Vert
Wave Exposure: High/Med/Low
Sediment: B 20% / C 30% / P 20% / G&S 10% / M 4% / R 4%

OIL

Avg. Degree of Oiling: HEAVY / MODERATE / LIGHT / VERY LIGHT / NONE OBSERVED
Area of Impact: SU/SP/H/M/L

OIL DISTRIBUTION

Continuous % of Segment  SU/SP/H/M/L  H/M/L/VL
Sporadic % of Segment  SU/SP/H/M/L  H/M/L/VL

Total Length(m)  Width(m)  Thickness >1cm:  cm  SU/SP/H/M/L
Very Light:  Penetration/Rework:  cm  SU/SP/H/M/L
Light:  Burial Depth:  cm  SU/SP/H/M/L
Moderate:  Heavy:

Mobilization Potential: High/Medium/Low
Drift Debris Oiled? Y/N  Amount: H/M/L/VL  SU/SP/H/M/L Type: None

OIL MORPHOLOGY

Pooled Oil:  Free" Oil:  Splattered:  Coated:  Pancakes/Balls:

OIL WEATHERING

Fresh:  Mousses:  Weathered Mousses:  Asphalt Mousses:  Tar:

COMMENTS

\( O = \text{No Oil} \)

Preliminary Cleanup Est.

Total TYPE A: m
Total TYPE B: m
Total TYPE A/B: m

ACE 8709031
DOCUMENTATION:
Map/Aerial photo marking segment boundaries ______________________

VTR: Y/N Tape Number(s) ______________________
Photography: Y/N Roll Number(s) ______________________
Sample Numbers Collected: ______________________

ACE 8709032
July 24/89

SEGMENT K09-21-KU-09

Stop #1  13:40 (BRR!)
- 200 m long mixed sand and gravel beach
- wave oiled driftwood
- wave wash pattern
- BRRK - 40 m from SS in the ground
- Retreat
- V. V. Light oil

Stop #2  14:00
- 450 m plug mixed drift and seaweed
- No oil
- No oil
- No oil on beach to the west!

Stop #3
- Head of Devil's Cove
- 300 m long beach
- gravel road
- protected
- No oil

15:00 Stop #4
- back of Tiny Island
- boulder beach
- wave oil splash
- wave oiled drift wood

15:15 Back around the kink again
Head back to rendezvous at the fuel dump.

Rich Gaul
KUKAK BAY
K09-21-KU-09
LENGTH = 13.750 M

1. MIXED SAND
   AND GRAVEL BEACH
   - No Oil

2. DEER ISLAND
   - No Oil

3. GRAVEL/SAND
   - No Oil

4. BOWDEN BEACH
   - Rare Oiled Splatter
   - Tiny Island

- Mixed Sand (Small Beach)
  - Rare mouse pelts
  - Rare oiled driftwood (small)

- KUKAK PT
  - Sea Caves
ECOLOGICAL EVALUATION

LOCATION: Kukak Bay  SITE: Devil's Cove  OBSERVER: J. Tarpley
LOCATION PREFIX: KG/KU SEG. NO.: KG-21-KU-09 LENGTH: 13.700 (M)
DATE: 7/24/89  TIME (HHMM): 1335-1507  TIDE HT.: 0m -> +1.25m (M)
OILED ZONE: Splash  High  Medium  Low
SUBSTRATUM: Rocks  Boulder  Cobble  Gravel  Sand  Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

Phyllophora beds extensive throughout cove.

Mytilus (Mussels): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

Sparses to dense aggregations depending on substratum.

Balanus (Barnacles): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

Growing on rocks, Mytilus and Fucus in cove.

Littorina

Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

Limpets:

Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

OTHER OBSERVATIONS:

C evaluator in cover. Herring Spanning Area in Cove.

CLEANUP PRECAUTIONS:


MAMMALS:

Otters  Harbor Seals  Sea Lions  Whales  Other  | Boar on breed tracks; incher tracks

BIRDS:

Eagle, Gull, Kittiwake, Pigeon Guillamette, Murres (1 dead owl bird)

GENERAL OBSERVATIONS:

No oil observed.
CULTURAL RESOURCE EVALUATION

Date: 24 July 1989
Location: Kukak Bay
Site: ___________

Location Prefix: KU  Segment #: 09  Length: 13.7 KM

Survey Method:

Air (A - indicate on map)  Boat (A - indicate on map)
Ground (G - indicate on map)

Known cultural resources (AHRS #: XMK-046)  Data Source: AHRS

Oil conditions/beach visibility: No oiling

Width of beach zone surveyed: 0-100  Tree fringe surveyed: up to 300y

Cultural resources observed in beach zone (AHRS code): None

Cultural resources observed in tree fringe (AHRS code): None

General observations justifying survey method and segment's site probability:

Shore Profile: Rocky, step cliffs; low-lying vegetation.

Fresh Water Sources: Streams

Sea Exposure: Protected to the north and west.

Access/Safety: Boat landings on coastline outside of park's core could be dangerous in stormy weather.

Probability of undiscovered sites in beach zone (circle one): 1 2 3 4 5

Monitoring during cleanup needed: yes  no  Collection: yes  no

Photos: Color Roll #: None  Frames: ______

B/W Roll #: None  Frames: ______

Observer(s): Ty L. Dilliplane

Time survey started: 1337 hrs  Time survey ended: 1507 hrs

Cultural resource considerations/restraints: 

Standard Constraint.
COMPLETE JAN 1 1 1990
ACE 7963991
SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Block (see enclosed map): K2-22

Includes Shoreline Segments: CG-1, CG-2, KF-1, KF-2, KF-3

Location: Cape Gull

Submitted: _____________________________ Date: _____________________________
(for Exxon)

FOSC Approval: _____________________________ Date: _____________________________

The cleanup procedures identified in the Shoreline Cleanup Program are recommended. Exxon and other field personnel are encouraged to suggest innovations and productivity enhancements to the OSC's on-scene representative. Requirements for safety and the protection of cultural material must be observed.

CC: KISCC
SHORELINE CLEANUP PROGRAM

DATE  7/28/89

SHORELINE SEGMENT: K9-22-CG-2

LOCATION: (see enclosed map) Cape Gull

ADEC NO. SHORELINE ASSESSMENT DATE: 7/18/89

Recommended Cleanup Activity(ies):
- Manual removal of oiled debris from three small pocket beaches.

Priorities/Considerations: Class 4-A
- Segment located within Katmai National Monument.
- Seabird colonies and pinniped haulouts located nearby.
- Exposed offshore rocks and reefs may restrict boat access.

Ecological Constraints (from site survey):
- Avoid heavy foot traffic on healthy biota of lower intertidal zone.

Archeological Constraints (from site survey):
- If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Signed: [Signature]
Date: 7/31/89

State Historic Preservation Officer

EXXON: [Signature] Date:

FOSC: [Signature] Date:

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.

KISC
SHORELINE OIL EVALUATION

Date: 07/13/1989  Time: 09:30  Observer: Rick Gillis  Weather: Sun/Cloud/Rain/Snow/Fog

Surveyed From: Foot/Boat/Helio/Plane

Location: CAPE GULL  Segment ID: K09-22 CC-02

Segment Length: 750 m. Access: Vehicle/Boat/Barge/Helio/Float Plane

Access Restrictions: ROCKS, PEEF, EXPOSE

Shoreline Type: SPI/BEA/COV/HL/STRT  Slope: Lo/Med/Hi/Vert

Eve Exposure: High/Med/Low

Sediment: B 20% / C 10% / P 10% / G&S 5% / M 10% / R 60%

IL

Avg. Degree of Oiling: HEAVY / MODERATE / LIGHT / VERY LIGHT / NONE OBSERVED

Area of Impact: SU/SP/H/M/L

DISTRIBUTION

Continuous % of Segment  SU/SP/H/M/L  H/M/L/VL

Poradic % of Segment  SU/SP/H/M/L  H/M/L/VL

Very Light: 100  Width(m)  Thickness >1cm: N/A cm  SU/SP/H/M/L

Light: <1

Moderate: 

Heavy: 

Mobilization Potential: High/Medium/Low

Drift Debris Oiled? Y  Amount: H/M/L/VL  SU/SP/H/M/L

Type: 

MORPHOLOGY

Pool Oil: 

Free Oil: 

Plattered: 

Boated: 

Cakes/Balls: 

WEATHERING

Fresh: 

Mousse: 

Weathered Mousse: 

Asphalt Mousse: 

Tar: 

COMMENTS

Surveyed From Skiff Only, Did Not Land.

Clean-Up Debris If Present.

Preliminary Cleanup Est.

Type A: 

Total: 

Type B: 

Total: 

Type A/B: 

ACE 8703041
DOCUMENTATION:
Map/Aerial photo marking segment boundaries K03-22-CG-02

VTR: Y/N Tape Number(s) ________________________________
Photography: Y/N Roll Number(s) RG-2
Sample Numbers Collected: N/A

Diagram:
- CG-01
- Pocket Beach
- CG-02
- CG-03

Arrow indicating direction:

ACE 8709042
ECOLOGICAL EVALUATION

LOCATION: Kaflia Bay  SITE: North Cape Cod  OBSERVER: J. Taylor
LOCATION PREFIX: K9/C6  SEG. NO.: K9-22-C6-02  LENGTH: 750 m (M)
DATE: 7/18/89  TIME (HHMM): 0900  TIDE HT.: -1.6 m (M)
OILED ZONE: Splash High Medium Low
SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA
Fucus (algae): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

Mytilus (Mussels): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

Balanus (Barnacles): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

Littorina
Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N
Could not evaluate from skiff

Limpet: Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N
Could not evaluate from skiff

OTHER OBSERVATIONS:

CLEANUP PRECAUTIONS: If cleanup is necessary, avoid oil contamination from healthy bays ITZ.

MAMMALS: Otters  Harbor Seals  Sea Lions  Whales
Other 6-9 Dall's Porpoises in bay.

BIRDS: Glacidae, gulls, Kittiwakes, Auks, terns, Black Terns, Pigeons, Guillemots, Cormorants

GENERAL OBSERVATIONS: Observed segment from skiff. Very rocky coastline with steep cliffs and boulders. Difficult access. No oil observed.
SHORELINE CLEANUP PROGRAM

DATE  7/13/89                      SHORELINE SEGMENT K9-22-CG-1

LOCATION: (see enclosed map)       Cape Gull

ADEC NO. __________________ SHORELINE ASSESSMENT DATE: 6/25/89

Recommended Cleanup Activity(ies):
- Manual removal of heaviest oil contamination including removal of oiled surface sediments if required.

Priorities/ Considerations: Class 3-A

Ecological Constraints (from site survey):
- Cleanup should continue as type A.
- Any type B cleanup would result in contamination of lower intertidal zone.
- Constraints: stay away from stream channel as much as possible to avoid impacting healthy biota.

Archaeological Constraints (from site survey):
- An archaeological monitor is required during cleanup.
- No access to upland zone by beach crews during cleanup.
- If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.
- Site should be monitored during cleanup.

Exxon Historic Preservation Officer *

EXXON: __________________________  Date: __________________

FOSC: ____________________________  Date: __________________

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
(version 5/16/89)

SHORELINE OIL EVALUATION FORM - KODIAK

Date: June 13/89 Time: 11:55 Observer: Mike Miller

Surveyed From: Foot/Boat/Helicopter/Plane Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

CAPE GULL SEGMENT I.D. K9-23-CG-1

LENGTH OF SHORELINE SEGMENT: 1090 m

ACCESS: Foot/Vehicle/Boat/Barge/Helicopter/Float Plane

SHORELINE:

Shoreline Type: SPI/BEA/COV/HLD/STRT Slope: LANG/HANG/VER

Wave Exposure: High/Med/Low

Sediment: B0t / C0t / F7ot / 3E / S0t / Mnt / R30 t

Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type

OIL

Degree of Oiling: Heavy/Moderate/Light/No Oil/Unobserved/Very Light

Total Area of Beach Impact: SU / SP / H / M / L

OIL DISTRIBUTION

Continuous: Y/N Segment #: 20 No. Bands Width: m

Sporadic: Y/N Segment #: 70 Min/Max Distance: m Impact Width: m

Est. Oil Thickness where > 1cm: cm

Depth below top sediments

Est. Oil Penetration: cm

Layers? Yes/No No# Layers Oil Weathering

Drift Debris Oiled Yes/No Supra/Upper/Mid/Lower Amount: H / M / L / VL

OIL MORPHOLOGY

Pooled Oil \% "Free" Oil \% Spattered \% Choc Mousse\% Asphalt Mousse \% Tar Formation\% Comments:

SEE COMMENT SHEET AND MAP
DOCUMENTATION:

Map/Aerial photo marking segment boundaries  See Attached

VTR: Y/N Tape Number(s) ____________________________

Photography: Y/N Roll Number(s)  DMC-15

Sample Numbers Collected: N/A
Mike Miles  
June 25, 1989  

Cape Gull  
CG-1  

Comments  
Shoreline Oil Evaluation  

This segment consists of a rocky headland and a number of small pebble-cobble-boulder beaches. Sand deposits occur in the lower ITZ in the largest bay (see maps).

Oil contamination is variable. Heaviest concentrations occur on the north facing bay in the middle of the segment. As indicated in the attached maps, oil types include moderate to possible heavy – tar coatings on cobbles and boulders, buried tar and mousse in pebble berms, mousse parake on sand deposits and oil coatings on vertical rock.

Manual clean-up activities, including removal of up to 10 cm of oiled surface sediments, were occurring at the time the site was inspected. Moderate to high pressure hot water would likely be required to remove the dried/oxidized tar which occurs in many locations at this site. However, this technique would likely result in the transfer of oiled tar presently in unoiled portions of the ITZ and oil recovery ratios in many of the coarse textured/porous sections of the beaches.
Mike Miles
June 25/89

Cape Gull
CG-1
Map 1

4-8 m wide band nearly continuous asphalt coating
small pockets with oil

Pooled and free oil in rock depressions. Very light
to light oiled logs and debris at the high tide
line

Nearly continuous tar coating on
bedrock and boulders at mid to high ITZ
width 20 m - logs in high ITZ are
un-oiled.

ACE 8709050
MICKE MILES
June 25/89.

MAP 2
MAP 3

HILL WITH BEAR GUARD

COBBLES + BOULDER

COBBLE BERM

VERY LIGHT OIL EXTENDING OUT 20 M

PEBBLE BERM

WATER

BOULDER - NO OIL

CAPE GULL
CG-1
MAP 3

OIL MOSTLY REMOVED BY WAVE ACTION

COBBLES - VERY LIGHT OIL REMOVED BY WAVE ACTION

PEBBLE BERM AND ROCKS

MODERATELY CONTAMINATED WITH MUSSELS AND TAR DRIFT UN-OIL

MANUAL REMOVAL

ACE 8709052
ECOLOGICAL EVALUATION

LOCATION: CAPE GULL
SITE: 
LOCATION PREFIX: K9-2A
SEG. NO.: 1
LENGTH: 1090 (M)
DATE: 6/25/89
TIME (HHMM): 140
TIDE HT.: 10.5 (M)
OILED ZONE: Splash High Medium Low
SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Health in lower ITZ

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Dense on boulders, continues in gravel, 10% are mired in mid-tide zone, <5% dead

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Healthy in lower ITZ; note site to heavily mired in mid-high zone

Littorina
Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Healthy in lower ITZ; 10% dead oiled in mid ITZ

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Healthy in lower ITZ

OTHER OBSERVATIONS: clam shells, cockle shells, Ulva, Laminaria, Frusticales, Zostera
in stream channel, concretes, crustaceans, Terebralia, occupying a site channel - all marine and healthy

CLEANUP PRECAUTIONS: Take whatever precautions are necessary to avoid contamination of lower ITZ and stream channel

MAMMALS: Otters Harbor Seals Sea Lions Whales

BIRDS: gull, kittiwakes offshore

GENERAL OBSERVATIONS: Cleanup crew on the beach using non-poral, oil absorbent to remove most fuel oil. Warm tides creating chocolate mousse and soluble film which cleanup should continue as type A - any type B cleanup would result in contaminating lower, clean ITZ

ACE 8709053
SHORELINE CLEANUP PROGRAM

DATE 7/28/89   SHORELINE SEGMENT K9-22-KF-1

LOCATION: (see enclosed map) Kafnia Bay, AK Peninsula

ADEC NO.       SHORELINE ASSESSMENT DATE: 7/22/89

Recommended Cleanup Activity(ies):
- Manual removal of light to moderately oiled debris, pebbles and logs from beach 1 only. (see map)
- No cleanup recommended for remainder of segment due to apparent absence of oil. Subject to FOSC reassessment at a later date.

Priorities/ Considerations: Class 3-A
- Segment located within Katmai National Monument.
- Kafnia Bay is a red and pink salmon use bay.
- Harbor seal handouts also located in bay.

Ecological Constraints (from site survey):
- Avoid oil contamination of healthy lower intertidal zone.

Archaeological Constraints (from site survey):
- If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

[Signature]
State Historic Preservation Officer

EXXON: __________________________ Date: __________________________

FOSC: __________________________ Date: __________________________

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
### Shoreline Oil Evaluation

**Date:** 07/22/89  
**Time:** 10:25  
**Observer:** Rick Gilue  
**Weather:** Sun, Cloud, Rain, Snow, Fog

**Location:** KAFALIA BAY  
**Segment ID:** K09-22-KF-01  
**Segment Length:** 4,000 m  
**Access:** Vehicle/Boat/Barge/Helio/Float Plane  
**Access Restrictions:** None

### Oil Distribution

<table>
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<th>Continuous % of Segment</th>
<th>SU/SP/H/M/L</th>
<th>H/M/L/VL</th>
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<tr>
<td>Total Length (m)</td>
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<td>Width (m)</td>
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<tr>
<td>Thickness &gt;1cm</td>
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<tr>
<td>Penetration/Rework</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Burial Depth</td>
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</tr>
</tbody>
</table>

**Oiling Potential:** High/Medium/Low

**Rift Debris Oiled?** Y/N  
**Amount:** H/M/L/VL  
**SU/SP/H/M/L Type:**

### Oil Morphology

- **Oiled Oil:**
- **Free** Oil:
- **Plattered:** 10%
- **Spilled:** 60%
- **Caked/Balls:** 20%
- **Oil Weathering:**
  - Fossilized:
  - Soot:
  - Weathered Mousse:
  - Asphalt Mousse:
  - Tar:

### Preliminary Cleanup Est.

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<td>B</td>
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### Comments

ACE 8709657
DOCUMENTATION:
Map/Aerial photo marking segment boundaries K09-22-KF-01

VTR: Y/N  Tape Number(s) _________________________________

Photography: Y/N  Roll Number(s)  RG-03

Sample Numbers Collected: N/A
July 21, 1989

07:20 AM
08:20 Left Anchor Depart for Kafjik Bay
09:00 Call Rehab Office to schedule for day
09:30 Middle Kafjik Bay

SEGMENT K09-22-KF-01

10:23 Land on beach (0) Light - Mod
- 100 m long
- cobble/pebble RCE
- Band of oil/debris off MT ban
- 2.3 m wide, 50 m long
- Up to 0.5 m deep
- Remove oil/debris
- Oil on pebbles
- Mud on clay loam

10:35 Beach Stop (2)
- No oil observed
- Very light oil splash on rocks between beach (0 and 6)

11:45 Beach Stop #3
- 50 m long beach
- Fine gravel/sand
- Wind energy
- No oil in very very light oil
- Rare oil splashes on dnger
- No clean-up recommended
- Rich oil film floats (sand/land)

11:47 Beach Stop #4
- Pocket beach - No oil

11:50 Beach Stop #5
- 30 m long
- Deep pebbles (50 m wide)
- Precipitously outward boom
- No oil

12:30 Off the beach at boom
ECOLOGICAL EVALUATION

LOCATION: KAFIA GULF  SITE: South shore  OBSERVER: J. TAPLEY
LOCATION PREFIX: KS/KF SEG. NO.: Y9-27-KF-01 LENGTH: 4,000 (M)
DATE: 7/22/89  TIME (HHMM): 1020-1200  TIDE HT.: -0.5 to -1.0M (M)
OILED ZONE: Splash (High Medium Low
SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud
LIVE BIOTA

**Fucus** (algae): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N
Other algae present: U. sp., Sargassum, Enteromorpha, Pyura (red)

**Mytilus** (Mussels): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

**Balanus** (Barnacles): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

**Littorina**
Patchy Y/N  Contin. Y/N  Dense Y/N Sparse Y/N  None Y/N

Throughout most of the section Littorina are small (<0.5cm) new recruits. Mature: present.

**Limpets**: Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

OTHER OBSERVATIONS: *Bacca* is quite common but is not as extensive as expected. A few small crabs and seagulls (10-25/m²) Presum. sp., razor clams, and jawfish in also abundant in this zone.

CLEANUP PRECAUTIONS: *Bacca* present on seafloor. Avoid oil contamination & clean up.

MAMMALS: Otters  Harbor Seals  Sea Lions  Whales

Other  Bear tracks at dusk on beaches

BIRDS: Common gulls, pelicans, eagles, pent, and wrens

GENERAL OBSERVATIONS: Segment comprised of high energy point beaches bordered by developed and level open terrain. High energy point beaches offer high energy areas with high energy winds and currents. beaches relatively free of life. Very light oil seen (max = 1).

ACE 8709061
SHORELINE CLEANUP PROGRAM

DATE  7/28/89  SHORELINE SEGMENT K9-22-KF-2

LOCATION: (see enclosed map) Kafinia Bay, AK Peninsula

ADEC NO.  SHORELINE ASSESSMENT DATE:  7/22/89

Recommended Cleanup Activity(ies):
- No cleanup recommended due to insignificant amount of oil present (very small quantity of oiled debris at beaches #4 and #5). Subject to FOSC reassessment at a later date.

Priorities/Considerations: Class 5-A
- Segment located within Katmai National Monument.
- Harbor seal handouts in segment.
- Salmon use in the Bay.

Ecological Constraints (from site survey):

Archeological Constraints (from site survey):
- If cleanup is conducted and heretofore undiscovered cultural materials are uncovered, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

State Historic Preservation Officer *

EXXON:  Date: 7/31/89

FOSC:  Date:

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
**SHORELINE OIL EVALUATION**

**Date:** 07/22/1989  
**Time:** 12:45  
**Observer:** Rick Gillie  
**Weather:** Sun/Cloud/Rain/Snow/Fog

**LOCATION**

- **Location:** KAFIA BAY  
- **Segment ID:** K09-22-KF-02

**SEGMENT**

- **Segment Length:** 0,100 m  
- **Access:** Vehicle/Boat/Barge/Helio/Float Plane  
- **Access Restrictions:** 
- **SHORELINE TYPE:** SPI/BEACH/COV/HLD/STRT  
- **Slope:** Low/Med/Hi/Vert  
- **Wave Exposure:** High/Med/Low  
- **Sediment:** B/O/10%/p/30%/G&S/10%/M/60%

**OIL**

- **Avg. Degree of Oiling:** HEAVY/MODERATE/LIGHT/VERY LIGHT/NONE OBSERVED
- **Area of Impact:** SU/SP/H/M/L

**OIL DISTRIBUTION**

- **Continuous % of Segment:** SU/SP/H/M/L  
- **Sporadic % of Segment:** SU/SP/H/M/L

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<tr>
<th>Total</th>
<th>Length (m)</th>
<th>Width (m)</th>
<th>Thickness &gt;1cm:</th>
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</tr>
</tbody>
</table>

**Mobilization Potential:** High/Medium/Low

- **Drift Debris Oiled?** Y/N  
- **Amount:** H/M/L/VL  
- **SU/SP/H/M/L Type:**

**OIL MORPHOLOGY**

- **Pooled Oil:** %  
- **"Free" Oil:** %  
- **Splattered:** %  
- **Coated:** %  
- **Pancakes/Balls:** %

**OIL WEATHERING**

- **Fresh:** %  
- **Mousse:** %  
- **Weathered Mousse:** %  
- **Asphalt Mousse:** %  
- **Tar:** %

**COMMENTS**

- (A) Very small amount of Oiled Debris at Beaches 1 and 5.
- (B) Otherwise - no oil.

**Preliminary Cleanup Est.**

- **Total TYPE A:** 10 m
- **Total TYPE B:** m
- **Total TYPE A/B:** m

ACE 0709005
DOCUMENTATION:
Map/Aerial photo marking segment boundaries K09-22-KF-02

VTR: Y/N Tape Number(s) ____________________________
Photography: Y/N Roll Number(s) RG-3
Sample Numbers Collected: N/A
July 22/1989

SEGMENT K09-22-KF-02

12:45 Status north end of Ka'apu Bay, immediately outside of the protected boom

Beach #1
- posted guard beach, 10m long
- no oil

13:00 Beach #2
- The prop fell off the outboard of the 12ft boat in approx 6' of water
- had to get crew to shore for the prop

14:00 Recovered the prop and washers, but no nut
- Called the "ADVANCE" in Kulea Bay. They have required spare parts

14:05 Leave the head of KAPUA Bay
- away to Kulea Bay
- Cannot survey or walk coast with no boat

15:40 Arrive Kulea Bay
- Obtain parts from ADVANCE

15:52 Depart for Ka'apu Bay

17:30 Arrive Ka'apu Bay
- The tide is very high and we have little buffer

18:20 Beach #4
- 50m long, cobble
- wooded
- oil, no oil!
18:45 Beach #5
- Very light # oil
- small patches splatter
10m sector of crown of the beach
- Lounge beach
- significant amount # oil
- 1 oiled bird

19:00 Beach #5
- No oil
- single mobile beach
- sand
- low berm

19:30 Beach #7
- 200m # long
- white sand beach
- No oil
- beautiful beach

19:51 Beach #6
- mixed sand and gravel
- waterfowl
- No oil!
- Recommend cleanup of beach #5
KAFIA DAY
(K09-22-KF.02)
LENGTH = 3.50 M

BEACHES

1. POCKET GRAVEL BEACH
   - NO OIL

2. MIXED SAND AND GRAVEL BEACH
   - NO OIL

3. COBBLE/PEBBLE BEACH
   - NO OIL

4. COBBLE BEACH
   - 1 OILED STICK (DRIZZ)

5. BOLDER BEACH
   - 1 OILED BIRD
   - V. LIGHT SPILLAGE

6. STING PEbble BEACH
   - NO OIL

7. WHITE SAND BEACH
   - NO OIL

ACE 8709069
SHORELINE CLEANUP PROGRAM

DATE 7/28/89  

SHORELINE SEGMENT K9-22-KF-3

LOCATION: (see enclosed map)  
Kaffia Bay (Lagoon), AK  
Peninsula, Kodiak

ADEC NO.  
SHORELINE ASSESSMENT DATE: 7/22/89

Recommended Cleanup Activity(ies):
-No cleanup recommended due to insignificant oiling and sensitive ecology. Subject to FOSC reassessment at a later date.

Priorities/ Considerations:  
Class 5-A  
-Segment located within Katmai National Monument.  
-Streams in segment heavily used by pink and red salmon.  
-Harbor seal handouts also in segment.

Ecological Constraints (from site survey):

Archeological Constraints (from site survey):
-If cleanup is conducted, no access to the forest/upland zone by beach crews.  
-If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

State Historic Preservation Officer  
Date: 7/31/89

EXXON:  
Date:  

FOSC:  
Date:  

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
**SHORELINE OIL EVALUATION**

**Date:** 07/11/89  **Time:** 20:00  **Observer:** Rick Gille

**Location:** KAFLIA BAY LAGOOI  **Segment ID:** KO9-22-KF-03

*Surveyed From:* Foot/Boat/Helio/Plane  **Weather:** Sun/Cloud/Rain/Snow/Fog

*Segment Length:* 7,400 m  **Access:** Vehicle/Boat/Barge/Helio/Float Plane

**Access Restrictions:** SHALLOW ENTRANCE

**SHORELINE**

Shoreline Type: SPI/BEA/LOV/HLD/STRT  **Slope:** Lo/Med/Hi Vert

Wave Exposure: High/Med/Low  **Sediment:** B 10% / C 10% / P 10% / G&S 10% / M 10% / R 5%

**OIL**

Avg. Degree of Oiling: HEAVY / MODERATE / LIGHT / VERY LIGHT / NONE OBSERVED

Area of Impact: SU(SP/H/M/L)

**OIL DISTRIBUTION**

<table>
<thead>
<tr>
<th>Continous</th>
<th>Sporadic</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of Segment</td>
<td>% of Segment</td>
<td>Length (m)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Very light:</th>
<th>Width (m)</th>
<th>Thickness &gt;1cm: cm</th>
<th>Penetration/Rework: cm</th>
<th>Burial Depth: cm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Mobilization Potential:** High/Medium/LOW

Drift Debris Oiled? Y  **Amount:** H/M/L/VL  **SU/SP/H/M/L Type:** NONE

**OIL MORPHOLOGY**

Pooled Oil:  **SU/SP/H/M/L**

"Free" Oil:  **SU/SP/H/M/L**

Splattered:  **SU/SP/H/M/L**

Coated:  **SU/SP/H/M/L**

Pancakes/Balls:  **SU/SP/H/M/L**

**OIL WEATHERING**

Fresh:  **SU/SP/H/M/L**

Mousse:  **SU/SP/H/M/L**

Weathered Mousse:  **SU/SP/H/M/L**

Asphalt Mousse:  **SU/SP/H/M/L**

Tar:  **SU/SP/H/M/L**

**COMMENTS**

A) Essentially NO OIL

B) Only VERY RARE Tarballs (ONE EVERY 100 M)

Preliminary Cleanup Est.  

<table>
<thead>
<tr>
<th>TYPE A</th>
<th>TYPE B</th>
<th>TYPE A/B</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 m</td>
<td>10 m</td>
<td>10 m</td>
</tr>
</tbody>
</table>

ACE 8709073
DOCUMENTATION:

Map/Aerial photo marking segment boundaries  K09-22-KF-03

VTR:  Y  Tape Number(s)  

Photography:  Y  Roll Number(s)  R5-3

Sample Numbers Collected:  N/A
SEGMENT: K09-22-KF-03

- Kaffia Bay Lagoon
- 20:10
- Lagoon boomed off
- Fishermen and boom tender report NO OIL inside the Lagoon boom
- Substrate:
  - Gravel beaches to marsh
  - Oil:
    - Essentially NO OIL
    - Very rare small oil
      - small spots
    - Very rare small torballs (about 1 per beach)
- Recommend NO CLEAN-UP
KAFLIA BAY LAGOON
(KE7, 22, KE 23)
LENGTH = 7,490 M
ECOLOGICAL EVALUATION

LOCATION: Kachik Bay  SITE: Head J Bay  OBSERVER: J. Trepka
LOCATION PREFIX: K9  SEG. NO.: K9-22-XF-03  LENGTH: __ (M)
DATE: 7/22/89  TIME (HHMM): 20:5  TIDE HT.: +4.0 (M)
OILED ZONE: Splash  High  Medium  Low
SUBSTRATUM: Rocks  Boulder  Cobble  Gravel  Sand  Mud

LIVE BIOTA  *See note below*
Fucus (algae): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

Not available
Mytilus (Mussels): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N
N/A
Balanus (Barnacles): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N
N/A

Littorina
Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N
N/A
Limpets: Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N
N/A

OTHER OBSERVATIONS: Seakegs & Pink Salmon jumping in bay. Moderate to heavy algae
log debris. Amphipods healthy and abundant in drift.

CLEANUP PRECAUTIONS: None. Since no cleanup is recommended at this time.

MAMMALS: Otters  ____  Harbor Seals  ____  Sea Lions  ____  Whales  ____
Other  ____

BIRDS: 3 bald eagles  Pipeline  nest  Gulls  Kittiwakes

GENERAL OBSERVATIONS: * Mechanical problems prevented survey at low tide, therefore
evaluation was done at high tide. When all intertidal kelp was
submerged, ecological evaluation of intertidal life was not possible although
no oil was found.
SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Block (see enclosed map): K9-22

Includes Shoreline Segments: CG-1, CG-2, KF-1, KF-2, KF-3

Location: Cape Gull

Submitted: ___________________________ Date: __________________
(for Exxon)

FOSC Approval: ___________________________ Date: __________________

The cleanup procedures identified in the Shoreline Cleanup Program are recommended. Exxon and other field personnel are encouraged to suggest innovations and productivity enhancements to the OSC's on-scene representative. Requirements for safety and the protection of cultural material must be observed.

CC: KISCC
SHORELINE CLEANUP PROGRAM

DATE  7/28/89  

SHORELINE SEGMENT K9-22-CG-2

LOCATION: (see enclosed map)  Cape Gull

ADEC NO.  SHORELINE ASSESSMENT DATE:  7/18/89

Recommended Cleanup Activity(ies):
- Manual removal of oiled debris from three small pocket beaches.

Priorities/Considerations:  Class 4-A
- Segment located within Katmai National Monument.
- Seabird colonies and pinniped haulouts located nearby.
- Exposed offshore rocks and reefs may restrict boat access.

Ecological Constraints (from site survey):
- Avoid heavy foot traffic on healthy biota of lower intertidal zone.

Archeological Constraints (from site survey):
- If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

State Historic Preservation Officer *  
Date:  7/31/89

EXXON:  
Date:  

FOSC:  
Date:  

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
SHORELINE OIL EVALUATION

Site: 07/18/1989 / Time: 03:30
Observer: Rick Gillette
Weather: Sun/Cloud/Rain/Snow/Fog

ACTION
segment Length: 750 m
Access Restrictions: Rocks, Reef, Exposure

MORELINE
shoreline Type: SPI/BEA/COV/HLD/STRAT
Slope: Low/Med/High/Vert

AVG. Degree of Oiling: HEAVY / MODERATE / LIGHT / VERY LIGHT
None observed

Area of Impact: SU/SP/H/M/L

IL DISTRIBUTION
Continuous % of Segment
Poradic % of Segment

<table>
<thead>
<tr>
<th>Type</th>
<th>Length (m)</th>
<th>Width (m)</th>
<th>Thickness &gt;1 cm</th>
<th>Penetration/Rework</th>
<th>Burial Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very light</td>
<td>100</td>
<td>≤1</td>
<td>N/A cm</td>
<td>N/A cm</td>
<td>N/A cm</td>
</tr>
<tr>
<td>Light</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heavy</td>
<td></td>
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</tbody>
</table>

Mobolization Potential: High/Med/Low
Drift Debris Oiled?

Amount: H/M/L/VL

SU/SP/H/M/L Type:

OIL MORPHOLOGY

Flooding Oil: %
Free Oil: %
Plattered: %
Oiled: %
Cnacakes/Balls: %

Preliminary Cleanup Est.

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Amount</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td>100 m</td>
</tr>
<tr>
<td>B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A/B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OIL WEATHERING

Freeze: %
Weathered Mousse: %
Asphalt Mousse: %

COMMENTS
Surveyed from skiff only, did not land.
Clean-up debris if present.
DOCUMENTATION:
Map/Aerial photo marking segment boundaries K09-22 - CG-02

VTR: Y/N Tape Number(s)

Photography: Y/N Roll Number(s) RG-2

Sample Numbers Collected: N/A

[Diagram of segment boundaries labeled CG-01, Pocket Beach, CG-02, CG-03]
ECOLOGICAL EVALUATION

LOCATION: Kafirin Bay SITE: North Cape Gull OBSERVER: J. Tassley
LOCATION PREFIX: K9/CG SEG. NO.: K9-22-69-02 LENGTH: 750 m (M)
DATE: 7/18/89 TIME (H:MM): 0800 TIDE HT.: -1.0 m (M)
OILED ZONE: Splash High Medium Low
SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Littorina
Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Could not evaluate from skiff

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Could not evaluate from skiff

OTHER OBSERVATIONS:

CLEANUP PRECAUTIONS: If cleanup is necessary avoid oil contamination of healthy live ITZ.

MAMMALS: Otters Harbor Seals / Sea Lions / Whales
Other 6-9 Dalls Porpoise in bay

BIRDS: Glacous-winged Gulls Kittiwakes, Auks, Auks, Black Turnstone, Pigeon Guillemot, Cormorant

GENERAL OBSERVATIONS: Observed segment from skiff. Very rocky coastline with steep cliffs and boulders. Difficult access. No oil observed
SHORELINE CLEANUP PROGRAM

DATE 7/13/89  SHORELINE SEGMENT K9-22-CG-1

LOCATION: (see enclosed map) Cape Gull

ADEC NO. SHORELINE ASSESSMENT DATE: 6/25/89

Recommended Cleanup Activity(ies):
- Manual removal of heaviest oil contamination including removal of oiled surface sediments if required.

Priorities/Considerations: Class 3-A

Ecological Constraints (from site survey):
- Cleanup should continue as type A.
- Any type B cleanup would result in contamination of lower intertidal zone.
- Constraints: stay away from stream channel as much as possible to avoid impacting healthy biota.

Archaeological Constraints (from site survey):
- An archaeological monitor is required during cleanup.
- No access to upland zone by beach crews during cleanup.
- If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.
- Site should be monitored during cleanup.

State Historic Preservation Officer *

EXXON: Date:

POS:

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
SHORELINE OIL EVALUATION FORM - KODIAK

Date: 6/25
Time: 11:55
Observer: Mile Mile

Surveyed From: Foot/Boat/Helicopter/Plane
Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION
CAPT. GULL
SEGMENT I.D. K9-23-CS-

LENGTH OF SHORELINE SEGMENT: 1090 m
ACCESS: Foot/Vehicle/Boat/Barge/Helicopter/Float Plane

SHORELINE:
Shoreline Type: SPI/BEA/COV/MID/STRT Slope: LANG/HANG/VER

Wave Exposure: High/Med/Low
Sediment: B70% / C20% / P10% / S1% / M1% / R30%

Drift Debris on Beach: Yes/No
Supra/Upper/Mid/Lower Type: Log/Sequence

OIL
Degree of Oiling: Heavy/Moderate/Light/No Oil/Unobserved/Very Light
Total Area of Beach Impact: SU / SP / H / M / L

OIL DISTRIBUTION
Continuous: Y/N Segment #: 20 No. Bands 1 Width 50 m
Sporadic: Y/N Segment #: 70 Min/Max Dis: 50 m Impact Width 20-30 m

Est. Oil Thickness where > 1 cm: 3 cm
Est. Oil Penetration: 5 cm

Layers? Yes/No
No Layers: Oiled Oil Weathering:

Drift Debris: Oiled
Supra/Upper/Mid/Lower Amount: H / M / L / VL

OIL MORPHOLOGY
Pooled Oil < 1 "Free" Oil 10 Spattered 90 Sheen 1

OIL WEATHERING (OW)
Fresh Oil: SU/SP/VP/MID/LO Choc Mousse: 1 SU/SP/VP/MID/LO
Pancake Mousse: 10 SU/SP/VP/MID/LO Asphalt Mousse: 90 SU/SP/VP/MID/LO

Tar Formation: 0

Comments:

SEE COMMENT SHEET AND MAP

ACE 8709047
DOCUMENTATION:
☑ Aerial photo marking segment boundaries
VTR: Y/N Tape Number(s) 
Photography: Y/N Roll Number(s) DMC-15
Sample Numbers Collected: N/A

ACE 8709048
Mike Miles  
June 25, 1989  

CAPE GULL  
CG-1  

COMMENTS  
SHORELINE OIL EVALUATION  

This segment consists of a rocky headland and a number of small pebble-cobble-boulder beaches. Sand deposits occur in the lower ITZ in the largest bay (see maps).  

Oil contamination is variable. Heaviest concentrations occur on the north facing bay in the middle of the segment. As indicated in the attached maps, oil types include moderate to possibly heavy tar coatings on cobbles and boulders, buried tar and mousse in pebble berms, mousse parake on sand deposits and oil coatings on vertical rock.  

Manual clean-up activities, including removal of up to 10 cm of oiled surface sediments, were occurring at the time the site was inspected. Moderate to high pressure hot-water would likely be required to remove the dried/oxidized tar which occurs in many locations at this site. However, this technique would likely result in the transfer of oiled to presently un-oiled portions of the ITZ, and oil recovery ratios in many of the coarse textured/porous sections of the beach.
Mike Miles
June 25/89

4-8 m wide band nearly continuous oozing coating
small pockets free oil

Pooled and free oil in
rock depressions. Very light
to lightly oiled logs and
deposits the high tide line

Rock

Cape Gull
CG-1
Map 1

Cobble/boulder
bedrock

Nearly continuous tar coating on
bedrock and boulders at mid to high ITZ.
Width 20 m - logs in high ITZ are
un-oiled.

ACE 8709050
MIKE MILES
June 25/89.

CAPE GULL
CG-1
MAP 3.

HILL WITH
BEAR GUARD

WATER

BOULDERS - NO OIL

COBBLES + BOULDERS

COBBLES -
very light oil
Pebble berm and fogs

Pebble berm

Very light oil extending out 20 m

oil patch removed by wave action

moderately contaminated with mousse and tar-drift un-oiled
manual removal

ACE 3709052
ECOLOGICAL EVALUATION

LOCATION: Cape Gull
SITE: _____________________
SEG. NO.: 1
SEGMENT NO.: _____________
LENGTH: __________________
OILED ZONE: Splash High Medium Low
TIDE HT.: ± 0.15

LOCATION PREFIX: CG

DATE: 6/25/89 TIME (HHMM): 1140
DATE: __________________ TIME (HHMM): _____________

LENGTH: _____________(M)

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
    Healthy in lower ITZ

Hydnum (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
    Dense on boulders, continues in gravel, 10% survived in mid tide zone <5% dead

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
    Healthy in lower ITZ; restricted to heavily oiled in mid - high zone.

Littorina Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
    Healthy in lower ITZ

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
    Healthy in lower ITZ

OTHER OBSERVATIONS: Limpets, Cockles, Whelks, Clams, Limpets, Echinids, Zostera
    in stream channels, concretions, plant oils, SEASPIGOTS, seafloor in stream channel - all uninvaded
    and healthy.

CLEANUP PRECAUTIONS: Take whatever precautions necessary to avoid contamination
    of lower ITZ and stream channel

MAMMALS: Otters Harbor Seals Sea Lions Whales
    Other ___________ ___________ ___________ ___________

BIRDS: Yellow-billed Blackbills offshore

GENERAL OBSERVATIONS: Cleanup crew on this beach using non-petro, decontamination
    to remove petro-fouling. Warm temps create chocolate covered ice on rocks.
    Cleanup should continue as type A - any type B cleanup would result in contaminating
    lower, clean ITZ

ACE 8709053
(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE  7/28/89  SHORELINE SEGMENT K9-22-KF-1

LOCATION: (see enclosed map)  Kafalia Bay, AK Peninsula

ADEC NO. SHORELINE ASSESSMENT DATE:  7/22/89

Recommended Cleanup Activity(ies):
- Manual removal of light to moderately oiled debris, pebbles and logs from beach 1 only. (see map)
- No cleanup recommended for remainder of segment due to apparent absence of oil. Subject to FOSC reassessment at a later date.

Priorities/Considerations: Class 3-A
- Segment located within Katmai National Monument.
- Kafalia Bay is a red and pink salmon use bay.
- Harbor seal handouts also located in bay.

Ecological Constraints (from site survey):
- Avoid oil contamination of healthy lower intertidal zone.

Archeological Constraints (from site survey):
- If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

State Historic Preservation Officer  Date: 7/31/89

EXXON: ______________________________  Date: ______________________________

FOSC: ______________________________  Date: ______________________________

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
## SHORELINE OIL EVALUATION

**Date:** 07/22/89  
**Time:** 00:23  
**Observer:**  
**Weather:** Sun/Cloud/Rain/Snow/Fog

### CATION

**Location:** KAFLIA BAY  
**Segment ID:** K09-22-KF-0  
**Segment Length:** 4,000 m  
**Access:** Vehicle/Boat/Barge/Helio/Float Plane  
**Access Restrictions:** None

#### MORELINE

**Type:** SPI/BEA/COV/HLD/STRT  
**Slope:** Lo/Med/Hi/Vert  
**Wave Exposure:** High/Med/Low  
**Sediment:** S/Cl/Po/G&S/M/R  
**Vegetation:**  
**Degree of Oiling:** HEAVY/MODERATE/LIGHT/VERY LIGHT/NONE OBSERVED

#### IL DISTRIBUTION

<table>
<thead>
<tr>
<th>Continuous (%)</th>
<th>SU/SP/H/M/L</th>
<th>H/M/L/VL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Length (m)</td>
<td>Width (m)</td>
<td>Thickness &gt;1cm (cm)</td>
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<tr>
<td>Light:</td>
<td>50</td>
<td>2-3</td>
</tr>
<tr>
<td>Heavy:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### IL MORPHOLOGY

| Oiled Oil: | SU/SP/H/M/L |
| Free Oil: | SU/SP/H/M/L |
| Plattered: | H/M/L/VL |
| Oiled: | SU/SP/H/M/L |
| Pancakes/Balls: | SU/SP/H/M/L |

#### IL WEATHERING

| Resh: | SU/SP/H/M/L |
| Ouisse: | SU/SP/H/M/L |
| Eathered Mousse: | SU/SP/H/M/L |
| Asphalt Mousse: | SU/SP/H/M/L |
| Ar: | SU/SP/H/M/L |

#### COMMENTS

---

**Preliminary Cleanup Est.**  
**Total TYPE A:** 50 m  
**Total TYPE B:** m  
**Total TYPE A/B:** ————

---

ACE 8709057
DOCUMENTATION:
Map/Aerial photo marking segment boundaries K09-22-KF-01

VTR: Y/N Tape Number(s) 

Photography: Y/N Roll Number(s) RG-03

Sample Numbers Collected: N/A
July 24, 1989

07:30 Up
08:20 Left Anchor Degre for Kaflin Bay
09:00 Call Scot Office to schedule for day
09:30 Middle Kaflin Bay

SEGMENT K09-22-KF-01

10:23 Land on beach
- Light - Mod
- 100 m long
- cobble / pebble HTZ
- Band of oil/debris at HTBZ
- 2.3 m wide, 50 m long
- up to 0.5 m deep
- remains oiled debris
- oiled pebbles
- oiled logs

10:35 Beach stop (2)
- No oil observed
- Very little oil splash - radio between beach (1) and (2)

11:45 Beach Stop #3
- 500 m long beach
- fine gravel / sand
- low energy
- No oil to very very light oil
- Rare oil splatter - Kogo
- No clean-up recommended
- Very cold water (water/ice)

11:47 Beach Stop #4
- Pocket beach - No oil

11:50 Beach Stop #5
- Zoom long
- steep pebbles (50 m wide)
- Immediately outside boom
- No oil

12:00 Off the beach at boom
KAFLIA BAY
(K99-22-KF-01)

BEACH LIGHT-MOD OIL

LENGTH = 4,000 M
ECOLOGICAL EVALUATION

LOCATION: Ka'apila Cove  
SITE: South Cove  
OBSERVER: J. Taogetzy

LOCATION PREFIX: KS/KF  
SEG. NO.: YA-22-KF-01  
LENGTH: 4,000 (M)

DATE: 7/22/89  
TIME (HHMM): 1220-1222  
TIDE HT.: +0.5 to +1.0 m (M)

OILED ZONE: Splash  
SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Other algae present: Ulva, Porphyra, Sargassum, Ascophyllum

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
New recruits present on beach 142 (1-2 cm)

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Littorina: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

OTHER OBSERVATIONS: Beach is clean with extensive mud tides, sand dunes, and sea urchins (50-150/m²). Puffer sp. occur, and jawfish also abundant in this area.

CLEANUP PRECAUTIONS: Barre present in segment. Avoid contamination of birds and should cleanup be necessary.

MAMMALS:  
Otters  
Harbor Seals  
Sea Lions  
Whales  
Other

BIRDS: Glacialis-winged guinea

GENERAL OBSERVATIONS: Segment composed of high energy point beaches bordered by wind and breakwater surfaces. Marine bird on windward & landward with high energy areas. Beaches relatively free of life. Very light oil seen (medium).
(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/28/89  SHORELINE SEGMENT K9-22-KF-2

LOCATION: (see enclosed map) Kafalia Bay, AK Peninsula

ADEC NO.  SHORELINE ASSESSMENT DATE: 7/22/89

Recommended Cleanup Activity(ies):
- No cleanup recommended due to insignificant amount of oil present (very small quantity of oiled debris at beaches #4 and #5). Subject to FOSC reassessment at a later date.

Priorities/Considerations: Class 5-A
- Segment located within Katmai National Monument.
- Harbor seal handouts in segment.
- Salmon use in the Bay.

Ecological Constraints (from site survey):

Archeological Constraints (from site survey):
- If cleanup is conducted and heretofore undiscovered cultural materials are uncovered, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

State Historic Preservation Officer *

Date: 7/31/89

EXXON: ___________________________

Date: __________________

FOSC: ___________________________

Date: __________________

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
**SHORELINE OIL EVALUATION**

Date: 07/22/1989  Time:  12:45  Observer:  Rick Gillie

Surveyed From:  Food/Boat/Helio/Plane  Weather:  Sun/Cloud/Rain/Snow/Fog

**LOCATION**

Location:  KAFLIA BAY  Segment ID:  K09-22-KF-02

Segment Length:  8,100 m  Access:  Vehicle/Boat/Barge/Helio/Float Plane

Access Restrictions:  NEAR HIDE ROCKS

**SHORELINE**

Shoreline Type:  SPI/BEACON/SED/STRT  Slope:  Lo/Med/Hi/Vert

Wave Exposure:  High/Med/Low  Sediment:  B/S/A/F/C/L/G/S/O/M/K/60%

**OIL**

Avg. Degree of Oiling:  HEAVY / MODERATE / LIGHT / VERY LIGHT / NONE OBSERVED

Area of Impact:  SU/SP/H/M/L

**OIL DISTRIBUTION**

<table>
<thead>
<tr>
<th>Continuous % of Segment</th>
<th>SU/SP/H/M/L</th>
<th>H/M/L/VL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sporadic % of Segment &lt; 1%</td>
<td>SU/SP/H/M/L</td>
<td>H/M/L/VL</td>
</tr>
</tbody>
</table>

**Mobilization Potential:** High/Medium/Low

Drift Debris Oiled?  Y/N  Amount:  H/M/L/VL  SU/SP/H/M/L Type:

**OIL MORPHOLOGY**

| Pooled Oil:          | SU/SP/H/M/L |
| "Free" Oil:          | SU/SP/H/M/L |
| Splattered:          | H/M/L/VL    |
| Coated:              | H/M/L/VL    |
| Pancakes/Balls:      | H/M/L/VL    |

**OIL WEATHERING**

| Fresh:               | SU/SP/H/M/L |
| Mousse:              | SU/SP/H/M/L |
| Weathered Mousse:    | SU/SP/H/M/L |
| Asphalt Mousse:      | SU/SP/H/M/L |
| Tar:                 | SU/SP/H/M/L |

**COMMENTS**

(A) Very small amount of Oiled Debris at Beaches 4 and 5.

(B) Otherwise - No Oil
DOCUMENTATION:

Map/Aerial photo marking segment boundaries

VTR: Y/N  Tape Number(s)  

Photography: Y/N  Roll Number(s)  RG-3  

Sample Numbers Collected: N/A
July 22/1989
SEGMENT K09-22-KF-02

12:45 Station north end of Kafalia Bay, immediately outside of the protection boom

Beach #1
- pocket sand beach, 100m long
- no all

13:00 Beach #2
- the prop fell off the outboard at the shall in approx. 6' of water.
- had to get on to dive for the prop

14:00 Retrieved the prop and washed it, but no until "called in" to Kafalia Bay. They have required spare parts

15:05 Leave the head of Kafalia Bay and return to Kulicka Bay
- cannot survey or walk coast
- with no boat

15:40 Arrive Kulicka Bay
- Obtain passport from Admiralty

15:50 Depart for Kafalia Bay

17:30 Arrive Kafalia Bay
- the tide is very high, but we have little effect

18:20 Beach #3
- 100m long cobble/pebble
- no oil
- HT/low been about 1.5m above waterline
- no oil

18:20 Beach #4
- 50m long, cobble
- loaded with
- debris, no oil
18:40 Beach #5
- Very light to N0 oil
- Small amount of oil on shore
- 10m section of corn of the beach
- Shallow beach
- Magnificent amount of oil
- 1 oiled bird

19:00 Beach #6
- No oil
- Shingle pebble beach
- Sandbar
- Sea grass

19:20 Beach #7
- 200m long
- White sandy beach
- No oil
- Beautiful beach

19:51 Beach #8
- Midway under ground
- Waterfall
- No oil
- Recommend cleanup of beach #5
KAELIA BAY
(K09 - 22 - K5.02)
LENGTH = 3.30 M

BEACHES

1. POCKET GRAVEL BEACH
   - NO OIL

2. MIXED SAND AND GRAVEL BEACH
   - NO OIL

3. COBBLE/PEBBLE BEACH
   - NO OIL

4. COBBLE BEACH
   - 1 OILED STICK (DRIFT)

5. BOWLER BEACH
   - 1 OILED BIRD
   - V. LIGHT SPATTER

6. SHINGLE/PEBBLE BEACH
   - NO OIL

7. WHITE SAND BEACH
   - NO OIL

ACE 87090093
SHORELINE CLEANUP PROGRAM

DATE 7/22/89                      SHORELINE SEGMENT K9-22-KF-3

LOCATION: (see enclosed map)     Katlma Bay (Lagoon), AK
                             Peninsula, Kodiak

ADEC NO. SHORELINE ASSESSMENT DATE: 7/22/89

Recommended Cleanup Activity(ies):
- No cleanup recommended due to insignificant oiling and sensitive ecology. Subject to FOSC reassessment at a later date.

Priorities/Considerations: Class 5-A
- Segment located within Katmai National Monument.
- Streams in segment heavily used by pink and red salmon.
- Harbor seal handouts also in segment.

Ecological Constraints (from site survey):

Archeological Constraints (from site survey):
- If cleanup is conducted, no access to the forest/upland zone by beach crews.
- If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

[Signature]                                           Date: 7/31/89
State Historic Preservation Officer

EXXON: ________________________________ Date: ________________

FOSC: ________________________________ Date: ________________

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
SHORELINE OIL EVALUATION

Date: 07/21/89  |  Time: 20:10  |  Observer: Rick Callie
Surveyed From: Foot/Boat/Helio/Plane  |  Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION: KAFLIA BAY LAGOON  |  Segment ID: KO9-22-KF-03
Segment Length: 7,400 m  |  Access: Vehicle/Boat/Barge/Helio/Float Plane
Access Restrictions: SHALLOW ENTRANCE

SHORELINE
Shoreline Type: SPI/BEA/LOW/HLD/STRT  |  Slope: Low/Med/Hi/Vert
Wave Exposure: High/Med/Low  |  G/S: 10%  |  M: 10%  |  R: 0%

Avg. Degree of Oiling: HEAVY / MODERATE / LIGHT / VERY LIGHT / NONE OBSERVED
Area of Impact: SU/H/M/L

OIL DISTRIBUTION
Continuous % of Segment  |  SU/SP/H/M/L  |  H/M/L/VL
Sporadic % of Segment  |  SU/SP/H/M/L  |  H/M/L/VL

<table>
<thead>
<tr>
<th>Total</th>
<th>Length (m)</th>
<th>Width (m)</th>
<th>Thickness &gt;1cm</th>
<th>Penetration/Rework</th>
<th>Burial Depth</th>
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</thead>
<tbody>
<tr>
<td>Very light</td>
<td>10</td>
<td>10</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Light</td>
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<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Moderate</td>
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<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Heavy</td>
<td>--</td>
<td>--</td>
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</tr>
</tbody>
</table>

Mobilization Potential: High/Medium/Low
Drift Debris Oiled? Y/N  |  Amount: H/M/L/VL  |  SU/SP/H/M/L Type: NONE

OIL MORPHOLOGY
Pooled Oil:  |  %  |  SU/SP/H/M/L
Free Oil:    |  %  |  SU/SP/H/M/L
Spattered:   |  %  |  H/M/L/VL
Coated:      |  %  |  H/M/L/VL
Pancakes/Balls: |  %  |  H/M/L/VL

OIL WEATHERING
Fresh:  |  %  |  SU/SP/H/M/L
Mousse: |  %  |  SU/SP/H/M/L
Weathered Mousse:  |  %  |  SU/SP/H/M/L
Asphalt Mousse:  |  %  |  SU/SP/H/M/L
Tar:  |  %  |  SU/SP/H/M/L

Preliminary Cleanup Est.

<table>
<thead>
<tr>
<th>Type</th>
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<tr>
<td>Total TYPE A:</td>
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<tr>
<td>Total TYPE B:</td>
<td>-- m</td>
</tr>
<tr>
<td>Total TYPE A/B:</td>
<td>-- m</td>
</tr>
</tbody>
</table>

COMMENTS
A) Essentially NO OIL
B) ONLY VERY RARE Tarballs (ONE EVERY 100 m)
DOCUMENTATION:
Map/Aerial photo marking segment boundaries K09-22-KF-03

VTR: Y/N Tape Number(s) __________________________
Photography: Y/N Roll Number(s) R(5-3)
Sample Numbers Collected: N/A

ACE 8709074
SEGMENT K09-22-KF-03

- Kaplin Bay Lagoon
  - 20:10
  - Lagoon boomed off
  - Fishermen and boom tenders report NO oil inside the lagoon boom
  - Substrate: gravel beaches to mudflats

- OIL
  - Essentially NO oil
  - Very rare small oil mottle spots
  - Very rare small tarballs (about 1 per decade)

- Recommend: NO CLEAN-UP
KAFLIA BAY LAGOON
(K57-22-KF-03)
LENGTH = 7,480 M

KAFLIA BAY

Sockeye Salmon
(29,000)

Harbor Seal
Nest

ACE 8709076
ECOLOGICAL EVALUATION

LOCATION: Kachemak Bay  SITE: Head of Bay  OBSERVER: J. Tapley
LOCATION PREFIX: k9  SEG. NO.: k9-22- cF-03  LENGTH: 7.400 (M)
DATE: 7/22/89  TIME (HHMM): 20:15  TIDE HT.: + 4'00 (M)
OILED ZONE: Splash  High  Medium  Low
SUBSTRATUM: Rocks  Boulder  Cobble  Gravel  Sand  Mud
LIVE BIOTA  * See note below *
Fucus (algae): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N
   Not available

Mytilus (Mussels): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N
   N/A

Balanus (Barnacles): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N
   N/A

Littorina
   Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N
   N/A

Limpets: Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N
   N/A

OTHER OBSERVATIONS: Seaweed & Pink Salmon jumping in bay. Moderate to heavy algae
   log debris. Amphipods healthy and abundant in drift.

CLEANUP PRECAUTIONS: None. Since no cleanup is recommended at this time.

MAMMALS: Otters  Harbor Seals  Sea Lions  Whales  Other

BIRDS: 3 dead gulls & birds  Bald Eagles  nest  2 Gulls. Kittiwakes

GENERAL OBSERVATIONS: * Mechanical problems prevented survey at low tides, therefore
   evaluation was done at high tide. When all intertidal life was
   submerged. Ecological evaluation of intertidal life was not possible although
   no oil was found.
COMPLETE JAN 1 & 1990

ACE 7963992
SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Block (see enclosed map):  K9-23

Includes Shoreline Segments:  CG-3, CG-4

Location:  Cape Gull

Submitted: ___________________________ Date: __________________

(for Exxon)

FOSC Approval: ___________________________ Date: __________________

The cleanup procedures identified in the Shoreline Cleanup Program are recommended. Exxon and other field personnel are encouraged to suggest innovations and productivity enhancements to the OSC's on-scene representative. Requirements for safety and the protection of cultural material must be observed.

CC:  KISCC

KISCC
SHORELINE CLEANUP PROGRAM

DATE 7/28/89  SHORELINE SEGMENT K9-23-CG-3

LOCATION: (see enclosed map) Cape Gull

ADEC NO. __________________ SHORELINE ASSESSMENT DATE: 7/18/89

Recommended Cleanup Activity(ies):
- Manual cleanup of pooled oil at site 3 (see map)
- Removal of oiled debris and substrate, site 3 (see map).

Priorities/ Considerations: Class 3-A
- Boat access may be limited in some areas by exposed reefs.
- Segment located within Katmai National Monument.
- Seabird colonies and pinniped handouts located nearby.
- Clam beds in small inlet.

Ecological Constraints (from site survey):
- Work at mid tide plus or take appropriate measures to protect intertidal zone.

Archeological Constraints (from site survey):
- If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

State Historic Preservation Officer *
EXXON: ___________________________ Date: ____________
FOSC: ___________________________ Date: ____________

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
SHORELINE OIL EVALUATION

Date: 07/18/89  Time: 09:00  Observer: Rick Gull
Surveyed From: Foot/Boat/ Helio/Plane  Weather: Sun/Cloud/Rain/Snow/Fog

Segment Length: 3300 m. Access: Vehicle/Boat/Barge/Helio/Float Plane
Access Restrictions: Neutral Rocks, Explo.

SEGMENT

Segment ID: K09-23-CC-03

HOLD TRT Slope: Low/Med/Vert

PLANE Observer: 2

Weather: Cloud/Rain

HORSELINE

Horseline Type: SPR/BEA/COV/HLD/STR
Slope Exposure: High/Med/Low
Depth: B: 20% / C: 10% / P: 5% / G&S: 5% / M: 1% / R: 5%

IL

Avg. Degree of Oiling: HEAVY / MODERATE / LIGHT / VERY LIGHT / NONE OBSERVED
Area of Impact: SU/SP/H/M/L

IL DISTRIBUTION

Continuous % of Segment: SU/SP/H/M/L
Poradic % of Segment: 10

H/M/L/VL

Total

Very light: Length(m) | Width(m) | Thickness >1cm: 10-20 cm | Penetration/Rework: 10 cm | Burial Depth: cm | SU/SP/H/M/L

Light: 100 | N/A

Moderate: 30 | 6

Heavy: ---- | ----

Sediment: B: 20% / C: 10% / P: 5% / G&S: 5% / M: 1% / R: 5%

Sediment Potential: High/Medium/Low

Drift Debris Oiled: Y N

Amount: H/M/L/VL

SU/SP/H/M/L Type: ____________

MORPHOLOGY

Pooled Oil: 20%

Free Oil: _______%

Sponged: _______%

Balloons/Balls: _______%

SU/SP/H/M/L

SU/SP/5/H/M/L

SU/SP/H/M/L

SU/SP/H/M/L

SU/SP/H/M/L

SU/SP/H/M/L

SU/SP/H/M/L

SU/SP/H/M/L

Preliminary Cleanup Est.

Total TYPE A: _______ m

Total TYPE B: _______ m

Total TYPE A/B: _______ m

OIL WEATHERING

Fresh: _______%

Mousse: _______%

Weathered Mousse: _______%

Asphalt Mousse: _______%

Tar: _______%

SU/SP/H/M/L

SU/SP/H/M/L

SU/SP/H/M/L

SU/SP/H/M/L

SU/SP/H/M/L

SU/SP/H/M/L

COMMENTS

See Map for location of Moderate Oiling on Beach Cone at Site 3. Includes Pooled Oil (Est 10 Gallons)

ACE 8709J03
DOCUMENTATION:
Map/Aerial photo marking segment boundaries KO9-23-CG-03 (See Below)

VTR: Y/N Tape Number(s) ____________________________
Photography: Y/N Roll Number(s) ____________________________
Sample Numbers Collected: ____________________________

1. No Oil
2. Waterfall
3. Pocket Beach (HTZ) - Moderate Oil Band (30 M x 6 M) - Pooled Oil - Access limited by Reefs
4. Cliffs (300')
5. Cobble Beach / V. Light Oil
6. Basalt Cliff

ACE 8709084
ECOLOGICAL EVALUATION

LOCATION: KAFUPA BAY  SITE: CAPE GULL  OBSERVER: J. Tappley
LOCATION PREFIX: K9/C6  SEG. NO.: K9-23-C6-03  LENGTH: 3,300 m  (M)
DATE: 7/18/89  TIME (HHMM): 0900  TIDE HT.: -1.0 m  (M)
OILED ZONE: Splash  High  Medium  Low
SUBSTRATUM: Rocks  Boulder  Cobble  Gravel  Sand  Mud

LIVE BIOTA

**Fucus (algae):** Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

**Mytilus (Mussels):** Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

**Balanus (Barnacles):** Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

**Littorina:** Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

**Limpets:** Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

OTHER OBSERVATIONS: Description above is for oiled pocket beach. Rocky, seaweed
part of segment rich and diverse with intertidal life. Cleaned in bay.

CLEANUP PRECAUTIONS: Bears present in area. Avoid oil contamination & healthy
low tide.

MAMMALS: Otters  Harbor Seals  Sea Lions  Whales  Other

BIRDS: Gulls  Kittiwakes  Bald Eagle  Peregrine Falcon  & rest.

GENERAL OBSERVATIONS: Downed 3-4" Drupaecus snail dead on beach.
Moderate algal debris scattered across beach. Amphipods abundant. Territorial
birds on beach drift.
SHORELINE CLEANUP PROGRAM

DATE 7/17/89

LOCATION: (see enclosed map) Cape Gull

ADEC NO. __________ SHORELINE ASSESSMENT DATE: 7/18/89

Recommended Cleanup Activity(ies):
- No cleanup recommended due to no apparent oil observed.

Priorities/Considerations: Class 5-A
- Segment located within Katmai National Monument.
- Glaucous winged gull and black legged kittiwak colony in segment.
- Clam beds in bay.

Ecological Constraints (from site survey):
- Should cleanup be necessary at a later date: avoid seabird colony and healthy biota in lower intertidal zone.

Archeological Constraints (from site survey):
- If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

State Historic Preservation Officer *

EXXON: ___________________________ Date: _________________

FOSC: ___________________________ Date: _________________

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
**SHORELINE OIL EVALUATION**

Date: 07/10/89   Time: 12:01   Observer: Rick Gillie

Surveyed From: Foot/Boat/Plane   Weather: Sun/Cloud/Rain/Snow/Fog

Identification: CAPE GULL   Segment ID: K09-23-CG-04

Segment Length: 3550 m.   Access: Vehicle/Boat/Barge/Plane

Access Restrictions: SHALLOW SAND NEAR COR

**HORELINE**

Type: SPI   Average Exposure: High/Med/Low

sediment: B / D / C / P / W / G / S / L / M / R

**IL**

Degree of Oiling: HEAVY / MODERATE / LIGHT / VERY LIGHT / (NONE OBSERVED)

Area of Impact: SU/SP/H/M/L   N/A

**IL DISTRIBUTION**

<table>
<thead>
<tr>
<th>Continuous</th>
<th>Porous</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of Segment</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type</th>
<th>SU/SP/H/M/L</th>
<th>H/M/L/VL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Length (m)</td>
<td>Width (m)</td>
<td>Thickness &gt;1cm: cm</td>
</tr>
<tr>
<td>Penetration/Rework: cm</td>
<td>Burial Depth: cm</td>
<td></td>
</tr>
</tbody>
</table>

**Obilization Potential:** High/Medium/Low   N/A

**Rift Debris Oiled?** Y  N

**Amount:** H/M/L/VL   SU/SP/H/M/L Type:

**PH MOPHOLGY**

Oiled Oil:   SU/SP/H/M/L

Free" Oil:   SU/SP/H/M/L

plattered:   SU/SP/H/M/L

Oated:   SU/SP/H/M/L

ancakes/Balls:   SU/SP/H/M/L

**IL WEATHERING**

<table>
<thead>
<tr>
<th>Type</th>
<th>SU/SP/H/M/L</th>
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<tbody>
<tr>
<td>Resh:</td>
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<tr>
<td>Mousse:</td>
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<tr>
<td>Feathered Mousse:</td>
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<tr>
<td>Asphalt Mousse:</td>
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<td>ar:</td>
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</tbody>
</table>

**Preliminary Cleanup Est.**

| Total TYPE A: | m |
| Total TYPE B: | m |
| Total TYPE A/B: | m |

**COMMENTS**

NO OIL OBSERVED ON ROCKS 400 m long SAND BEACH OR BOULDER BEACHES.
DOCUMENTATION:
Map/Aerial photo marking segment boundaries

VTR: Y/N Tape Number(s)

Photography: Y/N Roll Number(s) RT-2

Sample Numbers Collected: N/A

ACE 8709090
ECOLOGICAL EVALUATION

LOCATION: KAFKA BAY  SITE: South Cape Gulf  OBSERVER: J. Torrey
LOCATION PREFIX: K9/C9  SEG. NO.: K9-23-C6-04  LENGTH: 3550 m (M)
DATE: 7/19/89  TIME (HHMM): 1150-1255  TIDE HT.: +2.25 m (M)
OILED ZONE: Splash High Medium Low
SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Other algae present: Ulva, Obelia, Lichenes, Porphyra, Plocamium, Corallines in pools.

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Littorina
Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

OTHER OBSERVATIONS: Very little algal or wood debris. 2-3 Cancer Magnus per meter along drift line. Gull/Kittiwake colony in Bay. 300-400 birds
Clean backs in Bay.

CLEANUP PRECAUTIONS: Birds common in the area.

MAMMALS: Otters  Harbor Seals 2  Sea Lions  Whales
Other  Bear Tracks  Fox  Catfish Tracks

BIRDS: Gulls, Kittiwakes, Merganser

GENERAL OBSERVATIONS: No oil observed 2 streams at south end of beach.
SHORELINE PRE CLEANUP REASSESSMENT

DATE 7/25/89 SHORELINE SEGMENT K9-24-KU-1 REASSESSMENT DATE 7/25

Observers: OG M. Acton ________ BIO G. Penn ________ ARCH D. Jordan

Reason for Reassessment: Update prior to cleanup activities

Revised Recommended Cleanup Activity(ies):

- Cleanup activities remain as previously stated.
- See attached map for locations of impacted areas.

Revised Ecological Constraints:

- Constraints remain as previously stated.

Revised Archaeological Constraints:
No access to the forest/upland zone at the head of the bay at the north end of the segment.

If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archaeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

State Historic Preservation Officer *

EXXON: __________________________ Date: __________

FOSC: __________________________ Date: __________

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide submerged lands.
SHORELINE CLEANUP PROGRAM

DATE 7/15/89  SHORELINE SEGMENT K9-24-KU-1

LOCATION: (see enclosed map) Kuliak Bay

ADEC NO.  ___________  SHORELINE ASSESSMENT DATE: 6/25/89

Recommended Cleanup Activity(ies):
- Manually remove oiled drift debris.
- Manually remove/clean sporadic areas of free oil and mousse.

Priorities/Considerations: Class 4-A
- Light oil, resources present.

Ecological Constraints (from site survey):
- Manual removal of oiled rocks will not adversely affect uncontaminated lower intertidal zone biota - no constraints.

Archeological Constraints (from site survey):
- If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

State Historic Preservation Officer *  Date: ____________________

EXXON: ____________________  Date: ____________________

FOSC: ____________________  Date: ____________________

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
June 25 1989

Date: 1989 / Time: 10:30

Surveyed From: Foot/Boat/ Helio/Plane

Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

NORTHWEST

LOCATION KULIAK BAY

SEGMENT I.D. K9-24-KU-1

LENGTH OF SHORELINE SEGMENT: 1500 m

ACCESS: Foot/Vehicle/Boat/Barge/ Helio/Float Plane

SHORELINE:

Shoreline Type: SPI/BEA/COV/HLD/STRT
Slope: LANG/HANG/VER

Wave Exposure: High/Med/Low

Sediment: BEA 4 C5O 4 P3O 4 4 G 4 S 4 M 4 R

Drift Debris on Beach: Yes/No

OIL:

Degree of Oiling: Heavy/Moderate/Light/No Oil/Unobserved/Very Light

Total Area of Beach Impact: SU/SP/H/M/L

OIL DISTRIBUTION

Continuous: Y/N Segment: < 50 No. Bands Width

Sporadic: Y/N Segment: 30 Min/Max Dia: < 5 cm Impact Width: < 25 m

Est. Oil Thickness where > 1 cm: 2 cm: SU/SP/UP/MID/LO

Est. Oil Penetration: 3 cm in o/o top sed:

Layers? Yes/No

Oil Weathering

Drift Debris Oiled? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L/VL

OIL MORPHOLOGY

Pooled Oil: O "Free" Oil: O Spattered: O H/M/L/VL Sheen: O

OIL WEATHERING (ON)

Fresh Oil: O SU/SP/Vp/MID/LO Choc Mousse: O SU/SP/Vp/MID/LO

Pancake Mousse: O SU/SP/Vp/MID/LO Asphalt Mousse: O SU/SP/Vp/MID/LO

Tar Formation: O

Comments:

This is a cobble beach with a pebble spring tide/storm berm

Oil contamination is variable. Very light discontinuous tar spills occur over the sand to upper ITZ. A heavier band of tar mousse and mousse 'gutters' occurs sporadically over a 1 to 2 m wide band in the upper ITZ. In some areas free oil occupies between and under the cobble. Oil contamination in these areas might be locally defined as light to possibly moderate. These areas are however not continuous and in total, cover < 10% of the beach area. Beach washing is unlikely to recover oil.

Manual removal is appropriate for this area. A local beach clean up, low gradient
DOCUMENTATION:
☑ Aerial photo marking segment boundaries See Attached

VTR: Y/N Tape Number(s) ____________________________

Photography: Y/N Roll Number(s) D 11 C - 15

Sample Numbers Collected: N/A
ECOLOGICAL EVALUATION

LOCATION: KULIKKA BAY  SITE:  OBSERVER: D McCorkel
LOCATION PREFIX: KU  SEG. NO.: 1  LENGTH: 1500 (M)
DATE: 6/25/89  TIME (HHMM): 0000  TIDE HT.: +1.0  (M)
OILED ZONE: Splash  High  Medium  Low
SUBSTRATUM: Rocks  Boulder  Cobble  Gravel  Sand  Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

Mytilus (Mussels): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

Balanus (Barnacles): Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

Littorina: Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

Limpets: Patchy Y/N  Contin. Y/N  Dense Y/N  Sparse Y/N  None Y/N

OTHER OBSERVATIONS: Ground covered in silt; see site geometry report.
Salmon run at head of bay; clean shells.

CLEANUP PRECAUTIONS: None

MAMMALS: Otters  Harbor Seals  Sea Lions  Whales

BIRDS: gulls  lighthouse  magpies

GENERAL OBSERVATIONS: oil in mid-lower ITZ very light asphalt omissions
not affecting biota; oil in mid-high zone melting insitu to become bitumen
and is oozing cracks. Bitumen ramps over under rocks.

ACE 8709099
SHORELINE CLEANUP PROGRAM

DATE 8/01/89  SHORELINE SEGMENT K9-24-KU-2

LOCATION: (see enclosed map) Kuliak Bay

ADEC NO. SHORELINE ASSESSMENT DATE: 8/01/89

Recommended Cleanup Activity(ies):
- Manual removal of surface oil in cracks and crevices between boulders and among cobbles. In some areas the weathered mousse extends to a depth of 6 inches among the cobbles. (see map site #3 and #4)
- Manual removal of buried tar and mousse along drift line to a depth of 3 inches (see map site #3).
- Manual removal of small, oiled driftwood (see map site #3).

Priorities/ Considerations: Class 4-A
- Katmai National Monument Wildlife refuge area.

Ecological Constraints (from site survey):
- During manual cleanup try to avoid cross-contamination of lower intertidal zone which is clean throughout the segment.
- Be aware of location of eagle nests (see geo map for locations).

Archeological Constraints (from site survey):
- If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

State Historic Preservation Officer *

EXXON: ____________________________ Date: ____________________________

FOSC: ____________________________ Date: ____________________________

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
SHORELINE OIL EVALUATION

A. General


10. Access: Foot/Boat/Helio/Float Plane

11. Total Percentage of Segment Accessible: 100%

12. Access Restrictions: 0.4 ft. landing a boat + high wave conditions

B. Shoreline
13. Shoreline Type: SPI/BEAT/COV/HLD/STRT/CLP/DAF

14. Slope: LANG/HANG/VERT

15. Wave Exposure: High/Mod/Low

16. Sediment: B% / C% / P% / G% / S% / M% / R%

7. Drift Debris on Beach: Yes/No  Supra/Upper/Mid/Lower Type

C. Oil Summary
18. Degree of Oiling: Heavy/Moderate/Light/Very Light/No Oil Observed

19. Area of Beach Impact: Width of Band: 2-5 yds
   Continuous: Total % of Segment
   Sporadic: Total % of Segment
   No Oil: Total % of Segment

20. Est. Oil Thickness where >1 in: L-4 in  21. Est. Oil Penetration: L-8 in

22. Pooled Oil:  % "Free" Oil:  % Coated: H% / M% / L%

23. Fresh:  % Mousse:  % Tar Formation:  %

24. Drift Debris Oiled? Yes/No  Sup/Up/Mid/Low Amount: very

Comments: Please see accompanying maps. For cleanup purposes, most of the oil is concentrated at the southern end of the segment (see map 2-w), consisting of mousse mixed beneath cobble, between large boulders and cobble and lying at the surface along drift lines.

SEE PAGE 2 FOR SUPPLEMENTAL INFORMATION
SUPPLEMENTAL SHORELINE OIL EVALUATION

25. Oil Type

<table>
<thead>
<tr>
<th>Type</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh</td>
<td>30</td>
</tr>
<tr>
<td>Mousse</td>
<td>10</td>
</tr>
<tr>
<td>Weathered</td>
<td>40</td>
</tr>
<tr>
<td>Tar</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
</tbody>
</table>

26. Total Oil Coverage

<table>
<thead>
<tr>
<th>Length (yd)</th>
<th>Width (yd)</th>
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</thead>
<tbody>
<tr>
<td>Very Light</td>
<td>4.40</td>
</tr>
<tr>
<td>Light</td>
<td>2.00</td>
</tr>
<tr>
<td>Moderate</td>
<td>1.00</td>
</tr>
<tr>
<td>Heavy</td>
<td></td>
</tr>
</tbody>
</table>

27. Oil Distribution

- Pooled/continuous coating/splat
- Cracks/crevices
- Patties (>10cm diameter)
- Balls (< 10cm diameter)
- Asphalt pavement

28. Preliminary Cleanup Est.

Total TYPE A: 900 yds.
Total TYPE B:           yds.
Total TYPE A/B:        yds.

29. Remobilization Potential: High/Medium/Low

DOCUMENTATION:

- AERIAL PHOTO MARKING SEGMENT BOUNDARIES
- VTR: Y/N Tape Number(s)
- PHOTOGRAPHY: Y/N Roll Number(s)
- ADDITIONAL COMMENTS:

ACE 8709105
**Map #1**

**Representative Section**

- 20m high
- Bedrock and debris slope
- Alluvial fans delivering sediment to the beach
- Boulder and cobbles
- In large boulders
- (very occasional) Split at storm high tide line, very text consistency

**Map #2**

**Representative Section**

- Partially very small slope of bedrock at seaward
- Boulder and cobbles
- Boulder and cobbles

*Very light split on boulders and cobbles at storm high tide line, very infrequent mass between cracks and cavities of cobbles and boulders.*

ACE 8709108
Map #3

Representative Section

Moderately Oiled

- High tide beam composed of pebbles and cobbles with brown tan and mousse to a depth of 6 inches, 2-3 yds wide.
- Mousse covered boulders and cobbles 2-4 yd wide, 15 m long.
- High tide beam composed of cobbles and some boulders covered by weathered mousse to a depth of up to 8 inches (averaging 6 inches).
- This zone of moderate oil extends 7-800 yds along the beach.

Map #4

Moderate splot at high tide mousse between boulders 40 yd long, 2-5yd wide

Map #5

Representative Section

Splot zone at high water line with some mousse (weathered) between boulders, 4 yd wide and 100 yd long.

ACE 8709109
ECOLOGICAL EVALUATION

LOCATION: KULIK BAY, ARK PENINSULA
LOCATION PREFIX: 8324 KU- SEG. NO.: 2
LENGTH: 7040 YD
DATE: 3/1/89 TIME (HMOH): 0810 TIDE HT.: -0.75 FT
OILED ZONE: Splash, High, Medium, Low
SUBSTRATUM: Rocks, Boulder, Cobble, Gravel, Sand, Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Littorina: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

OTHER OBSERVATIONS: Sealsions on small birds/fish from C. Kulik; Ticks on feet

CLEANUP PRECAUTIONS: Try to avoid contaminating lower ITZ which is
clean in all portions of the segment. Be aware of eagle next locations.

MAMMALS: Otters Harbor Seals Sea Lions Whales

BIRDS: Eagles next (see map for approximate location)

GENERAL OBSERVATIONS: This entire segment was walked by SCAT Team. Oiling
from light splatter at N end to moderate oiling on some cobble/boulder
blocks. Oiling occurs primarily in upper ITZ, but some splatter (asphalt/pancake)
occurs in the mid-tide zone.

ACE 8709110
SHORELINE CLEANUP PROGRAM

DATE 8/02/89 SHORELINE SEGMENT K9-24-KU-3

LOCATION: (see enclosed map) Kuliak Bay

ADEC NO. _________ SHORELINE ASSESSMENT DATE: 8/02/89

Recommended Cleanup Activity(ies):
- Manual removal of surface oil from high tide line along cobble beach (see map site #1).

Priorities/Considerations: Class 5-A

Ecological Constraints (from site survey):
- During manual cleanup, avoid trampling on dense populations of sea stars and mussel beds.
- Avoid cross-contamination of clean, lower intertidal zone.

Archeological Constraints (from site survey):
- If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

State Historic Preservation Officer *

EXXON: ___________________________ Date: ___________________________

FOSC: ___________________________ Date: ___________________________

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
SHORELINE OIL EVALUATION

General
8. Length of shoreline segment: 6500 yds  9. Tidal Stage: +3 ft. mwh
10. Access: Foot/Vehicle/Boat/Barge/Helicopter/Float Plane
11. Total Percentage of Segment Accessible: 75%
12. Access Restrictions: not head area

B. Shoreline
13. Shoreline Type: SPL/BEA/COV/HLD/STRT/CLF/DAF
14. Slope: LAKE/HANG/VERT
15. Wave Exposure: HIGH/MED/LOW
16. Sediment: B/20% / C/25% / F/5% / G/10% / H/15% / R/5%
17. Drift Debris on Beach: Yes/No  Supra/Upper/Mid/Lower Type

Oil Summary
18. Degree of Oiling: Heavy/Moderate/Light/Very Light/No Oil Observed
19. Area of Beach Impact: Width of Band: 1-2 yds
   Continuous: Total % of Segment: 5%
   Sporadic: Total % of Segment: 45%
   No Oil: Total % of Segment: 50%
22. Pooled Oil: ___ %  "Free" Oil: ___ % Coated: H/1% / M/1% / L/100%
23. Fresh: ___ %  Mousse: ___ %  Tar Formation: ___ %
24. Drift Debris Oiled? Yes/No  Sup/Up/Mid/Low Amount: _____

Comments:
Oil spill on this segment consists of very sporadic tar spot
and a 350 yd. 1-2m wide tarred band along a cobble beach.

SEE PAGE 2 FOR SUPPLEMENTAL INFORMATION
SUPPLEMENTAL SHORELINE OIL EVALUATION

25. Oil Type

<table>
<thead>
<tr>
<th>Oil Type</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh</td>
<td></td>
</tr>
<tr>
<td>Mousse</td>
<td>10</td>
</tr>
<tr>
<td>Weathered</td>
<td></td>
</tr>
<tr>
<td>Tar</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

26. Total Oil Coverage

<table>
<thead>
<tr>
<th>Oil Type</th>
<th>Length (yd)</th>
<th>Width (yd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh</td>
<td>2,000</td>
<td>1-2</td>
</tr>
<tr>
<td>Mousse</td>
<td>350</td>
<td>1-2</td>
</tr>
<tr>
<td>Weathered</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tar</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

27. Oil Distribution

- pooled/continuous
- coating/splat
- cracks/crevices
- patties (>10cm diameter)
- balls (<10cm diameter)
- asphalt pavement

28. Preliminary Cleanup Est.

Total TYPE A: 350 yds.
Total TYPE B: __________ yds.
Total TYPE A/B: __________ yds.

29. Remobilization Potential: High/Medium/LOW

DOCUMENTATION:

Map/Aerial photo marking segment boundaries

VTR: Y/N  Tape Number (s)

Photography: Y/N  Roll Number (s)

Additional Comments: ____________________________________________________________
Map 2

Type Section

- Text解读:
  - 交错带
  - 交错带
  - 岸边
  - 交错带
  - 岸边
  - 岸边
  - 岸边
  - 岸边

- 手写标注:
  - 带状砂石带，1-2 yd wide, 3 inches deep, 350 yd long
ECOLOGICAL EVALUATION

LOCATION: BAY, AK PENINS. SITE: ____________ OBSERVER: D. McCORMICK
LOCATION PREFIX: KJ-34-KU SEG. NO.: 3 LENGTH: 6500' (yd)
DATE: 8/2/89 TIME (HDDM): 0920 TIDE HT.: -1.4' (-ft)
OILED ZONE: Splash High Medium Low
SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Dense in a few areas of the segment only. Dense clumps.

Palanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Littorina
Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

OTHER OBSERVATIONS: Trace/trace feces: Sparus atlanticus, Uria, Histrionica, Adarinus (dense), Lepidopus, Tenia, Pagona, Pelagicus, Eutamias, Congeria
algae: Silted: Mya, Saccoloma, Filaster, Pterocles and kientoderbos, R Gemeis, Sand dollars

CLEANUP PRECAUTIONS: Avoid trapping dense populations of sea urchins and muddling muds. Avoid cross-contamination to clean lower ITZ.

MAMMALS: Otters Harbor Seals Sea Lions Whales
OTHER

BIRDS:

GENERAL OBSERVATIONS: Oil conditions in this segment vary from very light to heavy. Yellow, green, and black oil was observed in some areas. No apparent areas of beach affected by oil. 45D in upper ITZ
(See Map #1).

ACE 8709119
SHORELINE CLEANUP PROGRAM

DATE  8/03/89

LOCATION: (see enclosed map) Kulissk Bay

SHORELINE SEGMENT K9-24-KU-4

ADEC NO.  

SHORELINE ASSESSMENT DATE:  8/03/89

Recommended Cleanup Activity(ies):
- Manual removal of oil deposits and oiled debris, (see segment map).

Priorities/ Considerations: Class 5-A
- Katmai National Monument Wildlife Refuge

Ecological Constraints (from site survey):
- Recommended sending only a small cleanup crew to the areas at the head of the bay in order to minimize impact to clean, healthy and dense mid-lower intertidal fauna.

Archeological Constraints (from site survey):
- If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
SHORELINE OIL EVALUATION

A. General
1. Date: 3 Aug 89
2. Time: 0820-1130
3. Observer: F. Gerald

4. Surveyed From: Foot/Boat/Helicopter/Plane
5. Weather: Sun/Cloud/Rain/Snow/Fog

6. Location: Northern Kukini Bay
7. Segment #: K-9-24-KU-4

8. Length of shoreline segment: 9700 yds
9. Tidal Stage: -2+3 ft. (MLW)

10. Access: Foot/Vehicle/Boat/Barge/Helicopter/Float Plane

11. Total Percentage of Segment Accessible: 75%

12. Access Restrictions: Difficult at northeastern headlands cl ft area

B. Shoreline
13. Shoreline Type: SPI/BEA/OV/HLI/ST/RG/DAF

14. Slope: LANG/HANG/VERT

15. Wave Exposure: High/Med/Low

16. Sediment: B% / C% / P% / G% / S% / M% / R%

17. Drift Debris on Beach: Yes/No

C. Oil Summary
18. Degree of Oiling: Heavy/Moderate/Light/Very Light/No Oil Observed

   Continuous: Total % of Segment 25%
   Sporadic: Total % of Segment 10%
   No Oil: Total % of Segment 27.5%

20. Est. Oil Thickness where >1 in: ____ in

21. Est. Oil Penetration: ____ in

22. Pooled Oil: ____ % "Free" Oil: ____ % Coated: H% / M% / L%

23. Fresh: ____ % Mousse: ____ % Tar Formation: ____ %

24. Drift Debris Oiled? Yes/No

Sup/Up/Mid/Low Amount: ____ H/M/L

Comments:

Only two areas within this segment were sufficiently oiled to require cleaning. These consists of 1-2 m bands along the high tide line where weathered mousse covered cobble and pebbles. Please accompany maps.

SEE PAGE 2 FOR SUPPLEMENTAL INFORMATION
25. Oil Type

<table>
<thead>
<tr>
<th>Type</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh</td>
<td></td>
</tr>
<tr>
<td>Mousse</td>
<td></td>
</tr>
<tr>
<td>Weathered</td>
<td>10</td>
</tr>
<tr>
<td>Tar</td>
<td>90</td>
</tr>
</tbody>
</table>

100 %

26. Total Oil Coverage

<table>
<thead>
<tr>
<th>Type</th>
<th>Length (yd)</th>
<th>Width (yd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Light</td>
<td>1000</td>
<td>1.2 m</td>
</tr>
<tr>
<td>Light</td>
<td>250</td>
<td>1.2 m</td>
</tr>
<tr>
<td>Moderate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heavy</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

27. Oil Distribution

- Pooled/continuous coating/splat
- Cracks/crevices
- Patties (>10 cm diameter)
- Balls (<10 cm diameter)
- Asphalt pavement

28. Preliminary Cleanup Est.

- Total Type A: 250 yds.
- Total Type B:        yds.
- Total Type A/B:      yds.

29. Remobilization Potential: High/Medium/Low

DOCUMENTATION:

- [ ] Map/Aerial photo marking segment boundaries
- [x] VTR: Y/N Tape Number (s)
- [x] Photography: Y/N Roll Number (s)

Additional Comments:

ACE 8709124
**Type Section**

Map #1

- Flat cobble - rubble
- Spot at NW, 1.2 m wide
- 100 m long, two between cobbles, some mousse

Sand Flat

Map #2

- Two veg
- Spot with some sand and mousse, 12-3 yd wide, 150 yd long
- Tidal flat sand

ACE 8709126
ECOLOGICAL EVALUATION

LOCATION: Node of Bay
AK PENINSULA

SITE: __________________________

LOCATION PREFIX: K-934-KU
SEG. NO.: 4
LENGTH: 9700 (M)

DATE: 8/3/89
TIME (HHMM): 0830
TIDE HT.: +1.75 FT.

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Patches dense

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Dense (unbroken) perpendicularly

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Littorina
Patches Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

OTHER OBSERVATIONS:

Tide pool fauna: Hydroids, encrusting algae (pink, green, etc)

Anthopleura, Kallia, sea urchins, Echinus, green, reds, Scyphus, Nucella, etc.

Barnacles, Ulva, Ectocarpus, shells of Beja, Cowabula, Pratetella, clams, mussels, etc.

Salmon spawn at head of bay

CLEANUP PRECAUTIONS: Retire only a small group of cleanup personnel

go into areas at the head of the bay to minimize impact to the indigenous fauna

MAMMALS:

Otters 4  Harbor Seals 2  Sea Lions 2  Whales 1

Other  Brown Bear  Sow - cub

BIRDS:

Bald eagle nest (see map for location)

GENERAL OBSERVATIONS:

Only two areas in the algal mat require manual cleanup

(see Maps 1 and 2). These are patches of primary/concrete menacing occurring in

the upper F72. The north side of the bay is only very lightly splattered in

isolated packets.
SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Block (see enclosed map): K9-28

Includes Shoreline Segments: KI-1, KI-2

Location: Kinak Bay

Submitted: ___________________________ Date: _______________
(for Exxon)

FOSC Approval: _________________________ Date: _______________

The cleanup procedures identified in the Shoreline Cleanup Program are recommended. Exxon and other field personnel are encouraged to suggest innovations and productivity enhancements to the OSC's on-scene representative. Requirements for safety and the protection of cultural material must be observed.

CC: KISCC
SHORELINE CLEANUP PROGRAM

DATE 7/24/89  
SHORELINE SEGMENT K9-28-KI-1

LOCATION: (see enclosed map) Kinak Bay, East shore

ADEC NO. __________  SHORELINE ASSESSMENT DATE: 7/24/89

Recommended Cleanup Activity(ies):
- Manual removal of mousse patties (see segment map for location.)

Priorities/ Considerations: Class 5-A

Ecological Constraints (from site survey):
- Avoid eagle nests.

Archeological Constraints (from site survey):
- If cleanup is planned for any portion of the segment other than that indicated on the geologists map, a full archeological assessment of the segment must be conducted.

[Signature]
State Historic Preservation Officer  
Date: 8-2-89

EXXON: ___________________________  Date: ___________________________

FOSC: ___________________________  Date: ___________________________

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
**SHORELINE OIL EVALUATION**

**DATE:** 7-11-89  **TIME:** 1450  
**RECEIVED FROM:** Foot/Boat/Melia/Plane  
**WEATHER:** Sun/Cloud/Rain/Snow/Fog

**LOCATION**

**LOCATION:** Kauai Oak Fee site  
**SEGMENT ID:** K9-4V-17-1  
**SEGMENT LENGTH:** 15 Km  
**ACCESS:** Vehicle/Boat/Barca/Melia/Float Plane

**HORELINE**

**HORELINE TYPE:** SPI/BEA/COV/NDL/STR  
**SLOPE:** Lo/Hi/Med/Vert  
**AVE EXPOSURE:** High/Med/Low  
**SEDIMENT:** B____ / C____ / P____ / G&S____ / M____ / R____

**IL**

**DEGREE OF OILING:** HEAVY / MODERATE / LIGHT / VERY LIGHT / NONE OBSERVED

**REA OF IMPACT:** SU/SP/H/M/L

**IL DISTRIBUTION**

**CONTINUOUS % OF SEGMENT:** SU/SP/H/M/L  
**H/M/L/VL**

**PORADIC % OF SEGMENT:** SU/SP/H/M/L  
**H/M/L/VL**

**TOTAL LENGTH (M):**

**TOTAL WIDTH (M):**

**IL MORPHOLOGY**

**COOLED OIL:** ______ %  
**FREE* OIL:** ______ %  
**PLATTERED:** ______ %  
**MOSSED:** ______ %  
**FLOATED:** ______ %  
**ANNEXED/BALLS:** ______ %

**IL WEATHERING**

**RESS:** ______ %  
**MOUSSE:** ______ %  
**BATHED MOUSSE:** ______ %  
**SPHALT MOUSSE:** ______ %  
**AR:** ______ %

**COMMENTS**

Very light oil impact consisting of mossy pods was observed approx high tide line. Mossy pods were small, < 8cm diam. Beach is sand/rock fragments. Mossy cleanup should be rapid and easy. See segment map for location of this beach.

*Phased May 7th & 9th.*

ACE 8709131
DOCUMENTATION:

Aerial photo marking segment boundaries

VTR: Y/N Tape Number(s) 

Photography: Y/N Roll Number(s) MAY

Sample Numbers Collected: 

ACE 8709132
7/25 0840 Depart Kodiak for Kinch B-

TUESDAY

Acton Penn Jordan Cramer Moss | Sheep Voice

Begin Kinch B-
1030 no oil observed
1075 to - 200 m beach/sand bank - 200 m beach
50 m with
No oil observed
1115 packet and bank - no oil
1120 2 plank on course observed
1125 no oil stream/drift
Small lees
200 x long 25 m wide

1145 V-boat - black water - brown mud
up to 20 ft hunters

1205 no oil observed - sand puffy bank

1210 no oil observed - 75 m long

1225 no oil observed
1230 to field trip
1320 leave field trip
1400 enter start segment again
1400 packet beach - 1 oil/scand, 5 sheep
1420 end segment
ECOLOGICAL EVALUATION

LOCATION: Kodiak
SITE: Alaska Peninsula - Kink Bay

LOCATION PREFIX: K9-28
SEG. NO.: KI-1
LENGTH: ____________ (M)

DATE: 07/24/89
TIME (HHMM): 1425
TIDE HT.: 0.7

OILED ZONE: Splash
SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Generally limited to larger angular boulders & rocks in LITZ

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Generally limited to larger angular boulders & rocks in LITZ

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Occasionally found in dense patches on cobble boulders in LITZ.

Littorina
Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
None observed

OTHER OBSERVATIONS: Subtidal LITZ is a near Shelikof Strait footprint
at mouth of bay is occasionally dense with ribbon kelp.

CLEANUP PRECAUTIONS: Avoid any observed eagle nests. Type "A"
cleanup should not impact any intertidal biota. Do not disturb
substrate in stream below.

MAMMALS: Otters Harbor Seals Sea Lions Whales
Other Bear

BIRDS: Eagles, Flies of Molting Merganser

GENERAL OBSERVATIONS: ____________________________________________

ACE 8709135
SHORELINE CLEANUP PROGRAM

DATE 7/25/89

SHORELINE SEGMENT K9-28-KI-2

LOCATION: (see enclosed map) Kinak Bay

ADEC NO. K9 

SHORELINE ASSESSMENT DATE: 7/25/89

Recommended Cleanup Activity(ies):
- No cleanup recommended due to very light oil (4-6 mousse patties) and potential for ecological impacts from cleanup crews. Subject to FOSC reassessment at a later date.

Priorities/ Considerations: Class 5-A

Ecological Constraints (from site survey):
- Should cleanup be required:
  - Avoid eagle nests.
  - Do not disturb substrate in stream beds.

Archeological Constraints (from site survey):
- If cleanup is planned, a full archaeological assessment of this segment must be conducted.

State Historic Preservation Officer:

Date: 8-2-89

EXXON:

Date:

FOSC:

Date:

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
**SHORELINE OIL EVALUATION**

**Date:** 7/25/89  **Observer:** W. Acton

**Surveys From:** Foot/Boat/Helicopter/Plane  **Weather:** Sun/Cloud/Rain/Snow/Fog

**LOCATION**

Location: Kinnek Bay  **Weather:** Cloud/Rain/Snow/Fog

Segment ID: K9-28  **Access Restrictions:**

Segment Length: 1.5 km  **Access:** Vehicle/Boat/Barge/Helicopter/Float Plane

**SHORELINE**

Type: SPI/Cov/Hld/STRT  **Access Restrictions:**

Slope: Lo/Med/Hi/Vert  **Access:** Vehicle/Boat/Barge/Helicopter/Float Plane

**Average Degree of Oiling:** HEAVY / MODERATE / LIGHT

**Area of Impact:** SU/SP/H/M/L

**OIL DISTRIBUTION**

Continuous  % of Segment  SU/SP/H/M/L  H/M/L/VL

Poradic  % of Segment  SU/SP/H/M/L  H/M/L/VL

Very Light: 100  **Penetration/Rework:** Thickness >1cm: __________ cm  SU/SP/H/M/L

Light:  __________  **Burial Depth:** __________ cm  SU/SP/H/M/L

Moderate:  __________

Heavy:  __________

**Oiling Potential:** High/Medium/Low

**Shoreline Type:** SPI/Cov/Hld/STRT  **Oil Debris Oiled? Y/N**

**Amount:** H/M/L/VL  **SU/SP/H/M/L Type:** __________

**IL MORPHOLOGY**

**Presented Oil:** __________

**Free Oil:** __________

**Plastered:** __________

**Oiled:** __________

**Oiled:** __________

**Ancakes/Balls:** __________

**IL WEATHERING**

**Resh:** __________

**Ousse:** __________

**Smeared Mousse:** __________

**Sphat Mousse:** __________

**Tar:** __________

**PRELIMINARY CLEANUP EST.**

**Total TYPE A:** __________ m

**Total TYPE B:** __________ m

**Total TYPE A/B:** __________ m

**NOTES**

Approx 4-6 mouse pads were observed along entire segment.
DOCUMENTATION:

Map/Aerial photo marking segment boundaries

VTR: Y/N Tape Number(s) ________________

Photography: Y/N Roll Number(s) ________________

Sample Numbers Collected: _____________________________

ACE 8709141
43
1245 Depart Kodiak
1300 Kinak Bay
1935 - No oil
1455 - No oil
Rocks and gravel
300 m - washed
1515 Ve motion fading
Rocks/grey sand
9 m 7 ft 8 ft
Sonne 5 m boat

44
Tuesday
7/25 0840 Depart Kodiak for Kinak Bay
Acton Penn Jordan Gamer Moss/Skeet, Skeet

Begin Kinak Bay 1030
1055 TD - Rock fragment/cobble beach/ditto
200 m beach
50 m with
No oil observed
1115 Rock and sand - No oil
1120 2 split on corner observed
1125 No oil stream/ditto
Sand/loam
200 m long 25 m wide

1145 Ve plot - black x 0.2 cm brown 0.2 cm
Upto 3 cm thick
1205 No oil deposit - Sand/pore sand
Instead of spot described 75 m away
Ve 0.5 m corner near 3 cm
1225 No oil observed
1231 To Flandra
1300 Learn first drop
1345 Next short segment again
1400 Rock beach - 1 oil/sand pad, Sonne
1410 End segment
ECOLOGICAL EVALUATION

LOCATION: Kodiak
SITE: Alaska Peninsula - Kriak Bay
LOCATION PREFIX: K9-28
SEG. NO.: KI-2
LENGTH: __________ (M)
DATE: 07/25/89
TIME (HDDM): 10:20
TIDE HT.: 1.0
OILED ZONE: Splash High Medium Low
SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Generally, limited to larger angular boulders + rocks in LITZ.

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Generally, limited to larger angular boulders + rocks in LITZ;
some cobble colonies in Russian anchors.

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Generally limited to larger boulders + rocks, occasionally found on dense patch on cobble anchor in LITZ.

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Occasionally occur in dense congregations - no pattern to distribution.

Littorina: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
None observed.

OTHER OBSERVATIONS: Subtidal LITZ is a near shelf of Strait footage at mouth of bay is occasionally dense with ribbon kelp.

CLEANUP PRECAUTIONS: Avoid any observed eagle nests. Type "A" cleanup should not impact any intertidal biota. Do not disturb substrate in stream beds.

MAMMALS: Otters Harbor Seals Sea Lions Whales

BIRDS: Eagles, Flocks of Molting Mergansers

GENERAL OBSERVATIONS: 

ACE 5709144
K9-30

ACE 7963995
SHORELINE CLEANUP PROGRAM

DATE  8/08/89  SHORELINE SEGMENT K9-30-IK-1

LOCATION: (see enclosed map) Between Analik Bay and Cape Ilktugitak

ADEC NO. __________ SHORELINE ASSESSMENT DATE: 8/04/89

Recommended Cleanup Activity(ies):
- No cleanup recommended due to light oiling and very high potential of natural cleaning. Subject to FOSC reassessment at a later date.

Priorities/Considerations:
- Access may be restricted to calm weather only.

Ecological Constraints (from site survey):

Archaeological Constraints (from site survey):
- If cleanup is conducted, inspection by an archaeological monitor is required in archaeologically sensitive portions of this segment.

Signature: Douglas Seger  Date: 8/12/89
State Historic Preservation Officer *

EXXON: __________________________  Date: __________________
FOC: ____________________________  Date: __________________

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
SHORELINE OIL EVALUATION

A. General
1. Date: 8/4/89  2. Time: 11:45-13:45  3. Observer:          
6. Location:  
7. Segment #: 19-20  
8. Length of shoreline segment: 5400 yds  9. Tidal Stage ± 0.5 ft.
10. Access:  Foot/Vehicle/Boat/Barge/Hello/Float Plane
11. Total Percentage of Segment Accessible: _______%
12. Access Restrictions:  H / W / H / E / B / B / Y / C / L / F / S

B. Shoreline
13. Shoreline Type: SPI/BE/COW/HL/STRT/CLF/DAF
14. Slope:  
15. Wave Exposure:  H / M / L
16. Sediment: B / C / P / G / S / M / R
17. Drift Debris on Beach: Yes/No  Supra/Upper/Mid/Lower  Type:  

C. Oil Summary
18. Degree of Oiling: Heavy/Moderate/Light/Very Light/No Oil Observed
19. Area of Beach Impact: Width of Band: _______ yds
   Continuous: Total % of Segment _______
   Sporadic: Total % of Segment _______
   No Oil: Total % of Segment _______
22. Pooled Oil: _______ %  "Free" Oil: _______ %  Coated: H / M / L
23. Fresh _______ %  Mousse _______ %  Tar Formation: _______%
24. Drift Debris Oiled? Yes/No Sup/Up/Mid/Low Amount: _______%

Comments:  

SEE PAGE 2 FOR SUPPLEMENTAL INFORMATION
SUPPLEMENTAL SHORELINE OIL EVALUATION

25. Oil Type

<table>
<thead>
<tr>
<th>Type</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh</td>
<td>0</td>
</tr>
<tr>
<td>Mousse</td>
<td>0</td>
</tr>
<tr>
<td>Weathered</td>
<td>0</td>
</tr>
<tr>
<td>Tar</td>
<td>100</td>
</tr>
</tbody>
</table>

26. Total Oil Coverage

<table>
<thead>
<tr>
<th>Type</th>
<th>Length (yd)</th>
<th>Width (yd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Light</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>Light</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heavy</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

27. Oil Distribution

- Pooled/continuous
- Coating/splat
- Cracks/crevices
- Patties (>10cm diameter)
- Balls (<10cm diameter)
- Asphalt pavement

28. Preliminary Cleanup Est.

- Total TYPE A: 0 yds.
- Total TYPE B: 0 yds.
- Total TYPE A/B: 0 yds.

29. Remobilization Potential: Medium/Low

DOCUMENTATION:

- Map/Aerial photo marking segment boundaries
- VTR: Y
- Tape Number(s)
- Photography: Y/N, Roll Number(s)
- Field Notes: {More or less} or Oil in 6
- Additional Comments:

ACE 8709150
START SOUTH TO NORTH

FLY: CLIFF WITH ROCK FILL OR B-BEACH

LOCATION 4 - N-WALK

FLANGE AT H; LOGS AT H / FLORE AT 11/14

OIL SPLASH ON LOGS AT H - N

OIL SPLASH ON BOULDER FLOWING TO B-BEACH -15 CM (Φ) - OIL IS VERY WEATHERED

HIGH POTENTIAL OF NATURAL WASHING; LOWER GATHERED THAN REST OF SEGMENT, BUT WILL WASH

END 13:40
LOCATION 3

CLIFF

ISLAND

STREAMS

CLIFF

8/3/89  KP-30  CI-1

ACE 8704152
ECOLOGICAL EVALUATION

LOCATION: AE無 韩国 KODAK REGION SITE: ANALUK BAY OBSERVER: MEYER
LOCATION PREFIX: K9-30 SEG. NO.: GT-1 LENGTH: 5400 YDS
DATE: 08/10/89 TIME (HHMM): 1145 TIDE HT.: 0 to +5 FT
OILED ZONE: Splash High Medium Low
SUBSTRATUM: Rock Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Hytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Littorina: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Largely Wells and Novella present also (patchy distribution). No oil.

Other Observations: Lipodochius common beneath rocks, boulders crevices; salmon seen jumping offshore;

Birds: Fulmar Food Algae; lower set tide rocks - Clithea (Clathromantes) Hemidactyla, Pterostoma, sea

urchins; Beddy patches, pockets of Goat's Claw shells; some seagrass.

Cleanup Precautions: No cleanup recommended.

Mammals: Otters Harbor Seals Sea Lions Whales

Other

Also 2 Eagles @ N. End of segment

Birds: 2 Eagles - Northern Gannet; 25 Black-forested Kittiwakes @ N. end of segment; about 20 Glaucous-winged Gull

General Observations: Segment flown by helicopter with about 5 landings (foot survey).

Oiling was very light, occasional weathered patches.
SHORELINE CLEANUP PROGRAM

DATE 8/24/89 SHORELINE SEGMENT K9-30A-TL-1

LOCATION: (see enclosed map) Takli Island

ADEC NO. K9 SHORELINE ASSESSMENT DATE: 8/21/89

Recommended Cleanup Activity(ies):
- Manual cleanup recommended for areas outlined in maps #1, #2, and #3.
- Clean splat/mousse from on and between rocks at low tide.
- Pick up oil/sand pads at low tide.

Priorities/Considerations: Class 4-A
- Complete cleanup operations during low energy permits and at low tide.

Ecological Constraints (from site survey):
- Avoid cormorant rookery on west side of island (see segment map).
- Avoid eagle nest on west side of island (see segment map).

Archaeological Constraints (from site survey):
- An archaeological monitor is required during cleanup. In the cove on the southwest side of Takli Island. No access to vegetated areas above the beach.

State Historic Preservation Officer
Date: 8/28/87

EXXON: __________________________ Date: ____________

FOSC: __________________________ Date: ____________

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
SHORELINE OIL EVALUATION

A. General
1. Date: 8/1/81
2. Time: 08:30-11:00
3. Observer: M. Acton

4. Surveyed From: Foot/Boat/Hello/Plane
5. Weather: Sun/Cloud/Rain/Snow/Fog
6. Location: Takl Island - Amelia Bay
7. Segment #: K935A - TL-1
8. Length of shoreline segment: 1700 yds
9. Tidal Stage: + 0.10 ft.
10. Access: Foot/Vehicle/Boat/Barge/Hello/Float Plane

11. Total Percentage of Segment Accessible: 60%
12. Access Restrictions: Access at low tides, low energy

B. Shoreline
13. Shoreline Type: SPI/SED/BRO/STR/CLP/DAF
14. Slope: LAND/HAND/VERT
15. Wave Exposure: High/Med/Low
16. Sediment: B-# / C-# / P-# / G-# / S-# / M-# / R-#
17. Drift Debris on Beach: Yes/No

C. Oil Summary
18. Degree of Oiling: Heavy/Moderate/Light/Very Light/No Oil Observed

19. Area of Beach Impact: Width of Band: 3-8 yds
   Continuous: Total % of Segment 3
   Sporadic: Total % of Segment 10
   No Oil: Total % of Segment 87

20. Est. Oil Thickness where >1 in: _____ in
21. Est. Oil Penetration: _____ in

22. Pooled Oil: _____
   "Free" Oil: _____
   Coated: H-# / M-# / L-#

23. Fresh: _____
   Mousse: 20%
   Tar Formation: _____

24. Drift Debris Oiled? Yes/No
   Supra/Upper/Mid/Lower Type: Driftwood
   Seaweed

Comments:
Helco was directed to survey shoreline in the Takl Island group. Foot survey was utilized
on 3 islands to complement Helco survey (see attached map for foot survey location).
Very light was observed in a number of locations on the 3 largest islands in the group.
(See enclosed map for generalized locations of very light oil). The shoreline with
greatest oil impact was observed on east Takl Island, where 3 areas of very light to high

SEE PAGE 2 FOR SUPPLEMENTAL INFORMATION

ACE 8709157
SUPPLEMENTAL SHORELINE OIL EVALUATION

25. Oil Type

<table>
<thead>
<tr>
<th>Type</th>
<th>Pct</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh</td>
<td>20</td>
</tr>
<tr>
<td>Mouse</td>
<td></td>
</tr>
<tr>
<td>Weathered</td>
<td>60</td>
</tr>
<tr>
<td>Tar Splat</td>
<td>100</td>
</tr>
</tbody>
</table>

26. Total Oil Coverage

<table>
<thead>
<tr>
<th>Type</th>
<th>Length (yd)</th>
<th>Width (yd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Light</td>
<td>1,000</td>
<td>3-8</td>
</tr>
<tr>
<td>Light</td>
<td>500</td>
<td>3-8</td>
</tr>
<tr>
<td>Moderate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heavy</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

27. Oil Distribution

- Pooled/continuous
- Coating/splat
- Cracks/crevices
- Patties (>10cm diameter)
- Balls (<10cm diameter)
- Asphalt pavement

28. Preliminary Cleanup Est.

- Total TYPE A: 500 yds.
- Total TYPE B: __________ yds.
- Total TYPE A/B: __________ yds.

29. Remobilization Potential: High/Medium/Low

DOCUMENTATION:

- Map/Aerial photo marking segment boundaries: See Attached Map
- VTR: Y/N Tape Number (s): K05 49
- Photography: Y/N Roll Number (s): HCP 4.5.4

Additional Comments:

Impact were observed (see attached maps). The location on the south side of the island were surveyed by air and consisted of light oil impact in the form of splat on basins/crevices with mouse between basins/crevices (see Map 1 and 2). The location on the west side of the island consisted of a band of very light to light impact in the form of splat on basins/crevices with mouse between basins/crevices (see Map 2). This area was surveyed by foot. In addition, oil/contaminated pads were found on flat, sandy, lower tidal areas.
Map #1

Area of light impact
- split on rocks
- moss on between rocks

A-A' ≤ 60'

125 hours Tide approx - 0.5'
Surveyed by Helen

ACE 8709160
Rubble/boulder Isthmus

Area of light impact
- 30' x 30'
- mid to high tide zone
- can be approached from either side

1130 hrs. Tide approx. 0.5'
Surveyed by helic.
The perimeter of the lagoon is formed by basalt columns, with most of the shoreline comprised of rubble/cobble eroded from these basalt cliffs. There are several small pocket beaches within the lagoon. The lagoon lower tidal zone is primarily low angle sand.

The band of very light to light oil impact is located in the mid to high tidal zone, and extends around most of the lagoon in areas comprised of rubble/boulder/cobble shoreline. Oil impact was not observed in the pocket beaches which dissect the rocky shoreline. Holes were dug into the sand in these areas. Band is approx. 10'-25' wide. Some oil/sand pads were observed in the flat sandy lower tidal zone.

Typical Lagoon Cross Section
(looking E)

- Rubble/boulder/cobble
- Sand
- Very light oil/sand pads

1200 hours - Tide approx 0'
Surveyed on foot
8/21 Monday  Depart Kodiak  0735  For Takl Is.

Action

0820  overfly main Takl Is
0830  Begin W/k
0845  Split in west of planck cove, 0850

1040  few strokes 01/and pads near end of cove

10' chain

1120  low split

1122  It split as wind

1135 - 1420
Went lagoon or wind of Island
Clean up cove now, more - VGC, 85, sep. water
1415  to and split more pads between wind and tide line and hold - only just beyond tide
in rock and borders
Saw screen on water pooled between borders
Seed is approx 10-15' wide and somewhat around entire ran in rock and area

08' | No oil observed on power beaches - primary wind
very | Dry but constant find oil buried
Randy Denham had said that they spotted a bit extreme NW tip of Island 2. We did not observe anything except a gazq on 6 side of the tip.

In general, only 3 locations total from the 4 islands: scattered warrant camp -
1. Taki, Is = West Island
2 & 3. Taki, Is. = West Island

Oil / sand pucks observed on lagoon mid tide sand flat.

Typical lagoon geometry.

20' band of unturned oil

Deposit - Russian "column / barriers"

Platform.

A-A 40'.

1455 - flew to 2 spots on 3 side of island

Randy Denham

1445 Isadale E or Taki overflown
1440 - 1450

two dog-walkers larger Island E or Taki

1610 - Finish work survey

1720 - over by 3rd Island
1630 - drop off on 3rd Island
1720 - Finish 3rd L7
1705 - 1730 - Fly out 4th. No comment
1735 - Deposit at 11th. 1815 arrive Karluk
ECOLOGICAL EVALUATION

LOCATION: Takli Islands
SITE: K9 30A TL1
OBSERVER: H. Davis

LOCATION PREFIX: TL
SEG. NO.: 30A TL1
LENGTH: 17000 (M)

DATE: 9/21/89
TIME: 12:20-17:35
TIDE HT.: 0'-15' (M)

OILED ZONE: Splash

SUBSTRATUM: Rock Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Fucus in patches around all three islands along w/endothelium-like film.

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Large bed of Mytilus in protected area. Mytilus Macoma Clione Cardium shells held in Mytilus bed.

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Continuous around all three islands (where ever there is kelp) Many mussel caruncles observed feeding, laying eggs.

Littorina
Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Littorina very abundant especially in the Balanus area.

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Bright and active at low tide, micro-green algae—diet present.

OTHER OBSERVATIONS: Small patches below kelp on Spartina, A. marina b., Clione Cardium
Echiurus e.g. and A. marina. Fewer clams had calcarinate algae, chitinous appendages.

CLEANUP PRECAUTIONS:
Avoid kelp, barnacle, and cormorant nesting site/s, see map.
Beans maybe present.

MAMMALS: Otters __ Harbor Seals __ Sea Lions __ Whales ___ Other __

BIRDS: Jaeger, surf scoters, common scoter, (pelagic), Phalarope, Kittiwakes, Turnstones, and gulls.

GENERAL OBSERVATIONS: Oil spots soon were at the high tide to splash zones and did not affect the biota. Everything observed was healthy and normal.
SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Block (see enclosed map):  K9-34

Includes Shoreline Segments:  KB-1, KB-2, KB-3

Location:  Katmai Bay

Submitted:  ____________________________  Date:  ______________
(for Exxon)

FOSC Approval:  ____________________________  Date:  ______________

The cleanup procedures identified in the Shoreline Cleanup Program are recommended. Exxon and other field personnel are encouraged to suggest innovations and productivity enhancements to the OSC's on-scene representative. Requirements for safety and the protection of cultural material must be observed.

CC:  KISCC
SHORELINE PRE CLEANUP REASSESSMENT

DATE 7/21/89 SHORELINE SEGMENT K9-34-KB-1 REASSESSMENT DATE 7/21

Observers: OG D. Fitzgerald BIO S. Bluestone ARCH J. Erlandson

Reason for Reassessment __________________________________________

Revised Recommended Cleanup Activity(ies):

- No cleanup recommended due to very light oiling conditions and the high natural cleaning potential.

- The oiling along this barrier is summarized in the accompanying maps. Generally, the oiling consists of tar balls and patties that vary from 1cm diameter sporadic balls at the SW end of the barrier to thin tar coverings (.5-1.5m) at the NE end. However, the tar has metamorphosed to a highly friable sand and tar substance that disintegrates readily when crushed. In this condition there is a high probability that the tar balls and patties will disappear during the first winter that reworks this beach.

- The oiling condition of 7/21/89 has changed significantly since the first report was completed of this area on 5/10/89 when there was abundant mousse on the beach.

Revised Ecological Constraints:
- None. No cleanup is recommended at this time. See above

Revised Archaeological Constraints:
If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archaeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

State Historic Preservation Officer *

EXXON: __________________________________________ Date: ______________

FOSC: __________________________________________ Date: ______________

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide submerged lands.

ACE 8709171
Kachemak Village Spur

Steps of the following sites:

Driftwood
- oil (v.1)
- sandstone (weathered)
- along the stream
- high tide line

The beds:
- exposed along
- stream high tide line

The beds:
- exposed along
- stream high tide line

Ten patches
- 0.5-1.5 m dia.
- 1 cm thick
- along driftline (stream now)

Ten beds along
- 3-4 m wide
- 6 cm deep
- 15 m long

Harvested
- biggest
- consisting of ten layers (Hi weathered) above
- the beam crest
- in
- ten loosely cemented
- pumice sand grains
- to beam very
- friable patches, 1 cm thick, 2-3 m wide, mm
- 3-4 m wide

- beam crease
- 100 m
- beam crease
- 100 m

Motley
- patches
- of highly weathered
- pumice cemented sand
- layers (1 cm thick, 2-3 m wide
- and 3-4 m long), that are highly
- friable.
SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Location (see enclosed map): Northern Beach - Katmai Bay

Includes Shoreline Segments: KB-1

Submitted: ___________________________ Date: ________________
(for Exxon)

FOSC Approval: ___________________________ Date: ________________

The cleanup procedures identified in the Shoreline Cleanup Program are recommended. Modifications to these systems can be made in the field. Exxon and other field personnel are encouraged to suggest innovations and productivity enhancements to the OSC's on-scene representative. The OSC's representative has the authority to approve on-site modifications. The Field Resource Team should be consulted if these actions do not fit within the Ecological Constraints of the Shoreline Cleanup Program. Requirements for safety and the protection of cultural material must be observed.

Distribution:
Exxon Shoreline Coordinator
Exxon Shoreline Supervisor
Exxon SCAT file

FOSC
CDFU
NOAA
EPA
USDA (FS)
USFW
A. DEC
A. FG
A. DNR
CAC
PWSCA
USFS
SHPO
SHORELINE ASSESSMENT CLOTH REPORT

Location (approximate only): Northern Beach - Katmai Bay

Included Shoreline Segments: KP-1

Submitted: [Signature] Date: 5/17/89
(for Exxon)

FOSC Approval: ____________________________ Date: ________________

Identification in the Shoreline Cleanup Program of sites identified in these systems can be made in the
Section 6. Field personnel are encouraged to suggest
and/or field personnel discussions. The OSC's representative has the authority to
modifications. The Field Resource Team should be
modified if these actions do not fit within the Ecological
requirements of the Shoreline Cleanup Program. Requirements for
and the protection of cultural material must be observed.

Distribution:
- Exxon Shoreline Coordinator
- Exxon Shoreline Supervisor
- Exxon SCAT file
- FOSC
- CDFU
- NOAA
- EPA
- OSDA (PS)
- USFW
- A. DEC
- A. FG
- A. DNR
- CAC
- FWSCA
- USFS
- SHPO

ACE 8709175 -/
SHORELINE CLEANUP PROGRAM

DATE: May 15, 1989
SHORELINE SEGMENT: KB-1

LOCATION: (see enclosed map) Northern Beach - Katmai Bay

ADEC NO. _______ SHORELINE ASSESSMENT DATE: ________________

Recommended Cleanup Activity(ies):
Manual pickup
No mechanical pickup

Priorities Considerations:
High Priority for quick manual surface pickup to prevent oil from being buried by sand.

Ecological Constraints (from site survey):
Cleanup to avoid impact to clam beds.
Manual pickup only.

Archeological Constraints (from site survey):
If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

[Signature]
State Historic Preservation Officer
Date: 5/15/89

EXXON: ___________________________ Date: ___________________________
FOSC: ___________________________ Date: ___________________________

* Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
SHORELINE CLEANUP PROGRAM

SHORELINE SEGMENT: KB-1
Homer, Alaska
Northbank Beach - Katmai Bay

Date: ________________

Priorities: Considerations:

1. High manual surface pickup to prevent oil from being buried by sand.

Archaeological Considerations (from site survey):

1. Needs to be oil impact to glacial beds. Manual cleanup only.

Archaeological Considerations (from site survey):

1. Any prehistoric cultural materials are uncovered during cleanup, contact State's Archeological Field Director and take action. That in the Operational Guidelines for Shoreline Cleanup dated 4/11/89 is amended.

Date: 5/5/89

State Historic Preservation Officer

EXXON: ____________________________ Date: ________________

FOSC: ____________________________ Date: ________________

Regarded required to satisfy stipulations in Alaska DNR
They are permits for tidal and submerged lands.

ACE 8709177

POOR QUALITY ORIGINAL
SHORELINE OIL EVALUATION

Date: 10 May 79 Time: 1526
Surveyed From: [Foot/Boat/Helio/Plane]
Observer: Bob Duggan
Weather: [Sun/Cloud/Rain/Snow/Fog]

LOCATION

LOCATION: Northern Beach
SEGMENT NUMBER: Katmai Bay - 1

LENGTH OF SHORELINE SEGMENT: 5000 m
ACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane

SHORELINE:

Shoreline Type: SPI/BEA/COV/HLD/STRT
Slope: [HANG/HANG/VER]
Wave Exposure: [High/Med/Low]

Sediment: B% / C% / P% / G% / S% / M% / R% 
Drift Debris on Beach: [Yes/No]

Degree of Oiling: [Heavy/Moderate/Light/No Oil/Unobserved]

Area of Beach Impact: [SU/SP/H/M/L]
Continuous: [Y/N] % of Segment [100] Width of Band: [20-30] m
Sporadic: [Y/N] % of Segment

Est. Oil Thickness where > 1 cm: [5 cm] Est. Oil Penetration: __/cm
Pooled Oil: [____] % "Free" Oil: [106] % Coated: [H%] / [M%] / [L%]
Fresh [____] % Mousse [100] % Tar Formation: [____] %

Drift Debris Oiled?: [Yes/No]
Supra/Upper/Mid/Lower Amount: [H/M/L/]

Comments:

Scattered blocks of mousse which are being buried and broken up by wind & wave action. Visible mousse may be only 10% of total on beach. High March primarily seen cleaning of surface visible oil due to use by bears & clans. Manual cleanup. Mechanical equipment not selective enough on the scattered blocks. Highly exposed beach will probably fragment & bury oil.
DOCUMENTATION:

Map/Aerial photo marking segment boundaries See attached

VTR: Y/N Tape Number(s) 

Photography: Y/N Roll Number(s) TIB-10

Sample Numbers Collected: None
10 May 89
Time: 1520

Location: Katmai Bay

132A

LT Model Bids, nearly covered, scattered over 30 m dead

- Comprehension cleaning impossible
- Sub-optimal manual pickup, ok for max 10% recovery (could include 50% sand)
ECOLOGICAL EVALUATION

LOCATION: Katmai Bay  SITE:  OBSERVER: D. McColloch
LOCATION PREFIX: SEG. NO.: Katmai Bay-1 LENGTH: 5000 (M)
DATE: 5/10/89  TIME (HHMM): 1520  TIDE HT.: +0.6 (M)
OILED ZONE: Splash (High) Medium Low
SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Note: only Fucus present at strand line buried under sand (kelp)

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Lambris (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Littorina patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

OTHER OBSERVATIONS: Clam shells at high tide zone - mostly buried under sand with buried mussels; bears probably using area.

CLEANUP PRECAUTIONS: None

MAMMALS: Otters Harbor Seals Sea Lions Whales
Other

BIRDS: Geese, brown bald eagle nests in area.

GENERAL OBSERVATIONS: This is a very high energy beach (wind and waves) with very little oil visible on surface at high tide zone. Potential for long term study of impact to clams/bears.
SHORELINE CLEANUP PROGRAM

DATE 7/21/89 SHORELINE SEGMENT K9-34-KB-2

LOCATION: (see enclosed map) Eastern Katmai Bay

ADEC NO. ____________ SHORELINE ASSESSMENT DATE: 7/21/89

Recommended Cleanup Activity(ies):
- Manual removal of mousse patties, oil and oiled seaweed.
- Manual cleaning of oiled driftwood.

Priorities/Considerations: Class 4-A
- Helicopter access at pocket beaches only.

Ecological Constraints (from site survey):
- Do not clean area shown in map #2. Oiling is light and beach is adjacent to healthy and productive mid to low intertidal zone and bird roosting area on cliffs.
- No constraints on cleanup of cobble/gravel beach in map #1.

Archaeological Constraints (from site survey):
- If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archaeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

[Signature]
State Historic Preservation Officer

EXXON: ____________________________ Date: ____________________

FOSC: ____________________________ Date: ____________________

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
SHORELINE OIL EVALUATION

Date: 21 July 1989 / Time: 1230 - 1400
Surveyed From: Foof/Boat/Helico/Plane
Observer: Duncan M. Fitzgerald
Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

Esker Knob Bay
Segment ID: K-9-34-KB-2
Segment Length: 5000 m
Access: Vehicle/Boat/Barge/Helico/Float Plane
Access Restrictions: Can only land at pocket beaches

SHORELINE

Shoreline Type: SPI/SEA/COW/HLD/STRT
Slope: Lo/Med/Hi/Vert
Wave Exposure: High/Med/Low
Sediment: B 30% / C 10% / P 5% / G&S 10% / M 5% / R 45%

IL

Avg. Degree of Oiling: HEAVY / MODERATE / LIGHT / VERY LIGHT / NONE OBSERVED
Area of Impact: SU/SP/H/M/L

IL DISTRIBUTION

Continuous % of Segment 20%
Dispersive % of Segment 80%
SU/SP/H/M/L H/M/L/V

IL:

Very light:
Length (m): 1000
Width (m): 10
Thickness >1cm: 4.15 cm
Penetration/Rework: 1.5 cm
Burial Depth: 5-6 cm

Heavely:

Sediment Potential: High/Medium/Low

Amount:
SU/SP/H/M/L Type: On
N
debris Oiled?

ft

Notes:

PRELIMINARY CLEANUP EST.

Type A: 300 m
Type B: m
Type A/B: m

IL MORPHOLOGY

Soiled Oil:
Free Oil:
Splatte:
Dated:
Uncakes/Balls:

%,
%,
%,
%,
%,

SU/SP/H/M/L
SU/SP/H/M/L
SU/SP/H/M/L
SU/SP/H/M/L
SU/SP/H/M/L

IL WEATHERING

Brushed:
Wet Mousse:
Phalt Mousse:

%,
%,
%,

SU/SP/H/M/L
SU/SP/H/M/L
SU/SP/H/M/L

MEMO:

See accompanying maps. Oiling occurs at two major areas: at a pocket beach and at a sporadic spot along the headland areas.
Map #1

- Bedrock Point
- Splat around bedrock
- Splat of mousse buried at the horns of gravel cusps 4-15cm thick, 5-8m long
- Driftwood
- Dune scarp

Map #2

- Rock face
- Rubble + boulders
- Splat around boulder and very infrequent mousse
- Dehr. mako at high tide line 1-4m wide

ACE 8709180
ECOLOGICAL EVALUATION

LOCATION: Katmai Bay  SITE: Westem Portion  OBSERVER: B. Martin
LOCATION PREFIX: KB  SEG. NO.: 2  LENGTH: 5600 (M)
DATE: 7/21/89  TIME (HHMM): 1220-1500  TIDE HT.: -0.3 - +3.7 (M)
OILED ZONE: Splash High Medium Low
SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Patchy and generally sparse throughout section, although some patches were very dense.

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Patchy and generally sparse throughout section, although some patches were very dense.

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Balanus (sand and coriaceus) generally continuous throughout section except for cables and such areas in the center of the section.

Littorina: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Sparse throughout section. Only found in rocky areas at west and east ends of section.

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Few patches of the rocky areas and since the populations are not dense, they were not observed. However, no assumption is that there were simply none present given the habitat type.

OTHER OBSERVATIONS:

CLEANUP PRECAUTIONS: Work in central sandy beach section only. Avoid healthy and
low ITZ vegetation or rocky shores. In particular, avoid west end of section which
appears to be a rocky area for numerous barnacles and gulls.

MAMMALS: Otters ___ Harbor Seals ___ Sea Lions ___ Whales ____

BIRDS: Eagle, seagull, cormorant, gulls

GENERAL OBSERVATIONS: Tall rock cliffs at west end of section had narrow
birds. Rocky place or rocky beach at center of section had
buried murre which can be manually removed.

ACE 8709188
SHORELINE CLEANUP PROGRAM

DATE 7/21/89  SHORELINE SEGMENT K9-34-KB-3

LOCATION: (see enclosed map)  Western Katmai Bay

ADEC NO.  _______ SHORELINE ASSESSMENT DATE:  7/21/89

Recommended Cleanup Activity(ies):
- No cleanup recommended due to very light oiling conditions and high natural cleaning potential. Subject to FOSC reassessment at a later date.

Priorities/Considerations: Class

Ecological Constraints (from site survey):

Archaeological Constraints (from site survey):
- If cleanup is planned, a full archaeological assessment must be conducted in this segment.

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
SHORELINE OIL EVALUATION

Date: 21 Jul 1989 / Time: 12:30-1500 Observer: Duncan M. Fitzgerald
Surveyed From: Foot/Boat/Hello/Plane Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION
Location: Western Ketna, Bay Segment ID: K-9-34-K8-3
Segment Length: 9 km Access: Vehicle/Boat/Barge/Hello/Plane
Access Restrictions: Very wide tidal flat and some boulder intertidal areas.

SHORELINE
Shoreline Type: SPT/BEA/COV/HLD/STRT Slope: Lo/Med/Hi/Vert
Wave Exposure: High/Med/Low Sediment: B>15% / C>15% / P>5% / G&S>5% / M<5% / R<15%

Avg. Degree of Oiling: HEAVY / MODERATE / LIGHT / VERY LIGHT / NONE OBSERVED

Area of Impact: SU/SP/H/M/L

IL DISTRIBUTION
Continuous % of Segment 6% SU/SP/H/M/L H/M/L/VL
Poradic % of Segment 40% SU/SP/H/M/L H/M/L/VL

<table>
<thead>
<tr>
<th>Very Light</th>
<th>Length (m)</th>
<th>Width (m)</th>
<th>Thickness &gt;1 cm</th>
<th>Penetration/Rework</th>
<th>Burial Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2000 m</td>
<td>2-20 m</td>
<td>Su/SP/H/M/L</td>
<td>Su/SP/H/M/L</td>
<td>Su/SP/H/M/L</td>
</tr>
<tr>
<td>Light:</td>
<td>100 m</td>
<td>1-10 m</td>
<td>Su/SP/H/M/L</td>
<td>Su/SP/H/M/L</td>
<td>Su/SP/H/M/L</td>
</tr>
<tr>
<td>Moderate:</td>
<td></td>
<td></td>
<td></td>
<td>Su/SP/H/M/L</td>
<td>Su/SP/H/M/L</td>
</tr>
<tr>
<td>Heavy:</td>
<td></td>
<td></td>
<td></td>
<td>Su/SP/H/M/L</td>
<td>Su/SP/H/M/L</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mobilization Potential: High/Medium/Low</th>
</tr>
</thead>
</table>
| ift Debris Oiled? Y/N Amount: H/M/L/VL SU/SP/H/M/L Type: __________________________

IL MORPHOLOGY

ooled Oil: __________ % SU/SP/H/M/L
Free" Oil: __________ % SU/SP/H/M/L
plattered: __________ 20 % H/M/L/VL SU/SP/H/M/L
plated: __________ 10 % H/M/L/VL SU/SP/H/M/L
ancakes/Balls: __________ 70 % SU/SP/H/M/L

IL WEATHERING

resh: __________ % SU/SP/H/M/L
ousse: __________ % SU/SP/H/M/L
eathered Mousse: __________ % SU/SP/H/M/L
sphalt Mousse: __________ 20 % SU/SP/H/M/L
ar: __________ 80 % SU/SP/H/M/L

COMMENTS

See accompanying maps and notes. Generally, this segment has small balls and parti that are sand-coated, highly friable and will disintegrate when reworked by storm waves.

Preliminary Cleanup Est. NOVE

ACE 8709191
Map 1

The tar balls and patties are coated with sand and are often highly brittle. This area encompasses a 400m long section of beach.

Map 2

- The barrier has tar balls (marble to silver dollar-size) along the storm or spring high tide line, occurring very sporadically at the southwestern end, increasing in abundance to the northeast.
- It should be noted that the tar balls are highly friable and will break down quickly if subject to storm wave reworking.
- Rocky headland and pocket beach sector of the entrance (western side) of the Bay as some minor split.

ACE 8709192
ECOLOGICAL EVALUATION

LOCATION: Katmai Bay  SITE: Eastern Section  OBSERVER: B. Martin
LOCATION PREFIX: KB  SEG. NO.: 3  LENGTH: 9600 (M)
DATE: 7/21/89  TIME (HHMM): 0930 - 1130  TIDE HT.: 0 + 0.76 (M)
OILED ZONE: Splash High Medium Low (Very Light)
SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Dense algal growth on rock in the mid to low ITZ at easternmost portion of
section. Algae sparse to absent in sandy beach areas except section

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Dense, generally continuous populations in eastern part of section, absent in sandy areas

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Dense in rocky areas to the east, sparse or absent in sandy areas

Ittoria: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Dense in rocky areas, absent or sparse in sandy areas

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
None observed although eastern section was flown and these may have been missed.

OTHER OBSERVATIONS: Bivalve shells on beach (Saxidomus, Hiatella), amphipods
present in some areas.

CLEANUP PRECAUTIONS: Some very weathered tar on sandy pumice beaches. Cleanup
not recommended. Avoid the easternmost part of section (rocky, low protective intertidal)

MAMMALS: Otters Harbor Seals Sea Lions Whales Other Numerous bears.

BIRDS: 0 oiled Cormorant carcasses. Gulls, sandpiper, eagles nest on put of section
(pumice)

GENERAL OBSERVATIONS: This section consisted primarily of broad sandy beach
and mud tidal flats. Rocky shoreline with extensive boulders easternmost part of
section. Marsh in the backshore areas
Segment Inspection Record

ADEC #: KS-34  Shoreline Segment: K8-1

Shoreline Treatment Process(es) Completed for this Segment:
- [x] Water Deluge
- [ ] Mechanical
- [ ] Non-Mechanical
- [ ] Other

Exxon Treatment as indicated above has been completed. Request demobilization from this segment.

Exxon Comments:

Signature: Jim Wade  Date: 8/24/89  Time: 1530

Existing Shoreline Condition As Visually Determined by USCG Surface Oil

- [ ] Yes
- [x] No

Degree of Oiling:
- Heavy
- Medium
- Light
- Very Light

Percent

Subsurface Oil:
- [%]

Comment Below:

Reassessment:
- [x] Yes - Necessary
- [ ] No - Not necessary unless re-oiled

ADEC Rep Comments:

[Handwritten comment]

Signature: James T. Nembhard  Date: 7/4/89  Time: 9:48

Printed Name: James T. Nembhard

FOSC Rep Comments:

Demobilization approved/disapproved

Signature: Scott S. O'Driscoll  Date: 7/5/89  Time: 1550

Printed Name: Scott S. O'Driscoll

Copy: Exxon ADEC FOSC ISCC Return All Signed Originals to Exxon
Small area 20 x 100 of baby balls along low berm. Should be removed with winter storm. Limited presence of oil overall along beach.
SHORELINE PRE CLEANUP REASSESSMENT

DATE 7/21/89  SHORELINE SEGMENT K9-34-KB-1 REASSESSMENT DATE 7/21

Observers: OG D. Fitzgerald  BIO S. Bluestone  ARCH J. Erlandson

Reason for Reassessment

Revised Recommended Cleanup Activity(ies):
- No cleanup recommended due to very light oiling conditions and the high natural cleaning potential.
- The oiling along this barrier is summarized in the accompanying maps. Generally, the oiling consists of tar balls and patties that vary from 1cm diameter sporadic balls at the SW end of the barrier to thin tar coverings (.5-1.5m) at the NE end. However, the tar has metamorphosed to a highly friable sand and tar substance that disintegrates readily when crushed. In this condition there is a high probability that the tar balls and patties will disappear during the first winter that reworks this beach.

- The oiling condition of 7/21/89 has changed significantly since the first report was completed of this area on 5/10/89 when there was abundant mousse on the beach.

Revised Ecological Constraints:
- None. No cleanup is recommended at this time. See above

Revised Archaeological Constraints:
If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archaeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

State Historic Preservation Officer  Date: 7/22/89

EXXON: Jack Rasker  Date: 7/28/89

FOSC: ________________________________ Date: ________________________________

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide submerged lands.

ACE 8709198 +/−
1CB-1
Katmai Village Spit

stopped at the following sites:

Driftwood oil (v.1) small line of balls occurring disjointed along the shore high tide line.

Tar balls along 3-4 elongated segments 2-4m wide, 6cm deep, and 15m long.

Tar patches .5-1.5m diam, 1cm thick along drift line (shore line).

Heaviest accreting consisting of tar layers (high weathered) above the beam crest. Tar is loosely cemented pumice sand grains together forming very friable patches 1cm thick, 2-3m wide, and 3-4m wide.

A

Drone w/ driftwood

Beam - 100m

Beam creast

patches of highly weathered tar cemented sand layers (1cm thick, 2-3m wide, and 3-4m long) that are highly friable.

ACE 8709199
SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Location (see enclosed map): Northern Beach - Katmai Bay

Includes Shoreline Segments: KB-1

Submitted: __________________________ Date:________________
(for Exxon)

FOSC Approval: __________________________ Date:________________

The cleanup procedures identified in the Shoreline Cleanup Program are recommended. Modifications to these systems can be made in the field. Exxon and other field personnel are encouraged to suggest innovations and productivity enhancements to the OSC's on-scene representative. The OSC's representative has the authority to approve on-site modifications. The Field Resource Team should be consulted if these actions do not fit within the Ecological Constraints of the Shoreline Cleanup Program. Requirements for safety and the protection of cultural material must be observed.

Distribution:
Exxon Shoreline Coordinator
Exxon Shoreline Supervisor
Exxon SCAT file

FOSC
CDFU
NOAA
EPA
USDA (FS)
USFW
A.DEC
A.FG
A.DNR
CAC
FWSCA
USFS
SHPO
Shoreline Segment: K9.34 (KB-2)

Yards Signed Off: 974

Shoreline Treatment Process(es) Completed for this Segment:
- [ ] Hot water wash
- [X] Warm water wash
- [ ] Mechanical
- [ ] Water deluge
- [ ] Non-mechanical
- [ ] Other

Exxon Comments:
Teams 15, 16, 17, 6, 13, 18 reported completion of Katmai Bay. Request inspection. Scat survey indicates no clean necessary for KB-1 + KB-3.

Exxon Comments:
Aerial survey may splashes on cliff, very light oil (from air)

FOSC Rep Comments: Demobilization approved, disapproved

AERIAL SURVEY: SAW SOME SPLATS ON ROCK FACE.

AERIAL SURVEY: SAW SOME SPLATS ON ROCK FACE.

AERIAL SURVEY: SAW SOME SPLATS ON ROCK FACE.
SHORELINE OIL EVALUATION

Date: 21 Jul 1989  Time: 1330-1400  Observer: Alphon M. Fitzgerald

Surveyed From: Foot/Boat/remote/Plane  Weather: Sun/Cloud/Rain/Snow/Fog

CATION
Location: Edzard Kalmi, Bay  Segment ID: K-9-34-KB-2
Segment Length: 5800m  Access: Vehicle/Boat/Barge/remote/Plane
Access Restrictions: All traffic restricted

SHORELINE
Type: SPP/DEA/COW/LHL/STR  Slope: Lo/Med/Hi/Vert
Exposure: High/Med/Low
Sediment: B 20 / C 10 / P 5 / GIS 10 / M 5 / R 45

Avg. Degree of Oiling:  HEAVY / MODERATE / LIGHT / VERY LIGHT / NONE OBSERVED
Sea of Impact: SU/SP/H/M/L

DISTRIBUTION
Continuous % of Segment 2%  SU/SP/H/M/L  H/L/IL/VI
Poradic % of Segment 20%  SU/SP/H/H/L  H/M/L/IL

Total
Dry light: 1000m  Width(m)  1.5
Light: 100m  1.5
Moderate: 100m  2.4
Heavy:

Penetration/Rework: cm  SU/SP/H/M/L
Burial Depth: cm  SU/SP/H/M/L

Penetration/Rework:  cm  SU/SP/H/M/L
Burial Depth:  cm  SU/SP/H/M/L

Penetration/Rework:  cm  SU/SP/H/M/L
Burial Depth:  cm  SU/SP/H/M/L

Ablation Potential: High/Med/Low

Debris Oiled? Y N  Amount: H/M/L/IL  SU/SP/H/M/L Type: Dr. Hassel

MORPHOLOGY

Oiled Oil: 40 %  SU/SP/H/M/L
Tree Oil: 40 %  SU/SP/H/M/L
Rotted: 30 %  H/M/L/IL  SU/SP/H/M/L
Rotted: 20 %  H/M/L/IL  SU/SP/H/M/L

Preliminary Cleanup Est.

Total TYPE A: 300
Total TYPE B:
Total TYPE A/B:

WEATHERING

Tangled: 40 %  SU/SP/H/M/L
Tangled: 60 %  SU/SP/H/M/L

MENTES

See accompanying maps. Oiling occurs at two major areas: at a pocket beach and as sporadic splat along the headland areas. We
SHORELINE CLEANUP PROGRAM

DATE 7/20/89  SHORELINE SEGMENT K9-35-KA-2

LOCATION: (see enclosed map) Kashvik Bay

ADEC NO.  SHORELINE ASSESSMENT DATE: 7/19/89

Recommended Cleanup Activity(ies):
- Manual removal of mousse patties and oil (see map 1, 2, & 3)
- Manual driftwood cleaning and seaweed removal (see map #3)
- Warm water, low pressure washing of heavily oiled cobbles (see map #3).

Priorities/Considerations: Class 3-A
- High wave energy may restrict boat access.

Ecological Constraints (from site survey):
- Avoid foot and boat traffic in highly productive rocky mid to low intertidal zone.
- Avoid oiling of offshore rocks particularly when cleaning heavily oiled area shown in map #3 of this report.

Archaeological Constraints (from site survey):
- If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archaeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 21 April, 1989 as amended.

 Douglas Roger
State Historic Preservation Officer

Date: 8-3-89

EXXON: ____________________________  Date: __________________

FOSC: ____________________________  Date: __________________

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
**SHORELINE OIL EVALUATION**

**Date:** 20 July 1989  **Time:** 00:00  **Observer:** Louis M. F. Geisal  **Weather:** Sun/Cloud/Rain/Snow/Fog

**LOCATION**  
**Surveyed From:** Foot/Boat/Helio/Plane  
**Location:** Kashvik Bay  
**Segment Length:** 1600 m  
**Access:** Vehicle/Boat/Barge/Helio/Float Plane  
**Access Restrictions:** None

**SHORELINE**  
**Type:** SPI/BEA/COV/ILD/STRT  
**Slope:** Lo/Med/Hi/Vert  
**Exposure:** High/Med/Low  
**ediment:** B 35 % / C 25 % / P 5 % / G&S 15 % / M 10 % / R 20 %

**IL**  
**v. Degree of Oiling:** HEAVY / MODERATE / LIGHT / VERY LIGHT / NONE OBSERVED

**AREA of Impact:** SU/SP/H/M/L

**DISTRIBUTION**  
<table>
<thead>
<tr>
<th>Continuous</th>
<th>Width(m)</th>
<th>Total Light</th>
<th>Thickness &gt;1cm: cm</th>
<th>Burial Depth: cm</th>
<th>Penetration/Rework: cm</th>
</tr>
</thead>
<tbody>
<tr>
<td>SU/SP/H/M/L</td>
<td>500</td>
<td>300</td>
<td>450m</td>
<td>350m</td>
<td>350m</td>
</tr>
<tr>
<td>SU/SP/H/M/L</td>
<td>600</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Estimated Oil:**  
**Soaked Oil:** SU/SP/H/M/L  
**Tree Oil:** 45 %  
**Slatered:** 15 %  
**Moderate:** 25 %  
**Heavy:** 35 %

**MORPHOLOGY**  
**Spotted Oil:**  
**Tree Oil:** 45 %  
**Slatered:** 15 %  
**Moderate:** 25 %  
**Heavy:** 35 %

**MORPHOLOGY**  
**Debris Oiled?** YN  
**Amount:** H/M/VL  
**Type:** Drifted & Scoured

**Preliminary Cleanup Est.**  
**Total TYPE A:** 750 m  
**Total TYPE B:** 350 m  
**Total TYPE A/B:**

**WEATHERING**  
**Soaked Oil:** SU/SP/H/M/L  
**Tree Oil:** 45 %  
**Slatered:** 15 %  
**Moderate:** 25 %  
**Heavy:** 35 %

**ACCIDENTS**  
**See accompanying maps for detailed descriptions and locations of major oiling conditions.**

**This section of shoreline has experienced light to heavy oiling including a 35cm long cobble beach area, 6-10m wide and 2-4cm thick.**

ACE 8709207
Heavy oiling
350 m long, 10 m wide
Continuous mousse band
at mid to high tide, 2-4 cm
thick

A

B

Bedrock face
Boulders & cobbles

Bedrock, sand, and
flats

Heavy mousse
accumulation
Cobbles + boulders

ACE 8709209
Figure 1. Ecological Evolution
Section KA-2

Eagles Nest (abandoned)
- Generally sandy with rock offshore
- Highly productive, rich in life
Avid foot and boat traffic in this area.

Highly Productive rich to low ITZ

ACE 3759210
ECOLOGICAL EVALUATION

LOCATION: Alaska Peninsula
SITE: Kachemak Bay
OBSERVER: B. Martin

LOCATION PREFIX: KA
SEG. NO.: 2
LENGTH: 1750 (M)

DATE: 7/19/89
TIME (HHMM): 1245-1500
TIDE HT.: +2.1 - +4.9 (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Littorina: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

GENERAL OBSERVATIONS:

OTHER OBSERVATIONS: Pockets of oiled seaweed along the upper drift line
abandoned eagle's nest (beach). Nest not in good condition and gulls were roosting
next to the nest. No eagles sight a nest seems to be abandoned.

CLEANUP PRECAUTIONS: Stay off all healthy reef areas in the lower ITZ. Oiled pebbles

MAMMALS: Otters Harbor Seals Sea Lions Whales

OTHER: Numerous bears in area

BIRDS: Oiled cornmeal (?) at area. Probably oiled before washing up because rice

GENERAL OBSERVATIONS: Oiling heavy in some areas, however low and much

of the mid ITZ remains healthy.

Tide pools in this area also encountered epi-epidemic, hemid epilith, epi-epilith beds.

ACE 8709211
SHORELINE CLEANUP PROGRAM

DATE 7/21/89  SHORELINE SEGMENT K9-35-KA-3

LOCATION: (see enclosed map) Kashvik Bay

ADEC NO. SHORELINE ASSESSMENT DATE: 7/20/89

Recommended Cleanup Activity(ies):
- Manual removal of tar/mousse patties (see map 3, 4, 5, 6 & 7)
- Manual removal of the oil between cobbles/boulders (see map 4, 6 & 7).
- Manual removal of oil debris and cleaning of driftwood (see maps 4 & 5).
- No cleanup recommended at area shown in map 1 due to ecological constraint listed below. Subject to FOSC reassessment at a later date.

Priorities/Considerations: Class 5-A
- Boat access may be difficult in inner part of bay due to extensive shallow tidal flats.

Ecological Constraints (from site survey):
- Avoid any deposition of tar or mousse on tidal flat area below those being cleaned (maps 3, 4, 5, 6 & 7).
- No cleanup in area shown in map 1 due to ecologically sensitive lower and mid intertidal zones.

Archaeological Constraints (from site survey):
- No access to forest/upland zone at head of bay by beach crews during cleanup.
- If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archaeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 21 April, 1989 as amended.

State Historic Preservation Officer *  Date: 7/3/89

EXXON: __________________________  Date: __________________

FOSC: __________________________  Date: __________________

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
SHORELINE OIL EVALUATION

Date: 21 July 1989 / Time: 0930-1330
Surveyed From: Foot/Boat/Helicopter Plane
Observer: William M. Fitzgerald
Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

Location: Kachemak Bay
Segment ID: K-9-35-KA-3
Segment Length: 11300 m. Access: Vehicle/Boat/Barge/Float Plane
Access Restrictions: A land boat en runch but onnow portion of bay is

SHORELINE

Shoreline Type: SPIB, C, COV, HLD/STRT
Slope: Low/Med/High/Vert
Exposure: High/Med/Low
Sediment: B 35% / C 15% / P 25% / G&S 20% / M 10% / R 5%

IL

Avg. Degree of Oiling: Heavy / Moderate / Light / Very Light / None Observed
Area of Impact: SU/SP/H/M/L

IL DISTRIBUTION

Continuous % of Segment /% SU/SP/H/M/L H/M/L/VL
Poradic % of Segment 25% SU/SP/H/M/L H/M/L/VL

Very light: Length(m) Width(m) Thickness >1cm: cm SU/SP/H/M/L
Light: 3000m 2-6m Penetration/Rework: cm SU/SP/H/M/L
Moderate: 400m 1-3m Burial Depth: cm SU/SP/H/M/L
Heavy: 40m 2-4m

Obligation Potential: High/Medium/Low
Oiled Debris Oiled? Y/N Amount: H/M/L/VL SU/SP/H/M/L Type: Driftwood + seaweed

IL MORPHOLOGY

Oiled Oil: % SU/SP/H/M/L
Free Oil: 2% SU/SP/H/M/L
Pattered: 60% H/M/L/VL
Oated: 30% H/M/L/VL
Cakes/Balls: 8%

IL WEATHERING

Resh: % SU/SP/H/M/L
Roves: % SU/SP/H/M/L
Weathered Mousse: 2% SU/SP/H/M/L
Asphalt Mousse: 5% SU/SP/H/M/L
Ar: 93% SU/SP/H/M/L

COMMENTS

Cleaning of the shoreline in this segment is confined to areas
shown on Maps 5, 6, 7 consisting principally of removal of tar and
mousse pattered and using solvent to remove free oil from between boulders
and cobbles.
ECOLOGICAL EVALUATION

LOCATION: Kagvik Bay, Shell AL.  
SITE:  

LOCATION PREFIX: KA  
SEG. NO.: J  
LENGTH: 9500 (M)

DATE: 7/20/89  
TIME (HHMM): 1000-1345  
TIDE HT.: +0.6 - +3.0 (M)

OILED ZONE: Splash, High, Medium, Low

SUBSTRATUM: Rocks, Boulder, Cobble, Gravel, Sand, Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Cont. Y/N  
Locally Dense Y/N Sparse Y/N None Y/N

Dense algae on rocky headlands. Mat on rocks near tidal flats.

Mytilus (Mussels): Patchy Y/N Cont. Y/N  
Locally Dense Y/N Sparse Y/N None Y/N

Locally dense in rocky areas at northern and southern portions of section.

Balanus (Barnacles): Patchy Y/N Cont. Y/N  
Dense Y/N Sparse Y/N None Y/N

Dense populations in rocky areas, particularly in northern portion of section. Generally absent in tidal flat areas.

Littorina  
Patchy Y/N Cont. Y/N  
Dense Y/N Sparse Y/N None Y/N

Very abundant in the rocky areas north and south.

Limpets: Patchy Y/N Cont. Y/N  
Dense Y/N Sparse Y/N None Y/N

Few encountered. Most in lower ITZ (probably not eaten section).

OTHER OBSERVATIONS: Great tidal flats containing amphipods, bivalves  
(Saxidomus, Nipida, Protomacra)

CLEANUP PRECAUTIONS: Numerous bears on tidal flats. Avoid depositing any tar or waste on tidal flats. Avoid fast traffic on healthy mid and low ITZ. These areas generally don't require cleaning anyway.

MAMMALS: Otters  
Harbor Seals  
Sea Lions  
Whales  
Other Bears

BIRDS: Gulls, Sandpipers

GENERAL OBSERVATIONS: Very large tidal flat, rocky intertidal areas at beginning and end of section. Stream (probably anchoritic) entering...
Map #5

- Rock face
- Vegetation
- Boulders, cobbles, sand
- Beach
- Sand flat
- Eroded cobble
- 2-3m wide
- 100m long along mid to seaward line

Map #6

- Type Section
- Rock face
- Rubble
- Mid-tide level
- Spilt w/marine
- In behv. boulders
- 2-3m wide

Typical Section at Point

- Rock face
- Large boulders
- Spilt w/marine
- Some areas at high tide
- 4-6m wide, 60m wide

Sporadic oling along Section #6 of the topographic map.
Length=600m
5 - KODIAK SCAT
K9-36

COMPLETE MAR - 8 1990

ACE 7963998
SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Block (see enclosed map): K9-36

Includes Shoreline Segments: KA-1

Location: Cape Kubugakli

Submitted: _________________________ Date: ________________
(for Exxon)

FOSC Approval: _________________________ Date: ________________

The cleanup procedures identified in the Shoreline Cleanup Program are recommended. Exxon and other field personnel are encouraged to suggest innovations and productivity enhancements to the OSC's on-scene representative. Requirements for safety and the protection of cultural material must be observed.

CC: KISCC
SHORELINE CLEANUP PROGRAM

DATE 7/19/89

SHORELINE SEGMENT K9-36-KA-1

LOCATION: (see enclosed map) Cape Kubugakli

ADEC NO._________SHORELINE ASSESSMENT DATE: 7/19/89

Recommended Cleanup Activity(ies):
-No cleanup recommended due to overall very light oiling conditions, ecological constraints and high natural cleaning potential. Subject to FOSC reassessment at a later date.

Priorities/Considerations: Class 5-A

Ecological Constraints (from site survey):
-Highly productive low to mid intertidal zone adjacent to oiled areas. Cleanup is not recommended.

Archaeological Constraints (from site survey):
-If heretofore undiscovered cultural materials are uncovered during cleanup, contact Exxon's Archaeological Field Director and take actions prescribed in the Operational Guidelines for Shoreline Cleanup dated 21 April, 1989 as amended.

State Historic Preservation Officer *
Date: 7/26/89

EXXON:_________________________ Date:____________________

FOSC:_________________________ Date:____________________

*Signature required to satisfy stipulations in Alaska DNR land use permits for tide and submerged lands.
**SHORELINE OIL EVALUATION**

**Date:** 19 July 1989  
**Time:** 1100 - 1330  
**Observer:** Duncan M. F. Elkin  
**Weather:** Sun, Cloud, Rain, Snow, Fog

**LOCATION**  
**Location:** Cape Kugak, K  
**Segment ID:** K-9-36-KA-1  
**Segment Length:** 4 km  
**Access:** Vehicle/Boat/Barge/Plane-Helicopter/Float Plane  
**Access Restrictions:** Ground, Intertidal area

**SHORELINE**  
**Shoreline Type:** SPI/BEACH/COVE/ILL/STRT  
**Slope:** Low/Med/Hi/Vert  
**Wave Exposure:** High/Med/Low  
**Sediment:** B 25% / C 20% / P 5% / G&S 15% / M 5% / R 35%

**IL**  
**Degree of Oiling:** HEAVY / MODERATE / LIGHT / VERY LIGHT / NONE OBSERVED  
**Area of Impact:** SU/SP/H/M/L

**IL DISTRIBUTION**  
- Continuous % of Segment: 22%  
- Poradic % of Segment: 20%

<table>
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<tr>
<th>Light</th>
<th>Width (m)</th>
<th>Thickness &gt;1cm:</th>
<th>Penetration/Rework:</th>
<th>Burial Depth:</th>
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<tbody>
<tr>
<td>80</td>
<td>2.4</td>
<td>H/M/L/VL</td>
<td>2.4</td>
<td>H/M/L/VL</td>
</tr>
</tbody>
</table>

**Deposition Potential:** High/Medium/Low

**Debris Oiled?** Y/N  
**Amount:** H/M/L/VL  
**Type:** AS/20%

**L MORPHOLOGY**  
**Oiled Oil:** 3%  
**Spilled Oil:** 3%  
**Slattered:** 67%  
**Spattered:** 20%  
**Thirds/Seconds:** 10%

**WEATHERING**  
**Esh:** 20%  
**Lusse:** 20%  
**Shattered Mousse:** 3%  
**Phalt Mousse:** 40%  
**Phalt Mousse:** 87%

**MENTS**

Please see accompanying maps for details of oil conditions.

---

ACE 8709223
Map 2  (Typical Profile)

- Bedrock
- Surficial deposits
- Cobble beach
- Boulder ridge
- Boulders by some cobble

- Split of very occasional debris (mostly high vegetation) at near to near line.

- Overall shoreline is characterized by bedrock headlands and cobble + boulder pocket beaches. Oil slick occurs mostly at headland areas. Very light oil conditions.

ACE 8709224
ECOLOGICAL EVALUATION

LOCATION: Kachemak National Monument
SITE: Cape Kobugak

LOCATION PREFIX: KA
SEG. NO.: 1
LENGTH: 45-07 (M)

DATE: 7/19/89
TIME (HHMM): 1100-1245
TIDE HT.: +0.3-+2.0 (M)

OILED ZONE: (Splash High) Medium Low Light oiling some mussels

SUBSTRATUM: (Rocks Boulder Cobble Gravel) Sand Mud

LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Ø/N Dense Ø/N Sparse Ø/N None Y/N
Algae abundant in lower ITZ, somewhat sparse at Cape Kobugak.

Mytilus (Mussels): Patchy Ø/N Contin. Y/N Dense Ø/N Sparse Ø/N None Y/N
Mytilus very abundant in reef areas in mid to low ITZ, sparse at Cape Kobugak.

Balanus (Barnacles): Patchy Y/N Contin. Ø/N Dense Ø/N Sparse Y/N None Y/N
Very abundant from upper to lower ITZ, approximately equal numbers of B. glandula and D. cariosa.

Littorina
Patchy Y/N Contin. Ø/N Dense Ø/N Sparse Y/N None Y/N
Very abundant mid to low ITZ.

Limpets: Patchy Y/N Contin. Ø/N Dense Y/N Sparse Ø/N None Y/N
Sparse but generally distributed through section.

OTHER OBSERVATIONS: Large healthy tide pools in mid to low ITZ. Extensive kelp beds subtidally.

CLEANUP PRECAUTIONS: Ecologically sensitive areas in mid to low ITZ should be avoided. Cleanup not recommended due small areas of oil (mostly tar slick) adjacent to ecologically sensitive areas.

MAMMALS: Otters Harbor Seals Sea Lions Whales Other

BIRDS: Numerous gulls.

GENERAL OBSERVATIONS: Oiling is moderate in some areas however areas are generally small.

ACE 8709225