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1989  
v.28, pt.1

**[Shoreline evaluations, 1989].**

Volume 28, pt.1

Kodiak section 6, pt. 1

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Kodiak  
SCAT

SECTION 6

RECEIVED  
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Oil Spill Public Information Center  
405 S. 3rd St.  
Anchorage, AK 99501

KODIAK SCAT  
K9-17

JAN 11 1990

COMPLETE

ACE 7963986

RECEIVED  
JAN 11 1990  
KODIAK SCAT  
K9-17

RECEIVED  
MAR 11 1992

Oil Spill Public Information Center  
845 G Street  
Anchorage, AK 99501



TYPE A SHORELINE CLEANUP WORK ORDER

COPY

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

Recommended Cleanup Activity(ies): CC-2 May 9, 1989

(See Attached Work Plans)

CC-3 May 15, 1989

CC-4 May 17, 1989

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  
Exxon

Date: 19 June 89

State Historic Preservation Officer Telephone Approval (Required)

Date: See Attachments

Approved: A. M. Hansen  
Assistant OSC Western Alaska (If appropriate)

Date: 20 JUN 89

Approved: [Signature]  
Federal On-Scene Coordinator

Date: 6-21-89

(version 5/02/89)

**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.

Charles E. Hanner  
State Historic Preservation Officer \*

Date: May 9, 1989

EXXON: Jack A. Rickman

Date: 17 May 89

\* FOSC: \_\_\_\_\_

Date: \_\_\_\_\_

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

SHORELINE OIL EVALUATIONDate: 8 May 89 Time: 1300 - 1530Observer: R. DuganSurveyed From: (Foot) Boat (Helio) PlaneWeather: (Sun) Cloud/Rain/Snow/FogLOCATIONLOCATION Beach north of  
Cape ChiniahSEGMENT NUMBER CC-1LENGTH OF SHORELINE SEGMENT: 5000 mACCESS: Foot/Vehicle (Boat/Barge/Helio/Float Plane)SHORELINE:Shoreline Type: SPI (BEA) COV/HLD/STRTSlope: (LANG) HANG/VERWave Exposure: (High) Med/LowSediment: B \_\_\_ % / C \_\_\_ % / P 50 % / G \_\_\_ % / S 50 % / M \_\_\_ % / R \_\_\_ %Drift Debris on Beach: (Yes)/No(Supra/Upper)/Mid/Lower Type cliff dwell  
dead birds  
sea urchinsOILDegree of Oiling: Heavy (Moderate) Light/No Oil/UnobservedArea of Beach Impact: SU / SP (H) (M) / LContinuous: (Y)/N % of Segment 80 Width of Band: 2-10 m

in H/TZ

Sporadic: (Y)/N % of Segment 20Est. Oil Thickness where > 1cm: 10 cm Est. Oil Penetration: 2-5 cmPooled Oil: 100 % "Free" Oil: \_\_\_ % Coated: H \_\_\_ % / M \_\_\_ % / L \_\_\_ %Fresh \_\_\_ % Mousse 100 % Tar Formation: \_\_\_ %Drift Debris Oiled? (Yes)/No (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 M & L ITZs  
Wind & waves are covering the tar balls & mixing  
with them. Manual pickup of tar balls & oiled  
debris is recommended. Priority is high as scavengers  
(beats etc) are eating the oiled dead birds & animals. Tar is

## ECOLOGICAL EVALUATION

LOCATION: Beach north of Cape Chinick SITE: \_\_\_\_\_ OBSERVER: D. McCormick  
 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 surf 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: Beaver tracks observed along lagoon channel banks; few jellyfish (non-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 \_\_\_\_\_  
 Other minnows seen in lagoon channel

## BIRDS: \_\_\_\_\_

GENERAL OBSERVATIONS: This segment consists of 2 beaches - #1 is a 200m wide gravel/sand high impact beach; #2 is a lagoon beach behind (west of) Beach #1. Lagoon channel flows out to the south of Beach #1.

Segment : Chinese

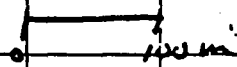
DATE : MAY 8

TIME : 1300

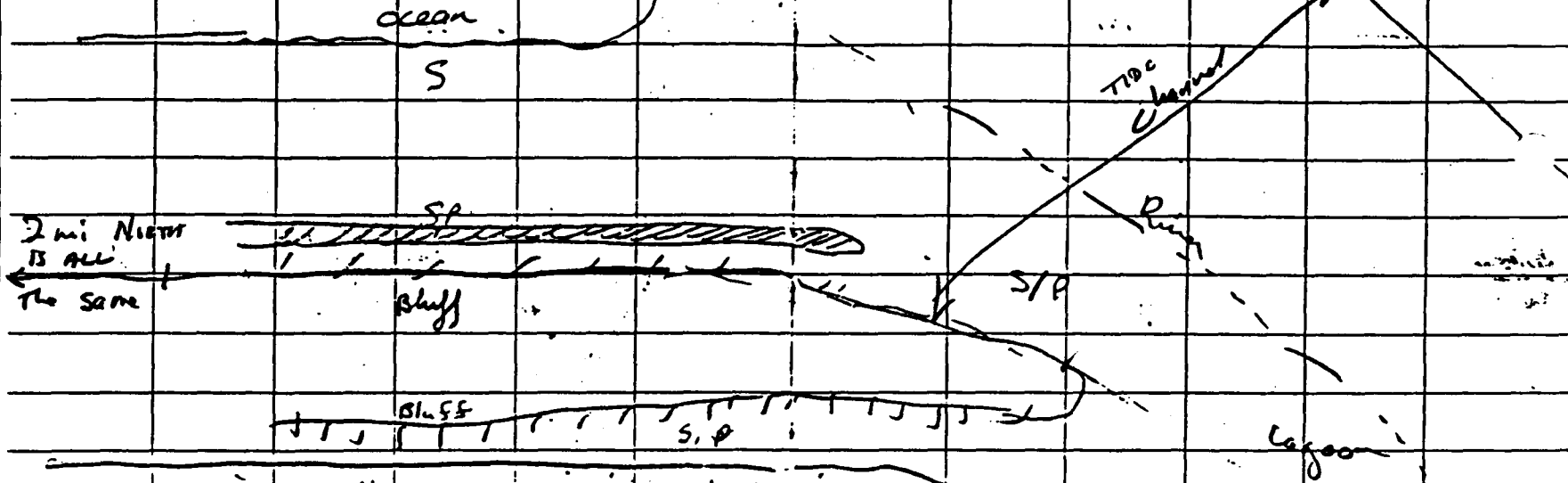
TIDE : MID TIDE

scale

N ←



oiled zone



Oiling : Heavy, SPORADIC, HML, ITZ

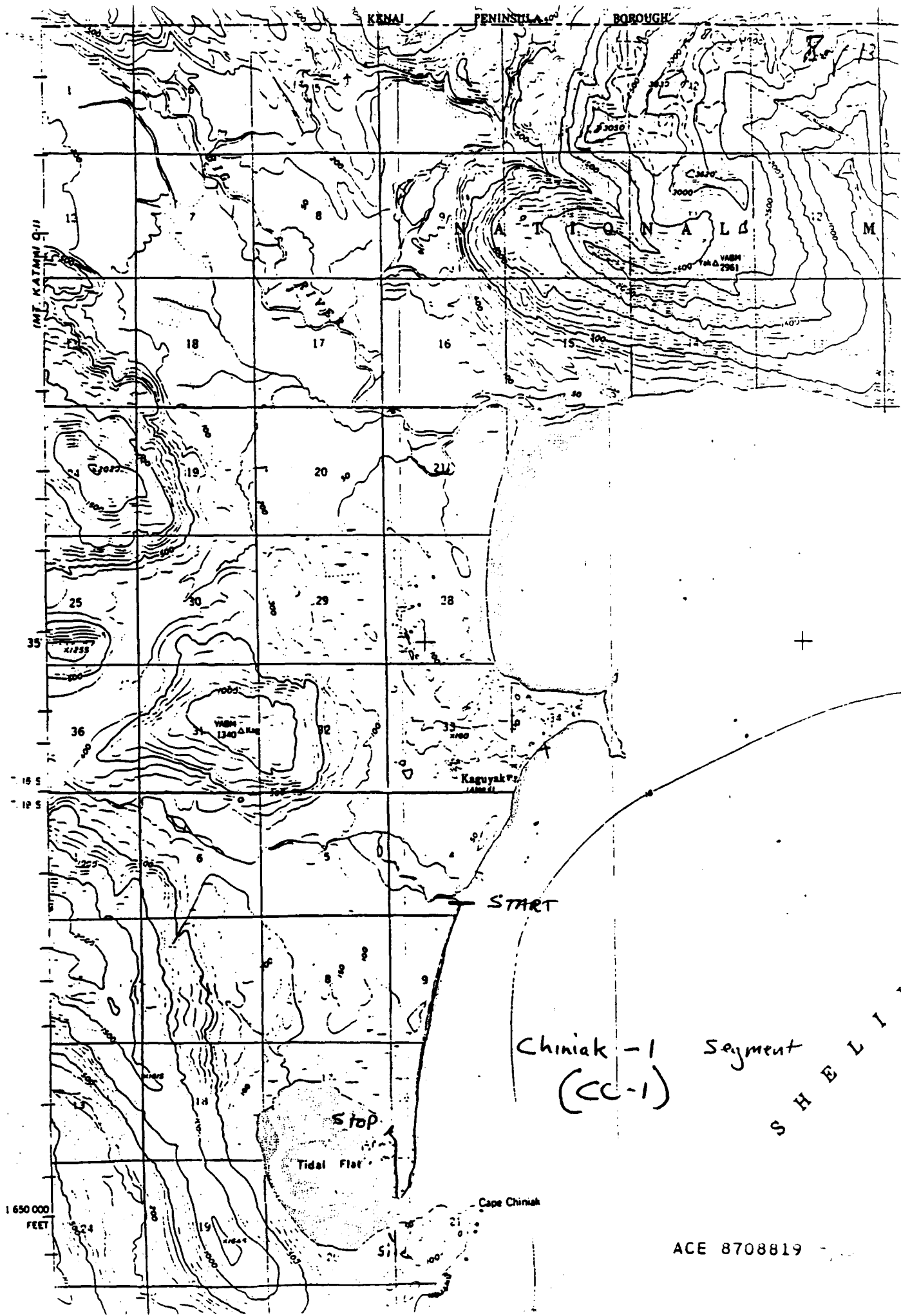
Type : Brown tan balls, 1 m to several meters

Occurrence : left in concentrated bands by high tides 1-10 meters

H - continuous - 2-10 m band, thickness 1-10 cm

M - scattered blobs 1-400 cm in diameter, 1-10 cm thick, 100 meters wide

L - scattered blobs - same as M ... but probably less of it, 100 meters wide



Chiniak - 1  
(CC-1)

Segment

S H E L I A

ACE 8708819

(version 5/02/89)

**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.

Charles E. Hammer  
State Historic Preservation Officer \*

Date: May 9, 1989

EXXON: Jack A. Rickard  
FOSC: \_\_\_\_\_

Date: 17 May 89  
Date: \_\_\_\_\_

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

ADEC Rep: \_\_\_\_\_  
NPS Rep: \_\_\_\_\_  
Native Land Rep: \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_  
Date: \_\_\_\_\_ Time: \_\_\_\_\_

ACE 8708820 +/5

(version 5/13/89)

Figure 1. The effect of the concentration of the *Agrobacterium* suspension on the transformation efficiency of *Agrobacterium* strains.

Includes Shoring Segments: 05 1

Submitted : Jack A. Kushner Date: 17 May 89  
(for Exxon)

FOSC Approval: \_\_\_\_\_ Date: \_\_\_\_\_

[illegible]

**Distribution:**

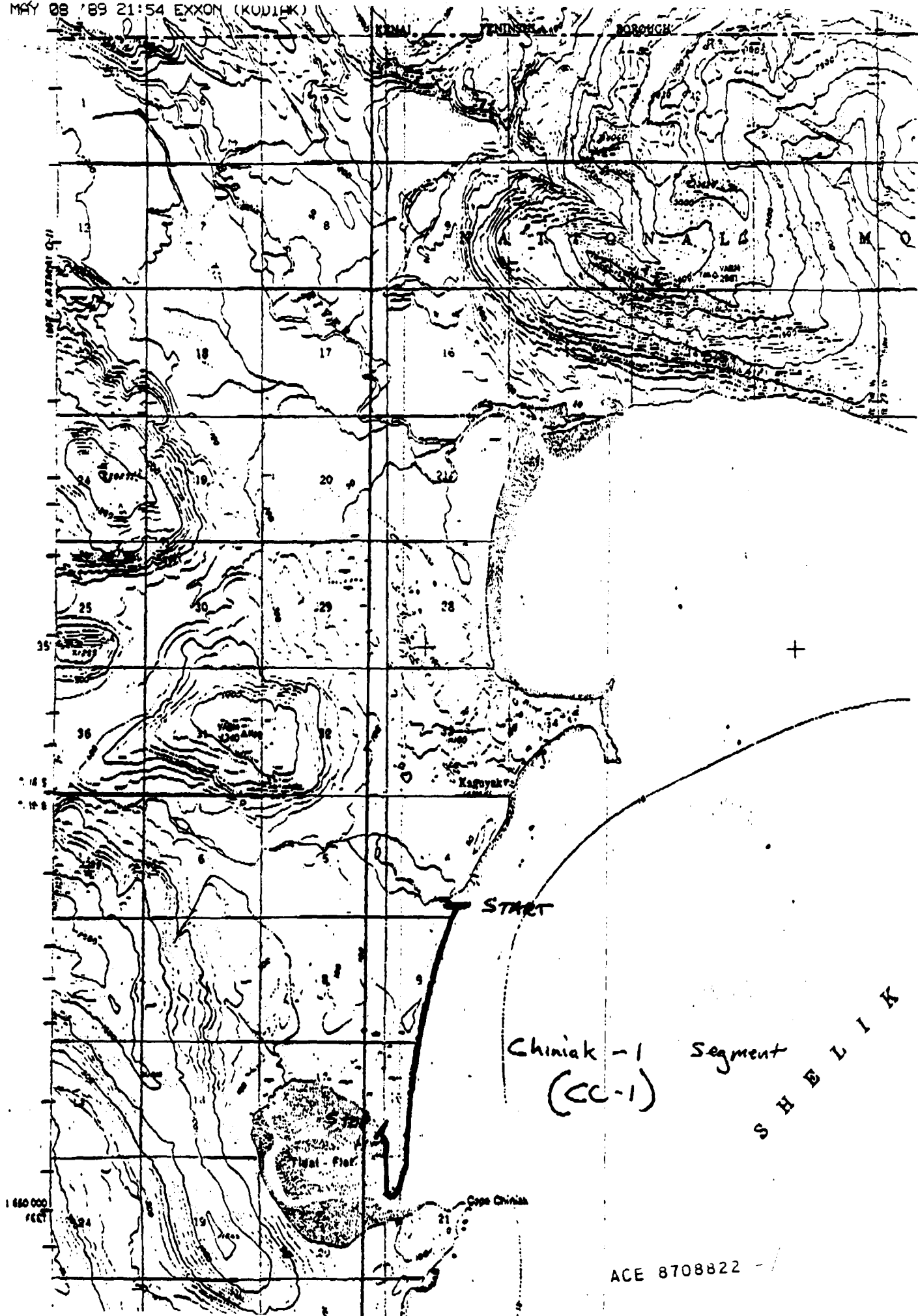
Exxon Shoreline Coordinator  
Exxon Shoreline Supervisor  
Exxon SCAT file

FOSC  
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USFW  
A. DEC  
A. FG  
A. DNR  
CAC  
PWSCA  
USFS  
SHPO

ACE 8708821

POOR QUALITY ORIGINAL





# TYPE A SHORELINE CLEANUP WORK ORDER

# COPY

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

Recommended Cleanup Activity(ies):

( See Attached Work Plans )

CC-2 May 9, 1989

CC-3 May 15, 1989

CC-4 May 17, 1989

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  
Exxon

Date: 19 June 89

State Historic Preservation Officer Telephone Approval (Required)

Date: See Attachments

Approved:

A. M. Hansen  
Assistant OSC Western Alaska (If appropriate)  
By direction

Date: 20 JUN 89

Approved:

AS  
Federal On-Scene Coordinator

Date: 6-21-89

ACE 8708823

4/30/89

(version 5/02/89)

**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.

Douglas Reger  
State Historic Preservation Officer \*

Date: 5/15/89

EXXON: Jack O'Rourke

Date: 8 June 89

FOSC: \_\_\_\_\_

Date: \_\_\_\_\_

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

ORIGINAL

## TYPE A SHORELINE CLEANUP WORK ORDER

RECEIVED  
8/9/89

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

Date

8/2/89

Approved:

Federal On-Scene Coordinator

Date

5/12/89

ACE 8708825

# TYPE A SHORELINE CLEANUP WORK ORDER

Date

8/7/89

Shoreline Segment

K9-17 CC-2

Location (see map)

~~WADSWORTH~~ SOUTH SHORE OF CHINIAK LAGOON

ADEC No.

K9-17

Shoreline assessment date

5/9/89

Recommended Cleanup Activities

MANUAL REMOVAL OF OILED DEBRIS & MOUSE PATTIES.

Priority Considerations

HIGH-HEAVY WILDLIFE USAGE

Ecological Constraints

AVOID CROSS CONTAMINATION OF CLEAN AREAS, PARTICULARLY LAGOON CHANNELS DURING MANUAL CLEAN-UP

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 ammended) .

NO ACCESS TO AREA ABOVE THE ACTIVE BEACH. ARCHAEOLOGICAL MONITOR REQUIRED DURING CLEANUP.

Submitted by:

Exxon

Date

Approved:

Federal On-Scene Coordinator Representative

Date



**SHORELINE OIL EVALUATION**Date: 9 May 89 Time: 1800-1900Observer: Bob DuganSurveyed From: (Foot)/Boat/Helio/PlaneWeather: (Sun)/Cloud/Rain/Snow/Fog**LOCATION**LOCATION South shore  
Chiniak LagoonSEGMENT NUMBER CC-2LENGTH OF SHORELINE SEGMENT: 1500 mACCESS: (Foot/Vehicle)/Boat/Barge/Helio/Float Plane**SHORELINE:**Shoreline Type: SPI/(BEA)/COV/HLD/STRTSlope: (LANG)/HANG/VERWave Exposure: High/Med/(Low)Sediment: B\_\_% / C\_\_% / P50% / G\_\_% / S50% / M\_\_% / R\_\_%Drift Debris on Beach: (Yes)/No Supra/(Upper)/Mid/Lower Type logs**OIL**Degree of Oiling: Heavy/(Moderate)/(Light)/No Oil/UnobservedArea of Beach Impact: SU / SP / (H) / (M) / LContinuous: (Y)/N % of Segment 100 Width of Band: 2-5 mSporadic: Y/(N) % of Segment —Est. Oil Thickness where > 1cm: 1-10 cm Est. Oil Penetration: 1 cmPooled 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:**

Scattered blobs on floor of lagoon (very light)

(1) Cleanup priority is high; intense beach use, fire, etc  
Several hundred yds ~~of~~ of contaminated beach  
to be picked up. ACE 8708828

(2) Mode of cleanup = manual picking & mechanical picking  
recommended. On site burial of oil should be  
seriously considered if thorough, rapid cleanup is to be  
achieved.

9 May 89

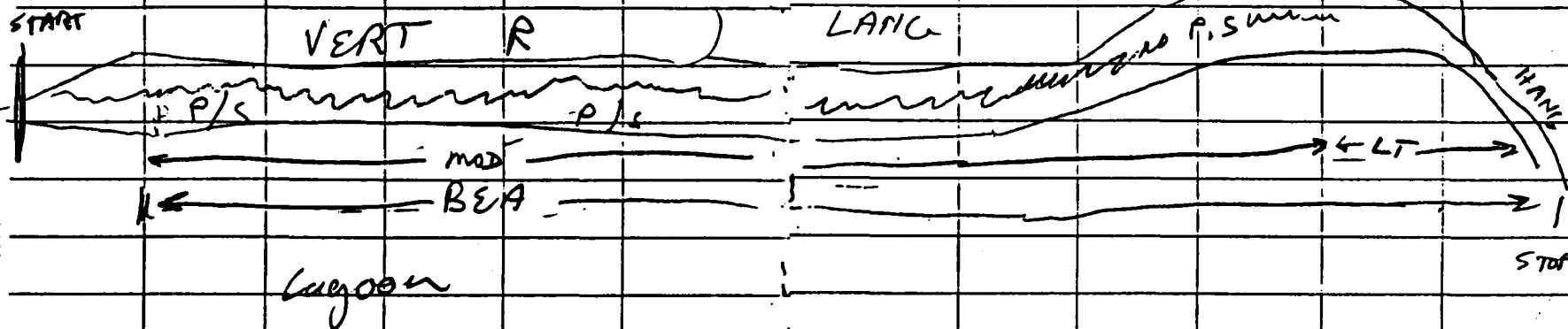
TIME 1800 - 1900

SCALE  
0 100 m

SEGMENT: CC-2 (Soot, helicopter)

TIDE: high

WIND: mouse band (brown)



oil: 2-5 meter band of mouse at HITZ stand line - up to 10cm thick

= moderate, scattered pool melts into sediment in sunlight

- HITZ = scattered 1-50cm blobs covering 2% of ground surface

probably typical for MITZ too

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

buried by waves/wind

- debris - lots of logs, many have mouse on them

- Priority = high - more can be picked up earlier, intense bear use

- Cleanup: manual pickup, ATVs or colligous would help

ACE 8708829



## ECOLOGICAL EVALUATION

LOCATION: SOUTH SHORE CHINIAK LAGOON SITE: \_\_\_\_\_ OBSERVER: D. McCormick  
 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 Myt seen as debris at high ITZ.

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

Uittorina

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)

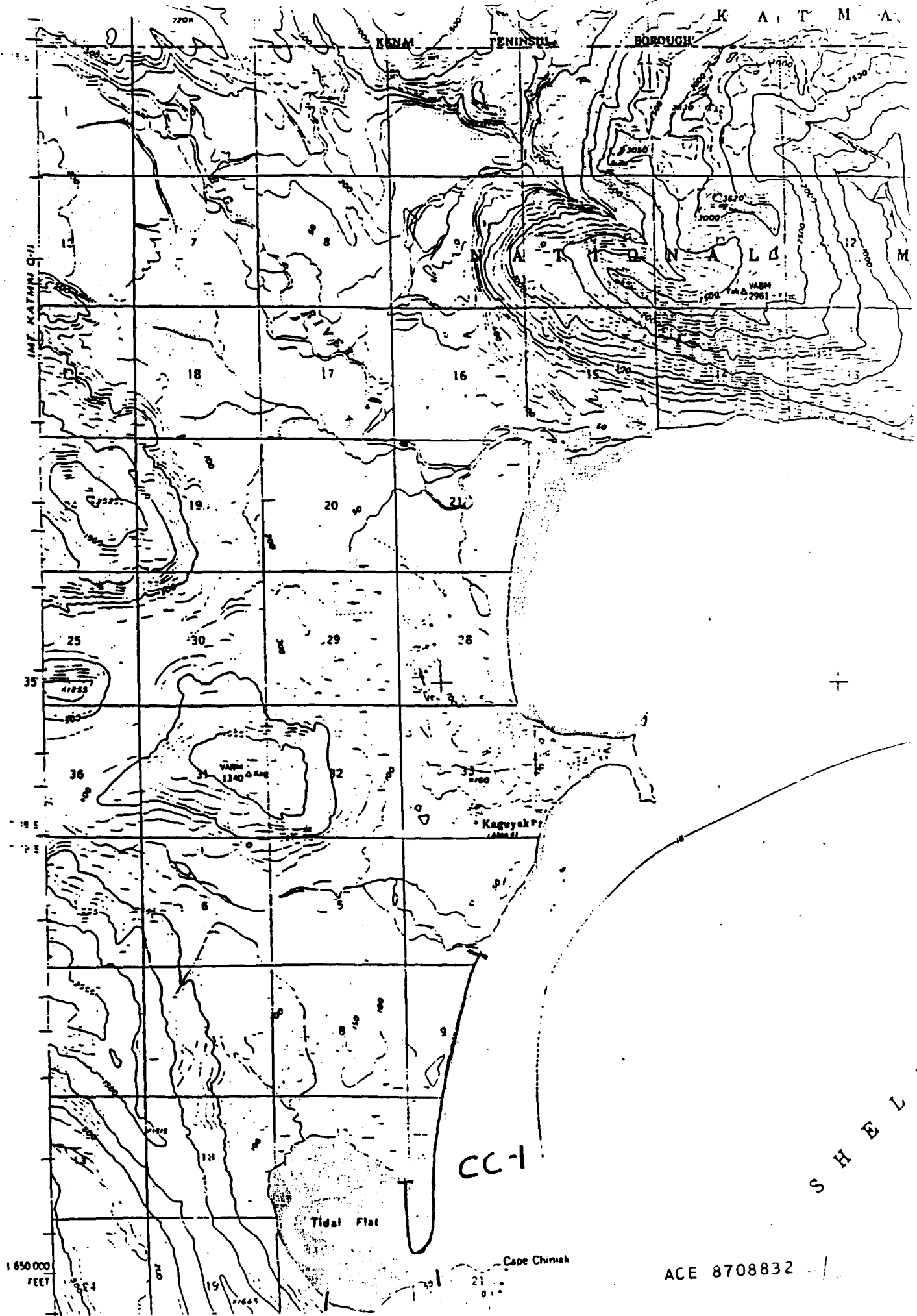
OTHER OBSERVATIONS: razor clam shells; lots of mussels in high / mid ITZ and sparse in low ITZ; bird clean-up crew reports seeing bald eagles feeding on oiled birds - may be feeding their young with this!

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

MAMMALS: Otters <sup>sea otter (2)</sup> ~~land otter (1)~~ Harbor Seals \_\_\_\_\_ Sea Lions \_\_\_\_\_ Whales \_\_\_\_\_  
 Other Bears (2), fox (1)

BIRDS: ducks, bald eagles

GENERAL OBSERVATIONS: known areas of clams, dungeness crabs; this area is very rich in fauna - should be given a very high cleanup priority to avoid further impact to lagoon fauna and scavenging by oiled birds.



ACE 8708832

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE: MAY 17, 1989

SHORELINE SEGMENT CC-2

LOCATION (as indicated on map): South shore Chinik Lagoon

PROJECT NO. \_\_\_\_\_ SHORELINE ASSESSMENT DATE: 5/9/89

**Recommended Cleanup Activity(ies):**

Manual pickup recommended.

If a bulldozer is used it will constitute Type B cleanup.

**Priorities Considerations:**

High - heavy wildlife usage

**Physical Constraints (from site survey):**

Continued contamination of clean areas, particularly lagoon channels, during manual clean-up.

**Biological Constraints (from site survey):**

Work should stop the entire beach. Site should definitely be monitored by an archaeologist during clean-up.

Douglas Rizer  
State Historic Preservation Officer \*

Date: 5/15/89

EXXON: Jack A. Ritten

Date: May 17, 1989

FOSC: \_\_\_\_\_

Date: \_\_\_\_\_

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

ACE 8708833 +/5

POOR QUALITY ORIGINAL

(version 5/15/89)

SHORELINE CLEANUP ASSESSMENT BLOCK REPORT

Location (name of area): Kodiak - Cape Wainiak North Block

Includes Shoreline Segments: CC-1, CC-2

Submitted : Jack A. Rickman Date: May 17, 1989  
(for Exxon)

FOSC Approval: \_\_\_\_\_ Date: \_\_\_\_\_

The cleanup procedures identified in the Shoreline Cleanup Program are intended. Modifications to these systems can be made in the field. Team and other field personnel are encouraged to suggest improvements or productivity enhancements to the CSC's on-scene operations. The CSC's representative has the authority to approve or deny modifications. The Field Resource Team should be advised if these actions do not fit within the Ecological Objectives 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  
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A.DNR  
CAC  
PWSA  
USFS  
SHPO

ACE 8708834

POOR QUALITY ORIGINAL



## TYPE A SHORELINE CLEANUP WORK ORDER

COPY

Date: 19 June 89 Shoreline Segment: CC-1, CC-2, CC-3, CC-4Location: (Attach map) Chiniak Bay area, Alaskan Penn.ADEC No. K9-17 Shoreline Assessment Date: CC-1 May 8, 1989

Recommended Cleanup Activity(ies):

(See Attached Work Plans)

CC-2 May 9, 1989CC-3 May 15, 1989CC-4 May 17, 1989

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  
ExxonDate: 19 June 89

State Historic Preservation Officer Telephone Approval (Required)

Date: See Attachments

Approved:

A. M. Hansen  
Assistant OSC Western Alaska (if appropriate)  
by directionDate: 20 JUN 89

Approved:

AS  
Federal On-Scene CoordinatorDate: 6-21-89

ACE 8708836 +/

4/30/89

(version 5/02/89)

**SHORELINE CLEANUP PROGRAM**

DATE 5/15/89

SHORELINE SEGMENT CC-3

LOCATION: (see enclosed map) CAPE CHINIAC

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.

*Donna Reger*  
State Historic Preservation Officer \*

Date: 5/16/89

EXXON: *Jack A. Ruckman*

Date: 8 June 89

FOSC: \_\_\_\_\_

Date: \_\_\_\_\_

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

SHORELINE OIL EVALUATIONDate: 15 May 89 / Time: 1740Observer: BRYAN TRIMMSurveyed From: Foot / Boat / Helio / PlaneWeather: Sun / Cloud / Rain / Snow / FogLOCATIONLOCATION BEACH NORTH OF C. CHINIAKSEGMENT NUMBER CC-3LENGTH OF SHORELINE SEGMENT: 1750 m  
ALASKA PEN. (KATMAI NAT'L Pk.)ACCESS: Foot / Vehicle / Boat / Barge / Helio / Float PlaneSHORELINE:Shoreline Type: SPI / BEA / COV / HLD / STRTSlope: LANG / HANG / VERWave Exposure: High / Med / LowSediment: B - % / C - % / P 10 % / G 35 % / S 50 % / M - % / R 5 %Drift Debris on Beach: Yes / No Supra / Upper / Mid / Lower Type Logs / Sticks  
Straw / SeaweedOILDegree of Oiling: Heavy / Moderate / Light / No Oil / UnobservedArea of Beach Impact: SU / SP / H / M / LContinuous: Y / N % of Segment 1 % Width of Band: 1 to 2 mSporadic: Y / N % of Segment 5 %Est. Oil Thickness where > 1cm: 5 cm Est. Oil Penetration: 0.2 cmPooled Oil: 15 % "Free" Oil: 75 % Coated: H - % / M - % / L 10 %Fresh 0 % Mousse 100 % Tar Formation: 0 %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 <sup>ZONE</sup> BAND of Discontinuous Patches (1cm 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 (150m length) Outlet. A Pool of Mousse 5cm thick in an area of 30m<sup>2</sup> 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. <sup>There a</sup> A 55m stretch of 2 m continuous Mousse covered by a thin layer of sand and seaweed debris is against the berm.



## ECOLOGICAL EVALUATION

LOCATION: Katmai/ Cape Chinik SITE: Beach N. of Cape Chinik OBSERVER: SMB  
 LOCATION PREFIX: CC SEG. NO.: CC-3 LENGTH: 1750 (M)  
 DATE: 5/15/89 TIME (HHMM): 1240 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

ittorina

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

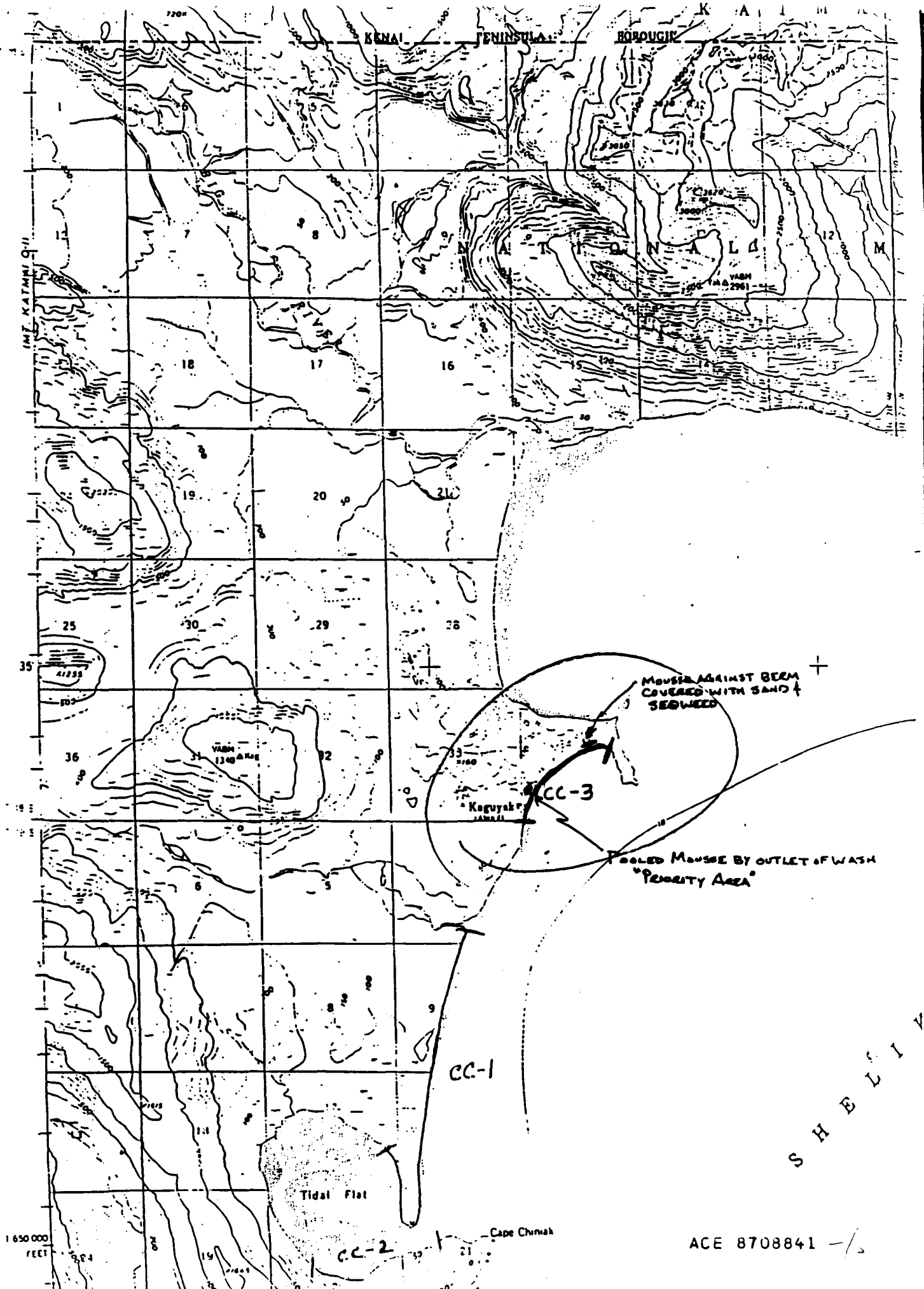
OTHER OBSERVATIONS: Ulva and red algae on rocks

CLEANUP PRECAUTIONS: None

MAMMALS: Otters \_\_\_\_\_ Harbor Seals \_\_\_\_\_ Sea Lions \_\_\_\_\_ Whales \_\_\_\_\_  
 Other Red Fox - Not moving - lethargic, Sick or injured

BIRDS: one dead, heavily oiled, decayed

GENERAL OBSERVATIONS: Mousse diminishes as you head north  
one mouse pooled in backwater area



ACE 8708841 -/2

**TYPE B SHORELINE CLEANUP WORK ORDER**

Date 7/29/89 Shoreline Segment CC-3

Location (see map)

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)**

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 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 A. Riskin Date 8-4-89  
Exxon *The only amendment is a stricter restriction on Archaeological constraints. Exxon is now requiring a monitor on site during cleanup.*

Recommended Approval \_\_\_\_\_ Date JR

Recommended Approval Joseph C. Toliver *Concur w/ changes* Date 8/5/89  
State Historic Preservation Officer  
Interagency Shoreline Committee Representative

Approved: [Signature] Date 5/24/89  
Federal On-Scene Coordinator

*by Dickson*

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 5/15/89 SHORELINE SEGMENT CC-3

LOCATION: (see enclosed map) CAPE CHINIAC

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:

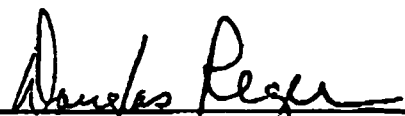
Shovel and collect thick mousse in backwater area near stream.

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: \_\_\_\_\_

Date: \_\_\_\_\_

FOSC: \_\_\_\_\_

Date: \_\_\_\_\_

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

SHORELINE OIL EVALUATIONDate: 15 May 89 / Time: 1740Observer: BRYAN TRIMMSurveyed From: Foot / Boat / Helio / PlaneWeather: Sun / Cloud / Rain / Snow / FogLOCATIONLOCATION BEACH NORTH OF C. CHINIAKSEGMENT NUMBER CC-3LENGTH OF SHORELINE SEGMENT: 1750 mACCESS: Foot / Vehicle / Boat / Barge / Helio / Float PlaneSHORELINE:Shoreline Type: SPI / SEA / COV / HLD / STRTSlope: LANG / HANG / VERWave Exposure: High / Med / LowSediment: B - / C - / P 10 / G 35 / S 50 / M - / R 5Drift Debris on Beach: Yes / No      Supra / Upper / Mid / Lower Type Logs/Sticks  
Straw/SeaweedOILDegree of Oiling: Heavy / Moderate / Light / No Oil / UnobservedArea of Beach Impact: SU / SP / H / M / LContinuous: Y / N      % of Segment 1 %      Width of Band: 1 to 2 mSporadic: Y / N      % of Segment 5 %Est. Oil Thickness where > 1cm: 5 cm      Est. Oil Penetration: 0.2 cmPooled Oil: 15 %      "Free" Oil: 75 %      Coated: H - / M - / L 10 %Fresh 0 %      Mousse 100 %      Tar Formation: 0 %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 <sup>ZONE</sup> BAND of Discontinuous Patches (1cm 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 (150m Length) Outlet. A Pool of Mousse 5cm thick in an area of 30m<sup>2</sup> 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. <sup>THERE A</sup> A 55m stretch of 2m continuous Mousse covered by a thin layer of sand and seaweed debris is against the BERM.

DOCUMENTATION:Aerial photo marking segment boundaries AttachedTR: Y/N Tape Number(s) \_\_\_\_\_Photography: Y/N Roll Number(s) T2-SMB-8Sample Numbers Collected: None

## ECOLOGICAL EVALUATION

LOCATION: Katmai/ Cape Chinlak SITE: Beach N. of Cape Chinlak OBSERVER: S.M. Baw

LOCATION PREFIX: CC SEG. NO.: CC-3 LENGTH: 1750 (M)

DATE: 5/15/89 TIME (HHMM): 1240 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

Storina

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: Ulva and red algae on rocks

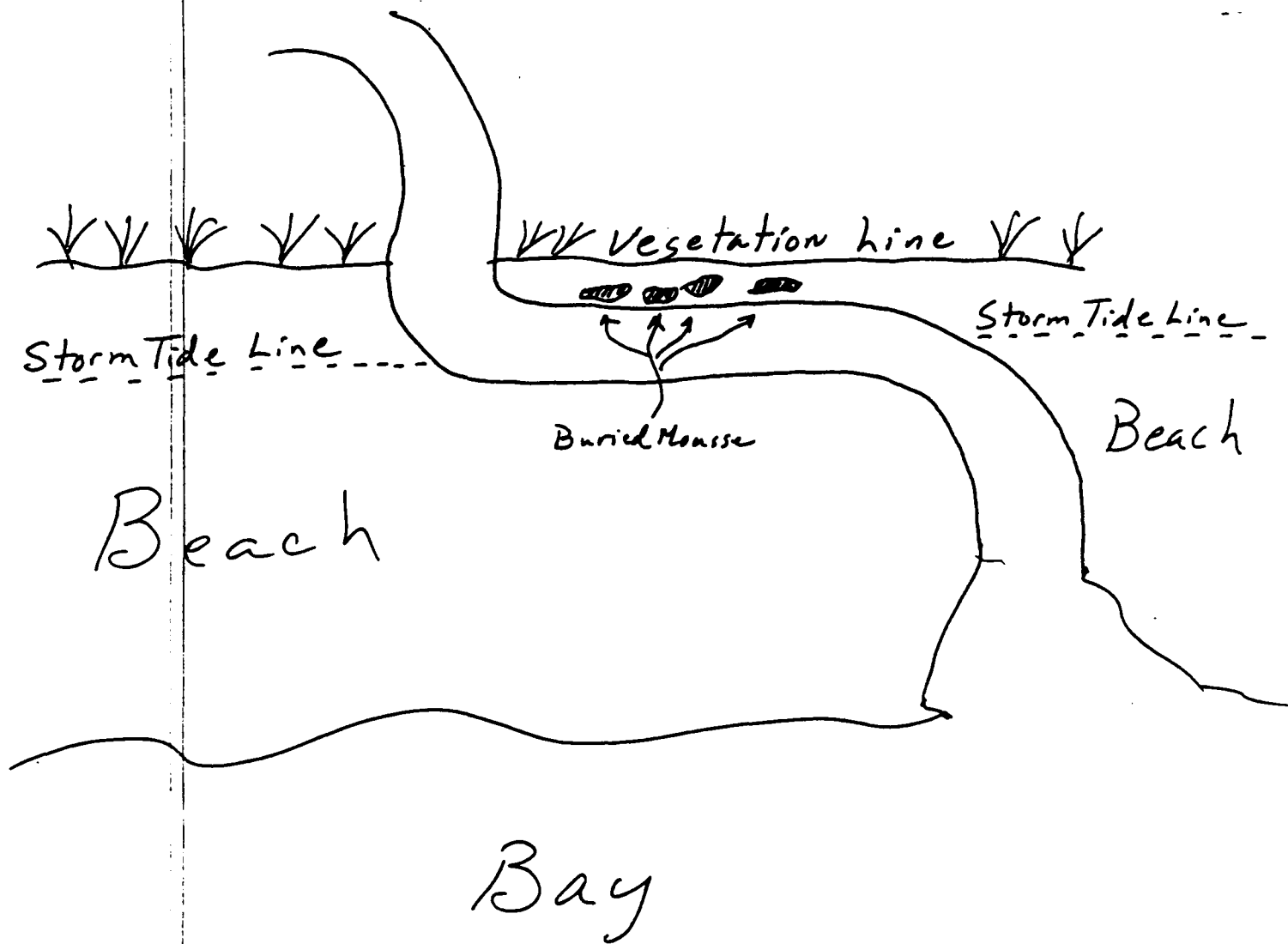
CLEANUP PRECAUTIONS: None

MAMMALS: Otters        Harbor Seals        Sea Lions        Whales         
Other Red Fox - Not moving - lethargic, Sick or injured

BIRDS: one dead dead, heavily oiled, decayed

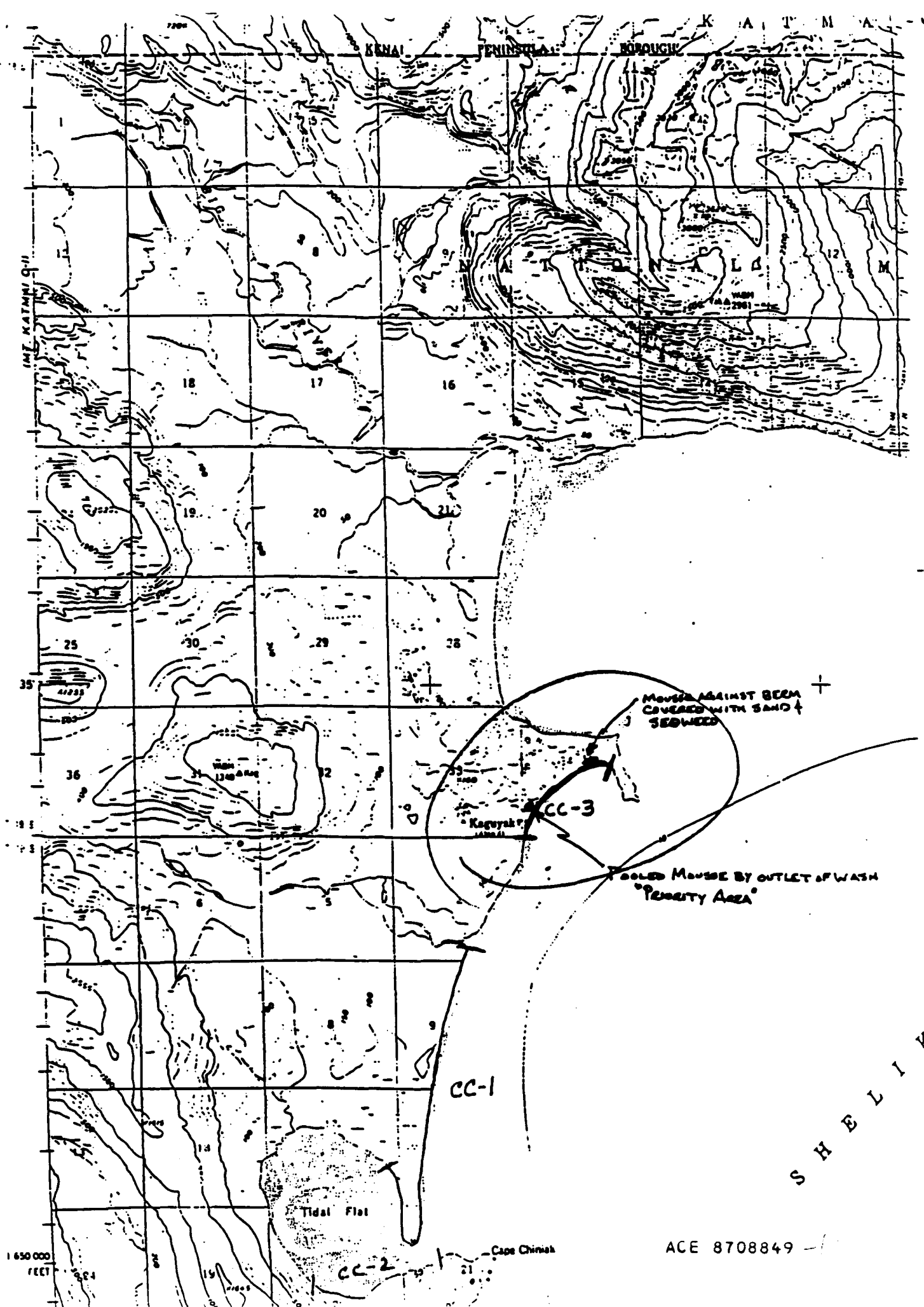
GENERAL OBSERVATIONS: Moose diminishes as you head north  
one moose pooled in backwater area

K9-17 CC-3



ACE 8708848





KISCC  
File  
Copy

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 5/15/89 SHORELINE SEGMENT CC-3

LOCATION: (see enclosed map) KATMAI - CAPE CHINIAC  
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):

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.

Douglas Rege  
State Historic Preservation Officer \*

Date: 5/16/89

EXXON: Jack A. Rickman

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 CHINIYAK BAY (KATMAI)

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

Submitted : \_\_\_\_\_ Date: \_\_\_\_\_  
(for Exxon)

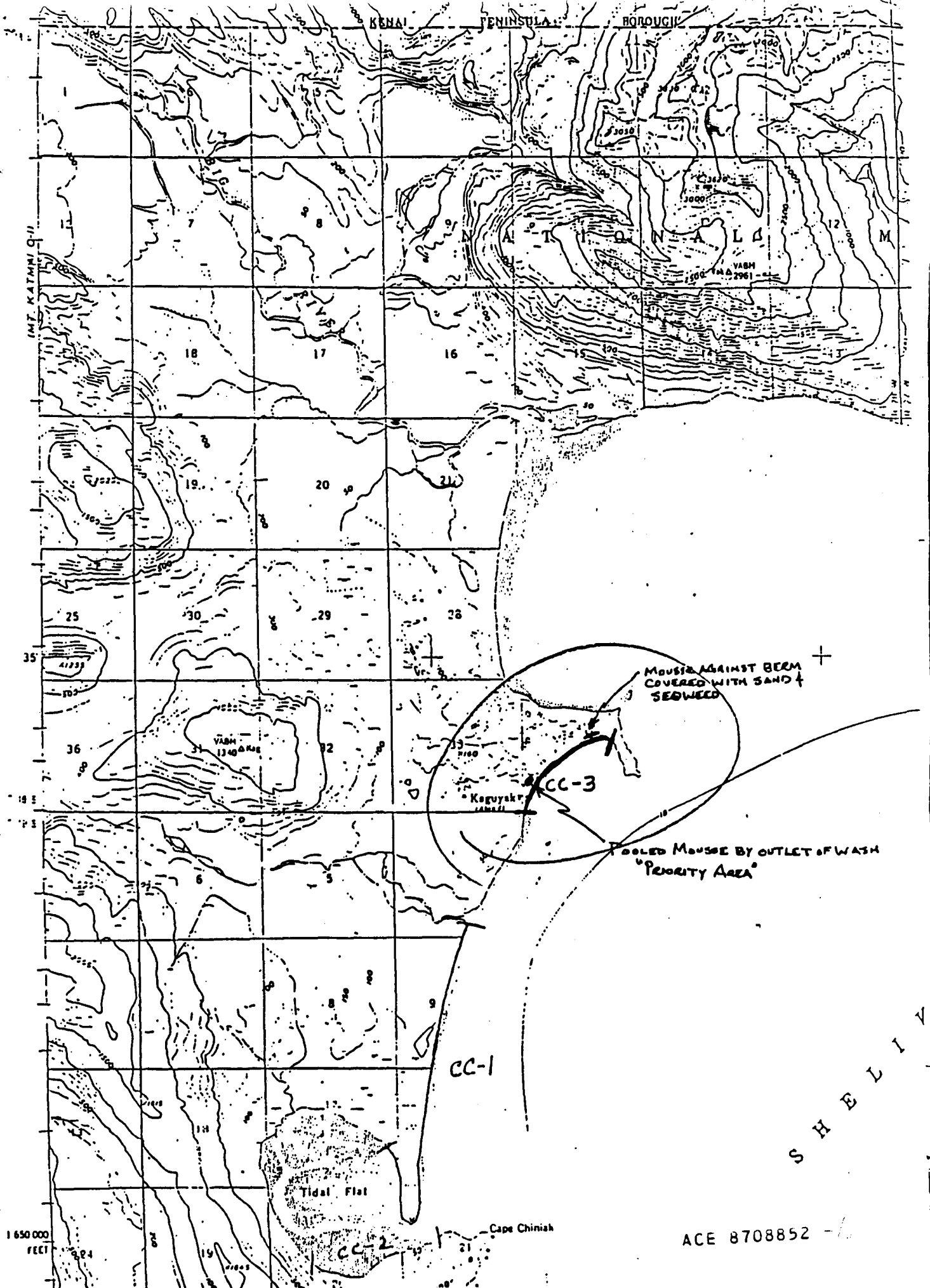
FOSC Approval: \_\_\_\_\_ Date: \_\_\_\_\_

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)  
USFW  
A.DEC  
A.FG  
A.DNR  
CAC  
PWSCA  
USFS  
SHPO



ACE 8708852 -1

# TYPE A SHORELINE CLEANUP WORK ORDER

**COPY**

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

Recommended Cleanup Activity(ies):

(See Attached Work Plans)

CC-2 May 9, 1989

CC-3 May 15, 1989

CC-4 May 17, 1989

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  
Exxon

Date: 19 June 89

State Historic Preservation Officer Telephone Approval (Required)

Date: See Attachments

Approved: A. M. [Signature]  
Assistant OSC Western Alaska (If appropriate)

Date: 20 JUN 89

Approved: [Signature]  
Federal On-Scene Coordinator

Date: 6-21-89

ACE 8708853

4/30/89

(version 5/02/89)

**SHORELINE CLEANUP PROGRAM**

DATE 5/18/89 SHORELINE SEGMENT CC-4

LOCATION: (see enclosed map) CHINIAC 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..

Charles E. Homan  
State Historic Preservation Officer \*

Date: May 18, 1989

EXXON: [Signature]

Date: 5/21/89

FOSC: \_\_\_\_\_

Date: \_\_\_\_\_

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

SHORELINE OIL EVALUATIONDate: 17 MAY '89 Time: 1700 HRSObserver: BRYAN TRIMMSurveyed From: Foot/Boat/Helio/PlaneWeather: Sun/Cloud/Rain/Snow/FogLOCATION

S. BOUNDARY CREEK + N. BOUNDARY KAGUYAK SITE

LOCATION BEACH N. OF C. CHINIAKSEGMENT NUMBER CC-4LENGTH OF SHORELINE SEGMENT: 1750 mACCESS: <sup>NO</sup>Foot/Vehicle/Boat/Barge/Helio/Float PlaneSHORELINE:Shoreline Type: SPI/BEA/COV/HLD/STRTSlope: LANG/HANG/VERWave Exposure: High/Med/LowSediment: B - % / C - % / P 35 % / G 35 % / S 30 % / M - % / R - %Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type LOGS/STICKS/STAM  
SEAWEEDOILDegree of Oiling: Heavy/Moderate/Light/No Oil/UnobservedArea of Beach Impact: SU / SP / H / M / LContinuous: Y/N % of Segment 10 Width of Band: 5 mSporadic: Y/N % of Segment 60Est. Oil Thickness where > 1cm: 2 cm Est. Oil Penetration: 3 cmPooled Oil: 0 % "Free" Oil: 90 % Coated: H - % / M 10 % / L - %Fresh 0 % Mousse 100 % Tar Formation: 0 %Drift Debris Oiled ? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L

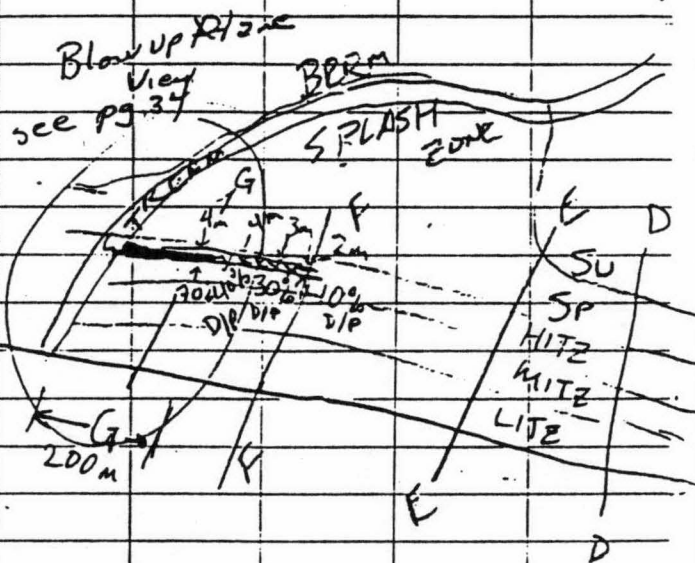
## Comments:

S. 200m OF SEGMENT HITZ, 5m WIDE CONTINUOUS CHOC MOUSSE. SAND COVERS MOUSSE, BURNING THE MOUSSE UP TO 5cm DEEP. LIGHT MECHANIZED VEHICLES SHOULD REMOVE THIS! THE PANCAKE MOUSSE FOR THE NORTHER PORTION OF THIS SEGMENT IS 35% COVERAGE OF PANCAKE MOUSSE FOR A 5m WIDE ZONE IN THE HITZ AT THE FAR + BARRIER. 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.

30

## PLANE VIEW CC-4

95% Drift above HITZ. Drift in  
SP clean In zone, no penetration



ACE 8708856

← 1750m →

31

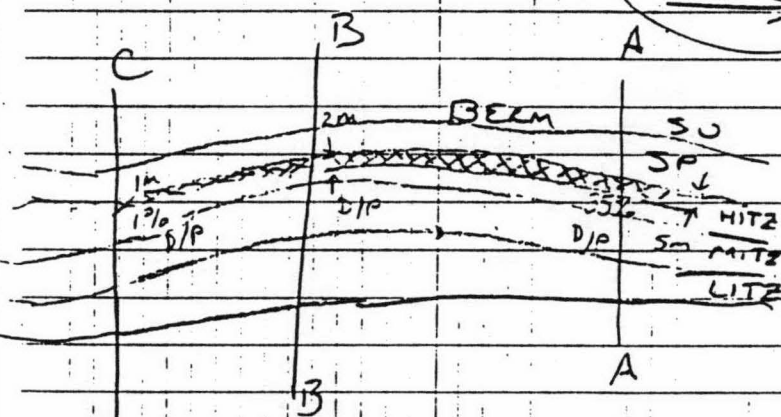
~~DISCONTINUOUS~~

— Continuous parache

D - Discontinuous

P - Parache

NORTH



WATER

Rocky  
Island



20/11/2024

4-CC-64

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Recommend:  
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filled bags.

UV OC-4e 1

He Shuok Is  
Lu Big Bay R.

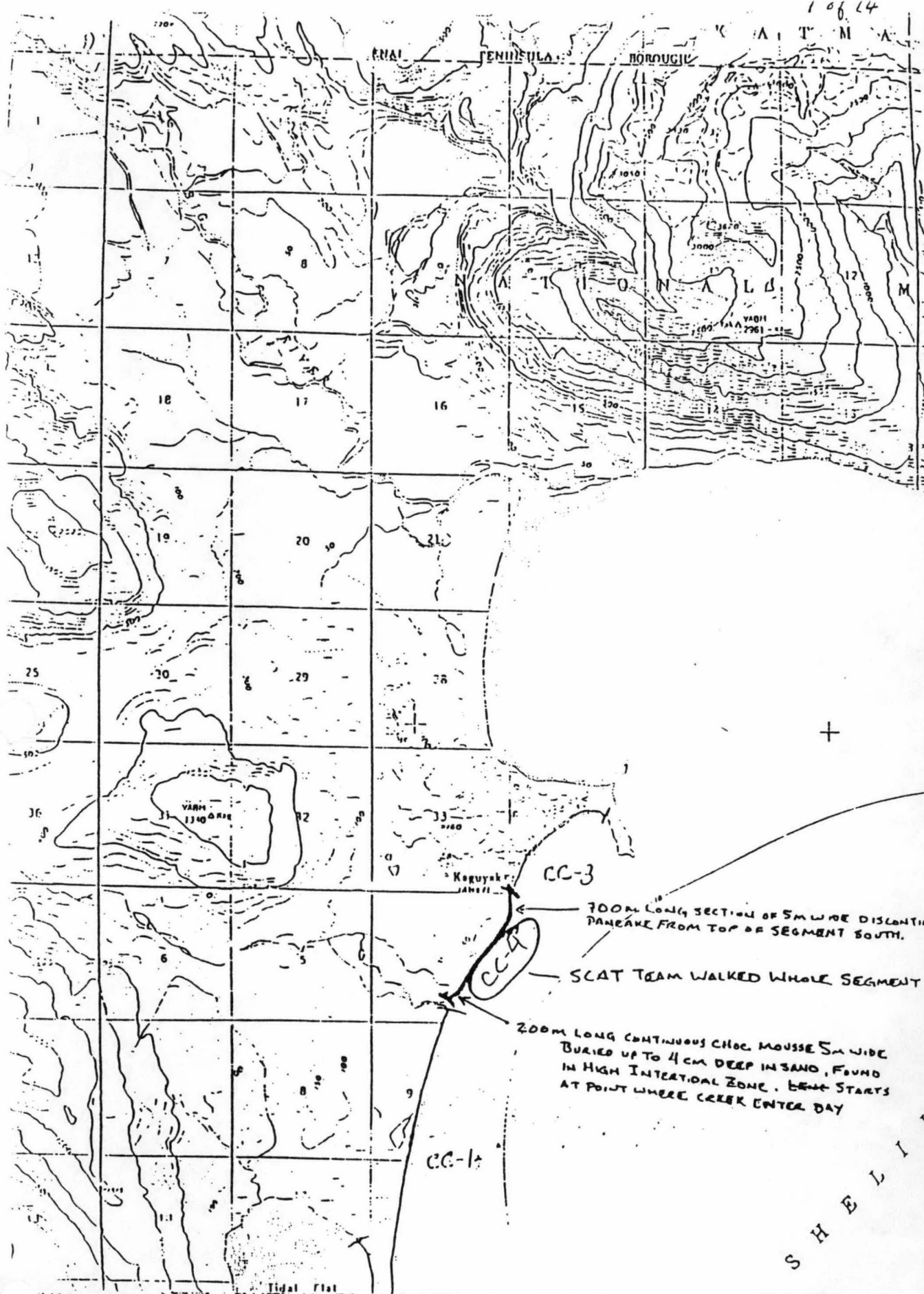
155.25

RANGER

# SHUYAK

159.46

ACE 8708857



# ECOLOGICAL EVALUATION

LOCATION: Katmai/ Chiniak Bay SITE: N. of Chiniak Bay OBSERVER: S.M. BAN  
 LOCATION PREFIX: CC SEG. NO.: CC-4 LENGTH: 1750 (M)  
 DATE: 95/17/89 TIME (HHMM): 1100 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 Y/N  
Some dead unoiled Fucus washed ashore at Strand line  
Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N  
One small patch on rocks behind sand bar  
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: Red algae on rocks behind sandbar,  
Shallow water behind sand bar

CLEANUP PRECAUTIONS: None Avoid large stream, (river)  
at S. end of site - DO NOT disturb stream banks

MAMMALS: Otters None Harbor Seals None Sea Lions None Whales None  
 other None

BIRDS: Sandpipers, gulls, 4 dead, oiled birds spp. unknown

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

ECOLOGICAL EVALUATION

Kalmay  
LOCATION: Chiniak Bay SITE: N. of Chiniak Bay OBSERVER: S.M. BAN  
LOCATION PREFIX: CC SEG. NO.: CC-4 LENGTH: 1750 (M)  
DATE: 85/17/89 TIME (HHMM): 1700 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 YN  
Some dead oiled Fucus washed ashore at strand line  
Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse YN None Y/N  
One small patch on rocks behind sand bar  
Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None YN

Littorina

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

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

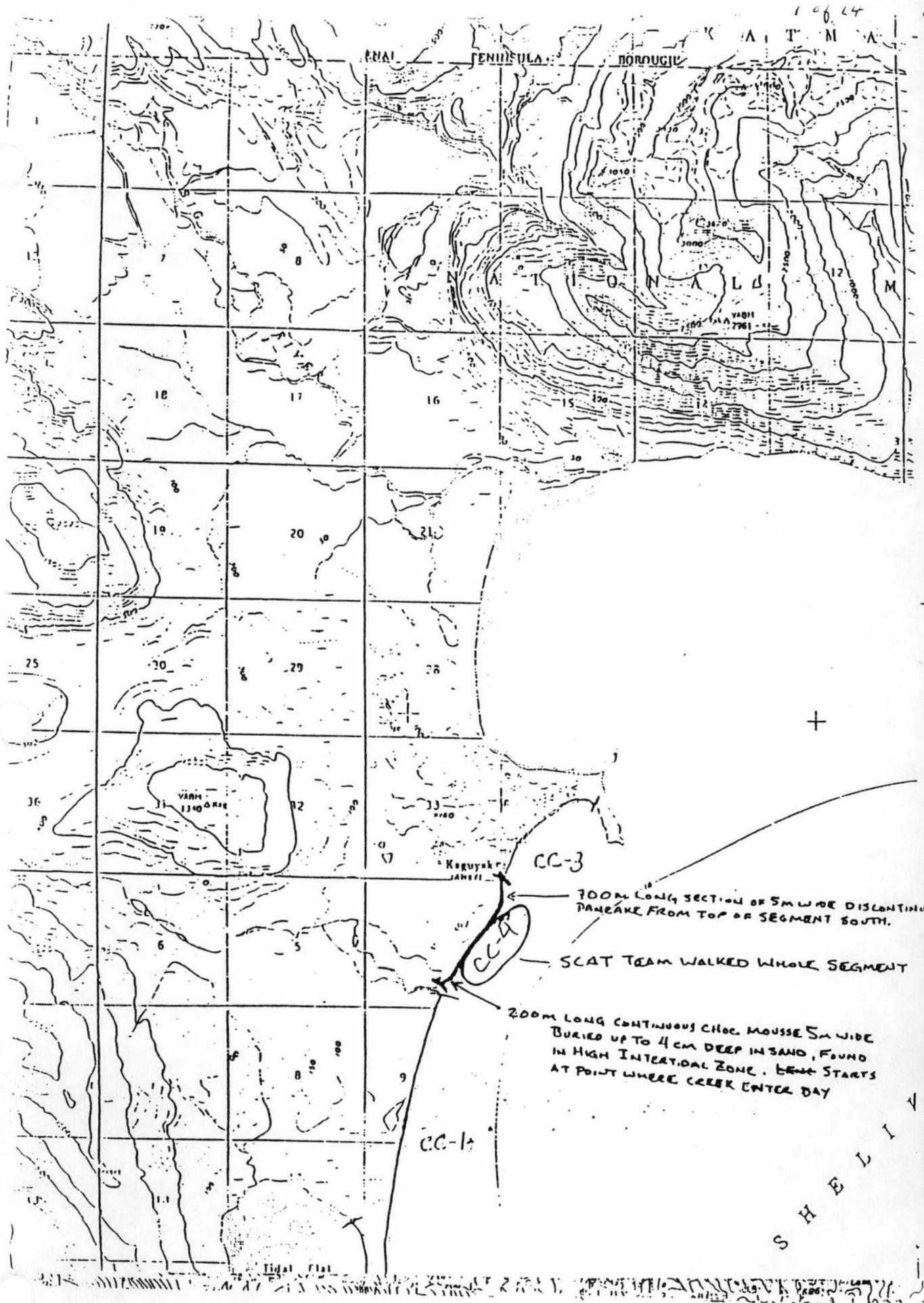
OTHER OBSERVATIONS: Red algae on rocks behind sandbar,  
Shoal on water behind sand bar

CLEANUP PRECAUTIONS: None Avoid large stream, (river)  
at S. end of site - DO NOT disturb stream banks

MAMMALS: Otters None Harbor Seals None Sea Lions None Whales None  
Other None

BIRDS: Sandpipers, gulls, 4 dead, oiled birds spp. unknown

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



(version 5/02/89)

**SHORELINE CLEANUP PROGRAM**

DATE 5/18/89

SHORELINE SEGMENT CC-4

LOCATION: (see enclosed map) CHINIYAK 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..

Charles E. Holmes  
State Historic Preservation Officer \*

Date: May 18, 1989

EXXON: [Signature]  
FOSC: \_\_\_\_\_

Date: 5/21/89  
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 CHINIYAK BAY (KATMAI)

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

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

FOSC Approval: \_\_\_\_\_ Date: \_\_\_\_\_

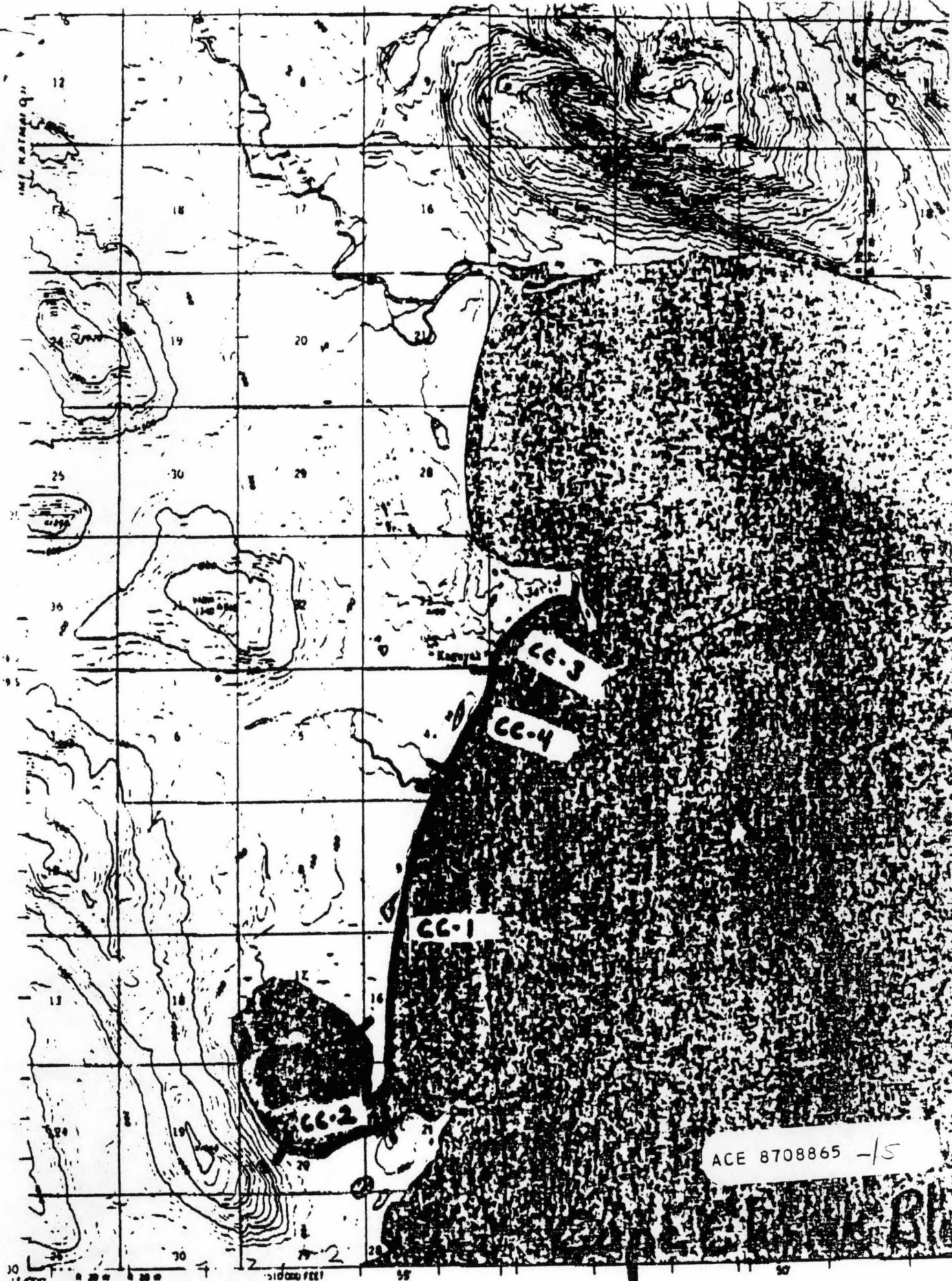
The cleanup procedures identified in the Shoreline Cleanup Program are recommended. Modifications to these systems can be made in the field. Exxon and other field personnel are encouraged to suggest innovations and productivity enhancements to the OSC's on-scene representative. The OSC's representative 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 (FS)  
USFW  
A.DEC  
A.FG  
A.DNR  
CAC  
PWSCA  
USFS  
SHPO







COPY

# SEGMENT INSPECTION RECORD

ADEC # K9-17

Shoreline Segment: CC4

Shoreline Treatment Process(es) Completed for this Segment

- |                                          |                                                    |
|------------------------------------------|----------------------------------------------------|
| <input type="checkbox"/> Hot water wash  | <input type="checkbox"/> Mechanical                |
| <input type="checkbox"/> Warm water wash | <input checked="" type="checkbox"/> Non-mechanical |
| <input type="checkbox"/> Water deluge    | <input type="checkbox"/> Other                     |

*\* - Re-evaluated  
for Type B -  
Work order  
issued through  
ISCC.*

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

Surface Oil

|                                     |                  |
|-------------------------------------|------------------|
| Percent                             | Degree of Oiling |
| <input type="checkbox"/>            | Heavy            |
| <input type="checkbox"/>            | Medium           |
| <input type="checkbox"/>            | Light            |
| <input checked="" type="checkbox"/> | Very Light       |

100%

Subsurface Oil

☐ Yes ☒ No

Comment Below

Reassessment

☐ Yes - Necessary

☒ No - Not necessary unless re-oiled

ADEC Rep

Comments Please see other side.

Signature *[Signature]* Date 7-21-89 Time 5:15 PM

Printed Name Clarke P. Pelz

FOSC Rep Demobilization approved / disapproved

Comments see comments on reverse

Signature *[Signature]* Date 7/21/89 Time 1730

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.

David R. Stearns  
National Park Service

ADFC Comments: A quarter mile section at the south end of CC4 has a light oiling ~~on~~ at the HITZ 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.

ACE 8708867-145/r.

a steep sand/gravel shore which we climbed and  
landed about 200 yds ago. Oil barrel  
in the lower water. We then walked and dug  
at the spring till we were submerged. Another  
type of work is required at this site.

7/21/89  
J. M. B. Jr.  
NDA 55C

K9-18

ACE 7963987

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 8/05/89

SHORELINE SEGMENT K9-18-CN-01 <sup>62'</sup>

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.

  
State Historic Preservation Officer \*

Date: 8/7/89

EXXON: \_\_\_\_\_

Date: \_\_\_\_\_

FOSC: \_\_\_\_\_

Date: \_\_\_\_\_

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

ACE 8708868 + 15/2 17

SHORELINE OIL EVALUATIONA. General

1. Date: 5 Aug 89 2. Time: 0830 3. Observer: DUNCAN M. FITZGERALD  
 4. Surveyed From: Foot/Boat/Helio/Plane 5. Weather: Sun/Cloud/Rain/Snow/Fog  
 6. Location: Cape Chiniak 7. Segment #: K-9-18-CN-1  
 8. Length of shoreline segment: 5800 yds 9. Tidal Stage  $\pm$  4 to 0 ft.  
 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/BEA/COV/HLD/STRT/CLF/DAF  
 14. Slope: LANG/HANG/VERT  
 15. Wave Exposure: High/Med/Low  
 16. Sediment: B35 / C10 / P5 / G / S10 / M / R10  
 17. Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type driftwood and seaweed  
*Moderate to Light*

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: H40 % / M30 % / L20 %  
 23. Fresh \_\_\_\_\_ % Mousse 10 % Tar Formation: 90 %  
 24. Drift Debris Oiled? Yes/No Sup/Up/Mid/Low Amount: \_\_\_\_\_ H/M/L

## Comments:

Most of this shoreline is oiled and should be cleaned. However, access will be difficult except at pocket beaches. Oiling consists of mousse between cracks and crevices of boulders, mousse and tar patches, tar balls, pavements, and oiled driftlines. Mousse and splot are particularly widespread in the headland regions and at pocket beaches oiling is concentrated at the ends of the beaches

SEE PAGE 2 FOR SUPPLEMENTAL INFORMATION

and along supratidal (sham) and spring high tide driftlines. For type examples see maps #1 and #2.

SUPPLEMENTAL SHORELINE OIL EVALUATION25. Oil Type

|           |            |   |
|-----------|------------|---|
| Fresh     | _____      | % |
| Mousse    | <u>10</u>  | % |
| Weathered | <u>20</u>  | % |
| Tar       | <u>70</u>  | % |
|           | <u>100</u> | % |

26. Total Oil Coverage

|             |             |            |
|-------------|-------------|------------|
|             | Length(yd)  | Width (yd) |
| Very Light: | <u>800</u>  | <u>1-2</u> |
| Light:      | <u>3000</u> | <u>2-4</u> |
| Moderate:   | <u>2000</u> | <u>3-5</u> |
| Heavy:      | _____       | _____      |

27. Oil Distribution

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

| SP | H | M | M | Thick<br>>1in | Length(yd)  | Width(yd)  | Burial<br>Depth |
|----|---|---|---|---------------|-------------|------------|-----------------|
| ✓  | ✓ | ✓ | ✓ | ✓             | <u>300</u>  | <u>2-5</u> | <u>-</u>        |
| ✓  | ✓ | ✓ | ✓ | ✓             | <u>3000</u> | <u>2-4</u> | <u>-</u>        |
| ✓  | ✓ | ✓ | ✓ | ✓             | <u>1250</u> | <u>2-5</u> | <u>-</u>        |
| ✓  | ✓ | ✓ | ✓ | ✓             | <u>1000</u> | <u>1-2</u> | <u>-</u>        |
| ✓  | ✓ | ✓ | ✓ | ✓             | <u>200</u>  | <u>1-2</u> | <u>-</u>        |
| ✓  | ✓ | ✓ | ✓ | ✓             | <u>50</u>   | <u>2-4</u> | <u>-</u>        |

28. Preliminary Cleanup Est.

Total TYPE A: 5000 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:

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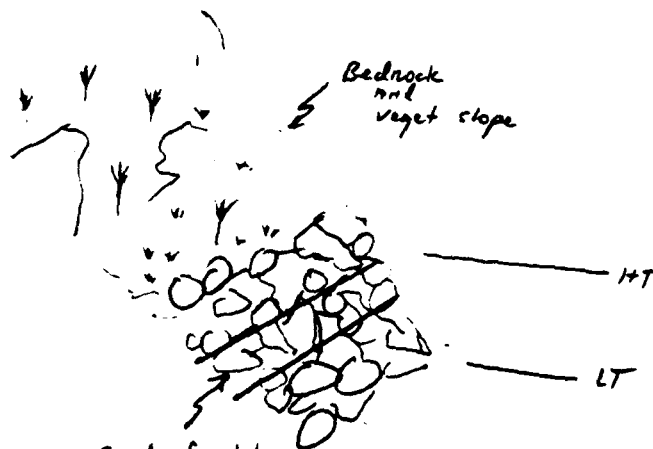
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map #1

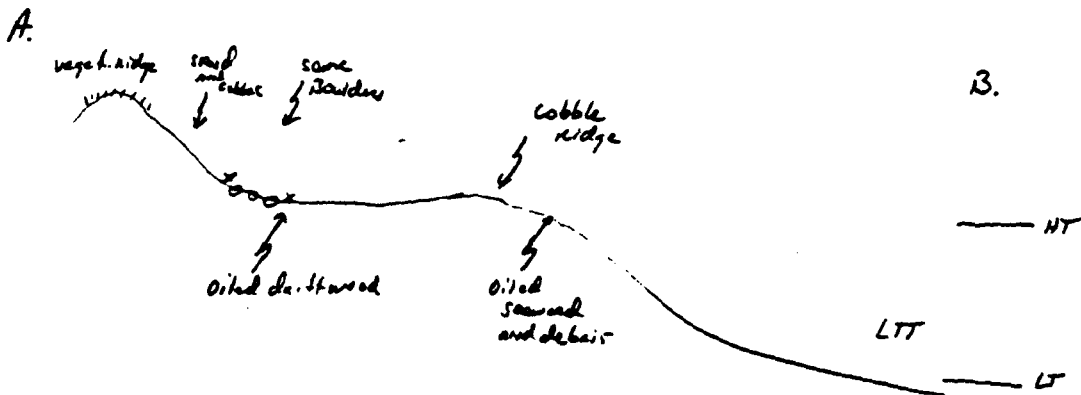
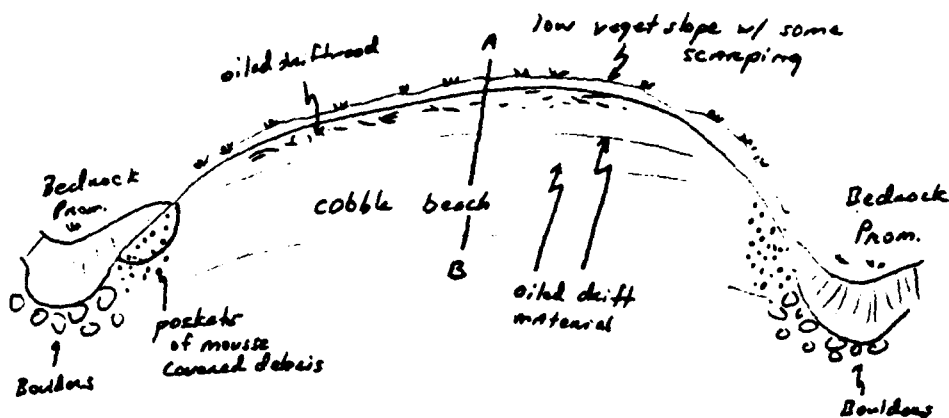
# Typical Bedrock Headland



- Band of splot
- with mouse in cracks and crevices
- usually 2-4 yd wide, continuous for 100-400 yd long

map #2

# Typical Pocket Beach



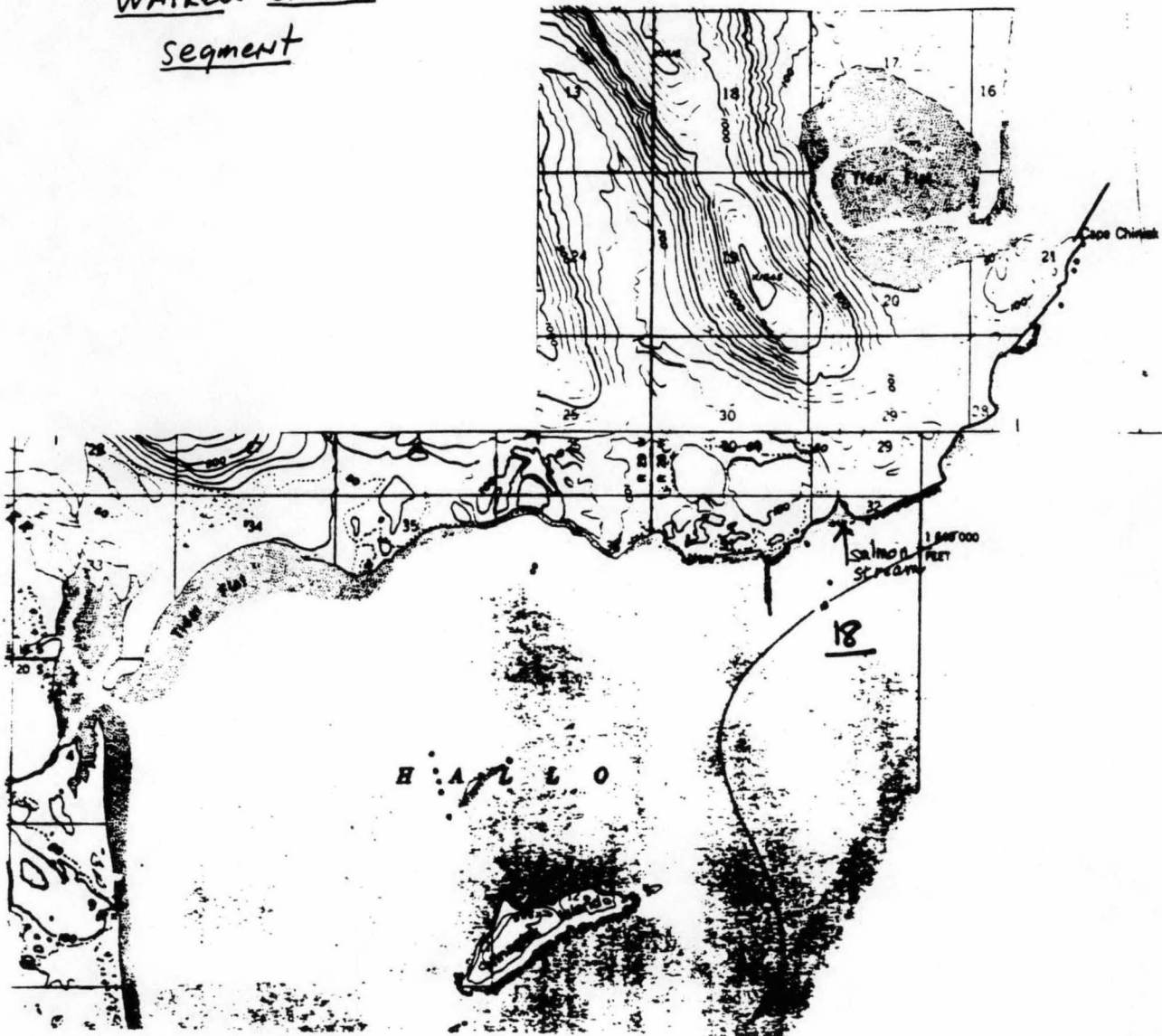
ACE 8708871





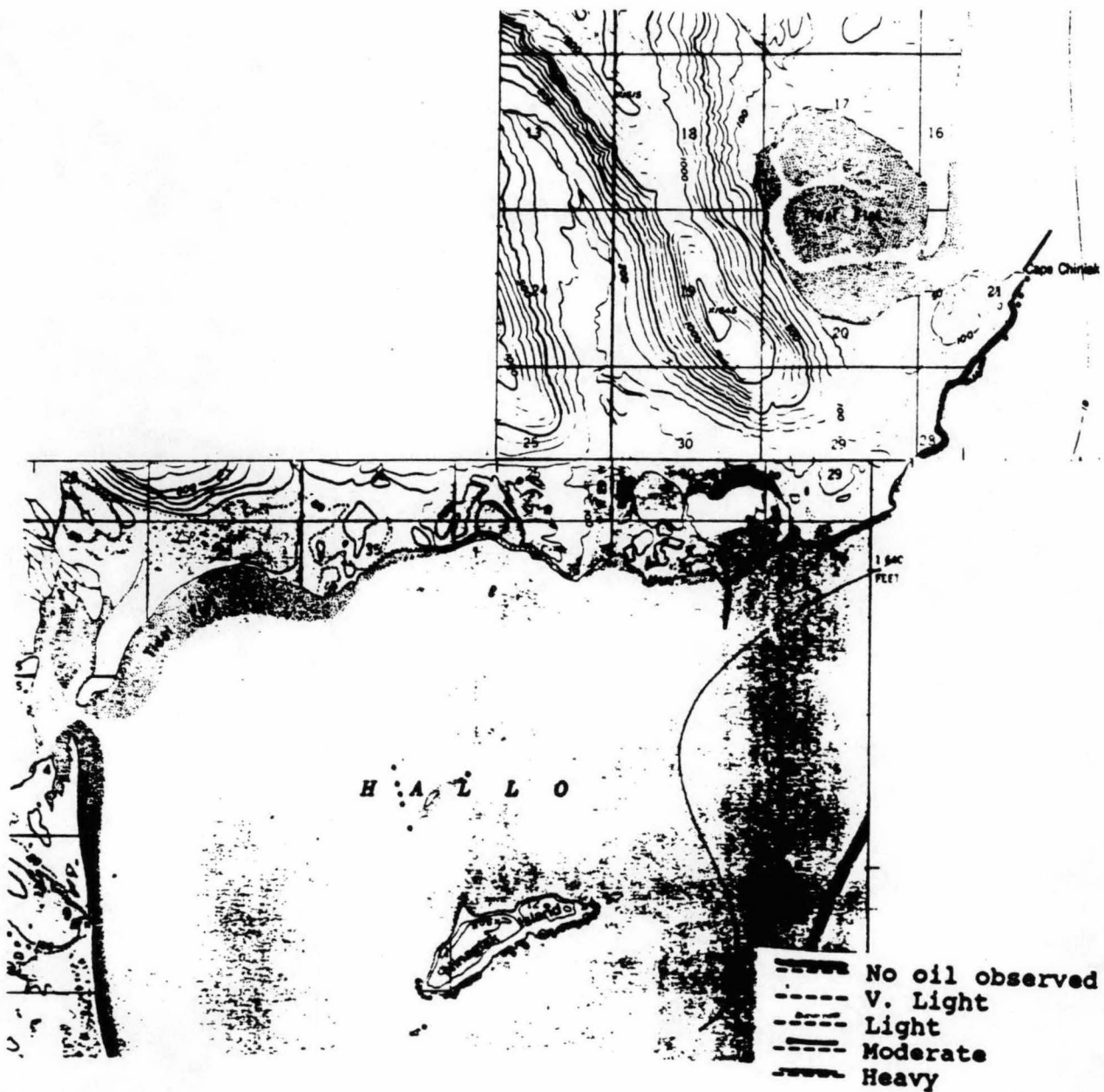
K-9-18-CN-1

Walked entire  
segment



ACE 8708874

K-9-18-CN-1



ACE 8708875-1-

SIT KODIAK SCAT  
K9-19

**COMPLETE** JAN 11 1990

ACE 7963988

(version 5/02/89)

**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: 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.

Charles E. Adams  
State Historic Preservation Officer \*

Date: May 9, 1989

EXXON: Jack A. Riskin

Date: May 17, 1989

FOSC: \_\_\_\_\_

Date: \_\_\_\_\_

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

(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. Rickman 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

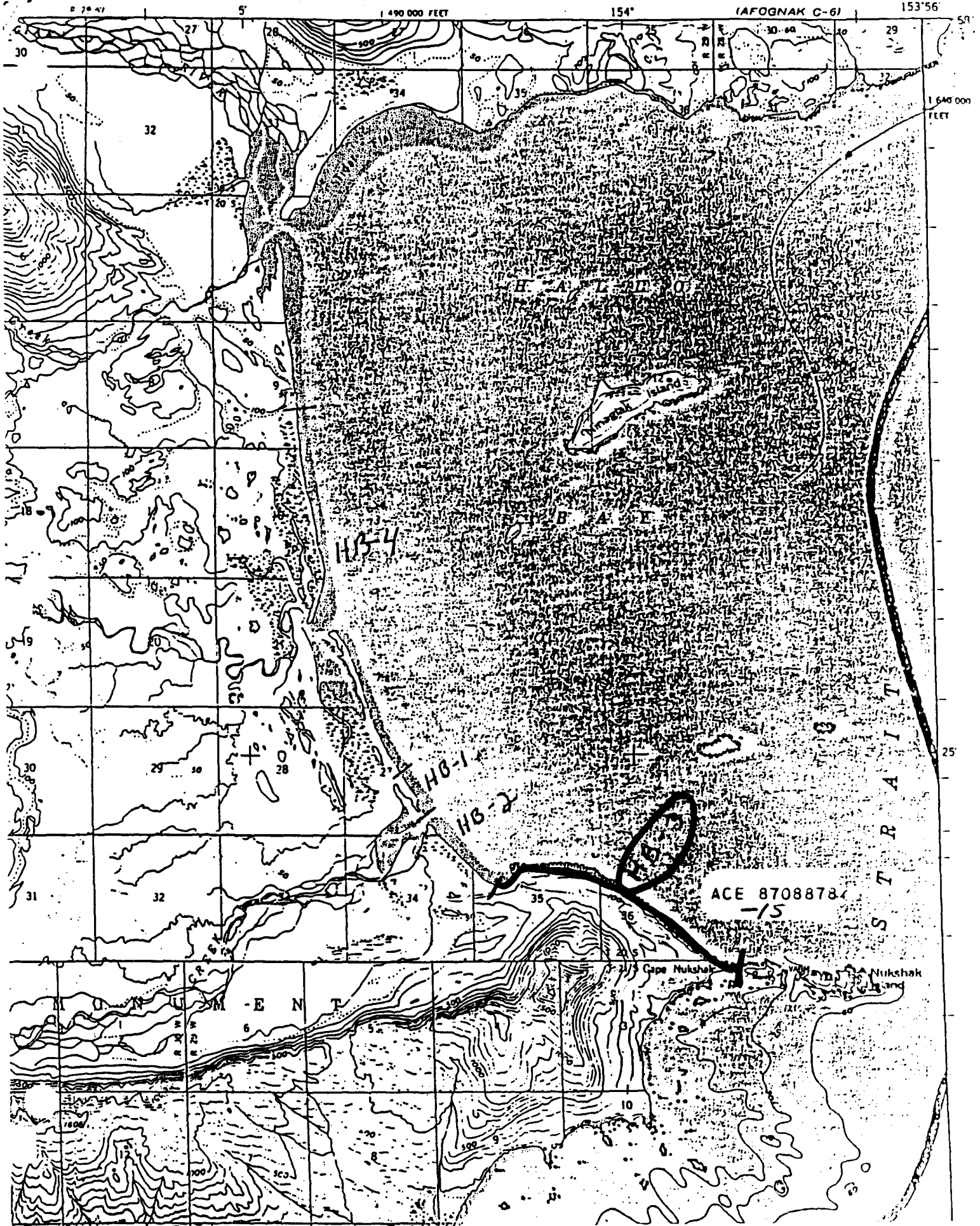
ACE 8706877

MT. KATMAI (B-1) QUADRANGLE  
ALASKA

1:63,360 SERIES (TOPOGRAPHIC)

(AFGNAK C-6)

153°56'



out JUL 20 1989

## SEGMENT INSPECTION RECORD

COPY

FOR ISCC

ADEC # K9-19

Shoreline Segment: HB-1

## Shoreline Treatment Process(es) Completed for this Segment

☐

Hot water wash

☐

Mechanical

☐

Warm water wash

☒

Non-mechanical

☐

Water deluge

☐

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

Time

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

☒

Reassessment

Yes - Necessary

☐

No - Not necessary unless re-oiled

ADEC Rep

Comments

Conditions were poor for an inspection today but from

Signature

Date

7-17-89

Time

6:50 PM

Printed Name

Clarke A. Pelz

FOSC Rep

Demobilization approved/disapproved

Comments

see comments on reverse.

Signature

Date

7/19/89

Time

1748

Printed Name

Phillip C. Smith

Copy: Exxon ADEC FOSC ISCC

Return All Signed Originals to Exxon

ACE 8708879 +/5

Checked area ~~both~~ side of Halls Creek. Still some padder xyp  
near high tide but not possible to get to, still inside creek  
because of high tide. Will need to look at the area  
during a lower tide. Will Brown Half Port for.  
July 19, 1988

## ADEC

a previous visit and since the crews have already moved  
on ADEC 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.

JCTalbot

JCTalbot, 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

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 Hallo 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.

Douglas Reger

State Historic Preservation Officer \*

Date: 5/13/89

EXXON: Jack D. Kicken

Date: 5/17/89

\* FOSC: \_\_\_\_\_

Date: \_\_\_\_\_

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

ACE 8708881 +/

TYPE A SHORELINE CLEANUP WORK ORDER

Date: 19 June 1989 Shoreline Segment: HB-1, HB-2, HB-3, HB-4

Location: (Attach map) Halls Bay

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

Recommended Cleanup Activity(ies):

HB-2, 3, 4 May 9, 1989

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. Rickner  
Exxon

Date: 19 Jun

State Historic Preservation Officer Telephone Approval (Required)

Date: See Attachments

Approved:

A. M. [Signature]  
Assistant OSC Western Alaska (If appropriate)  
By direction

Date: 20 JUN 89

Approved:

[Signature]  
Federal On-Scene Coordinator

Date: 21 JUN 89

(A6)

ACE 8706882

4/30/89

SHORELINE OIL EVALUATIONDate: 9 May 89 Time: 1600-1700Observer: Bob DuganSurveyed From: Foot Boat/Helio/PlaneWeather: Sun Cloud/Rain/Snow/FogLOCATIONHalla Creek LagoonLOCATIONHalla BaySEGMENT NUMBER HB-2LENGTH OF SHORELINE SEGMENT: 900 m plus another 100m inside lagoonACCESS: Foot Vehicle/Boat/Barge/Helio/Float PlaneSHORELINE:Shoreline Type: SPI/BEA COV/HLD/STRTSlope: LANG HANG/VERWave Exposure: High Med/LowSediment: B \_\_\_ % / C \_\_\_ % / P 20 % / G \_\_\_ % / S 80 % / M \_\_\_ % / R \_\_\_ %Drift Debris on Beach: Yes No Supra/Upper Mid/Lower Type logs  
sea weed  
flotsamOILDegree of Oiling: Heavy/Moderate Light/No Oil/UnobservedArea of Beach Impact: SU / SP / (H) / M / LContinuous: Y/N % of Segment 100 Width of Band: 1-5 mSporadic: Y/N % of Segment 1-2 % in HITZ, LITZEst. Oil Thickness where > 1cm: 10 cm Est. Oil Penetration: 1-25 cmPooled 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/LComments:

① 90% of mousse concentrated in HITZ strand lines. ② Mousse rapidly melts or flows in direct sunlight exposure. ③ High priority cleanups 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) T1B-9ample Numbers Collected: None

## ECOLOGICAL EVALUATION

LOCATION: Hollo Creek Lagoon  
Hollo Bay SITE: \_\_\_\_\_ OBSERVER: D. McCormick

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

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

## Lit orina

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

Limp ss: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N

OTHER OBSERVATIONS: 2 sets bear tracks seen along Hollo Cr; 1 set pos fox prints; minnows in Hollo Cr; counted approx. 20 oiled birds at high ITZ.

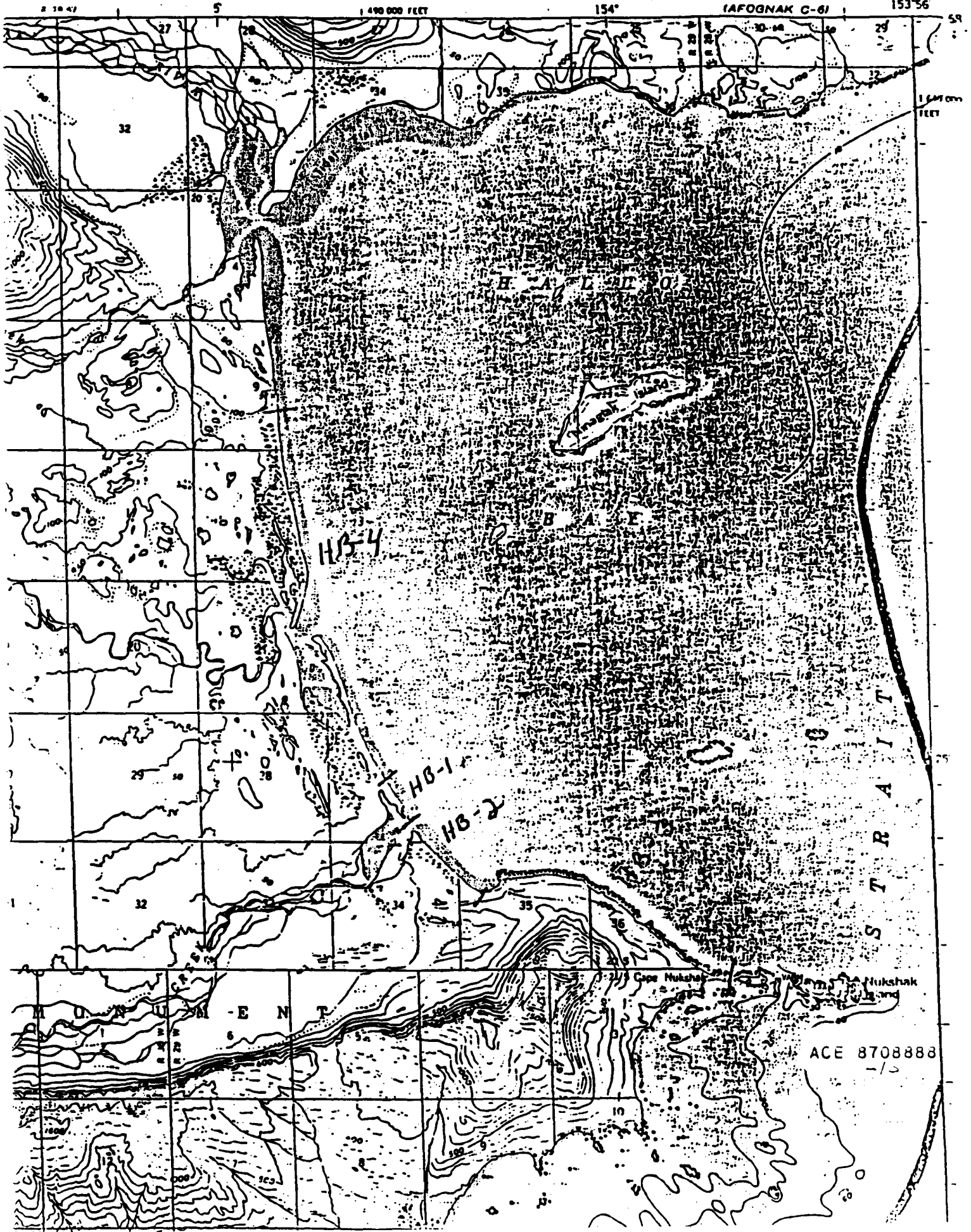
CLEANUP PRECAUTIONS: Use manual clean-up to pick up mouse - avoid introducing oil to uncontaminated areas of low ITZ and Creek channel.

MAMMALS: Otters \_\_\_\_\_ Harbor Seals \_\_\_\_\_ Sea Lions \_\_\_\_\_ Whales \_\_\_\_\_  
 other Bear tracks

BIRDS: flavors along Hollo Creek; bald eagles on cliff at S end of segment

GENERAL OBSERVATIONS: This site should be cleaned ASAP (dead birds and extensive mouse on surface) due to presence of scavenger 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.





ACE 8708888  
-15

109-19

(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

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 Hallo 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.

Douglas Reger  
State Historic Preservation Officer \*

Date: 5/13/89

EXXON: Jack A. Ritten

Date: 5/17/89

FOSC: \_\_\_\_\_

Date: \_\_\_\_\_

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



(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. Rickman Date: 5/17/89  
(for Exxon)

FOSC Approval: \_\_\_\_\_ Date: \_\_\_\_\_

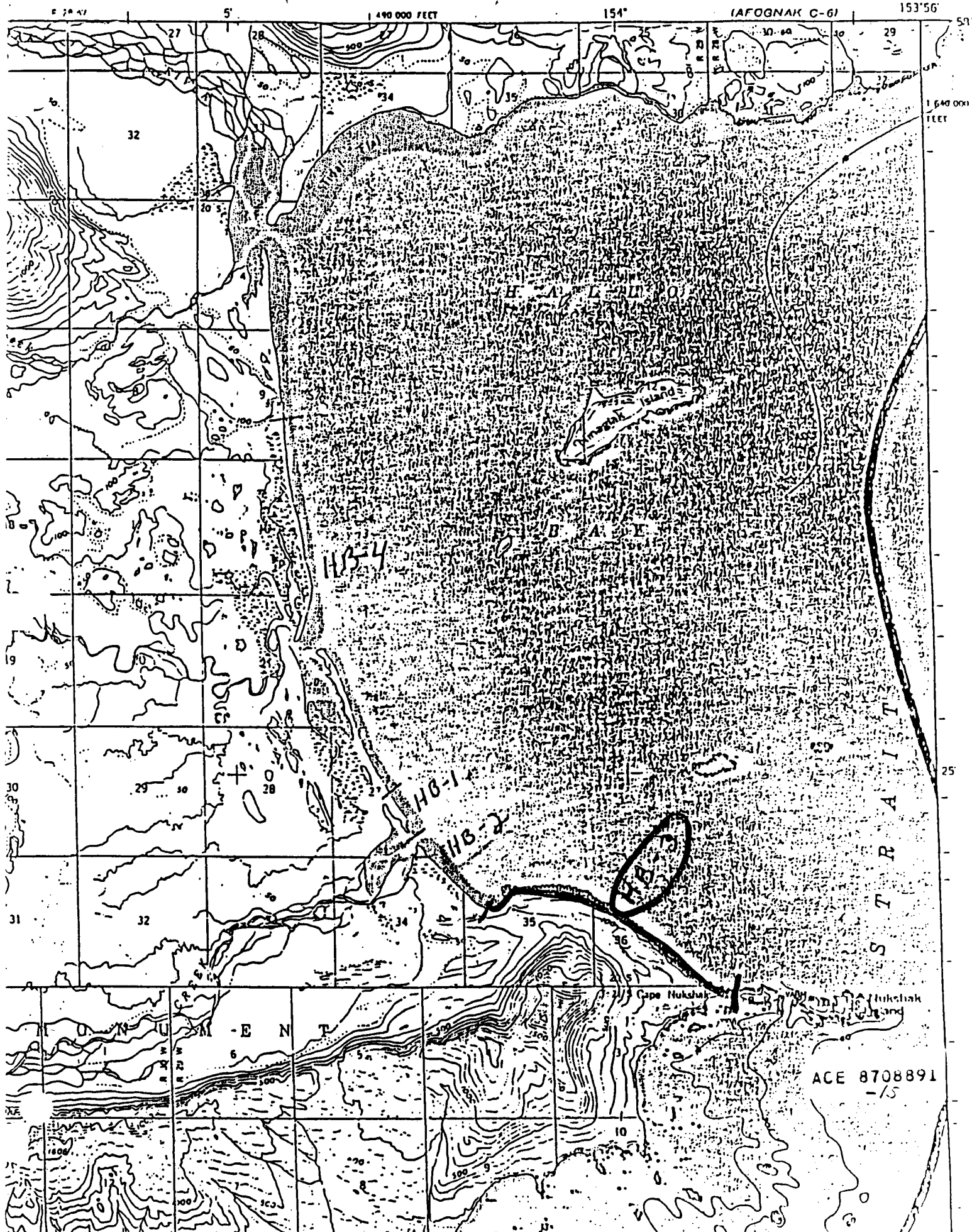
The cleanup procedures identified in the Shoreline Cleanup Program are recommended. Modifications to these systems can be made in the field. Exxon and other field personnel are encouraged to suggest innovations and productivity enhancements to the OSC's on-scene representative. The OSC's representative 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  
PWSA  
USFS  
SHPO

ACE 8708890



out JUL 20 1989

# SEGMENT INSPECTION RECORD

# COPY

ADEC # K9-19

Shoreline Segment: HB-2

Shoreline Treatment Process(es) Completed for this Segment

|                                          |                                                    |
|------------------------------------------|----------------------------------------------------|
| <input type="checkbox"/> Hot water wash  | <input type="checkbox"/> Mechanical                |
| <input type="checkbox"/> Warm water wash | <input checked="" type="checkbox"/> Non-mechanical |
| <input type="checkbox"/> Water deluge    | <input type="checkbox"/> 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 *Jim Wade* Date 7/14/89 Time

Printed Name Jim Wade

Existing Shoreline Condition As  
Visually Determined by USCG  
Surface Oil

|                                     |                  |
|-------------------------------------|------------------|
| Percent                             | Degree of Oiling |
| <input type="checkbox"/>            | Heavy            |
| <input type="checkbox"/>            | Medium           |
| <input type="checkbox"/>            | Light            |
| <input checked="" type="checkbox"/> | Very Light       |

100%

Subsurface Oil

☐ Yes ☒ No

Comment Below

☒ Reassessment  
☐ Yes - Necessary

☐ No - Not necessary unless re-oiled

ADEC Rep

Comments Survey conditions today are tide, but from

Signature *Clarke A. Pelz* Date 7-19-89 Time 6:20 PM

Printed Name Clarke A. Pelz

FOSC Rep Demobilization approved/disapproved

Comments See comments on reverse

Signature *Philip C Smith* Date 7/19/89 Time 1947

Printed Name Philip C Smith

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

ACE 8708892 #1

## HUEC Comments

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

NPS Comment  
Checked area to NE of Hella Creek. This area has some  
mound vegetation but checked area during high tide. Red mud  
to be checked at low tide. Check for debris for about 1/2 mile  
near creek. Red area looked pretty clean  
Will sign for. 7/19/89  
Nat. Park. Ser.

## NOAA SSC Comments

Small amounts 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 tide.

JCTalbot

JC Talbot, NOAA SSC

TYPE - A SHORELINE CLEANUP WORK ORDER

Date: 19 June 1989

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

Location: (Attach map) Halla Bay

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

Recommended Cleanup Activity(ies):

HB-2, 3, & 4 May 9, 1989

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. Rickner  
Exxon

Date: 19 Jun

State Historic Preservation Officer Telephone Approval (Required)

Date: See Attachments

Approved:

A. M. [Signature], LT. L. M. C.  
Assistant OSC Western Alaska (if appropriate)  
By direction

Date: 20 JUN 89

Approved:

[Signature]  
Federal On-Scene Coordinator

Date: 21 JUN 89

ACE 8708894 +/

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 5/13/89 SHORELINE SEGMENT HB-3

LOCATION: (see enclosed map) HALLO RAY

North side of Nuksak Point.

ADRC 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 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.

Douglas Reger  
State Historic Preservation Officer \*

Date: 5/13/89

EXXON: Jack A. Riskin

Date: 5/12/89

\* FOSC: \_\_\_\_\_

Date: \_\_\_\_\_

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

ACE 8708895

POOR QUALITY ORIGINAL

SHORELINE OIL EVALUATIONDate: 9 May 89 / Time: 1600Observer: Bob PuyonSurveyed From: Foot / Boat / Helio / PlaneWeather: Sun / Cloud / Rain / Snow / FogLOCATIONLOCATION North side of Nukshak Point, Hallow Bay SEGMENT NUMBER HB-3LENGTH OF SHORELINE SEGMENT: 4000 mACCESS: Foot / Vehicle / Boat / Barge / Helio / Float PlaneSHORELINE:Shoreline Type: SPI / BEA / COV / HLD / STRTSlope: LANG / HANG / VER  
with VER at H112Wave Exposure: High / Med / LowSediment: B 40 % / C 20 % / P    % / G    % / S    % / M    % / R 40 %Drift Debris on Beach: Yes / No Supra / Upper / Mid / Lower Type logsOILDegree of Oiling: Heavy / Moderate / Light / No Oil / UnobservedArea of Beach Impact: SU / SP / H / M / LContinuous: Y / N % of Segment 95 Width of Band: 5.20 mSporadic: Y / N % of Segment 5Est. Oil Thickness where > 1cm: 10 cm Est. Oil Penetration: None cmPooled Oil: 5 % "Free" Oil: 10 % Coated: H 70 % / M 15 % / L    %Fresh    % Mousse 100 % Tar Formation:    %Drift Debris Oiled? Yes / No Supra / Upper / Mid / Lower Amount: H / M / LComments:

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

DOCUMENTATION:Map/Aerial photo marking segment boundaries See attachedTR: Y/N Tape Number(s) \_\_\_\_\_Photography: Y/N Roll Number(s) None takenSample Numbers Collected: None



# ECOLOGICAL EVALUATION

LOCATION: North side of Nubshat Point, Hells Bay SITE: \_\_\_\_\_ OBSERVER: D. McCormick

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

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: light oiling at mid-FTZ - fucus/lam debris.

CLEANUP PRECAUTIONS: None, since no cleanup is recommended.

MAMMALS: Otters (2) Harbor Seals \_\_\_\_\_ Sea Lions \_\_\_\_\_ Whales \_\_\_\_\_  
Other \_\_\_\_\_

BIRDS: gulls, eagles

GENERAL OBSERVATIONS: This is a very high energy coast with moderate oiling - self-clearing.

9 May 89

nat HB-3

TIME 1600

SCALE

0 300 m

Y  
↓  
N

ape inuksuk

HB-3

START HB-3

HB-2

ID  
B-3

- moderate mouse in HITZ on cobbles & Boulders: LONG bedrock

- scattered bbls in HITZ

- v. high energy beach, very little debris

priority for cleanup - low

natural wave action will clean it

difficult to access due to cliff  
at Head of HITZ

difficult to clean in boulders & cobbles

ACE 8708900

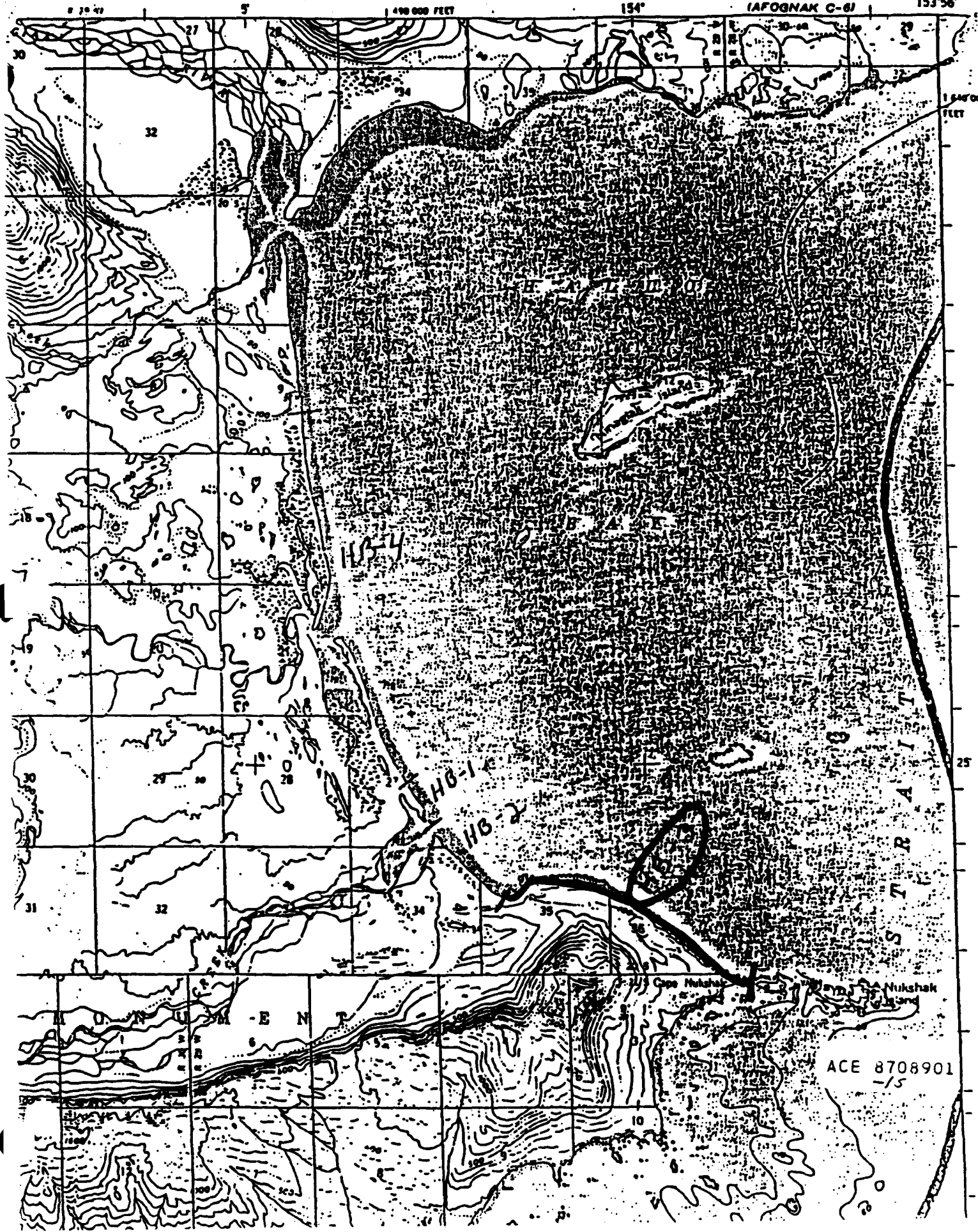
MT. KAIMAI (B-1) QUADRANGLE  
ALASKA

1:63,360 SERIES (TOPOGRAPHIC)

(AFOGNAX C-6)

(17)

153°56'



ACE 8708901  
-15

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 5/13/89

SHORELINE YETTER: HM

LOCATION: (see enclosed map) HALLS BAY

North side of Nuksak Point

ADEC NO. \_\_\_\_\_ SHORELINE ASSESSMENT DATE: \_\_\_\_\_

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 (self-cleaning). It is damaging to let waves clean beaches then walking on them.

Archeological Constraints (from site survey):

If heretofore undiscovered cultural artifacts are found during cleanup, contact Exxon's Archeological field office for actions prescribed in the Operational Guidelines for Cultural Cleanup dated 4/21/89 as amended.

*Douglas Reger*

State Historic Preservation Officer \*

Date: 5/13/89

EXXON: *Jack A. Rickman*

Date: 5/17/89

FOSC: \_\_\_\_\_

Date: \_\_\_\_\_

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

ACE 8708902 +/

POOR QUALITY ORIGINAL

(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. Rickman* 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

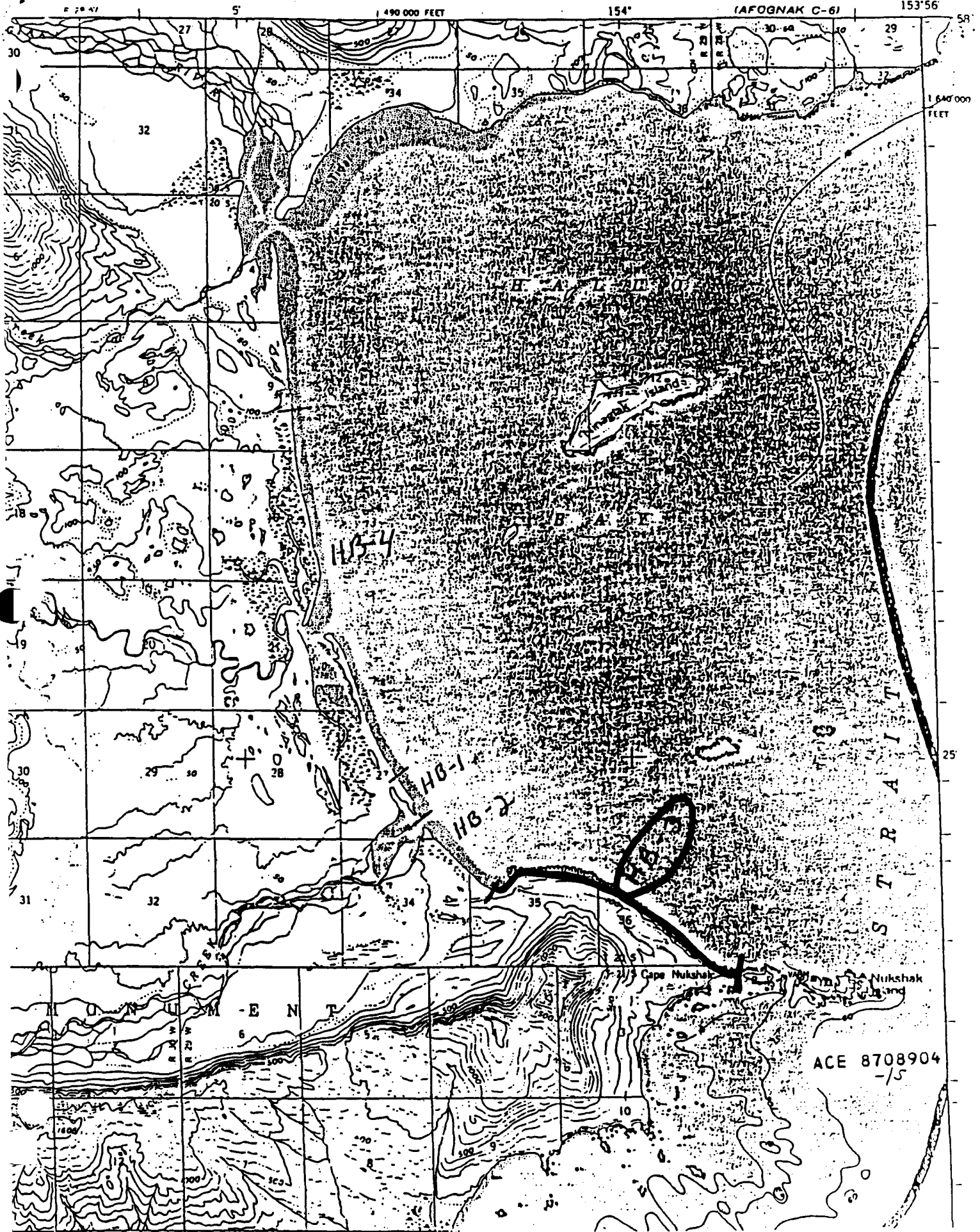
ACE 8708903

MT. KAIMAI (B-1) QUADRANGLE  
ALASKA

1:63 360 SERIES (TOPOGRAPHIC)

(17)

LAFO



TYPE A SHORELINE CLEANUP WORK ORDER

Date: 19 June 1989 Shoreline Segment: HB-1, HB-2, HB-3, HB-4

Location: (Attach map) Halla Bay

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

Recommended Cleanup Activity(ies):

HB-2,3,4 May 9, 1989

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. Rickner  
Exxon

Date: 19 Jun

State Historic Preservation Officer Telephone Approval (Required)

Date: See Attachments

Approved:

A. M. [Signature], LT. L. M. C.  
Assistant OSC Western Alaska (if appropriate)  
By direction

Date: 20 JUN 89

Approved:

[Signature]  
Federal On-Scene Coordinator

Date: 21 JUN 89

ACE 8708905

4/30/89

(version 5/02/89)

**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: 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.

Charles E. Adams  
State Historic Preservation Officer \*

Date: May 9, 1989

EXXON: Jack A. Riskin

Date: May 17, 1989

\* 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: 1530Observer: R. DuganSurveyed From: (Foot) Boat/Helio/PlaneWeather: (Sun) Cloud/Rain/Snow/Fog**LOCATION**LOCATION SOUTH SIDE  
HALLO BaySEGMENT NUMBER HB-1LENGTH OF SHORELINE SEGMENT: ~~400~~ 700 mACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane**SHORELINE:**Shoreline Type: SPI/(BEA) COV/HLD/STRTSlope: (LANG) HANG/VERWave Exposure: (High) Med/LowSediment: B    % / C    % / P 25 % / G    % / S 75 % / M    % / R    %Shift Debris on Beach: (Yes)/No(Supra/Upper) Mid/Lower Type logssea urchins  
dead birds**CL**Degree of Oiling: (Heavy) (Moderate) Light/No Oil/UnobservedArea of Beach Impact: SU / SP / (H) / (M) / LContinuous: (Y)/N % of Segment 75 Width of Band: 2-3 m1 ft 2Sporadic: Y/N % of Segment 25Est. Oil Thickness where > 1cm: 1-25 cm Est. Oil Penetration: 3 cmCollected Oil: 100 % "Free" Oil:    % Coated: H    % / M    % / L    %Fresh    % Mousse 100 % Tar Formation:    %Shift 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 - AFOGNAH

R: Y/N Tape Number(s) \_\_\_\_\_

Photography: Y/N Roll Number(s) T1B-9Sample Numbers Collected: None

## ECOLOGICAL EVALUATION

LOCATION: South Side  
Hollow Bay SITE: \_\_\_\_\_ OBSERVER: D. McCormick  
 LOCATION PREFIX: \_\_\_\_\_ SEG. NO.: H8-1 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: Laminaria / fucus at low tide zone oil free.

CLEANUP PRECAUTIONS: Manual cleanup of trash and only debris at wash line will not adversely impact mid-lower zones. Nonvertebrates observed.

MAMMALS: Otters \_\_\_\_\_ Harbor Seals \_\_\_\_\_ Sea Lions \_\_\_\_\_ Whales \_\_\_\_\_  
 Other \_\_\_\_\_

BIRDS: \_\_\_\_\_

GENERAL OBSERVATIONS: Primary concern here is oiled birds washing up on beach -- rough estimate is 125 birds in a 250m stretch of beach - some have been oiled and should be removed ASAP. Additional oiled birds observed with incoming tide

8 May 89

Segment: Halls Bay -1 (HB-1)

Time: 1530 - 1635

landed in H-3 w/ USCG

- Surveyed @ M-H tide

Note Roney  
with binoculars see Lanyon

scale

100 m

wx: clear

N ←

Ocean

Ocean

BEAT

Ridge

Bea #1 S=75%  
P=25%

HV

HV

- heavy oil in 2-3 meter band at

high tide line (lots of wood debris also noted)

- many dead birds

- HITZ - Heavy 1 to 25 cm

- mixed w/ sand/gravel

- MITZ - Scattered blobs, mostly

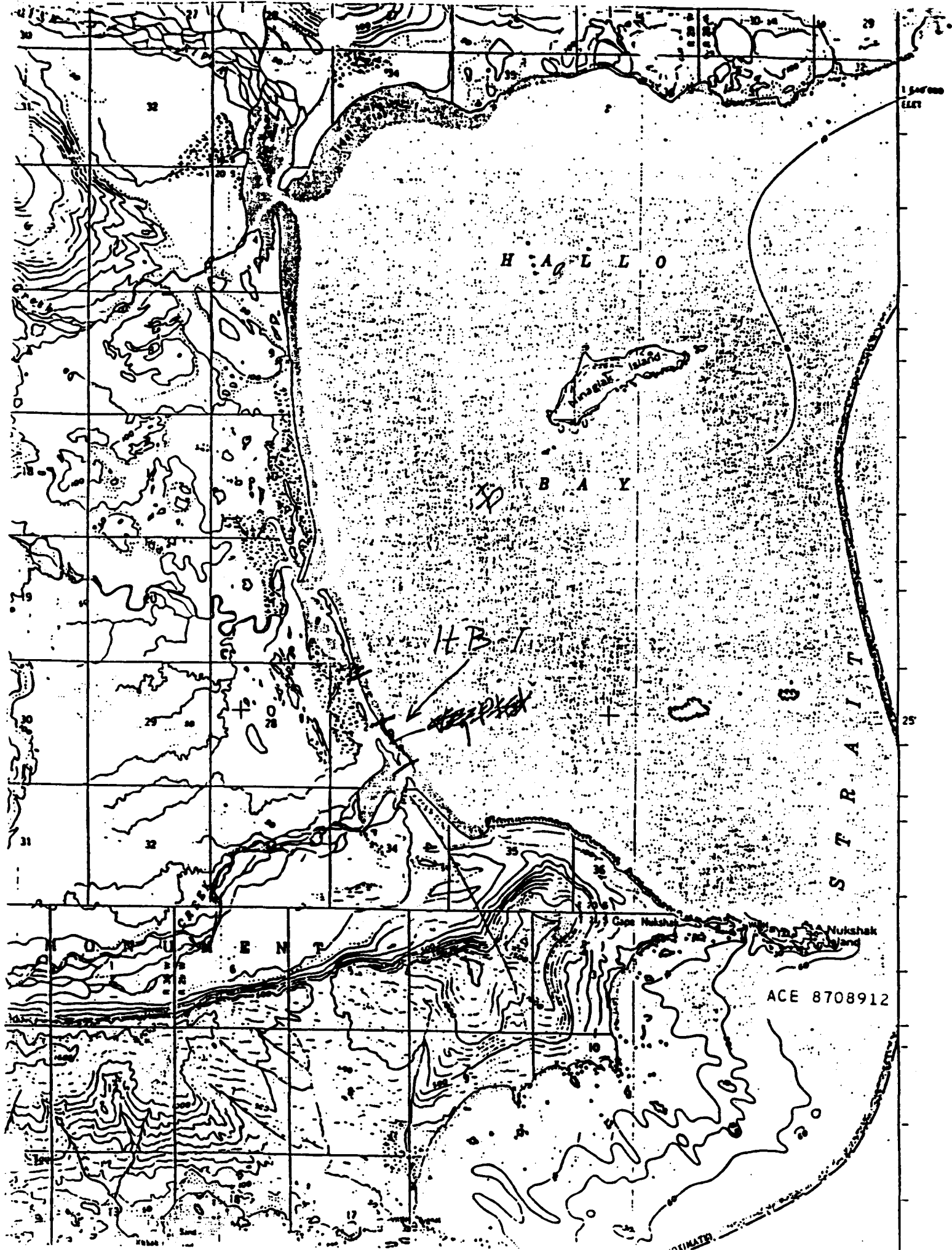
- oil doesn't penetrate but does

- manual scoop up

thick, continuing, 3 meter band

sand covered

get buried by wind/waves



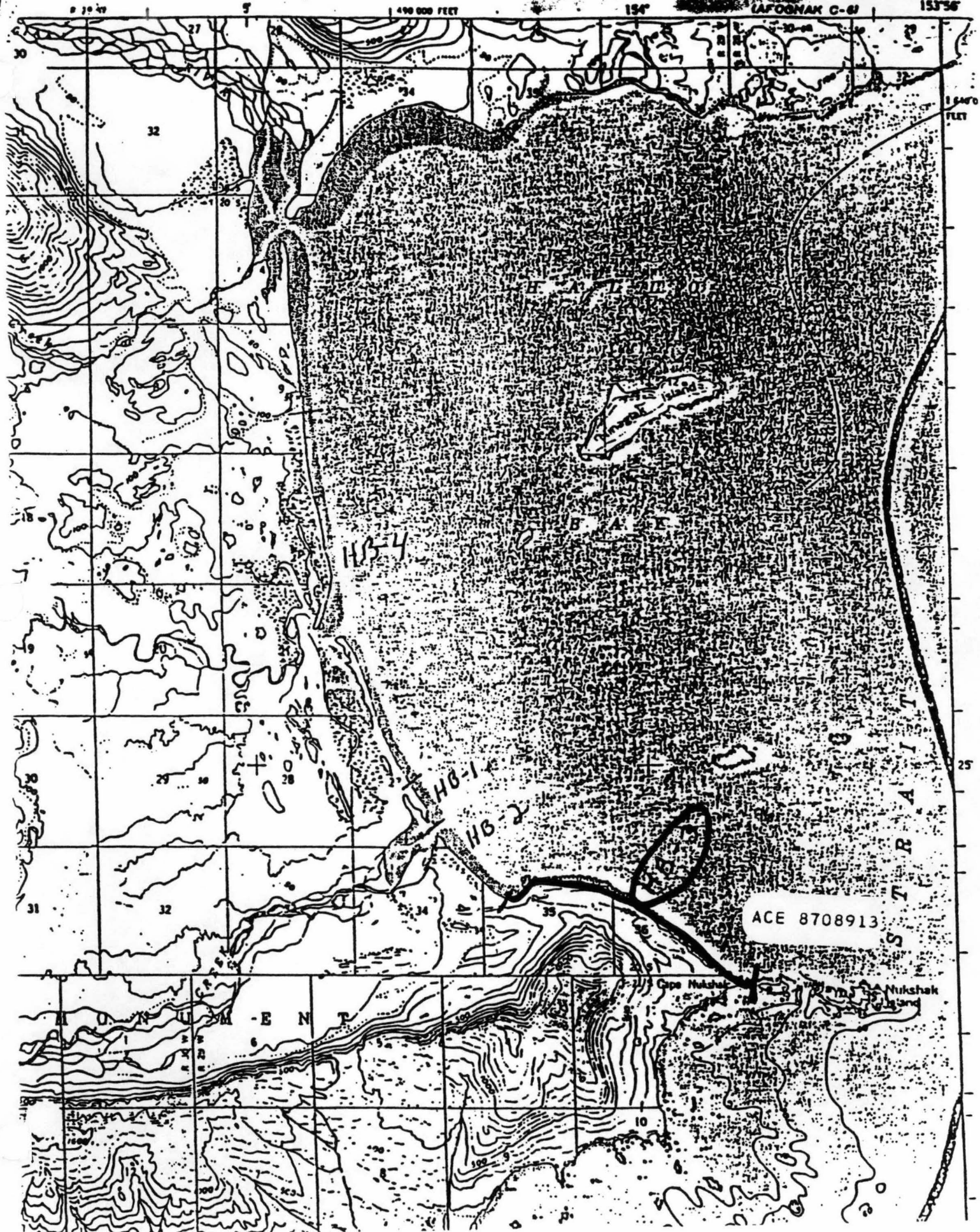


MT. KAIMAI (B-1) GUALKANGLE  
ALASKA

1:63,300 SERIES (TOPOGRAPHIC)

LAFOONAK C-61

153°56'



(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. Rickner 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  
PWSA  
USFS  
SHPO

ACE 8708914

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

Recommended Cleanup Activity(ies):

HB-2,3,4 May 9, 1989

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. Rickner  
Exxon

Date: 19 Jun

State Historic Preservation Officer Telephone Approval (Required)

Date: See Attachments

Approved:

A. M. [Signature]  
Assistant OSC Western Alaska (If appropriate)  
By direction

Date: 20 JUN 89

Approved:

[Signature]  
Federal On-Scene Coordinator

Date: 21 JUN 89

(A6)

4/30/89

ACE 8708915 -/5



(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE: 5/17/89 SHORELINE SEGMENT: RB-4

LOCATION: (see enclosed map) HALLO BAY

FORM NO. SHORELINE ASSESSMENT DATE:

Recommended Cleanup Activity (ies)

Manual pickup.

Priorities Considerations: HIGH

Oil being gradually buried.  
Intensive wildlife use area.

Biological Constraints (from site survey):

Waste. During manual cleanup avoid tracking or introducing oil/  
mousse in cleaner, low ITZ.

Biological Constraints (from site survey):

Removal of non-biodegradable cultural materials are uncovered during cleanup. Contact Exxon's Archeological Field Director and take action as outlined in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

The guidelines for type A cleanup of lightly oiled shorelines should be applied to this segment.

*Don J. Reger*  
State Wildlife Preservation Officer \*

Date: 5/13/89

EXXON: *Jack A. Rickner*

Date: 5/17/89

FOSC: \_\_\_\_\_

Date: \_\_\_\_\_

\* Signature required to satisfy stipulations in Alaska DNR  
Technical Guide for Oils and Submerged Lands.

ACE 8708916 +/S

POOR QUALITY ORIGINAL

(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. Ricken Date: 5/17/89  
(for Exxon)

FOSC Approval: \_\_\_\_\_ Date: \_\_\_\_\_

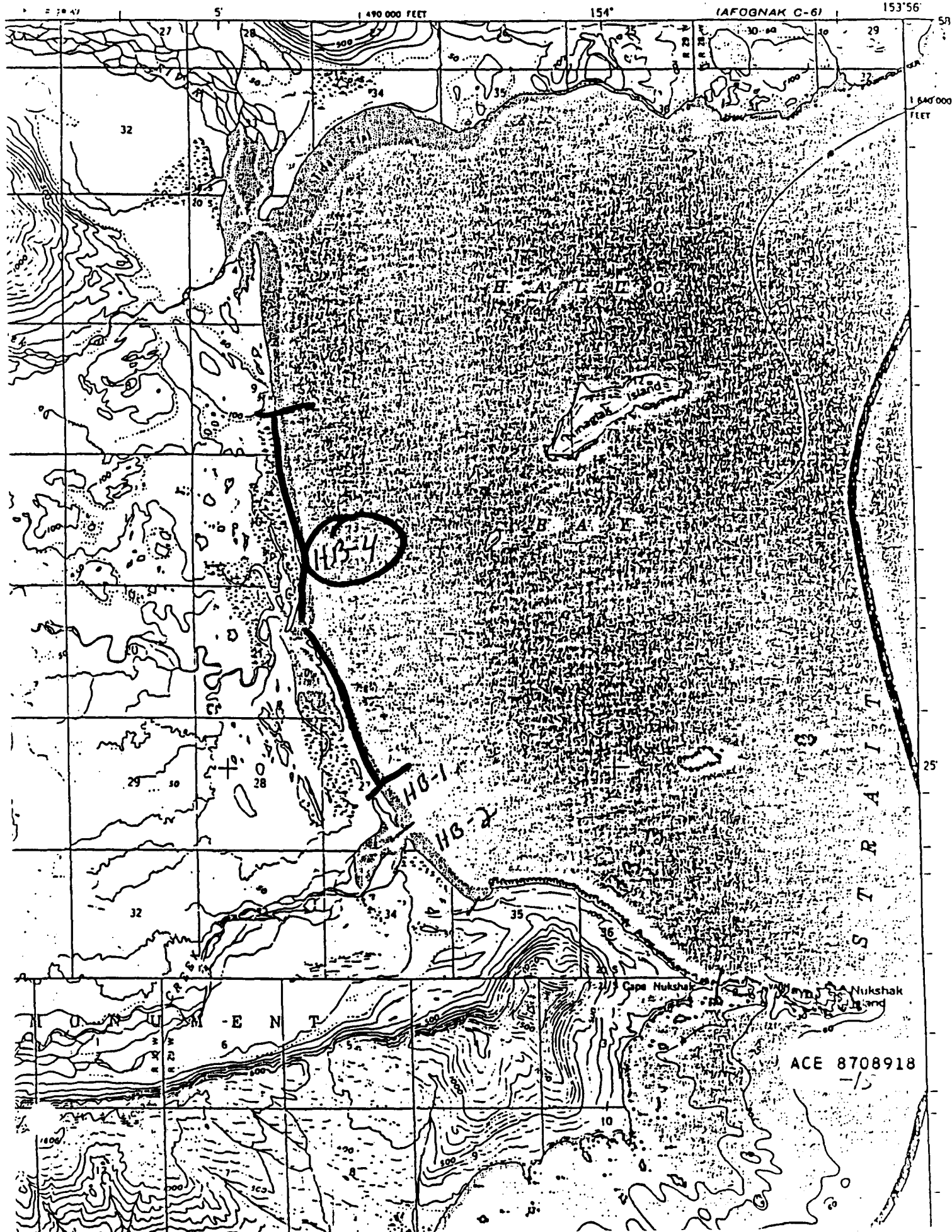
The cleanup procedures identified in the Shoreline Cleanup Program are recommended. Modifications to these systems can be made in the field. Exxon and other field personnel are encouraged to suggest innovations and productivity enhancements to the OSC's on-scene representative. The OSC's representative 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



(version 4/29/89)

SHORELINE CLEANUP PROGRAM

K9-19

DATE 5/9/89

SHORELINE SEGMENT HB-4

LOCATION: (see enclosed map) KALLO BAY

ADEC NO. \_\_\_\_\_ SHORELINE ASSESSMENT DATE: \_\_\_\_\_

Recommended Cleanup Activity(ies):

*Manual pickup*

Priorities Considerations:

*high - oil being gradually buried  
- intense wildlife use area*

Ecological Constraints (from site survey):

*None. During manual cleanup avoid tracking or introducing oil/mud 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 conditions for Type A cleanup or 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 .

ACE 8708919 -/-

SHORELINE OIL EVALUATIONDate: 7 May 89 Time: 1730Observer: Bob DuganSurveyed From: Foot Boat Helio PlaneWeather: Sun Cloud/Rain/Snow/FogLOCATIONLOCATION Hella BaySEGMENT NUMBER HB-4LENGTH OF SHORELINE SEGMENT: 5000 mACCESS: Foot/Vehicle Boat/Barge/Helio/Float PlaneSHORELINE:Shoreline Type: SPI BEA COV/HLD/STRTSlope: LANG HANG/VERWave Exposure: High Med/LowSediment: B \_\_\_ % / C \_\_\_ % / P 20 % / G \_\_\_ % / S 80 % / M \_\_\_ % / R \_\_\_ %Drift Debris on Beach: Yes/NoSupra Upper Mid/Lower Type logs  
seaweedOILDegree of Oiling: Heavy Moderate / Light / No Oil / UnobservedArea of Beach Impact: SU / SP / H / M / LContinuous: Y / N % of Segment 20 Width of Band: 1-3 mSporadic: Y / N % of Segment 80 Lt in H/M/LEst. Oil Thickness where > 1cm: 6 cm Est. Oil Penetration: 1-25 cmPooled Oil: 10 % "Free" Oil: 90 % 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/LT and lightly oiled over the northern  
4000 m.

Priority = high, Cleanup = manual

DOCUMENTATION:Map/Aerial photo marking segment boundaries See Attached.VTR: Y/N Tape Number(s) \_\_\_\_\_Photography: Y/N Roll Number(s) T1B-9Sample Numbers Collected: None

## ISLANDS (Locations)

## \* GEOLOGIC SEDIMENT TYPE

Naked Is. NA  
 Peak Is. PE  
 Stoney Is. ST  
 Eleanor Is. EL  
 Ingot Is. IN  
 Block Is. BL  
 Entrance Is. EN  
 Sphinx Is. SP  
 Disk Is. DI  
 Knight Is. KN  
 Smith Is. SM  
 Seal Is. SE  
 Applegate Is. AP  
 Green Is. GR  
 L. Green Is. LG  
 Agnes (Bass) Is. AB  
 L. Smith Is. LS  
 Gore Point GP  
 Montague Is. MN  
 Aguliak Is. AG  
 Squirrel Is. SL  
 New Year Is. NY  
 Murray Is. MU  
 Squire Is. SQ  
 Crafton Is. CR  
 Pt. Nowell PN  
 Junction Is. JU  
 Chenega Is. CH  
 Pleiades Is. PL  
 Bainbridge Is. BA  
 Flemming Is. FL  
 Evans Is. EV  
 Elrington Is. ER  
 Latouche Is. LA  
 Danger Is. DA

Boulder (>256mm) B  
 Cobble (64-256) C  
 Pebble (4-64) P  
 Granule (2-4) G  
 Sand (0.06-2) S  
 Mud (less 0.06) M  
 Rock R

## \*\* DEGREE OF OILING

Heavy HV  
 Moderate MD  
 Light LT  
 No Oil NO  
 Unobserved UN

## AREA OF BEACH IMPACT

Supratidal (+SHWL) SU  
 HWL to SHWL SP  
 Upper 1/3 ITZ H  
 Middle 1/3 ITZ M  
 Lower 1/3 ITZ L

## ADEC IMPACT SURVEY

Heavy HVY  
 Moderate MOD  
 Light LT  
 No Oil NO  
 Unobserved UNOBS

## SHORELINE TYPE

Beach BEA  
 Cove COV  
 High Angle HANG  
 Low Angle LANG  
 Vertical VER  
 Headland HLD  
 Spit SPI

## Comments:

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

\*\* 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)

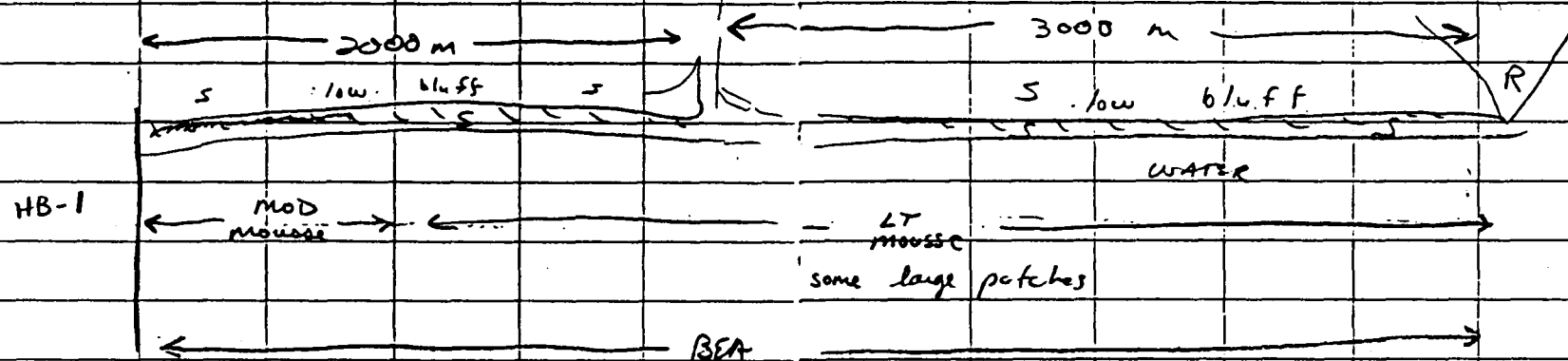
ACE 8708922

9 May 89

TIME - 1730

Segment: HB-4, helicopter, foot

tide : near high tide river



BEA - continuous, sandy beach

oiling - south 1000 m has moderate mouse, 90% at HITZ stand line, 10% scattered in LT HITZ

occurrence - occurs as blobs, patchy, dead birds

status - melts into sand in direct sunlight

Priority - lots of JLO immediate high priority (numerous bears in area, sighted 2)

Cleanup - manual pickup, ATV or Rolligon would help offloading

- use flat wash shovel

ACE 8708923

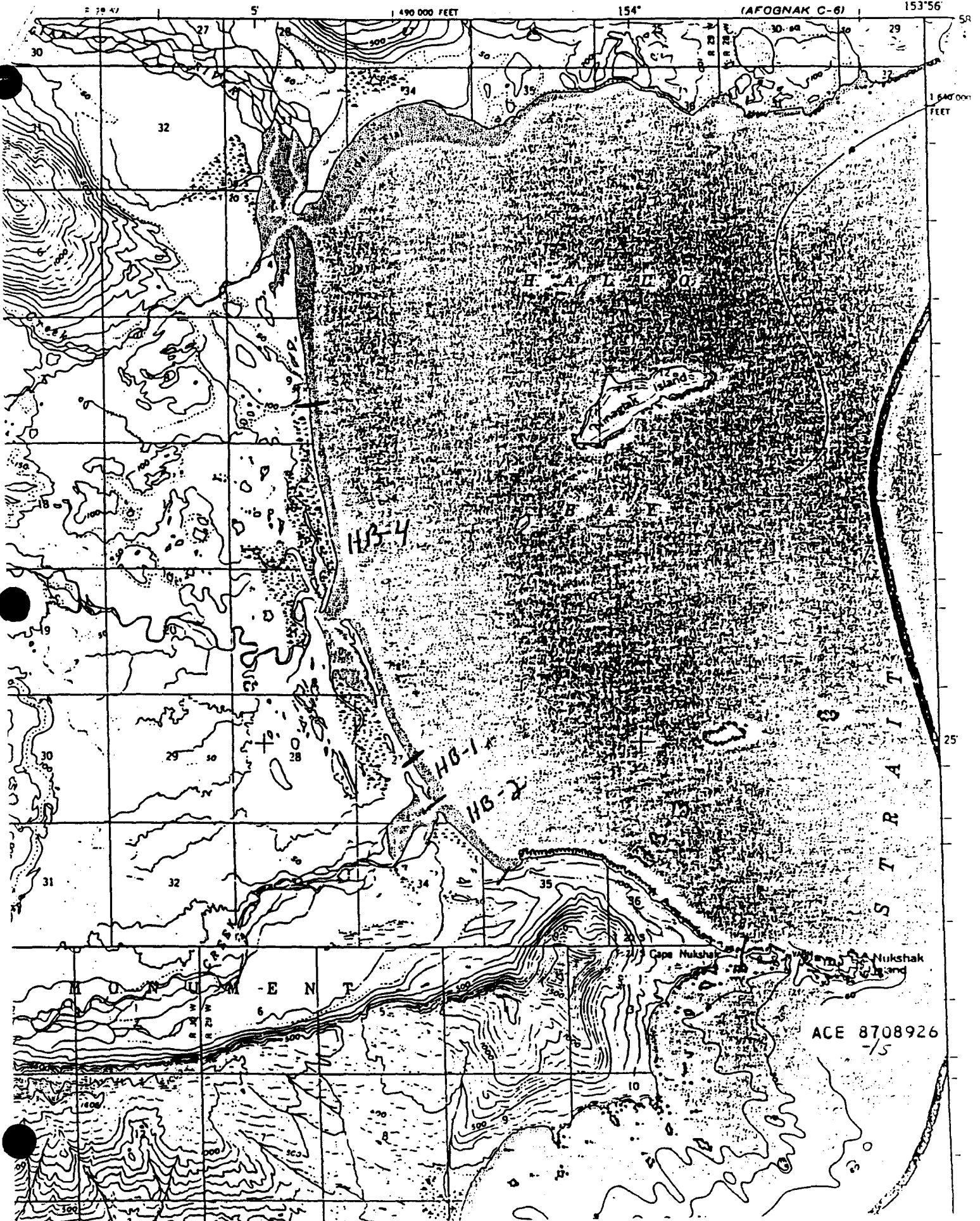


## ECOLOGICAL EVALUATION

LOCATION: Hells Bay SITE: \_\_\_\_\_ OBSERVER: D. McCormickLOCATION 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 LowSUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

## LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NFucus and Laminaria present as debris only in mid-high tide zones.Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NMyt present as debris only at strand line.Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NLittorinaPatchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NLimpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NOTHER OBSERVATIONS: Oiled birds washing in with tide (2); major clam shells -  
Clam beachesCLEANUP PRECAUTIONS: NoneMAMMALS: Otters \_\_\_\_\_ Harbor Seals \_\_\_\_\_ Sea Lions \_\_\_\_\_ Whales \_\_\_\_\_  
Other Bear (1) at headBIRDS: Hawk (1)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.



# SEGMENT INSPECTION RECORD

COPY

ADEC # K9-19

Shoreline Segment: HB-4

Shoreline Treatment Process(es) Completed for this Segment

|                                          |                                                    |
|------------------------------------------|----------------------------------------------------|
| <input type="checkbox"/> Hot water wash  | <input type="checkbox"/> Mechanical                |
| <input type="checkbox"/> Warm water wash | <input checked="" type="checkbox"/> Non-mechanical |
| <input type="checkbox"/> Water deluge    | <input type="checkbox"/> 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 *Jim Wade* Date 7/14/89 Time

Printed Name Jim Wade

Existing Shoreline Condition As  
Visually Determined by USCG  
Surface Oil

|                                     |                  |
|-------------------------------------|------------------|
| Percent                             | Degree of Oiling |
| <input type="checkbox"/>            | Heavy            |
| <input type="checkbox"/>            | Medium           |
| <input type="checkbox"/>            | Light            |
| <input checked="" type="checkbox"/> | Very Light       |

100%

Subsurface Oil

☐ Yes ☒ No

Comment Below

☒ Reassessment  
Yes - Necessary

☐ No - Not necessary unless re-oiled

ADEC Rep

Comments Same conditions were poor for an inspection today

Signature *Clarke A. Peltz* Date 7-19-89 Time 6:40 PM

Printed Name Clarke A. Peltz

FOSC Rep Demobilization approved/disapproved

Comments see comments on reverse.

Signature *Philip C. Smith* Date 7/19/89 Time 1944

Printed Name Philip C. Smith

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

HVEL Comment

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

JCTalbot

JC TALBOT, NOAA, SSC

(version 5/02/89)

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.

  
State Historic Preservation Officer \*

Date: 8/7/89

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: <sup>1230</sup>1540 3. Observer: DUNICAN M Fitzgerald  
 4. Surveyed From: Foot/Boat/Helio/Plane 5. Weather: Sun/Cloud/Rain/Snow/Fog  
 6. Location: Northern Haly Bay 7. Segment #: K-9-19-HB-5  
 8. Length of shoreline segment: 11,100 yds 9. Tidal Stage  $\pm$         ft.  
 10. Access: Foot/Vehicle/Boat/Barge/Helio/Float Plane  
 11. Total Percentage of Segment Accessible: 95 %  
 12. Access Restrictions: difficult at some headland regions

**B. Shoreline**

13. Shoreline Type: SPI/BEA/COV/HLD/STRT/CLF/DAF  
 14. Slope: LANG/HANG/VERT  
 15. Wave Exposure: High/Med/Low  
 16. Sediment: B15 % / C20 % / P15 % / G10 % S30 % / M % / R10 %  
 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: 1-2 yds  
     Continuous: Total % of Segment 0  
     Sporadic: Total % of Segment 25  
     No Oil: Total % of Segment 75  
 20. Est. Oil Thickness where >1in: — in 21. Est. Oil Penetration: — in  
 22. Pooled Oil: — % "Free" Oil: — % Coated: H % / M % / L 100 %  
 23. Fresh — % Mousse 1 % Tar Formation: 100 %  
 24. Drift Debris Oiled? Yes/No Sup/Up/Mid/Low Amount: — H/M/L

**Comments:**

Most of this shoreline is free of oil and the areas that do have  
oil, the condition is very light and sporadic. At the eastern end of the segment  
the oiling consists of two spots on boulders and very sporadic mousse patches.  
Along the southern beach very sporadic two balls were found along the shore high tide  
and spring high tide drift line. Due to the lack of oil in this area, no cleanup  
is recommended.

SEE PAGE 2 FOR SUPPLEMENTAL INFORMATION

SUPPLEMENTAL SHORELINE OIL EVALUATION25. Oil Type

|           |           |   |
|-----------|-----------|---|
| Fresh     | _____     | % |
| Mousse    | _____     | % |
| Weathered | <u>2</u>  | % |
| Tar       | <u>98</u> | % |
|           | 100       | % |

26. Total Oil Coverage

|             | Length(yd)     | Width (yd)    |
|-------------|----------------|---------------|
| Very Light: | <u>2000 yd</u> | <u>1-2 yd</u> |
| Light:      | _____          | _____         |
| Moderate:   | _____          | _____         |
| Heavy:      | _____          | _____         |

27. Oil Distribution

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

| SP | H | M | M | Thick<br>>1in | Length(yd) | Width(yd) | Burial<br>Depth |
|----|---|---|---|---------------|------------|-----------|-----------------|
| ✓  | ✓ |   |   |               | 500        | 1-2 yd    |                 |
| ✓  | ✓ |   |   |               | 1500       | 1 yd      |                 |

28. Preliminary Cleanup Est.

Total TYPE A: \_\_\_\_\_ yds.  
Total TYPE B: \_\_\_\_\_ yds.  
Total TYPE A/B: \_\_\_\_\_ yds.

*NO Cleanup recommended*29. Remobilization Potential: High/Medium/LowDOCUMENTATION:Map/Aerial photo marking segment boundaries See AttachedVTR: Y/N Tape Number (s) \_\_\_\_\_Photography: Y/N Roll Number (s) DMC-27

Additional Comments:

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## ECOLOGICAL EVALUATION

NORTHEAST

LOCATION: HALLS BAY SITE: \_\_\_\_\_ OBSERVER: D. McCormickLOCATION PREFIX: K-9-19-HB SEG. NO.: 5 LENGTH: 11, 100 (M)DATE: 8/6/89 TIME (HHMM): 1230 TIDE HT.: +1.0 Ft. (M)OILED ZONE: Splash High Medium LowSUBSTRATUM: 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)LittorinaPatchy (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: Kelp beds of Laminaria, Halosaccus, Ulva, Endocladia, Phyllospora, Aurelia, Cyanea, jellyfish, Shells of Saxidomus, Clinocardium, Derogenes, crabs, razor clams. Major salmon stream (pink/chum). Extensive clam beds.CLEANUP PRECAUTIONS: None since no cleanup is recommendedMAMMALS: Otters \_\_\_\_\_ Harbor Seals \_\_\_\_\_ Sea Lions \_\_\_\_\_ Whales \_\_\_\_\_  
Other Fox, 5 Ursus arcticusBIRDS: saw 4 eagles (+1 dead one on beach - adult - not oiled), yellowlegs gullsGENERAL OBSERVATIONS: Oil occurs here as very light splatter or oily debris in the upper zone with an occasional mousse patch. Due to very sensitive bear habitat and light oil conditions no cleanup is warranted



INAGIAK

1:500,000  
FEET

clean

very light

← chum/pink salmon stream

← a few tree patches

H A L L O

← very light  
v. sporadic tree patches

B A Y

K-9-19-HB-5

Walked Entire  
Segment

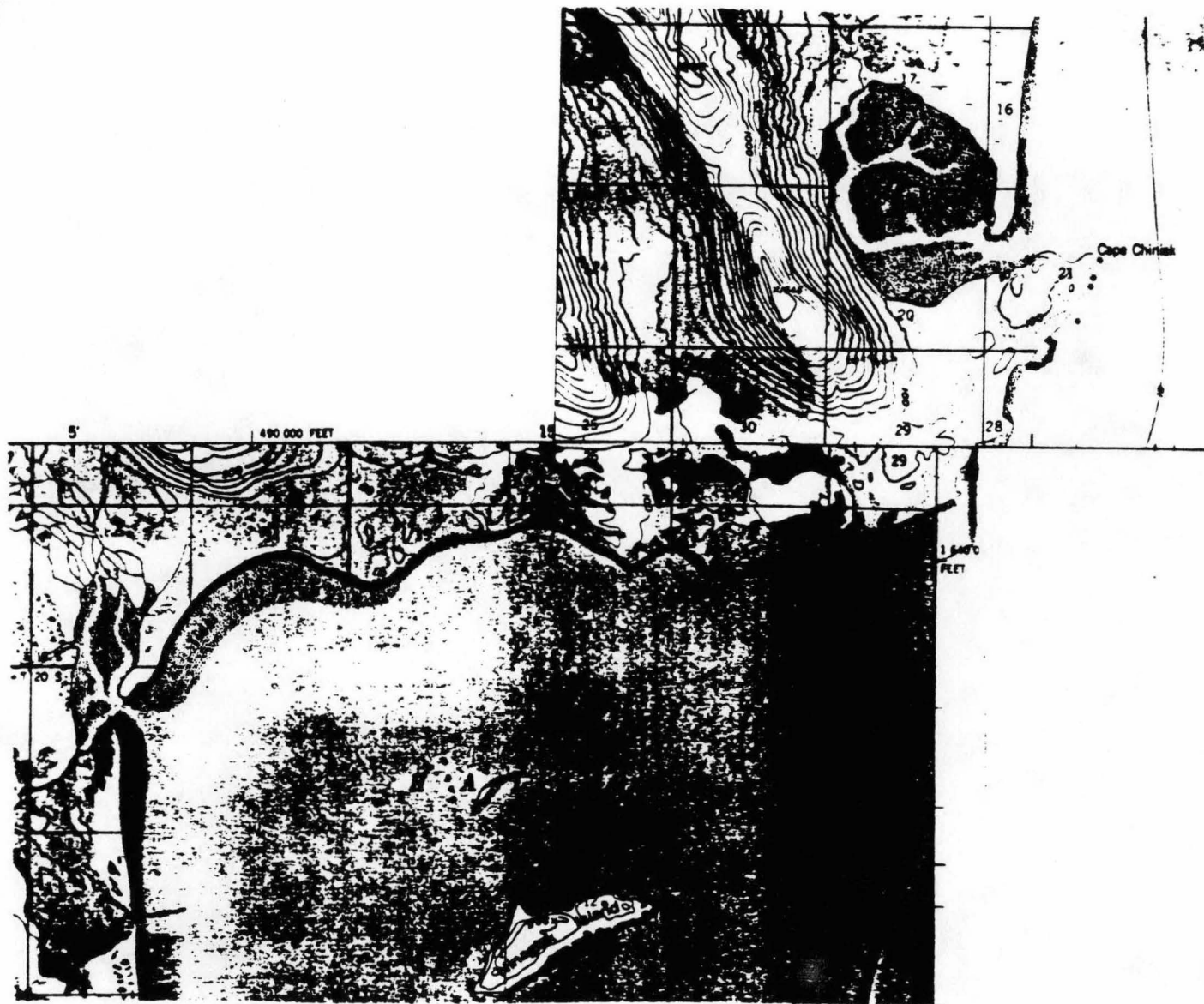
S T R A I T

M O N U M E N T

Yugmat Rocks

ACE 8708934

K-9-19-HB-5



----- No oil observed  
----- V. Light  
----- Light  
----- Moderate  
----- Heavy

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 8/07/89

SHORELINE SEGMENT K9-19-HB-50

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

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

Recommended Cleanup Activity(ies):

- Manual wiping of oiled rocks and mousse pools.
- Manual removal of oiled beach debris and surface sediments (sand and gravel).
- 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.

  
State Historic Preservation Officer \*

Date: 8/7/89

EXXON: \_\_\_\_\_

Date: \_\_\_\_\_

FOSC: \_\_\_\_\_

Date: \_\_\_\_\_

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

ACE 8708936 +/

**SHORELINE OIL EVALUATION**

Date: 07/21/89 Time: 10:10  
 Surveyed From: Foot/Boat/Helio/Plane

Observer: RICK GILLIE  
 Weather: Sun/Cloud/Rain/Snow/Fog

**CATION**  
 Location: NINAGIAK ISLAND Segment ID: K09-19-HB-50  
 Segment Length: 4800 m. Access: Vehicle Boat/Barge/Helio/Float Plane  
 Access Restrictions: EXPOSED TO EAST AND NORTH

**SHORELINE**

Shoreline Type: SPI/BEA/COV/HLD/STRT Slope: Lo/Med/H/Vert  
 Wave Exposure: High/Med/Low  
 Sediment: B 20 % / C 10 % / P 10 % / G&S    % / M    % / R 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 H/M/L/VL  
 Sporadic % of Segment 5 SU/SP/H/M/L H/M/L/VL

| Total       | Length(m)  | Width(m)   | Thickness >1cm:     | cm           | SU/SP/H/M/L |
|-------------|------------|------------|---------------------|--------------|-------------|
| Very light: | <u>300</u> | <u>1</u>   | <u>5</u>            | cm           | SU/SP/H/M/L |
| Light:      | <u>100</u> | <u>1-2</u> | Penetration/Rework: | <u>5</u> cm  | SU/SP/H/M/L |
| Moderate:   | <u>  </u>  | <u>  </u>  | Burial Depth:       | <u>  </u> cm | SU/SP/H/M/L |
| Heavy:      | <u>  </u>  | <u>  </u>  |                     |              |             |

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

**OIL MORPHOLOGY**

| Morphology      | %         | H/M/L/VL | SU/SP/H/M/L |
|-----------------|-----------|----------|-------------|
| Pooled Oil:     | <u>1</u>  |          | SU/SP/H/M/L |
| "Free" Oil:     | <u>  </u> |          | SU/SP/H/M/L |
| Splattered:     | <u>50</u> | H/M/L/VL | SU/SP/H/M/L |
| Coated:         | <u>  </u> | H/M/L/VL | SU/SP/H/M/L |
| Pancakes/Balls: | <u>49</u> |          | SU/SP/H/M/L |

**Preliminary Cleanup Est.**

Total TYPE A: 400 m  
 Total TYPE B:    m  
 Total TYPE A/B:    m

**OIL WEATHERING**

| Weathering        | %         | SU/SP/H/M/L |
|-------------------|-----------|-------------|
| Fresh:            | <u>  </u> | SU/SP/H/M/L |
| Mousse:           | <u>20</u> | SU/SP/H/M/L |
| Weathered Mousse: | <u>30</u> | SU/SP/H/M/L |
| Asphalt Mousse:   | <u>30</u> | SU/SP/H/M/L |
| Far:              | <u>20</u> | SU/SP/H/M/L |

**COMMENTS**

- ① VERY LIGHT OILING EXCEPT FOR LIGHT OIL BAND (1-2 M WIDE) 60 M LONG ON EAST SIDE OF SPIT (NW side of island)
- ② SEE FIELD NOTES AND DETAILED MAP (TO BE PHOTOCOPIED)

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

## NINAGIAK ISLAND (Hollo Bay)

- drop anchor at 09:14

- LT @ 11:05 (-33)

10% - Land on island a cusped foreland  
on NW side

### Site 1

- Cusped Spit

- West side - rare mouse patches

- V. light along HTZ  
- sand/gravel HTZ

- asphalt patches / tar balls v. rare

- conc. along HTZ - between  
driftwood

- tar balls / asphalt 5-10 cm diameter / one every  
10 m of beach

- very large wave-cut platform at  
LT?

- on rocks / boulders to the south is v. light  
tar light splatter / mouse

### N.B. East side

- oil band above HTZ to Supratidal!

- 1 m wide - 60 m long

- mouse / shallow pooled oil

- mouse - 10 cm thick

- oiled logs & debris (dead brush)

- fades out to the east

- also oiled debris - driftwood

### ② Site 2

- oil splatter at M-HTZ

- mouse coating, approx 5% of  
HTZ

- discontinuous band

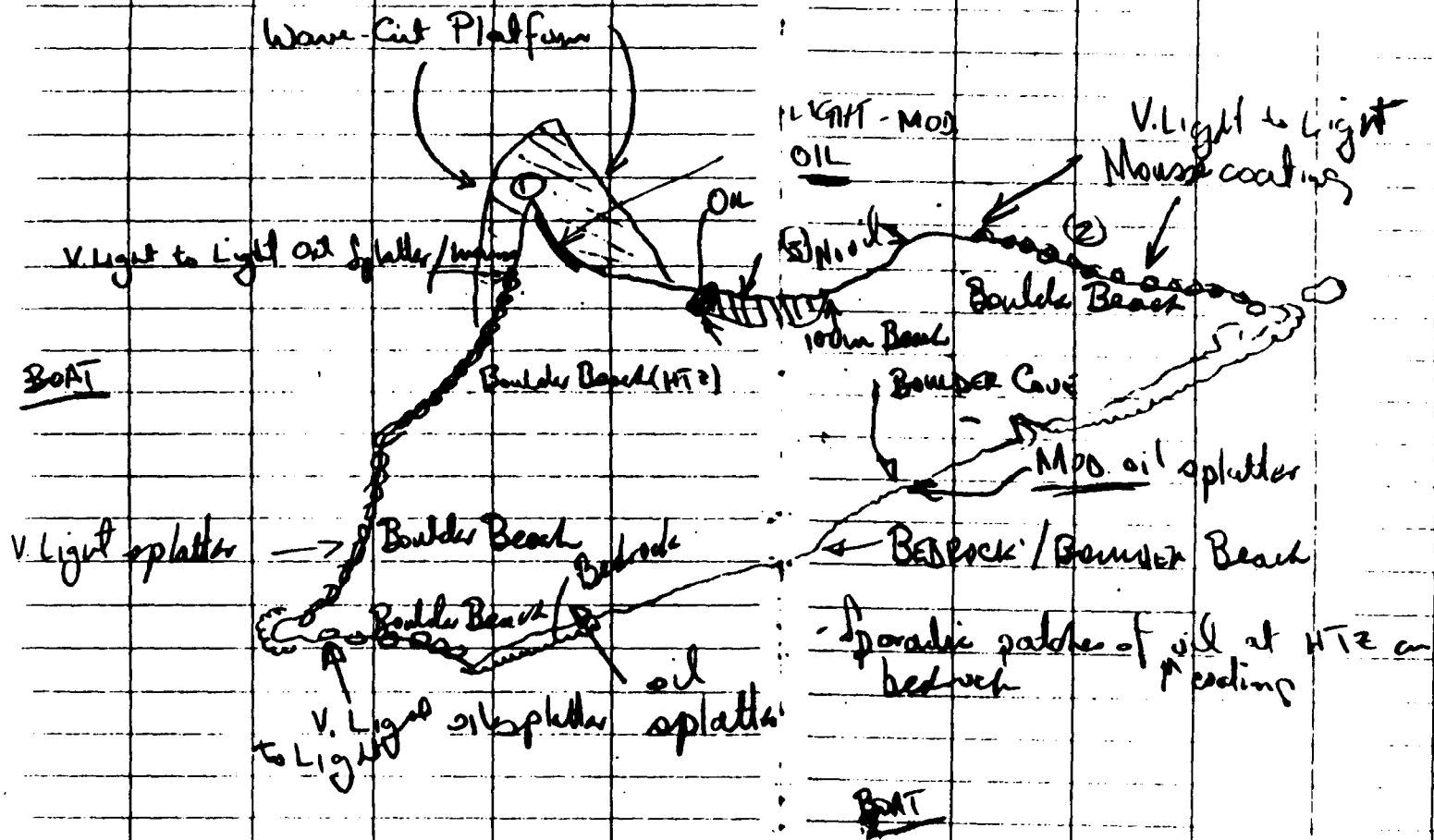
- wipe - absorbent

- small pool of mouse

### Site 3

- sand beach with oil at west end  
12.30 Finish island

# NINAGIAK ISLAND



## ECOLOGICAL EVALUATION

LOCATION: Hallo Bay SITE: NINAGIAK Island OBSERVER: J. Tarpley  
 LOCATION PREFIX: K9/HB SEG. NO.: K9-19-HB-50 LENGTH: \_\_\_\_\_ (M)

DATE: 7/21/89 TIME (HHMM): 1010-1200 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

Fucus only on North side of Island: Other algae includes Laminarians, Porphyra, Cladophora, Fleshy Reds, Ulva

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

Mytilus seen only on North side sandy isthmus at base of boulder slope. Mid-tide  
↳ very patchy but dense on south side of island.

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

Continuous around island

## Littorina

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

High ITZ North side - Littorina, Nucella, Margarites abundant.

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

High ITZ North side

OTHER OBSERVATIONS: Clam beds on North side of island → Saxidomus, Razor, Little Nereis  
Cockles; 2 Land Otters seen on South side of island in ITZ. (1 foraging, 1 in interden);

CLEANUP PRECAUTIONS: Avoid oil contamination of low ITZ/Bears on beaches/On North side  
of Island avoid walking into log line and grass due to seabird nests on the ground.

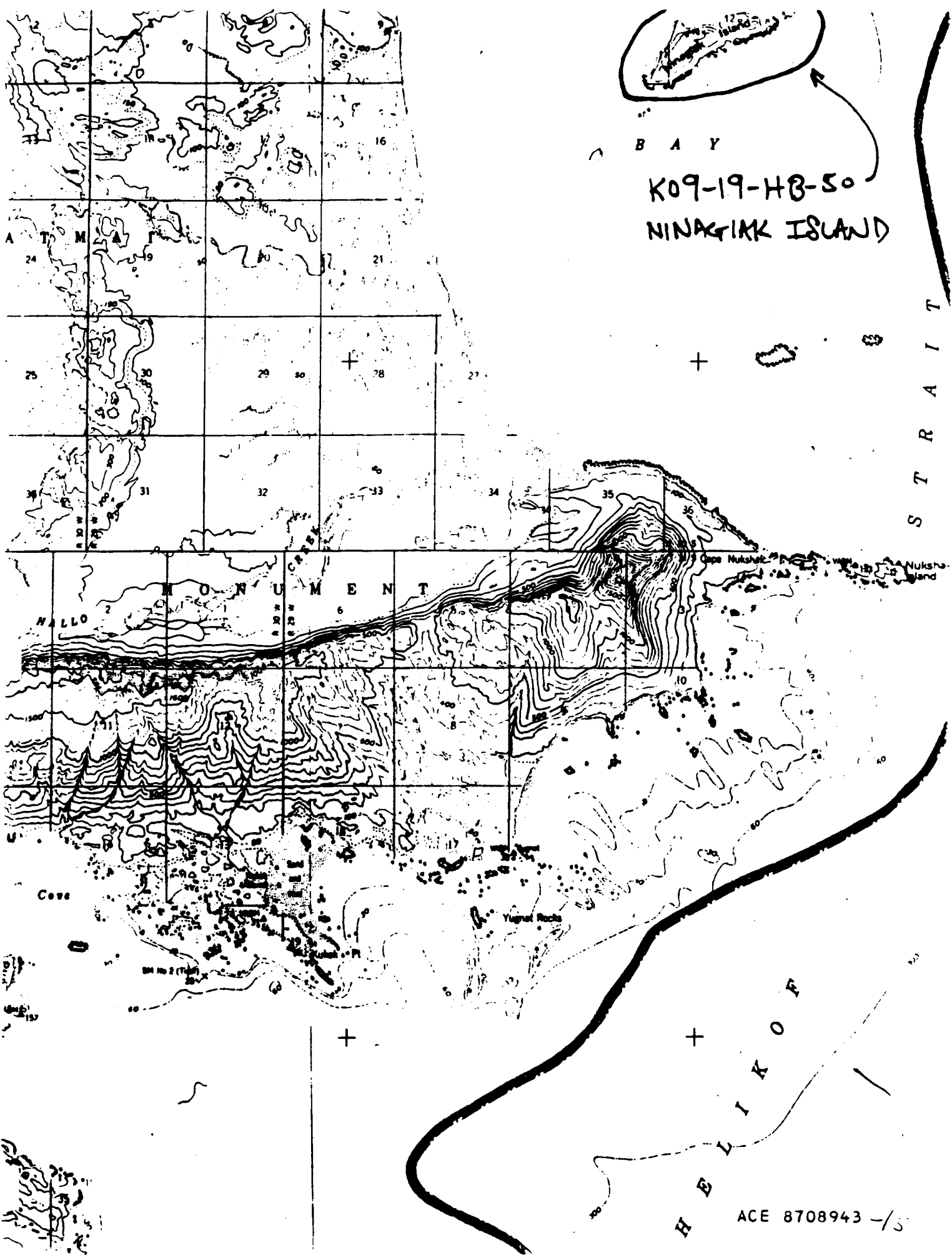
MAMMALS: Otters \_\_\_\_\_ Harbor Seals \_\_\_\_\_ Sea Lions \_\_\_\_\_ Whales \_\_\_\_\_  
 Other 2 Land Otters in ITZ

BIRDS: 2 dead oiled birds - Island is nesting colony for Glaucous-winged Gulls; Oystercatchers, Tufted Puffins, Horned Puffins, Pigeon Guillemots

GENERAL OBSERVATIONS: Sand covered wave cut bedrock isthmus from Island to Marsh.

Beach on North side sandy. West, south, & east sides of island are boulder & bedrock cliffs. Fresh water  
seeps run out onto north beach. 22 bears & cubs observed on Hallo Bay beach!  
This island is a large seabird nesting colony for Glaucous-winged gulls, Horned & Tufted Puffins,  
Pigeon guillemots and Black oystercatchers. 1 <sup>Gull</sup> egg found in nest on beach.





**KODIAK SHORELINE PRIORITY FORM**Date: 8/14/89Shoreline Segment ID Number: K9-19-D037Description (8 words or less): Small island and reef north of Ninegiak IslandOil Contamination Level: Heavy / Moderate / Light / Very Light / None ObservedNatural Resources Present (Circle One): Yes / NoSocioeconomic Resources Present (Circle One): Yes / NoESI Shoreline Index (Circle All That Apply): 1 2 3 4 5 6 7 8 9 10

Natural Resource Present (Check all applicable)

- |                                                                              |                                                                |
|------------------------------------------------------------------------------|----------------------------------------------------------------|
| <input type="checkbox"/> Sea Lion rookeries                                  | <input type="checkbox"/> Brown bear habitat                    |
| <input type="checkbox"/> Sea Otter concentration area                        | <input type="checkbox"/> Shorebird staging areas - spring fall |
| <input checked="" type="checkbox"/> Seal pupping/molting area haul out       | <input type="checkbox"/> Waterfowl staging areas - spring fall |
| <input checked="" type="checkbox"/> Anadromous fish streams/intertidal areas | <input type="checkbox"/> Peregrine Falcon nests                |
| <input type="checkbox"/> Bald eagle nests                                    | <input checked="" type="checkbox"/> Mussels/Clams              |
| <input checked="" type="checkbox"/> Seabird colonies                         | <input type="checkbox"/> Sea Lion haulouts                     |
| <input type="checkbox"/> Herring spawning areas                              |                                                                |

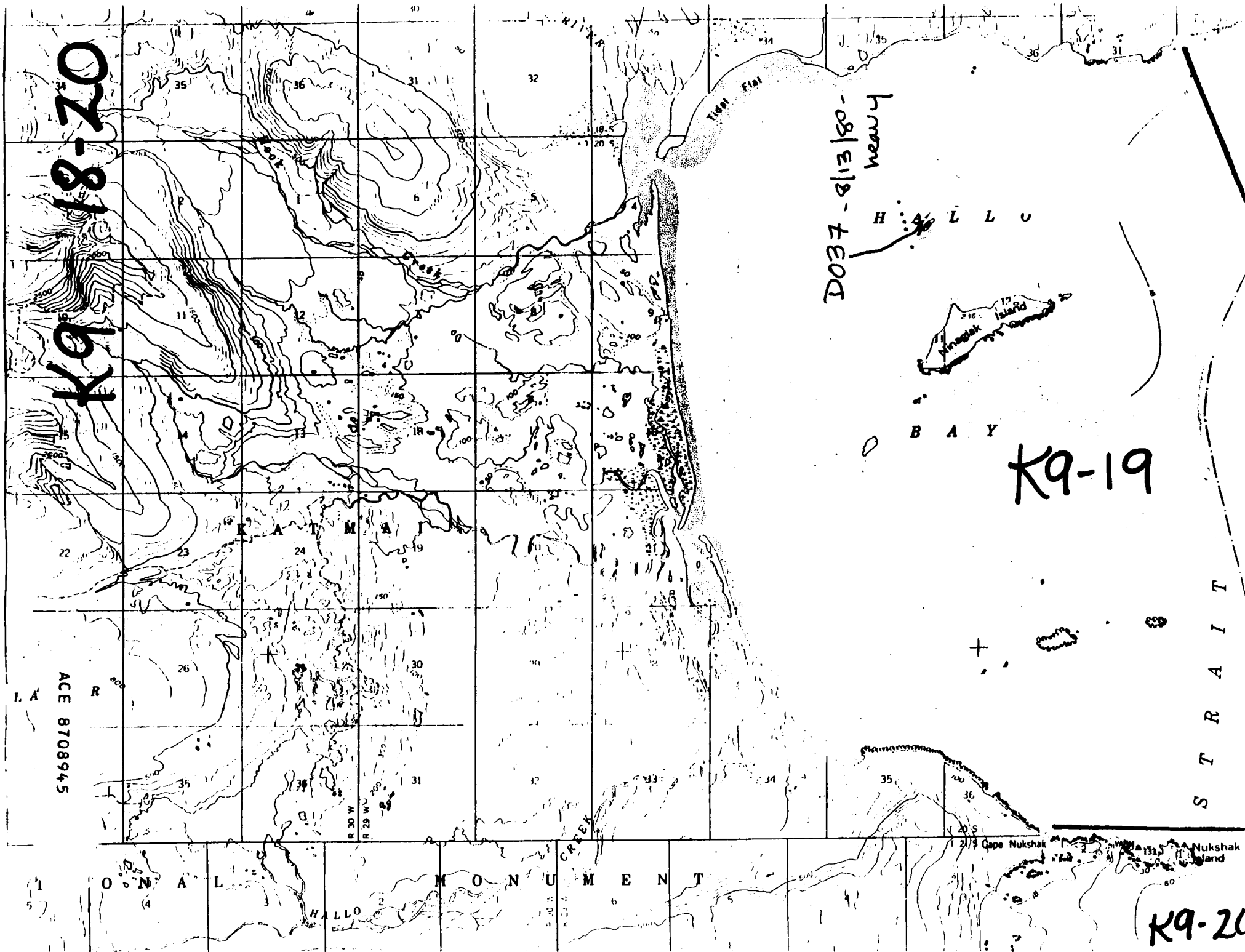
Most Vulnerable Time Period: June - sea gull hatching & fledging

Socioeconomic Values (Check all applicable):

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

Comments (e.g. Legal Mandates):

NPS Enabling Legislation 1916Presidential Procl. Coastal Segment 1931ANILCA 1980Wilderness Act 1964/1980Priority for Treatment: High / Medium / Low ACE 8708944 +/-Survey Form filled out by: Katharine Swift



K9-18-20

D037-8/13/80-heavy

K9-19

K9-21

ACE 8708945

O'N A L M O N U M E N T

S T R A I T

Nukshak Island

KATMAI BAY

Cape Nukshak

Nukshak Island

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

PHOTOGRAPHER M. DENTONCAMERA TYPE (35mm, 110 etc):CASE: AK-NPS-01ITEM NO. (PARK CODE & NO): KATM 2063CIRCLE ONE: COLOR - BLACK & WHITECIRCLE ONE: PRINTS

| EXP. #   | LOCATION        | DESCRIPTION                                | AGENCY USE ONLY<br>PERTINENCE |
|----------|-----------------|--------------------------------------------|-------------------------------|
| EXP. #13 | DATE<br>8/13/89 | REEF - HALLO BAY<br>POOLED OIL             |                               |
| EXP. #14 | DATE<br>8/13/89 | REEF - HALLO BAY<br>OIL IN SAND - ON ROCKS |                               |
| EXP. #15 | DATE<br>8/13/89 | REEF - HALLO BAY<br>OIL IN SAND - ON ROCKS |                               |
| EXP. #16 | DATE<br>8/13/89 | REEF - HALLO BAY<br>OIL SPLATTER           |                               |
| EXP. #17 | DATE<br>8/13/89 | REEF - HALLO BAY<br>OIL ON REEF            |                               |
| EXP. #18 | DATE<br>8/13/89 | REEF - HALLO BAY<br>NORTH END OF ISLAND    |                               |
| EXP. #19 | DATE<br>8/13/89 | REEF - HALLO BAY<br>SOUTH END OF ISLAND    |                               |
| EXP. #20 | DATE<br>8/13/89 | REEF - HALLO BAY<br>OIL POOL               |                               |
| EXP. #21 | DATE<br>8/13/89 | REEF - HALLO BAY<br>OIL SPLATTER           |                               |

ACE 8708947

## PHOTO INDEX

EXXON VALDEZ OIL SPILL

PAGE      CPHOTOGRAPHER M-1 DwyerCAMERA TYPE (35mm, 110 etc):CASE: AK-NPS-01ITEM NO. (PARK CODE & NO): KATM 2061-63CIRCLE ONE: COLOR - BLACK & WHITECIRCLE ONE: PRINTS

| EXP. #   | LOCATION              | DESCRIPTION                              | AGENCY USE ONLY<br>PERTINENCE |
|----------|-----------------------|------------------------------------------|-------------------------------|
| EXP. #22 |                       |                                          |                               |
| DATE     |                       |                                          |                               |
| 8/13/89  | REEF - HALLO BAY      | OIL TAR - ADJACENT TO GULL               |                               |
| EXP. #23 |                       |                                          |                               |
| DATE     |                       |                                          |                               |
| 8/13/89  | REEF - HALLO BAY      | DEAD GW GULL                             |                               |
| EXP. #24 |                       |                                          |                               |
| DATE     |                       |                                          |                               |
| 8/13/89  | REEF - HALLO BAY      | OILED DEAD MURRE                         |                               |
| EXP. #25 |                       |                                          |                               |
| DATE     |                       |                                          |                               |
| 8/13/89  | REEF - HALLO BAY      | OILED DEAD MURRE                         |                               |
| EXP. #26 |                       |                                          |                               |
| DATE     |                       |                                          |                               |
| 8/13/89  | SHAKUN ISLAND - NORTH | GULL NEST WITH OIL AND OIL<br>BELOW NEST |                               |
| EXP. #27 |                       |                                          |                               |
| DATE     |                       |                                          |                               |
| 8/13/89  | SHAKUN ISLAND - NORTH | GULL NEST WITH OIL                       |                               |
| EXP. #28 |                       |                                          |                               |
| DATE     |                       |                                          |                               |
| 8/13/89  | SHAKUN ISLAND - NORTH | GULL NEST WITH OILED SHELL               |                               |
| EXP. #   |                       |                                          |                               |
| DATE     |                       |                                          |                               |
| EXP. #   |                       |                                          |                               |
| DATE     |                       |                                          |                               |

ACE 8708948

# Shoreline Assessment Form

Zone **KODIAK** Location/Unit ID **K9-19-D037** SCAT Segment ID

Shoreline / Segment Name

Island north of Ninagiak Island,

Predominant Sediment  
(circle one)

|                      |                              |
|----------------------|------------------------------|
| Boulder<br>(>256 mm) | <b>Cobble</b><br>(64-256 mm) |
| Pebble<br>(4-64 mm)  | Gravel<br>(2-4 mm)           |
| Sand<br>(0.06-2 mm)  | Mud<br>(<0.06 mm)            |
| Rock                 | Vertical Cliff               |

Impact Classification  
(circle one) \*

|              |            |
|--------------|------------|
| <b>Heavy</b> | Moderate   |
| Light        | Very Light |
| No Oil       | Unobserved |

Oiling On Debris  
(circle one)

|              |          |
|--------------|----------|
| Heavy        | Moderate |
| <b>Light</b> | None     |

Segment Length  
Examined (yds)

700

Oiled Width (yds)

20

% of Seg.  
Oiled

1-10%

Penetration (in.)

3"

Recommended Treatment / Comments

Type A cleanup recommended as soon as possible

Beach Treatment /  
Gross Contamination Removal

Start Date

Completed Date

Pre-assessment Done  
By (circle one)

|       |      |       |                                                                          |
|-------|------|-------|--------------------------------------------------------------------------|
| SCAT  | ADEC | ADF&G | <b>NPS</b>                                                               |
| USFWS | USCG | NOAA  | Other <span style="border-bottom: 1px solid black; width: 50px;"></span> |

Assessment Date

8/13/89

Approval Date

ACE 8708949 -1/LSIFF

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

517-61

KODIAK SCAT

K9-20

**COMPLETE** FEB - 2 1990

ACE 7963989



(version 5/02/89)

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 \*

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: 07/24/89 Time: 10:20  
Surveyed From: Foot/Boat/Helio/Plane

Observer: RICK LOUHE  
Weather: Sun/Cloud/Rain/Snow/Fog

**LOCATION**  
Location: CAPE NAKWITAK Segment ID: K09-20-CN-02  
Segment Length: 10,300 m. Access: Vehicle/Boat/Barge/Helio/Float Plane  
Access Restrictions: NONE

**SHORELINE**

Shoreline Type: SPI/BEA/COV/HLD/STRT Slope: Lo/Med/H/Vert  
Wave Exposure: High/Med/Low  
Sediment: B 30 % / C 10 % / P 20 % / 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 5 SU/SP/H/M/L H/M/L/VL

| Total       | Length(m) | Width(m)  | Thickness >1cm:     | cm | SU/SP/H/M/L |
|-------------|-----------|-----------|---------------------|----|-------------|
| Very light: | <u>20</u> | <u>10</u> |                     |    |             |
| Light:      |           |           | Penetration/Rework: |    | SU/SP/H/M/L |
| Moderate:   |           |           | Burial Depth:       |    | SU/SP/H/M/L |
| Heavy:      |           |           |                     |    |             |

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

**OIL MORPHOLOGY**

|                 |            |          | SU/SP/H/M/L |
|-----------------|------------|----------|-------------|
| Pooled Oil:     |            |          | SU/SP/H/M/L |
| "Free" Oil:     |            |          | SU/SP/H/M/L |
| Splattered:     | <u>50</u>  | H/M/L/VL | SU/SP/H/M/L |
| Coated:         | <u>100</u> | H/M/L/VL | SU/SP/H/M/L |
| Pancakes/Balls: |            |          | SU/SP/H/M/L |

**Preliminary Cleanup Est.**

Total TYPE A: 20 m  
Total TYPE B:        m  
Total TYPE A/B:        m

**OIL WEATHERING**

|                   |           | SU/SP/H/M/L |
|-------------------|-----------|-------------|
| Fresh:            |           | SU/SP/H/M/L |
| Mousse:           |           | SU/SP/H/M/L |
| Weathered Mousse: | <u>50</u> | SU/SP/H/M/L |
| Asphalt Mousse:   |           | SU/SP/H/M/L |
| Tar:              | <u>50</u> | SU/SP/H/M/L |

**COMMENTS**

**DOCUMENTATION:**

Map/Aerial photo marking segment boundaries \_\_\_\_\_

VTR:     Y/N         Tape Number(s) \_\_\_\_\_

Photography:   Y/N         Roll Number(s) \_\_\_\_\_

Sample Numbers Collected: \_\_\_\_\_

July 24/89

SEGMENT K09-20-CN-02

- Cape Nulshuk

10:20 Nulshuk Island #1

- No oil on south side
- Oil on north side cove
- Oil on logs, cobbles, oil splashes
- Wipe, etc
- Oil in one location only - deep cove on north side of island

10:40 Beach south of CN #2

- steep, cobble beach (200m)
- NO OIL

10:51 - Cruise beach south of #2

- NO OIL
- Cliff - volcanoclastic turbidites

Rich Grille

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

11:15 Stop #3

- 1 km long mixed sand & gravel beach
- moderate slope
- sandy sub-tidal
- wide backshore, beach ridges
- V.V. light oil
- Rare pieces of splashed driftwood
- No Clean-up

11:20 Stopped by VECO contract agent "Scarpins" to show latest survey

11:45 On the "KING DAVID"  
12:25 Away for the KD

Rick Grille

13:00 Stop #4

- Long (300m) mixed str. band
- low angle
- rare brown patches at HT2

- 1/1000  
- essentially No oil

CAPE NUKSHAK  
K09-20-CN-02  
LENGTH = 10,300 M



CAPE NUKSHAK

K0919  
X=500

NUKSHAK IS.

② COBBLE BEACH  
No OIL

No OIL

① NORTH COVE  
- OILED LOGS/  
BOMBERS

Seabird  
Colonies

Harbor seal  
Haulouts \*

③ MIXED SAND AND GRAVEL BEACH  
Rare splatter on driftwood.

\* \* \* Rocks

④ MIXED SAND + GRAVEL BEACH  
- 2-3 MOUND PATTERNS IN HTZ

ACE 8708955

## ECOLOGICAL EVALUATION

LOCATION: Kukak Bay SITE: South of Cape Nukshak OBSERVER: J. Tarpley  
 LOCATION PREFIX: K9/CN SEG. NO.: K9-20-CN-2 LENGTH: 10,300 (M)  
 DATE: 7/24/89 TIME (HHMM): 1000-1300 TIDE HT.: +2m → 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

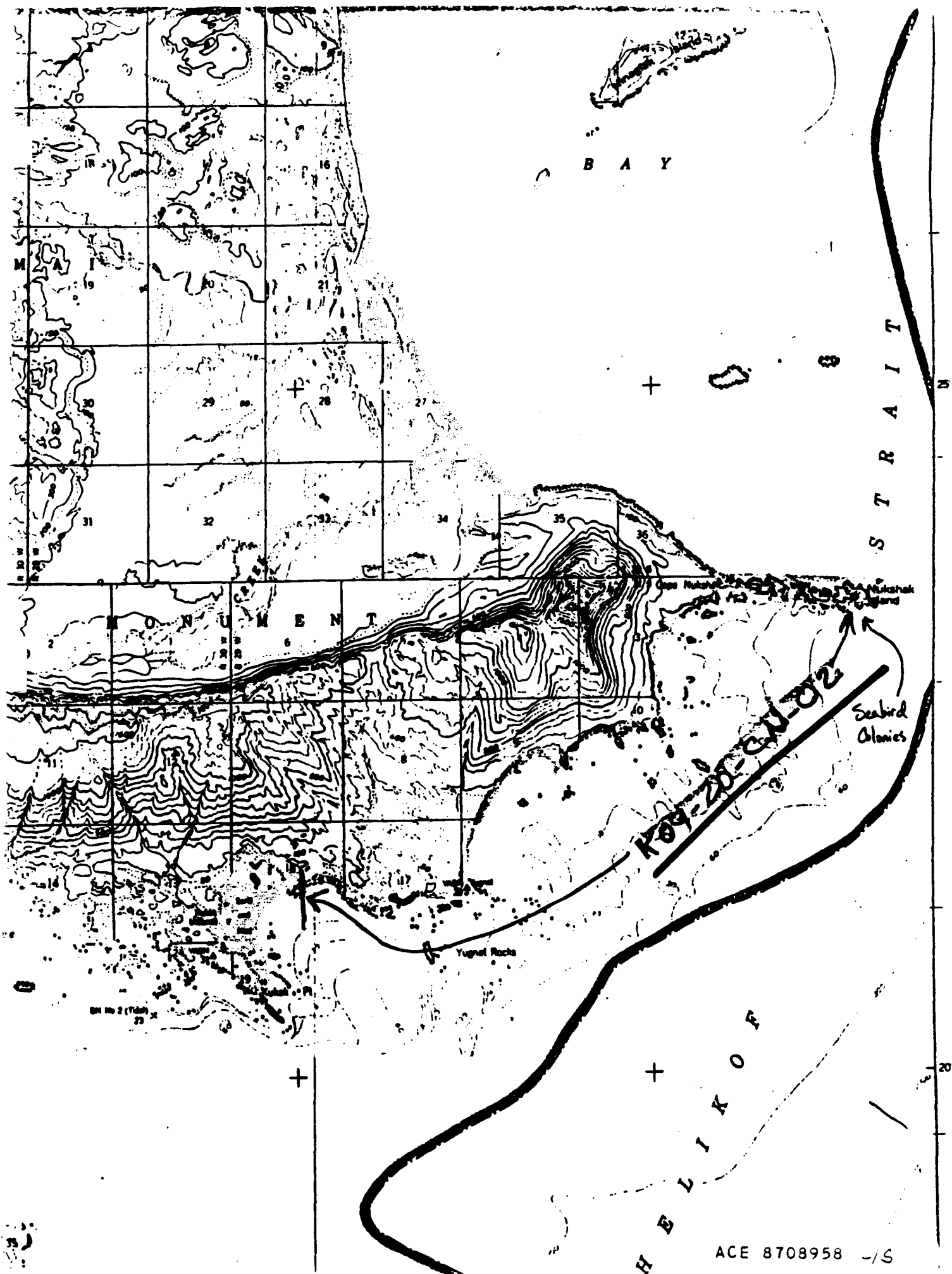
OTHER OBSERVATIONS: Portions of segment observed were long sandy or cobble beaches  
with no living biota.

CLEANUP PRECAUTIONS: Bears in Segment -

MAMMALS: <sup>Sea</sup> Otters 3 Harbor Seals 1 Sea Lions      Whales       
 Other Bear & Caribou tracks

BIRDS: Nesting Colony of Gulls, Pigeon Guillemots, Puffins on Nukshak Island; Cormorants, Ravens, Eagle

GENERAL OBSERVATIONS: High energy beaches. Drift debris is light.





(version 6/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Block (see enclosed map): K9-20

Includes Shoreline Segments: CN-01, CN-02

Location: Cape Nukshak

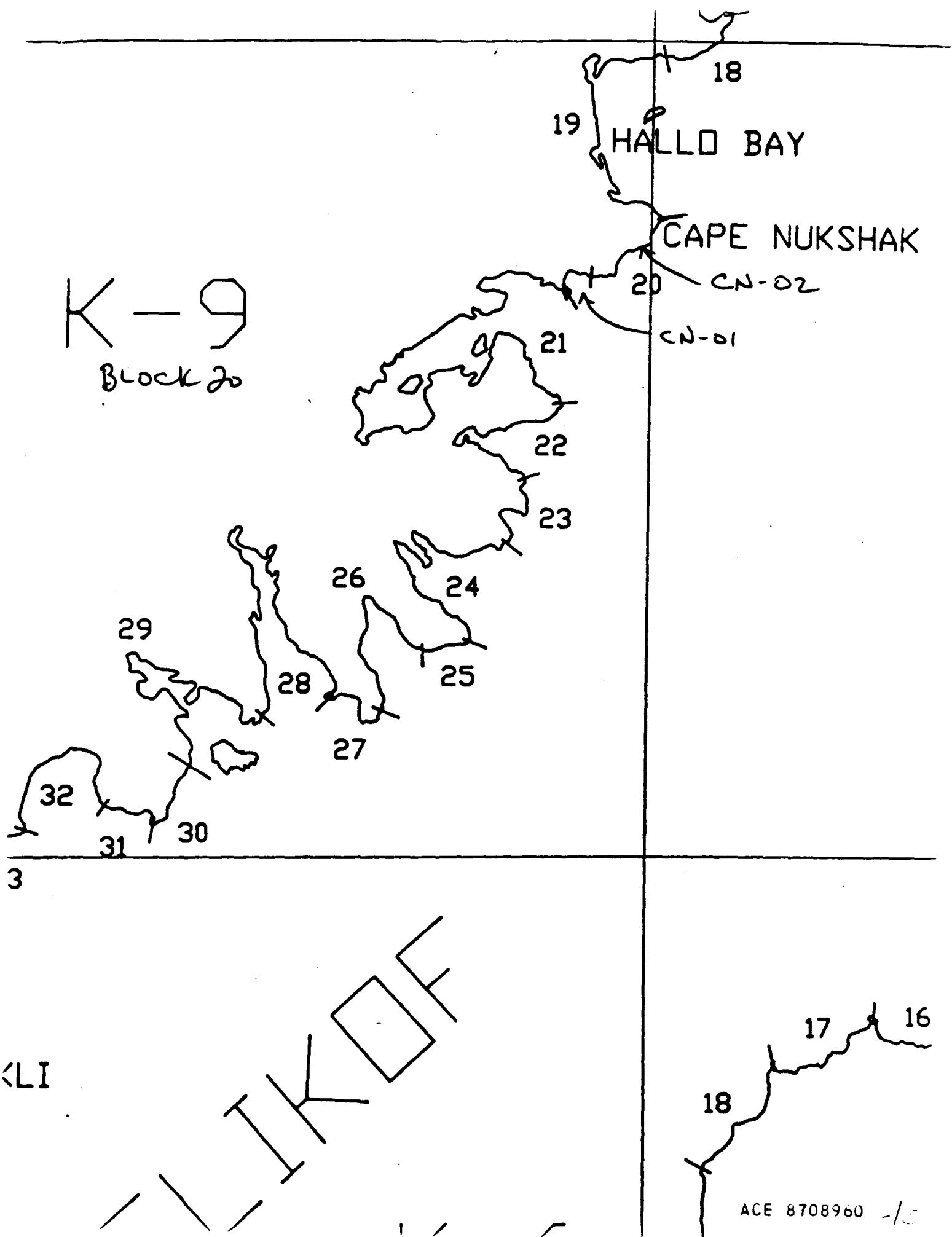
Submitted: \_\_\_\_\_ Date: \_\_\_\_\_  
(for Exxon)

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

ACE 8708959 4/5



(version 5/02/89)

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.
- Manual removal of mousse patties on mixed pebble/cobble substrate.

Priorities/Considerations: Class 4-A

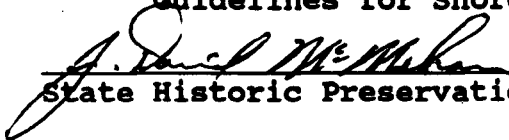
- Segment located within Katmai National Monument.
- Clam bed in sandy bay offshore.
- Seabird colonies and salmon streams within segment.

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: 7/31/89

EXXON: \_\_\_\_\_

Date: \_\_\_\_\_

FOSC: \_\_\_\_\_

Date: \_\_\_\_\_

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

**SHORELINE OIL EVALUATION**

Date: 07/17/1989 Time: 19:45  
Surveyed From: Foot/Boat/Helio/Plane

Observer: Rick GILLIE  
Weather: (Sun) Cloud/Rain/Snow/Fog

**LOCATION** CAPE NUKSHAK

Location: \_\_\_\_\_ Segment ID: K09-20-CN-01  
Segment Length: 3350 m. Access: Vehicle/Boat/Barge/Helio/Float Plane  
Access Restrictions: VERY SHALLOW SAND BOTTOM, NUMEROUS ROCKS + REEFS  
BEARS COMMON

**SHORELINE**

Shoreline Type: SPI (BEA) COV (HLD) STRT \_\_\_\_\_ Slope: (Lo) Med/Hi/Vert (Vert)  
Wave Exposure: High/Med/Low  
Sediment: B 20 % / C 10 % / P 20 % / G&S 20 % / 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 1 SU/SP (H) M/L H/M/L (VL)

| Total       | Length(m)  | Width(m)   | Thickness >1cm:                   | SU/SP/H/M/L |
|-------------|------------|------------|-----------------------------------|-------------|
| Very light: | <u>360</u> | <u>N/A</u> | <u>N/A</u> cm                     | SU/SP/H/M/L |
| Light:      | _____      | _____      | Penetration/Rework: <u>N/A</u> cm | SU/SP/H/M/L |
| Moderate:   | _____      | _____      | Burial Depth: <u>N/A</u> cm       | SU/SP/H/M/L |
| Heavy:      | _____      | _____      |                                   |             |

Mobilization Potential: High/Medium/(Low)  
If Debris Oiled? (Y) Amount: H/M/L/VL SU/SP (H) M/L Type: DEAD BIRDS  
OILED DEWEEB

**OIL MORPHOLOGY**

|                             | SU/SP/H/M/L          |
|-----------------------------|----------------------|
| Pooled Oil: _____ %         | SU/SP/H/M/L          |
| "Free" Oil: _____ %         | SU/SP <u>(H)</u> M/L |
| Splattered: <u>10</u> %     | SU/SP <u>(H)</u> M/L |
| Coated: <u>80</u> %         | SU/SP <u>(H)</u> M/L |
| Pancakes/Balls: <u>10</u> % | SU/SP/H/M/L          |

Preliminary Cleanup Est.

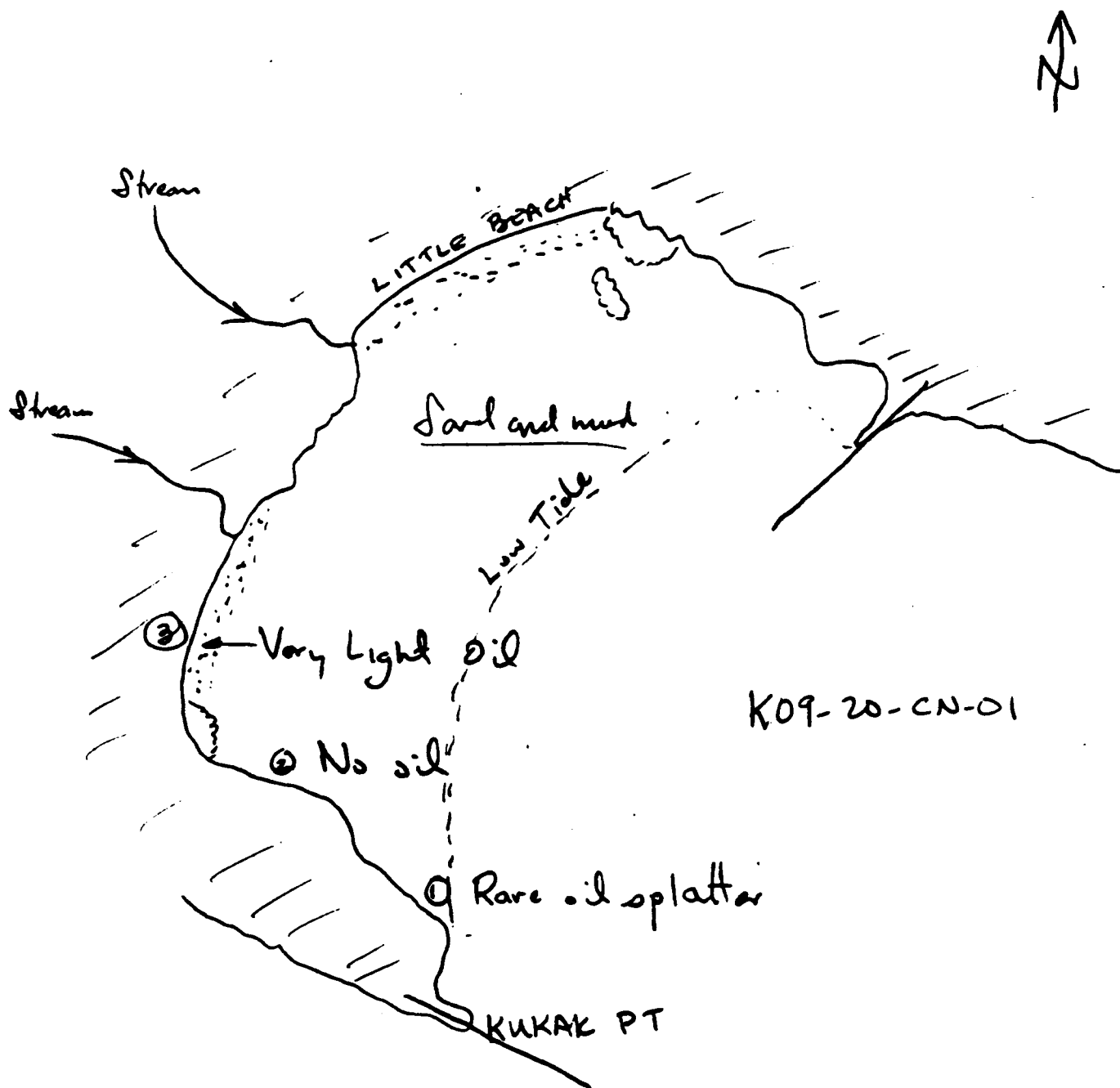
Total TYPE A: 300 m  
Total TYPE B: \_\_\_\_\_ m  
Total TYPE A/B: \_\_\_\_\_ m

**OIL WEATHERING**

|                               | SU/SP/H/M/L          |
|-------------------------------|----------------------|
| Fresh: _____ %                | SU/SP <u>(H)</u> M/L |
| Mousse: <u>10</u> %           | SU/SP <u>(H)</u> M/L |
| Weathered Mousse: <u>90</u> % | SU/SP <u>(H)</u> M/L |
| Asphalt Mousse: _____ %       | SU/SP/H/M/L          |
| Tar: _____ %                  | SU/SP/H/M/L          |

**COMMENTS**

- 1) SEE MAP AND FIELD NOTES.
- 2) V. VERY LIGHT OIL SPLATTER ON BOULDER / WAVE-CUT PLATFORM
- 3) DEAD OILED BIRDS, ONE WERN 100-200 M OF SHORELINE
- 4) RARE MOUSSE PATCHES ON HT 2 COBBLE BEACH

**DOCUMENTATION:**Map/Aerial photo marking segment boundaries K09-20-CN-01VTR: Y/N Tape Number(s) \_\_\_\_\_Photography: Y/N Roll Number(s) RG-2Sample Numbers Collected: N/A

## ECOLOGICAL EVALUATION

LOCATION: Kukak Bay SITE: Kukak Pt. and Bay <sup>North</sup> OBSERVER: J. Tarpley  
 LOCATION PREFIX: K97 SEG. NO.: K09-21- LENGTH: 3,350 (M)

DATE: 7/17/89 TIME (HHMM): ~2000h TIDE HT.: +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

Densities varied along segment. Other algae includes Odonthallia, Ulva, Colpomenia  
Geniculate & nongeniculate corallines in tide 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

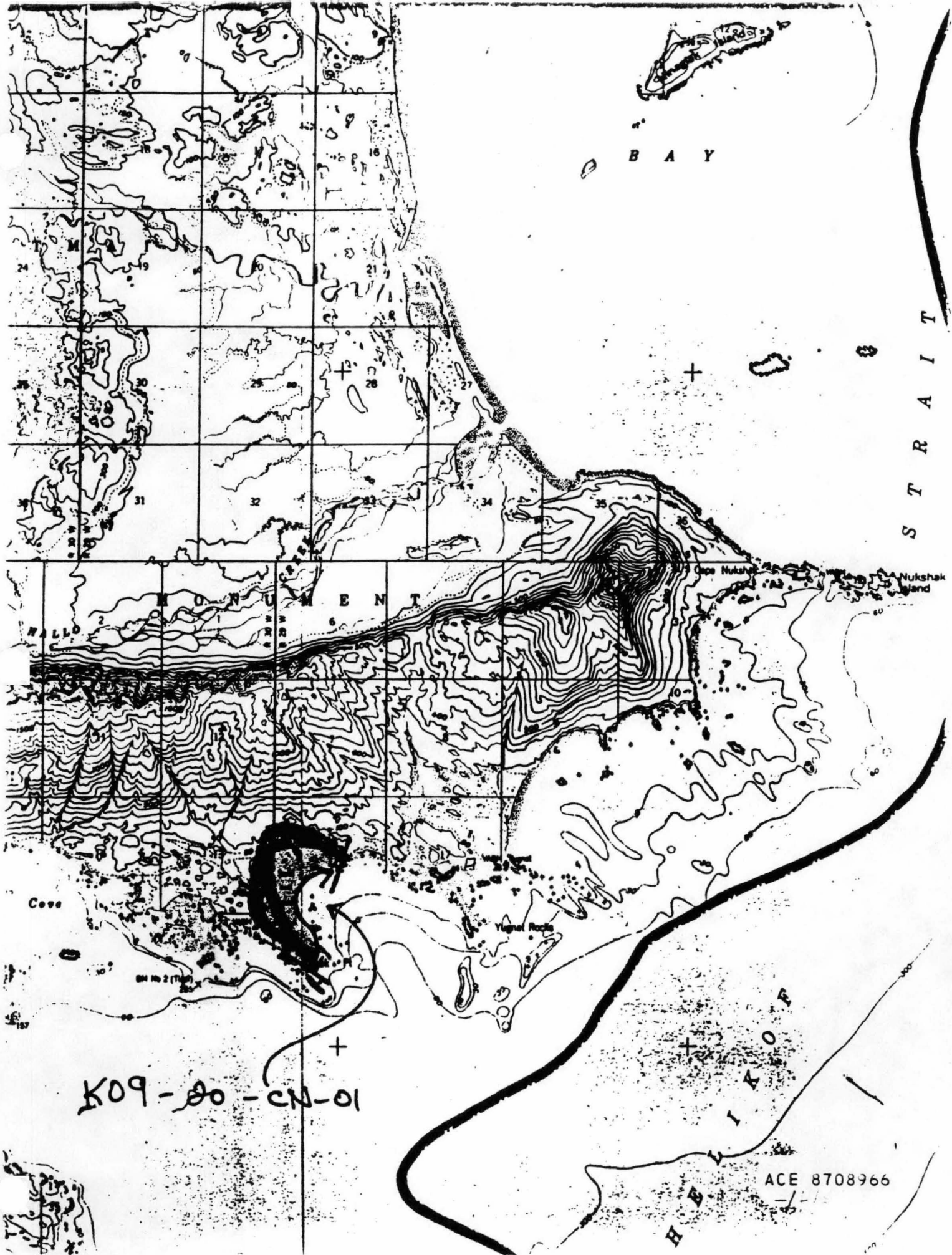
OTHER OBSERVATIONS: Shell debris included Mytilus, Razor clams, Butter clams, Barnacles.  
Clam beds in sandy bay offshore. Tidal pools on Kukak Point

CLEANUP PRECAUTIONS: Avoid bears & healthy low ITZ.

MAMMALS: Otters      Harbor Seals 1 Sea Lions      Whales       
 Other Bear on beach, Fox tracks.

BIRDS: 2 dead oiled birds: Glaucous-winged gulls, Kittiwakes. Cormorants.  
Terrestrial birds near cliffs.

GENERAL OBSERVATIONS: Sandy bottom bay ringed by bedrock and boulders  
at high ITZ. Little drift wood on grassy slopes at head of bay.



517-1-82-900-55  
KODIAK SCAT  
K9-21

**COMPLETE** JAN 05 1990

ACE 7963990



(version 6/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Block (see enclosed map): K9-21

Includes Shoreline Segments: K<sup>U</sup>-1 K<sup>U</sup>-2, K<sup>U</sup>-3, K<sup>U</sup>-4, K<sup>U</sup>-5, K<sup>U</sup>-6,  
K<sup>U</sup>-7, K<sup>U</sup>-8, K<sup>U</sup>-9, K<sup>U</sup>-10

Location: Kukak Bay

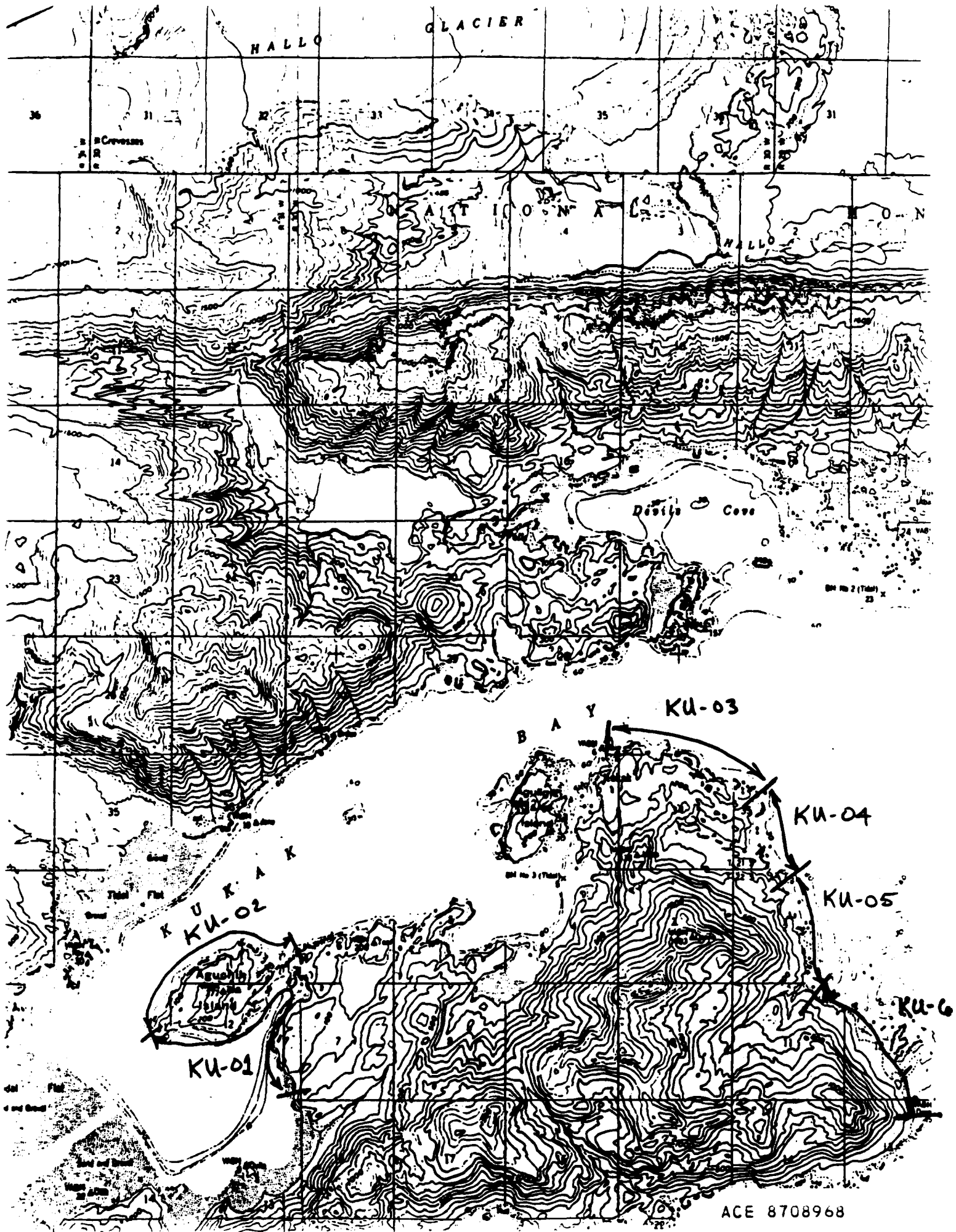
Submitted: \_\_\_\_\_ Date: \_\_\_\_\_  
(for Exxon)

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.

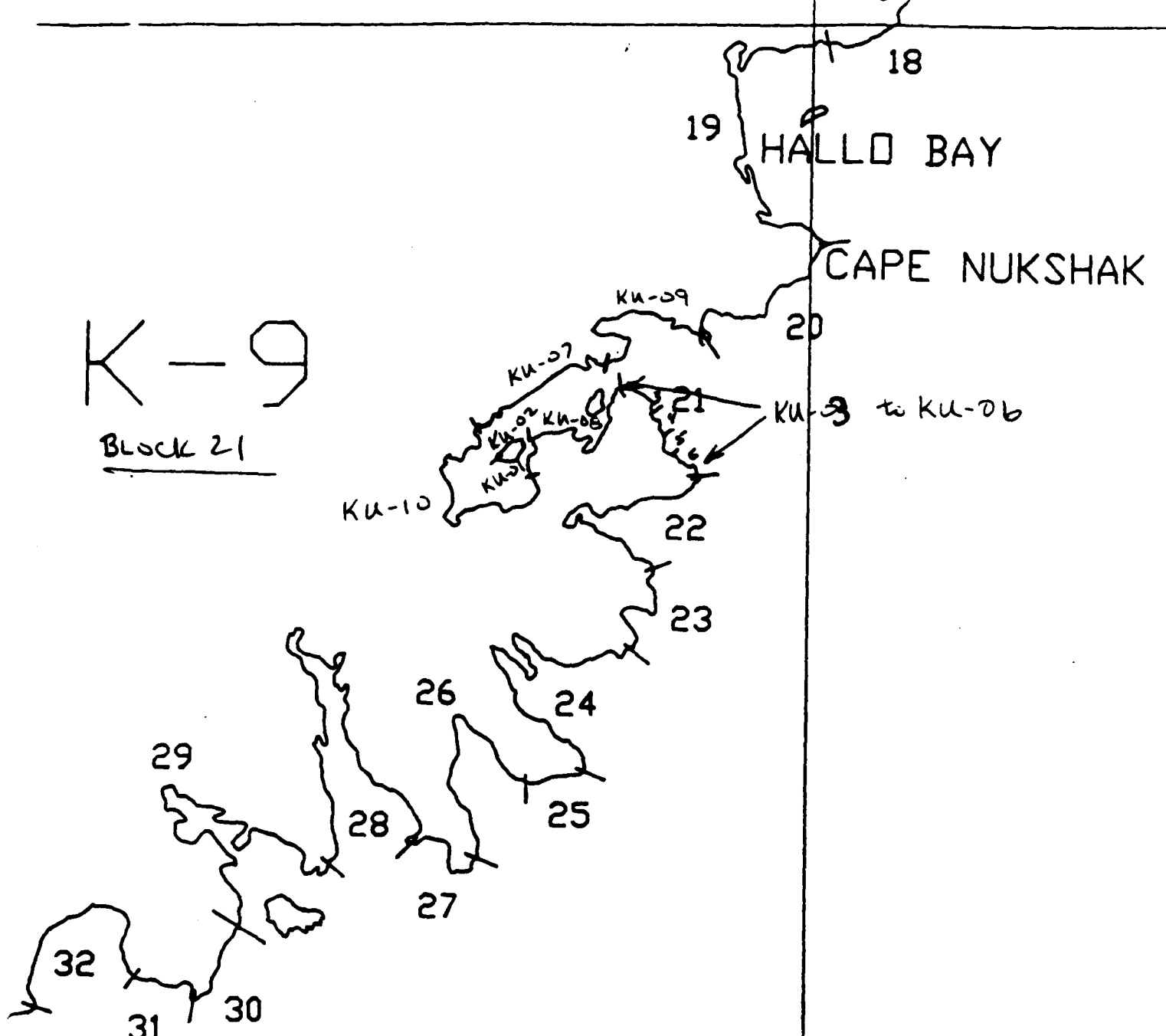
CC: KISCC

ACE 8708967 +1F



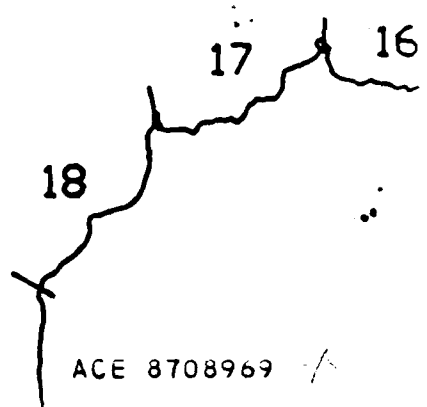
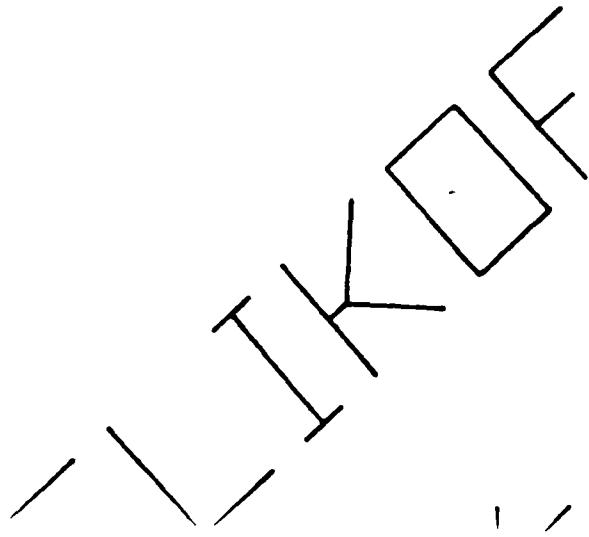
K-9

BLOCK 21



13

KLI



ACE 8708969

(version 5/02/89)

**SHORELINE CLEANUP PROGRAM**

DATE 7/28/89

SHORELINE SEGMENT K9-21-K<sup>K</sup>1

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 mousse 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 reoiling 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: 07/14/1989 Time: 07:15 - 11:15  
Surveyed From: Foot/Boat/Helio/Plane

Observer: RICK GILLIE  
Weather: Sun/Cloud/Rain/Snow/Fog

**CATION**  
Location: KO9-KUKAK BAY Segment ID: KO9-21-KU-0  
Segment Length: 5500 m. Access: Vehicle/Boat/Barge/Helio/Float Plane  
Access Restrictions: RARE ROCKS

**SHORELINE**

Shoreline Type: SPI/BEA/COV/HLD/STRT Slope: Lo/Med/Hi/Vert  
Wave Exposure: High/Med/Low  
Sediment: B20% / C50% / P10% / G&S10% / M% / R10%

**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 N/A  
Sporadic % of Segment <1

SU/SP/H/M/L  
SU/SP/H/M/L

H/M/L/VL  
H/M/L/VL

| Total       | Length(m)  | Width(m) |
|-------------|------------|----------|
| Very light: | <u>100</u> | <u>—</u> |
| Light:      | <u>—</u>   | <u>—</u> |
| Moderate:   | <u>—</u>   | <u>—</u> |
| Heavy:      | <u>—</u>   | <u>—</u> |

Thickness >1cm: — cm  
Penetration/Rework: — cm  
Burial Depth: — cm

SU/SP/H/M/L  
SU/SP/H/M/L  
SU/SP/H/M/L

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 %

H/M/L/VL  
H/M/L/VL

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

**OIL WEATHERING**

Fresh: — %  
Mousse: — %  
Weathered Mousse: — %  
Asphalt Mousse: 100 %  
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

**COMMENTS**

1) LESS THAN A DOZEN, SMALL (<0.2m) WEATHERED MOUSSE PATTIES OBSERVED ON ENTIRE SEGMENT. ADHERING TO COBBLES MOSTLY ON SOUTH SIDE OF AGUCHIK ISLAND.

2) ESSENTIALLY VERY, VERY LIGHT DEGREE OF OIL. ACE 8708971

3) CLEAN-UP NOT RECOMMENDED BECAUSE OF POSSIBLE RISK OF

DOCUMENTATION:Map/Aerial photo marking segment boundaries 2. A-12.6VTR: Y/N Tape Number(s) \_\_\_\_\_Photography: Y/N Roll Number(s) RG-1Sample Numbers Collected: 13/1

## ECOLOGICAL EVALUATION

LOCATION: KUKAK BAY SITE: Aguchik Is & Mainland OBSERVER: J. Tarpien  
 LOCATION PREFIX: K9/KU SEG. NO.: K9-21-KU-01 LENGTH: 5500 (M)  
 DATE: 7/14/89 TIME (HMTM): 0710 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 beach

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, Cockles, & Saxidomus  
Filamentous red & green algae also present.

CLEANUP PRECAUTIONS: Avoid oiling low ITZ. Numerous bears in the area.  
Clam beds and crab nursery offshore

MAMMALS: Otters \_\_\_\_\_ Harbor Seals \_\_\_\_\_ Sea Lions \_\_\_\_\_ Whales \_\_\_\_\_  
 Other Fox Bear Tracks, Bear in willows up stream.

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

GENERAL OBSERVATIONS: 1 dead Salpeter star, 4 dead jellyfish 15-35 cm diameter.

(version 5/02/89)

**SHORELINE CLEANUP PROGRAM**

DATE 7/28/89

SHORELINE SEGMENT K9-21-K<sup>K</sup>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.

  
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: 07/15/89 Time: 10:00  
Surveyed From: Foot Boat/Helio/Plane

Observer: RICK GILLIE  
Weather: Sun/Cloud/Rain/Snow/Fog

Location: KUKAK BAY Segment ID: K09-21-KU-02  
Segment Length: 3500 m. Access: Vehicle/Boat/Barge/Helio/Float Plane  
Access Restrictions: NEARBY ROCKS

SHORELINE

Shoreline Type: SPI/BEA/COV/HLD/STRT Slope: Lo/Med/Hi/Vert  
Wave Exposure: High/Med/Low  
Sediment: B30 / C20 / P20 / G&S      / 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 10 SU/SP/H/M/L H/M/L/VL

| Total       | Length(m)   | Width(m)    | Thickness >1cm:                  |             |
|-------------|-------------|-------------|----------------------------------|-------------|
| Very light: | <u>300</u>  | <u>1</u>    | <u>10</u> cm                     | SU/SP/H/M/L |
| Light:      | <u>    </u> | <u>    </u> | Penetration/Rework: <u>10</u> cm | SU/SP/H/M/L |
| Moderate:   | <u>    </u> | <u>    </u> | Burial Depth: <u>    </u> cm     | SU/SP/H/M/L |
| Heavy:      | <u>    </u> | <u>    </u> |                                  |             |

Mobilization Potential: High/Medium/Low

Drift Debris Oiled? Y/N Amount: H/M/L/VL SU/SP/H/M/L Type:     

SAWED LOGS

OIL MORPHOLOGY

| Pooled Oil:     |           | SU/SP/H/M/L |
|-----------------|-----------|-------------|
| "Free" Oil:     |           | SU/SP/H/M/L |
| Splattered:     | <u>10</u> | SU/SP/H/M/L |
| Coated:         |           | SU/SP/H/M/L |
| Pancakes/Balls: | <u>90</u> | SU/SP/H/M/L |

H/M/L/VL  
H/M/L/VL

-----  
Preliminary Cleanup Est.

Total TYPE A: 300 m  
Total TYPE B:      m  
Total TYPE A/B:      m  
-----

OIL WEATHERING

| Fresh:            |           | SU/SP/H/M/L |
|-------------------|-----------|-------------|
| Mousse:           | <u>90</u> | SU/SP/H/M/L |
| Weathered Mousse: | <u>10</u> | SU/SP/H/M/L |
| Asphalt Mousse:   |           | SU/SP/H/M/L |
| Tar:              |           | SU/SP/H/M/L |

COMMENTS

1) OILED SAWED DEBRIS DRIFTING AT HIGH TIDE ON BEACHES (2) and (3).  
2) MOUSSE PATTIES (CONTINUOUS) ON BEACH (2).

DOCUMENTATION:

K09-21-KU-02

SEE ATTACHED

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

## ECOLOGICAL EVALUATION

LOCATION: Kukak Bay SITE: Aguchik Is. OBSERVER: J. Tarpley  
 LOCATION PREFIX: K9/KU SEG. NO.: K9-21-KU-02 LENGTH: 3500 (M)  
 DATE: 7/15/89 TIME (HDDM): 1000 TIDE HT.: +1.3 m (M)  
 OILED ZONE: Splash High Medium Low  
 SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud Beach #1

## LIVE BIOTA

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

Fucus abundant in drift material

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

Mytilus located among cobbles in low ITZ below Fucus

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: Petroleum present on low ITZ rocks which looks like oil.

Black lichens above High tide line appear to be oil stained rocks.

Small Phylloporus bed on Isthmus between mainland and Aguchik Is.

Shell debris consists of mytilus, s. idomies, Cocks, & soft clams.

## CLEANUP PRECAUTIONS:

Avoid healthy low ITZ and numerous\* bears in the area.

MAMMALS: Otters \_\_\_\_\_ Harbor Seals \_\_\_\_\_ Sea Lions \_\_\_\_\_ Whales \_\_\_\_\_  
 Other 1 Bear saw + 2 cubs

BIRDS: Kittiwakes

GENERAL OBSERVATIONS: Other algae occur in low ITZ - Odonthallia, Ulva,  
filamentous Reds & greens, little Nereocystis Sphaera

## ECOLOGICAL EVALUATION

LOCATION: Kukak Bay SITE: Aguchik Is. OBSERVER: J. Tarpley  
 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 Beach #2 & #3  
 SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

## LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. 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

Shell debris consists of Mytilus, Saxidomus, Cochlear

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: Gravel, Cobble beaches 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 & oiling in stream on beach #3.

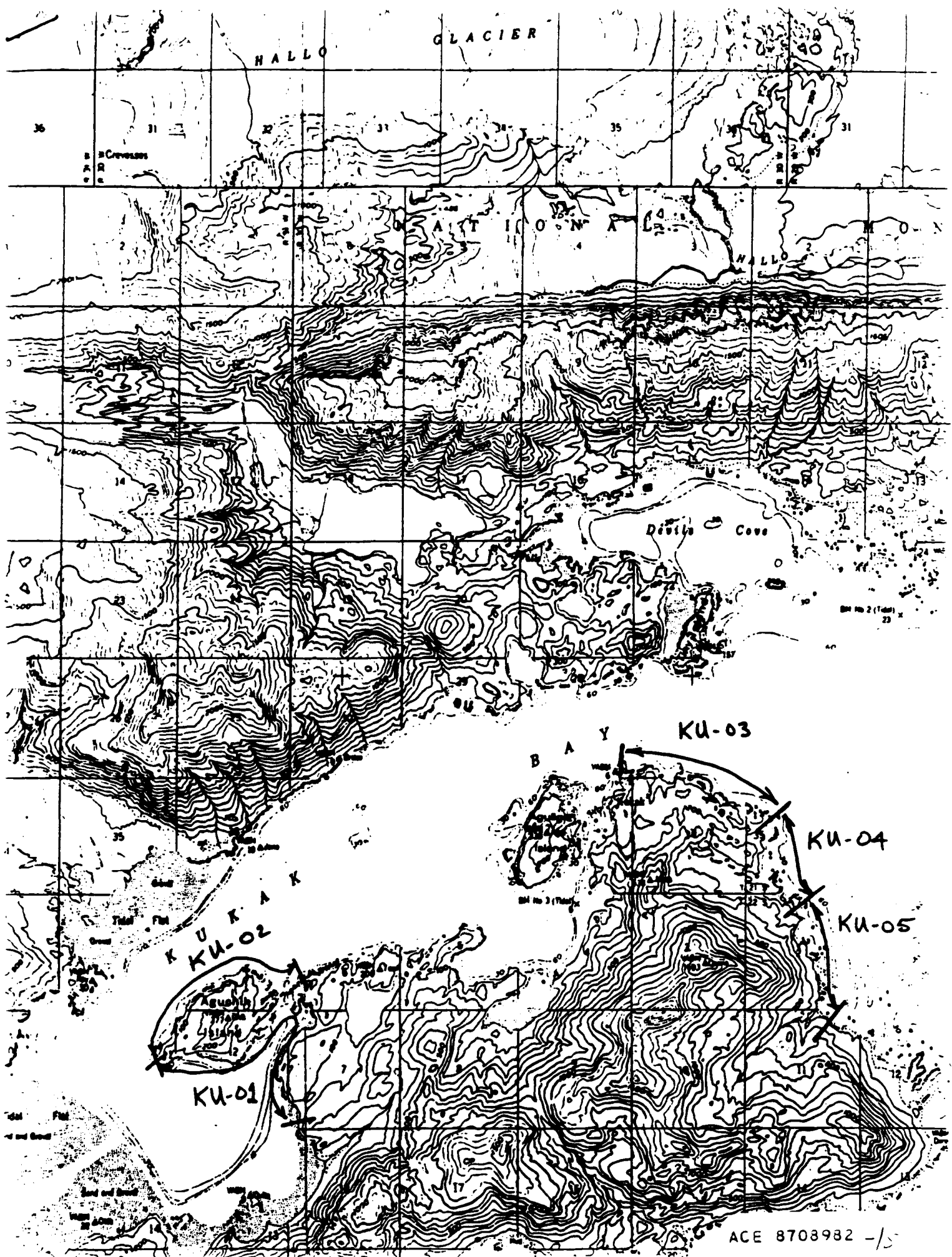
MAMMALS: Otters        Harbor Seals        Sea Lions        Whales         
 Other       

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

GENERAL OBSERVATIONS: 1 dead Sea Star - Dermasterias sp. ; Stream runs through  
beach. Oiled drift material, primarily Fucus at high tide line and stream berm.

## ECOLOGICAL EVALUATION

LOCATION: Kukak Bay SITE: Aguchik Is OBSERVER: J. TarpienLOCATION PREFIX: K9/KU SEG. NO.: K9-21-KU-02 LENGTH: 3500 (M)DATE: 7/15/89 TIME (HHMM): ~1145 TIDE HT.: ~ +3.0m (M)OILED ZONE: Splash High Medium LowBeach #4 & 5SUBSTRATUM: Rocks Boulder Cobble Gravel Sand MudLIVE BIOTAFucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NMytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NBalanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NLittorinaPatchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NLimpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NLottia pelta dominantOTHER OBSERVATIONS: Petrocelis on rocks → looks like oil splatter.Other algae present are filamentous reds and greens.CLEANUP PRECAUTIONS: Numerous bears in the area. Avoid traffic through and oil contamination into low ITZMAMMALS: Otters      Harbor Seals      Sea Lions      Whales       
Other     BIRDS: 1-Magpie, Kittiwakes & Gulls offshoreGENERAL OBSERVATIONS: Moderate amount of drift material, primarily Fucus  
At this tidal height Fucus was almost submerged.



(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/28/89

SHORELINE SEGMENT K9-21-K<sup>K</sup>3

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

ADEC NO. \_\_\_\_\_ 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.

  
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: 07/16/89 Time: 09:30  
 Surveyed From: Foot/Boat/Helio/Plane

Observer: RICK GILLIE  
 Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

Location: KUKAK BAY Segment ID: K09-21-KU-03  
 Segment Length: 3,100 m. Access: Vehicle/Boat/Barge/Helio/Float Plane  
 Access Restrictions: NEAR SHORE ROCKS

SHORELINE

Shoreline Type: SPI/BEA/COV/HLD/STRT Slope: Lo/Med/Hi/Vert  
 Wave Exposure: High/Med/Low  
 Sediment: B 20 % / C 20 % / P 10 % / 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  
 Sporadic % of Segment 40 SU/SP/H/M/L H/M/L/VL

| Total       | Length(m)  | Width(m)     | Thickness >1cm:                     |  | SU/SP/H/M/L |
|-------------|------------|--------------|-------------------------------------|--|-------------|
| Very light: | <u>600</u> | <u>&lt;1</u> | _____ cm                            |  | SU/SP/H/M/L |
| Light:      | <u>350</u> | <u>1</u>     | Penetration/Rework: <u>10-20</u> cm |  | SU/SP/H/M/L |
| Moderate:   | _____      | _____        | Burial Depth: <u>20</u> cm          |  | SU/SP/H/M/L |
| Heavy:      | _____      | _____        |                                     |  |             |

obilization Potential: High/Medium/Low  
 rift Debris Oiled? Y/N Amount: H/M/L/VL SU/SP/H/M/L Type: SEAWEED DEBRIS LOGS, WOOD

IL MORPHOLOGY

|                |             |                 |             |
|----------------|-------------|-----------------|-------------|
| ooled Oil:     | _____ %     |                 | SU/SP/H/M/L |
| Free" Oil:     | _____ %     |                 | SU/SP/H/M/L |
| plattered:     | <u>5</u> %  | <u>H/M/L/VL</u> | SU/SP/H/M/L |
| oated:         | <u>90</u> % | <u>H/M/L/VL</u> | SU/SP/H/M/L |
| ancakes/Balls: | <u>5</u> %  |                 | SU/SP/H/M/L |

Preliminary Cleanup Est.

Total TYPE A: 950 m  
 Total TYPE B: \_\_\_\_\_ m  
 Total TYPE A/B: \_\_\_\_\_ m

IL WEATHERING

|                 |             |             |
|-----------------|-------------|-------------|
| resh:           | _____ %     | SU/SP/H/M/L |
| ousse:          | <u>20</u> % | SU/SP/H/M/L |
| earthed Mousse: | <u>50</u> % | SU/SP/H/M/L |
| sphalt Mousse:  | _____ %     | SU/SP/H/M/L |
| ar:             | <u>30</u> % | SU/SP/H/M/L |

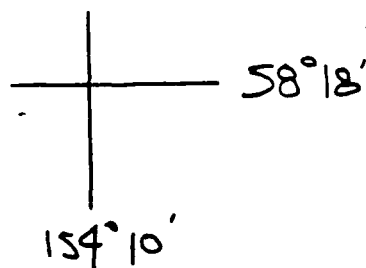
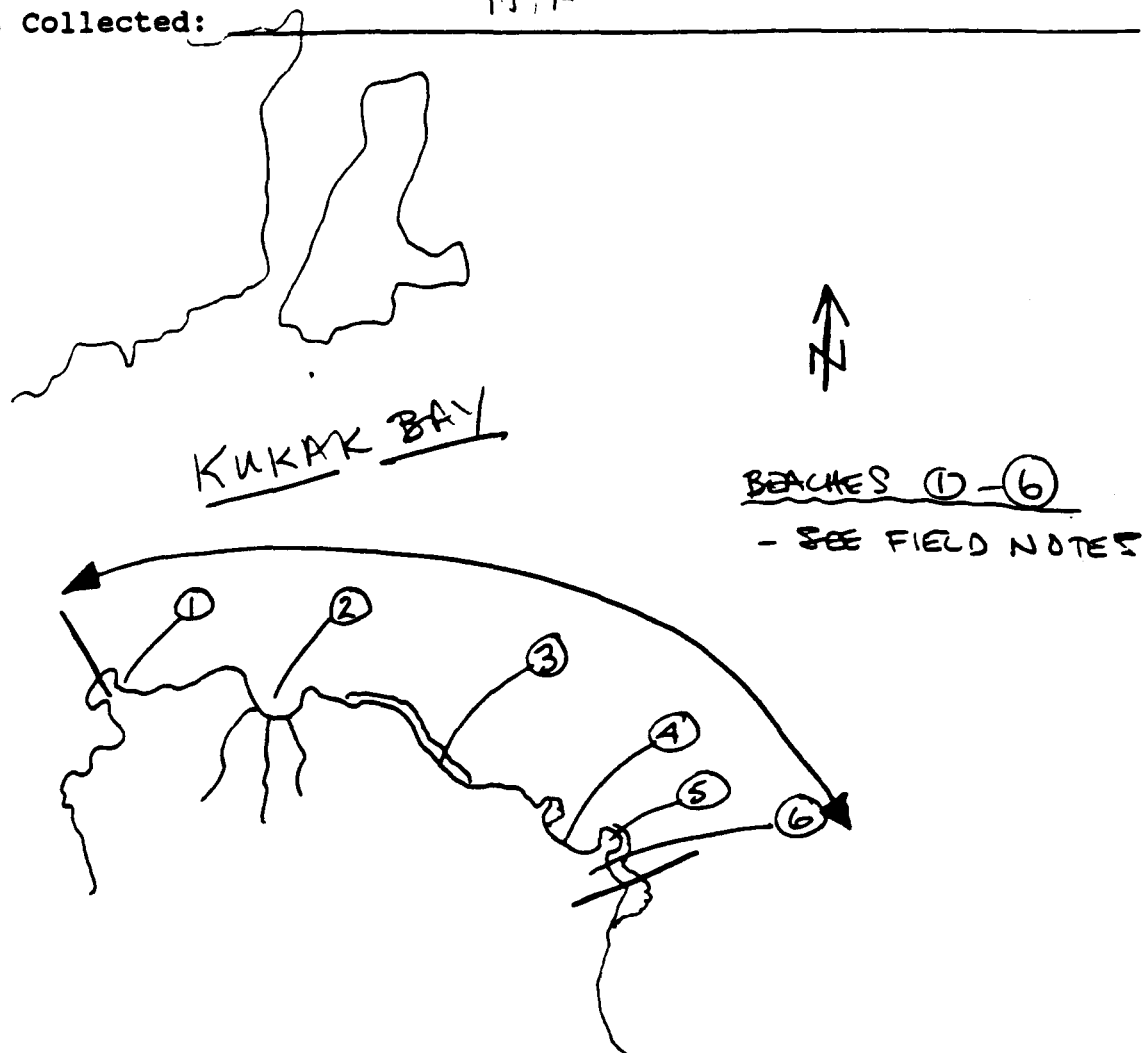
OMMENTS

- 1) ROCK PORTION OF SHORE HAS VERY LITTLE OIL.
- 2) MOST OF OIL ON BEACHES IS AT HIGH TIDE BERM.
- 3) OILED FOCUS DEBRIS, WOOD AND ROPE.
- 4) MOUSSE BURIED / PENETRATION TO 0.3 M.



DOCUMENTATION:Map/Aerial photo marking segment boundaries K09-21-KU-03VTR: Y/N Tape Number(s) \_\_\_\_\_Photography: Y/N Roll Number(s) RG-1  
N/A

Sample Numbers Collected: \_\_\_\_\_



## ECOLOGICAL EVALUATION

LOCATION: Kukak Bay SITE: South shore mouth of bay OBSERVER: J. Tarpley  
 LOCATION PREFIX: K9/KU SEG. NO.: 19-21-KU-03 LENGTH: 3100 m (M)  
 DATE: 7/16/89 TIME (HHMM): 0830-1200 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

Other algae present Ulva, Alaria, Fleshy Reds, Colpomenia, Corallines in tide pools, Odontothalia

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

Margarites & Nucella also present

Limpets: 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, Saxidomus.

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

MAMMALS: Otters \_\_\_\_\_ Harbor Seals \_\_\_\_\_ Sea Lions \_\_\_\_\_ Whales \_\_\_\_\_  
 other Bear Fox tracks

BIRDS: Glaucous-winged Gulls, Kittiwakes, (4 dead oiled birds)

GENERAL OBSERVATIONS: This segment composed of <sup>six</sup> cobble, boulder pocket beaches bounded by  
boulder, bedrock cliffs. Oiled zone in High ITZ begins with generally healthy rich low ITZ.



(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/28/89

SHORELINE SEGMENT K9-21-K<sup>K</sup>4

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

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

**Recommended Cleanup Activity(ies):**

- Manual removal of oiled debris and moderately oiled cobbles/pebbles.
- 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 \*

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: 07/16/89 Time: 17:30  
 Surveyed From: Foot/Boat/Helio/Plane

Observer: Rick G. LIE  
 Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION: KUKAK BAY Segment ID: K09-21-KA-04  
 Segment Length: 1450 m. Access: Vehicle/Boat/Barge/Helio/Float Plane  
 Access Restrictions: NEAR SHORE ROCKS

SHORELINE

Shoreline Type: SPI/BEA/COV/HLD/STRT Slope: Lo/Med/Hi/Vert  
 Wave Exposure: High/Med/Low  
 Sediment: B 20 % / C 30 % / P 30 % / G&S % / M % / 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 80 SU/SP/H/M/L H/M/L/VL  
 Sporadic % of Segment 20 SU/SP/H/M/L H/M/L/VL

| Total       | Length(m)  | Width(m) | Thickness >1cm: | SU/SP/H/M/L |
|-------------|------------|----------|-----------------|-------------|
| Very light: | <u>100</u> | <u>1</u> | <u>0.3</u> cm   | SU/SP/H/M/L |
| Light:      | <u>100</u> | <u>1</u> | <u>0.3</u> cm   | SU/SP/H/M/L |
| Moderate:   | <u>200</u> | <u>2</u> | <u>0.5</u> cm   | SU/SP/H/M/L |
| Heavy:      |            |          |                 |             |

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

OIL MORPHOLOGY

| Morphology      | %         | H/M/L/VL | SU/SP/H/M/L |
|-----------------|-----------|----------|-------------|
| Pooled Oil:     | <u>1</u>  |          | SU/SP/H/M/L |
| "Free" Oil:     | <u>5</u>  |          | SU/SP/H/M/L |
| Splattered:     | <u>5</u>  |          | SU/SP/H/M/L |
| Coated:         | <u>90</u> |          | SU/SP/H/M/L |
| Pancakes/Balls: | <u>4</u>  |          | SU/SP/H/M/L |

Preliminary Cleanup Est.

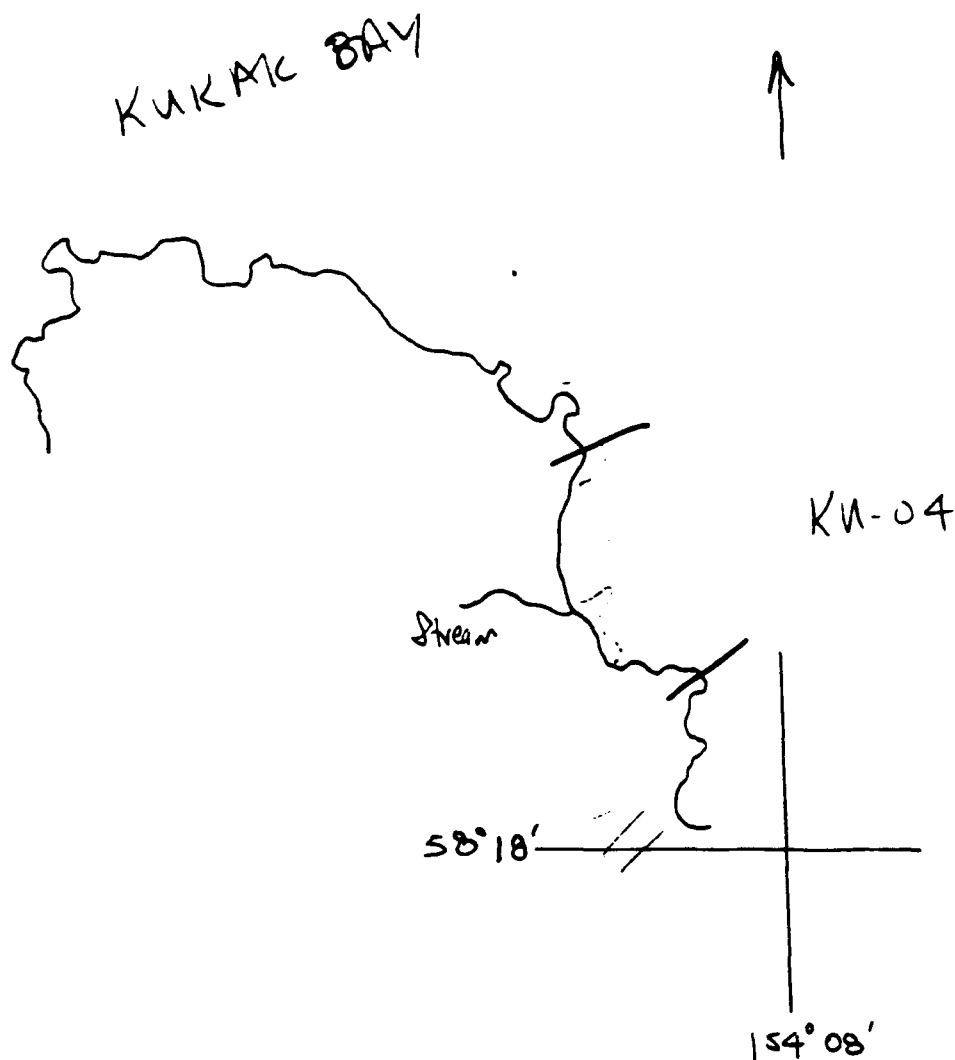
Total TYPE A: 400 m  
 Total TYPE B:        m  
 Total TYPE A/B:        m

OIL WEATHERING

| Weathering        | %         | SU/SP/H/M/L |
|-------------------|-----------|-------------|
| Fresh:            | <u>20</u> | SU/SP/H/M/L |
| Mousse:           | <u>20</u> | SU/SP/H/M/L |
| Weathered Mousse: | <u>60</u> | SU/SP/H/M/L |
| Asphalt Mousse:   | <u>10</u> | SU/SP/H/M/L |
| Tar:              | <u>10</u> | SU/SP/H/M/L |

COMMENTS

- 1) Mousse Oil BAND, APPROX 200M LONG, 2M WIDE
- 2) OILED LOGS
- 3) OILED DEBRIS AND COBBLES / PEBBLES

DOCUMENTATION:Map/Aerial photo marking segment boundaries K03-21-KU-04VTR: Y/N Tape Number(s) \_\_\_\_\_Photography: Y/N Roll Number(s) 25-1Sample Numbers Collected: N/A

## ECOLOGICAL EVALUATION

LOCATION: Kukak Bay SITE: Mainland head - Kukak Bay  
to Cape Agate OBSERVER: J. Tarpley

LOCATION PREFIX: K9/KU SEG. NO.: K9-21-KU-04 LENGTH: 1450 (M)

DATE: 7 / 16 / 89 TIME (HHMM): 1930 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

On lg. boulders and bedrock points adjacent to beaches

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

Heavy settlement of this years recruits

Littorina

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

Margarites and Thais also abundant

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

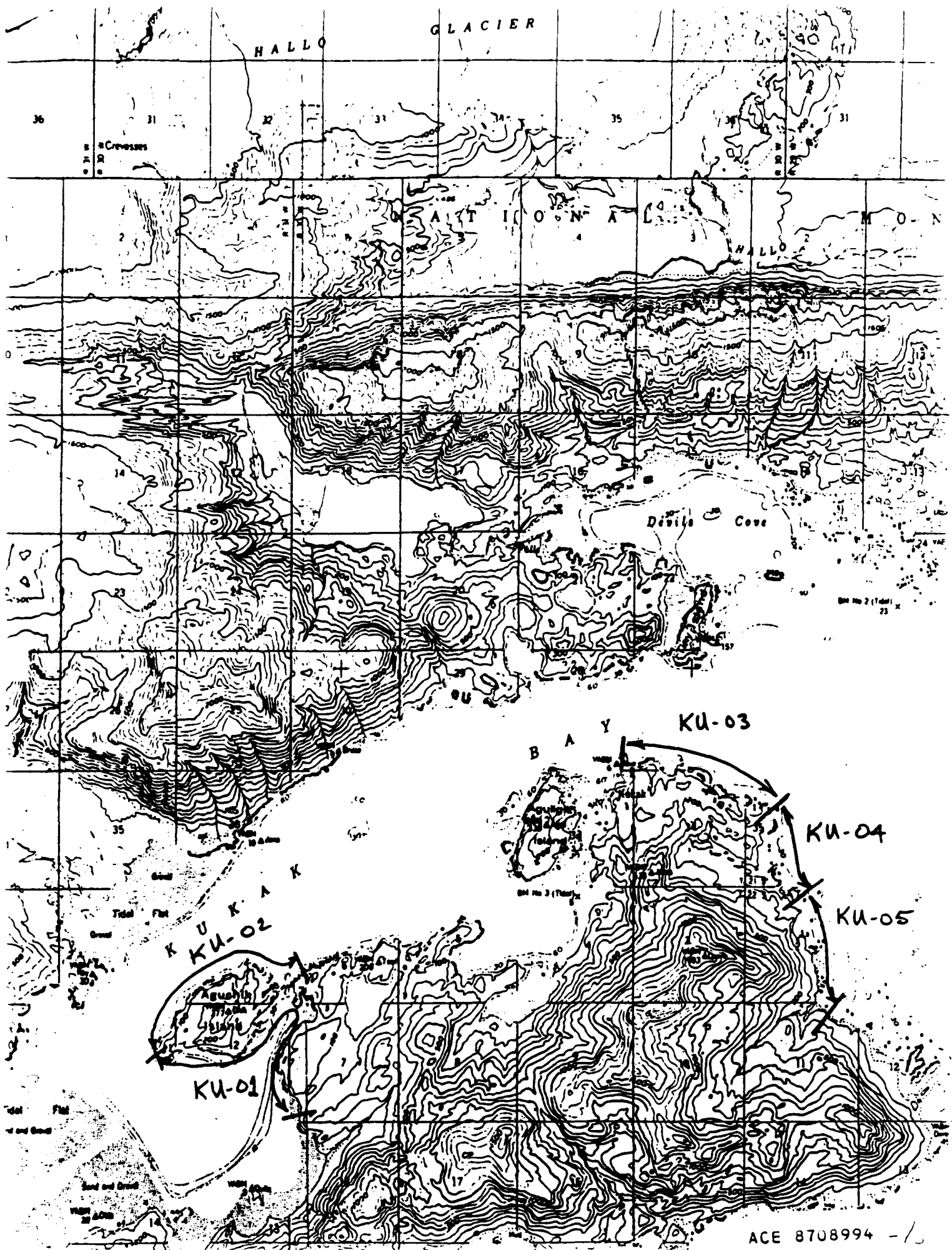
OTHER OBSERVATIONS: Moderate amounts of algal drift (oiled). Very little shell debris.

CLEANUP PRECAUTIONS: Bears present in area. Avoid oil contamination and foot traffic through healthy low ITZ. Avoid contamination of streams

MAMMALS: Otters      Harbor Seals      Sea Lions      Whales       
 Other Bear scat & tracks. - \* 1 dead newborn ♀ Dall's Porpoise \* not oiled!

BIRDS: 15-18 White-winged scoters; 3 Glaucous-winged gulls fly by. Ravens. 2 dead oiled birds

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





(version 5/02/89)

**SHORELINE CLEANUP PROGRAM**

DATE 7/28/89

SHORELINE SEGMENT K9-21-K<sup>K</sup>5

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.

**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

ate: 07/16/89 / Time: 10:56  
 urveyed From: Foot/Boat/Helio/Plane

Observer: R. G. G. E.  
 Weather: Sun/Cloud/Rain/Snow/Fog

ATION KUKAI BAY Segment ID: K09-21-KU-05  
 ocation: NEAR SHORE  
 Segment Length: 2,300 m. Access: Vehicle/Boat/Barge/Helio/Float Plane  
 Access Restrictions: NEAR SHORE

SHORELINE

Shoreline Type: SPI/BEA/COV/HLD/STRT Slope: Lo/Med/Hi/Vert  
 ave Exposure: High/Med/Low  
 ediment: B 20% / C 10% / P 10% / G&S 50% / M 50% / R 50%

IL

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

IL DISTRIBUTION

ontinuous % of Segment 30 SU/SP/H/M/L H/M/L/VL  
 sporadic % of Segment 30 SU/SP/H/M/L H/M/L/VL

| otal       | Length(m)  | Width(m)  | Thickness >1cm:                   | SU/SP/H/M/L |
|------------|------------|-----------|-----------------------------------|-------------|
| ery light: | <u>200</u> | <u>21</u> | <u>—</u> cm                       | SU/SP/H/M/L |
| ight:      | <u>100</u> | <u>1</u>  | Penetration/Rework: <u>0.2</u> cm | SU/SP/H/M/L |
| oderate:   | <u>—</u>   | <u>—</u>  | Burial Depth: <u>—</u> cm         | SU/SP/H/M/L |
| heavy:     | <u>—</u>   | <u>—</u>  |                                   |             |

obilization Potential: High/Medium/Low  
 rift Debris Oiled? Y/N Amount: H/M/L/VL SU/SP/H/M/L Type: Seaweed Log

IL MORPHOLOGY

ooled Oil: — % SU/SP/H/M/L  
 Free" Oil: — % SU/SP/H/M/L  
 plattered: 10 % H/M/L/VL SU/SP/H/M/L  
 oated: 90 % H/M/L/VL SU/SP/H/M/L  
 ancakes/Balls: — % SU/SP/H/M/L

Preliminary Cleanup Est.

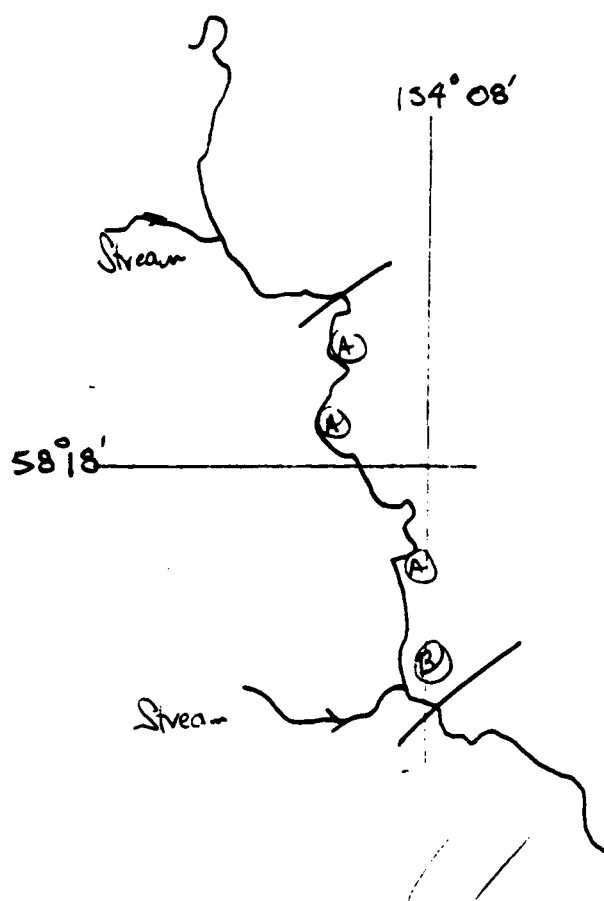
Total TYPE A: 300 m  
 Total TYPE B: — m  
 Total TYPE A/B: — m

IL WEATHERING

resh: — % SU/SP/H/M/L  
 ousse: 90 % SU/SP/H/M/L  
 eathered Mousse: 10 % SU/SP/H/M/L  
 sphalt Mousse: — % SU/SP/H/M/L  
 ar: — % SU/SP/H/M/L

OMMENTS

- 1) THREE (3) POCKET BEACHES (NEAR SHORE)
- 2) ONE BEACH (200M) - SPORADIC BANDS OF MOUSSE AT HT.

DOCUMENTATION:Map/Aerial photo marking segment boundaries K09-21-KU-05VTR: Y/N Tape Number(s) \_\_\_\_\_Photography: Y/N Roll Number(s) RG-1Sample Numbers Collected: N/AKU-05

- (A) DOCKED BEACHES (V. LIGHT D - )
- (B) BEACH (200M) WITH LIGHT DILING

## ECOLOGICAL EVALUATION

LOCATION: Kukak Bay SITE: Mainland head - Kukak Bay OBSERVER: J. Tarpley  
 LOCATION PREFIX: K9/KU SEG. NO.: K9-21-KU-05 LENGTH: 2300 (M)

DATE: 7/16/89 TIME (HHMM): 2045 TIDE HT.: ~ +1.5m (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

Other algae present - Scytosiphon, Ulva, Enteromorpha, Polysiphonia, Crustose Corallines

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: 2 Large streams through beach. F/W seep creating F/W Pool.  
Moderate amt. of oiled algal drift.

CLEANUP PRECAUTIONS: Bears present in area. Avoid oil contamination  
of streams and healthy low ITZ

MAMMALS: Otters      Harbor Seals 1 Sea Lions      Whales       
 Other Bear Tracks and scat

BIRDS: 15 White Wing Scoters; Bald Eagle + rest; Sandpipers; Pigeon Guillemot (1)

GENERAL OBSERVATIONS: Oil splatter & penetrating mousse at high tide line



(version 5/02/89)

**SHORELINE CLEANUP PROGRAM**

DATE 7/28/89

SHORELINE SEGMENT K9-21-K<sup>K</sup>-6

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

Date: 07/17/89 Time: 0845  
 Surveyed From: Foot/Boat/Helio/Plane

Observer: Rick G. Lee  
 Weather: Sun/Cloud/Rain/Snow/Fog

CATION  
 Location: KUKUK BAY Segment ID: K09-21-KA-06  
 Segment Length: 2.060 m. Access: Vehicle/Boat/Barge/Helio/Float Plane  
 Access Restrictions: EXTENSIVE REEF AND ROCKS

SHORELINE

Shoreline Type: SPI/SEA/COV/HLD/STRT Slope: Lo/Med/Hi/Vert  
 Wave Exposure: High/Med/Low  
 Sediment: B30 / C5 / P5 / G&S / M / R60

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 20 SU/SP/H/M/L H/M/L/VL

| Total       | Length(m)  | Width(m)   | Thickness >1cm:     | cm            | SU/SP/H/M/L |
|-------------|------------|------------|---------------------|---------------|-------------|
| Very light: | <u>100</u> | <u>1-2</u> |                     |               |             |
| Light:      | <u>100</u> | <u>1-2</u> | Penetration/Rework: | <u>0.3</u> cm | SU/SP/H/M/L |
| Moderate:   |            |            | Burial Depth:       |               | SU/SP/H/M/L |
| Heavy:      |            |            |                     |               |             |

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

OIL MORPHOLOGY

| Pooled Oil:     | %         | SU/SP/H/M/L |
|-----------------|-----------|-------------|
| "Free" Oil:     |           | SU/SP/H/M/L |
| Splattered:     | <u>5</u>  | H/M/L/VL    |
| Coated:         | <u>90</u> | H/M/L/VL    |
| Pancakes/Balls: | <u>4</u>  | SU/SP/H/M/L |

Preliminary Cleanup Est.

Total TYPE A: 200 m  
 Total TYPE B: \_\_\_\_\_ m  
 Total TYPE A/B: \_\_\_\_\_ m

OIL WEATHERING

| Fresh:            | %         | SU/SP/H/M/L |
|-------------------|-----------|-------------|
| Mousse:           | <u>40</u> | SU/SP/H/M/L |
| Weathered Mousse: | <u>50</u> | SU/SP/H/M/L |
| Asphalt Mousse:   |           | SU/SP/H/M/L |
| Tar:              | <u>10</u> | SU/SP/H/M/L |

COMMENTS

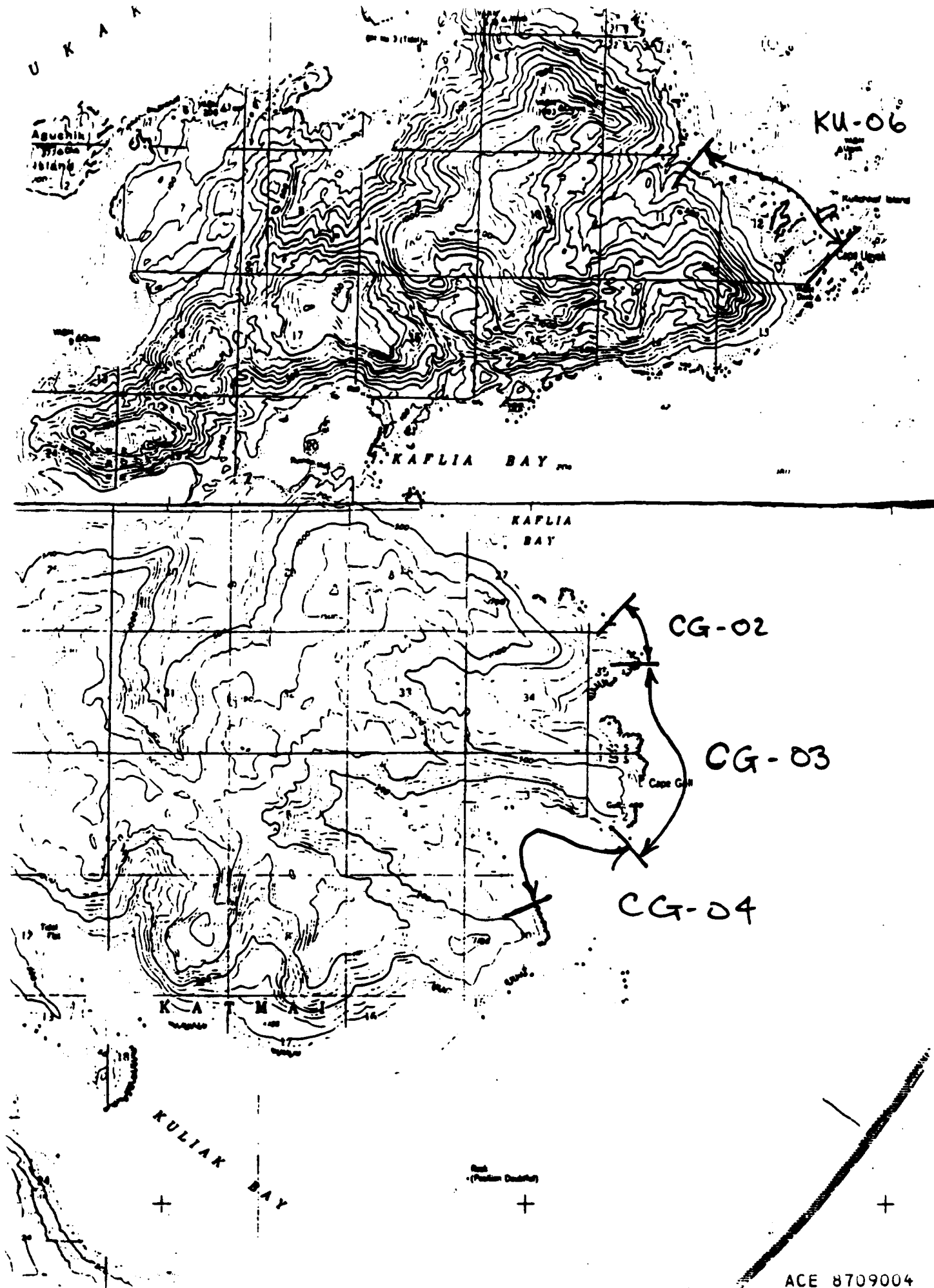
- POCKET BEACHES HAVE VARIABLE CONTAMINATED DEBRIS AND LIGHT OILING OF HIGH TIDE PEBBLE/COBBLE SEDIMENTS
- SEE FIELD NOTES (ATTACHED) FOR DESCRIPTION OF POCKET BEACH OILING.

DOCUMENTATION:Map/Aerial photo marking segment boundaries K09-21-KA-06VTR: Y/N Tape Number(s) \_\_\_\_\_Photography: Y/N Roll Number(s) RG-1Sample Numbers Collected: N/A

- BEACHES ① to ⑤







ACE 8709004

## ECOLOGICAL EVALUATION

LOCATION: Kukak Bay SITE: Headland South of Bay OBSERVER: J. Tarpley  
 LOCATION PREFIX: K9/KU SEG. NO.: K9-21-KU-06 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, Adenanthalia, Alaria, Polysiphonia, Halosaccus, Ulva

**Mytilus** (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N  
\* loosely packed throughout most of the segment

**Balanus** (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N  
Heavy settlement of new recruits throughout the segment

**Littorina**

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

Other snails included Margarites & Succella

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

Lottia digitalis, Tectura septentrionalis, Notammina peruviana

OTHER OBSERVATIONS: Clambeds offshore ⇒ Saxidomus, Razor, Littlenecks;

Eagle Nests within this segment. Many tidal pools rich with life in this segment.  
At Cape Ugyak 1000's of jellyfish? Eutima sp. in the water.

CLEANUP PRECAUTIONS: Bears Common in this area. Avoid oil contamination of  
streams and healthy lower ITZ beaches and rocky points.

MAMMALS: Otters \_\_\_\_\_ Harbor Seals \_\_\_\_\_ Sea Lions \_\_\_\_\_ Whales \_\_\_\_\_  
 Other Bear tracks, Fox tracks, Small Caribou skeleton

BIRDS: 1 - dead oiled bird  
Glaucous-wing gulls, Puffins, Kittiwakes, Elk Turnstones, Bald Eagles, Harlequin Ducks

GENERAL OBSERVATIONS: This segment contains 5 "beaches" separated by  
Rocky points and cliffs. Oil contamination splatter through mid-tidal to pooled mounds  
and penetrating into rocks at high ITZ + splash zone.

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/28/89

SHORELINE SEGMENT K9-21-K<sup>K</sup>U-7

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

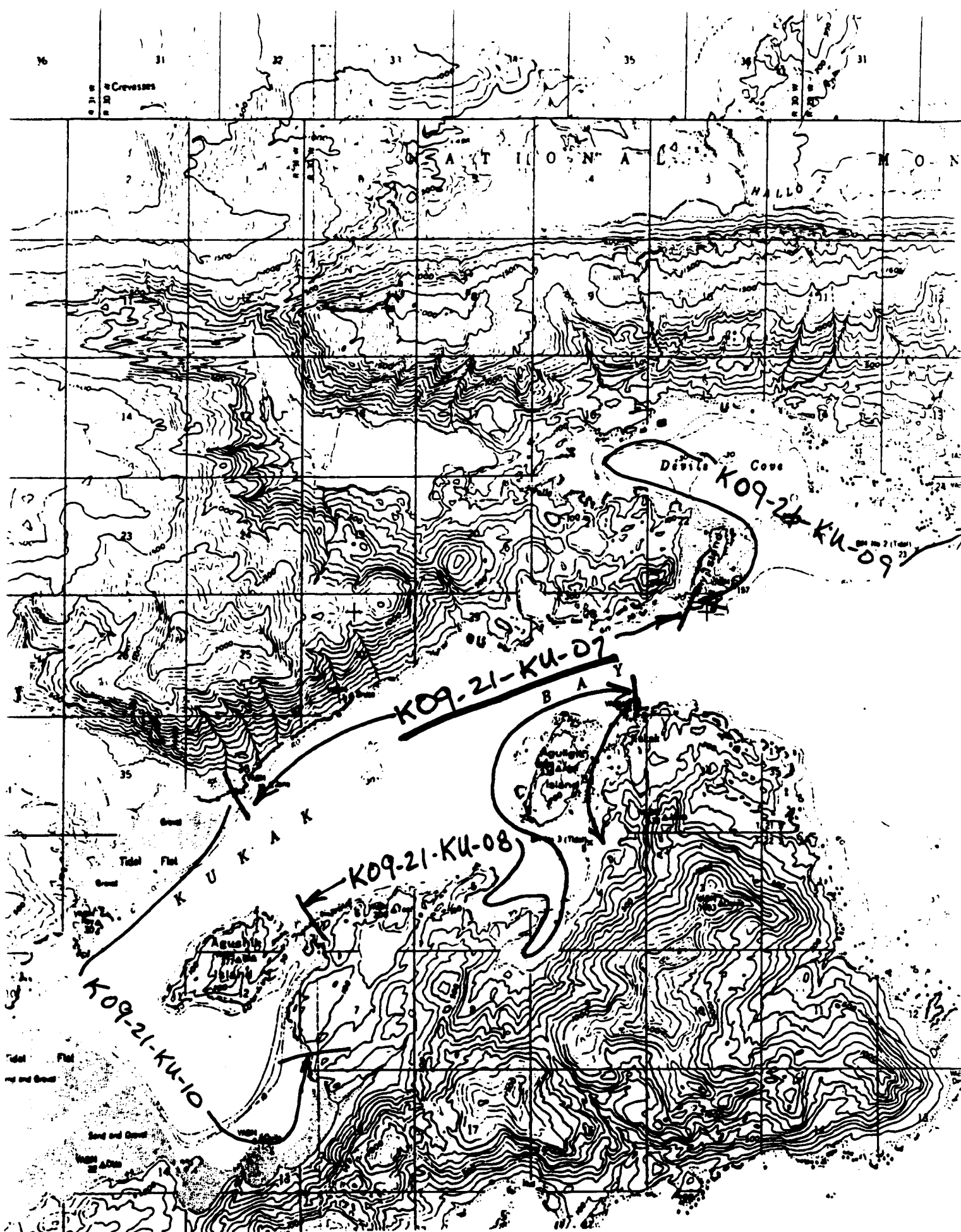
EXXON: \_\_\_\_\_

Date: \_\_\_\_\_

FOSC: \_\_\_\_\_

Date: \_\_\_\_\_

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



SHORELINE OIL EVALUATION

Date: 07/23/89 Time: 12:02  
Surveyed From: Foot/Boat/Helio/Plane

Observer: Rick GWE  
Weather: Sun/Cloud/Rain/Snow/Fog

Location: KUKAK BAY (NORTH SIDE) Segment ID: K09-21-KU-07  
Segment Length: 9800 m. Access: Vehicle/Boat/Barge/Helio/Float Plane  
Access Restrictions: NO SHORE ROCKS

SHORELINE

Shoreline Type: SPI/BEA/COV/HLD/STRT Slope: Lo/Med/Hi/Vert  
Wave Exposure: High/Med/Low  
Sediment: B20 / C10 / P10 / G&S / M / R60

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: | <u>      </u> | <u>      </u> | Thickness >1cm: <u>      </u> cm     | SU/SP/H/M/L |
| Light:      | <u>      </u> | <u>      </u> | Penetration/Rework: <u>      </u> cm | SU/SP/H/M/L |
| Moderate:   | <u>      </u> | <u>      </u> | Burial Depth: <u>      </u> cm       | SU/SP/H/M/L |
| Heavy:      | <u>      </u> | <u>      </u> |                                      |             |

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:     | <u>      </u> % | SU/SP/H/M/L |
| "Free" Oil:     | <u>      </u> % | SU/SP/H/M/L |
| Spattered:      | <u>      </u> % | SU/SP/H/M/L |
| Coated:         | <u>      </u> % | SU/SP/H/M/L |
| Pancakes/Balls: | <u>      </u> % | SU/SP/H/M/L |

H/M/L/VL H/M/L/VL

Preliminary Cleanup Est.

Total TYPE A:        m  
Total TYPE B:        m  
Total TYPE A/B:        m

OIL WEATHERING

|                   |                 |             |
|-------------------|-----------------|-------------|
| Fresh:            | <u>      </u> % | SU/SP/H/M/L |
| Mousse:           | <u>      </u> % | SU/SP/H/M/L |
| Weathered Mousse: | <u>      </u> % | SU/SP/H/M/L |
| Asphalt Mousse:   | <u>      </u> % | SU/SP/H/M/L |
| Bar:              | <u>      </u> % | SU/SP/H/M/L |

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-3Sample Numbers Collected: N/A

July 23/89

Rick Gille

SEGMENT K09-21-KA-07

- low at Tin Island, 12:02
- boulder beach
- NO OIL OBSERVED
- Stop #1

12:20 Stop #2

- deep cobble beach
- rare oil splash
- mostly NO OIL
- no clean up

12:40 Stop #3

- cove with narrow entrance
- mud slope cobble beach
- NO OIL OBSERVED
- very low energy

13:03 Stop #4

- 400 m long gravel beach
- NO OIL OBSERVED

13:30 Stop #5

- 200 m gravel beach
- boulders at low tide
- big gravel river mouth at end of segment
- NO OIL OBSERVED

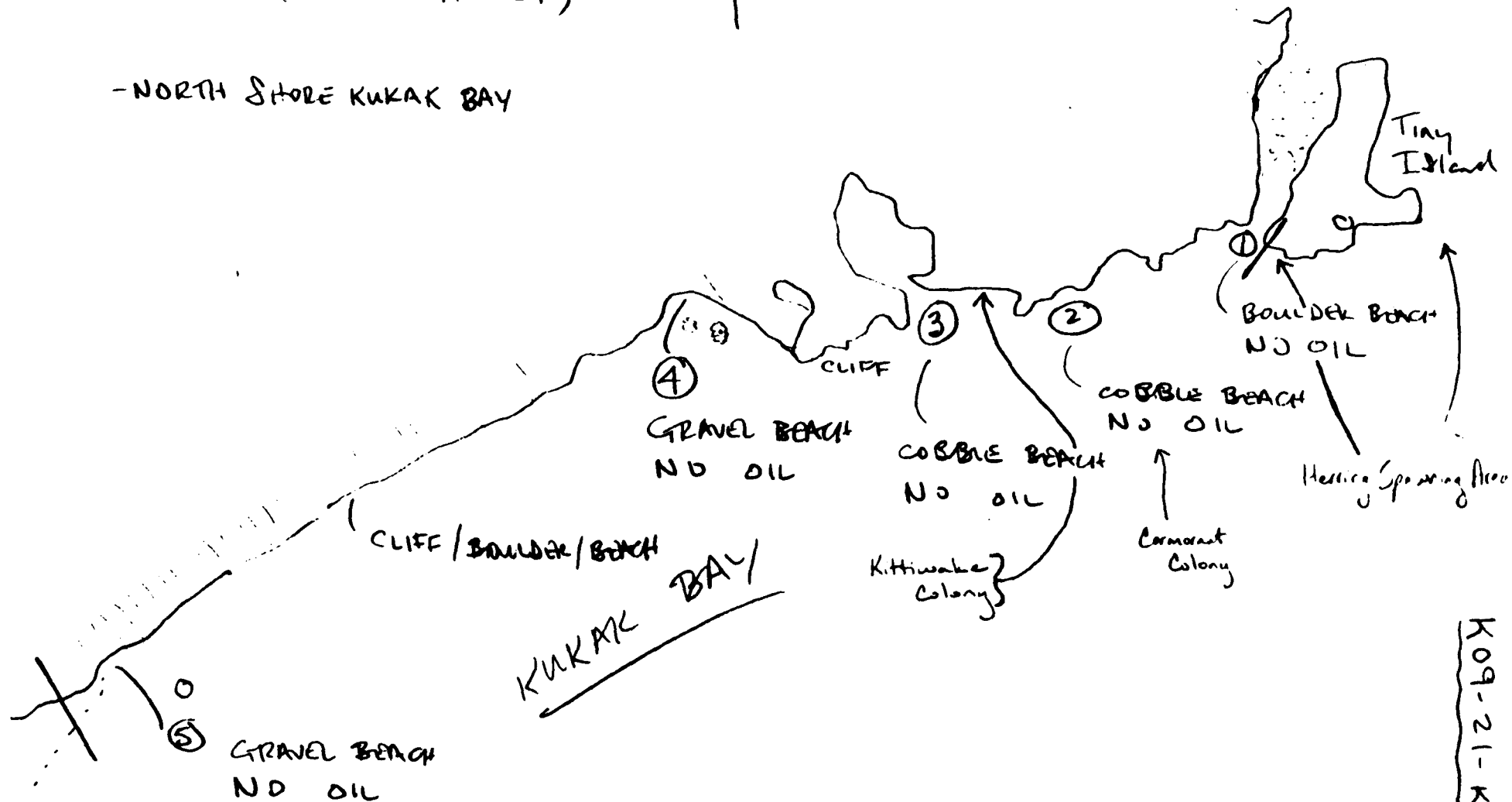
- Summary

- NO OIL
- No Clean-up recommended

KUKAK BAY  
(K09-21-KU-07)



- NORTH SHORE KUKAK BAY



ACE 8709012

LENGTH = 9,300 M.

K09-21-KU-07



## ECOLOGICAL EVALUATION

LOCATION: LUKAK LAY SITE: North Shore OBSERVER: J. TarpleyLOCATION PREFIX: K9/KU SEG. NO.: K9-21-KU-07 LENGTH: 9.800 (M)DATE: 7/23/89 TIME (HHMM): 1200-1330 TIDE HT.: -0.5m (M)OILED ZONE: Splash High Medium Low ☒SUBSTRATUM: Rocks Boulder Cobble Gravel Sand MudLIVE BIOTAFucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NPhyllospora on beach \*4; other algae present - Enteromorpha, Ulva, Porphyra, Fleshy Reds, KelpsMytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NBalanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NLittorinaPatchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NLittorina marginata presentLimpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NOTHER OBSERVATIONS: Sea bird nesting colonies; Area around Tiny Island & Devils Cove  
is a Herring Spawning ground.CLEANUP PRECAUTIONS: No cleanup recommended.MAMMALS: Otters      Harbor Seals      Sea Lions      Whales       
Other     BIRDS: Red-Faced Cormorant & Kittiwake Nesting Colonies; Bald Eagles, Ravens Pigeon Guillemots, Herring  
DucksGENERAL OBSERVATIONS: No oil observed

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/28/89

SHORELINE SEGMENT K9-21-K<sup>K</sup>U-8

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

ADEC NO. \_\_\_\_\_ SHORELINE ASSESSMENT DATE: 7/23/89

**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 4/21/89 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

ate: 07/23/39 Time: 14:00  
 Surveyed From: (Foot) (Boat) (Helio) (Plane)

Observer: Rick Gilie  
 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)/(Helio)/(Float Plane)  
 Access Restrictions: LIMITED NEAR SHORE ROCKS

SHORELINE

Shoreline Type: SPI/(BEA)/(COV)/(HLD)/STRT Slope: Lo/(Med)/(Hi)/(Vert)  
 Wave Exposure: High/(Med)/(Low)  
 Sediment: B 20 / C 10 / P 10 / G&S \_\_\_ / M \_\_\_ / R 60

IL

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           |
|------------|---------------------------|------------------------|--------------------|
| Spodic     | % of Segment <u>&lt;1</u> | SU/ <u>(SP)</u> /H/M/L | H/M/L/ <u>(VL)</u> |

| Total       | Length(m) | Width(m)     | Thickness >1cm:     | cm  | SU/SP/H/M/L |
|-------------|-----------|--------------|---------------------|-----|-------------|
| Very light: | <u>10</u> | <u>&lt;1</u> | Penetration/Rework: | ___ | SU/SP/H/M/L |
| Light:      | ___       | ___          | Burial Depth:       | ___ | 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:     | %         | SU/SP/H/M/L            |
|-----------------|-----------|------------------------|
| "Free" Oil:     | ___       | SU/SP/H/M/L            |
| Splattered:     | <u>50</u> | SU/ <u>(SP)</u> /H/M/L |
| Coated:         | ___       | SU/SP/H/M/L            |
| Pancakes/Balls: | <u>50</u> | SU/SP/H/M/L            |

H/M/L/(VL)  
 H/M/L/VL

Preliminary Cleanup Est.

Total TYPE A: 10 m  
 Total TYPE B: \_\_\_ m  
 Total TYPE A/B: \_\_\_ m

OIL WEATHERING

| Fresh:            | %          | SU/SP/H/M/L            |
|-------------------|------------|------------------------|
| Mousse:           | ___        | SU/SP/H/M/L            |
| Weathered Mousse: | <u>100</u> | SU/ <u>(SP)</u> /H/M/L |
| Asphalt Mousse:   | ___        | SU/SP/H/M/L            |
| Tar:              | ___        | SU/SP/H/M/L            |

COMMENTS

- 1) RARE TAR BALLS ON BEACHES (1 and 2). APPROX 1  
 PIECE OF MOUSSE (5 cm DIAMETER DIAMETER / 20 M OF BEACH).
- 2) OTHER AREAS (3-6) NO OIL.

DOCUMENTATION:Map/Aerial photo marking segment boundaries K09-21-KU-08VTR: Y/N Tape Number(s) \_\_\_\_\_Photography: Y/N Roll Number(s) RG-3Sample Numbers Collected: N/A

July 23/09

SEGMENT K09-21-KU-08

Stop #1 14:00

- shingle cobble beach
- v light oil
- rare oil splats (mousse)
- recommend removal of oiled debris (sticks + rocks)
- oil in SD-HTZ
- concentration - 1 piece (10cm diameter) every 20m of beach
- walk approx 20m of shoreline
- small mosaic patches (5cm dia) every 20m of beach
- Very, very light oil
- Clean-up - walk shoreline
- remove tubulids + oiled debris

Ride Crillie

- Rocky shore
- Cliff/boulders
- Pocket gravel/cobble beach with v. v. light oil

14:25 Stop #2

- pocket beach in deep embayment
- 1 tuball observed
- otherwise - NO OIL!

14:50 Stop #3

- head of protected bay
- NO OIL on beaches

15:10 Stop #4

- NO OIL

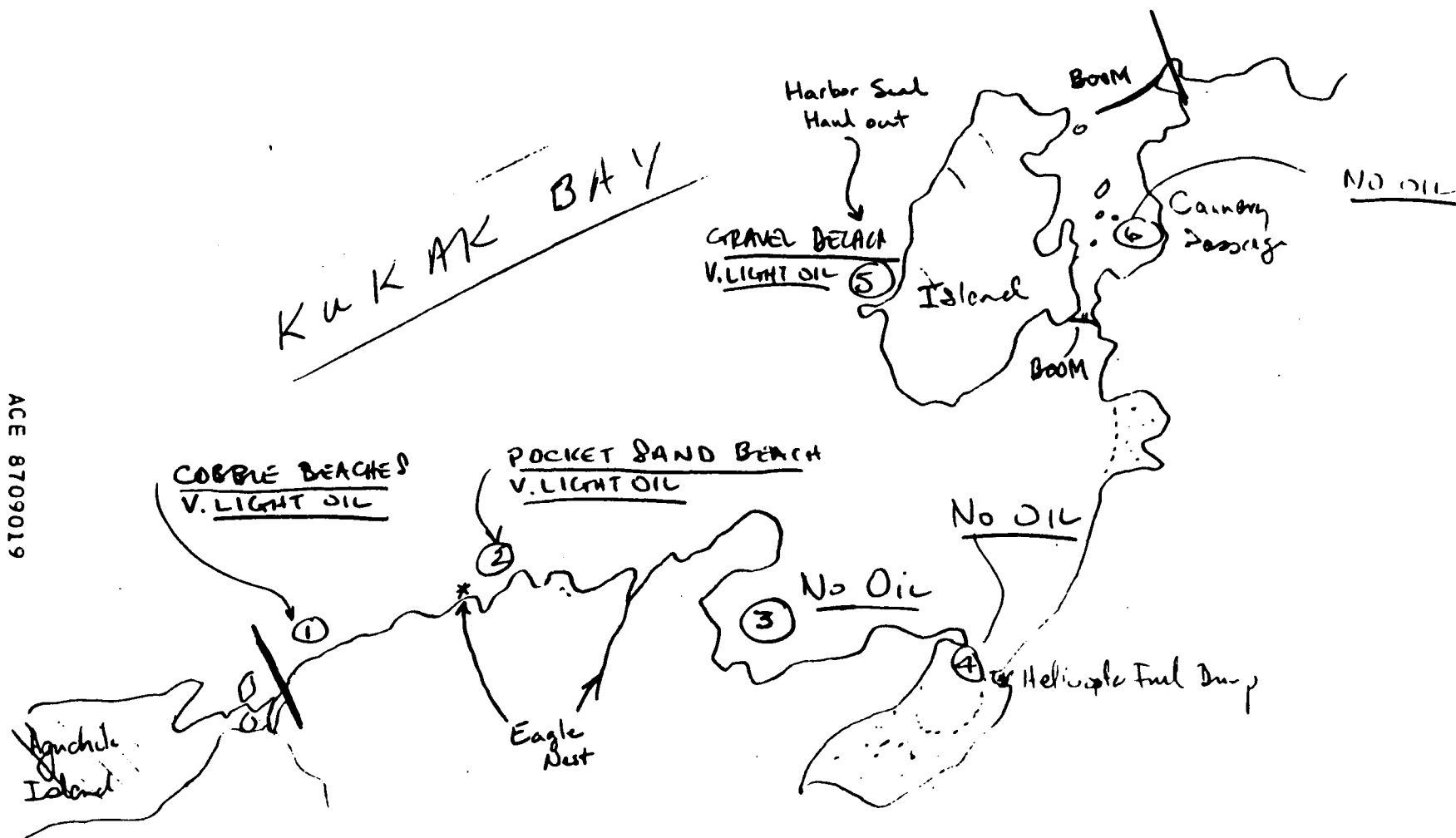
15:23 Stop #5

- pocket gravel beach
- 1-2 tubulids/mousse only

15:45 Thin Canney Passage  
NO OIL

КУКА-1 ЗАЧ

(К04-21-КУ-08)



ACE 8709019

LENGTH = 14 000 M

XC-21-X-1-C-0

## ECOLOGICAL EVALUATION

LOCATION: KUKAS BAY SITE: South Shore OBSERVER: J. Tarpiu  
 LOCATION PREFIX: K9/KU SEG. NO.: K9-21-KU-08 LENGTH: 14,000 (M)  
 DATE: 7/23/89 TIME (HMM): 1400-1600 TIDE HT.: ~ +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

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

Margarites & Nucella 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 included  
Mytilus and Saccidomus. Jellyfish in small bags.

CLEANUP PRECAUTIONS: Avoid heavy foot traffic across healthy low ITZ and on intertidal  
rocky boulder outcrops.

MAMMALS: Otters      Harbor Seals ~12 Sea Lions      Whales       
 Other Bear tracks near Boat i Harbor seals w/pups hauled out off Aguligik Island.

BIRDS: Eagles, Gulls, Kittiwakes, Harlequin Ducks

GENERAL OBSERVATIONS:





(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/28/89

SHORELINE SEGMENT K9-21-K<sup>K</sup>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 FOSC 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.

  
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: 07/24/89 / Time: 16:25  
 Surveyed From: Foot/Boat/Helio/Plane

Observer: RICK GILLIE  
 Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION  
 Location: KUKAK BAY Segment ID: K09-21-KU-10  
 Segment Length: 11,200 m. Access: Vehicle/Boat/Barge/Helio/Float Plane  
 Access Restrictions: TIDAL FLATS

SHORELINE

Shoreline Type: SPI/BEA/COV/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 /  
 Sporadic % of Segment /

SU/SP/H/M/L  
 SU/SP/H/M/L

H/M/L/VL  
 H/M/L/VL

| Total       | Length(m) | Width(m) |
|-------------|-----------|----------|
| Very light: | <u>/</u>  | <u>/</u> |
| Light:      | <u>/</u>  | <u>/</u> |
| Moderate:   | <u>/</u>  | <u>/</u> |
| Heavy:      | <u>/</u>  | <u>/</u> |

Thickness >1cm: / cm  
 Penetration/Rework: / cm  
 Burial Depth: / cm

SU/SP/H/M/L  
 SU/SP/H/M/L  
 SU/SP/H/M/L

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: / %

H/M/L/VL  
 H/M/L/VL

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: / %  
 Feathered 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

COMMENTS

0 NO OIL OBSERVED!

DOCUMENTATION:Map/Aerial photo marking segment boundaries K09-21-Ku-10VTR: Y/N Tape Number(s) \_\_\_\_\_Photography: Y/N Roll Number(s) RG-3Sample Numbers Collected: N/A

July 29 / 89

Rick Grille

K09-21 K11-10

16:23

- Head of Kukuk Bay

16:45 Complete helio survey at  
80' off the ground.

- No trace of oil  
observed

- No oiled debris

- sunny clear

- mild flats

- 1 seen observed.

# ECOLOGICAL EVALUATION

LOCATION: Kukak Bay SITE: Head of Bay OBSERVER: J. Terpley  
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 & Caribou 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



(version 5/02/89)

**SHORELINE CLEANUP PROGRAM**

DATE 7/28/89

SHORELINE SEGMENT K9-21-K<sup>K</sup>9-9

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.

A. David M. Mahan  
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: 07/24/89 Time: 13:40  
 Surveyed From: Foot/Boat/Helio/Plane

Observer: Rick G. WIE  
 Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION  
 Location: KUKAK BAY (DEVILS COVE) Segment ID: K09-21-KU-09  
 Segment Length: 13.700 m. Access: Vehicle/Boat/Barge/Helio/Float Plane  
 Access Restrictions: NONE

SHORELINE

Shoreline Type: SPI/SEA/COY/HLD/STRT Slope: Lo/Med/Hi/Vert  
 Wave Exposure: High/Med/Low  
 Sediment: B20 % / C10 % / P20 % / G&S10 % / M % / R40 %

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 | <u>/</u> | SU/SP/H/M/L | H/M/L/VL |
| Sporadic   | % of Segment | <u>/</u> | SU/SP/H/M/L | H/M/L/VL |

|             |           |          |                     |    |             |
|-------------|-----------|----------|---------------------|----|-------------|
| Total       | Length(m) | Width(m) | Thickness >1cm:     | cm | SU/SP/H/M/L |
| Very light: | <u>/</u>  | <u>/</u> | Penetration/Rework: | cm | SU/SP/H/M/L |
| Light:      | <u>/</u>  | <u>/</u> | Burial Depth:       | cm | SU/SP/H/M/L |
| Moderate:   | <u>/</u>  | <u>/</u> |                     |    |             |
| Heavy:      | <u>/</u>  | <u>/</u> |                     |    |             |

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:     | <u>/</u> | SU/SP/H/M/L |
| "Free" Oil:     | <u>/</u> | SU/SP/H/M/L |
| Splattered:     | <u>/</u> | SU/SP/H/M/L |
| Coated:         | <u>/</u> | SU/SP/H/M/L |
| Pancakes/Balls: | <u>/</u> | SU/SP/H/M/L |

|          |             |
|----------|-------------|
| H/M/L/VL | SU/SP/H/M/L |
| H/M/L/VL | SU/SP/H/M/L |

Preliminary Cleanup Est.

|                 |            |
|-----------------|------------|
| Total TYPE A:   | <u>/</u> m |
| Total TYPE B:   | <u>/</u> m |
| Total TYPE A/B: | <u>/</u> m |

OIL WEATHERING

|                   |          |             |
|-------------------|----------|-------------|
| Fresh:            | <u>/</u> | SU/SP/H/M/L |
| Mousse:           | <u>/</u> | SU/SP/H/M/L |
| Weathered Mousse: | <u>/</u> | SU/SP/H/M/L |
| Asphalt Mousse:   | <u>/</u> | SU/SP/H/M/L |
| Tar:              | <u>/</u> | SU/SP/H/M/L |

COMMENTS

① No Oil



**DOCUMENTATION:**

Map/Aerial photo marking segment boundaries \_\_\_\_\_

VTR:     Y/N         Tape Number(s) \_\_\_\_\_

Photography:   Y/N         Roll Number(s) \_\_\_\_\_

Sample Numbers Collected: \_\_\_\_\_

July 24/89

SEGMENT K09-21-KU-09

Stop # (1) 13:40 (BARK!)

- 200m long mixed sand & gravel beach
- rare oiled driftwood
- rare mouse pelt
- BARK - 40m from us in the grass
- Retreat!
- V.V. Light oil

Stop # (2) 14:00

- 400m long mixed s & g beach
- No oil
- No oil
- No oil in beach to the west!

Rick Collins

Stop # 3

- head of Devils Cove
- 300m long beach
- gravel & sand
- protected
- NO OIL

15:00 Stop # (4)

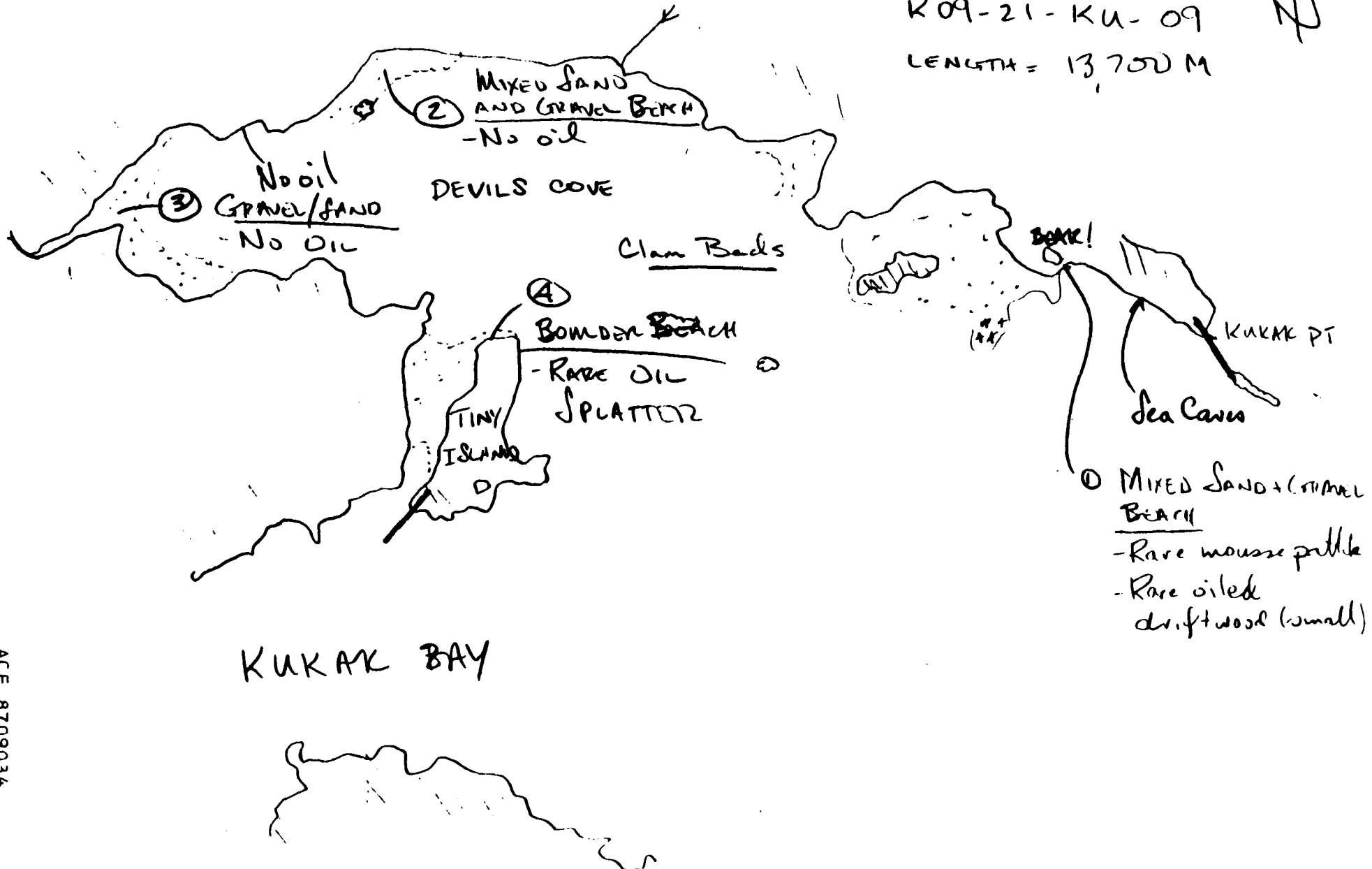
- back of Ting Island
- boulder beach
- rare oil splatter
- rare oiled drift sticks

15:15 Back up toward the "KING'S DAM"  
Head back to RENGELI  
at the Fuel Dump.

KUKAK BAY

K09-21-KU-09

LENGTH = 13,700 M



## ECOLOGICAL EVALUATION

LOCATION: Kukak Bay SITE: Devils Cove OBSERVER: J. TarpleyLOCATION PREFIX: K9/KU SEG. NO.: K9-21-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/NPhyllospadix beds extensive throughout Cove.Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NSparse to dense aggregations depending on substratumBalanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NGrowing 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/NOTHER OBSERVATIONS: Clam beds in cove. Herring Spawning Area in CoveCLEANUP PRECAUTIONS: Bears in segment. Very Shallow Cove.MAMMALS: Otters \_\_\_\_\_ Harbor Seals \_\_\_\_\_ Sea Lions \_\_\_\_\_ Whales \_\_\_\_\_  
Other 1 bear on beach + tracks; 1 Caribou tracksBIRDS: Eagle, Gulls, Kittiwakes, Pigeon Guillemots, Murres. (1 dead oiled bird)GENERAL OBSERVATIONS: No oil observed.

CULTURAL RESOURCE EVALUATION

Date 24 July 1989 Location Kuhak Bay Site \_\_\_\_\_

Location Prefix KU Segment # 09 Length 13.7 KM

(K9-21/KU-09)

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 m Tree fringe surveyed Up to 300m

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, steep cliffs; low-lying vegetation.

Fresh Water Sources Streams

Sea Exposure Protected to the north and west.

Access/Safety Boat landings on coastlines outside of Devil's Cove 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 \_\_\_\_\_

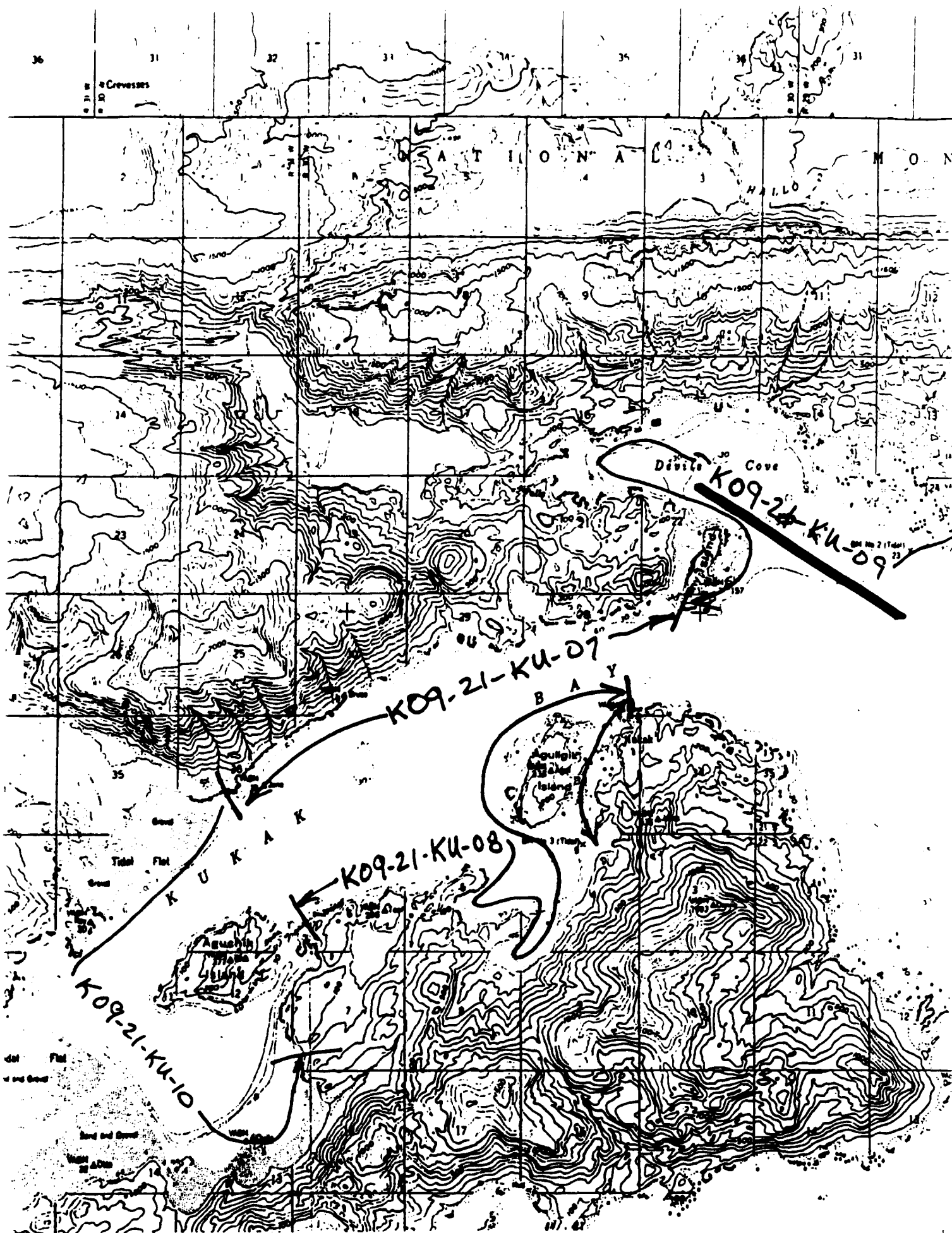
B/W Roll # None Frames \_\_\_\_\_

Observer(s) Ty L. DILLIPLANE

Time survey started 1337 hrs Time survey ended 1507 hrs

Cultural resource considerations/restraints:

Standard Constraint.



KODIAK SCAT  
K9-22

**COMPLETE** JAN 11 1990

ACE 7963991

(version 6/04/89)

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

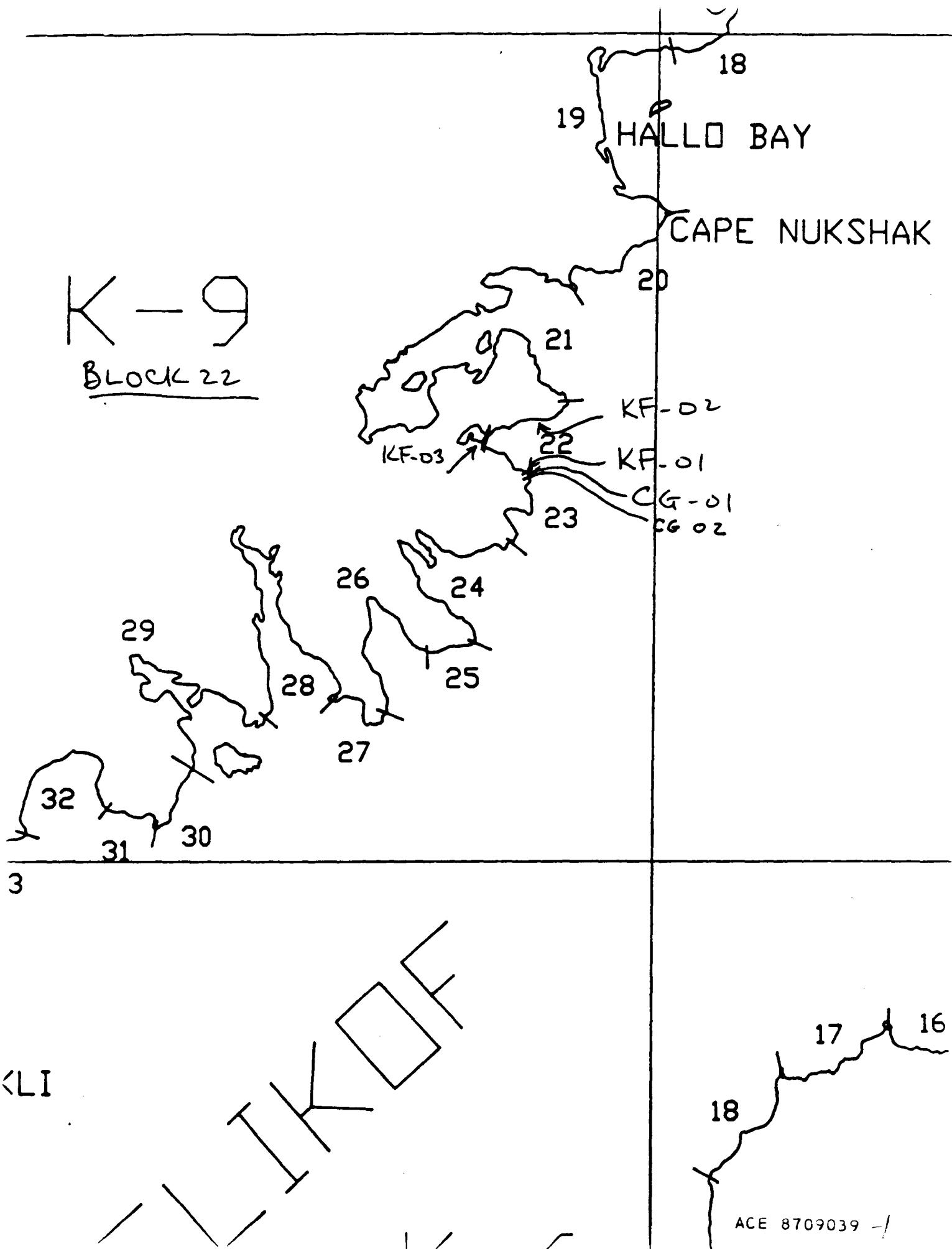
Submitted: \_\_\_\_\_ Date: \_\_\_\_\_  
(for Exxon)

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





(version 5/02/89)

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 handouts 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.

J. David M. McKelvey  
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.

KISCC

SHORELINE OIL EVALUATION

ate: 07/13/1989 Time: 08:50  
 Surveyed From: Foot/Boat/Helio/Plane

Observer: Rick Gilue  
 Weather: Sun/Cloud/Rain/Snow/Fog

LOCATIONLocation: CAPE GULLSegment ID: K09-22-CG-02Segment Length: 750 m. Access: Vehicle/Boat/Barge/Helio/Float PlaneAccess Restrictions: ROCKS, REEF, EXPOSEDSHORELINEShoreline Type: SPL/BEA/COV/HLD/STRTSlope: Lo/Med/Hi/VertWave Exposure: High/Med/LowSediment: B 30 % / C 10 % / P \_\_\_ % / G&S \_\_\_ % / M \_\_\_ % / R 60 %IL

vg. 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

Spodic % of Segment 10SU/SP/H/M/LH/M/L/VL

| Total       | Length(m)  | Width(m) |
|-------------|------------|----------|
| Very light: | <u>100</u> | <u>2</u> |
| Light:      | ___        | ___      |
| Moderate:   | ___        | ___      |
| Heavy:      | ___        | ___      |

Thickness >1cm: N/A cm

SU/SP/H/M/L

Penetration/Rework: N/A cm

SU/SP/H/M/L

Burial Depth: N/A cm

SU/SP/H/M/L

Mobilization Potential: High/Medium/LowDrift Debris Oiled? Y/N Amount: H/M/L/VL SU/SP/H/M/L Type: DEWETED (?)OIL MORPHOLOGY

Emulsified Oil: \_\_\_ %  
 Free Oil: \_\_\_ %  
 Splattered: \_\_\_ %  
 Coated: \_\_\_ %  
 Pancakes/Balls: \_\_\_ %

H/M/L/VL

H/M/L/VL

SU/SP/H/M/L

SU/SP/H/M/L

SU/SP/H/M/LSU/SP/H/M/L

SU/SP/H/M/L

-----  
Preliminary Cleanup Est.Total TYPE A: 100 m

Total TYPE B: \_\_\_ m

Total TYPE A/B: \_\_\_ m  
-----OIL WEATHERING

Fresh: \_\_\_ %  
 Mousse: \_\_\_ %  
 Feathered Mousse: \_\_\_ %  
 Asphalt Mousse: \_\_\_ %  
 Tar: \_\_\_ %

SU/SP/H/M/L

SU/SP/H/M/L

SU/SP/H/M/L

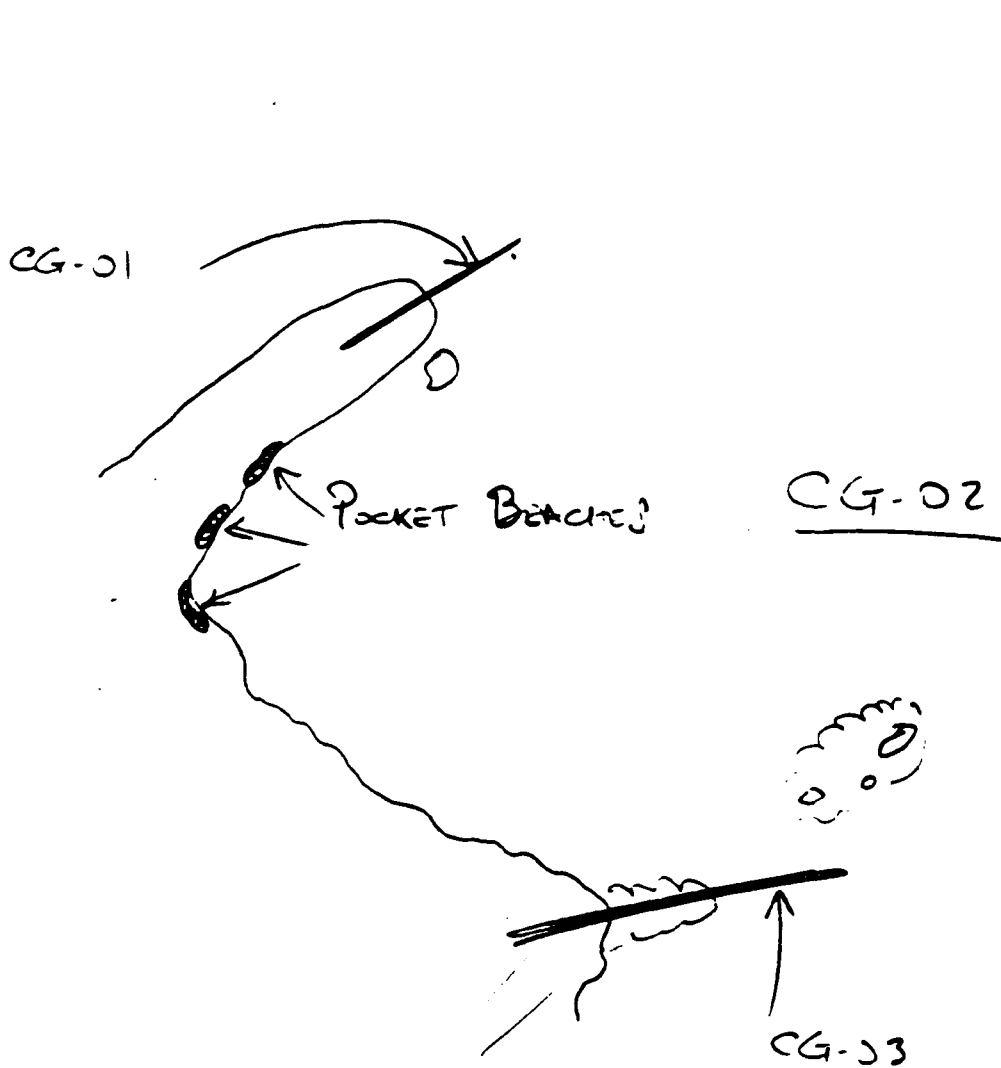
SU/SP/H/M/L

SU/SP/H/M/L

COMMENTS

1) SURVEYED FROM SKIFF ONLY, DID NOT LAND.

2) CLEAN-UP DEBRIS IF PRESENT

DOCUMENTATION:Map/Aerial photo marking segment boundaries K09-22-CG-02VTR: Y/N Tape Number(s) \_\_\_\_\_Photography: Y/N Roll Number(s) RG-2Sample Numbers Collected: N/A

## ECOLOGICAL EVALUATION

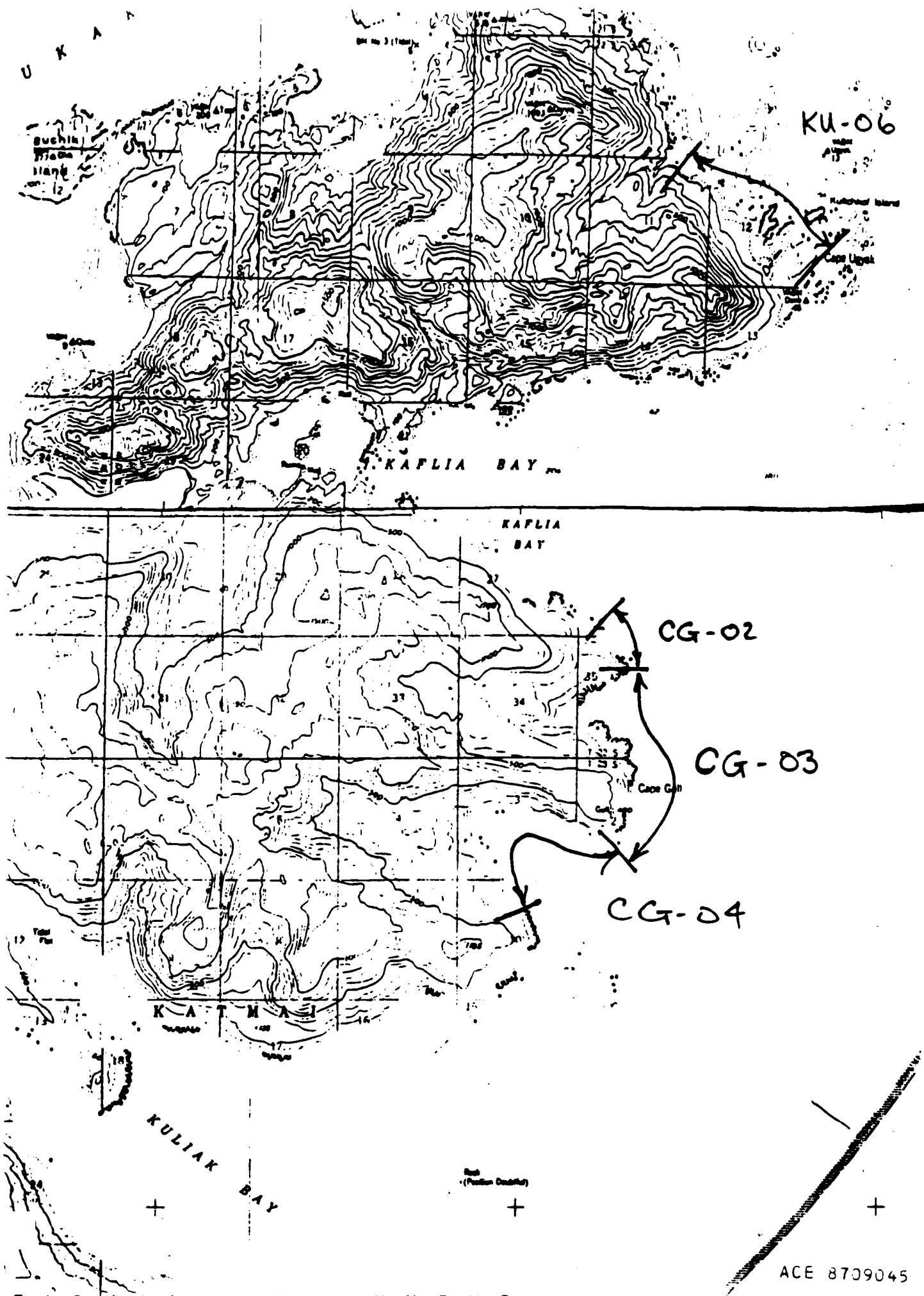
LOCATION: KAFUA BAY SITE: North of Cape Gull OBSERVER: J. TarpleyLOCATION PREFIX: K9/CG SEG. NO.: K9-22-CG-02 LENGTH: 750m (M)DATE: 7/18/89 TIME (HHMM): ~0900 TIDE HT.: -1.0m (M)OILED ZONE: Splash High Medium Low ☒SUBSTRATUM: Rocks Boulder Cobble Gravel Sand MudLIVE BIOTAFucus (algae): Patchy Y/N Contin. ☒ Y/N Dense Y/N Sparse Y/N None Y/NMytilus (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 skiffLimpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NCould not evaluate from skiff

OTHER OBSERVATIONS: \_\_\_\_\_

CLEANUP PRECAUTIONS: If clean up is necessary avoid oil contamination of healthy low ITZ.MAMMALS: Otters \_\_\_\_\_ Harbor Seals 1 Sea Lions \_\_\_\_\_ Whales \_\_\_\_\_  
Other 6-8 Dall's Porpoise in bay.BIRDS: Glaucous-winged Gulls, Kittiwakes, Oystercatchers, Black Turnstones, Pigeon Guillemots, CormorantsGENERAL OBSERVATIONS: Observed segment from skiff. Very rocky coastline with steep cliffs and boulders. Difficult access. No oil observed



ACE 8709045

(version 5/02/89)

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.

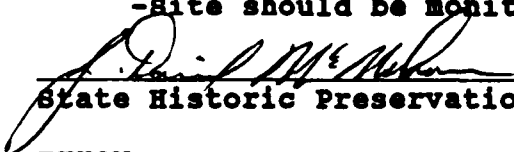
**Priorities/ Considerations: Class 3-A**

**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.

**Archeological 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 \*

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 FORM - KODIAK**

Date: June 25 / 1988 Time: 11:55

Observer: Mib Mib

Surveyed From: Foot/Boat/Helio/Plane

Weather: Sun/Cloud/Rain/Snow/Fog

**LOCATION**  
LOCATION

CAPE GULL

SEGMENT I.D. K9-23<sup>22</sup>-CG-1

LENGTH OF SHORELINE SEGMENT: 1090 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: BZD / CZD / PZD / QZD / SD / M / RZD

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

**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 see maps

Sporadic: Y/N Segment 70 Min/Max Dia 50 cm Impact Width 20-30 m

Est. Oil Thickness where > 1cm: 3<sup>10</sup> cm: SU / SP / UP / MID / LO  
Depth below top sed

Est. Oil Penetration: 15 cm SU / SP / UP / MID / LO

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 1 "Free" Oil 10 Spattered 90 H/M/L/VL Sheen     

**OIL WEATHERING (OW)**

Fresh Oil 0 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



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

CAPE GULL

June 25, 1989

CG-1

### COMMENTS

### SHORELINE OIL EVALUATION

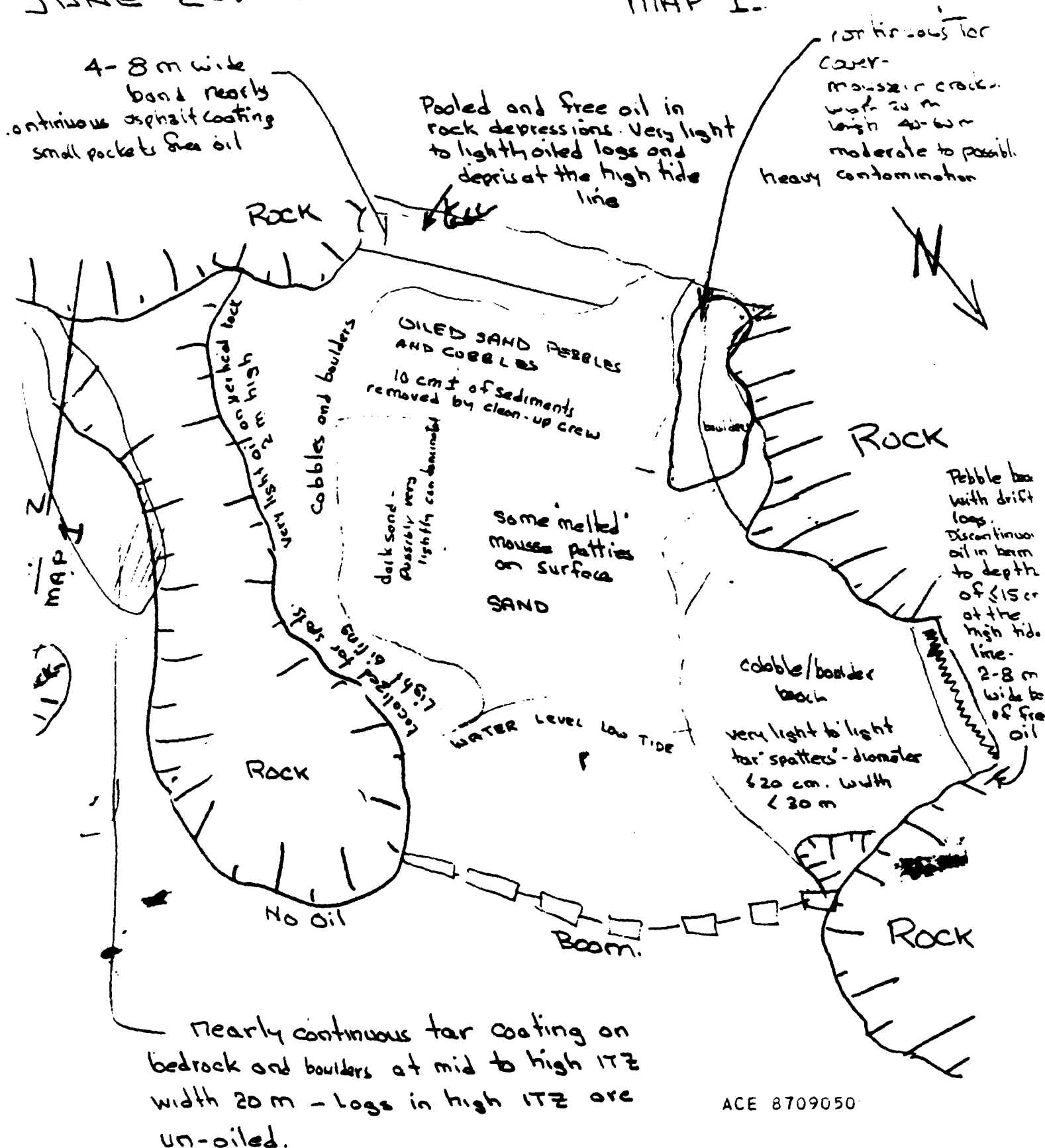
This segment consists of a rocky headland and a number of small pebble-cobble-boulder beaches. Sand deposits occur in the lower ITZ in the largest bay (see maps).

Oil contamination is variable. Heaviest concentrations occur on the north facing bay in the middle of the segment. As indicated on the attached maps, oil types include moderate to possible heavy - tar coatings on cobbles and boulders, buried tar and mousse in pebble berms, mousse pancake on sand deposits and oil coatings on vertical rock.

Manual clean-up activities, including removal of up to 10 cm of ~~the~~ 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<sup>+</sup>/porous sections of the beaches.

MIKE MILES  
JUNE 25/99

CAPE GULL  
CG-1  
MAP 1.



MIKE MILES  
JUNE 25/89

MAP 3  
MAP 2

CAPE GULL  
CG-1 MAP 2

cobbles + boulders  
no oil

Pebble berm  
no oil

BEAR  
GUARD

Oil penetration  
10-20 cm  
penetration  
Some logs  
lightly oiled

Pebble  
beach  
no oil

Cobble berm  
at storm tide  
level - with driftwood  
un-oiled

[clear of plants]

boulder-pebble  
berm - moderate to  
heavily oiled

Light to moderately oiled  
boulders. Oil generally on  
tops of boulders only

Rock

Pebble  
berm

cobbles +  
boulders  
Light oil to  
mid tide

boulders  
and rock

Water line at low tide

mid tide only

un-oiled

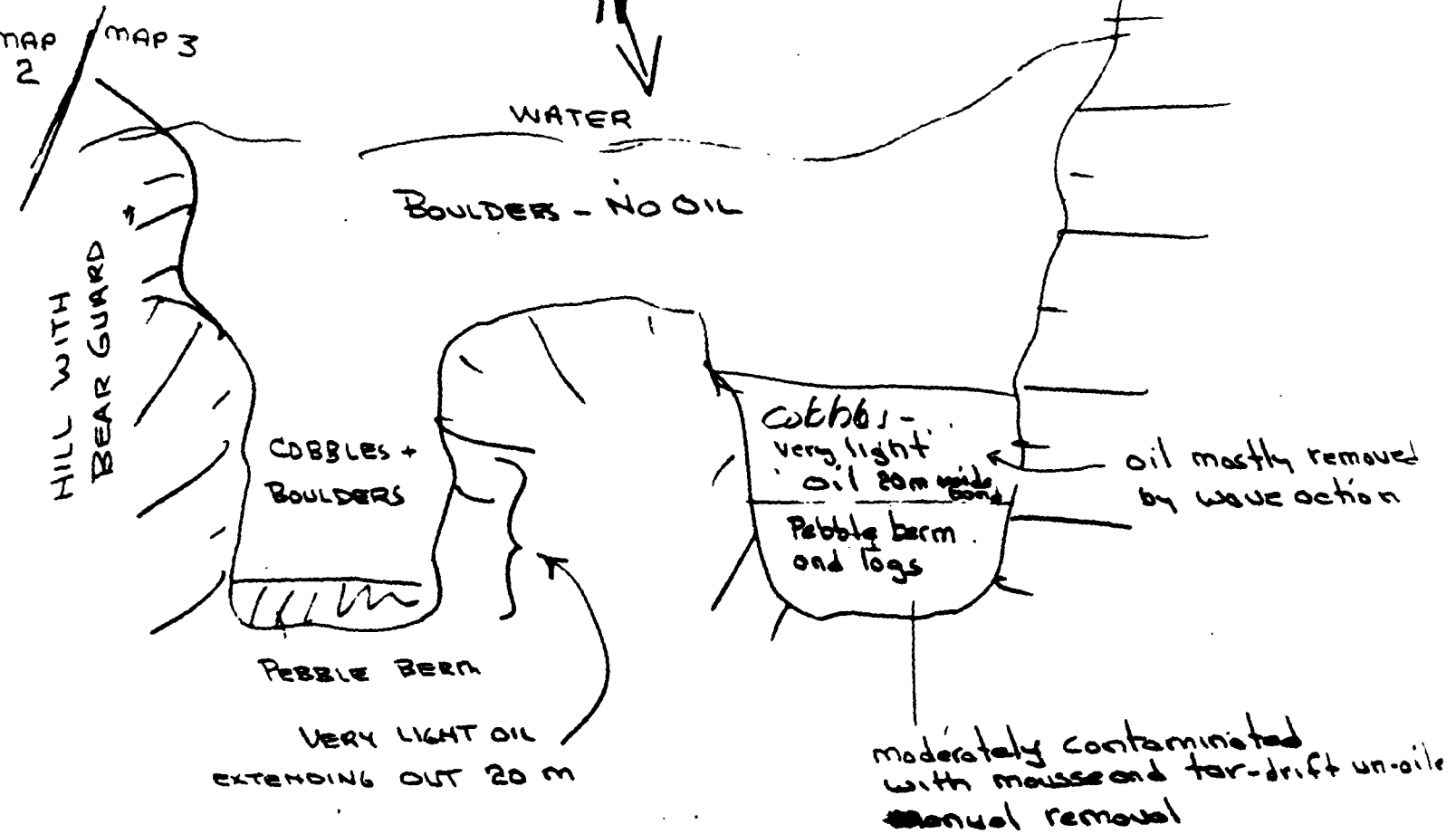
WATER LINE AT LOW TIDE

Rock

ACE 8709051

MIKE MILES  
JUNE 25/89.

CAPE GULL  
CG-1  
MAP 3.



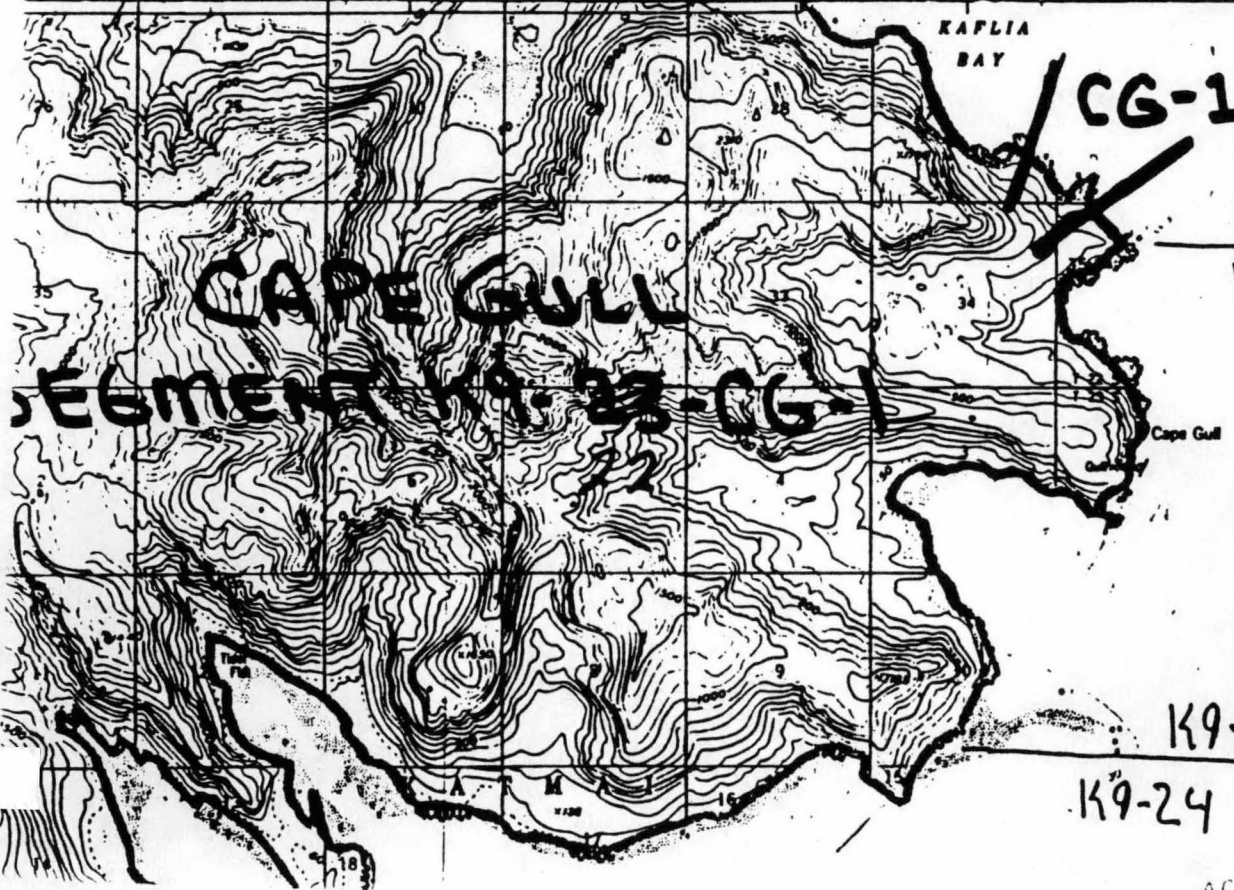
## ECOLOGICAL EVALUATION

LOCATION: CAPE GULL SITE: \_\_\_\_\_ OBSERVER: D. McCoemickLOCATION PREFIX: K9-22  
CB SEG. NO.: 1 LENGTH: 1090 (M)DATE: 6/25/89 TIME (HHMM): 1140 TIDE HT.: 10.25 (M)OILED ZONE: Splash High Medium LowSUBSTRATUM: Rocks Boulder Cobble <sup>Pebble</sup> Gravel Sand Mud

## LIVE BIOTA

**Fucus** (algae): Patchy ☒ Y/N Contin. ☒ Y/N Dense ☒ Y/N Sparse ☒ Y/N None ☒ Y/NHealthy in lower ITZ**Mytilus** (Mussels): Patchy ☒ Y/N Contin. ☒ Y/N Dense ☒ Y/N Sparse ☒ Y/N None ☒ Y/NDense on boulders, continuous in gravel, 10% oiled in mid tide zone <5% dead**Balanus** (Barnacles): Patchy ☒ Y/N Contin. ☒ Y/N Dense ☒ Y/N Sparse ☒ Y/N None ☒ Y/NHealthy in lower ITZ; no signs of being oiled in mid-high zone.**Littorina**Patchy ☒ Y/N Contin. ☒ Y/N Dense ☒ Y/N Sparse ☒ Y/N None ☒ Y/NHealthy in lower ITZ; 10% dead oiled in mid ITZ**Limpets**: Patchy ☒ Y/N Contin. ☒ Y/N Dense ☒ Y/N Sparse ☒ Y/N None ☒ Y/NHealthy in lower ITZOTHER OBSERVATIONS: clambells, cockle & whelk shells, Ulva, Laminaria, Eudoradia, Zostera  
in stream channel; sea anemones, hermit crabs, Scapharca, sculpins in str. channel - all unharmed  
and healthy.CLEANUP PRECAUTIONS: Take whatever precautions are necessary to avoid contamination  
of lower ITZ and stream channelMAMMALS: Otters \_\_\_\_\_ Harbor Seals \_\_\_\_\_ Sea Lions \_\_\_\_\_ Whales \_\_\_\_\_  
Other one oiled otter picked up by clean-up crewBIRDS: gulls & kittiwakes offshoreGENERAL OBSERVATIONS: Cleanup crew on this beach using pom-poms, solvents & shovels  
to remove most heavy oil. Warm temps. creating chocolate mousse and pooled oil in rocks.  
Cleanup should continue as type A - any type B cleanup would result in contaminating  
lower, clean ITZ

1721



**CG-1**  
K9-22  
K9-25

K9-23  
K9-24

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/28/89

SHORELINE SEGMENT K9-22-KF-1

LOCATION: (see enclosed map) Kaflia 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**

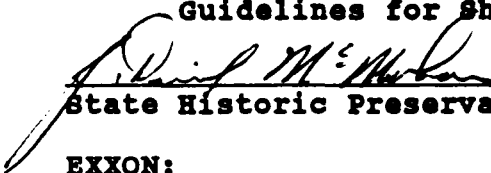
- Segment located within Katmai National Monument.
- Kaflia Bay is a red and pink salmon use bay.
- Harbor seal handouts also located in bay.

**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

ate: 07/22/89 Time: 10:23  
 urveyed From: Foot Boat Helio/Plane

Observer: Rick GILLIE  
 Weather: Sun/Cloud/Rain/Snow/Fog

ATION: KAFLIA BAY Segment ID: K09-22-KF-01  
 Segment Length: 4,000 m. Access: Vehicle/Boat/Barge Helio/Float Plane  
 Access Restrictions: NONE

## SHORELINE

shoreline Type: SPI/BEA/COV/HLD STRT Slope: Lo/Med/Hi/Vert  
 ave Exposure: High/Med/Low  
 ediment: B 20 % / C 10 % / P 10 % / G&S    % / M    % / R 60 %

## IL

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

## IL DISTRIBUTION

ontinuous % of Segment    SU/SP/H/M/L H/M/L/VL  
 sporadic % of Segment 10 SU/SP/H/M/L H/M/L/VL

| otal       | Length(m) | Width(m)   | Thickness >1cm: <u>  </u> cm     | SU/SP/H/M/L          |
|------------|-----------|------------|----------------------------------|----------------------|
| ery light: | <u>  </u> | <u>  </u>  | Penetration/Rework: <u>  </u> cm | SU/SP/H/M/L          |
| ight:      | <u>  </u> | <u>  </u>  | Burial Depth: <u>0.3</u> cm      | SU/SP/ <u>H</u> /M/L |
| oderate:   | <u>50</u> | <u>2-3</u> |                                  |                      |
| heavy:     | <u>  </u> | <u>  </u>  |                                  |                      |

obilization Potential: High Medium/Low  
 rift Debris Oiled? Y/N Amount: H/M/L/VL SU/SP/H/M/L Type: DUFFING

## IL MORPHOLOGY

ooled Oil:    % SU/SP/H/M/L  
 Free" Oil:    % SU/SP/H/M/L  
 plattered: 10 % H/M/L/VL  
 oated: 60 % H/M/L/VL  
 ancakes/Balls: 30 % SU/SP/H/M/L

## Preliminary Cleanup Est.

Total TYPE A: 50 m  
 Total TYPE B:    m  
 Total TYPE A/B:    m

## IL WEATHERING

resh:    % SU/SP/H/M/L  
 ousse:    % SU/SP/H/M/L  
 eathered Mousse: 50 % SU/SP/H/M/L  
 sphalt Mousse:    % SU/SP/H/M/L  
 ar: 50 % SU/SP/H/M/L

## OMMENTS

DOCUMENTATION:Map/Aerial photo marking segment boundaries K09-22-KF-01VTR: Y/N Tape Number(s) \_\_\_\_\_Photography: Y/N Roll Number(s) RG-03Sample Numbers Collected: N/A

July 22, 1989

07:50 Up

08:20 Left Anchorage Depart for Kafil Bay

09:00 Call SCAT office re schedule for day

09:50 Middle Kafil Bay

### SEGMENT K09-22-KF-01

10:23 Land on beach (1) LIGHT - MOD

- 100m long
- cobble / pebble HTZ
- band of oil / debris at HTZ
- 2-3m wide, 50m long
- up to 0.3m deep
- remove oil and debris
- oil and pebbles
- minor oiled logs

10:35 Beach stop (2)

- NO OIL OBSERVED

- Very light oil splatter or rods between beach (1) and (2)

### 11:15 Beach Stop #3

- 500m long beach
- fine gravel / sand
- low energy
- NO OIL to very very light oil
- rare oil splatter - No go
- No clean-up recommended
- Rich lobster flats (sand/mud)

### 11:42 Beach Stop #4

- pocket beach - NO OIL

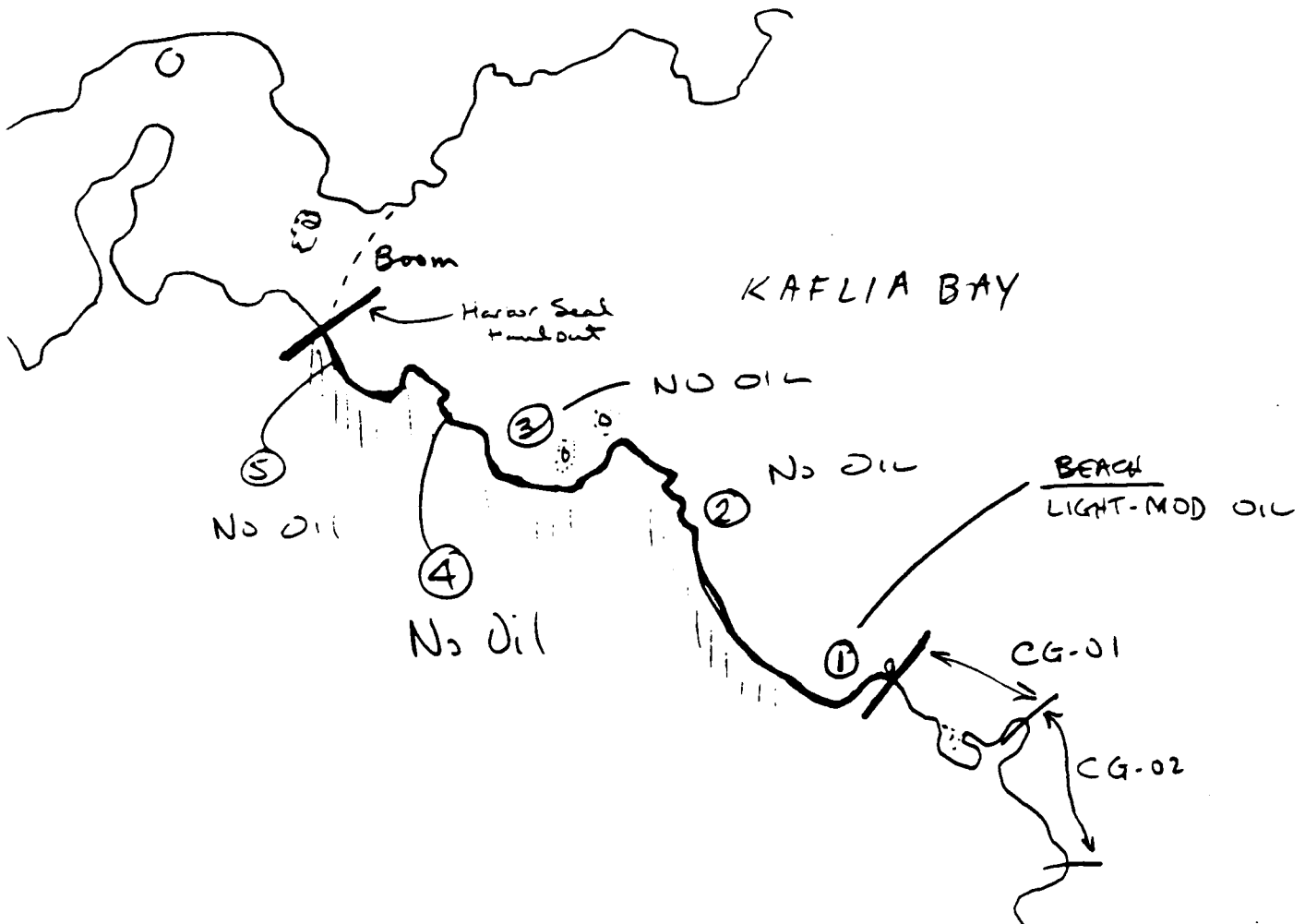
### 11:50 Beach Stop #5

- 300m long
- steep pebbles (50m wide)
- immediately outside boom
- NO OIL

12:00 Off the beach at boom

KAFLIA BAY

(K09-22-KF-01)



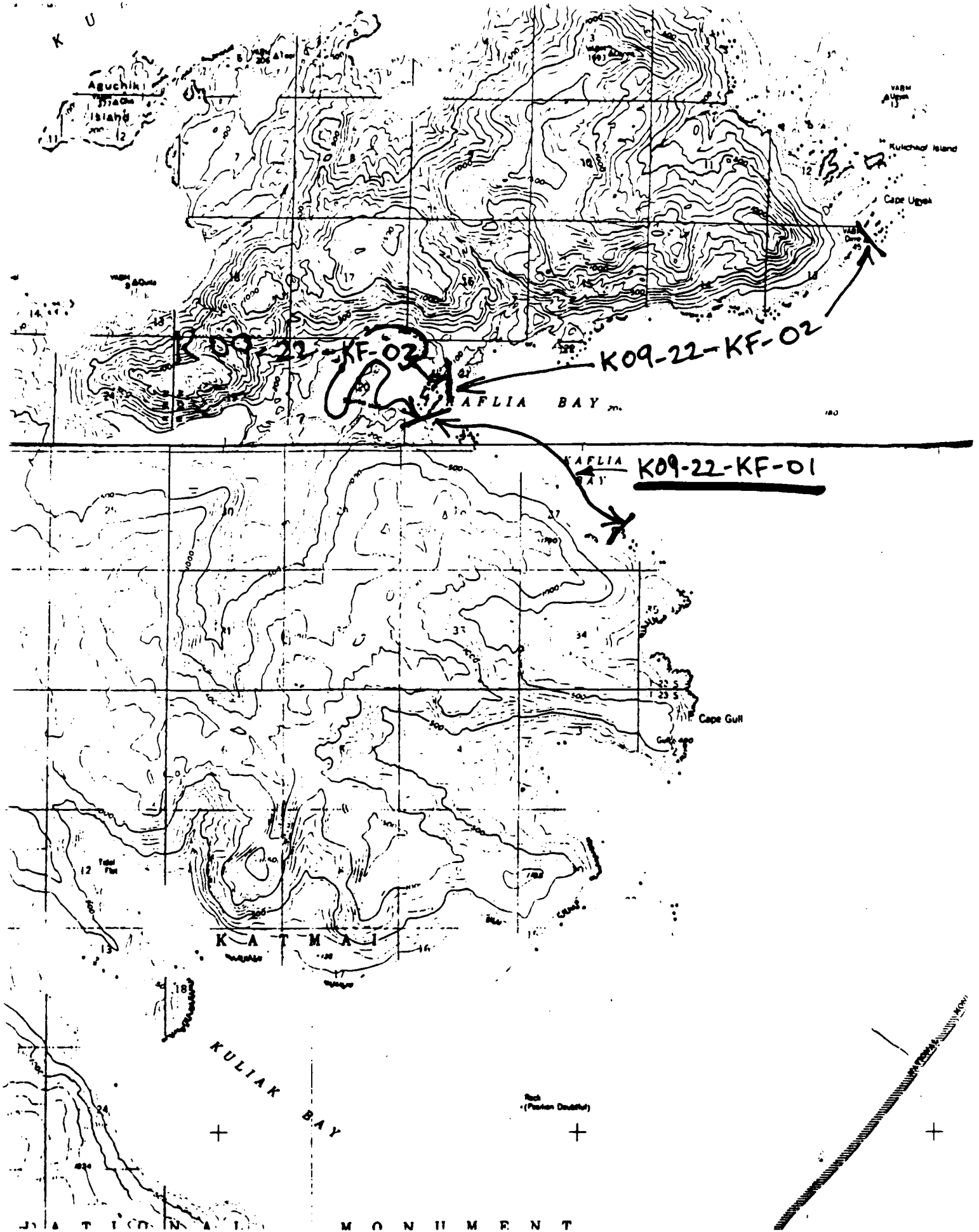
LENGTH = 4,000 M

## ECOLOGICAL EVALUATION

LOCATION: KAFIA BAY SITE: South shore OBSERVER: J. TarpleyLOCATION PREFIX: K9/KF SEG. NO.: K9-22-KF-01 LENGTH: 4,000 (M)DATE: 7/24/89 TIME (HHMM): 1020-1222 TIDE HT.: +0.5 → -1.0m (M)OILED ZONE: Splash High Medium LowSUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

## LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NOther algae present: Ulva, Porphyra, Scytosiphon, Acletozona, Fucus redsMytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NNew recruits primarily on beaches 1 & 2 (1-2 cm)Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NLittorinaPatchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NThroughout most of the segment Littorines are small (<0.5cm) new recruits; Margarita present also.Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NOTHER OBSERVATIONS: Beach #3 is relatively protected, sand-bottom with extensive mud as beach sand dollars and sea urchins (20-25/m<sup>2</sup>). Pisaster sp., Cancer magister and juvenile flatfish also abundant in this cove.CLEANUP PRECAUTIONS: Bears present in segment. Avoid oil contamination of healthy area. Should cleanup be necessary.MAMMALS: Otters      Harbor Seals      Sea Lions      Whales       
Other Bear tracks & pits on beachesBIRDS: Glaucous-winged gulls, Ravens, Eagles, Pigeons, Gulls, Mergansers, Auklets, etc.GENERAL OBSERVATIONS: Segment composed of high energy pocket beaches bounded by rocks and bedrock outcrops. Healthy marine biota on lg. boulders & bedrock with high energy cobbles beaches relatively free of life. Very light oil seen (beach #1).



ACE 8709063

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/28/89

SHORELINE SEGMENT K9-22-KF-2

LOCATION: (see enclosed map) Kafli 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  
 Surveyed From: Foot/Boat/Helio/Plane

Observer: RICK GILLIE  
 Weather: Sun/Cloud/Rain/Snow/Fog

Location: KAFIA BAY Segment ID: K09-22-KF-02  
 Segment Length: 8,100 m. Access: Vehicle/Boat/Barge/Helio/Float Plane  
 Access Restrictions: NEAR SHORE ROCKS

**SHORELINE**

Shoreline Type: SPI/BEA/COV/HLD/STRT Slope: Lo/Med/Hi/Vert  
 Wave Exposure: High/Med/Low  
 Sediment: B 10 % / C 10 % / P 10 % / G&S 10 % / M % / R 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 H/M/L/VL  
 Sporadic % of Segment < 1 % SU/SP/H/M/L H/M/L/VL

|             | Total Length(m) | Width(m)      | Thickness >1cm:     | cm               | SU/SP/H/M/L |
|-------------|-----------------|---------------|---------------------|------------------|-------------|
| Very light: | <u>10</u>       | <u>21</u>     |                     |                  |             |
| Light:      | <u>      </u>   | <u>      </u> | Penetration/Rework: | <u>      </u> cm | SU/SP/H/M/L |
| Moderate:   | <u>      </u>   | <u>      </u> | Burial Depth:       | <u>      </u> cm | SU/SP/H/M/L |
| Heavy:      | <u>      </u>   | <u>      </u> |                     |                  |             |

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

**OIL MORPHOLOGY**

|                 | %             | H/M/L/VL      | SU/SP/H/M/L |
|-----------------|---------------|---------------|-------------|
| Pooled Oil:     | <u>      </u> |               | SU/SP/H/M/L |
| "Free" Oil:     | <u>      </u> |               | SU/SP/H/M/L |
| Splattered:     | <u>50</u>     | <u>      </u> | SU/SP/H/M/L |
| Coated:         | <u>      </u> | <u>      </u> | SU/SP/H/M/L |
| Pancakes/Balls: | <u>50</u>     | <u>      </u> | SU/SP/H/M/L |

**Preliminary Cleanup Est.**

Total TYPE A: 10 m  
 Total TYPE B:        m  
 Total TYPE A/B:        m

**OIL WEATHERING**

|                   | %             | SU/SP/H/M/L |
|-------------------|---------------|-------------|
| Fresh:            | <u>      </u> | SU/SP/H/M/L |
| Mousse:           | <u>      </u> | SU/SP/H/M/L |
| Weathered Mousse: | <u>100</u>    | SU/SP/H/M/L |
| Asphalt Mousse:   | <u>      </u> | SU/SP/H/M/L |
| Tar:              | <u>      </u> | 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 K09-22-KF-02

VTR: Y/N Tape Number(s) \_\_\_\_\_

Photography: Y/N Roll Number(s) RG-3Sample Numbers Collected: N/A

July 22/1989

SEGMENT K09-22-KF-02

12:45 Start on north side of Kafila Bay, immediately outside of the protection Boom

Beach #1

- pocket gravel beach, 50m long
- no oil

13:00 Beach #2

- The prop fell off the outboard of the skiff in approx 6' of water.
- Had to get crew to dive for the prop

14:00 Recovered the prop and washer but no nut!  
Called the "ADVANTAGE" in Kukulik Bay. They have required spare parts

Rick Critch

14:05 Leave the head of KAFILA Bay enway to Kukulik Bay  
Cannot survey or walk coast, with no boat

15:40 Arrive Kukulik Bay  
Obtain parts from ADVANTAGE

15:52 Depart for Kafila Bay

17:30 Arrive Kafila Bay  
The tide is very high, but we have little ebb.

18:00 Beach #3

- 100m long cobble/pebble
- no oil
- HT/stom been about 1.5m above water line
- no oil

18:20 Beach 4

- 50m long, cobble
- 100m stick
- otherwise, NO OIL!

18:40 Beach #5

- Very light to No oil
- small mouse splat in 10m section of corner of the beach
- boulder beach
- insignificant amount of oil
- 1 oil bird

19:00 Beach #6

- no oil
- shingle pebble beach
- 50m long
- slim brown

19:20 Beach #7

- 200m long
- white sandy beach
- No oil
- beautiful beach

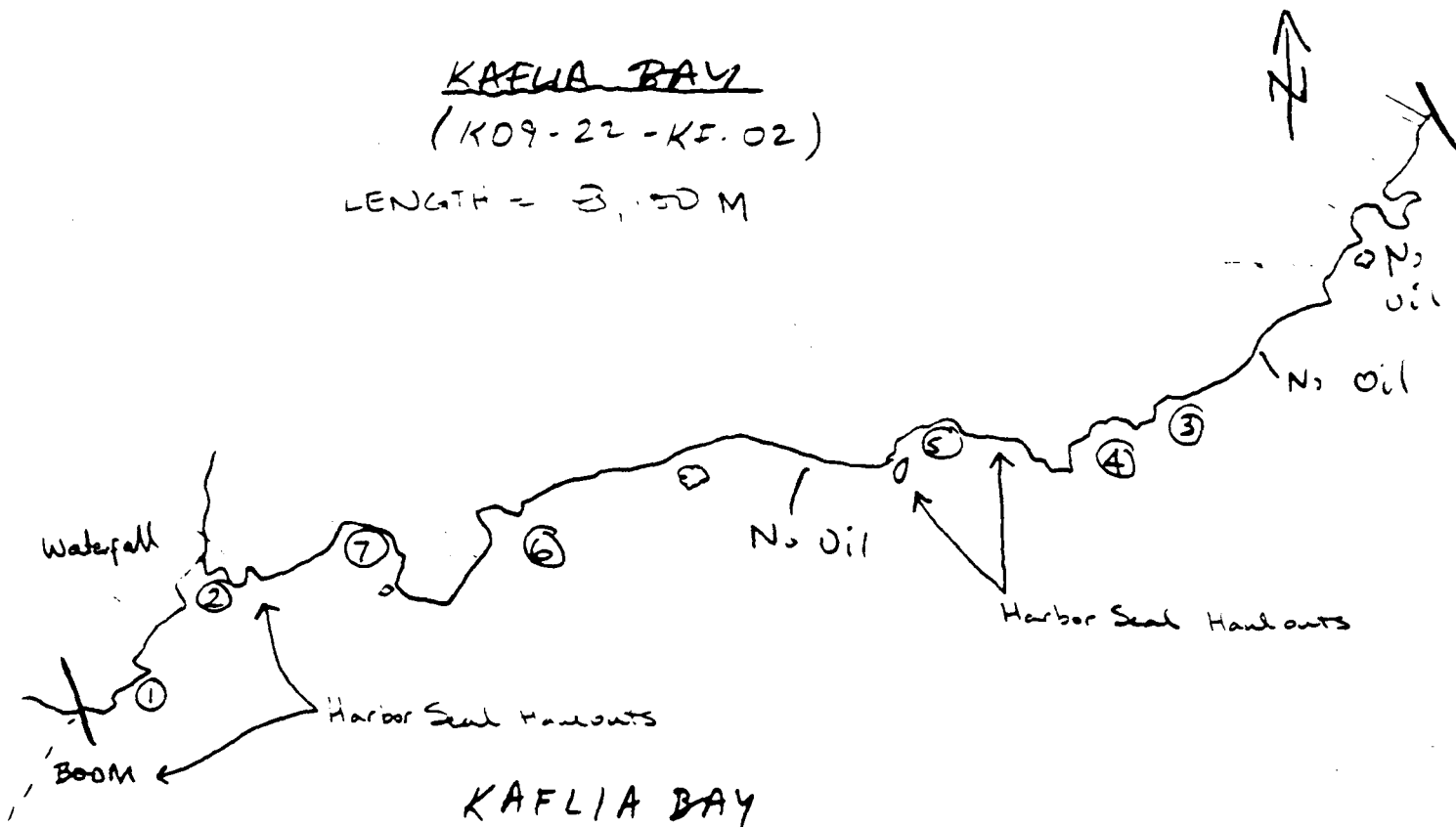
19:51 Beach #8

- mixed sand & gravel
- waterfall
- No oil!
- Recommend clean-up of beach #5

# KAFUA BAY

(K09-22-KF.02)

LENGTH = 3,50 M



## BEACHES

## OIL ?

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 BOUNDER BEACH

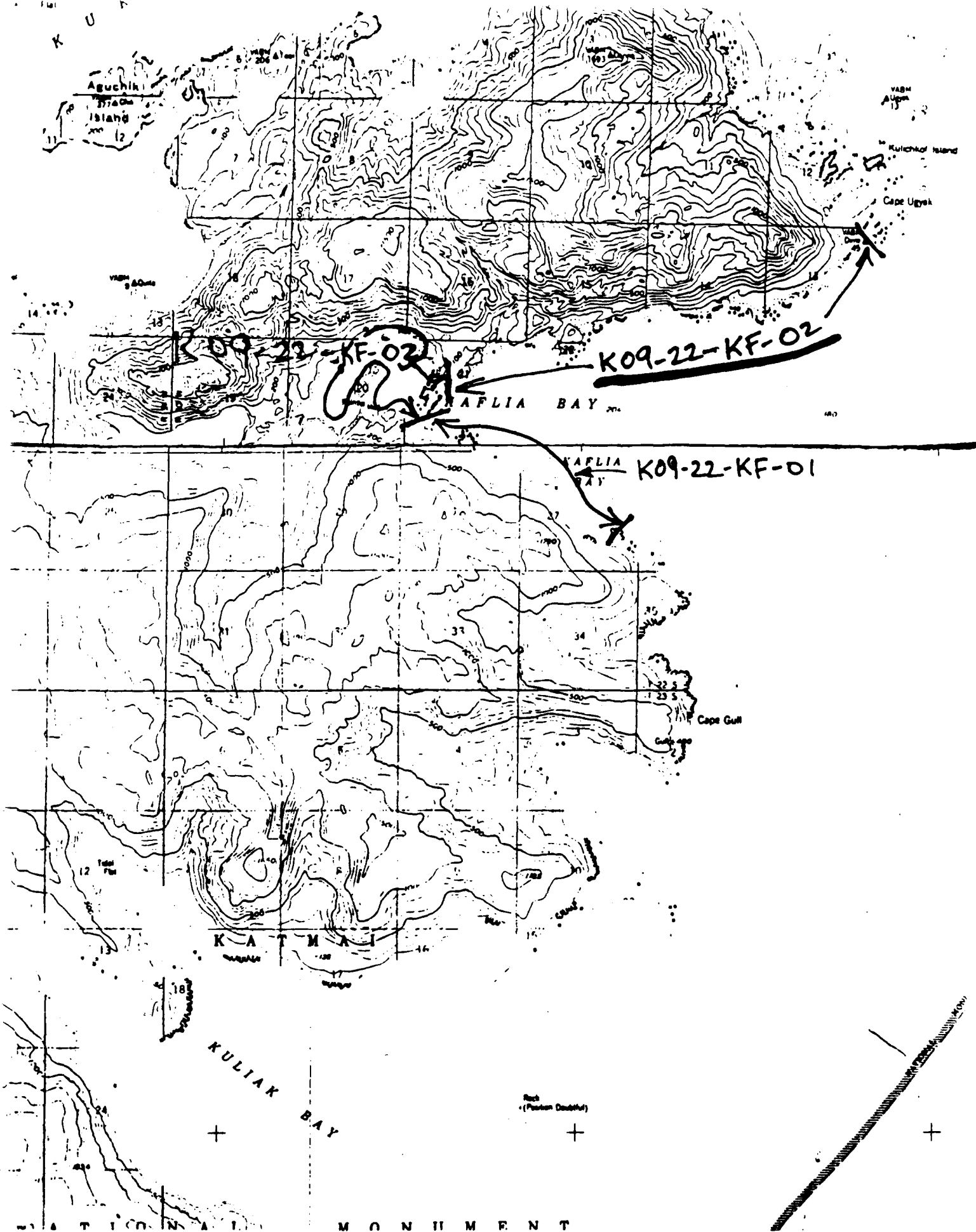
- 1 OILED BIRD  
- V. LIGHT POLLUTION

⑥ SHINGLE PEBBLE BEACH

- NO OIL

⑦ WHITE SAND BEACH

NO OIL



(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/28/89

SHORELINE SEGMENT K9-22-KF-3

LOCATION: (see enclosed map) Kafliia 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: 07/22/89 Time: 20:10  
 Surveyed From: Foot/Boat/Helio/Plane

Observer: Rick Gillie  
 Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION  
 Location: KAFLIA BAY LAGOON Segment ID: K09-22-KF-03  
 Segment Length: 7,400 m. Access: Vehicle/Boat/Barge/Helio/Float Plane  
 Access Restrictions: SHALLOW ENTRANCE

SHORELINE

Shoreline Type: SPI/BEA/COV/HLD/STRT Slope: Lo/Med/Hi/Vert  
 Wave Exposure: High/Med/Low  
 Sediment: B 10 % / C 10 % / P 10 % / G&S 10 % / M    % / R 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 H/M/L/VL  
 Sporadic % of Segment 21 SU/SP/H/M/L H/M/L/VL

| Total       | Length(m) | Width(m)  | Thickness >1cm:     | cm | SU/SP/H/M/L |
|-------------|-----------|-----------|---------------------|----|-------------|
| Very light: | <u>10</u> | <u>21</u> |                     |    |             |
| Light:      |           |           | Penetration/Rework: |    | SU/SP/H/M/L |
| Moderate:   |           |           | Burial Depth:       |    | SU/SP/H/M/L |
| 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

|                 | %         | H/M/L/VL | SU/SP/H/M/L          |
|-----------------|-----------|----------|----------------------|
| Pooled Oil:     | <u>  </u> |          | SU/SP/H/M/L          |
| "Free" Oil:     | <u>  </u> |          | SU/SP/H/M/L          |
| Splattered:     | <u>50</u> | H/M/L/VL | SU/ <u>SP</u> /H/M/L |
| Coated:         | <u>  </u> | H/M/L/VL | SU/SP/H/M/L          |
| Pancakes/Balls: | <u>50</u> |          | SU/ <u>SP</u> /H/M/L |

Preliminary Cleanup Est.

Total TYPE A: 10 m  
 Total TYPE B:    m  
 Total TYPE A/B:    m

OIL WEATHERING

|                   | %          | SU/SP/H/M/L          |
|-------------------|------------|----------------------|
| Fresh:            | <u>  </u>  | SU/SP/H/M/L          |
| Mousse:           | <u>  </u>  | SU/SP/H/M/L          |
| Weathered Mousse: | <u>100</u> | SU/ <u>SP</u> /H/M/L |
| Asphalt Mousse:   | <u>  </u>  | SU/SP/H/M/L          |
| Tar:              | <u>  </u>  | SU/SP/H/M/L          |

COMMENTS

A) ESSENTIALLY NO OIL

B) ONLY VERY RARE TARBAU (ONE EVERY 100 M)

DOCUMENTATION:Map/Aerial photo marking segment boundaries K09-22-KF-03VTR: Y/N Tape Number(s) \_\_\_\_\_Photography: Y/N Roll Number(s) RG-3Sample Numbers Collected: N/A



Ride Grilla

SEGMENT K09-22-KF-03

- Kafia Bay Lagoon
- 20:10
- Lagoon boomed off
- Fishermen and boom tenders report NO OIL inside the lagoon boom
- Substrate:
  - Gravel beaches to mudflat

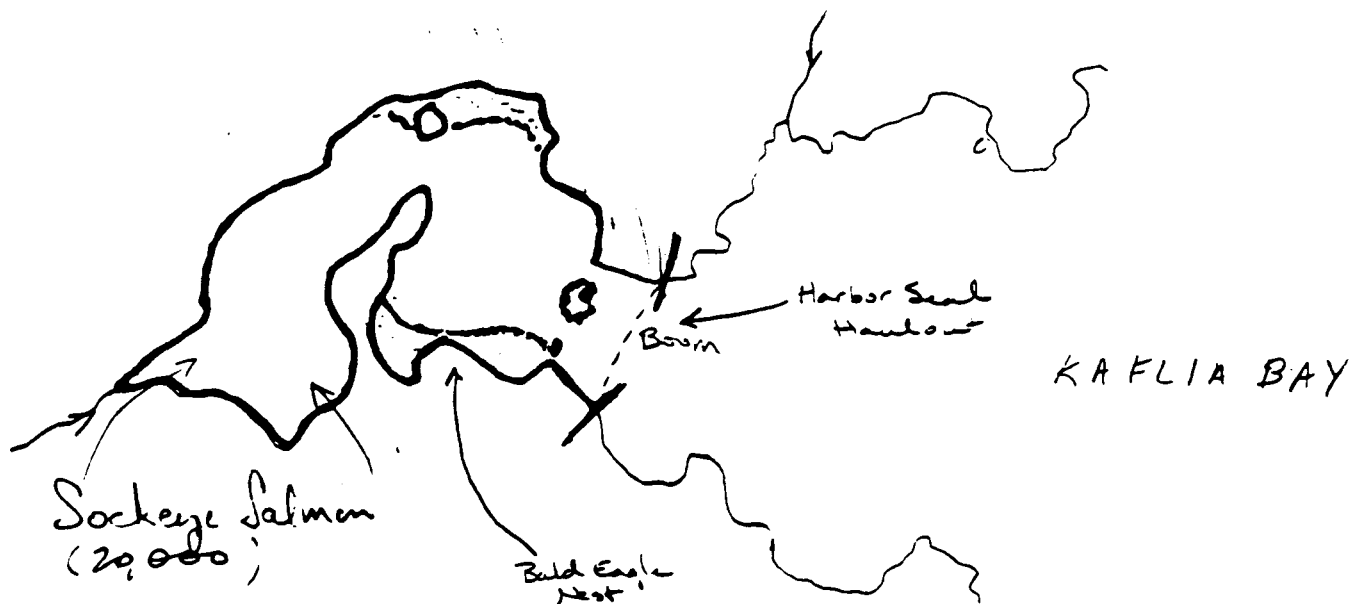
OIL

- Essentially NO OIL
- Very rare small oil molecule spatter
- and very rare small tarballs (about 1 per beach)
- Recommend NO CLEAN-UP

KAFLIA BAY LAGOON

(K07-22-KF-03)

LENGTH = 7,400 M



## ECOLOGICAL EVALUATION

LOCATION: Kafka Bay SITE: Head of Bay OBSERVER: J. Tarpley  
 LOCATION PREFIX: K9 KF SEG. NO.: K9-22-KF-03 LENGTH: 7.400 (M)  
 DATE: 7/22/89 TIME (HHMM): 2015 TIDE HT.: + 4m (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

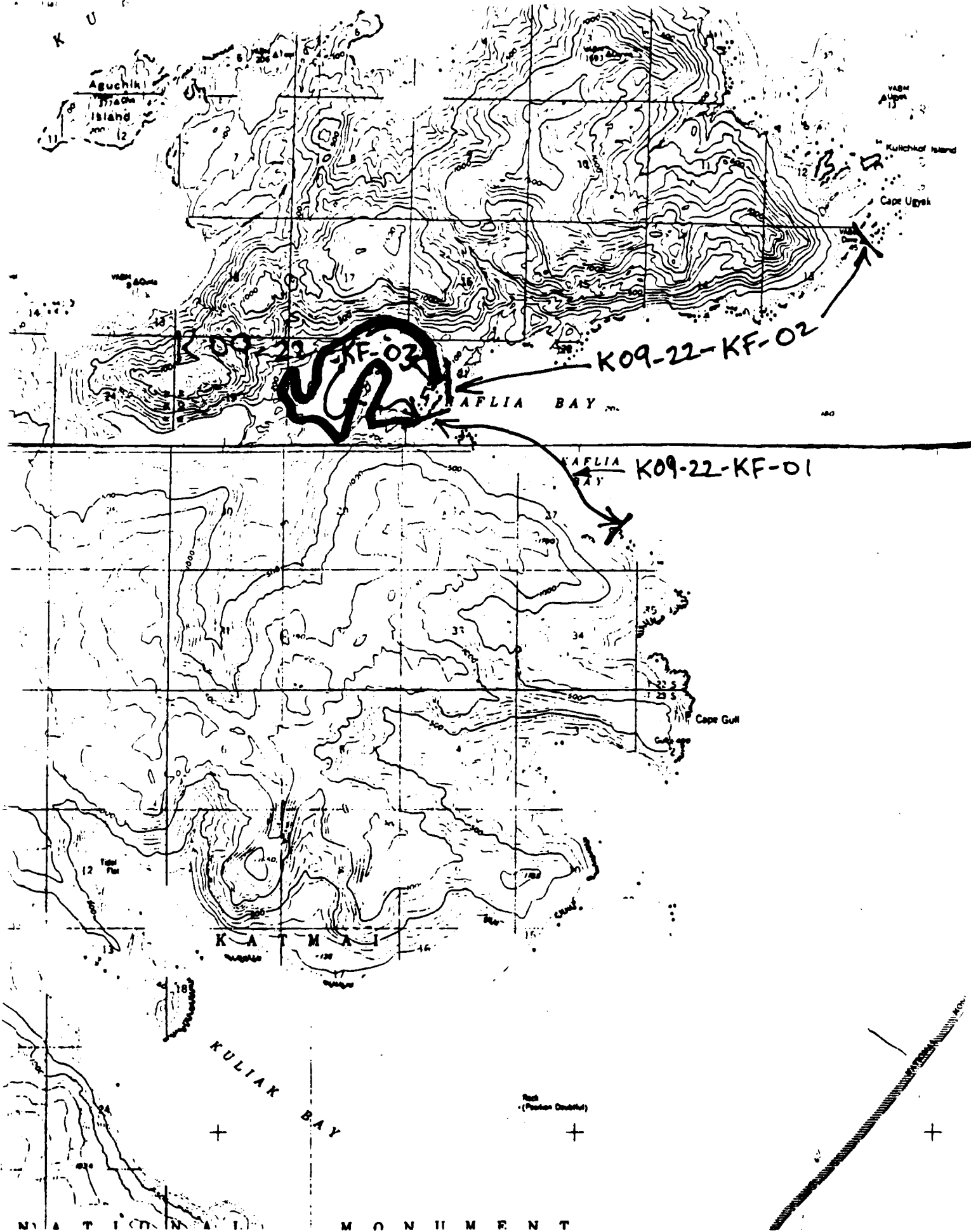
OTHER OBSERVATIONS: Sockeye & Pink Salmon jumping in bay. Moderate to heavy algal  
log debris. Amphipods healthy and abundant in drift.

CLEANUP PRECAUTIONS: None. Since no cleanup is recommended at this time.

MAMMALS: Otters      Harbor Seals      Sea Lions      Whales       
 Other     

BIRDS: 3 dead oiled birds: Bald Eagles + nest: Gulls, Kittiwakes

GENERAL OBSERVATIONS: \* Mechanical problems prevented survey at low tide, therefore  
evaluation was done at high tide when all intertidal biota was  
submerged. Ecological evaluation of intertidal life was not possible although  
no oil was found.



ACE 8709079

(version 6/04/89)

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)

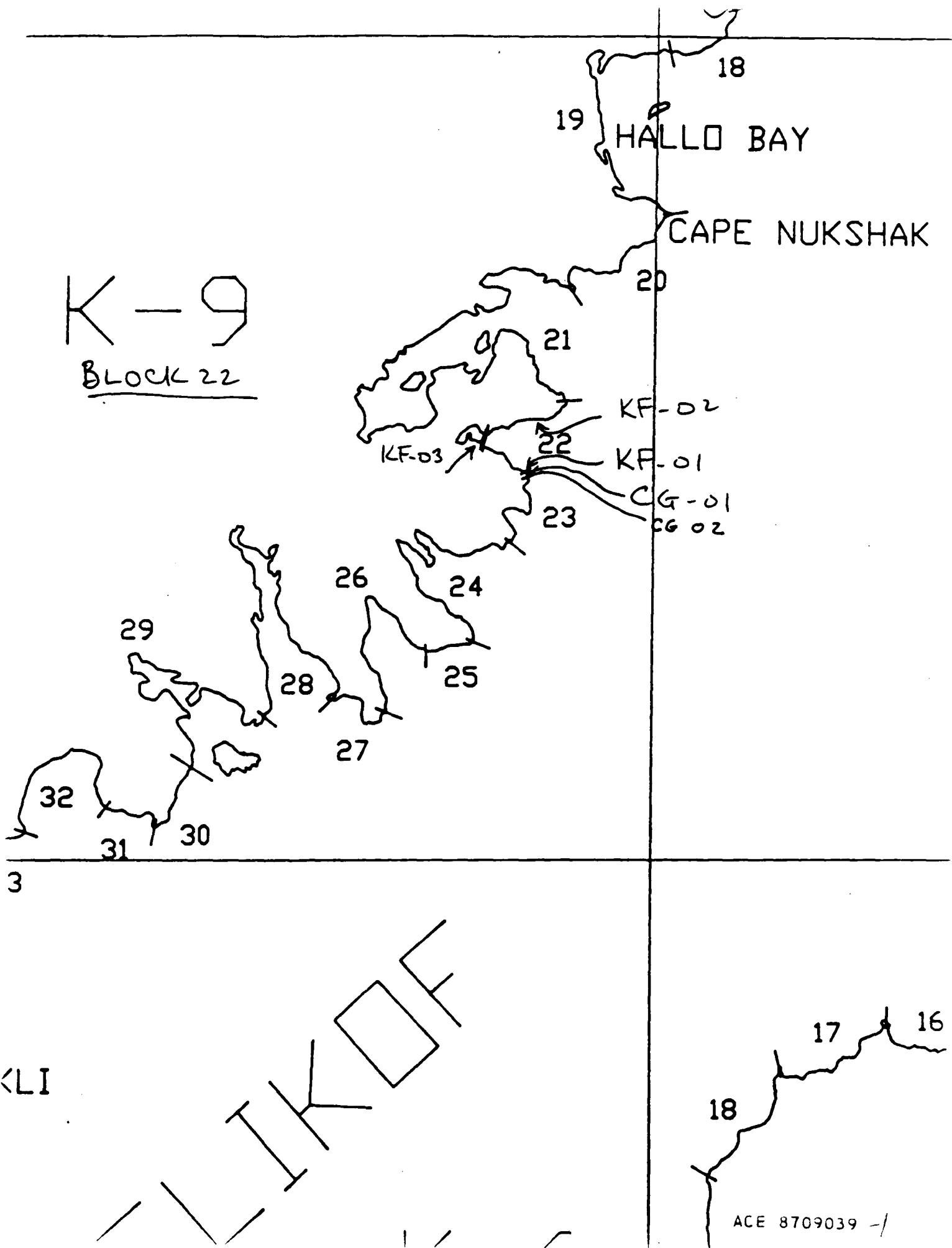
FOSC Approval: \_\_\_\_\_ Date: \_\_\_\_\_

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

K-9

BLOCK 22



ACE 8709039 -/

(version 5/02/89)

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**

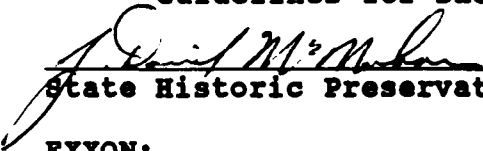
- Segment located within Katmai National Monument.
- Seabird colonies and pinniped handouts located nearby.
- Exposed offshore rocks and reefs may restrict boat access.

**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.

KISCC

SHORELINE OIL EVALUATION

ate: 07/13/1989 Time: 08:50  
 Surveyed From: Foot/Boat/Helio/Plane

Observer: Rick Gillette  
 Weather: Sun Cloud/Rain/Snow/Fog

ATION  
 ation: CAPE GULL Segment ID: K09-22-CG-02  
 Segment Length: 750 m. Access: Vehicle/Boat/Barge/Helio/Float Plane  
 Access Restrictions: ROCKS, REEF, EXPOSED

SHORELINE

Shoreline Type: SPI BEA COV HLD STRT Slope: Lo Med Hi Vert  
 Ave Exposure: High Med Low  
 Sediment: B 30 % / C 10 % / P    % / G&S    % / M    % / R 60 %

IL

vg. 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 10 SU/SP H M/L H/M/L VL

| Total       | Length(m)  | Width(m)     | Thickness >1cm:     | cm            | SU/SP/H/M/L |
|-------------|------------|--------------|---------------------|---------------|-------------|
| Very light: | <u>100</u> | <u>&lt;1</u> | <u>N/A</u>          |               |             |
| Light:      |            |              | Penetration/Rework: | <u>N/A</u> cm | SU/SP/H/M/L |
| Moderate:   |            |              | Burial Depth:       | <u>N/A</u> cm | SU/SP/H/M/L |
| Heavy:      |            |              |                     |               |             |

Mobilization Potential: High Medium Low

Drift Debris Oiled? Y N Amount: H/M/L/VL SU/SP H M/L Type: SEAWEED (?)

OIL MORPHOLOGY

| Spilled Oil:    | <u>  </u> % |          | SU/SP/H/M/L        |
|-----------------|-------------|----------|--------------------|
| "Free" Oil:     | <u>  </u> % |          | SU/SP/H/M/L        |
| Plattered:      | <u>  </u> % | H/M/L/VL | SU/SP <u>H</u> M/L |
| Coated:         | <u>  </u> % | H/M/L/VL | SU/SP <u>H</u> M/L |
| Pancakes/Balls: | <u>  </u> % |          | SU/SP/H/M/L        |

-----  
Preliminary Cleanup Est.

Total TYPE A: 100 m  
 Total TYPE B:    m  
 Total TYPE A/B:    m  
 -----

OIL WEATHERING

| Fresh:            | <u>  </u> % | SU/SP/H/M/L |
|-------------------|-------------|-------------|
| Mousse:           | <u>  </u> % | SU/SP/H/M/L |
| Weathered Mousse: | <u>  </u> % | SU/SP/H/M/L |
| Asphalt Mousse:   | <u>  </u> % | SU/SP/H/M/L |
| Bar:              | <u>  </u> % | SU/SP/H/M/L |

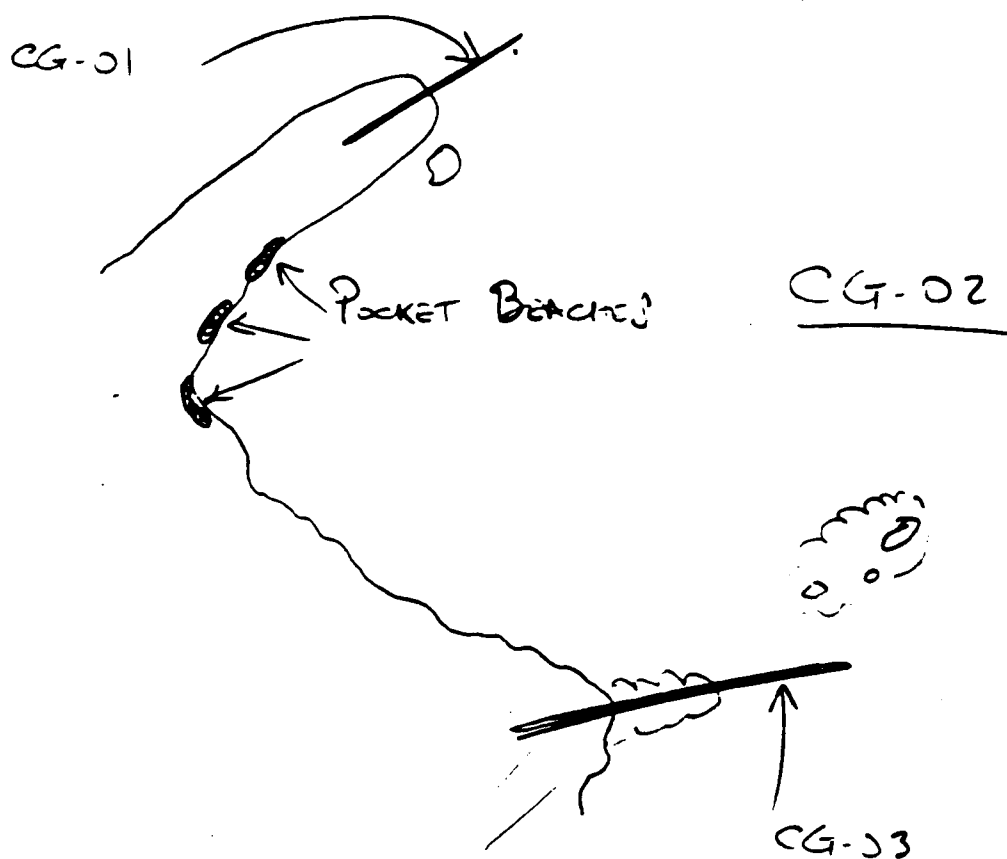
COMMENTS

1) SURVEYED FROM SKIFF ONLY, DID NOT LAND.  
 2) 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-2Sample Numbers Collected: N/A

## ECOLOGICAL EVALUATION

LOCATION: KAFUA BAY SITE: North of Cape Gull OBSERVER: J. Tarpley  
 LOCATION PREFIX: K9/CG SEG. NO.: K9-22-CG-02 LENGTH: 750m (M)  
 DATE: 7/18/89 TIME (HHMM): ~0900 TIDE HT.: -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

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

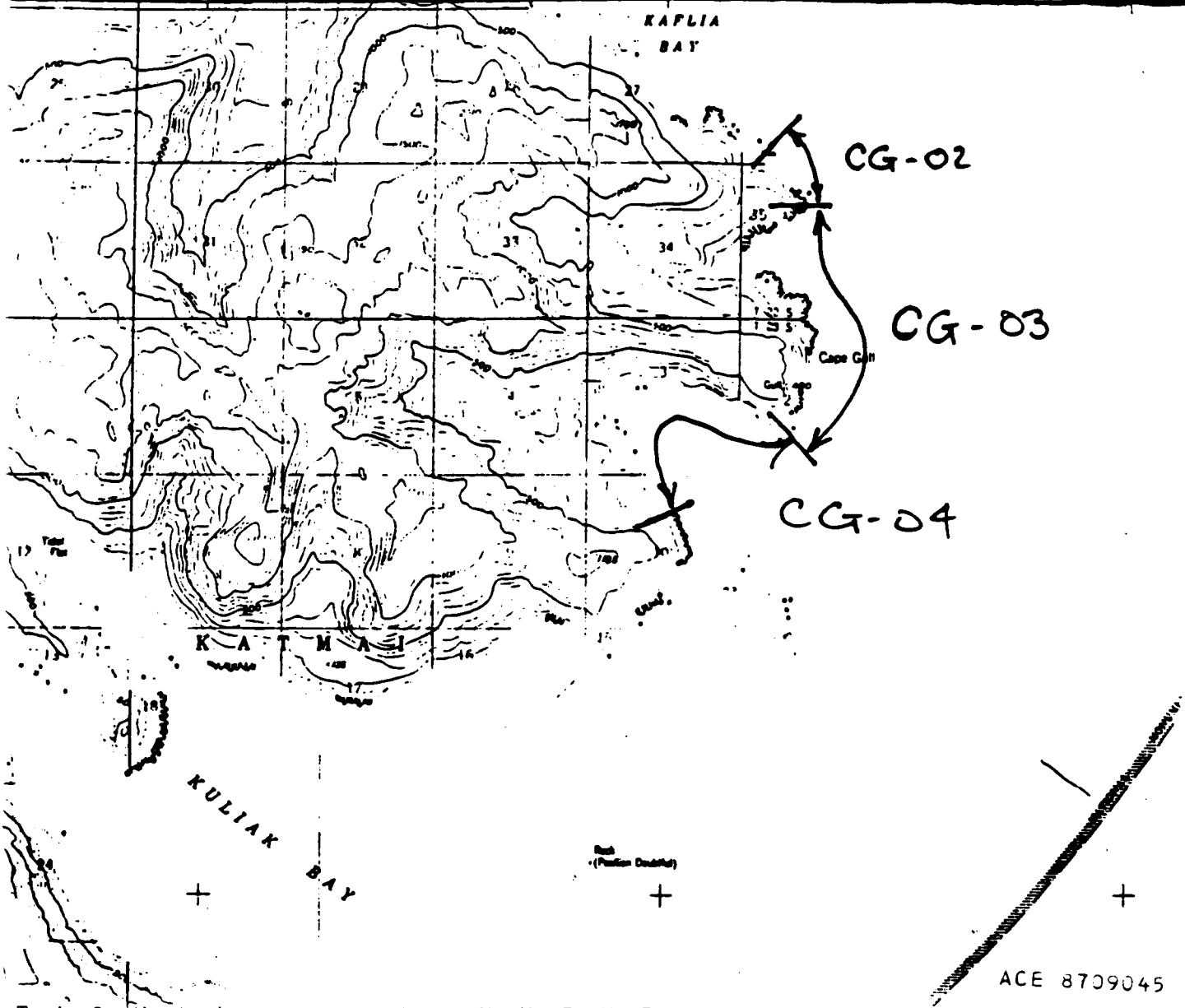
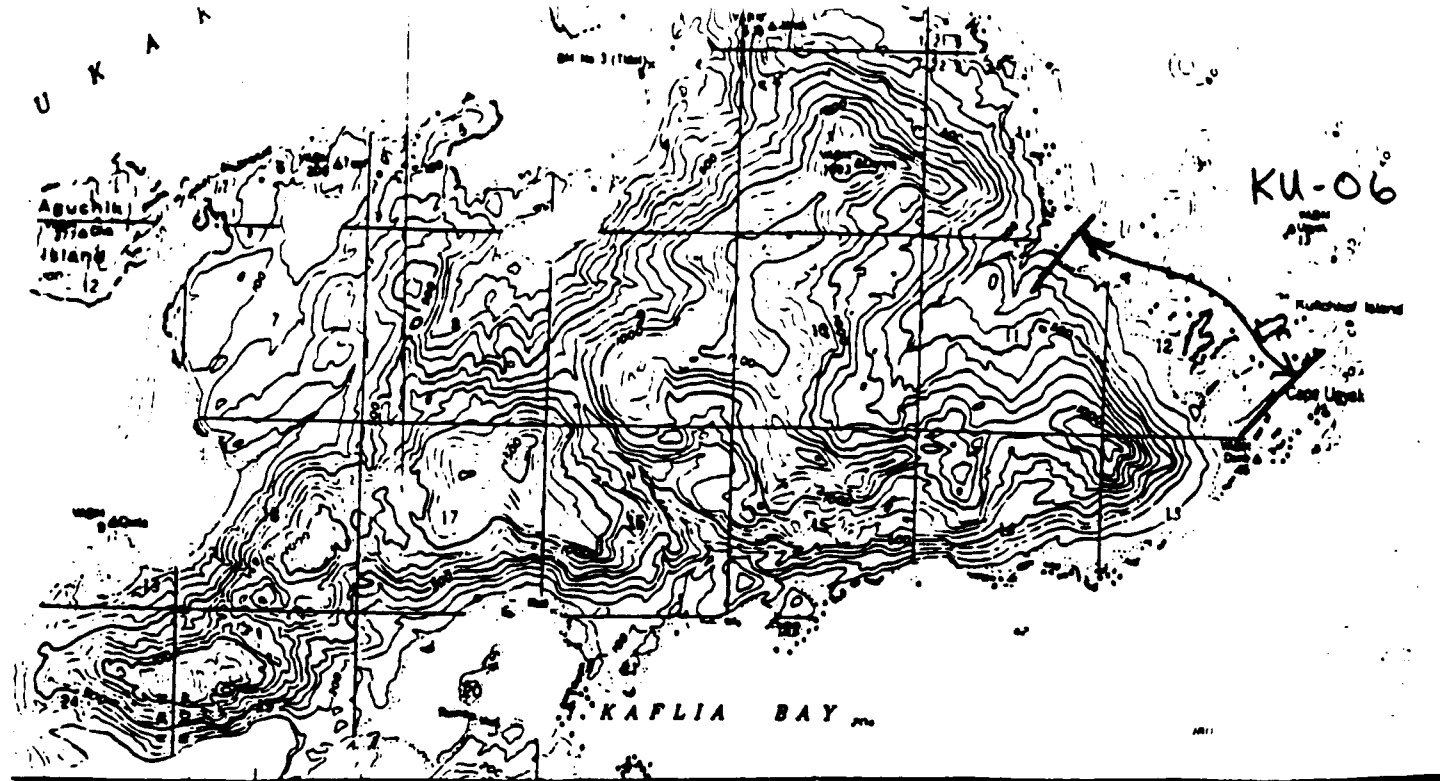
OTHER OBSERVATIONS:

CLEANUP PRECAUTIONS: If cleanup is necessary avoid oil contamination  
of healthy low ITZ.

MAMMALS: Otters      Harbor Seals 1 Sea Lions      Whales       
 Other 6-8 Dall's Porpoise in bay.

BIRDS: Glaucon-winged Gulls, Kittiwakes, Aukcatchers, Black Turnstones, Pigeon Guillemots, Cormorants

GENERAL OBSERVATIONS: Observed segment from skiff. Very rocky coastline  
with steep cliffs and boulders. Difficult access. No oil observed



(version 5/02/89)

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.

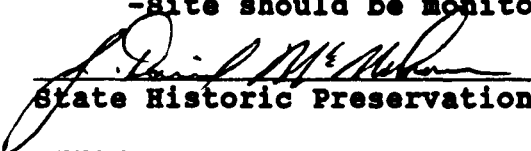
**Priorities/ Considerations: Class 3-A**

**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.

**Archeological 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 \*

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 FORM - KODIAK

Date: June 25 / 1988 Time: 11:55Observer: Mike MikeSurveyed From: Foot/Boat/Helio/PlaneWeather: Sun/Cloud/Rain/Snow/FogLOCATION  
LOCATIONCAPE GULLSEGMENT I.D. K9-23-CG-1LENGTH OF SHORELINE SEGMENT: 1090 mACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane

## SHORELINE:

Shoreline Type: SPI/BEA/COV/HLD/STRTSlope: LANG/HANG/VERWave Exposure: High/Med/LowSediment: B70 / C70 / P70 / Q / S10 / M / R30Drift Debris on Beach: Yes/NoSupra/Upper/Mid/Lower Type logs + seaweed

## 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 see mapsSporadic: Y/N Segment 70 Min/Max Dia 50cm Impact Width 20-30mEst. Oil Thickness where > 1cm: 3 <sup>1" place</sup> cm: SU / SP / UP / MID / LO  
Depth below top sedEst. Oil Penetration: 15 cm SU / SP / UP / MID / LOLayers? Yes/No No. Layers \_\_\_\_\_ Oil Weathering \_\_\_\_\_Drift Debris Oiled Yes/No Supra/Upper/Mid/Lower Amount: H / M / L / VL

## OIL MORPHOLOGY

Pooled Oil 1 "Free" Oil 10 Spattered 90 H/M/L/VL Sheen \_\_\_\_\_

## OIL WEATHERING (OW)

Fresh Oil 0 SU/SP/VP/MID/LO Choc Mousse 1 SU/SP/VP/MID/LOPancake Mousse 10 SU/SP/VP/MID/LO Asphalt Mousse 90 SU/SP/VP/MID/LOTar Formation 0

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, 1999

CAPE GULL

CG-1

## COMMENTS

### SHORELINE OIL EVALUATION

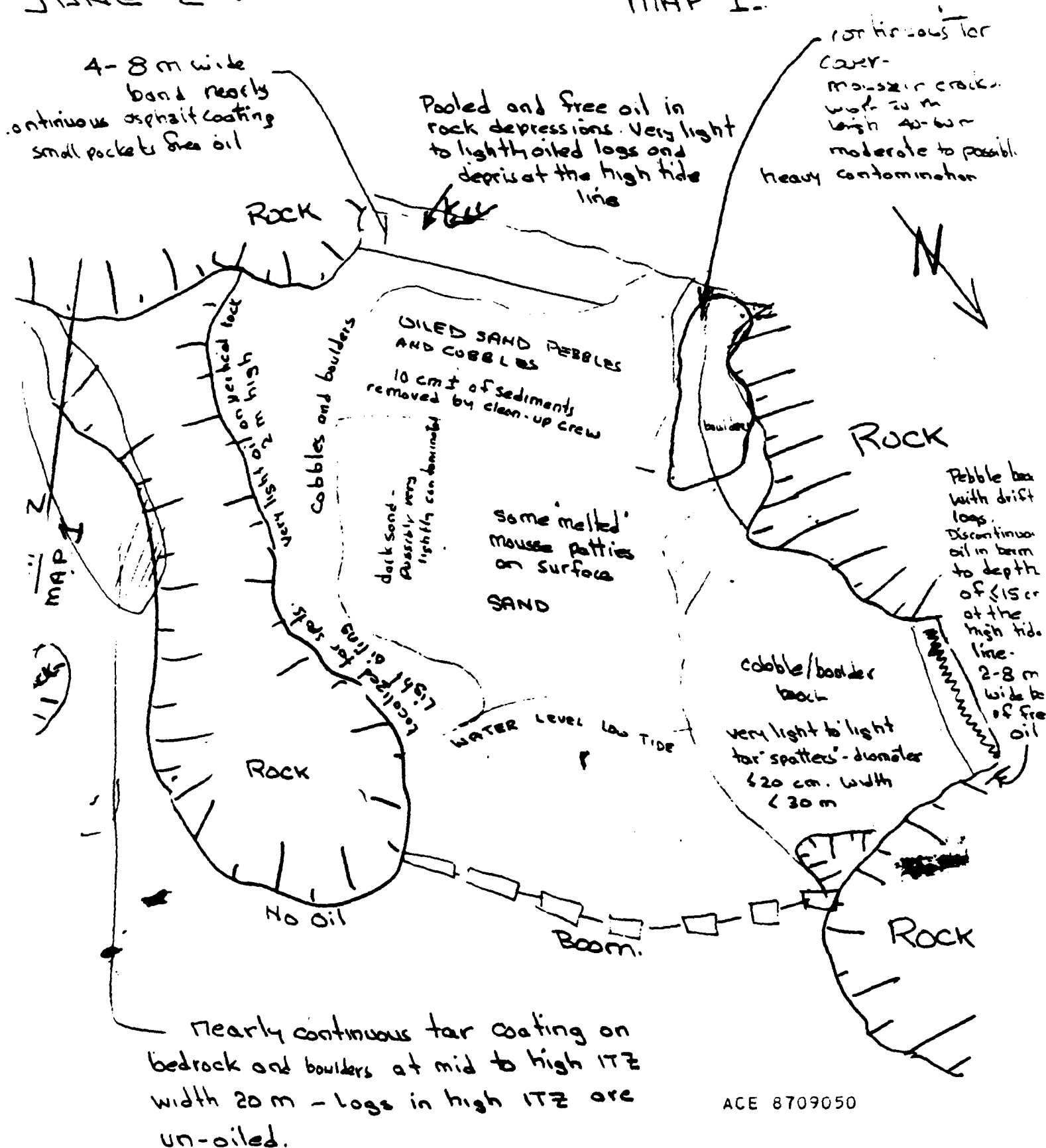
This segment consists of a rocky headland and a number of small pebble-cobble-boulder beaches. Sand deposits occur in the lower ITZ in the largest bay (see maps).

Oil contamination is variable. Heaviest concentrations occur on the north facing bay in the middle of the segment. As indicated on 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 ~~sea~~ 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

CAPE GULL  
CG-1  
MAP 1.



ACE 8709050



MIKE MILES  
JUNE 25/89

CAPE GULL  
CG-1 MAP 2

cobbles + boulders  
no oil

EBBLE BERM  
no oil

BEAR  
GUARD

Oil penetration  
10-20 cm  
penetration  
Some logs  
lightly oiled

Pebble  
beach  
no oil

Cobble berm  
at storm tide  
level - with driftwood  
un-oiled

[shells & pumice]

boulder-pebble  
beach - moderate to  
heavily oiled

Light to moderately oiled  
boulders. Oil generally on  
tops of boulders only

mid tide only

un-oiled

Rock

Pebble  
berm

cobbles +  
boulders  
Light oil to  
mid tide

boulders  
and rock

water line of low tide

Rock

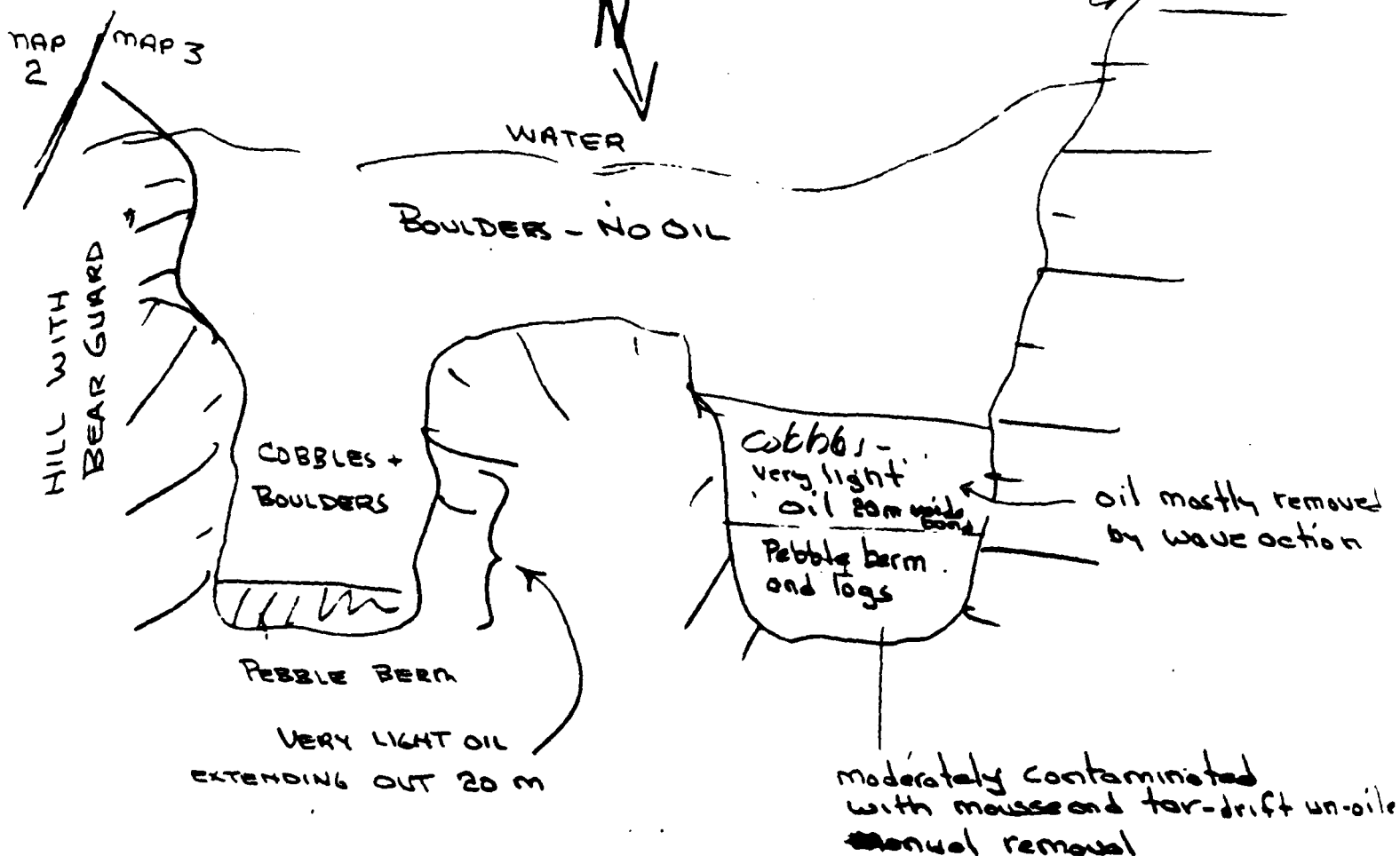
WATER LINE AT LOW TIDE

Rock

ACE 8709051

MIKE MILES  
JUNE 25/89.

CAPE GULL  
CG-1  
MAP 3.



ACE 8709052

## ECOLOGICAL EVALUATION

LOCATION: CAPE GULL SITE: \_\_\_\_\_ OBSERVER: D. McCoemickLOCATION PREFIX: K9-22  
CB SEG. NO.: 1 LENGTH: 1090 (M)DATE: 6/25/89 TIME (HHMM): 1140 TIDE HT.: +0.75 (M)OILED ZONE: Splash High Medium LowSUBSTRATUM: Rocks Boulder Cobble <sup>Pebble</sup>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 ITZMytilus (Mussels): Patchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse (Y/N) None (Y/N)Dense on boulders, continuous in gravel, 10% are oiled in mid tide zone <5% deadBalanus (Barnacles): Patchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse (Y/N) None (Y/N)Healthy in lower ITZ; no signs to heavily oiled in mid - high zone.

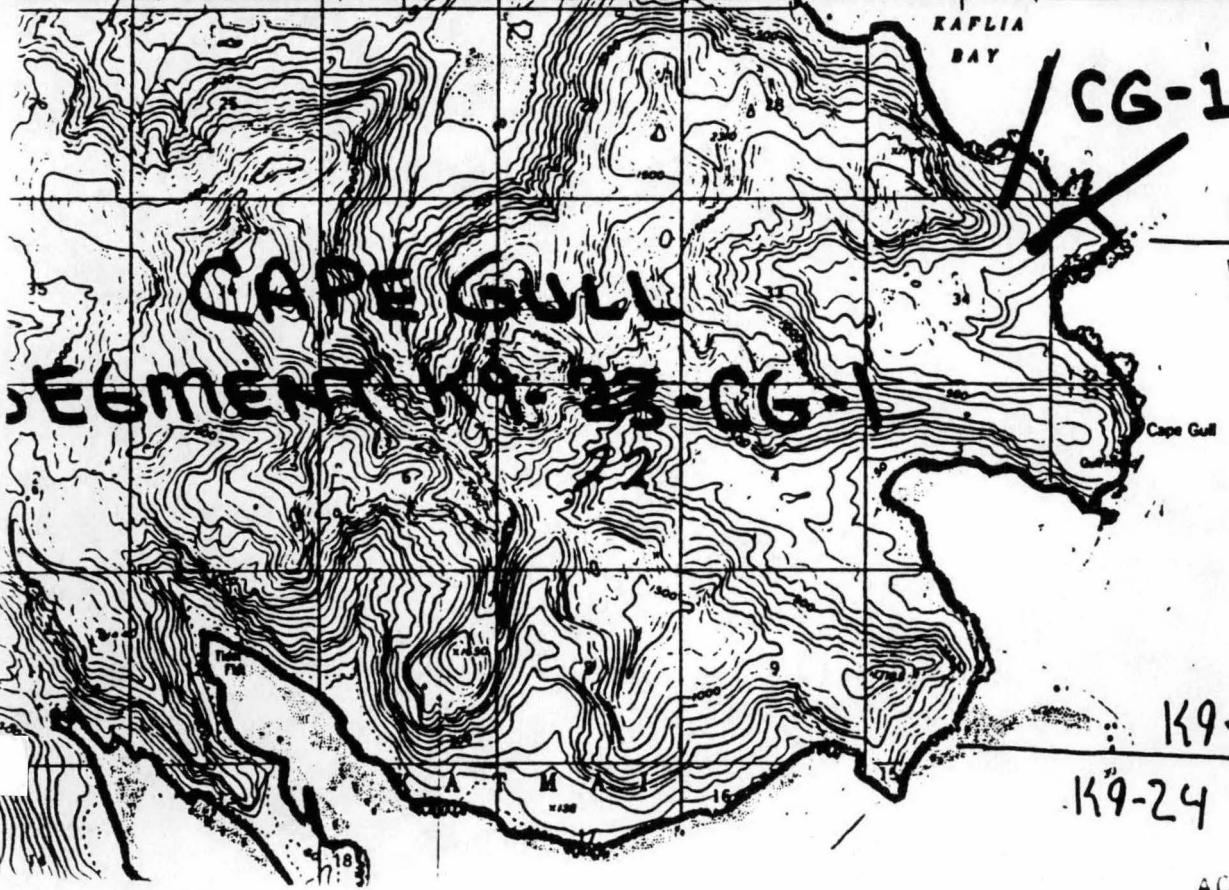
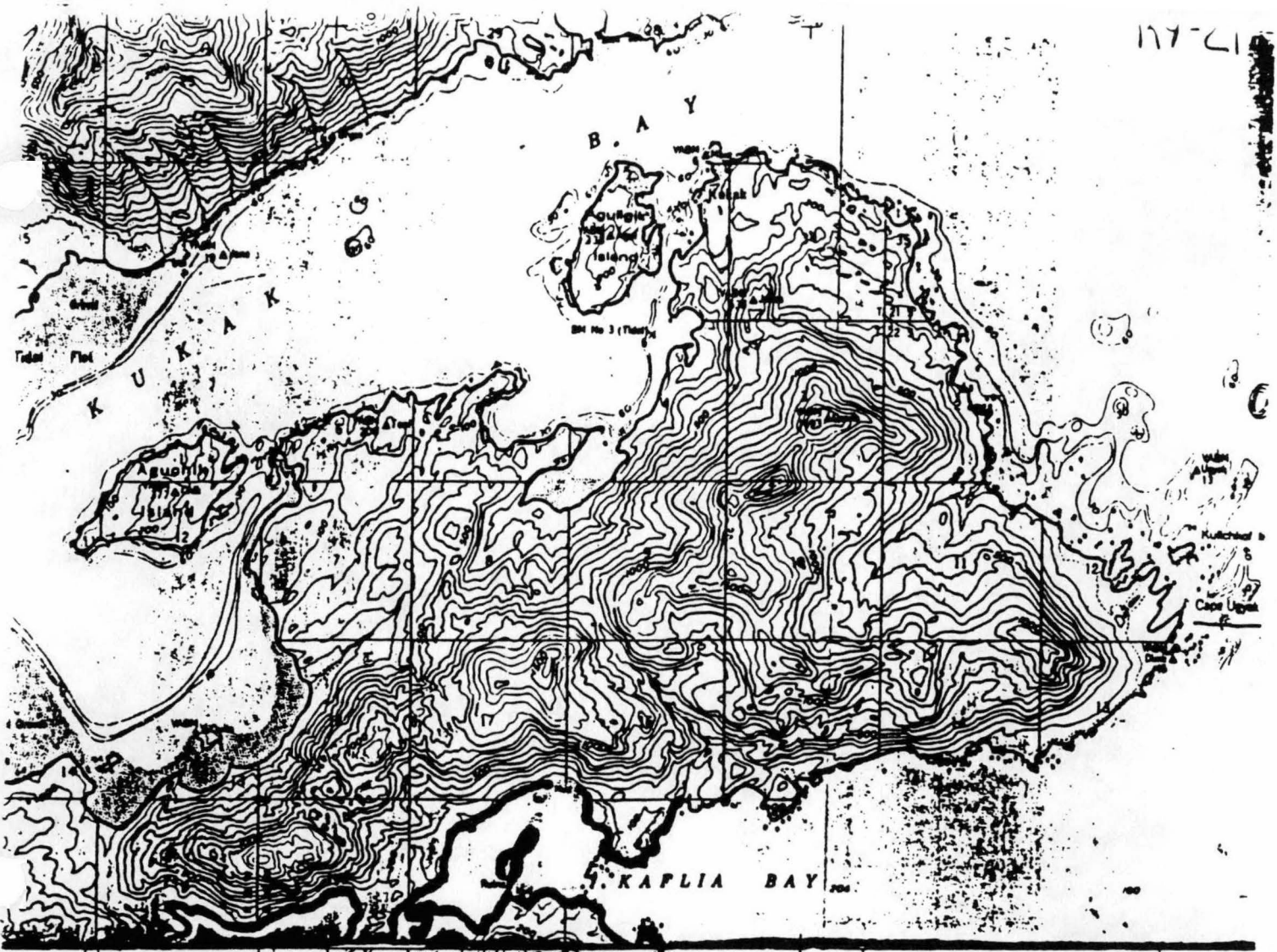
## Littorina

Patchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse (Y/N) None (Y/N)Healthy in lower ITZ; 10% dead oiled in mid ITZLimpets: Patchy (Y/N) Contin. (Y/N) Dense (Y/N) Sparse (Y/N) None (Y/N)Healthy in lower ITZOTHER OBSERVATIONS: clams, cockles, whelk shells, Ulva, Laminaria, Eudorina, Zostera  
in stream channel; sea urchins, hermit crabs, Scudina, sculpins in str. channel - all unharmed  
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 \_\_\_\_\_

Other one oiled otter picked up by clean-up crewBIRDS: gulls & kittiwakes offshoreGENERAL OBSERVATIONS: Clean-up crew on this beach using pon-pons, shovels & shovels  
to remove most heavy oil. Warm temps. creating chocolate mousse and pooled oil in rocks.  
Clean-up should continue as type A - any type B cleanup would result in contaminating  
lower, clean ITZ

177-21



CG-1

K9-22  
K9-23

K9-23  
K9-24

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/28/89

SHORELINE SEGMENT K9-22-KF-1

LOCATION: (see enclosed map) Kafila 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**

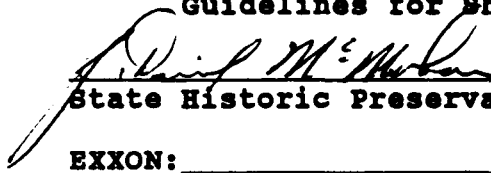
- Segment located within Katmai National Monument.
- Kafila Bay is a red and pink salmon use bay.
- Harbor seal handouts also located in bay.

**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

ate: 07/22/89 Time: 10:23  
 urveyed From: Foot Boat Helio/Plane

Observer: Rick GILLIE  
 Weather: Sun/ Cloud Rain/Snow/Fog

CATION  
 cation: KAFLIA BAY Segment ID: K09-22-KF-01  
 Segment Length: 4,000 m. Access: Vehicle/ Boat Barge Helio/Float Plane  
 Access Restrictions: NONE

SHORELINE

Shoreline Type: SPI/ BEA COV HLD STRT Slope: Lo/ Med Hi Vert  
 Ave Exposure: High/ Med Low  
 Sediment: B 20 % / C 10 % / P 10 % / G&S    % / M    % / R 60 %

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  
 Sporadic % of Segment 10 SU/SP/ H / M / L H/M/L/VL

| Oil         | Length(m) | Width(m)   | Thickness >1cm:     | cm            | SU/SP/H/M/L             |
|-------------|-----------|------------|---------------------|---------------|-------------------------|
| Very light: | <u>  </u> | <u>  </u>  | Penetration/Rework: | <u>  </u> cm  | SU/SP/H/M/L             |
| Light:      | <u>  </u> | <u>  </u>  | Burial Depth:       | <u>0.3</u> cm | SU/SP/ <u>H</u> / M / L |
| Moderate:   | <u>50</u> | <u>2-3</u> |                     |               |                         |
| Heavy:      | <u>  </u> | <u>  </u>  |                     |               |                         |

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

IL MORPHOLOGY

| Oil Type        | %         | H/M/L/VL                 | SU/SP/H/M/L             |
|-----------------|-----------|--------------------------|-------------------------|
| Coiled Oil:     | <u>  </u> |                          | SU/SP/H/M/L             |
| Free Oil:       | <u>  </u> |                          | SU/SP/H/M/L             |
| Plattered:      | <u>10</u> | <u>H</u> / M / <u>VL</u> | SU/SP/ <u>H</u> / M / L |
| Coated:         | <u>60</u> | <u>H</u> / M / <u>VL</u> | SU/SP/ <u>H</u> / M / L |
| Pancakes/Balls: | <u>30</u> |                          | SU/SP/H/M/L             |

Preliminary Cleanup Est.

Total TYPE A: 50 m  
 Total TYPE B:    m  
 Total TYPE A/B:    m

IL WEATHERING

| Weathering Type   | %         | SU/SP/H/M/L             |
|-------------------|-----------|-------------------------|
| Fresh:            | <u>  </u> | SU/SP/H/M/L             |
| Mousse:           | <u>  </u> | SU/SP/H/M/L             |
| Weathered Mousse: | <u>50</u> | SU/SP/ <u>H</u> / M / L |
| Asphalt Mousse:   | <u>  </u> | SU/SP/H/M/L             |
| Bar:              | <u>50</u> | SU/SP/ <u>H</u> / M / L |

COMMENTS

DOCUMENTATION:Map/Aerial photo marking segment boundaries K09-22-KF-01

VTR: Y/N Tape Number(s) \_\_\_\_\_

Photography: Y/N Roll Number(s) RG-03Sample Numbers Collected: N/A

July 24, 1989

07:50 Up

08:20 Left Anchorage, Depart for Kaffua Bay

09:00 Call SCAT office re schedule for day

09:50 Middle Kaffua Bay

### SEGMENT K09-22-KF-01

10:23 Land on beach (1) LIGHT - MOD

- 100m long
- cobble / pebble HTZ
- Band of oil / debris at HTZ
- 2-3m wide, 50m long
- up to 0.3m deep
- remove oil and debris
- oiled pebbles
- minor oiled logs

10:35 Beach stop (2)

- NO OIL OBSERVED
- Very light oil splatter on rocks between beach (1) and (2)

### 11:15 Beach stop #3

- 500m long beach
- fine gravel / sand
- low energy
- NO OIL to very very light oil
- rare oil splatter on logs
- No clean-up recommended
- Rich low tree flats (sand/mud)

### 11:42 Beach stop #4

- pocket beach - NO OIL

### 11:50 Beach stop #5

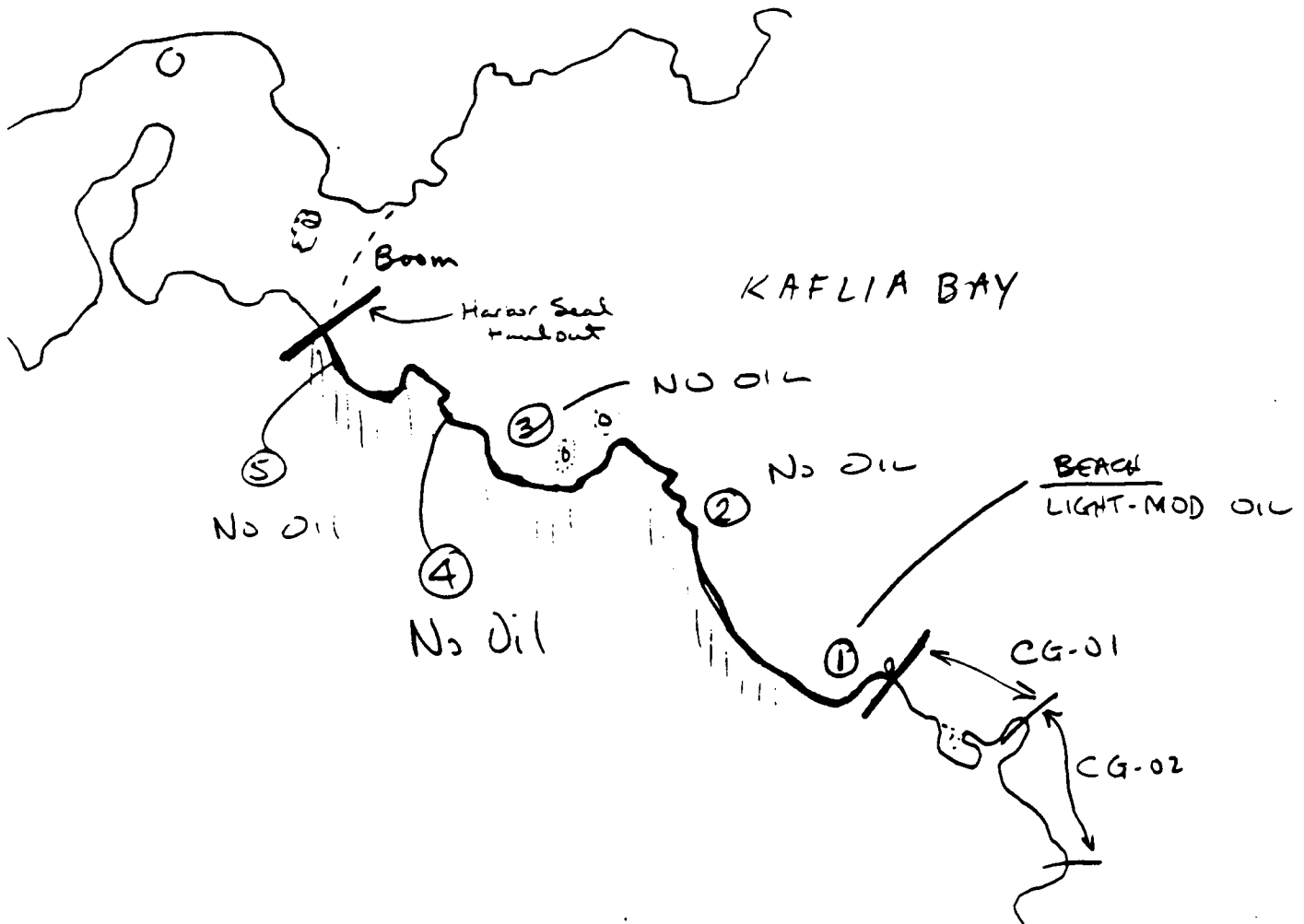
- 300m long
- steep, pebbles (50m wide)
- immediately outside boom
- NO OIL

12:00 Off the beach at boom



KAFLIA BAY

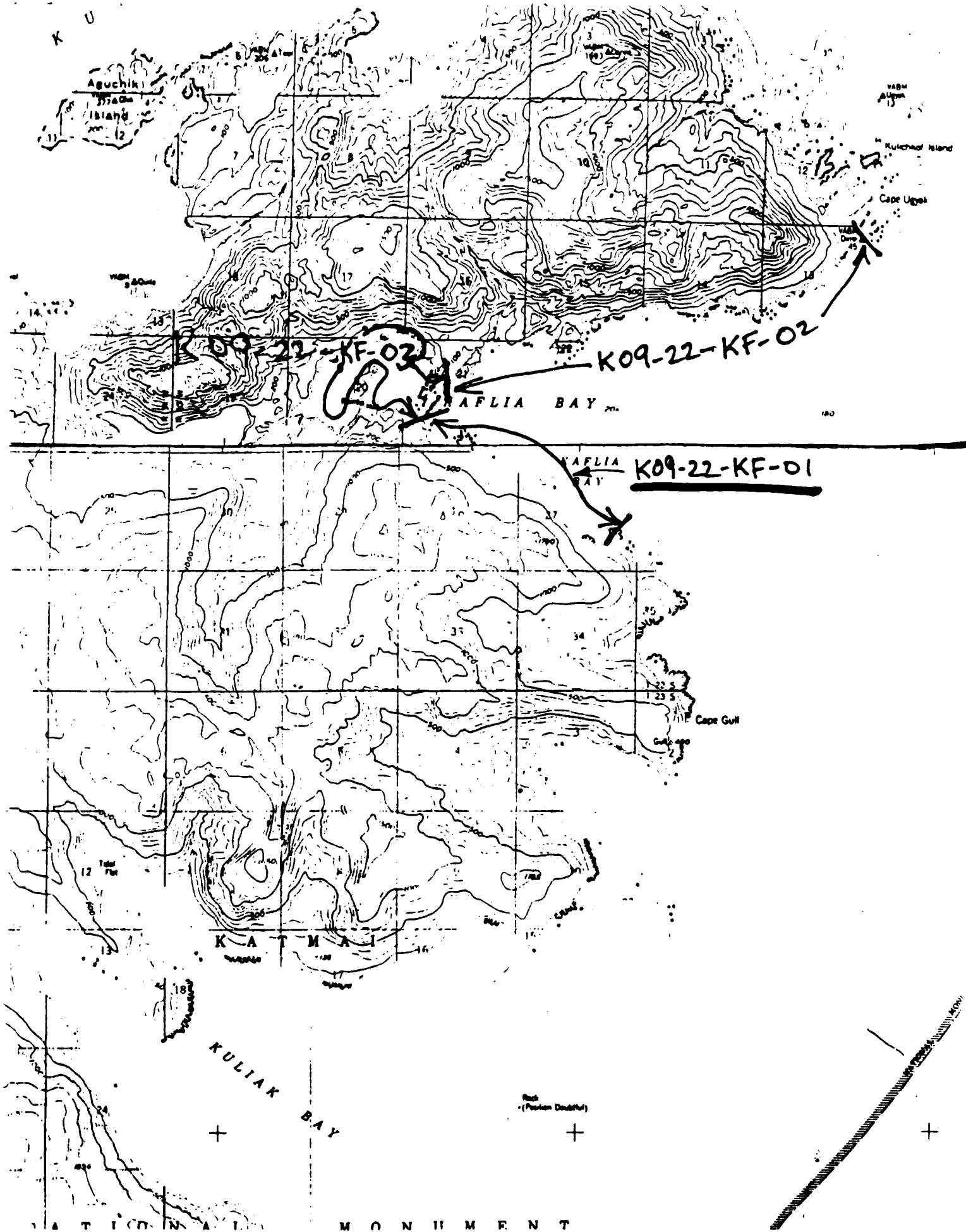
(K09-22-KF-01)



LENGTH = 4,000 M

## ECOLOGICAL EVALUATION

LOCATION: KAFLIA BAY SITE: South shore OBSERVER: J. TarpleyLOCATION PREFIX: K9/KF SEG. NO.: K9-22-KF-01 LENGTH: 4,000 (M)DATE: 7/22/89 TIME (HHMM): 1020-1200 TIDE HT.: +0.5 → -1.0m (M)OILED ZONE: Splash High Medium LowSUBSTRATUM: Rocks Boulder Cobble Gravel Sand MudLIVE BIOTAFucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NOther algae present: Ulva, Porphyra, Scytosiphon, Acletozona, Fucus redsMytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NNo recruits growing on beaches 1 & 2 (1-2 cm)Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NLittorinaPatchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NThroughout most of the segment Littorines are small (<0.5cm) new recruits; Margarita present also.Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NOTHER OBSERVATIONS: Beach #3 is relatively protected, sand bottom with extensive mgt. is beach debris and seaweeds (20-25/m<sup>2</sup>). Pisaster sp., Cancer magister and juvenile flatfish also abundant in this cove.CLEANUP PRECAUTIONS: Bears present in segment. Avoid oil contamination of healthy area. Should cleanup be necessary.MAMMALS: Otters      Harbor Seals      Sea Lions      Whales       
Other Bear tracks & pits on beachesBIRDS: Glaucous-winged gulls, Ravens, Eagles, Pigeons, Gulls, Loons, Auklets, etc.GENERAL OBSERVATIONS: Segment composed of high energy pocket beaches bounded by boulders and bedrock outcrops. Healthy marine biota on lg. boulders & bedrock with high energy cobbles beaches relatively free of life. Very Light oil seen (beach #1).



(version 5/02/89)

**SHORELINE CLEANUP PROGRAM**

DATE 7/28/89

SHORELINE SEGMENT K9-22-KF-2

LOCATION: (see enclosed map) Kafila 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  
 Surveyed From: Foot Boat Helio/Plane

Observer: Rick Gillie  
 Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION  
 Location: KAFLIA BAY Segment ID: K09-22-KF-02  
 Segment Length: 0.100 m. Access: Vehicle/Boat/Barge/Helio/Float Plane  
 Access Restrictions: NEARSHORE ROCKS

SHORELINE

Shoreline Type: SPI/BEA/COV/HLD/STRT Slope: Lo/Med/Hi/Vert  
 Wave Exposure: High/Med/Low  
 Sediment: B 10 / C 10 / P 10 / G&S 10 / M    / R 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          | H/M/L/VL         |
| Sporadic   | % of Segment | <u>&lt; 1</u> | SU/ <u>SP</u> /H/M/L | H/M/L/ <u>VL</u> |

|             |           |               |                                  |             |
|-------------|-----------|---------------|----------------------------------|-------------|
| Total       | Length(m) | Width(m)      | Thickness >1cm: <u>  </u> cm     | SU/SP/H/M/L |
| Very light: | <u>10</u> | <u>&lt; 1</u> | Penetration/Rework: <u>  </u> cm | SU/SP/H/M/L |
| Light:      | <u>  </u> | <u>  </u>     | Burial Depth: <u>  </u> cm       | SU/SP/H/M/L |
| Moderate:   | <u>  </u> | <u>  </u>     |                                  |             |
| Heavy:      | <u>  </u> | <u>  </u>     |                                  |             |

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

OIL MORPHOLOGY

|                           |   |             |                                                                                                                   |
|---------------------------|---|-------------|-------------------------------------------------------------------------------------------------------------------|
| Pooled Oil: <u>  </u>     | % | SU/SP/H/M/L | Preliminary Cleanup Est.<br>Total TYPE A: <u>10</u> m<br>Total TYPE B: <u>  </u> m<br>Total TYPE A/B: <u>  </u> m |
| "Free" Oil: <u>  </u>     | % | SU/SP/H/M/L |                                                                                                                   |
| Splattered: <u>50</u>     | % | SU/SP/H/M/L |                                                                                                                   |
| Coated: <u>  </u>         | % | SU/SP/H/M/L |                                                                                                                   |
| Pancakes/Balls: <u>80</u> | % | SU/SP/H/M/L |                                                                                                                   |

OIL WEATHERING

|                              |   |                      |
|------------------------------|---|----------------------|
| Fresh: <u>  </u>             | % | SU/SP/H/M/L          |
| Mousse: <u>  </u>            | % | SU/SP/H/M/L          |
| Weathered Mousse: <u>100</u> | % | SU/ <u>SP</u> /H/M/L |
| Asphalt Mousse: <u>  </u>    | % | SU/SP/H/M/L          |
| Tar: <u>  </u>               | % | 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 K09-22-KF-02

VTR: Y/N Tape Number(s) \_\_\_\_\_

Photography: Y/N Roll Number(s) RG-3Sample Numbers Collected: N/A

July 22/1989

SEGMENT K09-22-KF-02

12:45 Start on north side of Kafila Bay, immediately outside of the protector Boom

Beach #1

- pocket gravel beach, 10m long
- no oil

13:00 Beach #2

- The prop fell off the outboard of the skiff in approx 6' of water.
- Had to get crew to dive for the prop

14:00 Recovered the prop and washer but no nut!  
Called the "ADVANTAGE" in Kuluk Bay. They have required spare parts

Ride Grille

14:05 Leave the head of KAFILA Bay enway to Kuluk Bay  
Cannot survey or walk coast with no boat

15:40 Arrive Kuluk Bay  
Obtain parts from ADVANTAGE

15:52 Depart for Kafila Bay

17:30 Arrive Kafila Bay  
The tide is very high, but we have little chance.

18:00 Beach #3

- 100m long cobble/pebble
- no oil
- HT/stom been about 1.5m above water line
- no oil

18:20 Beach 4

- 50m long, cobble
- 10' deep, shak
- unknown, NO OIL!

18:40 Beach #5

- Very light to No Oil
- small mouse splat in 10m section of corner of the beach
- boulder beach
- insignificant amount of oil
- 1 oiled bird

19:00 Beach #6

- no oil
- shingle pebble beach
- 50m long
- stone basin

19:20 Beach #7

- 200m long
- white sandy beach
- No oil
- beautiful beach

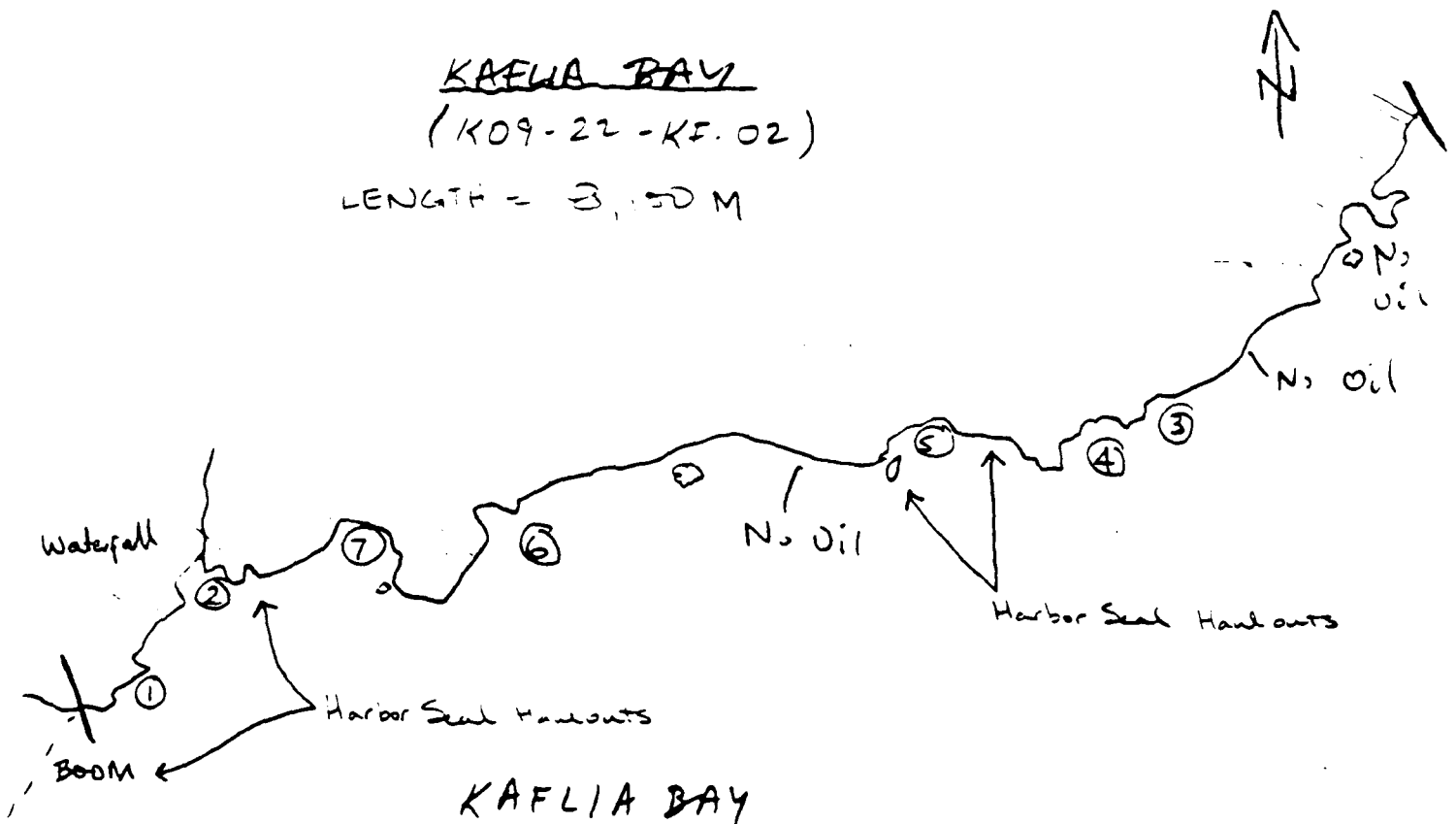
19:51 Beach #8

- mixed sand + gravel
- waterfall
- No oil!
- Recommend clean-up of beach #5



KAFUA BAY  
(K09-22-KF.02)

LENGTH - 3,500 M



BEACHES

OIL ?

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 BOULDER BEACH

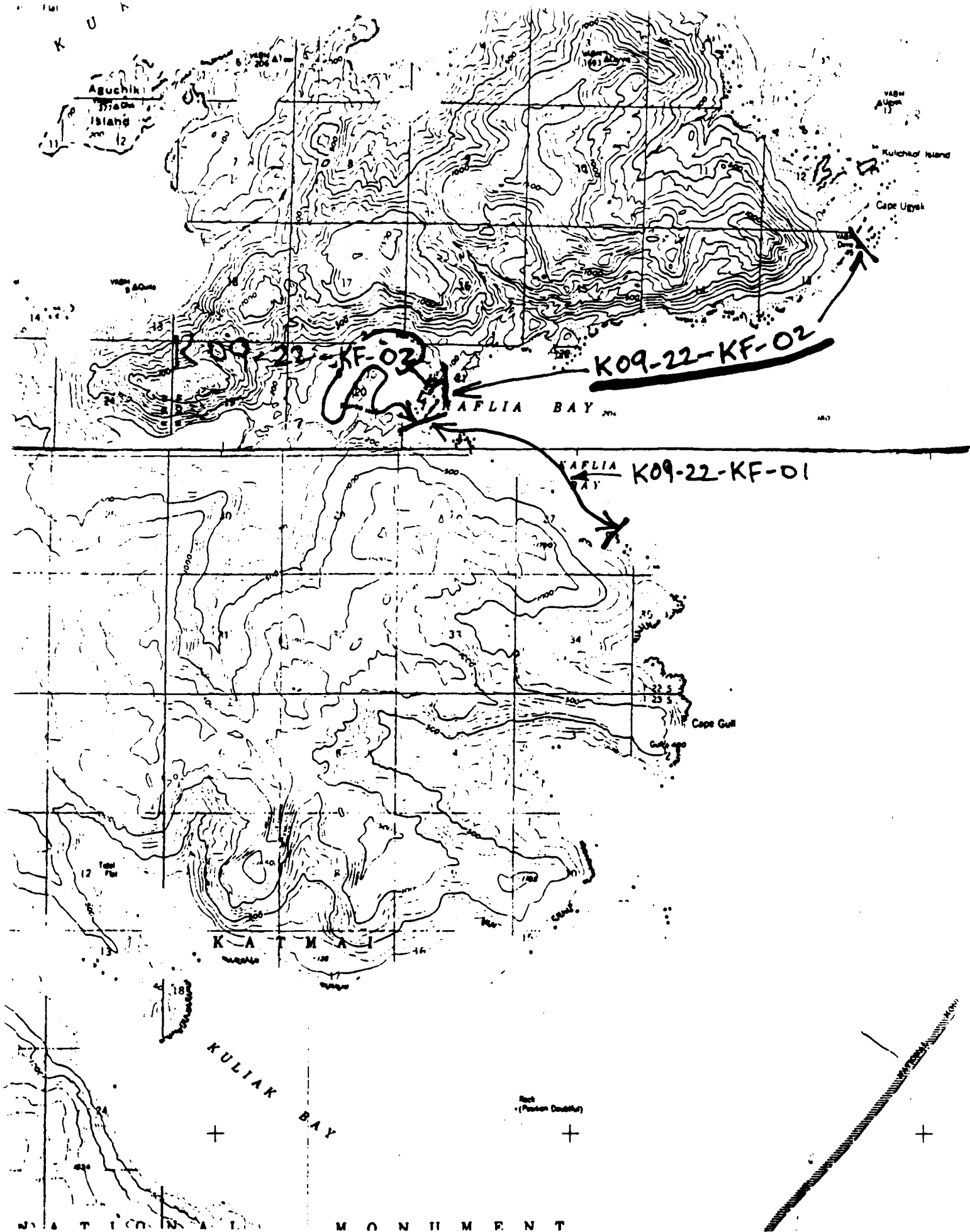
- 1 OILED BIRD  
- V. LIGHT POLYMER

⑥ SHINGLE PEBBLE BEACH

- NO OIL

⑦ WHITE SAND BEACH

NO OIL



(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/28/89

SHORELINE SEGMENT K9-22-KF-3

LOCATION: (see enclosed map) Kafliia 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: 07/22/89 Time: 20:10  
 Surveyed From: Foot/Boat/Helio/Plane

Observer: Rick Gillie  
 Weather: Sun/Cloud/Rain/Snow/Fog

CATION  
 Location: KAFLIA BAY LAGOON Segment ID: K09-22-KF-03  
 Segment Length: 7,400 m. Access: Vehicle/Boat/Barge/Helio/Float Plane  
 Access Restrictions: SHALLOW ENTRANCE

SHORELINE

Shoreline Type: SPI/BEA/COV/HLD/STRT Slope: Lo/Med/Hi/Vert  
 Wave Exposure: High/Med/Low  
 Sediment: B 10 % / C 10 % / P 10 % / G&S 10 % / M    % / R 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          | H/M/L/VL         |
|------------|---------------------------|----------------------|------------------|
| Sporadic   | % of Segment <u>&lt;1</u> | SU/ <u>SP</u> /H/M/L | H/M/L/ <u>VL</u> |

| Total       | Length(m) | Width(m)     | Thickness >1cm:     | cm | SU/SP/H/M/L |
|-------------|-----------|--------------|---------------------|----|-------------|
| Very light: | <u>10</u> | <u>&lt;1</u> |                     |    |             |
| Light:      |           |              | Penetration/Rework: |    | SU/SP/H/M/L |
| Moderate:   |           |              | Burial Depth:       |    | SU/SP/H/M/L |
| 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

|                 | %         | H/M/L/VL | SU/SP/H/M/L          |
|-----------------|-----------|----------|----------------------|
| Pooled Oil:     | <u>—</u>  |          | SU/SP/H/M/L          |
| "Free" Oil:     | <u>—</u>  |          | SU/SP/H/M/L          |
| Splattered:     | <u>50</u> | H/M/L/VL | SU/ <u>SP</u> /H/M/L |
| Coated:         | <u>  </u> | H/M/L/VL | SU/SP/H/M/L          |
| Pancakes/Balls: | <u>50</u> |          | SU/ <u>SP</u> /H/M/L |

-----  
Preliminary Cleanup Est.

Total TYPE A: 10 m  
 Total TYPE B:    m  
 Total TYPE A/B:    m  
 -----

OIL WEATHERING

|                   | %          | SU/SP/H/M/L          |
|-------------------|------------|----------------------|
| Fresh:            | <u>  </u>  | SU/SP/H/M/L          |
| Mousse:           | <u>  </u>  | SU/SP/H/M/L          |
| Weathered Mousse: | <u>100</u> | SU/ <u>SP</u> /H/M/L |
| Asphalt Mousse:   | <u>  </u>  | SU/SP/H/M/L          |
| Tar:              | <u>  </u>  | SU/SP/H/M/L          |

COMMENTS

A) ESSENTIALLY NO OIL

B) ONLY VERY RARE TARballs (ONE EVERY 100 M).

DOCUMENTATION:Map/Aerial photo marking segment boundaries K09-22-KF-03VTR: Y/N Y Tape Number(s) \_\_\_\_\_Photography: Y/N Y Roll Number(s) RG-3Sample Numbers Collected: N/A

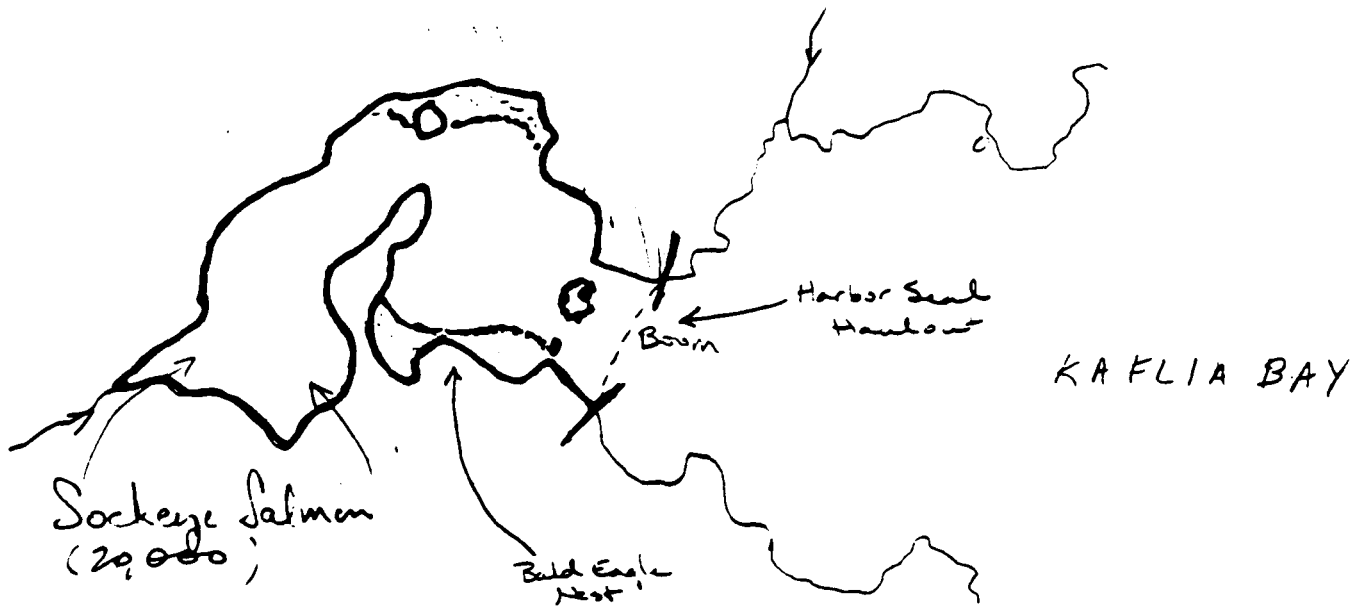
SEGMENT K09-22-KF-03

- Kaffia Bay Lagoon
- 20:10
- Lagoon boomed off
- Fishermen and boom tinders report NO OIL inside the lagoon boom
- Substrate:
  - Gravel beaches to mudflat
- OIL
  - Essentially NO OIL
  - Very rare small oil residue spots
  - and very rare small tarballs (about 1 per beach)
- Recommend NO CLEAN-UP

KAFLIA BAY LAGOON

(K07-22-K-03)

LENGTH = 7,400 M



## ECOLOGICAL EVALUATION

LOCATION: Kafia Bay SITE: Head of Bay OBSERVER: J. Tarpley  
 LOCATION PREFIX: K9 KF SEG. NO.: K9-22-KF-03 LENGTH: 7.400 (M)  
 DATE: 7/22/89 TIME (HHMM): 2015 TIDE HT.: +4m (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: Sockeye & Pink Salmon jumping in bay. Moderate to heavy algal  
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 pilot birds: Bald Eagles + nest: Gulls, Kittiwakes

GENERAL OBSERVATIONS: \* Mechanical problems prevented survey at low tide, therefore  
evaluation was done at high tide when all intertidal biota was  
submerged. Ecological evaluation of intertidal life was not possible although  
no oil was found.





517-<sup>60</sup> KODIAK SCAT  
K9-23

**COMPLETE** JAN 18 1990

ACE 7963992

ACE 8709080-1/FF

(version 6/04/89)

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)

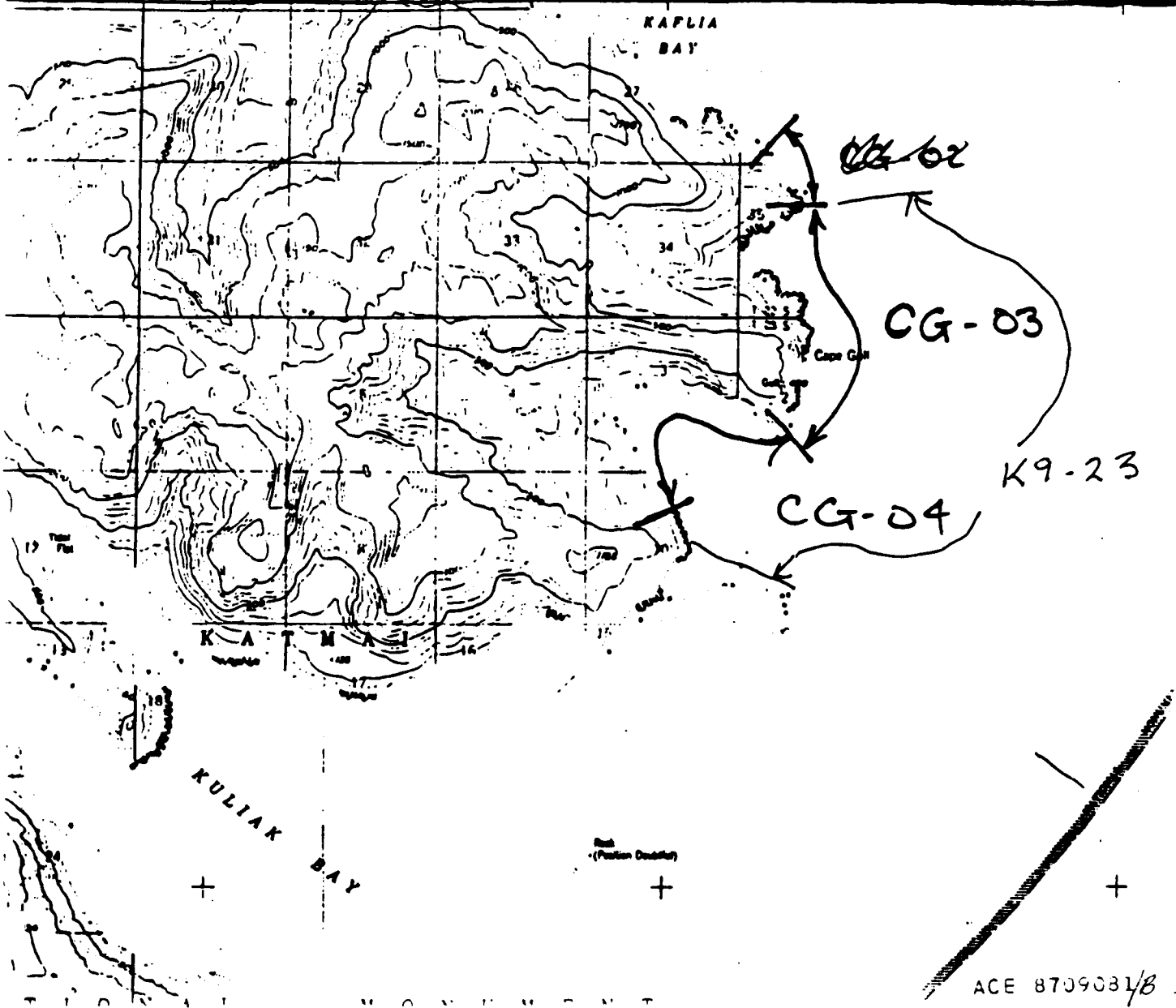
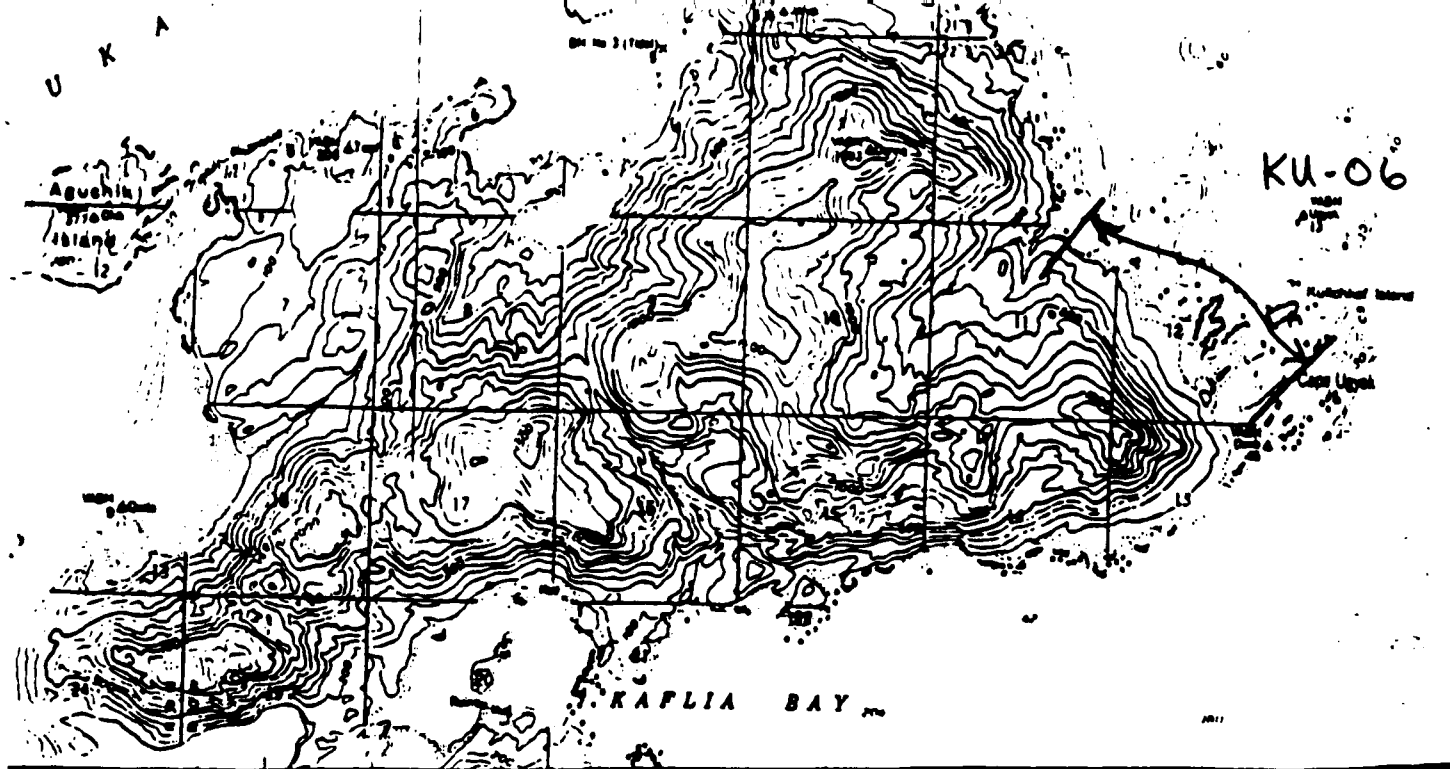
FOSC Approval: \_\_\_\_\_ Date: \_\_\_\_\_

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

ACE 870908/A +IS



(version 5/02/89)

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

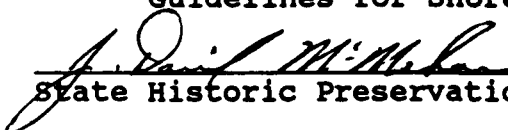
- Boat access may be limited in some areas by exposed reefs.
- Segment located within Katmai National Monument.
- Seabird colonies and pinniped handouts located nearby.
- Clam beds in small inlet.

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 \*

Date: \_\_\_\_\_

EXXON: \_\_\_\_\_

Date: \_\_\_\_\_

FOSC: \_\_\_\_\_

Date: \_\_\_\_\_

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

SHORELINE OIL EVALUATION

ate: 07/18/89 Time: 09:00  
 Surveyed From: Foot/Boat/Helio/Plane

Observer: Rick Gullie  
 Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION: CAPE GULL Segment ID: K09-23-CG-03  
 Segment Length: 3300 m. Access: Vehicle/Boat/Barge/Helio/Float Plane  
 Access Restrictions: NEAR SHORE ROCKS, EXPOSED

SHORELINE

Shoreline Type: SPI/BEA/COV/HLD/STRT Slope: Lo/Med/Hi/Vert  
 Ave Exposure: High/Med/Low  
 Sediment: B 20 % / C 10 % / P 5 % / G&S 5 % / M % / R 50 %

IL

vg. 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 10 SU/SP/H/M/L H/M/L/VL

| Total       | Length(m)     | Width(m)      | Thickness >1cm:                  |             |
|-------------|---------------|---------------|----------------------------------|-------------|
| Very light: | <u>100</u>    | <u>N/A</u>    | <u>10-20</u> cm                  | SU/SP/H/M/L |
| Light:      | <u>      </u> | <u>      </u> | Penetration/Rework: <u>10</u> cm | SU/SP/H/M/L |
| Moderate:   | <u>30</u>     | <u>6</u>      | Burial Depth: <u>      </u> cm   | SU/SP/H/M/L |
| Heavy:      | <u>      </u> | <u>      </u> |                                  |             |

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

BEACH MORPHOLOGY

Pooled Oil: 20 % SU/SP/H/M/L  
 Free Oil:        % SU/SP/H/M/L  
 Splattered:        % H/M/L/VL  
 Coated: 70 % H/M/L/VL  
 Pancakes/Balls: 10 % SU/SP/H/M/L

Preliminary Cleanup Est.

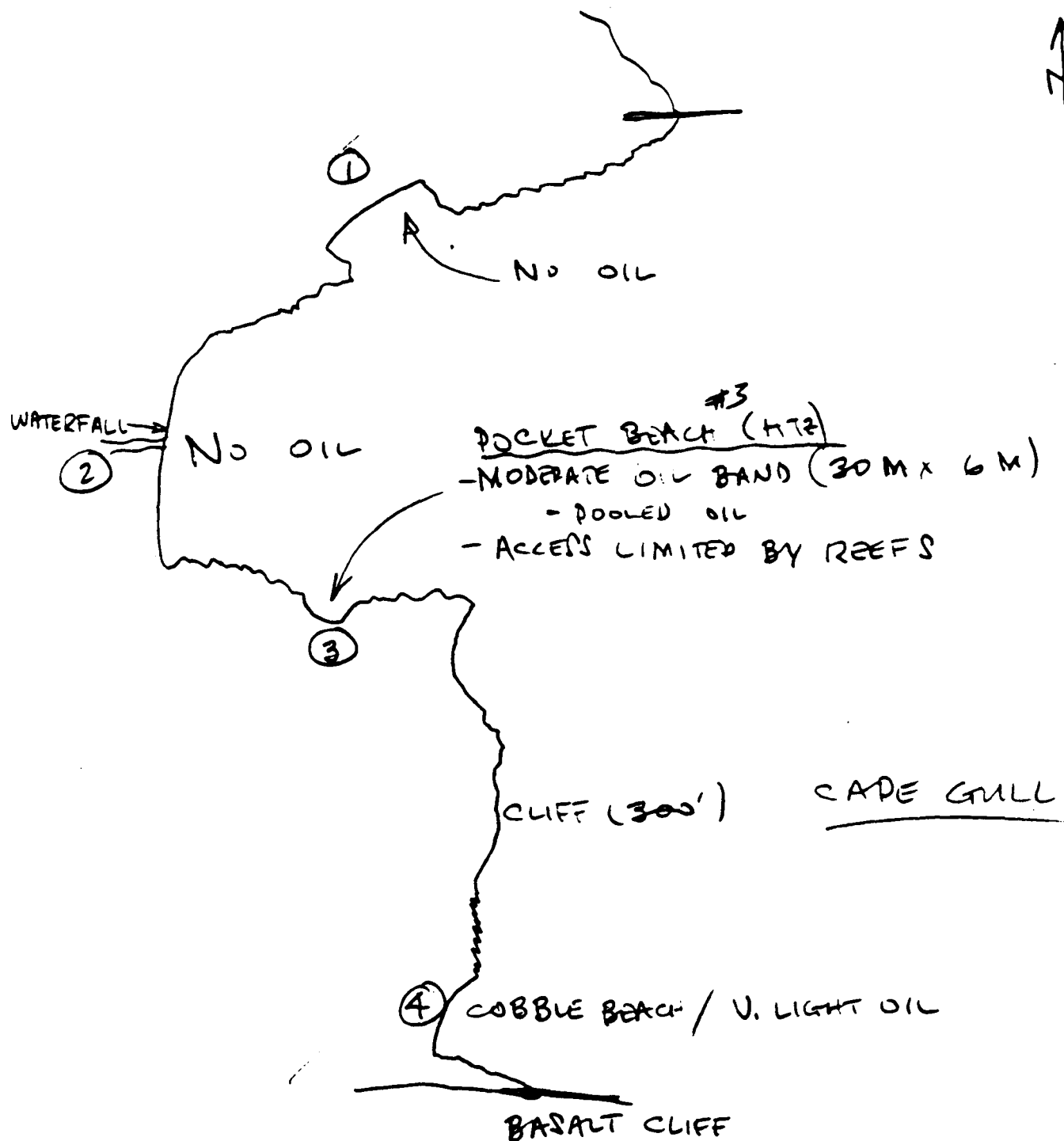
Total TYPE A: 30 m  
 Total TYPE B:        m  
 Total TYPE A/B:        m

OIL WEATHERING

Fresh:        % SU/SP/H/M/L  
 Mousse: 80 % SU/SP/H/M/L  
 Feathered Mousse: 20 % SU/SP/H/M/L  
 Asphalt Mousse:        % SU/SP/H/M/L  
 Tar:        % SU/SP/H/M/L

COMMENTS

SEE MAP FOR LOCATION OF MODERATE OILING ON BEACH COVE  
 AT SITE (3). INCLUDED POOLED OIL (EST 10 GALLONS)

DOCUMENTATION:Map/Aerial photo marking segment boundaries K09-23-CG-03 (SEE BELOW)VTR: Y/N Tape Number(s) \_\_\_\_\_Photography: Y/N Roll Number(s) RG-2Sample Numbers Collected: N/A



## ECOLOGICAL EVALUATION

LOCATION: Kaflia Bay SITE: Cape Gull OBSERVER: J. Turpley  
 LOCATION PREFIX: K9/CG SEG. NO.: K9-23-~~CG~~-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

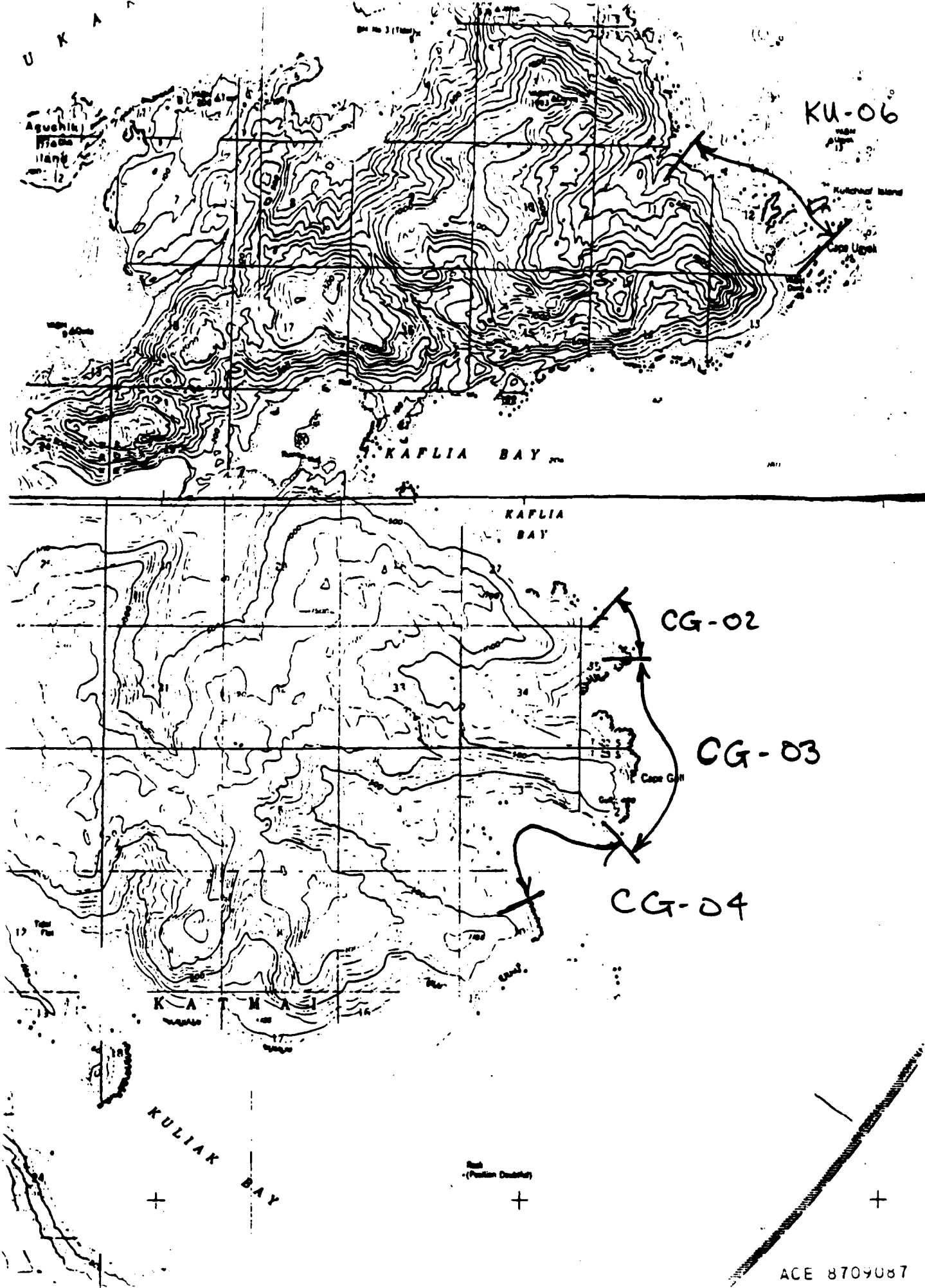
OTHER OBSERVATIONS: Description above is for oiled pocket beach. Rocky non-oiled  
part of segment rich and diverse with intertidal life. Clam bed in bay.

CLEANUP PRECAUTIONS: Bears present in area. Avoid oil contamination of healthy  
low ITZ.

MAMMALS: Otters        Harbor Seals 3 Sea Lions        Whales         
 Other Bear Tracks

BIRDS: Gulls, Kittiwakes, Bald Eagle, Peregrine Falcon & nest.

GENERAL OBSERVATIONS: Drums of 3-4" Dungeness crabs dead on beach.  
Moderate algal debris scattered across beach. Amphipods abundant. Terrestrial  
birds on beach drift.



ACE 8709087

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/17/89

SHORELINE SEGMENT K9-23-CG-4

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.

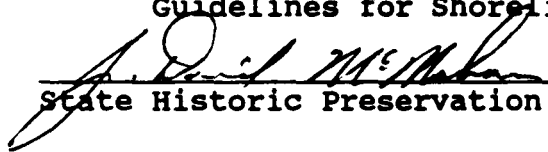
-Clam beds in bay.

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 \*

Date: \_\_\_\_\_

EXXON: \_\_\_\_\_

Date: \_\_\_\_\_

FOSC: \_\_\_\_\_

Date: \_\_\_\_\_

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

ACE 8709088

SHORELINE OIL EVALUATION

ate: 07/18/89 Time: 12:01  
12:50  
 urveyed From: Foot/Boat/Helio/Plane

Observer: RICK GILLIE  
 Weather: Sun/Cloud/Rain/Snow/Fog

ACTION

ation: CAPE GULL

Segment ID: K09-23-CG-04

egment Length: 3550 m. Access: Vehicle/Boat/Barge/Helio/Float Plane  
 ccess Restrictions: SHALLOW SAND NEAR SHORE

SHORELINE

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

Slope: Lo/Med/Hi/Vert

ave Exposure: High/Med/Low

ediment: B 10% / C / P 20% / G&S 20% / M / R 50%

IL

vg. Degree of Oiling: HEAVY / MODERATE / LIGHT / VERY LIGHT / NONE OBSERVED  
 rea of Impact: SU/SP/H/M/L N/A

IL DISTRIBUTION

ontinuous % of Segment N/A

SU/SP/H/M/L

H/M/L/VL

poradic % of Segment N/A

SU/SP/H/M/L

H/M/L/VL

| otal       | Length(m) | Width(m) | Thickness >1cm:     | cm    | SU/SP/H/M/L |
|------------|-----------|----------|---------------------|-------|-------------|
| ery light: | _____     | _____    | Penetration/Rework: | _____ | SU/SP/H/M/L |
| ight:      | _____     | _____    | Burial Depth:       | _____ | SU/SP/H/M/L |
| oderate:   | _____     | _____    |                     |       |             |
| avy:       | _____     | _____    |                     |       |             |

obilization Potential: High/Medium/Low N/A

rift Debris Oiled? Y/N Amount: H/M/L/VL SU/SP/H/M/L Type: NONE

IL MORPHOLOGY

|                |       |   |             |
|----------------|-------|---|-------------|
| ooled 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 |

H/M/L/VL

H/M/L/VL

Preliminary Cleanup Est.

Total TYPE A: 0 m

Total TYPE B: \_\_\_\_\_ m

Total TYPE A/B: \_\_\_\_\_ m

IL WEATHERING

|                   |       |   |
|-------------------|-------|---|
| resh:             | _____ | % |
| ousse:            | _____ | % |
| eaathered Mousse: | _____ | % |
| sphalt Mousse:    | _____ | % |
| ar:               | _____ | % |

SU/SP/H/M/L

SU/SP/H/M/L

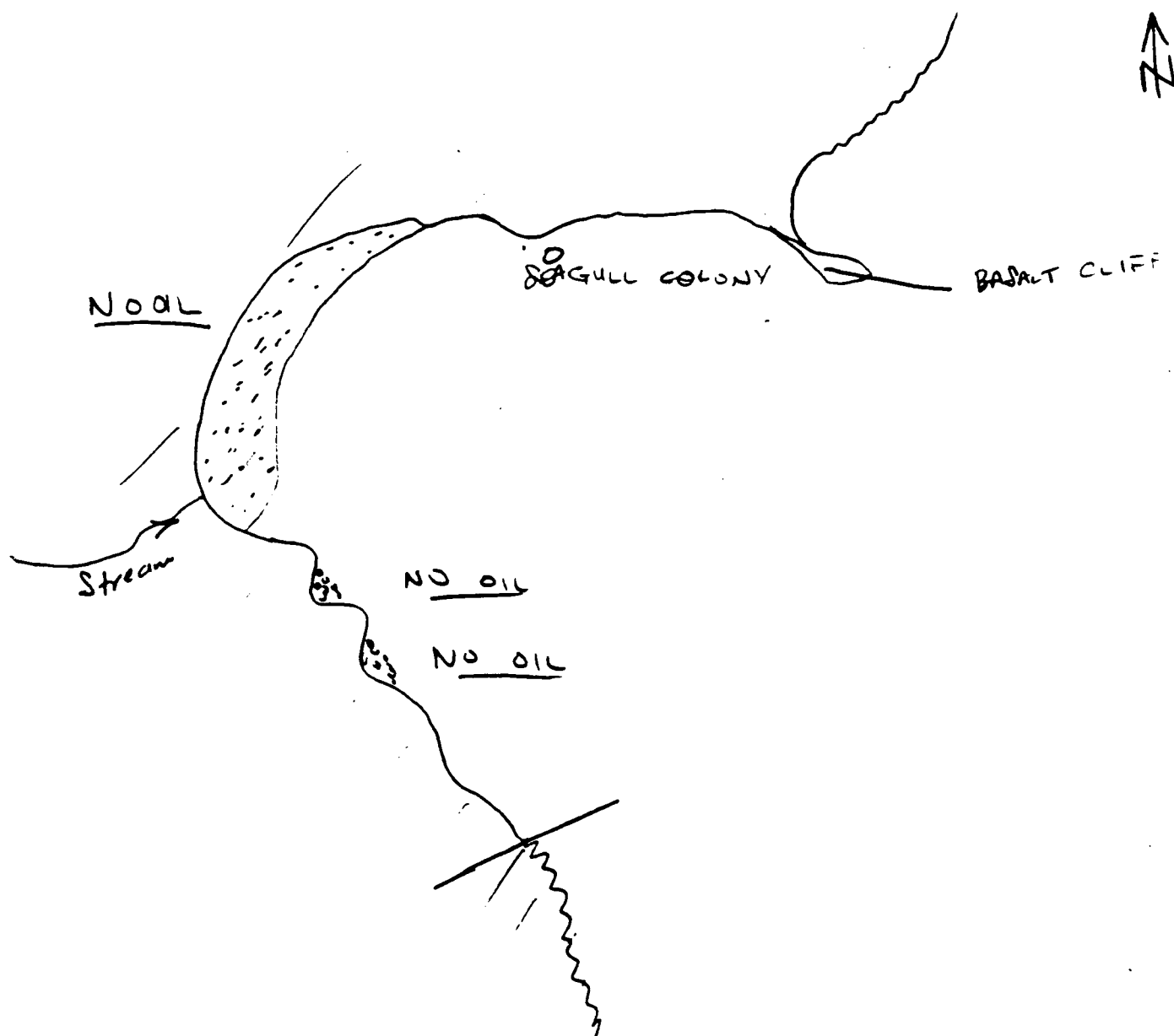
SU/SP/H/M/L

SU/SP/H/M/L

SU/SP/H/M/L

COMMENTS

NO OIL OBSERVED ON ROCKS, 400 M LONG SAND BEACH  
OR BOULDER BEACHES

DOCUMENTATION:Map/Aerial photo marking segment boundaries K09-23-CG-04VTR: Y/N Tape Number(s) \_\_\_\_\_Photography: Y/N Roll Number(s) RG-2Sample Numbers Collected: N/A

ACE 8709090

## ECOLOGICAL EVALUATION

LOCATION: KAFUA BAY SITE: SOUTH OF CAVE GULL OBSERVER: J. Tarpley  
 LOCATION PREFIX: K9/CG SEG. NO.: K9-23-CG-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 Odonthallia Porphyra Polysiphonia 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

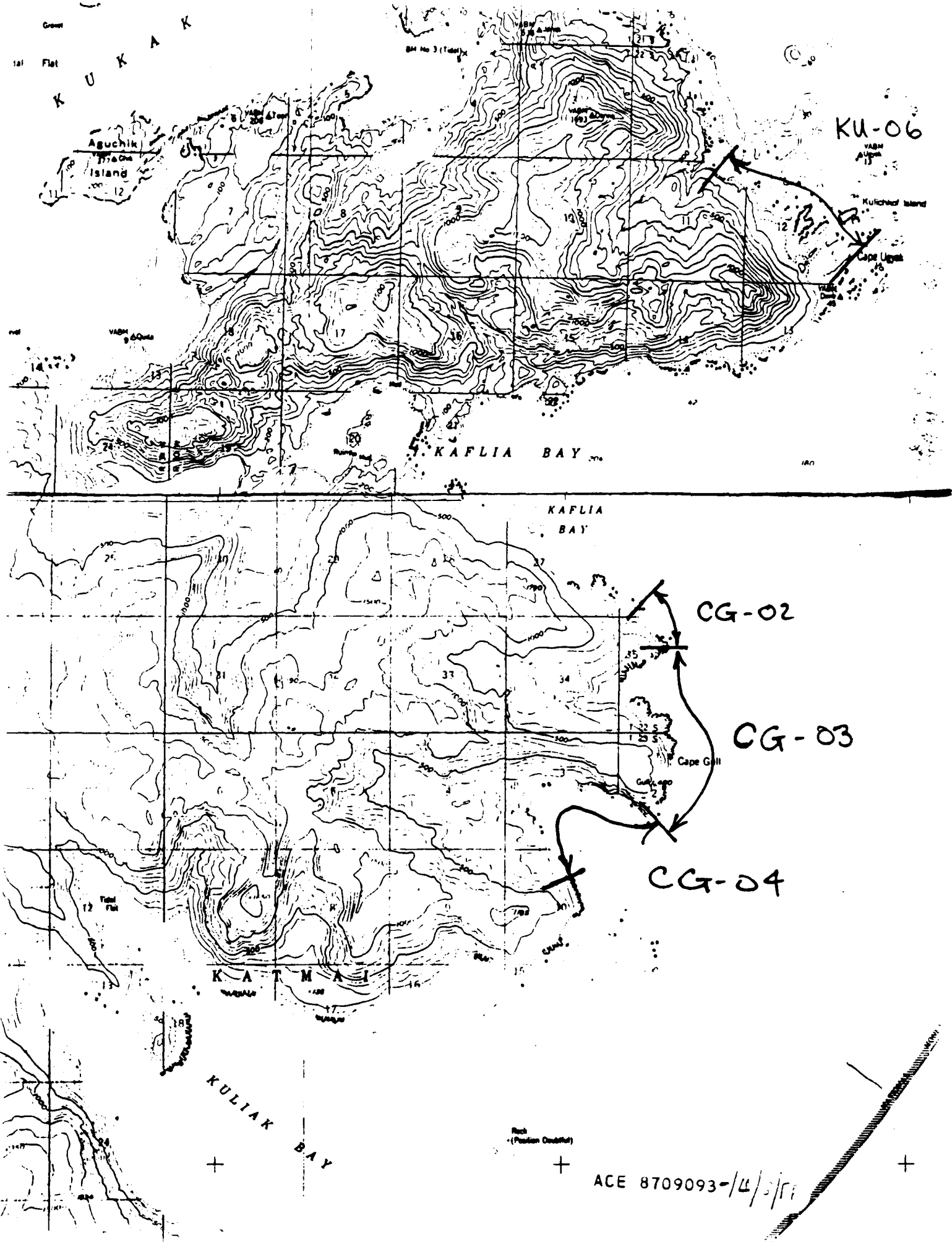
OTHER OBSERVATIONS: Very little algae or wood debris. 2-3 Cancer magister  
per meter along drift line. Gull/Kittiwake Colony in Bay. (300-400 birds)  
Clam beds in bay.

CLEANUP PRECAUTIONS: Bears common in this area.

MAMMALS: Otters      Harbor Seals 2 Sea Lions      Whales       
 Other Bear Tracks. Fox Caribou Tracks.

BIRDS: Gulls, Kittiwakes, Merganser

GENERAL OBSERVATIONS: No oil observed 2 Streams at south end of  
beach.



K9-24

ACE 7963993



K9-24

(version July 23, 1989)

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.

*J. Paul M. M...*  
State Historic Preservation Officer \*

Date: 8/5/89

EXXON: \_\_\_\_\_

Date: \_\_\_\_\_

FOSC: \_\_\_\_\_

Date: \_\_\_\_\_

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

on 5/02/89)

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: \_\_\_\_\_

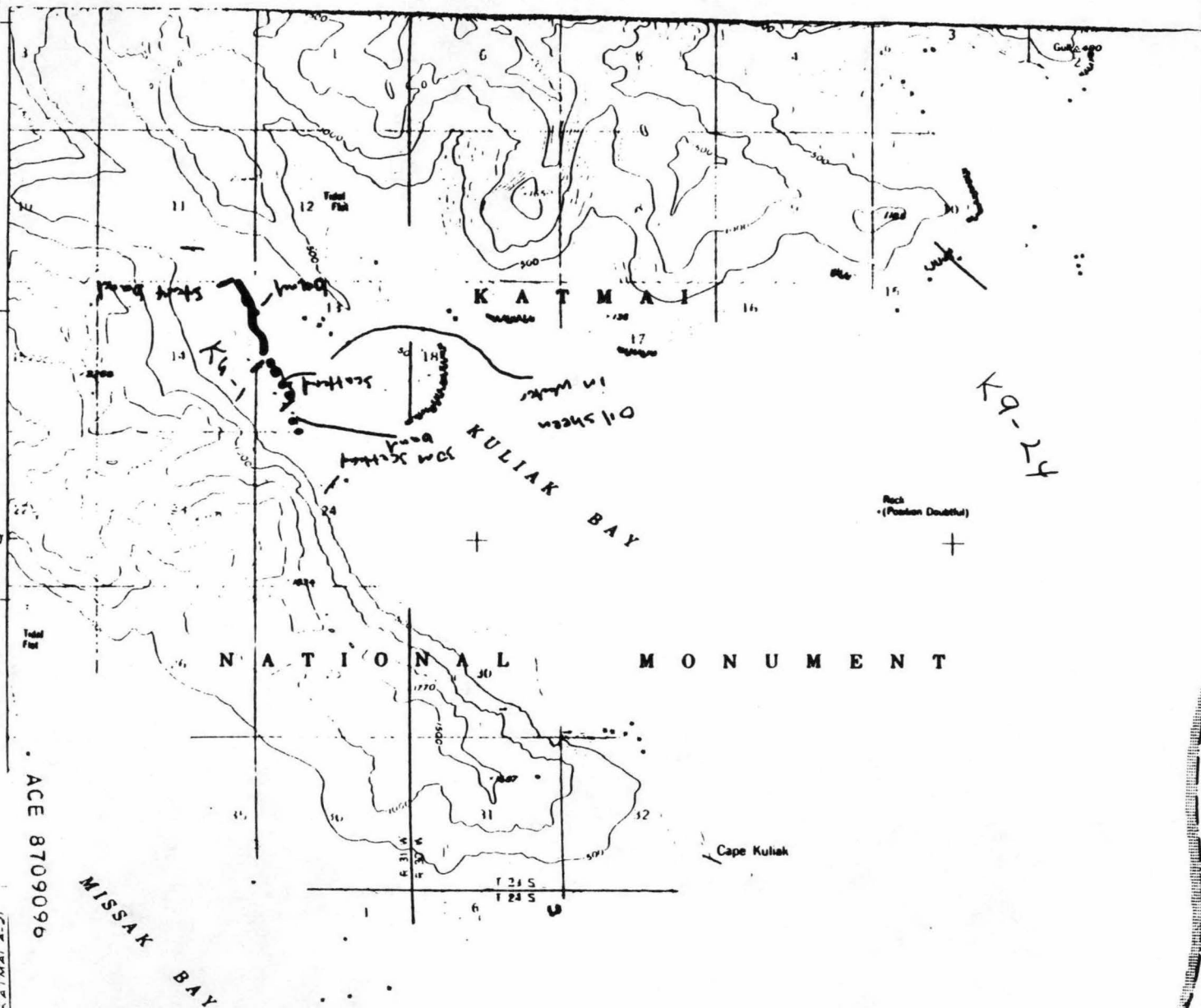
Date: \_\_\_\_\_

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

**KODIAK**

**DRAFT**

ACE 8709095



## SHORELINE OIL EVALUATION FORM - KODIAK

JUNE 25

Date: 1989 / Time: 10:30Observer: MIKE MILES

Surveyed From: Foot/Boat/Helio/Plane

Weather: (Sun) Cloud/Rain/Snow/FogLOCATION  
LOCATIONNORTHWESTKULIAK BAYSEGMENT I.D. K9-24-KU-1LENGTH OF SHORELINE SEGMENT: 1500 mACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane

## SHORELINE:

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

Slope: LANG/HANG/VER

Wave Exposure: High/Med/LowSediment: B20 / C50 / P30 / G\_\_ / S\_\_ / M\_\_ / R\_\_Drift Debris on Beach: (Yes)/NoSupra/Upper/Mid/Lower Type LOGS AND DRIFTED WEEDS

## OIL

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

## OIL DISTRIBUTION

Continuous: (Y)N Segment: <50 No. Bands 1 Band 1 → 2 m wide at upper ITZ. Locally spatters over a 20 m wide area of mid to high ITZ in areas of low gradientSporadic: (Y)N Segment: 30 Min/Max Dia <5cm Impact Width ≤25mEst. Oil Thickness where > 1cm: 2 cm: SU / SP / UP / MID / LO  
Depth below top sedEst. Oil Penetration: 3 cm in areas of heavier oil SU / SP / UP / MID / LOLayers? Yes/No No# Layers \_\_\_\_\_ Oil Weathering \_\_\_\_\_Drift Debris Oiled? (Yes)/No Supra/Upper/Mid/Lower Amount: H / M / L / VL

## OIL MORPHOLOGY

Pooled Oil 0 / "Free" Oil 10 / Spattered 90 / H/M/L/VL Sheen 0

## OIL WEATHERING (OW)

Fresh Oil 0 / SU/SP/VP/MID/LO Choc Mousse 20 / SU/SP/VP/MID/LOPancake Mousse 20 / SU/SP/VP/MID/LO Asphalt Mousse 60 / SU/SP/VP/MID/LOTar Formation 0

## Comments:

This is a cobble beach with a pebble spring tide/storm bermOil contamination is variable. Very light discontinuous for spatters occur over the mid to upper ITZ. A heavier band of tar, mousse and mousse "patties" occurs sporadically over a 1 to 2 m wide band in the upper ITZ. In some areas "free oil" occurs 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, covers <10% of the beach area.Manual removal is appropriate for this area. Beach washing is unlikely to recover much oil due to beach porosity, low gradient —

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

## ECOLOGICAL EVALUATION

NORTHWEST  
 LOCATION: KULIAK BAY SITE: \_\_\_\_\_ OBSERVER: D. McCORMICK  
 K9-24-  
 LOCATION PREFIX: KU SEG. NO.: 1 LENGTH: 1500 (M)  
 DATE: 6/25/89 TIME (HHMM): 1020 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

All healthy

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

Continuous but not dense in mid to high zone about 5% oiled; dense in low zone - un-oiled

Littorina

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

Oiled in mid-high zone - not oiled in low ITZ

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

OTHER OBSERVATIONS: ground squirrel in dune sea otter a few meters offshore;

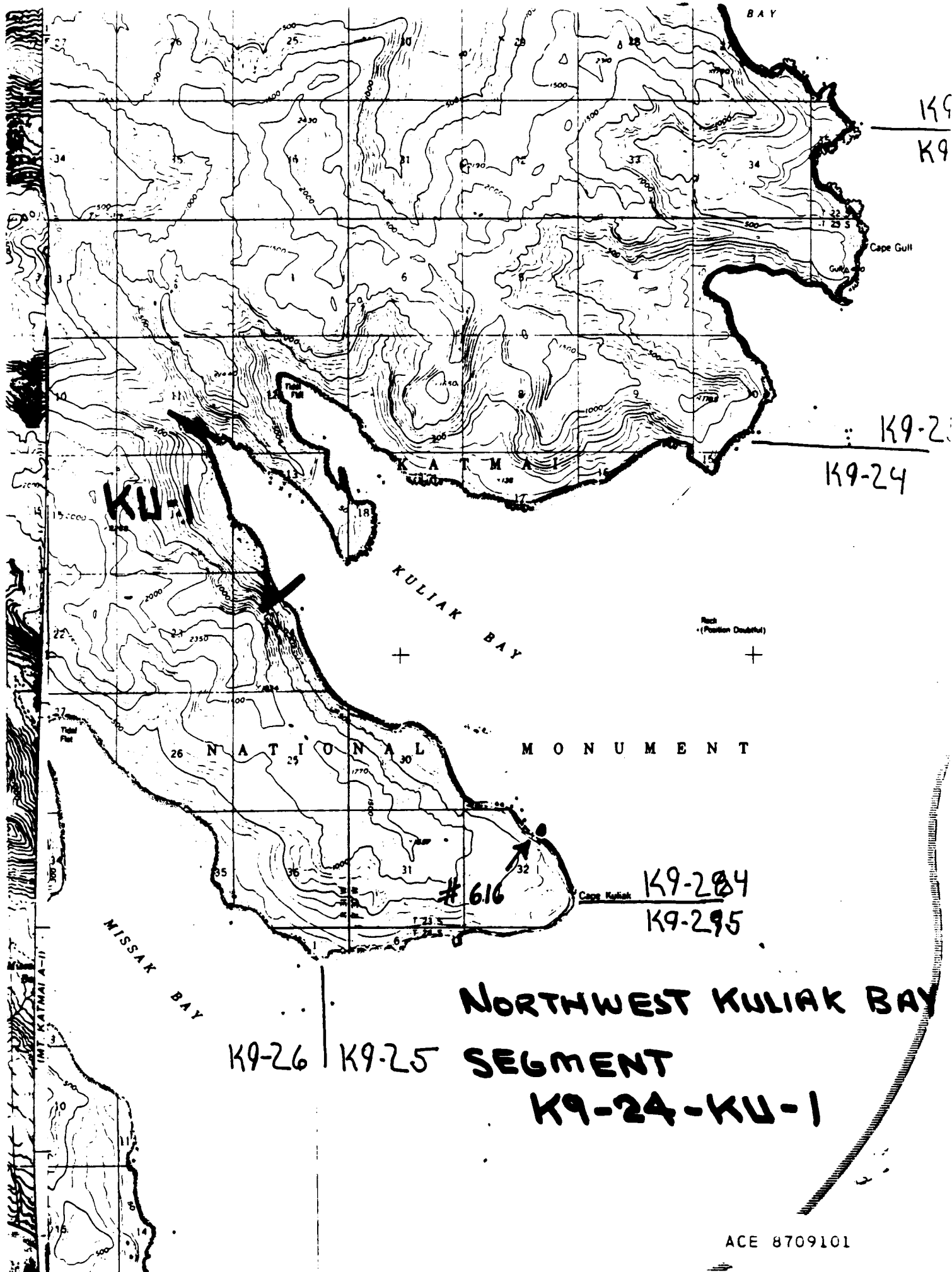
Salmon stream at head of bay; clam shells

CLEANUP PRECAUTIONS: None

MAMMALS: Otters 1 Harbor Seals \_\_\_\_\_ Sea Lions \_\_\_\_\_ Whales \_\_\_\_\_  
 Other \_\_\_\_\_

BIRDS: gulls kittiwakes, mergansers

GENERAL OBSERVATIONS: oil in mid-lower ITZ very light asphalt splatter -  
not adversely affecting birds; oil in mid-high zone melting in sun to become chocolate  
and is oiled snails, barnacles + amphipods under rocks.



K9  
K9

K9-24

K9-24

KU-1

KULIAK BAY

NATIONAL MONUMENT

#616

K9-284

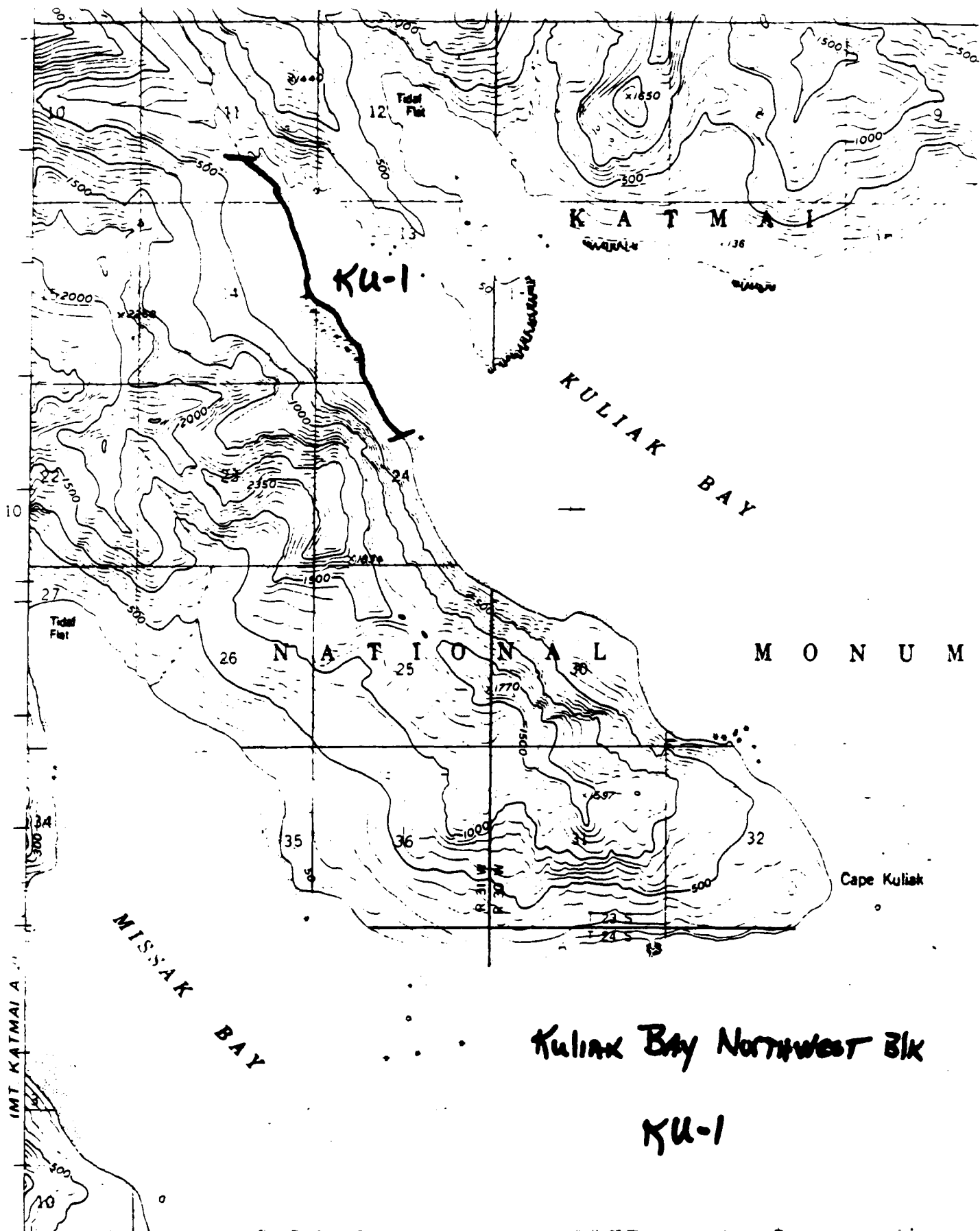
K9-295

MISAK BAY

NORTHWEST KULIAK BAY

K9-26 K9-25 SEGMENT

K9-24-KU-1



Kuliak Bay Northwest Blk

KU-1



(version 5/02/89)

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 \*

Date: 8/5/89

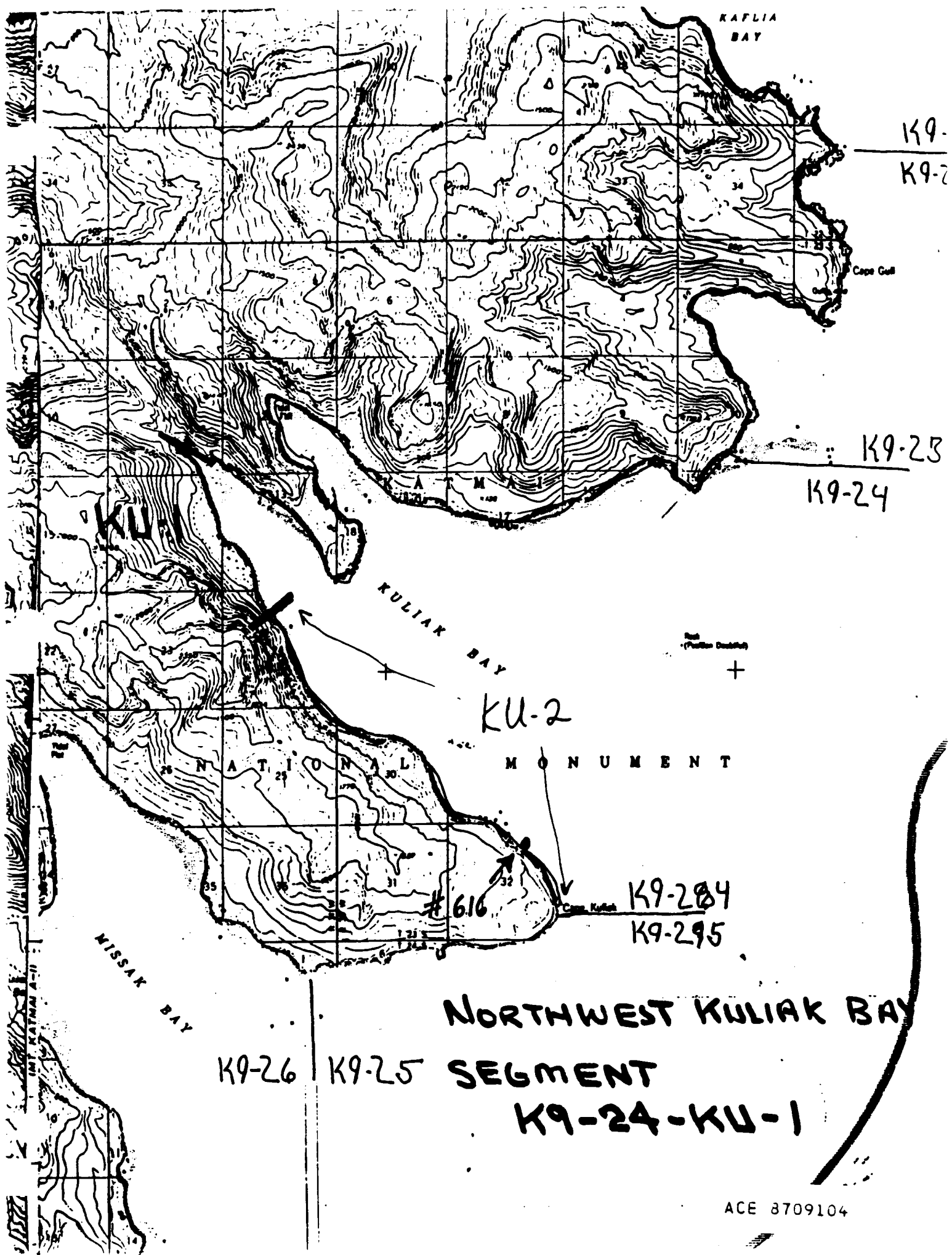
EXXON: \_\_\_\_\_

Date: \_\_\_\_\_

FOSC: \_\_\_\_\_

Date: \_\_\_\_\_

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



SHORELINE OIL EVALUATIONA. General

1. Date: 1 Aug 1989 2. Time: 0810-1230 3. Observer: DUNCAN M FITZGERALD  
 4. Surveyed From: Foot/Boat/Helio/Plane 5. Weather: Sun/Cloud/Rain/Snow/Fog  
 6. Location Southwest Kulik Bay 7. Segment #: K-9-24-KU-2  
 8. Length of shoreline segment: 7040 yds 9. Tidal Stage  $\pm$  -1 to .5 ft.  
 10. Access: Foot/Vehicle/Boat/Barge/Helio/Float Plane  
 11. Total Percentage of Segment Accessible: 100 %  
 12. Access Restrictions: Difficult landing a boat at high wave conditions

B. Shoreline

13. Shoreline Type: SPI/BEA/COV/HLD/STRT/CLF/DAF  
 14. Slope: LANG/HANG/VERT  
 15. Wave Exposure: High/Med/Low  
 16. Sediment: B35% / C25% / P15% / G\_\_% S5% / M\_\_% / R5%  
 17. Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type Driftwood

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 15  
 Sporadic: Total % of Segment 70  
 No Oil: Total % of Segment 15  
 20. Est. Oil Thickness where >1in: 1-6 in 21. Est. Oil Penetration: 6-8 in  
 22. Pooled Oil: \_\_\_\_% "Free" Oil: \_\_\_\_% Coated: H\_\_% / M25% / L75%  
 23. Fresh \_\_\_\_% Mousse 25% Tar Formation: 75%  
 24. Drift Debris Oiled? Yes/No Sup/Up/Mid/Low Amount: very H/M/L

## Comments:

Please see accompanying maps. For clean up purposes, most of the oil is concentrated at the southern end of the segment (see maps 2-4), consisting of mousse buried beneath cobbles, between large boulders and cobbles and lying at the surface along drift lines.

SEE PAGE 2 FOR SUPPLEMENTAL INFORMATION

SUPPLEMENTAL SHORELINE OIL EVALUATION25. Oil Type

|           |       |   |
|-----------|-------|---|
| Fresh     | _____ | % |
| Mousse    | 30    | % |
| Weathered | 30    | % |
| Tar       | 40    | % |
|           | 100   | % |

26. Total Oil Coverage

|             |            |            |
|-------------|------------|------------|
|             | Length(yd) | Width (yd) |
| Very Light: | 4140       | 1-3        |
| Light:      | 2000       | 2-4        |
| Moderate:   | 900        | 3-6        |
| Heavy:      | _____      | _____      |

27. Oil Distribution

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

| Thick |   |   |   |      | Burial     |           |          |
|-------|---|---|---|------|------------|-----------|----------|
| SP    | H | M | L | >1in | Length(yd) | Width(yd) | Depth    |
|       | x | x |   |      | 4000       | 2-4       |          |
|       | x |   |   | x    | 800        |           | 6 inches |
|       | x | x |   | x    | 100        |           |          |
|       |   |   |   |      |            |           |          |
|       |   |   |   |      |            |           |          |

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:

Map/Aerial photo marking segment boundaries See Attached

VTR: Y/N Tape Number (s) \_\_\_\_\_

Photography: Y/N Roll Number (s) DMC-25

Additional Comments:

\_\_\_\_\_

\_\_\_\_\_

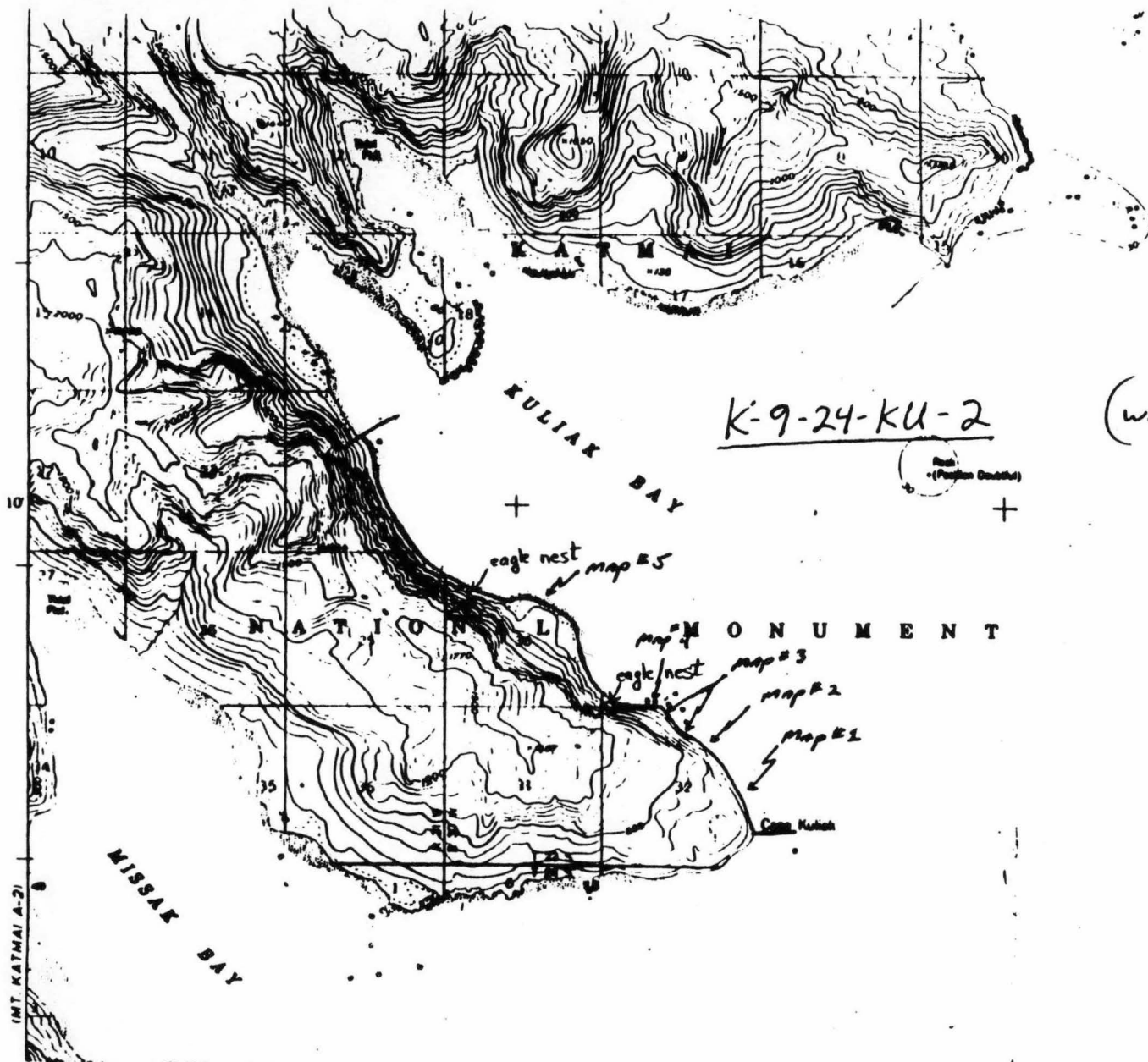
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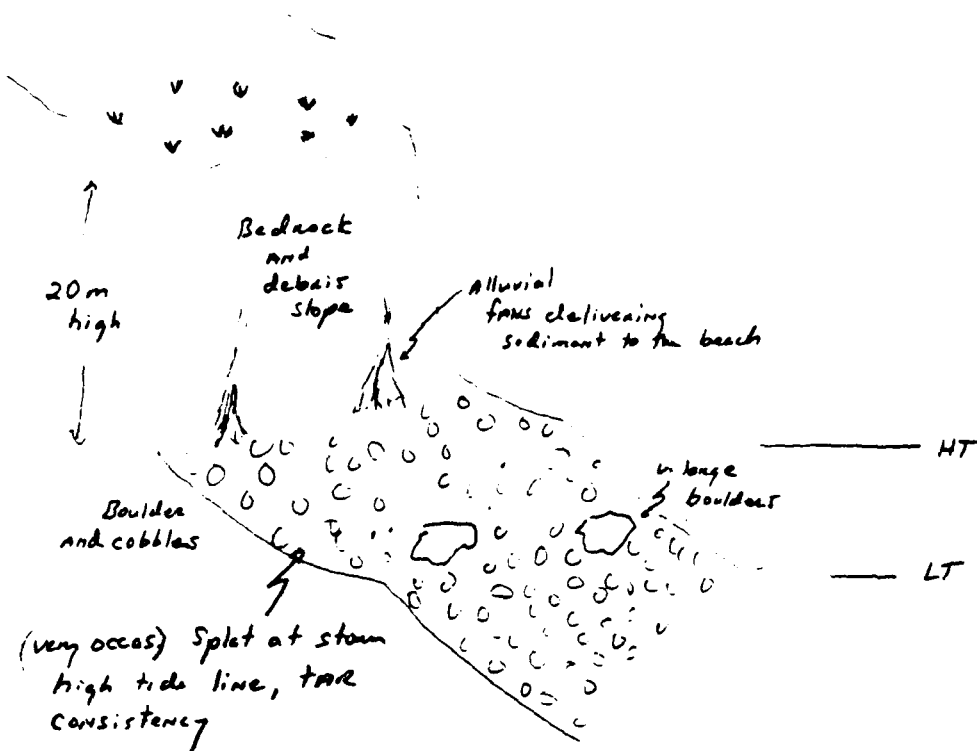
\_\_\_\_\_



(walked entire segment)

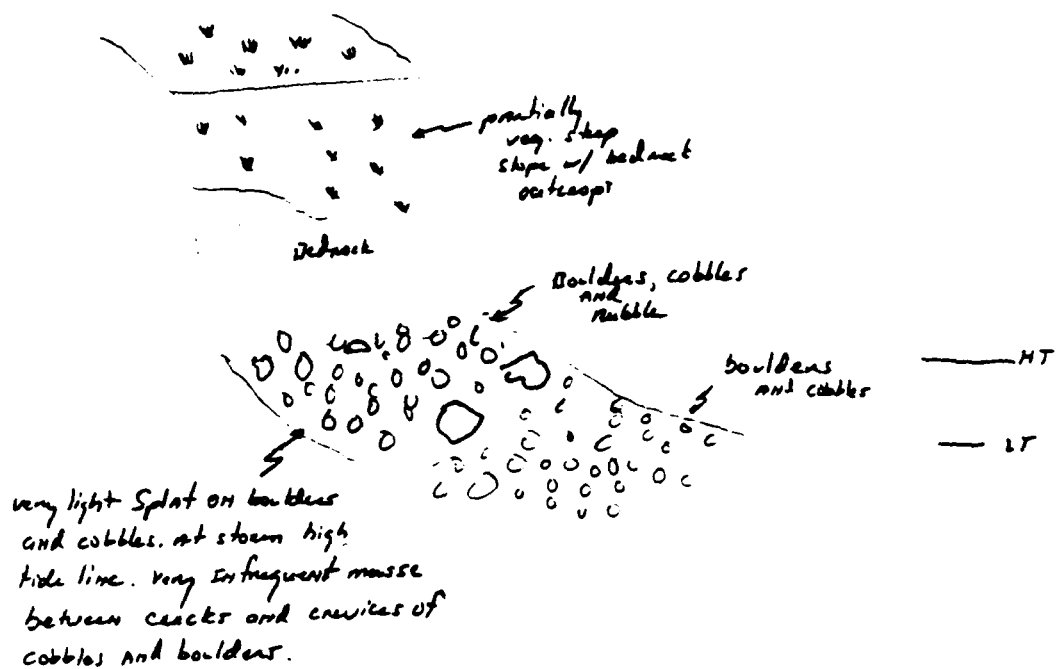
Map # 1

Representative Section



Map # 2

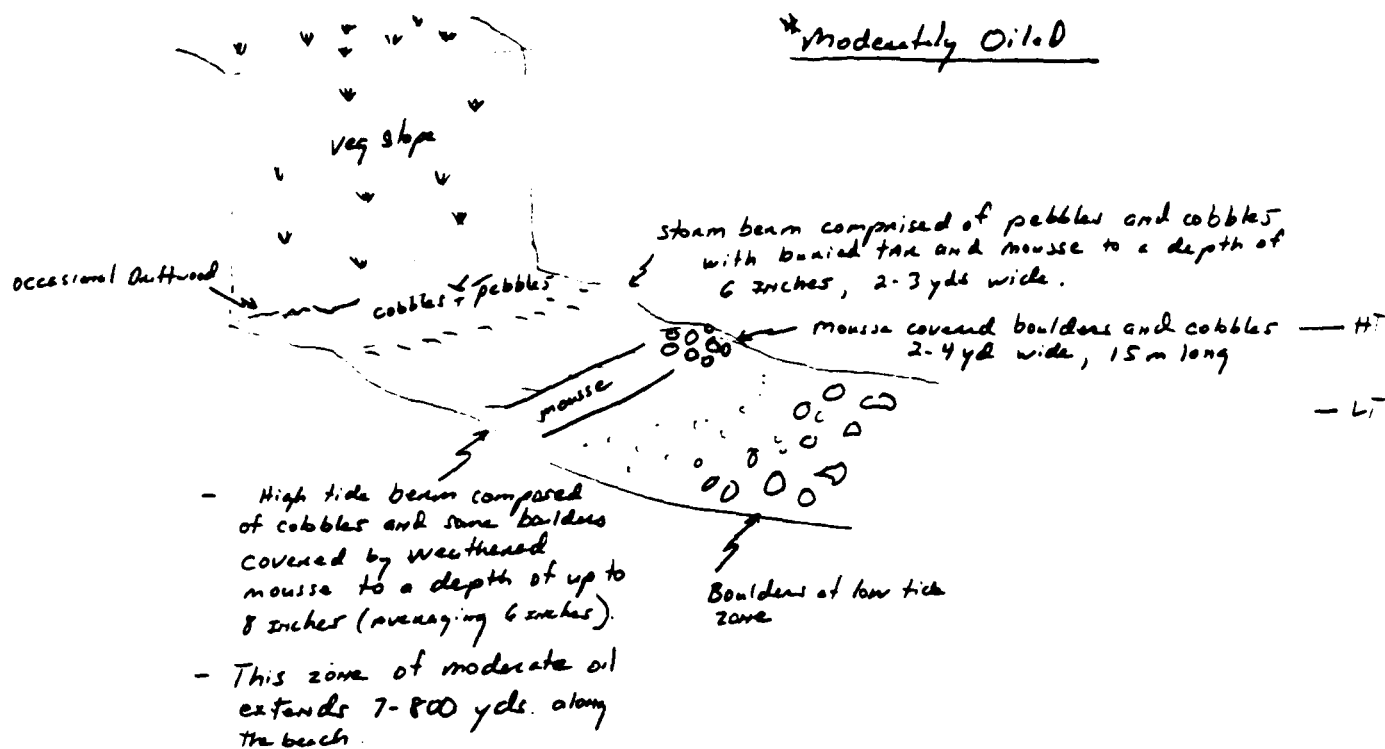
Representative Section



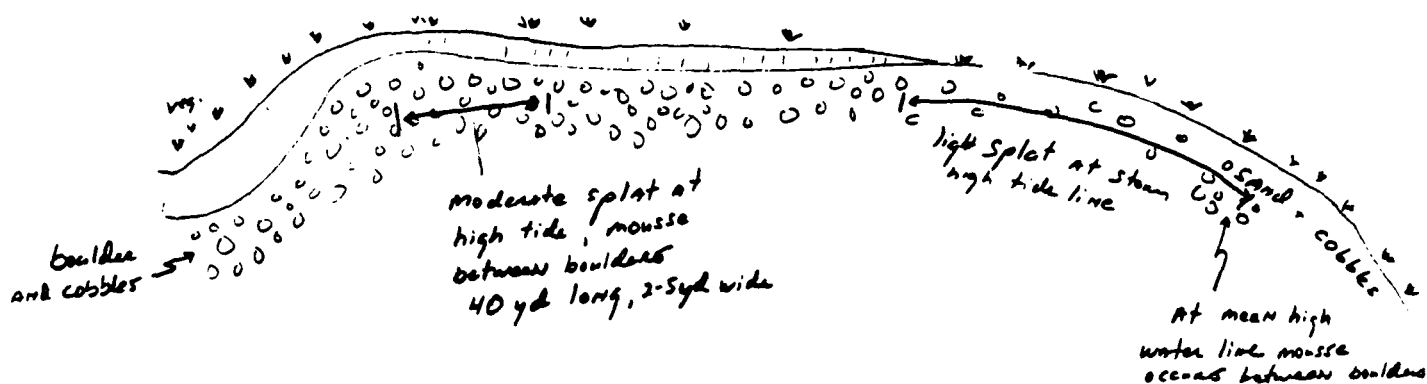
ACE 8709108

map #3

Representative Section

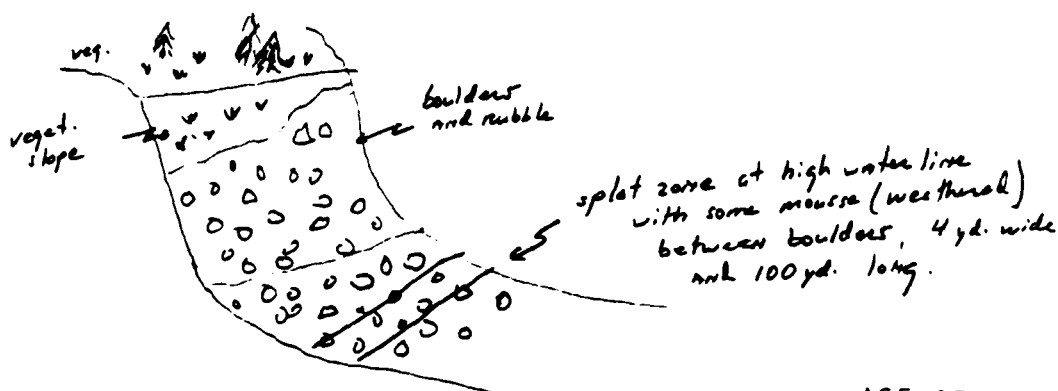


map #4



map #5

Representative Section



ACE 8709109

## ECOLOGICAL EVALUATION

LOCATION: <sup>S end</sup> KULIAK <sup>to</sup> KU-1. SITE: \_\_\_\_\_ OBSERVER: D. McCormick  
 LOCATION PREFIX: K9-24-KU- SEG. NO.: 2 LENGTH: 7040 (ft)  
 DATE: 8/1/89 TIME (HMM): 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

Dense on some sections of segment.

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

Dense lump on some boulders.

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

40% oiled in Location #3

Littorina

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

Litt. in Location #3 are oiled (not dead)

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

Limpets in Location #3 are oiled (not dead)

OTHER OBSERVATIONS: Sea lions on small island offshore from C. Kuliak; Tide pool

found: Tealia, Nucella, Emodius, Epistaxis, Katharina, Enteromorpha, Calothrix, and Oleria dense throughout segment. 1 dead oiled bird. Halosaccus and Emodia

CLEANUP PRECAUTIONS: Try to avoid contaminating lower ITZ which is

clean in all portions of the segment. Be aware of eagle nest locations.

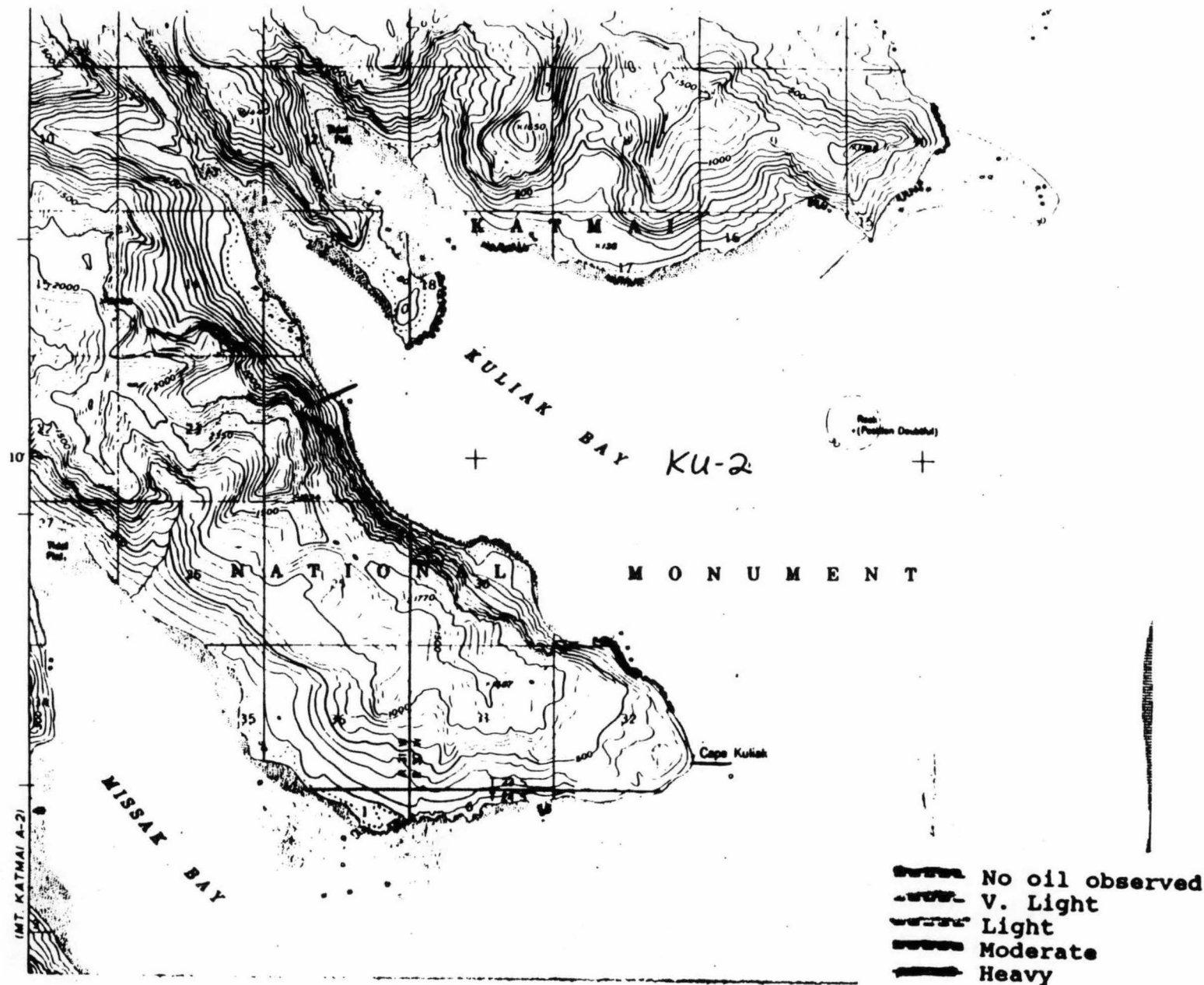
MAMMALS: Otters \_\_\_\_\_ Harbor Seals \_\_\_\_\_ Sea Lions Unknown Whales \_\_\_\_\_  
 Other \_\_\_\_\_

BIRDS: 2 eagle nests (see map for approx. location)

GENERAL OBSERVATIONS: This entire segment was walked by SCAT Team. Oil occurs  
from light splatter at NW end to moderate oiling on some cobble/boulder  
beaches. Oil occurs primarily in upper ITZ, but some splatter (asphalt/pavement)  
occurs in the mid-tide zone.



K-9-24 (large-scale map N available)



ACE 8709112

(version 5/02/89)

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 \*

Date: 8/5/89

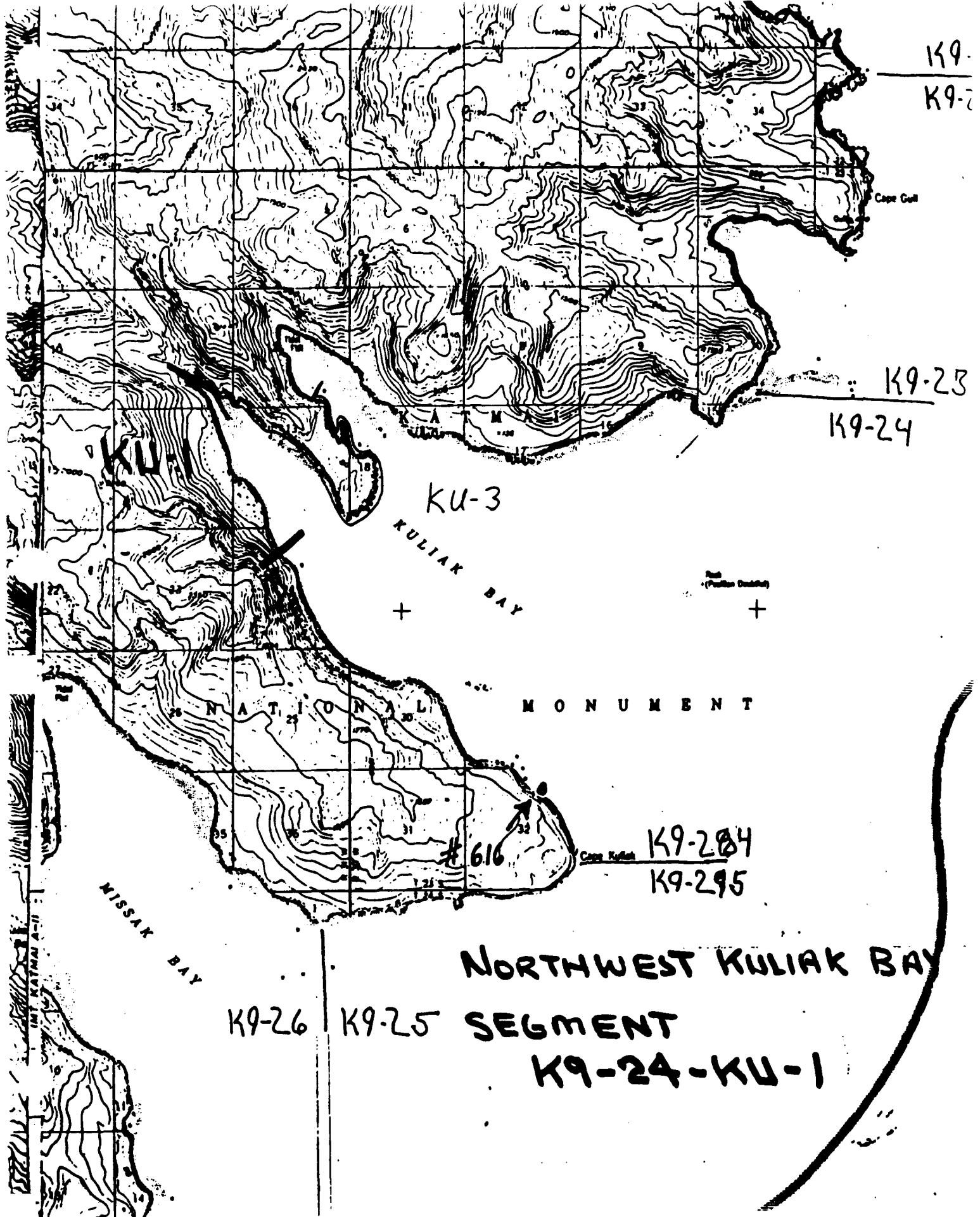
EXXON: \_\_\_\_\_

Date: \_\_\_\_\_

FOSC: \_\_\_\_\_

Date: \_\_\_\_\_

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



SHORELINE OIL EVALUATIONI. General

1. Date: 2 Aug 1989 2. Time: 0900-1200 3. Observer: FitzGerald  
 4. Surveyed From: Foot/Boat/Helio/Plane 5. Weather: Sun/Cloud/Rain/Snow/Fog  
 6. Location: Central Kulick Bay 7. Segment #: K-9-24-KU-3  
 8. Length of shoreline segment: 6500 yds 9. Tidal Stage  $\pm$  3 ft. mlw  
 10. Access: Foot/Vehicle/Boat/Barge/Helio/Float Plane  
 11. Total Percentage of Segment Accessible: 75 %  
 12. Access Restrictions: at head creek

B. Shoreline

13. Shoreline Type: SPI/BEA/COV/HLD/STRT/CLF/DAF  
 14. Slope: LANG/HANG/VERT  
 15. Wave Exposure: High/Med/Low  
 16. Sediment: B30 % / C25 % / P5 % / G % S10 % / M15 % / R15 %  
 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: 1-2 yds  
     Continuous: Total % of Segment 5%  
     Sporadic: Total % of Segment 45%  
     No Oil: Total % of Segment 50%  
 20. Est. Oil Thickness where >1in:        in 21. Est. Oil Penetration: 1-3 in  
 22. Pooled Oil:        % "Free" Oil:        % Coated: H        % / M        % / L 100 %  
 23. Fresh        % Mousse 5 % Tar Formation: 95 %  
 24. Drift Debris Oiled? Yes/No Sup/Up/Mid/Low Amount:        H/M/L

## Comments:

Oiling in this segment consists of very sporadic tar spots  
and a 350 yd, 1-2m wide tarred band along a cobble beach.

SEE PAGE 2 FOR SUPPLEMENTAL INFORMATION

SUPPLEMENTAL SHORELINE OIL EVALUATION25. Oil Type

|           |       |   |
|-----------|-------|---|
| Fresh     | _____ | 3 |
| Mousse    | _____ | 3 |
| Weathered | 10    | 3 |
| Tar       | 90    | 3 |
|           | 100   | 3 |

26. Total Oil Coverage

|             |            |            |
|-------------|------------|------------|
|             | Length(yd) | Width (yd) |
| Very Light: | 2000       | 1-2        |
| Light:      | _____      | _____      |
| Moderate:   | 350        | 1-2        |
| Heavy:      | _____      | _____      |

27. Oil Distribution

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

|    |   |   |   | Thick |            |           | Burial |
|----|---|---|---|-------|------------|-----------|--------|
| SP | H | M | M | >1in  | Length(yd) | Width(yd) | Depth  |
|    | X |   |   | 1-2   | 350        | 1-2       |        |
| X  | X | X |   |       | 2000       |           |        |
|    |   |   |   |       |            |           |        |
|    |   |   |   |       |            |           |        |
|    |   |   |   |       |            |           |        |
|    |   |   |   |       |            |           |        |

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\_\_\_\_\_

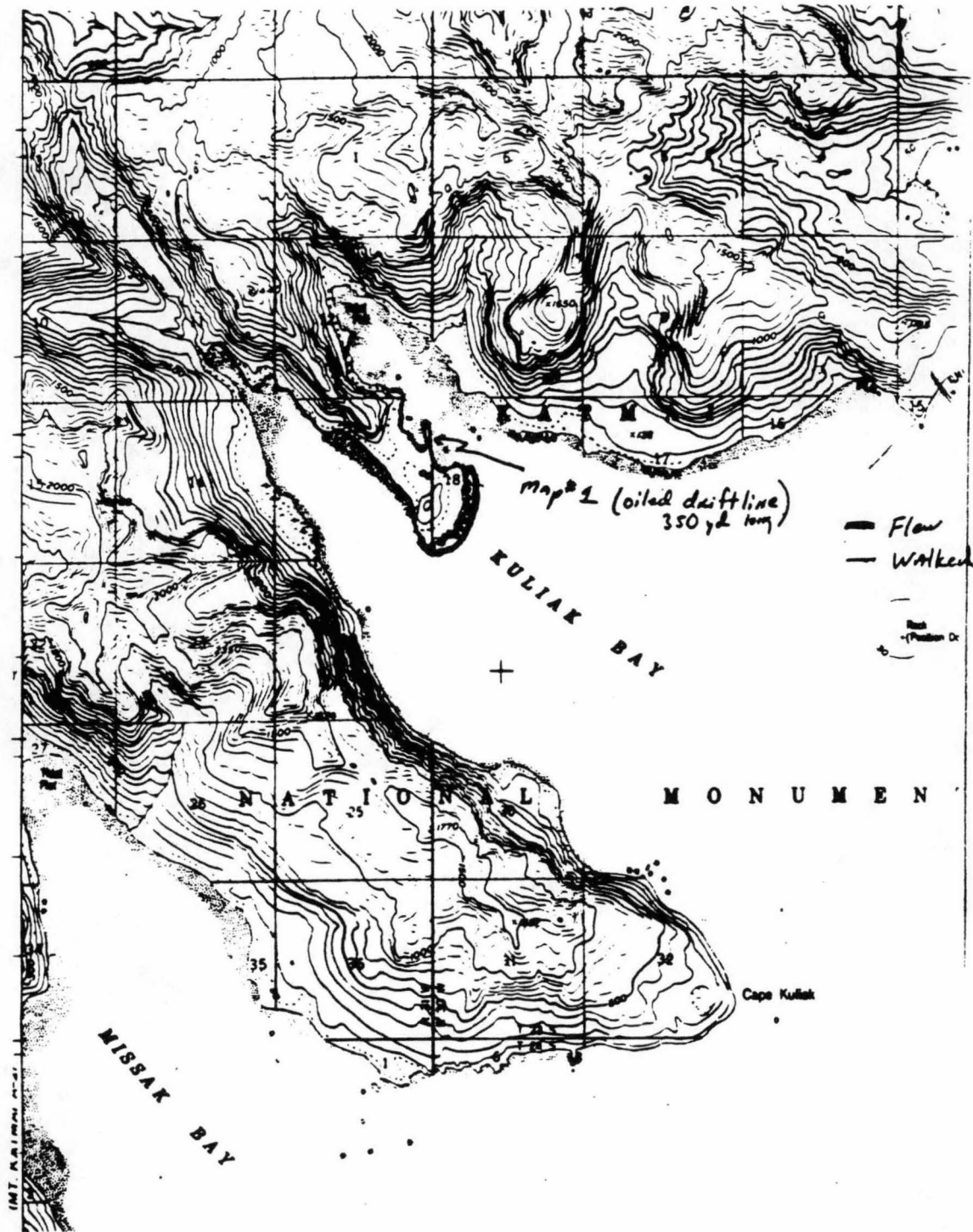
VTR: Y/N Tape Number (s)\_\_\_\_\_

Photography: Y/N Roll Number (s)\_\_\_\_\_

Additional Comments:

\_\_\_\_\_  
\_\_\_\_\_  
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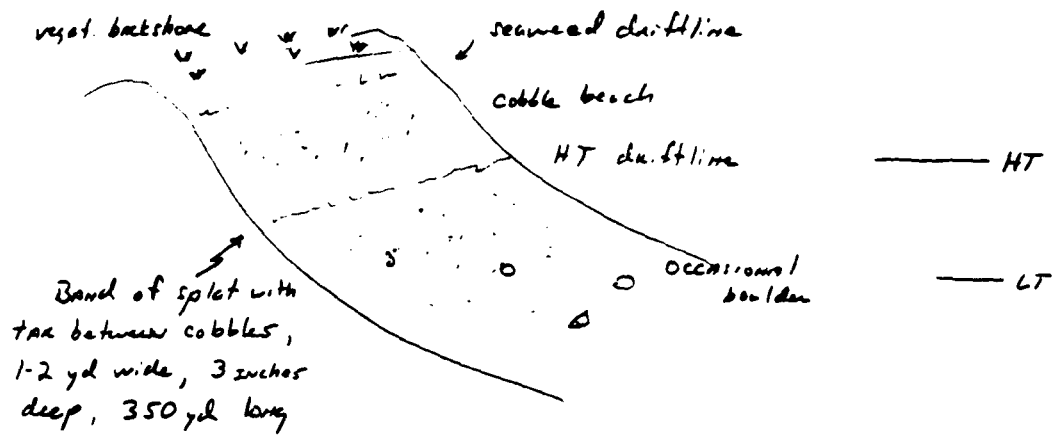
K-9-24-KU-3



ACE 8709117

Map #1

Type Section



ACE 8709118

# ECOLOGICAL EVALUATION

LOCATION: <sup>Head of KULIAK</sup> BAV, AK PENINS. SITE: \_\_\_\_\_ OBSERVER: D. McCoemick  
 LOCATION PREFIX: K9-24-KU SEG. NO.: 3 LENGTH: 6500 (M) YD  
 DATE: 8/2/89 TIME (HMM): 0900 TIDE HT.: - 1.4 (M) Ft

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble pebble 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.

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: Tide pool/beach fauna: Eurytemora, Katharine, Ulva, Anthopleura, Alaria (dense), Leptasterias, Terlia, Pycnopoda helianthoides, Echinasterus, Corallina  
algae. Shells of: Mya, Saxidomus, Pectinella, dogfish and helmet crabs, Nucella, Sand dollars,  
cockles

CLEANUP PRECAUTIONS: Avoid tramping dense populations of sea stars and  
mussel beds. Avoid cross-contamination to clean, lower ITZ.

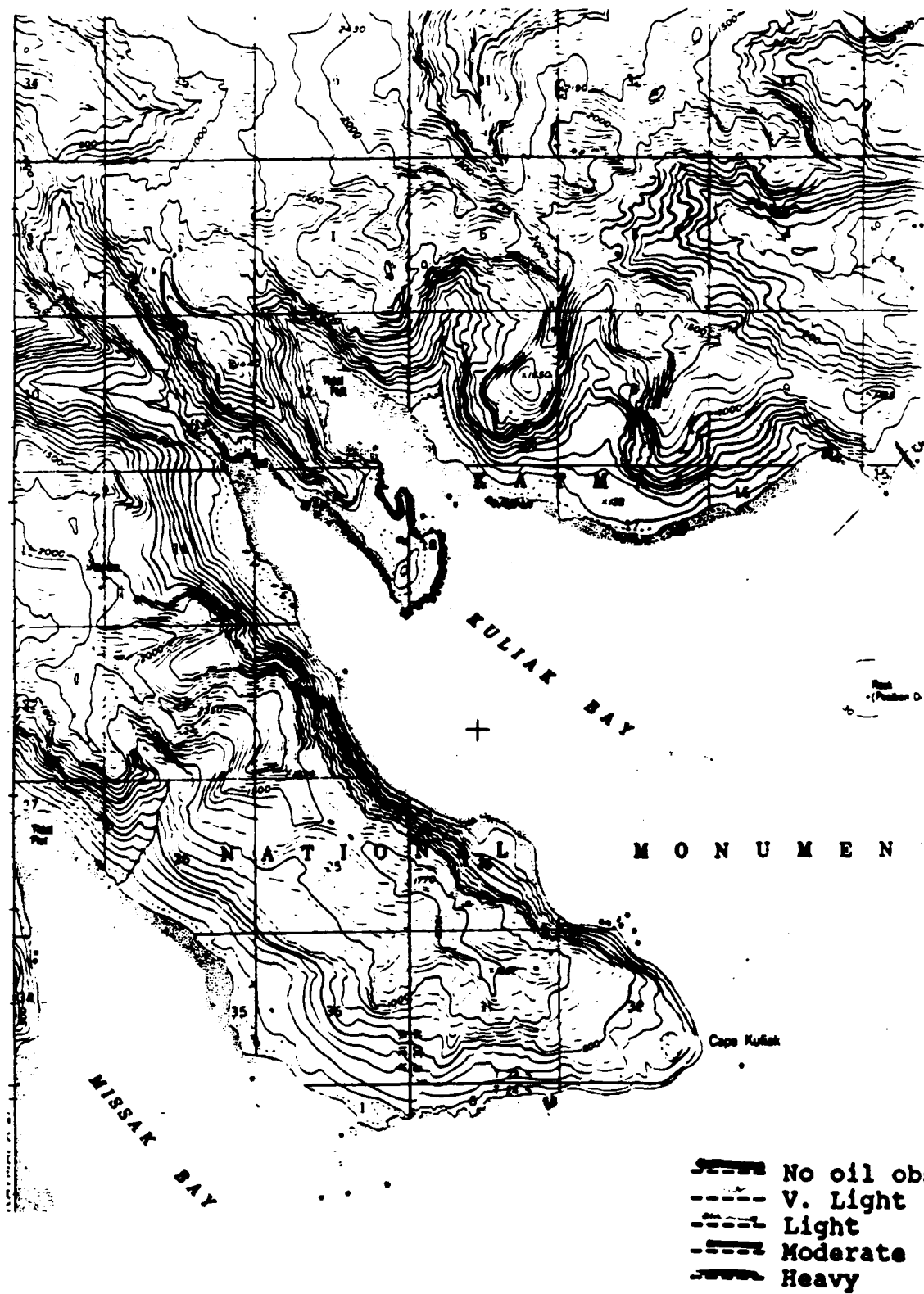
MAMMALS: Otters 2 Harbor Seals \_\_\_\_\_ Sea Lions \_\_\_\_\_ Whales \_\_\_\_\_  
 other \_\_\_\_\_

BIRDS: \_\_\_\_\_

GENERAL OBSERVATIONS: Oil conditions in this segment vary from very light patches  
first splatter to mouse pancakes in one section of beach (approx. 450 yd in upper ITZ  
(See Map #1).



K-9-24-KU-3



ACE 8709121

(version 5/02/89)

**SHORELINE CLEANUP PROGRAM**

DATE 8/03/89

SHORELINE SEGMENT K9-24-KU-4

LOCATION: (see enclosed map) Kuliak Bay

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.

*J. Paul McMahon*  
State Historic Preservation Officer \*

Date: 8/5/89

EXXON: \_\_\_\_\_

Date: \_\_\_\_\_

FOSC: \_\_\_\_\_

Date: \_\_\_\_\_

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

SHORELINE OIL EVALUATIONA. General

1. Date: 3 Aug 89 2. Time: 0820-1130 3. Observer: F. Fitzgerald  
 4. Surveyed From: Foot/Boat/Helio Plane 5. Weather: Sun/Cloud Rain/Snow/Fog  
 6. Location: Northern Kulik Bay 7. Segment #: K-9-24-KU-4  
 8. Length of shoreline segment: 9700 yds 9. Tidal Stage  $\pm$  -2.3 ft. (MLW)  
 10. Access: Foot Vehicle/Boat Barge/Helio Float Plane  
 11. Total Percentage of Segment Accessible: 75 %  
 12. Access Restrictions: difficult at northeast headland cliff area

B. Shoreline

13. Shoreline Type: SPI/BEA/COV/HLD/STRT/CLF/DAF  
 14. Slope: LANG/HANG/VERT  
 15. Wave Exposure: High/Med/Low High outer, low inner bay  
 16. Sediment: B20 % / C20 % / P5 % / G   % S15 % / M5 % / R25 %  
 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: 1-2 yds  
     Continuous: Total % of Segment 2.5 %  
     Sporadic: Total % of Segment 10 %  
     No Oil: Total % of Segment 87.5 %  
 20. Est. Oil Thickness where >1in:        in 21. Est. Oil Penetration: .5 in  
 22. Pooled Oil: 0 % "Free" Oil: 0 % Coated: H   % / M   % / L100 %  
 23. Fresh 0 % Mousse 10 % Tar Formation: 90 %  
 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 consisted of 1-2m bands along the high tide line where weathered mousse covered cobbles and pebbles. Please accompany maps.

SEE PAGE 2 FOR SUPPLEMENTAL INFORMATION

SUPPLEMENTAL SHORELINE OIL EVALUATION25. Oil Type

|           |            |   |
|-----------|------------|---|
| Fresh     | _____      | ‡ |
| Mousse    | _____      | ‡ |
| Weathered | <u>10</u>  | ‡ |
| Tar       | <u>90</u>  | ‡ |
|           | <u>100</u> | ‡ |

26. Total Oil Coverage

|             | Length(yd)  | Width (yd)   |
|-------------|-------------|--------------|
| Very Light: | <u>1000</u> | <u>1-2 m</u> |
| Light:      | <u>250</u>  | <u>1-2 m</u> |
| Moderate:   | _____       | _____        |
| Heavy:      | _____       | _____        |

27. Oil Distribution

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

| Thick |   |   |   |      | Burial      |            |       |
|-------|---|---|---|------|-------------|------------|-------|
| SP    | H | M | M | >1in | Length(yd)  | Width(yd)  | Depth |
|       | X | X |   |      | <u>1000</u> | <u>1-2</u> |       |
|       | X | X |   |      | <u>250</u>  | <u>1-2</u> |       |
|       |   |   |   |      |             |            |       |
|       |   |   |   |      |             |            |       |
|       |   |   |   |      |             |            |       |
|       |   |   |   |      |             |            |       |

8. 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 See Attached

VTR: Y/N Tape Number (s) \_\_\_\_\_

Photography: Y/N Roll Number (s) DMC-26

Additional Comments:

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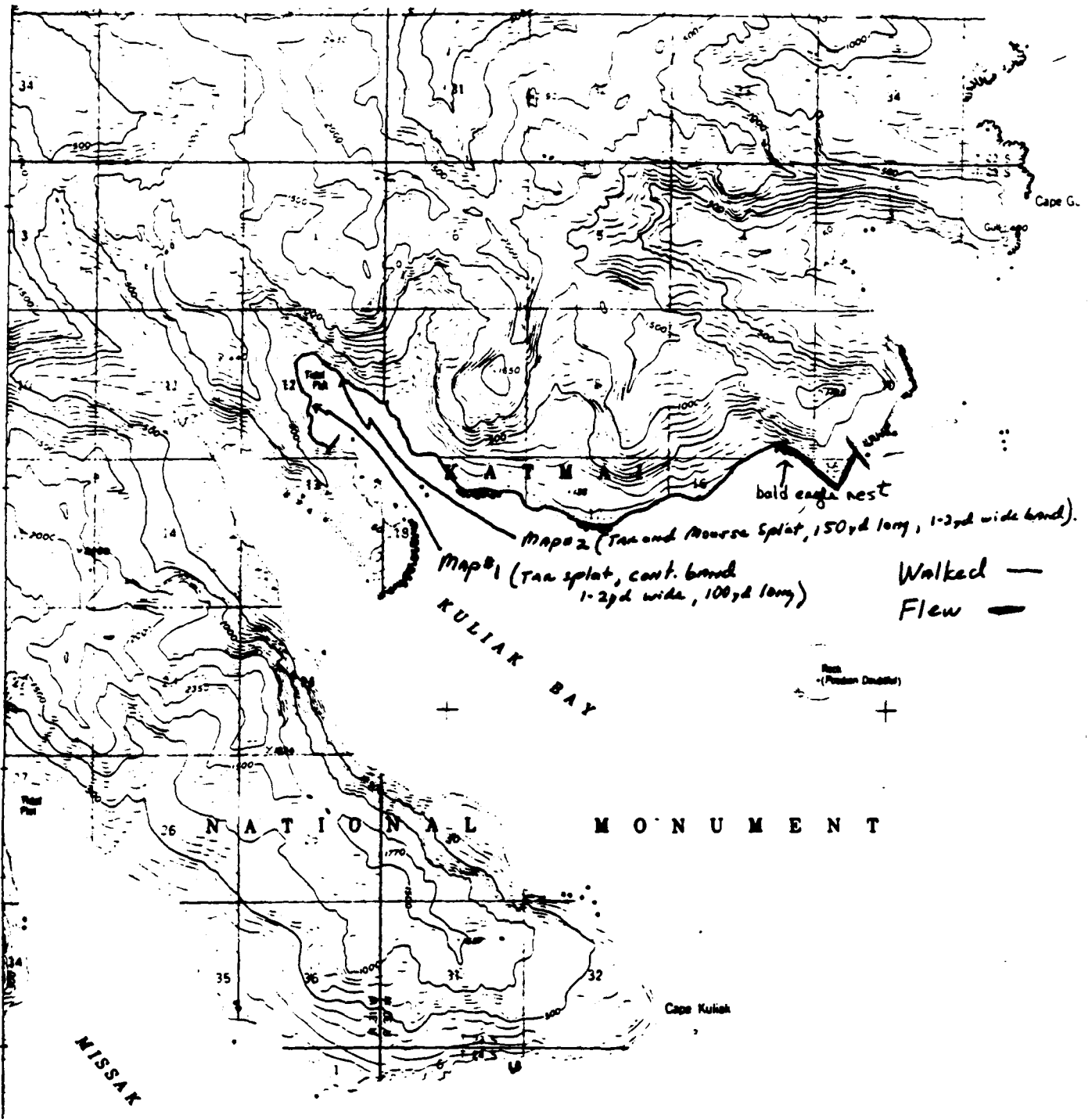
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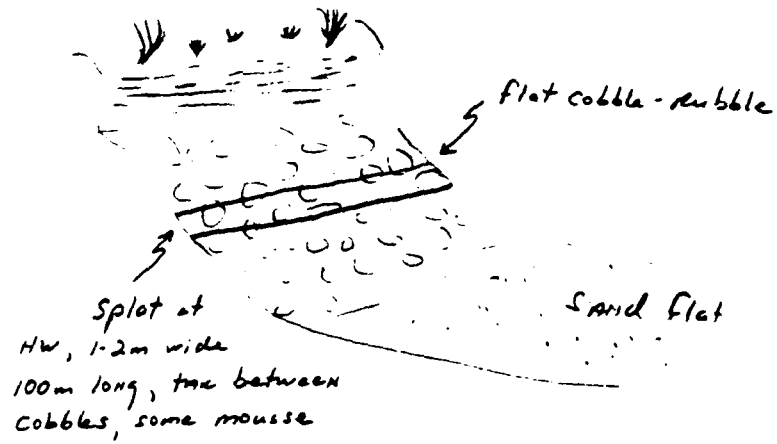
K-9-24-KU-4



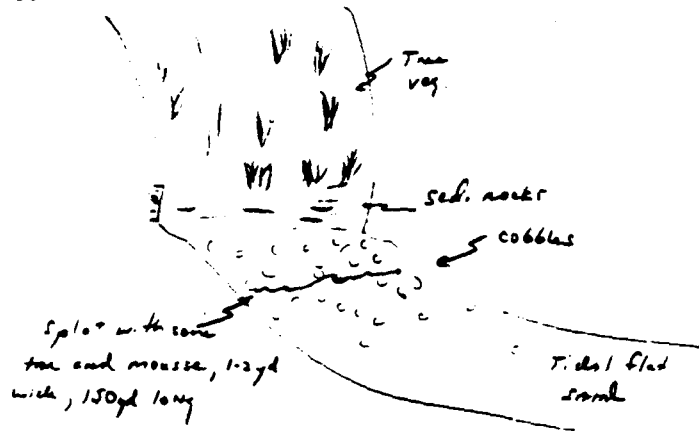
ACE 8709125

map #1

Type Section



Map #2



## ECOLOGICAL EVALUATION

Head of KULIAK Bay.

LOCATION: N side of BAY SITE: \_\_\_\_\_ OBSERVER: D. McCormick  
AK PENINSULA  
 LOCATION PREFIX: K-924-KU SEG. NO.: 4 LENGTH: 9700 (M)  
 DATE: 8/3/89 TIME (HHMM): 0830 TIDE HT.: +1.75 ft. (M)

OILED ZONE: Splash High Medium LowSUBSTRATUM: 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

Patchily dense

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

Dense clumps occur periodically

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: Tide pool fauna: Hydroids, encrusting algae (pink + tan spot)

Anthopleura, Kallionia, Tealix, Eimasteris, green urchins, Scaevola, Nucella, Kelp:  
Ulva, Enteromorpha, Shells of Mya, Spondylus + Pectinella clams, mussels, dense cockles.

CLEANUP PRECAUTIONS: Recommend only a small group of clean-up personnel  
go into areas at the head of the bay to minimize impact to the intertidal fauna

MAMMALS: <sup>Land</sup> Otters 4 Harbor Seals \_\_\_\_\_ Sea Lions \_\_\_\_\_ Whales \_\_\_\_\_  
 other Brown bear sow + cub.

BIRDS: Bald eagle nest (see map for location).

GENERAL OBSERVATIONS: Only two areas in this segment require manual cleanup  
(see Maps 1 and 2). These are patches of primarily spruce moss occurring in  
the upper I7Z. The north side of the bay is only very lightly splattered in  
isolated pockets.

617- KODIAK SCAT  
K9-28

WILEE

MAR 22 1990

ACE 7963994



(version 6/04/89)

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

ACE 8709129 - 1

(version 5/02/89)

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 archaeological assessment of the segment must be conducted.

Douglas Reiser  
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

ate: 7/14 / Time: 1430  
 rveyed From: Foot/Boat/Helicopter/Plane

Observer: M. Acton  
 Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

ocation: Kinak Bay East shore Segment ID: K9-28-2J-1  
 segment Length: 15 km m. Access: Vehicle/Boat/Barge/Helicopter/Float Plane  
 ccess Restrictions: \_\_\_\_\_

SHORELINE

shoreline Type: SPI/BEA/COV/HLD/STRT Slope: Lo/Med/Hi/Vert  
 ave Exposure: High/Med/Low  
 ediment: B 1 % / C 10 % / P 1 % / G&S 15 % / M 1 % / R 75 %

IL

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

IL DISTRIBUTION

ontinuous % of Segment \_\_\_\_\_ SU/SP/H/M/L H/M/L/VL  
 poradic % of Segment 1 SU/SP/H/M/L H/M/L/VL

| otal       | Length(m)  | Width(m) | Thickness >1cm:     | cm    | SU/SP/H/M/L |
|------------|------------|----------|---------------------|-------|-------------|
| ery light: | <u>100</u> | <u>3</u> | Penetration/Rework: | _____ | SU/SP/H/M/L |
| ight:      | _____      | _____    | Burial Depth:       | _____ | SU/SP/H/M/L |
| oderate:   | _____      | _____    |                     |       |             |
| heavy:     | _____      | _____    |                     |       |             |

ilization Potential: High/Medium/Low  
 ft Debris Oiled? Y/N Amount: H/M/L/VL SU/SP/H/M/L Type: \_\_\_\_\_

IL MORPHOLOGY

| ooled Oil:     | %         | SU/SP/H/M/L                   | Preliminary Cleanup Est.   |
|----------------|-----------|-------------------------------|----------------------------|
| Free" Oil:     | _____     | SU/SP/H/M/L                   | Total TYPE A: <u>100</u> m |
| plattered:     | <u>20</u> | H/M/L/VL SU/ <u>SP</u> /H/M/L | Total TYPE B: _____ m      |
| oated:         | _____     | H/M/L/VL SU/SP/H/M/L          | Total TYPE A/B: _____ m    |
| ancakes/Balls: | <u>80</u> | SU/ <u>SP</u> /H/M/L          |                            |

IL WEATHERING

| resh:           | %         | SU/SP/H/M/L          |
|-----------------|-----------|----------------------|
| ousse:          | _____     | SU/SP/H/M/L          |
| athered Mousse: | <u>80</u> | SU/ <u>SP</u> /H/M/L |
| sphalt Mousse:  | _____     | SU/SP/H/M/L          |
| ar:             | <u>20</u> | SU/ <u>SP</u> /H/M/L |

COMMENTS

Very light oil impact consisting of massive pads was observed approx high tide line. massive pads were small, < 8cm diameter. Beach is sand/rock fragments. Manual cleanup should be rapid and easy. See segment map for location of this beach.

Photos MAY-7 and 8.

ACE 8709131

DOCUMENTATION:

Map Aerial photo marking segment boundaries See Attached map

VTR: Y/N Tape Number(s) \_\_\_\_\_

Photography: Y/N Roll Number(s) MA4

Sample Numbers Collected: \_\_\_\_\_

41

1345 Depart Kodjak

Acton  
Penn  
JordanShoel USCO  
MPS

1430 Kinak Bay

1435 - no oil pocket beach

1452 - no oil beach sand/cobble / pebbles

300m - westward

1515 VL massive pebbles

rock frag/sand beach

MA 4 7 W  
8 E

SP zone 5m beach

42

TUESDAY

7/25 0840 Depart Kodjak for Kinak Bay

Acton Penn Jordan Crater Mass / Shoel USCO

Begin Kinak Bay 1030

1035 TD - rock fragment / coarse beach-duttes

200m beach

50m wide

No oil observed

1115 pocket sand beach - no oil

1120 2-splot on coarse observed

1125 no oil stream duttes

Sand / coarse

200m long 25m wide

1145 VL splot - black surface - brown area

upto 1cm diameter

1205 ~~no oil observed~~ - sand pocket beach

1m band of splot below d. H. line 75m long

VL splot on coarse / rock frag

1225 no oil observed

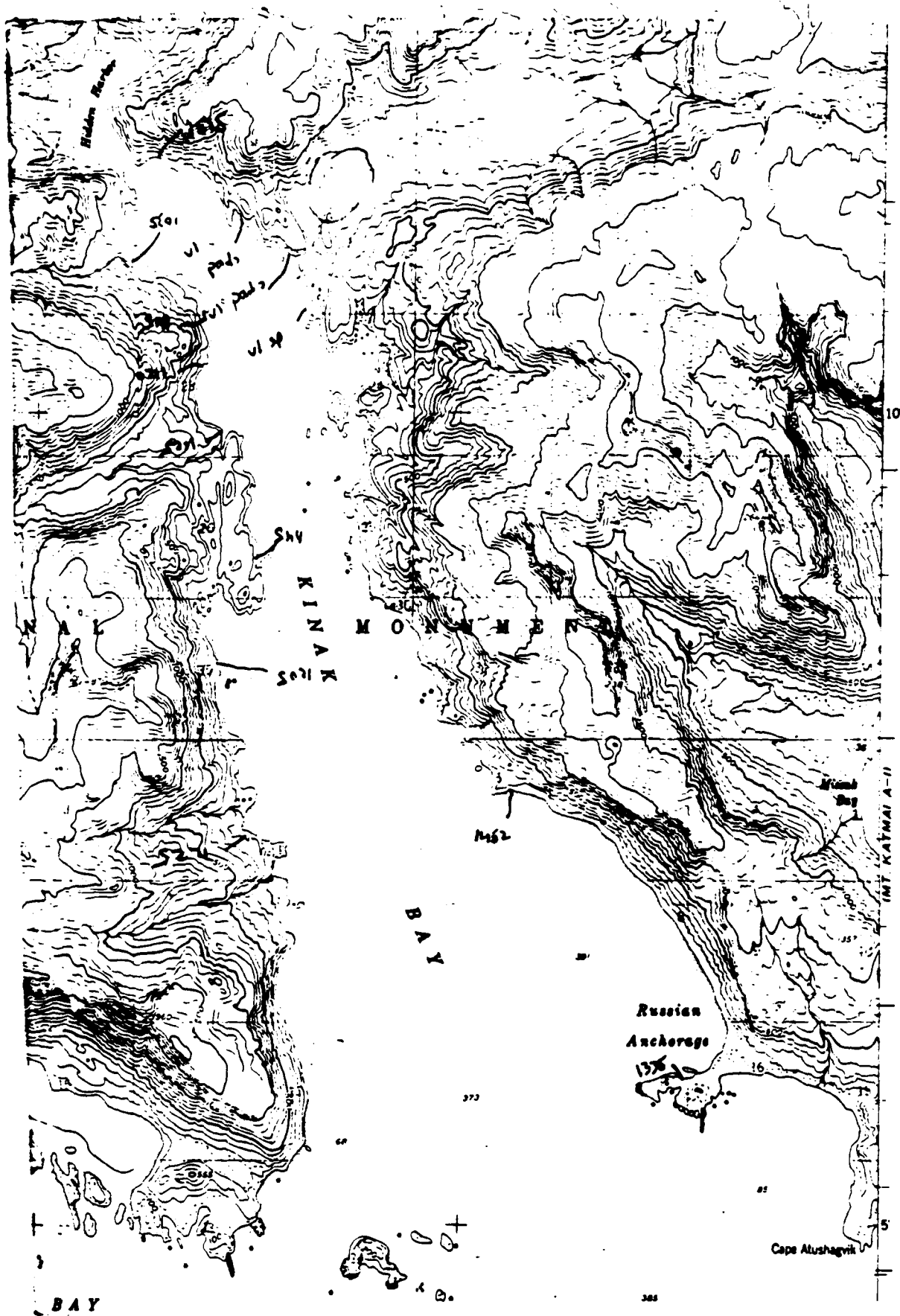
1236 to Field camp

1330 leave field camp

1348 ~~no oil~~ start segment again

1400 pocket beach - 1 oil / sand pit, SP zone

1410 end segment



Map from notes

# ECOLOGICAL EVALUATION

LOCATION: Kodiak SITE: Alaska Peninsula - Kodiak Bay OBSERVER: G. Penn

LOCATION PREFIX: K9-28 SEG. NO.: KI-1 LENGTH: \_\_\_\_\_ (M)

DATE: 07/24/89 TIME (HHMM): 1425 TIDE HT.: 0.7 (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

Generally Limited to Larger Angular Boulder + Rock in LITZ

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

Generally Limited to Larger Angular Boulder + Rock in LITZ

Some Cobble Colonies in Russian Anchorage.

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

Generally Limited to Larger Boulder + Rock, occasionally found in dense patches on cobble beaches in LITZ.

## Littorina

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

discernable

Occasionally occur in dense congregation - no pattern to distribution

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

None observed

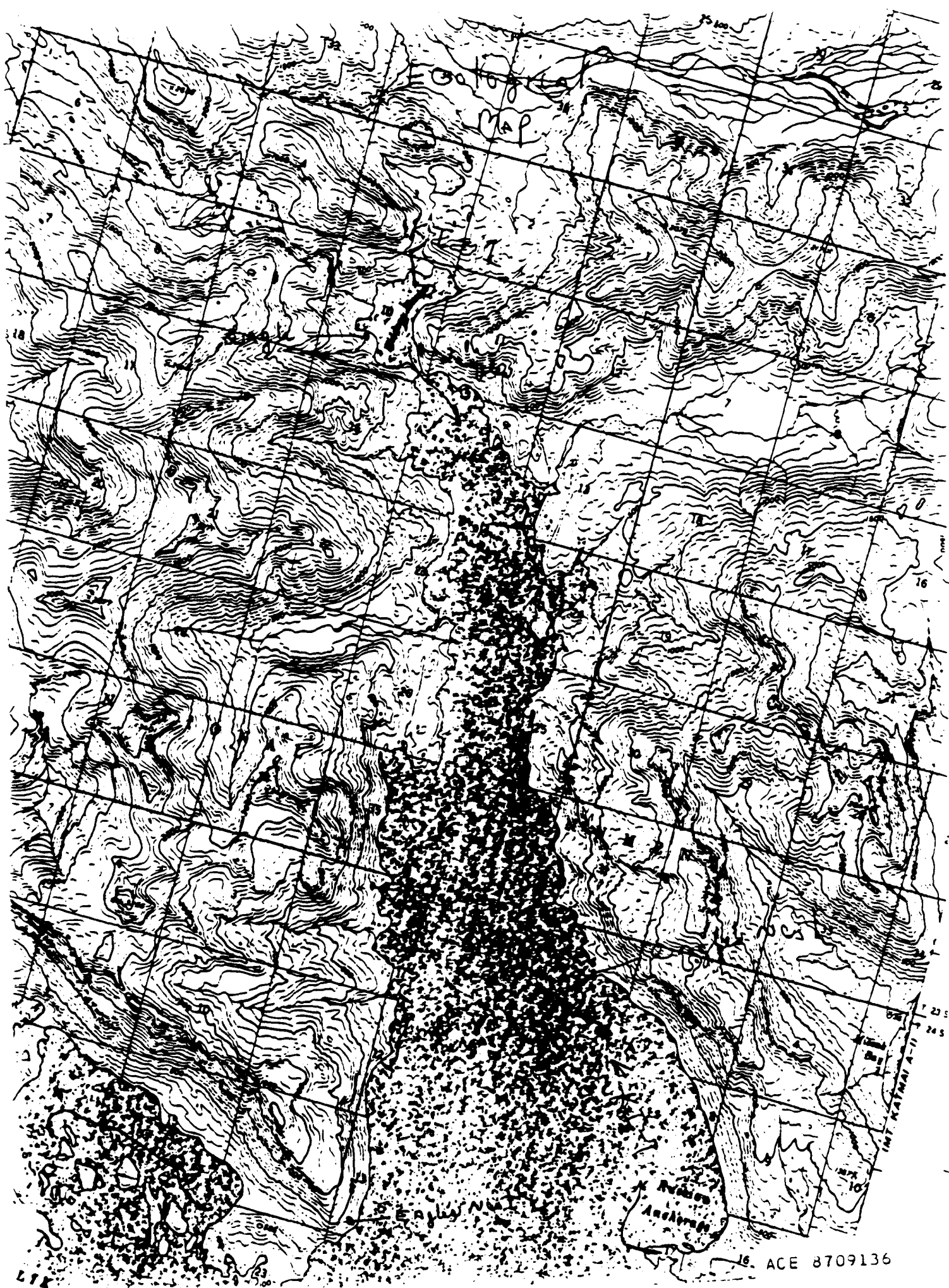
OTHER OBSERVATIONS: Subtidal + LITZ is a near Shelikof Strait frontage at mouth of Bay is occasionally dense with ribbon kelp.

CLEANUP PRECAUTIONS: Avoid any observed eagle nests. Type "A" cleanup should not impact any intertidal biota. Do not disturb substrate in stream beds.

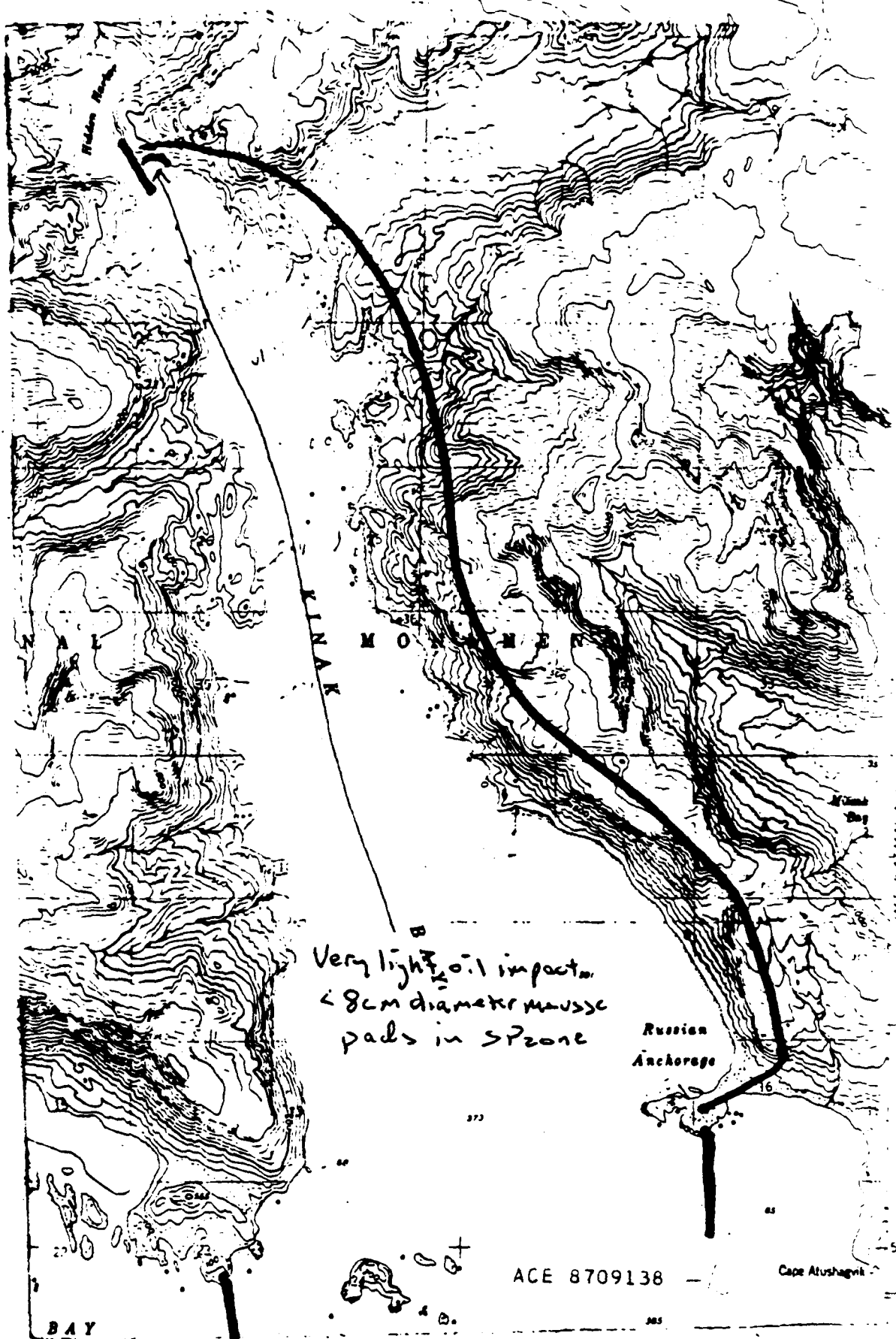
MAMMALS: Otters \_\_\_\_\_ Harbor Seals \_\_\_\_\_ Sea Lions \_\_\_\_\_ Whales \_\_\_\_\_  
Other Bear

BIRDS: Eagles, flocks of Molting Mergansers

GENERAL OBSERVATIONS: \_\_\_\_\_







K9-28-KI-1

Segment Map

(version 5/02/89)

**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.

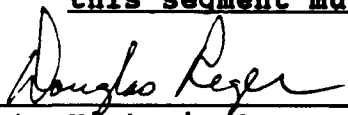
**Priorities/ Considerations: Class 5-A**

**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 / Time: 1:00  
Surveyed From: Foot/Boat/Helio/Plane

Observer: M Acton  
Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

Location: Kinnik Bay West Shore Segment ID: K9-28-K1-2  
Segment Length: 15 km m. Access: Vehicle/Boat/Barge/Helio/Float Plane  
Access Restrictions: \_\_\_\_\_

SHORELINE

Shoreline Type: SPI/BEA/COV/HLI/STRT Slope: Lo/Med/Hi/Vert  
Wave Exposure: High/Med/Low  
Sediment: B    % / C 10 % / P    % / G&S 15 % / M    % / R 75 %

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         |
| Spodic     | % of Segment | <u>1</u> | SU/ <u>SP/H</u> /M/L | H/M/L/ <u>VL</u> |

| Total       | Length(m)  | Width(m) |                              |             |
|-------------|------------|----------|------------------------------|-------------|
| Very light: | <u>100</u> | _____    | Thickness >1cm: _____ cm     | SU/SP/H/M/L |
| Light:      | _____      | _____    | Penetration/Rework: _____ cm | SU/SP/H/M/L |
| Moderate:   | _____      | _____    | Burial Depth: _____ cm       | SU/SP/H/M/L |
| Heavy:      | _____      | _____    |                              |             |

Stabilization Potential: High/Medium/Low

Is Debris Oiled? Y/N Amount: H/M/L/VL SU/SP/H/M/L Type: \_\_\_\_\_

OIL MORPHOLOGY

|                 |             |          |                      |
|-----------------|-------------|----------|----------------------|
| Coiled Oil:     | _____ %     |          | SU/SP/H/M/L          |
| Free Oil:       | _____ %     |          | SU/SP/H/M/L          |
| Plattered:      | <u>98</u> % | H/M/L/VL | SU/ <u>SP/H</u> /M/L |
| Coated:         | _____ %     | H/M/L/VL | SU/SP/H/M/L          |
| Pancakes/Balls: | <u>2</u> %  |          | SU/ <u>SP/H</u> /M/L |

-----  
Preliminary Cleanup Est.

Total TYPE A: \_\_\_\_\_ m  
Total TYPE B: \_\_\_\_\_ m  
Total TYPE A/B: \_\_\_\_\_ m  
-----

OIL WEATHERING

|                   |             |                      |
|-------------------|-------------|----------------------|
| Fresh:            | _____ %     | SU/SP/H/M/L          |
| Mousse:           | _____ %     | SU/SP/H/M/L          |
| Weathered Mousse: | <u>2</u> %  | SU/ <u>SP/H</u> /M/L |
| Asphalt Mousse:   | _____ %     | SU/SP/H/M/L          |
| Bar:              | <u>98</u> % | SU/ <u>SP/H</u> /M/L |

COMMENTS

Approx 4-6 mousse patches were observed along entire segment.

DOCUMENTATION:

Map/Aerial photo marking segment boundaries See Attached Map

VTR: Y/N Tape Number(s) \_\_\_\_\_

Photography: Y/N Roll Number(s) \_\_\_\_\_

Sample Numbers Collected: \_\_\_\_\_

41

1345 Depart Kodruk

1430 Kink Bay

1435 - no oil pocket beach

1450 - no oil beach sand / coarse / pebbles

300m - washed

1515 VL water puddles

rock frag / sand beach

MA 4 7 W

8 E

S? zone 5m bar

Acton  
Penn  
Jordan

Shore VJCC

MPS

42

TUESDAY

7/25 0840 Depart Kodruk for Kink Bay

Acton Penn Jordan Cramer Moss / Shore VJCC

Begin Kink Bay 1030

1035 TD - rock fragment / coarse beach - dunes

200 m beach

50m wide

No oil observed

1115 pocket sand beach - no oil

1120 2 spots on coarse gravel

1125 no oil stream dunes

sand / coarse

200m long 25m wide

1145 VL spot - black surface - brown area

up to 10m diameter

1205 ~~no oil observed~~ - sand pocket beach

1m band of spot brown dunes 75m long

VL spot on coarse / sand frag

1225 no oil observed

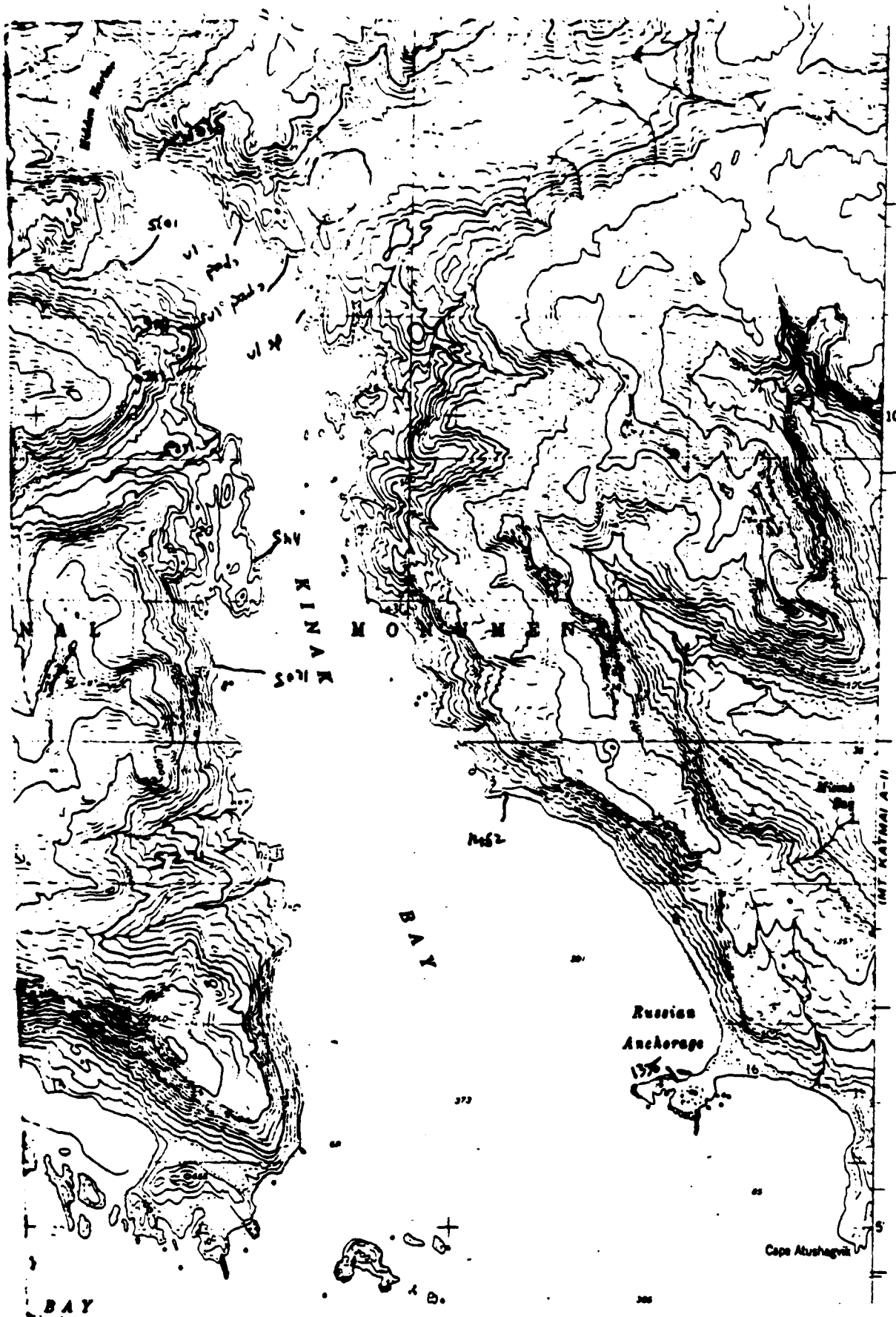
1235 to Fiddling

1320 leave for dump

1345 ~~start~~ start segment again

1400 pocket beach - 1 oil / sand pod, S? zone

1410 end segment



Map from notes

## ECOLOGICAL EVALUATION

LOCATION: Kodiak SITE: Alaska Peninsula - Kodiak Bay OBSERVER: G. Penn  
 LOCATION PREFIX: K9-28 SEG. NO.: KI-2 LENGTH: \_\_\_\_\_ (M)  
 DATE: 07/25/89 TIME (HHMM): 10:20 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

Generally, Limited to Larger Angular Boulders & Rock 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 & Rock in LITZ

Some Cobble Colonies in Russian Anchorage.

**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 in dense patches on cobble beaches in LITZ.

**Littorina**

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

Occasionally occur in dense congregation - No pattern to distribution

**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 frontage at mouth of Bay is occasionally dense with Ribbon kelp.

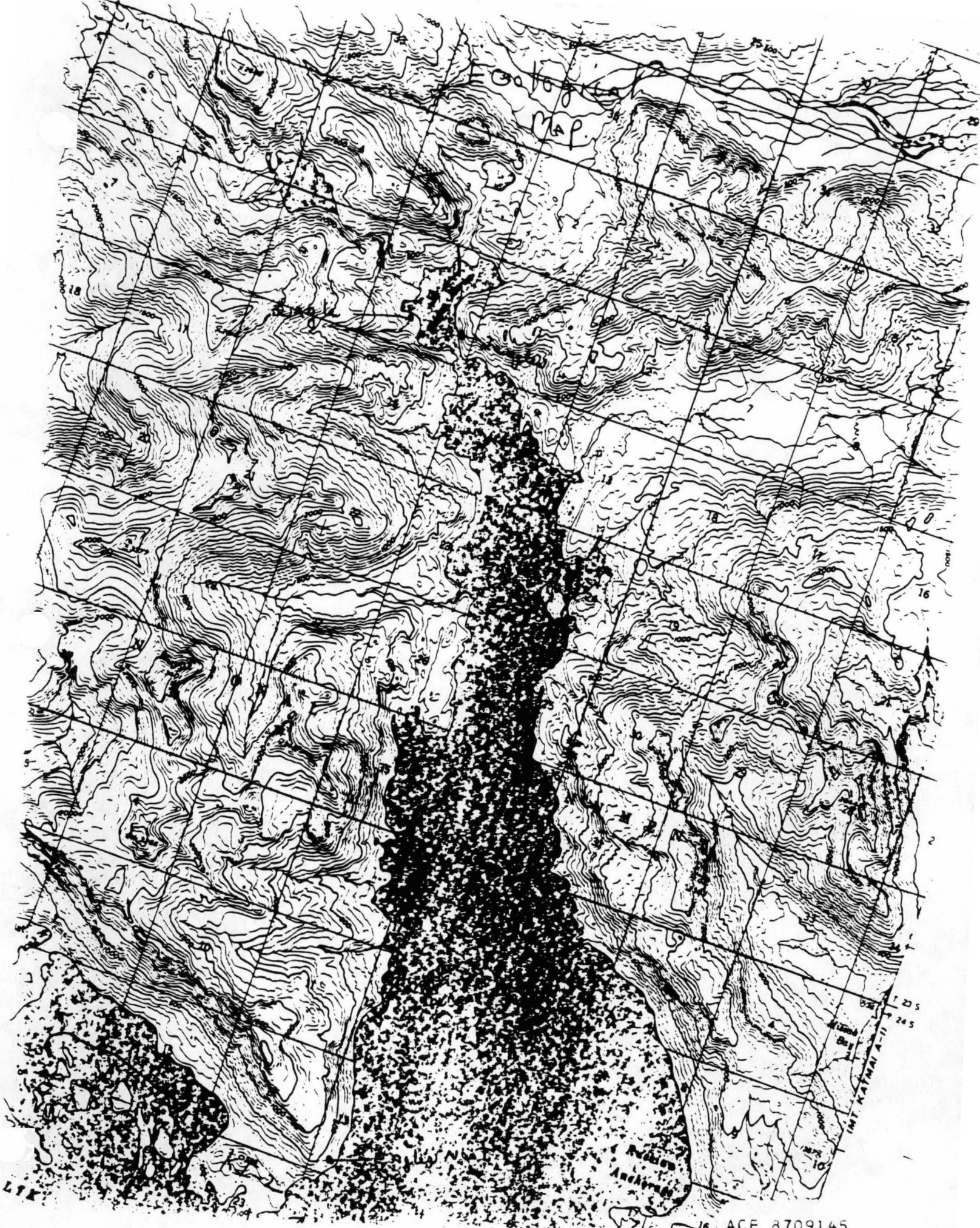
CLEANUP PRECAUTIONS: Avoid any observed eagle nests. Type "A" cleanup should not impact any intertidal biota. Do not disturb substrate in stream beds.

MAMMALS: Otters \_\_\_\_\_ Harbor Seals \_\_\_\_\_ Sea Lions \_\_\_\_\_ Whales \_\_\_\_\_  
 Other Bear

BIRDS: Eagles, flocks of Molting Mergansers

GENERAL OBSERVATIONS: \_\_\_\_\_

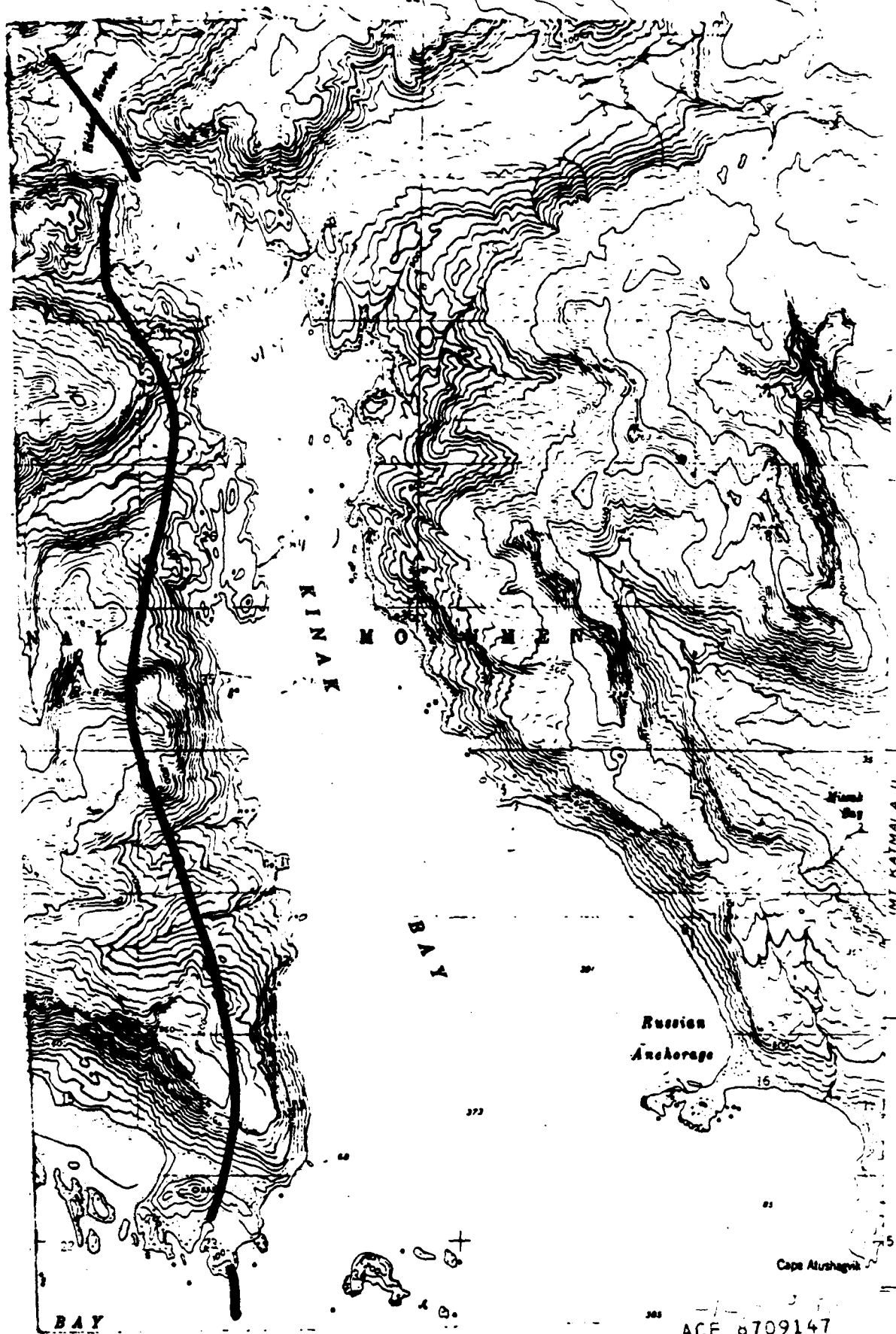




Map

KALAMAI  
KALAMAI BAY





K9-28-KI-2

Segment Map

K9-30

ACE 7963995

(version 5/02/89)

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.

Douglas Rege  
State Historic Preservation Officer \*

Date: 8-12-89

EXXON: \_\_\_\_\_

Date: \_\_\_\_\_

FOSC: \_\_\_\_\_

Date: \_\_\_\_\_

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

SHORELINE OIL EVALUATIONA. General

1. Date: 8/4/89 2. Time: 11:45-12:45 3. Observer: KAROLIEH DEBUSSCHERE
4. Surveyed From: Foot/Boat/Helio/Plane 5. Weather: Sun/Cloud/Rain/Snow/Fog
6. Location: R/W ENALIN BEACH AND CAPE 7. Segment #: 19-20 <sup>IK</sup> 22-1  
IL NTUGITAK
8. Length of shoreline segment: 5000 yds 9. Tidal Stage  $\pm$  0.5 ft.
10. Access: Foot/Vehicle/Boat/Barge/Helio/Float Plane
11. Total Percentage of Segment Accessible:          %
12. Access Restrictions: HIGH WAVE ENERGY, CLIFFS
- B. Shoreline
13. Shoreline Type: SPI/BEA/COV/HLD/STRT/CLF/DAF
14. Slope: LANG/HANG/VERT
15. Wave Exposure: High/Med/Low
16. Sediment: B25 / C15 / P20 / G5 SS / M2 / R30
17. Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type FLOR & LOGS

C. Oil Summary

18. Degree of Oiling: Heavy/Moderate/Light/Very Light/No Oil Observed
19. Area of Beach Impact: Width of Band: 8 yds  
Continuous: Total % of Segment 0  
Sporadic: Total % of Segment 2  
No Oil: Total % of Segment 98
20. Est. Oil Thickness where >1in: 0 in 21. Est. Oil Penetration: 0 in
22. Pooled Oil: 0 % "Free" Oil: 0 % Coated: H0 % / M0 % / L00 %
23. Fresh 0 % Mousse 0 % Tar Formation: 100 %
24. Drift Debris Oiled? Yes/No Sup/Up/Mid/Low Amount: H/M/L

## Comments:

SEGMENT WAS WALKED AND FLOWN BY HELIO UNDER GOOD CONDITIONS  
SEGMENT CONSISTS OF CLIFFS AND PIC/B/S REACHES (MAINLY)  
OILING IS LIGHT, SPORADIC AND VERY WEATHERED

SEE PAGE 2 FOR SUPPLEMENTAL INFORMATION

SUPPLEMENTAL SHORELINE OIL EVALUATION25. Oil Type

|           |            |   |
|-----------|------------|---|
| Fresh     | <u>0</u>   | % |
| Mousse    | <u>0</u>   | % |
| Weathered | <u>0</u>   | % |
| Tar       | <u>100</u> | % |
|           | 100        | % |

26. Total Oil Coverage

|             |            |            |
|-------------|------------|------------|
|             | Length(yd) | Width (yd) |
| Very Light: | <u>10</u>  | <u>8</u>   |
| Light:      |            |            |
| Moderate:   |            |            |
| Heavy:      |            |            |

27. Oil Distribution

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

| SP | H | M | M | Thick<br>>1in | Length(yd) | Width(yd) | Burial<br>Depth |
|----|---|---|---|---------------|------------|-----------|-----------------|
|    | X | X |   | -             | 10         | 8         | 0               |
|    |   |   |   |               |            |           |                 |
|    |   |   |   |               |            |           |                 |
|    |   |   |   |               |            |           |                 |
|    |   |   |   |               |            |           |                 |
|    |   |   |   |               |            |           |                 |

28. Preliminary Cleanup Est.

Total TYPE A: 0 yds.  
Total TYPE B: 0 yds.  
Total TYPE A/B: 0 yds.

29. Remobilization Potential: High/Medium/Low

DOCUMENTATION:

Map/Aerial photo marking segment boundaries ATTACH 4 & 5

VTR: Y/N Tape Number (s) \_\_\_\_\_

Photography: Y/N Roll Number (s) R-1 FRAMES 9-12

FIELD NOTES & MAP OF DEGREE OF OILING

Additional Comments:

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8/3/89 K9-30 CI-1

K. DEBUSS (MERG) 1145

START SOUTH TO NORTH

R.FLY: CLIFF WITH ROCK AUL/OR B-BEACH

FLGHE 11; LOGS AT H

LOCATION ① - WALK

CONTINUED THROUGH "TIDAL FLAT" WHERE LOWER TIDAL IS A/E

H TIDE IS B-AND P/C H TIDE BEACH (SOME STANDING)

OIL SPLASH (TRK) AT M/H - VERY WEATHERED, LIGHT - SPARSE

HIGH ENERGY

R.FLY: SAME AS ①

LOCATION ② - WALK

P/C/B/S BEACH: P AT H; S & P AT M, B AT L

LOGS AT H - SP/H; FLGHE AT M/H

H TIDE BEACH - POTENTIAL FOR BOILED OIL

R.FLY: SAME

CLIFF: VERTICAL WITH SERIES OF LITTLE B-POCKET BEACHS

DISO → GET FUEL AT LOC ③

LOCATION ③

SAND BEACH WITH 2 STREAMS; FLANKING B-BEACHS AT FOOT OF CLIFF.

LOGS AT H; FLGHE AT M & H

OIL SPLASH ON LOGS AT H

OIL SPLASH ON COULDS FLANKING B-BEACH (LARGEST IS

-15 CM Ø) - OIL IS VERY WEATHERED

HIGH POTENTIAL OF NATURAL WASHING; LOWER ENERGY

THAN REST OF SEGMENT, BUT WILL WASH

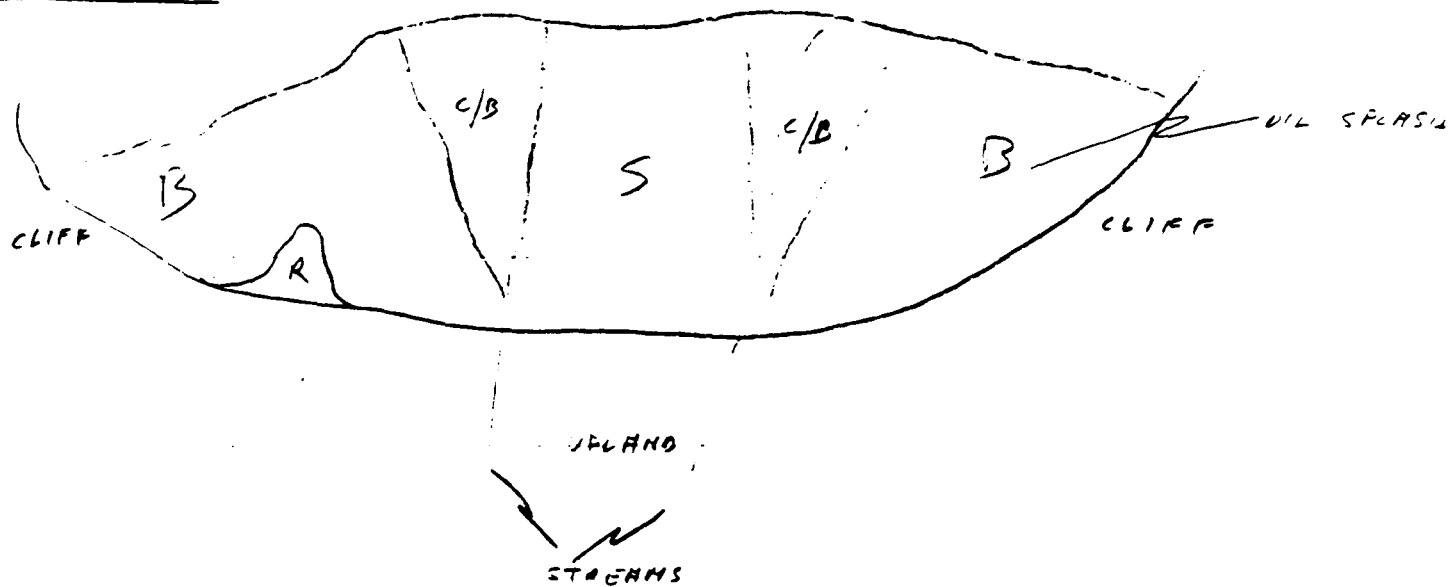
END 13:40

ACE 8709151

POOR QUALITY ORIGINAL

8/3/89 KP-30 CI-1

LOCATION ③



## ECOLOGICAL EVALUATION

LOCATION: AK. PENN. / KODIAK REGION SITE: AMALIK BAY OBSERVER: MEYERLOCATION PREFIX: K9-30 SEG. NO.: IK  
21-1 LENGTH: 5400 YDSDATE: 08 / 04 / 89 TIME (HHMM): 1145 TIDE HT.: 0 to +5 FTOILED ZONE: Splash High Medium LowSUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

## LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NSparse, patchy along vertical cliffs - no oilMytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NSome beds, variable throughout segment; around base of boulders in sandy areas: no oil.Balanus (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NFairly continuous band: no oilLittorinaPatchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NLarge Welks and Nivalia present also (patchy distribution): No oil.Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/NNo oil.OTHER OBSERVATIONS: Leptasterias common beneath rocks, boulder crevices; salmon seen jumping offshore;  
Bull Kelp Forest offshore; Low-tidal/tide pools - Chitino (Kathema, Tonicella), Hermit crabs, Anasarus, sea  
urchins; Saddy patches, pockets of Butte Clam shells; some eelgrass.CLEANUP PRECAUTIONS: [NO CLEANUP RECOMMENDED]

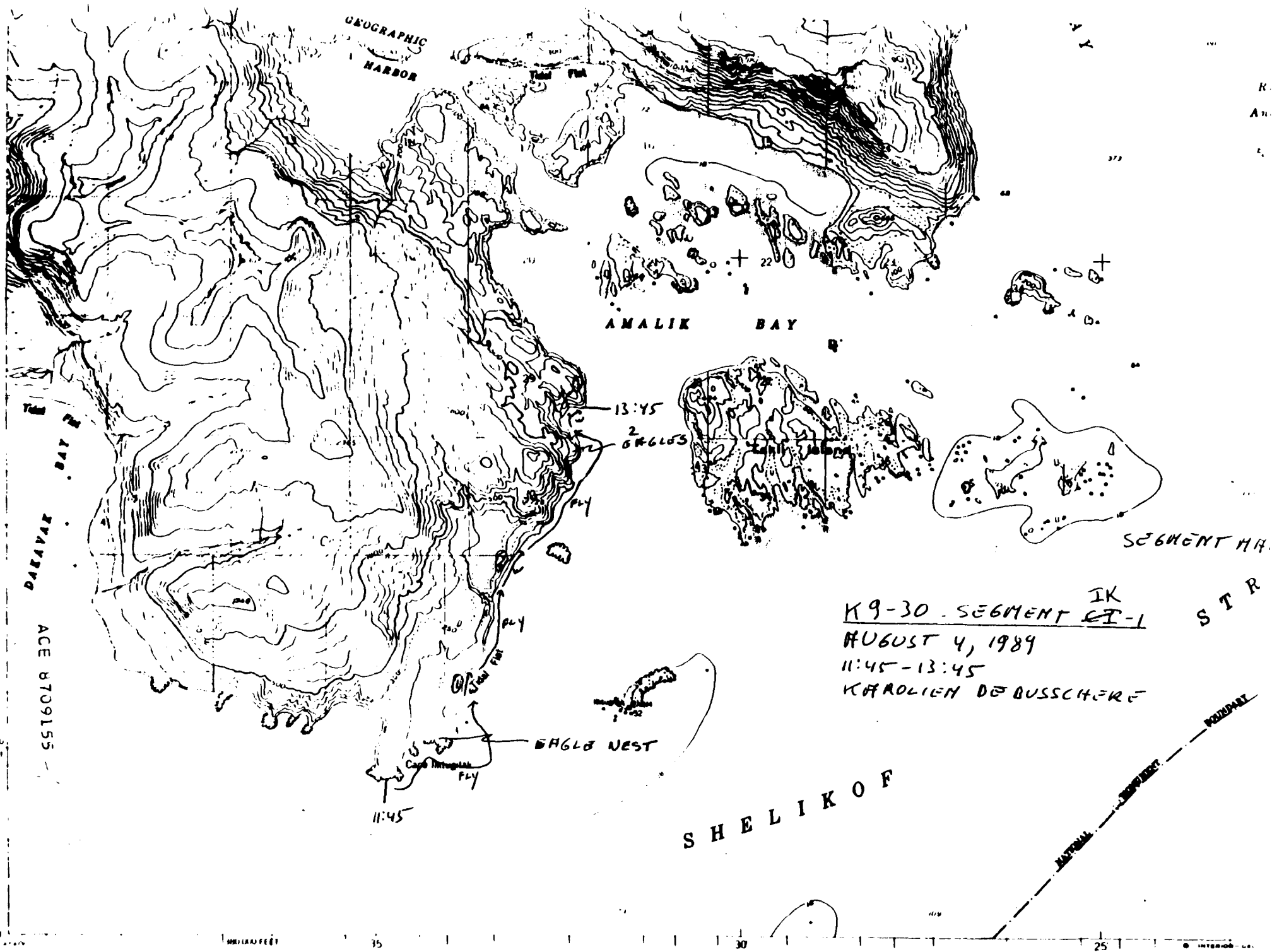
MAMMALS: Otters \_\_\_\_\_ Harbor Seals \_\_\_\_\_ Sea Lions \_\_\_\_\_ Whales \_\_\_\_\_

Other \_\_\_\_\_

Also 2 Eagles @ N. end of segment

BIRDS: 2 Eagles + Nest (see Map); 25± Black-legged Kittiwakes @ N. end of segment; about 30 Glaucous-wing Gulls off.GENERAL OBSERVATIONS: Segment flown by helicopter with about 5 landings (foot surveys).Oiling was very light, occasional weathered splashes.





IK  
K9-30. SEGMENT ET-1  
AUGUST 4, 1989  
11:45-13:45  
KAROLIN DEBUSSCHERE

S T R

(version 5/02/89)

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: 8/28/89

EXXON: \_\_\_\_\_

Date: \_\_\_\_\_

FOSC: \_\_\_\_\_

Date: \_\_\_\_\_

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

SHORELINE OIL EVALUATIONA. General

1. Date: 8/2/89 2. Time: 0820-1730 3. Observer: M Acton  
 4. Surveyed From: Foot/Boat/Helio/Plane 5. Weather: Sun/Cloud/Rain/Snow/Fog  
 6. Location: Takli Island - Amalik Bay 7. Segment #: K9-3DA-TL-1  
 8. Length of shoreline segment: 17000 yds 9. Tidal Stage  $\pm$  0+10 ft.  
 10. Access: Foot/Vehicle/Boat/Barge/Helio/Float Plane  
 11. Total Percentage of Segment Accessible: 60 %  
 12. Access Restrictions: Access at low tide, low energy

B. Shoreline

13. Shoreline Type: SPI/BEA/COV/HLD/STRT/CLF/DAF  
 14. Slope: LANG/HANG/VERT  
 15. Wave Exposure: High/Med/Low  
 16. Sediment: B20 % / C10 % / P % / G % S5 % / M % / R55 %  
 17. Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type Driftwood  
Seaweed

C. Oil Summary

8. 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 >1in:      in 21. Est. Oil Penetration:      in  
 22. Pooled Oil:      % "Free" Oil:      % Coated: H % / M40 % / L40 %  
 23. Fresh      % Mousse 20 % Tar Formation:      %  
 24. Drift Debris Oiled? Yes/No Sup/Up/Mid/Low Amount: 10 % H/M/L

Comments:

Helio was utilized to survey shoreline in the Takli Island group. Foot survey was utilized on 3 islands to complement helio survey (see attached map for foot survey locations). Very light was observed in a number of locations on the 3 largest islands in the group (see attached map for generalized locations of very light spots). The shoreline with greatest oil impact was observed on main Takli Island, where 3 areas of very light to light

SEE PAGE 2 FOR SUPPLEMENTAL INFORMATION

(Continued next page)

SUPPLEMENTAL SHORELINE OIL EVALUATION25. Oil Type

|           |       |   |
|-----------|-------|---|
| Fresh     | _____ | % |
| Mousse    | 20    | % |
| Weathered | _____ | % |
| Tar splat | 80    | % |
|           | 100   | % |

26. Total Oil Coverage

|             |            |            |
|-------------|------------|------------|
|             | Length(yd) | Width (yd) |
| Very Light: | 1700       | 3-8        |
| Light:      | 500        | 3-8        |
| Moderate:   | _____      | _____      |
| Heavy:      | _____      | _____      |

27. Oil Distribution

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

| SP | H | M | M | Thick<br>>1in | Length(yd)      | Width(yd) | Burial<br>Depth |
|----|---|---|---|---------------|-----------------|-----------|-----------------|
|    | x | x |   |               | 500             | >8        | < 2"            |
|    |   | x | x |               | 500 (scattered) | 5         | < 2"            |
|    |   |   |   |               |                 |           |                 |
|    |   |   |   |               |                 |           |                 |

28. Preliminary Cleanup Est.

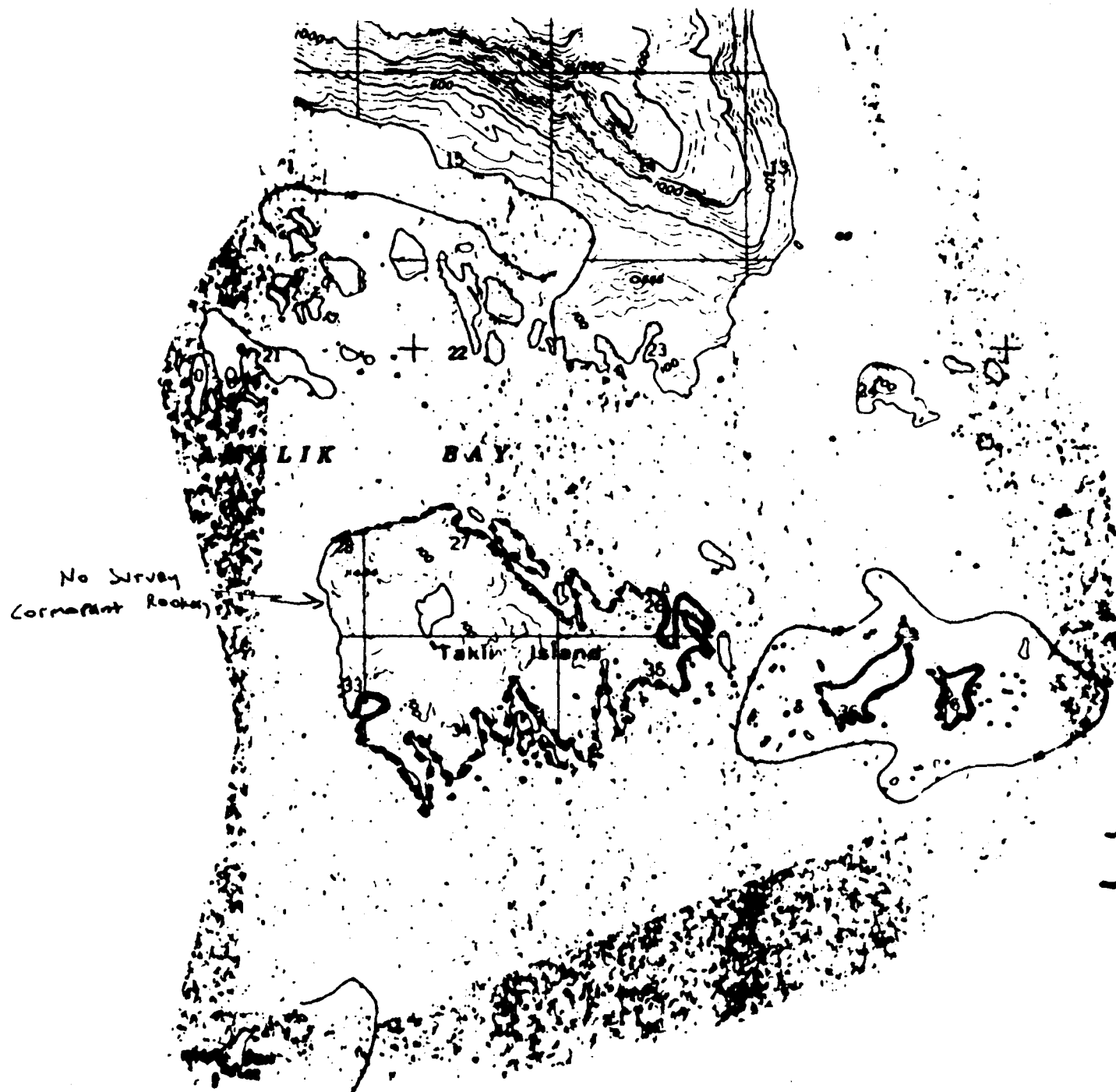
Total TYPE A: 500 yds.

Total TYPE B: \_\_\_\_\_ yds.

Total TYPE A/B: \_\_\_\_\_ yds.

29. Remobilization Potential: High/Medium/LowDOCUMENTATION:Map/Aerial photo marking segment boundaries See Attached MapVTR: Y/N Tape Number (s) KOS 49Photography: Y/N Roll Number (s) HLR 4,5,6Additional Comments:

impact were observed (see attached maps). The 2 locations on the south side of the island were surveyed by air and consisted of light oil impact in the form of splat on boulders/cobbles with mousse between boulders/cobbles (see Maps #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 boulders/cobbles with mousse between boulders/cobbles (see Map #2). This lagoon area was surveyed on foot. In addition, oil/sand pads were observed on flat, sandy lower tidal areas.



K9-30A-TL-1

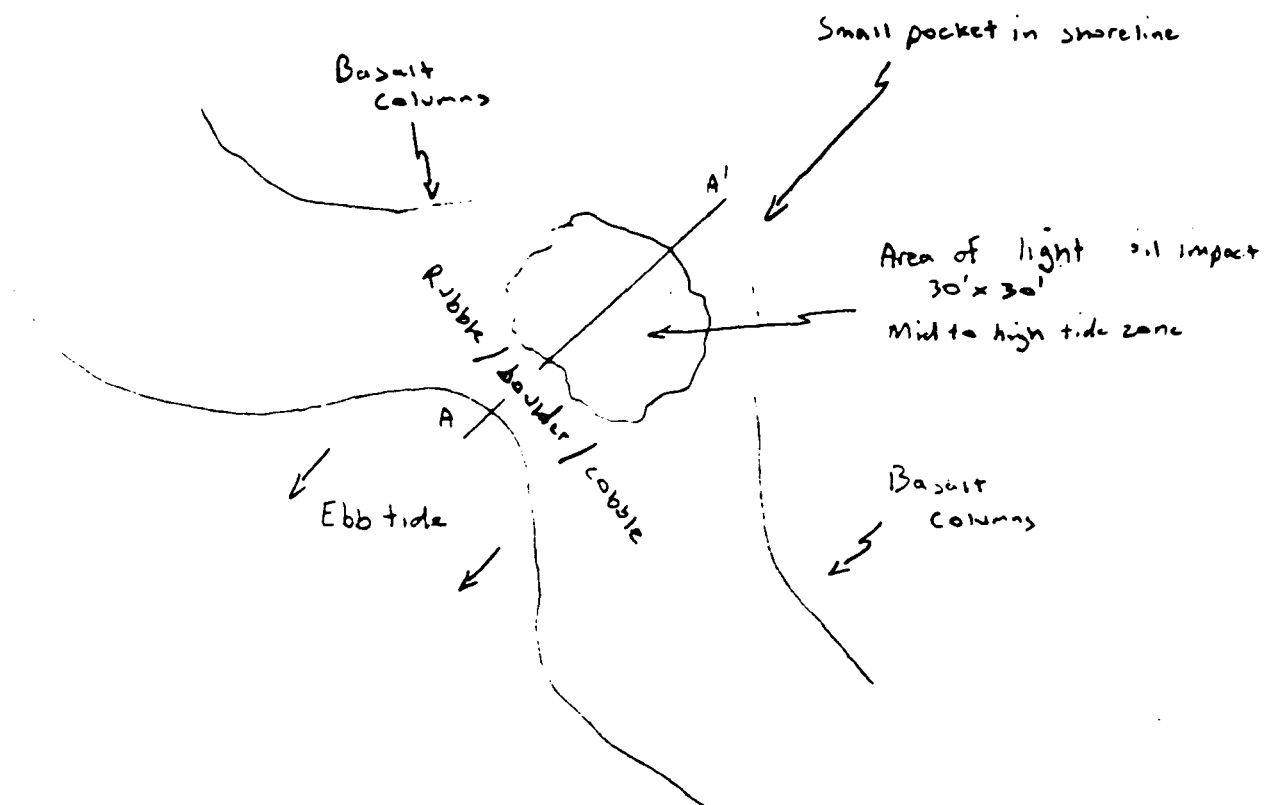
———— Foot Survey  
 ..... Helio Survey

Scale 1" = 0.75 mile

ACE 8709159

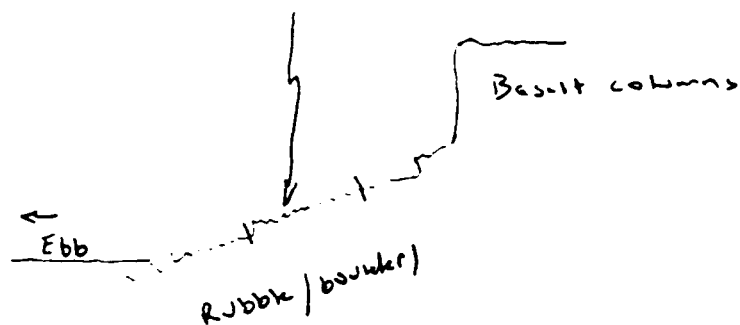
map #1

N ↑



Area of light impact

- splat on rocks
- mousse between rocks



A

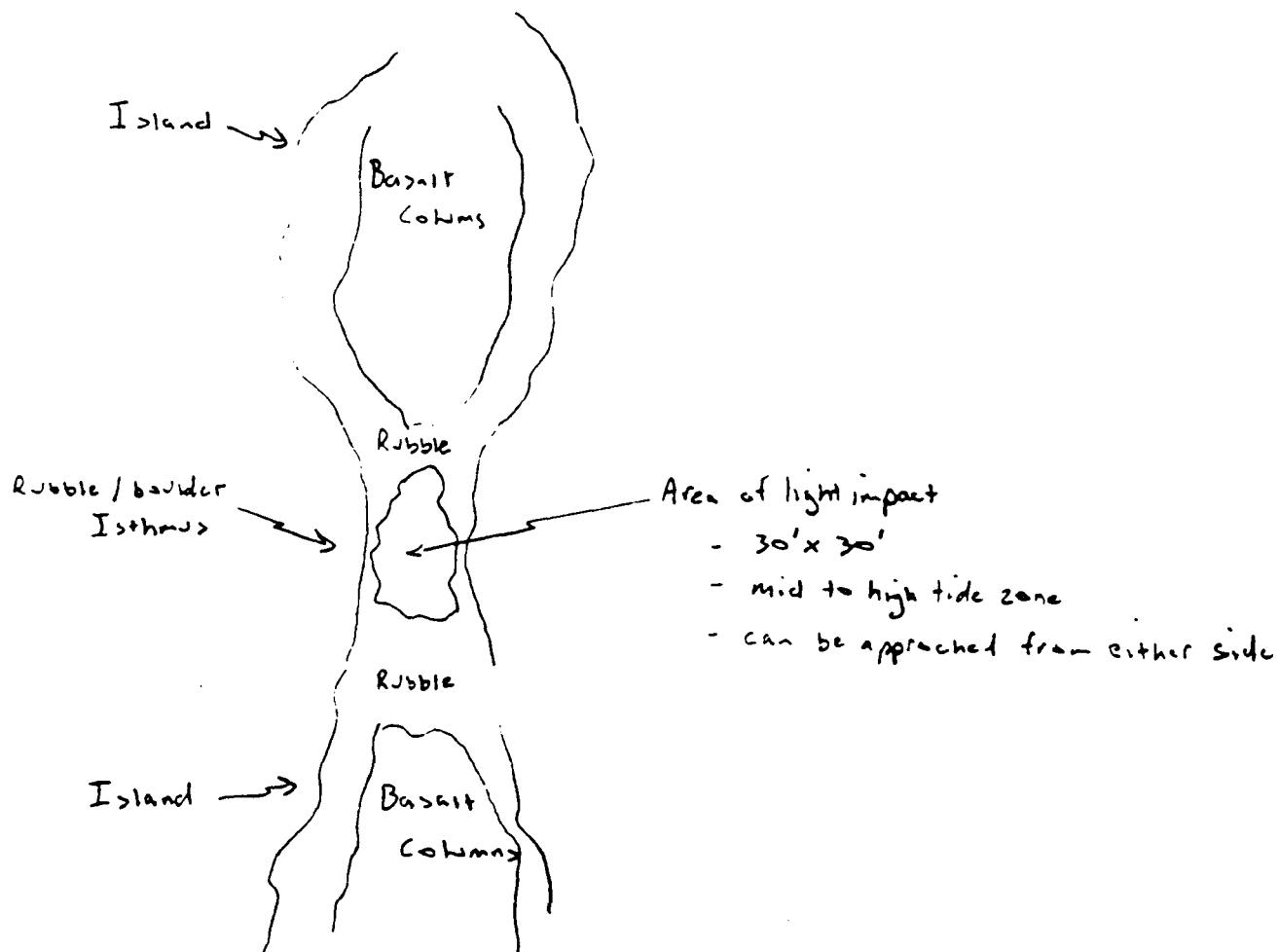
A'

A-A'  $\approx$  60'

1125 hours Tide approx - 0.5'

Surveyed by helix

ACE 8709160



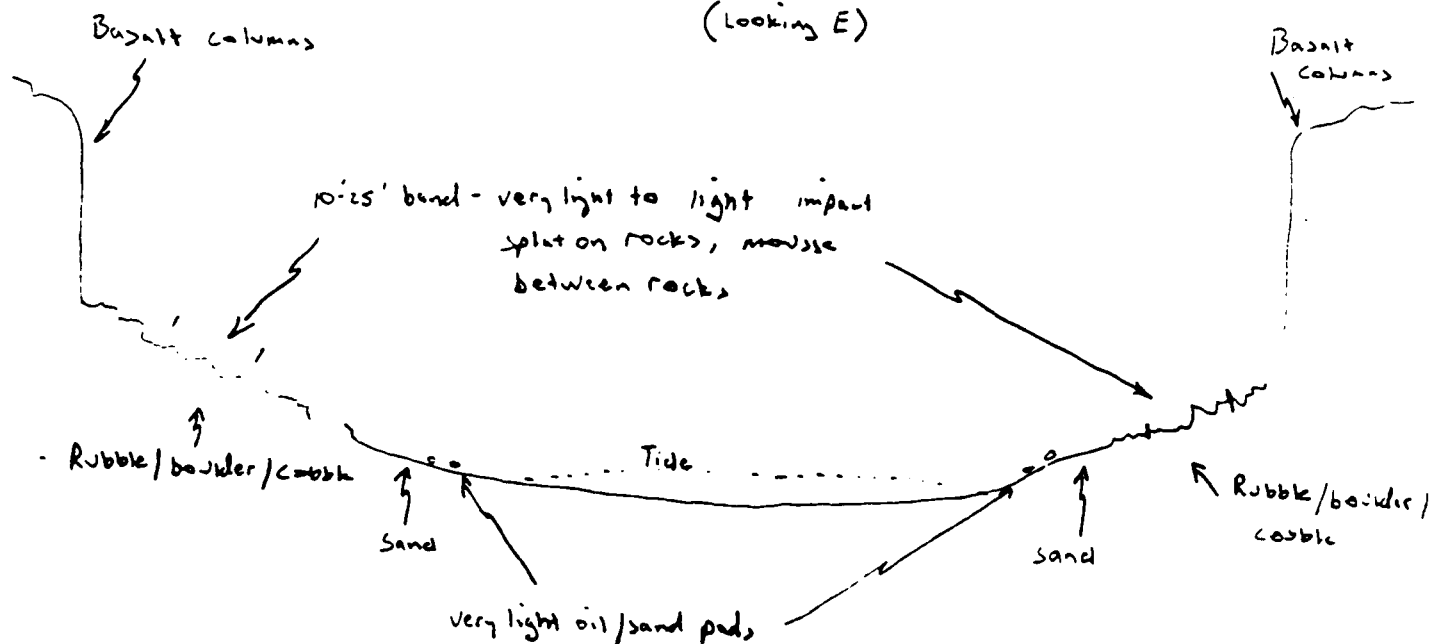
1130 hours Tide approx -0.5'  
Surveyed by helio

The perimeter of the lagoon is formed by basalt columns, with most of the shoreline comprised of <sup>rubble</sup> boulders / cobbles eroded from these basalt cliffs. There are several small pocket beaches w/in 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 those 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)



1300 hours - Tide approx 0'

Surveyed on foot



57

1320 - 1415

Finished Nend of section 6 V 11 oil

58

8/21 Monday Depart Kodiak 0735 For Takli Is.  
Acton Davis Crowell Sudd (JSCU) Troyer (NBS)

0820 overfly main Takli Is

0850 begin work

VL splat in most of pocket cover, 0905, 0920, 0950

1010 few scattered oil/sand pads near mid tide zone.  
'10' diam

$\frac{1120}{1058}$  mod splat

1122 it splat on island

1255 - 1420

Water lagoon at W end of Island

Cleanup crew was there - U.S.C.U., NBS, <sup>cleanup</sup> Superior

V 11. to mod splat + mouse pads between mid

tide line and H.W.L. - close just below H.W.L.

no oil is between cobbles and boulders

- some sheen on water pooled between boulders

- band is approx 10-25' wide and extends around  
entire c.o.x in rocky areas

see  
next  
page - no oil observed on pocket beaches - possibly buried  
- dry but could not find oil buried

59

Eroding  
Barrel  
Columns

Typical lagoon profile

20' band of UL to mod oil

Beach Rubble → cobbles / boulders  
Platform

A

A'

A-A' 40'

1425 - flew to 2 spots on S side to show  
Randy Denton

1440 - Islets E of Taki - overflight

1440-1450

1450 - begin work on larger Islet E of Taki

1610 - finish work survey

1620 - overfly 3<sup>rd</sup> Island1630 - drop off on 3<sup>rd</sup> Island1720 - finish 3<sup>rd</sup> Is

1725-1730 - fly #4 no oil observed

1735 - depart for Vothik 1815 - arrive Kordak

60

Randy Denton had said that they spotted oil at extreme  
NW tip of Island 2 - we did not observe anything except  
Vn spot on E side of NE tip

In general - only 3 locations total from the 4+ islands  
scattered warrant cleanup -

1- Taki Is - wind lagoon

2+3- Taki Is. S shore

oil/sand puts observed on lagoon mid tide  
sand flats



FEET 35 30 25 0

Survey

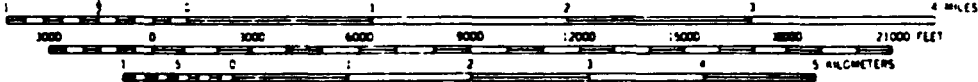
Photographs

Charts  
e).

American datum  
one 5

TRUE NORTH  
MAGNETIC NORTH  
22°  
APPROXIMATE MEAN  
DECLINATION, 1951

SCALE 1:63,360



CONTOUR INTERVAL 100 FEET  
DOTTED LINES REPRESENT 50 FOOT CONTOURS  
DATUM IS MEAN SEA LEVEL

DEPTH CURVES AND SOUNDINGS IN FEET DATUM IS MEAN LOWER LOW WATER  
SHORELINE SHOWN REPRESENTS THE APPROXIMATE LINE OF MEAN HIGH WATER  
THE AVERAGE RANGE OF TIDE IS APPROXIMATELY 11 FEET



QUADRANGLE LOCATION

FOR SALE BY U. S. GEOLOGICAL SURVEY  
FAIRBANKS, ALASKA 99701, DENVER, COLORADO 80225, OR WASHINGTON, D. C. 20242  
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

ACE 8709165

Notes



# 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 (HDDM): 8:20-17:35 TIDE HT.: 0' - 15' (M)  
 OILED ZONE: Splash High Medium Low  
 SUBSTRATUM: Rock Boulders 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/ endocladia, Ulva alaria

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

Large # of gaping mytilus in protected areas Mya, Macoma, Clinocardium shells held in Mytilus beds.

**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 rock) Many Nucella canaliculata 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

Present and active at low tide, micro-green algae + diatoms present

OTHER OBSERVATIONS: Small zosteria beds w/ shrimp, ctenaster sp, Neophtys, Acaeca b, Clinocardium v.

Echinurus c. a. and Mya a. Tide pools had Coralline algae, chitons, Anthopleura

CLEANUP PRECAUTIONS: Avoid zosteria beds and cormorant roosting sites see map

Bears maybe present.

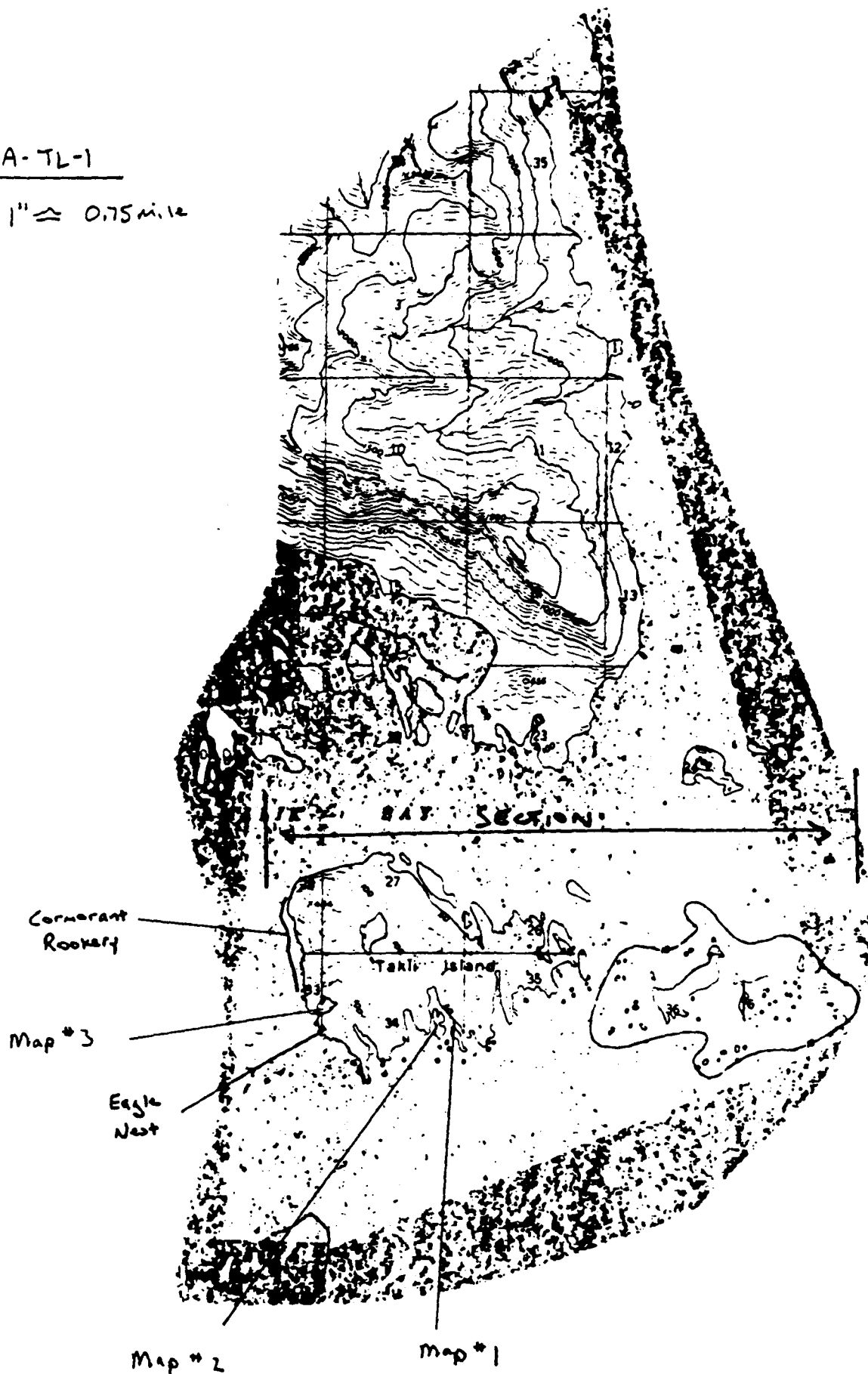
MAMMALS: Otters      Harbor Seals 3 Sea Lions      Whales       
 other     

BIRDS: Jaeger, surf scoters, cormorants (pelagic), Black-legged Kittiwakes, Turnstones, and 3 eiders (male)

GENERAL OBSERVATIONS: Oil splatters seen were at the high tide to splash zones and did not effect the biota. Everything observed was healthy and normal.

K 9-30A-TL-1

Scale 1"  $\approx$  0.75 mile



ACE 8709169-

517-637-00  
KODIAK SCAT  
K9-34

CANCELLED

ACE 7963996

(version 6/04/89)

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



(version July 23, 1989)

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: 7/28/89

EXXON: \_\_\_\_\_

Date: \_\_\_\_\_

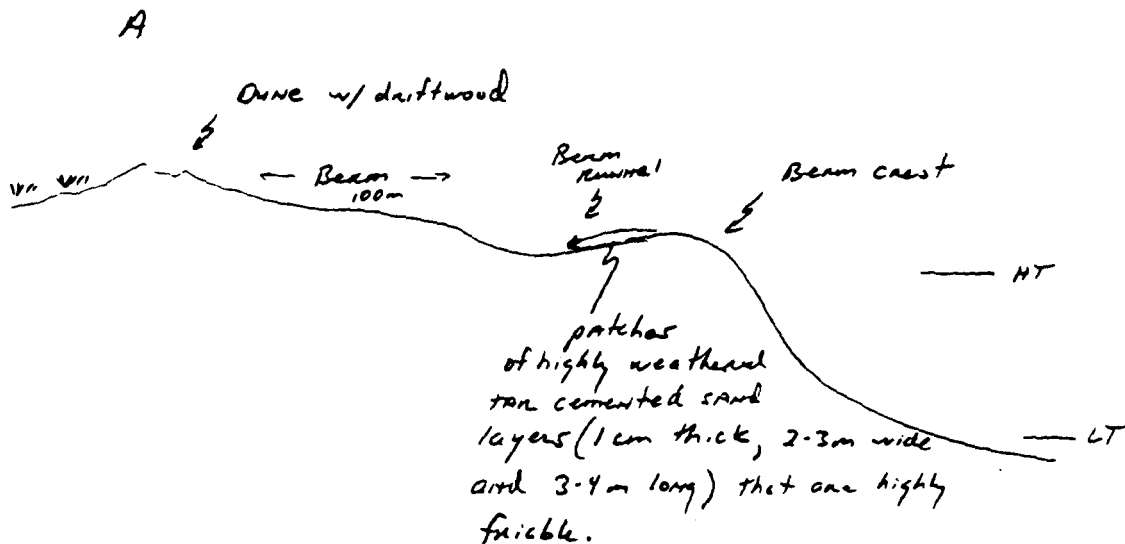
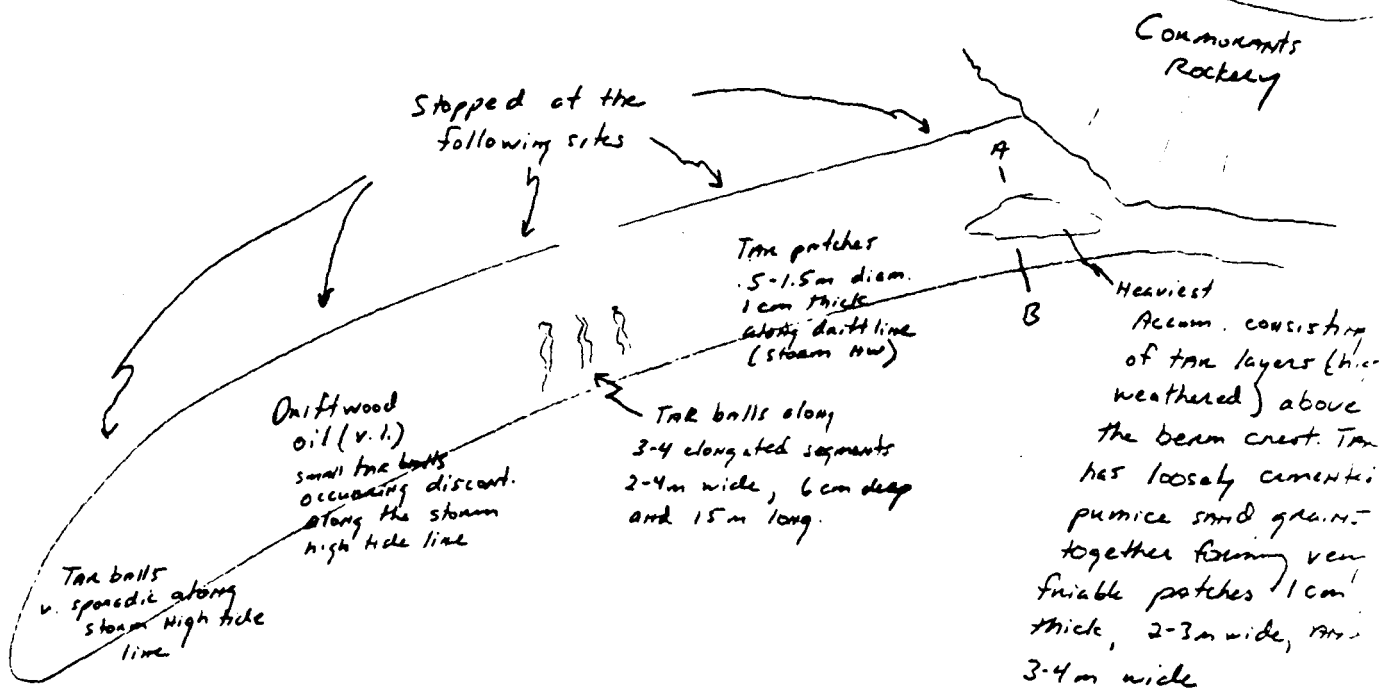
FOSC: \_\_\_\_\_

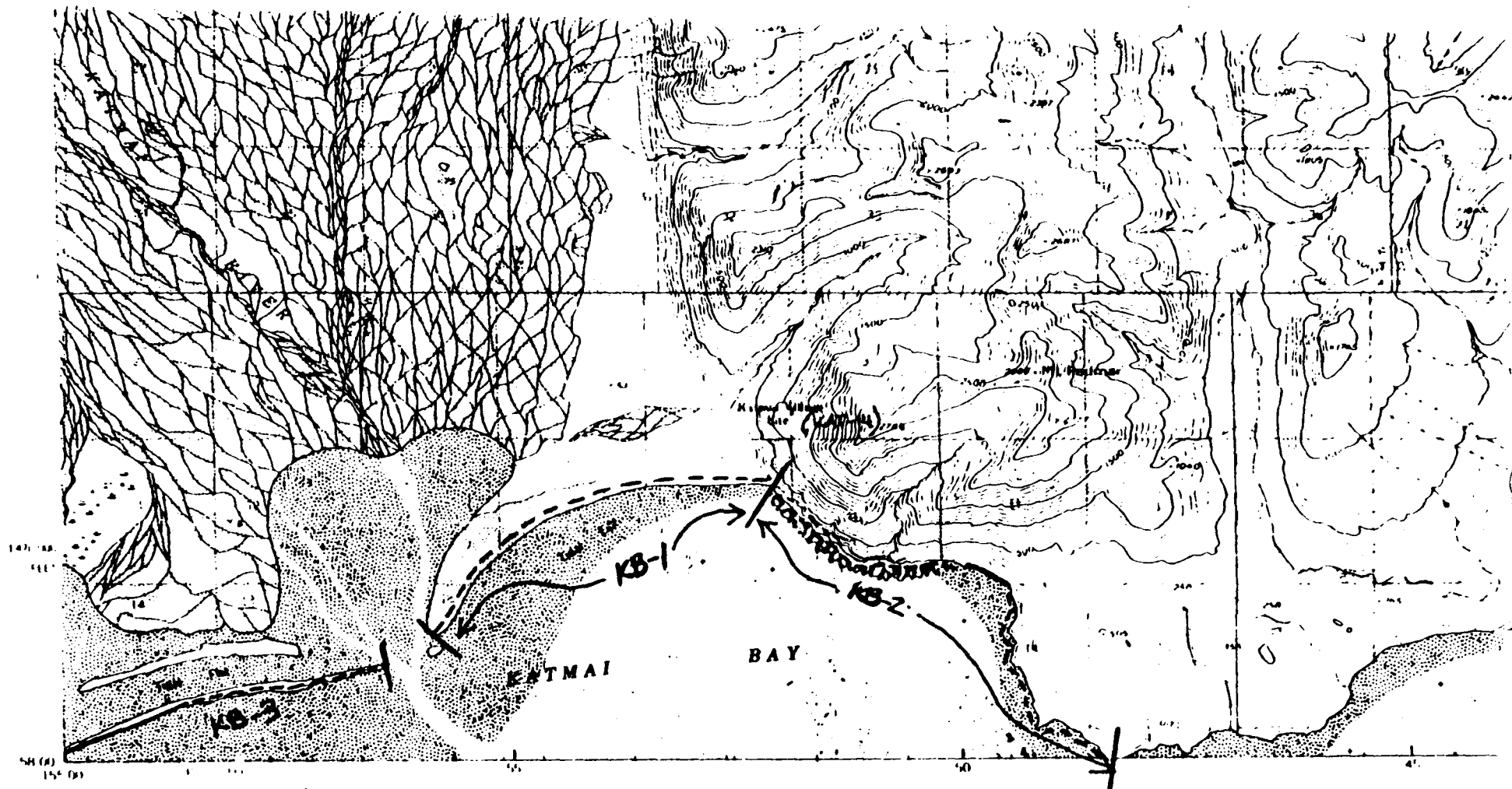
Date: \_\_\_\_\_

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

1CB-1

# Katmai Village Spot





Approved, edited, and published by the Geological Survey,  
control by USACE

Selected hydrographic data compiled from USCGS Charts 4502  
(1:969,761 scale) 8556 (1:350,000 scale). This information  
is not intended for navigational purposes.

Topography by photogrammetric methods from aerial photographs  
taken 1951. Map not field checked.

Universal Transverse Mercator projection, 1927 North American datum  
14,000 foot grid based on Alaska coordinate system, zone 5  
1180 meter Universal Transverse Mercator grid ticks  
zone 5, shown in blue

and lines represent unsurveyed and unmarked locations  
predetermined by the Bureau of Land Management  
and the U.S. Army Corps of Engineers

shaded areas, as portrayed, indicate only the wetter areas  
usually of low relief, as interpreted from aerial photographs



There may be private inholdings within the boundaries of  
the National or State reservations shown on this map

CONTOUR INTERVAL 100 FEET  
ELEVATION MEASUREMENT SYSTEM  
NATIONAL GEODETIC VERTICAL DATUM OF 1929  
DEPTH MEASUREMENT SYSTEM MEAN LOW WATER  
SOUNDING MEASUREMENT SYSTEM MEAN LOW WATER  
LOW WATER MEASUREMENT SYSTEM MEAN LOW WATER

FOR SALE BY U.S. GEOLOGICAL SURVEY  
FAIRHANKS, ALASKA 99701 DENVER, COLORADO 80225 OR RESTON, VIRGINIA 20192  
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

MAP LK 0  
ACE 8709173

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

(version 5/13/89)

SHORELINE CLEANUP-TREATMENT ASSESSMENT BLOCK REPORT

Location (see attached map): Northern Beach - Katmai Bay

Includes Shoreline Segments: KB-1

Submitted : Jack D. Rickman Date: 5/17/89  
(for Exxon)

FOSC Approval: \_\_\_\_\_ Date: \_\_\_\_\_

The data presented here, identified in the Shoreline Cleanup Program, are for informational purposes only. Modifications to these systems can be made in the future. Field personnel are encouraged to suggest modifications and productivity enhancements to the OSC's on-scene representative. The OSC's representative has the authority to accept or reject modifications. The Field Resource Team should be notified if their 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 8709175 -10

POOR QUALITY ORIGINAL

(version 5/02/89)

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.

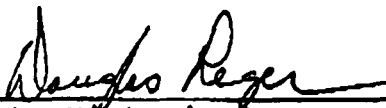
Ecological Constraints (from site survey):

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.

  
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 .

ACE 8709176 T/

TOTAL P.26

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

05/15/89

SHORELINE SEGMENT KB-1

0.1 mi. (0.2 km) (0.1 mi) Northern Beach - Katmai Bay

\_\_\_\_\_  
SHORELINE ASSESSMENT DATE: \_\_\_\_\_

Recommended Cleanup Activity(ies):

Manual pickup

No mechanical pickup

Priorities Considerations:

Important: pick manual surface pickup to prevent oil from being buried by sand.

Biological Constraints (from site survey):

Minimal to small impact to clam beds.  
Manual pickup only.

Biological Constraints (from site survey):

When cultural materials are uncovered during cleanup, contact Alaska's Archeological Field Director and take actions provided in the Operational Guidelines for Shoreline Cleanup dated 4/21/89 as amended.

\_\_\_\_\_  
State Historic Preservation Officer \*

Date: 5/15/89

EXXON: Jack A. Rietner

Date: May 17, 1989

POSC: \_\_\_\_\_

Date: \_\_\_\_\_

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

ACE 8709177

POOR QUALITY ORIGINAL

**SHORELINE OIL EVALUATION**Date: 10 May 89 Time: 1526Observer: Bob DuganSurveyed From: Foot/Boat/Helio/PlaneWeather: Sun/Cloud/Rain/Snow/Fog**LOCATION**LOCATION Northern Beach  
Katmai BaySEGMENT NUMBER Katmai Bay - 1LENGTH OF SHORELINE SEGMENT: 5000 mACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane**SHORELINE:**Shoreline Type: SPI/BEA/COV/HLD/STRTSlope: LANG/HANG/VERWave Exposure: High/Med/LowSediment: B \_\_\_ % / C \_\_\_ % / P 5 % / G \_\_\_ % / S 95 % / M \_\_\_ % / R \_\_\_ %Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type logs**CIL**Degree of Oiling: Heavy/Moderate/Light/No Oil/UnobservedArea of Beach Impact: SU / SP / (H) / M / LContinuous: (Y)/N % of Segment 100 Width of Band: 20-30 m

Sporadic: Y/N % of Segment \_\_\_\_\_

Est. Oil Thickness where > 1cm: 5 cm Est. Oil Penetration: 1 cmPooled 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:**

Scattered blobs of mousse which are being buried  
and broken up by wind & wave action. Visible mousse  
may be only 10% of total on beach. ~~High~~ Moderate  
mousse. See cleanup of surface visible oil due to use  
by bears & clams. Manual cleanup. Mechanical  
equipment not selective enough on the scattered blobs.  
Highly exposed beach will probably fragment & bury oil  
- week or two.



DOCUMENTATION:

Map/Aerial photo marking segment boundaries See attached

VTR: Y/N Tape Number(s) \_\_\_\_\_

Photography: Y/N Roll Number(s) T1B-10

Sample Numbers Collected: None

10 May 89

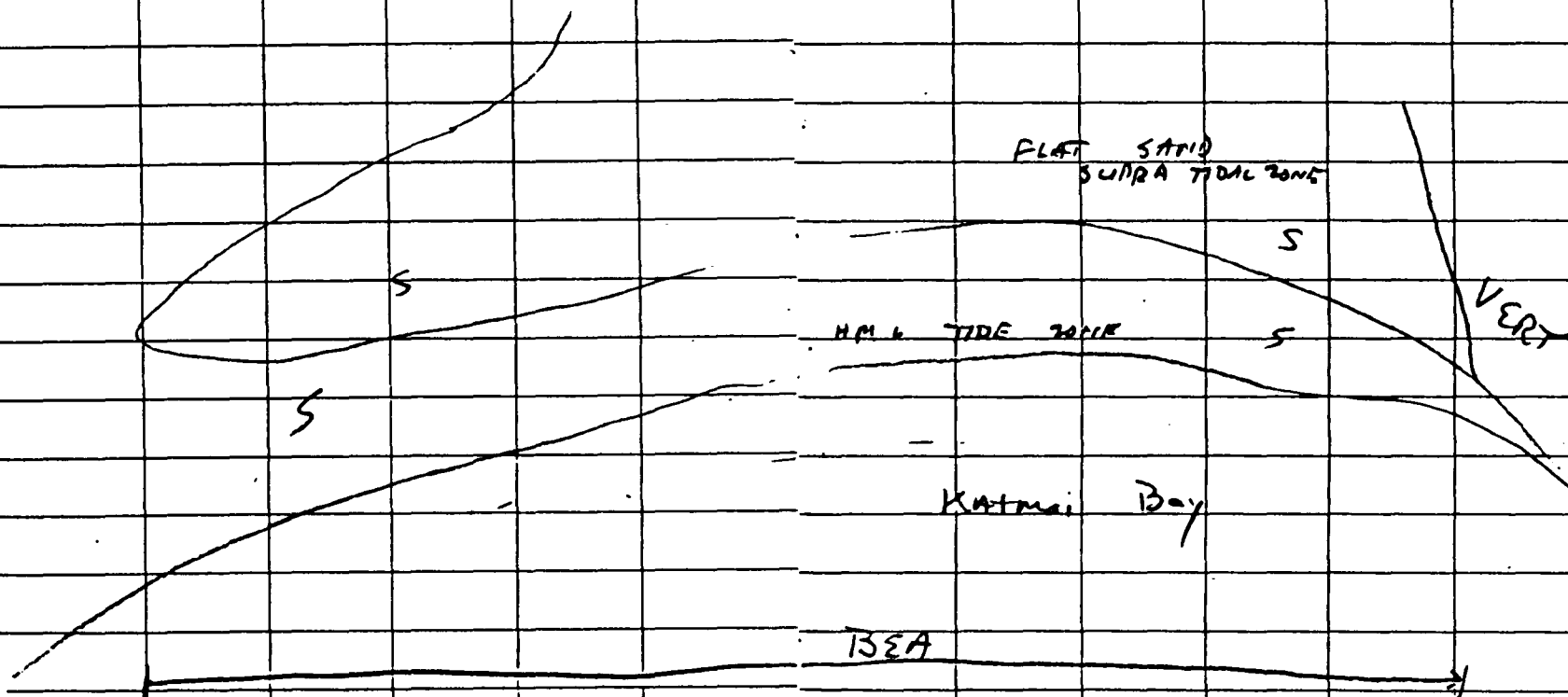
TIME 1520

Segment: Katmai Bay - 1

→ N

scale

0 500 m



LT 11002 Blabs, mostly covered, scattered over 30 m zone

- Comprehensive cleaning impossible
- Surgical manual pickup, at best max 10% recovery (would include 50% sand)

## .. ECOLOGICAL EVALUATION

LOCATION: Northern Beach  
Katmai Bay SITE: \_\_\_\_\_ OBSERVER: D. McCormick  
 LOCATION PREFIX: \_\_\_\_\_ SEG. NO.: Katmai Bay-1 LENGTH: 5000 (M)  
 DATE: 5/10/89 TIME (HHMM): 1530 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 (pumice)

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

Storina

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

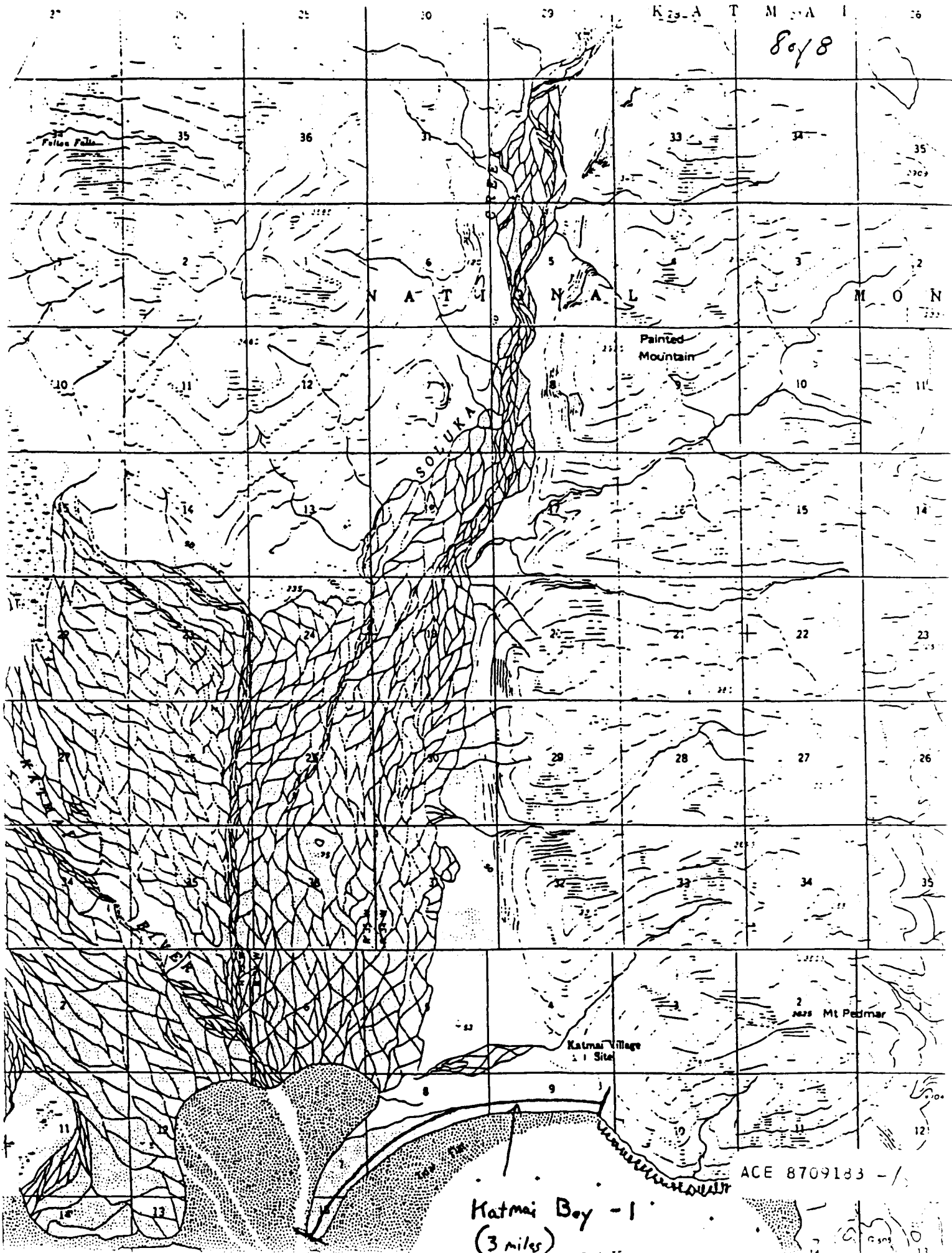
OTHER OBSERVATIONS: clam shells at high tide zone - mostly buried under  
sand with buried mussels; bears probably using area

CLEANUP PRECAUTIONS: none

MAMMALS: Otters \_\_\_\_\_ Harbor Seals \_\_\_\_\_ Sea Lions \_\_\_\_\_ Whales \_\_\_\_\_  
 Other Bears

BIRDS: Gulls, known 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 clam beds.



(version 5/02/89)

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 seawood.
- Manual cleaning of oiled driftwood.

Priorities/Considerations: Class 4-A

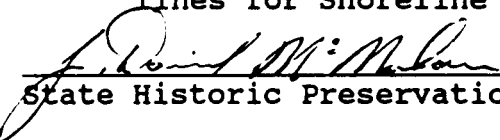
- Helicopter access at pocket beaches only.

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.

  
State Historic Preservation Officer \*

Date: 7/28/89

EXXON: \_\_\_\_\_

Date: \_\_\_\_\_

FOSC: \_\_\_\_\_

Date: \_\_\_\_\_

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

SHORELINE OIL EVALUATION

ate: 21 July 1989 / Time: 1230-1400  
 urveyed From: Foot/Boat/Helio Plane

Observer: DUNCAN M. FITZGERALD  
 Weather: Sun Cloud/Rain/Snow/Fog

LOCATION

ocation: Eicken Katmai Bay Segment ID: K-9-34-KB-2  
 Segment Length: 5800 m. Access: Vehicle/Boat/Barge/Helio/Float Plane  
 Access Restrictions: Can only land at pocket beach

SHORELINE

Shoreline Type: SPI/BEA/COV/HLD/STRT Slope: Lo/Med/Hi/Vert  
 Ave Exposure: High/Med/Low  
 Sediment: B 30 % / C 10 % / P 5 % / G&S 10 % / M    % / R 45 %

IL

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

IL DISTRIBUTION

ontinuous % of Segment 2 % SU/SP/H/M/L H/M/L/VL  
 oradic % of Segment 20 % SU/SP/H/M/L H/M/L/VL

| otal       | Length(m)   | Width(m)   |                                  |                      |
|------------|-------------|------------|----------------------------------|----------------------|
| ery light: | <u>1000</u> | <u>1-5</u> | Thickness >1cm: <u>4-15</u> cm   | SU/SP/H/M/L          |
| ight:      | <u>100</u>  | <u>1-5</u> | Penetration/Rework: <u>  </u> cm | SU/SP/H/M/L          |
| oderate:   | <u>100</u>  | <u>2-4</u> | Burial Depth: <u>5-6cm</u> cm    | SU/ <u>SP</u> /H/M/L |
| heavy:     | <u>  </u>   | <u>  </u>  |                                  |                      |

obilization Potential: High/Medium/Low

ft Debris Oiled? Y/N Amount: H/M/L/VL SU/SP/H/M/L Type: Dr. Hood

IL MORPHOLOGY

oiled Oil:    % SU/SP/H/M/L  
 ree" Oil: 40 % SU/SP/H/M/L  
 plattered: 30 % H/M/L/VL SU/SP/H/M/L  
 oated: 20 % H/M/L/VL SU/SP/H/M/L  
 ncakes/Balls: 10 % SU/SP/H/M/L

-----  
Preliminary Cleanup Est.

Total TYPE A: 300 m  
 Total TYPE B:    m  
 Total TYPE A/B:    m  
 -----

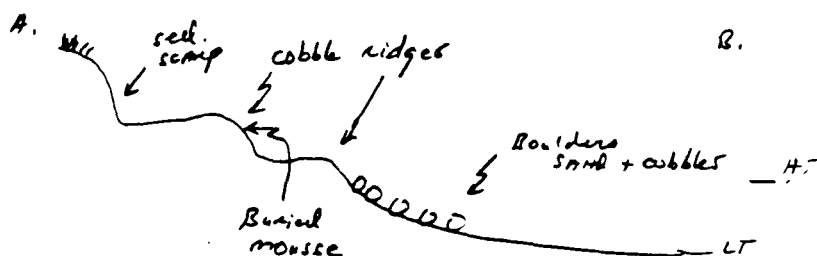
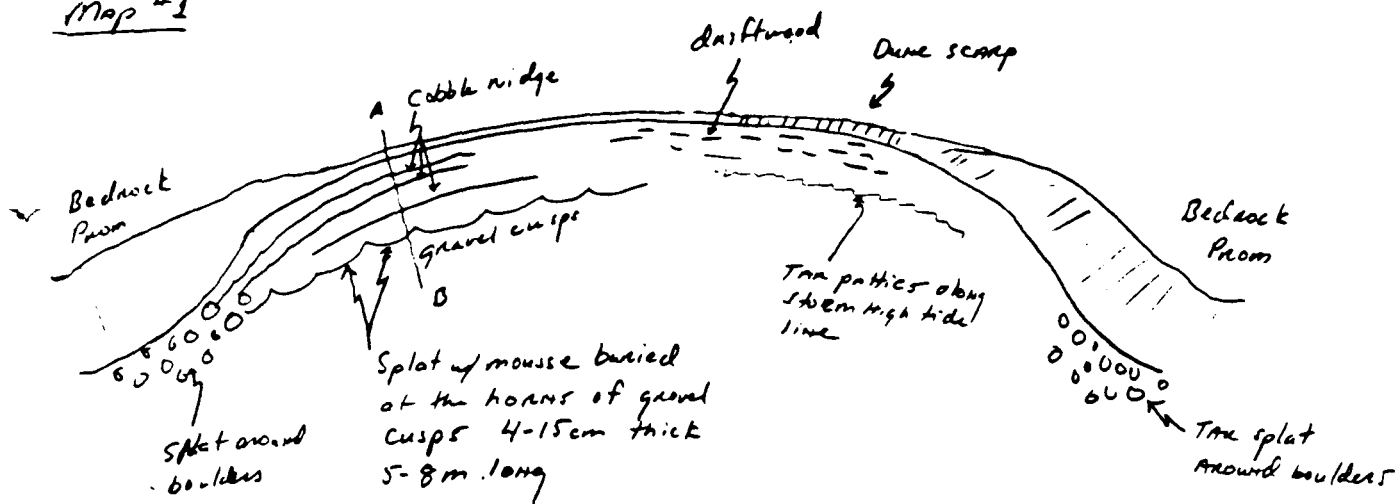
L WEATHERING

esh:    % SU/SP/H/M/L  
 usse:    % SU/SP/H/M/L  
 athered Mousse: 40 % SU/SP/H/M/L  
 phalt Mousse:    % SU/SP/H/M/L  
 r: 60 % SU/SP/H/M/L

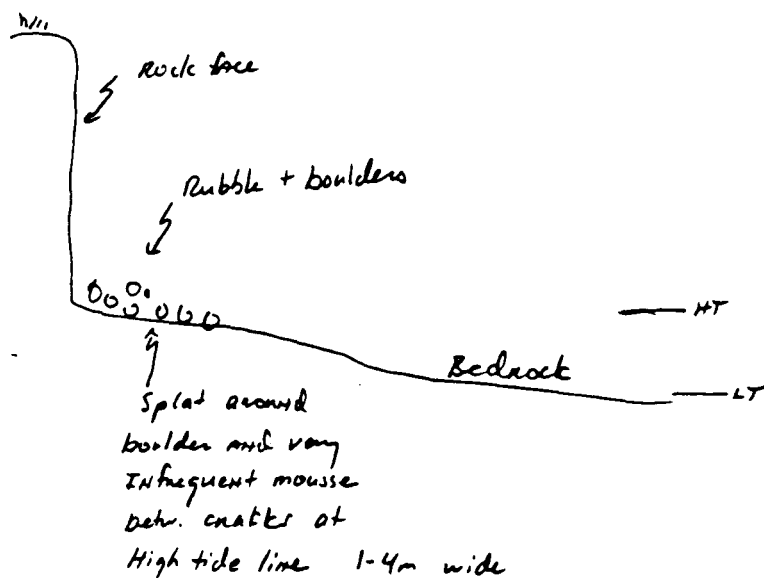
MENTS

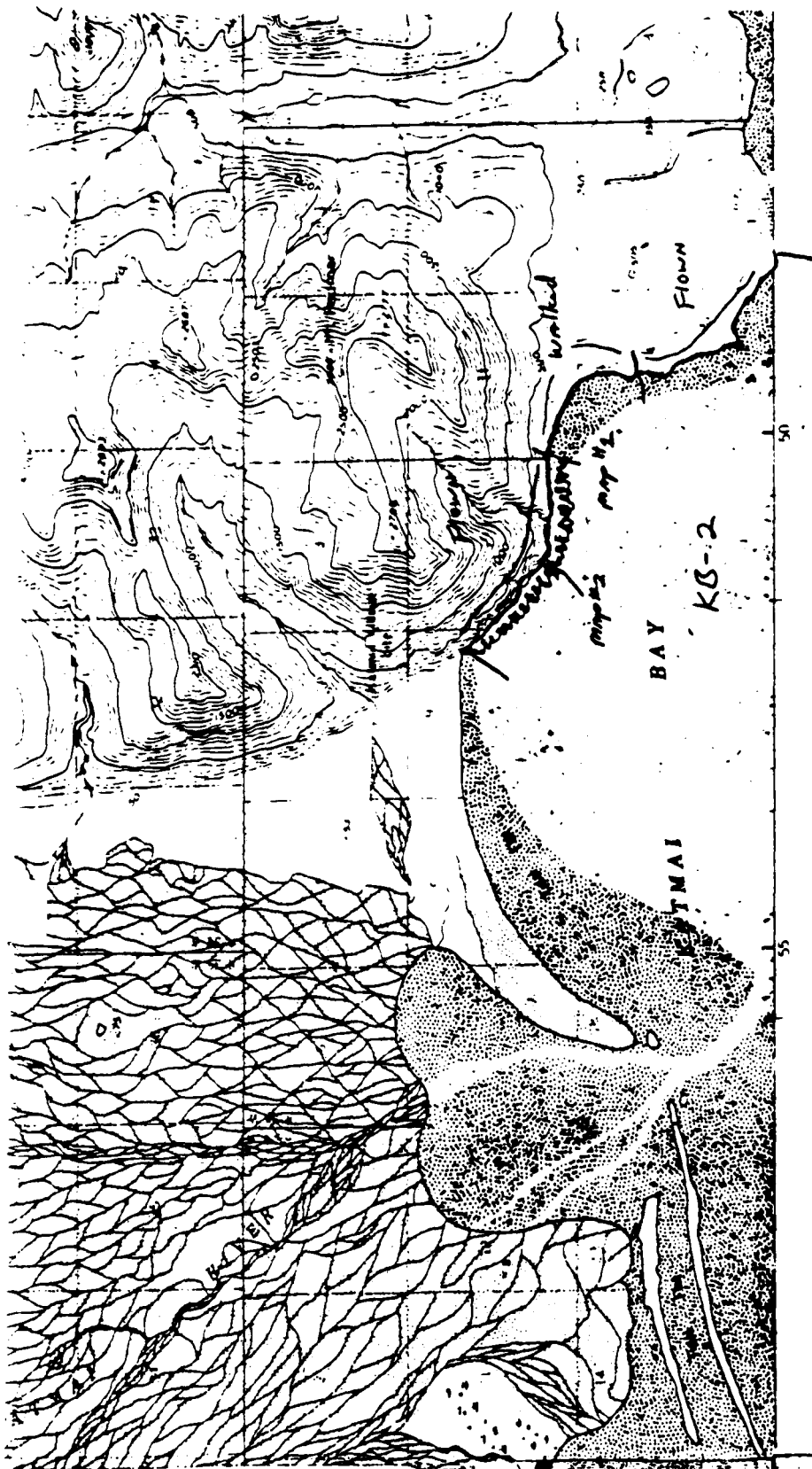
See accompanying maps. Oiling occurs at two major areas: at  
 a pocket beach and at sporadic splat along the headland areas. We

Map #1



Map #2





ACE 8709187





## ECOLOGICAL EVALUATION

LOCATION: Katmai Bay SITE: Western Portion OBSERVER: B. Martin  
 LOCATION PREFIX: KB SEG. NO.: 2 LENGTH: 5600 (M)  
 DATE: 7/21/89 TIME (HHMM): 1230-1500 TIDE HT.: -0.3 - +3.7 (M)  
 OILED ZONE: Splash High Medium Low  
 SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

## LIVE BIOTA

**Fucus** (algae): <sup>In rock areas</sup> Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N  
Dense algal mats (Fucus, ulva, various reds etc) in platform bedrock areas in the mid to low ITZ  
**Mytilus** (Mussels): Patchy Y/N Contin. Y/N <sup>Locally</sup> Dense Y/N Sparse Y/N None Y/N  
Patchy and generally sparse through section although some patches were very dense.  
**Balanus** (Barnacles): Patchy Y/N Contin. Y/N <sup>Locally</sup> Dense Y/N Sparse Y/N None Y/N  
Balanus (ghioda and cariosus) generally continuous through section except for cobble/gravel beach area in the center of the section.  
**Littorina**  
 Patchy Y/N Contin. Y/N <sup>Locally</sup> Dense Y/N <sup>Generally</sup> Sparse Y/N None Y/N  
Sparse through 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 much of the rocky areas and since the populations are not dense they were not observed. However the assumption is that there were probably some present given the habitat type.  
 OTHER OBSERVATIONS: \_\_\_\_\_

CLEANUP PRECAUTIONS: Work in central sandy beach section only. Avoid healthy mid and low ITZ communities on rocky shores. In particular, avoid west end of section which appears to be a roosting areas for numerous cormorants and gulls.

MAMMALS: Otters \_\_\_\_\_ Harbor Seals \_\_\_\_\_ Sea Lions \_\_\_\_\_ Whales \_\_\_\_\_  
 Other Bears in area

BIRDS: Large sized. Cormorants, gulls.

GENERAL OBSERVATIONS: Tall rock cliffs at west end of section had numerous birds. Roosting place or rookery. Cobble/gravel beach at center of section had buried mouse which can be manually removed.

(version 5/02/89)

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):

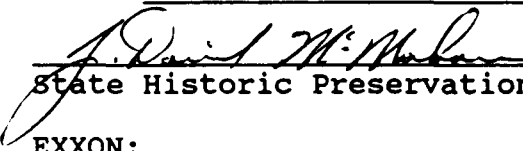
-No cleanup recommended due to very light oiling conditions and high natural cleaning potential. Subject to FOSC reassessment at a later date.

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.

  
State Historic Preservation Officer \*

Date: 7/28/89

EXXON: \_\_\_\_\_

Date: \_\_\_\_\_

FOSC: \_\_\_\_\_

Date: \_\_\_\_\_

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

ACE 8709190

SHORELINE OIL EVALUATION

Date: 21 July 1989 / Time: 12:30-1500  
 Surveyed From: Foot/Boat/Helio/Plane

Observer: Duncan M. Fitzgerald  
 Weather: Sun Cloud/Rain/Snow/Fog

LOCATION

Location: Western Katmai Bay Segment ID: K-9-34-KB-3  
 Segment Length: 9 km m. Access: Vehicle Boat/Barge/Helio Float Plane  
 Access Restrictions: very wide tidal flat and some boulder intertidal areas

SHORELINE

Shoreline Type: SPT/BEA/COV/HLD/STRT Slope: Lo/Med/H/Vert  
 Wave Exposure: High/Med/Low  
 Sediment: B 15 % / C 15 % / P 5 % / G&S 45 % / M 5 % / R 15 %

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 | <u>0%</u>  | SU/SP/H/M/L          | H/M/L/VL         |
| sporadic   | % of Segment | <u>40%</u> | SU/ <u>SP/H</u> /M/L | H/M/L/ <u>VL</u> |

|             |              |              |                              |             |
|-------------|--------------|--------------|------------------------------|-------------|
| Total       | Length(m)    | Width(m)     | Thickness >1cm: _____ cm     | SU/SP/H/M/L |
| Very light: | <u>2000m</u> | <u>2-20m</u> | Penetration/Rework: _____ cm | SU/SP/H/M/L |
| Light:      | <u>100m</u>  | <u>1-10m</u> | Burial Depth: _____ cm       | SU/SP/H/M/L |
| Moderate:   | _____        | _____        |                              |             |
| Heavy:      | _____        | _____        |                              |             |

obilization Potential: High/Medium/Low

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: <u>20</u> %     | H/M/L/VL | SU/SP/H/M/L |
| oated: <u>10</u> %         | H/M/L/VL | SU/SP/H/M/L |
| ancakes/Balls: <u>70</u> % |          | SU/SP/H/M/L |

Preliminary Cleanup Est.

NONE

Total TYPE A: \_\_\_\_\_ m  
 Total TYPE B: \_\_\_\_\_ m  
 Total TYPE A/B: \_\_\_\_\_ m

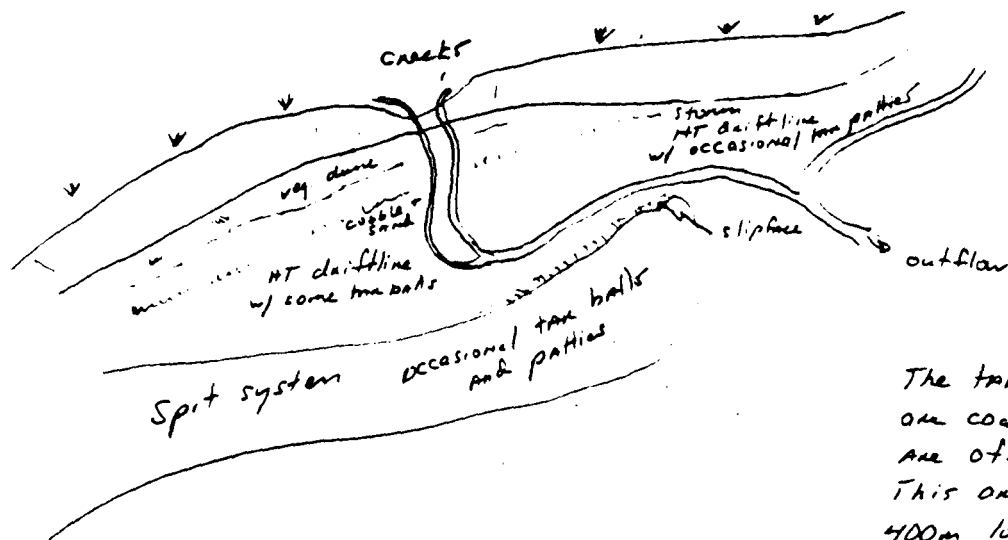
IL WEATHERING

|                            |                      |
|----------------------------|----------------------|
| resh: _____ %              | SU/SP/H/M/L          |
| ousse: _____ %             | SU/SP/H/M/L          |
| athered Mousse: _____ %    | SU/SP/H/M/L          |
| sphalt Mousse: <u>20</u> % | SU/ <u>SP/H</u> /M/L |
| ar: <u>80</u> %            | SU/ <u>SP/H</u> /M/L |

OMMENTS

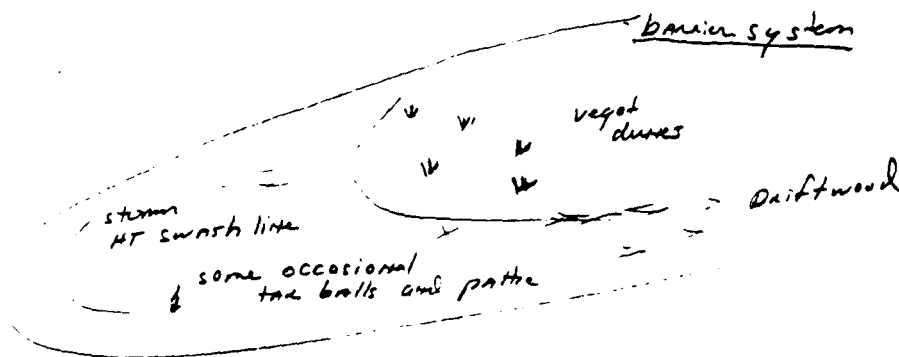
See Accompanying maps and notes. Generally this segment has  
 tar balls and patties that are sand coated, highly friable  
 and will disintegrate when reworked by storm waves.

Map #1



The tan balls and patties are coated with sand and are often highly friable. This area encompasses a 400m long section of beach.

Map #2



- The barrier has tan balls (marble to silver dollar-size) along the storm and spring high tide line, occurring very sporadically at the southwestern end increasing in abundance to the northeast.
- It should be noted that the tan balls are highly friable and will breakdown quickly if subject to storm wave reworking.
- Rocky headland and pocket beach section of the entrance (western side) of the Bay has some minor splot.

ACE 8709192

## ECOLOGICAL EVALUATION

LOCATION: Katmai Bay SITE: Eastern section OBSERVER: B. Martin  
 LOCATION PREFIX: KB SEG. NO.: 3 LENGTH: 9000 (M)  
 DATE: 7 / 21 / 89 TIME (HHMM): 0930 - 1120 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 <sup>Locally</sup> Dense Y/N Sparse Y/N <sup>Locally</sup> None Y/N  
*Dense algal growths on rock in the mid. to low IZ at easternmost portion of section. Algae sparse to absent in sandy beach areas (most of section)*

**Mytilus** (Mussels): Patchy Y/N <sup>in rocky areas</sup> Contin. Y/N <sup>Locally</sup> Dense Y/N Sparse Y/N <sup>Locally</sup> 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*

**ittorina**  
 Patchy Y/N Contin. Y/N <sup>Locally</sup> Dense Y/N <sup>locally</sup> 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 there may have been missed.*

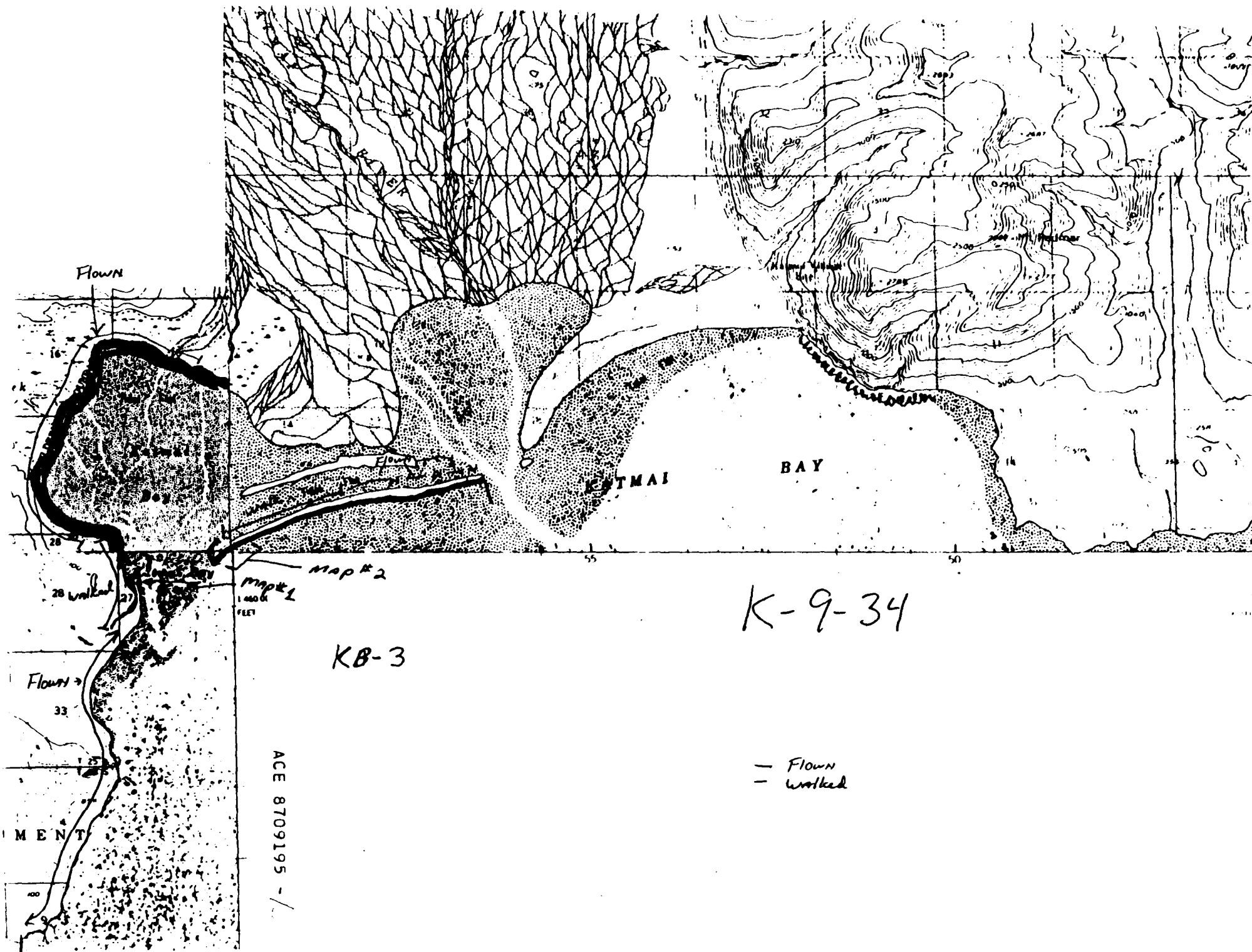
OTHER OBSERVATIONS: Bivalve shells on beach (Saxidomus, Hiatella). Amphipod present in some areas.

CLEANUP PRECAUTIONS: <sup>small amounts of</sup> Some very weathered tur on sand, pumice beaches. Cleanup not recommended. Avoid the easternmost part of section (rocky, very productive intertidal)

MAMMALS: Otters \_\_\_\_\_ Harbor Seals \_\_\_\_\_ Sea Lions \_\_\_\_\_ Whales \_\_\_\_\_  
 Other Numerous bears.

BIRDS: 6 oiled Cormorant carcasses. Gulls, sandpiper, eagles nest on <sup>Sea stuck in east part of section (pumice)</sup>

GENERAL OBSERVATIONS: This section consisted primarily of broad sandy, gravel and mud tidal flats. Rocky shoreline with extensive biota at easternmost part of section. Marsh in the backshore areas.



# SEGMENT INSPECTION RECORD

# COPY

ADEC # KB-34Shoreline Segment: KB-1

Shoreline Treatment Process(es) Completed for this Segment

Yards Signed Off

☐  
☐  
☐

Hot water wash  
 Warm water wash  
 Water deluge

☐  
☒  
☐

Mechanical  
 Non-mechanical  
 Other

KBOIR

Exxon

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

Exxon Comments

Signature

Date 8/24/89Time 1530

Printed Name

Jim Wade

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

| Percent              | Degree of Oiling |
|----------------------|------------------|
| <input type="text"/> | Heavy            |
| <input type="text"/> | Medium           |
| <input type="text"/> | Light            |
| <input type="text"/> | Very Light       |

100%

Subsurface Oil

☒ Yes

☐ No

Comment Below

Reassessment

☐ Yes - Necessary

☒ No - Not necessary unless re-oiled

ADEC Rep

Comments

Walked entire length of spit! Old sandy oil splatter on spit. Heaviest hit is a layer of oil that has been covered with sand - is now being re-spread. Oil runs out of the sand. Makes it easy to see where above the area of exposure. However, I don't know how the area could be cleaned short of excavating the spit!!

Signature

Date

9/4/89

Time

9:48

Printed Name

Jeanne T. Hemphill

FOSC Rep

Demobilization approved/disapproved

ACE 8709196

Comments

Worst area was at the Katmai Village area. Consisted of cemented sand and pumice. This area may wash out during rough winter storm

Signature

Date

5 Sep 1989

Time

1550

Printed Name

Scott S. Obergard

Copy: Exxon ADEC FOSC ISCC

Return All Signed Originals to Exxon

ORIGINAL

Small area 20x1000 of far belts along low berm. Should be removed  
with winter storm. <sup>1000</sup>Limited presence of oil overall along beach <sup>3 ft wide</sup>  
Mark 9/5



(version July 23, 1989)

9/3  
DF  
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.

J. Daniel McManis  
State Historic Preservation Officer \*

Date: 7/28/89

EXXON: Jack A. Rickman

Date: 7/28/89

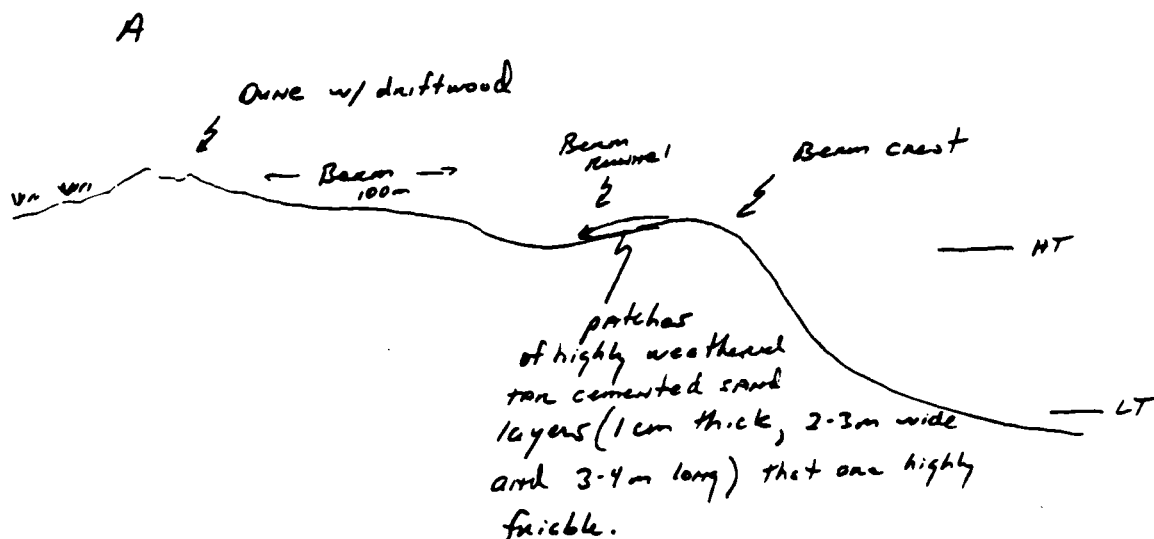
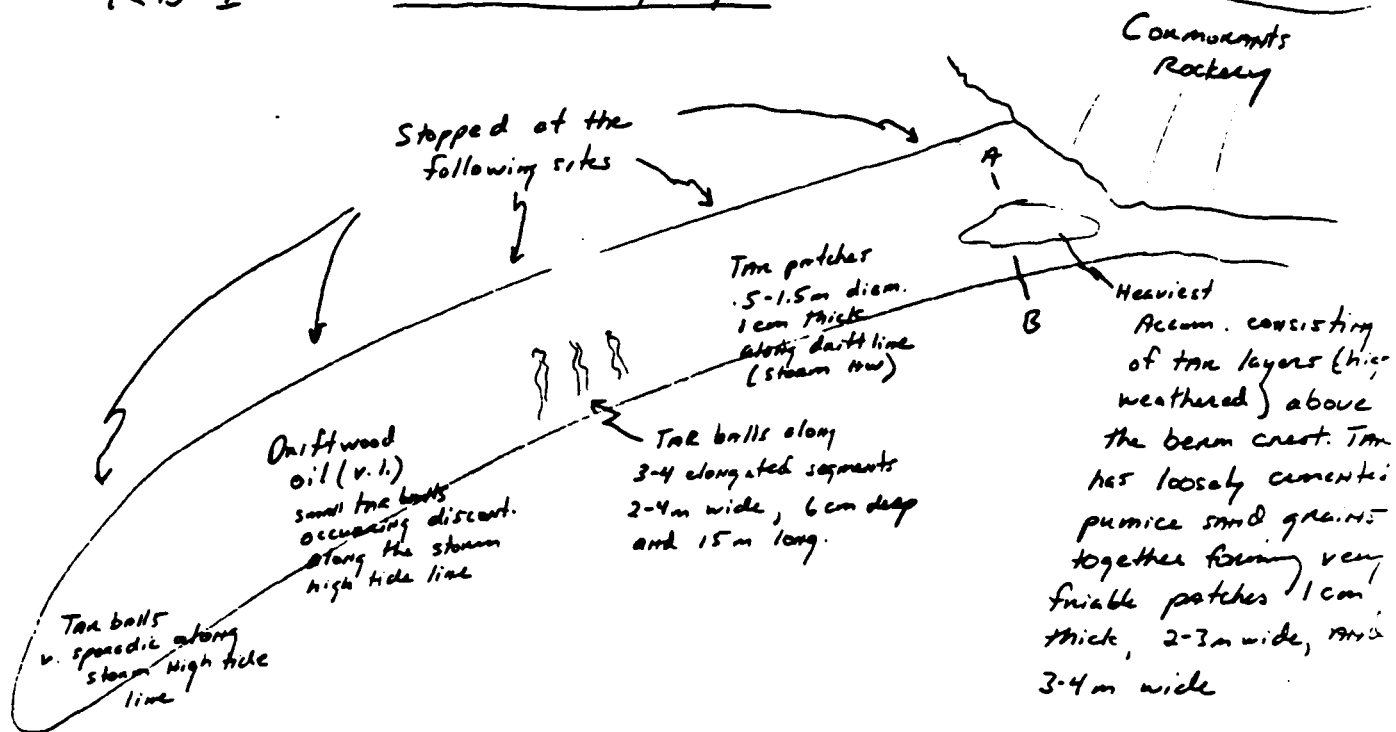
FOSC: \_\_\_\_\_

Date: \_\_\_\_\_

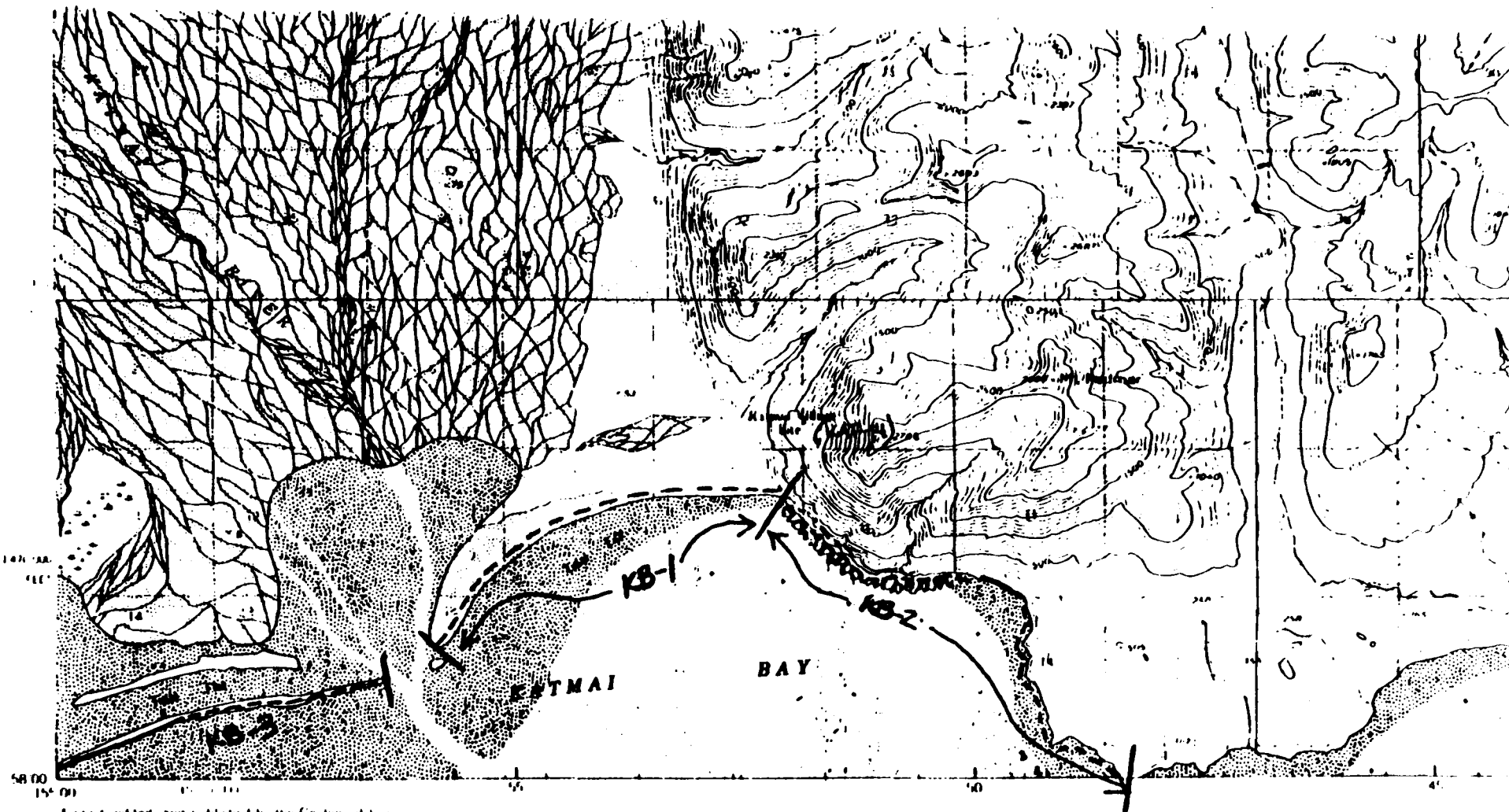
\*Signature required to satisfy stipulations in Alaska DNR land use permits for tide submerged lands.

1CB-1

# Katmai Village Spit



ACE 8709200



August, edited and published by the Geological Survey, United States Department of the Interior.

Selected hydrographic data compiled from USC&GS Charts 14512 (1:969,761 scale) 8556 (1:350,000 scale). This information is not intended for navigational purposes.

Topography by photogrammetric methods from aerial photographs taken 1951. Map not field checked.

Universal Transverse Mercator projection, 1927 North American datum. 10,000 foot grid based on Alaska coordinate system, zone 5.



CONTOUR INTERVAL 100 FEET  
ELEVATION IN FEET AND METER  
NATIONAL GEODETIC VERTICAL DATUM OF 1929

(version 5/13/89)

**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  
PWSA  
USFS  
SHPO

SEGMENT INSPECTION RECORD **COPY**

ADEC #

Shoreline Segment:

K9-34 (KB-2)

Shoreline Treatment Process(es) Completed for this Segment

Yards Signed Off

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

Exxon

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

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.

Signature

Jack A. Rickner

Date

8-4-89

Time

2005

Printed Name

Jack Rickner

Existing Shoreline Condition As  
Visually Determined by USCG  
Surface Oil

| Percent                                  | Degree of Oiling |
|------------------------------------------|------------------|
| <input type="checkbox"/>                 | Heavy            |
| <input type="checkbox"/>                 | Medium           |
| <input type="checkbox"/>                 | Light            |
| <input checked="" type="checkbox"/> < 1% | Very Light       |

100%

Subsurface Oil

☐ Yes ☒ No

Comment Below

Reassessment

☐ Yes - Necessary

☒ No - Not necessary unless re-oiled

ADEC Rep

Comments

Aerial survey only. Splatters on cliffs, very light oil (from air)

Existing Shoreline Condition As  
Visually Determined by ADEC

| Percent                                  | Degree of Oiling |
|------------------------------------------|------------------|
| <input type="checkbox"/>                 | Heavy            |
| <input type="checkbox"/>                 | Medium           |
| <input type="checkbox"/>                 | Light            |
| <input checked="" type="checkbox"/> > 1% | Very Light       |

100%

Subsurface Oil

☐ Yes ☒ No

Comment Below

Reassessment

☐ Yes - Necessary

☒ No - Not necessary unless re-oiled

Signature

Jeanne T. Hemphill

Date

9/5/89

Time

3:53 p

Printed Name

Jeanne T. Hemphill

FOSC Rep

Demobilization ☒ approved ☐ disapproved

Comments

Aerial survey. Saw some splatters on Rock face.

Signature

Scott S. Odegard

Date

5 Sep 89

Time

1600

Printed Name

Scott S. Odegard

Copy: Exxon

ADEC

FOSC

ISCC

Return All Signed Originals to Exxon

ORIGINAL

No oil observed  
Done 9/5

ersion July 05, 1989)

# SHORELINE OIL EVALUATION

te: 21 July 1989 / Time: 1230-1400  
urveyed From: Foot/Boat/Helicopter

Observer: Duncan M. Fitzgerald  
Weather: Sun/Cloud/Rain/Snow/Fog

## CATION

ocation: Eicken Katmai Bay Segment ID: K-9-34-KB-2  
egment Length: 500m Access: Vehicle/Boat/Barge/Helicopter/Float Plane  
ccess Restrictions: Can only land at pocket beach

## ORELINE

oreline Type: SPI/SEA/COV/HLD/STRT ..Slope: Lo/Med/Hi/Vert  
ive Exposure: High/Med/Low  
ediment: B 30% / C 10% / P 5% / G&S 10% / M % / R 45%

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

## L DISTRIBUTION

ontinuous % of Segment 2% SU/SP/H/M/L H/M/L/VL  
poradic % of Segment 20% SU/SP/H/M/L H/M/L/VL

|           | Length(m)   | Width(m)   | Thickness >1cm:               |             |
|-----------|-------------|------------|-------------------------------|-------------|
| ry light: | <u>1000</u> | <u>1-5</u> | <u>4-15</u> cm                | SU/SP/H/M/L |
| ght:      | <u>100</u>  | <u>1-5</u> | Penetration/Rework:           | SU/SP/H/M/L |
| oderate:  | <u>100</u>  | <u>2-4</u> | Burial Depth: <u>5-6cm</u> cm | SU/SP/H/M/L |
| avy:      |             |            |                               |             |

obilization Potential: High/Medium/Low  
ift Debris Oiled? Y Amount: H/M/L/VL SU/SP/H/M/L Type: Dr. Hood

## L MORPHOLOGY

|               | %         |             |
|---------------|-----------|-------------|
| ooled Oil:    |           | SU/SP/H/M/L |
| ree" Oil:     | <u>40</u> | SU/SP/H/M/L |
| lattered:     | <u>30</u> | SU/SP/H/M/L |
| ated:         | <u>20</u> | SU/SP/H/M/L |
| ncakes/Balls: | <u>10</u> | SU/SP/H/M/L |

## Preliminary Cleanup Est.

Total TYPE A: 300 m  
Total TYPE B:  m  
Total TYPE A/B:  m

## L WEATHERING

|                 | %         |             |
|-----------------|-----------|-------------|
| esh:            |           | SU/SP/H/M/L |
| usse:           |           | SU/SP/H/M/L |
| athered Mousse: | <u>40</u> | SU/SP/H/M/L |
| phalt Mousse:   |           | SU/SP/H/M/L |
| r:              | <u>60</u> | SU/SP/H/M/L |

## MENTS

See accompanying maps. Oiling occurs at two major areas: At a pocket beach and at sporadic spots along the headland areas. We

K9-35

ACE 7963997



(version 5/02/89)

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 Reger  
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 1987 / Time: \_\_\_\_\_  
 Surveyed From: Foot/Boat/Helio/Plane

Observer: Duncan, M. F. & Gerald  
 Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

Location: Kashvik Bay Segment ID: K-9-35-KA-2  
 Segment Length: 1600 m. Access: Vehicle/Boat/Barge/Helio/Float Plane  
 Access Restrictions: High wave energy, can't land - access

SHORELINE

Shoreline Type: SPI/BEA/COV/HLD/STRT Slope: Lo/Med/Hi/Vert  
 Wave Exposure: High/Med/Low  
 Sediment: B 35 % / C 25 % / P 5 % / G&S 15 % / M \_\_\_\_\_ % / R 20 %

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 40 SU/SP/H/M/L H/M/L/VL  
 Sporadic % of Segment 60 SU/SP/H/M/L H/M/L/VL

| Oil         | Length(m)   | Width(m) | Thickness >1cm:     | cm | SU/SP/H/M/L |
|-------------|-------------|----------|---------------------|----|-------------|
| Very light: | <u>500</u>  |          |                     |    | SU/SP/H/M/L |
| Light:      | <u>300</u>  |          | Penetration/Rework: | cm | SU/SP/H/M/L |
| Moderate:   | <u>450m</u> |          | Burial Depth:       | cm | SU/SP/H/M/L |
| Heavy:      | <u>350m</u> |          |                     |    |             |

Stabilization Potential: High/Medium/Low

ft Debris Oiled? Y/N Amount: H/M/L/VL SU/SP/H/M/L Type: Driftwood + seaweed

IL MORPHOLOGY

| Oil Type       | Length(m) | Width(m) | SU/SP/H/M/L          |
|----------------|-----------|----------|----------------------|
| Spilled Oil:   |           |          | SU/SP/H/M/L          |
| "Free" Oil:    | <u>45</u> |          | SU/SP/ <u>H/M</u> /L |
| Blattered:     | <u>15</u> |          | SU/SP/H/M/L          |
| Coated:        | <u>25</u> |          | SU/SP/ <u>H/M</u> L  |
| Incakes/Balls: | <u>15</u> |          | SU/SP/ <u>H/M</u> /L |

H/M/L/VL  
 H/M/L/VL

-----  
Preliminary Cleanup Est.

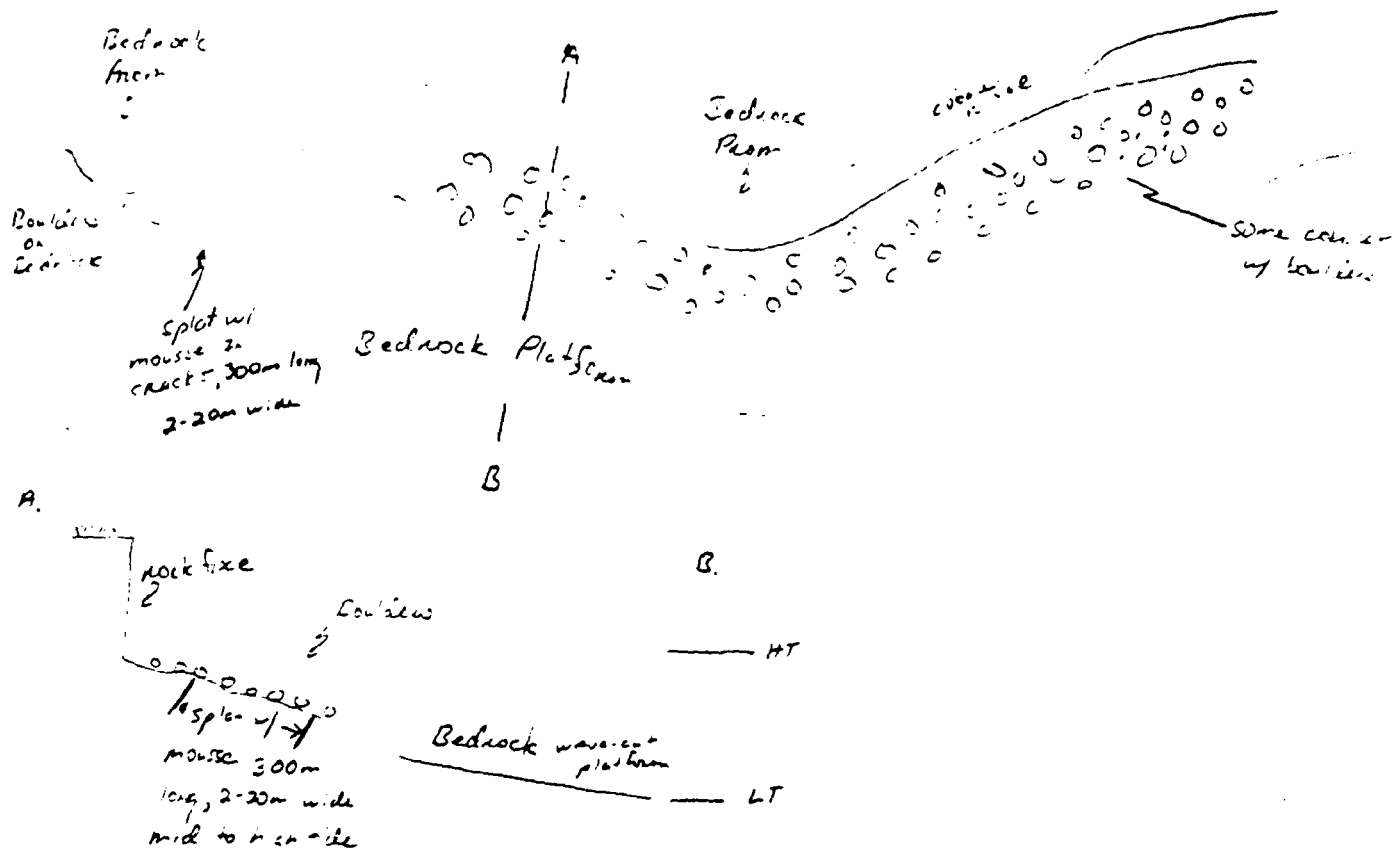
Total TYPE A: 750 m  
 Total TYPE B: 350 m  
 Total TYPE A/B: \_\_\_\_\_ m  
 -----

IL WEATHERING

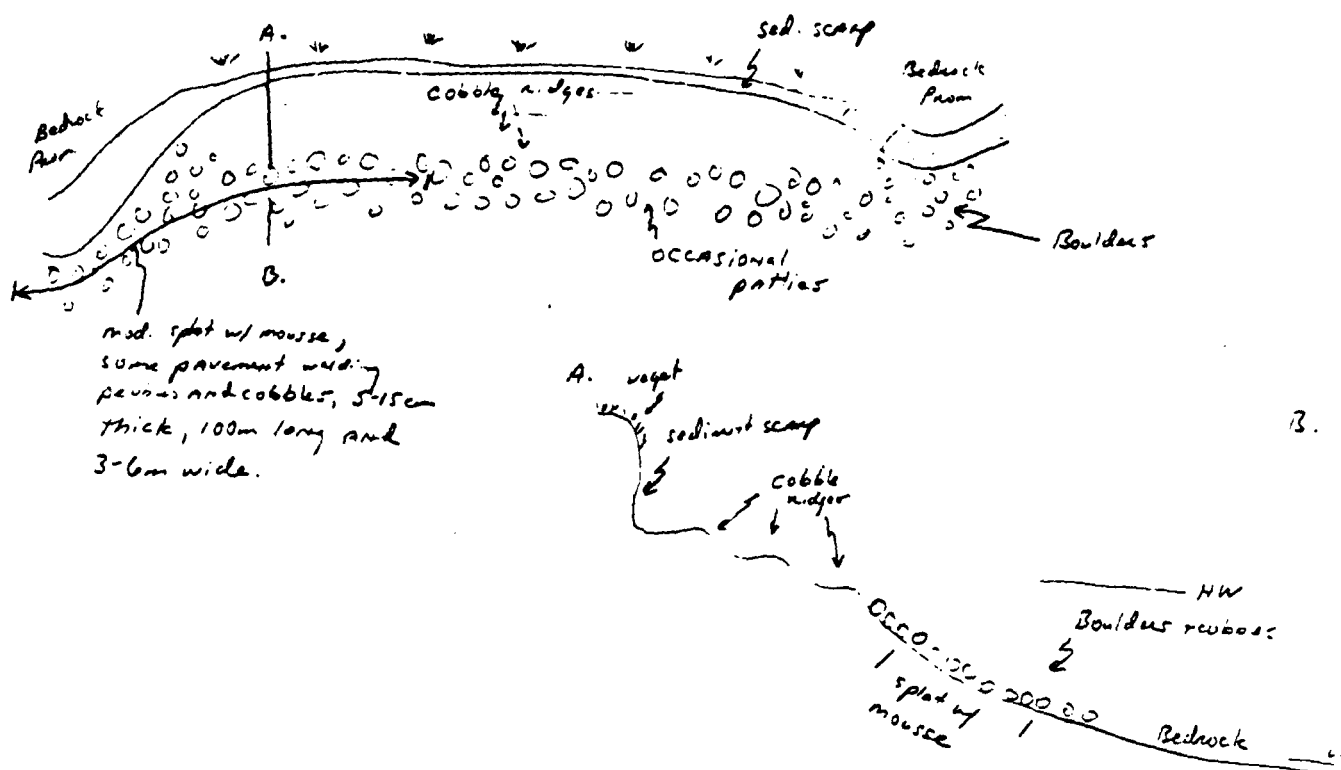
| Weathering       | Length(m) | SU/SP/H/M/L |
|------------------|-----------|-------------|
| Fresh:           |           | SU/SP/H/M/L |
| Mousse:          |           | SU/SP/H/M/L |
| Gathered Mousse: | <u>60</u> | SU/SP/H/M/L |
| Phalt Mousse:    | <u>5</u>  | SU/SP/H/M/L |
| Drift:           | <u>35</u> | SU/SP/H/M/L |

REMARKS

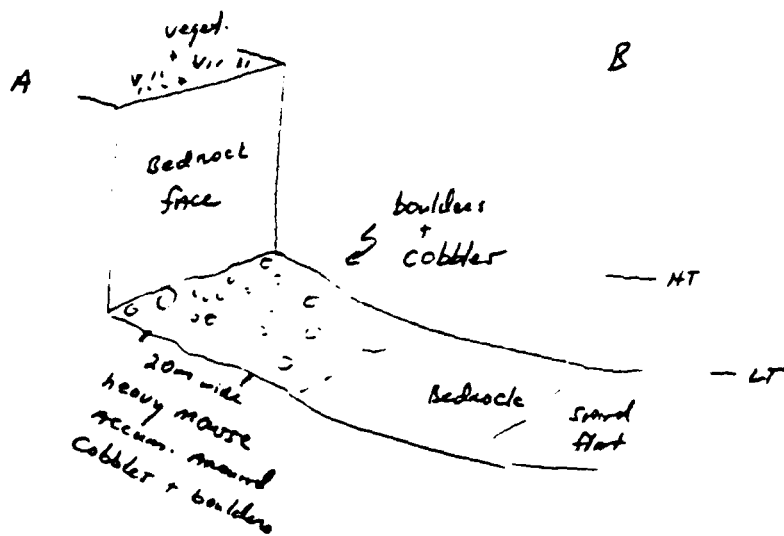
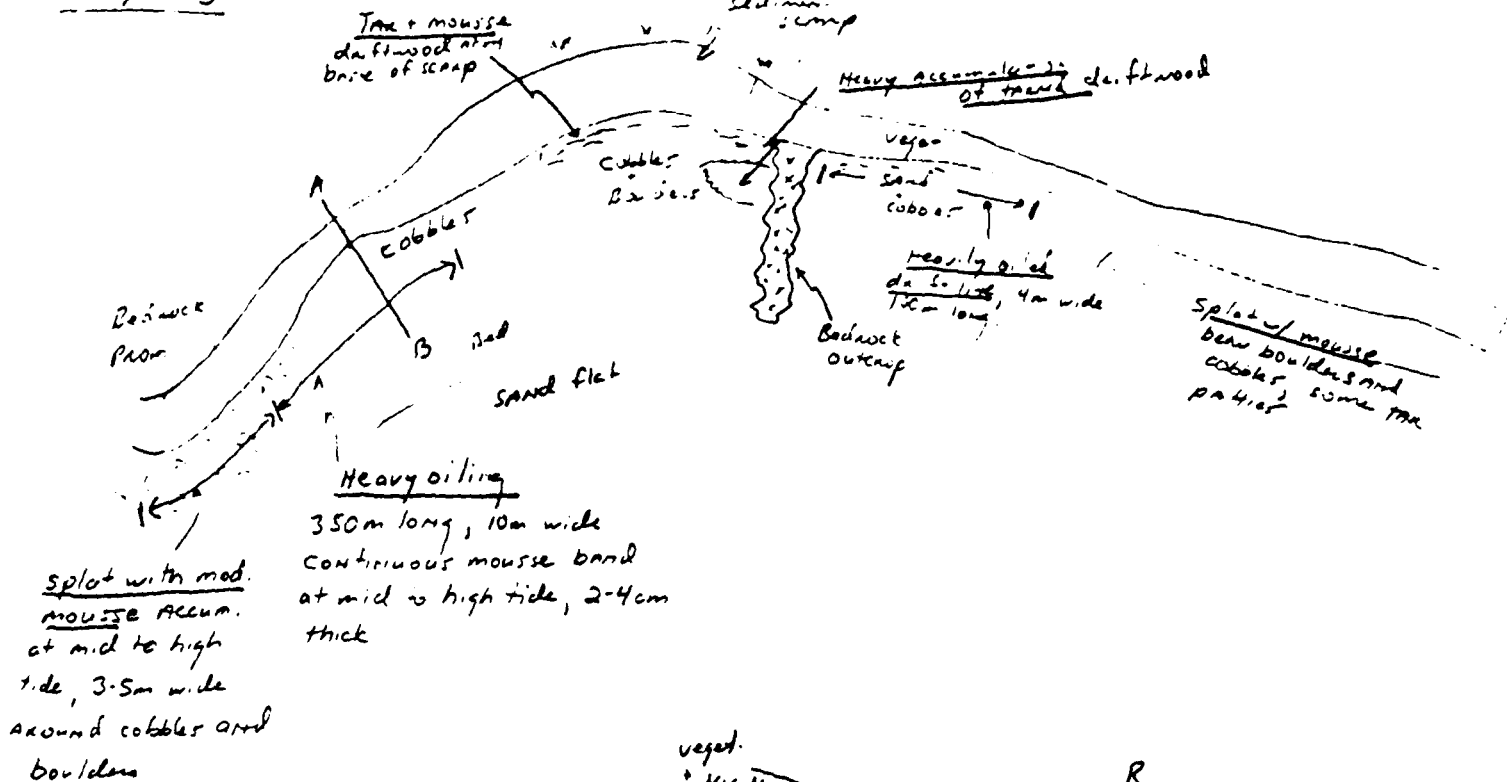
- See accompanying maps for detailed descriptions and locations of major oiling conditions.
- This section of shoreline has experienced light to heavy oiling including a 350m long cobble beach area, 6-10m wide and 2-4cm thick.

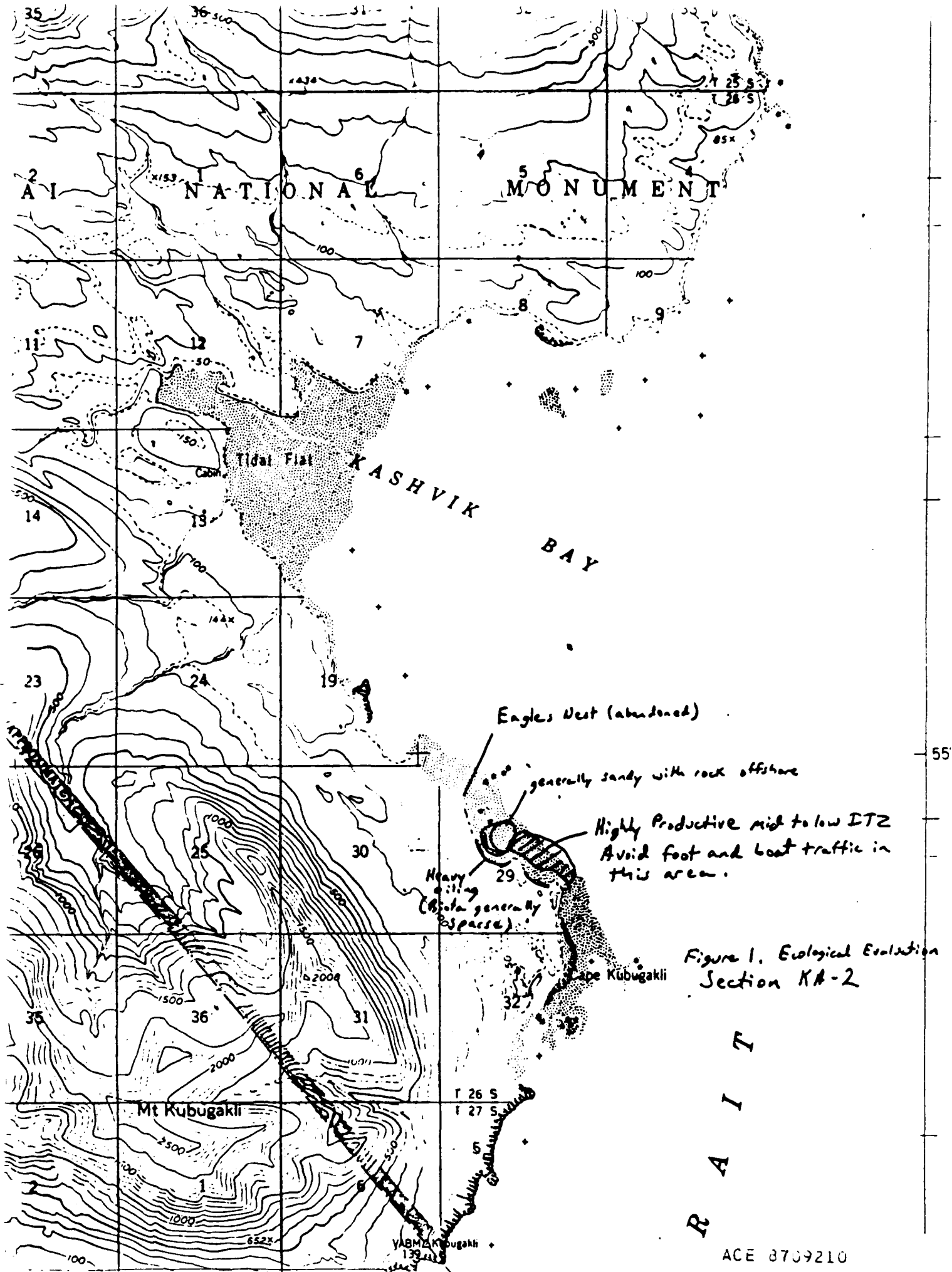


Map #2



ACE 8709208





## ECOLOGICAL EVALUATION

LOCATION: Alaska Peninsula SITE: Kashvik 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  
*Along cover*  
Fucus dense in lower ITZ. Sparse or absent in cobble or sand beach areas.

**Mytilus** (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N  
*Locally dense areas*  
Mytilus locally dense in rocky lower ITZ areas.

**Balanus** (Barnacles): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N  
*Generally*  
Locally dense primarily in mid to upper ITZ in bedrock reef areas.

**Littorina**  
 Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N  
*Generally*  
Locally dense primarily in mid ITZ in bedrock reef areas.

**Limpets**: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N  
Generally sparse, found in lower ITZ.

OTHER OBSERVATIONS: Pockets of oiled seaweed along the upper drift line.  
abandoned eagle's nest (see map). Nest not in good condition and gulls were roosting  
next to the nest. No eagles sited in nest seems to be abandoned.

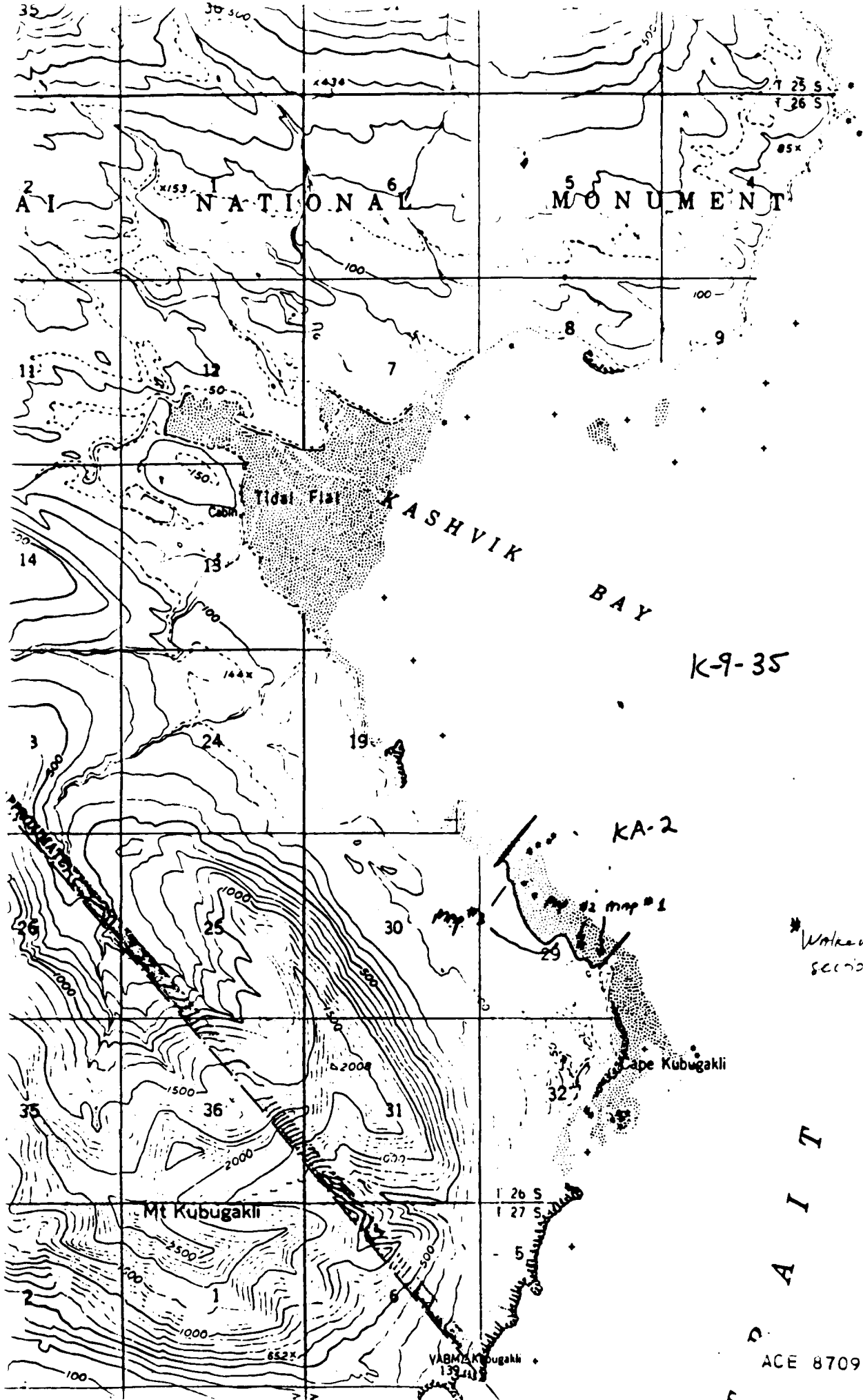
CLEANUP PRECAUTIONS: Stay off of healthy reef areas in the low ITZ. Oiled pebbles  
fair, and house patches should be removed with care and without oiling the productive mid  
and low ITZ areas. Approach through less densely populated segments. See fig. 1.

MAMMALS: Otters \_\_\_\_\_ Harbor Seals \_\_\_\_\_ Sea Lions \_\_\_\_\_ Whales \_\_\_\_\_  
 Other Numerous bears in area

BIRDS: Oiled cormorant (?) at Area Probably oiled before washing up because rocks  
surrounding it were not oiled.

GENERAL OBSERVATIONS: Oiling heavy in some areas, however low and much  
of the mid ITZ remains healthy.

→ Tide pools in this area. also encountered amphipods, hermit crabs, red gill beds.



ACE 8709213 -1

(version 5/02/89)

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: 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: 21 July 1989 / Time: 0930-1330  
 Surveyed From: Foot/Boat/Helio/Plane

Observer: Duncan M. Fitzgerald  
 Weather: Sun/Cloud/Rain/Snow/Fog

**LOCATION**

Location: Kashvik Bay Segment ID: K-9-35-KA-3  
 Segment Length: 11300 m. Access: Vehicle/Boat/Barge/Helio/Float Plane  
 Access Restrictions: Land boats on beaches but inner portion of bay is  
fronted by a very wide (km) tidal flat

**SHORELINE**

Shoreline Type: SPI/BEA/COV/HLD/STRT Slope: Lo/Med/Hi/Vert  
 Wave Exposure: High/Med/Low *High at bay headlands, inner bay low wave energy*  
 Sediment: B 35 % / C 15 % / P 5 % / G&S 20 % / M % / R 25 %

**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 19 SU/SP/D/M/L H/M/L/VL  
 Sporadic % of Segment 25 SU/SP/H/M/L H/M/L/VL

| Oil         | Length(m)    | Width(m)     | Thickness >1cm:     | cm | SU/SP/H/M/L |
|-------------|--------------|--------------|---------------------|----|-------------|
| Very light: | <u>3000m</u> | <u>2-6m</u>  | Penetration/Rework: | cm | SU/SP/H/M/L |
| Light:      | <u>400m</u>  | <u>1-20m</u> | Burial Depth:       | cm | SU/SP/H/M/L |
| Moderate:   | <u>40m</u>   | <u>2-4m</u>  |                     |    |             |
| Heavy:      |              |              |                     |    |             |

Oil Mobilization Potential: High/Medium/Low  
 If Debris Oiled? Y/N Amount: H/M/L/VL SU/SP/H/M/L Type: Dr. Wood + seaweed

**IL MORPHOLOGY**

| Oil          | %         | H/M/L/VL | SU/SP/H/M/L |
|--------------|-----------|----------|-------------|
| Coated Oil:  | <u>2</u>  |          | SU/SP/H/M/L |
| Free Oil:    | <u>60</u> |          | SU/SP/H/M/L |
| Plattered:   | <u>30</u> |          | SU/SP/H/M/L |
| Coated:      | <u>8</u>  |          | SU/SP/H/M/L |
| Cakes/Balls: |           |          |             |

**Preliminary Cleanup Est.**

Total TYPE A: 440 m  
 Total TYPE B:        m  
 Total TYPE A/B:        m

**IL WEATHERING**

| Weathering        | %         | SU/SP/H/M/L |
|-------------------|-----------|-------------|
| Resh:             | <u>2</u>  | SU/SP/H/M/L |
| Mousse:           | <u>2</u>  | SU/SP/H/M/L |
| Weathered Mousse: | <u>5</u>  | SU/SP/H/M/L |
| Asphalt Mousse:   | <u>93</u> | SU/SP/H/M/L |

**COMMENTS**

Cleaning of the shoreline in this segment is confined to areas shown on maps 3, 4, 5, 6, 7 consisting principally of removal of tar and mousse patties and using sorbent to remove free oil from between boulders and cobbles.

## ECOLOGICAL EVALUATION

LOCATION: Kashvik Bay-Shelikof Strait SITE: \_\_\_\_\_ OBSERVER: B. Martin  
 LOCATION PREFIX: KA SEG. NO.: 3 LENGTH: 9500 (M)  
 DATE: 7/20/89 TIME (HHMM): 1000-1315 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 Contin. Y/☒ <sup>Locally</sup> Dense ☒ Y/N Sparse Y/N None Y/N

Dense algae on rocky headlands. Mats on rocks near tidal flat.

**Mytilus** (Mussels): Patchy ☒ Y/N Contin. Y/N <sup>Locally</sup> 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 Contin. Y/☒ 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 Contin. Y/☒ Dense ☒ Y/N Sparse Y/N None Y/N

Very abundant in the rocky areas north and south.

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

Few encountered. Most in lower ITZ (probably *Notacmaea scutum*)

OTHER OBSERVATIONS: Broad tidal flats containing amphipods, bivalves  
(*Saxidomus*, *Hiatella*, *Protothaca*)

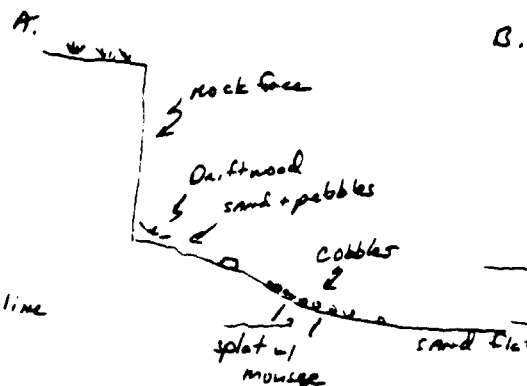
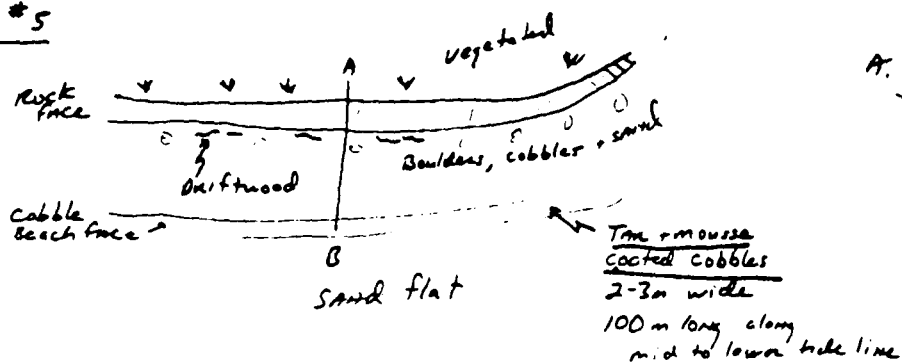
CLEANUP PRECAUTIONS: Numerous bears on tidal flats. Avoid depositing any fat or waste  
on tidal flats. Avoid foot traffic on Healthy mid and low ITZ. These areas  
generally don't require cleaning anyway.

MAMMALS: Otters \_\_\_\_\_ Harbor Seals \_\_\_\_\_ Sea Lions \_\_\_\_\_ Whales \_\_\_\_\_  
 Other Bears

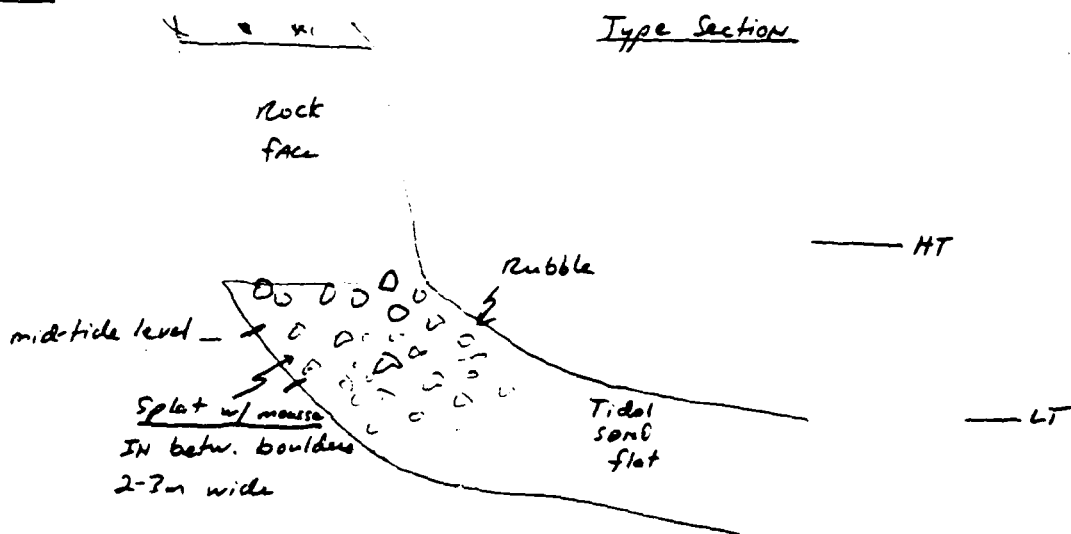
BIRDS: Gulls, Sandpiper

GENERAL OBSERVATIONS: Very large tidal flat. Rocky intertidal areas  
at beginning and end of section. Stream (probably anadromous fish) entering

map #5

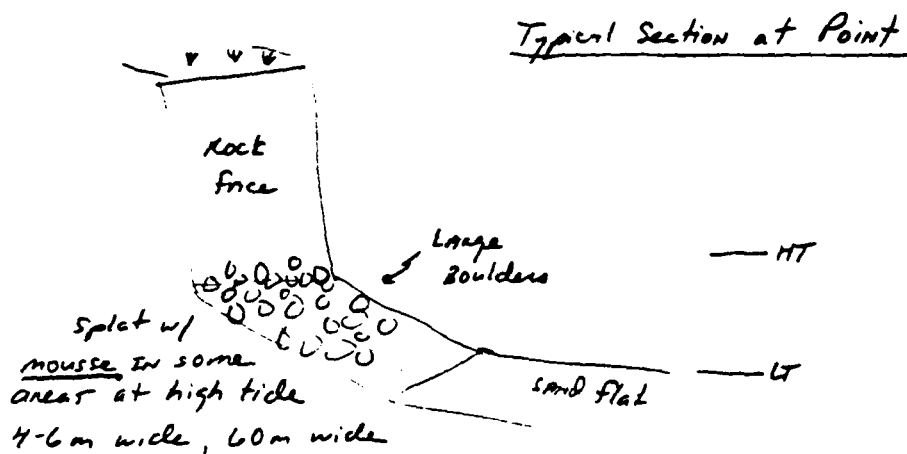


map #6

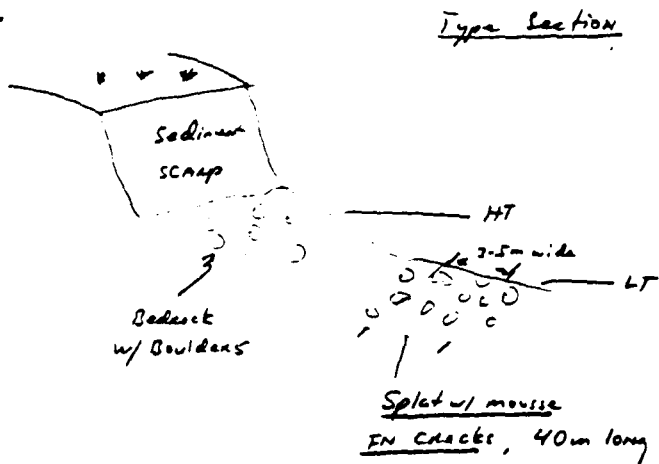


Sporadic oiling along  
Section #6 of the  
topographic map.  
Length = 600m.

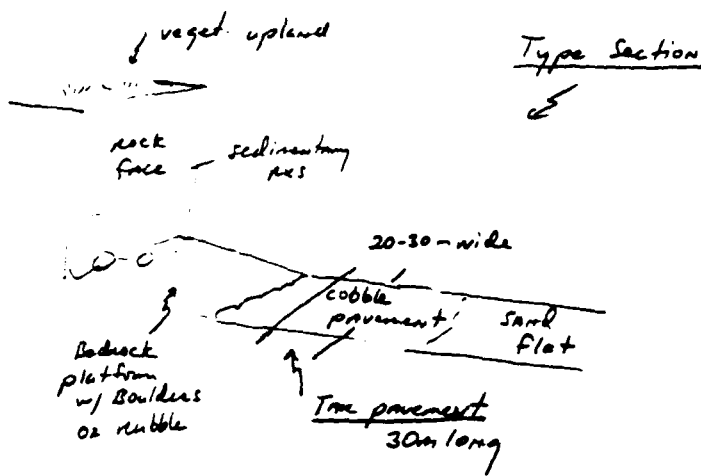
map #7



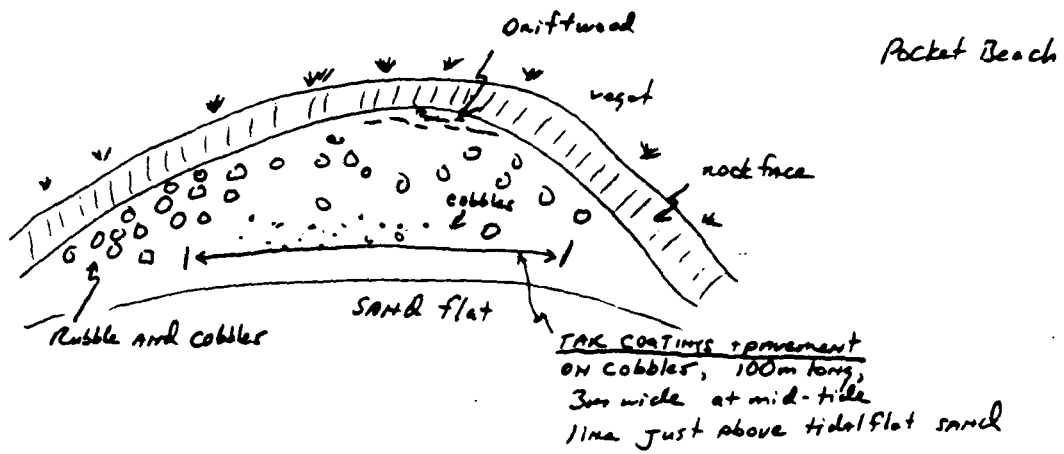
Map # 1



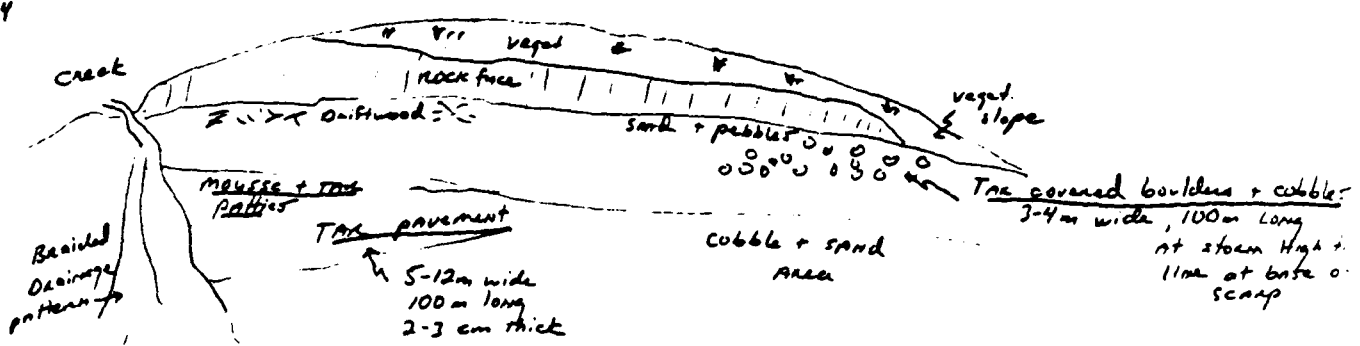
Map # 2

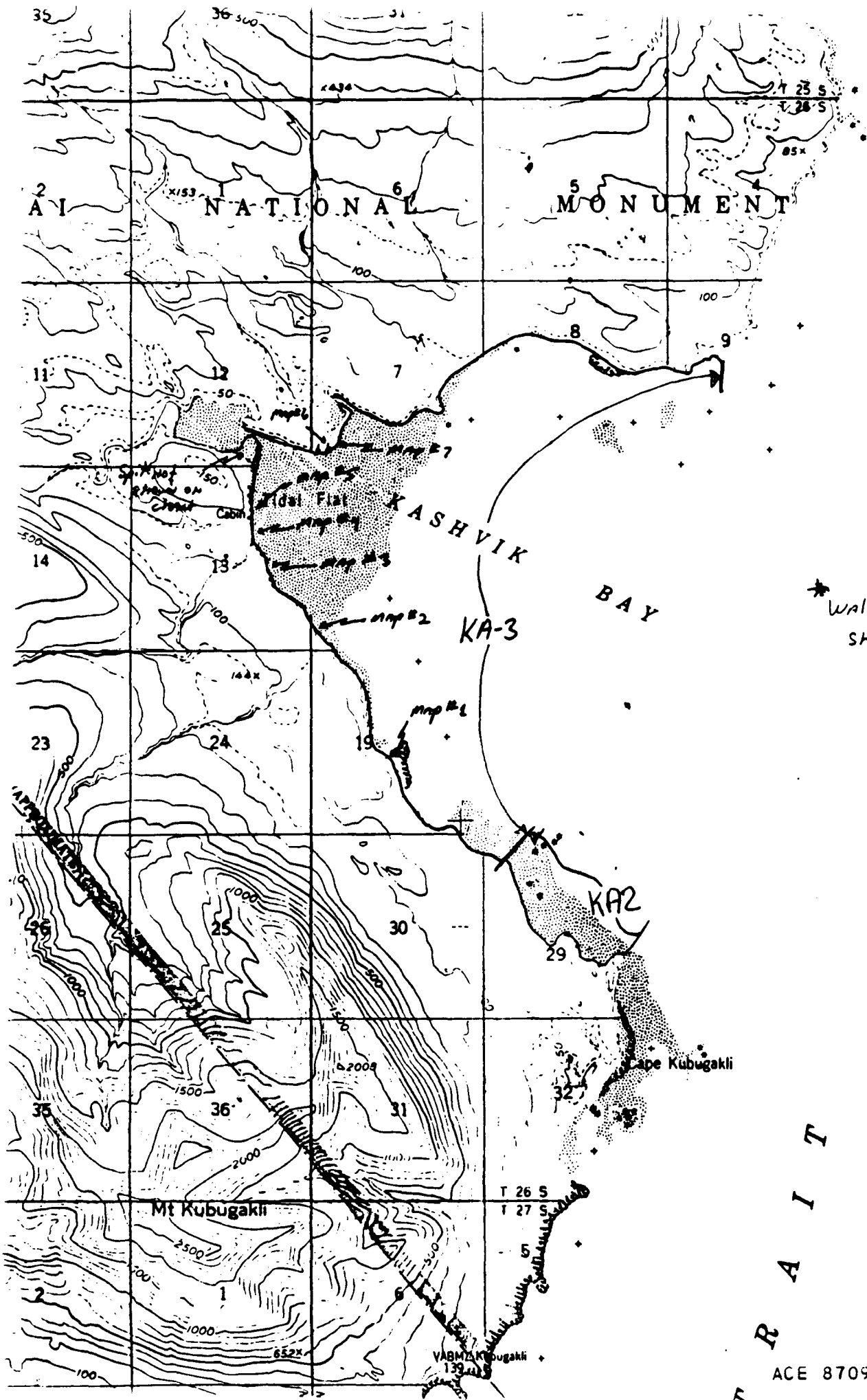


Map # 3



Map # 4





K-9-35

★ Walked entire shoreline

55

T  
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T

ACE 8709219-1/L

5 - KODIAK ~~SEA~~ SCAT -  
K9-36

7

COMPLETE MAR - 8 1990

ACE 7963998

(version 6/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Block (see enclosed map): K9-36

Includes Shoreline Segments: KA-1

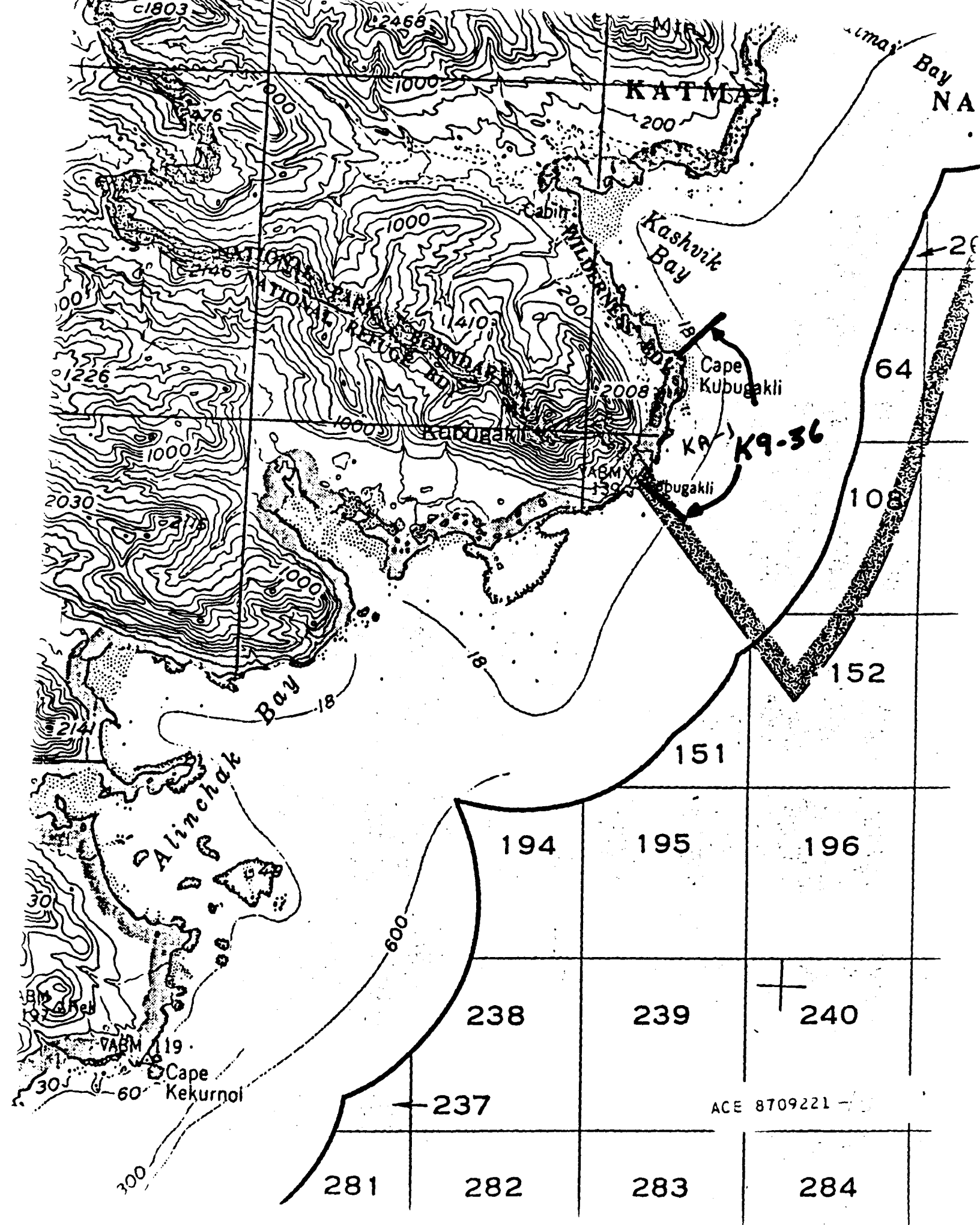
Location: Cape Kubugakli

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





(version 5/02/89)

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.

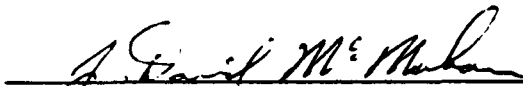
Priorities/Considerations: Class 5-A

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  
 Surveyed From: Foot/Boat/Helio/Plane

Observer: DUNCAN M. Fitzgerald  
 Weather: Sun Cloud/Rain/Snow/Fog

CATION

Location: CAPE KUBUGAKLI Segment ID: K-9-36-KA-1  
 Segment Length: 4 km m. Access: Vehicle/Boat/Barge/Helio/Float Plane  
 Access Restrictions: Boulder Intertidal area

SHORELINE

Shoreline Type: SPI/BEA/COV/HLD/STRT Slope: Lo Med Hi Vert  
 Wave Exposure: High/Med/Low  
 Sediment: B 25 % / C 20 % / P 5 % / G&S 15 % / M % / R 35 %

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 2% SU/SP/H/M/L H/M/L/VL  
 Sporadic % of Segment 20% SU/SP/H/M/L H/M/L/VL

| Oil    | Length(m)  | Width(m)   | Thickness >1cm:     | cm | SU/SP/H/M/L |
|--------|------------|------------|---------------------|----|-------------|
| Light: | <u>80</u>  | <u>2-4</u> | Penetration/Rework: | cm | SU/SP/H/M/L |
| Dark:  | <u>800</u> | <u>2-4</u> | Burial Depth:       | cm | SU/SP/H/M/L |
| Rate:  |            |            |                     |    |             |
| Other: |            |            |                     |    |             |

Contamination Potential: High/Medium/Low  
 If Debris Oiled? Y/N Amount: H/M/L/VL SU/SP/H/M/L Type: Diffused

IL MORPHOLOGY

|                |             |             |
|----------------|-------------|-------------|
| Coiled Oil:    | <u>3</u> %  | SU/SP/H/M/L |
| Free Oil:      | <u>3</u> %  | SU/SP/H/M/L |
| Flattered:     | <u>67</u> % | SU/SP/H/M/L |
| Coated:        | <u>20</u> % | SU/SP/H/M/L |
| Incakes/Balls: | <u>10</u> % | SU/SP/H/M/L |

H/M/L/VL  
 H/M/L/VL

Preliminary Cleanup Est.  
NONE

Total TYPE A: \_\_\_\_\_ m  
 Total TYPE B: \_\_\_\_\_ m  
 Total TYPE A/B: \_\_\_\_\_ m

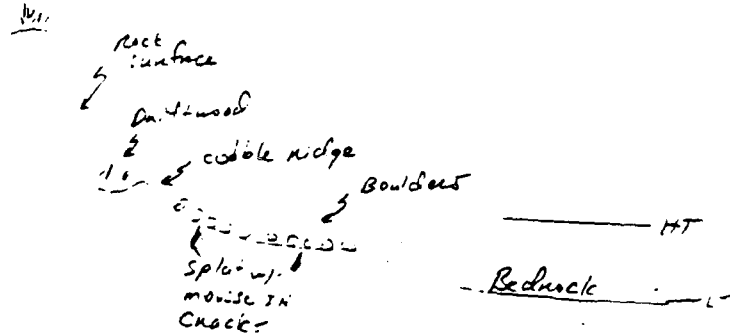
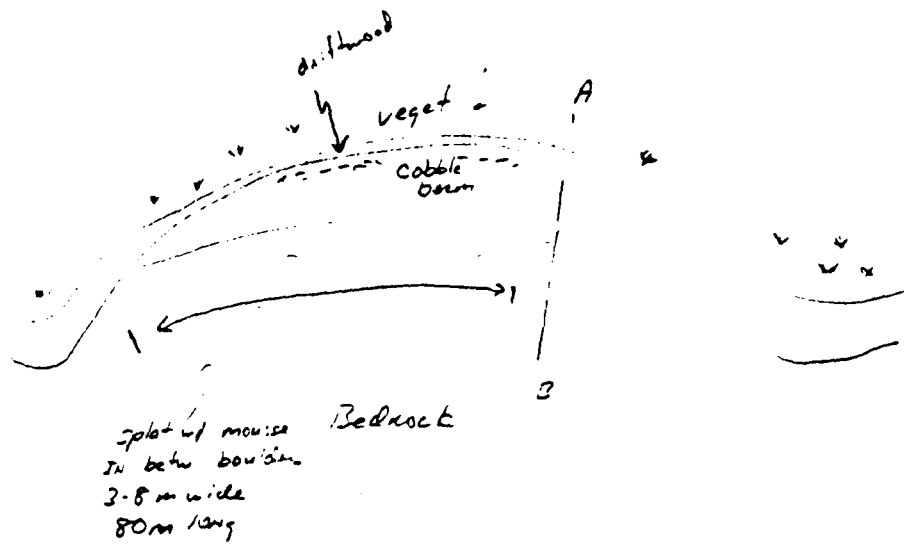
IL WEATHERING

|                  |             |             |
|------------------|-------------|-------------|
| Sh:              | <u>87</u> % | SU/SP/H/M/L |
| Mousse:          | <u>3</u> %  | SU/SP/H/M/L |
| Gathered Mousse: | <u>10</u> % | SU/SP/H/M/L |
| Phalt Mousse:    | <u>87</u> % | SU/SP/H/M/L |

REMARKS

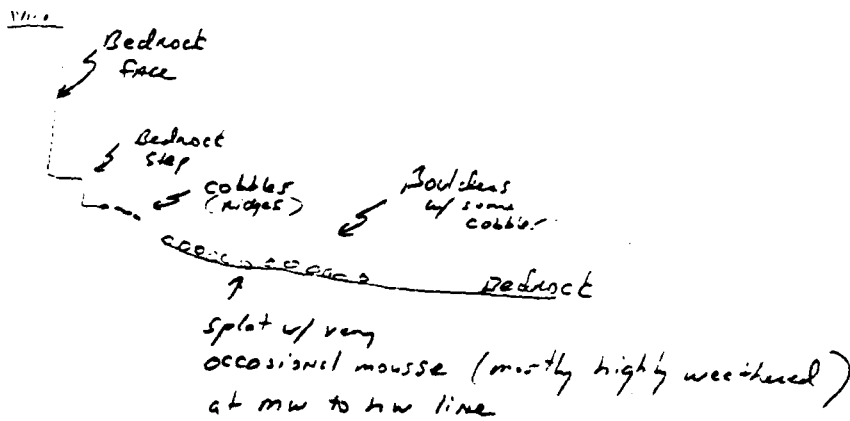
Please see accompanying maps for details of oil conditions

Map #1



MAP #2

(Typical Profile)



- Overall shoreline is characterized by bedrock headlands and cobble + boulder pocket beaches. Oiling occurs mostly at headland areas. Very light oil conditions.

## ECOLOGICAL EVALUATION

LOCATION: Kelma: National Mon. SITE: Cape Kubugaki OBSERVER: B. Martin  
 LOCATION PREFIX: KA SEG. NO.: 1 LENGTH: 4507 (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 mousse  
 SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

## LIVE BIOTA

Fucus (algae): Patchy Y/N Contin. N <sup>Generally</sup> Dense N <sup>Locally</sup> Sparse N None Y/N

Algae abundant in lower ITZ. Somewhat sparse at Cape Kubugaki.

Mytilus (Mussels): Patchy N Contin. Y/N <sup>Locally</sup> Dense N <sup>Locally</sup> Sparse N None Y/N

Mytilus very abundant in reef areas in mid to low ITZ. Sparse at Cape Kubugaki.

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

Very abundant from upper to lower ITZ. Approximately equal numbers of B. glandula and B. cariosus.

Littorina

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

Very abundant mid to low ITZ.

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

Sparse but generally distributed throughout 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. Clean-up not recommended due small areas of oil (mostly tar splat) 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.

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