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[Shoreline evaluations, 1989].

Volume 24

Kodiak section 2

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KODIAK
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SECTION 2

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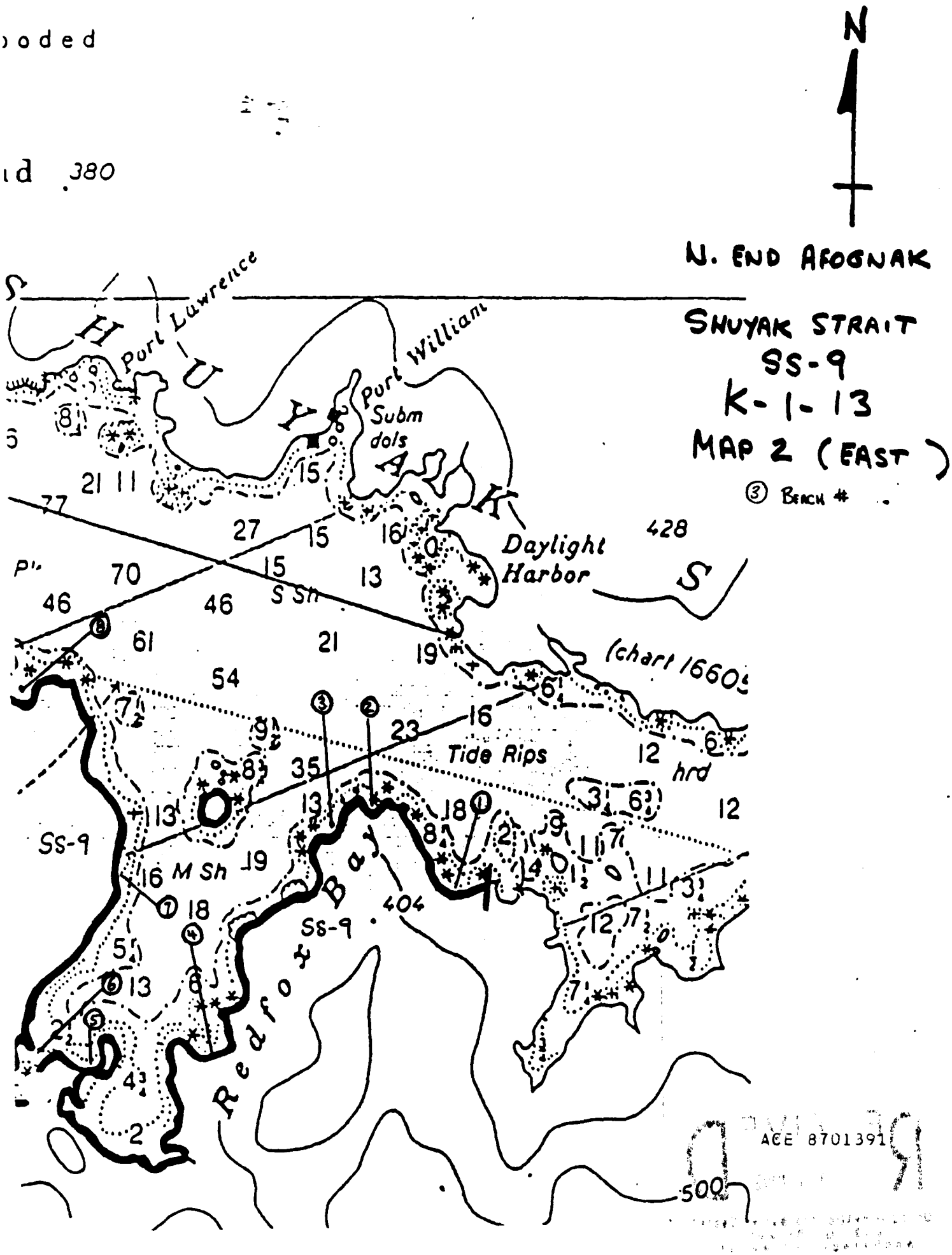
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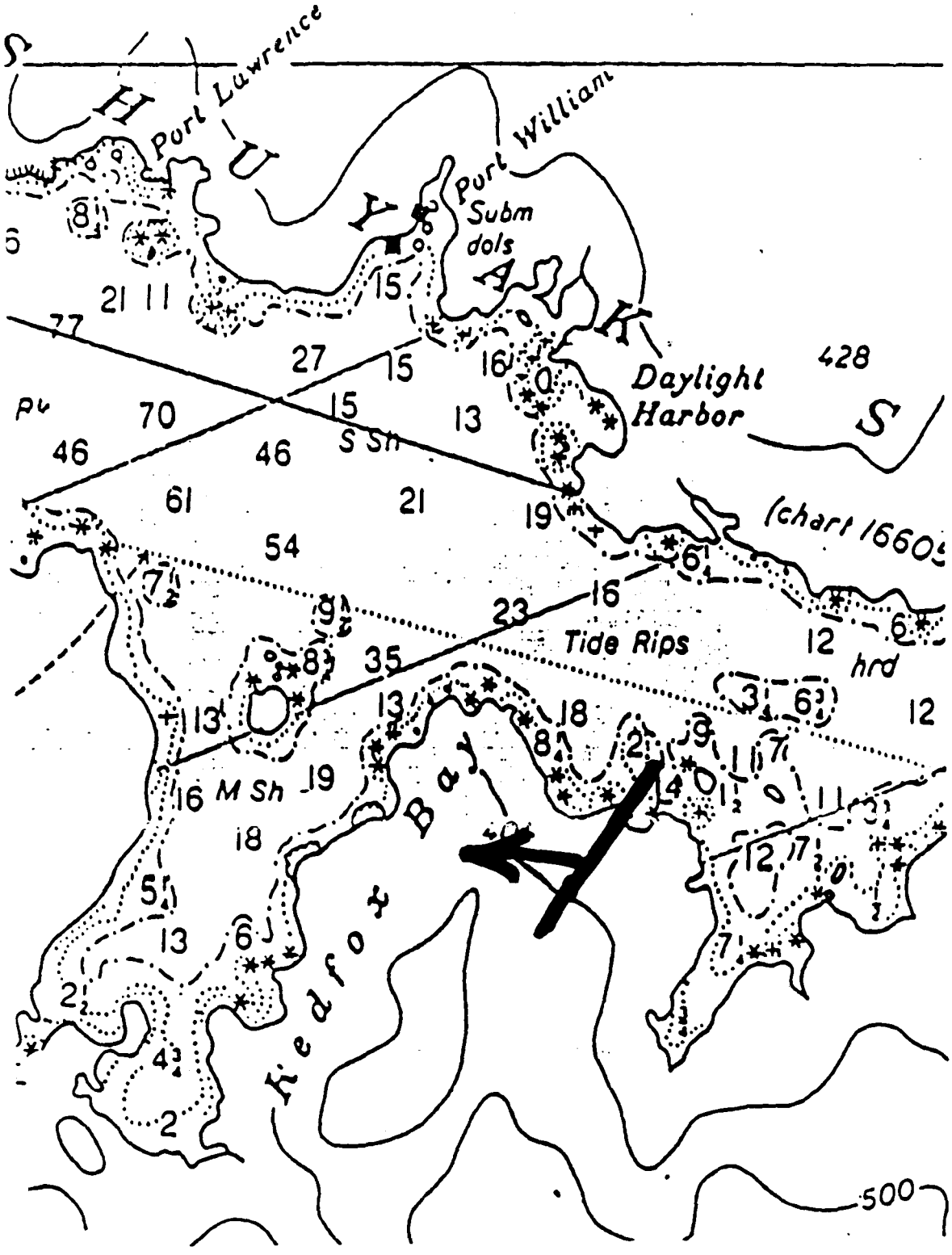
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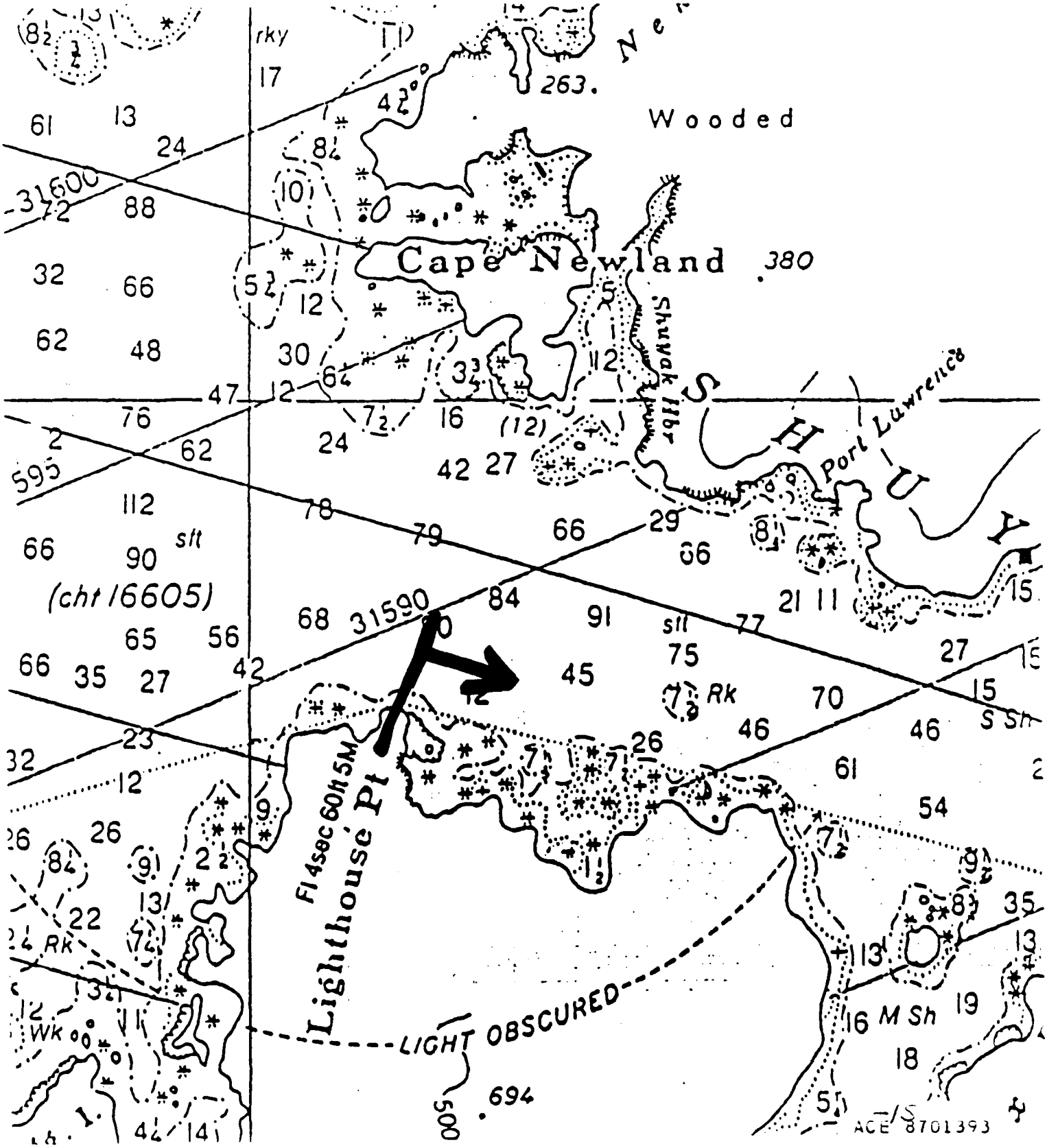
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(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/16/89 SHORELINE SEGMENT K1-12-SS-9

LOCATION: (see enclosed map) Shuyak Straits - Afognak Island

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 7/03/89

Recommended Cleanup Activity(ies):

-Manually remove debris - laden mousse balls and patties from upper tidal zones at map locations 6 and 12. Both areas could be cleaned by a small team consisting of five crew members in one short day.

Priorities/Considerations: Class 5-A

-Very low priority segment - collect mousse patties from anadromous stream site berm.

Ecological Constraints (from site survey):

-Restrict access to immediate vicinity of anadromous stream at beach 6.

-May have to notify ADF&G 24 hrs. prior to cleaning.

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.

A. Paul McMahon Date: _____

State Historic Preservation Officer *

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

T/S
ACE 8701394

SHORELINE OIL EVALUATION FORM - KODIAK

Date: 7/3/89 Time: 07:30 - 12:20 Observer: G. MACDONALD.

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

LOCATION SHUYAK STRAITS -
LOCATION N. AFOGNAK IS. SEGMENT I.D. SS - 9

LENGTH OF SHORELINE SEGMENT: 17,700 m

ACCESS: Foot/Vehicle/(Boat)/(Barge)/Helio/(Float Plane) - Redfox Bay only.

SHORELINE:
Shoreline Type: SPI/(BEA)/COV/(HLD/STRT) (pockets) Slope: (LANG/HANG/VER)

Wave Exposure: (High)/(Med/Low) - Redfox Bay area - Lighthouse Point area.

Sediment: B 10 % / C ___ % / P * % / G * % / S * % / M 5% / R 70 %

Drift Debris on Beach: (Yes)/No 15% (Supra)/Upper/Mid/Lower Type SEAWEED LOGS & SOME

OIL
Degree of Oiling: Heavy/Moderate/Light/(No Oil)/Unobserved/Very Light (RARE, TRACE) SEE MAP

Total Area of Beach Impact: SU / SP / H / M / L SEE MAPS FOR TRACE LOCATIONS

OIL DISTRIBUTION
Continuous: Y/N Segment % _____ No. Bands _____ Width _____

Sporadic: (Y)/N Segment % < 1 Min/Max Dia — Impact Width —

Est. Oil Thickness where > 1cm: _____ cm. SU / SP / UP / MID / LO

Est. Oil Penetration: (Depth below top seds) ϕ cm SU / SP / UP / MID / LO

Layers? Yes/(No) No# Layers _____ Oil Weathering _____ (TRACE)

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

OIL MORPHOLOGY
ONE SPAT. LOCATION 5M DIA. @ 9.
Pooled Oil ____ % "Free" Oil ____ % Spattered ____ % H/M/L/VL Sheen ____ %

OIL WEATHERING (OW)
Fresh Oil ____ % SU/SP/VP/MID/LO Choc Mousse 90 % SU/SP/VP/MID/LO

Pancake Mousse 10 % SU/SP/VP/MID/LO Asphalt Mousse TRACE % SU/SP/VP/MID/LO

Tar Formation ____ %

Comments:

@ SEGMENT HAS ONLY 3 TINY AREAS WHERE OIL WAS SEEN TWO OF WHICH COULD BE TIDIED BY A SMALL CREW IN AN EASY SHORT DAY —

LOCATION 6 IS SHELTERED

LOCATION 12 IS VERY EXPOSED. @ V. HIGH ENERGY WIND & WAVE.

ACE 8701395

Map/Aerial photo marking segment boundaries ATTACHED

VTR: Y/N Tape Number(s) None

Photography: Y/N Roll Number(s) SMS-18 (7/3/89)

Sample Numbers Collected: None

7/3/89 SEGMENT SS-9 (KI-12)

07.30

1. long mod ∠ cob-peb, mod. exposed beach, clean; grades into low-mod ∠ bldr-cob shore
1 small old mousse blob <10cm dia per 100m.

2. 100m steep ∠ cob. pocket beach w/ 2 10cm dia blobs of mousse-soaked green algae & sea grass; nat. trap. self flushing, clean.

Redfox Bay 08.10;

3. mod-hi ∠ peb-granule pocket beach; heavy log debris @ storm berm - clean save for 5 or 6 5cm tarballs @ uppr

4 long, wide (25m) gvl. beach, mod ∠, grassed supra zone w/ marshy back beach; self flooding. clean.

5. gravel-granule tombolo beach, mod-hi ∠, clean.

6. tidal flat/lagoon; trace small mousse bound grass balls - egg - hand size, as

ACE 8701397

still blobs; ~ 30% mousse 70% grass & debris; otherwise v. clean, fine grained bars and muddy gravels @ S. end of lagoon.
12 balls / 30'x30' plot.
20 balls on transect @ HWL of 50m

09.45 ↓

7. traverse area - no oil.

8. mod. < peb-gvl packer beach, mod. exposed; log & tree @ strand line; trace (< 1 per 100') debris-laden mousse balls ≈ egg size;

9. bldr-cob fringe to cob-peb-gvl packer beach; v. light mature mousse coat on cobbles; splattered area ~ 5m in dia; < 0.5mm tk; v. dk brn-blk, dessic^n crust skin; @ HWL; v. localized; rare trace choc mousse splat on fucus; abundt. log debris @ UHWL - clean, mod-high exposure. 11.15 hrs

note: end of map 1, continue on map 2.

10. deep cut bay w/ peb-gvl sand pockets rimmed @ LWL of blds. well worn cliff base; no oil; pits cut into storm berm showed no vis. oil; abundant logs @ strand line - clean. beach grades into boulder-crags @ perimeter. v. exposed.

11. mod. < pebble beach; washed by berm-entrapped marsh outflow; v. clean, 3 pits to 2FT — no vis. oil @ depth. v. exposed.

12. geomorph as before; oil as hand size debris laden mousse balls @ strand line, also actively working up beach. density ~ 1 per 50 ft². v. exposed erosional shoreline. 12.15.

clean cliff to lighthouse Pt.
12.20

End of SEGMENT.

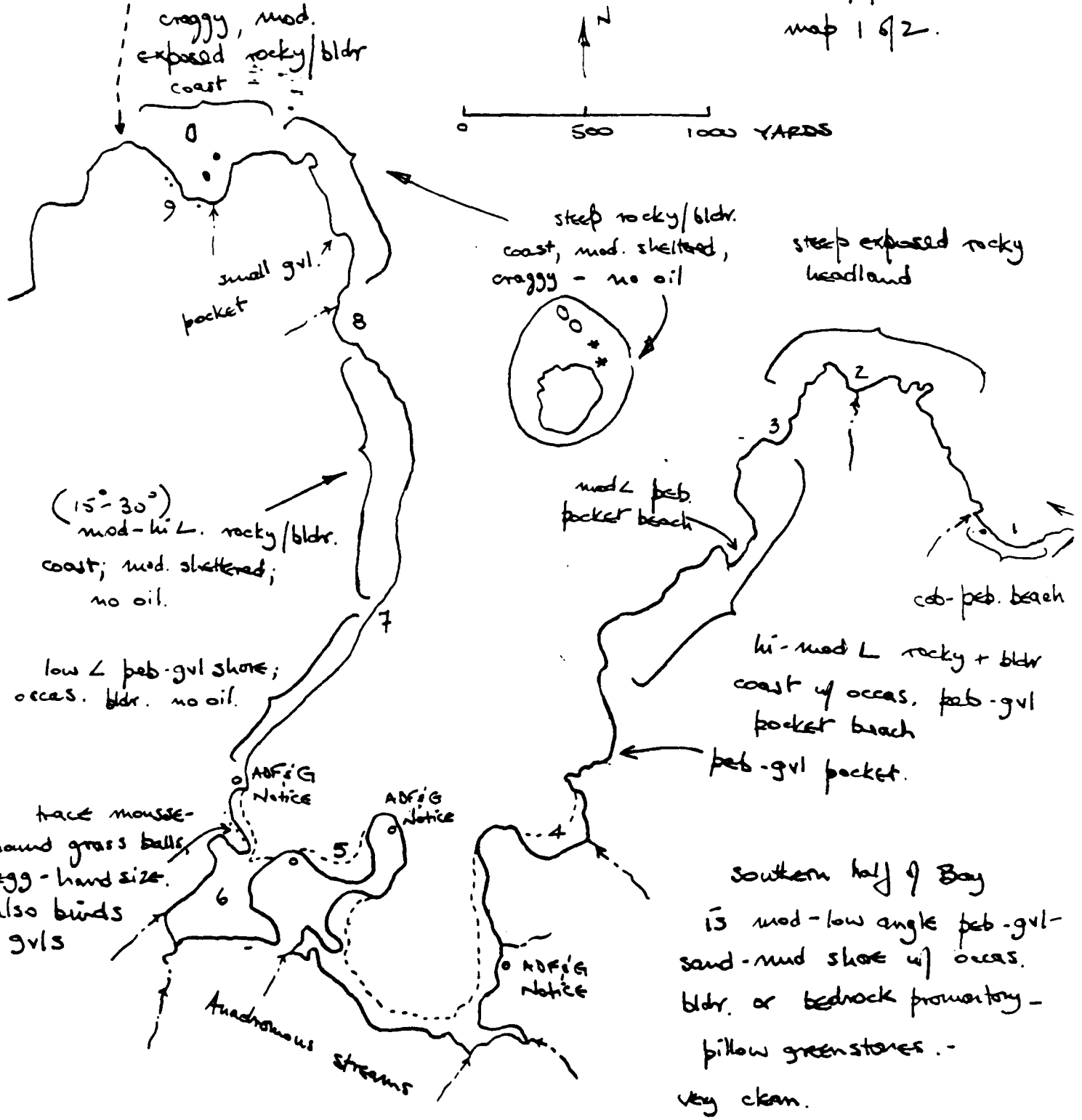
ACE 3701390

REDFOX BAY

SEGMENT 55-9

7/3/89 a.m.

map 1 of 2.



KEY

∴ TRACE - V. LIGHT OIL

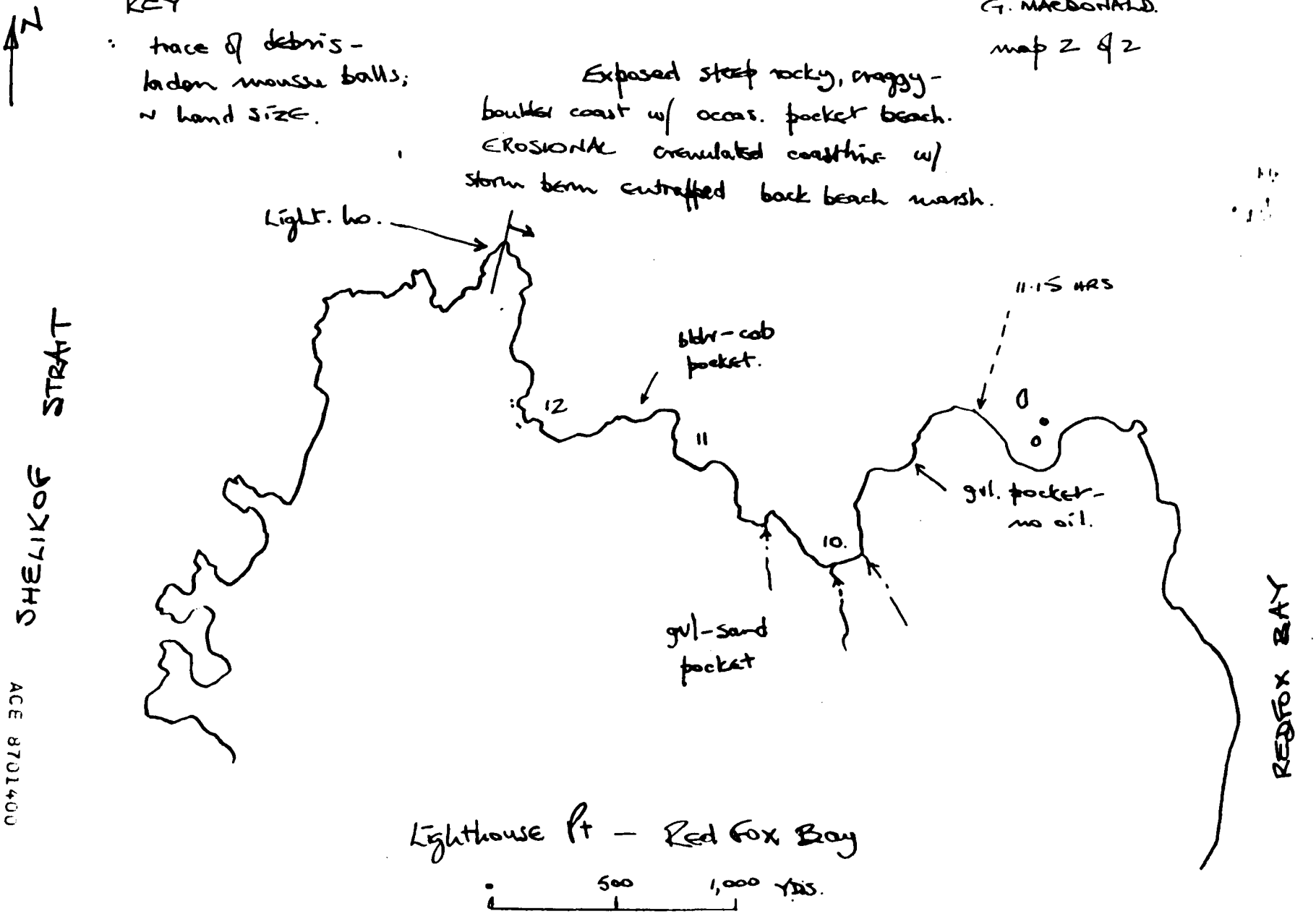
∴ extent of gravel-sand beachline

G. MACDONALD.

ACE 8701399

7/3/89 a.m.
G. MACDONALD.
map 2 of 2

KEY
· trace of debris - kelp mousse balls; ~ hand size.



Lighthouse Pt — Red Fox Bay

500 1,000 YDS.

ACE 8701400

version: 4/24/89

K1-13-SS-9

ECOLOGICAL EVALUATION

LOCATION: Afognak Is SITE: S. Shore Shuyak Strait OBSERVER: SmiBen

LOCATION PREFIX: K1-13 SEG. NO.: SS-9 LENGTH: 17,700 (M)

DATE: 7/3/89 TIME (HHMM): 0730 TIDE HT.: 0 to -1 (M)

OILED ZONE: Splash (High) Medium Low Traces of mousse on some beaches

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 rock walls and boulders. Two small patches (<1 m² ea.) oiled on Beach 9.

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

Dense on gravel beaches esp beach 11. No oiled individuals seen

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

Very dense spat on cobbles and boulders near waterline. Some indiv. up to 4" long. No indiv. oiled. Few Nucella preying on Balanus.

Littorina

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

Very dense at beach 1. Dense at all beaches - none oiled.

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

Dense in upper ITZ at several beaches

OTHER OBSERVATIONS: Macrocystis offshore, Cyanea, Aurelia and ctenophores. Tidal pools contain Tealia and small fish. Halichondria among Balanus Ulva and Ulothrix dense in lower zone. Katharina & Solaster low

CLEANUP PRECAUTIONS: Restrict access to anadromous stream at Beach 6. Notify SDF&G

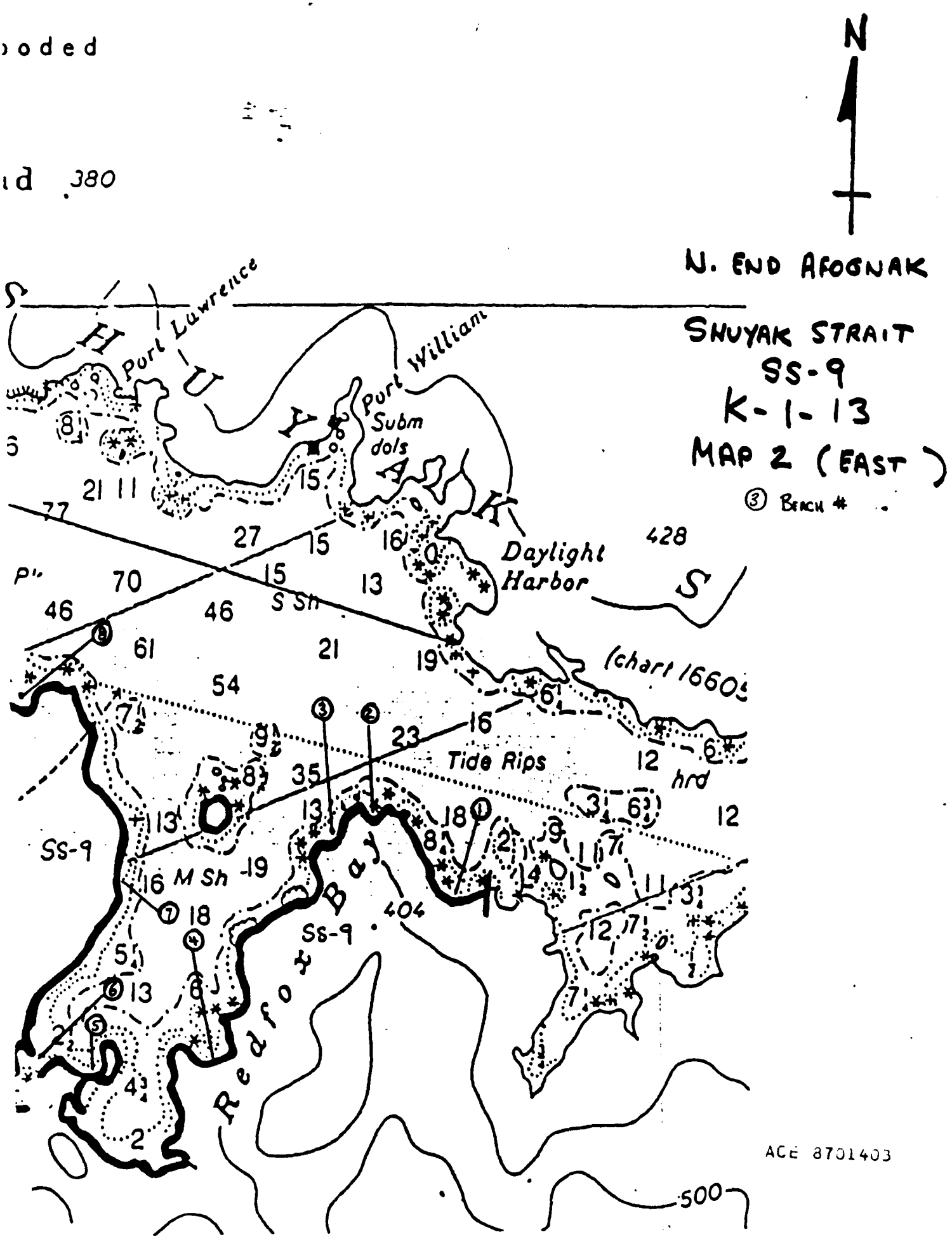
MAMMALS: Otters 10 Harbor Seals 2 Sea Lions ___ Whales ___

Other Deer tracks

BIRDS: Harlequin Ducks, Eagles,

GENERAL OBSERVATIONS: The only organisms impacted were two small Fucus dumps at Beach 9.

ACE 8701401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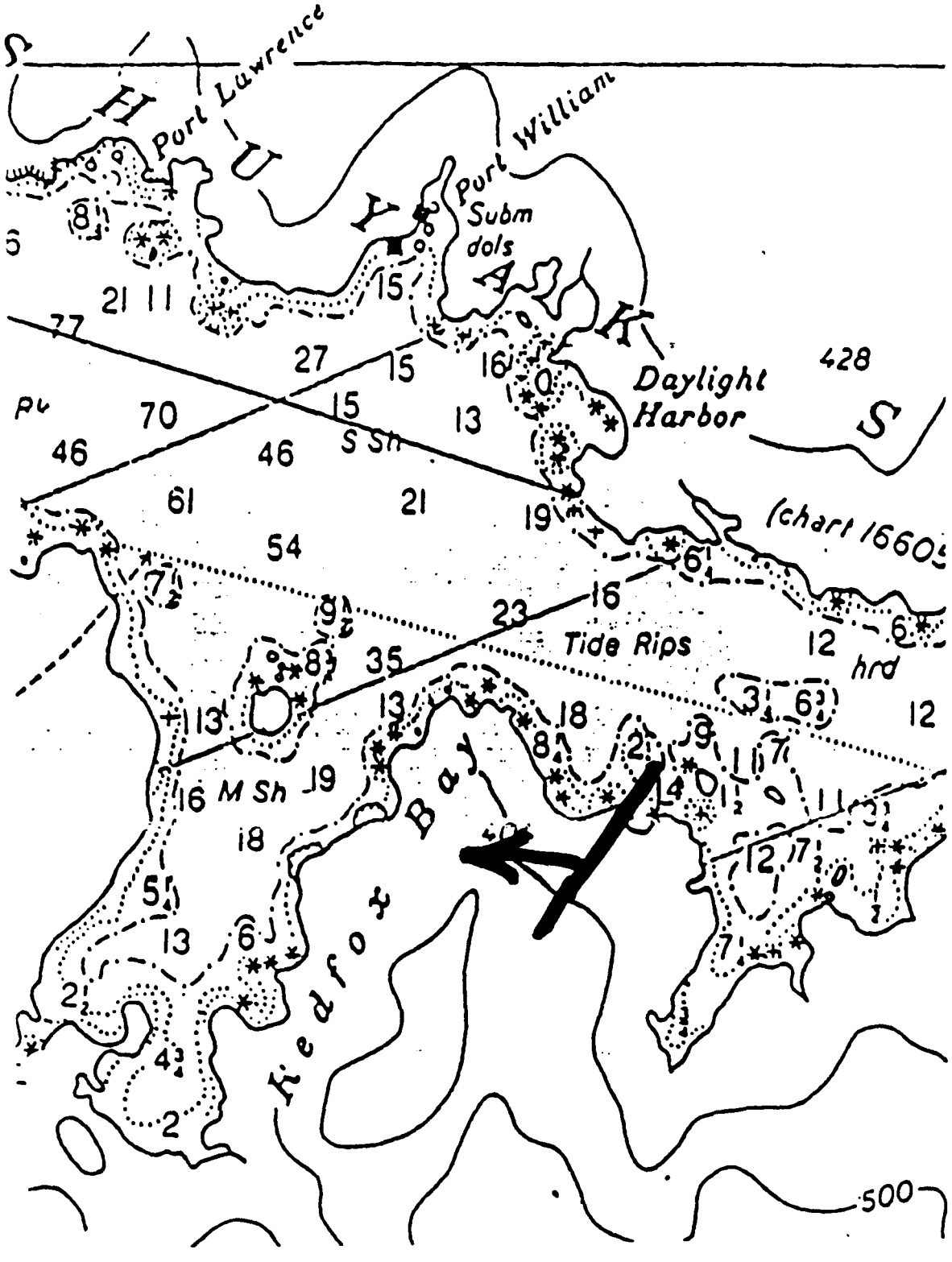
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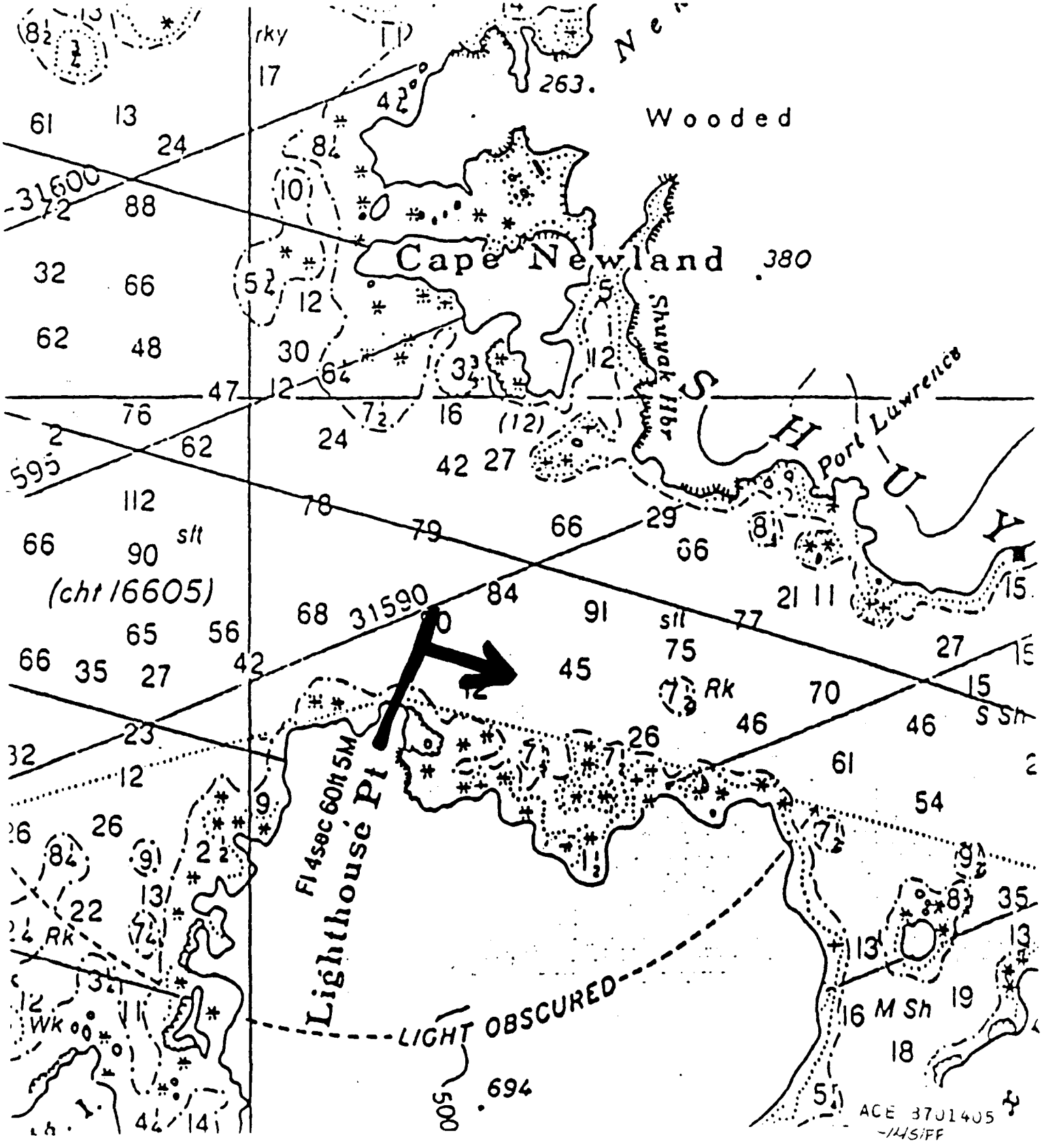
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ACE 3701405

K1-13

ACE 8643483

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/30/89 SHORELINE SEGMENT K1-13-BW-1

LOCATION: (see enclosed map) NE shore of Afognak Island, shoreline between Cape Current and Big Waterfall Bay

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 7/26/89

Recommended Cleanup Activity(ies):

-Manual removal of mousse and tar balls from beach on north side of isthmus at Cape Current. (see maps) (very light oiling)

Priorities/ Considerations: Class 5-A

Ecological Constraints (from site survey):

-Avoid eagle nests and molting water fowl that may be encountered.

Archeological Constraints (from site survey):

-Inspection by an archaeological monitor is required during cleanup at north end of segment (Cape Current area).

-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 McMahan Date: 8/6/89

State Historic Preservation Officer *

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

ACE 8701406

Version July 05, 1989)

SHORELINE OIL EVALUATION

Date: 26 JULY 1989 / Time: 0949-1315 Observer: SIMON BLUESTONE
Surveyed From: (Foot)/Boat/(Helio)/Plane Weather: (Sun)/Cloud/Rain/Snow/Fog

LOCATION

Location: NE FOG NAV; CAPE CURRENT TO CENTER OF B. WATERFALL Segment ID: K-1-13-~~HB~~ BW-1
Segment Length: 8687 m. Access: Vehicle/(Boat)/Barge/(Helio)/(Float Plane)
Access Restrictions: STEEP ROCKY CLIFFS W/ SUBMERGED BOULDERS ALONG MUCH OF EXPOSED COAST.

SHORELINE

Shoreline Type: SPI/(BEA)/(COV)/(HLD)/STRT Slope: Lo/(Med)/(Hi)/Vert
Wave Exposure: (High)/Med/Low
Sediment: B 25 % / C 15 % / P 7 % / G&S 20 % / M 3 % / 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 0 SU/SP/H/M/L H/M/L/VL
Sporadic % of Segment 20 SU/(SP)/(H)/M/L H/M/L/(VL)

	Length(m)	Width(m)
Total		
Very light:	2000	1 M (MAX)
Light:		
Moderate:		
Heavy:		

Thickness >1cm: NA cm SU/SP/H/M/L
Penetration/Rework: NA cm SU/SP/H/M/L
Burial Depth: 2 to 30 cm SU/SP/H/M/L

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

OIL MORPHOLOGY

Pooled Oil:	0 %		SU/SP/H/M/L
"Free" Oil:	0 %		SU/SP/H/M/L
Splattered:	10 %	H/M/L/(VL)	SU/(SP)/H/M/L
Coated:	5 %	H/M/L/(VL)	SU/(SP)/(H)/M/L
Pancakes/Balls:	85 %		SU/(SP)/(H)/M/L

Preliminary Cleanup Est.
Total TYPE A: 1500 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:	85 %	SU/(SP)/(H)/M/L
Asphalt Mousse:	5 %	SU/(SP)/(H)/M/L
Tar:	10 %	SU/(SP)/(H)/M/L

COMMENTS

MAJORITY OF SECTION IS HIGH ENERGY ROCKY SEA CLIFFS, WITH LOCAL CIRCULATED COVES. ONLY ONE POCKET BEACH FOUND WITH OILING WORTHY OF CLEAN UP AT NORTH END OF SECTION AND ONE AT SOUTH END OF SECTION. NOTED NATIVE CLEANUP TEAM OPERATING IN B/G WATERFALL BAY (F/V NORTHWIND)

ACE 8701407

DOCUMENTATION:

Map/Aerial photo marking segment boundaries see attached.

VTR: Y/N Tape Number(s) ?

Photography: Y/(N) Roll Number(s) (NONE AVAILABE)

Sample Numbers Collected: (NA)

7-26-89

PLAN TO SCAT K-1-13

- CAPE CURRENT TO THE EAST HEADLAND OF LITTLE WATERFALL BAY (IE: BIG WATERFALL BAY AND LITTLE WATERFALL BAY)
- PLAN TO OVERFLY WATERFALL BAY, DEPENDING ON WINDS, THEN START AT N. END AND WORK SOUTH.
- AT ~ 1000 HRS, WE'LL FIND F/V KING DAVID & DROP OFF CAROLINE AND THE USF&W OBSERVER.

0917 - DEPARTED KODIAK

SCAT TEAM 7 = S. BLUESTONE (OS)
M. MOSS (ARCH)
G. PENN (BIO)

PLUS CAROLINE TO BE CALIBRATED & DROPPED OFF W/ USF&W REP. ALSO, T. SMOEY IS USCG REP.

PILOTS ON BD2 = NATE & OFFIE

FIELD

ACE 8701409

7-26-89

BEGIN WB-1

0940 - ARRIVED AT Dolphin Bay

0945 - FLEW RECON OF CAPE & Big Waterfall Bay (Gary Penn side of Helicopter)

NOTE: ALOT OF SHORELINE INACCESSIBLE DUE TO STEEP CLIFFS

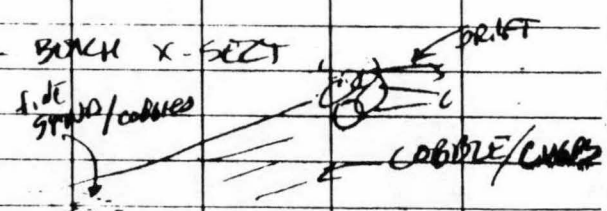
0950 - WENT TO CHECK FUEL SITE ON SHUYAK ISLAND

0955 - LANDED AT CAPE CURRENT ON ISLANDS BEACH (A)

LOCAL TAR BALLS AND SHEET V.LIGHT OILING; ALL 10'-20' BOULDERS LOCALLY BURIED MOUSSE/TARRY OIL

VERY HIGH E BEACH, WELL TO SUB ROUNDED COBBLES .1" TO 3" DOWN. HEAVIER OILING (STILL V.LIGHT AT WEST END OF BAY)

- BEACH X-SECT



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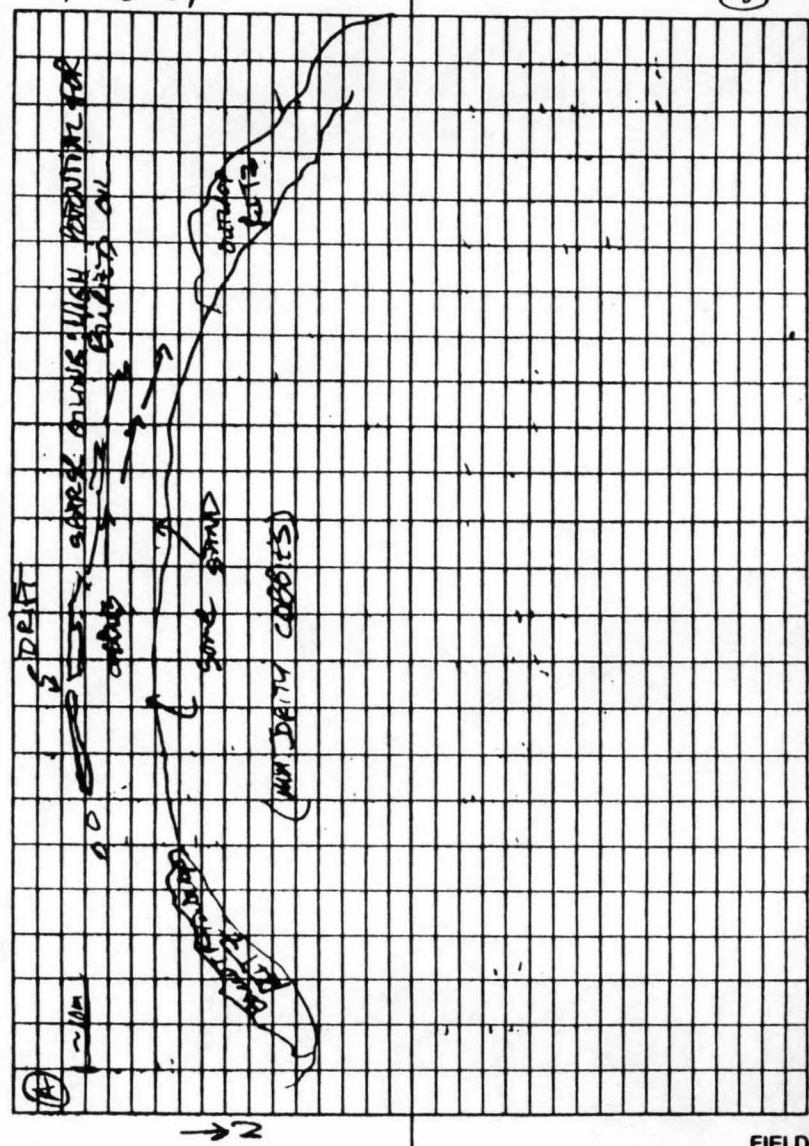


FIELD

ACE 8701410

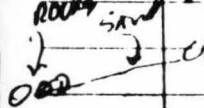
7.26.89 (4)

1020 - TOOK OFF & FLEW SKOKY & NW ALONG LONG CLIFF INTERTIDAL ZONE TO PT (B)

1045 - BACK (B)

OILING: VERY LIGHT SHEET, ON MOST MATERIAL; VERY VERY LIGHT OCCASIONAL MOUSSE PATCHES 10 ~5cm diam., approx 10m apart.

PHYSICAL: GRADATION ONE OF FINE TO MED SAND w/ M-WITZ and COBBLE/boulder (Kuker) W LITZ CORE POCKET



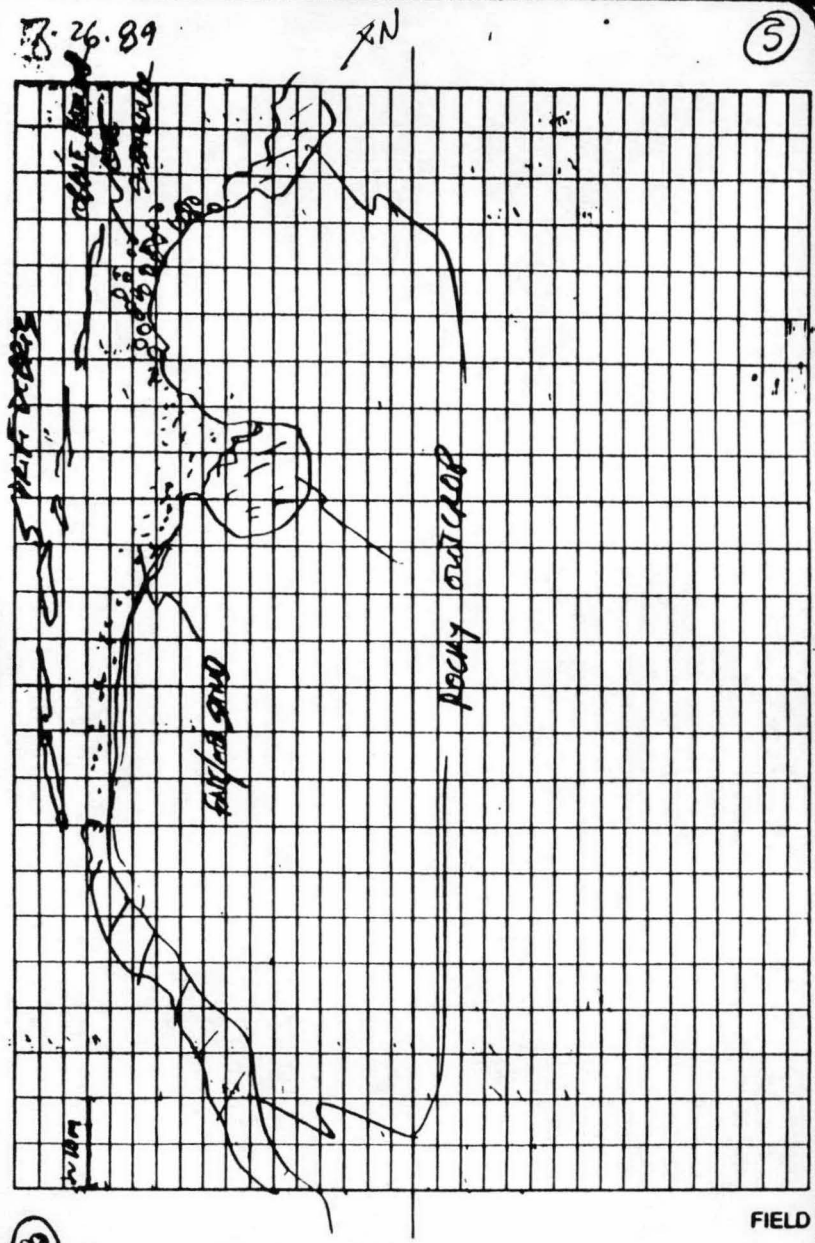
LOW ENERGY ENV.; OFF-SHORE ISLETS. SHELTERED GRADIENT.

1110 - REBOARDED, and warm.

1117 - TOUCHED-DOWN AT (C) & I CHECKED FOR OILING; V.V. LIGHT MOUSSE.

1120 DID OVERFLIGHT TO POINT NORTH OF LITTLE WATERFALL BAY - I PLANNED

7.26.89 (5)



(B)

FIELD

ACE 8701411

7 26 89 (6)

A GOOD DEAL BOAT CHURLE CHANNEL REFUGES. SAW CLEANING ALONG OF SAND

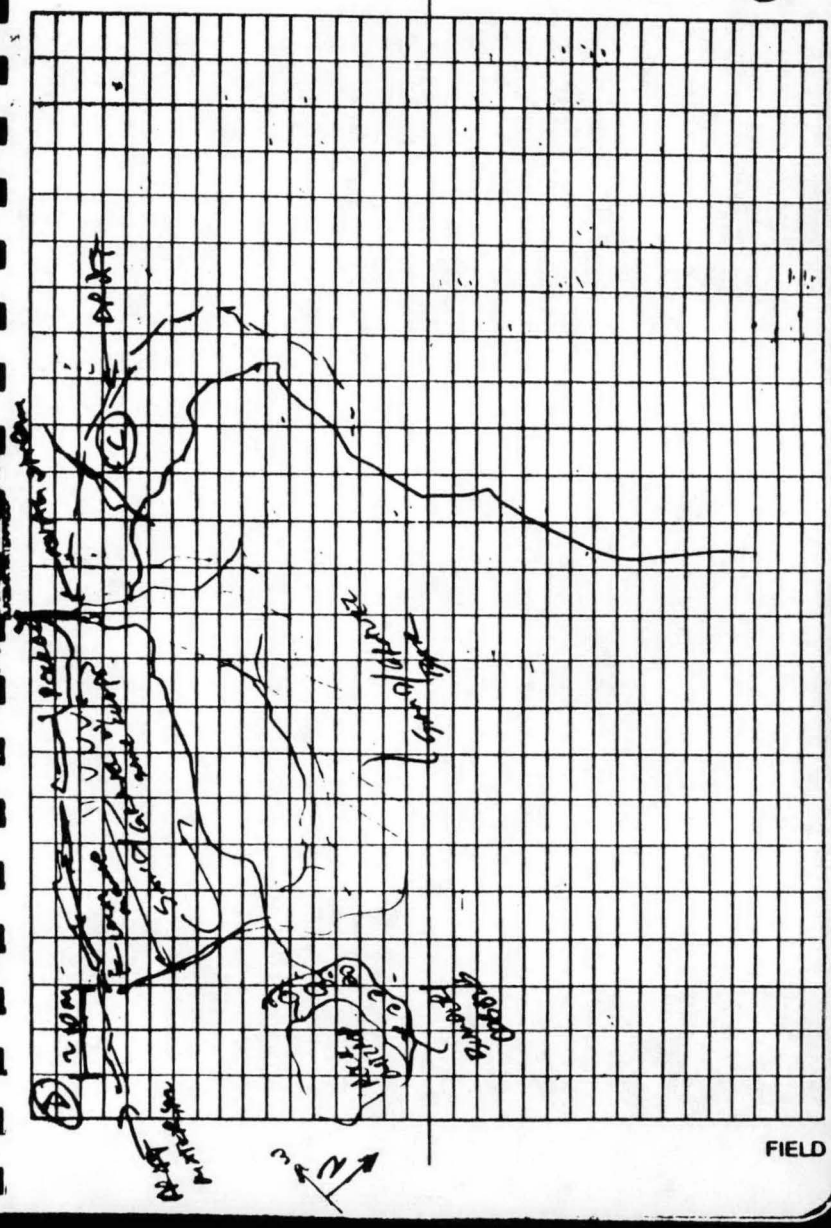
1130 - SET DOWN AT (D). EVIDENCE OF CLEANING HERE (FILLED BAG OF DEBRIS) SEE MAP:

OILING VERY LIGHT, SCATTERED MOUSSE PATCHES 10M-20M ACROSS TO 3-5 cm THICK. SOME MOUSSE ACCUM. @ drainage MOUTH (E END), SOME DRIFT W/ SPRAY

- EVIDENCE OF LOCALLY BURIED MOUSSE IN STORM/DRIFT LINE GRAVELS ABOVE WAVE CUSPS. GRAVELS ARE ~0.5-10cm, SUB ROUNDED.
- DEBRIS MAY HAVE BEEN CLEANED + REMOVED AT UPPER TIDE

PHYSICAL COAST; dissected by two drainages, High tide drift line of mostly, etc, wave cusp cobble/gravels, fine to med sand mid tidal zone, w/ coarse m-low tide RIDGE. Local flows ditches at headlands and west to western drainage.

7.26.89 (7)



ACE 8701412

7.26.89 (8)

1200 – REBOARDED CHOPPER

1210 – LANDED on E SIDE OF small peninsula that circles bay (where cleaning is ongoing)

OILING

VISUAL TO COUNTY MODERATE, WX MOUSSE and tarballs, abundant detrital/wx mousse APPARENT BURIED MATERIAL 20% SOME SHEAR ON SOFT MATERIAL & OTHER PHYSICAL DEBRIS

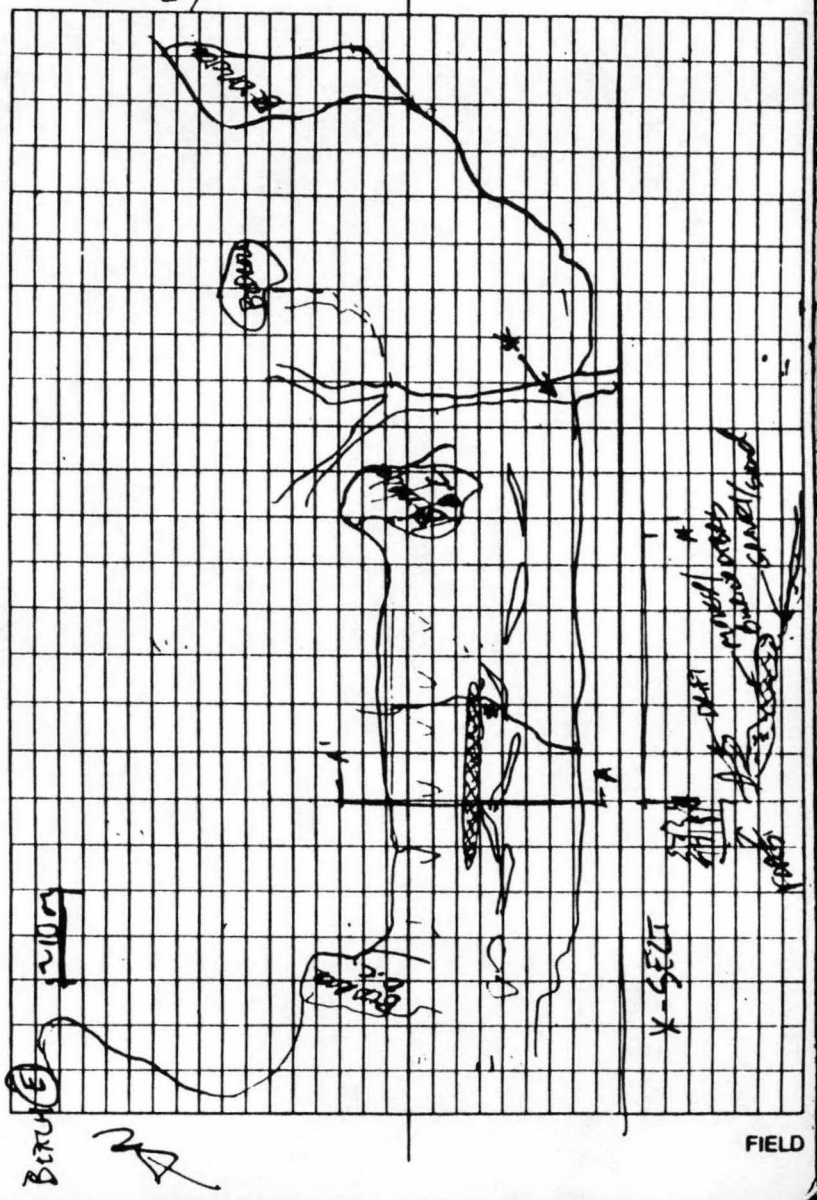
* SAW SUBTLE mousse patches in stream

→ LIGHT TO COUNTY MOD.

PHYSICAL

BROAD FLAT BEACH, LOW TO MOD ENERGY, W/ RUNNING STREAM SAND/GRAVEL DOMINANT W/ LOCAL LITTER OVERPRINT, HIGH DRIFT LINE, LOW TO GENTLE GRADIENT, CLASTS GENERALLY < 60cm, MED > 10cm

7.26.89 (9)



ACE 8701413

1-26-89 (10)

1230 - RECOVERED HELICOPTER

1250 - SET DOWN FOR LUNCH AT (F). CAROLINE WENT W/ USF&W REP TO FIND F/V DAVID JORDAN; THEN CHOPPER WILL REFUEL AND RETURN ~1.5 HRS

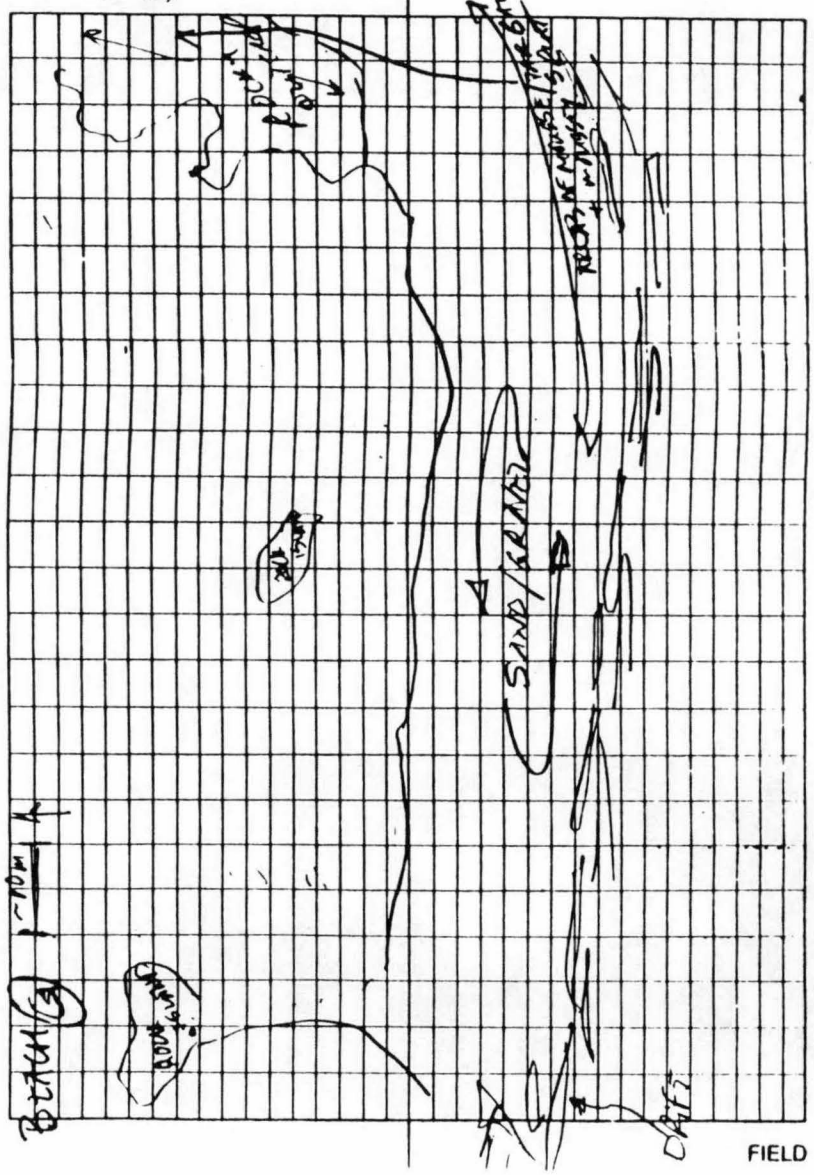
1315 - WALKED WEST TO (E) SEA CAVES; ROCKY CLIFFS FOLIATED SCHISTOSE TO PEBBLE/ INTERTIDAL & BACKSHORE ENVIRONMENT. LOCAL POCKET COBBLE/BOULDER BEACHES - SOME SOURCE SANDY AREAS

BEGIN WB-2

VERY INFREQUENT MONGE balls and TRACE SPAT. VERY LIGHT OILING.

↓ 1410 - RETURNED TO AREA (E) AND PROCEDED TO WALK TO POINT AT (G). ENCOUNTERED MORE VIGOROUS MONGE; and SPAT/ MONGE.

7-26-89 (11)



FIELD

ACE 8701414

ECOLOGICAL EVALUATION

LOCATION: Kodiak SITE: ~~Afognak~~ Big Waterfall Bay OBSERVER: G. Pena

LOCATION PREFIX: K1-73 SEG. NO.: ~~BWB~~ BW-1 LENGTH: 8687 (M)

DATE: 07/26/89 TIME (HHMM): 0950 TIDE HT.: 2.5 (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)
Generally on Boulders & Angular Rock in L.I.T.Z.

Mytilus (Mussels): Patchy (Y)/N Contin. Y/(N) Dense Y/(N) Sparse (Y)/N None Y/(N)
Generally in Larger Angular Rock & Pinnacles in L.I.T.Z.

Balanus (Barnacles): Patchy (Y)/N Contin. Y/(N) Dense (Y)/N Sparse Y/(N) None Y/(N)
most in L.I.T.Z. on cobble, Boulders, rock

Littorina
Patchy (Y)/N Contin. Y/(N) Dense (Y)/N Sparse Y/(N) None Y/(N)
Common to Dense on Boulders & Angular Rock, especially @ MITZ on headlands

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/(N)
None observed

OTHER OBSERVATIONS: Tide Pools contain Chitons, Anemones, sponges, Bryozoans & Shrimps

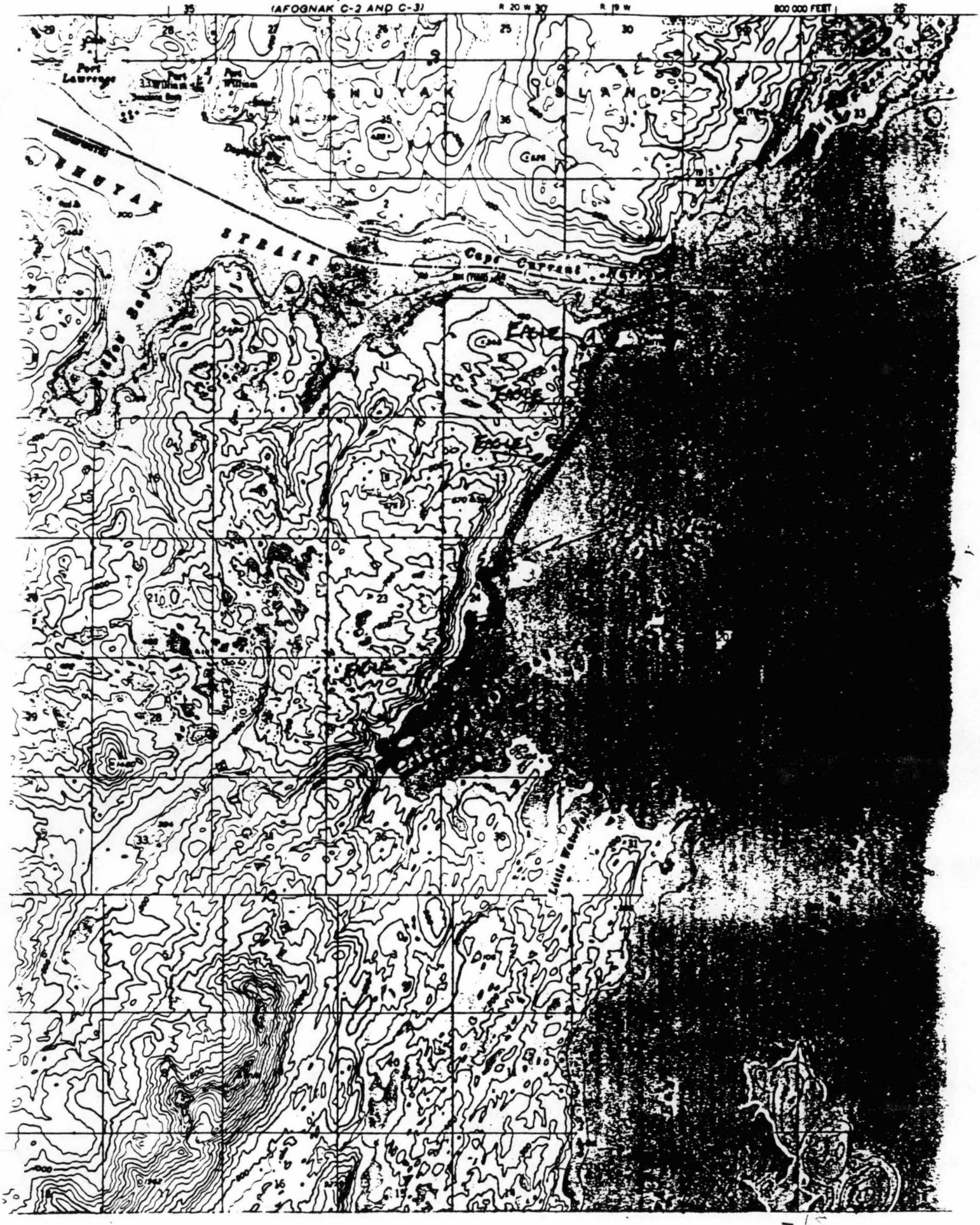
CLEANUP PRECAUTIONS: Type "A" cleanup will not significantly impact intertidal biota. Avoid eagle's nests. If molting waterfowl encountered Avoid them with skiffs. Do not Dig in stream beds.

MAMMALS: Otters → Harbor Seals ___ Sea Lions ___ Whales ___
Other ___

BIRDS: Eagles, Gulls, waterfowl

GENERAL OBSERVATIONS: ___

ACE 8701415


(AFOGNAK C-2 AND C-3)
800 000 FEET
Port Lawrence
Port William
Port William
KUYAK
ISLAND
KUIAK
STRAIT
Cape Current
Little Waterfall

ACE 8701417

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/27/89 SHORELINE SEGMENT K1-13-BW-2

LOCATION: (see enclosed map) Center of Big Waterfall Bay to point at headland of bay to east;NE Afognak Island

ADEC NO._____ SHORELINE ASSESSMENT DATE: 7/26/89

Recommended Cleanup Activity(ies):

-Manual removal of mousse and tar ball/ tarry drift material at south east beach of Big Waterfall Bay (see maps) (very light oiling with locally light areas).

Priorities/ Considerations: Class 5-A

Ecological Constraints (from site survey):

-Avoid eagle nests.
-If molting water fowl are encountered, avoid them with skiffs.

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. Daniel McMahon Date: 8/6/89
State Historic Preservation Officer *

EXXON:_____ Date:_____

FOSC:_____ Date:_____

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

+/S
ACE 8701418

ersion July 05, 1989)

SHORELINE OIL EVALUATION

te: 26 JULY 1989 Time: 1145 HRS Observer: S. BLUESTONE
rveyed From: Foot/Boat/Helio/Plane Weather: Sun/Cloud/Rain/Snow/Fog

TION
cation: SE SIDE OF BIGWATER BAY, NE AGGANUK Segment ID: K-1-13-BW WB-2
gment Length: 3200 m. Access: Vehicle/Boat/Barge/Helio/Float Plane
cess Restrictions: STEEP ROCKY INTERTIDAL TO EAST OF SECTION, TO OFF SHORE ISLETS

ORELINE
oreline Type: SPI/BEA/COV/HLD/STRT Slope: Lo/Med/Hi/Vert
ve Exposure: High/Med/Low
diment: B 5 % / C 0 % / P 0 % / G&S 65 % / M 5 % / R 15 %

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

L DISTRIBUTION

ntinuous	% of Segment 0	SU/SP/H/M/L	H/M/L/VL
oradic	% of Segment 25	SU/SP/H/M/L	H/M/L/VL

tal	Length(m)	Width(m)
ry light:	780	<1
ght:	20	1 to 3
derate:		
avy:		

Thickness >1cm: 1 to 5 cm SU/SP/H/M/L
Penetration/Rework: cm SU/SP/H/M/L
Burial Depth: up to ~30 cm SU/SP/H/M/L

lization Potential: High/Medium/Low
t Debris Oiled? Y/N Amount: H/M/L/VL SU/SP/H/M/L Type: SPLAT

L MORPHOLOGY

oled Oil:	0 %		SU/SP/H/M/L
ree" Oil:	0 %		SU/SP/H/M/L
lattered:	25 %	H/M/L/VL	SU/SP/H/M/L
ated:	0 %	H/M/L/VL	SU/SP/H/M/L
ncakes/Balls:	25 %		SU/SP/H/M/L

Preliminary Cleanup Est.
Total TYPE A: 800 m
Total TYPE B: m
Total TYPE A/B: m

L WEATHERING

esh:	0 %	SU/SP/H/M/L
ousse:	15 %	SU/SP/H/M/L
athered Mousse:	85 %	SU/SP/H/M/L
phalt Mousse:	75 %	SU/SP/H/M/L
ar:	15 %	SU/SP/H/M/L

MMENTS

MOD TO LOW ENERGY, CALM WATER BAY WITH ACCUMULATION OF DRIFT MATERIAL WITH SPLAT AND MOUSSE BALLS (LIGHT OILING) SHOWN AS PER MAP. OFFSHORE ISLETS AND ROCKY HEADLAND. PREDOMINANT OILED ARE IS HIGH TIDE DRIFT MATERIAL

DOCUMENTATION:

Map/Aerial photo marking segment boundaries see attached

VTR: Y/N Tape Number(s) ?

Photography: Y/N Roll Number(s) NA

Sample Numbers Collected: NA

ACE 8701421

7-16-89 (10)

1230 - BOARDED HELICOPTER

1250 - SET DOWN FOR LUNCH AT (E). CAROLINE WENT W/ USF&W REP TO FIND F/V DAVID JORDAN; WHEN CHOPPER WILL REFUEL AND RETURN ~1.5 HRS

1315 - WALKED WEST TO (E) SEA CAVES; ROCKY CLIFFS FORMED SCHISTOSE TO PLUTONIC INTERTIDAL & BACKSHORE ENVIRONMENT. LOCAL POCKET COBBLE/BOULDER BEACHES SOME SCARCE SANDY AREAS

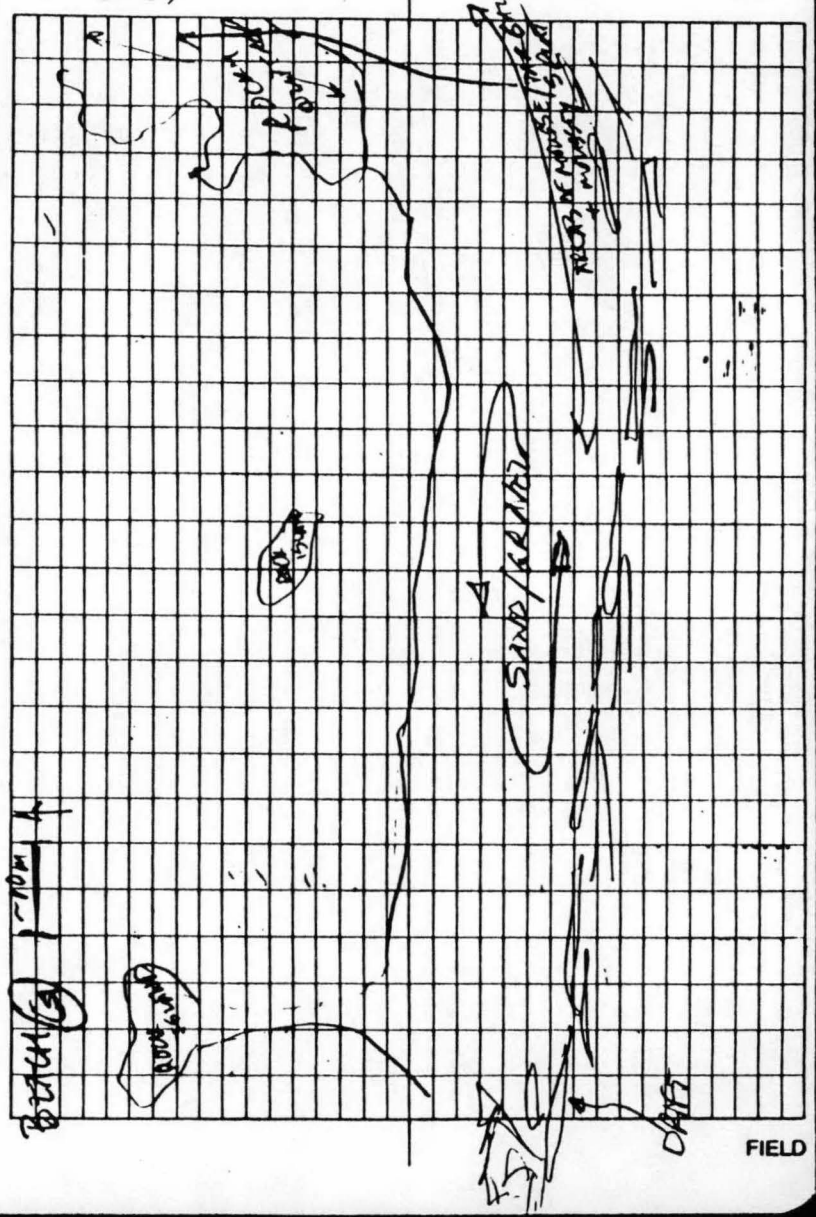
WB-2

BEGIN WB-2

VERY INFREQUENT MOUSE CALLS and TRACE SIGN. VERY LIGHT DRIZZLE.

1410 - RETURNED TO AREA (E) AND PROCEDED TO WALK TO POINT AT (G). ENCOUNTERED MORE FREQUENT MOUSE; and SIGN/MOUSE.

7-16-89 (11)



ACE 8701422

7-26-89 (12)

BEACH 47 (G)

OILING

marker balls and very splat locally (very light in drift area) approx 10-30cm patties distributed ~3-7m apart along drift/slick fringe

PHYSICAL

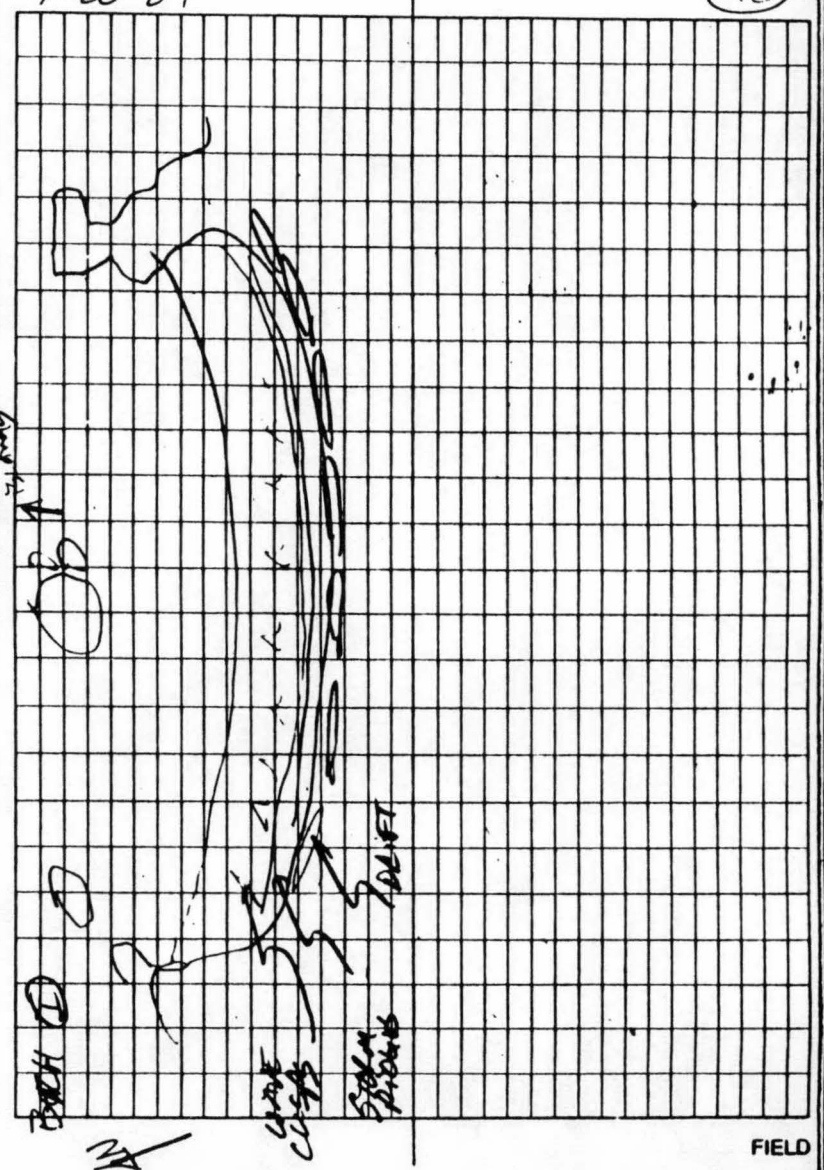
low to mod. Energy sandy/gravel beach, off shore islets / small cays. Tombolo feature in west bay area. Rocky outcrop headland/islets with low gradient beach. Backshore of beach is meadow/forest. Some small drainages trickling across intertidal locally.

BEGW WB-3

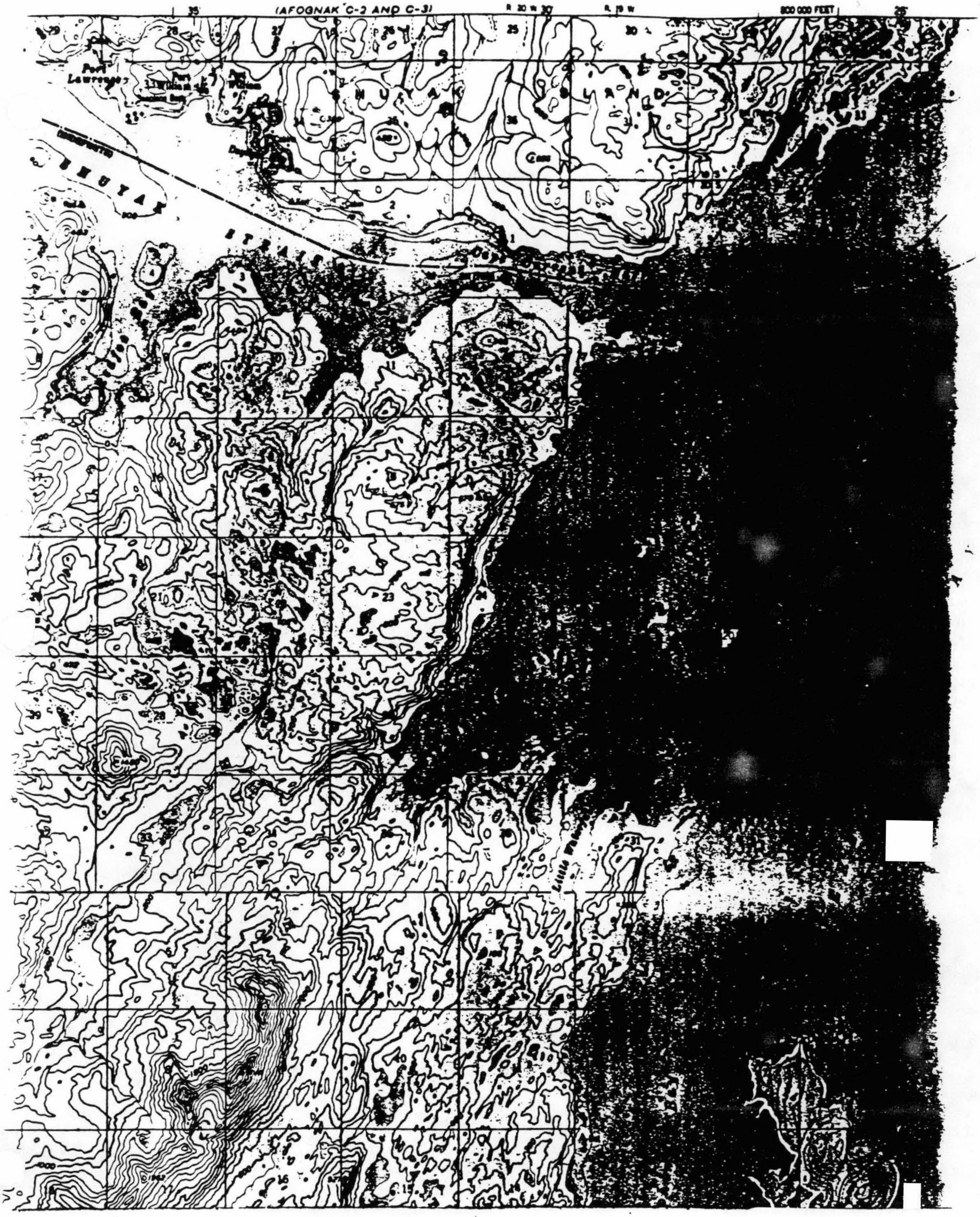
1500 - Rebearded chopper

(11) 1509 - crossed beach → no oil (flew Little Waterfall Bay)

7-26-89 (13)



ACE 8701423



ACE 8701424

ECOLOGICAL EVALUATION

LOCATION: Kodiak SITE: Afognak - Big Waterfall Bay OBSERVER: G. Penn

LOCATION PREFIX: KT-12 SEG. NO.: BW BB-2 LENGTH: 3200 (M)

DATE: 07/26/89 TIME (HHMM): 11:45 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

Generally on Boulders & Angular Rock in L.I.T.Z.

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

Generally on Larger Angular Rock Pinnacles in LITZ

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

Most in LITZ on Cobble, Boulder, Rock

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

Common & dense on boulders & Angular rock, especially at MITZ on headlands

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

None observed

OTHER OBSERVATIONS: Tide pools contain chitons, anemones, sponges, barnacles, skulpins.

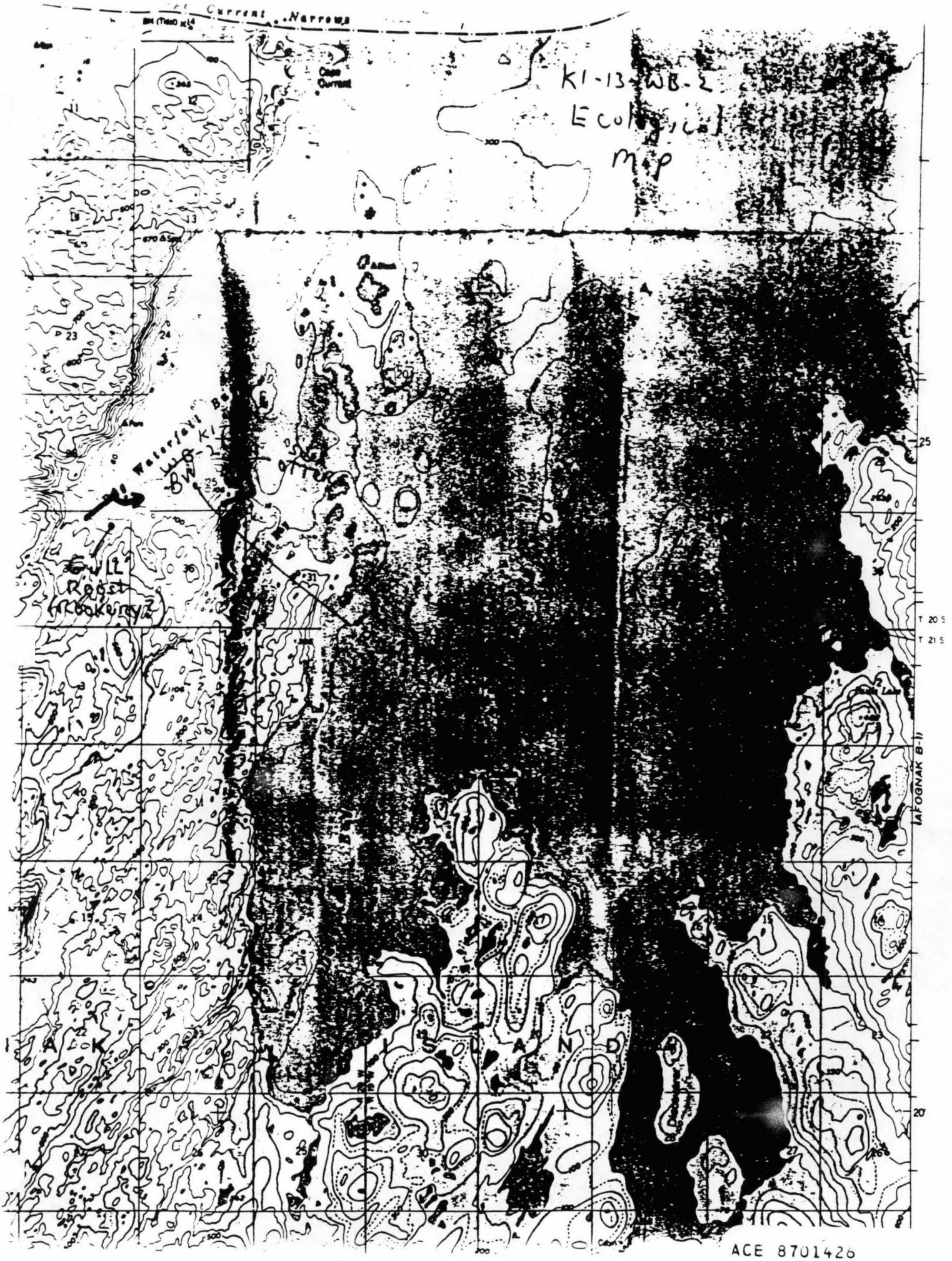
CLEANUP PRECAUTIONS: Type "A" cleanup will not significantly impact intertidal biota. Avoid eagle's nests. If molting waterfowl encountered, avoid them with skiffs.

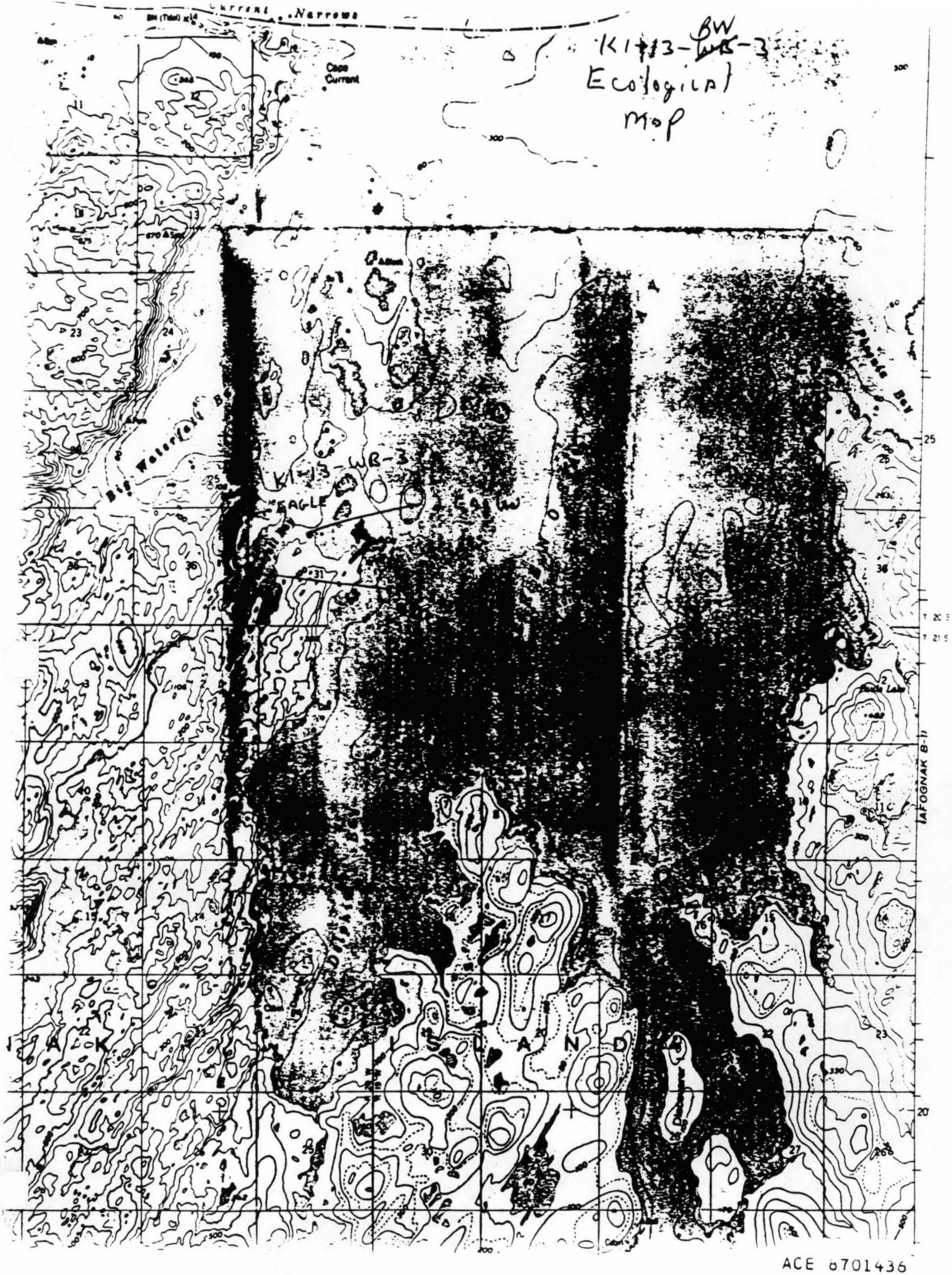
MAMMALS: Otters ↘ Harbor Seals ____ Sea Lions ____ Whales ____
Other ____

BIRDS: Eagles, Gulls, Waterfowl

GENERAL OBSERVATIONS: ____

ACE 8701425


Current Narrows
Ocean Current
Waterfall
KI-13 WB-2
Ecological
map
SWL
Report
Archeology
T 20 S
T 21 S
KODIAK ISLAND
ACE 8701426


KI-13-BW
Ecological
Map
KI-13-WB-3
EAGLE
Big Waterfowl Bay
Current Narrows
Case Current
Alitak Bay
Olga Bay
Kodiak Island
ALASKA
Afognak Island
Frazer Lake
T 20 S
T 21 S

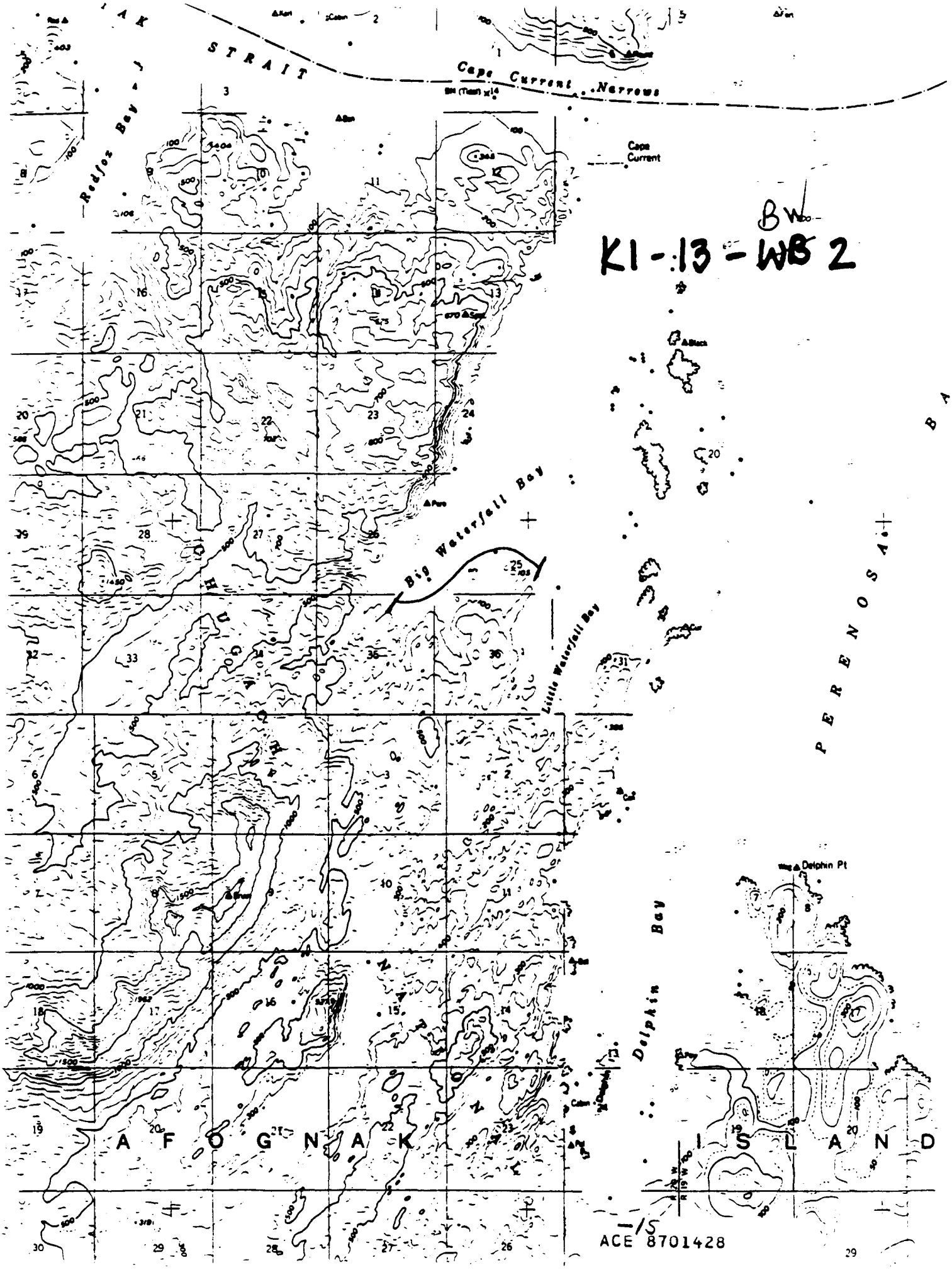
ACE 8701436

Oil Color Map

BW

K-1-13-~~WB~~-3

ACE 8701437



BW

K1-13-WB2

1/5

ACE 8701428

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/27/89 SHORELINE SEGMENT K1-13-BW-3

LOCATION: (see enclosed map) sandy/gravel cove beach located on headland of Delphin Bay, to headland on E side of Big Waterfall Bay.

ADEC NO._____ SHORELINE ASSESSMENT DATE: 7/26/89

Recommended Cleanup Activity(ies):

- -Manual removal of mousse patties and tar balls along upper intertidal area of sandy/gravelly cove located between Delphin Bay and Little Waterfall Bay.
- -If required, remove upper few inches of cobbles to access buried mousse/tar balls in high tide drift zone.

Priorities/ Considerations: Class 5-A

Ecological Constraints (from site survey):

- -Avoid eagle nests and molting water fowl encountered during cleanup.

Archeological Constraints (from site survey):

- -An archaeological monitor is required prior to during cleanup of the large bay at the east end of the 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.

J. David McNabb Date: 8/7/89

State Historic Preservation Officer *

EXXON:_____ Date:_____

FOSC:_____ Date:_____

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

ACE 8701429

version July 05, 1989)

SHORELINE OIL EVALUATION

ate: 26 July 1989 Time: 1500 Observer: S. BLUESTONE
urveyed From: (Foot)/Boat/(Helio)/Plane Weather: (Sun)/Cloud/Rain/Snow/Fog

CATION
ocation: BAYS AND ISTHMUS BETWEEN Bay West of Island AND Afognak Is Delusion Bay, Segment ID: K-1-13-WB-3
egment Length: 9150 m. Access: Vehicle/(Boat)/Barge/(Helio)/Float Plane
ccess Restrictions: LOCAL ROCKY OUTCROP INTERTIDAL HEADLAND AREAS.

SHORELINE
horeline Type: SPI/(BEA)/(COV)/HLD/STRT Slope: (Lo/Med/Hi)/Vert
ave Exposure: High/Med/(Low)
ediment: B 20 % / C 10 % / P 5 % / G&S 45 % / M 5 % / R 15 %

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 0 SU/SP/H/M/L H/M/L/VL
poradic % of Segment 15 SU/(SP)/H/M/L H/M/L/(VL)

otal	Length(m)	Width(m)		
ery light:	~1400	<0.5-1	Thickness >1cm: +0 3cm cm	SU/(SP)/H/M/L
ight:	NA	NA	Penetration/Rework: cm	SU/SP/H/M/L
oderate:	NA	NA	Burial Depth: cm	SU/SP/H/M/L
eavy:	NA	NA		

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

IL MORPHOLOGY

ooled Oil: 0 %			SU/SP/H/M/L
Free" Oil: 0 %			SU/SP/H/M/L
plattered: 35 %	(H)/M/L/VL		(SU/SP)/H/M/L
oated: %	H/M/L/VL		SU/SP/H/M/L
ancakes/Balls: 65 %			SU/(SP)/H/M/L

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

IL WEATHERING

resh: %		SU/SP/H/M/L
ousse: 35 %		SU/(SP)/H/M/L
eathered Mousse: 60 %		SU/(SP)/H/M/L
sphalt Mousse: 5 %		(SU/SP)/H/M/L
ar: %		SU/SP/H/M/L

COMMENTS ACE 8701430

AREA OF FLUVIAL INFLUENCE (BAY BETWEEN LITTLE WATERFALL & BIG WATERFALL BAY) IS very calm water environ. appeared clean. Similarly, low energy LITTLE WATERFALL BAY appeared clean. Perhaps off-shore islands have precluded much oiling of these areas. Headland to east is lightly oiled,

DOCUMENTATION:

Map/Aerial photo marking segment boundaries (see ATTACHED)

VTR: Y/N Tape Number(s) ?

Photography: Y/N Roll Number(s) N/A

Sample Numbers Collected: N/A

7-26-89 (12)

BEACH AT (G)

OILING

mousse balls and very spotty locally (very light in drift area). Approx 10-30cm patches distributed ~3-7m apart along drift/storm fringe

PHYSICAL

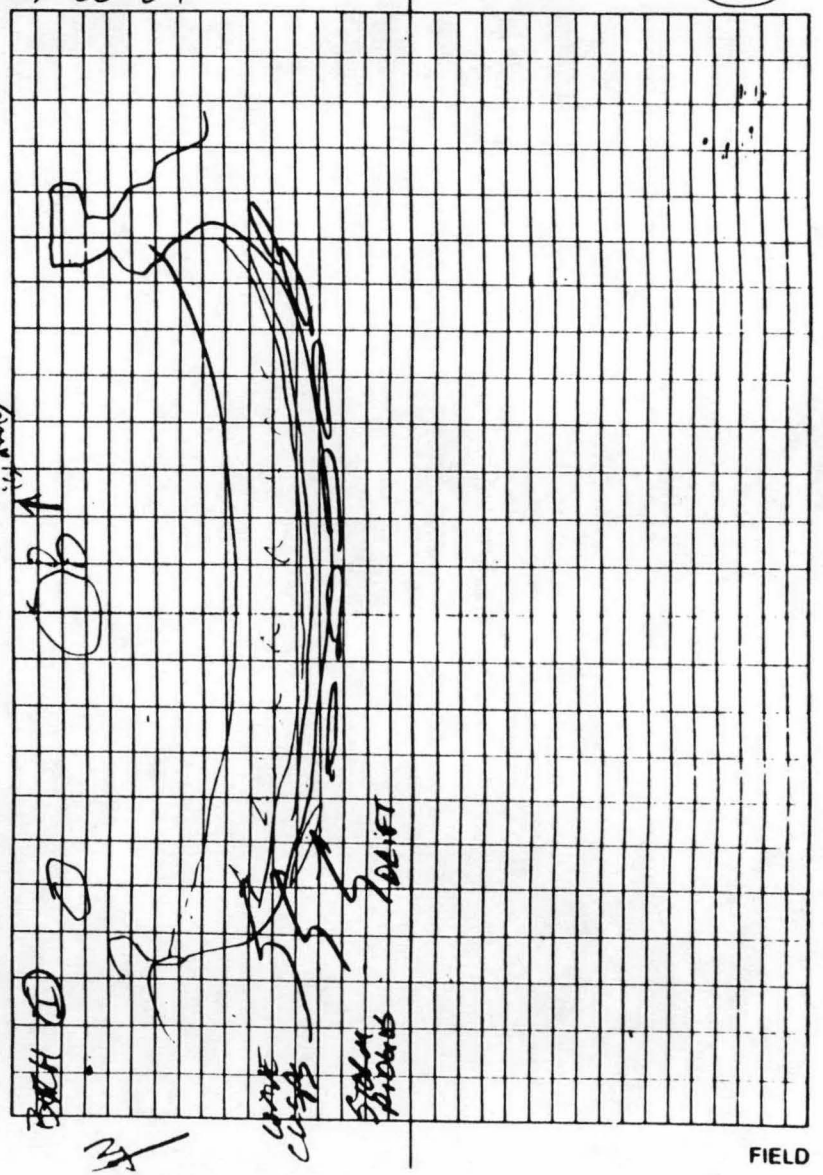
Low to mod. Energy gravel/gravel beach, w/ off shore islets / barrier bars. Tombolo feature in west bay area. Rocky outcrop headland/islets with low gradient beach. Backshore of beach is meadow/forest. Some small drainages trickling across intertidal locally.

BEGIN WB-3

1500 - Rebearded chopper

(H) 1509 - checked beach → no oil (flew little waterfall bay)

7-26-89 (13)



ACE 8701432

1520
(I) BEACH AT Headland

Oiling
moose and tar patties scattered (very light) along storm ridges and some splat in drift line. Appears ~20-30cm diam., ~ 0.5-3m intervals, locally, generally 3m-10m. Probable buried moose (evidenced locally)

Physical
Sub to well rounded cobbles, gravels and some sand in LITZ. Drift line in subtidal zone, storm ridges, and wave cusps predominate beach topo. Mod S in H-U ITZ, mod-gradual LITZ

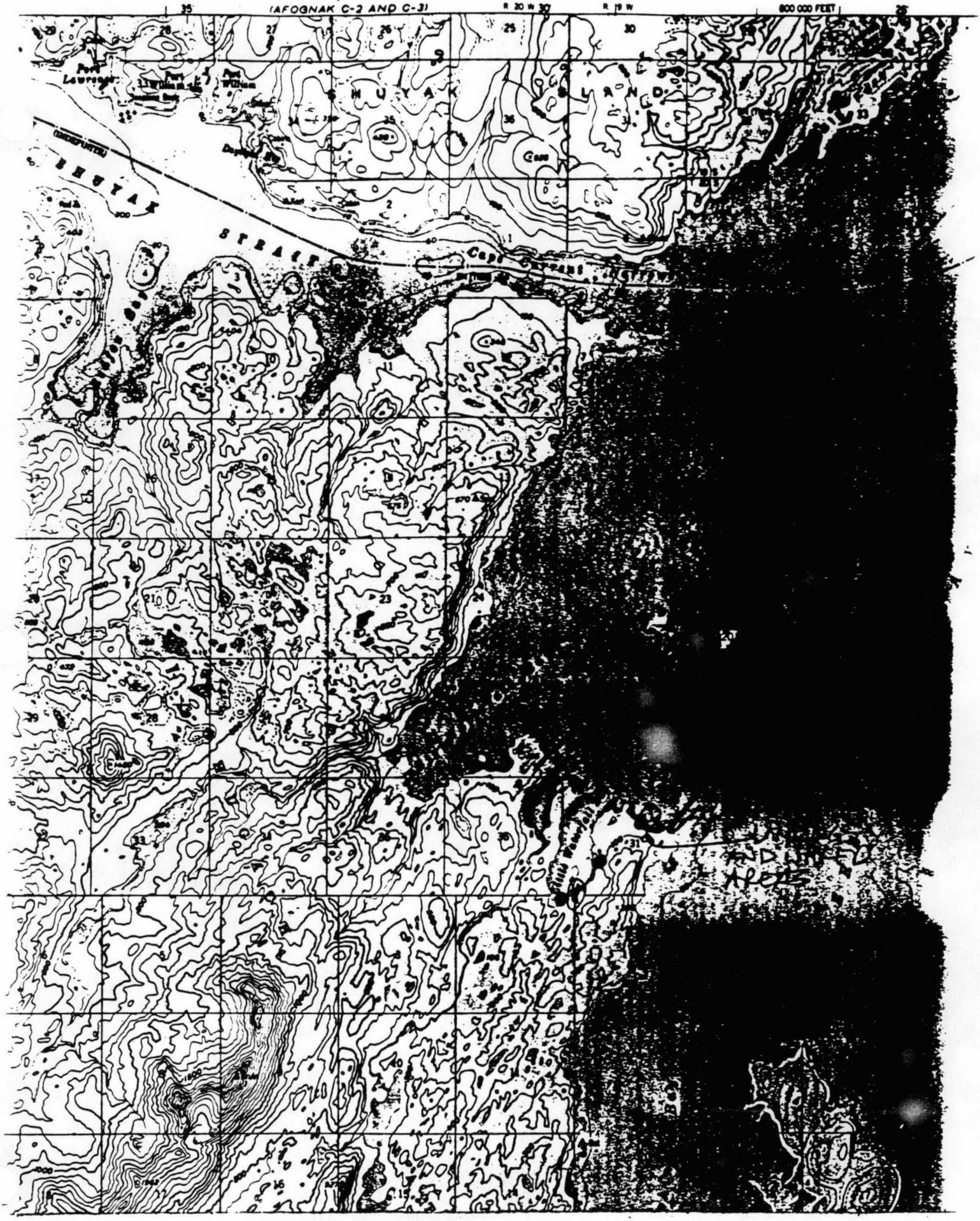
1535 → Left for KODIAK
1600 → ARRIVED AT KODIAK

7-26 (X) fm 7-27-89

SUMMARY
- 1 man of crew nacked ... add why
- recommended manual clean-up in select pools
- low pressure, high temp hot water
- if BIO practicable area of clean up, identify why
- make hourly tracking as per sheet & back date 7-24-89

FIELD

ACE 8701433


(AFOGNAK C-2 AND C-3)
MUYAK
ISLAND
Port Lawrence
Port William
Cape Greig
AND ADJACENT AREAS

ACE 8701434

ECOLOGICAL EVALUATION

LOCATION: Kodiak SITE: Afognak - BW OBSERVER: G. Penn

LOCATION PREFIX: K1-13 SEG. NO.: BW B-3 LENGTH: 9150 (M)

DATE: 07/26/89 TIME (HHMM): 1500 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)

Generally on Boulders & Angular Rock in L.I.T.Z.

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

Generally on Larger Angular Rock & Pinnacles in L.I.T.Z.

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

Most in Litz on cobble, Boulders, Rock.

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

Common to dense on Boulders & Angular Rock, especially @ MITZ on headlands

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

None observed

OTHER OBSERVATIONS: Tide Pools contain Chitons, Anemones, Sponges, Bryozoans & Skulpins.

CLEANUP PRECAUTIONS: Type "A" Clean up will not significantly impact intertidal biota. Avoid eagle nests. If molting waterfowl encountered avoid them with skiffs.

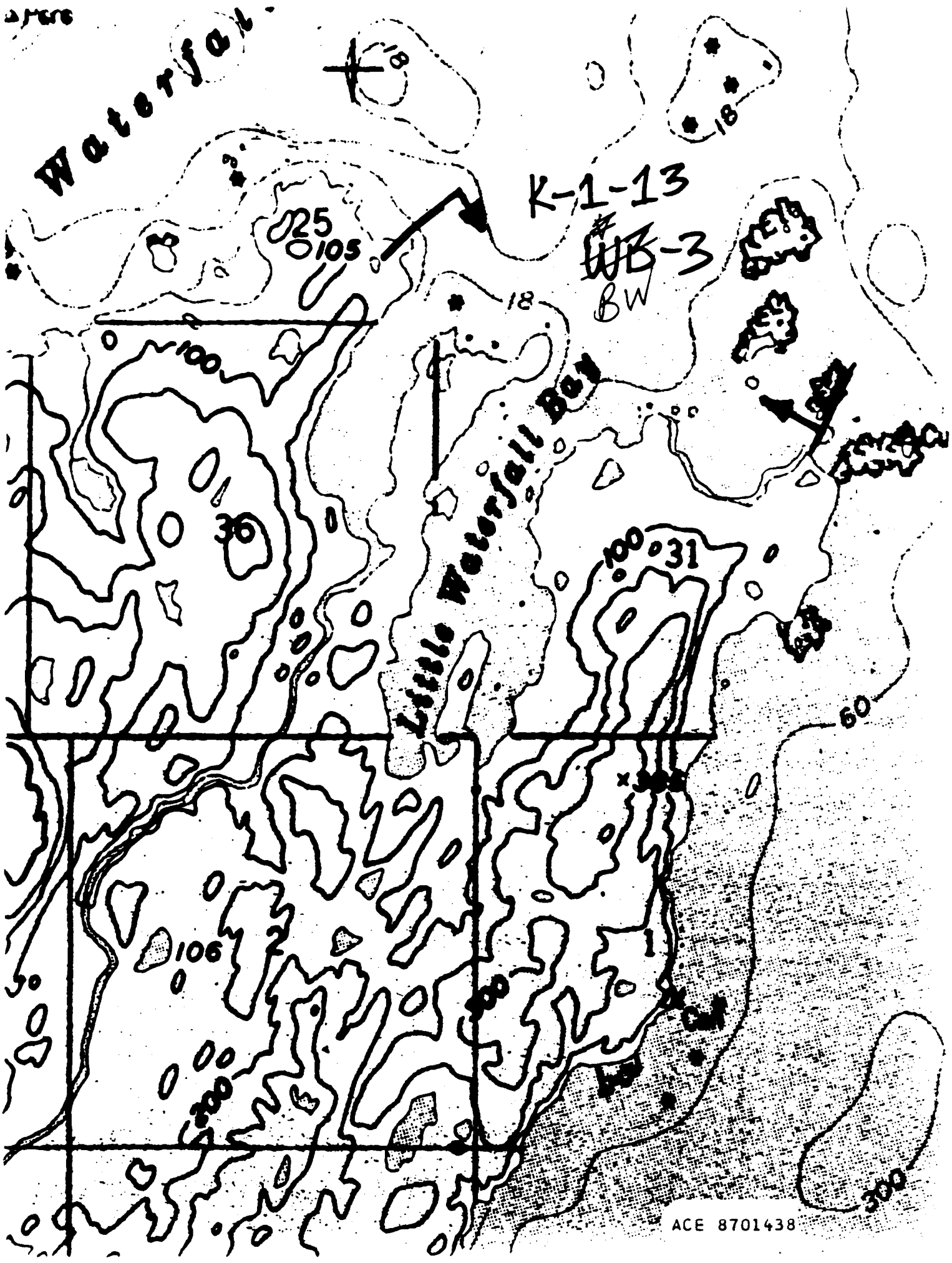
MAMMALS: Otters ~ Harbor Seals ___ Sea Lions ___ Whales ___
Other ___

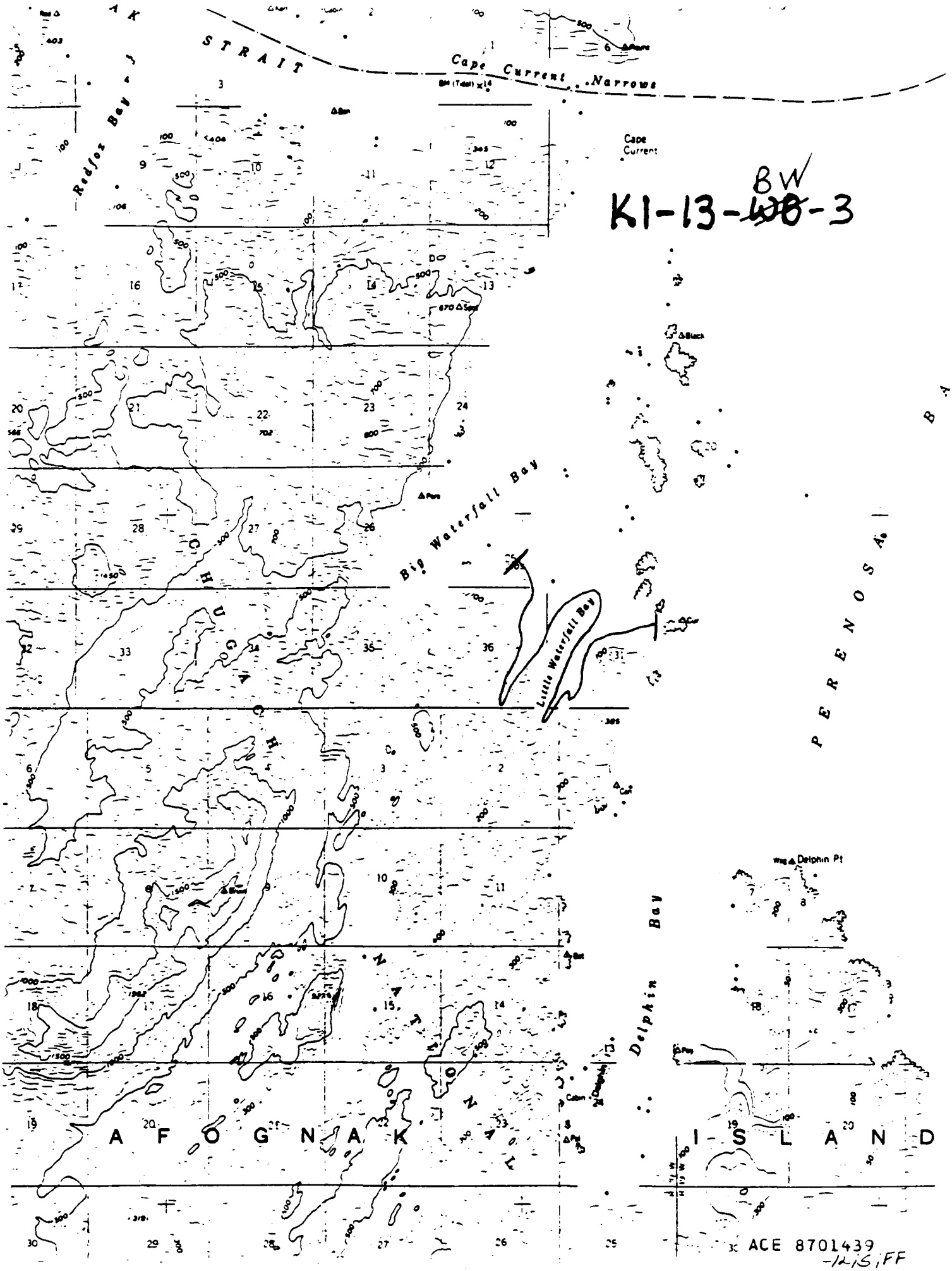
BIRDS: Eagles, Gulls, waterfowl

GENERAL OBSERVATIONS: ___

K1-14

ACE 8643484


Waterjoll
K-1-13
BW
Little Waterjoll Bay
18
25
105
100
30
31
60
106
300
ACE 8701438



K1-13-~~428~~-3 BW

ACE 8701439
-12IS, FF

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/26/89 SHORELINE SEGMENT K1-14-DP-1

LOCATION: (see enclosed map) Delphin Bay, Afognak Island, Alaska

ADEC NO. K3 SHORELINE ASSESSMENT DATE: 7/27/89

Recommended Cleanup Activity(ies):

-No cleanup recommended due to very light oiling and ecological constraints discussed below. Subject to FOSC reassessment at a later date.

Priorities/ Considerations: Class 5-A

-Limited access by boat because of rocky headlands and no access by air.
-If reassessment is necessary in the future, utilize boat and skiff where possible.

Ecological Constraints (from site survey):

-This bay is sensitive ecologically due to 1) presence of eagle nests and mating pairs, 2) anadromous stream at head, 3) resident otter population.
-Access to the bay should be restricted.
-Impacts due to cleanup would be more detrimental than cleaning the oil.

Archeological Constraints (from site survey):

-If cleanup is planned, a full archaeological assessment must be conducted, preferably off a boat.

Douglas Reger Date: 8-3-89
State Historic Preservation Officer *

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

ACE 6701440

(version July 05, 1989)

SHORELINE OIL EVALUATION

Date: 27 JULY 89 / Time: 1052 Observer: BRYAN TRIMM
Surveyed From: Foot/Boat/Helio/Plane Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

Location: DELPH N BAY AFOGNAK ISLAND, ALASKA Segment ID: KI-14-DP-1
Segment Length: 21000 m. Access: Vehicle/Boat/Barge/Helio/Float Plane
Access Restrictions: MOST ROCKY-BADLANDS ARTVEN- BEACH ACCESS

SHORELINE

Shoreline Type: SPI/BEA/COB/HLD/STRT Slope: Lo/Med/Hi/Vert
Wave Exposure: High/Med/Low
Sediment: B 10 % / C 10 % / P 50 % / G&S 30 % / M ___ % / R 10 %

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 0 SU/SP/H/M/L H/M/L/VL
Sporadic % of Segment 0.001 SU/SP/H/M/L H/M/L/VL

Total	Length(m)	Width(m)
Very light:	0.001	0.001
Light:		
Moderate:		
Heavy:		

Thickness >1cm: ____ cm SU/SP/H/M/L
Penetration/Rework: ____ cm SU/SP/H/M/L
Burial Depth: ____ cm SU/SP/H/M/L

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

OIL MORPHOLOGY

Pooled Oil: ____ %			SU/SP/H/M/L
"Free" Oil: ____ %			SU/SP/H/M/L
Splattered: 50 %	H/M/L/VL		SU/SP/H/M/L
Coated: ____ %	H/M/L/VL		SU/SP/H/M L
Pancakes/Balls: 50 %			SU/SP/H/M/L

Preliminary Cleanup Est.
Total TYPE A: 0.001 m
Total TYPE B: ____ m
Total TYPE A/B: ____ m

OIL WEATHERING

Fresh: ____ %		SU/SP/H/M/L
Mousse: 50 %		SU/SP/H/M/L
Weathered Mousse: 50 %		SU/SP/H/M/L
Asphalt Mousse: ____ %		SU/SP/H/M/L
Tar: ____ %		SU/SP/H/M/L

COMMENTS

PREDOMINANTLY ROCKY HEADLANDS WITH VERTICLE CLIFFS. INTERMITTENT POCKET BEACHES DOT THIS SEGMENT. BEACHES VARY FROM BOULDER/COBBLE RUBBLE AT THE BASE OF THE VERTICLE CLIFFS TO SAND/PEBBLE MATERIAL FOR THE POCKET BEACHES. VERY LIGHT OILING (NOT SPATTER) ON 1 POCKET BEACH - SPLASH ZONE) (2 MOUSSE PANCAKES - HITZ/SPLASH) LOCATIONS ARE PROBABLY LIMITED TO JUST LANDINGS SINCE OILING IS TOO LIGHT TO DETECT FROM HELICRAFT. POSSIBLY LARGER AREA THAN NOTED IS VERY LIGHTLY OILED.

ACE 8701441

DOCUMENTATION:

Map/Aerial photo marking segment boundaries ATTACHED

VTR: Y/N Tape Number(s) _____

Photography: (Y)/N Roll Number(s) SMB-20 7/27/89

Sample Numbers Collected: None

27 JULY 89 (TUESDAY)

0645 - TAKE OFF FOR PRUDHOE BAY

0930 - CONTACT KIAK DEW LINE

TALK TO SCATTER.

1045 - LV SEAL BAY

1052 - OVERFLT K-1-14-DP-1

1103 - POCKET BEACH NO OIL OBSERVED

* - GENERAL WEST SHORE - ROCKY HEADLANDS W/ BOUL RUBBLE & INTERMITTENT P/S&G POCKET BEACHES

1113 B HOUSES

P/S/C - no oil obs. in trc access

1118 C NO OIL OBS.

1120 BET BM

VLT SPLAT SP ZONE / GRND/BRANCHES DRIFT DEBRIS V.LT

S&G/P/C MED WAVE

1135 - Y

SAME AS BET 13M

LEVEL

ACE 8701443

1 July 89 — Tuesday

1141 [ ] S/G/P BEACH (POCKET) no o.l obs. lo energy beach

1150 [2] DITTO no o.l obs.

DELPHIN ISLAND - NO OIL OBSERVED

1208 BACK STREAM HOVER - no o.l obs.

1215 [1] Lo ENERGY POCKET BEACH
H/S/G/C 2x2 cm mousse patch
+/- spruce needles, HITZ/SP ZONE
(CAB IN HIRE)

1218 [3] ANGULAR S/C/P (MODIOLUS) NO OIL OBS
Lo ENERGY

1318 DELPHIN Pt -
NO OIL OBSERVED

SUMMARY. 20%B 10%C 30%P 30%G 10%R.
ROCKY VERT CLIFFS W/ INTERMITTENT POCKET BEACHES.
MED - LO ENERGY. V. LT SPLAT/MOUSSE PATCH ON 3
POCKET BEACHES (LIMITED ON # LDINGS).

21 July 89 — Thursday

1250 Lv K1.14 DP 1

1312 LD ADQ
CALL MARTY. MADONNA FEELS
THAT DISCOVERY BAY NEEDS TO BE DONE
BY BOAT THUS WE CAN'T DO IT.
FUEL LIMITATION - COULDN'T
REACH BOAT KING DAVID NEED TO
GET OUR WORK TO THEM. GO HOME

1400 - WRITE UP DP-1

LEVEL

ACE 8701441

ECOLOGICAL EVALUATION

LOCATION: Afognak Bay Delphin Bay SITE: Entire Bay OBSERVER: S.M. Baw

LOCATION PREFIX: K-1-14 SEG. NO.: DP-1 LENGTH: 21000 (M)

DATE: 7/27/89 TIME (HHMM): 0900 TIDE HT.: +2 to +1½ (M)

OILED ZONE: (Splash) High Medium Low U. light, splatters

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 boulders - continuous on rock faces. Discontinuous clumps subtidally on gravel/sand beaches. None oiled

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

Dense discontinuous patches - most subtidal - indiv. generally small. None oiled.

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

Dense Balanus spat among adults on boulders. Dense spat on cobble beach areas. No evidence of predation by Nucella. No oiled individuals.

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

Individuals found beneath flat rocks on cobble gravel beaches
Not oiled

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

None seen

OTHER OBSERVATIONS: Amphipods and polychaetes under cobbles/pebbles on beaches. Aurelia and Ctenes in water. Probable anadromous stream at head of bay (see map) No fish seen in water. Rich tidal pools in rocky areas.

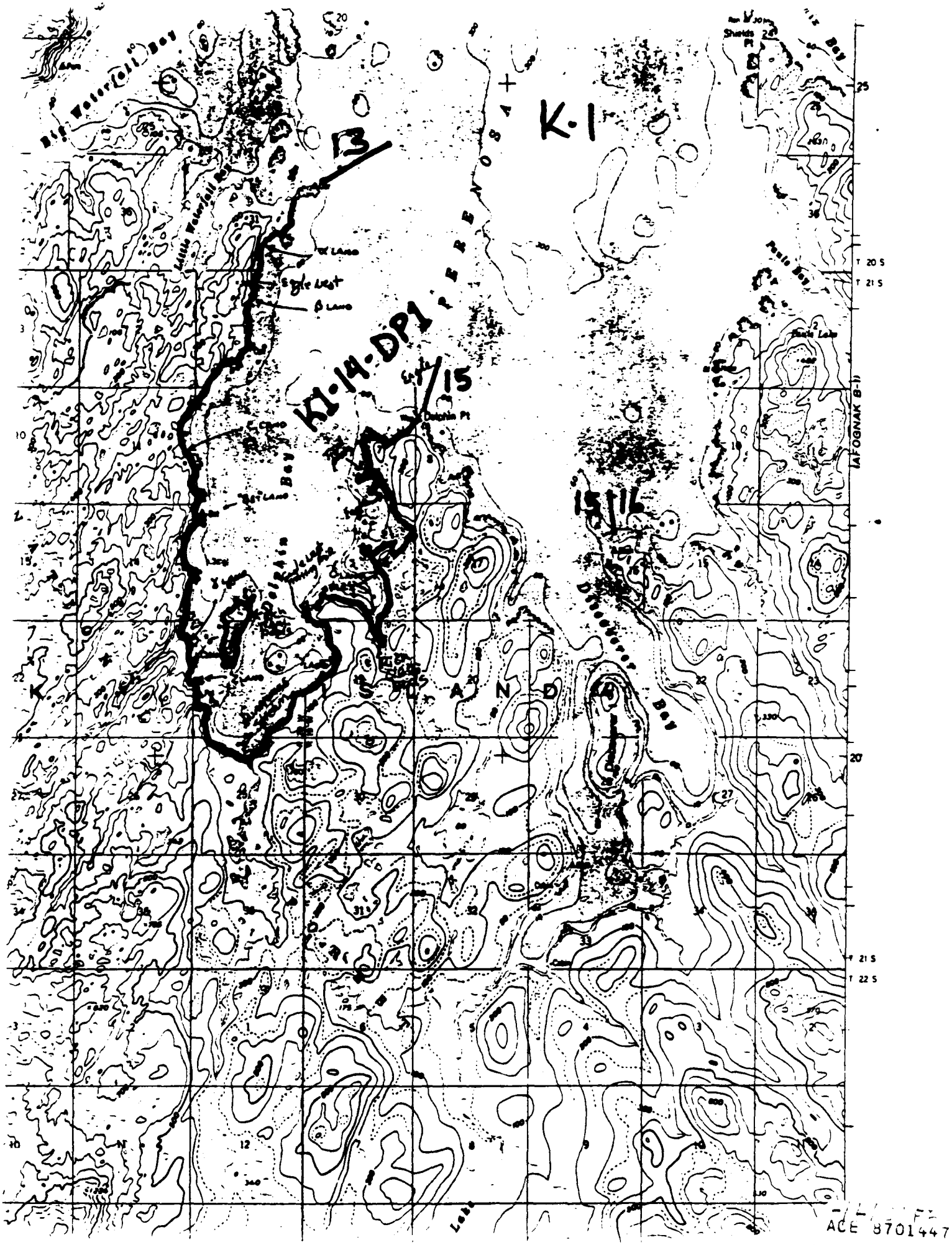
CLEANUP PRECAUTIONS: No clean up recommended. Amt of oil is very light and impacts of clean up on resident otter and eagle populations Restrict access to bay if clean up is occurring to adjacent segs.

MAMMALS: Otters 10 Harbor Seals ___ Sea Lions ___ Whales ___
Other Red Fox Deer skull

BIRDS: Eagles (possible mating pairs) and eagle nests (see map)
Cormorants, gulls.

GENERAL OBSERVATIONS: No organisms in this segment have been impacted by oiling. Overall oiling conditions are extremely light. Access to the bay should be restricted due to presence of anadromous stream, eagles nests, and otter families.

ACE 87U1445


K-1
K-14-DP1
13
15
15/16
Big Water (Oil) Bay
Little Waterfall Bay
Eagle West
Eagle Lake
Shields Pt
Dolphin Pt
Pauls Bay
Eagle Bay
Bear Bay
Lake
SAND
T 20 S
T 21 S
T 21 S
T 22 S
KAFOGNAK B-1)

ACE 8701447

K-01-15

ACE 8643485

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 8/04/89 SHORELINE SEGMENT K1-15-DB-1

LOCATION: (see enclosed map) Discovery Bay (NE section of mouth to first large stream on east shore)

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 8/04/89

Recommended Cleanup Activity(ies):
-No cleanup recommended due to very light oiling and constraints given below. Subject to FOSC reassessment at a later date.

Priorities/ Considerations: Class 5-A

Ecological Constraints (from site survey):
-No impact by oil on environment, extremely little oil seen. No cleanup recommended due to potential for impact.

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.

Douglas Reger Date: 8/14/89
State Historic Preservation Officer *

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

ACE 8701448

SHORELINE OIL EVALUATION

A. General

1. Date: 8/4/89 2. Time: 0800-1100 3. Observer: C. DILLON

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

6. Location Discovery Bay (E. shore) 7. Segment #: KI-15-DB-1

8. Length of shoreline segment: 6,400 yds 9. Tidal Stage ± +5.5 -1 ft.

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

11. Total Percentage of Segment Accessible: 15 %

12. Access Restrictions: barge offshore due to submerged rocks. Helo only on large 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: B 20 % / C 5 % / P 5 % / G 5 % S 5 % / M — % / R 60 %

17. Drift Debris on Beach: (Yes)/No (Supra)/Upper/Mid/Lower Type logs/algae

C. Oil Summary

18. Degree of Oiling: Heavy/Moderate/Light/(Very Light/No Oil Observed)

19. Area of Beach Impact: Width of Band: N/A yds
Continuous: Total % of Segment 0
Sporadic: Total % of Segment < 1 %
No Oil: Total % of Segment > 99 %

20. Est. Oil Thickness where >1in: > .5 in 21. Est. Oil Penetration: 0 in

22. Pooled Oil: 0 % "Free" Oil: 0 % Coated: H 0 % / M 0 % / L 0 %

23. Fresh 0 % Weathered & Mousse 100 % Tar Formation: 0 %

24. Drift Debris Oiled? (Yes)/No (Sup)/Up/Mid/Low Amount: 2 logs H/M/(L)

Comments: Segment is mostly high angle and vertical rock face with scattered boulder slopes around headlands and many extensive offshore submerged rocks. There is a small cove at the northeast end of the segment with 4 pocket beaches of sand and pebbles 25-50 m wide. The remainder of the segment continues along the eastern shoreline of the bay. It is mostly high angle and vertical rock face with offshore rocky areas. There are 5 more beaches along this portion of the segment. They are coarse, consisting of more cobbles, pebbles and granules. Each beach is identified on the attached segment map. A 1-2m wide algae/log strand is at the top of each beach.

ACE 0701449

SEGMENT RI-15-OB-1

SUPPLEMENTAL SHORELINE OIL EVALUATION

25. Oil Type

Fresh	_____	%
Mousse	_____	%
Weathered	100	%
Tar	_____	%
	100	%

26. Total Oil Coverage

	Length (yd)	Width (yd)
Very Light:	_____	_____
Light:		
Moderate:	See Comments	
Heavy:	_____	_____

27. Oil Distribution

	SP	H	M	L	Thick >1in	Length (yd)	Width (yd)	Burial Depth
pooled/continuous								
coating/ splat	✓					See Comments		
cracks / crevices								
patties (>10cm diameter)								
balls (< 10cm diameter)	✓							
asphalt pavement								

28. Preliminary Cleanup Est.

Total TYPE A: 0 yds.
Total TYPE B: 0 yds.
Total TYPE A/B: 0 yds.

29. Remobilization Potential: High/Medium/(Low)

DOCUMENTATION:

(Map)/Aerial photo marking segment boundaries Attached

VTR: Y/(N) Tape Number (s) None

Photography: Y/(N) Roll Number (s) None

Additional Comments:

Locations and description of oil (refer to attached map for locations):
- Beach 2: very light splatters (droplet size) on pulled tube on SITE
- Beach 6: 1 splattered spot (20 cm diameter) on a cobble on SITE berm
- Beach 7: very light splatters (droplet size) on driftwood piece on SITE
- Beach 8: 3 small weathered mousse balls along algae stand SITE

ECOLOGICAL EVALUATION

LOCATION: Kodiak SITE: Discovery Bay OBSERVER: Andur

LOCATION PREFIX: KI-15 SEG. NO.: DB-1 LENGTH: 6400 (M)

DATE: 08/04/89 TIME (HHMM): 8:00 TIDE HT.: +.3 (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

Endocladia, Halosaccion, fucus in exposed areas / fucus, Ulva, filamentous Greens in backwaters of the bay.

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

often found on cobble beaches in backwaters between rocks

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

Very dense all along transect.

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

found almost everywhere, but in low numbers.

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

Very few seen.

OTHER OBSERVATIONS: Sea Spiders (Pycnogonida) Gunnels, Gammaridea, lots of Polychaeta. Large gastropods (Thais sp.) Oniscodia

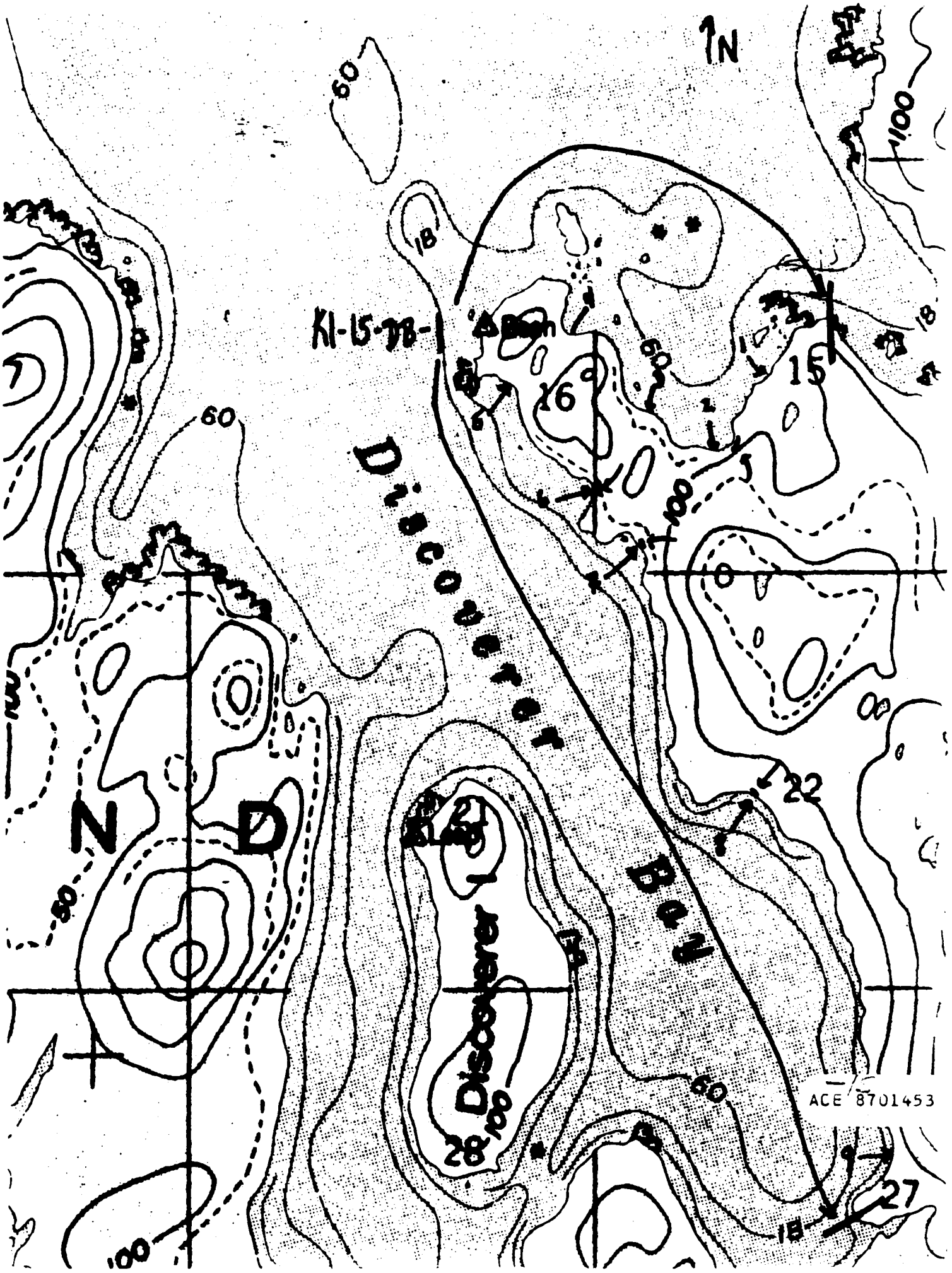
CLEANUP PRECAUTIONS: Already found small amount of oil. No Cleanup recommended

MAMMALS: Otters 10+ Harbor Seals 0 Sea Lions 0 Whales 0
Other Bear Tracks, 3 Deer.

BIRDS: 2 eagles, many Northwestern Crow, Oyster Catcher, Ravens,

GENERAL OBSERVATIONS: Healthy environment.

ACE 8701451


1N
60
18
KI-15-78-1
Discontinuity
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15
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Boundary
Discontinuity
28
60
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27
100
ACE 8701453

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 8/04/89 SHORELINE SEGMENT K1-15-DB-2

LOCATION: (see enclosed map) Discovery Bay (head of Bay)

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 8/04/89

Recommended Cleanup Activity(ies):
-No cleanup recommended due to very light oiling andn presence of ecological constraints given below. Subject to FOSC reassessment at a later date.

Priorities/ Considerations: Class 5-A

Ecological Constraints (from site survey):
-Very little oil and lots of salmon. No impact on ecology by small amount of oil. No cleanup recommended due to potential for impact.

Archeological Constraints (from site survey):
-If cleanup is conducted, inspection by an archaeological monitor is required during cleanup in the area of the salmon stream at the head of the Bay.

Douglas Reger Date: 8/14/89
State Historic Preservation Officer *

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

ACE +LS 8701454

SHORELINE OIL EVALUATION

A. General

1. Date: 8/4/89 2. Time: 1100-1435 3. Observer: C. DILLON

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

6. Location Discovery Bay (Head of Bay) 7. Segment #: KI-15-DB-2

8. Length of shoreline segment: 8,000 yds 9. Tidal Stage ± 1 to 4.5 ft.

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

11. Total Percentage of Segment Accessible: 90 %

12. Access Restrictions: Water inside head of bay is very shallow.

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: B 0 % / C ~~25~~ % / P 40 % / G 10 % S 5 % / M 5 % / R 5 %

17. Drift Debris on Beach: (Yes)/No (Supra)/Upper/Mid/Lower Type algae/logs

C. Oil Summary

18. Degree of Oiling: Heavy/Moderate/Light/(Very Light/No Oil Observed)

19. Area of Beach Impact: Width of Band: N/A yds
Continuous: Total % of Segment 0
Sporadic: Total % of Segment <1%
No Oil: Total % of Segment >99%

20. Est. Oil Thickness where >1in: >5 in 21. Est. Oil Penetration: 0 in

22. Pooled Oil: 0 % "Free" Oil: 0 % Coated: H 0 % / M 0 % / L 0 %

23. Fresh 0 % & Weathered Mousse 100 % Tar Formation: 0 %

24. Drift Debris Oiled? Yes/(No) Sup/Up/Mid/Low Amount: _____ H/M/L

Comments: Segment consists of low angle sloping cobble/pebble/gravel/mud beaches and tidal and stream outlets. Several wide streams empty into the bay. There is a small algae and log shield along the upper ITZ.

The entire area is very shallow, particularly in the areas of the stream mouths. Most of the streams have braided deltas. There are also 2 booms across the second beach/bar across to the island south of Discovery Island.

SEGMENT KI-15-00-2

(Version July 30, 1989) Page 2

SUPPLEMENTAL SHORELINE OIL EVALUATION

25. Oil Type

Fresh	_____	%
Mousse	_____	%
Weathered	100	%
Tar	_____	%
	100	%

26. Total Oil Coverage

	Length(yd)	Width (yd)
Very Light:	_____	_____
Light:	All Comments	_____
Moderate:	_____	_____
Heavy:	_____	_____

27. Oil Distribution

	SP	H	M	L	Thick >1in	Length(yd)	Width(yd)	Burial Depth
pooled/continuous								
coating/ splat								
cracks / crevices								
patties (>10cm diameter)	✓					All Comments		
balls (< 10cm diameter)	✓							
asphalt pavement								

28. Preliminary Cleanup Est.

Total TYPE A: 0 yds.
Total TYPE B: 0 yds.
Total TYPE A/B: 0 yds.

29. Remobilization Potential: High/Medium/(Low)

DOCUMENTATION:

(Map)/Aerial photo marking segment boundaries Attached

VTR: Y/(N) Tape Number (s) None

Photography: Y/(N) Roll Number (s) None

Additional Comments:

Locations and description of oil (refer to attached map for locations):

-Beach 1: 1 weathered mousse ball on SITZ algae strand

-Beach 2: 1 weathered mousse ball on SITZ algae strand

-Beach 5: 2 weathered mousse balls, 1 weathered mousse patty on SITZ

-Beach 8: 5 weathered mousse balls on SITZ algae strand.

No oiled debris.

ACE 8701456

ECOLOGICAL EVALUATION

LOCATION: Afognak SITE: Discovery Bay OBSERVER: Amdur

LOCATION PREFIX: KF-15 SEG. NO.: DB-2 LENGTH: 8,000 (M)

DATE: 08/04/ TIME (HHMM): 1100 TIDE HT.: 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

Very estuarine, mostly filamentous greens, Diatoms, with Some

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

In Some areas between Cobbles.

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

Very dense

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

Sparse throughout Segment.

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

Not Common

OTHER OBSERVATIONS: lots of Soft Sediment beaches, lots of Clam beds. Macoma sp. and Trahycardium. lots of Pink and Silver Salmon.

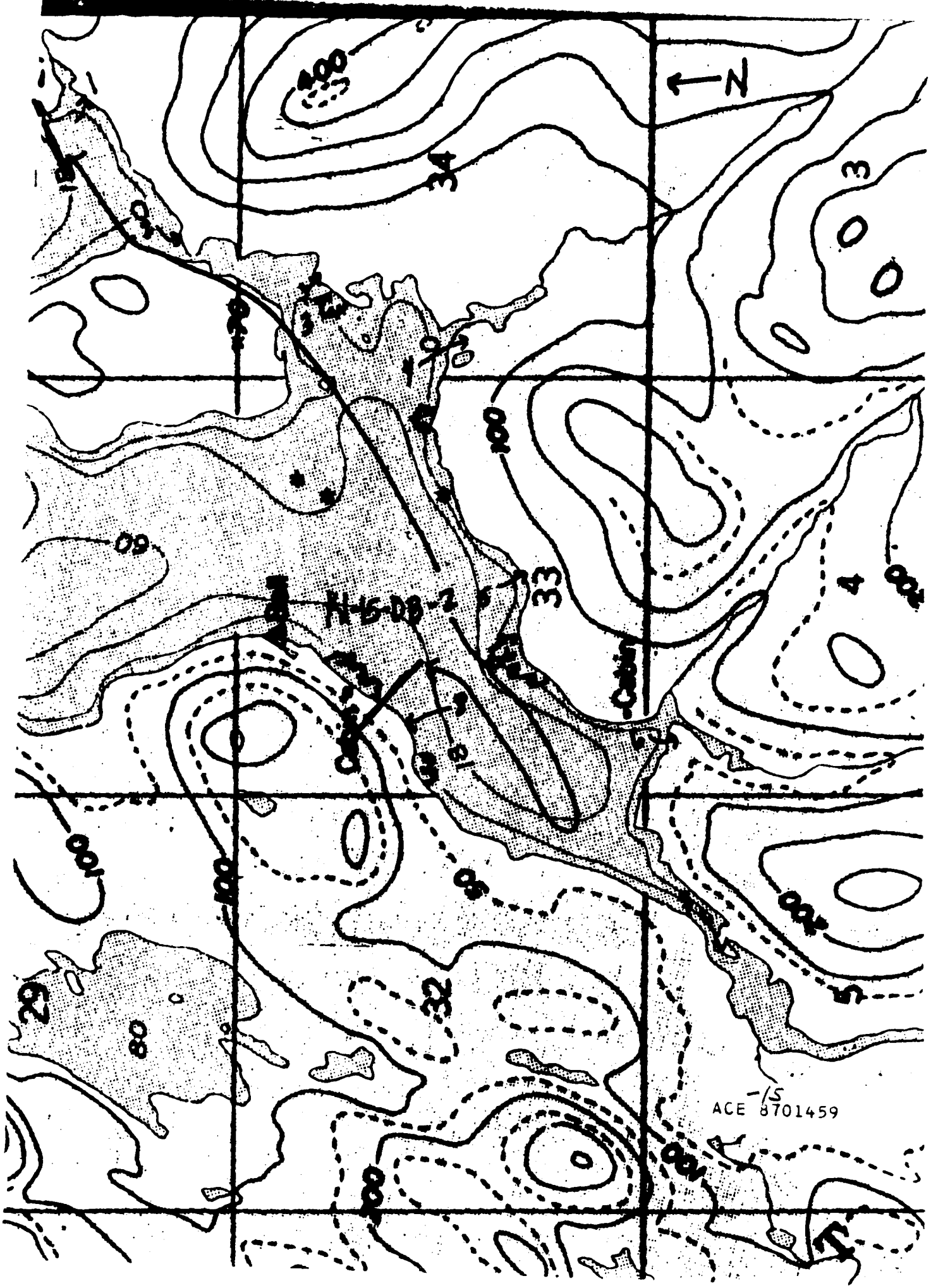
CLEANUP PRECAUTIONS: No Oil Do not clean

MAMMALS: Otters 30 Harbor Seals 0 Sea Lions 0 Whales 0
Other Bear trails.

BIRDS: Northern Crows,

GENERAL OBSERVATIONS: Fishermans paradise. lots of Fish.

ACE 8701457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ACE 8701459

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 8/05/89 SHORELINE SEGMENT K1-15-DB-3

LOCATION: (see enclosed map) Discovery Bay (west shore to Delphin Pt.)

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

Recommended Cleanup Activity(ies):
-No cleanup recommended due to very light oiling and presence of ecological constraints given below. Subject to FOSC reassessment at a later date.

Priorities/ Considerations: Class 5-A

Ecological Constraints (from site survey):
-Very little oil seen, only scattered tar balls. No cleanup recommended due to potential ecological impact.

Archeological Constraints (from site survey):
-If cleanup is conducted, inspection by an archaeological monitor is required during cleanup.

Douglas Reger Date: 8/14/89
State Historic Preservation Officer *

EXXON:_____ Date:_____

FOSC:_____ Date:_____

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

T/S
ACE 8701460

SHORELINE OIL EVALUATION

A. General

1. Date: 8/5/89 2. Time: 0830-1130 3. Observer: C. DILLON

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

6. Location Discovery Bay (W) shore to Dephin Pt. 7. Segment #: KI-15-DB-3

8. Length of shoreline segment: 9,600 yds 9. Tidal Stage ±+4.5 to +1.0 ft.

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

11. Total Percentage of Segment Accessible: 15 %

12. Access Restrictions: Helos only on larger beaches. Barges offshore due to rocks.

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: B 30 % / C 10 % / P 10 % / G __ % S __ % / M __ % / R 50 %

17. Drift Debris on Beach: (Yes)/No (Supra)/Upper/Mid/Lower Type algae/spruce needles/logs/fallen trees

C. Oil Summary

18. Degree of Oiling: Heavy/Moderate/Light/(Very Light)/(No Oil Observed)

19. Area of Beach Impact: Width of Band: 1 yds
Continuous: Total % of Segment N/A
Sporadic: Total % of Segment <10 %
No Oil: Total % of Segment >90 %

20. Est. Oil Thickness where >1in: >.5 in 21. Est. Oil Penetration: 0 in

22. Pooled Oil: 0 % "Free" Oil: 0 % Coated: H 0 % / M 0 % / L 0 %

23. Fresh 0 % Weathered Mousse 50 % Tar Formation: 50 %

24. Drift Debris Oiled? (Yes)/No (Sup)/Up/Mid/Low Amount: Very H/M/(L)

Comments: Segment consists of steep vertical straight rock face with steep terraced slopes at its base and many offshore submerged rocks. The south portion of the segment towards the head of the bay becomes slower angle slopes with more and longer beaches of cobble and pebbles. The segment contains about 6 beach areas which have debris strands of algae, spruce needles, logs, small driftwood and fallen trees on the Supra TZ.

Beach 5 (see attached map) has an anadromous stream which is barred off at its mouth.

Storm berms on beaches 4 and 6 are saturated with decomposing vegetation that has the appearance of oil.

ACE 870145

SUPPLEMENTAL SHORELINE OIL EVALUATION

25. Oil Type

Fresh		%
Mousse	25	%
Weathered	25	%
Tar	50	%
	100	%

26. Total Oil Coverage

	Length (yd)	Width (yd)
Very Light:	50	1-2
Light:		
Moderate:		
Heavy:		

27. Oil Distribution

	SP	H	M	L	Thick >1in	Length (yd)	Width (yd)	Burial Depth
pooled/continuous								
coating/ splat	✓					50	1-2	2-3cm
cracks / crevices								
patties (>10cm diameter)								
balls (< 10cm diameter)	✓					See Comments		
asphalt pavement								

28. Preliminary Cleanup Est.

Total TYPE A: 0 yds.
Total TYPE B: 0 yds.
Total TYPE A/B: 0 yds.

29. Remobilization Potential: High/Medium/(Low)

DOCUMENTATION:

(Map)/Aerial photo marking segment boundaries Attached

VTR: Y/(N) Tape Number (s) None

Photography: Y/(N) Roll Number (s) None

Additional Comments:

Locations and description of oil (refer to attached map for locations):
-Beach 1: 3 weathered mousse balls along algae strand line on SITE
-Beach 2: 1 tar ball on algae strand on SITE
-Beach 3: 1 mousse splatter on SITE cobble, 1 tar splatter on pebble on SITE, 1 tar ball on algae strand on SITE
-Beach 4: Cobble/pebble berm along shoreline is very lightly mousse splattered (1m wide by 10m long) and occasionally buried by 2-3 cm of clean sediments. Also very small amount of tar balls.
-Beach 5: 3 tar balls along algae strand on SITE (around berm behind stream)
-Beach 6: 1-2 m wide by 40m long band of very light weathered mousse splattered along cobble/pebble berm. Also observed tar balls along algae strand and observed small pieces of tar splattered driftwood.

version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: Afognak Ist. SITE: Discovery Bay OBSERVER: Amdur

LOCATION PREFIX: K1-15 SEG. NO.: DB-3 LENGTH: 9600 (M)

DATE: 08/05/89 TIME (HHMM): 0840 TIDE HT.: ±0 (M)

OILED ZONE: Splash (High) Medium Low

SUBSTRATUM: (Rocks) Boulder (Cobble Gravel Sand Mud)

LIVE BIOTA

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

fucus, endocladia, Ulva, Halosaccion

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

Very few seen. mostly in pockets at Stream mouths or isolated between Cobbles

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

Very dense in all areas except where gravel is too small.

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

Usualy present, in Various concentrations

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

often small, but found under larger cobble.

OTHER OBSERVATIONS: Gammarids found in most locations, ribbon worms, polychaets are also common, Amphipods, especially Pronoe edia are common. Thais sp. is a possible Commonly found. Sponges also found. Few Clad Beds! Some very dense.

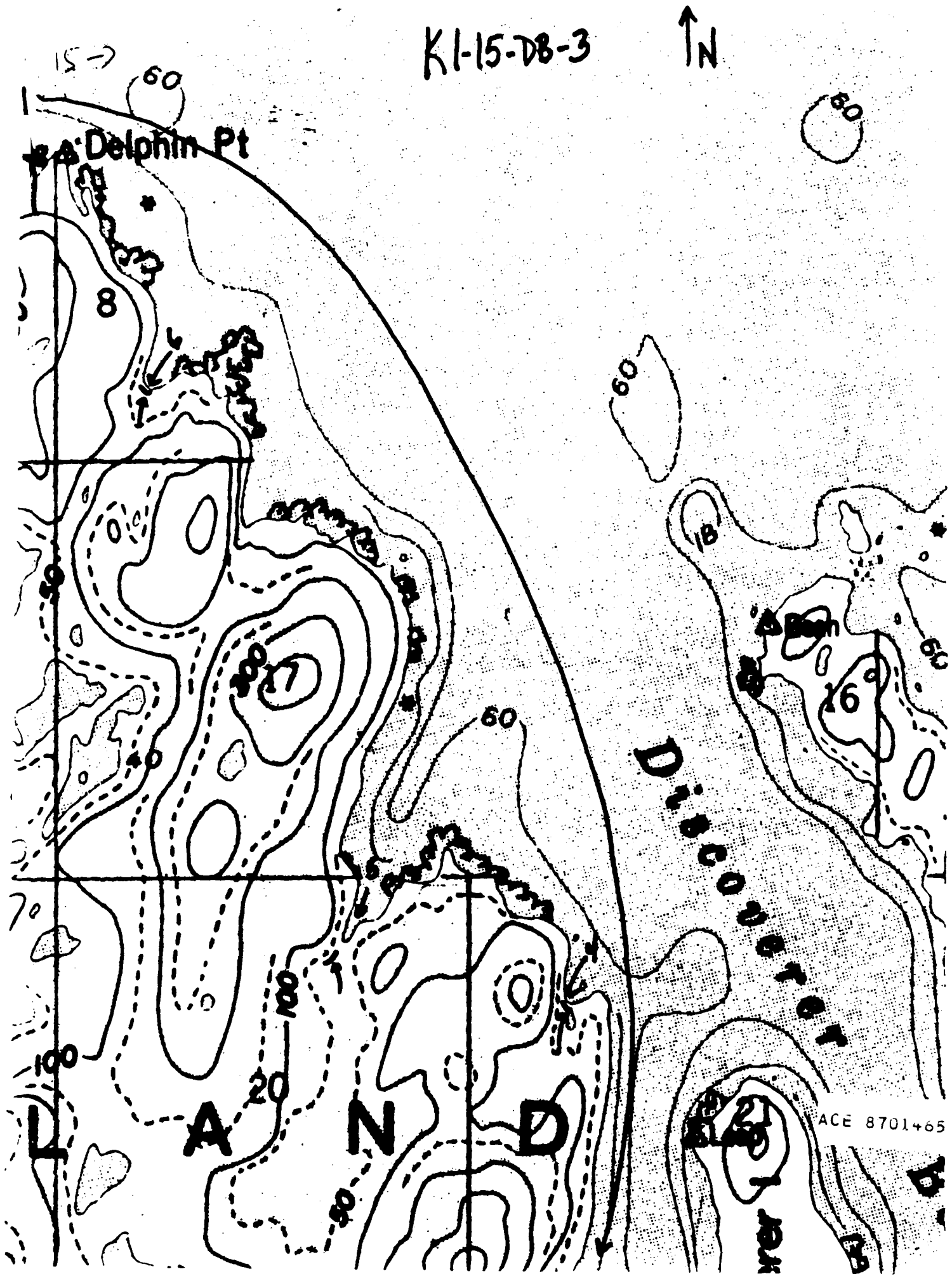
CLEANUP PRECAUTIONS: Very little oil seen, only an occasional tar ball. No Cleanup recommended. little to no impact on ecology by oil.

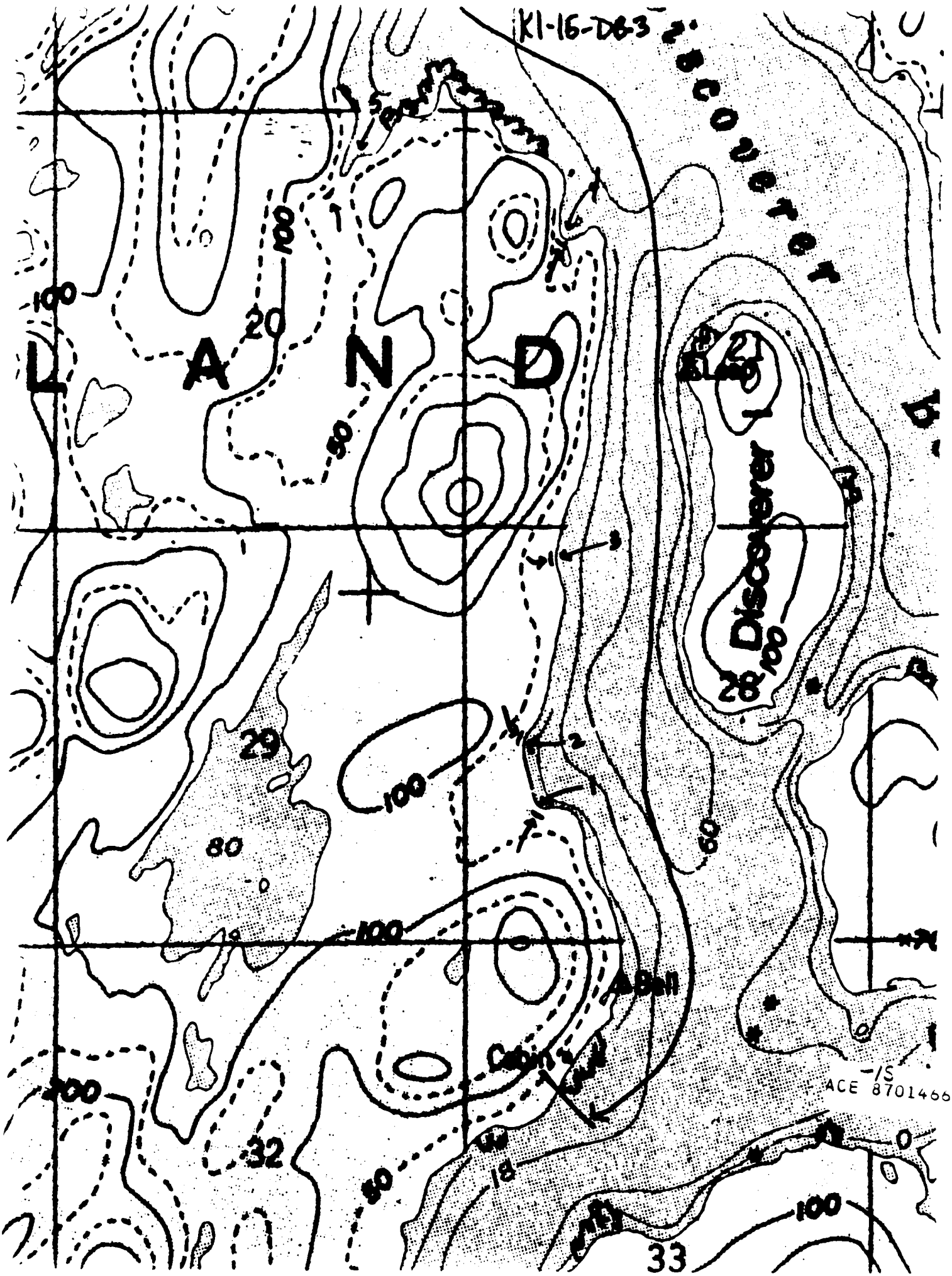
MAMMALS: Otters 30+ Harbor Seals 0 Sea Lions 0 Whales 0
Other fox, deer, bear tracks, red Squirrel/Deer & otter Sitations

BIRDS: Tufted Puffins, Northwest Crows, Ravens, Eagle.

GENERAL OBSERVATIONS:

ACE 8701463


K1-15-DB-3
N
Delphin Pt
60
80
40
20
100
L A N D
Discovery
ACE 8701465


K1-16-D63
L A N D
Discoverer
ABM
33
ACE 8701466

ORIGINAL

TYPE A SHORELINE CLEANUP WORK ORDER

RECEIVED AUG 21 1989

Date 8/05/89 **Shoreline Segment** K1-15-DV-4

Location (see map)

Discovery Bay - Discover Island and unnamed island to the south of Discover Island

ADEC No. K1-15 **Shoreline assessment date** 8/05/89

Recommended Cleanup Activities

-Manually collect and remove oiled sediments along beach #3 supra intertidal zone on unnamed island (south of Discover Island).

Priority Considerations

Class 5-B

Ecological Constraints

-Work at +6 foot tide or high with as small a crew as possible. Please do not pile bags of debris in upper intertidal zone. Full bags should be loaded into skiff.

Archaeological Constraints (from site survey)

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

Submitted by: _____ **Date** 8/21/89

Exxon

Approved: _____ **Date** 8/21/89

Federal On-Scene Coordinator Representative

ACE I/S 8701467

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 8/05/89 SHORELINE SEGMENT K1-15-DB-4

LOCATION: (see enclosed map) Discovery Bay - Discover Island and unnamed island to the south of Discover Island.

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

Recommended Cleanup Activity(ies):

-Manually collect and remove oiled sediments along beach #3 supra intertidal zone on unnamed island (south of Discover Island).

-No further cleanup recommended - most oil is dried and not recoverable. Very low priority cleanup.

Priorities/ Considerations: Class 5-B

Ecological Constraints (from site survey):

-Work at +6 foot tide or high with as small a crew as possible. Please do not pile bags of debris in upper intertidal zone. Full bags should be loaded into skiff.

Archeological Constraints (from site survey):

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

Douglas Reger Date: 8/14/89

State Historic Preservation Officer *

EXXON:_____ Date:_____

FOSC:_____ Date:_____

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

ACE 8701468

SHORELINE OIL EVALUATION

A. General

1. Date: 8/5/89 2. Time: 1130-1400 3. Observer: C. DILLON

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

6. Location Discovery Bay (2 islands inside Bay) 7. Segment #: K1-15-DB-4

8. Length of shoreline segment: 7,200 yds 9. Tidal Stage ± +1.0 to +4.0 ft.

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

11. Total Percentage of Segment Accessible: 50-60 %

12. Access Restrictions: helos best accessibility at low tide when beach slope is at a lower angle.

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~~ % / ~~C25~~ % / ~~R25~~ % / G__ % S2 % / M3 % / ~~R25~~ %

17. Drift Debris on Beach: (Yes)/No (Supra)/Upper/Mid/Lower Type algae/logs

C. Oil Summary

18. Degree of Oiling: Heavy/Moderate/Light/(Very Light/No Oil Observed)

19. Area of Beach Impact: Width of Band: 1-3 yds
Continuous: Total % of Segment NA
Sporadic: Total % of Segment 5%
No Oil: Total % of Segment 95%

20. Est. Oil Thickness where >1in: >.5 in 21. Est. Oil Penetration: .5 in

22. Pooled Oil: ____ % "Free" Oil: ____ % ~~Coated~~ Splattered: H__ % / M__ % / L__ % VL 100%

23. Fresh _____ % Mousse _____ % Weathered Tar Formation: 100 %

24. Drift Debris Oiled? Yes/(No) Sup/Up/Mid/Low Amount: _____ H/M/L

Comments: Segment consists of Discovery Island and the unnamed island just south of it. Both islands have mostly high angle cobble/pebble/boulder slopes between areas of vertical rock ledges and offshore rocks as well as small pebble beaches. At low tide (around 0 and less ft), a long, wide sand/mud bar is exposed which connects the southern island to the east bank of Discovery Bay. This sand bar has 2 booms across it.

There is an algae and eelgrass mix/mat and fallen trees along the Supra ITL of the beach areas

ACE 8701+6

SEGMENT SJ-13-00-4

(Version July 30, 1989) Page 2

SUPPLEMENTAL SHORELINE OIL EVALUATION

25. Oil Type

Fresh	____	%
Mousse	____	%
Weathered	50	%
Tar	50	%
	100	%

26. Total Oil Coverage

	Length(yd)	Width (yd)
Very Light:	75	1-3
Light:		
Moderate:		
Heavy:		

27. Oil Distribution

	SP	H	M	L	Thick >1in	Length(yd)	Width(yd)	Burial Depth
pooled/continuous								
coating/ splat	✓					75	1-3	0
cracks / crevices								
patties (>10cm diameter)								
balls (< 10cm diameter)	✓							
asphalt pavement								

28. Preliminary Cleanup Est.

Total TYPE A: 25 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 Attached

VTR: Y/(N) Tape Number (s) None

Photography: (Y)/N - Roll Number (s) JA-1 (oil on Beach 3 of unnamed island)

Additional Comments:

Locations and description of oil (refer to attached map for locations):
Discover Island: - Beach 4: Very light weathered splatters (droplets & tar stains) on cobble/pebble Supra ITZ 2-3m wide and 50m long. Also several small tar balls along debris strand
- Beach 3: Very light tar stain splatters on pebbles and boulders along Supra ITZ, 3m wide and 2m long. 2 tar balls on SITZ

Unnamed island (south of Discover Island): Beach 3: Very light weathered and tar splatters on pebbles and cobbles on Supra ITZ below log strand. Oil splatters penetrate small pebbles and granules up to 1-2 cm. Only recoverable by removing oiled sediments. Affected area is 2-3 m wide and 25m long.

ACE 0701470-

version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: Afognak Isl SITE: Discovery Isl. OBSERVER: Andrew

LOCATION PREFIX: KI-15 SEG. NO.: DB-4 LENGTH: 7200 (M)

DATE: 08/05/89 TIME (HHMM): 11:35 TIDE HT.: +0.3 (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 found in backwaters and sheltered areas. Exposed areas have laminaria, endocladia, and Halosaccion. filamentous greens and Diatoms also common in quiet backwaters.

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

few seen

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

Very dense in all areas except on very fine Sand beaches.

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

Some seen, sparse.

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

Small under Rocks. usualy only on less mobile beaches

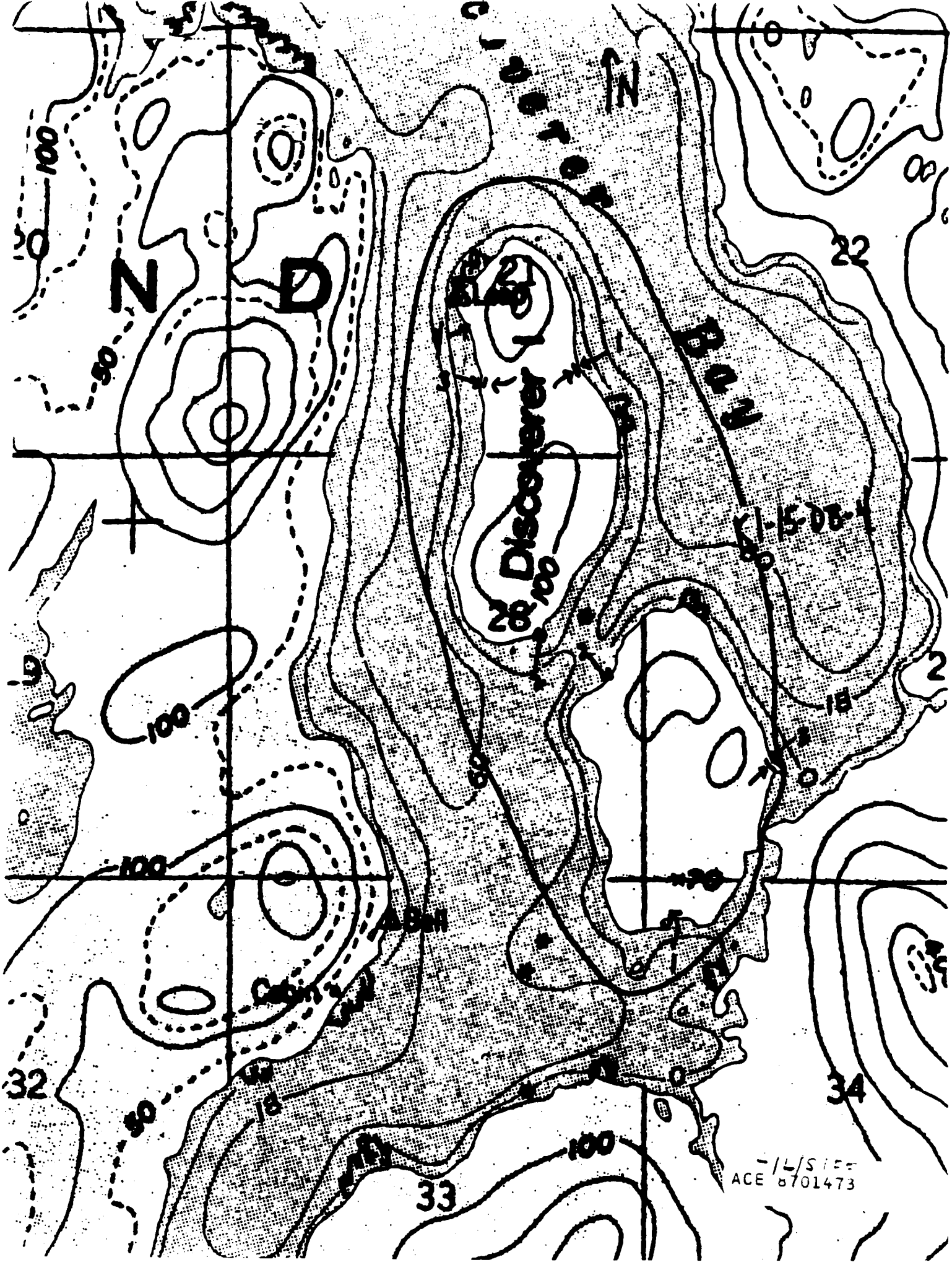
OTHER OBSERVATIONS: Hydroporia common, Thais sp., Gammarids and Onuscodea present. Tan balls seen on 2nd Island.

CLEANUP PRECAUTIONS: Area with only Weathered oil has no important resources. amount of oily is still low. If cleanup is necessary do at +8' Tide with crew of 5 or less. Type "A" only. Dig no deeper than 3cm. Remove debris to Skiff, do not pile in upper zone

MAMMALS: Otters 10+ Harbor Seals 0 Sea Lions 0 Whales 0
Other Deer & Fox Trails.

BIRDS:

GENERAL OBSERVATIONS:


N
D
Discontinuity
28
22
32
33
34
100
50
0
ACE 8701473

KODIAK SCAT
K1-16

ACE 8643486

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/16/89 SHORELINE SEGMENT K1-16-PE-1

LOCATION: (see enclosed map) Perenosa Bay NE Afognak Island

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 7/04/89

Recommended Cleanup Activity(ies):
-No cleanup recommended at this time due to apparent absence of oil. Subject to FOSC reassessment at a later date.

Priorities/Considerations:

Ecological Constraints (from site survey):
-If oiling occurs and cleanup is conducted restrict access to segment, particularly beaches 5 and 8 as they are anadromous fish streams.

Archaeological Constraints (from site survey):
-If cleanup is conducted, no access to the upland zone by cleanup crews.

A. David McMahon Date: 7/30/89
State Historic Preservation Officer *

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

ACE 8701474

SHORELINE OIL EVALUATION FORM - KODIAK

Date: 7/4/89 Time: 08:00 Observer: G. MACDONALD.

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

LOCATION PERENOSA BAY K1-16
LOCATION NE. AFOGNAK IS. SEGMENT I.D. PE-1.

LENGTH OF SHORELINE SEGMENT: 13,770 m

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

SHORELINE: POCKET
Shoreline Type: SPI/(BEA)/(COV)/(HLD)/(STRT) Slope: LANG/HANG/VER
NORTH FACING BAYS
Wave Exposure: (High)/(Med/Low) 10%

Sediment: B 10 % / C 5 % / P 85 % / G 5 % / S TRACE % / M TRACE % / R 75 %

Drift Debris on Beach: (Yes)/No (Supra)/Upper/Mid/Lower Type BEACHES ONLY, LOGS - POCKE N. FACING.

OIL
Degree of Oiling: Heavy/Moderate/Light/(No Oil)/Unobserved/Very Light

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

OIL DISTRIBUTION NOT APPLICABLE
Continuous: Y/N Segment %_____ No. Bands_____ Width_____

Sporadic: Y/N Segment %_____ Min/Max Dia_____ Impact Width_____

Est. Oil Thickness where > 1cm:_____cm. SU / SP / UP / MID / LO
Depth below top seds
Est. Oil Penetration: _____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 _____% "Free" Oil _____% Spattered_____% H/M/L/VL Sheen_____%

OIL WEATHERING (OW)
Fresh Oil_____% SU/SP/VP/MID/LO Choc Mousse_____% SU/SP/VP/MID/LO

Pancake Mousse_____% SU/SP/VP/MID/LO Asphalt Mousse _____% SU/SP/VP/MID/LO

Tar Formation_____%

Comments:

DEBRIS-LADEN MOUSSE BALLS HAVE BEEN MANUALLY REMOVED FROM PAUL'S BAY FISHERY. — BOOM TENDING VESSEL "HOLY CROSS" ON SITE.

NOTE:
N.-NE. FACING BAYS FROM DELPHIN PT. TO DISCOVERER IS. HAVE A TRACE of MOUSSE BALLS @ STRAND LINE.

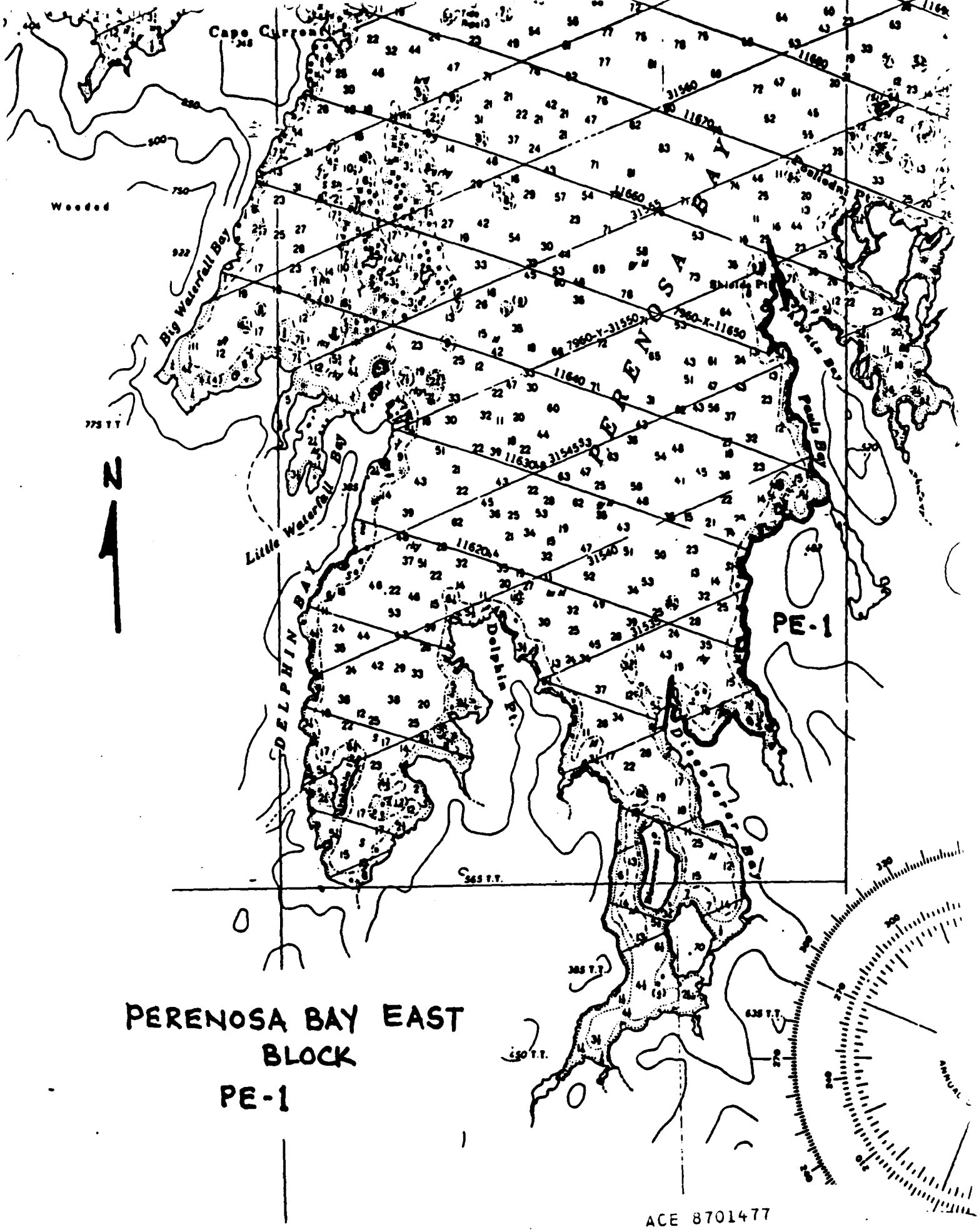
ACE 8701475

Map/Aerial photo marking segment boundaries Attached

VTR: Y (N) Tape Number(s) None

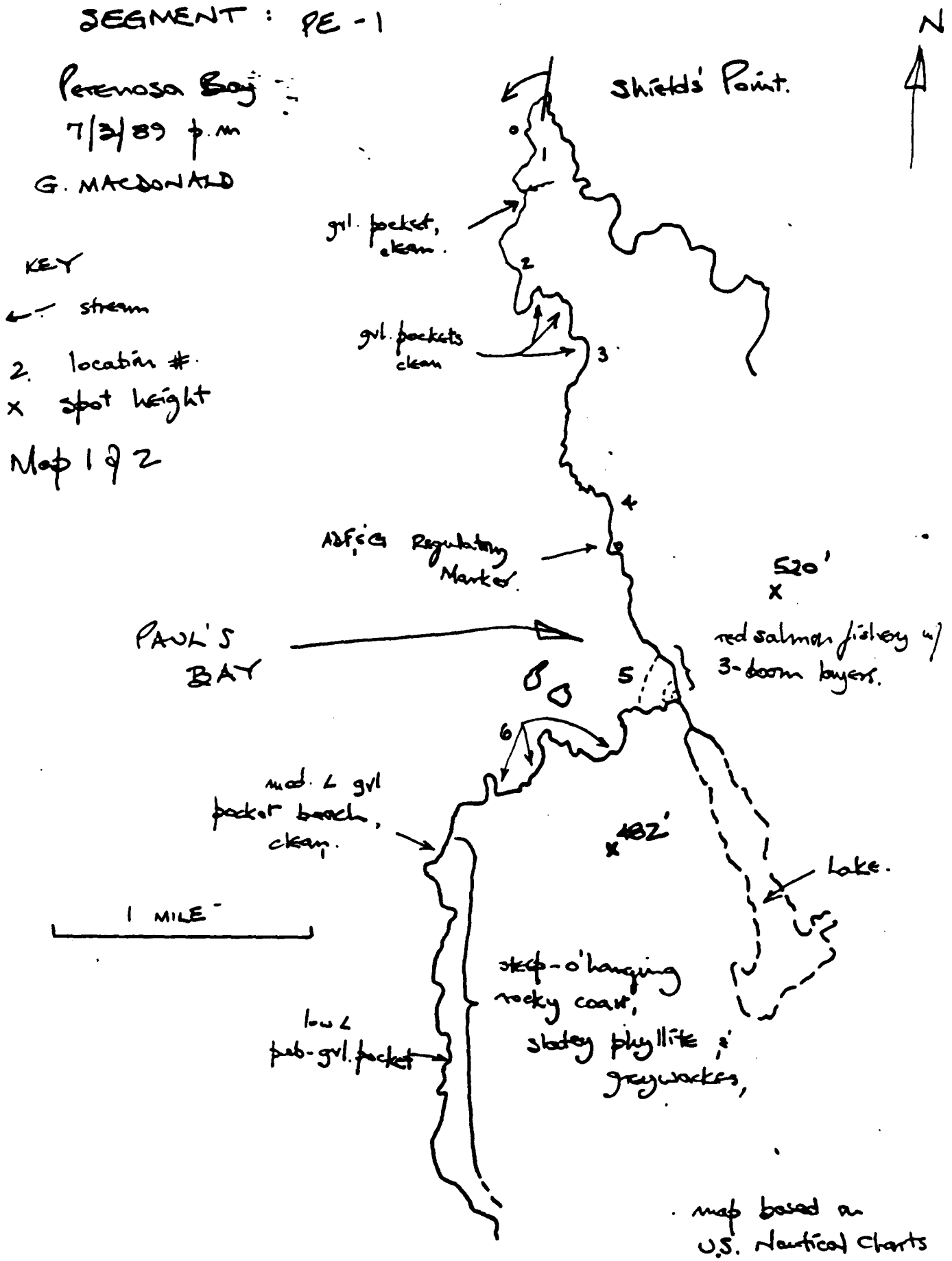
Photography: (Y) N Roll Number(s) SMB-18 (7/3/89 - 7/4/89)

Sample Numbers Collected: None


Cape Curren
Wooded
Big Waterfall Bay
Little Waterfall Bay
DELPHIN BAY
PERENOSA BAY
Peeds Bay
Dolphin Pt.
PE-1
N
7960-Y-31550
7960-X-11650
11660
11640
11620
31560
31540
31520
11680
11670
PERENOSA BAY EAST
BLOCK
PE-1
ACE 8701477

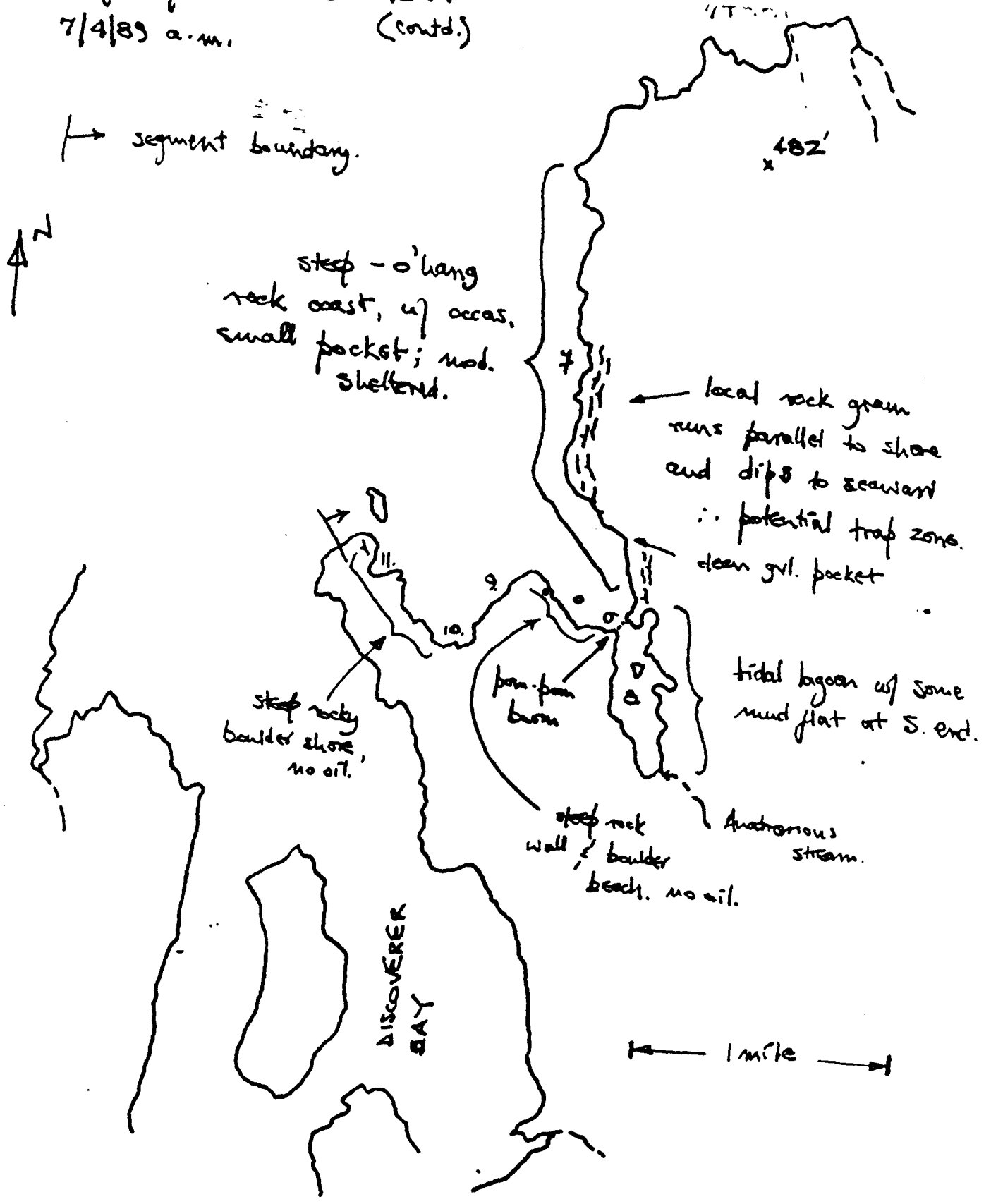
K1-K6

SEGMENT: PE-1



Map 2 of 2
7/4/89 a.m.

SEGMENT (contd.)



ACE 8701479

7/3/89 SEGMENT PE-1 (K1-K2)
18.45 hrs
Shield's Point → Paul's Bay.
skipper-on-site David Gentry "Holy Cross" 4/7
steep rocky coast, stacks, arches & caves
w/ intermittent pocket beaches.

1. clean granule & peb pocket; low ∠; 4 pits to 18"; no oil vis
2. clean gravel pocket, (phyllitic material.) 2 pits MTL & UIIWL, no oil; "slates"
3. A/A 3 pits
4. A/A 2 pits 20.15 hrs
5. Fishery site. debris-laden mousse splats largely hand collected already no treatment necessary here
21.00 stop assessment
08.00 continue "
6. 3 gvl pockets; 2 pits @; no oil. 2 small islets; clean.
7. 09.05 low ∠ gvl-granule pocket. no oil. rock dips ~40° W; a natural trap situation
8. Tide flat + lagoon; rare trace tiny oil coated grass blobs - 2 per 100 m.
9. mod ∠ peb. gvl beach. no oil; 1 pit.
10. " " " " ; 1 pit.

ACE 8701480

10.30

11. mod. ∠ peb-gvl. pocket beach; berm entrapped pond, log storm berm no oil vis.; mod. exposure — dip 15°

11.00 Δ BEAM. END of SEGMENT

[Rock colour here lt.-mod. grey, some dk slate grey]

Note: "Otter Bay" was noted as having most likely area for oil balls or buried/covered oil; a quick inspection was performed @ 11.20 1st pocket SE of Dolphin Pt:— debris laden manmade patties, egg-head size @ mid 30m section of upper HWL strand line. 2 tests pits to 2FT had no oil. mod ∠ cobble-peb beach w/ back-berm pond.

/ by waite tender.

version: 4/24/89

KI-16-PE-1

ECOLOGICAL EVALUATION

LOCATION: Afognak Is SITE: Perenosa Bay OBSERVER: SMBAN

LOCATION PREFIX: KI-16 SEG. NO.: PE-1 LENGTH: 13,770 (M)

DATE: 7/3-4 89 TIME (HHMM): 7/3 - 1900 / 7/4 - 0800 TIDE HT.: 0 (M)

OILED ZONE: Splash High Medium Low No significant oil.

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 boulders and cobbles, sparse to nil on gravels - Not oiled

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse (Y)/N None Y/N
Sparse throughout segment. May be more dense subtidally. Not oiled

Balanus (Barnacles): Patchy Y/N Contin. (Y)/N Dense (Y)/N Sparse Y/N None Y/N
Extremely dense throughout segment. Spat cover cobbles and boulders completely. Less dense on gravel. Very few Nucella

Littorina
Patchy Y/N Contin. Y/N Dense (Y)/N Sparse Y/N None Y/N
Dense among Balanus and in tidal pools. None oiled

Limpets: Patchy (Y)/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Some found in pools and throughout ITZ. None oiled.

OTHER OBSERVATIONS: Pagurids dense. Aurelia and Cyanea in water Nothria and Anthopleura in pools. Lobster & Pisaster dense at beach 11. Red salmon at Beach 5 (Paul's Bay) and fry at Beach 8.

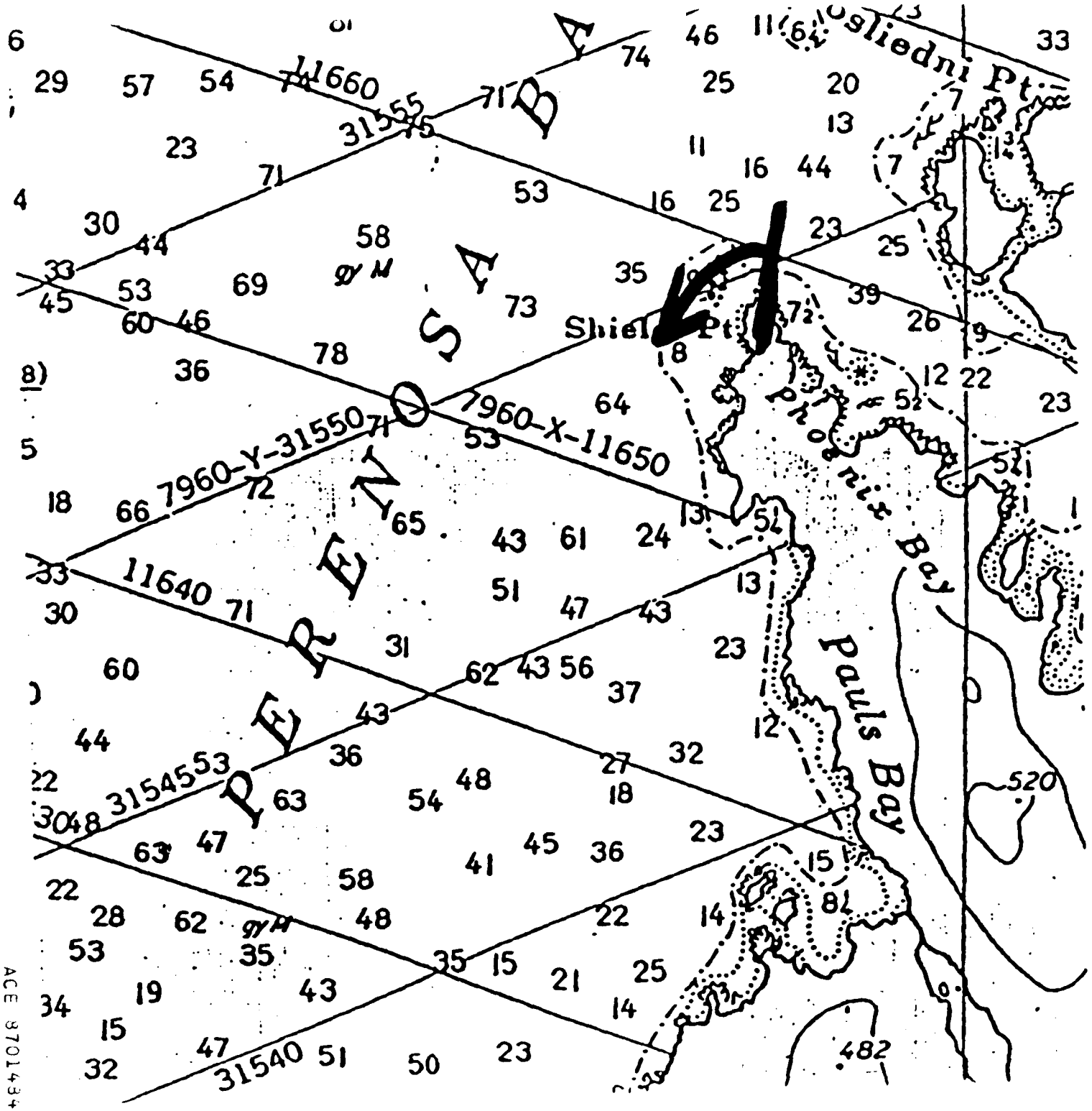
CLEANUP PRECAUTIONS: No clean up. Restrict access to segment particularly Beaches 5 and 8 (Numerous Streams) Locals are cleaning the errant tarball from these Beaches

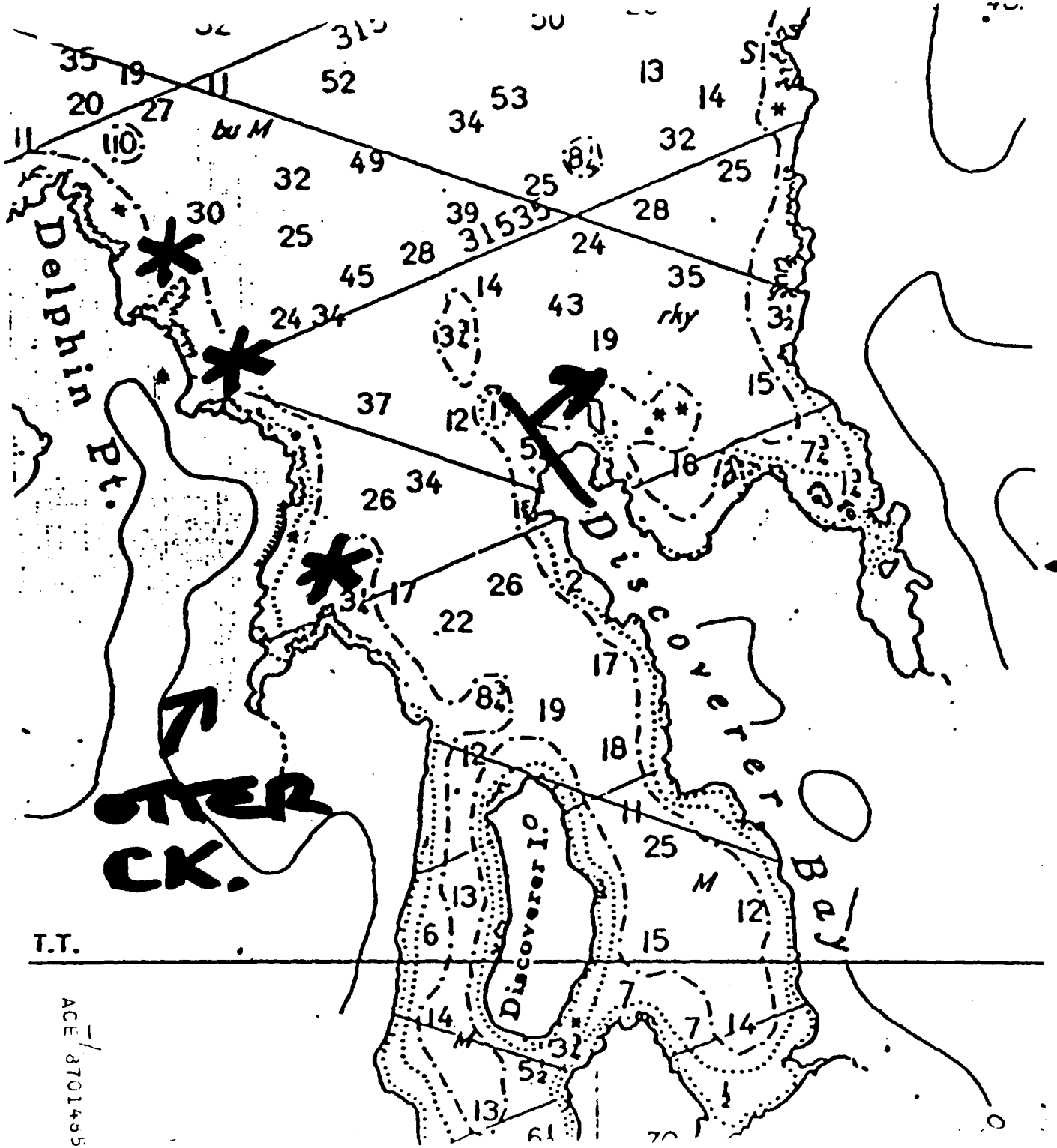
MAMMALS: Otters 10 Harbor Seals ___ Sea Lions ___ Whales ___
Other Red and Silver Fox (≈5)

BIRDS: oldsquaws, eagles, gulls, crows

GENERAL OBSERVATIONS: This segment is clean. No organisms are impacted by oil. Less than 20 tarballs were seen in the entire Bay.

ACE 8701432


PE-1
192
Osliedni Pt
Shiel Pt
Pauls Bay
Pauls Bay
PENASA
7960-Y-31550
7960-X-11650
11640
31545
31540
11660
31555
520
482
ACE 8701434



PE-1

292

NOTE:

These 3 pockets have trace mousse balls and are most likely impacted in this area.

NOT DOCUMENTED AT THIS TIME.

(version 6/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Block (see enclosed map): K1-16

Includes Shoreline Segments: PE-1

Location: Pernosa 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 8701480 +/P

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/16/89 SHORELINE SEGMENT K1-16-PE-1

LOCATION: (see enclosed map) Perenosa Bay NE Afognak Island

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 7/04/89

Recommended Cleanup Activity(ies):
-No cleanup recommended at this time due to apparent absence of oil. Subject to FOSC reassessment at a later date.

Priorities/Considerations:

Ecological Constraints (from site survey):
-If oiling occurs and cleanup is conducted restrict access to segment, particularly beaches 5 and 8 as they are anadromous fish streams.

Archaeological Constraints (from site survey):
-If cleanup is conducted, no access to the upland zone by cleanup crews.

A. David McMahon Date: 7/30/89
State Historic Preservation Officer *

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

H/S
ACE 8701487

SHORELINE OIL EVALUATION FORM - KODIAK

Date: 7/4/89 Time: 08:00 Observer: G. MACDONALD.

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

LOCATION PERENOSA BAY
LOCATION N.E. AFOGNAK IS. SEGMENT I.D. K1-16 PE-1.

LENGTH OF SHORELINE SEGMENT: 13,770 m

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

SHORELINE: POCKET
Shoreline Type: SPI/(BEA)/(COV)/(HLD)/(STRT) Slope: LANG/HANG/VER
NORTH FACING BAYS
Wave Exposure: (High)/(Med/Low) 10%

Sediment: B 10 % / C 5 % / P 85 % / G — % / S TRACE % / M TRACE % / R 75 %

Drift Debris on Beach: (Yes)/No (Supra)/Upper/Mid/Lower Type LOGS - ROCKE BEACHES ONLY, N. FACING.

OIL
Degree of Oiling: Heavy/Moderate/Light/(No Oil)/Unobserved/Very Light

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

OIL DISTRIBUTION NOT APPLICABLE
Continuous: Y/N Segment %_____ No. Bands_____ Width_____

Sporadic: Y/N Segment %_____ Min/Max Dia_____ Impact Width_____

Est. Oil Thickness where > 1cm:_____cm. SU / SP / UP / MID / LO
Depth below top seds
Est. Oil Penetration: _____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 _____% "Free" Oil _____% Spattered_____% H/M/L/VL Sheen_____%

OIL WEATHERING (OW)
Fresh Oil_____% SU/SP/VP/MID/LO Choc Mousse_____% SU/SP/VP/MID/LO

Pancake Mousse_____% SU/SP/VP/MID/LO Asphalt Mousse _____% SU/SP/VP/MID/LO

Tar Formation_____%

Comments:

DEBRIS-LADEN MOUSSE BALLS HAVE BEEN MANUALLY REMOVED FROM PAUL'S BAY FISHERY. — BOOM TENDING VESSEL "HOLY CROSS" ON SITE.

NOTE:
N.-NE. FACING BAYS FROM DELPHIN PT. TO DISCOVERER IS. HAVE A TRACE of MOUSSE BALLS & STRAND LINE.

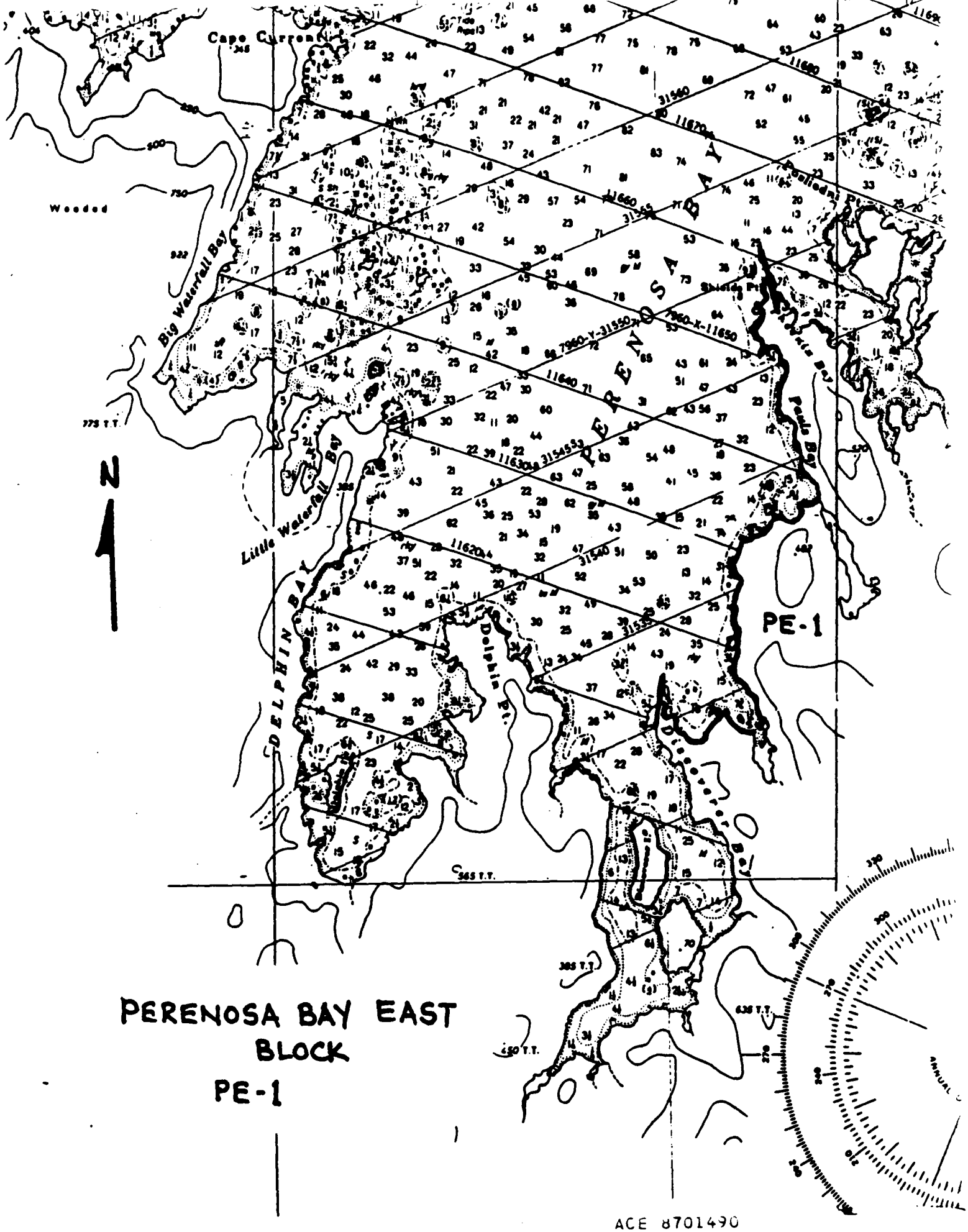
ACE 8701488

(Map)/Aerial photo marking segment boundaries Attached

VTR: Y (N) Tape Number(s) None

Photography: (Y)/N Roll Number(s) SMB-18 (7/3/89 - 7/4/89)

Sample Numbers Collected: None



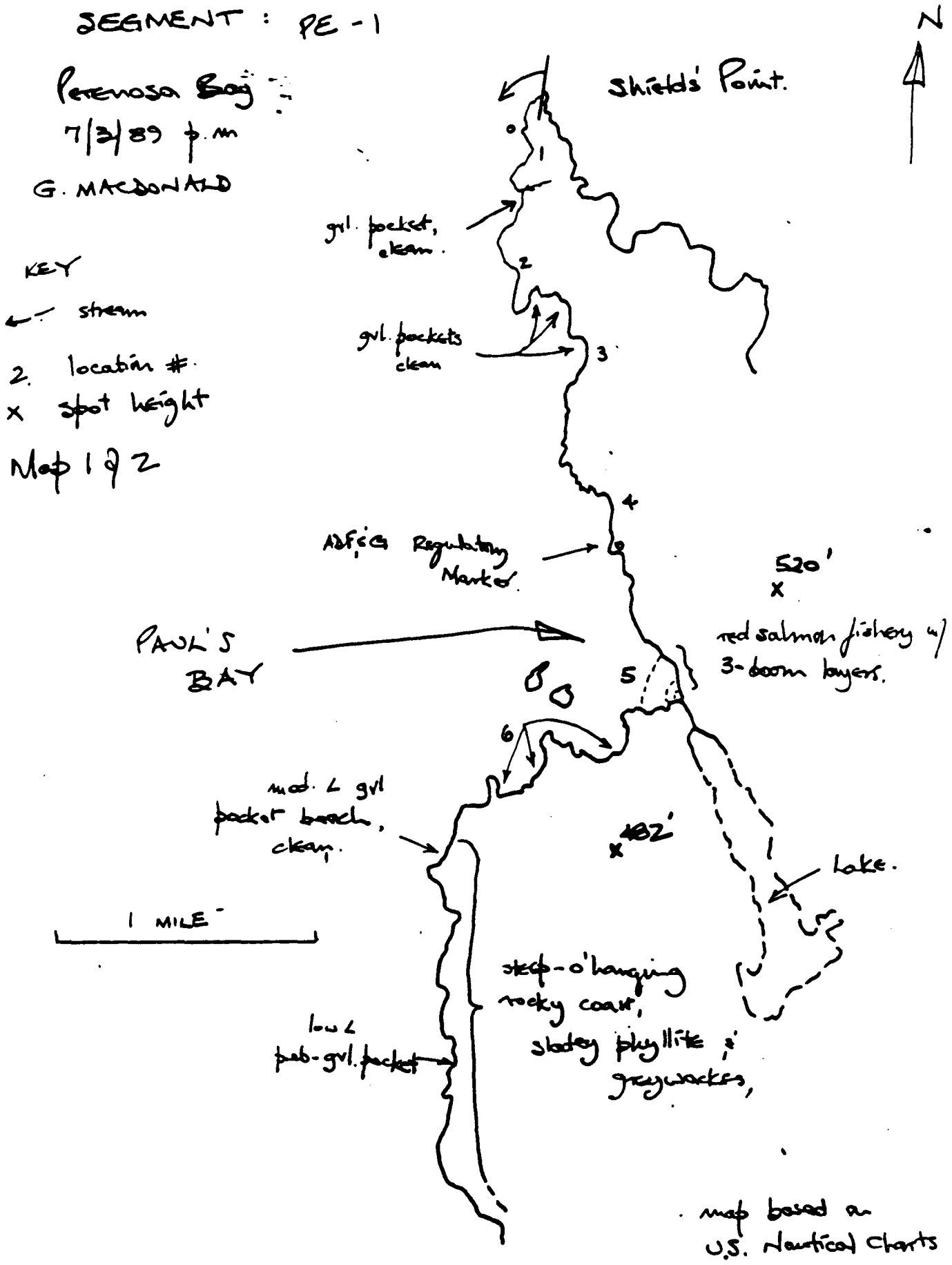
PERENOSA BAY EAST BLOCK

PE-1

ACE 8701490

K1 - K6

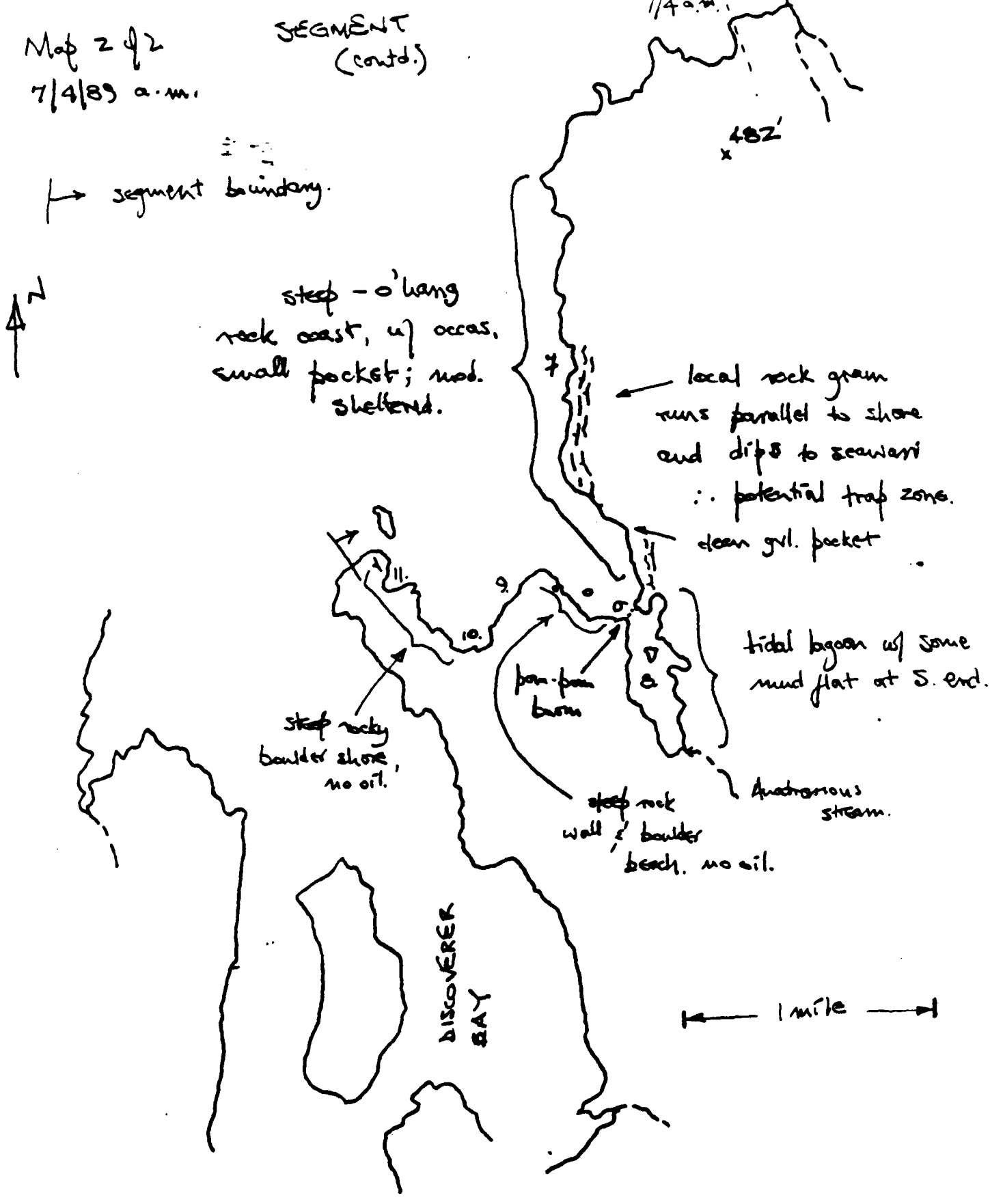
SEGMENT : PE - 1



ACE 8701491

Map 2 of 2
7/4/89 a.m.

SEGMENT (contd.)



ACE 8701492

7/3/89 SEGMENT PE-1
18.45 hrs (K1-K2)
Shield's Point → Paul's Bay.
skipper-on-site Dorrit Jentry "Holy Cross" 4/7
steep rocky coast, stacks, arches & caves
w/ intermittent pocket beaches.

1. clean granule & peb pocket; low ∠;
4 pits to 18"; no oil vis
2. clean gravel pocket, (phyllitic materials.)
2 pits MTL & UIWL, no oil; "slates"
3. A/A 3 pits
4. A/A 2 pits 20.15 hrs
5. Fishery site. debris-laden mousse
splats largely hand collected already.
no treatment necessary here
21.00 stop assessment
08.00 continue "
6. 3 gvl pockets; 2 pits @; no oil.
2 small islets; clean.
7. 09.05 low ∠ gvl-granule pocket.
no oil. rock dips ~40° W; a
natural trap situation
8. Tide flat + lagoon; rare trace tiny
oil coated grass blobs - 2 per 100 m.
9. mod ∠ peb. gvl beach. no oil; 1 pit
10. " " " " " ; 1 pit.

ACE 8701493

10.30

11. mod. ∠ peb-gvl. pocket beach; berm entrapped pond, log storm berm no oil vis.; mod exposure — dip 15°

11.00 Δ BEAN.
END of SEGMENT

[Rock colour here lt.-mod. grey, some dk slate grey]

Note: "Otter Bay" was noted as being most likely area for oil balls or buried/covered oil; a quick inspection was performed @ 11.20 1st pocket SE of Dellalim Pt:— debris laden mouse patties, egg-head size @ mid 30m section of upper HWL strand line. 2 tests pits to 2FT had no oil. mod ∠ cobble-peb beach w/ back berm pond.

/ by white tender.

ACE 8701494

version: 4/24/89

KI-16-PE-1

ECOLOGICAL EVALUATION

LOCATION: Afognak Is SITE: Perenosa Bay OBSERVER: SMBAN

LOCATION PREFIX: KI-16 SEG. NO.: PE-1 LENGTH: 13,770 (M)

DATE: 7/3-4 89 TIME (HHMM): 7/3 - 1900 2/4 - 0800 TIDE HT.: 0 (M)

OILED ZONE: Splash High Medium Low No significant oil.

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 boulders and cobbles, sparse to nil on gravels - Not oiled

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse (Y)/N None Y/N
Sparse throughout segment. May be more dense subtidally. Not oiled

Balanus (Barnacles): Patchy Y/N Contin. (Y)/N Dense (Y)/N Sparse Y/N None Y/N
Extremely dense throughout segment. Spat cover cobbles and boulders completely. Less dense on gravel. Very few Nucella

Littorina
Patchy Y/N Contin. Y/N Dense (Y)/N Sparse Y/N None Y/N
Dense among Balanus and in tidal pools. None oiled

Limpets: Patchy (Y)/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Some found in pools and throughout ITZ. None oiled.

OTHER OBSERVATIONS: Pagurids dense. Aurelia and Cyanea in water Katharina and Anthopleura in pools. Solaster & Pisaster dense at beach 11. Red salmon at Beach 5 (Paulic Bay) and fry at Beach 8.

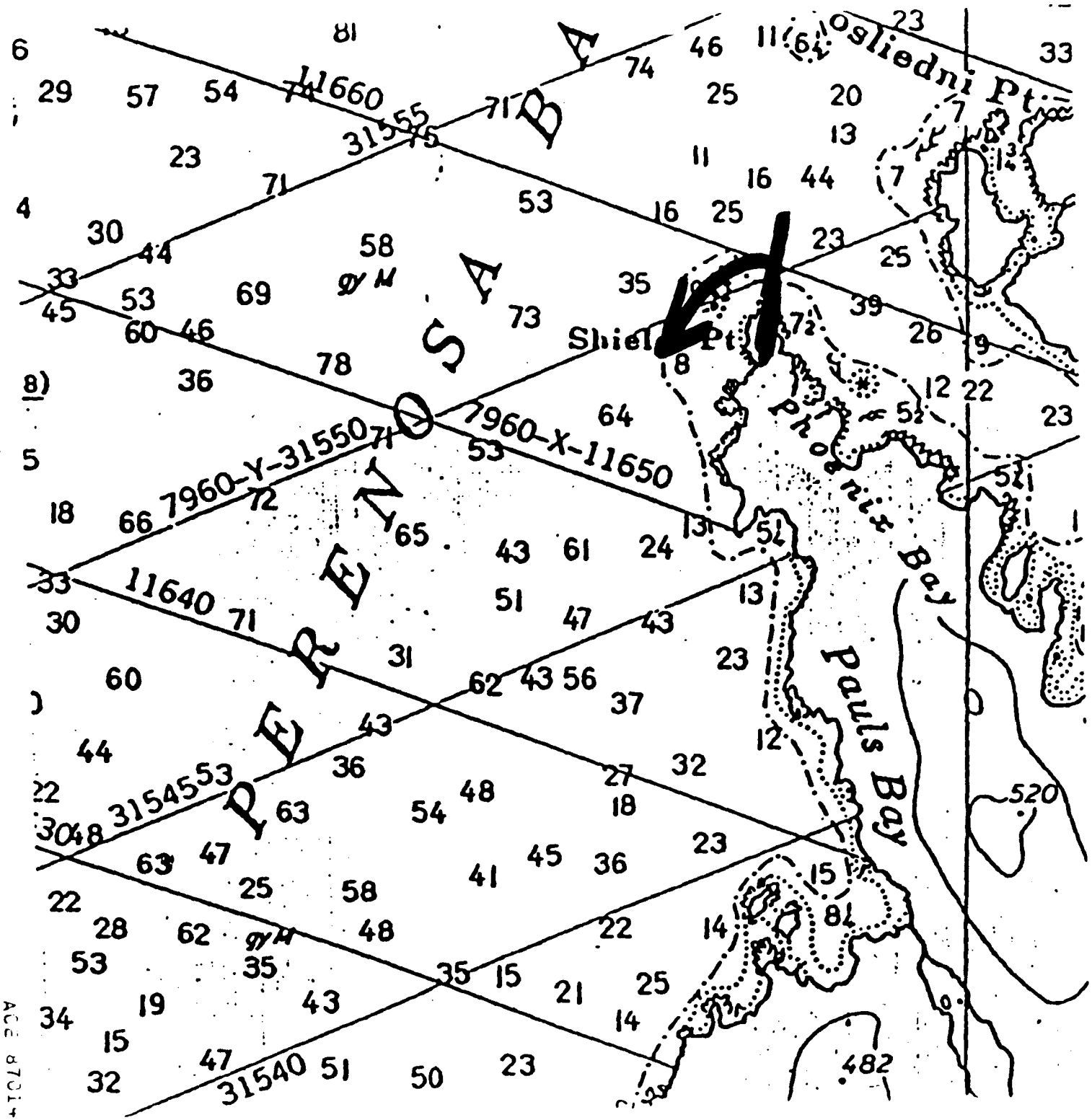
CLEANUP PRECAUTIONS: No clean up. Restrict access to segment particularly Beaches 5 and 8 (Anadromous Streams) Locals are cleaning the errant tarball from these Beaches

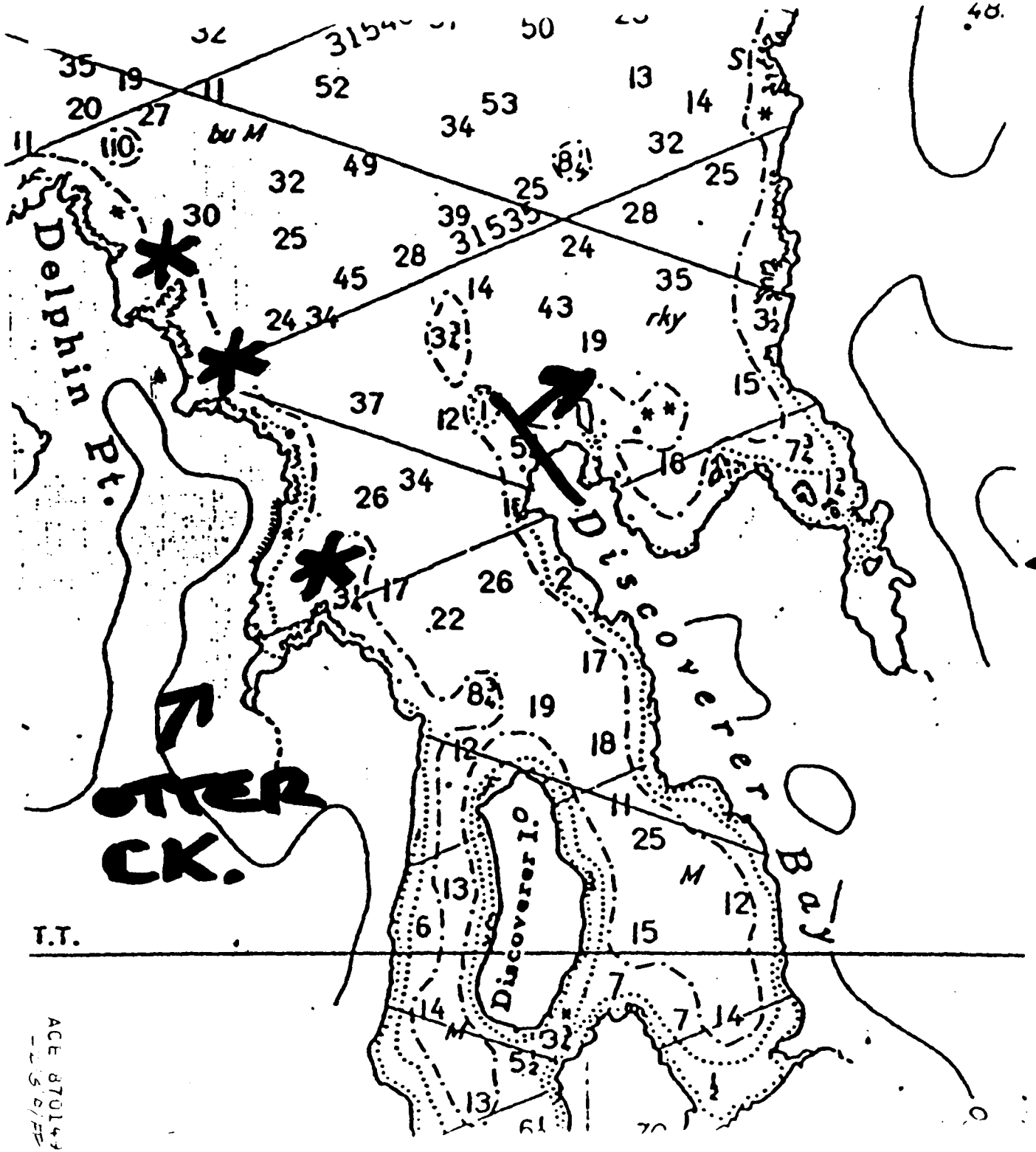
MAMMALS: Otters 10 Harbor Seals ___ Sea Lions ___ Whales ___
Other Red and Silver Fox (≈5)

BIRDS: oldsquaws, eagles, gulls, crows

GENERAL OBSERVATIONS: This segment is clean. No organisms are impacted by oil. Less than 20 tarballs were seen in the entire seg.

ACE 870149


PE-1
192
Osliedni Pt
Shiel Pt
Paul's Bay
Paul's Bay
7960-Y-31550
7960-X-11650
11640
31545
31540
11660
31555
11650
520
482



PE-1

292

NOTE :

These 3 pockets have trace mousse balls and are most likely impacted in this area.

NOT DOCUMENTED AT THIS TIME.

K1-17

ACE 8643487

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 8/05/89 SHORELINE SEGMENT K1-17-PH-4

LOCATION: (see enclosed map) North west Phoenix Bay

ADEC NO. SHORELINE ASSESSMENT DATE: 8/03/89

Recommended Cleanup Activity(ies):
-No cleanup recommended due to very light oiling, ecological constraints, and high potential for natural cleaning. Subject to FOSC reassessment at a later date.

Priorities/Considerations: Class: 5-B
-Boat access may be restricted due to offshore rocks and high wave exposure.

Ecological Constraints (from site survey):
-No cleanup recommended as little or no impacts noted on ecology and cleanup crews will probably cause more impacts than no action.

Archaeological Constraints (from site survey):
-If cleanup is planned, inspection by an archaeological monitor is required in archaeologically sensitive areas of this segment.

Douglas Reger Date: 8-11-89
State Historic Preservation Officer *

EXXON: Date:

FOSC: Date:

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

T/F S
ACE 8701499

(Version July 05, 1989)

SHORELINE OIL EVALUATION

Date: 8/3/89 / Time: 11:15 - 13:00 Observer: HAROLIEN DEBOSSCHERE
Surveyed From (Foot)/(Boat)/Helio/Plane Weather: (Sun)/Cloud/Rain/Snow/Fog

LOCATION

Location: NORTH WEST PHOENIX BAY Segment ID: KI-17 PH-4
Segment Length: 2750 m. Access: Vehicle/(Boat)/(Barge)/(Helio)/(Float Plane)
Access Restrictions: OFFSHORE ROCKS - HIGH WAVE EXPOSURE

SHORELINE

Shoreline Type: SPI/(BER)/(COV)/(HLD)/STRT Slope: Lo/(Med)/(HI)/(Vert)
Wave Exposure: (High)/Med/Low
Sediment: B 30 % / C 15 % / P 10 % / G&S 5 % / M 0 % / R 40 %

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 0 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)
Very light:		
Light:		
Moderate:		
Heavy:		

Thickness >1cm: 0 cm SU/SP/H/M/L
Penetration/Rework: 0 cm SU/SP/H/M/L
Burial Depth: 0 cm 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: LOG

OIL MORPHOLOGY

Pooled Oil:	0 %		SU/SP/H/M/L
"Free" Oil:	0 %		SU/SP/H/M/L
Splattered:	100 %	H/M/L/(VL)	SU/SP/(H)/M/L
Coated:	0 %	H/M/L/VL	SU/SP/H/M/L
Pancakes/Balls:	0 %		SU/SP/H/M/L

Preliminary Cleanup Est.
Total TYPE A: 0 m
Total TYPE B: 0 m
Total TYPE A/B: 0 m

OIL WEATHERING

Fresh:	0 %	SU/SP/H/M/L
Mousse:	0 %	SU/SP/H/M/L
Weathered Mousse:	0 %	SU/SP/H/M/L
Asphalt Mousse:	0 %	SU/SP/H/M/L
Tar:	100 %	SU/SP/(H)/M/L

COMMENTS

MOST OF SEGMENT IS INACCESSABLE (90%) CONSISTING OF CLIFFS, BOULDER BEACHES & OFFSHORE ROCKS. THE LARGE G&S BEACHES OBSERVED HAD VERY LIGHT OILING ON HIGH TIDAL AREA. ALTHOUGH SEVERAL PITS WERE DUG, NO OIL WAS OBSERVED IN SUBSURFACE (BEACH HAS HIGH POTENTIAL FOR BURIED OIL BUT ALSO FOR NATURAL WASHING.

ACE 8701500

DOCUMENTATION:

Map/Aerial photo marking segment boundaries ATTACHED

VTR: Y/(N) Tape Number(s) _____

Photography: Y/(N) Roll Number(s) _____

Sample Numbers Collected: —

FIELD NOTES

DEGREE OF OILING

ECOLOGICAL EVALUATION

LOCATION: Afognak SITE: Phoenix Bay OBSERVER: Amdur

LOCATION PREFIX: KI-17 SEG. NO.: PH-4 LENGTH: _____ (M)

DATE: 08/03/89 TIME (HHMM): 11:30 TIDE HT.: +.3 (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 everywhere except on Sand/gravel beaches. higher exposure here. mostly more exposed marine algaes - endocladia, Halosaccion, Broadleaf Browns.

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

few specs w/ mussels beds.

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

Dense banding on boulders

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

Dense in areas

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

Under rocks. Some chitons

OTHER OBSERVATIONS: more marine environment. less baylike. more exposure. lots of Sandlance on beaches (50-100+) Foxes feeding on fish along w/ Kittywaker and Crows/Ravens

CLEANUP PRECAUTIONS: Very little oil, Cleanup may do more Harm Than good.

MAMMALS: Otters 4+ Harbor Seals 0 Sea Lions 0 Whales 0
Other Fox

BIRDS: Kittywakes Northwestern Crow Arctic Raven.

GENERAL OBSERVATIONS: Healthy environment.

ACE 8701502

M. DEBOSSCHERE

3/89 HI-17 PH-4 11:15

LOCATION (1)

STEEP B-BEACH - NO OIL

SKIFF: R & STEEP B-BEACH

LOCATION (2)

L6. G&S BEACH

THR SPLASH AT H — NATURAL WASHING / - HIGH ENERGY - POTENTIAL OF BURIED OIL

SKIFF: CLIFF WOLFSHORE ROCKS & B-BEACH AT L/H

LOCATION (3)

L6. G&S BEACH:

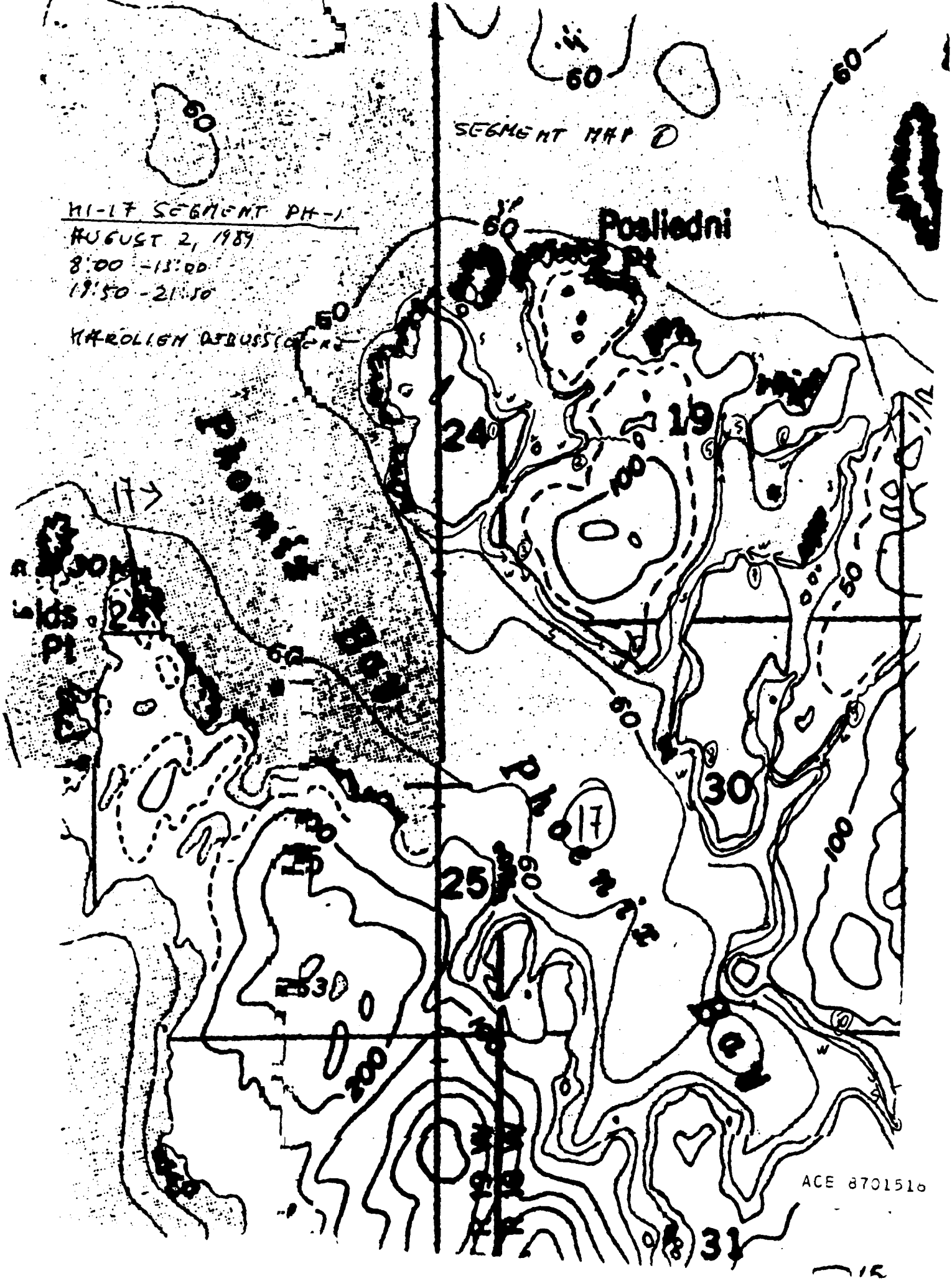
THR SPLASH AT L — ON LOGS & PEBBLES

FLANKING G/B BEACH: THR SPLASH AT H&M

- POTENTIAL FOR BURIED & NATURAL WASHING.

13:00

ACE 8701503


SEGMENT MAP D
HI-17 SEGMENT PH-1
AUGUST 2, 1989
8:00 -13:00
19:50 -21:50
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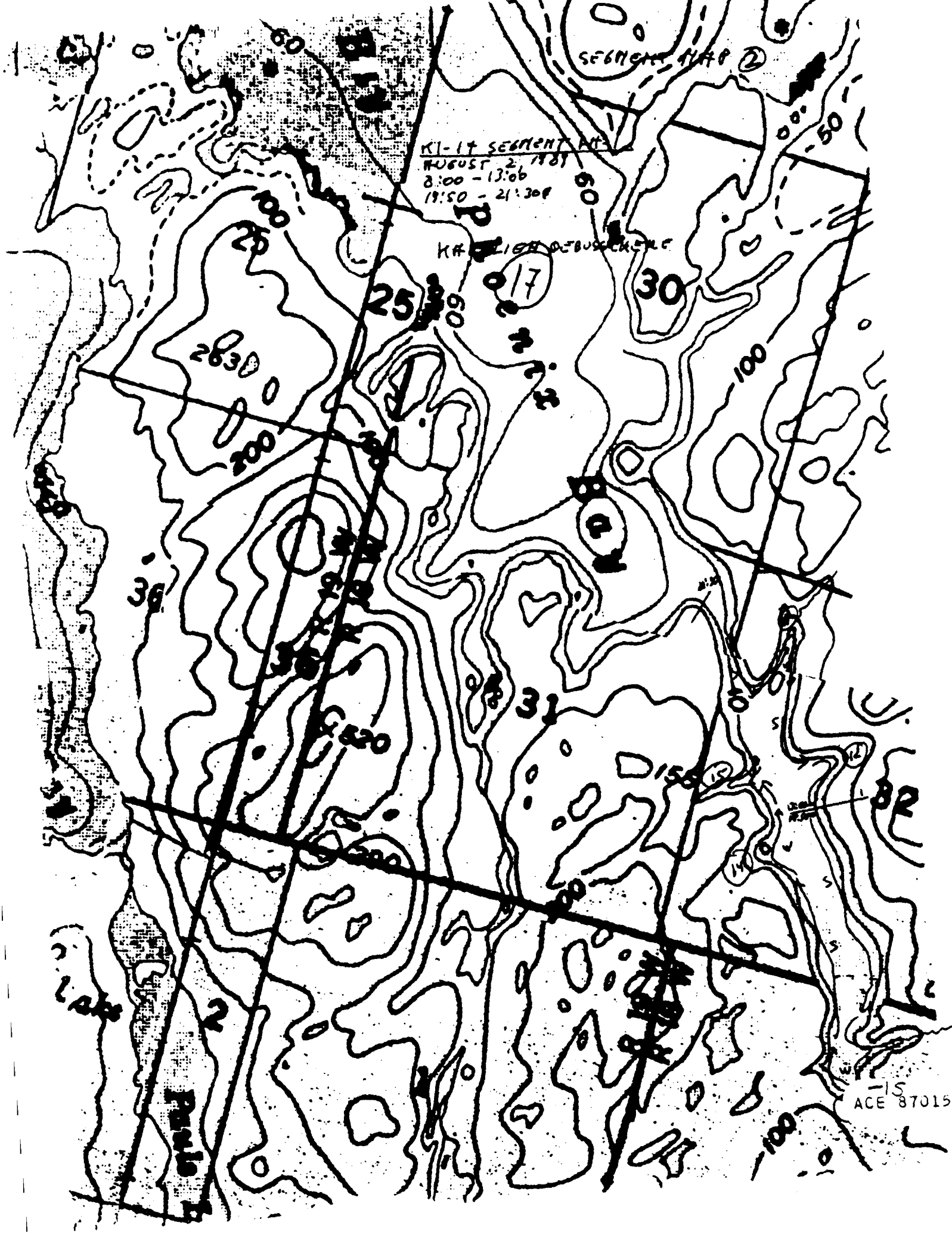
ACE 8701516


KI-17 SEGMENT MAP
AUGUST 2, 1987
8:00 - 13:00
19:50 - 21:30
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SEGMENT MAP 2
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ACE 870151

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 8/05/89 SHORELINE SEGMENT K1-17-PH-2

LOCATION: (see enclosed map) South-west of Phoenix Bay

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 8/03/89

Recommended Cleanup Activity(ies):
- -Manual removal of weathered and asphalt mousse (both surficial and buried) at location #2 (see map).
- -No cleanup recommended at other locations due to very light oiling. Subject to FOSC reassessment at a later date.

Priorities/Considerations: Class: 3-B
- -Shallow intertidal zone.

Ecological Constraints (from site survey):
- -Small cleanup crews (5 or less) should be used to minimize impacts.
- -Restrict sediment removal to less than 1 inch.
- -Work at mid tide plus or take appropriate measures to protect lower 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.

Douglas Reger Date: 8-11-89
State Historic Preservation Officer *

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

1/5
ACE 8701518

(version July 05, 1989)

SHORELINE OIL EVALUATION

Date: 8/3/89 / Time: 7:50 - 9:15 Observer: KAROLIEN DEBUSSCHERE
Surveyed From: (Foot) (Boat) Helio/Plane Weather: Sun/(Cloud)/Rain/Snow/Fog

LOCATION

Location: SOUTH-WEST PHOENIX BAY Segment ID: KI-1* PH-2
Segment Length: 1290 m. Access: Vehicle/(Boat)/Barge/(Helio)/(Float Plane)
Access Restrictions: SHALLOW

SHORELINE

Shoreline Type: SPI/(BEA)/(COV)/(HLD)/STRT Slope: Lo/(Med)/(Hi)/Vert
Wave Exposure: High/(Med)/Low
Sediment: B 15 % / C 10 % / P 15 % / G&S 50 % / M 5 % / R 5 %

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 15 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)
Very light:		
Light:		
Moderate:	200	2
Heavy:		

Thickness >1cm: 2 cm SU/SP/(H)/M/L
Penetration/Rework: 0 cm SU/SP/H/M/L
Burial Depth: 2 cm 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:	0 %		SU/SP/H/M/L
"Free" Oil:	0 %		SU/SP/H/M/L
Splattered:	0 %	H/M/L/VL	SU/SP/H/M/L
Coated:	0 %	H/M/L/VL	SU/SP/H/M L
Pancakes/Balls:	100 %		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:	0 %	SU/SP/H/M/L
Mousse:	10 %	SU/SP/(H)/(M)/L
Weathered Mousse:	20 %	SU/SP/(H)/(M)/L
Asphalt Mousse:	60 %	SU/SP/(H)/(M)/L
Tar:	0 %	SU/SP/H/M/L

COMMENTS

MAIN PART OF SEGMENT CONSISTS OF 6 AS BEACHES. ONLY ONE OF THOSE IS MODERATELY OILED: LOCATION (2) (SEE NOTES & SKETCH MAP) OIL IS HEAVIEST ALONG H TIDE ZONE. POTENTIAL OF NATURAL WASHING IS MINIMAL SOME OF THE OIL IS ALREADY BURIED AND BEACH IS IN A RELATIVELY PROTECTED LOCATION.

I 15% IS INACCESSIBLE

ACE 8701519

KI-17 PH-2

DOCUMENTATION:

Map/Aerial photo marking segment boundaries ATTACHED

VTR: Y (N) Tape Number(s) _____

Photography: (Y) N Roll Number(s) JA-1 photos #12 & 13

Sample Numbers Collected: —

FIELD NOTES

MAP OF DEGREE OF OILING

3/3/89 KI-17 PH-2

KAROLIEN DEBUSSCHERE

7:50

SKIFF: V/C/E/GAS BEACH

LOCATION ①

LARGE GAS BEACH WITH ADDITIONAL A III/IV/L

- TAR BALLS & WEATHERED MOUSSE PATTIES AT H & M

FUEL OIL POTENTIAL

ON FLANKING C-BEACHES: MOUSSE PATTIES AT M-L

& WEATHERED " "

!! ON BOULDERS AT W-END WRITTEN IN OIL "EX OFF, EXXON SUCKS!"

SKIFF: C-BEACH

LOCATION ②

LARGE GAS BEACH TAR BALLS SPORADIC AT M

- WEATHERED/ASPHALT MOUSSE AT H. TIDE ± CONT

±3M BELOW VEG

- BURIED ASPHALT MOUSSE (± 2 CM DEEP & 2CM THICK)

± 6M BELOW VEG.

SEE SKETCHES

SKIFF: C-BEACH

LOC ③ & ④: C. BEACHES W ROCK IN BETWEEN

WEATHERED MOUSSE AT H & M

SOME " PATTIES AT H

" TAR BALLS AT "

→ MORE EXPOSED THEN ② → LESS OIL - NO CLEANUP

SKIFF: ROCK & C-BEACHES

LOCATION ⑤

G. BEACH AT H & M; P/C AT M/L

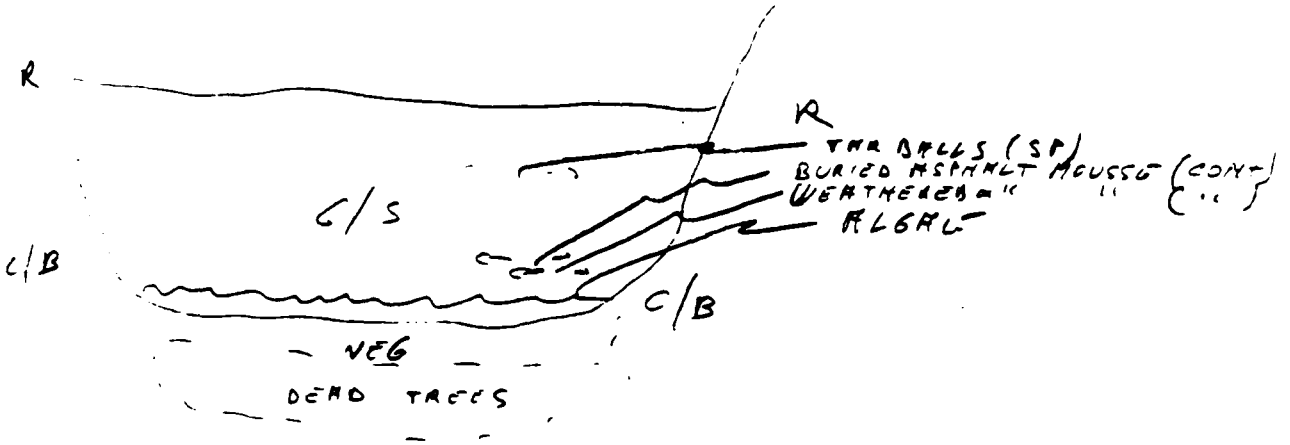
OIL SAMPLES IN ② & ④

ACE 8701521

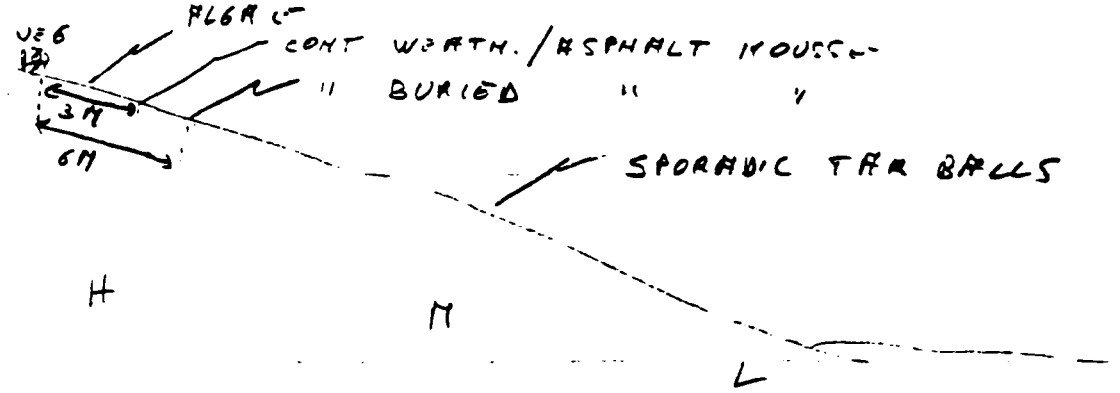
END 9:15

K1-17 PH-2 K. DEBUSSCHERE

LOCATION ②



* - SECTION FOR LOC ②



ACE 8701522

ECOLOGICAL EVALUATION

LOCATION: Afognak SITE: Pumice bay OBSERVER: Andrus

LOCATION PREFIX: K1-17 SEG. NO.: PH-2 LENGTH: 1290 (M)

DATE: 08/03/89 TIME (HHMM): 0750 TIDE HT.: ±0.0 (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

Beds of fucus, and ulva (some filamentous green) only on larger rocks.

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

found mixed with Cobbles.

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

Sporadic dense B. glandula and other larger species

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

Some areas very dense.

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

under rocks - Some Chitons as well.

OTHER OBSERVATIONS: Numerous Pagurus sp., Gunnels under rocks Pygnogonids abundant, dense Gammaridea (Amphipod) under larger rocks, nematods present in great numbers

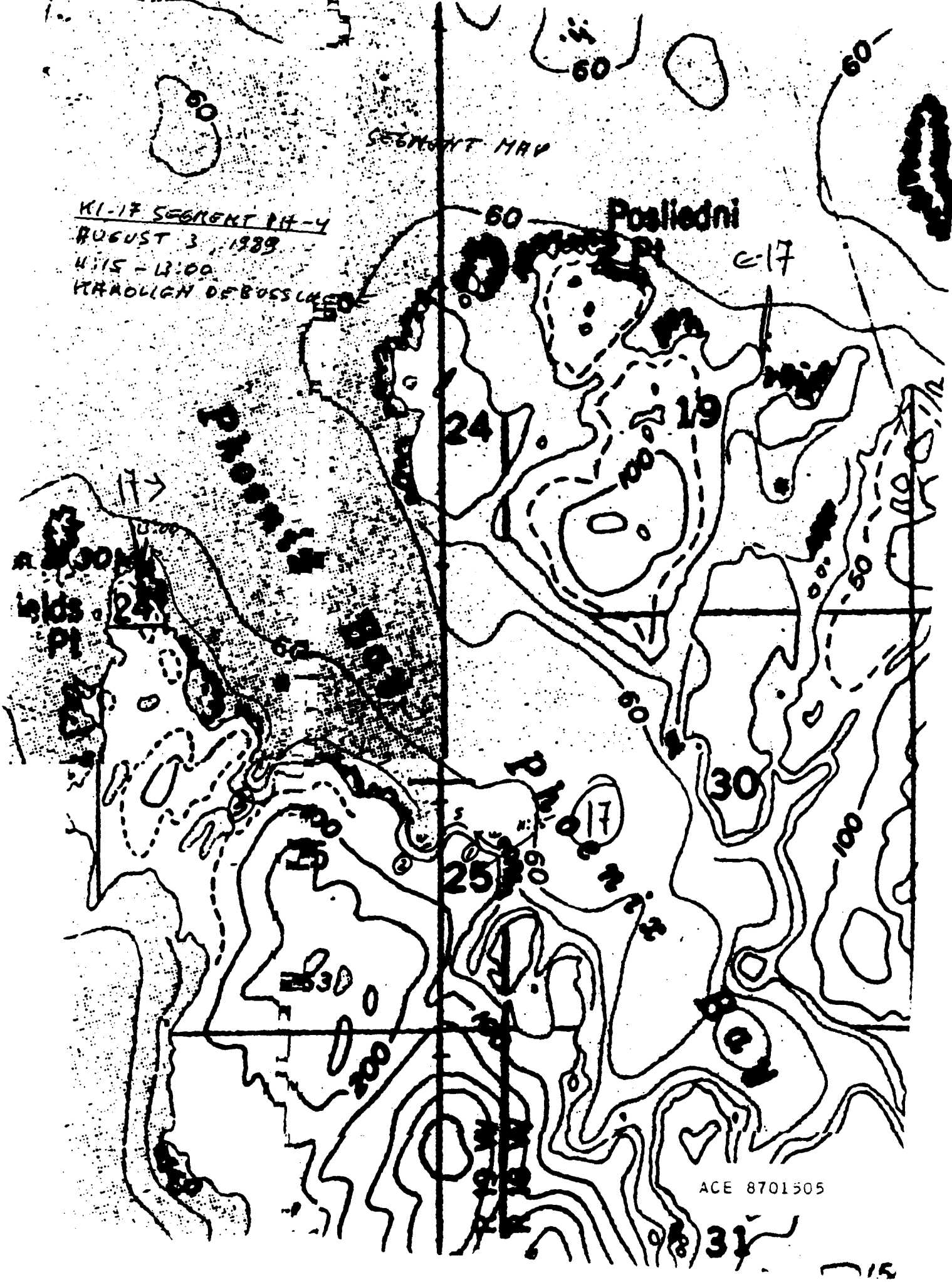
CLEANUP PRECAUTIONS: Small crews of no more than 5 on beach at +6' Tide or better. Type A only and do not remove more than ~3cm of surface

MAMMALS: Otters 2 Harbor Seals 0 Sea Lions 0 Whales 0
Other Bear-trails.

BIRDS:

GENERAL OBSERVATIONS:

ACE 8701523


KI-17 SEGMENT MAP-4
AUGUST 3, 1989
4:15 - 13:00
HYDROLIGH DEBOSSING
SEGMENT MAP
Posliedni
C-17
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ACE 8701505
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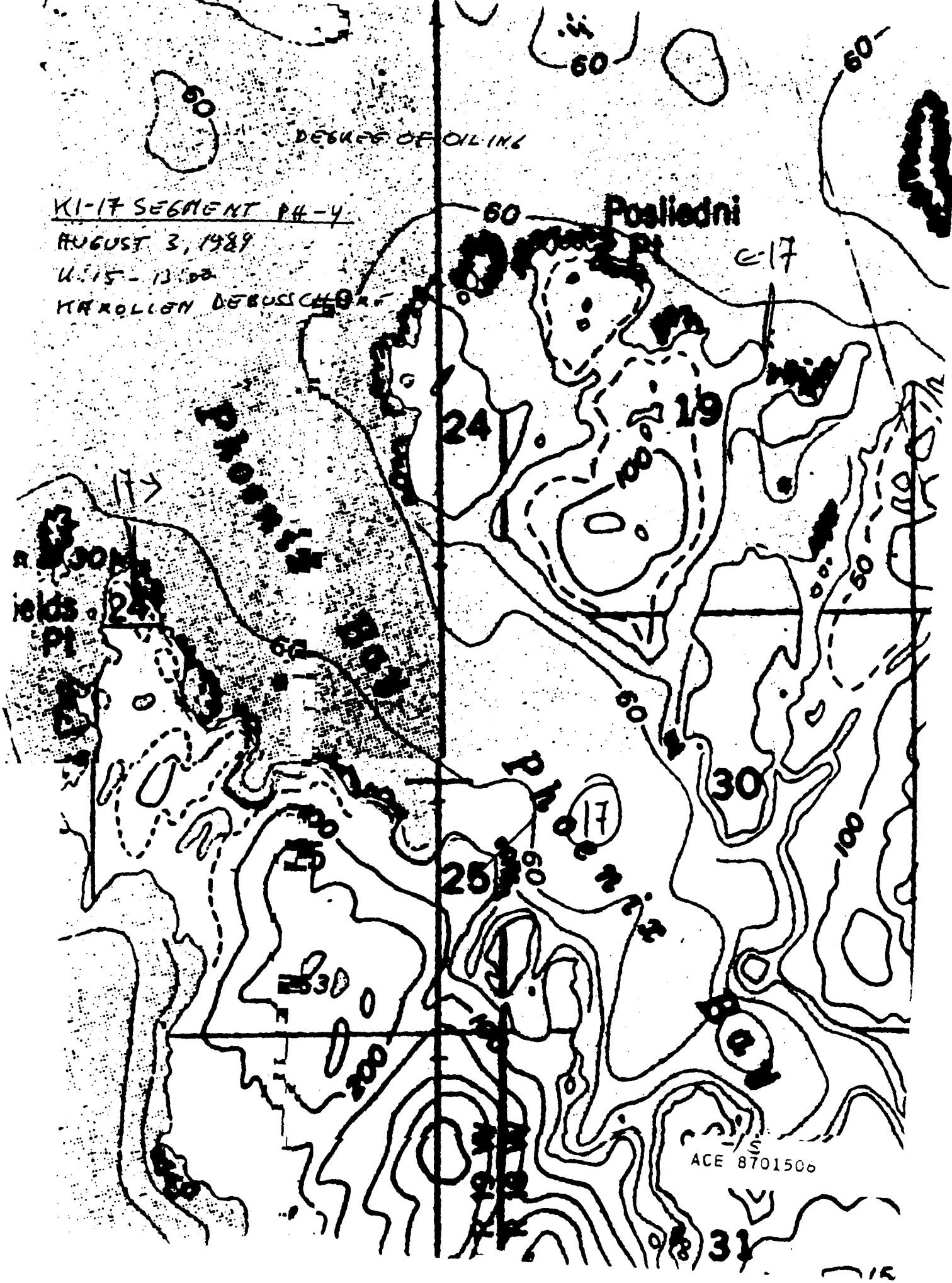
DEGREE OF OILING
KI-17 SEGMENT PH-4
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ACE 8701506
31

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 8/05/89 SHORELINE SEGMENT K1-17-PH-1

LOCATION: (see enclosed map) East and South Phoenix Bay

ADEC NO. SHORELINE ASSESSMENT DATE: 8/02/89

Recommended Cleanup Activity(ies):

-No cleanup recommended due to light oiling at only one location and ecological constraints given below. Subject to FOSC reassessment at a later date.
-If cleanup is required at location 2, manual removal of the top 1 inch of oiled sediments is recommended.

Priorities/Considerations: Class: 5-B

-Shallow intertidal area.

Ecological Constraints (from site survey):

-Little to no ecological impacts noted or expected. Cleanup crews may cause more damage than oil (especially soft sediment beaches) and as such, no cleanup is recommended.

Archaeological Constraints (from site survey):

-If cleanup is conducted an archaeological monitor is required prior to and during cleanup activity in this segment.

Douglas Regle Date: 8-11-89

State Historic Preservation Officer *

EXXON: Date:

FOSC: Date:

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

ACE 8701507

(version July 05, 1989)

SHORELINE OIL EVALUATION

Date: 8/2/89 / Time: 8:00-13:00, 19:30-21:30 Observer: KAROLIEN DEBUSSCHERE
Surveyed From: Foot/Boat/Helio/Plane Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

Location: EAST & SOUTH PHOENIX BAY Segment ID: KI-1Z PH-1
Segment Length: 14625 m. Access: Vehicle/Boat/Barge/Helio/Float Plane
Access Restrictions: SHALLOW H2O

SHORELINE

Shoreline Type: SPI/BEA/COV/HLD/STRT/ISLAND Slope: Lo/Med/Hi/Vert
Wave Exposure: High/Med/Low
Sediment: B 25 % / C 20 % / P 25 % / G&S 20 % / M 5 % / R 5 %

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 .05	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)
Very light:		
Light:	7	1
Moderate:		
Heavy:		

Thickness >1cm: 0 cm SU/SP/H/M/L
Penetration/Rework: 0 cm SU/SP/H/M/L
Burial Depth: 0 cm 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: LOGS

OIL MORPHOLOGY

Pooled Oil:	0 %		SU/SP/H/M/L
"Free" Oil:	0 %		SU/SP/H/M/L
Splattered:	5 %	H/M/L/VL	SU/SP/H/M/L
Coated:	0 %	H/M/L/VL	SU/SP/H/M/L
Pancakes/Balls:	95 %		SU/SP/H/M/L

Preliminary Cleanup Est.

Total TYPE A: 0 m
Total TYPE B: 0 m
Total TYPE A/B: 0 m

OIL WEATHERING

Fresh:	0 %	SU/SP/H/M/L
Mousse:	5 %	SU/SP/H/M/L
Weathered Mousse:	55 %	SU/SP/H/M/L
Asphalt Mousse:	35 %	SU/SP/H/M/L
Tar:	5 %	SU/SP/H/M/L

COMMENTS

SEGMENT IS VERY UNIFORM IN MORPHOLOGY AND OILING. (MOSTLY P/C/G&S/B BEACHES WITH SOME G&S OR B BEACHES.
ONLY PLACE THAT HAS SOME MORE CONCENTRATED OILING IS LOCATION ②. OIL COULD BE SCOOPED UP WITH A SHOVEL IF CLEANUP IS REQUIRED. THE EXTEND OF THE OILING IS HOWEVER MINIMAL.
~30% IS INACCESSABLE

ACE 8701508

DOCUMENTATION:

Map/Aerial photo marking segment boundaries ATTACHED

VTR: Y/(N) Tape Number(s) _____

Photography: (Y)/N Roll Number(s) JA-1 photos 10 & 11

Sample Numbers Collected: —

FIELD NOTES
MAP OF DEGREE OF OILING

8/2/89 KI-17 PH-1 K. DECUSSCHEMC 8:00

SKIFF: CLIFF - B-BEACH AT FOOT OF CLIFF
SAG BEACH - MEDIUM GRAVEL
B-BEACH

LOCATION ①
ERASE - SAG BEACH - MEDIUM
LOGS: MOST
OIL: MOUSSE BALLS AT M-TIDE & H-TIDE LINE & SOME TARBALLS
AT M → VERY LIGHT - SHORELINE POTENTIAL OF BURIED OIL!
HIGH ENERGY ENVIRONMENT
→ B-BENCHES FOR FLANKING SAG BEACH
ON E-SIDE: ASPHALT MOUSSE ON ⊥ (VERY WEATHERED) AT M & H
SAME ONW BUT LESS OIL
MOBILIZATION OF OIL ON ROCKS IS LOW BUT HIGH ON SAG
HOWEVER ROCK WILL WASH/WEATHER

SKIFF: CLIFF & B / SAG BEACHES: ALONG ISLAND
LOCATION ②
LARGE INTERTIDAL (L & MOSTLY M) B/C REEF BETWEEN ISLAND
(WHICH HAS CLIFFS) - NO OIL FOUND
CONTINUE WALKING E: CLIFF W B-BEACH (STEEP BELOW M) ON M & H
WEATHERED MOUSSE (BLOBS) AS IN ① STARTING WHERE CHANNEL
IS IN DIRECT LINE WITH OPEN H2O. FIRST IS OIL PATCH
EAST OF LITTLE CREEK (SEE SKETCH) = 3M X 1M ± CONT BAND
OF WEATHERED MOUSSE PATTIES AT H.TIDE
CONTINUE N: ON SAG BEACH AT H-TIDE LINE CONT. BAND OF
MOUSSE PATTIES COVERED WITH G ⇒ SCOOP UP WITH SHOVEL
SKIFF: B-BEACH ANOTHER LITTLE INLET. SAME OILING

8/2/89 K1-17 FH-1 CONTINUED K. DeCUSTINERS

* ACROSS TO LITTLE SUNNY CLIFF/B - C/G BEACH IN CENTER PORTION OF NORTHERN END - CLIFF/R

ARCUATE CORING BOULDERS & RAGGED BENCHES BUT MOSTLY CLIFF WITH CONNECTING TO LOCATION (3)

* LOCATION (4)

- B/C/G BENCH ; FLATTENING STEEP TO FLAT BOTTOM OF CLIFF

* STEEP CLIFF & B-BENCHES

* LOCATION (2)

B-BENCH TO E. P/S & G/C/B BENCH TO W

MOUSSE PATTIES AT - LIGHT

* CLIFF, B-BENCH & CLIFF (FH-1 AND 2)

* LOCATION (5)

B-BENCH W WEATHERED MOUSSE (TR), ON S - C/G BENCH TO THE S : MOUSSE PATTIES AT H

KNIFF : VERTICAL RAFT

* LOCATION (6)

WIDE MEDIUM ANGLE C/B - BENCH TO THE W, IN COVE G. BENCH MOUSSE PATTY AT H & M - VERY SPORADIC

* LOCATION (7)

G. BENCH : MOUSSE PATTY & TAR BALLS AT H. TIDE

LITTLE COVE ; LOGS AT H

* STEEP RAGGED BENCH AT FOOT OF CLIFF

* LOCATION (8)

SPORADIC OILING AT H : WEATHERED MOUSSE PATTIES

LARGE C/P/B/G & S BENCH W. CLIFF AT H (B. TOWARDS SEA)

* STEEP : CLIFF W. B BENCHES & LITTLE G & S POCKET BENCHES

B/W ISLANDS : MED ANGLE C/P/B BENCHES W CLIFF AT H. TL

ACE 8701511

* LOC (9)

LITTLE INLET W. C/B/G BEACH AT CLIFF

POTENTIAL ANADROMOUS STREAM W MOUSSE (WEATHERED) PATTIES

AT H+4,0 TOWARD LAGOON

ALONG BEACHES SHEEN

* SHIFF: SHIFT C/B/G GAS BEACHES

* LOCATION (10)

P/C/G GAS BEACH AT BOTTOM OF CLIFF - SPORADIC OIL (WEATHERED MOUSSE) AT H+4 - SOME MOUSSE PATTIES

* SHIFF: SAME

* LOCATION (11)

POTENTIAL ANADROMOUS STREAM

CLIFF W P/C/G BEACH

* SHIFF: SAME

* LOCATION (12)

P/C/B GAS BEACH - NO OIL

13:00

CONTINUE PH-1 AT 19:50

* SHIFF: SAME

* LOCATION (13)

G/S BEACH & P/C AT H

POTENTIAL ANADROMOUS STREAM

MOUSSE PATTIES WEATHERED AT SP W MOTICE - NO CLEANUP

* SHIFF: SAME

* LOCATION (14)

SAME BEACH: NO OIL

ACE 8701512

* LOCATION 15

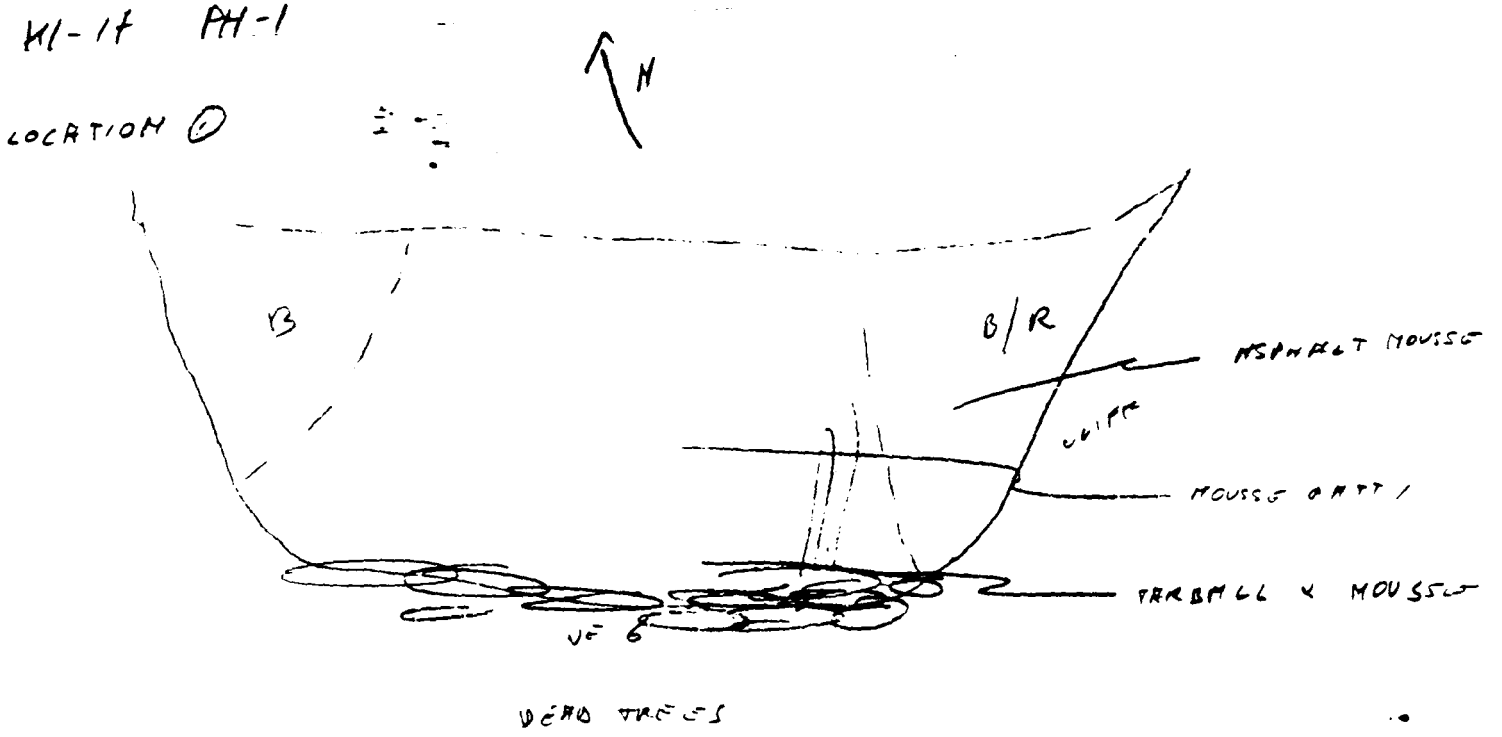
SAME BEACH: POTENTIAL ANADROMOUS STREAM

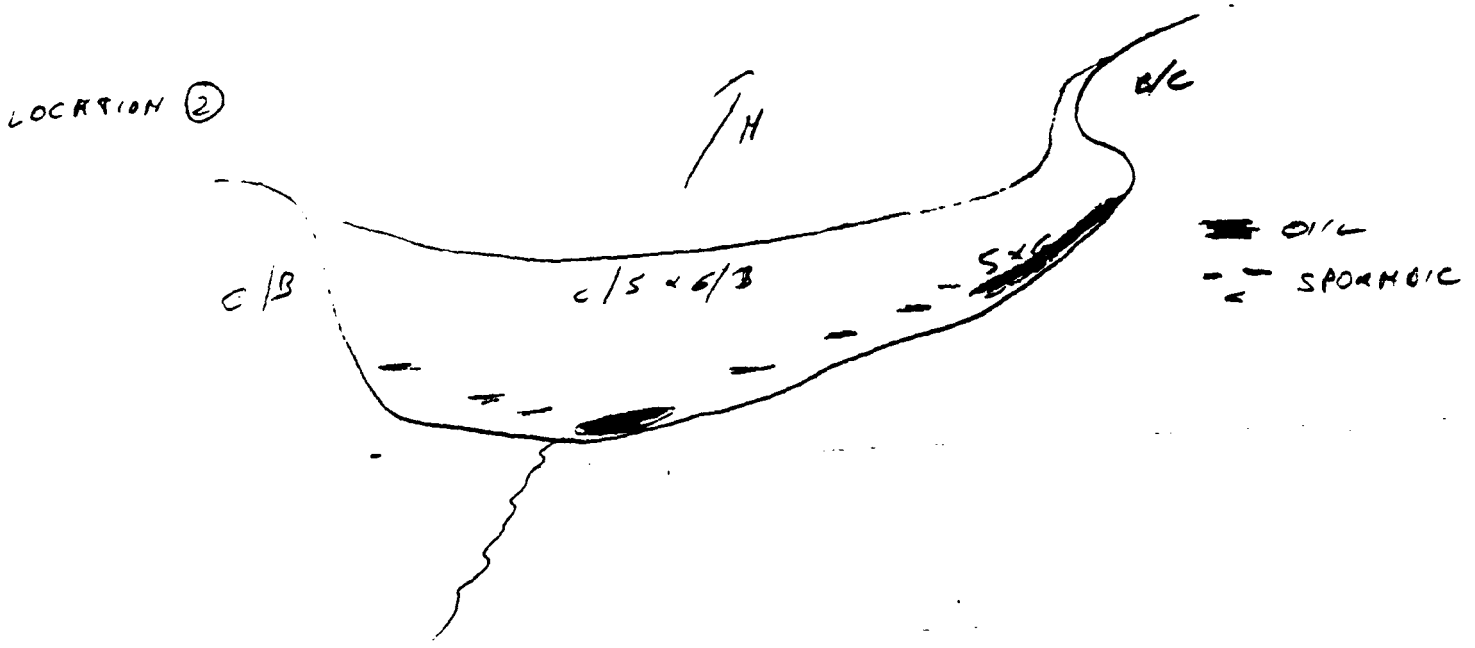
SE AT SPRUCE

21:30

K. DEBUSSCHERE

KI-1F PH-1





ACE 8701513

ECOLOGICAL EVALUATION

LOCATION: Afognak SITE: Phoenix bay OBSERVER: Amdur

LOCATION PREFIX: K1-[illegible] SEG. NO.: PH-1 LENGTH: 14624 (M)

DATE: 08/03/89 TIME (HHMM): 0800 TIDE HT.: -.3 (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, Ulva, enteromorpha clumped in quiet backwaters along cut Diatoms, filamentous browns exposed areas have more endodadia and Halosaccion.

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

most of the mytilus is found between rocks (cobble) and on pebble beaches where the pebbles are not flat and overlapping.

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

Extremely dense in this area w/ thick beds on large rocks and sparse on cobble-pebble beaches.

Littorina

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

extremely dense in some areas, to Sparse or Sparse in beds.

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

often found under rocks.

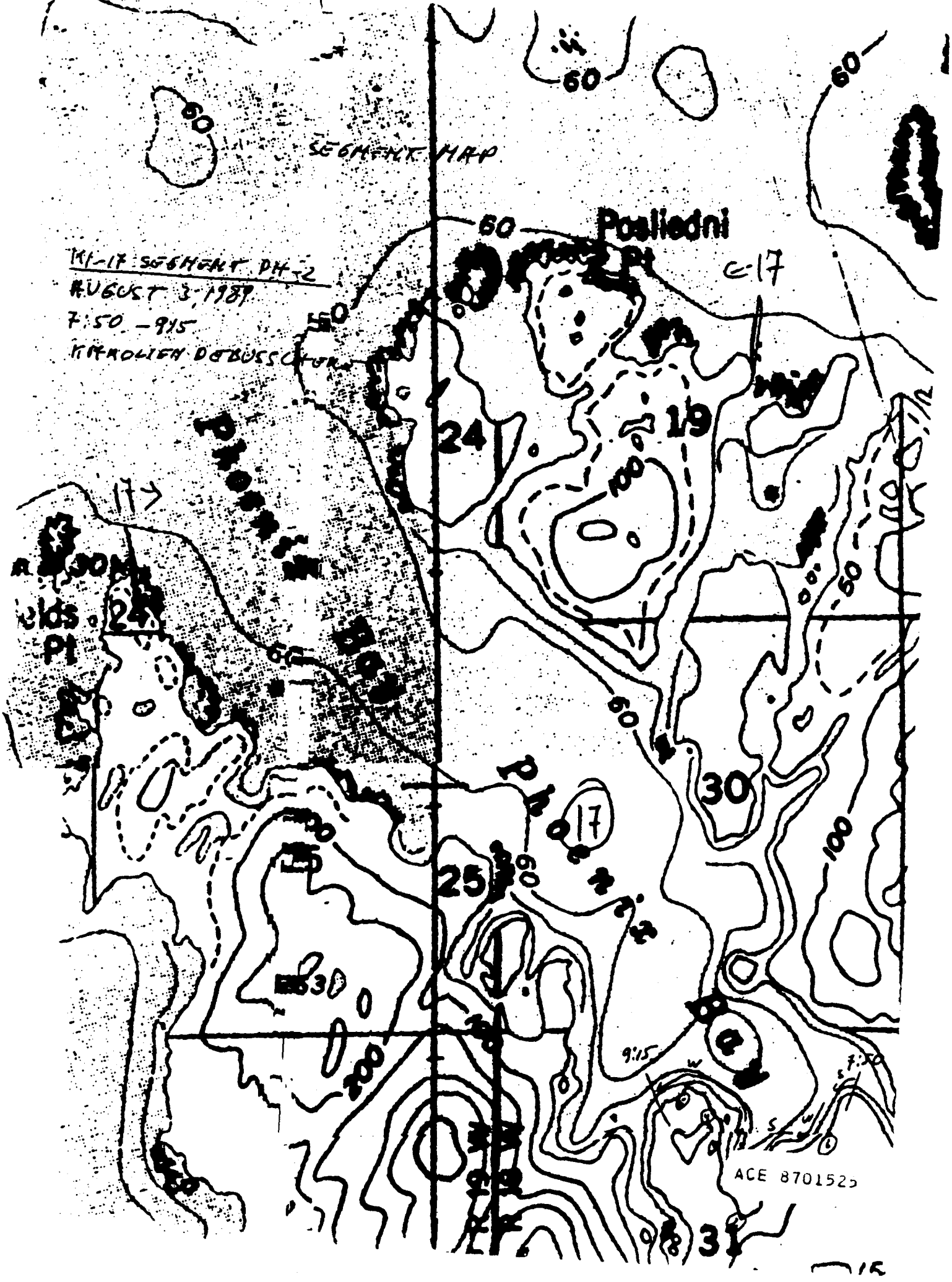
OTHER OBSERVATIONS: This sp. of gastropod common (usually under rocks), Common amphipods also common in cobbles. Numerous Urechis worms and Terebellidae as well as other polychaetes and nematodes, in areas w/mud, sand base (Backwaters). Gunnels and Pygnogiden (Sea spiders) present.

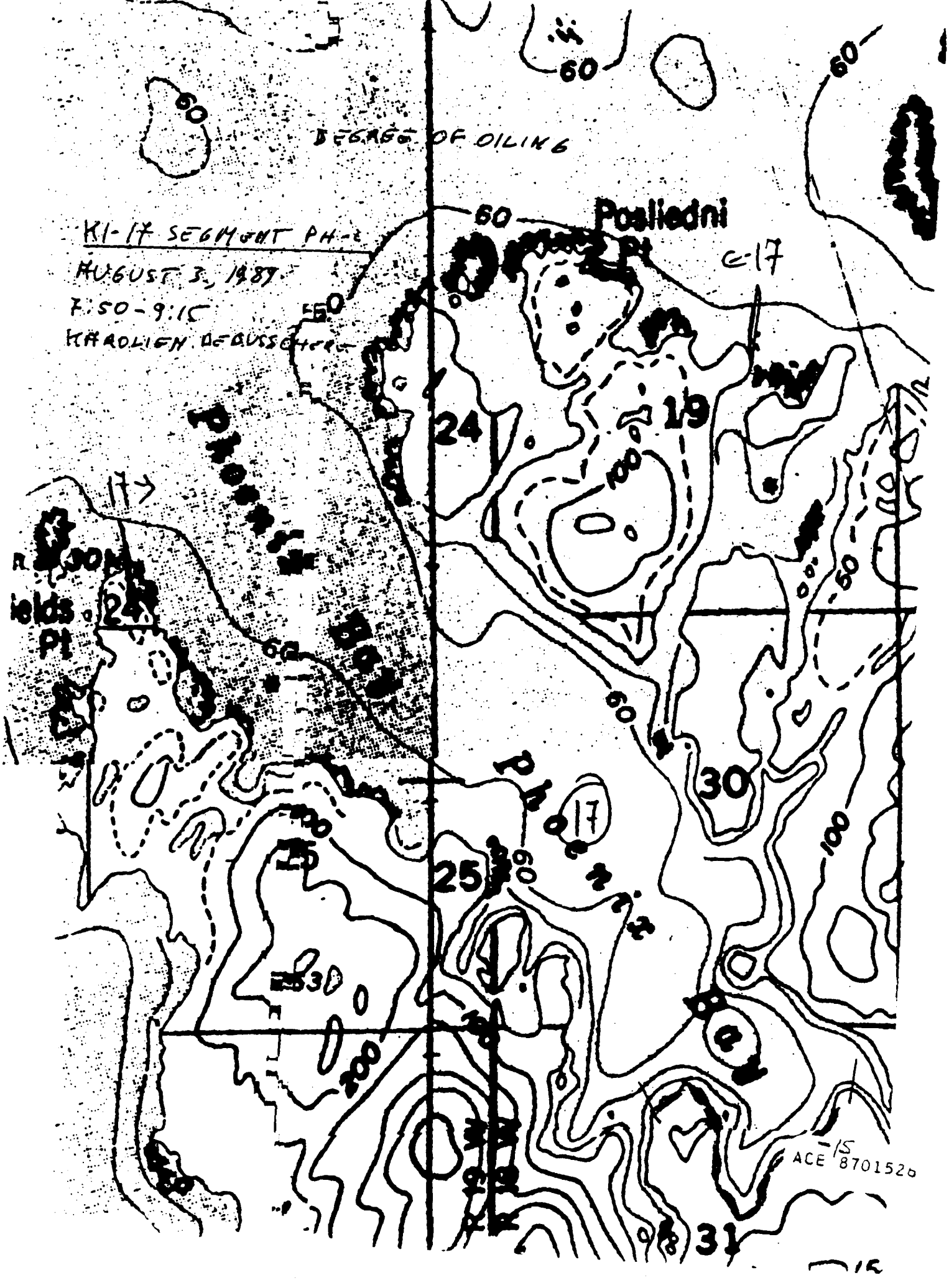
CLEANUP PRECAUTIONS: Very little oil with little to no impact on ecology. No cleanup is recommended, Crews on beaches (especially soft. beaches) will cause more damage

MAMMALS: Otters 5 Harbor Seals 0 Sea Lions 0 Whales 0
Other 10 Fox, Deer tracks

BIRDS: Northwestern Crows, Gullimots, Kittiwakes, Harlequin Ducks and others.

GENERAL OBSERVATIONS:


SEGMENT MAP
Posliedni
I-17 SEGMENT PM-2
AUGUST 3, 1987
7:50 - 9:15
KAROLIEN DEBUSSCHER
I-17
60
50
24
19
100
30
25
17
200
9:15
7:30
ACE 8701525


EDGE OF OILING
KI-17 SEGMENT PH-2
AUGUST 3, 1989
7:50-9:15
KAROLIEN DEGUSSCHER
Poslednı
C-17
60
24
19
30
25
31
17
ACE 8701520

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 8/05/89 SHORELINE SEGMENT K1-17-PH-3

LOCATION: (see enclosed map) Central west Phoenix Bay

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 8/03/89

Recommended Cleanup Activity(ies):
-No cleanup recommended due to light oiling and ecological constraints given below. Subject to FOSC reassessment at a later date.

Priorities/Considerations: Class: 5-B

Ecological Constraints (from site survey):
-No cleanup recommended due to very little oil and little to no impact ecologically.

Archaeological Constraints (from site survey):
-If cleanup is conducted and heretofore undiscovered cultural materials are uncovered, 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 Date: 8-11-89
State Historic Preservation Officer *

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

ACE 8701527

(version July 05, 1989)

SHORELINE OIL EVALUATION

Date: 8/3/89 / Time: 9:15 - 11:15 Observer: KATHLEEN DEBUSSCHERE
Surveyed From: Foot/Boat/Helio/Plane Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

Location: CENTRAL WEST PHOENIX BAY Segment ID: KI-17 PH-3
Segment Length: 4400 m. Access: Vehicle/Boat/Barge/Helio/Float Plane
Access Restrictions: SHALLOW

SHORELINE

Shoreline Type: SPI/BEA/COV/HLD/STRT Slope: Lo/Med/Hi/Vert
Wave Exposure: High/Med/Low
Sediment: B 20 % / C 20 % / P 30 % / G&S 10 % / M 10 % / R 10 %

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 0 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)			
Very light:			Thickness >1cm: 0 cm		SU/SP/H/M/L
Light:			Penetration/Rework: 0 cm		SU/SP/H/M/L
Moderate:			Burial Depth: 0 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: ——

OIL MORPHOLOGY

Pooled Oil: 0 %		SU/SP/H/M/L	
"Free" Oil: 0 %		SU/SP/H/M/L	Preliminary Cleanup Est.
Splattered: 0 %	H/M/L/VL	SU/SP/H/M/L	Total TYPE A: 0 m
Coated: 0 %	H/M/L/VL	SU/SP/H/M/L	Total TYPE B: 0 m
Pancakes/Balls: 100 %		SU/SP/H/M/L	Total TYPE A/B: 0 m

OIL WEATHERING

Fresh: 0 %		SU/SP/H/M/L
Mousse: 0 %		SU/SP/H/M/L
Weathered Mousse: 60 %		SU/SP/H/M/L
Asphalt Mousse: 30 %		SU/SP/H/M/L
Tar: 10 %		SU/SP/H/M/L

COMMENTS

MOST OF SEGMENT WAS WALKED. OILING IS LIGHT & SPORADIC — MOSTLY WEATHERED. BEACHES BELOW HIGH H₂O ARE DOMINATED BY PEBBLES, COBBLES, BOULDERS AND GRANULA & SAND TYPE BEACHES. THERE IS POTENTIAL FOR NATURAL WASHING

10% INACCESSIBLE

ACE 8701528

DOCUMENTATION:

Map/Aerial photo marking segment boundaries ATTACHED

VTR: Y/(N) Tape Number(s) _____

Photography: Y/N Roll Number(s) _____

Sample Numbers Collected: _____

FIELD NOTES

MAP OF DEGREE OF OCLING

9:15

5/3/89 MI-17 PH-3 M. DEBUSSCHERE

* SKIFF: 2 - 6 BERGERS
* LOCATION ①
C/P/G & S/G BEACH - POTENTIAL FINANCIAL STRANDING, SPORADIC OILING & MOUSSE WEATH. & ASPHALT) AT H
NO OILING IN LAGOON
* SKIFF: SAME BERGERS P/C/G/S
* LOCATION ②
G/C/S BEACH: MOUSSE PATTIES (WEATHERED) AT H & M
A LITTLE HEAVIER TOWARDS EAST
* [illegible]
* LOCATION ③
P/S/C/G BEACH: SPORADIC MOUSSE PATTIES M - (H) L
VERY FEW TAR BALLS AT H & SPORADIC ASPHALT AT H - M/L

11:15

ACE 8701530

ECOLOGICAL EVALUATION

LOCATION: Afognak SITE: Phoenix Bay OBSERVER: Amdur

LOCATION PREFIX: K1-17 SEG. NO.: PH-3 LENGTH: 4400 (M)

DATE: 08/03/89 TIME (HHMM): 0848 TIDE HT.: -.3 (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

light bands of fucus and lots of Diatoms, and filamentous algae.

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

Mytilus is in dense patches (but not many) mostly spread out around rocks.

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

lots of B. glandula

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

found thruout section, but in lower concentrations.

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

mostly under rocks, few clutches

OTHER OBSERVATIONS: Gunnels, Gammaridea, Pagamus sp., Ouiscolden lots of Clams (Macoma and Tresbycardium)

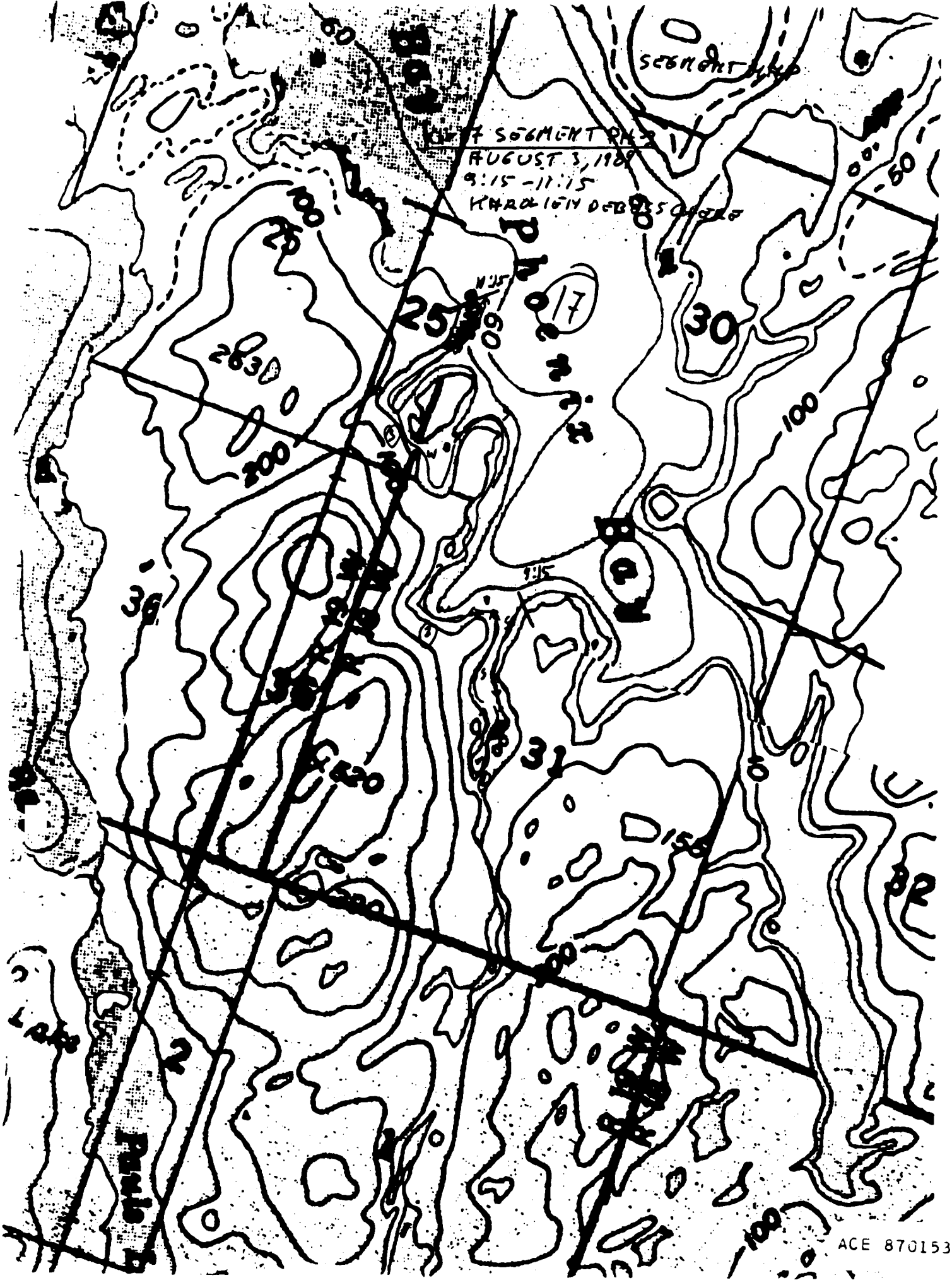
CLEANUP PRECAUTIONS: No Cleanup recommended.

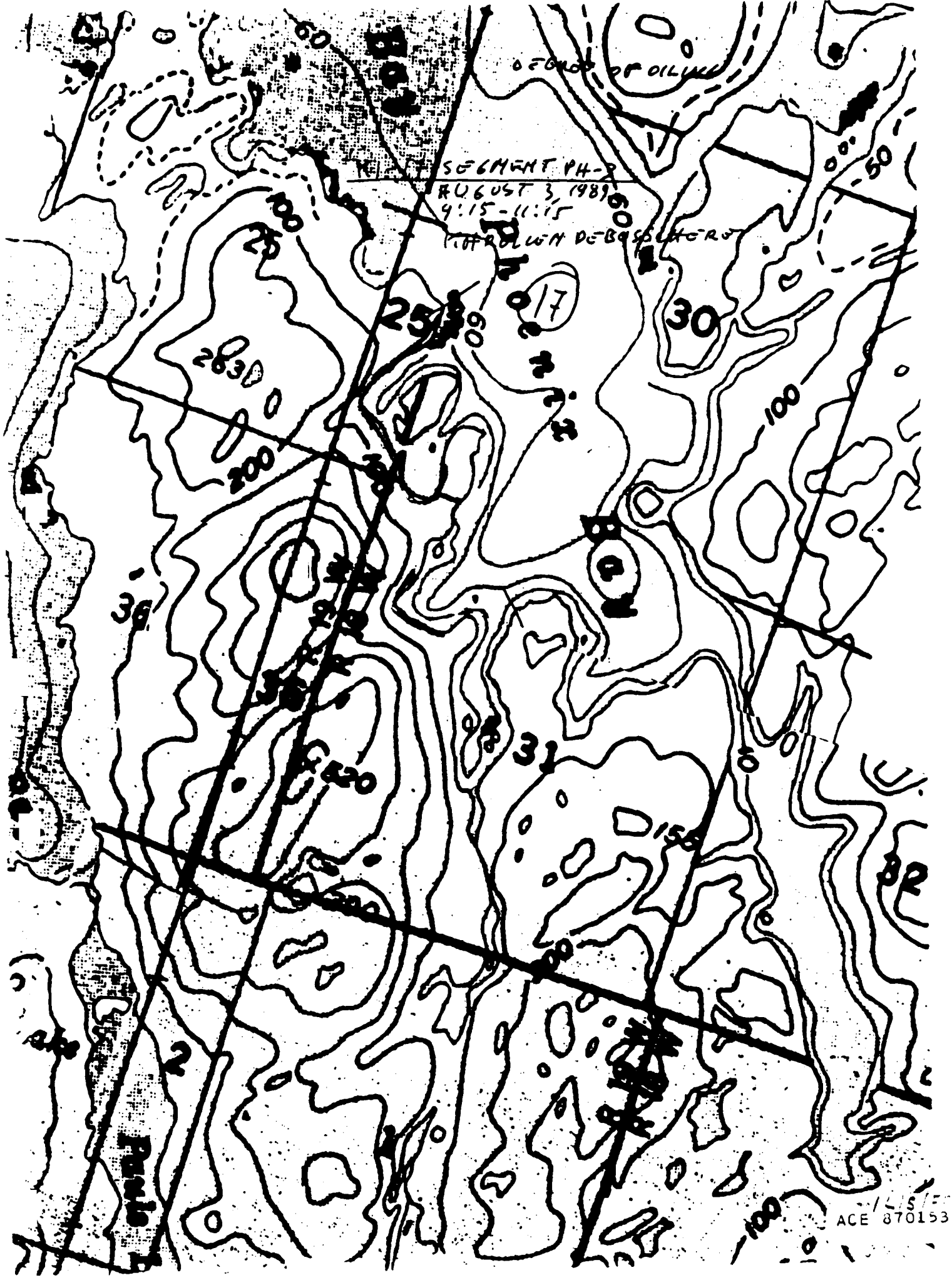
MAMMALS: Otters 2 Harbor Seals 0 Sea Lions 0 Whales 0
Other

BIRDS:

GENERAL OBSERVATIONS:

ACE 8701531


AUGUST 3, 1987
9:15 - 11:15
9:15
ACE 8701533


SEGMENT PH-2
AUGUST 3, 1989
9:15-11:15
17
30
31
ACE 8701534

K1-18

ACE 8643488

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/19/89 SHORELINE SEGMENT 1-18-DC-1

LOCATION: (see enclosed map) Posliedni Point to Duck Cape, north shore of Afognak Island

ADEC NO. K1 SHORELINE ASSESSMENT DATE: 7/19/89

Recommended Cleanup Activity(ies):
-Manual removal of mousse patties (see maps 1 and 2 and other areas shown on segment maps).

Priorities/Considerations: Class 5-A
-Helicopter access restricted due to predominately rocky/boulder beaches.

Ecological Constraints (from site survey):
-None.

Archaeological Constraints (from site survey):
-Inspection by archaeological monitor required prior to and during cleanup activities in this segment.
-No access to the forest/upland zone 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 4/21/89 as amended.

Douglas Reger Date: 8-2-89
State Historic Preservation Officer *

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

T/F/S
ACE 8701535

(version July 05, 1989)

SHORELINE OIL EVALUATION

Date: 7/19/89 / Time: 0845-1755 Observer: M. Acton
Surveyed From: (Foot)/Boat/(Helio)/Plane Weather: Sun/(Cloud)/(Rain)/Snow/Fog

LOCATION

Location: Poshedni Point to Duck Cape, Afognak Island (North shore,) Segment ID: KI-18-Dc-1
Segment Length: 4 miles m. Access: Vehicle/(Boat)/Barge/Helio/Float Plane
Access Restrictions: Limited helio access

SHORELINE

Shoreline Type: SPI/BEA/COV/HLD/STRT Slope: Lo/(Med)/Hi/(Vert)
Wave Exposure: (High)/Med/(Low)
Sediment: B 20 % / C 15 % / P ___ % / G&S 15 % / M 10 % / R 40 %

OIL

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

OIL DISTRIBUTION

Continuous % of Segment 10 SU/(SP)/(B)/M/L H/M/L/VL
Sporadic % of Segment 90 SU/(SP)/(B)/M/L H/M/(L)/VL

	Length(m)	Width(m)
Total		
Very light:	3.75 miles	5
Light:	0.25 miles	5
Moderate:		
Heavy:		

Thickness >1cm: ____ cm SU/SP/H/M/L
Penetration/Rework: ____ cm SU/SP/H/M/L
Burial Depth: ____ cm SU/SP/H/M/L

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

OIL MORPHOLOGY

Pooled Oil:	____ %		SU/SP/H/M/L
"Free" Oil:	____ %		SU/SP/H/M/L
Splattered:	____ %	H/M/L/VL	SU/SP/H/M/L
Coated:	____ %	H/M/L/VL	SU/SP/H/M L
Pancakes/Balls:	100 %		SU/(SP)/(B)/M/L

Preliminary Cleanup Est.
Total TYPE A: 0.5 miles 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:	100 %	SU/(SP)/(B)/M/L
Asphalt Mousse:	____ %	SU/SP/H/M/L
Tar:	____ %	SU/SP/H/M/L

COMMENTS

Helio access is limited. Section surveyed by helio. Mousse pools were observed at most foot surveyed areas. Manual removal of mousse pools.
See note Maps and segment maps for notes.
* SCAT team in boat should survey small beaches in segment.

ACE 8701536

DOCUMENTATION:

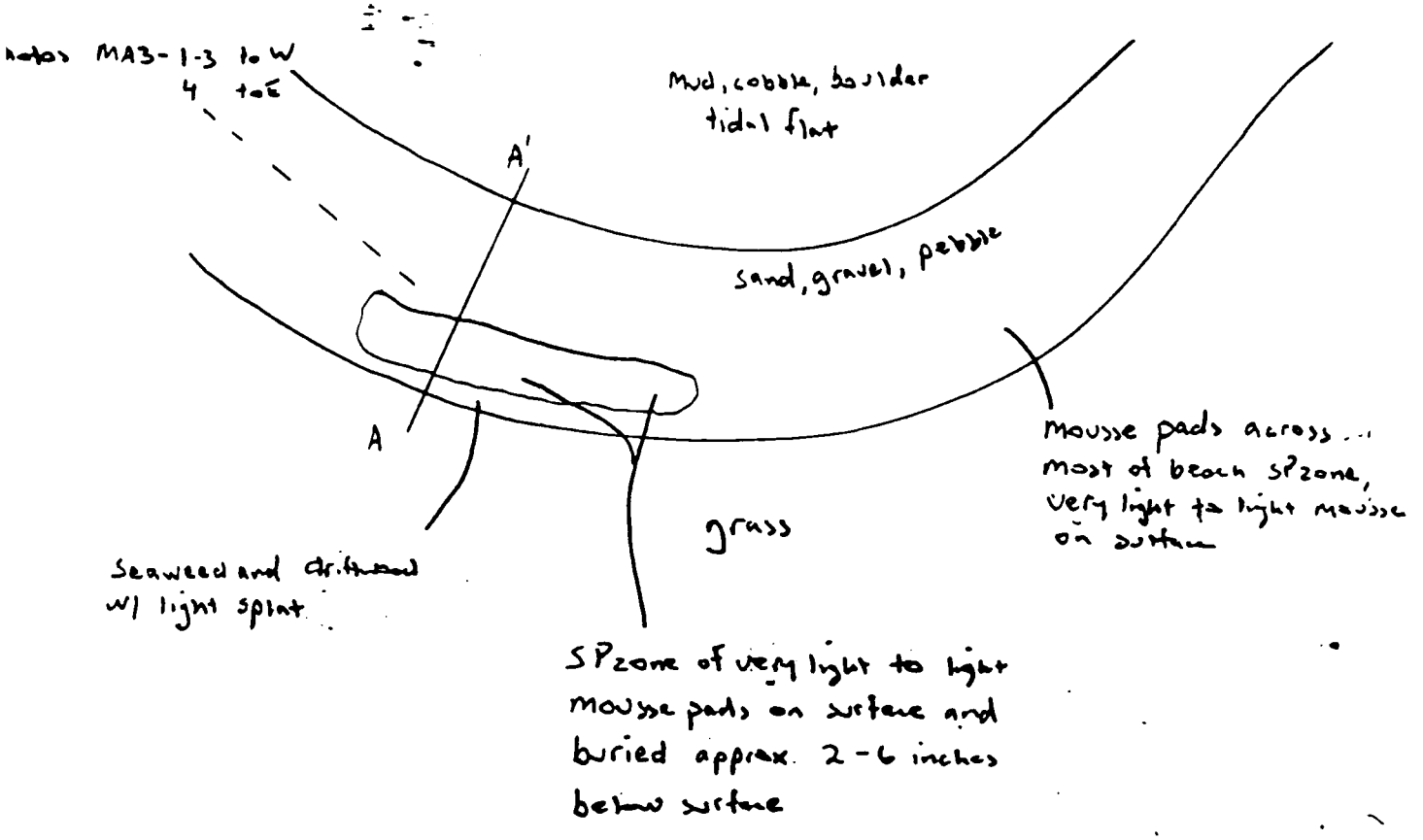
Map/Aerial photo marking segment boundaries See Attached

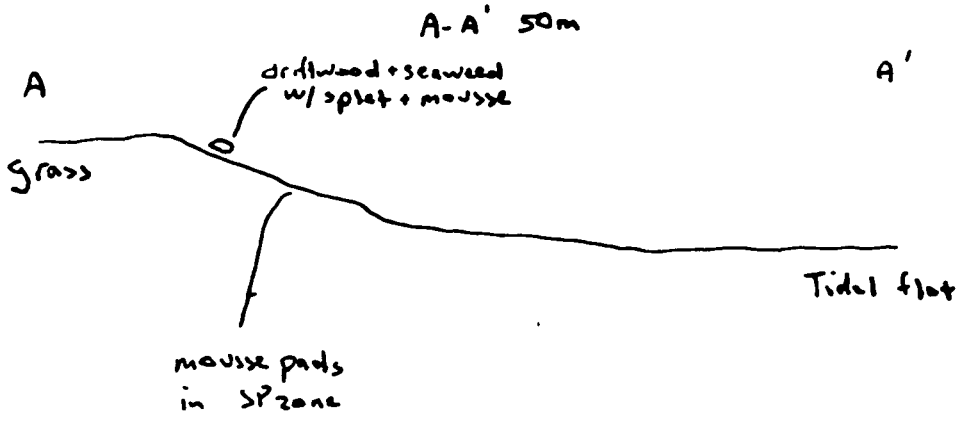
VTR: Y/N Tape Number(s) _____

Photography: Y/N Roll Number(s) MA3

Sample Numbers Collected: _____

Note ↑
Map # 1 N





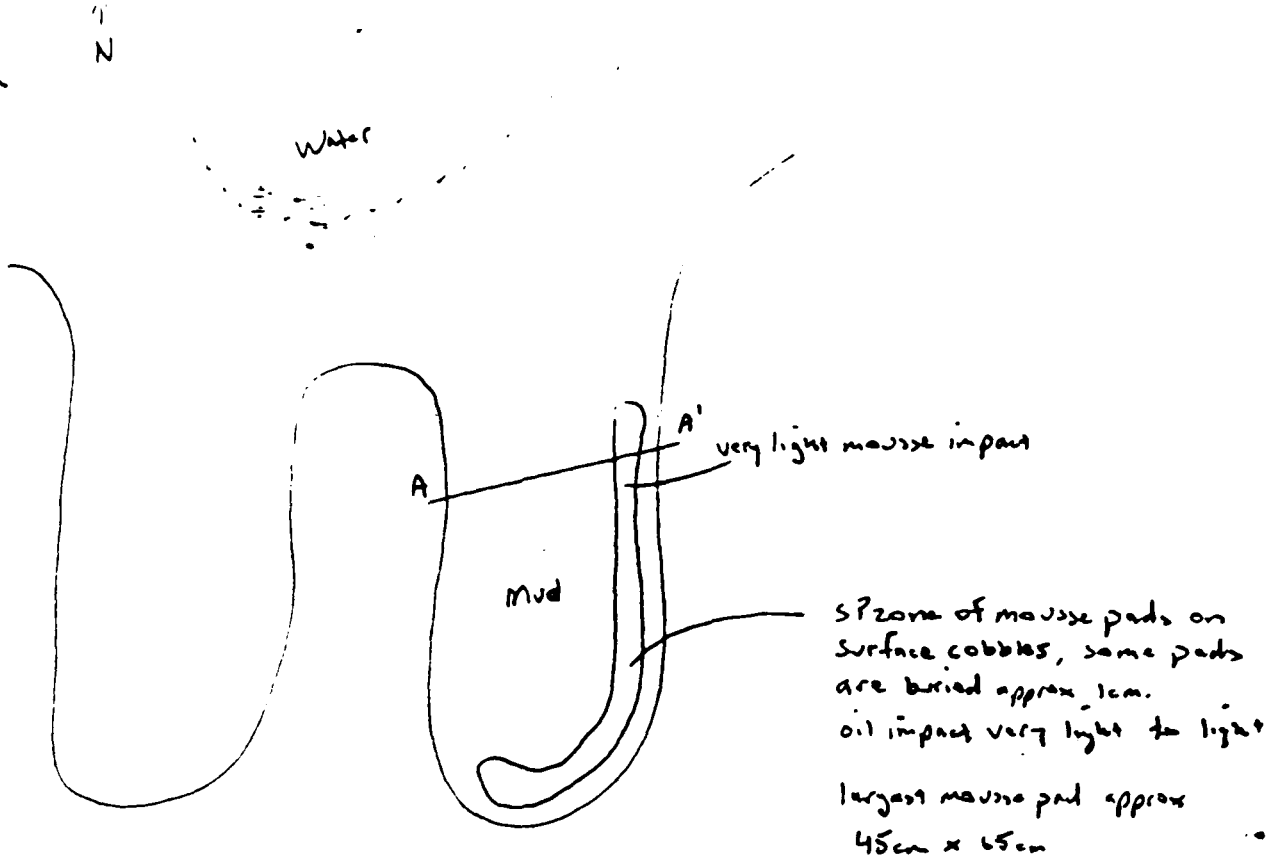
0900 approx. - Tide approx -1.6'

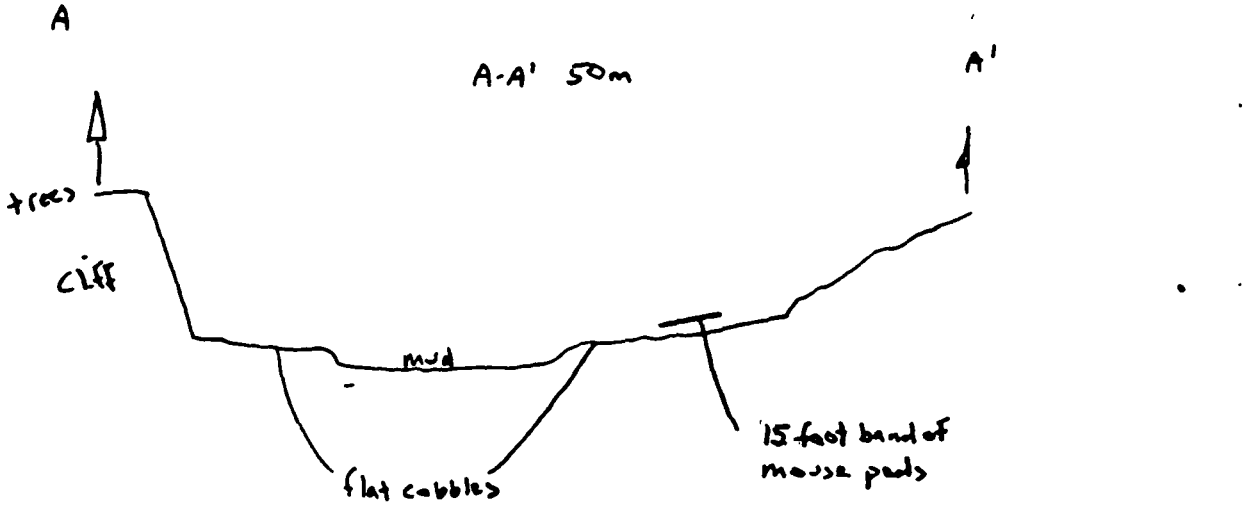
Manual removal of surface mousse pads.

Manual removal or warm water / low pressure wash of buried mousse pads.

ACE 8701538

Note
Map #2





0955 - Tide approx -1.6'

Manual removal of mousse pads.

7/19 0800 lift off Kodiak

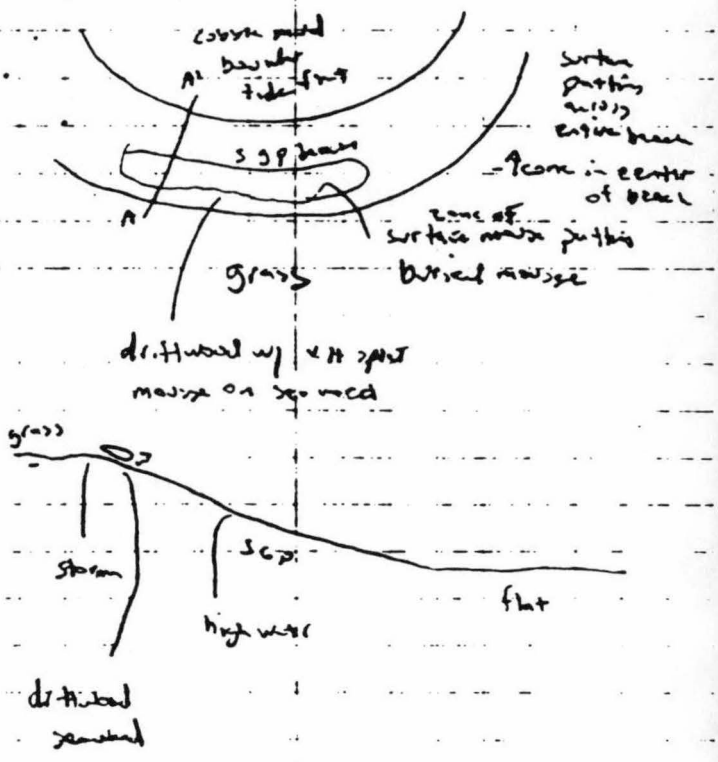
Acton Pam Jordan Gilpin (USCG)

Arrive Point Lay 0835

Off - border beach

0845 touchdown

① small sand gravel pebble beach
few cobbles



ACE 8701540

Overall MAS-1-3 W E

mousse patches - light oiling on surface

buried mousse patches and mousse balls
are scattered below 2-3" at ground
high to stern - mod to mod oiling
on surface

- v.lt. spots on driftwood
- buried mousse lt. to mod HW to SW
- mousse patches on surface - lt to mod HW to SW

- buried mousse horizon 2"- 6" BGS

manual removal of surface patches
buried - ? dig up + remove

0945 lift off

0950 v.lt. spots on driftwood
continue beach profiles line ⑥

0954 v.lt. spots few patches

0940 1 spot on log - no oil observed

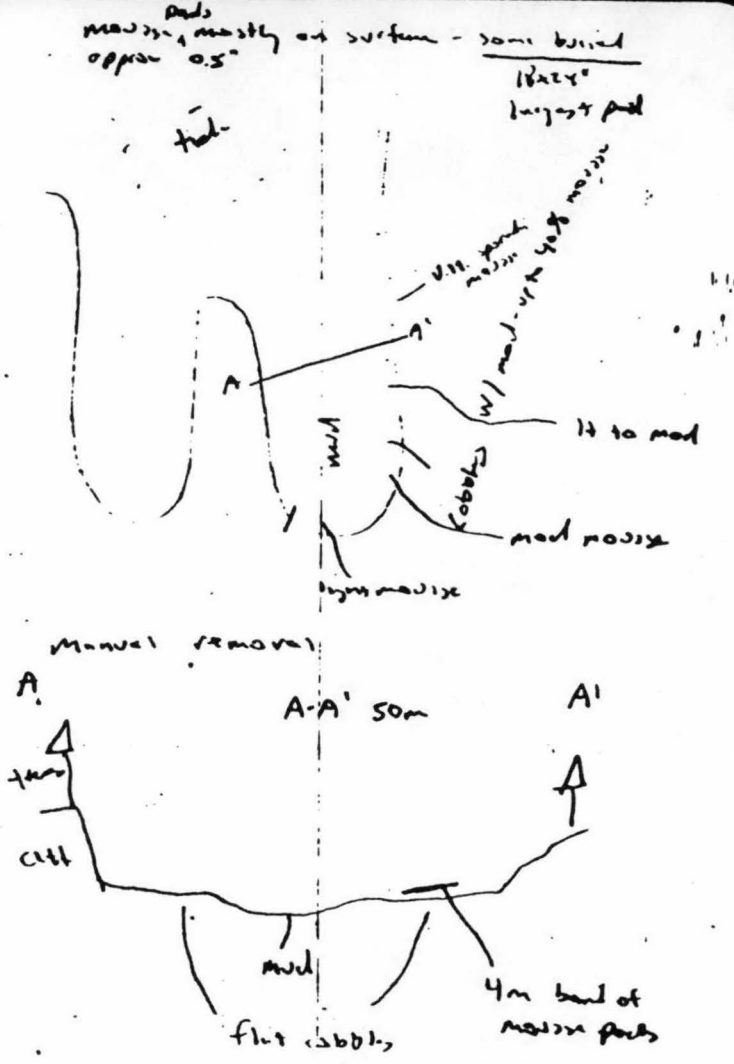
Cl. tls, rock platforms pt-bnd breaks

0955

on SW shore of SW arm

flat cobble beach w/ mod spots / mousse pads
around HW tide zone mostly mousse

MAS S N
3 3
mousse clean up

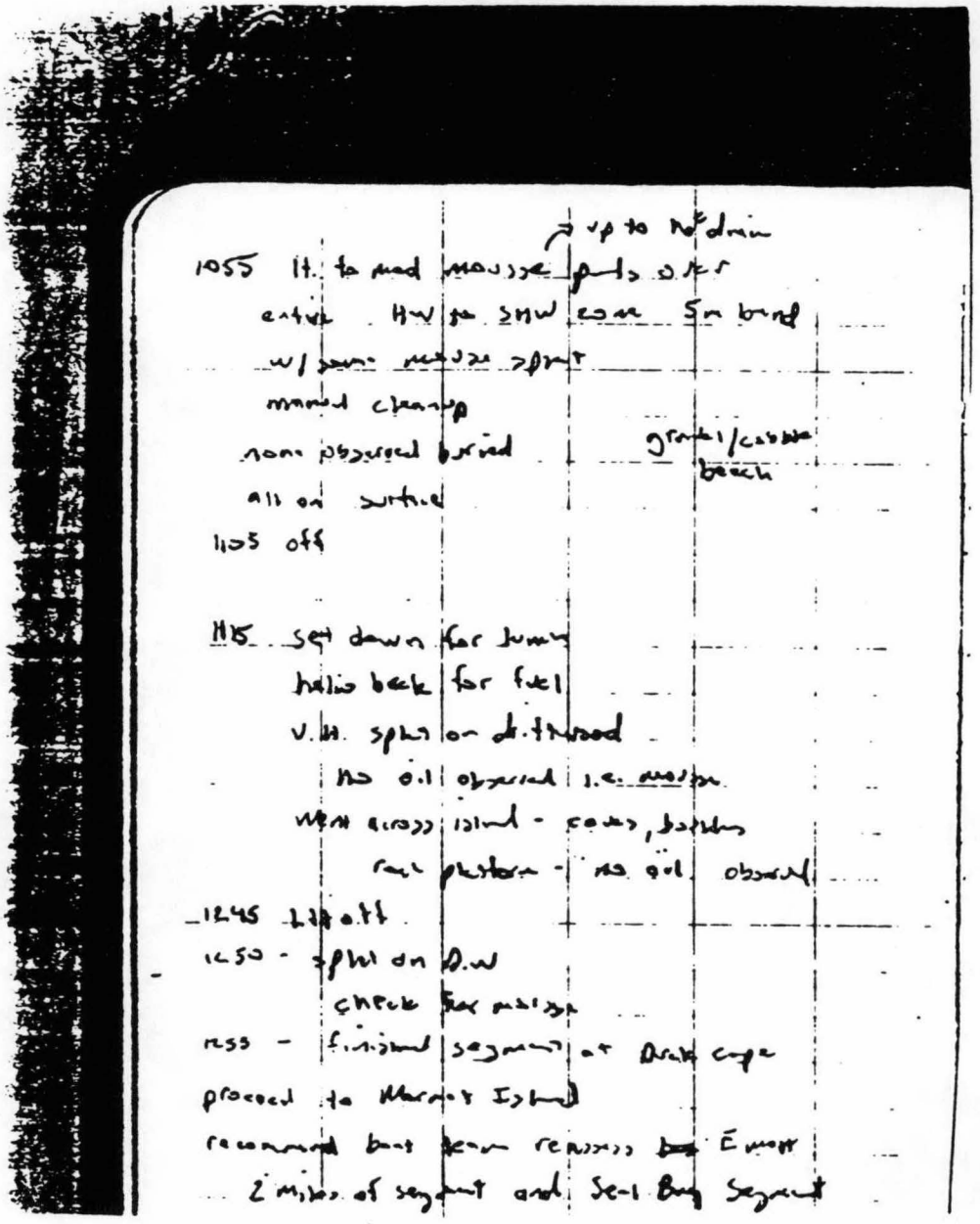


1020 Lift off on HW - 3 HW

1030 small sand pocket beach - buried to approx 8"
mousse pads up to 12" thick
0-8" horizon of pads buried
lt. on surface
lt. buried manual removal

Lift off

ACE 8701541



ACE 8701542

version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: Kodiak SITE: Afognak - Duck Cape OBSERVER: G. Penn

LOCATION PREFIX: KI-18 SEG. NO.: DC-1 LENGTH: 4 miles ~~(M)~~

DATE: 07/19/89 TIME (HHMM): 0900 TIDE HT.: 0.3 (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)
Mainly on Boulders & Angular Rock

Mytilus (Mussels): Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
Mainly on angular rock pinnacles

Balanus (Barnacles): Patchy (Y)/N Contin. Y/(N) Dense Y/(N) Sparse (Y)/N None Y/(N)
Mid to Lower I.T.Z. on Boulders & Rock - Good spat Set

Littorina
Patchy (Y)/N Contin. Y/(N) Dense Y/(N) Sparse (Y)/N None Y/(N)
Mid I.T.Z.

Limpets: Patchy (Y)/N Contin. Y/(N) Dense Y/(N) Sparse (Y)/N None Y/(N)
Mid ITZ

OTHER OBSERVATIONS: Laminaria - Dense in L.I.T.Z.

CLEANUP PRECAUTIONS: for Type A cleanup - no restriction - most Biota below cleanup zone.

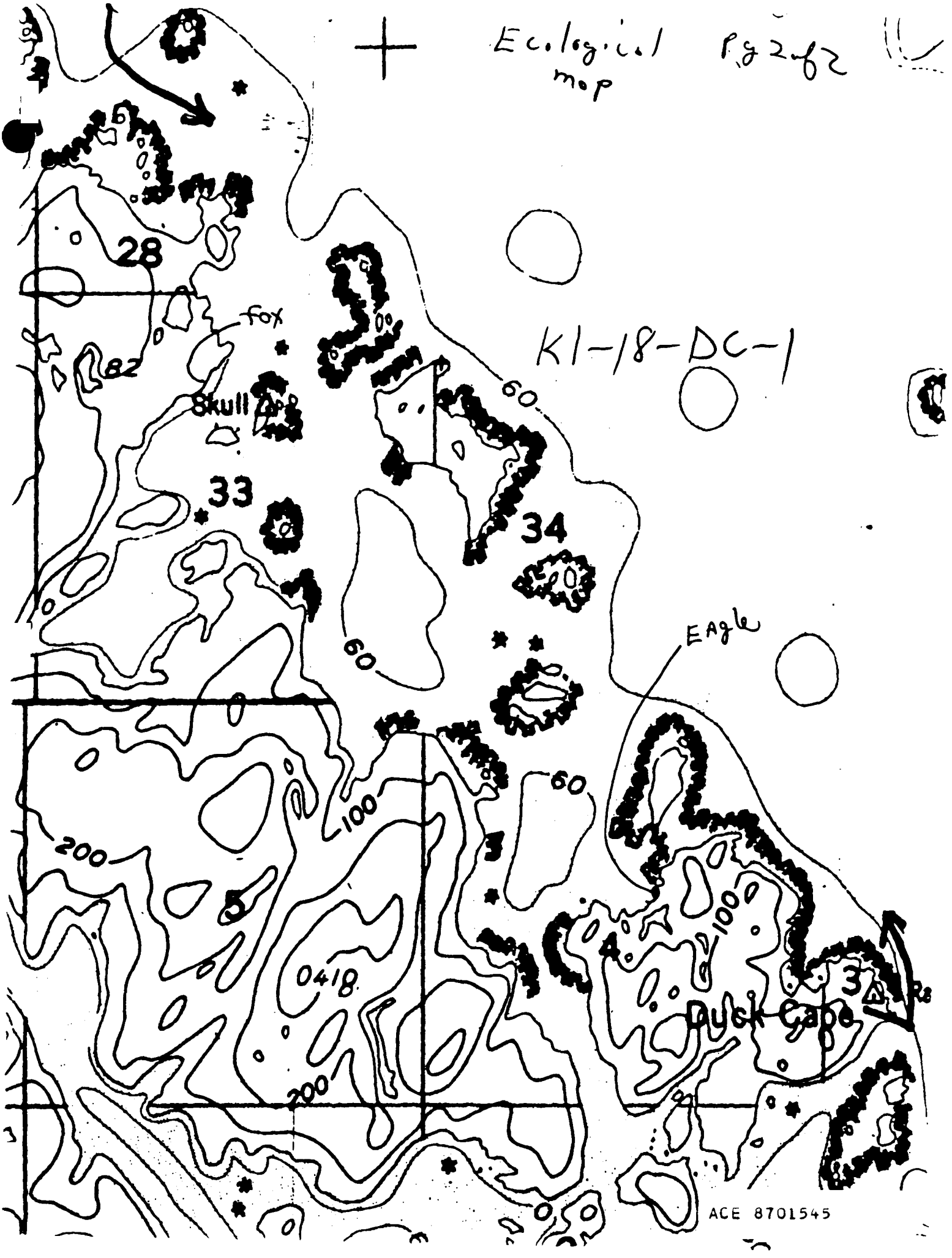
MAMMALS: Otters ↘ Harbor Seals ___ Sea Lions ___ Whales ___
Other fox

BIRDS: Eagles

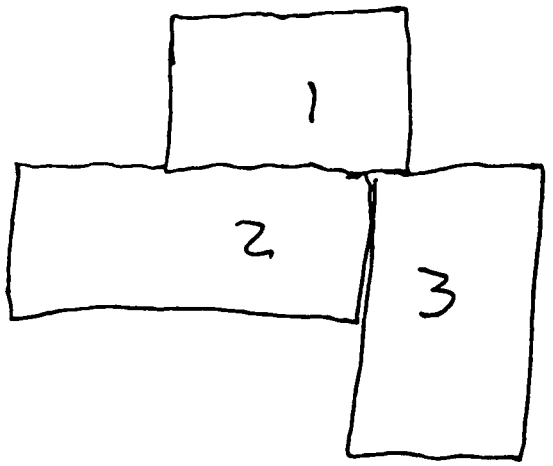
GENERAL OBSERVATIONS:

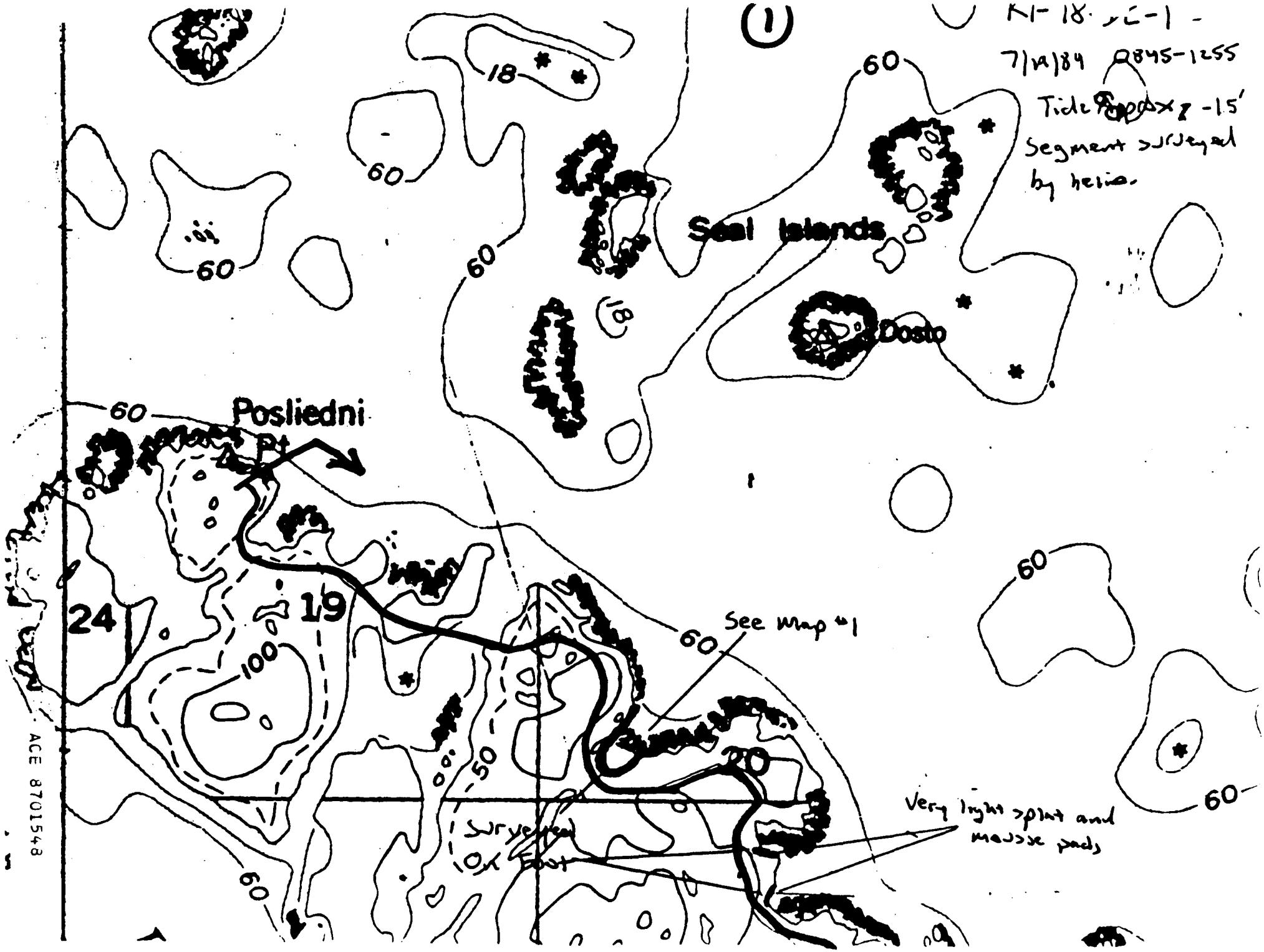
ACE 8701543

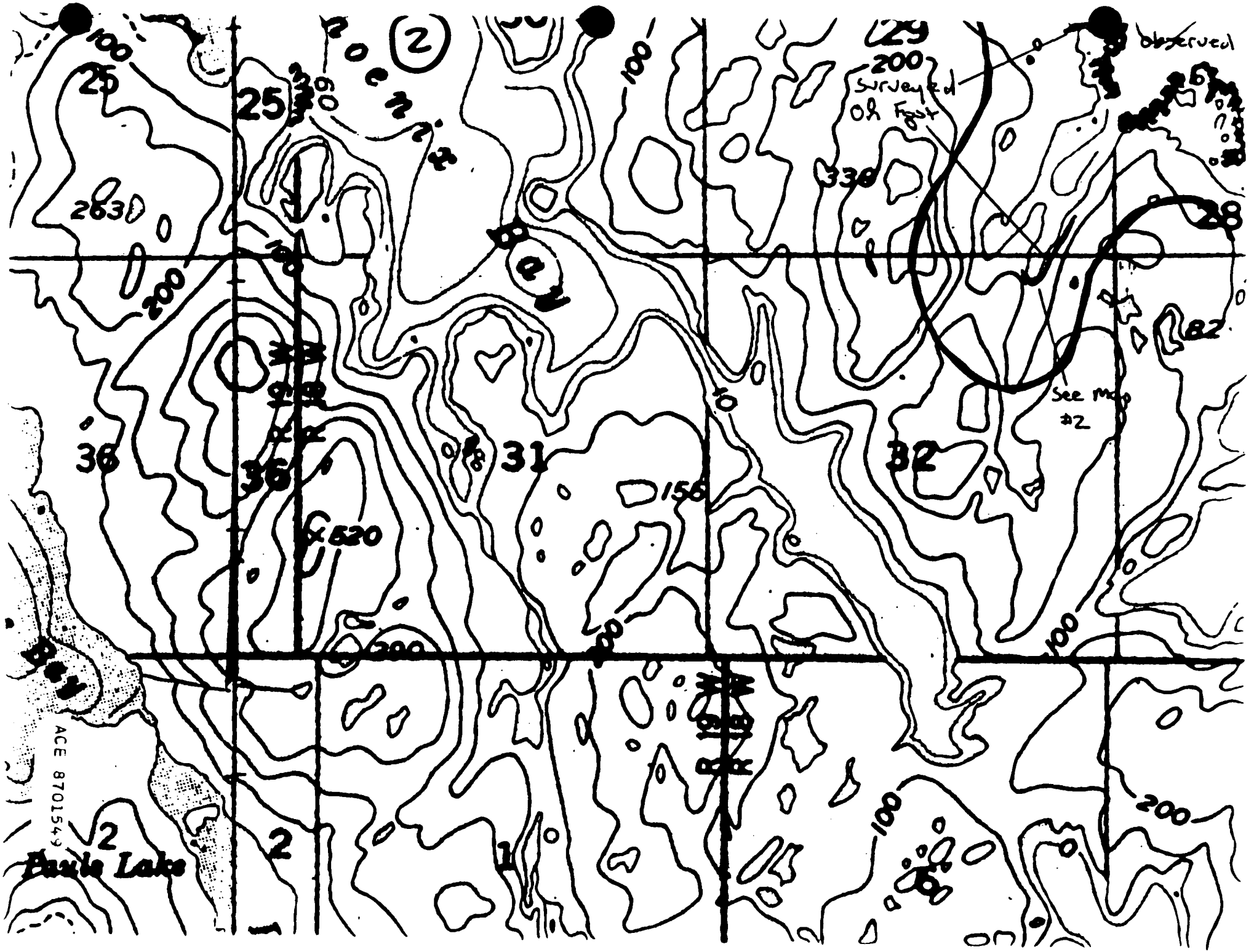
Seal Islands
Dosto
Posliedni
Pt
60
18
24
19
100
50
20
OTTER
ACE 8701544
KI-18-DC-1

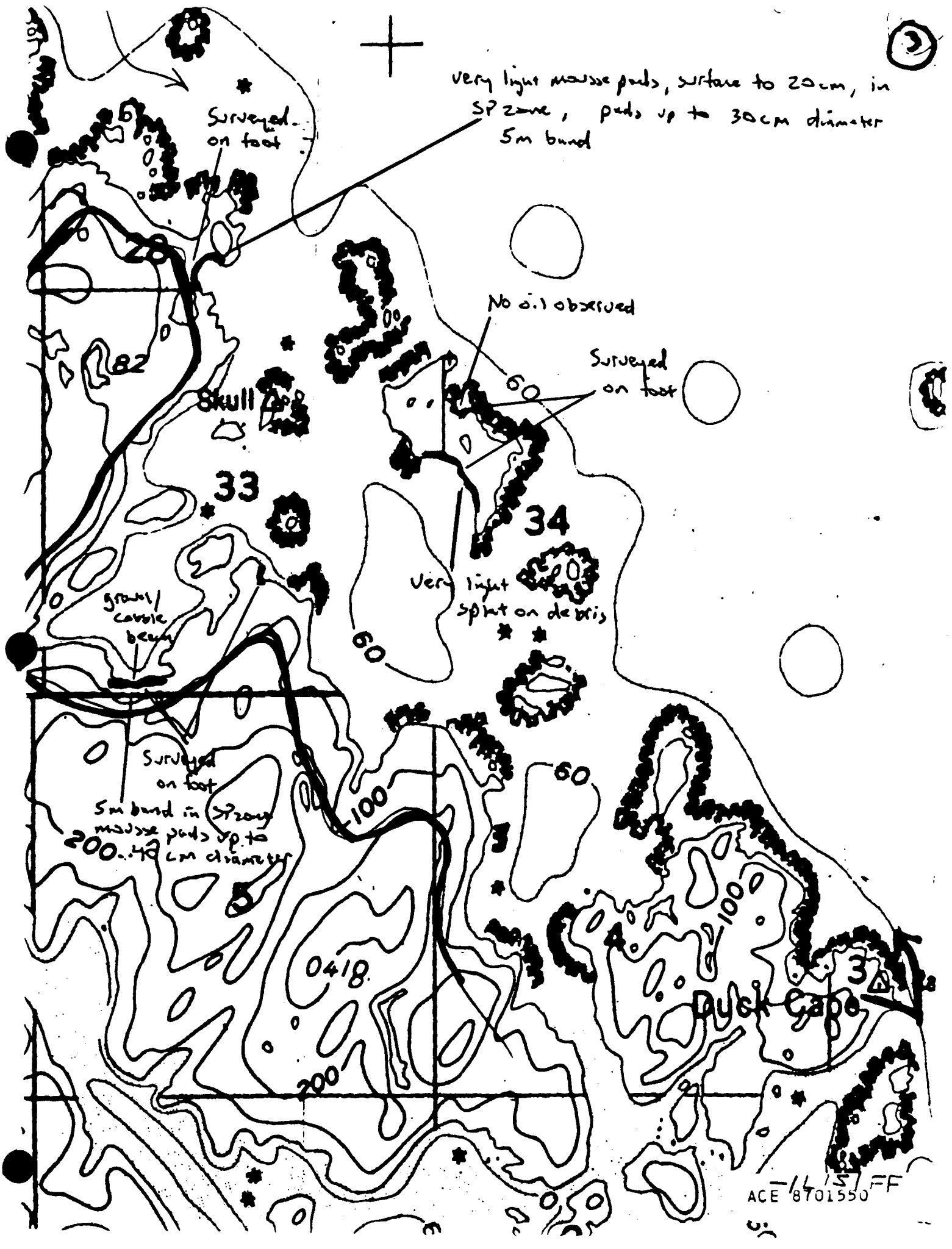

Ecological map pg 2 of 2
K1-18-DC-1
28
Fox
82
Skull Cape
33
34
60
60
60
Eagle
100
200
5
0418
200
100
4
Duck Cape
3
ACE 8701545

Segment Map Index




(1)
NI-18-2C-1
7/14/84 0845-1255
Tide Range -15'
Segment surveyed by helio.
Seal Islands
Dosto
Posliedni Pt
60
18
24
19
100
50
20
See Map #1
Surveyed on Foot
Very light splat and mousse pads
ACE 870154B


Surveyed
Observed
See Map #2
Paule Lake
ACE 8701549


Very light mousse pools, surface to 20cm, in SP zone, pools up to 30cm diameter
5m band
Surveyed on foot
No oil observed
Surveyed on foot
Skull
82
33
34
60
Very light splat on debris
gravel/ cobble beach
Surveyed on foot
5m band in strong mousse pools up to 40 cm diameter
200
100
60
418
Duck Cape
3
ACE 8701550 FF

K-01-19

ACE 8643489

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 8/03/89 SHORELINE SEGMENT K1-19-SE-1

LOCATION: (see enclosed map) W of Tolstoi Pt. at end of Seal Bay (Afognak)

ADEC NO._____ SHORELINE ASSESSMENT DATE: 7/26/89

Recommended Cleanup Activity(ies):

-No cleanup recommended due to very light oil, ecological constraints and potential for natural cleaning. Subject to FOSC reassessment at a later date.

Priorities/ Considerations: Class 5-A

-Pinniped haulouts on offshore rocks.
-Bald eagle nests within segment.

Ecological Constraints (from site survey):

-Avoid pinniped haulout sites and oil contamination of healthy lower intertidal zone.
-Avoid heavy foot traffic across rocky low intertidal zone where biota is abundant and vegetated hillsides.

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.

Douglas Reger Date: 8/16/89

State Historic Preservation Officer *

EXXON:_____ Date:_____

FOSC:_____ Date:_____

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

ACE 8701551

(version July 05, 1989)

SHORELINE OIL EVALUATION

Date: 7/26/89 / Time: 14:45-15:45 Observer: KAROLIEN DERUSSCHERE
Surveyed From: Foot/(Boat)/Helio/Plane Weather: (Sun)/Cloud/Rain/Snow/Fog

LOCATION

Location: W-TOLSTOI PT ; E-SEAL BAY HECATE STRAIT Segment ID: HE19 SE-1
Segment Length: 2150 m. Access: Vehicle/(Boat)/Barge/(Helio)/(Float Plane)
Access Restrictions: HIGH WAVE ENERGY, CLIFFS, OFFSHORE KELPBEDS

SHORELINE

Shoreline Type: SPI/(BEA)/(COV)/(HLD)/STRT Slope: (Lo)/(Med)/(Hi)/Vert
Wave Exposure: (High)/(Med)/Low
Sediment: B 10 % / C 10 % / P 5 % / G&S 10 % / M 0 % / R 65 %

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 0	SU/SP/H/M/L	H/M/L/VL
Sporadic	% of Segment 9	SU/(SP)/(H)/(M)/L	H/M/L/(VL)

Total	Length(m)	Width(m)		
Very light:	100	10	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:				

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

OIL MORPHOLOGY

Pooled Oil:	0 %		SU/SP/H/M/L
"Free" Oil:	0 %		SU/SP/H/M/L
Splattered:	10 %	H/M/L/(VL)	SU/SP/(H)/M/L
Coated:	0 %	H/M/L/VL	SU/SP/H/M L
Pancakes/Balls:	90 %		SU/(SP)/(H)/(M)/L

Preliminary Cleanup Est.
Total TYPE A: ≈ 100 m
Total TYPE B: 0 m
Total TYPE A/B: 0 m

OIL WEATHERING

Fresh:	0 %	SU/SP/H/M/L
Mousse:	0 %	SU/SP/H/M/L
Weathered Mousse:	5 %	SU/SP/(H)/M/L
Asphalt Mousse:	85 %	SU/(SP)/(H)/(M)/L
Tar:	10 %	SU/SP/(H)/M/L

COMMENTS

MOST OF SEGMENT OBSERVED BY SKIFF WITH BINO'S → HARD ACCESS
ONLY LOCATION ACCESSABLE WAS LOC ① → LIGHT & SPORADIC OIL
POTENTIALLY, THERE IS OIL ON UNWALKED SECTIONS

± 95% IS INACCESSIBLE

ACE 8701552

K. DeBUSSCHER

DOCUMENTATION:

Map/Aerial photo marking segment boundaries ATTACHED

VTR: Y/(N) Tape Number(s) _____

Photography: (Y)/N Roll Number(s) 5T-5

Sample Numbers Collected: —

MAP OF DEGREE OF CLING

FIELD NOTES

7/26 K-1 BLOCK 19 SEGMENT SE-1 START 14:45

K. DEBUSSCHERE

*SKIFF:

MOSTLY OUTCROP, SOME LITTLE B-COVES

LOGS AT +

NO OIL OBSERVED - INACCESSIBLE

*LOCATION ① WALK

GRAVEL BEACH C/W 2 HEADLANDS

LOGS AT H/A/SP -> OILED (W/ THK SPLASH)

PEBBLE AT M/A/SP

- THK BALL W SP/A - IBW/ SPORADIC W/ A

OIL SPLASH ON SUBSTRATE ON BEACH (THK)

SOME MOUSSE ARTIFACTS AT +

-> VERY SPORADIC OILING SOMEWHAT MORE AT SW END OF BAY

WAVE EXPOSURE IS M

!! POTENTIAL BURIAL = — → NOT A BENCHING TOOL

* SKIFF : CLIFF : R/E/C - NO OIL OBSERVED

* LOCATION ② - SKIFF

B/G/C BEACH -> HIGH WAVE -> NO LANDING OIL !!

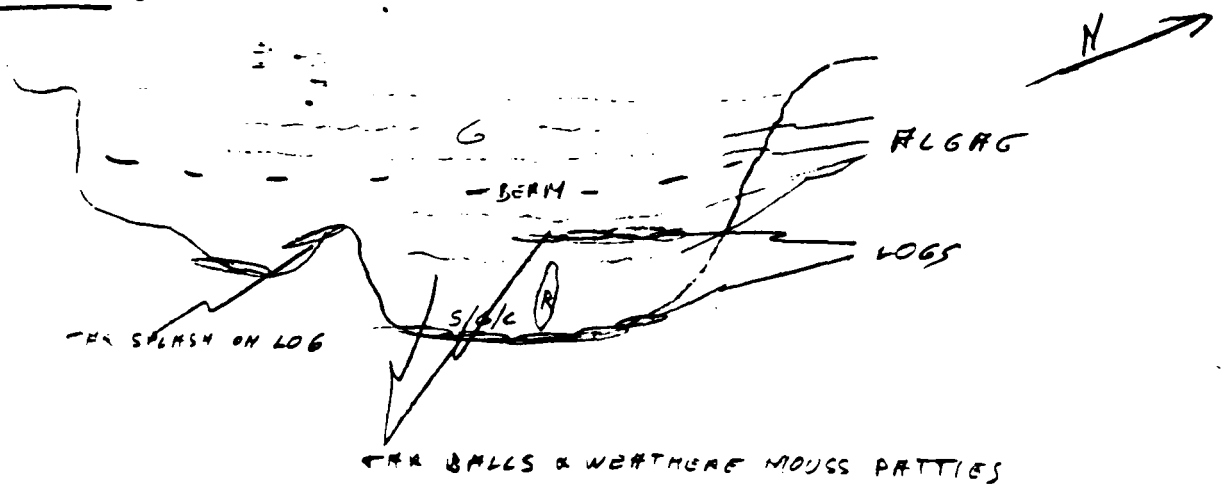
* SKIFF : CLIFFS W LITTLE B OR G POCKET BEACHES

-> SOME THK SPLASH ON SKIFF AT H

END 15:45

F/26 K-1 BLOCK 19 SEGMENT SE-1 M. DEBUSSCHERE

LOCATION ①



ACE 8701555

version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: Seal Bay SITE: South of Tolstoi Pt. OBSERVER: J. Tappley

LOCATION PREFIX: KI/SE SEG. NO.: KI-19-SE-1 LENGTH: 2150 (M)

DATE: 7/26/89 TIME (HHMM): 1445-1545 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)

Algae present also includes: Laminarians, Nereocystis (offshore), Halosaccion, Enteromorpha

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 sp. also present.

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

OTHER OBSERVATIONS: Noted biota above occurs on boulders and bedrock. Sand/Gravel beach supports little life. Light amount of algal drift.

CLEANUP PRECAUTIONS: Avoid oil contamination of healthy low ITZ. Avoid heavy foot traffic on rocky ITZ. Kelp Forests nearshore.

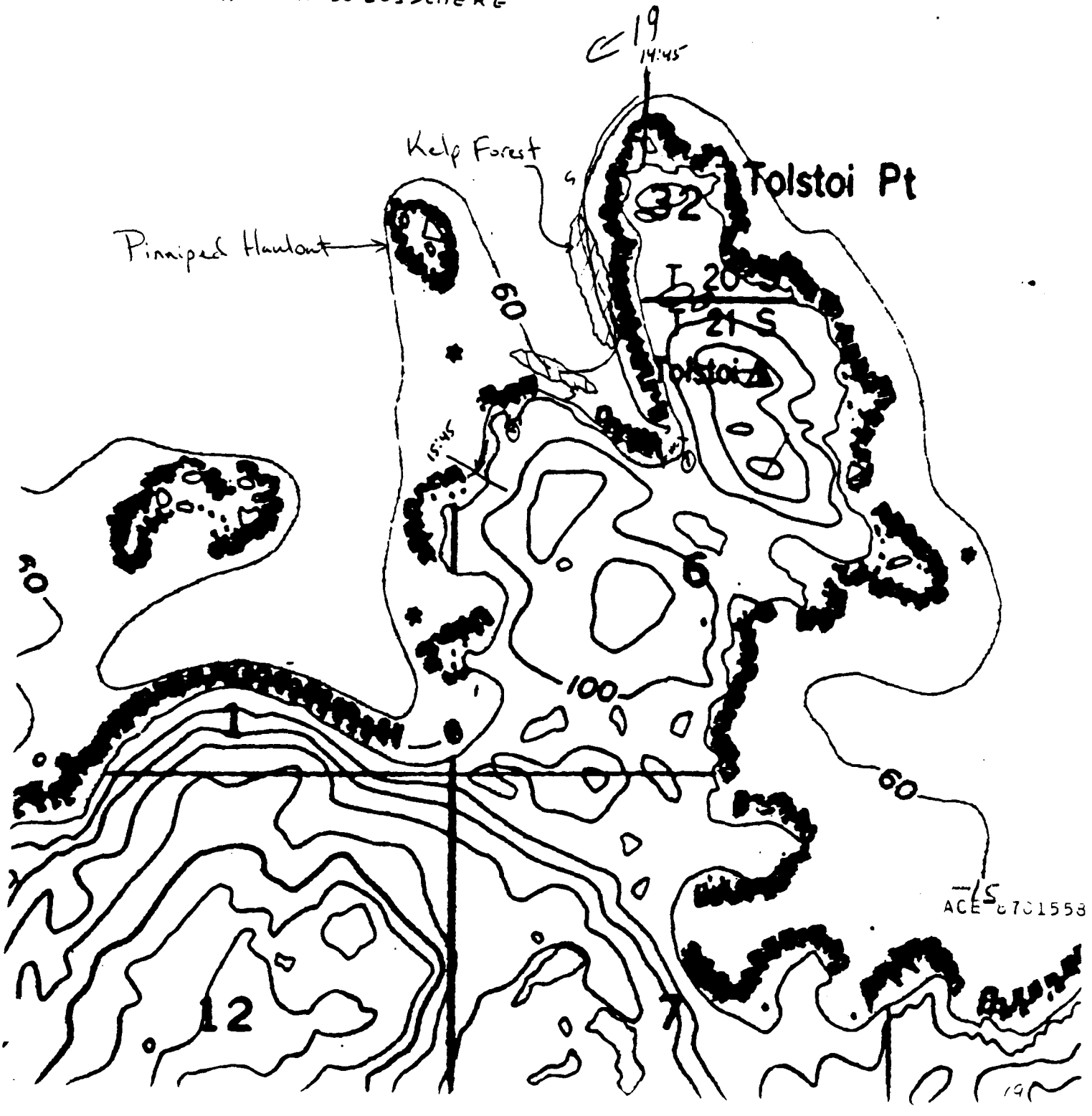
MAMMALS: Sea otters 2 Harbor Seals ___ Sea Lions (Stellers) 1 Whales ___
Other: 1 dead Sealion on beach (shot through head)

BIRDS: 2 dead oiled birds (1 of which was a tufted puffin)
2 juv. Eagles Scavenging dead Sealion on beach.; Kittiwakes, Red faced Cormorants

GENERAL OBSERVATIONS: Bald Eagles abundant in the area.

SEGMENT MAP

KI-19 SEGMENT SE-1
JULY 26, 1989
14:45 - 15:45
KATHOLIEM DEBUSSCHERE



(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 8/03/89 SHORELINE SEGMENT K1-19-SE-2

LOCATION: (see enclosed map) W of Tolstoi Pt. at E end of Seal Bay (Afognak)

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 7/26/89

Recommended Cleanup Activity(ies):

- -Manual removal of oiled debris, tar balls and mousse patties.
- -Warm water/low pressure flushing at high tide along southern portion of bay and locations #2,3, and 4 (see map).
- -Relocation of oiled sediments to surf zone may also be considered at location #4 (see map).

Priorities/ Considerations: Class 3-A

- -Pinniped haulouts on offshore rocks.
- -Bald eagle nests within segment.

Ecological Constraints (from site survey):

- -Avoid pinniped haulout rocks and oil contamination of healthy lower intertidal zone.
- -Avoid heavy foot traffic on vegetated hillsides.

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 Date: 8/16/89

State Historic Preservation Officer *

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

+/S
ACE 8701559

(version July 05, 1989)

SHORELINE OIL EVALUATION

Date: 7/26/89 Time: 15:45-18:35 Observer: KAROLIEN DEBUSSCHERE
Surveyed From: (Foot) (Boat) Helio/Plane Weather: (Sun) Cloud/Rain/Snow/Fog

CATION

~cation: WEST OF TOLSTOI PT AT EAST END OF SEAL BAY Segment ID: K1-19 SE-2
Segment Length: 1750 m. Access: Vehicle (Boat) Barge (Helio) Float Plane
Access Restrictions: SOME SECTIONS HAVE HIGH AMBLE POCKET BEACHES & OFFSHORE ROCK OUTCROPS

SHORELINE

Shoreline Type: SPI (BEA) (COV) (HLD) STRT Slope: (LO) (Med) (Hi) Vert
Wave Exposure: (High) (Med) Low
Sediment: B 20 % / C 15 % / P 35 % / G&S 15 % / M 0 % / 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 25 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)
Very light:		
Light:	30	<4
Moderate:	60	<5
Heavy:	400	<1

Thickness >1cm: — cm SU/SP/H/M/L
Penetration (Rework): ≥30 cm SU/SP/(H)/M/L
Burial Depth: — cm 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: LOGS & ALGAE

OIL MORPHOLOGY

Pooled Oil:	0 %		SU/SP/H/M/L
"Free" Oil:	0 %		SU/SP/H/M/L
Splattered:	60 %	H/(M)/(L)/VL	(SU) (SP) (H) (M) L
Coated:	15 %	(H)/(M)/(L)/VL	SU/SP/(H)/M L
Pancakes/Balls:	25 %		SU/SP/(H)/M/L

Preliminary Cleanup Est.
Total TYPE A: 1290 m
Total TYPE B: 460 m
Total TYPE A/B: m

OIL WEATHERING

Fresh:	0 %	SU/SP/H/M/L
Mousse:	5 %	SU/SP/(H)/(M)/L
Weathered Mousse:	15 %	SU/SP/(H)/M/L
Asphalt Mousse:	25 %	SU/SP/(H)/M/L
Tar:	55 %	(SU) (SP) (H) (M) L

COMMENTS

- AREA THAT HAS HEAVIEST OILING IS IN LOCATION 4 WHERE OIL IS AT LEAST 30 CM DEEP IN HIGH TIDE BERM. THE BEACH HAS HIGH ENERGY AND PEBBLES COATED OR SPLATTERED WITH OIL ARE VERY MOBILE
- IN REST OF SEGMENT, 3 AREAS WHERE OIL IS ± CONT. BAND IN LARGE BOULDER - POCKET BEACHES IN INTERST. (LOC ②, ③ e, ⑨ f)
- REMAING OIL IS SPORADIC AND LIGHT

~ 90% IS ACCESSABLE

ACE 8701560

K. DEBUSSCHERE

DOCUMENTATION:

(Map)/Aerial photo marking segment boundaries See Attached

VTR: Y/(N) Tape Number(s) —

Photography: (Y)/N Roll Number(s) JT-5

Sample Numbers Collected: N/A

MAP OF DEGREE OF OILING

FIELD NOTES

7/26 K1-19 .SE-2 13.15

M. DEBUSSCHERE

* LOCATION (1)

SMALL POCKET BEACH B/G IN H ; G IN M/L

LOG IN + ± PLGE [illegible] M

- SPORADIC OIL SPLASH (THK) IN H, S OF W END OF COVE

OIL IS SLIGHTLY VERY WEATHERED

* LOCATION (2) WELDED MOUND POINT N ACC ; OUTCROPS

- IG- ANGLE B-BEACH (L.LG. ELC S)

ALGAE & LOGS IN H/SP

OIL SPLASH IN M & SP & H

± CONT OIL BAND (MOUSSE & THK) AT H ± 4M WIDE L-H-OR

↳ COATED ↳ SPLASH

THINS OUT TOWARDS SEND ↳ OIL IN INTERST.

* CLIFFS N & POCKET BEACHES → NO SAMPLING

* LOCATION (3)

BH/ WITH FROM N TO S:

a → LOW ANGLE B-BEACH G IN H

ALGAE & LOGS IN H/SP/M ; LOGS IN SU — OIL SPLASH IN H

- SPORADIC OIL SPLASH - WEATH. MOUSSE & THK IN M & H

- " THK/MOUSSE PATTIES IN H (≤ 7 CM)

- " MOUSSE IN H/M BOUNDARY

b → LOW ANGLE BEACH B AT H & G/C AT M & L

- SAME OIL Δ

c → C/P/C/L BEACH

- SAME OIL Δ BUT MUCH LESS!!

d → C AT H & C/G/F AT M → SAME OIL

TURNS INTO B/C/P → VERY RECENT ROCKFALL

OIL IS SAME + OIL SPLASH AT SP/SU

→ OIL TAPERS OUT & NO MOUSSE TOWARDS Δ

e → ROCK/B BEACH LOGS & ALGAE AT H & M

± CONT OIL AT H-TIDE IN INTERST.

ACE 8701552

7/26 K 1 -19 · SE-2 (2)

M. DEBUSSCHERE

CONTD

BAND IS ± 2M WIDE → WEATHERED MOUSSE + TAR

→ CONT TO SEAL OF BEEP

[illegible]

LOCATION (1)

- MAGRA BAY FROM 11 TO 5

1 + 5P MIXED SEDS:

LOGS = HLSFE AT M + H SP → OILED AT H

- SPORADIC OIL (TAR) SPLASH AT M/H/SP

- WEATHERED MOUSSE PATTIES AT H

- "

- TAR BALLS "

b LOW ENERGY G/P/C/L BENCH

LOGS IN +/SP/SU ; HLSFE IN M/SP

OIL IS SPORADIC BUT HEAVIER THAN EQUIV LOC IN LOC (3)

IN SP/H/M : TAR + WEATH MOUSSE

POTENTIAL FOR BURIED OIL!!

S/P/C IN M/L ; P/C IN H MED RNGLE - CUSPS

TAR BALLS IN H, OIL SPLASH + WEATH. MOUSSE
↳ ALSO ON LOGS

OIL IS CONT IN IMBAND AT H-TIDE BERM (PEBBLES)

→ NO PENETR. AT LEAST 30CM DEEP!!

d P - BENCH - H - ENERGY

SAME OIL : PENETR. + TAR BALLS / OIL SPLASH AT H

e MORE G BENCH → OIL IS SAME BUT HEAVIER

f E - BENCH

→ CONT BAND OF OIL AT M/H - BOUND ± 5M WIDE

↳ OIL SPLASH + WEATHERED MOUSSE COATING

TAR BALL AT H

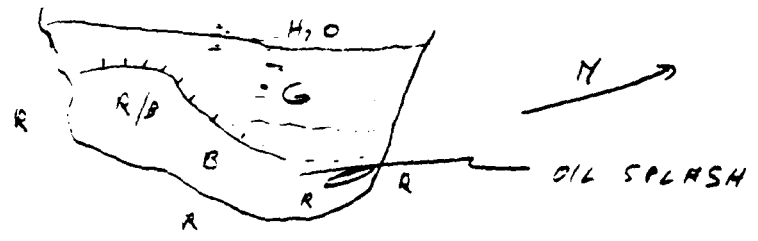
MORE SPORADIC AT H & SP → TAPERS OUT TO S

ACE 8701553

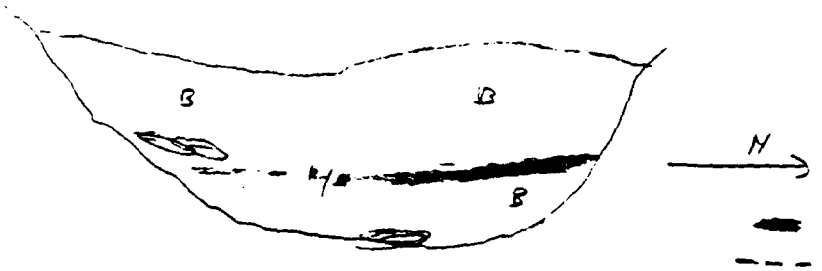
18:55

7/26 KI-19 SE-2

LOCATION (1)



LOCATION (2)



LOCATION (4)

ACE 8701564

version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: E. Seal Bay SITE: SW of Tolstoi Pt. OBSERVER: J. Tarpley

LOCATION PREFIX: KI/SE SEG. NO.: KI-19-SE-2 LENGTH: 1750 (M)

DATE: 7/26/89 TIME (HHMM): 1545-1835 TIDE HT.: +1 → +2.2m (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: Halosaccion, Enteromorpha, Laminarians, Endocladia, Odonthalia, Acrosiphonia,

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

At location 2 → contin. & dense.

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

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

OTHER OBSERVATIONS: Moderate algal drift: Amphipods abundant in drift. Algal crust on rocks (→ Petroicals) gives the appearance of Tar.

CLEANUP PRECAUTIONS: Avoid oil contamination of healthy Low ITZ

MAMMALS: Otters ___ Harbor Seals 1 Sea Lions ___ Whales ___
Other Deer Tracks; Land Otter Slides at location 3

BIRDS: 1 dead oiled bird; 2 Bald Eagles, Oystercatcher, Kittiwakes feeding at location 3

GENERAL OBSERVATIONS: Sitka Black Tailed Deer (yearling ♂) seen on hillside above beach.

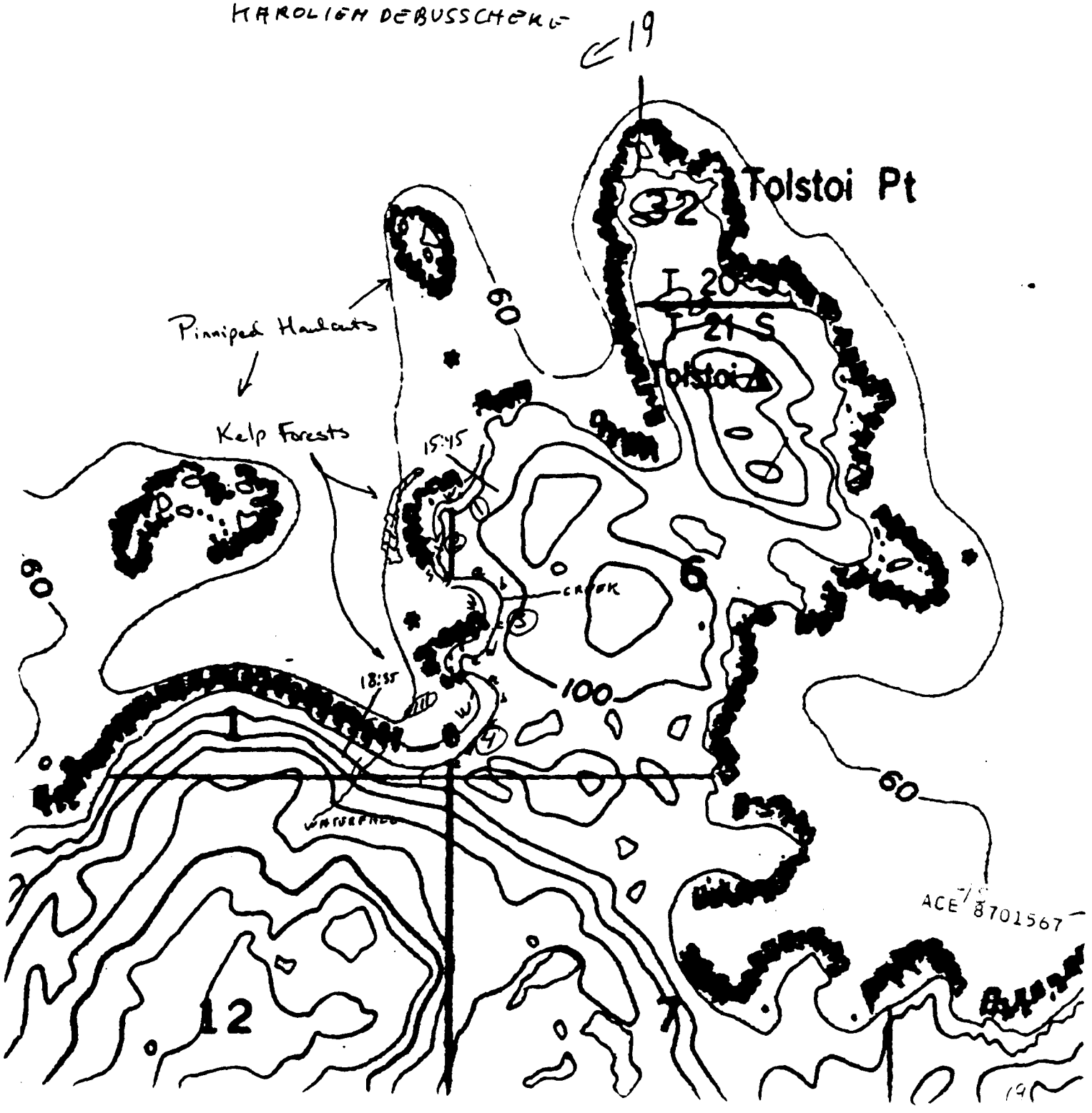
SEGMENT MAP

KI-19 SEGMENT SE-2

JULY 26, 1989

15:45 - 18:35

HAROLIEN DEBUSSCHERE



(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 8/03/89 SHORELINE SEGMENT K1-19-SE-3

LOCATION: (see enclosed map) East shore of Seal Bay (Afognak)

ADEC NO._____ SHORELINE ASSESSMENT DATE: 7/27/89

Recommended Cleanup Activity(ies):

-No cleanup recommended due to ecological constraints, very light and sporadic oiling and likelihood of natural washing in small area at location #5 where moderate oiling occurs. Subject to FOSC reassessment at a later date.

Priorities/ Considerations: Class 5-A

-Pinniped haulouts and Eagle nests in this segment.
-Seabird colonies on islands.

Ecological Constraints (from site survey):

-Avoid oil contamination of lower intertidal zone and streams.
-Avoid islands in K1-19-SE-9 that are grass covered seabird colonies.

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.

Douglas Reger Date: 8/16/89

State Historic Preservation Officer *

EXXON:_____ Date:_____

FOSC:_____ Date:_____

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

+'S
ACE 8701568

(version July 05, 1989)

SHORELINE OIL EVALUATION

Date: 7/27/89 / Time: 12:50-18:10 Observer: KAROLIGN DEBUSSCHERE
Surveyed From: (Foot) (Boat)/Helio/Plane Weather: (Sun)/Cloud/Rain/Snow/Fog

LOCATION

Location: EAST SHORE OF SEAL BAY Segment ID: KI-19 SE-3
Segment Length: 8000 m. Access: Vehicle/(Boat)/(Barge)/(Helio)/(Float Plane)
Access Restrictions: MOST OF AREA IS CLIFF & STEEP BOULDER BEACHES; OFFSHORE ROCK OUTCROPS

SHORELINE

Shoreline Type: SPI/(BEA)/(COV)/(HLD)/STRT Slope: (Lo)/(Med)/(Hi)/(Vert)
Wave Exposure: (High)/(Med)/Low
Sediment: B 30 % / C 10 % / P 10 % / G&S 10 % / M 0 % / R 40 %

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 <1	SU/(SP)/(H)/(M)/L	H/(M)/L/VL
Sporadic	% of Segment 30	SU/(SP)/(H)/(M)/L	H/M/(L)/(VL)

Total	Length(m)	Width(m)
Very light:		
Light:		
Moderate:	30	10
Heavy:		

Thickness >1cm: 0 cm SU/SP/H/M/L
Penetration/Rework: 0 cm SU/SP/H/M/L
Burial Depth: 0 cm 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: LOGS

OIL MORPHOLOGY

Pooled Oil:	0 %		SU/SP/H/M/L
"Free" Oil:	0 %		SU/SP/H/M/L
Splattered:	99 %	H/(M)/(L)/(VL)	SU/(SP)/(H)/(M)/L
Coated:	0 %	H/M/L/VL	SU/SP/H/M/L
Pancakes/Balls:	<1 %		SU/SP/(H)/(M)/L

Preliminary Cleanup Est.
Total TYPE A: 0 m
Total TYPE B: 0 m
Total TYPE A/B: 0 m

OIL WEATHERING

Fresh:	0 %	SU/SP/H/M/L
Mousse:	0 %	SU/SP/H/M/L
Weathered Mousse:	0 %	SU/SP/H/M/L
Asphalt Mousse:	<1 %	SU/SP/(H)/(M)/L
Tar:	99 %	SU/(SP)/(H)/(M)/L

COMMENTS

MOST OF SEGMENT WAS OBSERVED BY SKIFF USING BINO'S → POTENTIAL OF OIL EVEN THOUGH NOT OBSERVED
ONLY IN ONE LOCATION (5) OIL WAS MODERATE: VERY SMALL AREA AND HIGH POTENTIAL OF NATURAL WASHING OF THE OIL
55% IS INACCESSABLE

ACE 8701569

K. DEBUSSCHERE

DOCUMENTATION:

(Map)/Aerial photo marking segment boundaries See Attached

VTR: Y/(N) Tape Number(s) —

Photography: (Y)/N Roll Number(s) J-5

Sample Numbers Collected: N/A

FIELD NOTES

MAP OF DEGREE OF OILING

27/89 K 1-19 SE--3 ①

MEETING WITH SCAT 7 AT ≈ 9:00 K. OEBUSSCHONG

* CLIFF N VERY LG BLOCKS AT BENCH - 3 REGULAR 13:50

OFFSHORE ROCK OUTCROPS SWIFT

* LOCATION ① S--

C/P BENCH - NO OIL SEEN

* VERT CPL CLIFF BEHIND EXTENSIVE ROCK - NO OIL → INACCESS

* LOCATION ② - LUNCH

C/P BENCH - VERY HIGH ENERGY ENVIRONMENT

ALGAE AT H + SP - LOGS AT H

* WATERFALL LG BLDS CLIFF

* P/C BEACH - SWIFT

* CLIFFS

* LOCATION ③

ISTHMUS & FLANKING BENCHES - BLDS

SPORADIC OIL SPLASH AT M/L - VERY LIGHT

ALGAE AT M & H ; LOGS AT H

* CLIFFS

* LOCATION ④

P/B/C BEACH POCKET - WATERFALL

VERY SPORADIC OIL SPLASH AT M TIDE

* WALK W. : V. LG. BLD AT FOOT OF CLIFF - NO OIL

* LOCATION ⑤

B/C BEACH ON N-SIDE OF ISTHMUS

ALGAE : M/H ; LOGS : M/H/SP

OIL SPLASH ON LOGS : H/SP

" " AT M/H/SP : SPORADIC IN 1 CONT BAND 10M WIDE &

1/5 M LONG

SOME TAR BALLS AT H

W-WARD : VERY SPORADIC IN M & SP

N OF ROCK OUTCROP : CLEAN

ACE 8701571

7/27/89 M1-19 SE-3

(2)

M. DEBUSSCHERE

- - - LOCATION OF NATURAL WASHING

* CLIFF [illegible]

* [illegible] STATUS ONE-LOG AT THE SEGMENT -

VERY FEW TAR BALLS - VERY LIGHT OIL

* ALTERNATING CLIFF & GRAVEL POCKET BEACH W VERY LOG LEVEL

* LOCATION (6)

SAND BEACH - NO OIL ; PEBBLE - NO OIL

- ONLY NO EAST STEEP BLD BEACH AT FOOT OF CLIFF

→ VERY SPORADIC OIL SPLASH ; LOGS AT HIGH LOW

LOCATION (7)

SMALL SURFACE BEACH - OIL SPLASH ON ROCKS

*CLIFF

* (8) LOC

SAND / PEBBLE BEACH

ALGAE AT H.T. -/SP ; LOGS -/SP/SW

SPORADIC OIL SPLASH : 1/2" → TAR BALLS -

N-WARD BLD BEACHES & CLIFFS → SPORADIC OIL AT H.T. (5)

* LOG (9)

GRAVEL-BEACH

* BLD/COBBLE BEACHES & CLIFFS

* LOC 10 : BEACH (6) - CLIFF - BEACH (6)

└ SPORADIC OIL ┘

* LOC (11) : BEACH : NO OIL

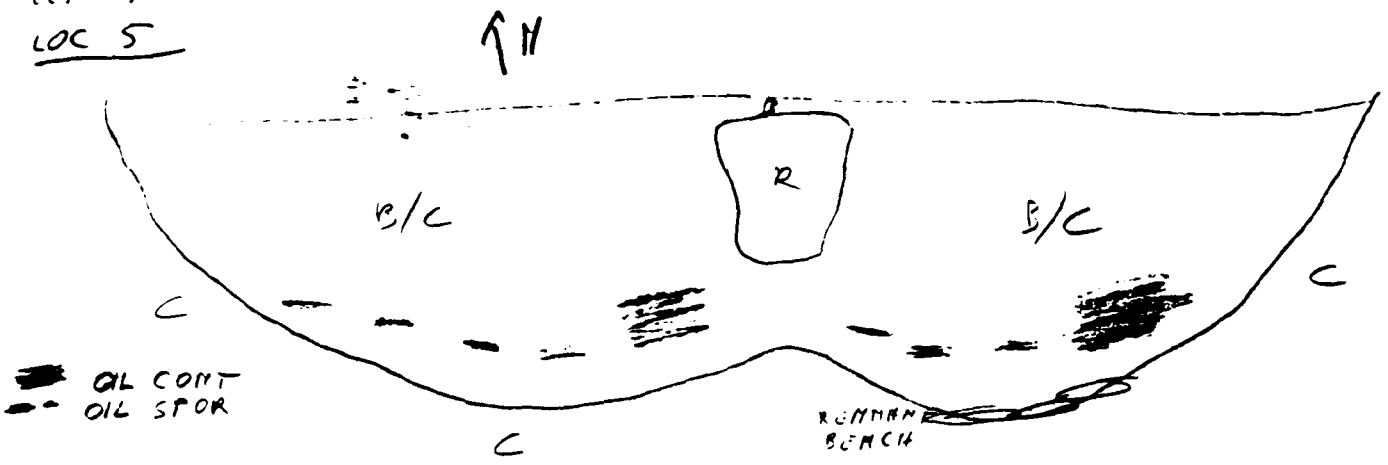
* CLIFF - BLD BEACHES AT FOOT

f 12f

KC1-19 SED-3

LOC 5

M. DEBUSSCHERE



version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: SEAL BAY SITE: EAST SHORE OBSERVER: J. Tapley

LOCATION PREFIX: KI/SL SEG. NO.: KI-19-SE-3 LENGTH: 8000 (M)

DATE: 7/27/89 TIME (HHMM): 1350 - 1710 TIDE HT.: 0.0m → +2.5m (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 - Laminaria, Ulva, Porphyra, Odonthalia, Filamentous Reds, Ceramium, Ralfsia

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 sp.

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

OTHER OBSERVATIONS: Ralfsia spots give the appearance of tar spots. Light algal drift throughout segment.

CLEANUP PRECAUTIONS: Some areas have dense kelp forests offshore. Avoid oil contamination of subtidal zones and healthy rocky ITZ. Avoid contamination of streams. Avoid islands in segment KI-19-SE-9 that have seabird colonies.

MAMMALS: Sea Otters 6 Harbor Seals ___ Sea Lions ___ Whales ___
Other Fox & Deer Tracks, Bear scat

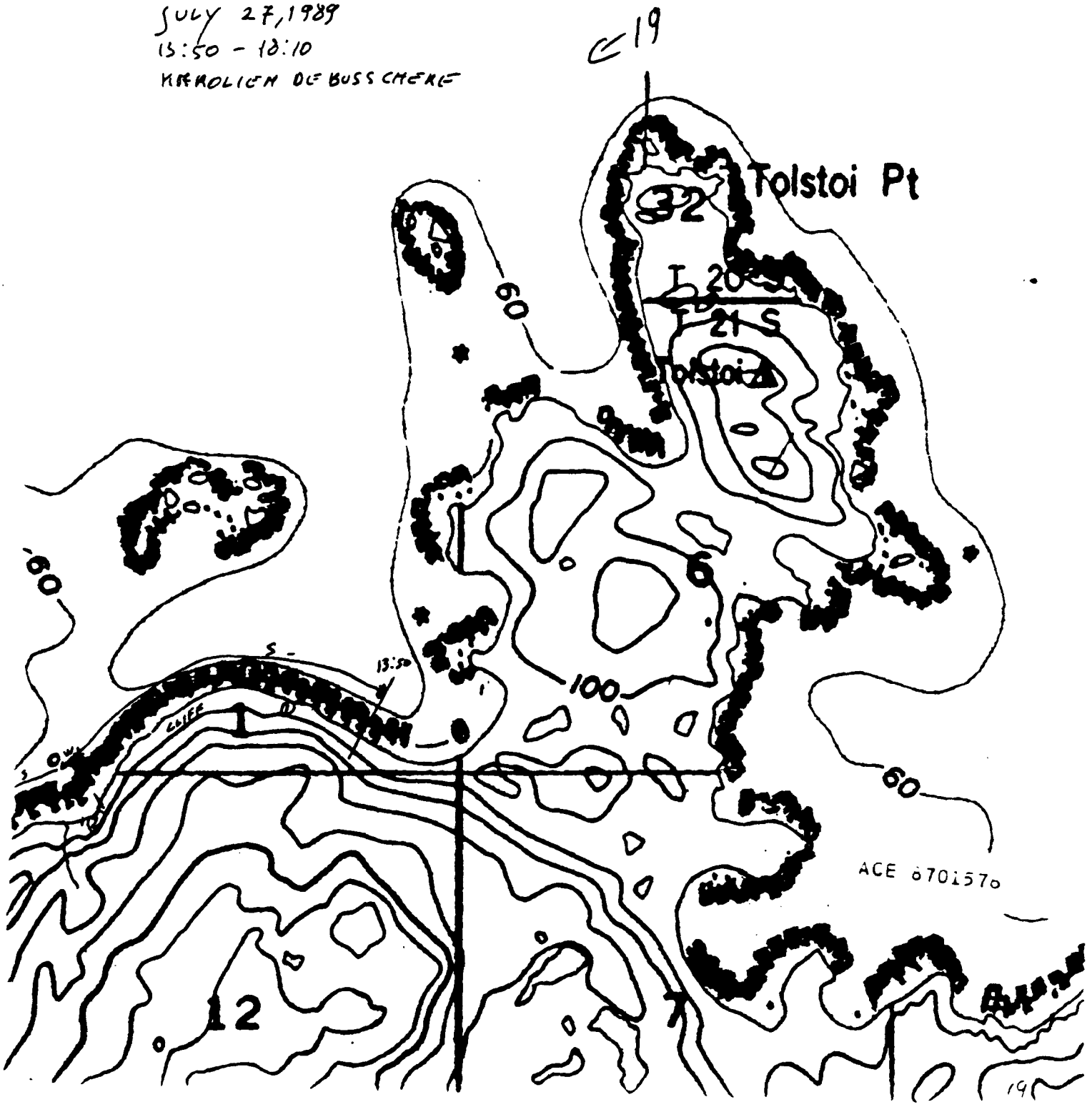
BIRDS: 2 Bald Eagles, Kittiwakes, Glaucous-winged Gulls, Oystercatchers, Cormorants, Harlequin Ducks, Rare

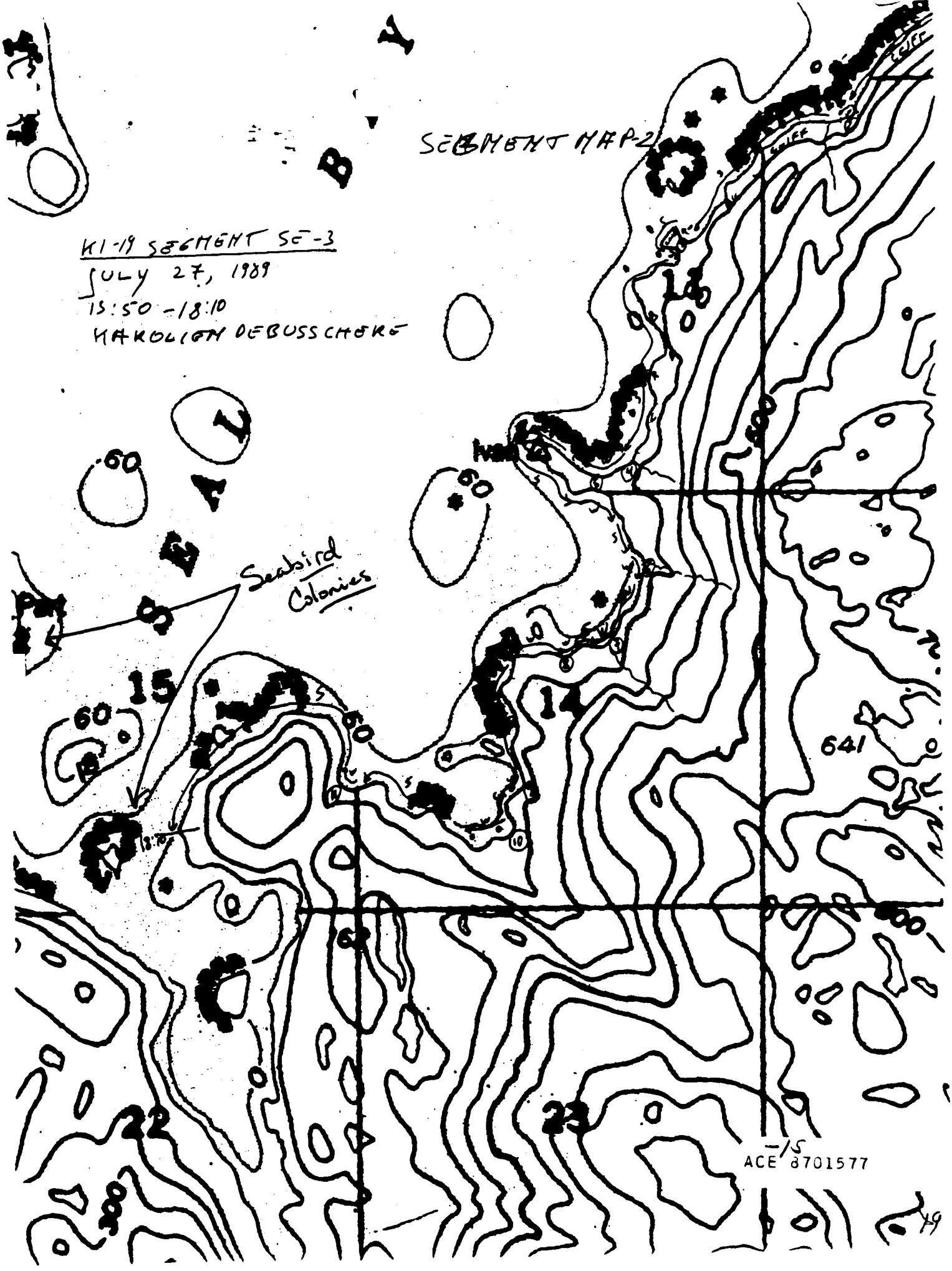
GENERAL OBSERVATIONS: Very little oil splatter seen throughout segment. Segment consists of sandy/pebble pocket beaches bounded by bedrock cliffs and boulders.

ACE 8701574

SEGMENT MAP -1

KI-19 SEGMENT SE-3
JULY 27, 1989
13:50 - 18:10
KAREL LICHY DE BUSSCHERE




SEGMENT MAP-2
KI-19 SEGMENT SE-3
JULY 27, 1989
13:50 - 18:10
HAROLIGN DEBUSSCHERE
Seabird Colonies
A
B
60
15
14
641
22
ACE 8701577

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 8/03/89 SHORELINE SEGMENT K1-19-SE-4

LOCATION: (see enclosed map) SE - Bay within Seal Bay

ADEC NO._____ SHORELINE ASSESSMENT DATE: 7/28/89

Recommended Cleanup Activity(ies):
-No cleanup recommended due to absence of oil. Subject to FOSC reassessment at a later date.

Priorities/ Considerations:
-Possibly an anadromous stream within segment.
-Seabird colonies on offshore islands.

Ecological Constraints (from site survey):
-Avoid seabird colonies on islands in K1-19-SE-9 when visiting area.

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.

Douglas Reger Date: 8/16/89
State Historic Preservation Officer *

EXXON:_____ Date:_____

FOSC:_____ Date:_____

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

ACE +/S 8701578

(version July 05, 1989)

SHORELINE OIL EVALUATION

Date: 7/28/89 Time: 14:15-15:45 Observer: KAROLIEN DEBUSSCHERE
Surveyed From: Foot/Boat/Helio/Plane Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

Location: SE BAY W/IN SEAL BAY Segment ID: KI-19 SE-4
Segment Length: 2750 m. Access: Vehicle/Boat/Barge/Helic/Float Plane
Access Restrictions: SHALLOW SUBTIDAL

SHORELINE

Shoreline Type: SPI/BEA/COV/HLD/STRT Slope: Lo/Med/HI/Vert
Wave Exposure: High/Med/Low
Sediment: B 55 % / C 15 % / P 10 % / G&S 15 % / M 0 % / R 5 %

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 0 SU/SP/H/M/L H/M/L/VL
Sporadic % of Segment 0 SU/SP/H/M/L H/M/L/VL

Total	Length(m)	Width(m)
Very light:		
Light:		
Moderate:		
Heavy:		

Thickness >1cm: 0 cm SU/SP/H/M/L
Penetration/Rework: 0 cm SU/SP/H/M/L
Burial Depth: 0 cm 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:	0 %		SU/SP/H/M/L
"Free" Oil:	0 %		SU/SP/H/M/L
Splattered:	0 %	H/M/L/VL	SU/SP/H/M/L
Coated:	0 %	H/M/L/VL	SU/SP/H/M/L
Pancakes/Balls:	6 %		SU/SP/H/M/L

Preliminary Cleanup Est.
Total TYPE A: 0 m
Total TYPE B: 0 m
Total TYPE A/B: 0 m

OIL WEATHERING

Fresh:	0 %	SU/SP/H/M/L
Mousse:	0 %	SU/SP/H/M/L
Weathered Mousse:	0 %	SU/SP/H/M/L
Asphalt Mousse:	0 %	SU/SP/H/M/L
Tar:	0 %	SU/SP/H/M/L

COMMENTS

LARGE SEGMENTS OF SEGMENT WERE SURVEYED ON FOOT - NO VISIBLE OIL WAS FOUND
AREA CONSISTS OF LARGE LOW RANGE G. BEACHES B/W LONG SECTIONS OF STEEP B-BEACHES
~ 50% IS INACCESSABLE

ACE 8701579

(42)

DOCUMENTATION: M. DEBUSSCHERE

(Map)/Aerial photo marking segment boundaries See attached.

VTR: Y/(N) Tape Number(s) —

Photography: (Y)/N Roll Number(s) JT-5

Sample Numbers Collected: N/A

FIELD NOTES

MAP OF DEGREE OF OILING

8/28/89 K1-19 SE-4 14:15

K. DEBUSSCHERE

* LOCATION (1)

→ M/C BEACH IN LAG / SHALLOW SUBTIDAL MED/UP CHANNEL BANKS

→ A LITTLE SOUTH OF GC INTERTIDAL

- [illegible] OF CHANNEL CLIFF WORK IN SOME SAG IN HIGHER ZONES

LOGS III H/SP/SU ; ALGAE III/H/SP

NO VISIBLE OIL & NO OIL IN SAND POCKETS

* LOCATION (2)

SAME AS (1) & VERY FINE SAND IN LOW INTERTIDAL

* VERY STEEP & SMALL B-BENCHES GOING INTO SHALLOW SUBTIDAL

* LOCATION (3)

LOW ANGLE GC BEACH

* STEEP B-BENCHES

* LOCATION (4)

LOW ANGLE C/P/C BEACH

STILL NO OIL

* SKIFF: B-BENCHES (STEEP)

* LOCATION (5)

LARGE G BEACH, LOW ANGLE

* LOCATION (6)

NARROW G BEACH AT BOTTOM OF CLIFF

LITTLE CREEK

NO OIL

* LOCATION (7)

ISLAND: ALTERNATING ROCKS & CLIFFS: NO VISIBLE OIL

END 15:45

version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: Seal Bay SITE: SE Bay w/in Seal Bay OBSERVER: J. Tapley

LOCATION PREFIX: KI/SE SEG. NO.: KI-19-SE-4 LENGTH: 2750 (M)

DATE: 7/28/87 TIME (HHMM): 1415-1545 TIDE HT.: +2m → +1m (M)

OILED ZONE: Splash High Medium Low Ø

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: Deer tracks on beach. Jellyfish abundant in water. Possible anadromous stream within southern portion of segment

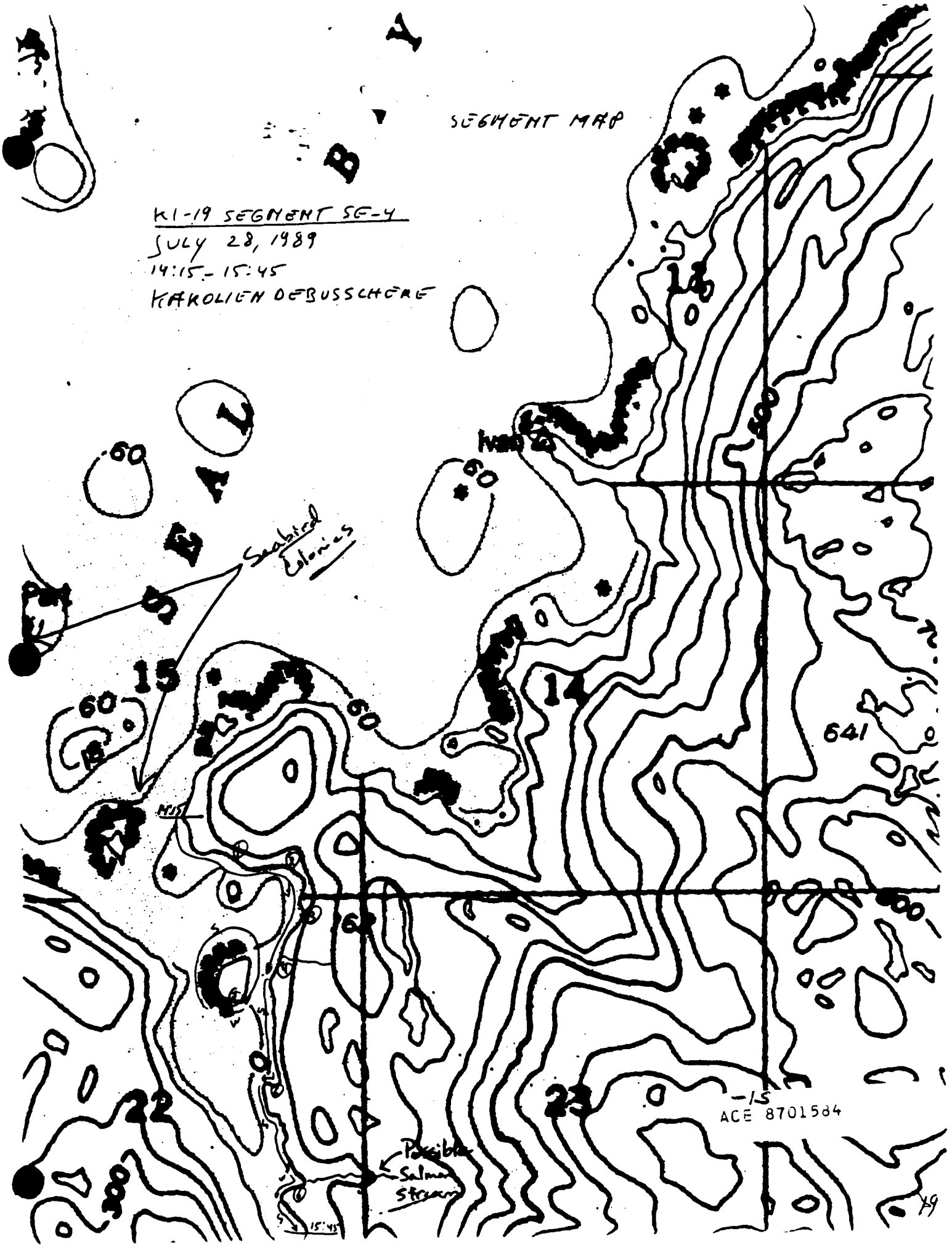
CLEANUP PRECAUTIONS: Bears in the area. Possibly an anadromous stream within segment. Avoid Seabird Colonies on islands in KI-19-SE-9.

MAMMALS: Otters ____ Harbor Seals ____ Sea Lions ____ Whales ____
Other Deer tracks.

BIRDS: Gulls, Kittiwakes

GENERAL OBSERVATIONS: No oil observed. Low energy, low angle cobble beaches primarily. Spruce trees come down right to waterline. Salmon jumping in bay.

ACE 8701582


SEGMENT MAP
KI-19 SEGMENT SE-4
JULY 28, 1989
14:15 - 15:45
KAROLIEN DEBUSSCHERE
BEAR
Seabird Colonies
60
15
14
641
MIST
22
23
Possible Salmon Stream
15:45
-15
ACE 8701584

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 8/03/89 SHORELINE SEGMENT K1-19-SE-5

LOCATION: (see enclosed map) W shore of SE Bay within Seal Bay

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 7/28/89

Recommended Cleanup Activity(ies):
-Manual removal of mousse patties and tar balls.

Priorities/ Considerations: Class 5-A
-Possible salmon streams in the area.
-Winter storms will probably clean beaches naturally.

Ecological Constraints (from site survey):
-Avoid contamination of shallow subtidal sea grass beds at head of bay and streams.
-Avoid islands in K1-19-SE-9 which contain seabird colonies.

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 Date: 8/16/89
State Historic Preservation Officer *

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

ACE 4/5 8701585

(version July 05, 1989)

SHORELINE OIL EVALUATION

Date: 7/28/89 / Time: 15:45-16:55 Observer: KAROLIEN DEBUSSCHERE
Surveyed From: Foot/Boat/Helio/Plane Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION

Location: W-SHORE OF SEARY W/IN SEAL BAY Segment ID: 61-19 SE-5
Segment Length: 1970 m. Access: Vehicle/Boat/Barge/Helio/Float Plane
Access Restrictions: SHALLOW & STEEP BEACHES

SHORELINE

Shoreline Type: SPI/BEA/COV/HLD/STRT Slope: Lo/Med/Hi/Vert
Wave Exposure: High/Med/Low
Sediment: B 15 % / C 10 % / P 5 % / G&S 45 % / M 0 % / 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 0	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)		
Very light:			Thickness >1cm: 0 cm	SU/SP/H/M/L
Light:			Penetration/Rework: 0 cm	SU/SP/H/M/L
Moderate:			Burial Depth: 0 cm	SU/SP/H/M/L
Heavy:				

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

OIL MORPHOLOGY

Pooled Oil:	0 %		SU/SP/H/M/L
"Free" Oil:	0 %		SU/SP/H/M/L
Splattered:	1 %	H/M/L/VL	SU/SP/H/M/L
Coated:	0 %	H/M/L/VL	SU/SP/H/M/L
Pancakes/Balls:	99 %		SU/SP/H/M/L

Preliminary Cleanup Est.

Total TYPE A: 895 m
Total TYPE B: 0 m
Total TYPE A/B: 0 m

OIL WEATHERING

Fresh:	0 %	SU/SP/H/M/L
Mousse:	0 %	SU/SP/H/M/L
Weathered Mousse:	98 %	SU/SP/H/M/L
Asphalt Mousse:	1 %	SU/SP/H/M/L
Tar:	1 %	SU/SP/H/M/L

COMMENTS

OIL OCCURS SPORADIC; MOST OF OIL IS IN AREAS WITH MEDIUM WAVE EXPOSURE. HOWEVER, DUE TO THE OIL MORPHOLOGY AND LOCATION IN THE INTERTIDAL ZONE, PROBABILITY OF NATURAL CLEANING IS HIGH
CLEANUP IS STILL RECOMMENDED BECAUSE OF CONCENTRATION OF OIL IN THAT AREA (SHOULD HAPPEN BEFORE WINTER STORMS!!)
≥ 75 % IS INACCESSABLE

ACE 8701580

DOCUMENTATION:

(Map)/Aerial photo marking segment boundaries see attached

VTR: Y/(N) Tape Number(s) —

Photography: (Y)/N Roll Number(s) JT-5

Sample Numbers Collected: N/A

FIELD NOTES
MAP OF DEGREE OF OILING

7/28/89 : M1-19 SE-5 15:45

M. DEBUSSCHERE

* LOCATION (1)

G/M/C/B BEACH - LOW ANGLE (MEDIUM W-END)

H ALGAE : M/H/SP

MOUSSE PATTIES SOME, 1-2 M IN M/-

TAR BALLS IN M

* WELL MO M: G/P/C SLATE - LOW ANGLE BEACH

→ SAME AS OIL NATURE BUT MORE SPORADIC

↳ MOUSSE PATTIES

* SHIFT: ALTERNATING CLIFFS & NARROW BEACHES WITH V. SMALL

& POCKET BEACHES - NO VISIBLE OIL; BUT PROBABLY SAME OIL AS

* LOCATION (2)

↳ SOUTH OF TOMBOLO: LOW ANGLE C/P/B BEACHES

SPORADIC OIL: WEATHERED MOUSSE - SPLASH AT HI-TIDE ON SEDIMENT

MOUSSE PATTIES M/H ; SOME TAR SPLASH & TAR BALLS OUT

VERY LITTLE

ALGAE AT M/H/SP ; LOOS AT H

→ NORTH OF TOMBOLO: STEEP B- BEACHES

→ AROUND PROTRUBANCE. SHIFT: CLIFF, ROCK → NO OIL

* SHIFT: ALTERNATE: BENCH & CLIFF

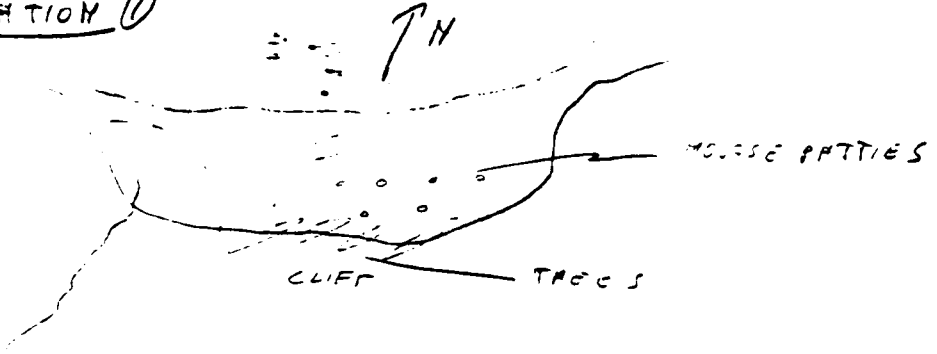
END: 16:55

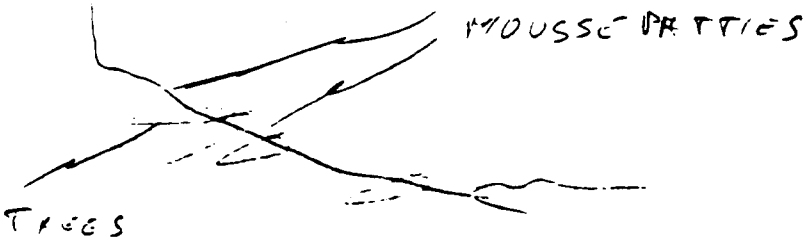
ACE 8701588

7/28/89 KI-19 SE-5

K. DEBUSSCHERE

LOCATION ①





ACE 8701589

version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: Seal Bay SITE: SE. Bay w/in Seal Bay OBSERVER: J. Tapley

LOCATION PREFIX: KI/SE SEG. NO.: KI-19-SE-5 LENGTH: 1970 (M)

DATE: 7/28/89 TIME (HHMM): 1545-1655 TIDE HT.: +10m (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)

Also Enteromorpha & Filamentous Red

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

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

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

Newly recruited juveniles present.

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

OTHER OBSERVATIONS: Small stream at head of bay. Shallow Seagrass Phyllospadix beds at head of bay. Spruce trees come down to waterline.

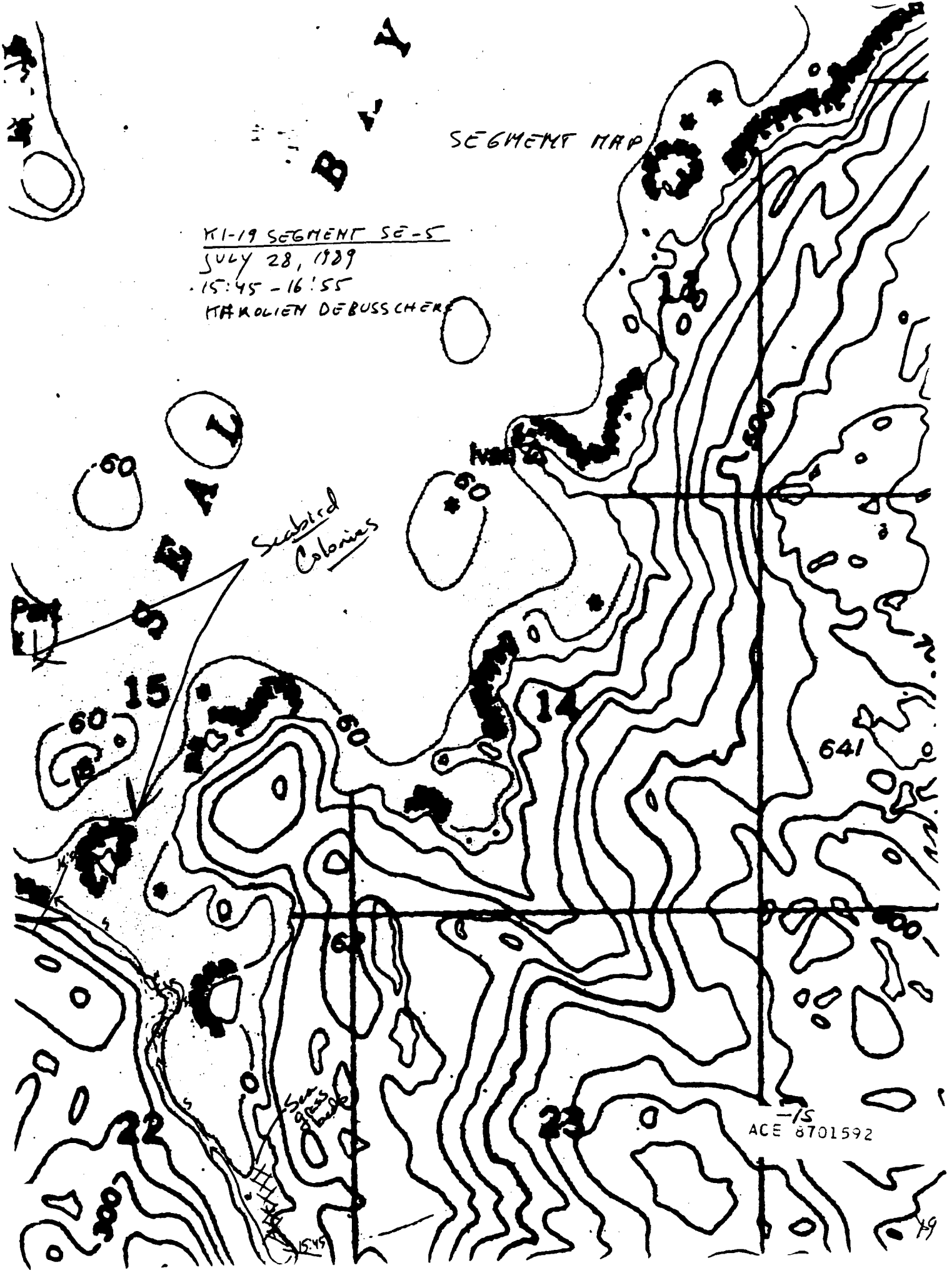
CLEANUP PRECAUTIONS: Shallow waters. Narrow beach. Bears present. Avoid further oil contamination of Ice ETC and stream. Avoid seabird colonies on grass covered islands in KI-19-SE-9.

MAMMALS: Sea Otters 1 Harbor Seals ___ Sea Lions ___ Whales ___
Other Bear Trails

BIRDS: Kittiwakes, Bank Swallows

GENERAL OBSERVATIONS: No Kelp Forests at this end of bay. Numerous Salmon jumping in bay. Barnacle shell debris abundant.

ACE 8701590


SEGMENT MAP
KI-19 SEGMENT SE-5
JULY 28, 1989
15:45 - 16:55
MARCLIEN DEBUSSCHERE
Seabird Colonies
60
15
14
641
22
23
ACE 8701592

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 8/03/89 SHORELINE SEGMENT K1-19-SE-6

LOCATION: (see enclosed map) SW Bay within Seal Bay

ADEC NO._____ SHORELINE ASSESSMENT DATE: 7/28 & 7/29/89

Recommended Cleanup Activity(ies):
- -No cleanup recommended due to very light oiling (one tar splat in whole segment) and ecological constraints. Subject to FOSC reassessment at a later date.

Priorities/ Considerations: Class 5-A
- -Possible salmon streams and clam beds in the segment.

Ecological Constraints (from site survey):
- -Should cleanup be required at a later date, avoid contamination of lower intertidal zone and possible salmon streams.

Archaeological Constraints (from site survey):
- -An archaeological monitor is required prior to and during any cleanup conducted in the inlet on the west end of segment SE-6.
- -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.

Douglas Reger Date: 8/17/89
State Historic Preservation Officer *

EXXON:_____ Date:_____

FOSC:_____ Date:_____

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

+/5
ACE 8701593

(version July 05, 1989)

SHORELINE OIL EVALUATION

Date: 7/28/89 / 7/29/89 Time: 16:55 - 18:20 / 8:50 - 10:30 Observer: KEROLIEN DEBUSSCHERE

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

LOCATION

Location: SW BAY W/IN SEAL BAY Segment ID: KI-19 SE-6

Segment Length: 1 8750 m. Access: Vehicle/Boat/Barge/Helio/Float Plane

Access Restrictions: HIGH WAVE EXPOSURE, OFFSHORE ROCKS & SHALLOW SUBTIDAL

SHORELINE

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

Wave Exposure: High/Med/Low

Sediment: B 15 % / C 15 % / P 10 % / G&S 15 % / M 10 % / R 35 %

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 0 SU/SP/H/M/L H/M/L/VL

Sporadic % of Segment 2 6000/ SU/SP/H/M/L H/M/L/VL

Total	Length(m)	Width(m)
Very light:		
Light:		
Moderate:		
Heavy:		

Thickness >1cm: 0 cm SU/SP/H/M/L

Penetration/Rework: 0 cm SU/SP/H/M/L

Burial Depth: 0 cm SU/SP/H/M/L

Mobilization Potential: High/Medium/Low

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

OIL MORPHOLOGY

Pooled Oil:	0 %		SU/SP/H/M/L
"Free" Oil:	0 %		SU/SP/H/M/L
Splattered:	100 %	H/M/L/VL	SU/SP/H/M/L
Coated:	0 %	H/M/L/VL	SU/SP/H/M/L
Pancakes/Balls:	0 %		SU/SP/H/M/L

Preliminary Cleanup Est.

Total TYPE A: 0 m

Total TYPE B: 0 m

Total TYPE A/B: 0 m

OIL WEATHERING

Fresh:	0 %	SU/SP/H/M/L
Mousse:	0 %	SU/SP/H/M/L
Weathered Mousse:	0 %	SU/SP/H/M/L
Asphalt Mousse:	0 %	SU/SP/H/M/L
Tar:	100 %	SU/SP/H/M/L

COMMENTS

SHORELINE IN THIS SEGMENT IS VERY UNSTABLE: VERTICAL CLIFFS, HIGH ENERGY BOULDER BEACH, SHALLOW - PROTECTED MUDFLATS ETC... ONLY OIL FOUND WAS ONE TAR SPLASH ON A LOG AT LOCATION (3)

70% OF SHORELINE IS INACCESSIBLE FOR CLEANUP

ACE 8701594

DOCUMENTATION:

Map/Aerial photo marking segment boundaries SEE ATTACHED

VTR: Y (N) Tape Number(s) —

Photography: (Y) N Roll Number(s) ST-5

Sample Numbers Collected: —

FIELD NOTES

MAP OF DEGREE OF CURVE

7/28/89 M1-19 SC-6 A. DELASSIANA 16:55

* SKIFF: VERTICAL CLIFFS W. VERY SMALL COVES
* LOCATION (1)
  LG. LOG X R WITH C/G → VERY HIGH ENERGY
  → LITTLE COVE; MEDIUM ANGLE
  ALGAE: H/M/SP; LOGS H/M NO SAL
* SKIFF VERTICAL CLIFFS & SERIES OF LITTLE COVES
* LOCATION (2)
  G/C/B BEACH
  MEDIUM ANGLE. 2 BERMS AT H/SP
  LOGS AT H/SP; ALGAE AT H/M/SP
  NORTH: WIDE OFFSHORE STACKS
* SKIFF. VERTICAL CLIFFS & B-BEACHES, SOME G-BEACHES
  MOSTLY CLIFF
* LOCATION (3)
  MEDIUM ANGLE HIGH ENERGY BEACH
  B/C IN COVER M/H; G/P IN H → BERMS
  LOGS: H/SP → ONE OTHER SPLASH ON ONE LOG ALGAE: M/H/SP/SU
* CLIFF
  AROUND POINT: LARGE G-BEACHES W B-BEACHES & CLIFFS
  " - " SOME CLIFFS & STEEP B-G BEACHES
* IN FIRST BAY: REEF - INACCESSIBLE
  B-G BEACHES
* ALL STEEP B-G BEACH & SOME CLIFFS

18:20

7/29/89 M1-19 M. DEBUSS CHEMI-

6:00 AM : STORMING

7:00 AM : WENT BACK TO SET-1 TO CHECK OUT SITE (CHA ARCHAEOL.

AM SET-1 : WEATHER IS WORKABLE

BACK ON BOAT AT 8:00 AM WEATHER SETTLES WORK)

8:50 SE-6 CONT.

* WHLM ALL BEACH AT H; LOW ANGLE G/P F T L

SLATE III LOWER TIDAL - NO OIL

* LOCATION (4)

LEVEE SLATE G BEACH ON W-SIDE GOING M INTERTIDAL CHAN.

CONNECTING TO LAGOON

* SAME : G-BEACHES

* LOCATION (5) : SLATE BEACHES W MUD FLATS III LOWER TIDAL

601 M6 S: SAME W 2 LAGOONS

* MCROSS (W) & ON TOP OF BAY/ SAME

* SAME : CLIFF & STEEP BLD BEACHES

* LOCATION (6)

LITTLE BEACH (SLATE) G - NO OIL

STEEP G-BEACHES UNTIL END - NO OIL

10:15

ACE 8701597

ECOLOGICAL EVALUATION

LOCATION: Seal Bay SITE: SW Bay in Seal Bay OBSERVER: J. Tarpley

LOCATION PREFIX: KI/SE SEG. NO.: KI-M-SE-6 LENGTH: 8750 m (M)

DATE: 7/28/89 TIME (HHMM): 1700-1830 TIDE HT.: +1.0 → 1.5m (M)

OILED ZONE: Splash High Medium Low Ø

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: This description for boulder cliffs high energy portion of Segment. See next page for cobble, pebble low energy beach biota segment.

CLEANUP PRECAUTIONS: Avoid oil contamination of low IT2.

MAMMALS: Otters Seen ≥ 5 Harbor Seals ____ Sea Lions ____ Whales ____
Other ____

BIRDS: 1 - Eagle, Ravens, Crows, Harlequin Ducks, Oystercatchers.

GENERAL OBSERVATIONS: Segment completed over two days. Half was high energy rocky boulder cliffs w/pocket beaches and low energy pebble cobble beaches is an embayment.

ECOLOGICAL EVALUATION

LOCATION: Seal Bay SITE: SW Bay w/in Seal Bay OBSERVER: J. Tarpley

LOCATION PREFIX: KE/SE SEG. NO.: KI-19-SE-6 LENGTH: ~~2750~~ m (M)

DATE: 7/25/89 TIME (HHMM) ~~0850~~ -1035 TIDE HT.: 0 → +1.0m (M)

OILED ZONE: Splash High Medium Low (6)

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: Jellyfish on beach & abundant in water. Possible salmon streams within segment. Dense Sitka spruce forest to beach. Pink salmon and Dolly Vardens seen jumping in bay.

CLEANUP PRECAUTIONS: Avoid further contamination in low ITZ and streams. Clam beds in small bay.

MAMMALS: Sea Otters 1 Harbor Seals ___ Sea Lions ___ Whales ___
Other Moose tracks

BIRDS: 2-Immature Eagles, Crows, Glaucous-Winged Gulls

* GENERAL OBSERVATIONS: Above description is for half of segment. This part of segment was low energy pebble/cobble beaches in shallow bay. No Oil Observed.

ACE 8701599

SEGMENT MAP
KI-19 SEGMENT
JULY 28, 1989 16:55 - 18:20
JULY 29, 1989 8:50 - 10:35
MARCLIGN DEBUSSCHERE
Kelp Forest
Clam Beds
Possible Salmon stream
ACE 8701601

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 8/03/89 SHORELINE SEGMENT K1-19-SE-7

LOCATION: (see enclosed map) SW shore of Seal Bay

ADEC NO. SHORELINE ASSESSMENT DATE: 7/29/89

Recommended Cleanup Activity(ies):
-Manual removal of mousse patties and tar balls in mid and high tidal zone.

Priorities/ Considerations: Class 5-A
-Possible anadromous streams within segment.
-Clam beds in Bay.
-Sea otters and Bald Eagles present.

Ecological Constraints (from site survey):
-Avoid cleanup near anadromous streams and fresh water pools in grassy high intertidal zone areas.

Archaeological Constraints (from site survey):
-An archaeological monitor is required prior to and during any cleanup conducted in 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.

Douglas Reger Date: 8/17/89
State Historic Preservation Officer *

EXXON: Date:

FOSC: Date:

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

ACE 8701602

version July 05, 1989)

SHORELINE OIL EVALUATION

ate: 7/29/89 / Time: 10:35-12:00 // 1:30-4:00 Observer: KAROLIEN BEBUYSCHERE
urveyed From: Foot/Boat/Helio/Plane Weather: Sun/Cloud/Rain/Snow/Fog

CATION
ocation: SW-SHORE OF SEAL BAY Segment ID: M/-19 SE-7
egment Length: 12530 m. Access: Vehicle/Boat/Barge/Helio/Float Plane
ccess Restrictions: EASIEST ACCESS WITH SMALL BOATS DURING LOW TIDE
SOME VERTICAL CLIFFS

HORELINE
horeline Type: SPI/BEA/COV/HLD/STRT Slope: Lo/Med/Hi/Vert
ave Exposure: High/Med/Low
ediment: B 35 % / C 20 % / P 10 % / G&S 10 % / M 0 % / R 25 %

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 0 SU/SP/H/M/L H/M/L/VL
poradic % of Segment 3% SU/SP/H/M/L H/M/L/VL

	Length(m)	Width(m)
otal		
ery light:		
ight:		
oderate:		
eavy:		

Thickness >1cm: 0 cm SU/SP/H/M/L
Penetration/Rework: 0 cm SU/SP/H/M/L
Burial Depth: 0 cm SU/SP/H/M/L

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

IL MORPHOLOGY

ooled Oil:	0 %		SU/SP/H/M/L
Free" Oil:	0 %		SU/SP/H/M/L
plattered:	5 %	H/M/L/VL	SU/SP/H/M/L
oated:	0 %	H/M/L/VL	SU/SP/H/M/L
ancakes/Balls:	15 %		SU/SP/H/M/L

Preliminary Cleanup Est.
Total TYPE A: 2700 m
Total TYPE B: 0 m
Total TYPE A/B: 0 m

IL WEATHERING

resh:	0 %	SU/SP/H/M/L
ousse:	0 %	SU/SP/H/M/L
eathered Mousse:	80 %	SU/SP/H/M/L
sphalt Mousse:	15 %	SU/SP/H/M/L
ar:	5 %	SU/SP/H/M/L

OMMENTS

LARGE SECTIONS OF THE SEGMENT WERE OBSERVED BY SKIFF. EVERY SPOT WE LANDED OIL WAS PRESENT. → ASSUMED OIL ALONG WHOLE SEGMENT EVEN THOUG MAP INDICATES NO VISIBLE OIL!
OIL DISTRIBUTION IS SPORADIC THROUGH OUT WHOLE SEGMENT

± 50 % IS ACCESSABLE W SMALL BOATS.

ACE 8701603

DOCUMENTATION: K. DEBOSSCHERE

Map/Aerial photo marking segment boundaries ATTACHED

VTR: Y/(N) Tape Number(s) _____

Photography: (Y)/N Roll Number(s) 21-5

Sample Numbers Collected: —

FIELD NOTE

MAP OF DEGREE OF OILING

7/29/89 | H1-19 SE-7 | K. DEBUSSCHERE 10:35

(1)

LOCATION (1)

VERY SMALL G. BEACH (SLATE) W LITTLE WATERFALL COMING OUT

3 MOUSSE PATTIES AT H. TIDE ~3 M APART

LOGS AT M/H, ALGAE AT H

STEEP C/B/P/G BEACHES FLANKING LOC (1)

SKIFF: SAME STEEP C-BEACHES

LOCATION (2)

(A) SEE SKETCH) B-BEACH: (ANGULAR) - MOUSSE PATTIES AT M/H

ALGAE AT M/H LOGS H/SP

SOME TAR SPLASH AT M & TARBALLS AT M/H

(B) INTERTIDAL G. BEACH (MEDIUM PEBBLE) OIL PATTIES; MOUSSE

M & H - TAR BALLS

(C) CLIFF & B-BEACH: MOUSSE PATTIES

(D) STORM INTERTIDAL BEACH " " ON N SIDE

NO OIL ON S-SIDE

(E) MOUSSE PATTIES IN M/H

B. AT H/M P/G/C AT M/L

SKIFF

B-BEACHES (VERTICAL) - CLIFF - B-BEACH - CLIFF

LOCATION (2)

3 G. BEACHES IN BETWEEN STEEP B-BEACH

AGAIN DENSE MOUSSE PATTIES AT H/M/S

12:00

7/29/89 M/-19 SE-7 · CONT 18:30 THROUGH DEBUSCH-1

(2)

* LOCATION (4)

CLIFF W. COULDER BEACH AT FOOT

OIL AT M/H.

* JUNCTION 5: INACCESSIBLE

* LOCATION (5)

H. ANGLE G. BEACH (POCKET) H-SEAM; FLANKING: B/C/P/G

BEACHES ± STEEP

→ OIL AT M/H (MOUSSE); SOME TAR SPLASH AT M

→ STILL SAME AS EARLIER IN SEGMENT

* GOING ACROSS BOOM (OIL ON BOOM)

SPORADIC MOUSSE PATTY ACROSS BOOM

POTENTIAL ANADROMOUS STREAM.

* SKIFF: B-BEACHES B/C/P/G BEACHES W SMALL G. BEACHES

* LOCATION (6)

G. BEACH; FLANKING B. BEACHES

MOUSSE AT M/H

TARBALLS " "

POTENTIAL ANADROMOUS STREAM

* SKIFF

* LOCATION (7)

H. ANGLE B/C BEACH - HIGH ENERGY - SAME OIL AS

AT S-SIDE C/P BEACH (TOMCOCO) - OIL

* SKIFF: H-ANGLE BEACH & CLIFF → INACCESSIBLE

* LOCATION (8)

SEE SKETCH

MOUSSE PATTIES: M/H; TAR SPLASH: M/H/SP

* SKIFF: SAME

* LOCATION (9)

ACE 8701606

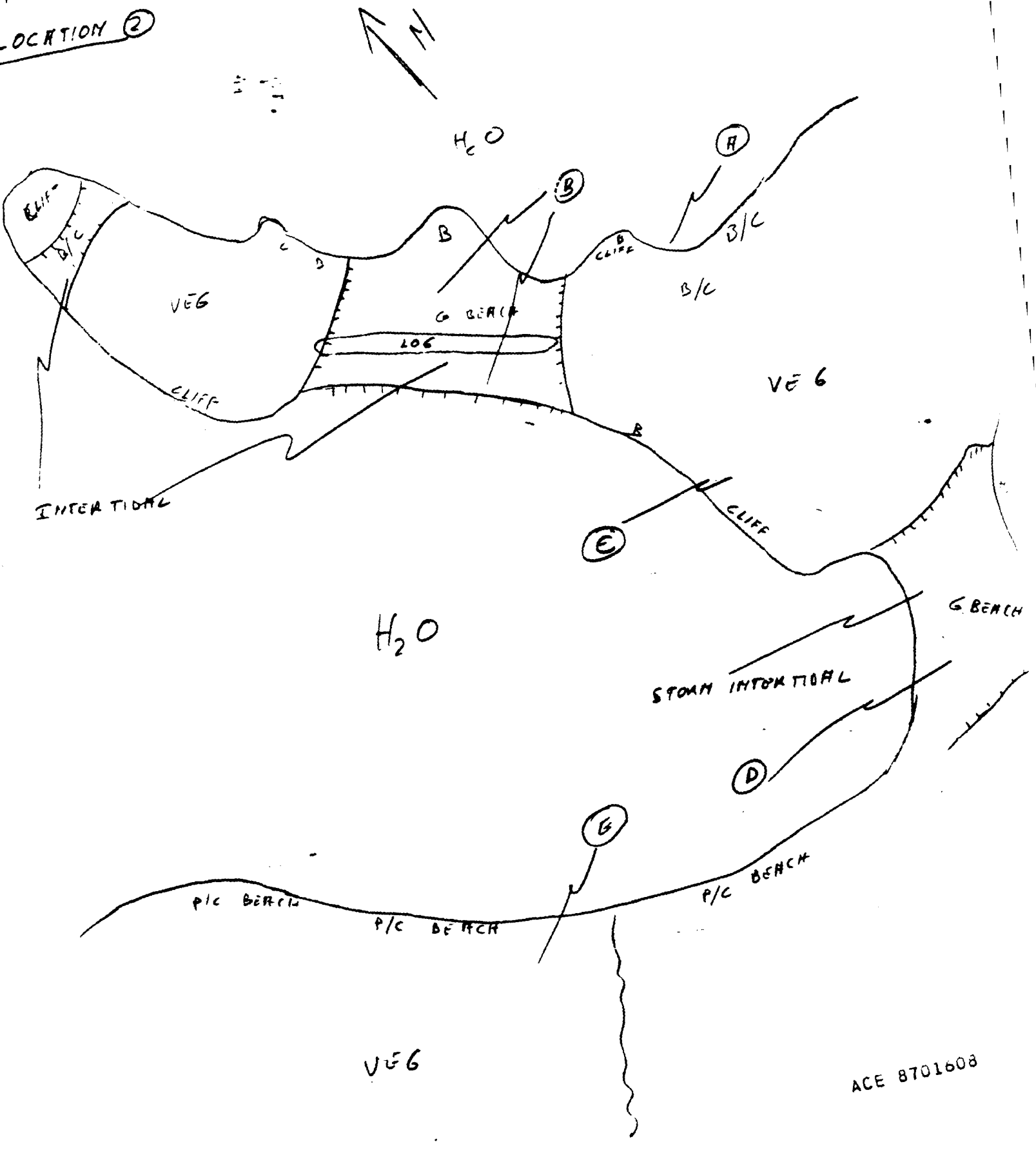
STEEP B-BEACH, CLIFF & B-BEACH: SPORADIC MOUSSE PATTIES AT M/H

* SKIFF CLIFF
* LOC (10) : END OF CAY : G. BENCH - ALL ALONG END OF CAY / (SPORADIC) OIL AT M/A/SP : MOOSE & TRACKS
* SKIFF : CLIFF END 18:30
* LOC (11) : STILL SAME OIL.

H. DEBUSSCHE

1-4 SE-6

LOCATION (2)

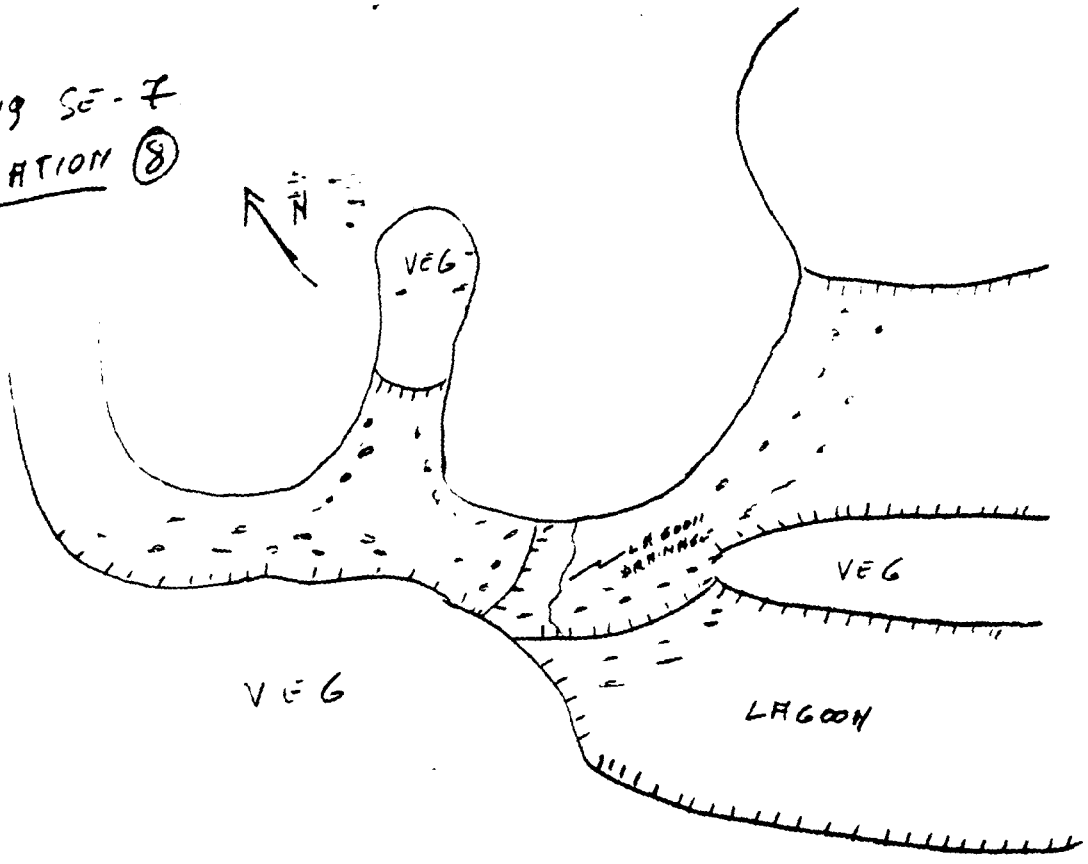


ACE 8701608

M. DEBUSSCHERE

H1-19 SE-7

LOCATION (8)



=:= : MOUSSE PATTIES

ACE 8701609

ECOLOGICAL EVALUATION

LOCATION: Seal Bay SITE: ~~Rocky Bay to Back Bay~~ OBSERVER: J. Tarpley

LOCATION PREFIX: KI/SE SEG. NO.: KI-89-SE-7 LENGTH: 12530 (M)

DATE: 7/29/89 TIME (HHMM): 1035-1200 1630-1850 TIDE HT.: +1.5 → 2.5m (M) +1m → 1.4 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: All biota in good condition. Possibly 2 anadromous streams in "Rocky Bay" Numerous jellyfish in H2O and also on beaches. Red tide present. (See map for location).

CLEANUP PRECAUTIONS: Difficult access to most of segment. Avoid clean up near anadromous streams and freshwater pools in grassy areas.

MAMMALS: Sea Otters 7 Harbor Seals ___ Sea Lions ___ Whales ___
Other ← 2 pups

BIRDS: 2-Bald Eagles, Kittiwakes, Terrestrial birds.

GENERAL OBSERVATIONS: Segment largely protected in back bays. Large boulder shores w/pebble cobble pocket beaches. Phyllospadix beds at heads of shallow inlets. Driftwood is abundant in pocket beaches and algal drift is light.

ACE 8701610

Duck Cape
SEGMENT MA
KI-19 SEGMENT SE-7
JULY 29, 1989
10:35 - 12:00
HAROLIGN DEBUSSCHERE
RED TIDE
Possible Saline Stream
ACE 8701612

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 8/03/89 SHORELINE SEGMENT K1-19-SE-8

LOCATION: (see enclosed map) North shore of Seal Bay

ADEC NO._____ SHORELINE ASSESSMENT DATE: 7/30/89

Recommended Cleanup Activity(ies):

-No cleanup recommended due to very light oiling and high potential for natural cleaning. Subject to FOSC reassessment at a later date.

Priorities/ Considerations: Class 5-A

-Local seabird colonies.

Ecological Constraints (from site survey):

-Should cleanup be necessary at a later date, avoid contamination of lower intertidal zone and shallow subtidal seagrass beds.

Archaeological Constraints (from site survey):

-If cleanup is planned inspection by an archaeological monitor is required during cleanup.

Douglas Reger Date: 8/16/89

State Historic Preservation Officer *

EXXON:_____ Date:_____

FOSC:_____ Date:_____

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

ACE 8701613

version July 05, 1989)

SHORELINE OIL EVALUATION

ate: 7/30/89 / Time: 7:15-9:45 Observer: KRKOLIEN DEBUSSCHERE
urveyed From: Foot/Boat/Helio/Plane Weather: Sun/Cloud/Rain/Snow/Fog

CATION
ocation: NORTH SHORE OF SEAL BAY (DUCK CAPE) Segment ID: KC-19 SE-8
egment Length: 4210 m. Access: Vehicle/Boat/Barge/Helio/Float Plane
ccess Restrictions: VERTICAL CLIFFS - OFFSHORE ROCKS - HIGH WAVE ACTION

SHORELINE
horeline 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 12 % / M 3 % / R 45 %

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

OIL DISTRIBUTION
ontinuous % of Segment 0 SU/SP/H/M/L H/M/L/VL
poradic % of Segment 0.001 SU/SP/H/M/L H/M/L/VL

otal	Length(m)	Width(m)
ery light:	<1	
ight:		
oderate:		
eavy:		

Thickness >1cm: 0 cm SU/SP/H/M/L
Penetration/Rework: 0 cm SU/SP/H/M/L
Burial Depth: 0 cm SU/SP/H/M/L

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

OIL MORPHOLOGY

ooled Oil:	0 %		SU/SP/H/M/L
Free" Oil:	0 %		SU/SP/H/M/L
plattered:	90 %	H/M/L/VL	SU/SP/H/M/L
oated:	0 %	H/M/L/VL	SU/SP/H/M/L
ancakes/Balls:	70 %		SU/SP/H/M/L

Preliminary Cleanup Est.
Total TYPE A: 0 m
Total TYPE B: 0 m
Total TYPE A/B: 0 m

OIL WEATHERING

resh:	0 %	SU/SP/H/M/L
ousse:	0 %	SU/SP/H/M/L
eathered Mousse:	30 %	SU/SP/H/M/L
sphalt Mousse:	40 %	SU/SP/H/M/L
ar:	30 %	SU/SP/H/M/L

COMMENTS

MOST OF THE SEGMENT HAD NO VISIBLE OIL. WHERE OIL WAS PRESENT, POTENTIAL OF MOBILIZATION WAS MOSTLY HIGH.

ACE 8701614

DOCUMENTATION:

Map/Aerial photo marking segment boundaries ATTACHED

VTR: Y (N) Tape Number(s) _____

Photography: (Y) N Roll Number(s) JT-5

Sample Numbers Collected: —

FIELD NOTES

MAP OF DEGREE OF OILING

2/3/89 K1-19 SE-8 KOEBUSSCHEMOT 7:15

* LOCATION (1)

G. BERM - SHAKING : STEEP C/B/C BEACHES

→ 1 THK BALL AT H

* LOCATION (2)

VERY SMALL G. BEACH → NO OIL

SLIGHT AT H/H ; LOOS / MOOL : M/H

IN BAY (B/N (1) & (2)) PUDDLES IN SUBTIDAL

* LOCATION (3)

ONE G. BEACH TO THE N

IN (2) C/B/P/B BEACH (SHADED) → VERY LIGHT & SPORADIC OIL AT H

SEE SKETCH

* WALKING SE : ONE THK BALL ON R

* CLIFF : STEEP B-BEACHES

* LOCATION (4)

R/C/P/G BEACH

MOUSSE PATTY AT H (ON LOG)

THK BALLS AT H/H (VERY FEW)

* CONTINUE SE → VERY SPORADIC PATTY & TARBALL

* LOCATION (5)

R/C BEACH - SAME OIL Δ

* CLIFF : R/B

CROSS TO DUCK CAPE

* AT DUCK CAPE R/B

* LOCATION (6)

LARGE G/S BEACH, THK SPLASH AT H ON LOGS

* CLIFF : VERTICAL CLIFF

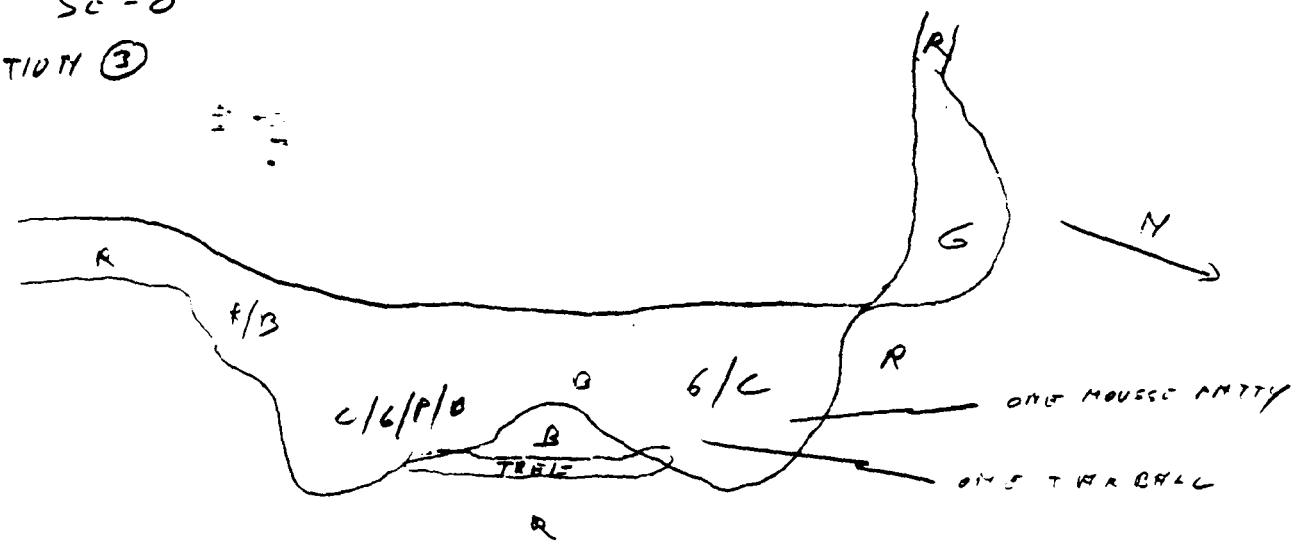
END 9:45

ACE 8701616

K. DEBUSSCHERE

K1-19 SE-8

LOCATION (3)



ACE 8701617

ECOLOGICAL EVALUATION

LOCATION: Seal Bay SITE: Nuiqsitchen OBSERVER: J. Teeple

LOCATION PREFIX: KI/SE SEG. NO.: KI-19-SE-8 LENGTH: 4210 (M)

DATE: 7/30/89 TIME (HHMM): 0715-1000 TIDE HT.: -0.5m → +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)

Balanus glandula & Semibalanus cariosus

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

High ITZ, Margarites present also, Nucella

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

Found primarily mid tidal

OTHER OBSERVATIONS: Several species of sea stars in low ITZ. Mostly Pycnopodia, Solaster, Pisaster, & Henricia, Jellyfish very abundant in MHD. Shell debris → Saxidomus & Little necks. Anemones also present in low ITZ.

CLEANUP PRECAUTIONS: Avoid oil contamination and foot traffic over healthy low ITZ and subtidal should clean up be necessary.

MAMMALS: Otters 4/ Harbor Seals ___ Sea Lions ___ Whales ___
Other ← 1 pup. Fox on beach, Deer Tracks

BIRDS: 4/ loons, 1 Bald Eagle, Pigeon Guillemots, Gulls, Kittiwakes, Ravens, Terr. Birds 2-Marbled Murrelets 4-

GENERAL OBSERVATIONS: Boulder shingle beaches w/ rocky outcrops. Very light and sporadic oil found. Land Otter slide and juvenile (young of year) kittiwakes observed.

SEGMENT MAP
KI-19 SEGMENT SE-8
JULY 30 1989
9:15 - 9:45
KIRKLION DEBOSSUHORE
200
60
100
17
16
20
21

ACE 8701620

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 8/03/89 SHORELINE SEGMENT K1-19-SE-9

LOCATION: (see enclosed map) Islands in Seal Bay

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 7/30/89

Recommended Cleanup Activity(ies):
-No cleanup recommended due to absence of oil. Subject to FOSC reassessment at a later date.

Priorities/ Considerations: Class 5-A
-Seabird colonies on four (4) islands of segment.

Ecological Constraints (from site survey):
-Avoid any traffic near Island #1,2,3, and 4 of segment (see map) due to presence of seabird colonies.

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

Douglas Reger Date: 8/16/89
State Historic Preservation Officer *

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

+/S
ACE 8701621

(version July 05, 1989)

SHORELINE OIL EVALUATION

Date: 7/30/89 / Time: 9:55-11:50 Observer: KAROLIEN DEBUSSCHERE
Surveyed From: Foot/Boat/Helio/Plane Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION
Location: ISLANDS IN SEAL BAY Segment ID: KI-19 SE-9
Segment Length: 6980 m. Access: Vehicle/Boat/Barge/Helio/Float Plane
Access Restrictions: CLIFFS & HIGH WAVE ACTION

SHORELINE
Shoreline Type: SPI/BEA/COV/HLD/STRT Slope: Lo/Med/Hi/Vert
Wave Exposure: High/Med/Low
Sediment: B 10 % / C 5 % / P 3 % / G&S 2 % / M 0 % / R 80 %

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

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

Total	Length(m)	Width(m)
Very light:		
Light:		
Moderate:		
Heavy:		

Thickness >1cm:_____cm SU/SP/H/M/L
Penetration/Rework:_____cm SU/SP/H/M/L
Burial Depth:_____cm SU/SP/H/M/L

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

OIL MORPHOLOGY

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

Preliminary Cleanup Est.
Total TYPE A:_____
Total TYPE B:_____
Total TYPE A/B:_____

OIL WEATHERING

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

COMMENTS

SEGMENTS CONSISTS OF ISLANDS → VERY HARD ACCESS
SEGMENT WAS OBSERVED BY SKIFF
→ 95% INACCESSIBLE

ACE 8701622

DOCUMENTATION:

Map/Aerial photo marking segment boundaries ATTACHED

VTR: Y/(N) Tape Number(s) _____

Photography: (Y)/N Roll Number(s) JT-5

Sample Numbers Collected: —

FIELD NOTES

MAP OF DEGREE OF CLING

F/30/89 KI-19 SET-9 START 9:55

ISLANDS

(1) CLIFFS /R NO LANDING → NESTING
(2) " " " " (HELF)
(3) " " " "
(4) " " " "
(5) CLIFF + E NO ACCESS
(6) " " "
(7) " " " "
(8) " " " LANDED AT X → NO OIL
(9) " " " NO ACCESS
(10) " /R C " "

ACE 8701624

ECOLOGICAL EVALUATION

LOCATION: Seal Bay SITE: Large Islands OBSERVER: J. Torpley

LOCATION PREFIX: KI/SE SEG. NO.: KI-19-SE-9 LENGTH: 6980 (M)

DATE: 7/30/89 TIME (HHMM): 1020-1450 TIDE HT.: +0.5 → +2.0m (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 observe in detail.

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

Wasn't able to observe in detail.

* OTHER OBSERVATIONS: Segment observed from skif. Did not get out of boat to observe IT2 due to seabird nesting colonies, inaccessible shores and high tide. IT2 community that was observed appeared to be rich & diverse with both flora & fauna.

CLEANUP PRECAUTIONS: Avoid islands 1, 2, 3, & 4 with seabird colonies completely, even when cleanup is done on SE-4, SE-5, or SE-6. Avoid oil contamination and foot traffic on healthy low IT2 small islands should cleanup be necessary.

MAMMALS: Sea Otters 30-40+ Harbor Seals ___ Sea Lions ___ Whales ___
Other ← ~25% pups

BIRDS: (4) Marbled murrelets, (10) Oystercatchers, Harlequin Ducks (6), Glaucous-winged Gulls (100's), Kittiwakes, Horned Puffins, Tufted Puffins, Cormorants (20), 60-90 Parakeet Auklets,

GENERAL OBSERVATIONS: Outside islands 1, 2, 3, 4 are seabird nesting colonies for Glaucous winged Gulls, Horned Puffins, Tufted Puffins and possibly cormorants & Kittiwakes. The inside islands 5, 6, 7, 8, 9, 10 are covered with Spruce trees and are not seabird colonies. Immature Gulls from <2 weeks to approximately 6 weeks observed still with down feathers and obviously not fledged on islands 2 and 3. / No oil observed on any island from skif survey. / A raft of 25-30+ sea otters seen in kelp just off island # 2. Other otters + pups seen throughout segment near islands.

ACE d701025

SEGMENT MAU
SEABIRD COLONIES
K1-19 SEGMENT SE-19
JULY 30 1987
9:55-11:50
HAROLDEN DEBUSSCHERE
SEABIRD COLONIES
60
15
16
14
ACE 8701627

KODAK SCAT
KI-20

ACE 8643490

(version 6/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Block (see enclosed map): K1-20

Includes Shoreline Segments: TC-5

Location: Tolstoi Pt. E into Tonki Bay

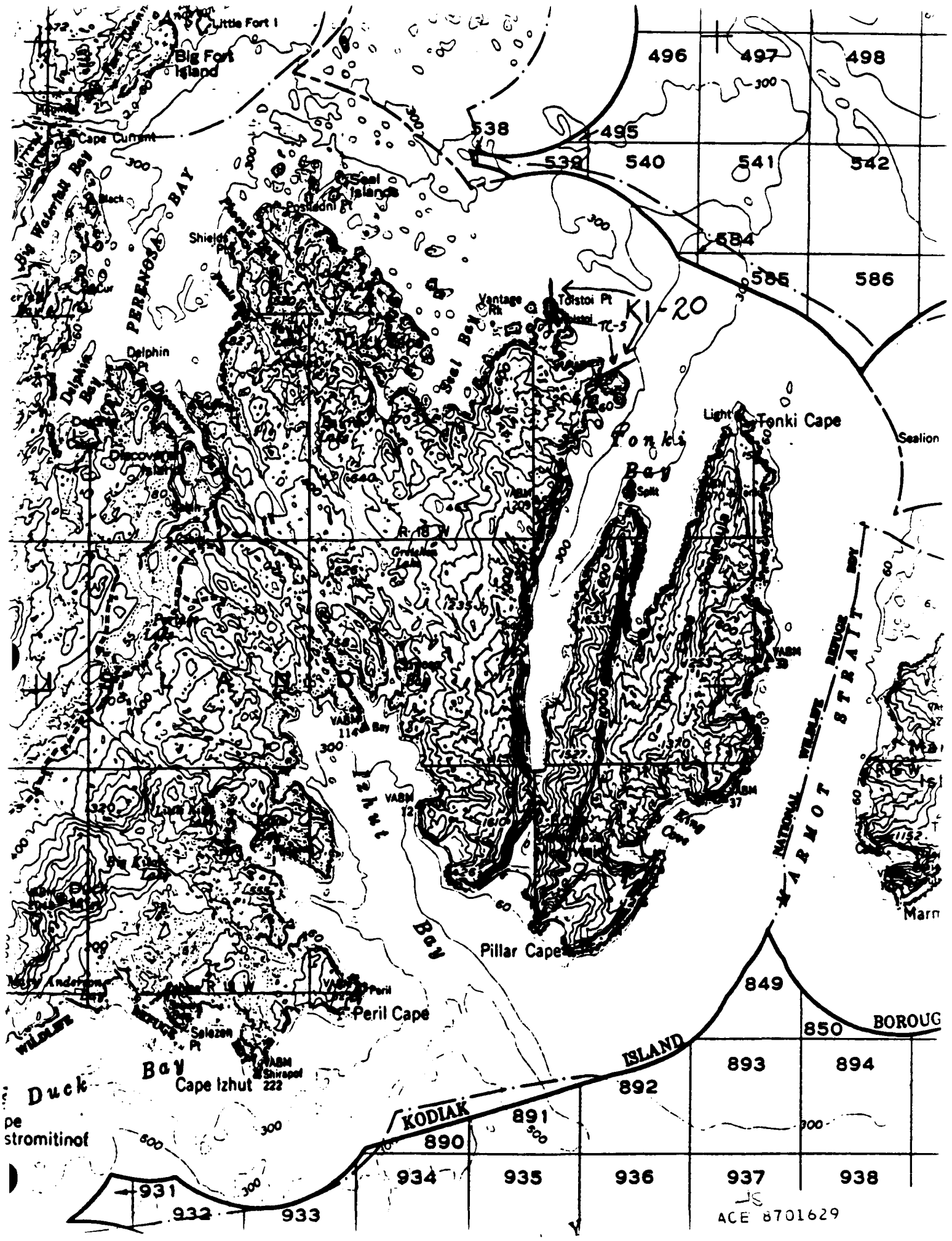
Submitted: _____ Date: _____
(for Exxon)

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

+/ FILE
ACE 8701628


Little Fort I
Big Fort Island
Cape Current
Seal Islands
Shields Pt
PERENOSA BAY
Dolphin
Dolphin Bay
Vantage Rk
Tolstoi Pt
KI-20
TC-5
Seal Bay
Tonki Cape
Tonki Bay
Sealion
Pillar Cape
Peril Cape
Cape Izhut
Duck Bay
Selezen Pt
Shirepot
ISLAND
KODIAK
BOROUG
496
497
498
538
495
539
540
541
542
584
585
586
849
850
893
894
892
890
891
934
935
936
937
938
931
932
933
ACE 8701629

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/20/89 SHORELINE SEGMENT K1-20-TC-5

LOCATION: (see enclosed map) Tolstoi Point east into Tonnki Bay

ADEC NO. K1 SHORELINE ASSESSMENT DATE: 7/20/89

Recommended Cleanup Activity(ies):
-No cleanup recommended due to very light oil impact observed and cleanup could cause unnecessary ecological impact.

Priorities/Considerations: Class 5-A
-Boat access may be restricted to calm days.

Ecological Constraints (from site survey):
-If cleanup is required, avoid bird rookery on Tolstoi Point.

Archaeological Constraints (from site survey):
-If cleanup is planned, a full archaeological assessment must be conducted due to archaeologically sensitive nature of this segment.

J. David McMahon Date: 7/31/89
State Historic Preservation Officer *

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

ACE 8701630

(version July 05, 1989)

SHORELINE OIL EVALUATION

Date: 7/20/89 / Time: 0830 - 0935 Observer: M Acton
Surveyed From: (Foot)/Boat/(Helo)/Plane Weather: Sun/Cloud/(Rain)/Snow/Fog

LOCATION

Location: Tolstoi Point east to Tank Bay Segment ID: K1-20-Tc-5
Segment Length: 6 miles m. Access: Vehicle/(Boat)/Barge/(Helo)/Float Plane
Access Restrictions: Boat access during low energy periods

SHORELINE

Shoreline Type: SPI/(SEA)/COV/(HLD)/STRT Slope: Lo/(Med)/Hi/(Vert)
Wave Exposure: (High)/Med/Low
Sediment: B 35 % / C 5 % / P ____ % / G&S 10 % / M ____ % / R 50 %

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)
Very light:	150	10
Light:		
Moderate:		
Heavy:		

Thickness >1cm: ____ cm SU/SP/H/M/L
Penetration/Rework: ____ cm SU/SP/H/M/L
Burial Depth: ____ cm SU/SP/H/M/L

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

OIL MORPHOLOGY

Pooled Oil: ____ %			SU/SP/H/M/L
"Free" Oil: ____ %			SU/SP/H/M/L
Splattered: 95 %		H/M/L/(VL)	SU/(SP)/(H)/M/L
Coated: ____ %		H/M/L/VL	SU/SP/H/M L
Pancakes/Balls: 5 %			SU/(SP)/(H)/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: 5 %		SU/(SP)/(H)/M/L
Asphalt Mousse: ____ %		SU/SP/H/M/L
Tar: 95 %		SU/(SP)/(H)/M/L

COMMENTS

Segment surveyed by helo. See Map for location of shoreline surveyed on foot. Shoreline was primarily rock headland / boulder shoreline with few small pocket sand beaches. Very light splat on driftwood and one mousse patch were observed during foot survey. Oil was not observed on rock/headland from helo. See segment maps for comments.

ACE 8701631

DOCUMENTATION:

(Map)/Aerial photo marking segment boundaries See Attached

VTR: Y/N Tape Number(s) _____

Photography: Y/(N) Roll Number(s) _____

Sample Numbers Collected: _____

27

		Acton	Jordan
7/29/89	Thurs	Penn	Gulp--
To Tolstoi, Pt		K1-23- Tc-5	
0805	lift off Kodiak		
0830	Tolstoi, Pt		
0840	v lt spill on logs		
	1 small pool		
	boulder from coast rock	1 former beaches	
0905	set down	G-9 pads	<5cm
	walked 100m		
	v lt spill on DW		
0915 + 0925	no oil observed		
0935	finish segment - off the Murre		
	K1-		
0940	SW corner of Murre		
0945	walked 100m		
	no oil observed		
1020	arrive Kodiak for fuel		

7/29/89 Thurs 1105

Depart Kodiak for Ocean Bay K8-

1135 N end of Bay - headland separating Oc

Princeton cove

Overflew Bay

overflew entire segment

1200 shut off

large accumulation of debris, driftwood

large sandy beaches

walked 400 m

MAS 10 W

11 W

12 E

13 E

HWL

1330

black balls - oil/sand mixture

1cm band of oil/sand balls - SP zone

MAS 14 closeup of oil/sand

15 W

16 E

17 closeup of oil/sand

ACE 8701633

version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: Kodiak SITE: Afognak Island - Tonki Bay OBSERVER: G. Pena

LOCATION PREFIX: KI-20 SEG. NO.: TC-1 LENGTH: 6 miles (M)

DATE: 07/20/89 TIME (HHMM): 0830 TIDE HT.: 0.33 (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)
is cover on Boulders

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

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

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
un observed

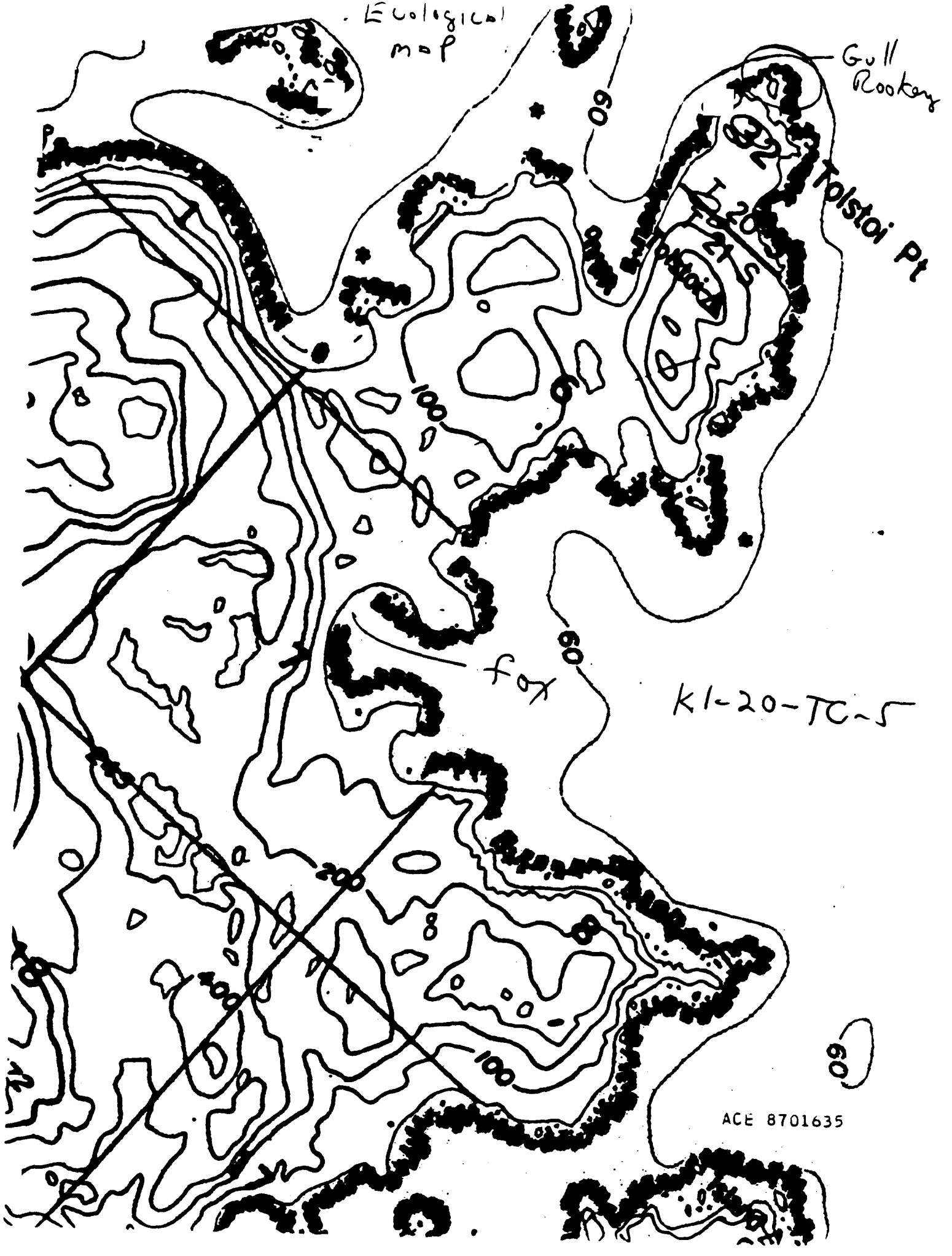
OTHER OBSERVATIONS: Ribbon kelp & Nereocystis common from LITZ to sub-tidal

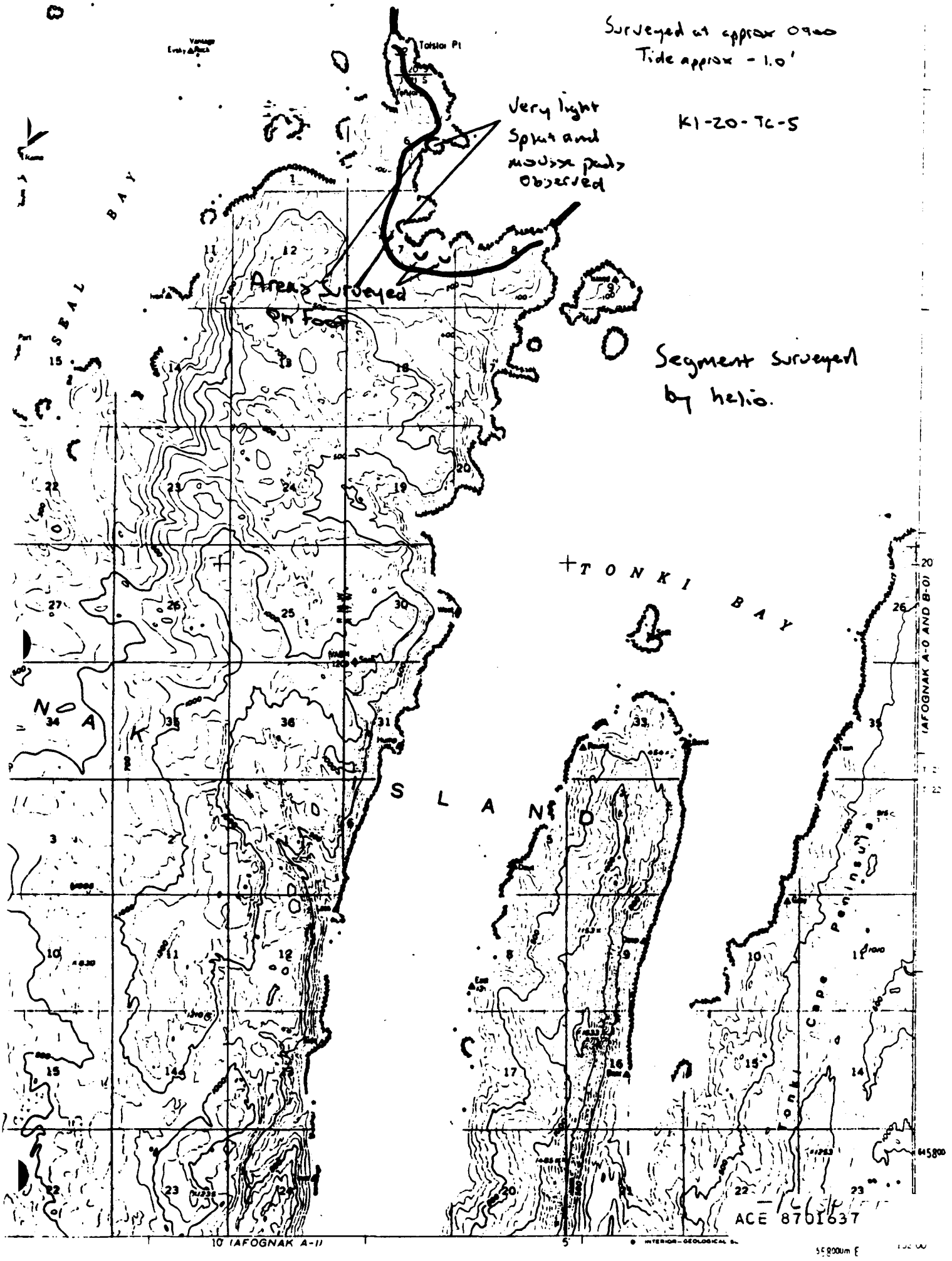
CLEANUP PRECAUTIONS: [redacted] - Any recommended type "A" cleanup will not impact Intertidal Biota. Keep clear of Rookery on Tolstoi Point.

MAMMALS: Otters ___ Harbor Seals ___ Sea Lions ___ Whales ___
Other

BIRDS: Gull Rookery @ Tolstoi Point

GENERAL OBSERVATIONS: Mid to upper intertidal generally poor, LitZ & subtidal dense w kelp (Ribbon & Nereocystis)


Ecological map
Gull Rookery
Tolstoi Pt
60
100
20
fox
K1-20-TC-5
ACE 8701635


Surveyed at approx 0900
Tide approx - 1.0'
K1-20-TC-5
Very light
Spkt and
moderate pads
observed
Areas Surveyed
on foot
Segment surveyed
by helio.
SEAL BAY
TONKI BAY
SLAND
Tolstoi Pt
IAFOGNAK A-0 AND B-01
10 IAFOGNAK A-11
ACE 8701637

KODIAK SCAT
KI-21

ACE 8643491

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/18/89 SHORELINE SEGMENT K1-21-TC-4

LOCATION: (see enclosed map) West arm of Tonki Cape to Tolstoi Cape

ADEC NO. K1 SHORELINE ASSESSMENT DATE: 7/18/89

Recommended Cleanup Activity(ies):
-No cleanup recommended due to apparent absence of oil. Subject to FOSC reassessment at a later date.

Priorities/Considerations:

Ecological Constraints (from site survey):

Archaeological Constraints (from site survey):
-If cleanup is planned, a full archaeological assessment must be conducted due to archaeologically sensitive nature of this segment.

J. David McMahan Date: 7/31/89
State Historic Preservation Officer *

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

F/F/S
ACE 8701638

(version July 05, 1989)

SHORELINE OIL EVALUATION

Date: 7/19/89 / Time: 1430 Observer: M. Acton
Surveyed From: (Foot)/Boat/(Helio)/Plane Weather: (Sun)/Cloud/Rain/Snow/Fog

LOCATION

Location: _____ Segment ID: K1-21-TC-4
Segment Length: 18 miles m. Access: Vehicle/(Boat)/Barge/Helio/Float Plane
Access Restrictions: Limited helio access

SHORELINE

Shoreline Type: SPI/BEA/COV/HLD/STRT Slope: Lo/Med/Hi/Vert
Wave Exposure: High/Med/Low
Sediment: B 20 % / C 10 % / P ____ % / G&S 10 % / M 5 % / R 55 %

OIL

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

OIL DISTRIBUTION

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

	Length(m)	Width(m)
Very light:		
Light:		
Moderate:		
Heavy:		

Thickness >1cm:_____cm SU/SP/H/M/L
Penetration/Rework:_____cm SU/SP/H/M/L
Burial Depth:_____cm SU/SP/H/M/L

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

OIL MORPHOLOGY

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

Preliminary Cleanup Est.

Total TYPE A:_____m
Total TYPE B:_____m
Total TYPE A/B:_____m

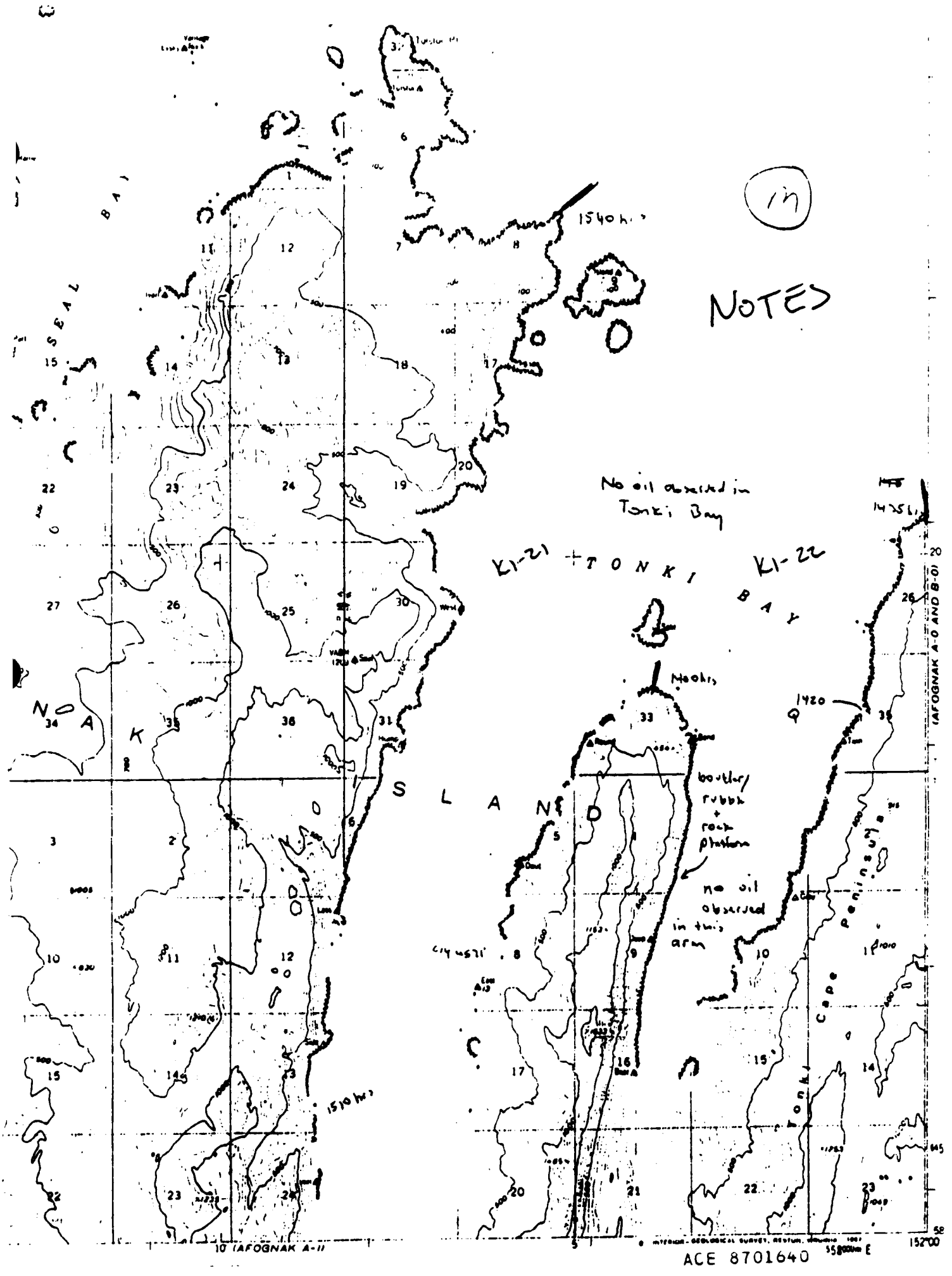
OIL WEATHERING

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

COMMENTS

No oil was observed in this segment. Segment was surveyed by helio. Several locations were surveyed on foot.

ACE 8701639


(17)
NOTES
No oil observed in Tonki Bay
KI-21
TONKI
KI-22
BAY
Nooks
1420
boulder/rubble + rock platform
no oil observed in this area
1540 ft
1510 ft
NO
SEAL BAY
ISLAND
10 IAFOGNAK A-11
IAFOGNAK A-0 AND B-01
ACE 8701640

ECOLOGICAL EVALUATION

LOCATION: Kodiak SITE: Afognak Isl. - Cape Tonki Peninsula OBSERVER: G Penn

LOCATION PREFIX: KI-21 SEG. NO.: TC-4 LENGTH: _____ (M)

DATE: 07/18/89 TIME (HHMM): 14:37 TIDE HT.: 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/(N) Dense Y/(N) Sparse (Y)/N None Y/N

Only on angular Rock pinnacles

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

Only on angular rock & rock pinnacles

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

Generally limited to offshore Boulders & sand bottom & offshore angular Pinnacles.

Littorina

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

not observed

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

not observed

OTHER OBSERVATIONS: Nereocystis Kelp Beds well developed near mouth of Bay in subtidal - 30m offshore

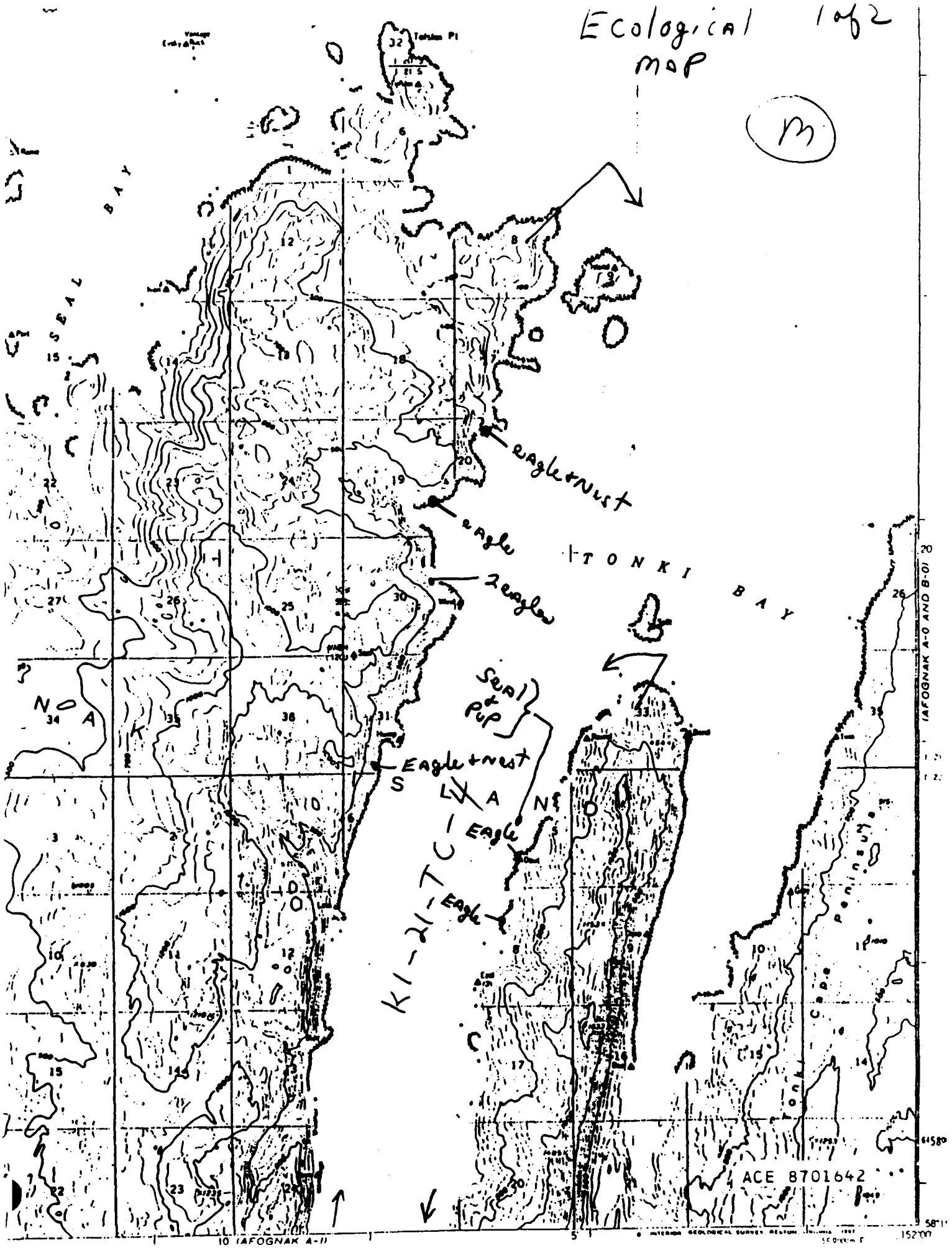
CLEANUP PRECAUTIONS: None - No oil observed

MAMMALS: Otters ___ Harbor Seals ↘ Sea Lions ___ Whales ___

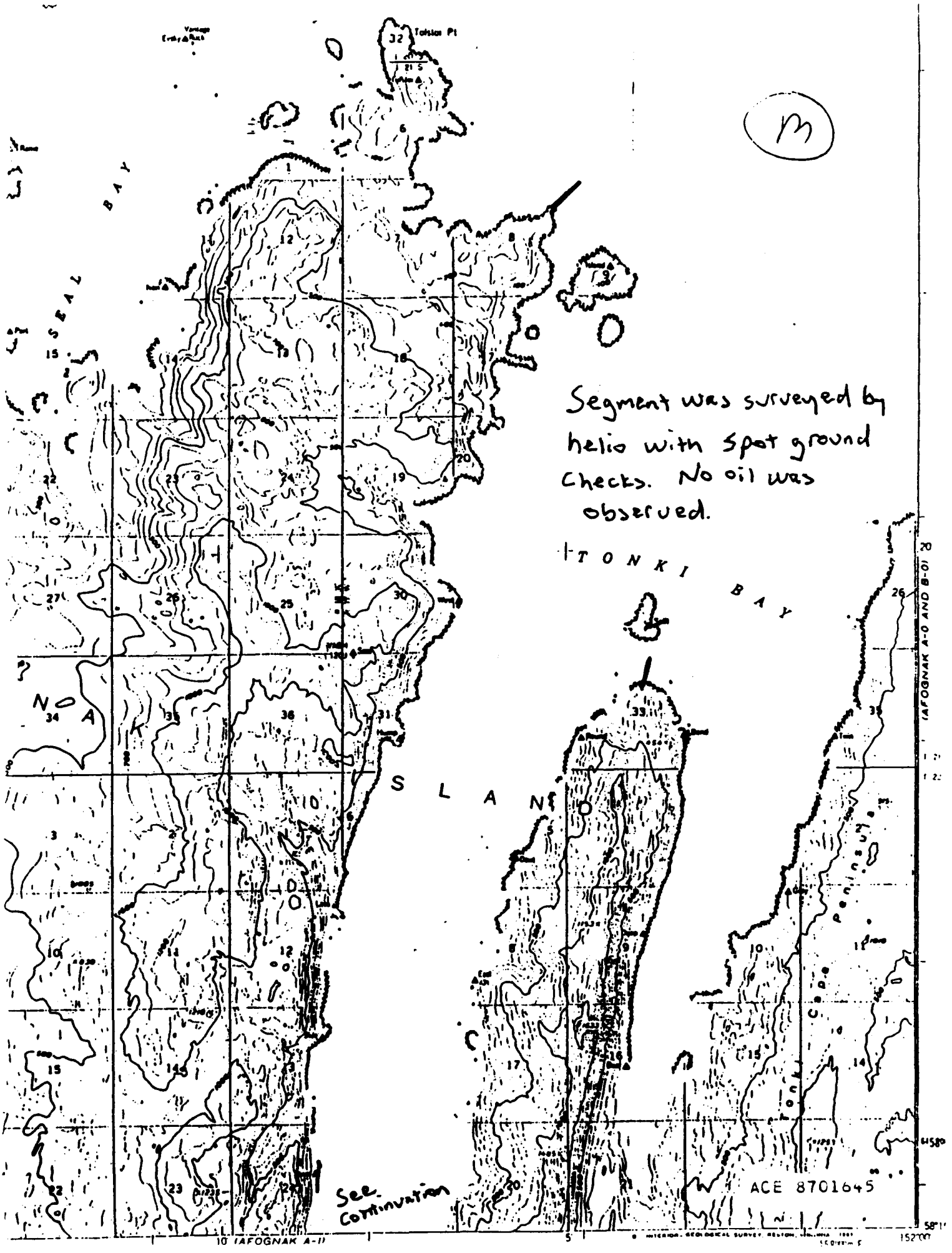
Other _____

BIRDS: Eagle's & nest

GENERAL OBSERVATIONS: Intertidal poorly speciated compared to open ocean frontage in some area


Ecological map 1 of 2
(M)
SEAL BAY
TONKI BAY
eagle nest
eagle
2 eagles
Seal & pup
Eagle + nest
S
LA
NE
Eagle
Eagle
KI-21 TC
N
34
A
K
ACE 8701642
10 (AFOGNAK A-II)
AFOGNAK A-0 AND B-01

Ecological map - 2 of 2
1:63 360 SERIES (TOPOGRAPHIC)
10 (AFOGNAK B-U
Tonki Bay
King Cove
Pillar Cape
KODIAK ISLAND BOROUGH
ACE 8701643


M
Segment was surveyed by helio with spot ground checks. No oil was observed.
SEAL BAY
TONKI BAY
S L A N D
See Continuation
ACE 8701645
10 IAFOGNAK A-11
IAFOGNAK A-0 AND B-01

-/L/SIFF
ACE 8701646

KODIAK SCAT
KI-22

ACE 8643492

(version 6/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Block (see enclosed map): K1-22

Includes Shoreline Segments: TC-3

Location: Tonki Cape to east arm of Tonki 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

+/FILE
ACE 8701647

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/18/89 SHORELINE SEGMENT K1-22-TC-3

LOCATION: (see enclosed map) Tonki Cape to east arm of Tonki Bay

ADEC NO. K1 SHORELINE ASSESSMENT DATE: 7/18/89

Recommended Cleanup Activity(ies):
-No cleanup recommended because no oil was observed.
-Subject to FOSC reassessment at a later date.

Priorities/Considerations: Class

Ecological Constraints (from site survey):

Archaeological Constraints (from site survey):
-If cleanup is conducted, an archaeological assessment of the segment must be conducted.

A. David McMahan Date: 2/24/89
State Historic Preservation Officer *

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

+/5
ACE 8701648

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE: 7/18/89 SHORELINE SEGMENT: K1-22-TC-3

LOCATION: (see enclosed map) Tonki Cape to east arm of Tonki Bay

ADEC No. K1 SHORELINE ASSESSMENT DATE: 7/18/89

Recommended Cleanup Activity(ies):

- No cleanup recommended because no oil was observed.
  (SUBJECT TO FOSC REASSESSMENT AT A LATER DATE)

Priorities/Considerations:

Ecological Constraints (from site survey):

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 21 April, 1989 as amended.

_____ Date: _____

State Historic Preservation Officer *

ACE 8701649

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

(version July 05, 1989)

SHORELINE OIL EVALUATION

Date: 7/18/89 / Time: 1345 Observer: M. Acton
Surveyed From: Foot/Boat/Helio/Plane Weather: Sun/Cloud/Rain/Snow/Fog

LOCATION
Location: Tonki Cape into east arm of Tonki Bay Segment ID: k1-22-Tc-3
Segment Length: 9 miles m. Access: Vehicle/Boat/Barge/Helio/Float Plane
Access Restrictions: limited helio access

SHORELINE
Shoreline Type: SPI/BEA/COV/HLD/STRT Slope: Lo/Med/Hi/Vert
Wave Exposure: High/Med/Low
Sediment: B 20 % / C 10 % / P ____ % / G&S 10 % / M 5 % / R 55 %

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

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

	Length(m)	Width(m)
Total		
Very light:		
Light:		
Moderate:		
Heavy:		

Thickness >1cm:_____cm SU/SP/H/M/L
Penetration/Rework:_____cm SU/SP/H/M/L
Burial Depth:_____cm SU/SP/H/M/L

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

OIL MORPHOLOGY

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

COMMENTS

No oil was observed in this segment. Segment was surveyed by helio. Several locations were surveyed on foot.

ACE 8701650

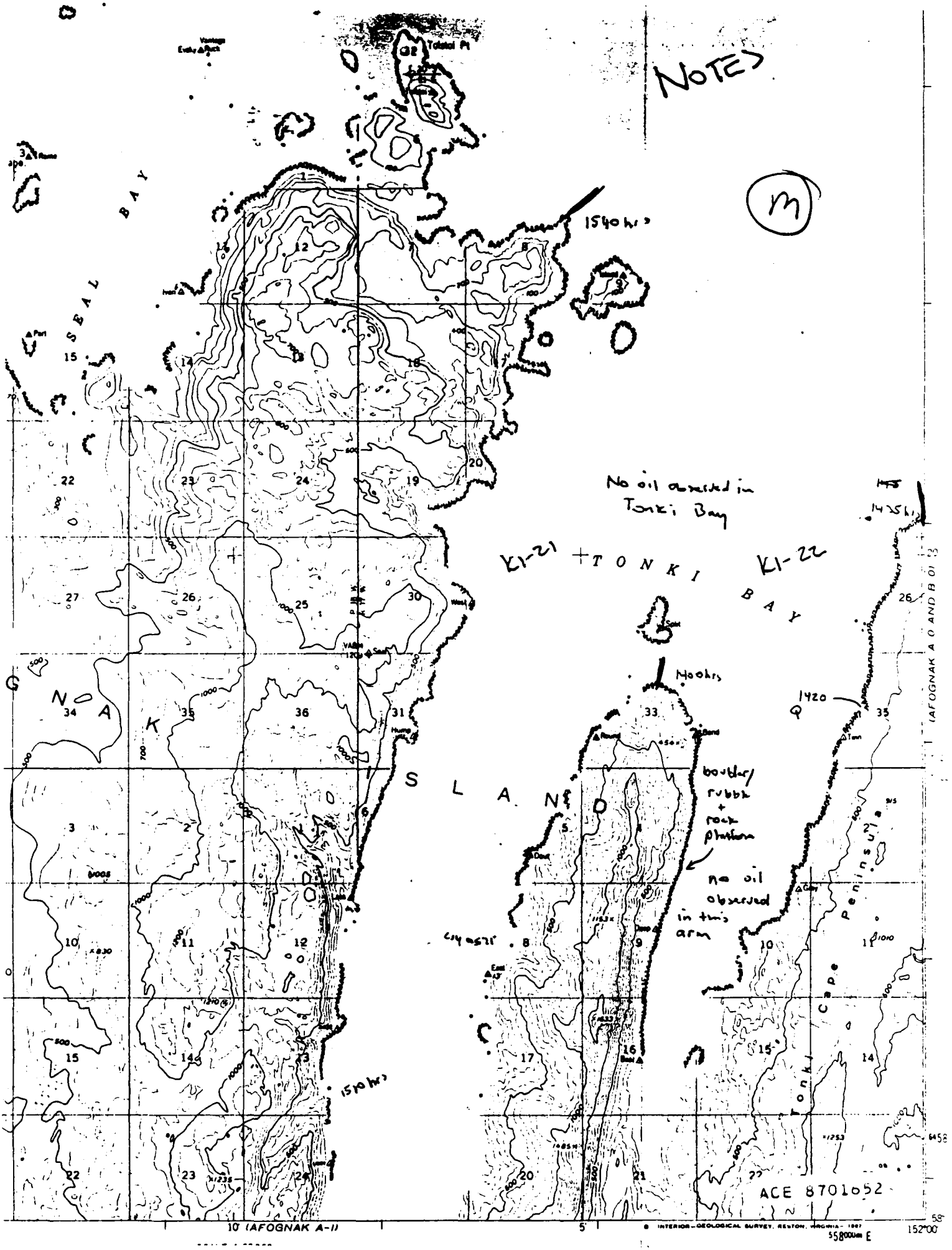
DOCUMENTATION:

(Map)/Aerial photo marking segment boundaries See attached

VTR: Y/N Tape Number(s) _____

Photography: (Y)N Roll Number(s) MA2

Sample Numbers Collected: _____


NOTE)
(M)
1540 hrs
SEAL BAY
No oil observed in Tonki Bay
KI-21
TONKI
KI-22
BAY
Hooks
1420
boulder/ rubble + rock platform
no oil observed in this arm
ISLAND
Cape
Peninsula
Tonki
ACE 8701052
10' (AFOGNAK A-1)
5'
152°00
58°
AFOGNAK A 0 AND B 01

ECOLOGICAL EVALUATION

LOCATION: Kodiak SITE: Afognak-Tonki; Cape Peninsula OBSERVER: G Pearn

LOCATION PREFIX: K-1-22 SEG. NO.: TC-3 LENGTH: _____ (M)

DATE: 07/18/89 TIME (HHMM): 13:45 TIDE HT.: 2.0 (M)

OILED ZONE: Splash High Medium Low (None)

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)

Only seen occasionally on Angular Rock Pinnacles

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

None observed

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

Generally limited to subtidal Boulders scattered across sand Bottom.

Littorina

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

not observed

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

not observed

OTHER OBSERVATIONS: Nereocystis Beds well developed near mouth of Bay in subtidal - 30m offshore

CLEANUP PRECAUTIONS: None - no oil observed

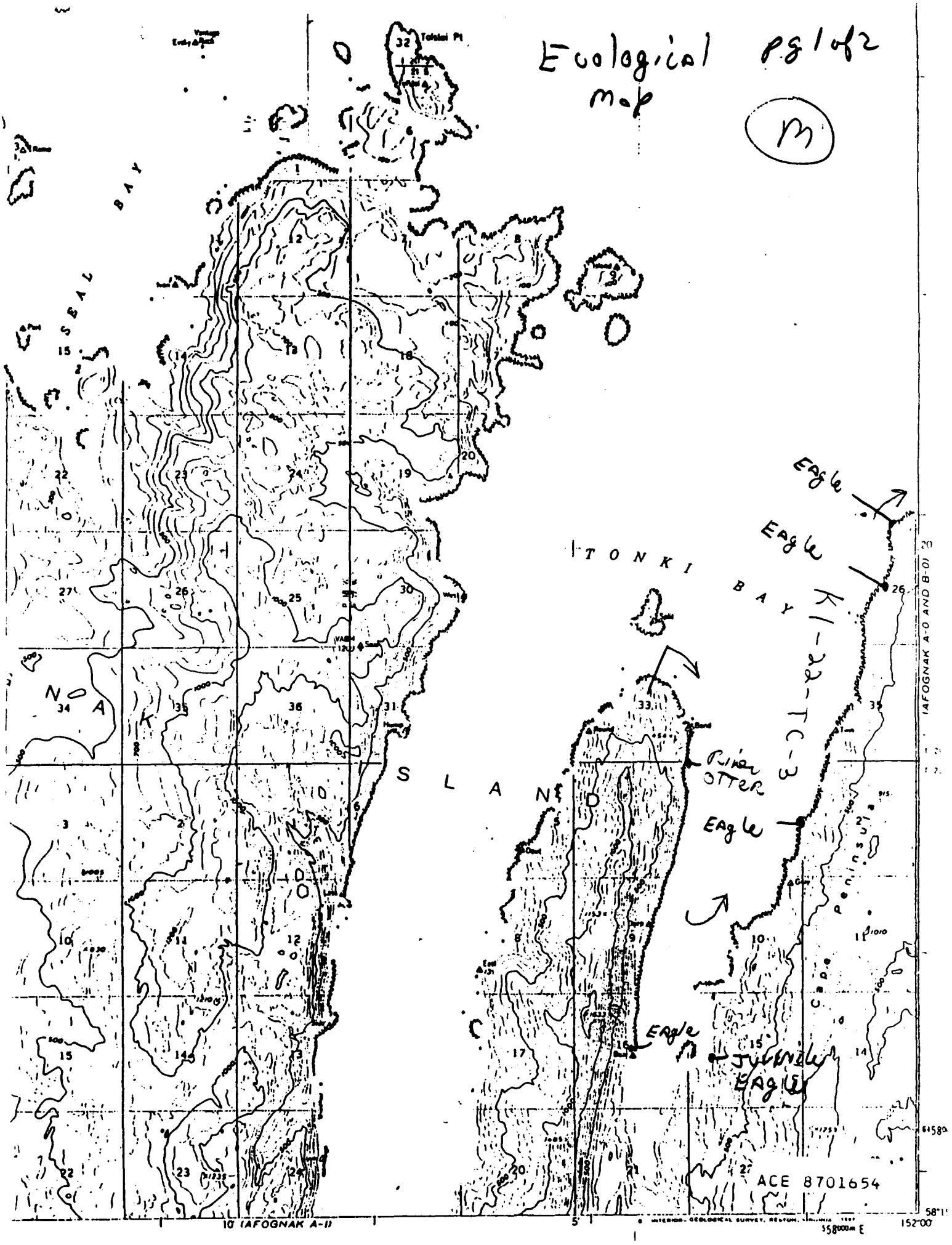
MAMMALS: Otters ____ Harbor Seals ____ Sea Lions ____ Whales ____

Other _____

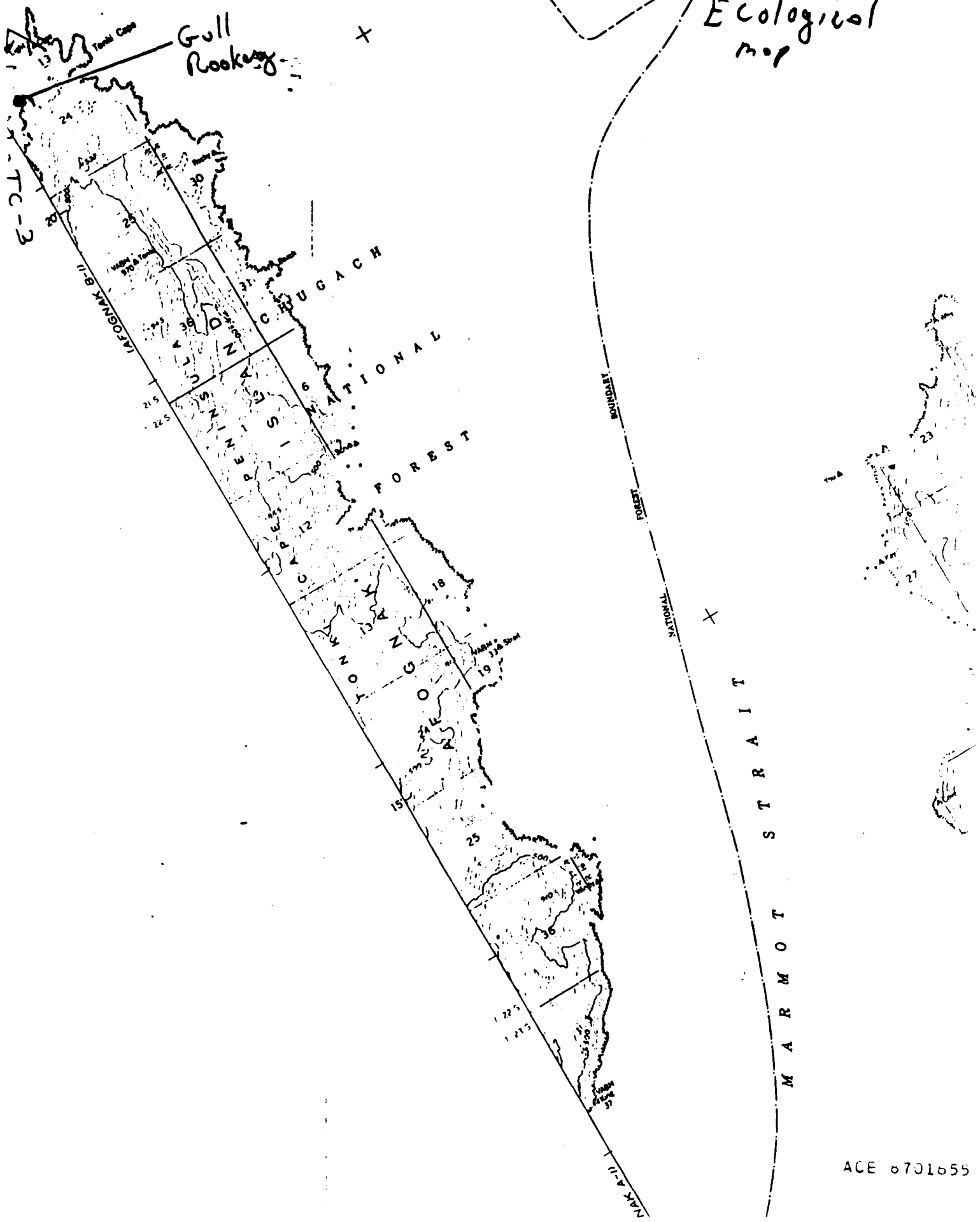
BIRDS: Eagles, River otter

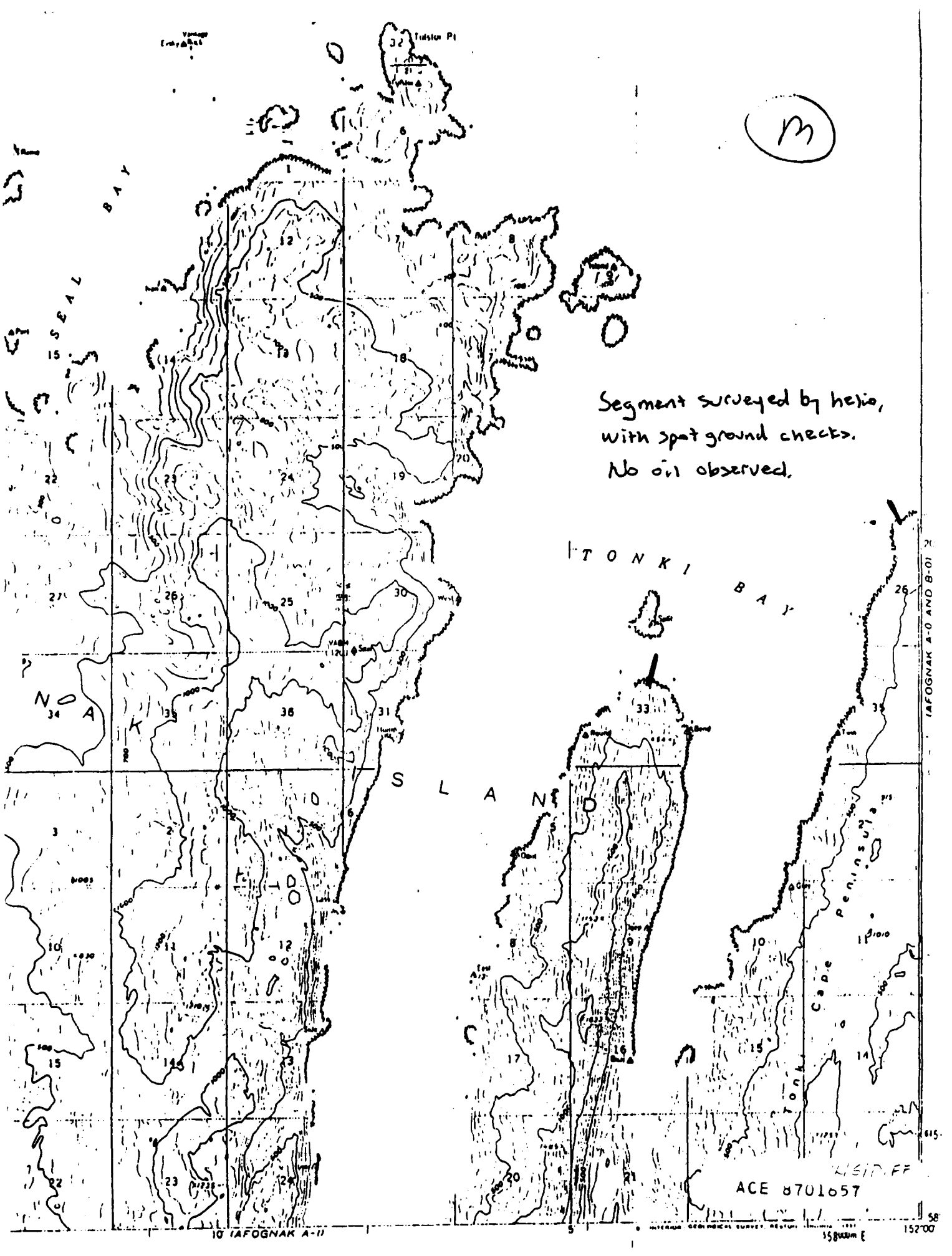
GENERAL OBSERVATIONS: Intertidal poorly speciated compared to open ocean frontage in some area.

ACE 8701653


Ecological pg 1 of 2
map
(M)
SEAL BAY
TONKI BAY
NOAK
ISLAND
Eagle
Eagle
KI-22-TC-3
River otter
Eagle
Eagle
Juvenile Eagle
ACE 8701654
10 IAFOGNAK A-11
IAFOGNAK A-0 AND B-01
INTERIOR-GEOLOGICAL SURVEY, RESTON, VIRGINIA
152°00'
58°15'

Ecological map




M
Segment surveyed by helio, with spot ground checks. No oil observed.
SEAL BAY
TONKI BAY
NO
A
K
S L A N D
Cape
Peninsula
IAFOGNAK A-0 AND B-01
10' IAFOGNAK A-11
ACE 8701057
152°00

KODIAK SCAT
KI-23

COMPLETE NOV 19 1989

ACE 8643493

(version 6/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Block (see enclosed map): K1-23

Includes Shoreline Segments: TC-2

Location: N.King Cove to Tonki Cape

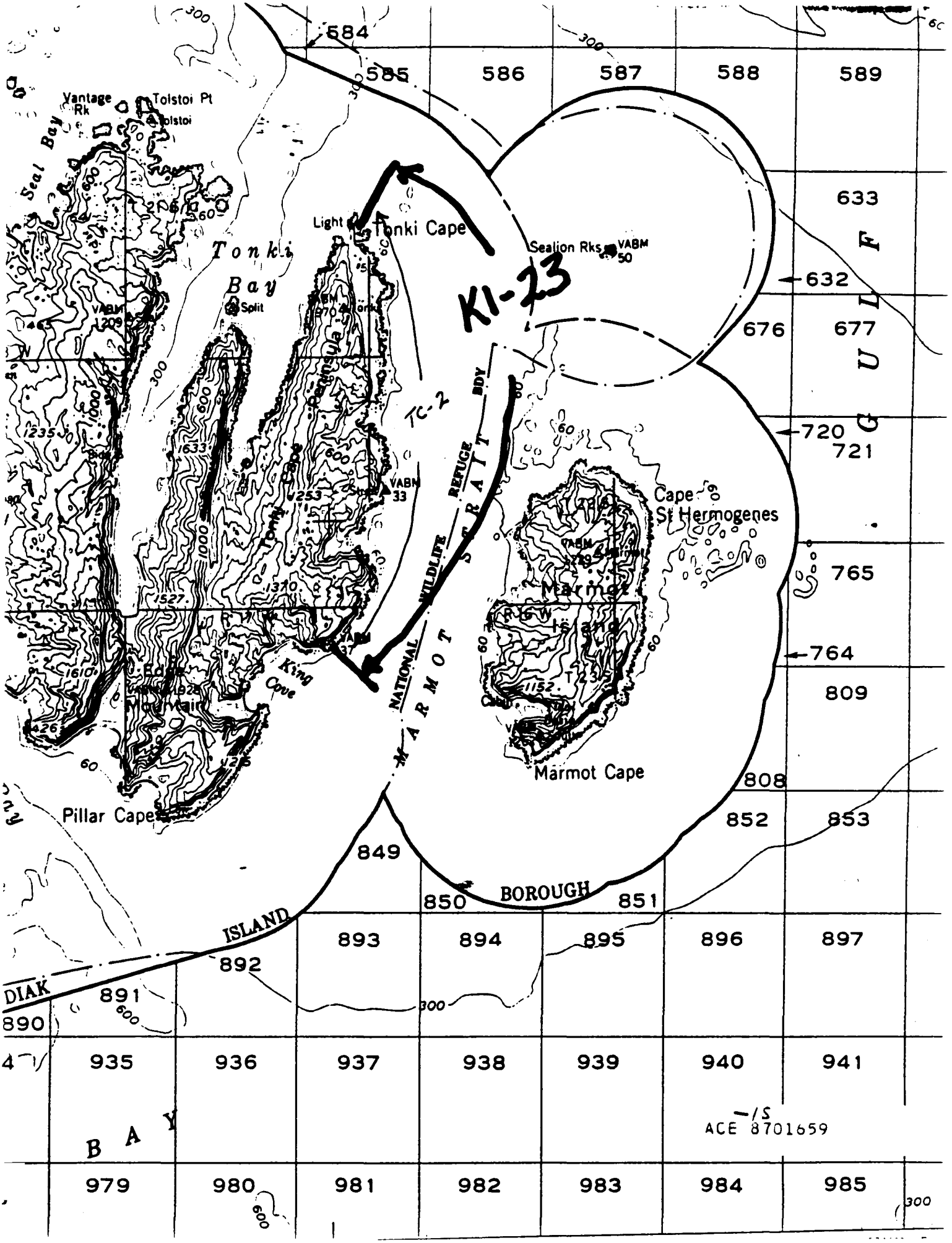
Submitted: _____ Date: _____
(for Exxon)

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 8701658


584
585
586
587
588
589
633
632
676
677
720
721
765
764
809
808
852
853
849
850
851
893
894
895
896
897
892
891
890
935
936
937
938
939
940
941
979
980
981
982
983
984
985
Vantage Rk
Tolstoi Pt
Tolstoi
Seal Bay
Tonki Bay
Split
Light
Tonki Cape
Sealion Rks
VABM 50
KI-23
TC-2
NATIONAL WILDLIFE REFUGE BDY
MARMOT STRAIT
Cape St Hermogenes
Marmot Island
Marmot Cape
Pillar Cape
Edie Mountain
King Cove
BOROUGH
ISLAND
DIAK
BAY
ACE 8701659

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/18/89 SHORELINE SEGMENT K1-23-TC-2

LOCATION: (see enclosed map) N. King cove to Tonki Cape

ADEC NO._____ SHORELINE ASSESSMENT DATE: 7/18/89

Recommended Cleanup Activity(ies):
- -Manual removal for area specified in map #1.
- -Use small crew (3-5 workers)

Priorities/Considerations: Class 5
- -Oil contamination very light
- -resources present

Ecological Constraints (from site survey):
- -During removal of surface mousse pancakes, do not dig in stream bed or delta area.

Archaeological Constraints (from site survey):
- -If 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.

J. David McMahan Date: 7/24/89
State Historic Preservation Officer *

EXXON:_____ Date:_____

FOSC:_____ Date:_____

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

+/S
ACE 0701660

(version July 05, 1989)

SHORELINE OIL EVALUATION

Date: 7/18/89 / Time: 1040-1345 Observer: M. Acton
Surveyed From: (Foot)/Boat/(Helo)/Plane Weather: (Sun)/Cloud/Rain/Snow/Fog

LOCATION

Location: N King Cove to Jonki Cape Segment ID: KI-23-TC-2
Segment Length: 11 miles m. Access: Vehicle/(Boat)/Barge/(Helo)/Float Plane
Access Restrictions: Use boat during low energy periods

SHORELINE

Shoreline Type: SPI/(BEA)/COV/(HLD)/STRT Slope: Lo/(Med)/Hi/(Vert)
Wave Exposure: (High)/Med/Low
Sediment: B 25 % / C 5 % / P ___ % / G&S 5 % / M 5 % / 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 75 SU/(SP)/(H)/M/L H/M/L/(VL)

	Length(m)	Width(m)
Total		
Very light:	10 miles	5
Light:	50	5
Moderate:	50	5
Heavy:		

Thickness >1cm: ____ cm SU/SP/H/M/L
Penetration/Rework: ____ cm SU/SP/H/M/L
Burial Depth: ____ cm SU/SP/H/M/L

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

OIL MORPHOLOGY

Pooled Oil:	%		SU/SP/H/M/L
"Free" Oil:	%		SU/SP/H/M/L
Splattered:	75 %	H/M/L/(VL)	SU/(SP)/(H)/M/L
Coated:	%	H/M/L/VL	SU/(SP)/(H)/M L
Pancakes/Balls:	25 %		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:	%	SU/SP/H/M/L
Mousse:	%	SU/SP/H/M/L
Weathered Mousse:	25 %	SU/(SP)/(H)/M/L
Asphalt Mousse:	%	SU/SP/H/M/L
Tar:	75 %	SU/(SP)/(H)/M/L

COMMENTS

Segment was almost exclusively cliff, rock platform, boulders/rubble. Sporadic spot was observed over much of segment, w/ several areas of more concentrated spots.
Beach (map #1) was surveyed by foot. Mousse patties were observed at this beach in a quantity (100+) and size (up to 8" diameter) to warrant manual cleanup by a small crew.

DOCUMENTATION:

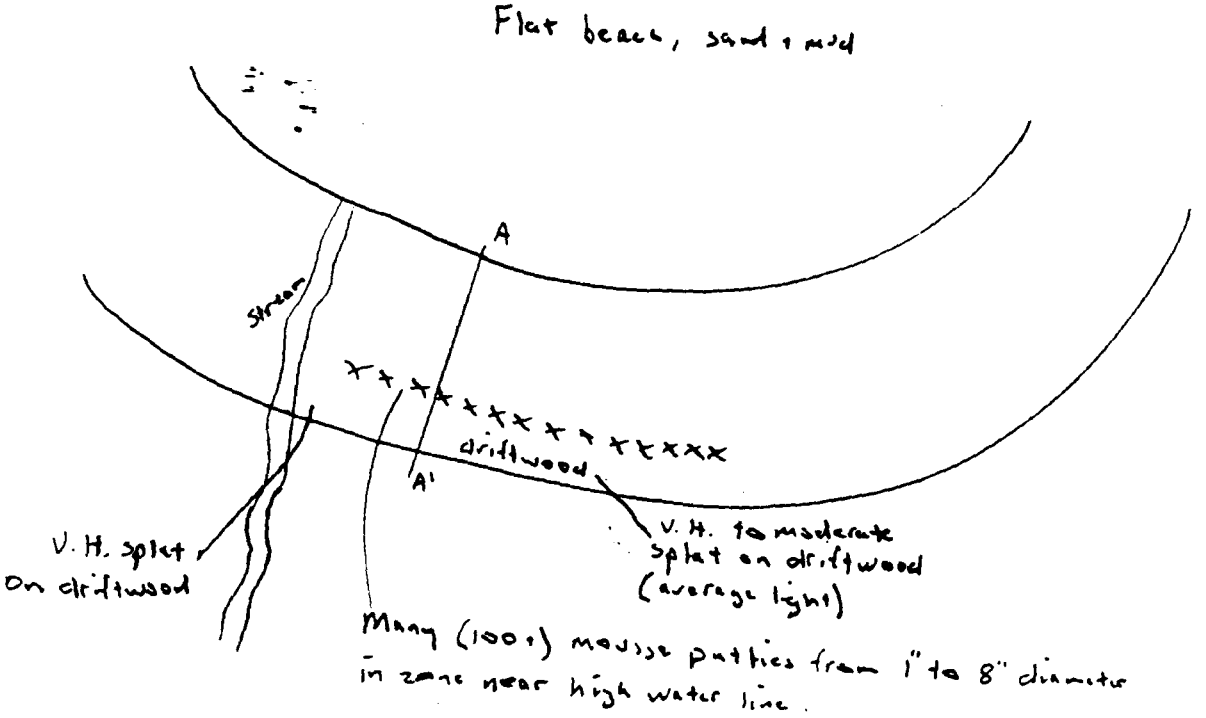
(Map)/Aerial photo marking segment boundaries See Attached

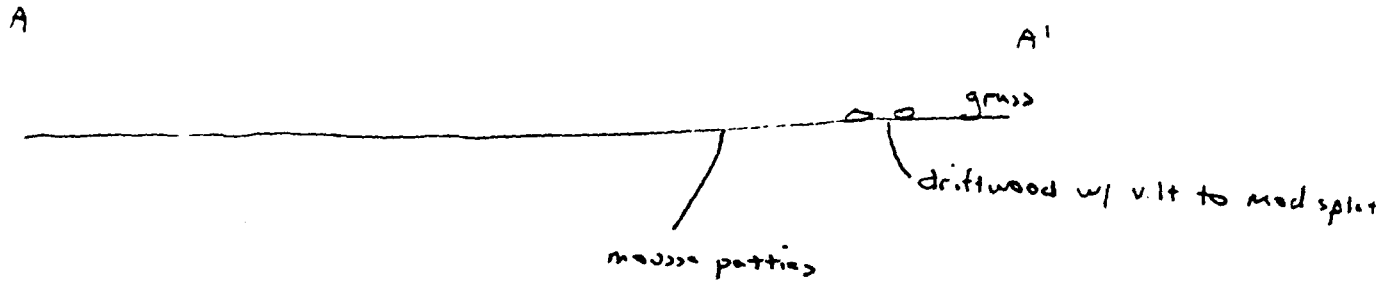
VTR: Y/N Tape Number(s) _____

Photography: (Y)N Roll Number(s) MA2

Sample Numbers Collected: _____

Map #1





ACE 8701663

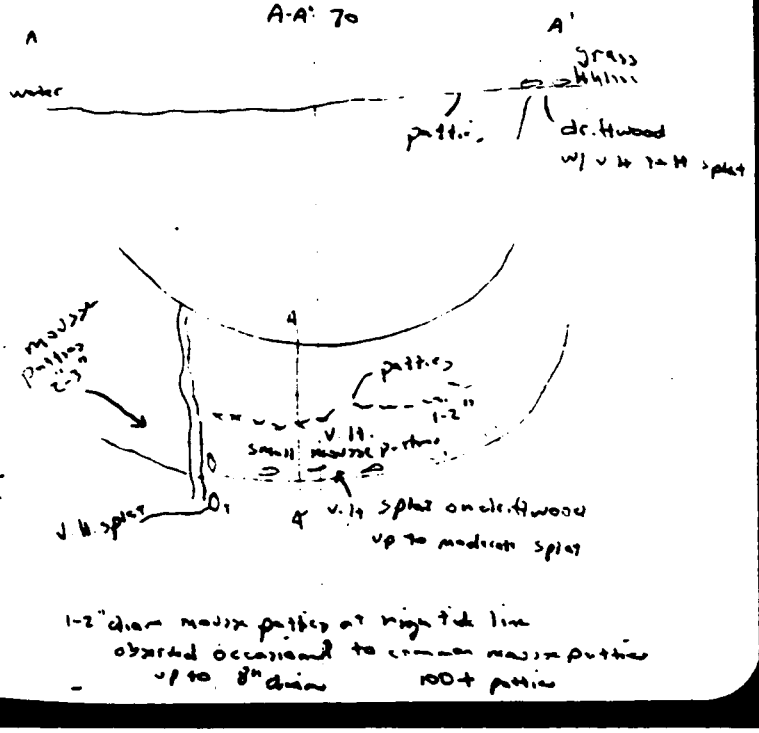
K1-23-TC-1

7/18/89

1100 shut off

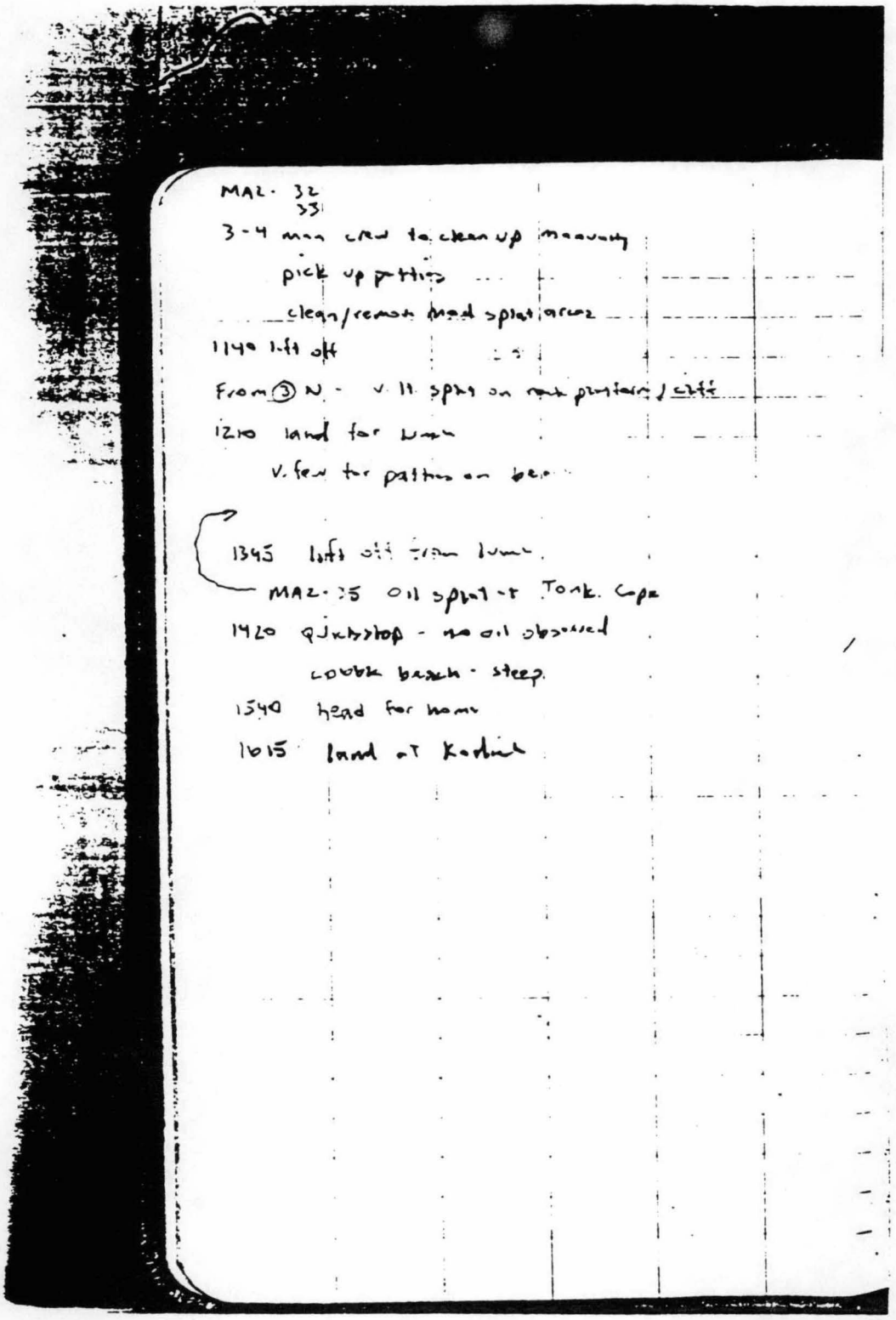
③ Sandy/mud flat 125 m with
v.H. to lt. splat on dr. wood
few tar patties (up to 3" diam) in sand on surface

A-A' 70

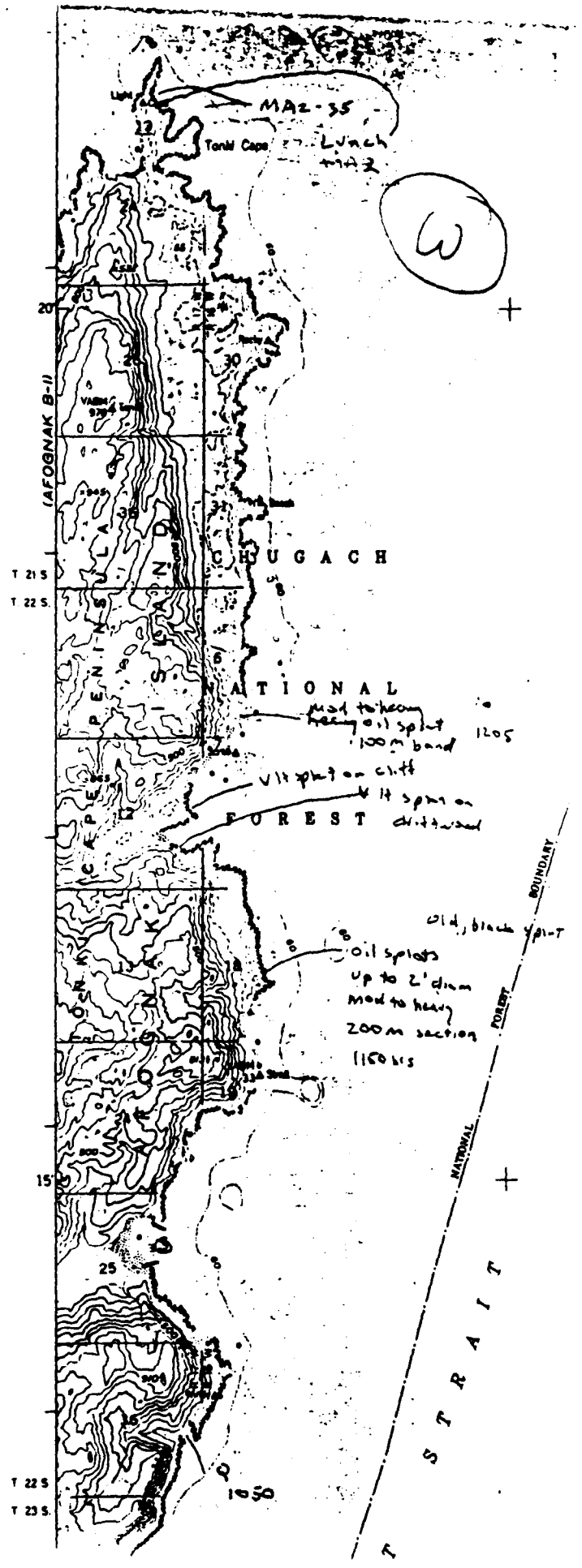


1-2" diam mousse patties at high tide line
observed occasional to common mousse patties
up to 8" diam 100+ patties

ACE 8701664



MAZ- 32
33
3-4 man crew to clean up heavy
pick up patties
clean/remove heavy splat areas
1149 lift off
From ③ N - v. li splats on rock pinnacle / cliffs
1210 land for lunch
v. few tar patties on beach
1345 lift off from lunch
MAZ-35 oil splat - Tank. Cap
1420 pinnacle - no oil observed
cobble beach - steep
1540 head for home
1615 land at Kodiak



NOTES

ACE 8701666

ECOLOGICAL EVALUATION

LOCATION: Kodiak SITE: Afognak Isl-Tonki, Cape Peninsula OBSERVER: G Pess

LOCATION PREFIX: KI-23 SEG. NO.: TC-2 LENGTH: 11 miles ~~(M)~~

DATE: 07/18/89 TIME (HHMM): 10:50 TIDE HT.: 1.3 (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 offshore Angular rock Pinnacles

Mytilus (Mussels): Patchy (Y)/N Contin. Y/(N) Dense (Y)/N Sparse Y/(N) None Y/(N)
Generally limited to offshore angular rock Pinnacles

Balanus (Barnacles): Patchy (Y)/N Contin. Y/(N) Dense (Y)/N Sparse Y/(N) None Y/N
Generally limited to offshore angular rock pinnacles

Littorina
Patchy (Y)/N Contin. Y/(N) Dense Y/(N) Sparse (Y)/N None Y/(N)
Some dense aggregations in headland rocks

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

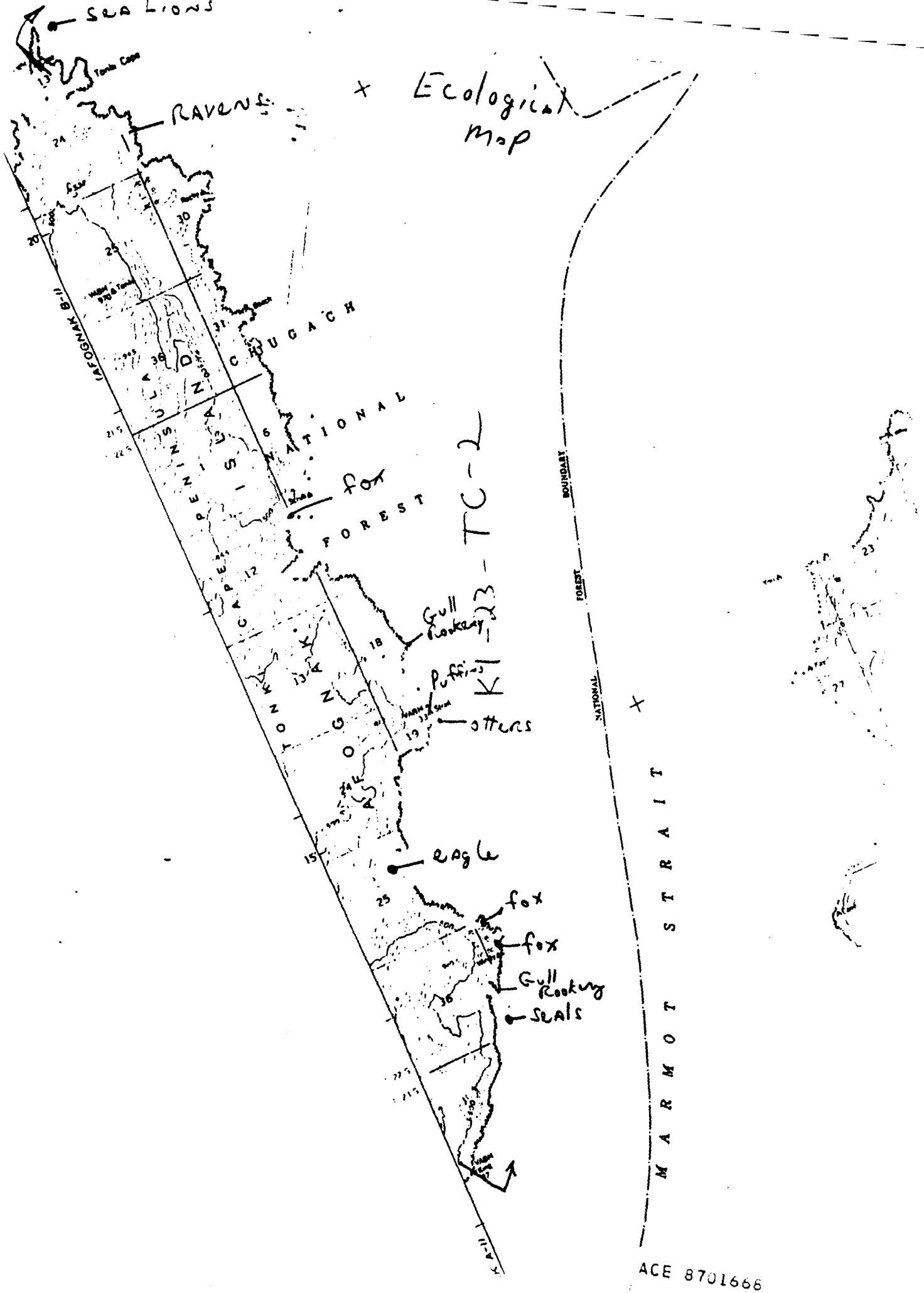
OTHER OBSERVATIONS: Subtidal biota dense - well developed Ribbon kelp beds from LITZ to subtidal. Nereocystis beds 3 on offshore - dense & continuous.

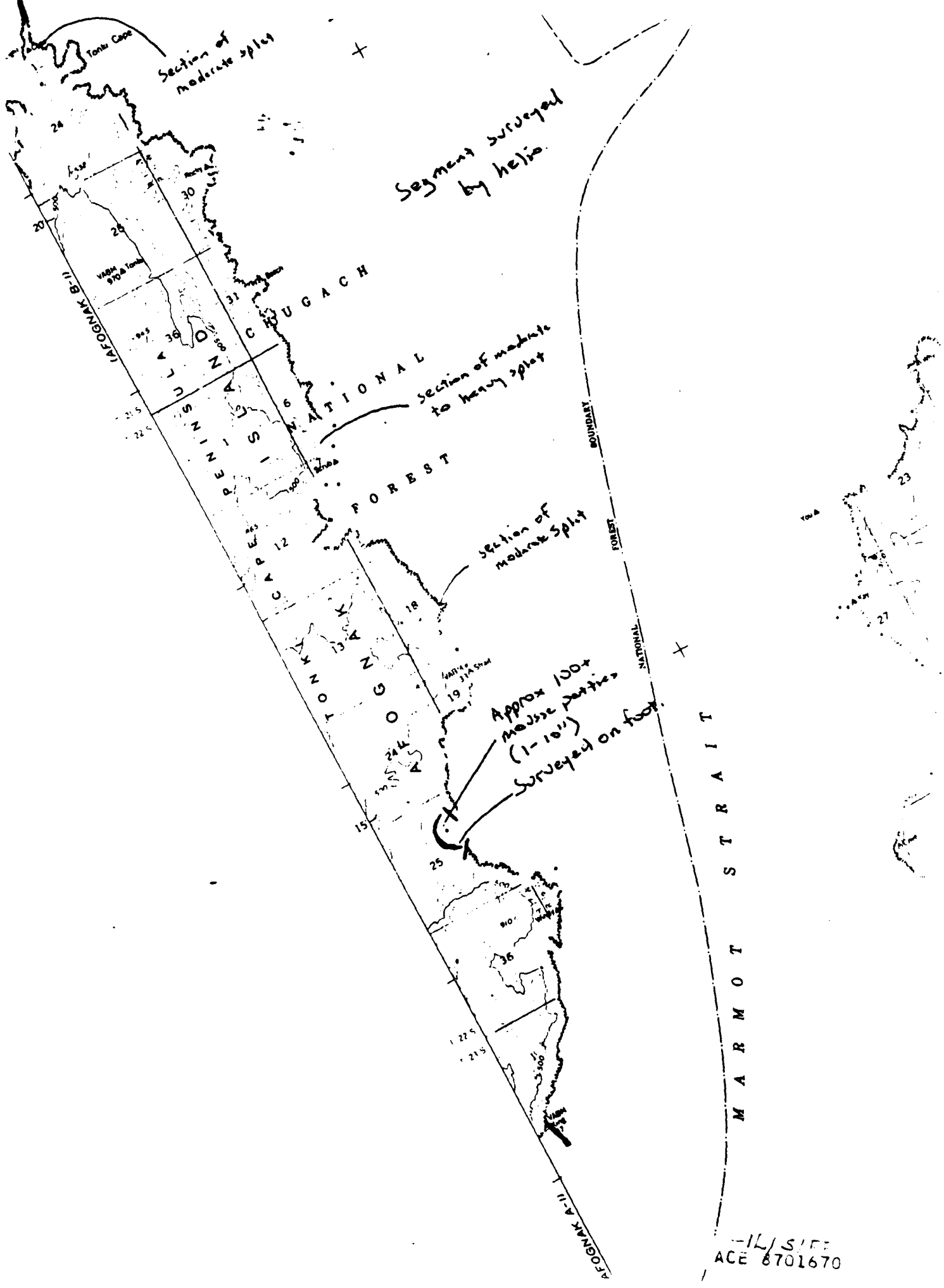
CLEANUP PRECAUTIONS: In clean up area - do not dig in streambed or delta area (surface removal of oiled material only).

MAMMALS: Otters ↘ Harbor Seals ↘ Sea Lions ↘ Whales ____
Other foxes, deer

BIRDS: Eagles, Puffins, Gulls, Ravens

GENERAL OBSERVATIONS: Rich in avifauna, beach scavenger mammals & kelp beds


Ecological Map
SEA LIONS
RAVENS
for
Gull Rookery
Puffins
otters
eagle
fox
fox
Gull Rookery
seals
TC-2
IAFOGNAK B-11
CAPE DOUGHERTY
CHUGACH
NATIONAL
FOREST
BOUNDARY
NATIONAL
FOREST
MARMOT STRAIT
ACE 8701668


Section of moderate splay
Segment surveyed by helo
CHUGACH
NATIONAL
FOREST
Section of moderate to heavy splat
Section of moderate splat
Approx 100+ moose carcasses (1-10'') Surveyed on foot.
KAYAK
ISLAND
PORT CHATHAM
IVANOF BAY
IVANOF STRAIT
MARMOT STRAIT
AFOGNAK B-11
AFOGNAK A-11
BOUNDARY
FOREST
NATIONAL

ACE 8701670

KODIAK SCAT
KI-24

ACE 8643494

(version 6/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Block (see enclosed map): K1-24

Includes Shoreline Segments: TC-1

Location: Pillar Cape to King Cove

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 8701671

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/18/89 SHORELINE SEGMENT K1-24-TC-1

LOCATION: (see enclosed map) Pillar cape to King Cove

ADEC NO._____ SHORELINE ASSESSMENT DATE: 7/18/89

Recommended Cleanup Activity(ies):
- -No cleanup recomended due to very light oiling, minimum oiling and high probabiliy of natural cleaning.
- -Subject to FOSC reassessment at a later date.

Priorities/Considerations: Class 5
- -Oil contamination very light
- -resources present

Ecological Constraints (from site survey):

Archaeological 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.

_____ Date: 2/24/89
State Historic Preservation Officer *

EXXON:_____ Date:_____

FOSC:_____ Date:_____

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

ACE 8701672

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE: 7/18/89 SHORELINE SEGMENT: K1-24-TC-1

LOCATION: (see enclosed map) _____

ADEC No: K1 SHORELINE ASSESSMENT DATE: 7/18/89

Recommended Cleanup Activity(ies):

- No cleanup recommended due to very light oiling - MINIMUM OILING AND HIGH TRENDILITY OF NATURAL CLEANING (SUBJECT TO FOSC REASSESSMENT AT A LATER DATE)

Priorities/Considerations: Class S: Oil contamination: Very Light
A. Resources - present

Ecological Constraints (from site survey)

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 21 April, 1989 as amended.

_____ Date _____
State Historic Preservation Officer *

ACE 8701673

EXXON: _____ Date: _____

FOSC _____ Date: _____

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

(version July 05, 1989)

SHORELINE OIL EVALUATION

Date: 7/18/89 / Time: 0810 - 0940 Observer: M. Acton
Surveyed From: Foot/Boat/(Helio)/Plane Weather: (Sun)/Cloud/Rain/Snow/Fog

LOCATION

Location: Pillar Cape to King Cove Segment ID: K1-24-TC-1
Segment Length: 6.5 miles m. Access: Vehicle/(Boat)/Barge/(Helio)/Float Plane
Access Restrictions:

SHORELINE

Shoreline Type: SPI/(BEA)/COV/(HLD)/STRT Slope: Lo/(Med)/Hi/(Vert)
Wave Exposure: (High)/Med/Low
Sediment: B 35 % / C 15 % / P ____ % / G&S 15 % / M ____ % / R 35 %

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)

	Length(m)	Width(m)
Total		
Very light:	300	5
Light:		
Moderate:		
Heavy:		

Thickness >1cm: ____ cm SU/SP/H/M/L
Penetration/Rework: ____ cm SU/SP/H/M/L
Burial Depth: ____ cm SU/SP/H/M/L

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

OIL MORPHOLOGY

Pooled Oil:	%		SU/SP/H/M/L
"Free" Oil:	%		SU/SP/H/M/L
Splattered:	90 %	H/M/L/(VL)	SU/(SP)/(H)/M/L
Coated:	%	H/M/L/(VL)	SU/(SP)/(H)/M/L
Pancakes/Balls:	10 %		SU/SP/H/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:	10 %	SU/(SP)/(H)/M/L
Weathered Mousse:	%	SU/SP/H/M/L
Asphalt Mousse:	%	SU/SP/H/M/L
Tar:	90 %	SU/(SP)/(H)/M/L

COMMENTS

Shoreline from Pillar Cape N to S tip of King Cove is boulder/rubble, rock platform, as is shoreline from N end of King Cove to end of segment. King Cove is primarily sand and cobble beach (see Maps #1 and #2).

Very light splats observed (Maps #1 and #2), very light mousse patties observed (Map #1).

ACE 8701674

DOCUMENTATION:

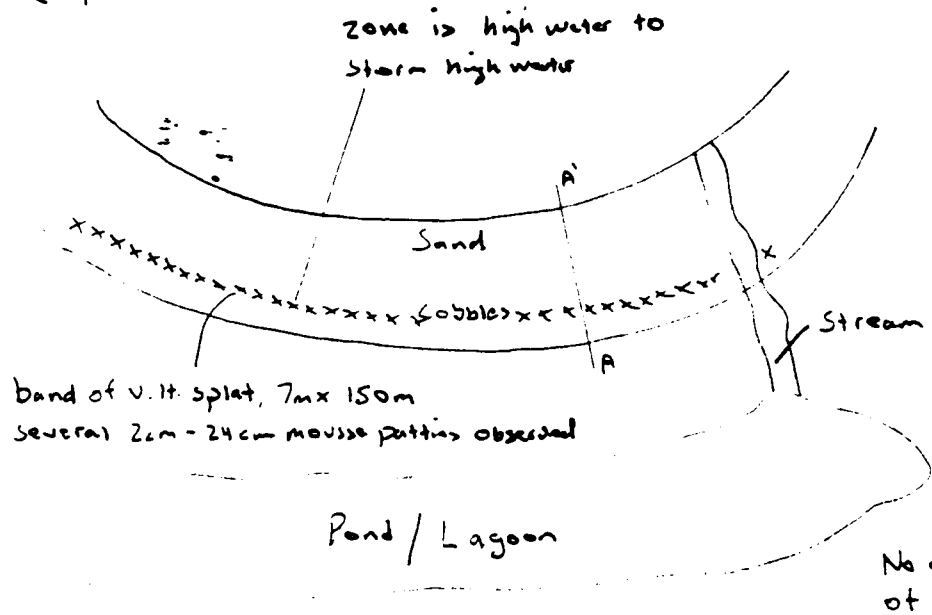
(Map)/Aerial photo marking segment boundaries See Attached

VTR: Y/N Tape Number(s) _____

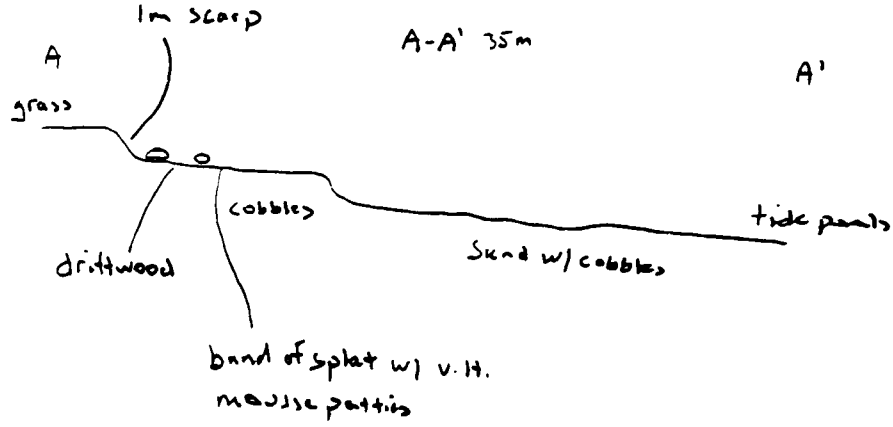
Photography: (Y)/N Roll Number(s) MA2

Sample Numbers Collected: _____

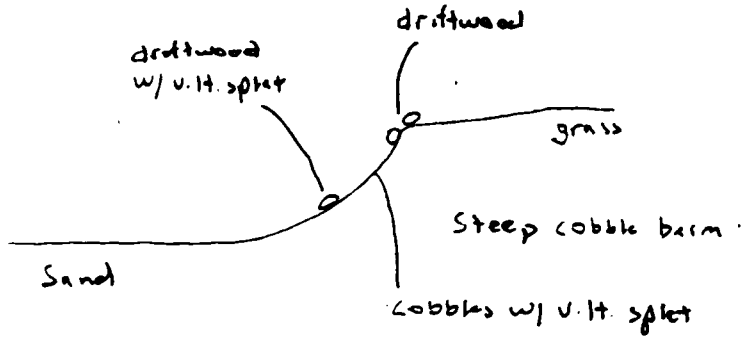
Map #1 ← N



No oil observed at W end of stream near pond.



Map #2



ACE 8701676

K1-24-TC-1

Jordan

7/18 Tue Acton Penn ~~ADEC~~ Wilson (USCG)

0755 depart Kodiak bound for Pillar Pt

0812 Pillar Cape (P.C)

P.C. N _ Boulder / rubble

Rock platform

0830 5min touchdown - Acton only

No oil observed

0840 Shut down King Cove - S end

① Sand / cobble beach - pocket beach

Cobble / boulder tide flat at S end

Much driftwood + debris at erosion scarp

and storm tide zone

MA2-27 S

28 N

stream across N end

Very lt. splat observed on approx 15-20 cobbles

on S shore of stream

V. lt splat - 1m band along entire section

on cobbles + driftwood

one massive patty observed - approx 10" diam

several smaller patties observed

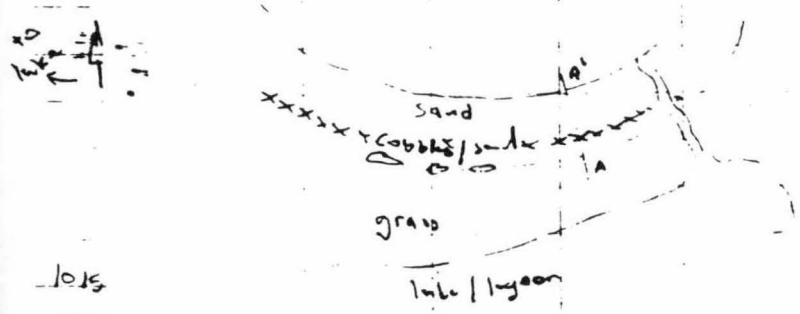
from mean high to storm high

no oil observed back up stream

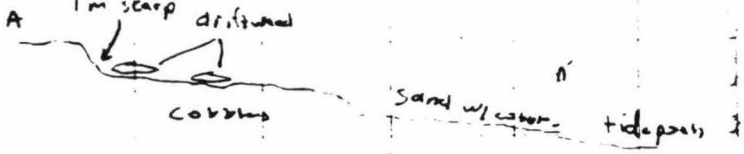
Walked out beach

ACE 8701677

A N S



A-A' 35m



0945 quick stop

steep storm tide berm

MAZ-29 - stick in hole w/ splat

splat, v.lt., on cobbles - surface to 12" deep

0950 quick stop - no oil observed

1000 Shutdown

② MAZ-30 N

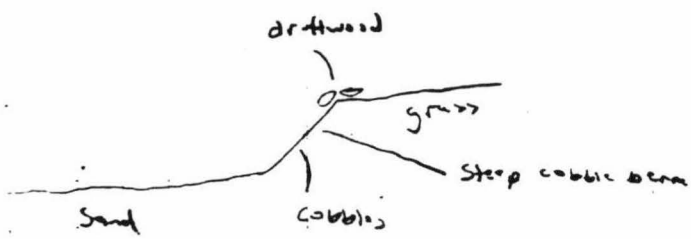
31 S

very steep storm berm - cobble w/ driftwood

v. lt. splat on cobbles + driftwood

v. lt. splat 0-3" deep on cobbles ↘ situated low on berm

Walked on beach

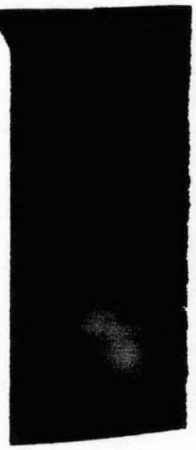


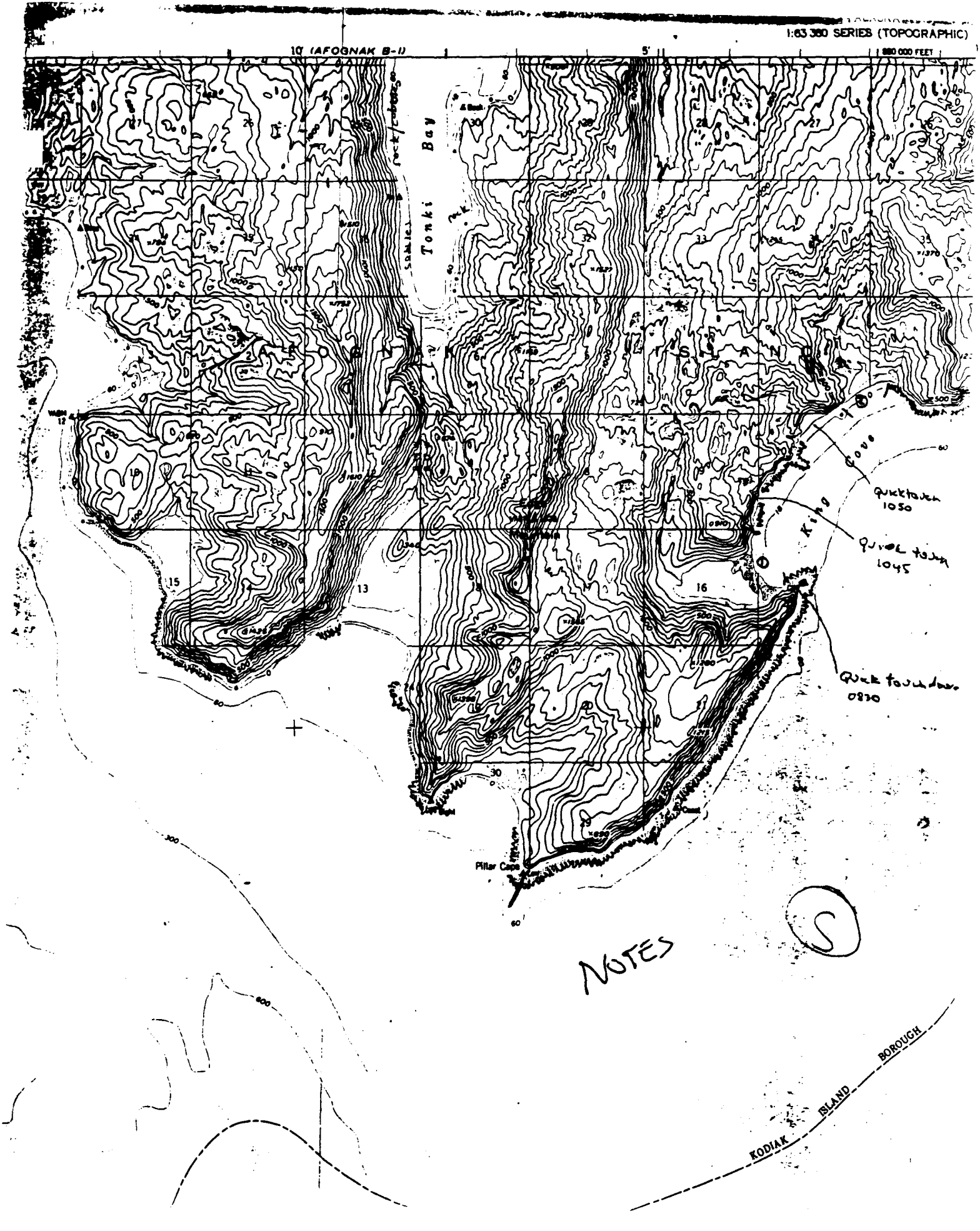
1040 Liftoff

boarder / ripple rock dike form to N

1050 Q gravel / cobble

no oil observed




1:63 360 SERIES (TOPOGRAPHIC)
10' (AFOGNAK B-1)
5'
880 000 FEET
Tonki Bay
KODIAK ISLAND
Cove
Quicktown
1050
Quick town
1045
Quick town dock
0830
Pillar Cape
NOTES
KODIAK ISLAND BOROUGH

ACE 8701679

ECOLOGICAL EVALUATION Tonki Cape Peninsula

LOCATION: Kodiak SITE: Afognak Isl. OBSERVER: G. Penn

LOCATION PREFIX: K1-24 SEG. NO.: TC-1 LENGTH: 6½ miles ~~(M)~~

DATE: 07/18/89 TIME (HHMM): 0810 TIDE HT.: -0.3 (M)

OILED ZONE: Splash High Medium Low (NONE)

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 offshore Angular Rock Pinnacles.

Mytilus (Mussels): Patchy (Y)/N Contin. Y/(N) Dense (Y)/N Sparse Y/(N) None Y/N
Generally limited to offshore Angular Rock Pinnacles

Balanus (Barnacles): Patchy (Y)/N Contin. Y/(N) Dense (Y)/N Sparse Y/(N) None Y/(N)
Generally limited to offshore Boulders + Angular rock Pinnacles

Littorina
Patchy (Y)/N Contin. Y/(N) Dense Y/(N) Sparse (Y)/N None Y/(N)
Some dense aggregations on headland rock

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

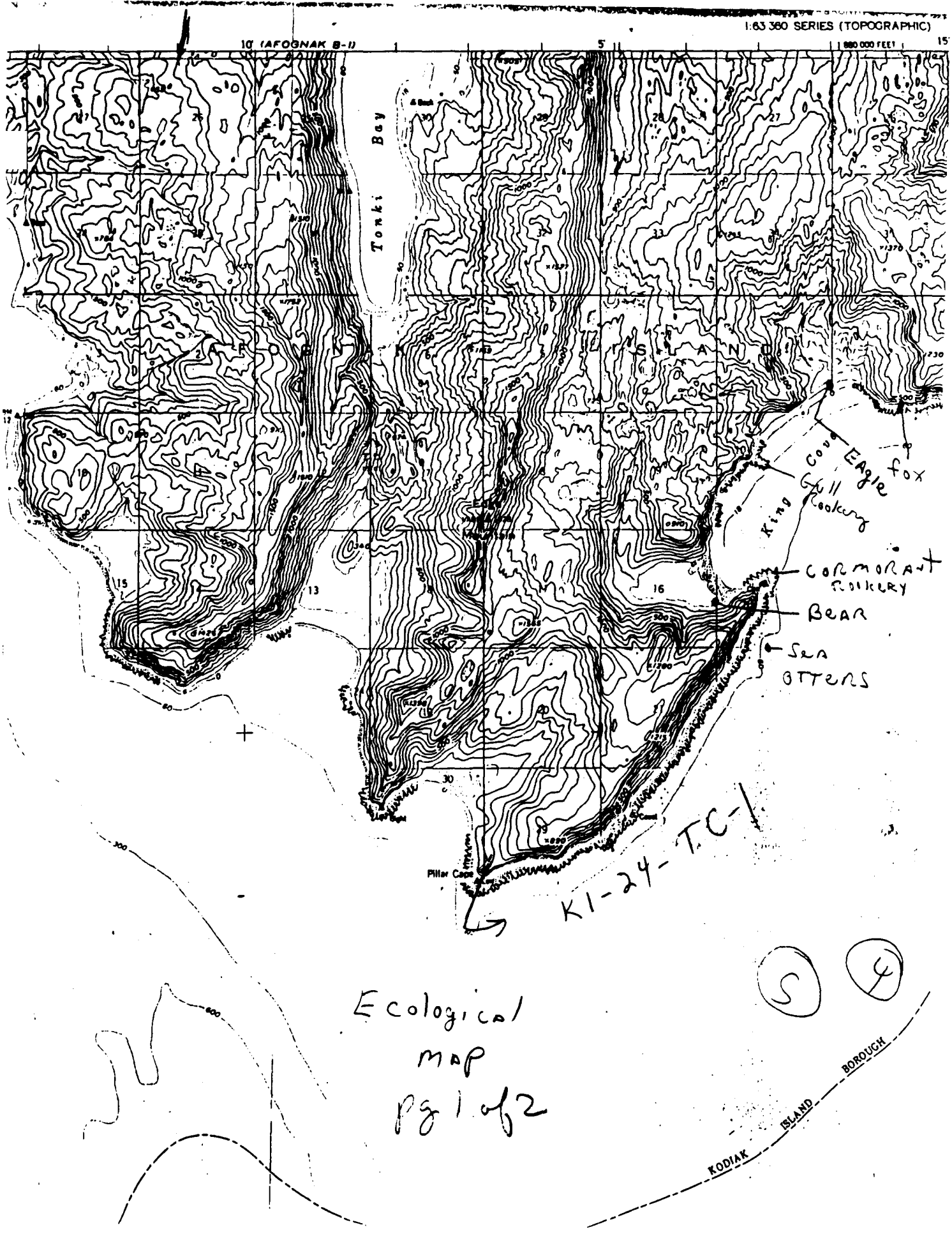
OTHER OBSERVATIONS: Subtidal Biota dense - well developed Ribbon kelp from LITZ to subtidal. Nereocystis Beds 30m offshore dense + continuous

CLEANUP PRECAUTIONS: None - No cleanup recommended

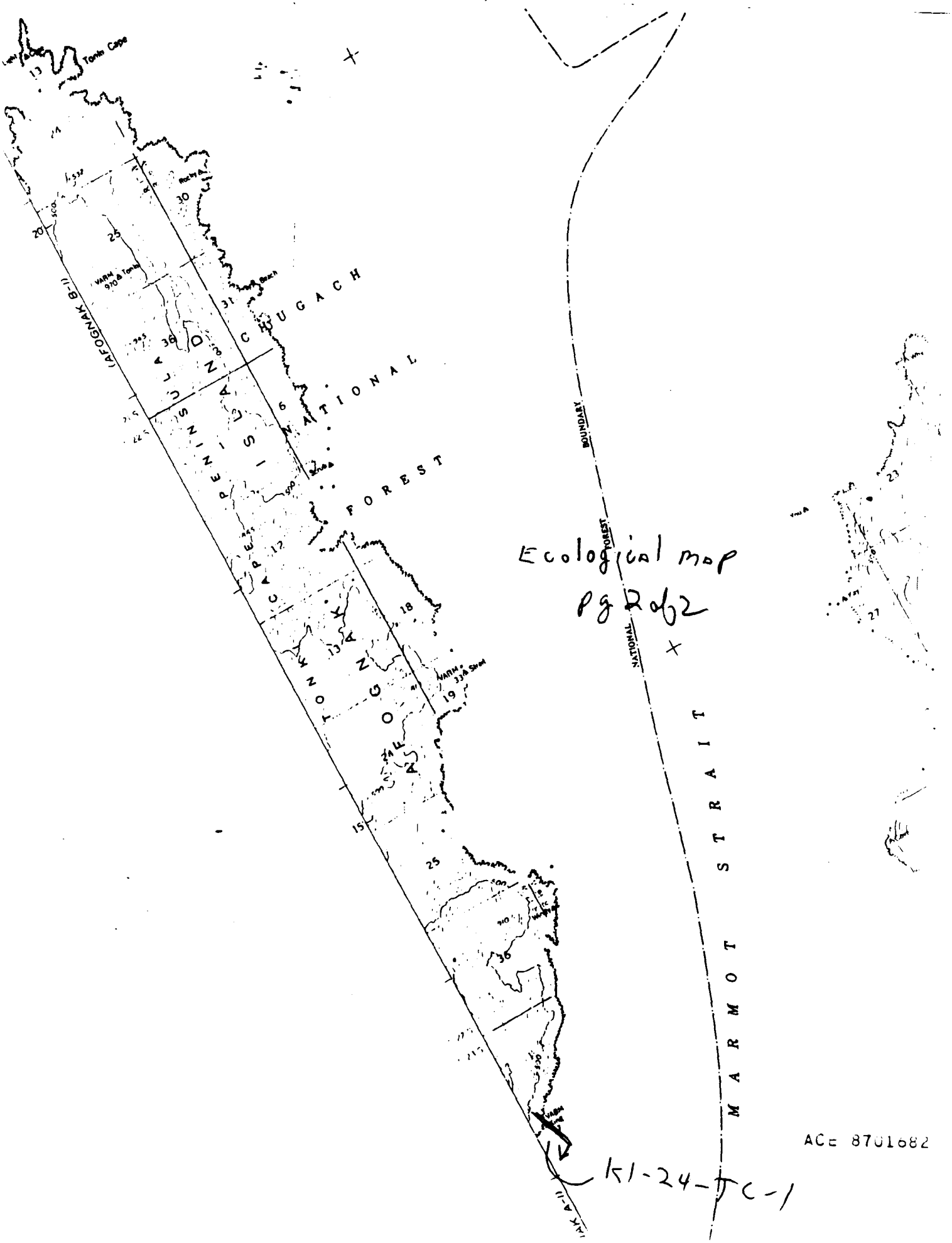
MAMMALS: Otters 4 Harbor Seals ____ Sea Lions ____ Whales ____
Other Fox, Bear, Deer

BIRDS: Eagle, Gulls, Cormorants

GENERAL OBSERVATIONS: Rich in avifauna, beach scavenger mammals + kelp beds


1:63 360 SERIES (TOPOGRAPHIC)
10' (AFOGNAK B-1)
Tonki Bay
King Cove
Eagle
fox
Rookery
CORMORANT
ROOKERY
BEAR
SEA
OTTERS
Pillar Cape
K1-24-TC-1
Ecological
map
pg 1 of 2
KODIAK ISLAND BOROUGH

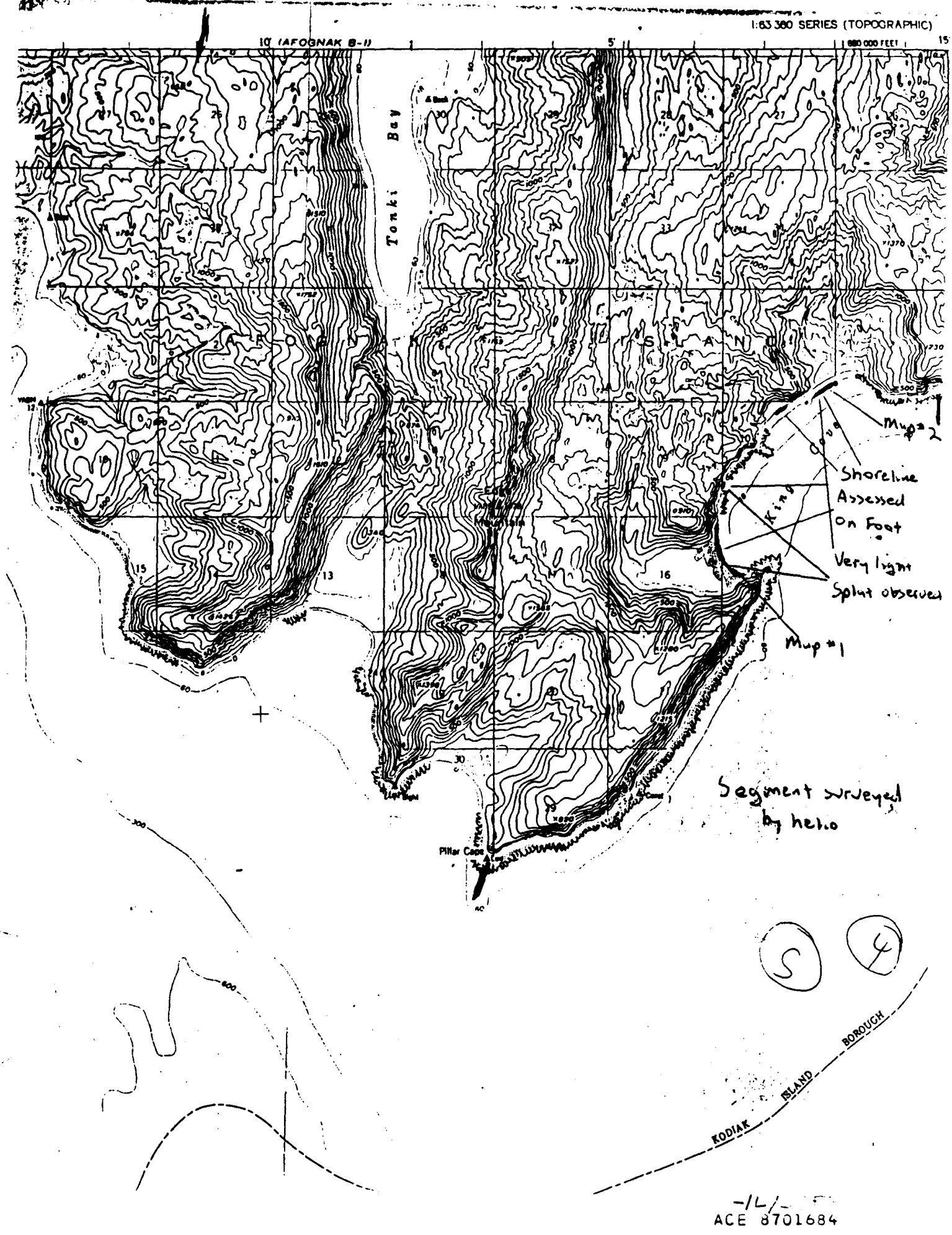
ACE 8701681



Ecological map
pg 2 of 2

ACE 8701682

K1-24-FC-1


1:63 360 SERIES (TOPOGRAPHIC)
10' (AFOGNAK B-1)
Tonki Bay
Mup = 2
Shoreline
Assessed
On Foot
Very light
Splat observed
Mup = 1
Segment surveyed
by helo
Pillar Cape
KODIAK ISLAND BOROUGH
ACE 8701684

517-6.72-01

KODIAK SCAT

KI-25

1

COMPLETE APR 24 1990

ACE 8643495

PARTIAL #1 JAN 26 1990

PARTIAL #2 JAN 26 1990

(version 6/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Block (see enclosed map): K1-25

Includes Shoreline Segments: MI-1

Location: Marmot Island - west shore

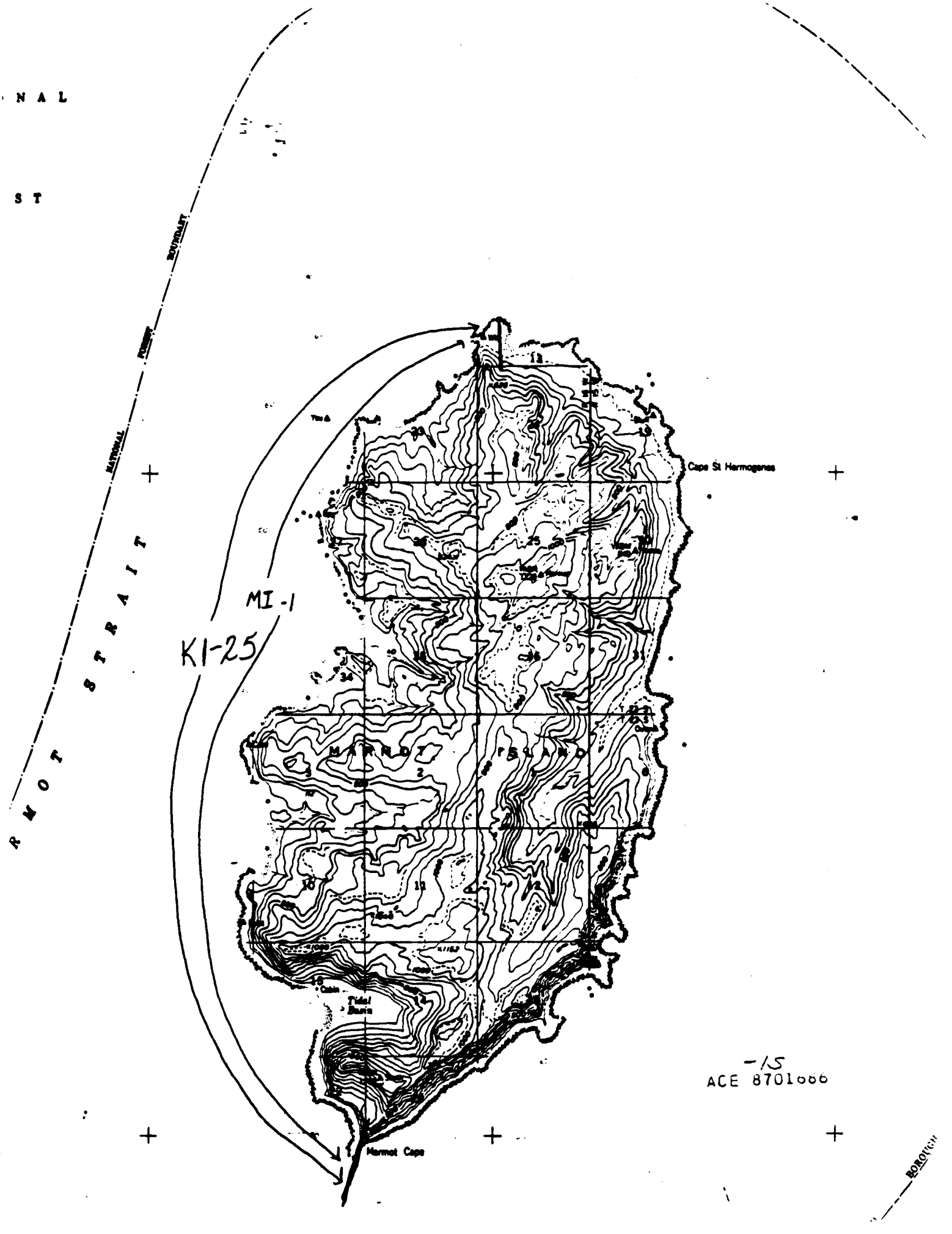
Submitted: _____ Date: _____
(for Exxon)

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

T/F/S
ACE 8701685


NAL
ST
NATIONAL FOREST BOUNDARY
ARMOT STRAIT
Cape St Hermogenes
MI-1
KI-25
MARMOT ISLAND
Cabin
Tidal Basin
Marmot Cape
-15
ACE 8701066

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/20/89 SHORELINE SEGMENT K1-25-MI-1

LOCATION: (see enclosed map) Marmot Island - west shore

ADEC NO. K1 SHORELINE ASSESSMENT DATE: 7/20/89

Recommended Cleanup Activity(ies):
-No cleanup recommended due to apparent absence of oil. Subject to FOSC reassessment at a later date.

Priorities/Considerations:

Ecological Constraints (from site survey):

Archaeological Constraints (from site survey):
-If cleanup is planned a full archaeological assessment of this segment must be conducted.

J. David McMahan Date: 7/31/89
State Historic Preservation Officer *

EXXON: _____ Date: _____

ISCC: _____ Date: _____

FOSC: _____ Date: _____

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

+/S
ACE 8701687

version July 05, 1989)

SHORELINE OIL EVALUATION

ate: 7/19/89 7/20/89 / Time: 1305 1335 0940 0959 Observer: M. Acton
urveyed From: Foot/Boat/Helio/Plane Weather: Sun/Cloud/Rain/Snow/Fog

CATION
ocation: West Shore - Marmot Island Segment ID: KI-25-MI-1
egment Length: 10 miles m. Access: Vehicle/Boat/Barge/Helio/Float Plane
ccess Restrictions: Boat access during low energy periods.

IORELINE
ioreline Type: SPI/BEA/COV/HLD/STRT Slope: Lo/Med/Hi/Vert
ave Exposure: High/Med/Low
ediment: B 30 % / C 5 % / P ___ % / G&S 15 % / M ___ % / R 50 %

IL
/g. Degree of Oiling: HEAVY / MODERATE / LIGHT / VERY LIGHT / NONE OBSERVED
ea of Impact: SU/SP/H/M/L

IL DISTRIBUTION
ontinuous % of Segment _____ SU/SP/H/M/L H/M/L/VL
oradic % of Segment _____ SU/SP/H/M/L H/M/L/VL

otal	Length(m)	Width(m)
ery light:		
ght:		
derate:		
avy:		

Thickness >1cm: _____cm SU/SP/H/M/L
Penetration/Rework: _____cm SU/SP/H/M/L
Burial Depth: _____cm SU/SP/H/M/L

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

L MORPHOLOGY

oled Oil: ____ %			SU/SP/H/M/L
ree" Oil: ____ %			SU/SP/H/M/L
lattered: ____ %		H/M/L/VL	SU/SP/H/M/L
ated: ____ %		H/M/L/VL	SU/SP/H/M L
ncakes/Balls: ____ %			SU/SP/H/M/L

Preliminary Cleanup Est.
Total TYPE A: ____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: ____ %		SU/SP/H/M/L
phalt Mousse: ____ %		SU/SP/H/M/L
r: ____ %		SU/SP/H/M/L

MMENTS

See segment maps for notes.

ACE 8701680

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: _____

25

1055 lt. to mod mousse → up to 1" diam
entire HW to SHW cover 5% bound
w/ some mousse splat
manual clean-up
none observed buried gravel/cobble beach
all on surface
1105 off

1115 set down for lunch
helo back for fuel
V. lt. splat on driftwood
no oil observed i.e. mousse
went across island - coves, boulders
rock platform - no oil observed
1245 lt. to oil
1250 - splat on D.W
check for mousse
1255 - finished segment at Duck Cape
proceed to Marmot Island
recommend boat leave remains by Emmer
2 miles of segment and Seal Bay Segment
Start Marmot 1345
1310 no oil observed
1325 no oil observed
boulder rubble beaches

26

Ruin - poor visibility | hard to distinguish

1340 V. lt mousse pad

1355 V lt mousse pads

1420 tide flat on SW side of Marmot Is
head for home

1440 Kodiak

ACE 8701690

27

		Acton	Jackson
7/20/89	Thurs	Penn	G.I.p.-
To Tolstoi, Pt		K1-2a- Tc-5	
0805	lift off Kodiak		
0830	Tolstoi, Pt		
0840	v lt spkl on bags		
	1 small pool		
	boulder shore comm.	1 pocket beaches	
	thick		
0905	spt shown	6-8 pools	<5cm
	walked 100m		
	v lt spkl on DW		
0915 + 0920	no oil observed		
0935	finish segment - off the Murre		
	K1-		
0940	SW corner of Murre		
~~0945~~ 0945	walked 100 m		
	no oil observed		
1020	offshore Kodiak for fuel		

28

7/20/89 Thurs 1105

Depart Kodiak for Ocean Bay K8-39-

1135 N end of Bay - headland separating Ocean Bay + Marine cove

Overflow Bay

overflow entire segment

1200 shut off

large accumulation of debris, driftwood

large sandy beach

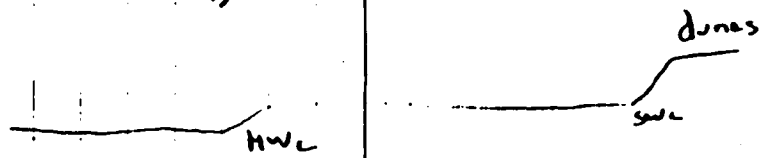
walked 400 m

MAS 10 W

11 W

12 E

13 E



1330

black balls - oil/sand mixture

1cm band of oil/sand balls - SP zone

MAS 14 closeup of oil/sand

15 W

16 E

17 closeup of oil/sand

ACE 870691

version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: Kodiak SITE: Marmot Island OBSERVER: G. Penn

LOCATION PREFIX: K1-25 SEG. NO.: MI-1 LENGTH: 9 miles

DATE: 07/19/89 07/20/89 TIME (HHMM): 13:00 09:50 TIDE HT.: 1.5 0.3 (M)

OILED ZONE: Splash High Medium Low (NONE)

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 Angular Rock pinnacles

Mytilus (Mussels): Patchy (Y)/N Contin. Y/(N) Dense Y/(N) Sparse (Y)/N None Y/(N)
on angular rock pinnacles

Balanus (Barnacles): Patchy (Y)/N Contin. Y/(N) Dense (Y)/N Sparse Y/(N) None Y/(N)
on angular Rock Pinnacles

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

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

OTHER OBSERVATIONS: offshore kelp beds in subtidal (Nereocystis)
nearshore kelp beds (Ribbon kelp) Litz to subtidal

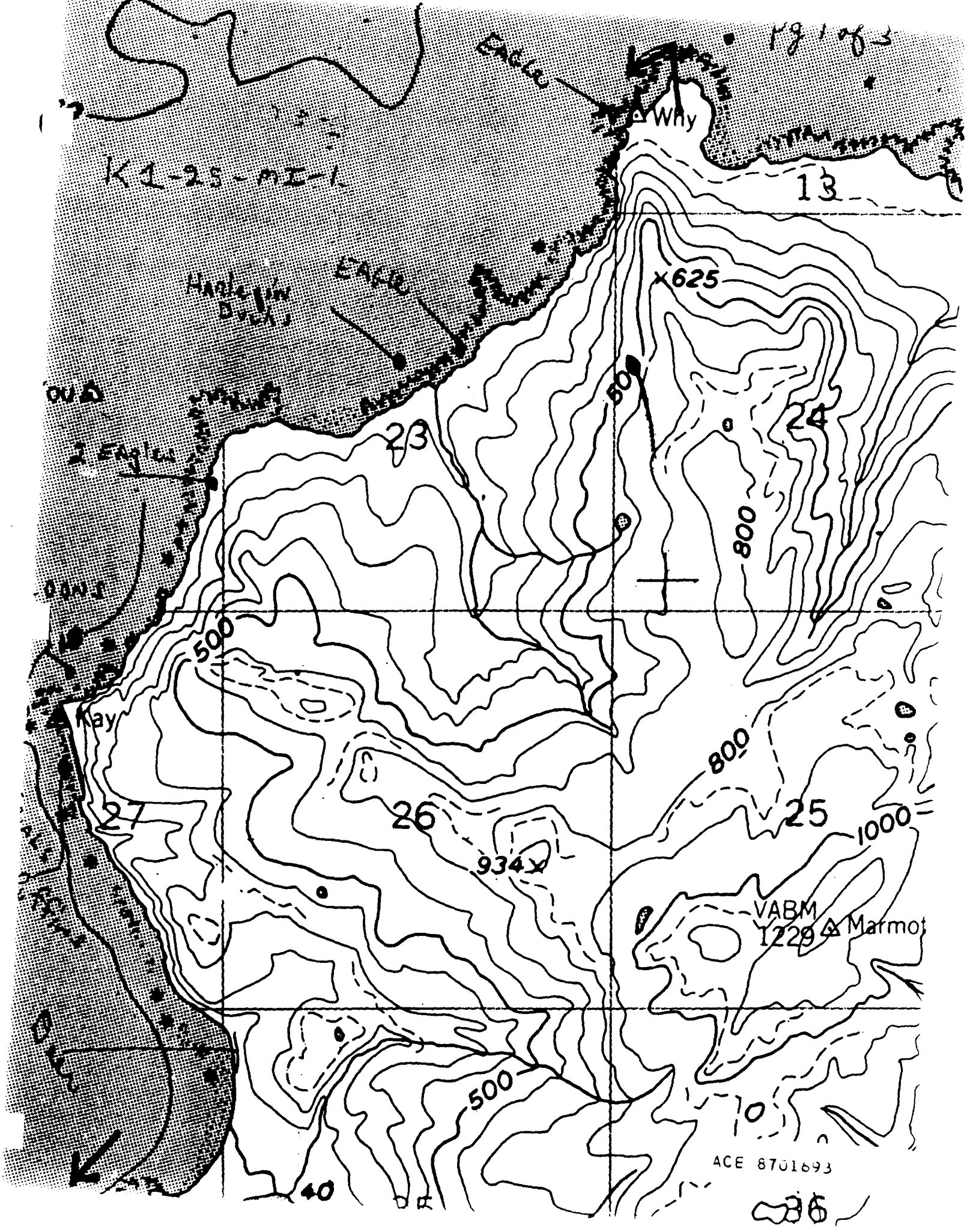
CLEANUP PRECAUTIONS: None - no oil observed

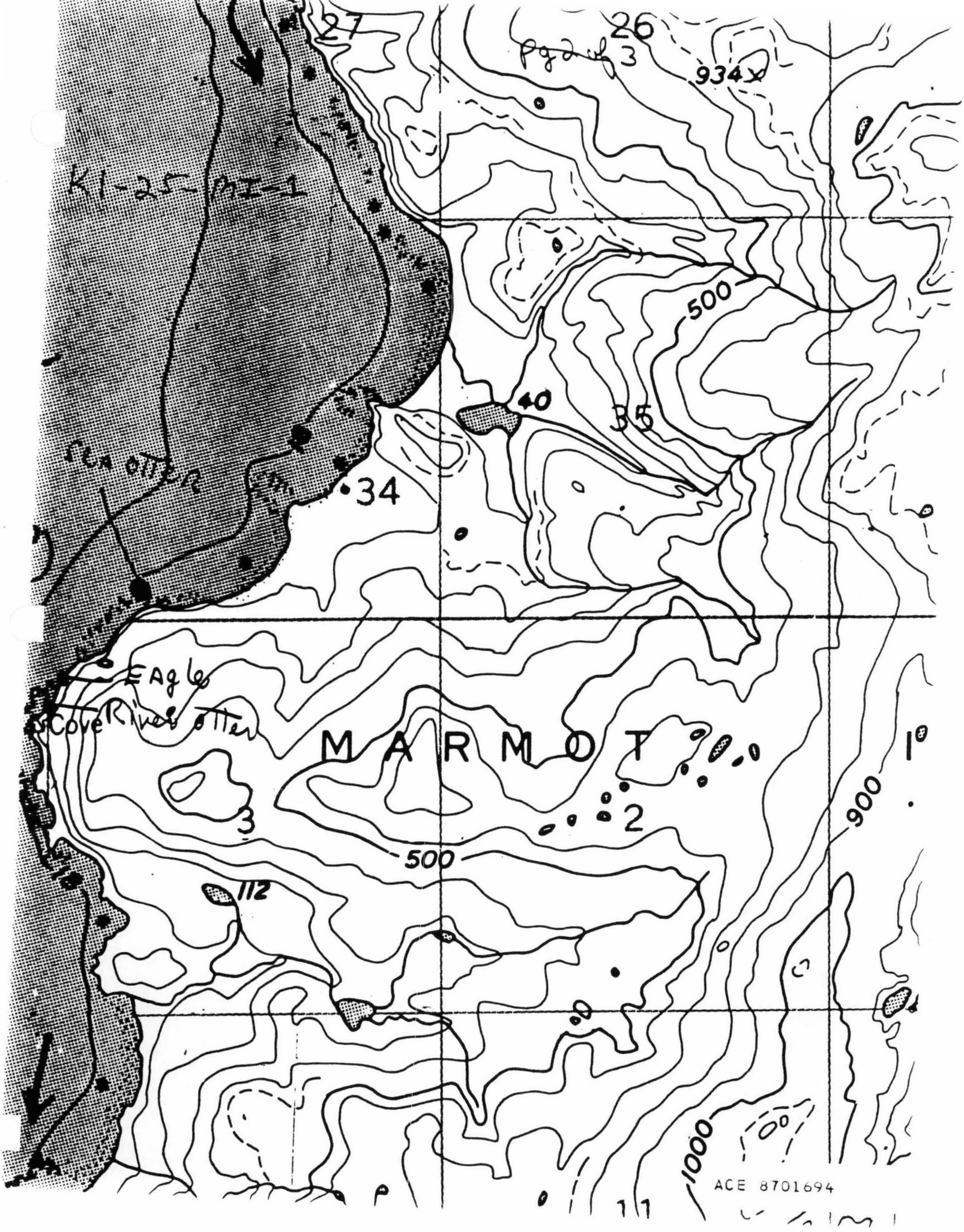
MAMMALS: Otters ↘ Harbor Seals ↘ Sea Lions ↘ Whales _____
Other Deer tracks -

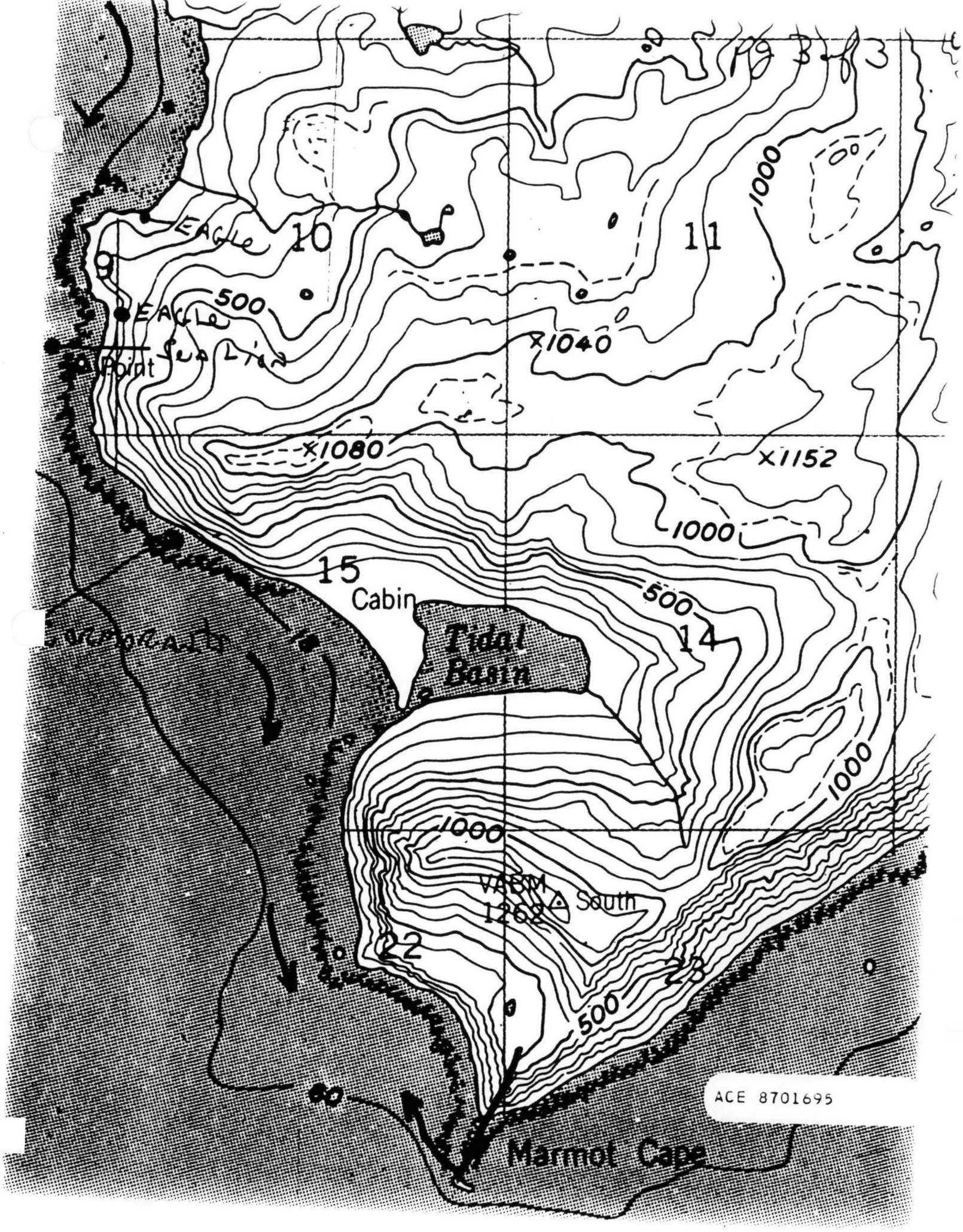
BIRDS: Eagles, Harlequin Ducks, Loons, Puffins

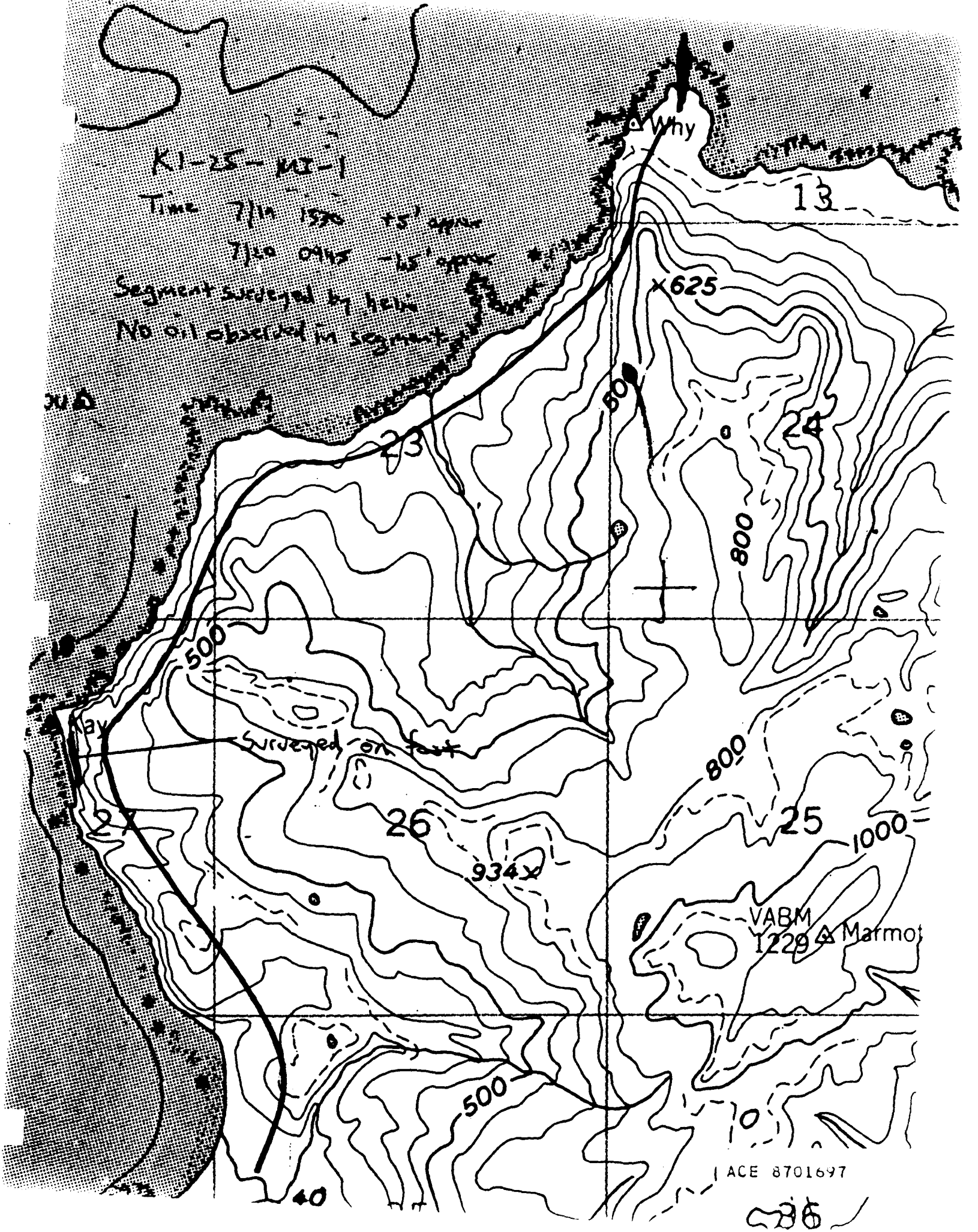
GENERAL OBSERVATIONS: Generally rich in Avifauna, marine mammals & Deer.

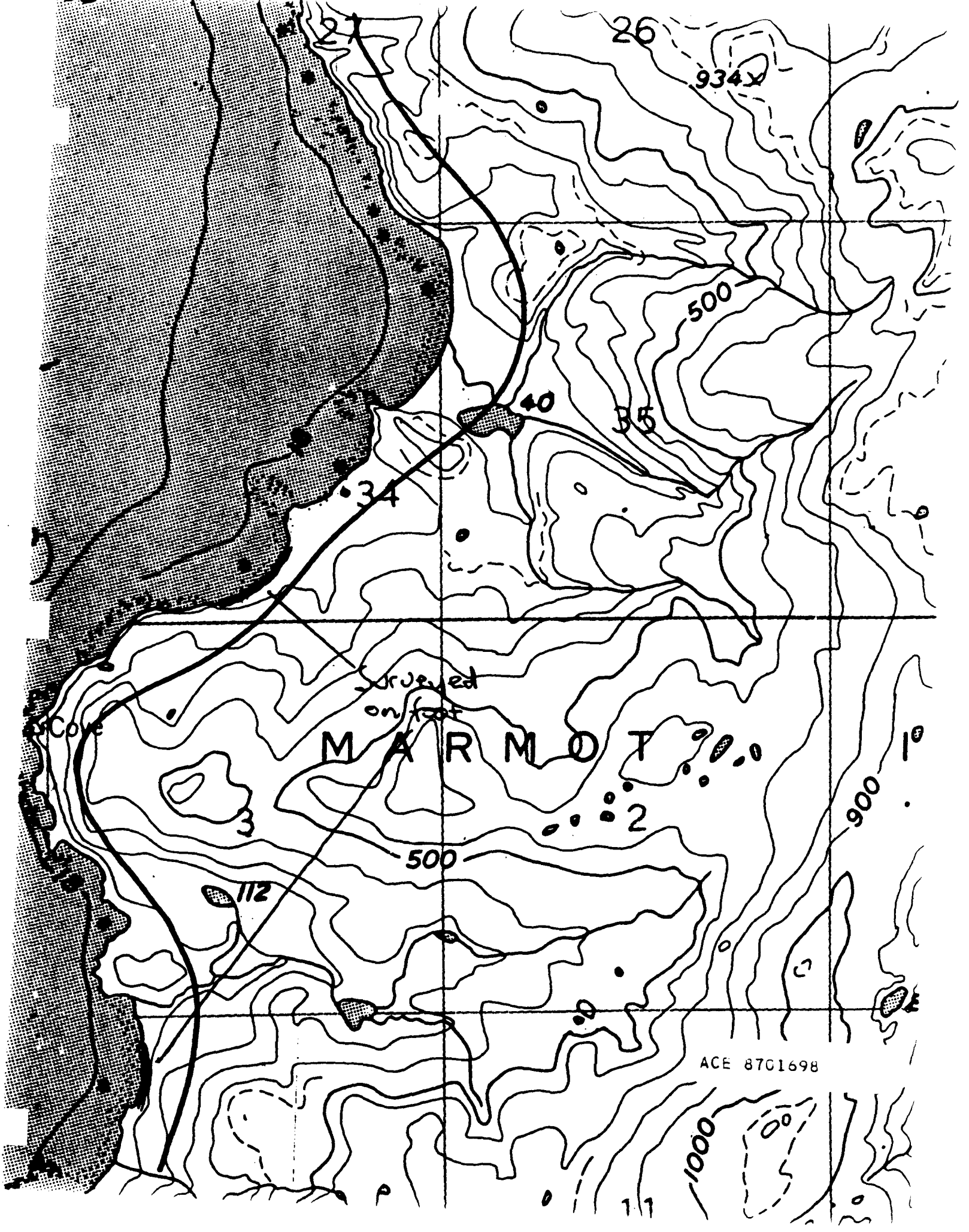
ACE 8701692

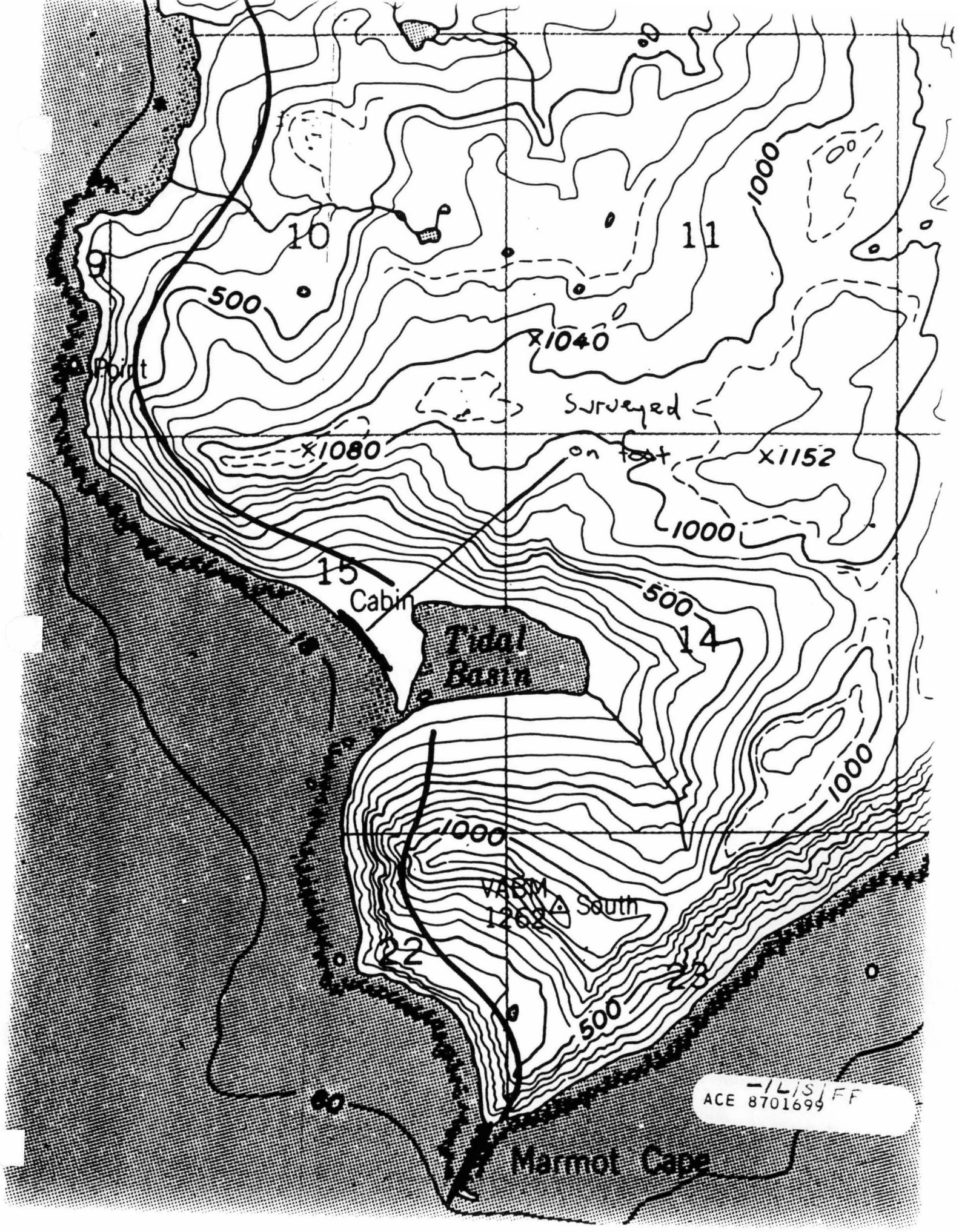

Why
13
×625
50
24
23
800
500
Kay
800
27
26
25
1000
934×
VABM
1229 Marmo
500
10
40
ACE 8701693
36


27
26
pg 2 of 3
934
500
40
35
34
MARMOT
3
2
1
500
112
900
1000
ACE 8701694


EAGLE
9
10
11
EAGLE
500
Point
1040
1080
1152
1000
15
Cabin
500
14
Tidal
Basin
1000
1000
VABM
1262
South
22
500
ACE 8701695
Marmot Cape


K1-25-KI-1
Time 7/19 1530 +5' approx
7/20 0945 -45' approx
Segment surveyed by helo
No oil observed in segment
Survey on foot
13
24
25
26
27
23
625
800
1000
500
934
VABM
1229
Marmo
ACE 8701697
236


27
26
934
500
40
35
34
Surveyed
on foot
MARMOT
3
2
500
112
900
1000
ACE 8701698


9
10
11
500
1000
×1040
Point
Surveyed
on foot
×1080
×1152
1000
15
Cabin
500
Tidal
Basin
14
1000
1000
VABM
1268
South
12
13
500
ILLISIFF
ACE 8701699
Marmot Cape

KODIAK SCAT
KI-26

COMPLETE JAN 24 1990

ACE 8643496

1-18 Called Olympus Corpor; they received P.O. on 1/12/90 and the camera should be back here within a week.

(version 6/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Block (see enclosed map): K1-26

Includes Shoreline Segments: MI-2

Location: Marmot Island - east shore

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 8701701/A +15

NAL
ST
MOR STRAIT
Cape St Hermogenes
MI-2 K1-26
ACE 8701701/B -12

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/20/89 SHORELINE SEGMENT K1-26-MI-2

LOCATION: (see enclosed map) Marmot Island - east shore

ADEC NO. K1 SHORELINE ASSESSMENT DATE: 7/20/89

Recommended Cleanup Activity(ies):

-Manual removal of mousse patties from areas north of Cape Hermenogenes.

-No cleanup recommended between Cape Hermogenes and Marmot Cape due to ecological constraints listed below. Subject to FOSC reassessment at a later date.

Priorities/Considerations: Class 5-A

-Utilize small crew (3-5) to minimize potential disturbance and due to minimal number of mousse patties observed.

Ecological Constraints (from site survey):

-No cleanup activities to be conducted near sea lions on beach.

-No cleanup between Cape Hermogenes and Marmot Cape due to sea lion haul outs.

Archaeological Constraints (from site survey):

-An archaeological monitor is required during cleanup of beach area between Cape Hermogenes and north end of segment.

-No access to the forest/upland zone north of Cape Hermogenes by beach crews during cleanup.

-If hefetofore 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. David McMahon Date: 7/31/89

State Historic Preservation Officer *

EXXON: _____ Date: _____

ISCC: _____ Date: _____

FOSC: _____ Date: _____

+/S
ACE 8701702

version July 05, 1989)

SHORELINE OIL EVALUATION

ate: 7/13/89 / Time: 1325-1415 Observer: M. Acton
urveyed From: Foot/Boat/(Helo)/Plane Weather: Sun/Cloud/(Rain)/Snow/Fog

CATION
ocation: _____ Segment ID: KI-26-MI-2
egment Length: 9.5 miles m. Access: Vehicle/(Boat)/Barge/(Helo)/Float Plane
ccess Restrictions: Boat access during low energy periods

HORELINE
horeline Type: SPI/(BEA)/COV/(HLD)/STRT Slope: Lo/(Med)/Hi/(Vert)
ave Exposure: (High)/Med/Low
ediment: B 20 % / C 15 % / P ____ % / G&S 30 % / M ____ % / R 35 %

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
oradic	% of Segment 5	SU/(SP)/(H)/M/L	H/M/L/(VL)

otal	Length(m)	Width(m)			
ery light:	100	10	Thickness >1cm: ____ cm		SU/SP/H/M/L
ight:			Penetration/Rework: ____ cm		SU/SP/H/M/L
oderate:			Burial Depth: ____ cm		SU/SP/H/M/L
eavy:					

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

IL MORPHOLOGY

oled Oil: ____ %			SU/SP/H/M/L
ree" Oil: ____ %			SU/SP/H/M/L
lattered: ____ %		H/M/L/VL	SU/SP/H/M/L
ated: ____ %		H/M/L/VL	SU/SP/H/M L
ncakes/Balls: 100 %			SU/(SP)/(H)/M/L

Preliminary Cleanup Est.	
Total TYPE A: 100	m
Total TYPE B: ____	m
Total TYPE A/B: ____	m

IL WEATHERING

esh: ____ %		SU/SP/H/M/L
ousse: ____ %		SU/SP/H/M/L
athered Mousse: 100 %		SU/(SP)/(H)/M/L
phalt Mousse: ____ %		SU/SP/H/M/L
r: ____ %		SU/SP/H/M/L

MMENTS

Shoreline at time of observation was primarily narrow sandy/cobble beaches at the base of high angle rock/debris headland. Segment surveyed by helo. Beach access to helo limited to several small pocket beaches on NE Shore. Other areas were too steep/narrow for helo access at time of observation. Southern six miles of segment shoreline was sealion haul out area which limited shoreline assessment. Weather conditions (driving rain) made assessment by helo difficult.

ACE 8701703

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: _____

25

1055 lt. to mod → up to NE drain
entire HW to SNW coast Sm band
w/ some mousse splat
manual clean up
none observed buried gravel/cobble beach
all on surface
1105 off

1115 set down for lunch
helio back for fuel
V. lt. splat on d.t. wood
no o.i observed i.e. mousse
walk across island - coast, boulders
rock platform - no o.i observed
1245 lt. to oil
1250 - splat on D.W
check for mousse
1255 - finished segment at Duck Cape
proceed to Marmot Island
recommend boat leave Seal Bay Emmons
2 miles of segment and Seal Bay Segment
Start Marmot 1325
1310 no o.i observed
1325 no o.i observed
boulder rubble beaches

26

Ruin - poor visibility / hard to distinguish

1340 V. lt mousse pad

1355 V lt mousse pads

1420 tide flat on SW side of Marmot Is
head for home

1440 Kodiak.

ACE 8701C5

27

7/20/89 Thur — Acton Penn — Jordan G.sp.

To Tolstoi, Pt — KI-22 · TC-5

0805 lift off Kodiak

0830 Tolstoi, Pt

0840 v lt spill on bays
1 small pool
boulder shore comp. 1 pioneer beaches
Point

0905 Spit clown 6-8 pools 45cm
walked 100m
v lt spill on OW

0915 + 0925 no oil observed

0935 finish segment - off the measure
KI-

0940 SW corner of Measure

0945 walked 100 m
no oil observed

1020 return Kodiak for fuel

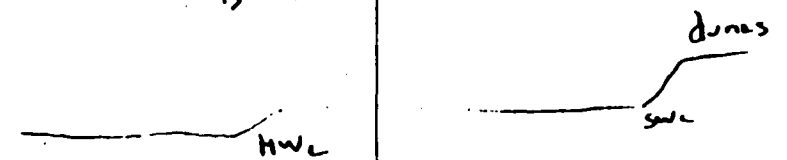
28

7/20/89 Thur 1105

Depart Kodiak for Ocean Bay KB-39-

1135 N end of Bay - headland separating Ocean Bay +
Resurrection
overflow Bay
overflow entire segment

1200 shut off
large accumulation of debris, driftwood
large smelly beach
walked 400 m
MAS 10 W
11 W
12 E
13 E



1330

black balls - oil/sand mixture
rem band of oil/sand balls - SP zone
MAS 14 closeup of oil/sand
15 W
16 E
17 closeup of oil/sand

ACE 8701706

version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: Kodiak SITE: Marmot Isl. OBSERVER: G. Penn

LOCATION PREFIX: K1-26 SEG. NO.: MI-2 LENGTH: 9.5 (M)

DATE: 07/19/89 TIME (HHMM): 13:20 TIDE HT.: 1.5 (M)

OILED ZONE: Splash (High) Medium Low

SUBSTRATUM: (Rocks Boulder Cobble Gravel) Sand Mud

LIVE BIOTA

Fucus (algae): Patchy (Y)/N Contin. Y/(N) Dense Y/(N) Sparse (Y)/N None Y/(N)
N. end of segment - on Angular Boulders & Pinnacles

Mytilus (Mussels): Patchy (Y)/N Contin. Y/(N) Dense (Y)/N Sparse Y/(N) None Y/(N)
N. end of segment - on Angular Boulders & Pinnacles

Balanus (Barnacles): Patchy (Y)/N Contin. Y/(N) Dense (Y)/N Sparse Y/(N) None Y/(N)
N. end of segment - on angular Boulders & Pinnacles

Littorina
Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
not observed

Limpets: Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None Y/N
not observed

OTHER OBSERVATIONS: Cape St. Hermogenes to Marmot Cape almost continuous Sea lion haul out & not observed.

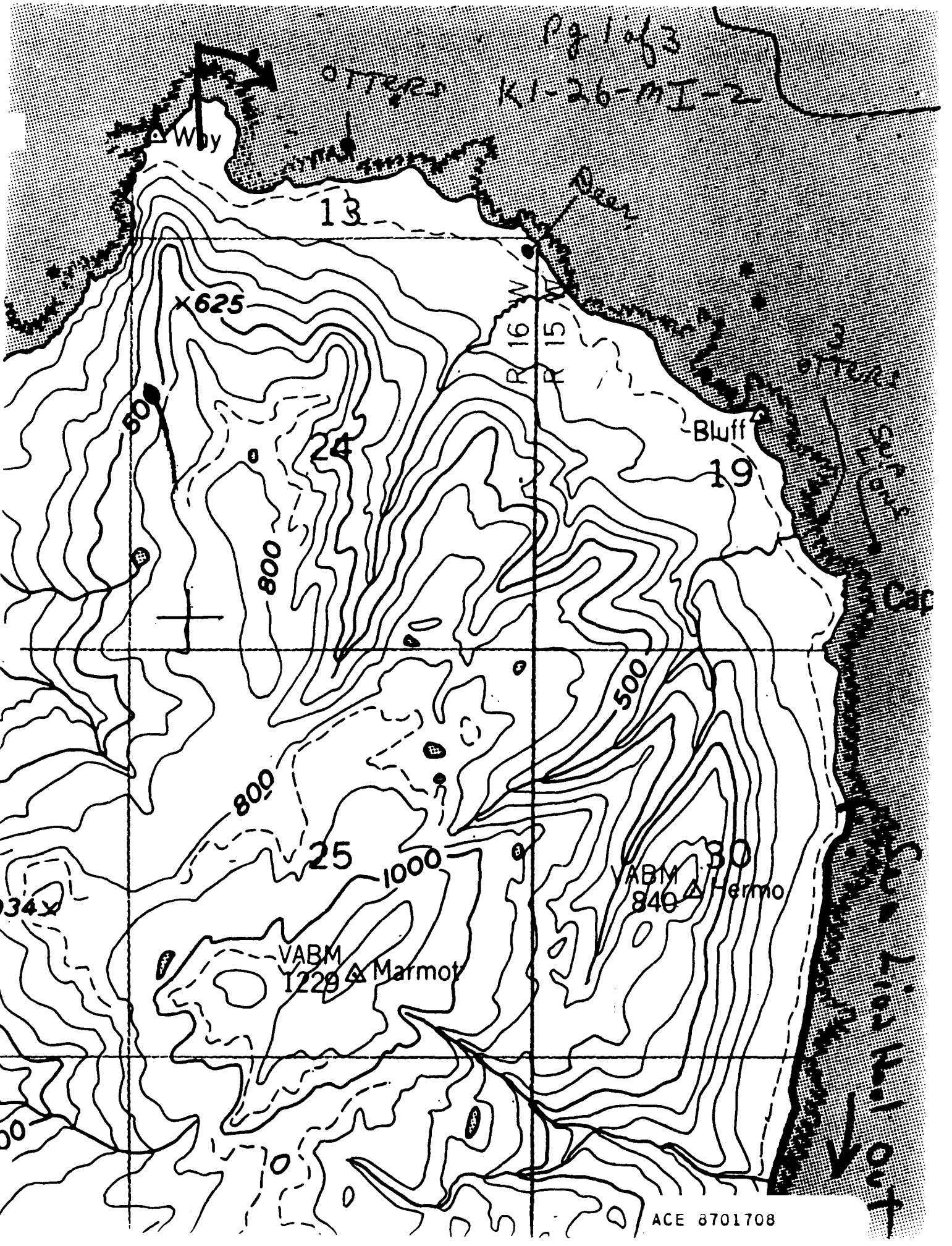
CLEANUP PRECAUTIONS: No cleanup activities to be conducted. Noon sea lions on beach or on the Island between Cape St. Heamogenes to Marmot Cape

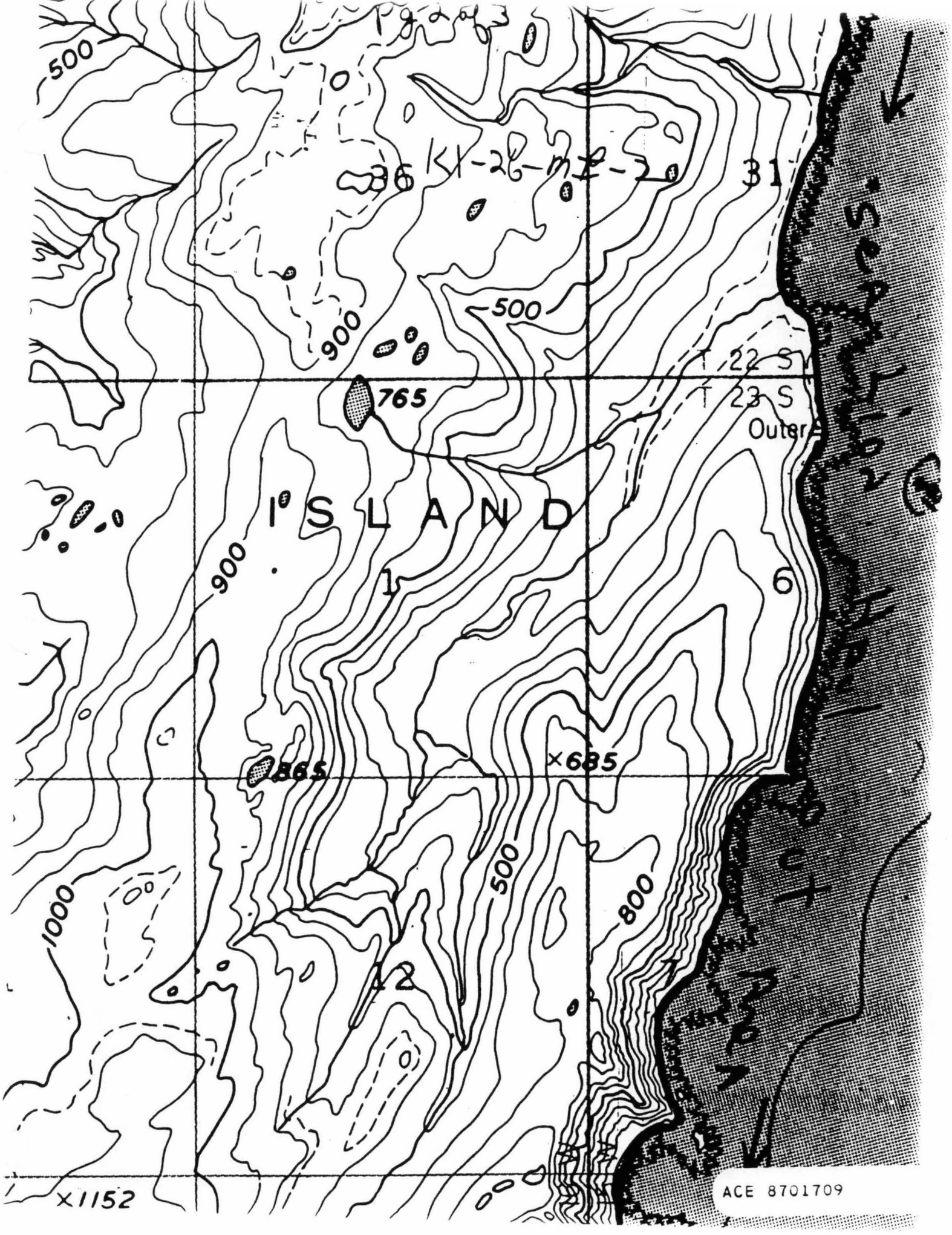
MAMMALS: Otters → Harbor Seals ___ Sea Lions ↘ Whales ___
Other ___

BIRDS: Gulls

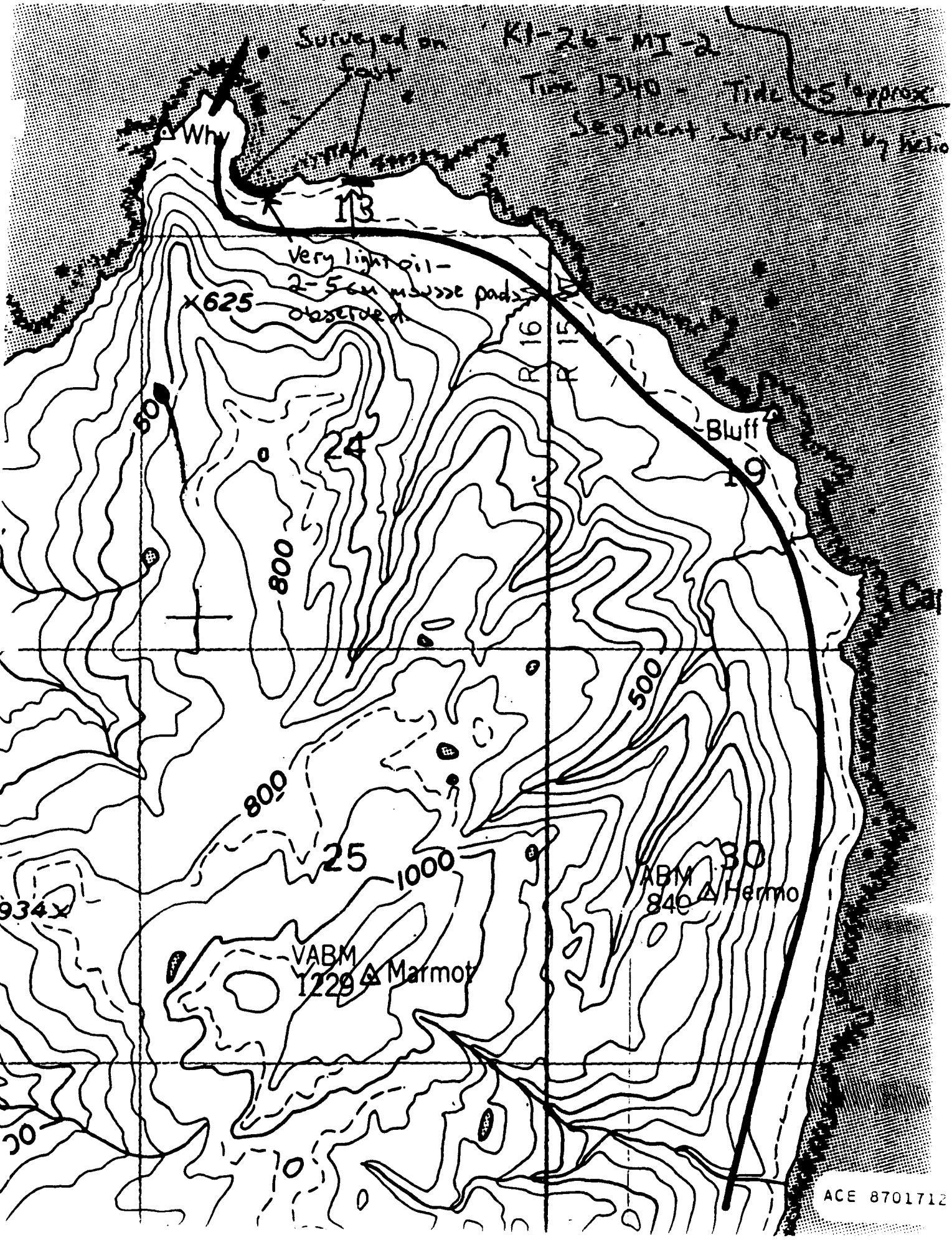
GENERAL OBSERVATIONS: ___

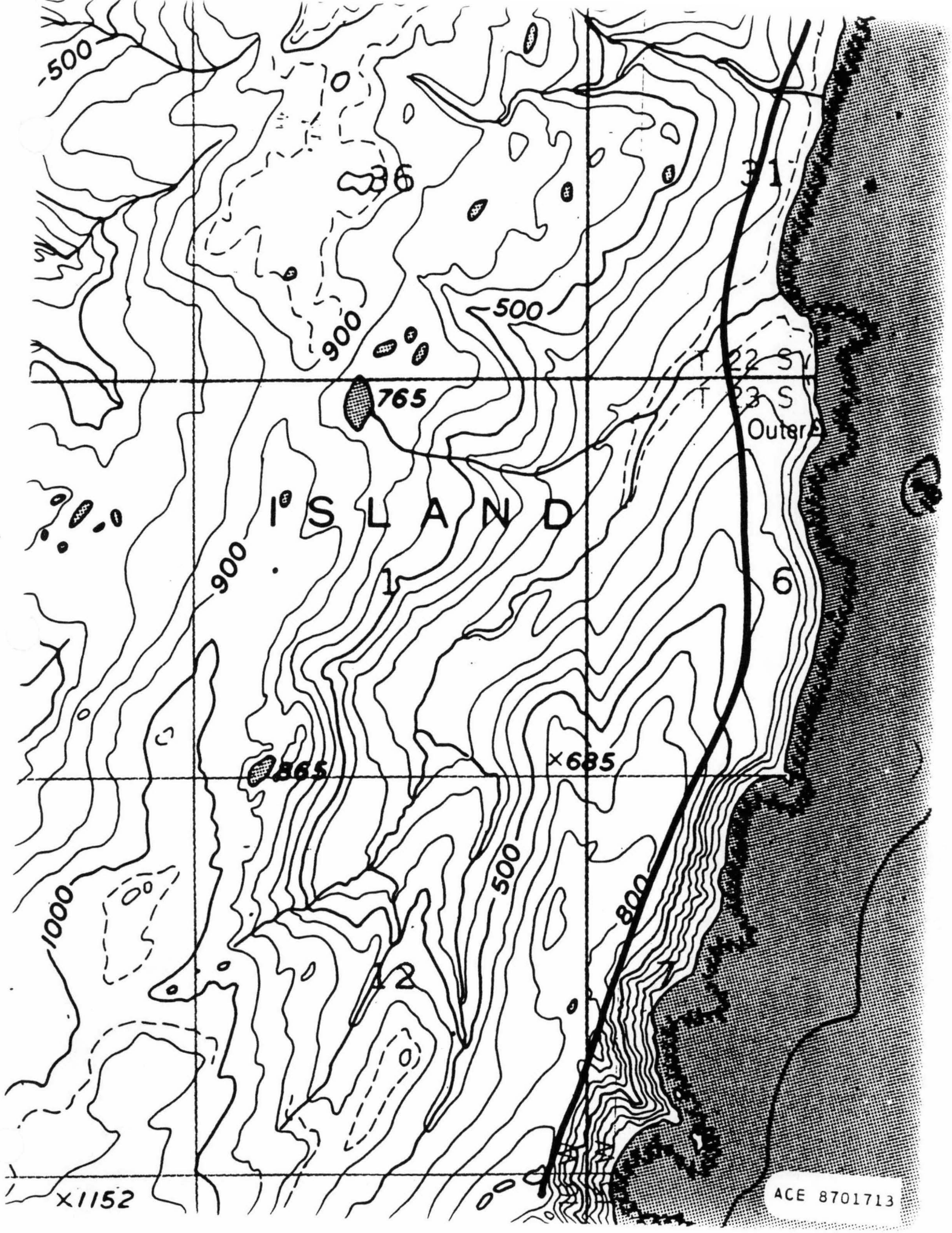
ACE 8701707


Pg 1 of 3
otter
K1-26-MI-2
Wby
13
625
R 16 W
R 15
Bluff
19
24
800
500
25
1000
30
VABM
840 Hermo
VABM
1229 Marmot
ACE 8701708


500
900
765
T 22 S
T 23 S
Outer
ISLAND
900
1
6
865
×685
1000
500
800
42
×1152
ACE 8701709

K-26-NE-2
Sea Level Wetland Unit
500
1000
1040
1080
1152
11
14
15
Cabin
Tidal
Basin
South
Beach Cove
ACE 870171


Surveyed on K1-26-MI-2
Time 1340 - Time 1515 approx
Segment surveyed by helo
Why
113
very light oil -
2-5cm mousse pads
obscured
625
60
24
800
R 16
R 15
Bluff
19
500
800
25
1000
934
VABM
1229 Marmot
VABM
840 Hermo
30
30
10
ACE 8701712


500
36
31
900
500
765
T 22 S
T 23 S
Outer
I S L A N D
900
1
6
865
×685
1000
500
800
2
×1152
ACE 8701713

-1115FF
ACE 8701714

K-02-01

ACE 8643497

(version 6/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Block (see enclosed map): K2-1

Includes Shoreline Segments: BF-1, BF-2

Location: Blue Fox Bay

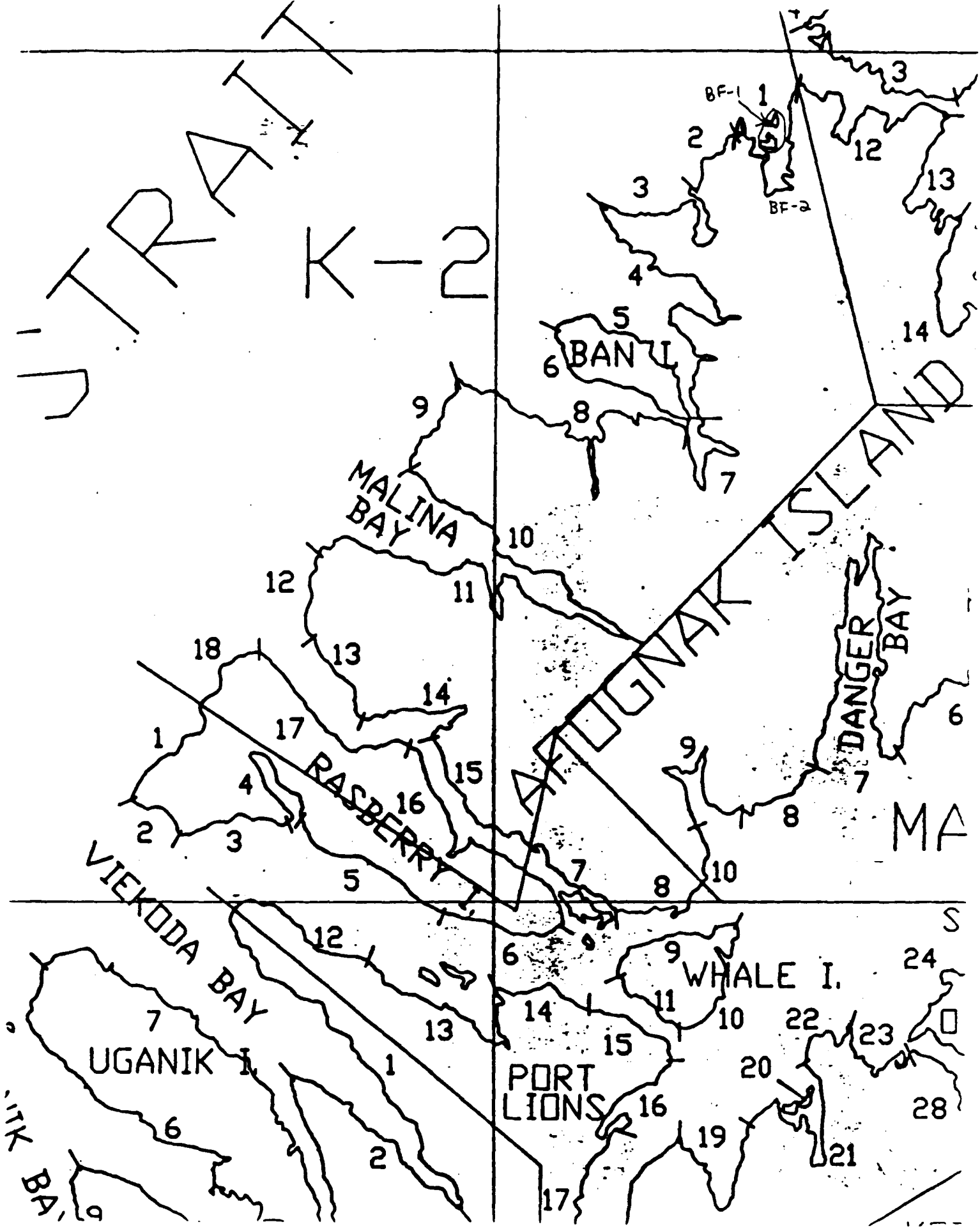
Submitted: _____ Date: _____
(for Exxon)

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

+/F/S/FF
ACE 8701715


TRAIT
K-2
BF-1
BF-2
BAN I.
MALINA BAY
AFOGNAK ISLAND
DANGER BAY
RASBERRY
VIEKODA BAY
UGANIK I.
PORT LIONS
WHALE I.

ACE 8701716

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 8/17/89 SHORELINE SEGMENT K2-1-BF-1

LOCATION: (see enclosed map) Blue Fox Bay

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 8/10/89

Recommended Cleanup Activity(ies):

-No cleanup recommended due to very light oiling, ecological constraints and potential of natural washing. Subject to FOSC reassessment at a later date.

Priorities/Considerations: Class 5-A

Ecological Constraints (from site survey):

-Sensitive resources/species present include seabird rookeries, eagle mating pairs, blue fox and healthy tidal pools. Any cleanup activities are expected to be more detrimental to these resources than the present minor impact of the oil.

Archaeological Constraints (from site survey):

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

Edward McMahon
State Historic Preservation Officer *

Date: 8/21/89

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

ACE 8701717

SHORELINE OIL EVALUATION

A. General

1. Date: 8/10/84 2. Time: 15:15-15:45 3. Observer: M. DEBUSSCHERE

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

6. Location ISLANDS IN BLUEFOX BAY 7. Segment #: K2-1 BF-1

8. Length of shoreline segment: 14080 yds 9. Tidal Stage ± 4 ft.

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

11. Total Percentage of Segment Accessible: 10 %

12. Access Restrictions: CLIFFS, ROOKERIES & EAGLE NESTS

B. Shoreline

13. Shoreline Type: SPI/BEA/COV/HLD/STRT/CLF/DAF/ISLANDS

14. Slope: LANG/HANG/VERT/MEDIUM

15. Wave Exposure: High/Med/Low

16. Sediment: B 10 % / C 10 % / P 5 % / G 20 % S 5 % / M 0 % / R 50 %

17. Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type LOGS & KELP

C. Oil Summary

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

19. Area of Beach Impact: Width of Band: 0 yds
Continuous: Total % of Segment 0
Sporadic: Total % of Segment 0.001
No Oil: Total % of Segment ~~100~~ 99.999

20. Est. Oil Thickness where >1in: 0 in 21. Est. Oil Penetration: 0 in

22. Pooled Oil: 0 % "Free" Oil: 0 % Coated: H 0 % / M 0 % / L 100 %

23. Fresh 0 % Mousse 0 % Tar Formation: 100 %

24. Drift Debris Oiled? Yes/No Sup/Up/Mid/Low Amount: _____ H/M/L

Comments:
MOST OF SEGMENT WAS OBSERVED BY AIR - LANDING WAS DIFFICULT B/C OF MORPHOLOGY AND ECOLOGICAL CONSTRAINTS. ONLY OILING FOUND WAS VERY LIGHT AND HAS POTENTIAL FOR NATURAL WASHING
MOST OF THE SEGMENT IS NOT ACCESSABLE BY AIR!!

SEE PAGE 2 FOR SUPPLEMENTAL INFORMATION

SUPPLEMENTAL SHORELINE OIL EVALUATION

25. Oil Type

Fresh	0	%
Mousse	0	%
Weathered	0	%
Tar	100	%
	100	%

26. Total Oil Coverage

	Length (yd)	Width (yd)
Very Light:	14	10
Light:		
Moderate:		
Heavy:		

27. Oil Distribution

	SP	H	M	M	Thick >1in	Length (yd)	Width (yd)	Burial Depth
pooled/continuous								
coating/ splat		X	X		—	14	10	—
cracks / crevices								
patties (>10cm diameter)								
balls (< 10cm diameter)								
asphalt pavement								

28. Preliminary Cleanup Est.

Total TYPE A: 0 yds.
Total TYPE B: 0 yds.
Total TYPE A/B: 0 yds.

29. Remobilization Potential: High (Medium) Low

DOCUMENTATION:

Map/Aerial photo marking segment boundaries ATTACHED

VTR: Y (N) Tape Number (s) _____

Photography: Y/N Roll Number (s) _____

FIELD NOTES - LOCATION MAP - DEGREE OF OILING

Additional Comments:

_____

_____

_____

_____

_____

_____

_____

_____

5/9/89 | K2-1 SEGMENT BF 1 | M. DEBOUSSCHERE 15:15

ISLANDS IN BLUEFOX BF1

HOGG, TECH - BEAR ISLAND

MOST OF THE ISLANDS CONSIST OF ROCK OUTCROPS (WHERE) CONTAINS AND COBBLE PLATFORMS AND SMALL C [illegible] G/R BEACHES

LITTLE OR NO [illegible] SOME OF SEGMENT IN C TIDE (UPPER) [illegible] SW BEAR ISLAND OF SEGMENT IN S-TIDE [illegible]

- NO LIVE OR R/C OF CLIFFS
- EARLY WARE "EAGLE" OR "ROOKERY" IS NOTED SURVEY WAS DONE FROM DISTANCE

ALGAE AT M/H, LOGS AT H/SP

→ OILING IS LIGHT & VERY SPORADIC WITH HIGH POTENTIAL OF NATURAL WASHING

15:45

ACE 8701720

version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: Blue Fox Bay SITE: Teck, Hogg and Brant Is. OBSERVER: SMBAN

LOCATION PREFIX: K-3-2 SEG. NO.: BF-1 LENGTH: 12,900 (M)

DATE: 8/10/89 TIME (HHMM): 1530 TIDE HT.: +1½ (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 on boulders and rock cliffs, absent on gravel beaches. Heavy oiled, Haloscacion and Ulva also dense.

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

Dense to very dense in some areas. Absent on cobbles and gravels. Non oiled

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

Dense adults throughout ITZ on boulders and rock face. Lone apparently oiled.

Littorina

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

None seen as most of survey was done by helicopter

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

None seen as most of survey was done by helicopter

OTHER OBSERVATIONS: Rocky headlands probably support much hard pool life.

CLEANUP PRECAUTIONS: No cleanup recommended. Sensitive ecological parameters include eagle and other seabird colonies, blue fox and numerous tide pools

MAMMALS: Otters X Harbor Seals ___ Sea Lions ___ Whales ___

Other Blue Fox

BIRDS: Eagles, cormorants, gulls

GENERAL OBSERVATIONS: Very little oil - no organisms observed were impacted.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 8/10/89 Location BLUEFOX BAY (ISLANDS) site _____

Location Prefix K2-1 Segment # BF1 Length 12900 M

Survey Method:

Air ✓ 100% (A - indicate on map) Boat _____ (A - indicate on map)

Ground _____ (G - indicate on map)

Known cultural resources (AHRS #) NONE Data Source AHRS FILES

Oil conditions/beach visibility NO OIL - VERY LIGHT

Width of beach zone surveyed _____ m Tree fringe surveyed _____

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 CLIFFS, COBBLE BEACHES + SOME LOW AREAS AND SPITS

Fresh Water Sources NONE

Sea Exposure NORTHERN

Access/Safety BOAT, HELICOPTOR

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 # _____ Frames _____

B/W Roll # _____ Frames _____

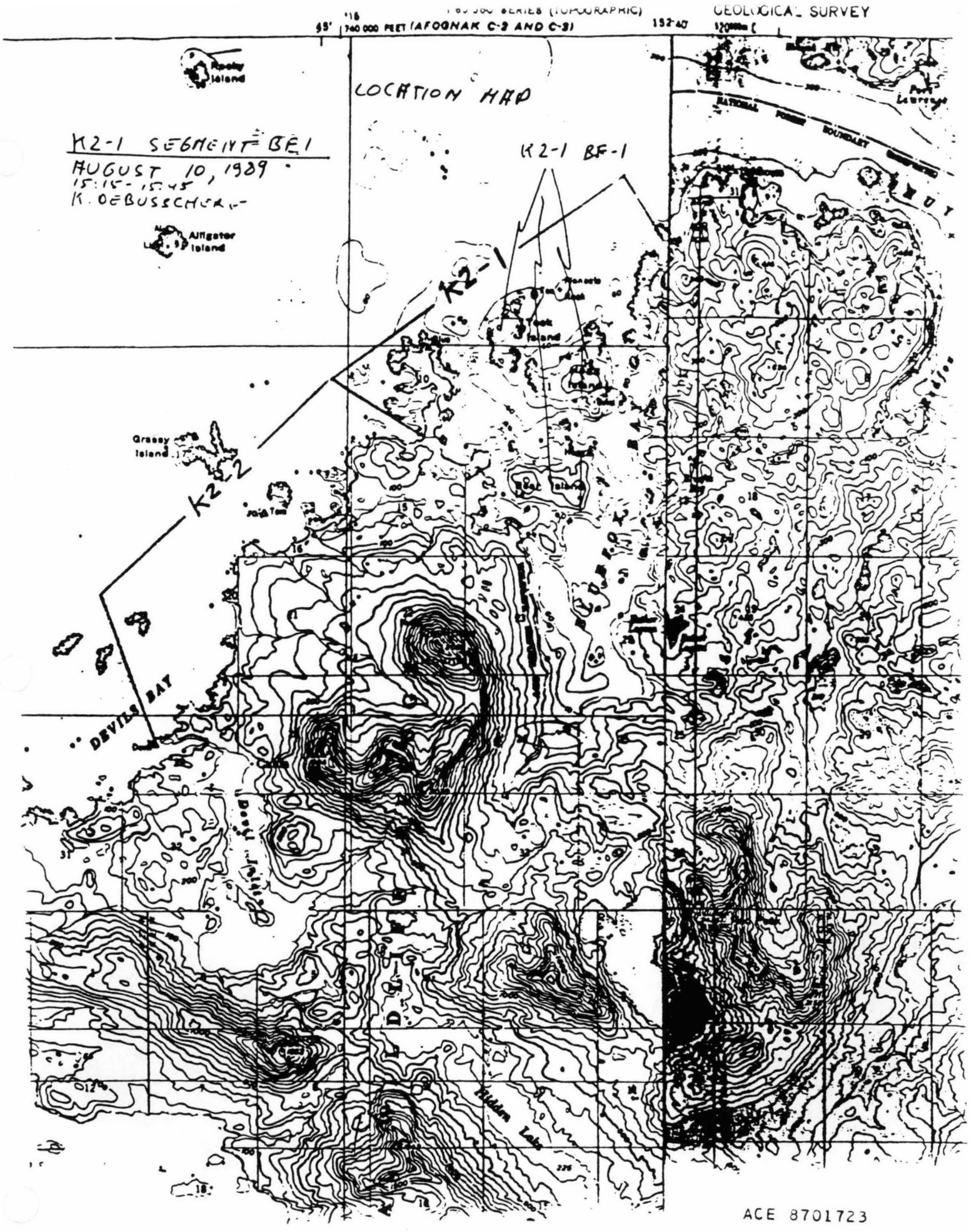
Observer(s) A. CROWELL

Time survey started 1525 Time survey ended 1545

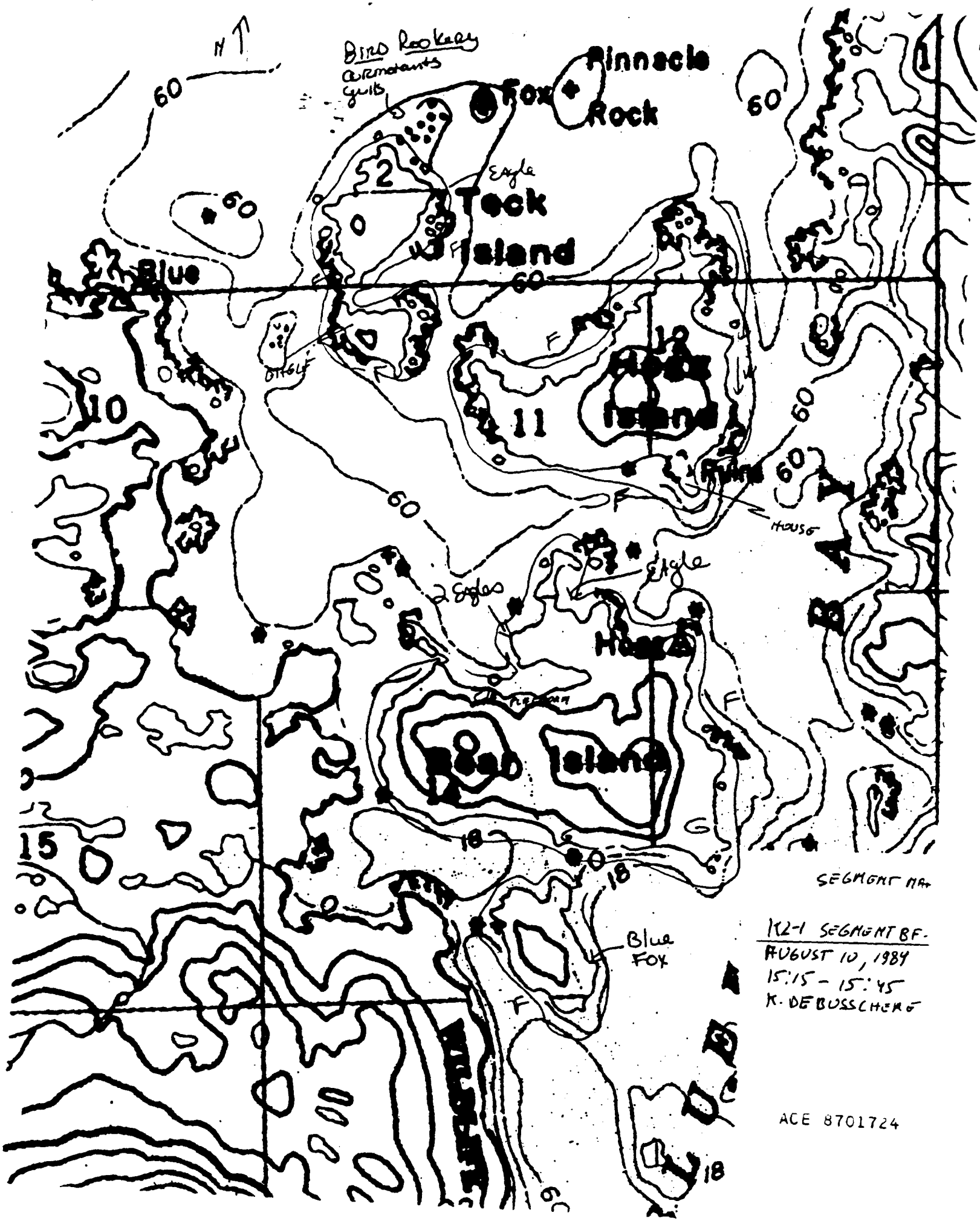
Cultural resource considerations/restraints:

STANDARD CONSTRAINTS

ACE 8701722

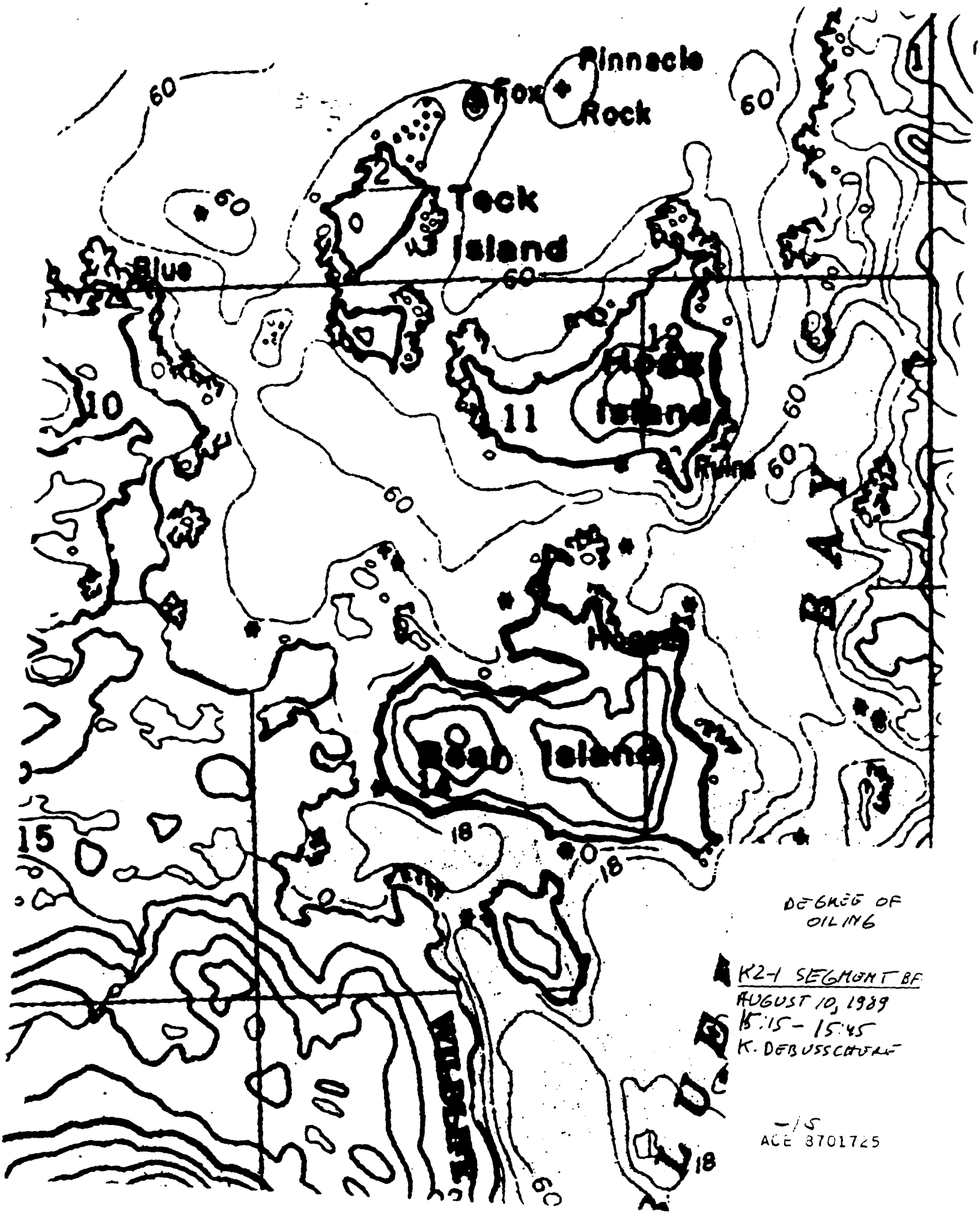

GEOLOGICAL SURVEY
740 000 FEET (AFOGNAK C-2 AND C-3)
LOCATION MAP
K2-1 SEGMENT BE1
AUGUST 10, 1989
15:15 - 15:45
K. DEBUSSCHERE
K2-1 BF-1
K2-1
K2-2
Rocky Island
Alligator Island
Grassy Island
DEVILS BAY
Fuller Lake

ACE 8701723



KI2-1 SEGMENT BF.
AUGUST 10, 1984
15:15 - 15:45
K. DEBUSSCHERE

ACE 8701724



DEGREE OF OILING

K2-1 SEGMENT BF
AUGUST 10, 1989
15:15 - 15:45
K. DEBUSSCHERE

-15
ACE 8701725

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 8/17/89 SHORELINE SEGMENT K2-1-BF-2

LOCATION: (see enclosed map) Blue Fox Bay

ADEC NO. SHORELINE ASSESSMENT DATE: 8/11/89

Recommended Cleanup Activity(ies):

-No cleanup recommended due to very light oiling, and presence of ecological constraints. This determination is subject to FOSC reassessment at a later date.

Priorities/Considerations: Class 5-A

Ecological Constraints (from site survey):

-Sensitive resources/species present include eagles (mating pairs), pink salmon, deer, and otters. Any cleanup activities are expected to be more detrimental to these resources than the present impact of oil.

Archaeological Constraints (from site survey):

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

J. David McMahon Date: 8/21/89

State Historic Preservation Officer *

EXXON: Date:

FOSC: Date:

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

+/S
ACE 8701726

SHORELINE OIL EVALUATION

A. General

1. Date: 8/11/84 2. Time: 9:45-13:30 3. Observer: K. DEBUSSCHERE

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

6. Location BLUEFOX BAY 7. Segment #: K2-1 BF-2

8. Length of shoreline segment: 23760 yds 9. Tidal Stage ± 4 ft.

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

11. Total Percentage of Segment Accessible: 90 %

12. Access Restrictions: SHALLOW SUBTIDAL AND CLIFF AREAS

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% / P20% / G15% S5% / M0% / R0%

17. Drift Debris on Beach: (Yes)/No Supra/(Upper)/(Mid)/Lower Type MIGRATORY LOGS

C. Oil Summary

18. Degree of Oiling: Heavy/Moderate/Light/(Very Light)/(No Oil Observed)

19. Area of Beach Impact: Width of Band: 15 yds
Continuous: Total % of Segment 0
Sporadic: Total % of Segment .0001
No Oil: Total % of Segment 99.9999

20. Est. Oil Thickness where >1in: 0 in 21. Est. Oil Penetration: 0 in

22. Pooled Oil: 0 % "Free" Oil: 0 % Coated: H0% / M0% / L100%

23. Fresh 0 % Mousse 0 % Tar Formation: 100 %

24. Drift Debris Oiled? (Yes)/No Sup/(Up)/Mid/Low Amount: _____ H/M/(L)

Comments:
MOST OF SEGMENT OBSERVED BY AIR DURING RELATIVELY HIGH TIDE (→ ACCESS RESTRICTED) NO SIGNIFICANT OILING OBSERVED OILING WAS VERY LIGHT & SPORADIC TO NO OIL

SEE PAGE 2 FOR SUPPLEMENTAL INFORMATION

SUPPLEMENTAL SHORELINE OIL EVALUATION

25. Oil Type

Fresh	0	%
Mousse	0	%
Weathered	60	%
Tar	40	%
	100	%

26. Total Oil Coverage

	Length(yd)	Width (yd)
Very Light:	25	15
Light:		
Moderate:		
Heavy:		

27. Oil Distribution

	SP	H	M	M	Thick >1in	Length(yd)	Width(yd)	Burial Depth
pooled/continuous								
coating/ splat	x	x	x			2.5	15	
cracks / crevices								
patties (>10cm diameter)								
balls (< 10cm diameter)			x		—	1 TAR BALL		.
asphalt pavement								

28. Preliminary Cleanup Est.

Total TYPE A: 0 yds.
Total TYPE B: 0 yds.
Total TYPE A/B: 0 yds.

29. Remobilization Potential: High/(Medium)/Low

DOCUMENTATION:

Map/Aerial photo marking segment boundaries ATTACHED

VTR: Y/(N) Tape Number (s) _____

Photography: Y/N Roll Number (s) _____

Additional Comments: FIELD NOTES / LOCATION MAP / DEGREE OF OILING

8/ 8' M2-1 BF-2 M DEBUSSCHERE 9:45

(1)

* LOCATION (1) FL/
G[illegible] - ZONE C/B
[illegible]
[illegible]
* [illegible] - CONTINUED TO THE SOUTH LOW [illegible]
[illegible]
LOCATION (2)
[illegible] FOR FULLER'S EARTH
[illegible]
LOCATION (3)
[illegible] TO THE WEST
THE CLIFFS AT M/H & WATERFALLS AT
[illegible] - ZONE C - POTENTIAL OF BURIED OIL
* FLY: MOSTLY BENCHES W G M/H/M & C M/L
- POTENTIAL OF BURIED OIL
FOR /CLIFF AT W-END OF ACROLIMNOS
LOCATION (4) 2 MI4
G BENCH N O/L OIL LOGS AT - (SPLASH-THR)
* FL/ MOSTLY CLIFF WITH [illegible] BENCH PLATFORM OR ROCK
ROCK PLATFORM. ZONE 6 - INDICATES POTENTIAL OF BURIED O
LOCATION (5)
[illegible] AT M & G/C AT M/L - OFFSHORE ROCK OUTCR
LOGS AT M/H/SH ; ALGAE AT M/H/SH
POTENTIAL OF BURIED O/L
FOR-FLT MOSTLY AT M-O/LOGS IN SU
* FL/ SCALES OF BENCHES IN B/W ROCK OUTCROPS & SOME
C/G BENCHES
[illegible]

ACE 8701729

POOR QUALITY ORIGINAL

8/11/89 K2-1 BF-2.

K. ECCLESTONE

(2)

POOR QUALITY ORIGINAL

Version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: Blue Fox Bay SITE: Entire Bay OBSERVER: SM BAN

LOCATION PREFIX: K-2-1 SEG. NO.: BF-2 LENGTH: 21721 (M)

DATE: 8/11/89 TIME (HHMM): 1100 TIDE HT.: 11/3 (M)

OILED ZONE: (Splash) High Medium Low Very Light

SUBSTRATUM: (Rocks Boulder Cobble Gravel Sand) Mud

LIVE BIOTA

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

Dense to very dense and continuous on boulders and rock face. Absent from gravel/sand areas - more oiled. Narrow or absent on rock faces

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

Very dense on rocky exposed headlands. Dense on boulders - Patchy. Moderately oiled

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

V. Dense spat on protected cobble beaches. Dense adults on most boulders. No Nucella observed. None oiled.

Littorina

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

Dense to V. dense in boulder crevices. None oiled

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

Individuals observed in tidal pools

OTHER OBSERVATIONS: Tidal pools abundant throughout bay. Dense Aurelia in waters of eastern shore. Hemicia present sporadically. Salmon in waters at head of Bay (Pinks)

CLEANUP PRECAUTIONS: No cleanup recommended. Sensitive resources include eagles, salmon, deer and others.

MAMMALS: Otters X Harbor Seals ___ Sea Lions ___ Whales ___

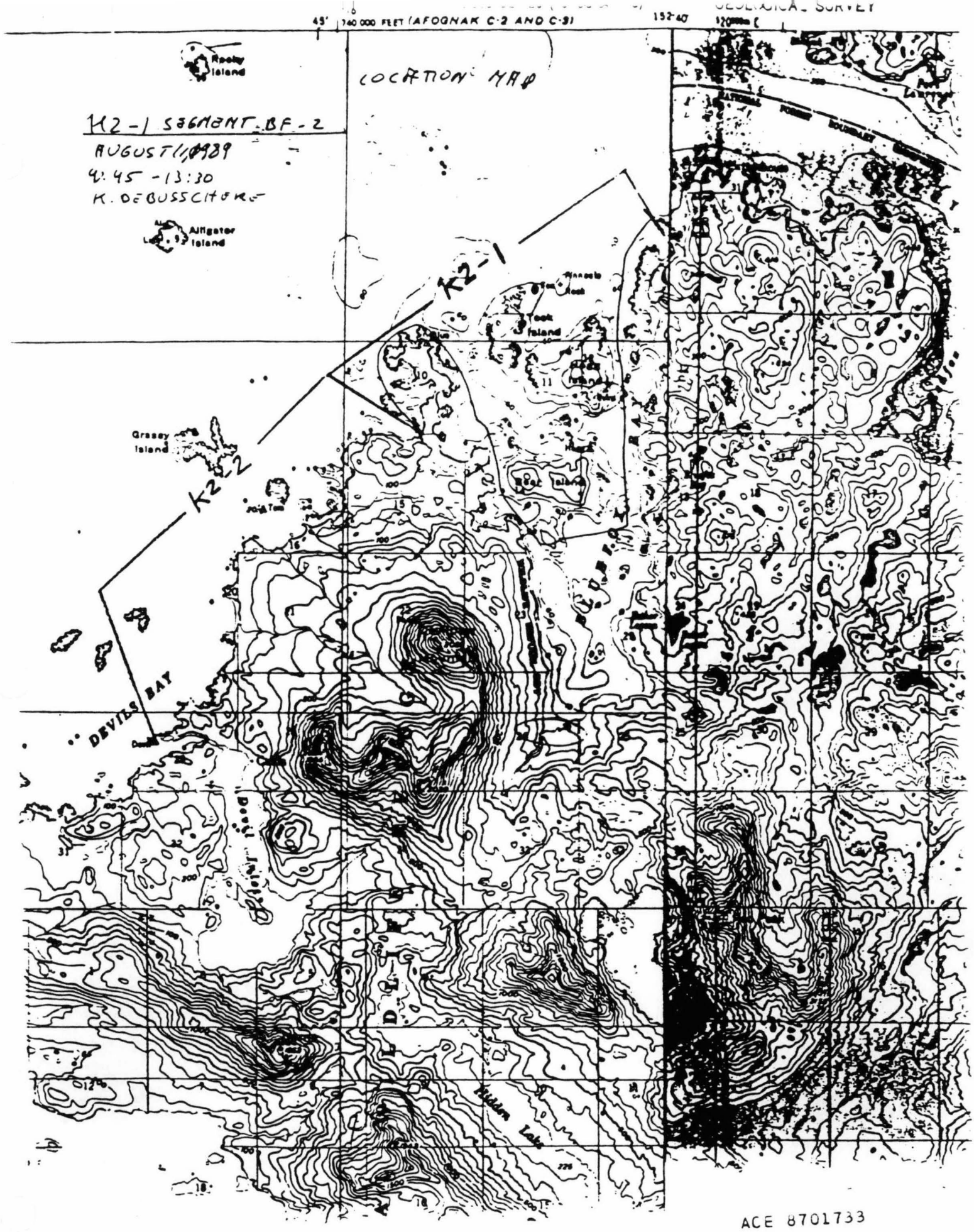
Other Deer (3) seen on beach. Deer tracks on almost all b... Fox on each

BIRDS: Rookery at Point - near beginning of bay, avoided due to helicopter

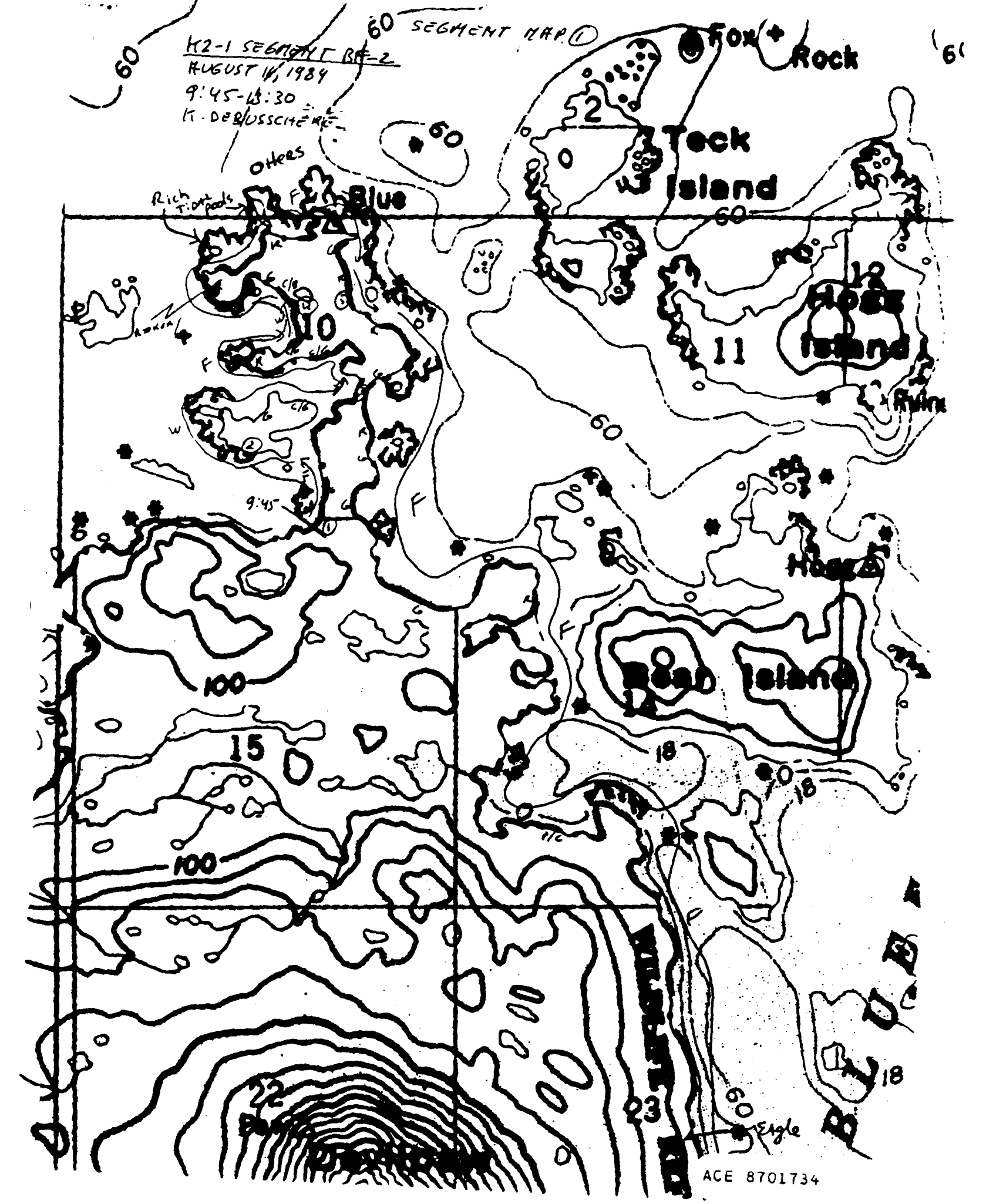
Eagle nesting pairs (2 pr.) / gulls, cormorants

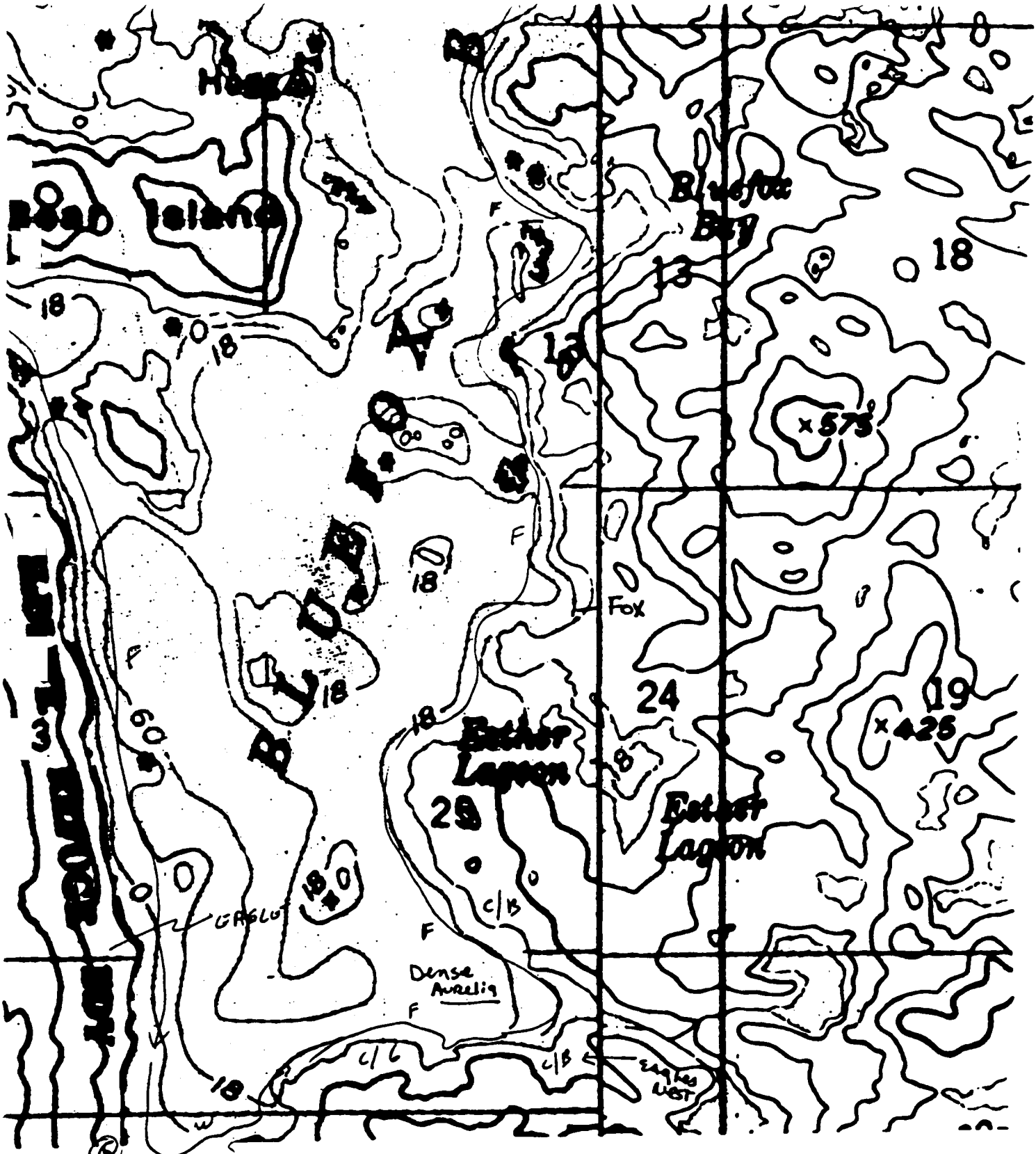
GENERAL OBSERVATIONS:

No organisms impacted by oil. Overall oiling extremely light


LOCATION MAP
K2-1 SEGMENT BF-2
AUGUST 11, 1989
9:45 - 13:30
K. DEBUSSCHERE
K2-1
K2-2
Rocky Island
Alligator Island
Grassy Island
Tonsina Point
Duck Island
DEVILS BAY
Kukak Bay
Kukak Lake
240 000 FEET (AFOGNAK C-2 AND C-3)
152°40'
GEODETIC SURVEY

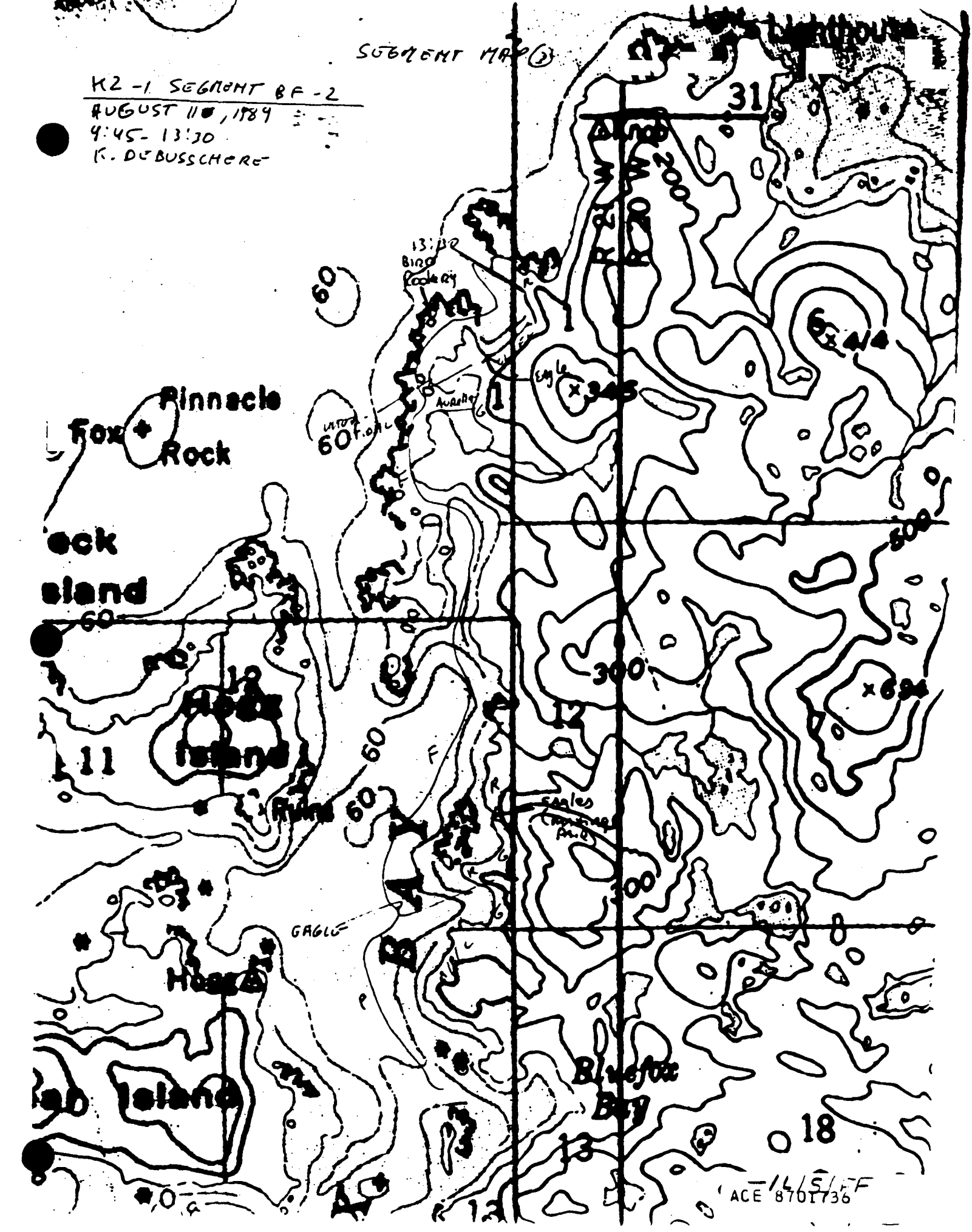
ACE 8701733


K2-1 SEGMENT BF-2
AUGUST 16, 1984
9:45-10:30
K. DEBUSSCHERE
SEGMENT MAP ①
Fox
Rock
Others
Rich
Blue
Island
Rock
Island
Rock
Island
Eagle
60
10
11
2
0
100
15
18
22
23
F
W
9:45
ACE 8701734



SEGMENT MAP (2)

K2-1 SEGMENT BF-2
AUGUST 10, 1989
9:45 - 13:30
K. DEBOSSCHERE


SEGMENT MAP (3)
K2 -1 SEGMENT BF -2
AUGUST 11th, 1989
9:45 - 13:30
K. DEBUSSCHERE
Pinnacle
Fox
Rock
eck
sland
60
11
Rocks
Island
Rock
60
F
Eagles
GAGLE
Hoare
Island
Island
Bird
Rookery
Eagle
Aurelia
Bluefox
Bay
31
30
12
13
18
ACE 8701736

K-02-02

ACE 8643498

(version 6/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Block (see enclosed map): K2-2

Includes Shoreline Segments: DE-1

Location: Devil's Bay

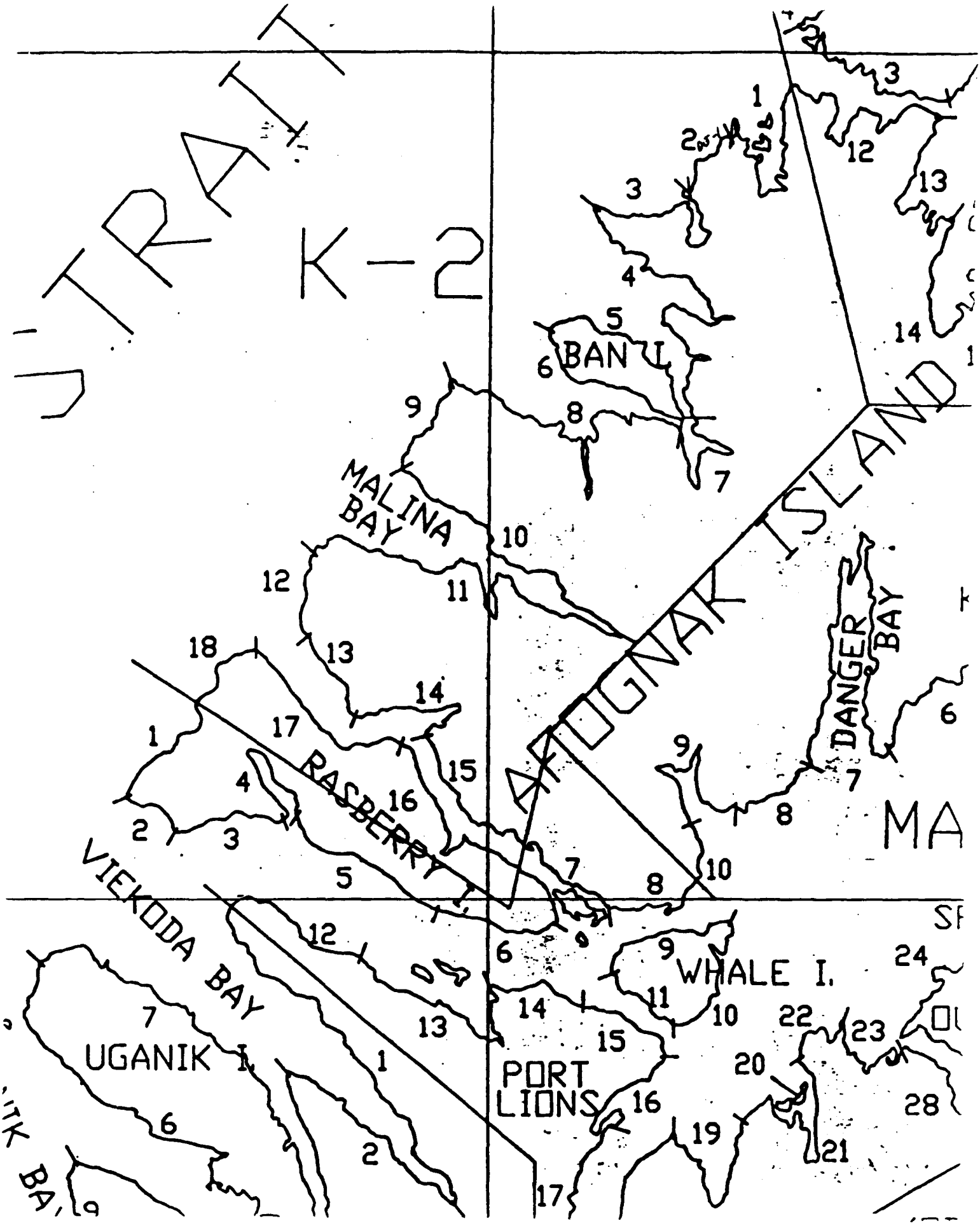
Submitted: _____ Date: _____
(for Exxon)

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 8701737


K-2
BAN I.
MALINA BAY
ATUGNAK ISLAND
DANGER BAY
RASBERRY
VIEKODA BAY
UGANIK I.
PORT LIONS
WHALE I.

ACE 8701738

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 8/16/89 SHORELINE SEGMENT K2-2-DE-1

LOCATION: (see enclosed map) East Devil's Bay

ADEC NO._____ SHORELINE ASSESSMENT DATE: 8/10/89

Recommended Cleanup Activity(ies):

-Cleanup recommended for location #3 only: Manual removal of surficial oiled gravel and sand in mid tidal area. No cleanup recommended in remainder of segment due to very light oiling, ecological constraints, and high natural cleaning potential. Subject to FOSC reassessment at a later date.

Priorities/ Considerations: Class 3-A

Ecological Constraints (from site survey):

-Use small cleanup crew or take other measures to minimize disturbance to sensitive resources such as eagle mating pairs, anadromous fish and healthy tidal pools. Restrict access to areas of segment not identified for cleanup.

Archeological Constraints (from site survey):

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

J. David McMahan Date: 8/21/89

State Historic Preservation Officer *

EXXON:_____ Date:_____

FOSC:_____ Date:_____

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

ACE 8701739

SHORELINE OIL EVALUATION

A. General

1. Date: 8/10/89 2. Time: 11:55 - 15:15 3. Observer: M. DEBUSSCHERE

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

6. Location EAST DEVILS BAY 7. Segment #: K2-2 DE 1

8. Length of shoreline segment: 7920 yds 9. Tidal Stage ± 2-4 ft.

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

11. Total Percentage of Segment Accessible: 85 %

12. Access Restrictions: ROCKY HEADLANDS & OFFSHORE ROCK OUTCROPS

B. Shoreline

13. Shoreline Type: SPI (BEA) (COV) (HLD) STRT (CLF) DAF

14. Slope: LANG (HANG) (VERT) (MEDIUM)

15. Wave Exposure: (High) (Med) Low

16. Sediment: B25% / C15% / P20% / G20% S5% / M0% / R5%

17. Drift Debris on Beach: (Yes)/No (Supra) (Upper) (Mid) Lower Type LOGS & ALGAE

C. Oil Summary

18. Degree of Oiling: Heavy (Moderate) Light (Very Light) (No Oil Observed)

19. Area of Beach Impact: Width of Band: 10 yds
Continuous: Total % of Segment .04
Sporadic: Total % of Segment .01
No Oil: Total % of Segment 99.95

20. Est. Oil Thickness where >1in: 0 in 21. Est. Oil Penetration: 1/6 in

22. Pooled Oil: 0 % "Free" Oil: 0 % Coated: H0% / M95% / L5%

23. Fresh 0 % Mousse 5 % Tar Formation: 95 %

24. Drift Debris Oiled? (Yes)/No Sup (Up) (Mid)/Low Amount: _____ H/M (L)

Comments:
ONLY SIGNIFICANT OILING IS AT LOCATION (2): PAVEMENT AND INCIPIENT PAVEMENT IN MID TIDAL ZONE. OILING PENETRATED INTO U/S SEDIMENTS - AREA IS PROTECTED AGAINST NATURAL WASHING BY OFFSHORE ROCK PLATFORM IN LOWER TIDAL ZONE.
OIL PRESENT IN REST OF SEGMENT IS SUBJECT TO POTENTIAL NATURAL WASHING

SEE PAGE 2 FOR SUPPLEMENTAL INFORMATION

SUPPLEMENTAL SHORELINE OIL EVALUATION

25. Oil Type

Fresh	0	%
Mousse	5	%
Weathered	90	%
Tar	5	%
	100	%

26. Total Oil Coverage

	Length (yd)	Width (yd)
Very Light:	10	10
Light:	270	1-2
Moderate:	140	10
Heavy:		

27. Oil Distribution

	SP	H	M	M	Thick >1in	Length (yd)	Width (yd)	Burial Depth
pooled/continuous								
coating/ splat	X	X	X		-	278	1-2	-
cracks / crevices		X	X		-	2	10	-
patties (>10cm diameter)								
balls (< 10cm diameter)								
asphalt pavement			X		>6	40	10	-

28. Preliminary Cleanup Est.

Total TYPE A: 40 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 ATTACHED

VTR: Y/(N) Tape Number (s) _____

Photography: Y/N Roll Number (s) SMB-21

FIELD NOTES, LOCATION MAP, DEGREE OF OILING

Additional Comments:

_____

_____

_____

_____

_____

_____

_____

_____

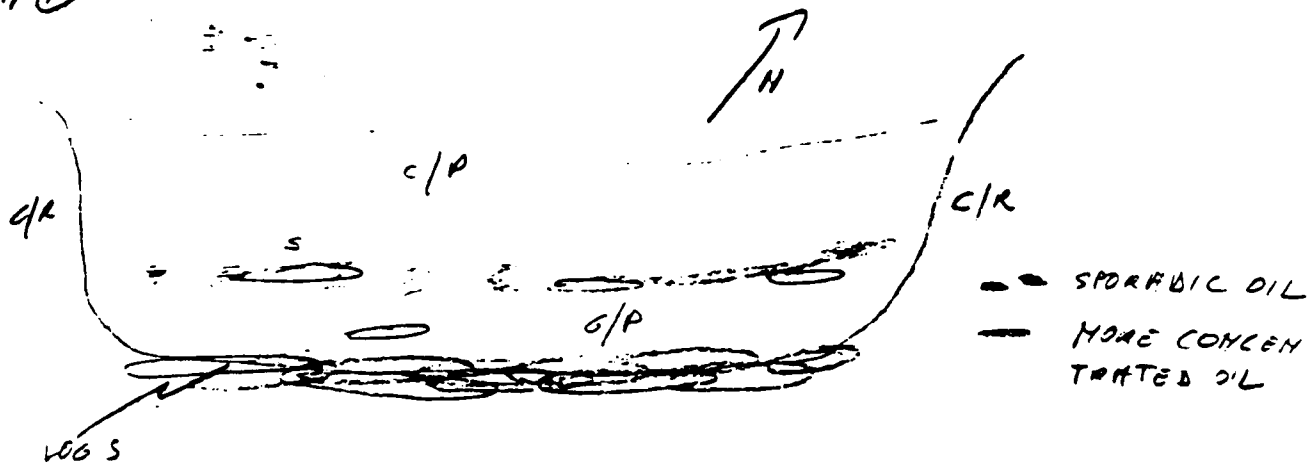
5/2/87 K2-2 SEGMENT DET K. DEBUSSCHERE (1)

- FLY [illegible] WITH SOME G-POINT BEACHES [illegible]
LOCATION (1) NFLD
S/S/P WITH W. BRANCH [illegible]
LOGS NOT MUCH, FLORE [illegible]
CLAM TRA SPLASH ON LOGS [illegible]
" " ON PATH
ASHFALT HOUSSE [illegible]
→ MOST [illegible] TO [illegible]
- FLY [illegible] SOME GRAVEL BEACHES
LOCATION (2)
- FLOOR
MET SEMS ES (1) (LOSS LOGS) → SHEA ENERGY
OIL: TRA SPLASH ON P & G MT M/H/SV
ASHFALT HOUSSE R MT M/H
AT N-END ON ROCK OUTCROPS FFCING SW
→ CONT OIL: TRA SPLASH & ASHFALT HOUSSE RT M
10Y = M
LOCATION (3)
S/P/S BEACH [illegible]
OIL IN MIXED: SEE SWITCH INF
SURFICIAL PENETRATION 7/15 CM
COATED OIL/MOUSSE [illegible] INCIPIENT PAVEMENT
ALSO TRA SPLASH MT M & ON UPPER BATH
→ OIL IS PROTECTED BY HIGHER R MOW TIDE →
REL LOW ENERGY & NOT HIGH POTENTIAL OF
NATURAL WASHING

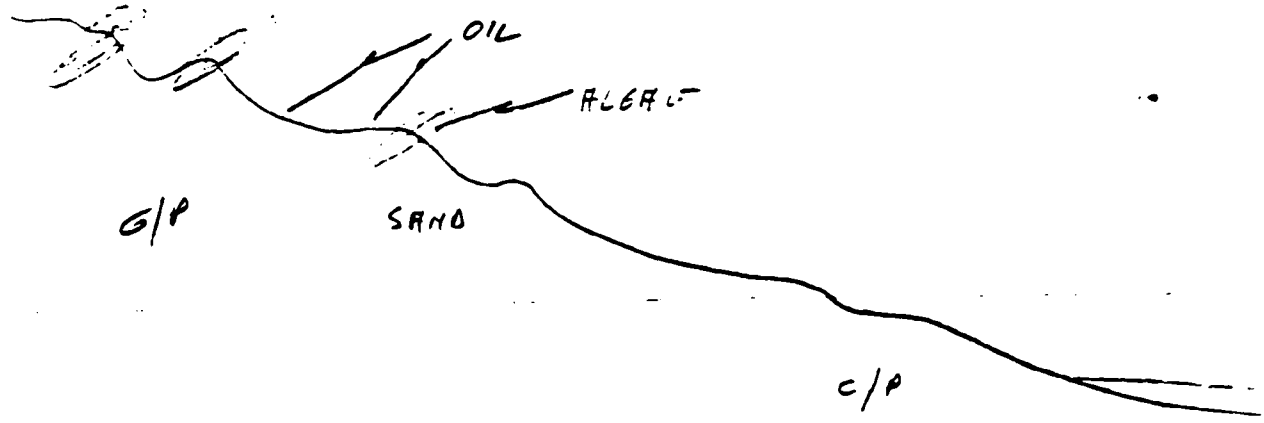
POOR QUALITY ORIGINAL

H2-2 SEGMENT DE 1 K. DeBUSSCHERE

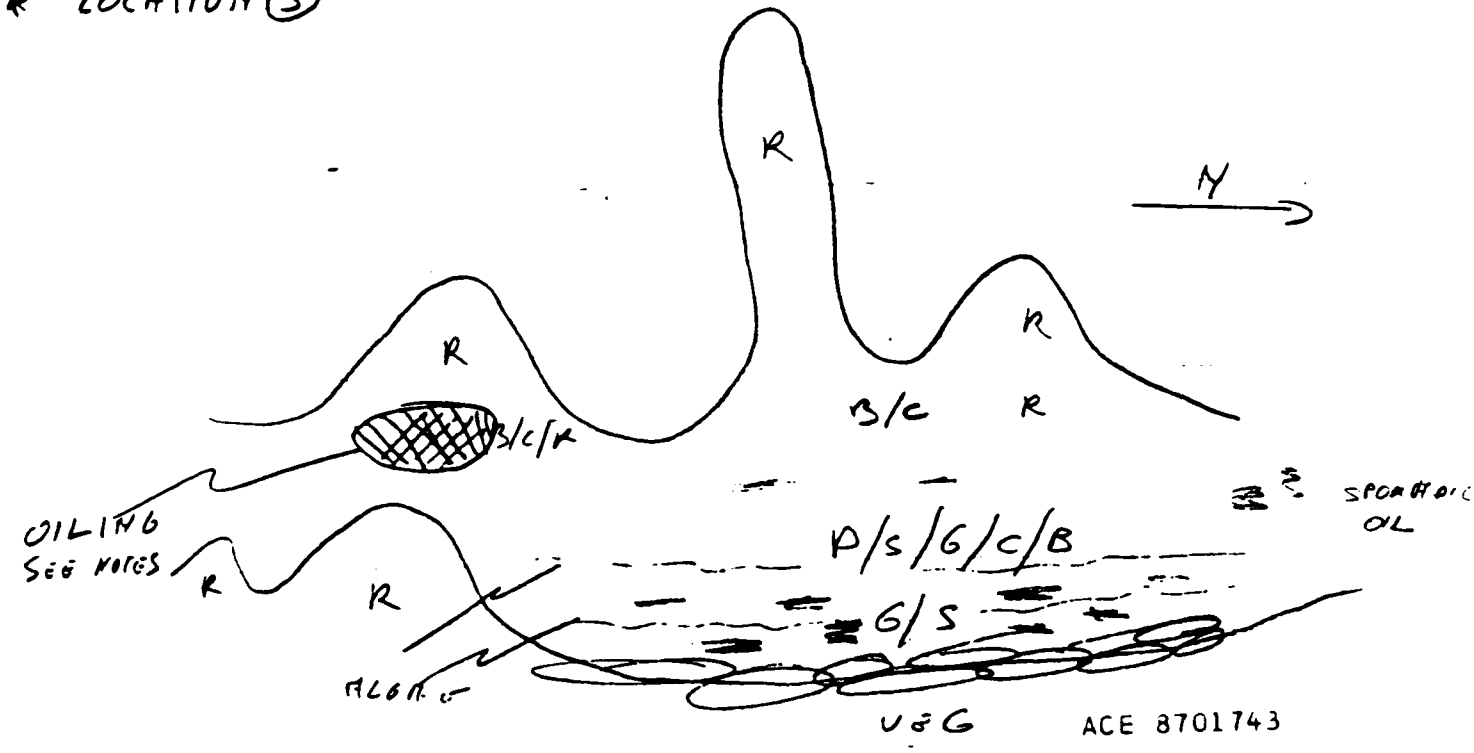
LOCATION ①



X-SECTION IN ①



LOCATION ③



ACE 8701743

5/10/89 , KL-2 SEGMENT DET 1 K. DEBUSSCHERE (2)

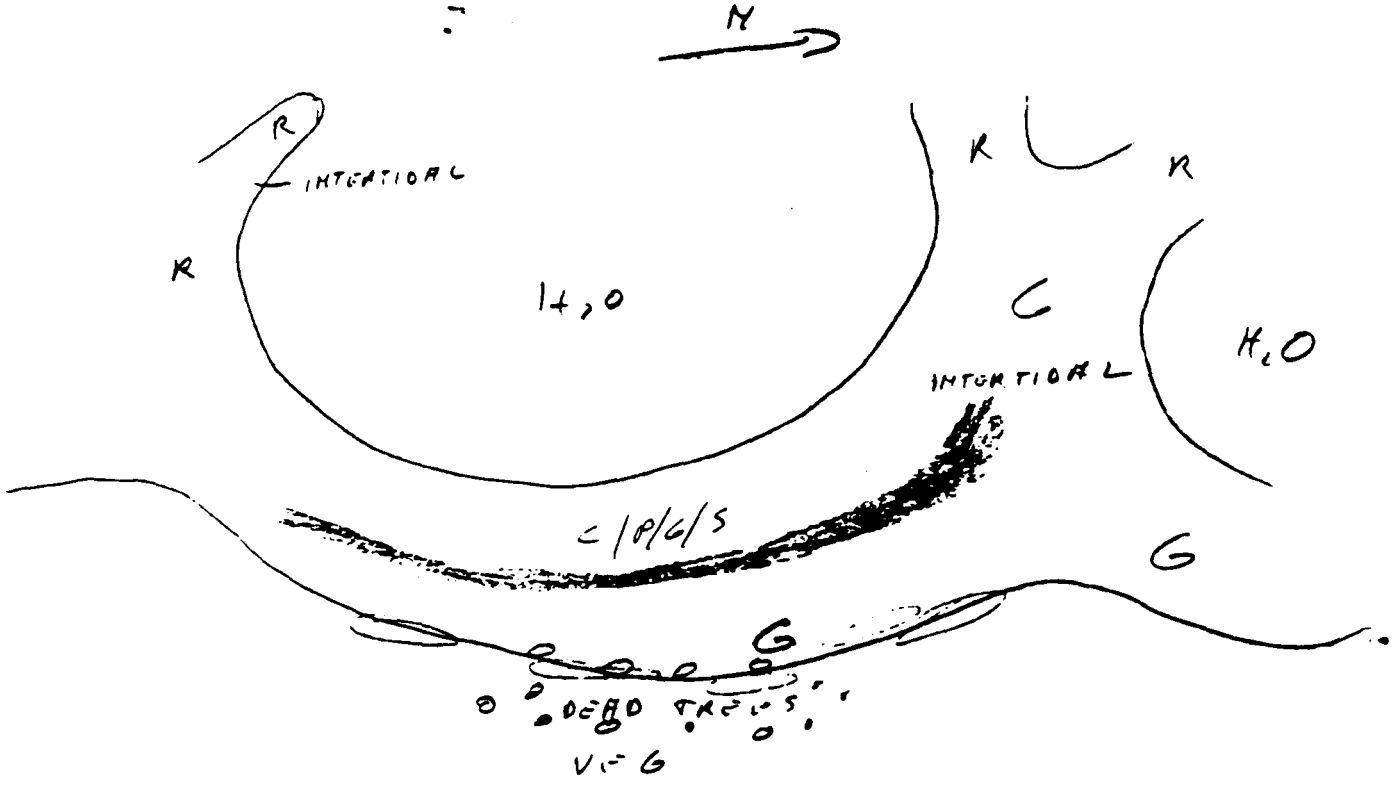
[illegible]

POOR QUALITY ORIGINAL

ACE 8701744

K2-2 SEGMENT DE 1 K. DEBUSSCHERE

R LOCATION (5)



BEST QUALITY ORIGINAL

3/10/89 [illegible] SEGMENT DE 1 K. DEBUSSCHERE (3)

EAGLE : FFZ MWR/ [illegible]

RESULTS

- CARIBOU MOSTLY N IN SUMMER & CENTRAL
- ALLIGATOR : ROCK FOOTHILLS EAGLE NEST
  NO OIL OBSERVED

15:15

OV MOST GENERAL - POTENTIAL OF SURFACE OIL

POOR QUALITY ORIGINAL

version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: Devils Bay SITE: Shore N. of Devils Bay OBSERVER: SMBAN

LOCATION PREFIX: K-2-2 SEG. NO.: DE-1 LENGTH: 7240 (M)

DATE: 8/10/89 TIME (HHMM): 1200 TIDE HT.: +2/3 to 1 1/3 (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 dense throughout segment, but absent on gravel/pebble beaches. One small patch (less than 1/4 m²) was oiled.

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

Generally dense to very dense - particularly on boulders at water level. No individuals oiled.

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

Very dense spat on some boulders and tidal pools. Some adults on rocky areas high in ITZ oiled. Total area of oiled Balanus was < 3 m²

Littorina

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

Sparse juveniles high in ITZ. Dense adults in tidal pool and pool areas. None of the Nucella on oiled balanus.

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

Dense in some tidal pools. Most Notoacmea persona few Collisella. None oiled.

OTHER OBSERVATIONS: Tidal pool fauna include: Anthopleura, Pagurus and sculpins. Amphipods, isopods and worms in drift algae (both oiled and unoiled) and in gravel/sand substrate (unoiled only).

CLEANUP PRECAUTIONS: Use small cleanup crew to minimize disturbance to eagle mating pairs in area and to other resources such as anadromous fish, and healthy tidepools in lower ITZ.

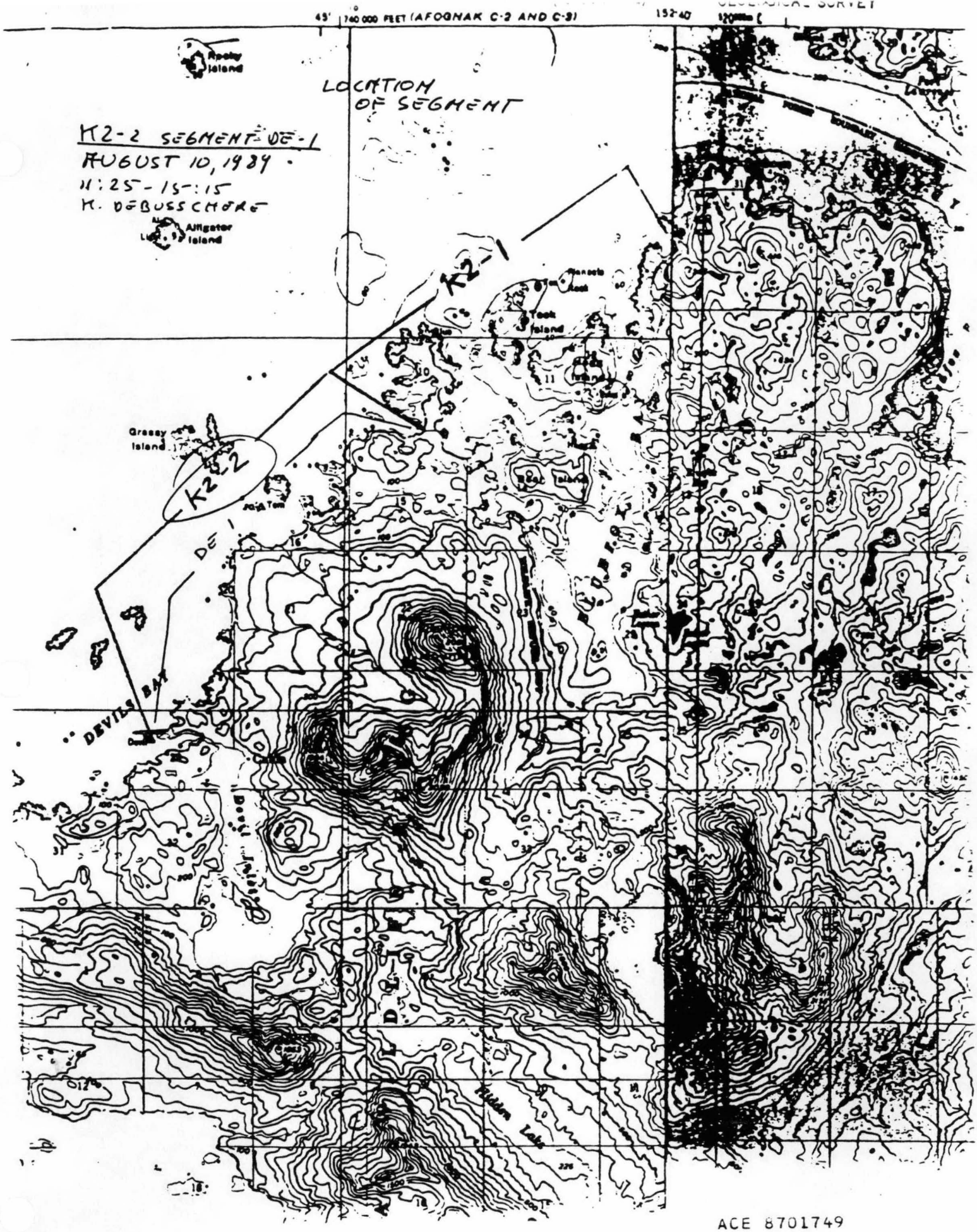
MAMMALS: Otters X Harbor Seals ___ Sea Lions ___ Whales ___

Other Deer Creek

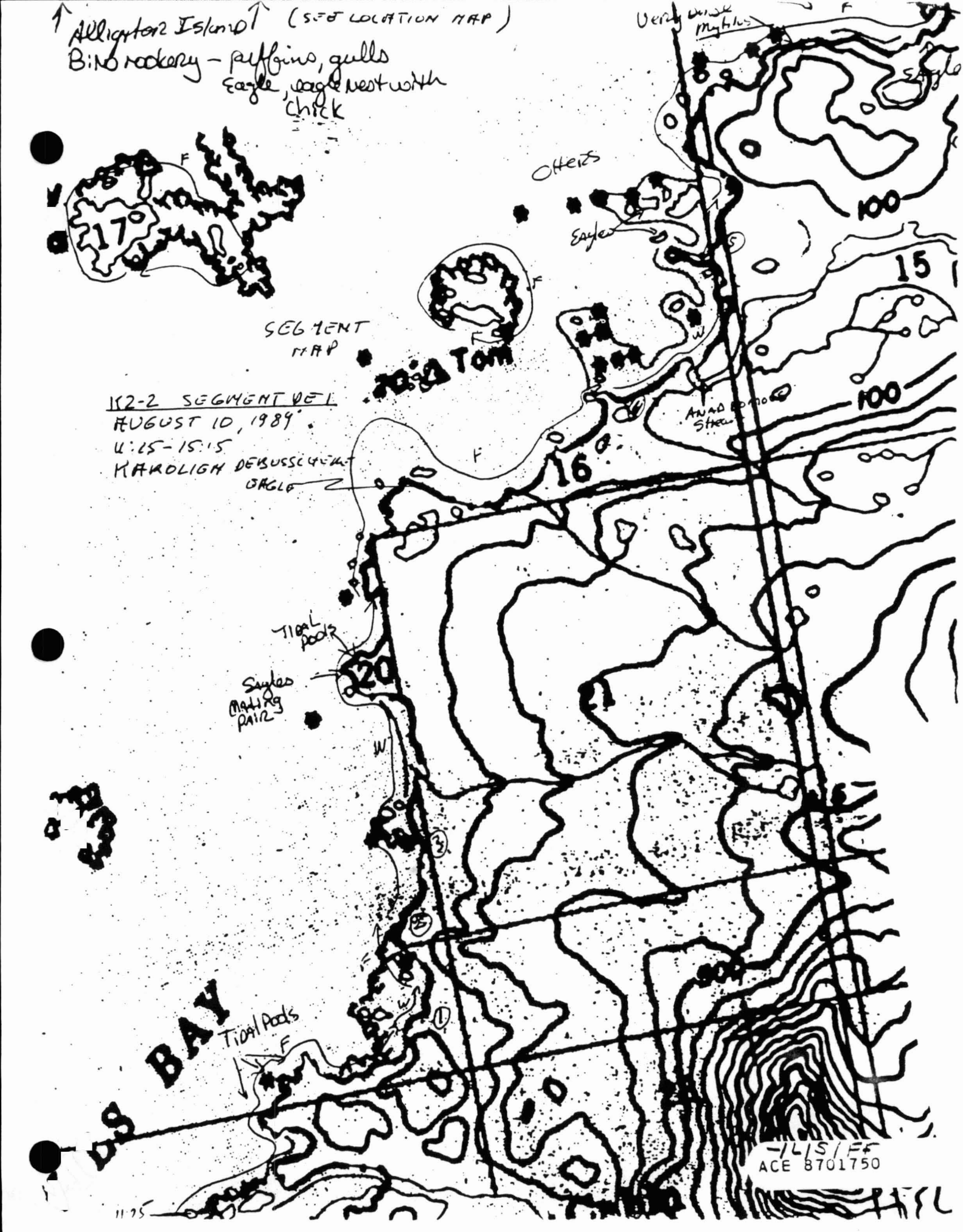
BIRDS: Crows, gulls - puffins, eagles - several mating pairs, one nest with chick

GENERAL OBSERVATIONS: Overall oiling of segment is light but locally moderate. Organisms impacted by the oil include Balanus and Fucus.

ACE 8701747


LOCATION OF SEGMENT
K2-2 SEGMENT: DE-1
AUGUST 10, 1989
11:25 - 15:15
K. DEBUSSCHERE
K2-1
K2-2
DE-1
DEVILS BAT
Ripley Island
Alligator Island
Grassy Island
Hidden Lake
740 000 FEET (AFOGNAK C-2 AND C-3)

ACE 8701749


↑ Alligator Island ↑ (SEE LOCATION MAP)
Bird rookery – puffins, gulls
Eagle, eagle nest with
chick
17
SEGMENT
MAP
TOM
K2-2 SEGMENT DET
AUGUST 10, 1989
4:25-15:15
KAROLIGH DEBUSSCHERE
EAGLE
Otters
Eagles
15
100
16
20
Tidal Pools
Sea Otters
Mating
Pair
BAY
Tidal Pools
ACE 8701750

K2-53

ACE 8643499

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 8/07/89 SHORELINE SEGMENT K2-3-DS-1

LOCATION: (see enclosed map) Devil's Bay, NW Afognak

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 8/07/89

Recommended Cleanup Activity(ies):
-No cleanup recommended due to the very light oiling conditions and ecological constraints. Subject to FOSC reassessment at a later date.

Priorities/Considerations:

Ecological Constraints (from site survey):
-Oiling conditions are very light and cleanup is not recommended for reasons given below:
-Cleanup should not take place due to the abundance of bird rookeries along this segment, as well as eagle nests.
-Harbor seals and sea otters are reportedly abundant in the area (only one sea otter was seen during survey).

Archaeological Constraints (from site survey):
-If cleanup is conducted inspection by an archaeological monitor is required during cleanup in western third of segment.

Douglas Reger
State Historic Preservation Officer * Date: 8/13/89

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

ACE 8701751

SHORELINE OIL EVALUATION

A. General

1. Date: 7 Aug 1989 2. Time: 1345 - 1700 3. Observer: Duncan M FitzGerald

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

6. Location Devils Bay 7. Segment #: DS-1

8. Length of shoreline segment: 8000 yds 9. Tidal Stage ± 2-5 ft. above mlw

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

11. Total Percentage of Segment Accessible: 50 %

12. Access Restrictions: difficult at rock headlands

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: B10% / C30% / P15% / G15% S10% / M__% / R20%

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 2%
Sporadic: Total % of Segment 5%
No Oil: Total % of Segment 93%

20. Est. Oil Thickness where >1in: - in 21. Est. Oil Penetration: 4-6 in

22. Pooled Oil: ____% "Free" Oil: ____% Coated: H___% / M___% / L100 %

23. Fresh _____% Mousse _____% Tar Formation: 100 %

24. Drift Debris Oiled? (Yes)/No (Sup)/Up/Mid/Low Amount: _____H/M/(L)

Comments:
This shoreline is clean of oil except at several of the pocket beaches where there is very light oiling consisting of tarred seaweed, tar pattier and some tar balls. There is one pocket beach at the eastern end of this segment (see maps) where cobbles have buried a tarred driftline. At this site oiled cobbles and seaweed extend to a depth of 6-8 inches and 50 yds along the beach.

SEE PAGE 2 FOR SUPPLEMENTAL INFORMATION

SUPPLEMENTAL SHORELINE OIL EVALUATION

25. Oil Type

Fresh	_____	%
Mousse	_____	%
Weathered	_____	%
Tar	100	%
	100	%

26. Total Oil Coverage

	Length (yd)	Width (yd)
Very Light:	500	1yd
Light:	50	1-2yd
Moderate:		
Heavy:		

27. Oil Distribution

	SP	H	M	M	Thick >1in	Length (yd)	Width (yd)	Burial Depth
pooled/continuous								
coating/ splat	✓	✓				500		
cracks / crevices	✓					50		3ft
patties (>10cm diameter)								
balls (< 10cm diameter)								
asphalt pavement								

28. Preliminary Cleanup Est.

Total TYPE A: _____ yds.
Total TYPE B: _____ yds.
Total TYPE A/B: _____ yds.

NO cleanup recommended due to the very light oiling conditions and the ecological constraints

29. Remobilization Potential: High/Medium/(Low)

DOCUMENTATION:

(Map)/Aerial photo marking segment boundaries See attached

VTR: Y/N Tape Number (s) KQS-10

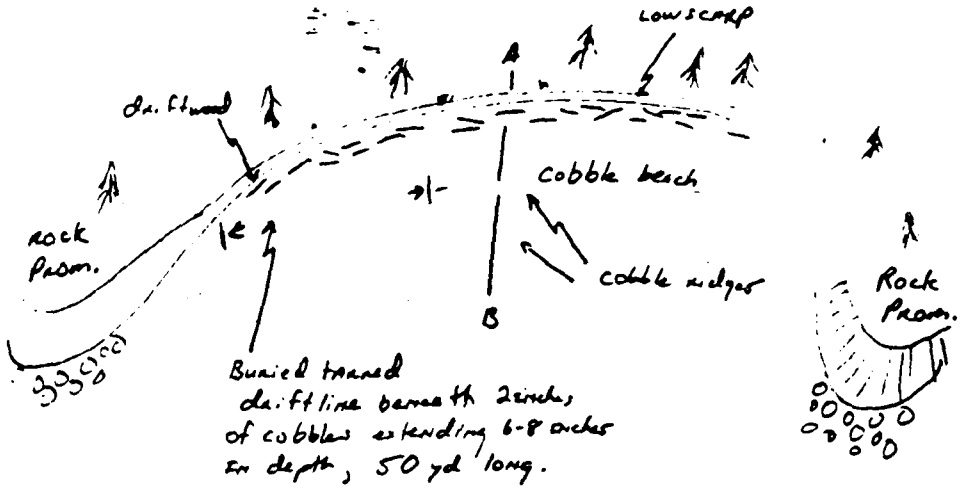
Photography: (Y)/N Roll Number (s) DMC-28

Additional Comments:

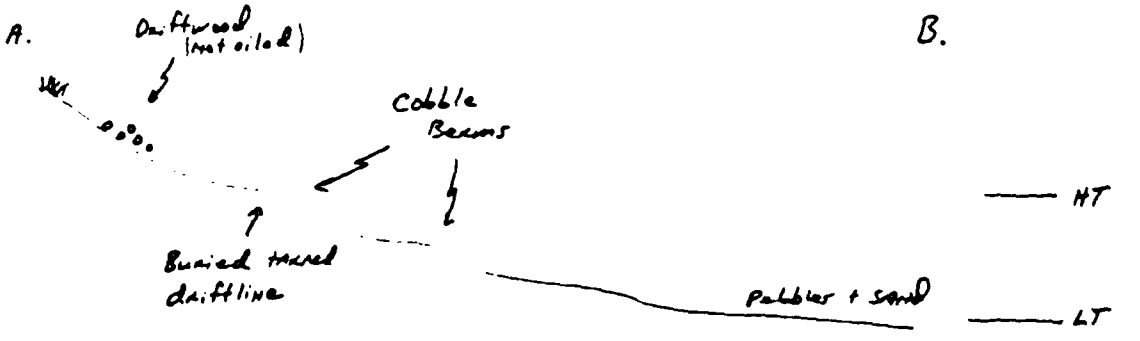
ACE 8701753

Map #1

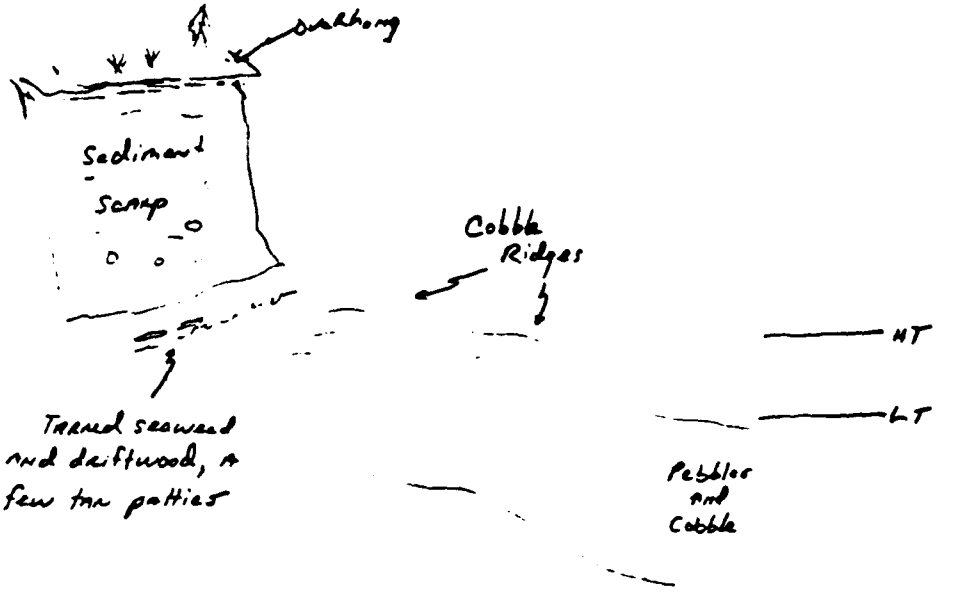
Pocket Beach



Cross Section



Map #6



ACE 8701754

Version. . . .

ECOLOGICAL EVALUATION

LOCATION: Black Cape to Devil's Bay NW side Afognak SITE: _____ OBSERVER: D. McCORMICK

LOCATION PREFIX: K2-3-AS- SEG. NO.: 1 LENGTH: 8000 (ft)

DATE: 8/7/89 TIME (HHMM): 1515 TIDE HT.: +8.0 Ft. (ft)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble ~~Gravel~~ Granule 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

None observed.

OTHER OBSERVATIONS: Enteromorpha, jellyfish (Cyanea or Aurelia). Pink salmon stream in Devil Inlet. Several bird rookeries in area, harbor seal + sea otter haulout areas along coast.

CLEANUP PRECAUTIONS: Cleanup should not take place based upon light oiling conditions and ecological sensitivity (rookeries, eagle nests).

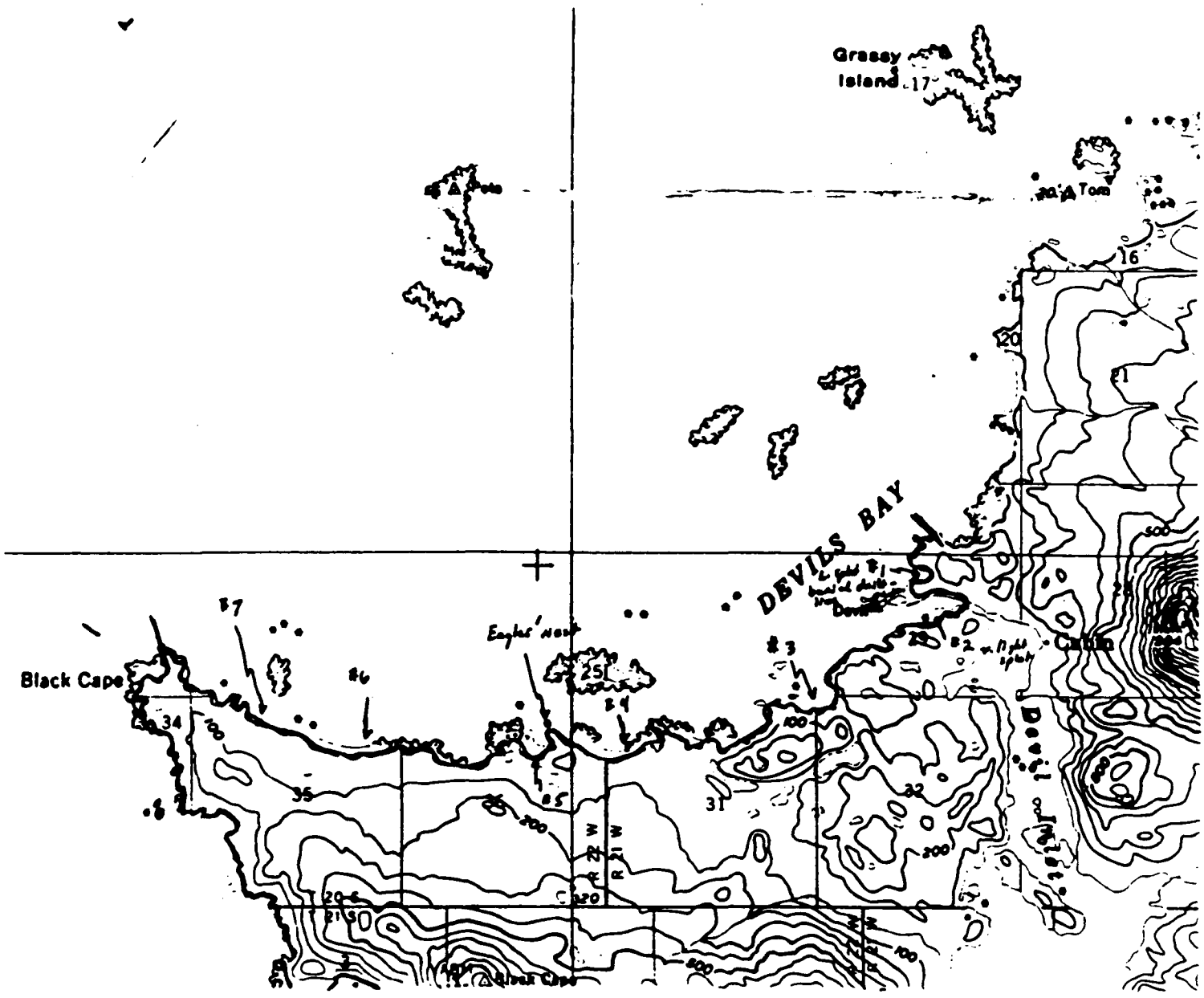
MAMMALS: Otters 1 Harbor Seals ___ Sea Lions ___ Whales ___

Other _____

BIRDS: eagle nest (2 eagles observed) see map for location; pintail ducks, puffins

GENERAL OBSERVATIONS: Seven (7) stops were made along this segment to look for oil. Stop #1 was the only beach with more than very light splatter. Oil on beach #1 was light in the upper zone mostly buried under cobbles/pebbles. Oil conditions are so light in this segment, cleanup is not warranted.

K-2-3-DS-1



Pocket Beaches:

1. Buried drift line (see map)
2. Oiled drift material at northern end of beach
3. No oil
4. No oil
5. 4-5 tar patties along storm cobble ridge
6. Tar patties and oiled seaweed (see map)
7. Some tar patties at northern end of beach

ACE 8701757

KODIAK SCAT
K2-4

DEC 29 1989

ACE 8643500

(version July 23, 1989)

SHORELINE PRE CLEANUP REASSESSMENT

DATE 7/19/89 SHORELINE SEGMENT K2-4-FB1R REASSESSMENT DATE 7/19

Observers: OG G.MacDonald BIO M.Fawcett ARCH R.Reanier

Reason for Reassessment

Revised Recommended Cleanup Activity(ies):

None

Revised Ecological Constraints:

None

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. David McMahan Date: 7/26/89
State Historic Preservation Officer *

EXXON: Date:

FOSC: Date:

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

ACE 8701758

(version 4/29/89)

SHORELINE CLEANUP PROGRAM

DATE 5/24/89 SHORELINE SEGMENT FB-1

LOCATION: (see enclosed map) Black Cape - North of Foul Bay

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/18/89

Recommended Cleanup Activity(ies):

No cleanup recommended due to poor access, light oil and high wave exposures.

Priorities Considerations:

None.

Ecological Constraints (from site survey):

No ecological constraints since cleanup is not recommended. If cleanup is recommended in the future, ecological constraints must be re-evaluated.

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.

Douglas R. Reger
State Historic Preservation Officer *

Date: 5/29/89

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

ACE 5701759

SHORELINE OIL EVALUATION

Date: 18 MAY89/ Time: 0838 Hrs Observer: BRYAN TRIMM

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

LOCATION

LOCATION BLACK CAPE AFOGNAK IS. SEGMENT NUMBER FB-1

LENGTH OF SHORELINE SEGMENT: 3500 m

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

SHORELINE:

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

Wave Exposure: (High)/Med/Low

Sediment: B— % / C— % / P— % / G 20 % / S— % / M— % /R 80 %

Drift Debris on Beach: (Yes)/No ~~Supra~~/(Upper ONLY)/Mid/Lower Type SEAWEED (FUCUS)

OIL

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

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

Continuous: Y/(N) % of Segment _____ Width of Band: _____ m

Sporadic: (Y)/N % of Segment 20

Est. Oil Thickness where > 1cm: 2 cm Est. Oil Penetration: 0 cm

Pooled Oil: 30 % "Free" Oil: ~~30~~ 0 % Coated: H___ % /M___ % /L 70 %

Fresh 0 % Mousse 100 % Tar Formation: 0 %

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

Comments:

BLACK CAPE IS A HEADLAND WITH @ 1 TO 2CM THICK WHIPPED OR VERY THIN CHOCOLATE (FRESH) MOUSSE FOUND IN HIGH INTERTIDAL ZONE. ALSO, SMALL RAVINES WITHIN HEADLANDS HAVE THE MOUSSE. NEXT HIGH TIDE, THIS MOUSSE SHOULD BE GONE OR ATLEAST REWORKED. POCKET GRAVEL BEACH HAS LIGHTLY COVERED MOUSSE ON SEAWEED DEBRIS IN THE HIGH INTERTIDAL ZONE. RECOMMEND — NO ACTION ① MOUSSE VERY MOBILE (TIDE BY TIDE MOVEMENT) & ② HARD IF NOT IMPOSSIBLE FOR CLEAN UP CREWS TO REACH.

DOCUMENTATION:

Map/Aerial photo marking segment boundaries Attached

VTR: Y/N Tape Number(s) None

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

Sample Numbers Collected: None

version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: Foul Bay SITE: Black Cape/Foul Bay OBSERVER: SMB

LOCATION PREFIX: FB SEG. NO.: FB-1 LENGTH: ~~750~~ 3500 (M)

DATE: 5/18/89 TIME (HHMM): 0830 TIDE HT.: +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

Some small patches of Fucus are oiled - most is healthy

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

Several patches are coated 2-3% are gaping

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

Not impacted

ittorina
Patchy Y/N Contin. Y/N Dense Y/N Sparse Y/N None (Y)N

None seen

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

None seen

OTHER OBSERVATIONS: None

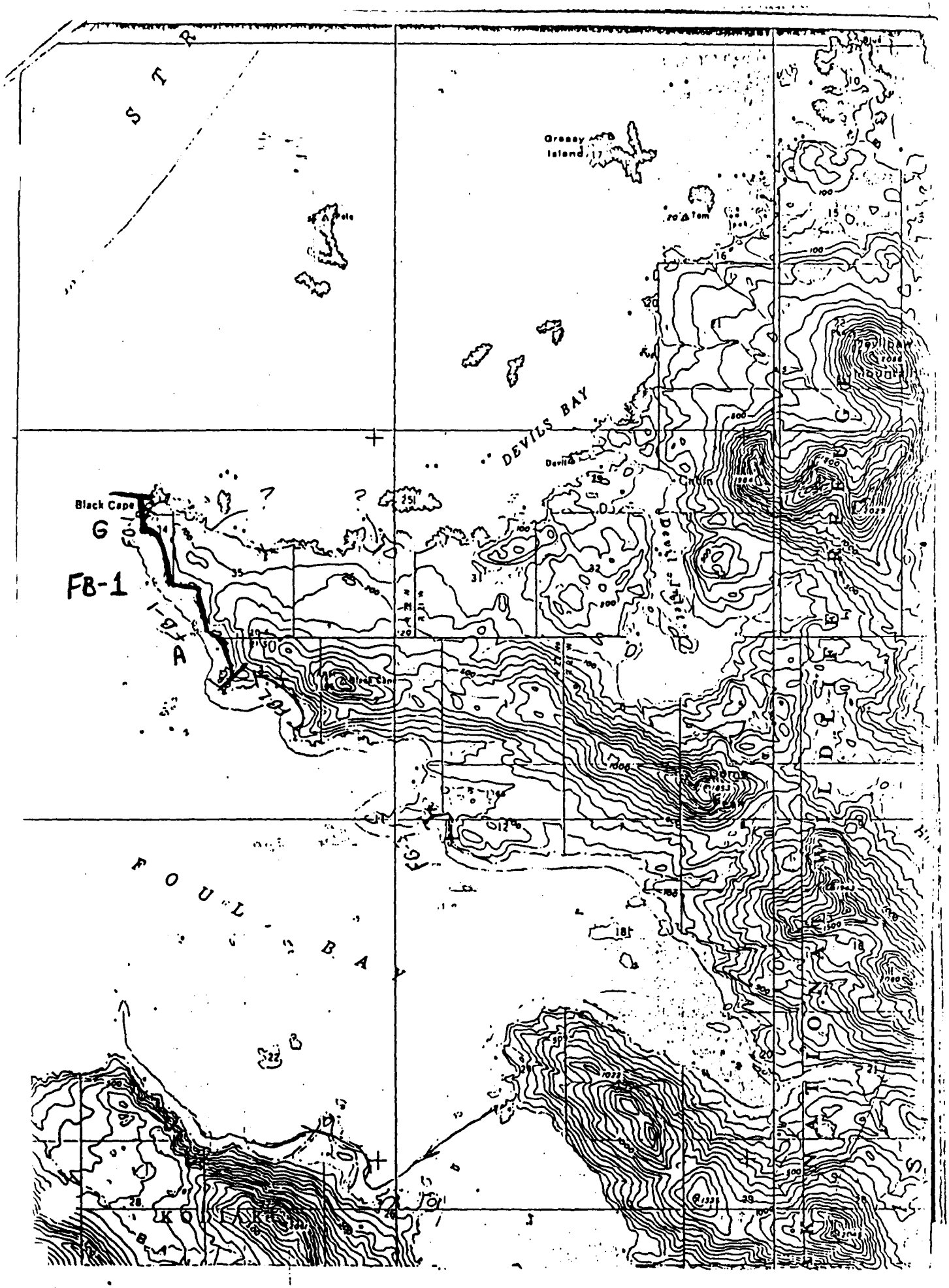
CLEANUP PRECAUTIONS: None - No cleanup suggested

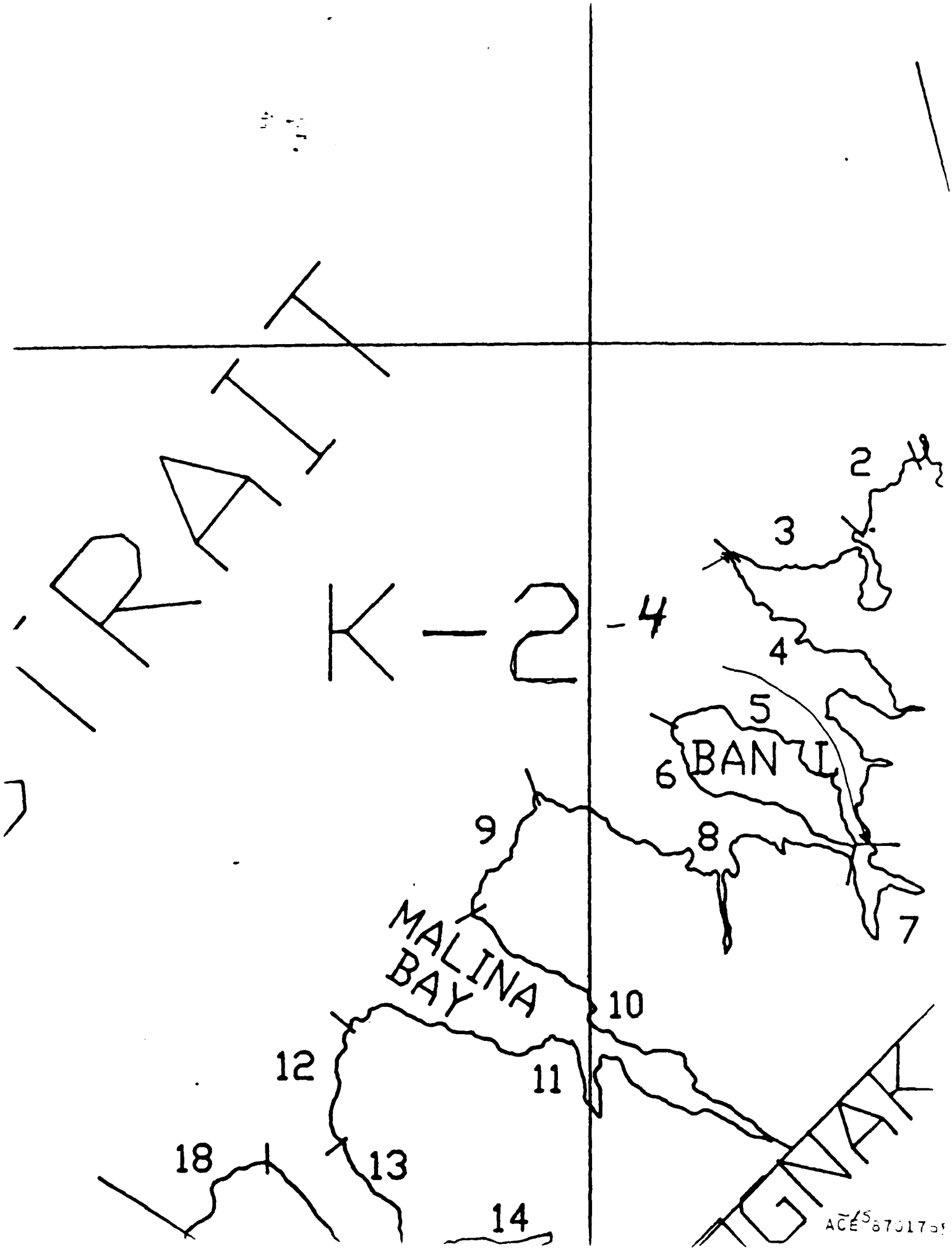
MAMMALS: Otters ~~1~~ Harbor Seals ___ Sea Lions ___ Whales ___
Other ~~Bear~~ Bear seen on beach - ran as helo landed

BIRDS: None

GENERAL OBSERVATIONS: Some oiling on this beach but accessibility is a problem. No cleanup recommended.

ACE 8701702


Grassy Island
DEVILS BAY
Black Cape
FB-1
FOUL BAY
ACE 8701764


IRAIT
K-2-4
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ACE 87017

(version 6/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Block (see enclosed map): K2-4

Includes Shoreline Segments: FB-1, FB-2, FB-3, FB-4, FB-5, FB-6, FB-7, FB-8, FB-9, FB-10, FB-11, FB-12, FB-13, FB-14

Location: Foul 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 7/19/89 SHORELINE SEGMENT K2-4-FB2R REASSESSMENT DATE 7/19

Observers: OG G.MacDonald BIO M.Fawcett ARCH R.Reanier

Reason for Reassessment _____

Revised Recommended Cleanup Activity(ies):

None

Revised Ecological Constraints:

None

Revised Archaeological Constraints:
Restrict access to terrace at southeast end of 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. David McMahan Date: 7/26/89
State Historic Preservation Officer *

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

+/S
ACE 8701767

(version 4/29/89)

SHORELINE CLEANUP PROGRAM

DATE 5/24/89 SHORELINE SEGMENT FB-2

LOCATION: (see enclosed map) South east of Black Cape by 3.5km (2 mi.) West boundary of FB-2 meets East boundary of FB-1.

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/18/89

Recommended Cleanup Activity(ies):

Manually remove oil coated seaweed drift at top of high-tide line. Also remove tar balls.

Priorities Considerations:

See above.

Ecological Constraints (from site survey):

Avoid areas of healthy fucus on rocks at each end of beach.

Archeological Constraints (from site survey):
Restrict access to terrace at southeast end of 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.

Douglas R. Reger
State Historic Preservation Officer *

Date: 5/29/89

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

SHORELINE OIL EVALUATION

Date: 18 MAY 1989 Time: 0930 HRS Observer: BRYAN TRIMM

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

LOCATION

LOCATION S.E. OF BLACK CAPE BY 3.5km 2 MILES SEGMENT NUMBER FB-2

LENGTH OF SHORELINE SEGMENT: 1750 m

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

SHORELINE:

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

Wave Exposure: (High/Med)/Low

Sediment: B___% / C___% / P___% / G___% / S___% / M___% /R 35 %

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

OIL

Degree of Oiling: Heavy/Moderate/(VERY Light)/No Oil/Unobserved

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

Continuous: (Y)/N % of Segment 1 Width of Band: 1 m

Sporadic: Y/(N) % of Segment ____

Est. Oil Thickness where > 1cm: — cm Est. Oil Penetration: — cm

Pooled Oil: — % "Free" Oil: 1 % Coated: H___% /M___% /L 99 %

Fresh ____ % Mousse 99 % Tar Formation: 1 %

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

Comments:

TAR BALLS FOUND IN SPLASH ZONE BELOW BERM & ABOVE HIGH INTERTIDAL ZONE. CHOCOLATE (FRESH) MOUSSE THINLY/LIGHLY COATS A 1M WIDE BAND OF SEAWEED DRIFT AT THE TOP OF THE HIGH INTERTIDAL ZONE. VERY SMALL SPLATTERING OF CHOCOLATE MOUSSE ON ROCKY HEADLAND. RECOMMEND REMOVAL OF SEAWEED DRIFT THAT IS OILED.

DOCUMENTATION:

Map/Aerial photo marking segment boundaries Attached

VTR: Y/N Tape Number(s) None

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

Sample Numbers Collected: None

ECOLOGICAL EVALUATION

LOCATION: Fowl Bay SITE: Fowl Bay SE of cape OBSERVER: SMBarr

LOCATION PREFIX: FB SEG. NO.: FB-2 LENGTH: 1750 (M)

DATE: 5/18/89 TIME (HHMM): 0930 TIDE HT.: +1½ (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 - Healthy. Dead Fucus washed ashore oiled

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

Dense on rocks healthy unoiled

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

Dense on rocks, unoiled, healthy

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

None

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

None

OTHER OBSERVATIONS: TAR Formations in strand line, NO oil on rocks. Most oil is mixed with debris at strand line

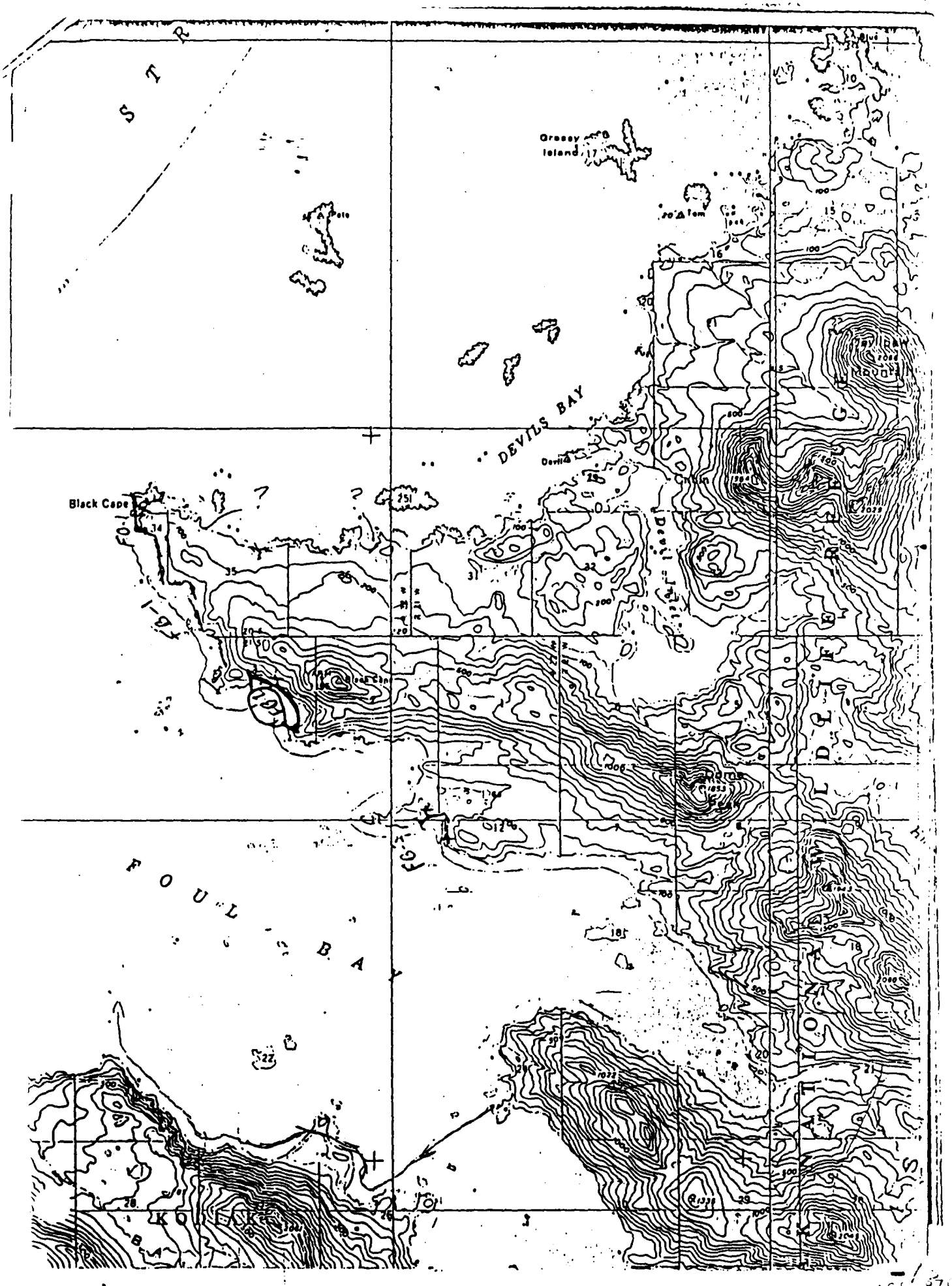
CLEANUP PRECAUTIONS: Avoid areas of healthy vegetation at either end of segment.

MAMMALS: Otters ___ Harbor Seals ___ Sea Lions ___ Whales ___
Other Deer tracks

BIRDS: Eagles (2) Gulls (3) spotted during survey; Two dead birds

GENERAL OBSERVATIONS: ___

ACE 8701771



ACE 8701773

(version 5/24/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Location (see enclosed map): FOUL BAY NORTH BLOCK

Includes Shoreline Segments: FB-1, FB-2, FB-3

Submitted : _____ Date: _____
(for Exxon)

ISCC Approval: _____ Date: _____

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

+/s
ACE 8701774

(version 4/29/89)

SHORELINE CLEANUP PROGRAM

DATE 5/24/89 SHORELINE SEGMENT FB-1

LOCATION: (see enclosed map) Black Cape - North of Foul Bay

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/18/89

Recommended Cleanup Activity(ies):

No cleanup recommended due to poor access, light oil and high wave exposures.

Priorities Considerations:

None.

Ecological Constraints (from site survey):

No ecological constraints since cleanup is not recommended. If cleanup is recommended in the future, ecological constraints must be re-evaluated.

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.

Douglas R. Reger
State Historic Preservation Officer *

Date: 5/29/89

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

ACE 8701775

SHORELINE OIL EVALUATION

Date: 18 May89/ Time: 0838 Hrs Observer: Bryan Trimm

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

LOCATION

LOCATION Black Cape Afognak Is. SEGMENT NUMBER FB-1

LENGTH OF SHORELINE SEGMENT: 3500 m

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

SHORELINE:

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

Wave Exposure: (High)/Med/Low

Sediment: B~ % / C - % / P - % / G 20 % / S — % / M — % /R 80 %

Drift Debris on Beach: (Yes)/No ~~Supra~~/(Upper only)/Mid/Lower Type Seaweed (Kelps)

OIL

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

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

Continuous: Y/(N) % of Segment _____ Width of Band: _____ m

Sporadic: (Y)N % of Segment: 20

Est. Oil Thickness where > 1cm: 2 cm Est. Oil Penetration: 0 cm

Pooled Oil: 30 % "Free" Oil: ~~30~~ 0 % Coated: H ___ % /M ___ % /L 70 %

Fresh 0 % Mousse 100 % Tar Formation: 0 %

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

Comments:

Black Cape is a headland with @ 1 to 2cm thick ~~chocolate~~ whipped or very thin chocolate (fresh) mousse found in high intertidal zone. Also, small ravines within headlands have the mousse. Next high tide, this mouse should be gone or at least reworked. Pocket gravel beach has lightly covered mousse on seaweed debris in the high intertidal zone. Recommend — no action @ Mousse very mobile (tide by tide movement ± ②) hard if not impossible for clean up crews to reach.

DOCUMENTATION:

Map/Aerial photo marking segment boundaries Attached

VTR: Y/N Tape Number(s) None

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

Sample Numbers Collected: None

version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: Foul Bay SITE: Black Cape / Foul Bay OBSERVER: SMB

LOCATION PREFIX: FB SEG. NO.: FB-1 LENGTH: ~~750~~ 3500 (M)

DATE: 5/18/89 TIME (HHMM): 0830 TIDE HT.: +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

Some small patches of Fucus are oiled - most is healthy

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

Several patches are coated 2-3% are gaping

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

Not impacted

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

None seen

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

None seen

OTHER OBSERVATIONS: None

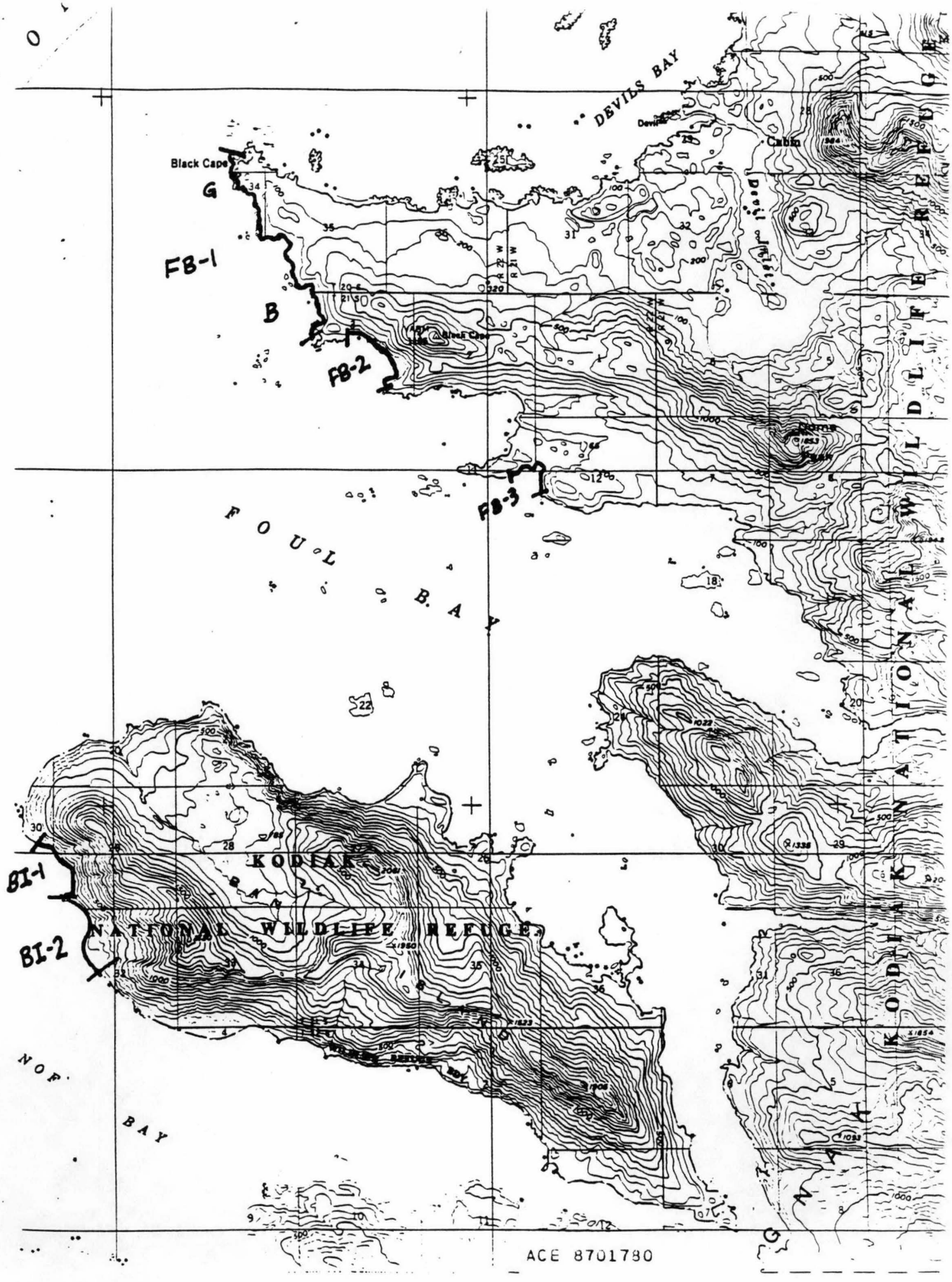
CLEANUP PRECAUTIONS: None - no cleanup suggested

MAMMALS: Otters ~~1~~ Harbor Seals ___ Sea Lions ___ Whales ___
Other ~~None~~ Deer seen on beach - town as helo landed

BIRDS: None

GENERAL OBSERVATIONS: Some oiling on this beach but accessibility is a problem. No cleanup recommended.

ACE 8701778


DEVILS BAY
Black Cape
Cabin
FB-1
FB-2
FB-3
POUL BAY
KODIAK
NATIONAL WILDLIFE REFUGE
BI-1
BI-2
ACE 8701780

(version 4/29/89)

SHORELINE CLEANUP PROGRAM

DATE 5/24/89 SHORELINE SEGMENT FB-2

LOCATION: (see enclosed map) South east of Black Cape by 3.5km (2 mi.) West boundary of FB-2 meets East boundary of FB-1.

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/18/89

Recommended Cleanup Activity(ies):

Manually remove oil coated seaweed drift at top of high-tide line. Also remove tar balls.

Priorities Considerations:

See above.

Ecological Constraints (from site survey):

Avoid areas of healthy fucus on rocks at each end of beach.

Archeological Constraints (from site survey):
Restrict access to terrace at southeast end of 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.

Douglas R. Reger
State Historic Preservation Officer * Date: 5/29/89

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

ACE 8701781

SHORELINE OIL EVALUATION

Date: 18 MAY 1989 Time: 0930 HRS Observer: BRYAN TRIMM

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

LOCATION

LOCATION S.E. OF BLACK CAPE BY 3.5km 2 MILES SEGMENT NUMBER FB-2

LENGTH OF SHORELINE SEGMENT: 1750 m

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

SHORELINE:

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

Wave Exposure: (High)/(Med)/Low

Sediment: B___% / C___% / P___% / G___% / S___% / M___% /R 35 %

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

OIL

Degree of Oiling: Heavy/Moderate/(VERY LIGHT)/No Oil/Unobserved

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

Continuous: (Y)/N % of Segment 1 Width of Band: 1 m

Sporadic: Y/(N) % of Segment: _____

Est. Oil Thickness where > 1cm: — cm Est. Oil Penetration: — cm

Pooled Oil: — % "Free" Oil: 1 % Coated: H___% /M___% /L 99 %

Fresh _____% Mousse 99 % Tar Formation: 1 %

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

Comments:

TAR BALLS FOUND IN SPLASH ZONE BELOW BERM & ABOVE HIGH INTERTIDAL ZONE. CHOCOLATE (FRESH) MOUSSE THINLY/LIGHTLY COATS A 1M WIDE BAND OF SEAWEED DRIFT AT THE TOP OF THE HIGH INTERTIDAL ZONE. VERY SMALL SPLATTERING OF CHOCOLATE MOUSSE ON ROCKY HEADLAND. RECOMMEND REMOVAL OF SEAWEED DRIFT THAT IS OILED.

ACE 8701782

DOCUMENTATION:

Map/Aerial photo marking segment boundaries Attached

VTR: Y/N Tape Number(s) None

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

Sample Numbers Collected: None

ECOLOGICAL EVALUATION

LOCATION: Fowl Bay SITE: Fowl Bay SE of Cape OBSERVER: SMBan

LOCATION PREFIX: FB SEG. NO.: FB-2 LENGTH: 1750 (M)

DATE: 5/19/89 TIME (HHMM): 0930 TIDE HT.: +1½ (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 - Healthy, Dead Fucus washed ashore oiled

Mytilus (Mussels): Patchy (Y)/N Contin. Y/N Dense (Y)/N Sparse Y/N None Y/N
Dense on rocks healthy unoiled

Balanus (Barnacles): Patchy (Y)/N Contin. Y/N Dense (Y)/N Sparse Y/N None Y/N
Dense on rocks, unoiled, healthy

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

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

OTHER OBSERVATIONS: TAR Formations in strand line, NO oil on rocks. Most oil is mixed with debris at strand line

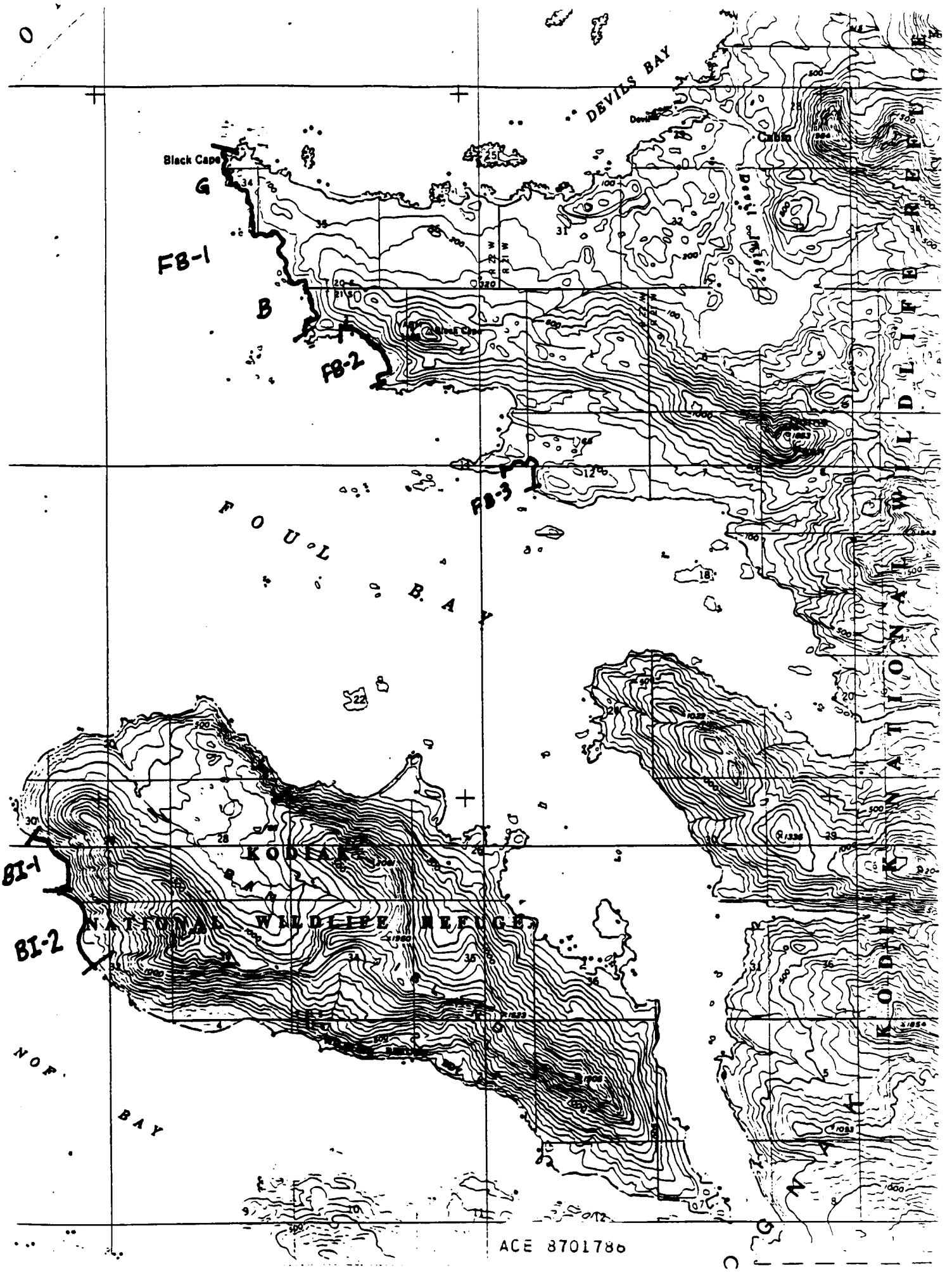
CLEANUP PRECAUTIONS: Avoid areas of healthy vegetation at either end of segment.

MAMMALS: Otters ___ Harbor Seals ___ Sea Lions ___ Whales ___
Other Deer tracks

BIRDS: Eagles (2) Gulls (3) spotted during survey; Two dead birds

GENERAL OBSERVATIONS: ___

ACE 8701784


DEVILS BAY
Black Cape
G
FB-1
B
FB-2
FB-3
FOUL BAY
KODIAK
NATIONAL WILDLIFE REFUGE
BI-1
BI-2
NOR
BAY
ACE 8701786

(version 4/29/89)

SHORELINE CLEANUP PROGRAM

DATE 5/24/89 SHORELINE SEGMENT FB-3

LOCATION: (see enclosed map) North coast of Foul Bay east of Black Cape

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/18/89

Recommended Cleanup Activity(ies):

Remove mousse soaked seaweed along high intertidal zone. Consideration should be given to removing the layer of mousse on the cobble beach using mechanical flushing techniques and/or vacuum systems.

Priorities Considerations:

None.

Ecological Constraints (from site survey):

Avoid small stream and areas of healthy vegetation at low tide on rocks. Clean on an ebbing tide.

Archeological Constraints (from site survey):
Avoid mouth of small stream at west end of 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.

Douglas L. Reger
State Historic Preservation Officer *

Date: 5/29/89

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

ACE 8701787

SHORELINE OIL EVALUATION

Date: 18 MAY 1989 Time: 1026 HRS Observer: BRYAN TEIMM

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

LOCATION

LOCATION N. COAST OF FOUL BAY EAST OF BLACK CAPE SEGMENT NUMBER FB-3

LENGTH OF SHORELINE SEGMENT: 800 m

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

SHORELINE:

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

Wave Exposure: (High)/(Med)/Low

Sediment: B 5 % / C 95 % / P 70 % / G - % / S - % / M - % /R - %

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

OIL

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

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

Continuous: (Y)/N % of Segment 25 Width of Band: 12 m

Sporadic: Y/N % of Segment

Est. Oil Thickness where > 1cm: - cm Est. Oil Penetration: 12 cm

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

Fresh - % Mousse 100 % Tar Formation: - %

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

Comments:

SEE ENCLOSED FIELDBOOK MAP. MODERATE TO HEAVY COATING OF CHOCOLATE (FRESH) MOUSSE FOR A 10 TO 12 M BAND ON A COBBLE BEACH (LOW TO HIGH INTERTIDAL ZONE). A 2 M WIDE & CONTINUOUS BAND OF MOUSSE COATED SEAWEED DRIFT AT THE TOP OF THE HIGH INTERTIDAL ZONE. RECOMMEND REMOVAL OF MOUSSE SOAKED SEAWEED DRIFT BY SHOVEL & HAND. USE HI-TEMP FLOODING TO REMOVE COBBLE COATED MOUSSE AT EBBING & LOW TIDE. (TYPE-B BEACH).

DOCUMENTATION:

Map/Aerial photo marking segment boundaries Attached

VTR: Y/N Tape Number(s) None

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

Sample Numbers Collected: None

ECOLOGICAL EVALUATION

LOCATION: Foul Bay SITE: West end of Foul Bay OBSERVER: S/M Bo

LOCATION PREFIX: FB SEG. NO.: FB-3 LENGTH: 800 (M)

DATE: 5/16/89 TIME (HHMM): 1030 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 rocks have oiled Fucus other areas are clean

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

Some patches coated - 30% gaping

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

Some patches coated

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

None seen

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

Healthy

OTHER OBSERVATIONS: Rocks oiled in ~~pieces~~ places, most of the oil is on the cobble beach and at the strand line

CLEANUP PRECAUTIONS: Avoid small stream and healthy vegetation areas

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

BIRDS: 1 Dead murre, 1 dead bird, sp. unknown

GENERAL OBSERVATIONS: Heavy oil on cobbles

ACE 8701790

FB-3

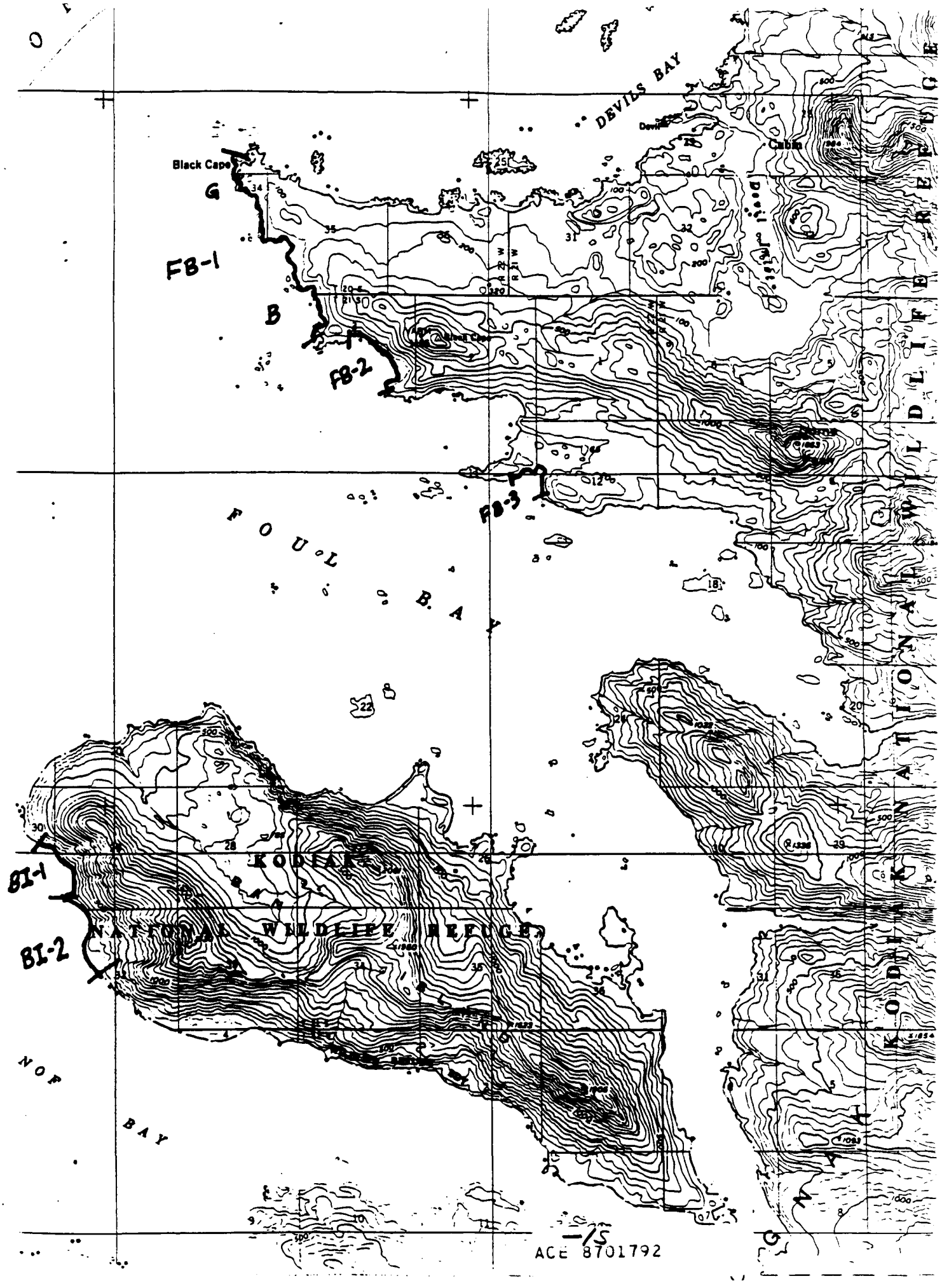
PLANE View FB-3

LV FB-3 @ 1108

Photo 29 - Scenic shot looking into Foul Bay

overed

ACE 8701791


DEVILS BAY
Black Cape
Cabin
G
FB-1
B
FB-2
FB-3
POUL
B. A Y
KODIAK
NATIONAL WILDLIFE REFUGE
BI-1
BI-2
NOP
BAY
KODIAK NATIONAL WILDLIFE REFUGE
-15
ACE 8701792

FOLLOWING ACE NUMBER(S) WAS (WERE) NOT USED

ACE NUMBER(S) 8701793 - H

ACE 8701794/A

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

K2-4

DATE 18 MAY 1989 SHORELINE SEGMENT FB-3

LOCATION: (see enclosed map) NORTH COAST OF FOUL BAY EAST OF BLACK CAPE

ADEC NO._____ SHORELINE ASSESSMENT DATE: 18 MAY 1989

Recommended Cleanup Activity(ies):
① SEE ① BELOW
② REMOVE MOUSSE SOAKED SEAWEED ALONG HIGH-~~TEMPERATURE~~ INTERTIDAL ZONE

Priorities Considerations:
①REMOVAL OF MOUSSE COATED COBBLE BY HI - TEMPERATURE FLOODING. CLEAN AT EBBING TIDE

Ecological Constraints (from site survey):
Avoid small Stream and areas of healthy vegetation at low tide on rocks. Clean on an ebbing tide

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.
AVOID LAKE AND STREAM AT WEST END OF SEGMENT. NO MONITOR REQUIRED.

_____ Date:_____
State Historic Preservation Officer *

EXXON:_____ Date:_____

FOSC:_____ Date:_____

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

ACE 8701794/0 + 5

SHORELINE OIL EVALUATION

Date: 18 MAY 1989 Time: 1026 HRS Observer: BRYAN TRIMM

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

LOCATION

LOCATION N. COAST OF FOUL BAY EAST OF BLACK CAPE SEGMENT NUMBER FB-3

LENGTH OF SHORELINE SEGMENT: 800 m

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

SHORELINE:

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

Wave Exposure: H(igh)/(Med)/Low

Sediment: B 5 % / C 95 % / P 70 % / G - % / S - % / M - % /R - %

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

OIL

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

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

Continuous: (Y)/N % of Segment 25 Width of Band: 12 m

Sporadic: Y/N % of Segment _____

Est. Oil Thickness where > 1cm: - cm Est. Oil Penetration: 12 cm

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

Fresh - % Mousse 100 % Tar Formation: - %

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

Comments:

SEE ENCLOSED FIELDBOOK MAP. MODERATE TO HEAVY COATING OF CHOCOLATE (FRESH) MOUSSE FOR A 10 TO 12 M BAND ON A COBBLE BEACH (LOW TO HIGH INTERTIDAL ZONE). Δ 2 M WIDE & CONTINUOUS BAND OF MOUSSE COATED SEAWEED DRIFT AT THE TOP OF THE HIGH INTERTIDAL ZONE. RECOMMEND REMOVAL MOUSSE SOAKED SEAWEED DRIFT BY SHOVEL & HAND. USE HI-TEMP FLOODING TO REMOVE COBBLE COATED MOUSSE. AT EBBING & LOW TIDE. (TYPE-B BEACH).

ACE 8701795

DOCUMENTATION:

Map/Aerial photo marking segment boundaries Attached

VTR: Y/N Tape Number(s) None

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

Sample Numbers Collected: None

ECOLOGICAL EVALUATION

LOCATION: Foul-Bay SITE: Mouth of Foul Bay OBSERVER: SMB

LOCATION PREFIX: FB SEG. NO.: FB-3 LENGTH: 800 (M)

DATE: 5/18/89 TIME (HHMM): 1030 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 rocks have oiled Fucus other areas are clean

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

Some patches coated - 3% gaping

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

Some patches covered

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

None seen

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

Healthy

OTHER OBSERVATIONS: Rocks oiled in ~~placed~~ places, most of the oil is on the cobble beach and at the strand line

CLEANUP PRECAUTIONS: Avoid small stream and healthy vegetation areas

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

BIRDS: 1 Dead murre, 1 dead bird, sp. unknown

GENERAL OBSERVATIONS: Heavy oil on cobbles

ACE 8701797

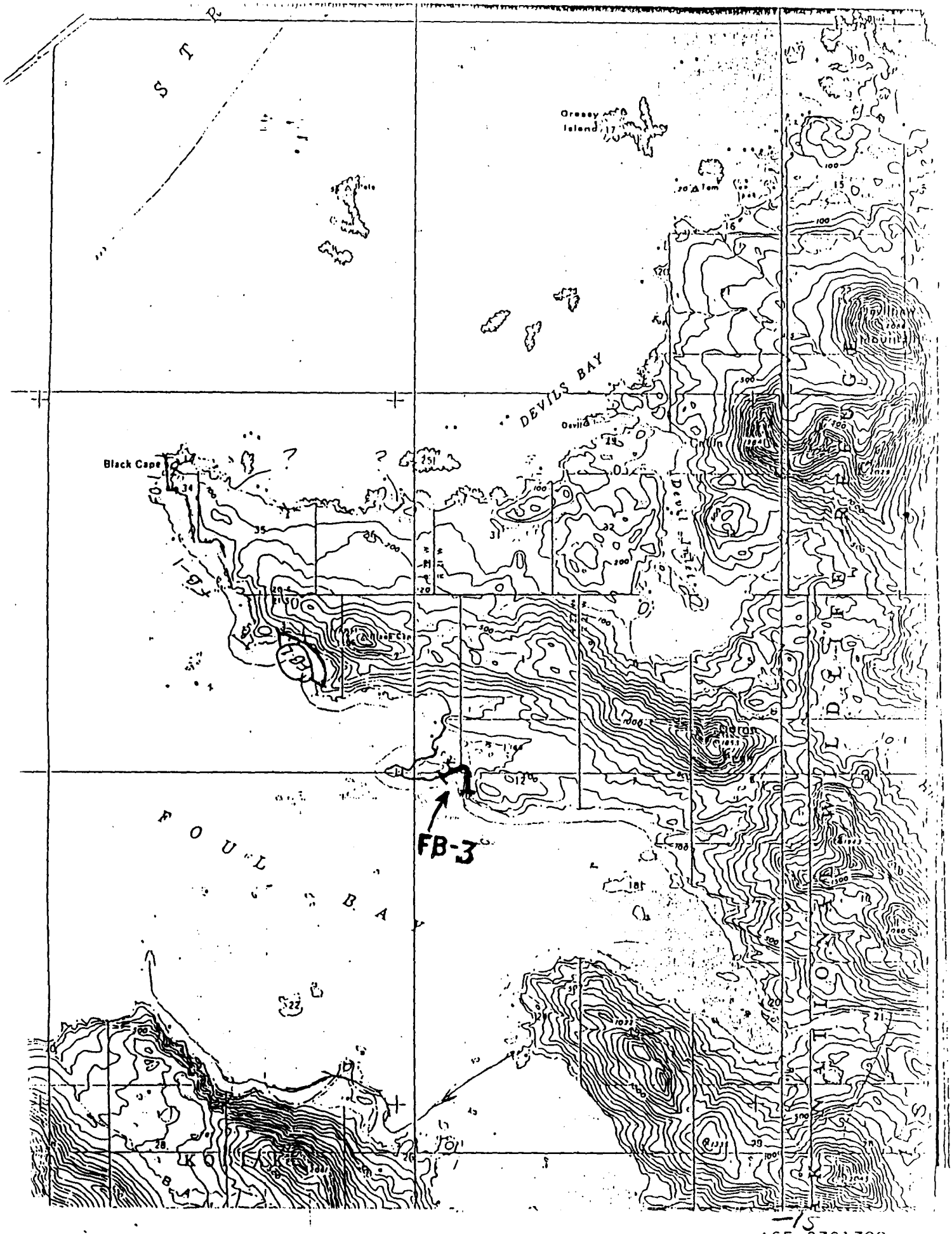
FB-3

LV FB-3 @ 1108

Photo 29 - Scenic shot looking into Foul Bay

overed

ACE 8701798



15

ACE 8701799

(version July 23, 1989)

SHORELINE PRE CLEANUP REASSESSMENT

DATE 7/19/89 SHORELINE SEGMENT K2-4-FB3R REASSESSMENT DATE 7/16

Observers: OG G.MacDonald BIO M.Fawcett ARCH R.Reanier

Reason for Reassessment

Revised Recommended Cleanup Activity(ies):

-If required, clean heavily oiled cobble/pebble areas with low pressure warm water flushing.

Revised Ecological Constraints:

-Work at mid tide plus to prevent contamination of lower intertidal zone.

-Avoid flushing near small stream.

Revised Archaeological Constraints:
Avoid mouth of small stream at west end of 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.

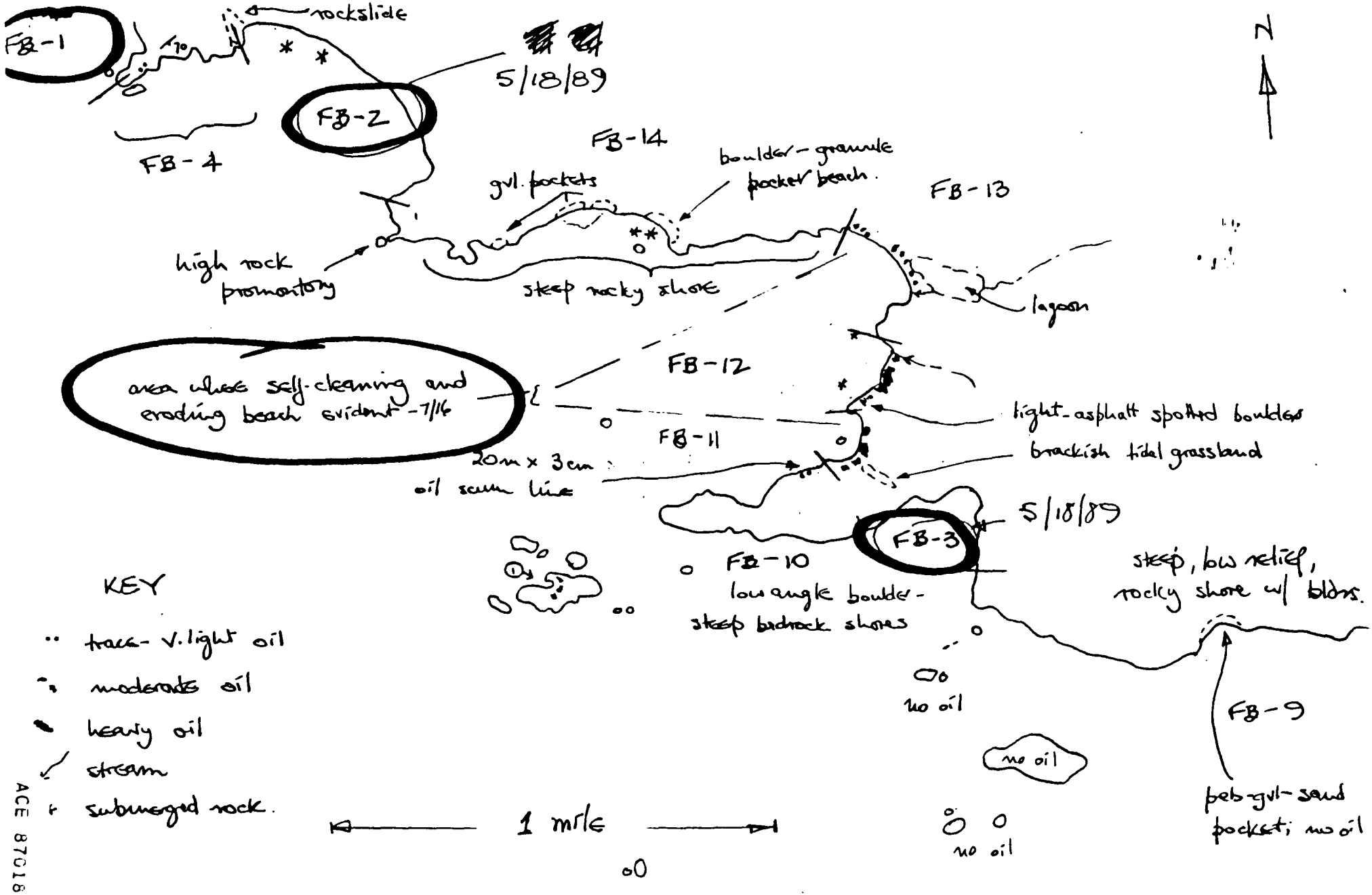
A. David McMahon Date: 7/26/89
State Historic Preservation Officer *

EXXON: Date:

FOSC: Date:

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

ACE 8701800



ACE 87018C1

7/16/89 a.m.
G. MACDONALD

(version 4/29/89)

SHORELINE CLEANUP PROGRAM

DATE 5/24/89 SHORELINE SEGMENT FB-3

LOCATION: (see enclosed map) North coast of Foul Bay east of Black Cape

ADEC NO. SHORELINE ASSESSMENT DATE: 5/18/89

Recommended Cleanup Activity(ies):

Remove mousse soaked seaweed along high intertidal zone. Consideration should be given to removing the layer of mousse on the cobble beach using mechanical flushing techniques and/or vacuum systems.

Priorities Considerations:

None.

Ecological Constraints (from site survey):

Avoid small stream and areas of healthy vegetation at low tide on rocks. Clean on an ebbing tide.

Archeological Constraints (from site survey):
Avoid mouth of small stream at west end of 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.

Douglas L. Reger
State Historic Preservation Officer *

Date: 5/29/89

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

ACE 8701802

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

K2-4

DATE 18 MAY 1989 SHORELINE SEGMENT FB-3

LOCATION: (see enclosed map) NORTH COAST OF FOUL BAY EAST OF BLACK CAPE

ADEC NO._____ SHORELINE ASSESSMENT DATE: 18 MAY 1989

Recommended Cleanup Activity(ies):
① SEE ① BELOW
② REMOVE MOUSSE SOAKED SEAWEED ALONG HIGH-~~[illegible]~~ INTERTIDAL ZONE

Priorities Considerations:
①REMOVAL OF MOUSSE COATED COBBLE BY HI - TEMPERATURE FLOODING. CLEAN AT EBBING TIDE

Ecological Constraints (from site survey):
Avoid small Stream and areas of healthy vegetation at low tide on rocks. Clean on an ebbing tide

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.
AVOID LAKE AND STREAM AT WEST END OF SEGMENT. NO MONITOR REQUIRED.

_____ Date:_____
State Historic Preservation Officer *

EXXON:_____ Date:_____

FOSC:_____ Date:_____

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

ACE 8701803

SHORELINE OIL EVALUATION

Date: 18 MAY 1989 Time: 1026 HRS Observer: BRYAN TRIMM

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

LOCATION

LOCATION N. COAST OF FOUL BAY EAST OF BLACK CAPE SEGMENT NUMBER FB-3

LENGTH OF SHORELINE SEGMENT: 800 m

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

SHORELINE:

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

Wave Exposure: (High)/(Med)/Low

Sediment: B 5 % / C 95 % / P 70 % / G - % / S - % / M - % /R - %

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

OIL

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

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

Continuous: (Y)/N % of Segment 25 Width of Band: 12 m

Sporadic: Y/N % of Segment _____

Est. Oil Thickness where > 1cm: - cm Est. Oil Penetration: 12 cm

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

Fresh - % Mousse 100 % Tar Formation: - %

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

Comments:

SEE ENCLOSED FIELDBOOK MAP. MODERATE TO HEAVY COATING OF CHOCOLATE (FRESH) MOUSSE FOR A 10 TO 12 M BAND ON A COBBLE BEACH (LOW TO HIGH INTERTIDAL ZONE). Δ 2 M WIDE & CONTINUOUS BAND OF MOUSSE COATED SEAWEED DRIFT AT THE TOP OF THE HIGH INTERTIDAL ZONE. RECOMMEND REMOVAL OF MOUSSE SOAKED SEAWEED DRIFT BY SHOVEL & HAND. USE HI-TEMP FLOODING TO REMOVE COBBLE COATED MOUSSE. AT EBBING & LOW TIDE. (TYPE-B BEACH).

DOCUMENTATION:

Map/Aerial photo marking segment boundaries Attached

VTR: Y/N Tape Number(s) None

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

Sample Numbers Collected: None

ECOLOGICAL EVALUATION

LOCATION: Foul Bay SITE: West of Foul Bay OBSERVER: SMB

LOCATION PREFIX: FB SEG. NO.: FB-3 LENGTH: 800 (M)

DATE: 5/18/89 TIME (HHMM): 1030 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 rocks have oiled Fucus other areas are clean

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

Some patches coated - 30% gaping

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

Some patches coated

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

None seen

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

Healthy

OTHER OBSERVATIONS: Rocks oiled in ~~placed~~ places, most of the oil is on the cobble beach and at the strand line

CLEANUP PRECAUTIONS: Avoid small stream and healthy vegetation areas

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

BIRDS: 1 Dead murre, 1 dead bird, sp. unknown

GENERAL OBSERVATIONS: Heavy oil on cobbles

ACE 8701806

PLANE VIEW FB-3

NORTH

FB-3

CLIFF STEEP & RUBBLE IN THE LOWER ZONE

BOULDERS

FLAT ROCK OUTCROP

EDITED

MED COATED SHORE MOUSSE

HITE COBBLE BERM W/ DRIFT SEAWEED MOUSSE COVERED MED.

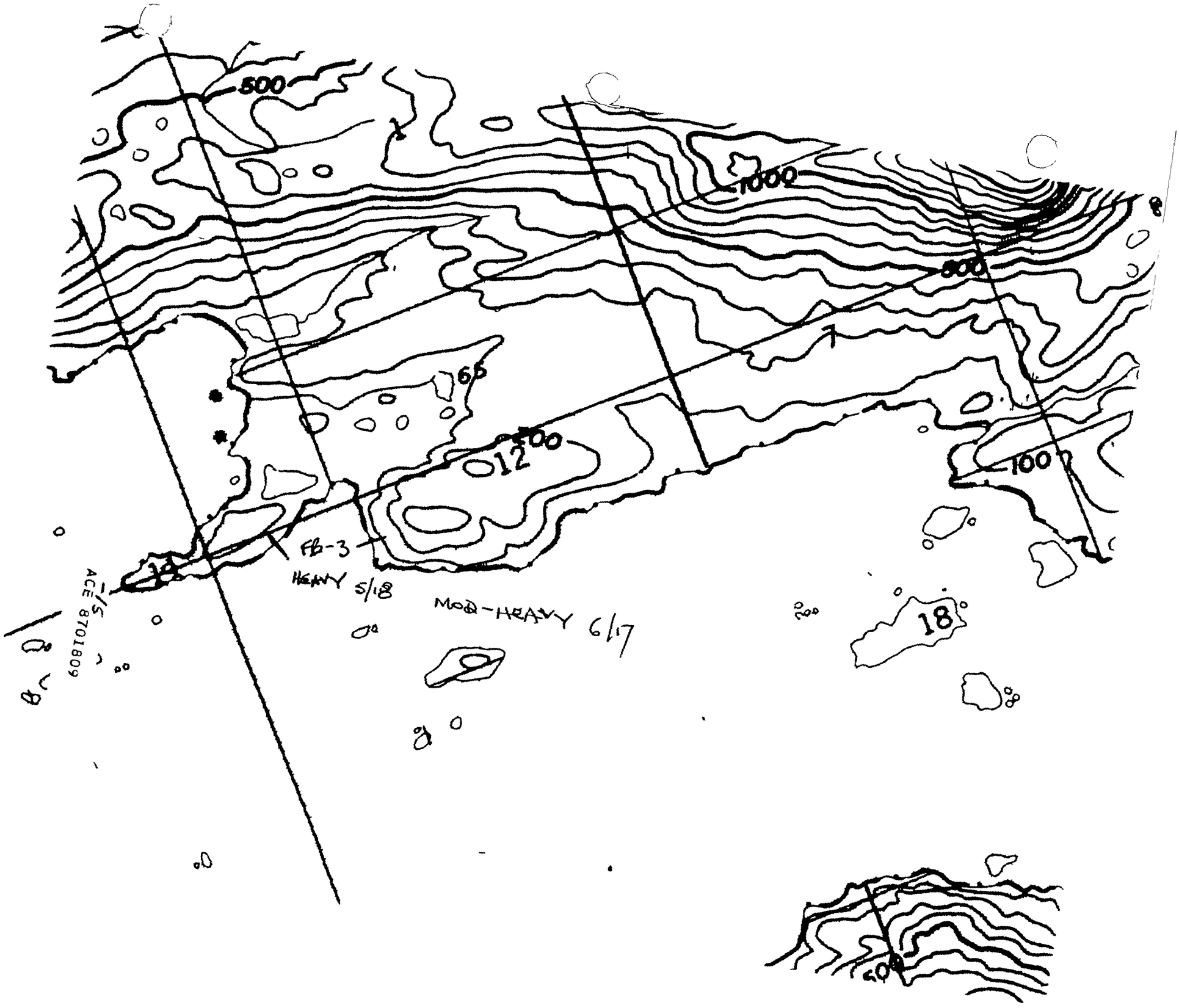
BERM

LV FB-3 @ 1108

P/up 29: Scenic shot looking into FOUL Bay

overed

ACE 8701807


500
1000
900
66
1200
100
FB-3
HEAVY 5/18
MOD-HEAVY 6/17
18
ACE 8701809

(version 5/02/89).

SHORELINE CLEANUP PROGRAM

DATE 7/17/89 SHORELINE SEGMENT K2-4-FB-4

LOCATION: (see enclosed map) N. coast of Foul Bay - Afognak

ADEC NO. K2-4 SHORELINE ASSESSMENT DATE: 7/16/89

Recommended Cleanup Activity(ies):
-No cleanup recommended due to insignificant oiling and high natural cleaning potential (wave exposure). Subject to FOSC reassessment at a later date.

Priorities/Considerations: Class 5-B

Ecological Constraints (from site survey):
-If reoiling occurs and cleanup is advised, avoid trampling of or allowing run-off of oily wastes into healthy lower 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.

J. David McMahan Date: 7/26/89
State Historic Preservation Officer *

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

ACE 8701810

(version 5/16/89)

SHORELINE OIL EVALUATION FORM - KODIAK

Date: 7/16/89 Time: 11:55 Observer: G. MACDONALD

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

LOCATION
LOCATION N. COAST & FOUL BAY SEGMENT I.D. K2-4, FB-4

LENGTH OF SHORELINE SEGMENT: 770 m

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

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

Wave Exposure: (High)/Med/Low

Sediment: B___% / C___% / P___% / G___% / S___% / M___% / R 100% (TRACE)

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

OIL
Degree of Oiling: Heavy/Moderate/Light/(No Oil)/Unobserved/Very Light

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

OIL DISTRIBUTION
Continuous: Y/N Segment %_____ No. Bands_____ Width_____

Sporadic: Y/N Segment %_____ Min/Max Dia_____ Impact Width_____

Est. Oil Thickness where > 1cm: _____cm SU / SP / UP / MID / LO

Depth below top seds
Est. Oil Penetration: _____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 _____% "Free" Oil _____% Spattered_____% H/M/L/VL Sheen_____%

OIL WEATHERING (OW)
Fresh Oil_____% SU/SP/VP/MID/LO Choc Mousse_____% SU/SP/VP/MID/LO

Pancake Mousse_____% SU/SP/VP/MID/LO Asphalt Mousse _____% SU/SP/VP/MID/LO

Tar Formation_____%

Comments:

STEEP ROCKY PROMONTORY — TRACE OF MATURE MOUSSE SLAB @ SP ZONE (≤0.1m x 3cm) — @ HIGH EXPOSURE WALL.

ACE 8701811

NO PHOTO: CAMERA INOPERATIVE

7/16 11:30 SEGMENT FB-14

steep, exposed rocky coast; cliffs to 12 m, 80-120°; boulders @ base @ HTZ; no oil.
gravel pockets w/ cob/ bldrs, v exposed.

END of SEGMENT

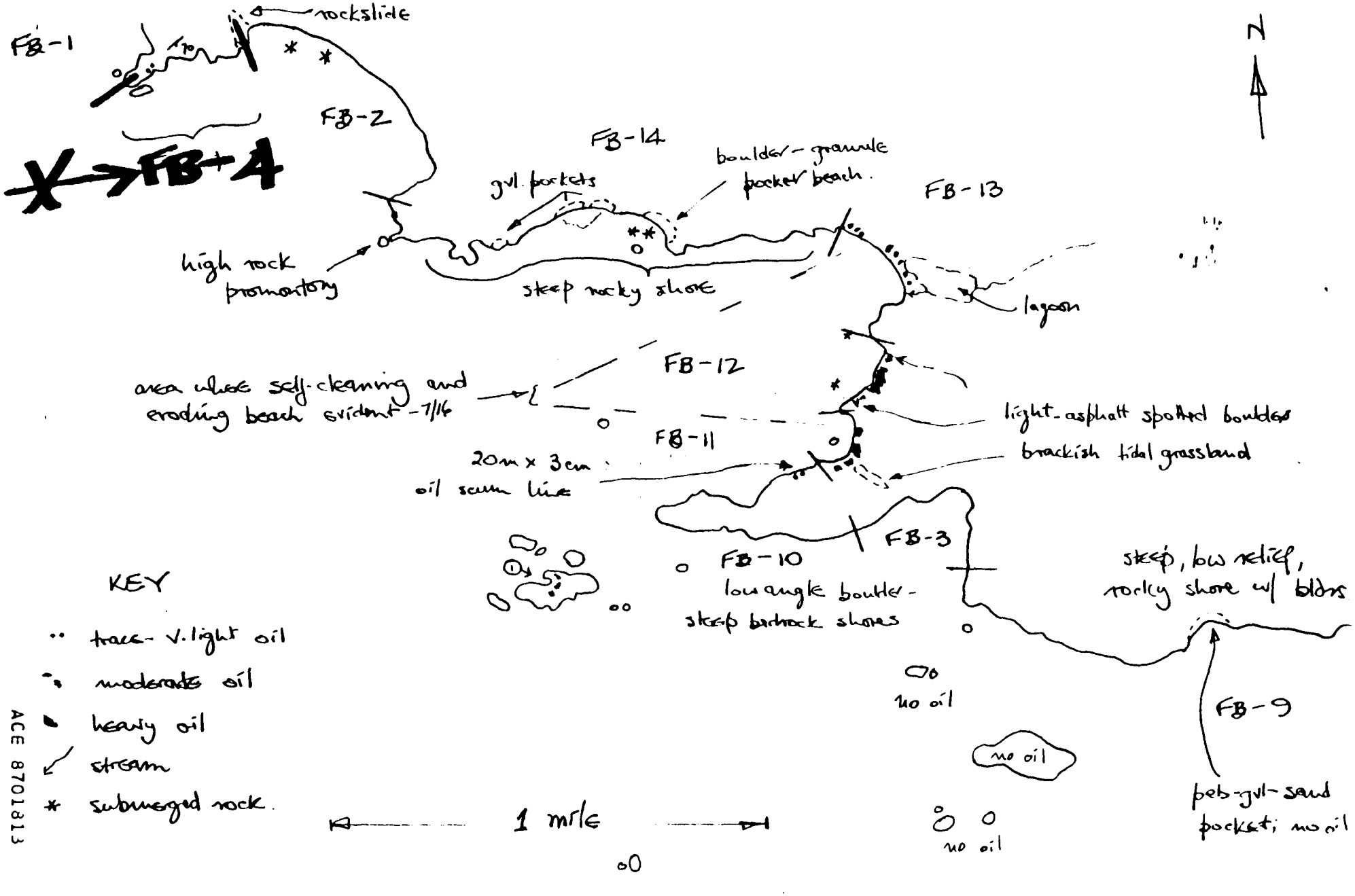
11.55 SEGMENT FB-4 7/16

v. steep rocky coast, intensely sheared & folded metased; (Chugach Terrane)

low-med ∠ sand-peb pockets, w/ bldrs & cob @ M-LTZ; beach grades into low relief steep rockface to W;
no oil - (trace)
@ point - steeply dipping (70°) altered sed/metased rocks.

12.15 END of SEGMENT

ACE 8701812



7/16/89 a.m.
G. MACDONALD

ECOLOGICAL EVALUATION

LOCATION: Afognak Isl. SITE: Foul Bay OBSERVER: M Fawcett

LOCATION PREFIX: FB SEG. NO.: 4 LENGTH: 770 (M)

DATE: 7/16/89 TIME (HHMM): 1200 TIDE HT.: +2.6 -2.3 (M)

OILED ZONE: Splash High Medium Low no oil observed

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA — small pocket beaches

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

dense near mouth of Bay, sparse elsewhere

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

sparse inside bay (nearly all space covered w/ barnacles), dense near mou

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

Balanus glandula & carinus, dense Balanus spat everywhere

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

nearly all primary space occupied by barnacles

OTHER OBSERVATIONS: _____

CLEANUP PRECAUTIONS: no oil observed; however, if recoiling occurs avoid damaging healthy lower intertidal zone during cleanup

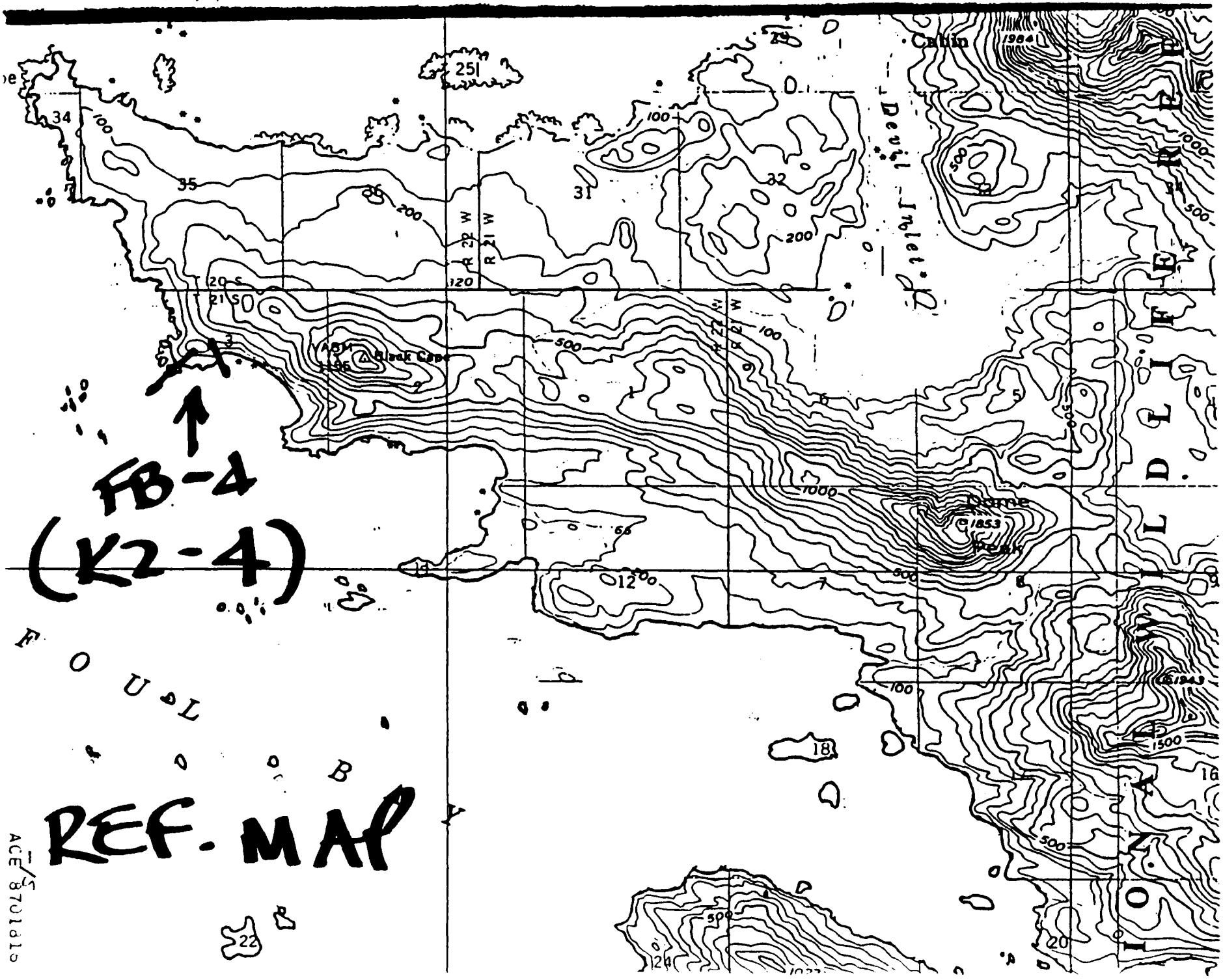
MAMMALS: Otters ___ Harbor Seals ___ Sea Lions ___ Whales ___

Other _____

BIRDS: 3 eagles, 1 raven

GENERAL OBSERVATIONS: _____

ACE 8701814


Devil Inlet
Cabin
1964
Black Cape
Pierre
1853
Peak
FB-4
(K2-4)
REF. MAP
FOUL
BAY
WILLIAM
ACE/S/87010

(version 6/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Block (see enclosed map): K2-4

Includes Shoreline Segments: FB-1, FB-2, FB-3, FB-4, FB-5, FB-6, FB-7, FB-8, FB-9, FB-10, FB-11, FB-12, FB-13, FB-14

Location: Foul 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 8701817

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/17/89 SHORELINE SEGMENT K2-4-FB-4

LOCATION: (see enclosed map) N. coast of Foul Bay - Afognak

ADEC NO. K2-4 SHORELINE ASSESSMENT DATE: 7/16/89

Recommended Cleanup Activity(ies):
-No cleanup recommended due to insignificant oiling and high natural cleaning potential (wave exposure). Subject to FOSC reassessment at a later date.

Priorities/Considerations: Class 5-B

Ecological Constraints (from site survey):
-If reoiling occurs and cleanup is advised, avoid trampling of or allowing run-off of oily wastes into healthy lower 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.

J. Gerald McMahan Date: 7/26/89
State Historic Preservation Officer *

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

(version 5/16/89)

SHORELINE OIL EVALUATION FORM - "ODIAK"

Date: 7/16/89 Time: 11:55 Observer: G. MACDONALD

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

LOCATION
LOCATION N. COAST of FOUL BAY SEGMENT I.D. K2-4, FB-1

LENGTH OF SHORELINE SEGMENT: 770 m

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

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

Wave Exposure: (High)/Med/Low

Sediment: B___% / C___% / P (TRACE)% / G___% / S___% / M___% /R 100%

Drift Debris on Beach: Yes/(NO) Supra/Upper/Mid/Lower Type _____

OIL
Degree of Oiling: Heavy/Moderate/Light/(No Oil)/Unobserved/Very Light

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

OIL DISTRIBUTION
Continuous: Y/N Segment %_____ No. Bands_____ Width_____

Sporadic: Y/N Segment %_____ Min/Max Dia_____ Impact Width_____

Est. Oil Thickness where > 1cm: _____cm. SU / SP / UP / MID / LO

Depth below top seds
Est. Oil Penetration: _____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 _____% "Free" Oil _____% Spattered_____% H/M/L/VL Sheen_____%

OIL WEATHERING (OW)
Fresh Oil_____% SU/SP/VP/MID/LO Choc Mousse_____% SU/SP/VP/MID/LO

Pancake Mousse_____% SU/SP/VP/MID/LO Asphalt Mousse _____% SU/SP/VP/MID/LO

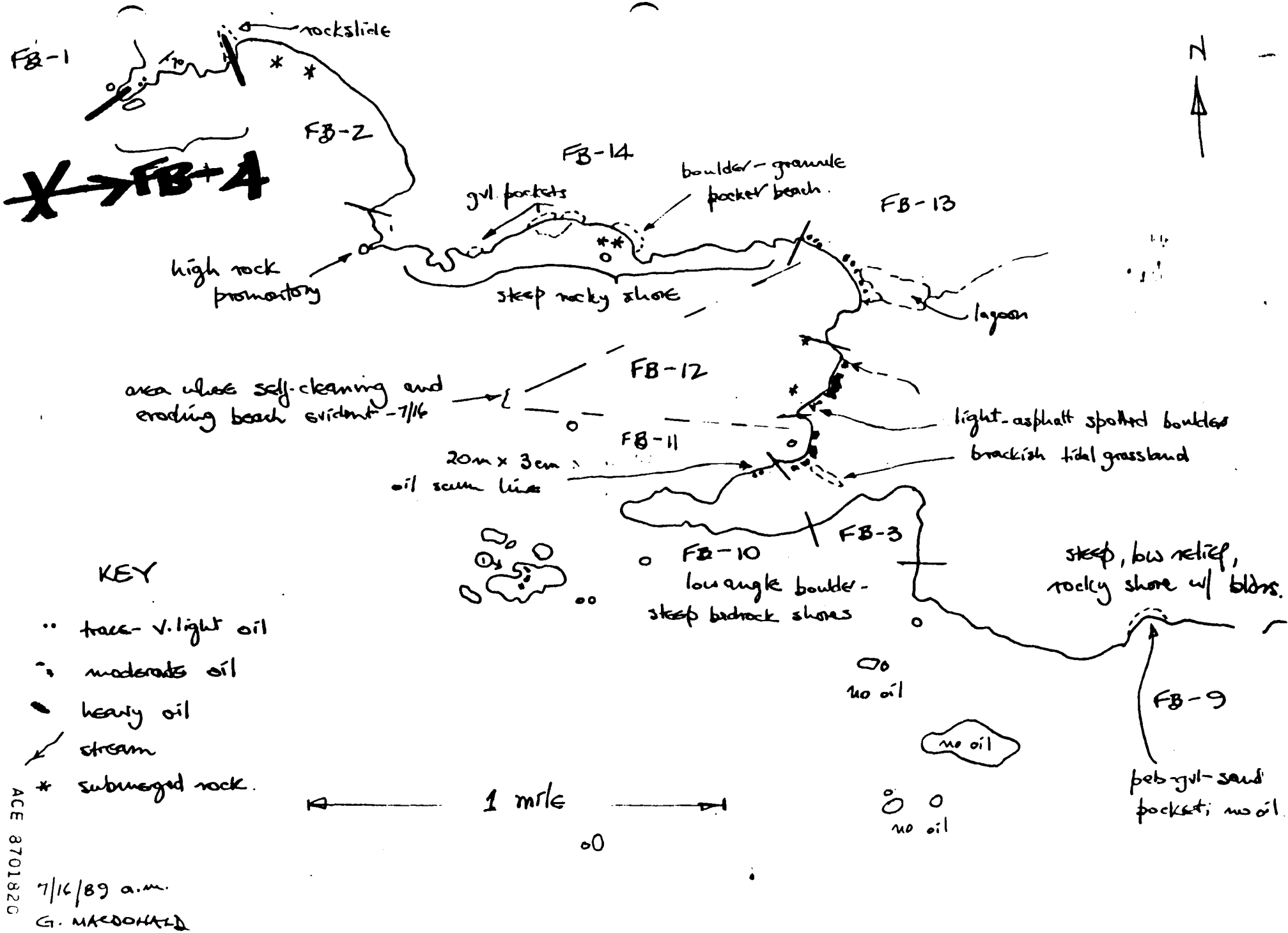
Tar Formation_____%

Comments:

STEEP ROCKY PROMONTORY — TRACE OF MATURE MOUSSE SLAB @ SF ZONE (≤ 0.1M x 3cm) — @ HIGH EXPOSURE WALL.

ACE 8701819

NO PHOTO : CAMERA DEFECTIVE


FB-1
rockslide
FB-2
X → FB-4
FB-14
gvl pockets
boulder-granule pocket beach
FB-13
high rock promontory
steep rocky shore
lagoon
FB-12
area where self-cleaning and eroding beach evident - 7/16
light-asphalt spotted boulders
brackish tidal grassland
FB-11
20m x 3cm oil scum line
FB-3
FB-10
low angle boulder-steep bedrock shores
steep, low relief, rocky shore w/ bldrs.
no oil
FB-9
no oil
peb-gvl-sand pockets; no oil
KEY
trace - v. light oil
moderate oil
heavy oil
stream
submerged rock
1 mile
N
no oil
7/16/89 a.m.
G. MACDONALD
ACE 8701820

7/16 11:30 SEGMENT FB-14

steep, exposed rocky coast; cliffs to 12 m, 80-120°; boulders @ base @ HTZ; no oil.

gravel pockets of cob/ bldrs, v. cobbled.

END of SEGMENT

11.55 SEGMENT FB-4 7/16

v. steep rocky coast, intensely sheared & folded metased.; (Chugach Terrane)

low-mod ∠ sand-fab pockets of bldrs & cob @ M-HTZ; beach grades into low relief steep rockface to W;

no oil. - (trace)

@ found - steeply dipping (70°) altered scd./metased. rocks.

12.15 END of SEGMENT

ACE 8701821

ECOLOGICAL EVALUATION

LOCATION: ~~Afognak Isl.~~ SITE: ~~Foul Bay~~ OBSERVER: M Fawcett

LOCATION PREFIX: FB SEG. NO.: 4 LENGTH: 770 (M)

DATE: 7/16/89 TIME (HHMM): 1200 TIDE HT.: +2.0-2.3 (M)

OILED ZONE: Splash High Medium Low no oil observed

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

← small pocket beaches

LIVE BIOTA

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

dense near mouth of Bay, sparse elsewhere

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

sparse inside bay (nearly all space covered w/ barnacles), dense near m.

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

Balanus glandula & carenus, dense Balanus spat everywhere

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

nearly all primary space occupied by barnacles

OTHER OBSERVATIONS: _____

CLEANUP PRECAUTIONS: no oil observed; however, if reoiling occurs avoid damaging healthy lower intertidal zone during cleanup

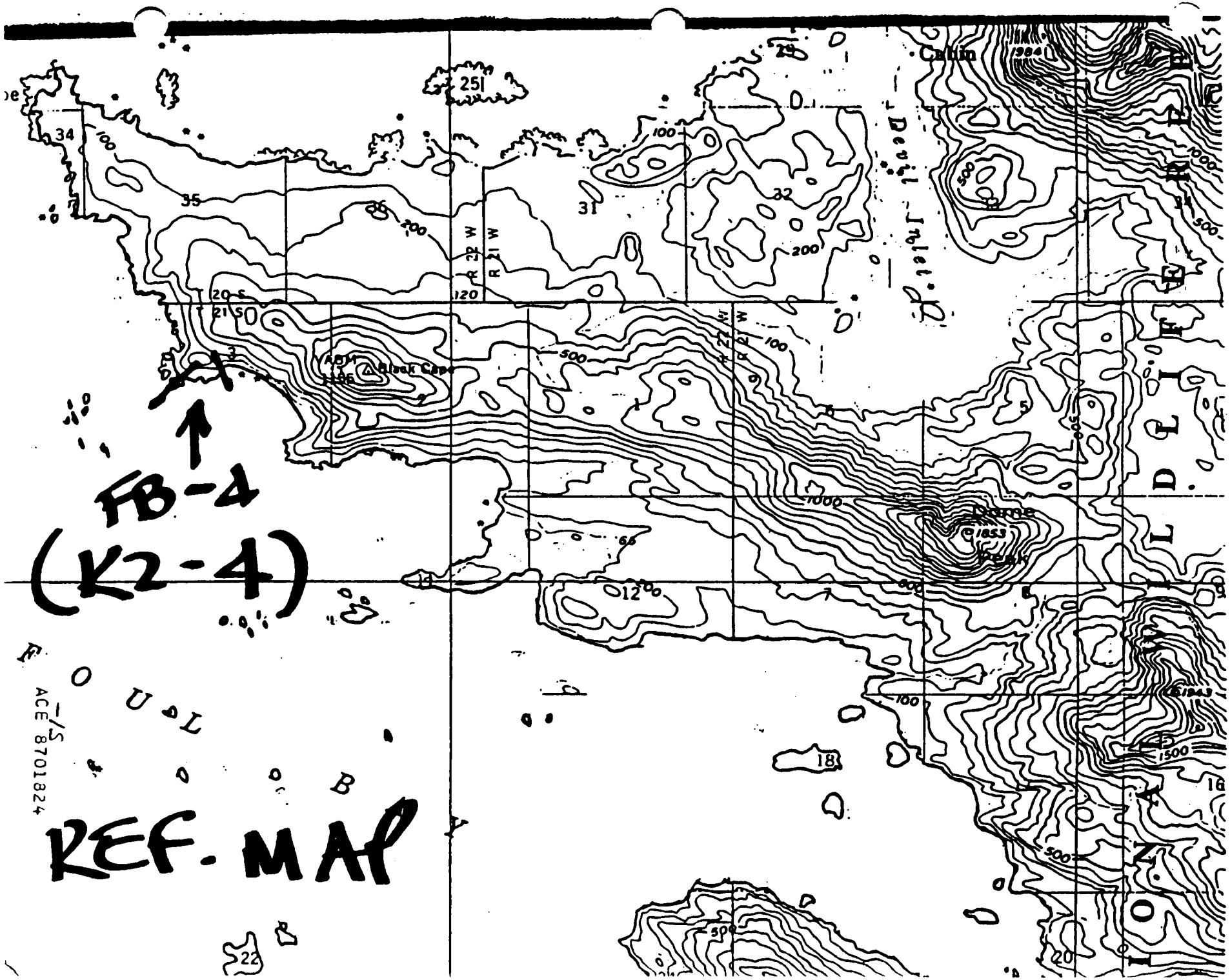
MAMMALS: Otters ___ Harbor Seals ___ Sea Lions ___ Whales ___

Other _____

BIRDS: 3 eagles, 1 raven

GENERAL OBSERVATIONS: _____

ACE 8701822


FB-4
(K2-4)
REF. MAP
Black Cap
1196
Dome
1853
Peak
Cabin
1984
Devil Island
ISLAND
FOUL BAY
ACE 8701824
-/S
T 20 S
T 21 S
R 21 W
R 22 W
25
31
32
34
35
36
18
22
20

(version 4/29/89)

SHORELINE CLEANUP PROGRAM

DATE 5/24/89 SHORELINE SEGMENT FB-2

LOCATION: (see enclosed map) South east of Black Cape by 3.5km (2 mi.) West boundary of FB-2 meets East boundary of FB-1.

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/18/89

Recommended Cleanup Activity(ies):

Manually remove oil coated seaweed drift at top of high-tide line. Also remove tar balls.

Priorities Considerations:

See above.

Ecological Constraints (from site survey):

Avoid areas of healthy fucus on rocks at each end of beach.

Archeological Constraints (from site survey):
Restrict access to terrace at southeast end of 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.

Douglas R. Reger
State Historic Preservation Officer * Date: 5/29/89

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

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ACE 8701825

SHORELINE OIL EVALUATION

Date: 18 MAY 1989 Time: 0930 HRS Observer: BRYAN TRIMM

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

LOCATION

LOCATION S.E. OF BLACK CAPE BY 3.5km 2 MILES SEGMENT NUMBER FB-2

LENGTH OF SHORELINE SEGMENT: 1750 m

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

SHORELINE:

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

Wave Exposure: (High)/(Med)/Low

Sediment: B___% / C___% / P___% / G___% / S___% / M___% /R 35 %

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

OIL

Degree of Oiling: Heavy/Moderate/(VERY Light)/No Oil/Unobserved

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

Continuous: (Y)/N % of Segment 1 Width of Band: 1 m

Sporadic: Y/(N) % of Segment ____

Est. Oil Thickness where > 1cm: — cm Est. Oil Penetration: — cm

Pooled Oil: — % "Free" Oil: <1 % Coated: H___% /M___% /L 99 %

Fresh ____ % Mousse 99 % Tar Formation: 1 %

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

Comments:

TAR BALLS FOUND IN SPLASH ZONE BELOW BERM & ABOVE HIGH INTERTIDAL ZONE. CHOCOLATE (FRESH) MOUSSE THINLY/LIGHTLY COATS A 1M WIDE BAND OF SEAWEED DRIFT AT THE TOP OF THE HIGH INTERTIDAL ZONE. VERY SMALL SPLATTERING OF CHOCOLATE MOUSSE ON ROCKY HEADLAND. RECOMMEND REMOVAL OF SEAWEED DRIFT THAT IS OILED.

ECOLOGICAL EVALUATION

LOCATION: Fowl Bay SITE: Fowl Bay SE of Cape OBSERVER: SMBarr

LOCATION PREFIX: FB SEG. NO.: FB-2 LENGTH: 1750 (M)

DATE: 5/18/89 TIME (HHMM): 0930 TIDE HT.: +1½ (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 - Healthy. Dead Fucus washed ashore oiled

Mytilus (Mussels): Patchy (Y)/N Contin. Y/N Dense (Y)/N Sparse Y/N None Y/N
Dense on rocks healthy unoiled

Balanus (Barnacles): Patchy (Y)/N Contin. Y/N Dense (Y)/N Sparse Y/N None Y/N
Dense on rocks, unoiled, healthy

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

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

OTHER OBSERVATIONS: Tar Formations in strand line, no oil on rocks. Most oil is mixed with debris at strand line

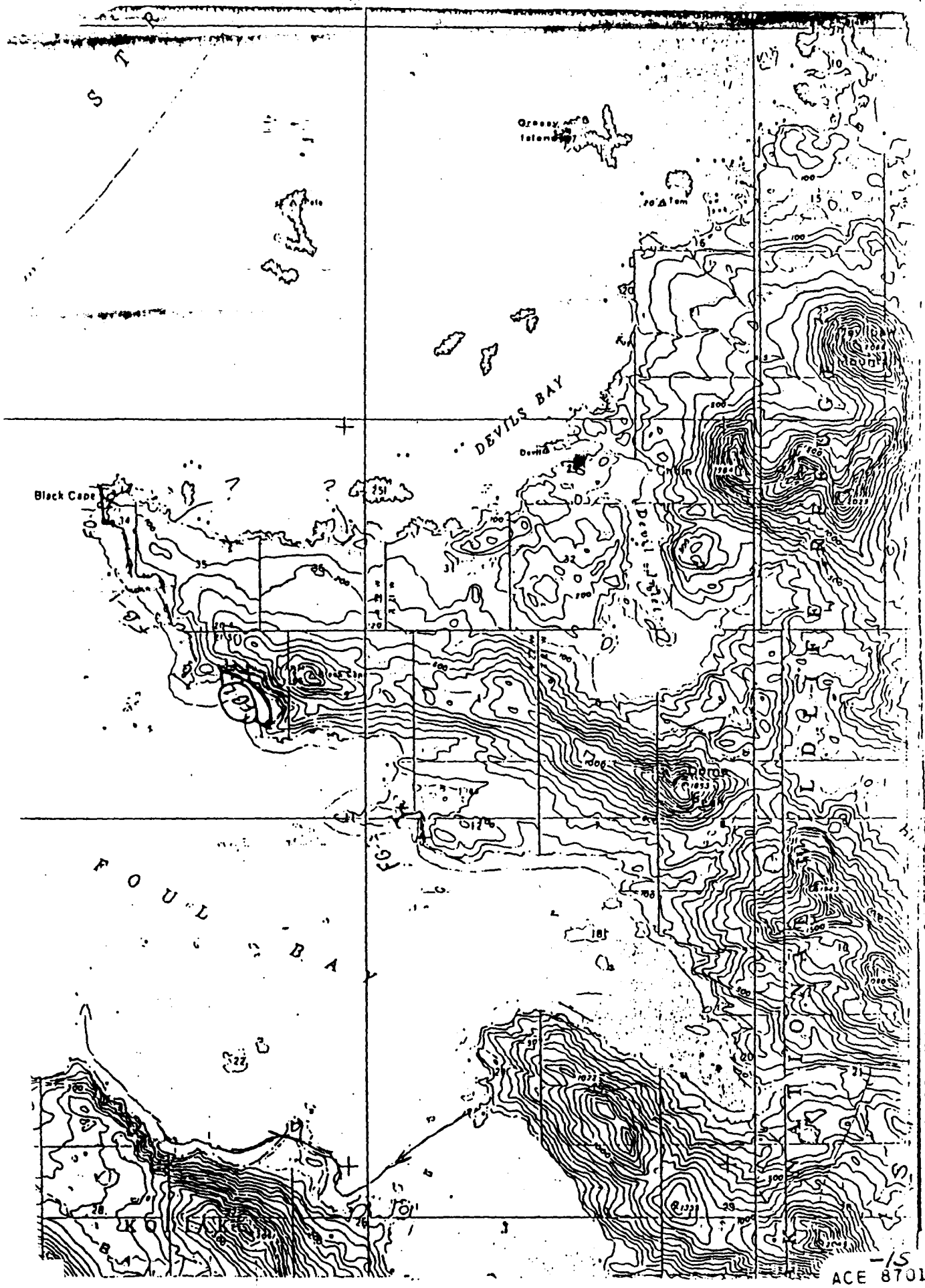
CLEANUP PRECAUTIONS: Avoid areas of healthy vegetation at either end of segment.

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

BIRDS: Eagles (2) Gulls (3) spotted during survey; Two dead birds

GENERAL OBSERVATIONS: ___

ACE 8701827



ACE 8701829

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

K2-4

DATE 5/18/89 SHORELINE SEGMENT FB-2

LOCATION: (see enclosed map) South East of Black Cape by 3.5km (2 mi.)

West Boundary of FB-2 meets East Boundary of FB-1

ADEC NO._____ SHORELINE ASSESSMENT DATE: 18 May 1989

Recommended Cleanup Activity(ies):

① Remove oil coated seaweed drift at top of high tide line by shovel & hand.

Priorities Considerations:

See above

Ecological Constraints (from site survey):

Avoid areas of healthy Fucus on rocks at each end of beach.

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.

See Constraints for Type A Beaches. No Monitor Required.

_____ Date:_____

State Historic Preservation Officer *

EXXON:_____ Date:_____

FOSC:_____ Date:_____

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

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ACE 8701830

SHORELINE OIL EVALUATION

Date: 18 MAY 1989 Time: 0930 HRS Observer: BRYAN TRIMM

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

LOCATION

LOCATION S.E. OF BLACK CAPE BY 3.5km 2 MILES SEGMENT NUMBER FB-2

LENGTH OF SHORELINE SEGMENT: 1750 m

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

SHORELINE:

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

Wave Exposure: (High)/(Med)/Low

Sediment: B___% / C___% / P___% / G___% / S___% / M___% /R 35 %

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

OIL

Degree of Oiling: Heavy/Moderate/(VERY Light)/No Oil/Unobserved

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

Continuous: (Y)/N % of Segment 1 Width of Band: 1 m

Sporadic: Y/(N) % of Segment ____

Est. Oil Thickness where > 1cm: — cm Est. Oil Penetration: — cm

Pooled Oil: — % "Free" Oil: 1 % Coated: H___% /M___% /L 99 %

Fresh ____% Mousse 99 % Tar Formation: 1 %

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

Comments:

TAR BALLS FOUND IN SPLASH ZONE BELOW BERM & ABOVE HIGH INTERTIDAL ZONE. CHOCOLATE (FRESH) MOUSSE THINLY/LIGHTLY COATS A 1M WIDE BAND OF SEAWEED DRIFT AT THE TOP OF THE HIGH INTERTIDAL ZONE. VERY SMALL SPLATTERING OF CHOCOLATE MOUSSE ON ROCKY HEADLAND. RECOMMEND REMOVAL OF SEAWEED DRIFT THAT IS OILED.

DOCUMENTATION:

Map/Aerial photo marking segment boundaries Attached

VTR: Y/N Tape Number(s) None

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

Sample Numbers Collected: None

ECOLOGICAL EVALUATION

LOCATION: Fowl Bay SITE: Fowl Bay SE of Cape OBSERVER: SMBarr

LOCATION PREFIX: FB SEG. NO.: FB-2 LENGTH: 1750 (M)

DATE: 5/18/89 TIME (HHMM): 0930 TIDE HT.: +1½ (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 - Healthy. Dead Fucus washed ashore oiled

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

Dense on rocks healthy unoiled

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

Dense on rocks, unoiled, healthy

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

None

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

None

OTHER OBSERVATIONS: Tar Formations in strand line, NO oil on rocks. Most oil is mixed with debris at strand line

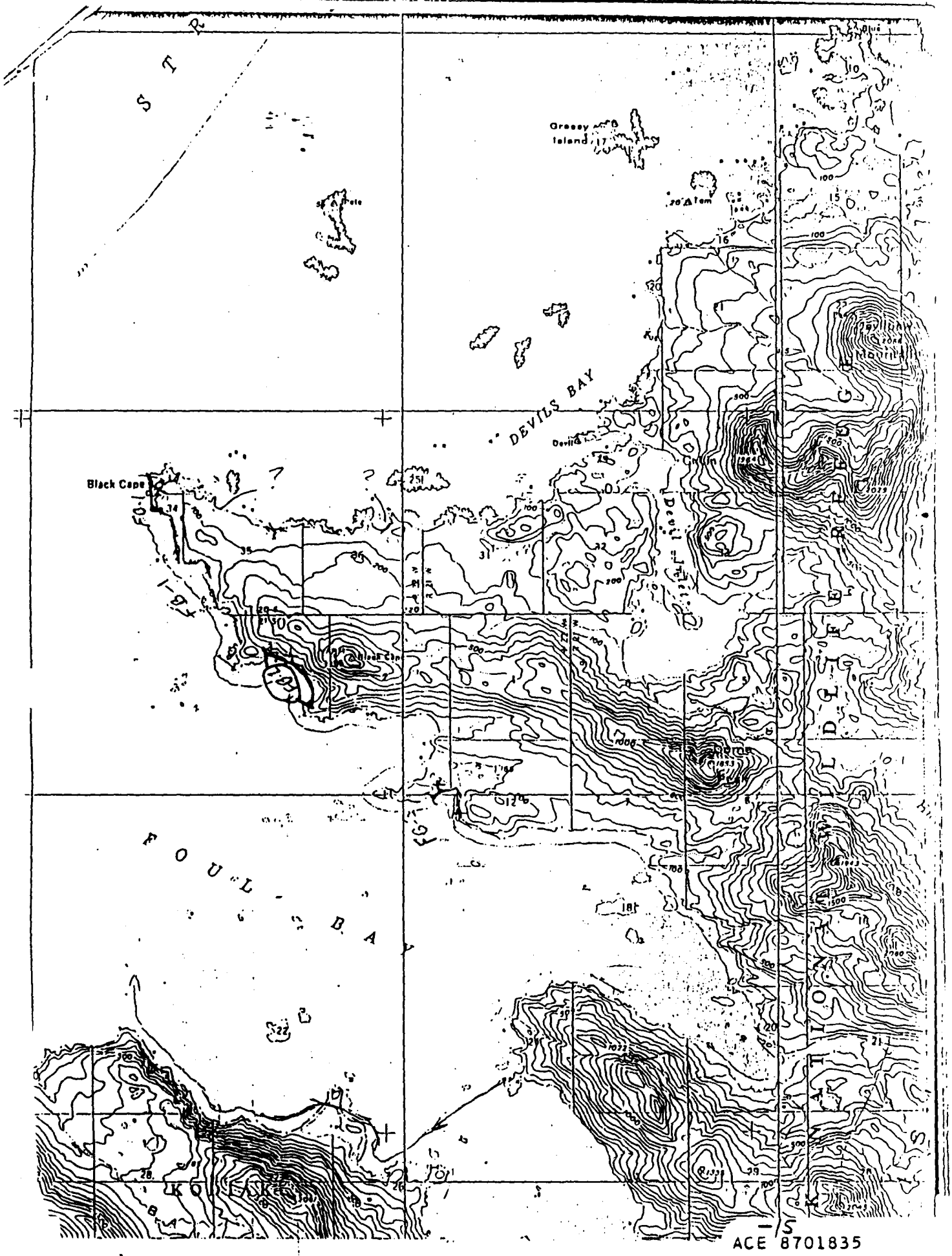
CLEANUP PRECAUTIONS: Avoid areas of healthy vegetation at either end of segment.

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

BIRDS: Eagles (2) Gulls (3) spotted during survey; Two dead birds

GENERAL OBSERVATIONS: ___

ACE 8701833



ACE 8701835

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/15/89 SHORELINE SEGMENT K2-4-FB-5

LOCATION: (see enclosed map) Foul Bay - Afognak

ADEC NO. K2-4 SHORELINE ASSESSMENT DATE: 7/14/89 & 7/15/89

Recommended Cleanup Activity(ies):

-Manual removal of mousse/debris patties or balls at location #1.

-No cleanup recommended for remainder of segment due to apparent absence of oil. Subject to FOSC reassessment at a later date.

Priorities/Considerations: Class 5-B

Ecological Constraints (from site survey):

-Cleanup crews should be restricted from walking in lower intertidal areas.

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.

J. David McMahan Date: 2/26/89

State Historic Preservation Officer *

EXXON:_____ Date:_____

FOSC:_____ Date:_____

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

ACE 8701836

(version 5/16/89)

7/14 pm

SHORELINE OIL EVALUATION FORM - KODIAK

Date: 7/15/89 Time: 17:30 Observer: G. MACDONALD

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

LOCATION
LOCATION Foul Bay SEGMENT I.D. K2-4 FB-5

LENGTH OF SHORELINE SEGMENT: 21,300 m

ACCESS: Foot/Vehicle/(Boat)/(Barge)/Helio/Float Plane ← calm only.

rocky coast.

SHORELINE:
Shoreline Type: SPI/(BEA)/COV/(HLD)/(STRT) Slope: (LANG)/(HANG)/VER/(OVERHANG)

beaches

Wave Exposure: (High)/(Med)/(Low) ← "fjords" 5

Sediment: B 20 % / C 5 % / P 6 % / G 6 % / S ~~5~~ % / M ___ % / R 70 %

Drift Debris on Beach: (Yes)/No (Supra)/Upper/Mid/Lower Type logs & driftwood.

OIL
Degree of Oiling: Heavy/Moderate/Light/(No Oil)/Unobserved/(Very Light)

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

location ① only.

OIL DISTRIBUTION
Continuous: Y/N Segment %_____ No. Bands_____ Width_____

Sporadic: Y/N Segment %_____ Min/Max Dia_____ Impact Width_____

Est. Oil Thickness where > 1cm:_____cm. SU / SP / UP / MID / LO
Depth below top seds
Est. Oil Penetration: _____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 _____% "Free" Oil _____% Spattered_____% H/M/L/VL Sheen_____%

OIL WEATHERING (OW)
Fresh Oil_____% SU/SP/VP/MID/LO Choc Mousse 100 % SU/SP/VP/MID/LO

Pancake Mousse_____% SU/SP/VP/MID/LO Asphalt Mousse _____% SU/SP/VP/MID/LO

Tar Formation_____%

Comments:

ABOUT 1 MAN/HOUR IS REQUIRED FOR MANUAL REMOVAL OF 8 MOUSSE-BOUND DEBRIS BALLS @ HEAD OF INLET.

ACE 8701837

DOCUMENTATION:

(Map/Aerial photo marking segment boundaries Attached

VTR: (Y)/N Tape Number(s) Unknown

Photography: (Y)/N Roll Number(s) SMB-19 (7-14+7-15-87)

Sample Numbers Collected: None

7/14/89 SEGMENT FB-5
17:30 HRS (KZ-4) Foul Bay.

steep rocky walls (≤ 5 m high), mod. exposure; metased's / Chugach Terrane;

① ~ 1 man hour labor to manually remove mousse-bound debris balls @ M-HWL; about 200 linear feet of beach, ~ 1 ball per 10 ft; no buried balls;

ice-scoured rocks; land drop ~ 1 m; gvl/peb pockets prob. reworked moraines, v. well sorted;

"Fjord"; drowned U-shaped valley w/ abundt. moraine @ head; bldr-peb-gvl accumulation @ N side; steep rock wall on shore @ S;

skarned metased's; steep cliffs; foliat ⊥ foliat ∠ ↑ northward; test pits on all beaches - no oil. removed handfull of debris balls @ HWL @ pockets! ☺

halt segment @ 20:30 HRS

7/15/89
restart segment 08:00 HRS.

low relief, steep rocky shore; v. exposed; bldr-cob-gvl-peb beaches; trace grass-balls @ UHWL, 1 per 20 m max ρ; trace mousse coated peb's, ②, self cleaning insuff. oil for treatment. ! ! check all islets - clean.

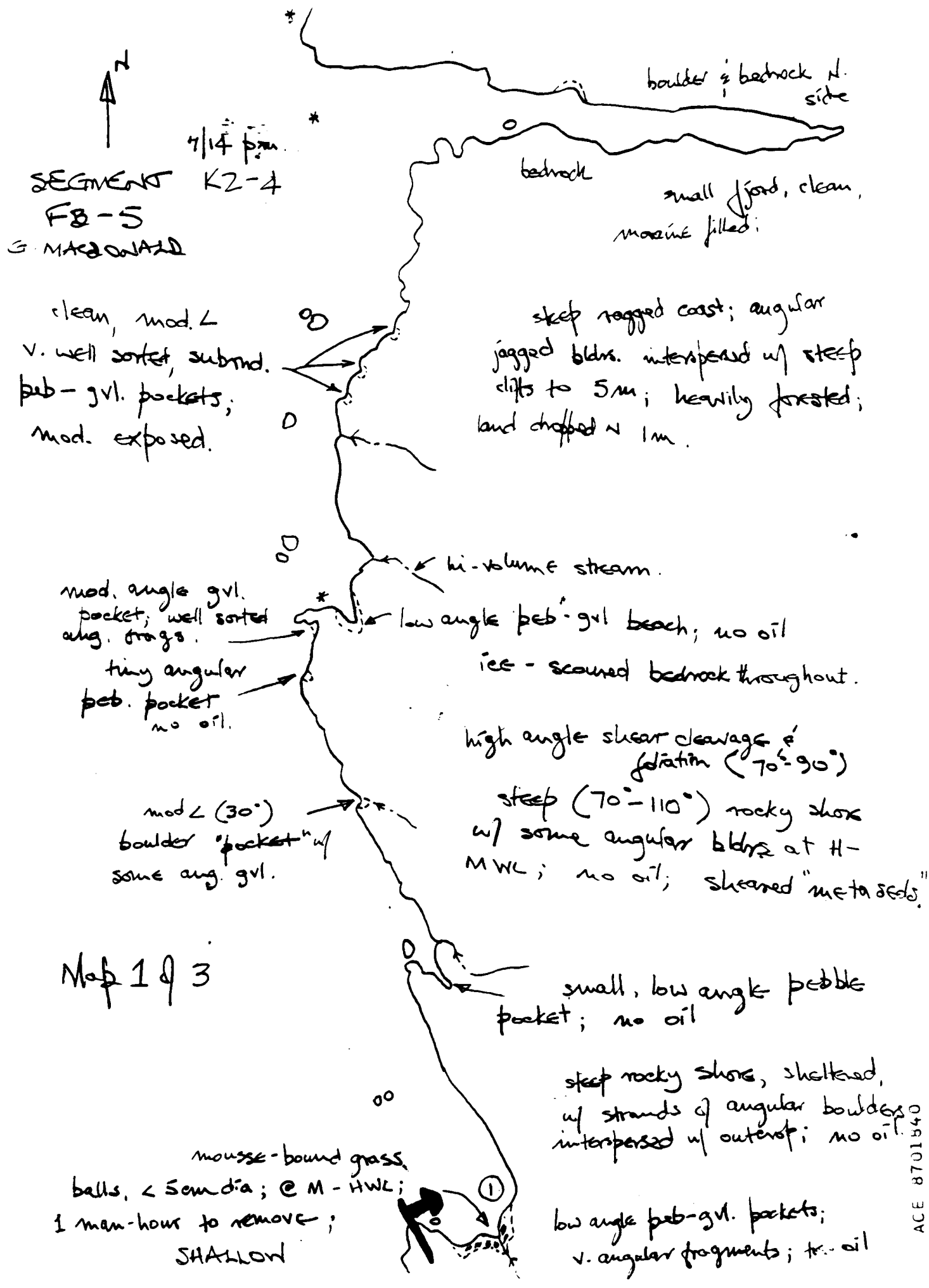
boulder stream headland; no oil. broad inlet w/ skerries & easterly "fjord" - no oil.

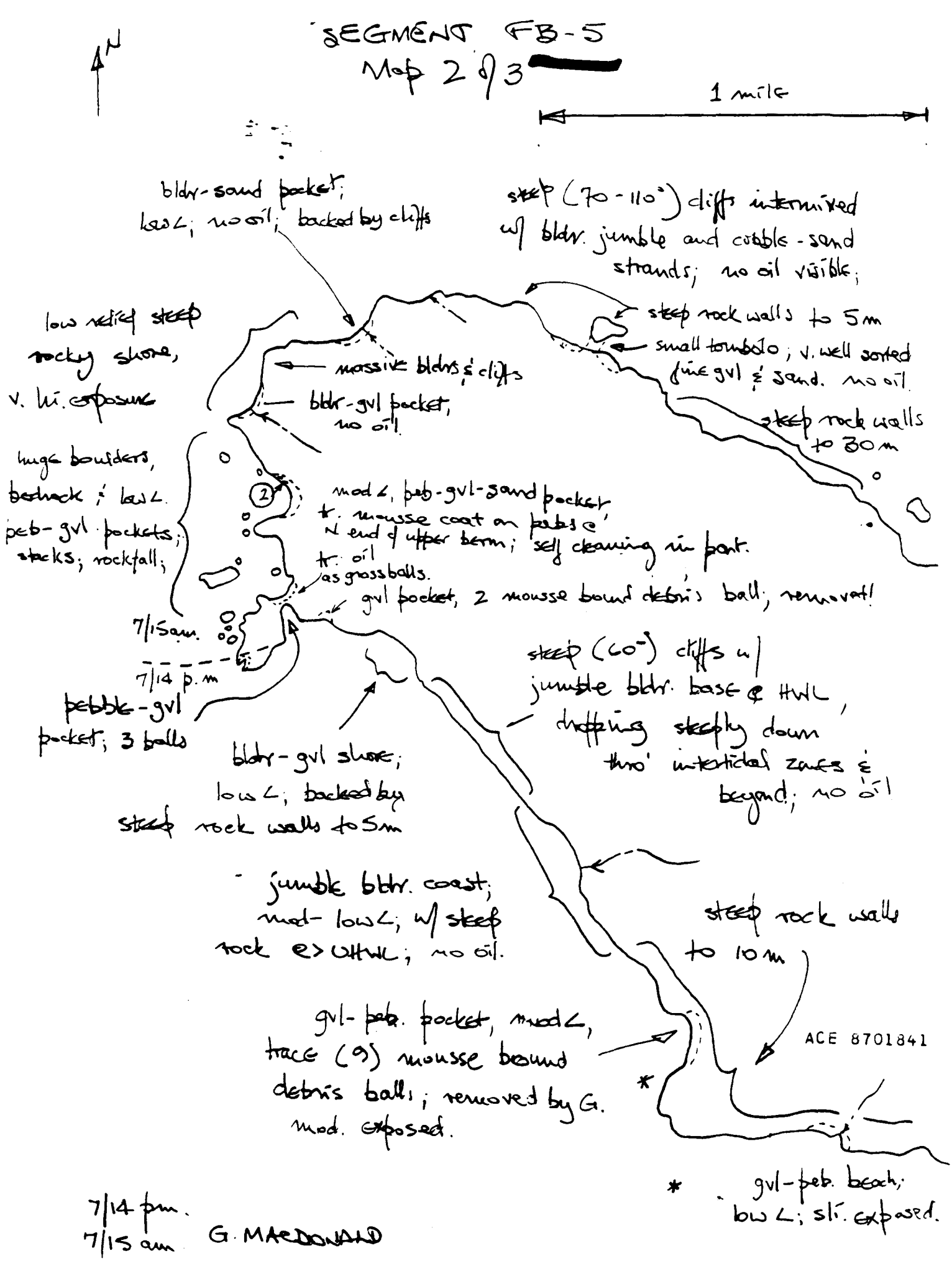
11:20 END of SEGMENT.

mousse splats & debris balls @ HWL; ½ m x 8 m; S end side of cobble trap; ~ 1 splat per 50 ft²; on bedrock, bldr, cobs.

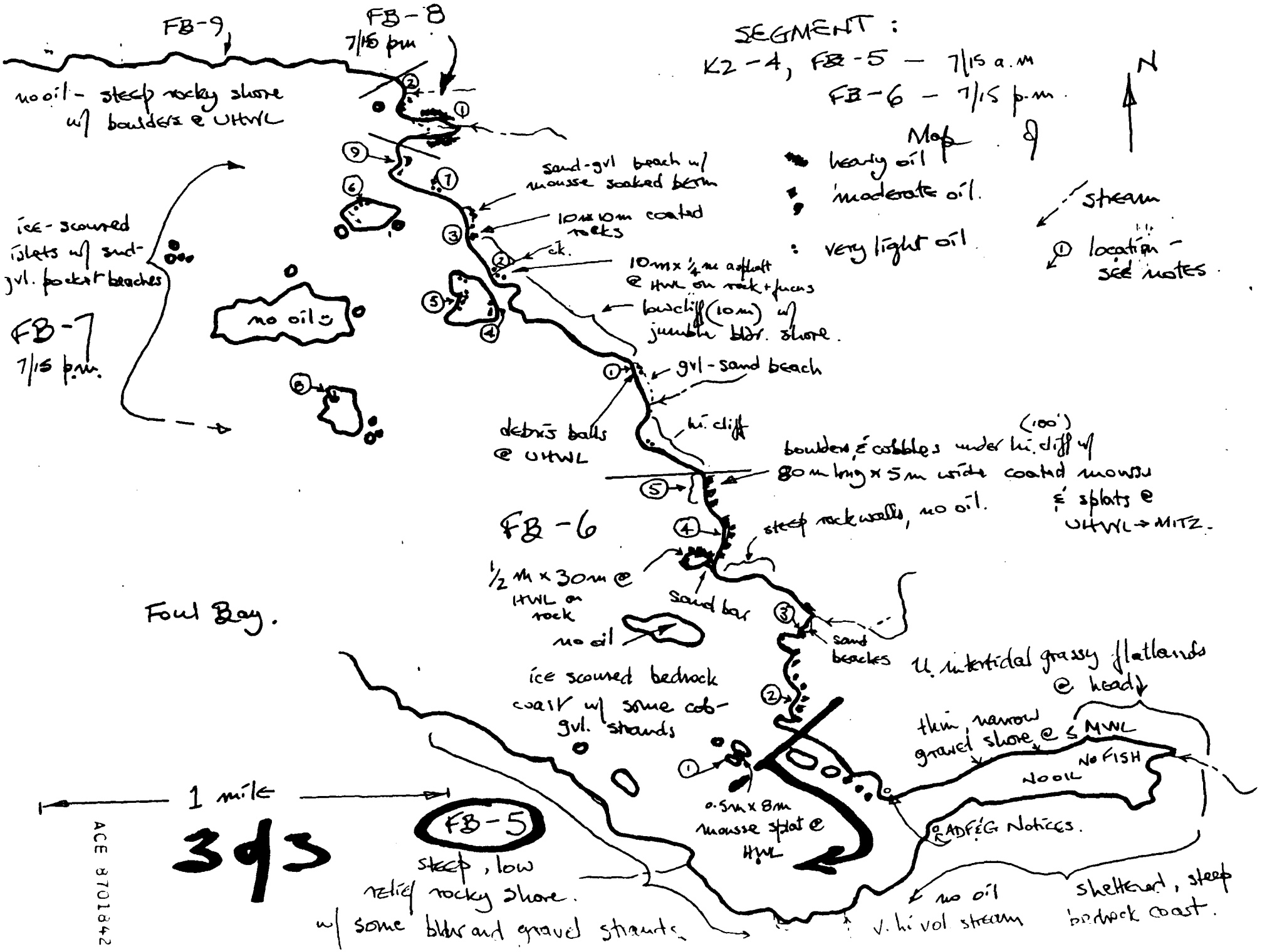
▲ NEXT SEGMENT.

ACE 8701839


N
4/14 pm.
SEGMENT K2-4
F8-5
G MACDONALD
boulder & bedrock N. side
bedrock
small fjord, clean, moraine filled;
clean, mod. ∠
v. well sorted, subrnd. peb - gvl. pockets;
mod. exposed.
steep ragged coast; angular jagged bldrs. interspersed w/ steep cliffs to 5m; heavily forested; land chopped ~ 1m.
hi-volume stream.
mod. angle gvl. pocket; well sorted ang. frags.
low angle peb-gvl beach; no oil
ice-scoured bedrock throughout.
tiny angular peb. pocket no oil.
high angle shear cleavage & foliation (70°-90°)
steep (70°-110°) rocky shore w/ some angular bldrs at H-MWL; no oil; sheared "meta seds."
mod ∠ (30°) boulder "pocket" w/ some ang. gvl.
Map 1 of 3
small, low angle pebble pocket; no oil
steep rocky shore, sheltered, w/ strands of angular boulders interspersed w/ outcrop; no oil
mousse-bound grass balls, < 5cm dia; @ M-HWL; 1 man-hour to remove; SHALLOW
low angle peb-gvl. pockets; v. angular fragments; tr. oil
ACE 8701840



7/14 pm.
7/15 am G. MACDONALD


FB-9
FB-8
7/15 pm
SEGMENT:
K2-4, FB-5 — 7/15 a.m
FB-6 — 7/15 p.m.
N
Map 9
no oil - steep rocky shore w/ boulders @ UHWL
heavy oil
moderate oil
very light oil
stream
① location - see notes
sand-gvl beach w/ mousse soaked berm
10m x 10m coated rocks
ck.
10m x ¼m asphalt @ HWL on rock + fucus
bluff (10m) w/ jumbled bldr. shore.
ice-scoured islets w/ sand-gvl. pocket beaches
FB-7
7/15 p.m.
no oil
gvl - sand beach
debris balls @ UHWL
hi. cliff
(100')
boulders & cobbles under hi. cliff w/ 80m long x 5m wide coated mousse & splats @ UHWL → MITZ.
FB-6
steep rock walls, no oil.
½ m x 30m @ HWL on rock
sand bar
no oil
Foul Bay.
ice scoured bedrock coast w/ some cob-gvl. strands
sand beaches
U. intertidal grassy flatlands @ head
thin, narrow gravel shore @ ≤ MWL
NO FISH
NO OIL
1 mile
0.5m x 8m mousse splat @ HWL
ADFEG Notices.
FB-5
steep, low relief rocky shore w/ some bldr and gravel strands
no oil
v. hi vol stream
sheltered, steep bedrock coast.
393
ACE 8701842

version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: Foul Bay SITE: NE Shore Foul Bay OBSERVER: SM BAN

LOCATION PREFIX: K2-4 SEG. NO.: FB-5 LENGTH: 24,300 (M)

DATE: 7/14/89 TIME (HHMM): 7-14 1745 7-15 0815 TIDE HT.: 7-14 + 2 to 3 7-15 ½ to 2 (M)

OILED ZONE: (Splash) High Medium Low Mousse-balls - very light

SUBSTRATUM: (Rocks Boulder Cobble Gravel Sand) Mud

LIVE BIOTA

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

Dense in lower ITZ on boulders - clumps often dense on cobble / gravel beaches - None oiled

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

Dense in boulder crevices. Some indiv. found in gravels at heads of Bays. None oiled

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

Adults dense on boulders and rock faces. Spat v. dense on all substrates in coves and protected bays. Nucella predating

Littorina

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

Dense in crevices - indivis. seen on rocks subtidally - not oiled

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

Many indiv. under Fucus fronds not oiled.

OTHER OBSERVATIONS: Many starfish subtidally including: Solaster, Pisaster, Pycnopodia, Henricia. Zostera beds in bays. Cyanea and Aurelia in water. Few tidal pools seen - most not highly diverse, but many have sculp.

CLEANUP PRECAUTIONS: Avoid healthy lower ITZ

Do not trample healthy areas during cleaning

MAMMALS: Otters (land and sea) X Harbor Seals X Sea Lions ___ Whales ___

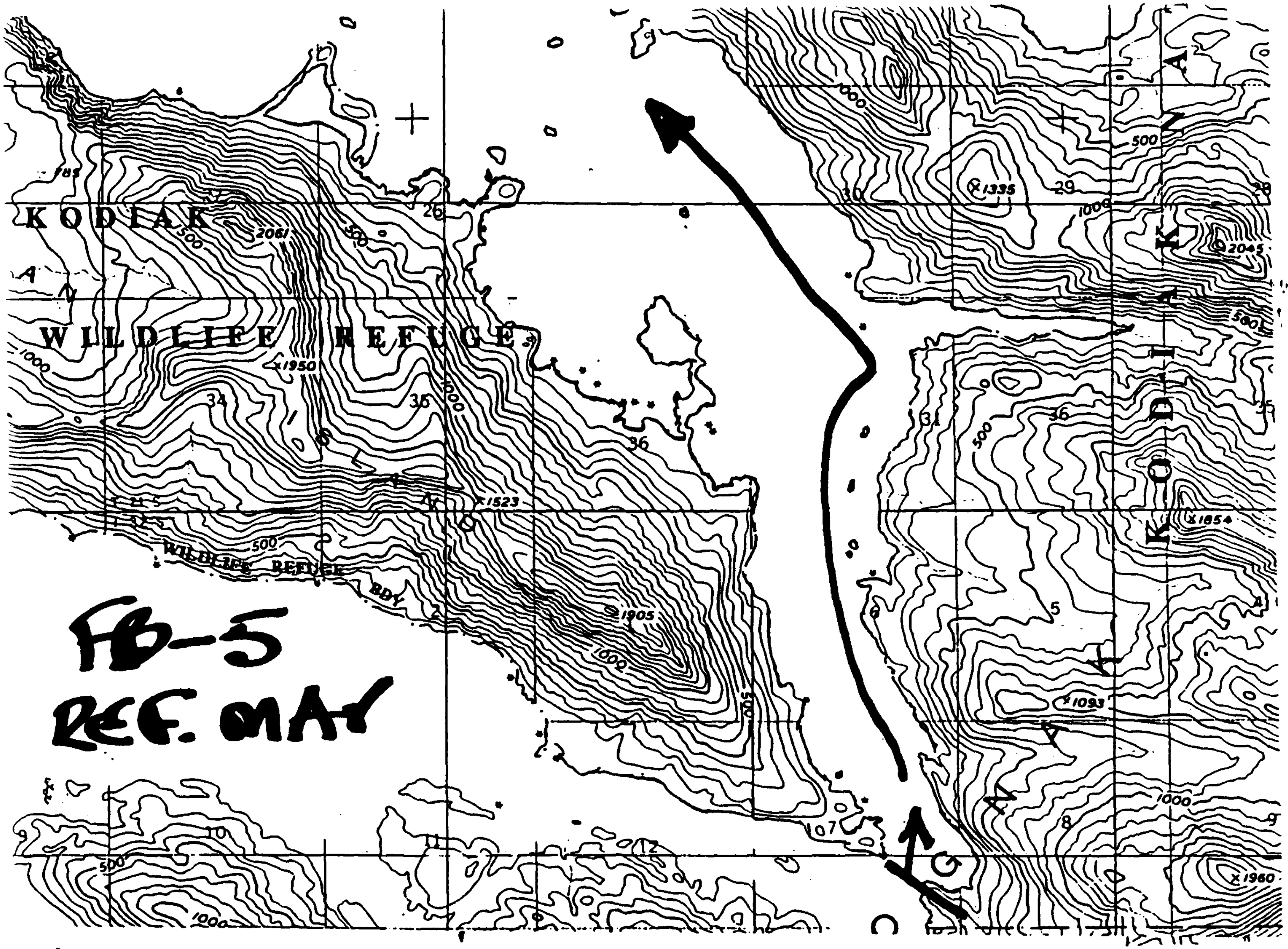
Other Deer tracks on beaches - Fox prints

BIRDS: Eagles (2 nests seen) old squaw, terns, oystercatchers, gulls, cormorants, goldeneyes, pigeon guillemots, puffins, kittiwakes

GENERAL OBSERVATIONS: Some Beaches in this long segment contained mousse based debris balls in the Strand zone. No organisms were impacted by oil.

ACE 8701843

KODIAK NATIONAL
KODIAK NATIONAL WILDLIFE REFUGE
BARANOF
ACE 8701845



1 of 2

ACE 8701845

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/16/89 SHORELINE SEGMENT K2-4-FB-6

LOCATION: (see enclosed map) N coast of Foul Bay - Afognak

ADEC NO. K2-4 SHORELINE ASSESSMENT DATE: 7/15/89

Recommended Cleanup Activity(ies):
- -Manual removal of mousse patties and oiled debris at location #1, 2 and 4.
- -Low pressure/warm water wash at locations 2,3,4 and 5.

Priorities/Considerations: Class 3-A

Ecological Constraints (from site survey):
- -No constraints to cleanup on gravel/pebble beaches.
- -Take appropriate measures to protect healthy lower intertidal zone, particularly in boulder/cobble areas.

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.

A. David McMahan Date: 7/26/89
State Historic Preservation Officer *

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

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ACE 8701847

SHORELINE OIL EVALUATION - KODIAK

Date: 7/15/89 Time: 11.20 Observer: G. MACDONALD.

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

LOCATION

LOCATION N. coast of FOUL BAY SEGMENT NUMBER K2-4, FB-6

LENGTH OF SHORELINE SEGMENT: 2,550 m

ACCESS: Foot/Vehicle (Boat) Barge/Helio/Float Plane)
↖ SHALLOW DRAFT ONLY

SHORELINE:

Shoreline Type: SPI (BEA) COV (HLD/STRT) Slope: (LANG) (HANG/VER/o'HANG) rocky shore
beaches

Wave Exposure: (High/Med) Low 5%

Sediment: B 30 % / C 5 % / P ¥ % / G * % / S 10 % / M ___ % / R 50 %

Drift Debris on Beach: (Yes) No (Supra/Upper) Mid/Lower Type seaweed, driftwood, logs, net.

OIL

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

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

Continuous: (Y) N % of Segment 15% Width of Band: 1→15 m

Sporadic: (Y) N % of Segment ≤5

Est. Oil Thickness where > 1cm: N/A cm Est. Oil Penetration: ≤ 10 cm

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

Fresh ____ % Mousse 100 % Tar Formation: TRACE %

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

Comments:

OIL AS PARTLY DRIED MOUSSE; AS COAT (THN < 0.5 mm) AND SLATS; ALSO AS SANDY MOUSSE PANCAKES; SANDS & BEDROCK HAVE LIMITED PENETRATION;

TREAT LOCATIONS (2) (3) (4) & (5) W/ HI. PRES. WASH AND/OR HOT WASH.

MANUALLY REMOVE SANDY MOUSSE CAKES & OILED DEBRIS @ LOCATIONS (2) & (4)

LOCATION (1) — SMALL CREW TO TREAT AS APPROPRIATE.

K2-9-FB-6

DOCUMENTATION:

(Map)/Aerial photo marking segment boundaries AHachon

VTR: (Y)/N Tape Number(s) Unknown

Photography: (Y)/N Roll Number(s) SMB-19 (7-15-87)

Sample Numbers Collected: None

7/15 p.m. SEGMENT FB-6

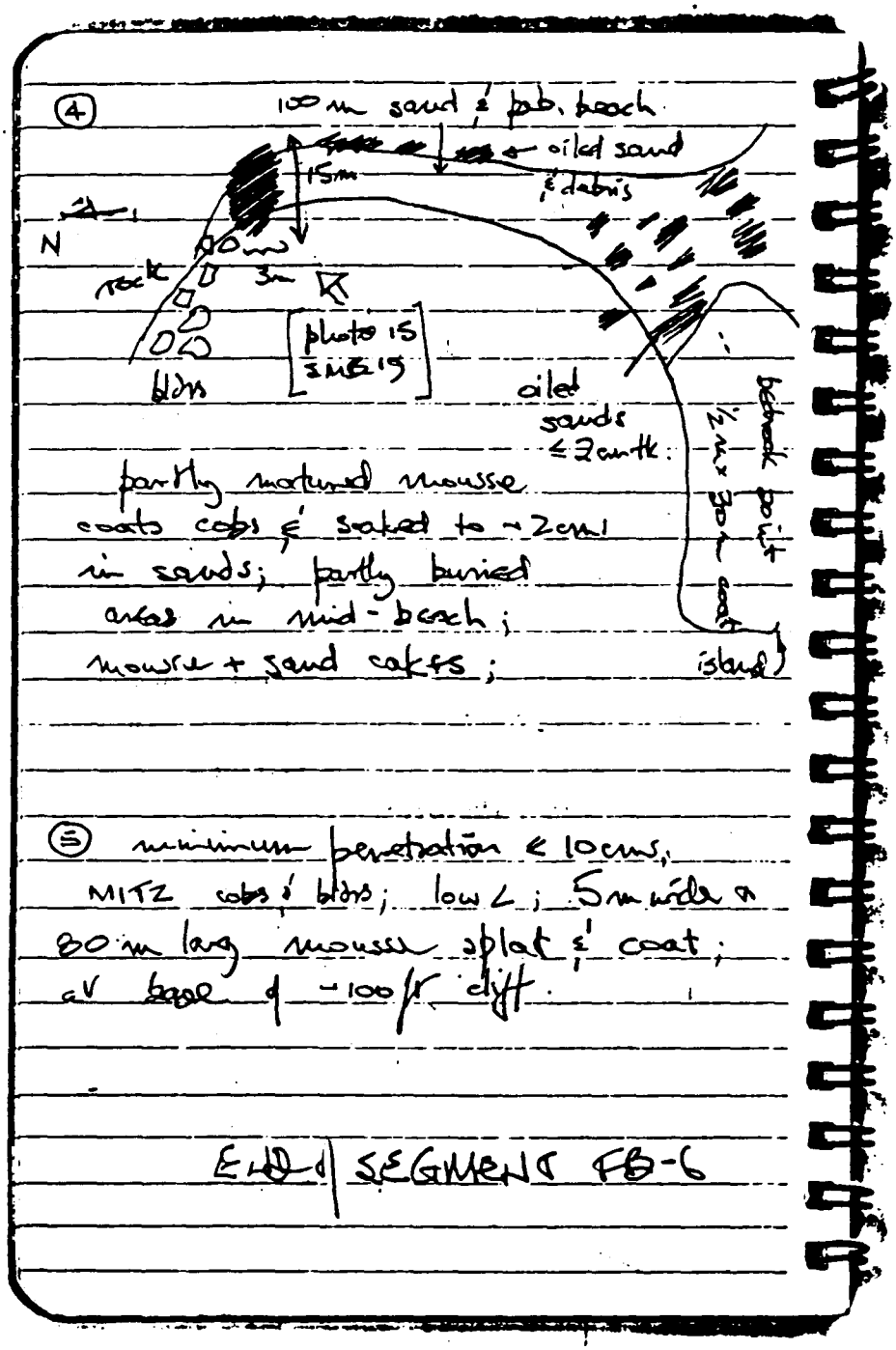
11.20

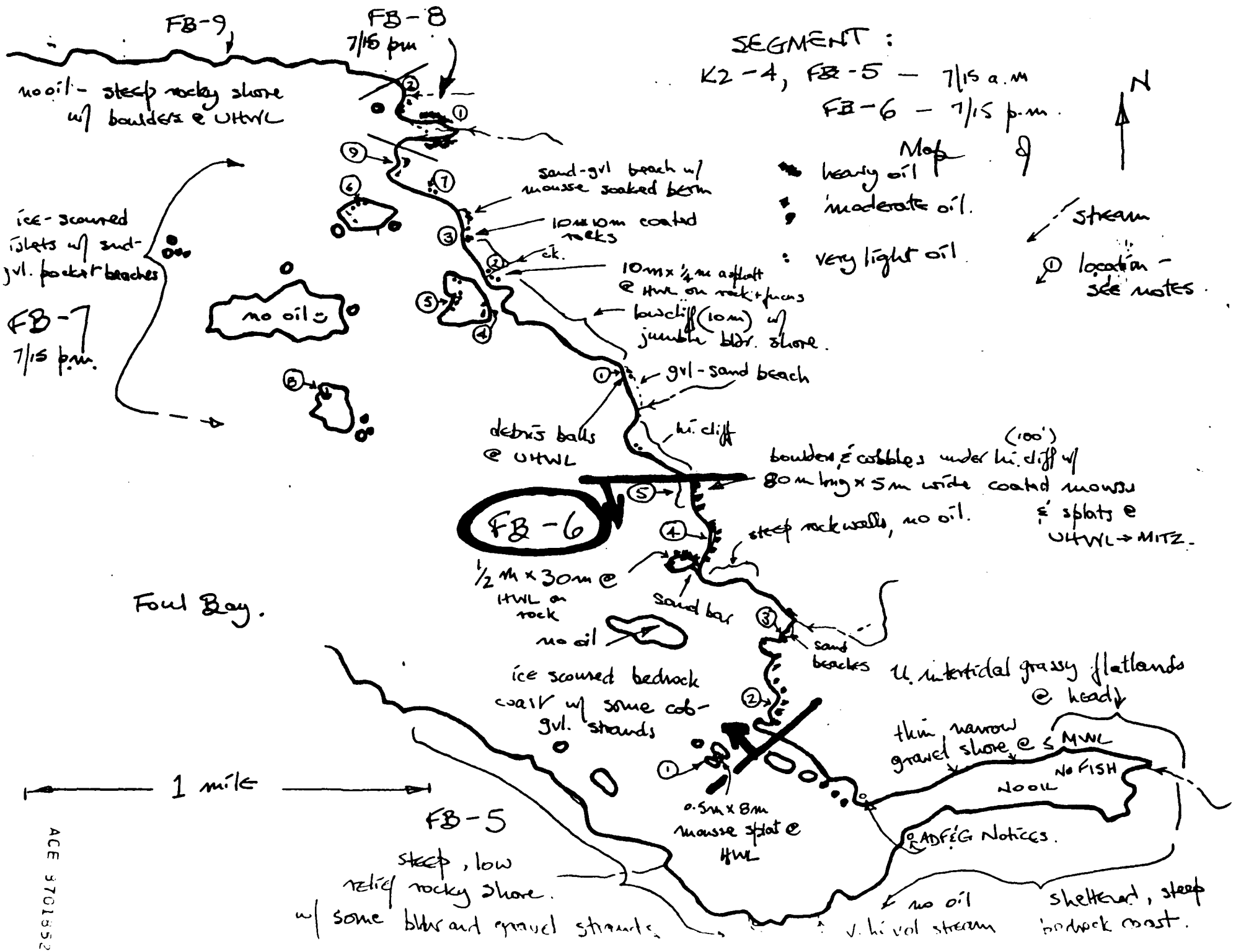
① Triple islet cluster – 0.5m x 8m mousse coated bedrock & cobbles @ HWZ; on NW facing walls of beach between the two larger islets; no penetr^n; few "grassoil" balls; ~ 1 splat/50ft^2; v. thin coat.

② 12.00 & 17.40 hrs 1–3 m wide x ≥ 150m of mousse coated bedrock and blds/cobbs; steep-walled exposed bedrock, oiled debris @ HWL–SP zone of gvl. pockets; no trace of mousse on gvl. pockets; tear pits show no buried mousse. mousse coating discontinuous but pervasive & TE occurs on NE conc of pockets to N of this; (*)

③ waterfall & 2 sand beaches; mousse coat A/A ~ 5m long x 3m wide; on bedrock + 'blds', no sand contam^n.

ACE 8701850


④
100 m sand & pob. beach
oiled sand & debris
15m
N
rock
3m
blobs
[photo 15 sheet 19]
oiled sands ≤ 2cm tk.
bedrock
partly matured mousse coats cobs & sealed to ~2cm in sands; partly buried areas in mid-beach; mousse + sand cakes;
island
⑤ minimum penetration ≤ 10cms, MITZ cobs & blobs; low ∠; 5m wide x 80 m long mousse splat & coat; av base of ~100 µ diff.
END SEGMENT FB-6


FB-9
FB-8
7/15 p.m.
SEGMENT:
K2-4, FB-5 — 7/15 a.m.
FB-6 — 7/15 p.m.
Map 9
N
heavy oil
moderate oil
very light oil
stream
① location - see notes.
no oil - steep rocky shore w/ boulders @ UHWL
sand-gvl beach w/ mousse soaked berm
10m x 10m coated rocks
ck.
10m x ¼m asphalt @ HWL on rock + fucus
bouldery cliff (10m) w/ jumbly bldr. shore.
gvl-sand beach
ice-scoured islets w/ sand-gvl. pocket beaches
FB-7
7/15 p.m.
no oil
debris balls @ UHWL
hi. cliff
(100')
boulders & cobbles under hi. cliff w/ 80m long x 5m wide coated mousse & splats @ UHWL → MITZ.
FB-6
½ m x 30m @ HWL on rock
steep rockwalls, no oil.
sand bar
no oil
sand beaches
ice scoured bedrock coast w/ some cob-gvl. strands
U. intertidal grassy flatlands @ head
thin narrow gravel shore @ ≤ MWL
NO FISH
NO OIL
0.5m x 8m mousse splat @ HWL
RADFEG Notices.
Foul Bay.
1 mile
FB-5
steep, low relief rocky shore w/ some bldr and gravel strands
no oil
v. hi vol stream
sheltered, steep bedrock coast.
ACE 3701552

ECOLOGICAL EVALUATION

LOCATION: Foul Bay SITE: N. Shore Foul Bay OBSERVER: SM BnW

LOCATION PREFIX: K2-4 SEG. NO.: FB-6 LENGTH: _____ (M)

DATE: 7/15/89 TIME (HHMM): 1100 TIDE HT.: +1 to 3 (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 on boulders - Several areas oiled Approx. area of oiled seaweed 2½ m². Halosaccion also oiled.

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

Dense in crevices, and on boulders at low water. None oiled

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

Dense spat in lower ITZ - No spat oiled. Adults high in ITZ oiled. Total area of Balanus impacted ±3 m².

Littorina

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

Dense subtidally and in crevices. Some patches oiled. Total area ± ½ m²

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

Several in tidal pools and Fucus fronds - None oiled

OTHER OBSERVATIONS: Tidal pools among boulders exhibit some sheen - Pagurus and Littorina alive. Other pools very healthy and diverse.

CLEANUP PRECAUTIONS: No constraints on cobble/gravel beaches. Take appropriate measures to protect healthy lower intertidal, particularly tidal pools, in boulder areas.

MAMMALS: Otters X Harbor Seals ___ Sea Lions ___ Whales ___

Other Deer tracks

BIRDS: Seagull with chick on island, Dead bird on boulders, spp unknown

GENERAL OBSERVATIONS: Fucus, Balanus, Littorina impacted by oiling. Oil is high in ITZ - lower intertidal areas not impacted.

Devil Inlet
R 22 W
R 21 W
T 25 S
FOUL
REF. MAP
ACE 8701855

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/16/89 SHORELINE SEGMENT K2-4-FB-7

LOCATION: (see enclosed map) Rocky Island group - NE foul bay

Afognak Island

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

Recommended Cleanup Activity(ies):

-Manual removal of mousse patties and oiled debris.
-Low pressure/warm water wash of mousse coated rocks at locations 2,3,4,5,8 and 9. High pressure wash may be necessary to remove tar splats.

Priorities/Considerations: Class 5-A

-Suggest small crews and small boats for these small oiled locations.

Ecological Constraints (from site survey):

-No constraints on gravel/pebble beaches.
-Take appropriate measures to protect lower intertidal zone and tidal pools.
-Restrict crew access to clean areas.

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.

J. Eric McMahan Date: 7/26/89

State Historic Preservation Officer *

EXXON: Date:

FOSC: Date:

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

+15
ACE 8701856

(version 5/16/89)

SHORELINE OIL EVALUATION FORM - KODIAK

Date: 7/15/89 Time: 18:25 Observer: G. MACDONALD

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

LOCATION ISLAND GROUP IN NE
LOCATION FOUL BAY - KROSNAK. SEGMENT I.D. K2-4, FB-7

LENGTH OF SHORELINE SEGMENT: 5,500 m

ACCESS: Foot/Vehicle/(Boat)/Barge/Helio/Float Plane
SMALL, SHALLOW DRAFT ONLY

SHORELINE:
Shoreline Type: SPI/(BEA)/(COV)/HLD/STRT/(ISLE.) Slope: (LANG)/(HANG)/VER
beach rock wall.

Wave Exposure: High/(Med)/Low

Sediment: B 5 % / C 5 % / P 10 % / G ~~10~~ % / S ~~10~~ % / M ___ % / R 80 %

Drift Debris on Beach: (Yes)/No (Supra)/Upper/Mid/Lower Type SEAWEED, SOME DRIFTWOOD

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 %_____ No. Bands_____ Width_____

Sporadic: (Y)/N Segment % 2% Min/Max Dia_____ Impact Width max 10m, DISCONTIN.

Est. Oil Thickness where > 1cm: ϕ cm. SU / SP / UP / MID / LO

Est. Oil Penetration: (Depth below top seds) ≤ 30 cm @ BERM 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 ____ % "Free" Oil ____ % Spattered 70 % COATED 30 % (M) / H/M/(L)/VL Sheen____ %

OIL WEATHERING (OW)
Fresh Oil____ % SU/SP/VP/MID/LO Choc Mousse 30 % SU/SP/(VP)/MID/LO

Pancake Mousse 20 % SU/(SP/VP/MID)/LO Asphalt Mousse 50 % SU/(SP)/(VP/MID)/LO

Tar Formation TRACE %

Comments:

SPORADIC, ISOLATED SMALL OILED OCCURENCES;

SUGGEST SMALL CREWS W/ WEEDBURNERS TO TORCH OILED FUCUS AND OIL SPOTTED LOGS - LOCATION 4, 6, 7, 8, 2;

NEED SHALLOW DRAFT WORK BOATS HERE;

HIGH MANUAL LABOR AREA.

ACE 8701857

DOCUMENTATION:

Map/Aerial photo marking segment boundaries Attached

VTR: (Y)/N Tape Number(s) Unknown

Photography: (Y)/N Roll Number(s) SMB-19 (7-15-89)

Sample Numbers Collected: None

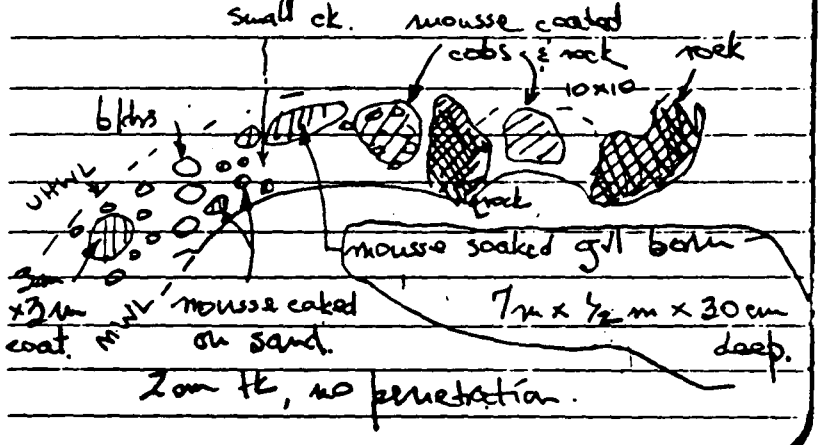
7/15 SEGMENT FB-7

18.25 hrs

100' cliffs w/ blder-gvl strandr, long 120m sand-gvl beach - few ① grass oil / debris balls @ N end in washover berm & SP - supra zone, steep rocky cliff to 10m w/ jumble blder shor.

② asphalt mousse scum line 0.25m x 10m @ HWL on fucus.

③ mature mousse coat on cobs & rocks; no penetr"; SP → HITZ; + mousse splats; 7m of mousse soaked HITZ berm-gvl to 15 cms w/ sand



19.30 HCS ④ tiny pebb. pocket beach w/ mousse + debris coated area ~ 10 m long x 5 m wide plus mousse coating adjacent bedrock; v. sheltered; some splats on intertidal grass mat - cut out to clean; UITZ → MITZ; no penetr^n; try weed-burning here!

⑤ trace - v. light coat mousse on outcropping bedrock in pebb-grl pocket; tr. mousse grass cakes; no penetr^n; oiled debris & strand line under dead standing trees; mousse-debris balls buried in gyls @ UHWL & MITZ berm - rake thro' berm & collect; 30 m long x 10 m wide area.

⑥ 3 m x 3 m mousse stained rock w/ asphalt soaked fucus @ HWL - weedburner task.

⑦ 2 m x 1 m mousse soaked fucus & trace splats on blds.

⑧ asphalt mousse splats on bldr-cob-pebb rocky recess; HITZ → supra; 3 m long pebble berm soaked to ≥ 30 cm w/ mousse; oiled debris strand behind berm; ~ 10 m wide x 30 m coated zone; mousse coated tree stumps; 20.30 pers.

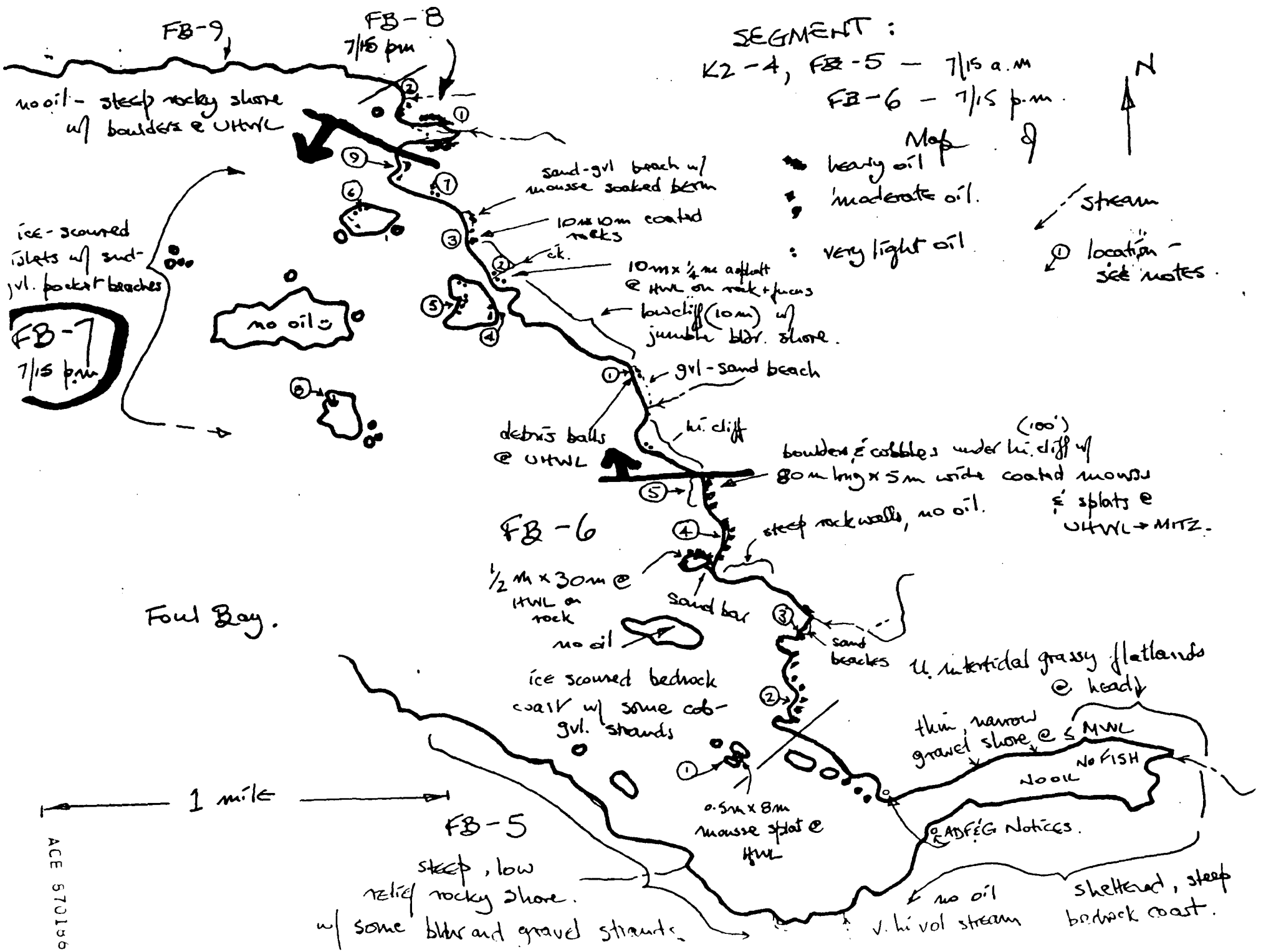
⑨ ice scoured bedrock & boulder recess, mousse coat. HITZ - SP zone; ~ 20 m long x 10 m wide; no penetr^n; hi-P wash; steam if necessary;

Use small vessel & shallow draft work boats to treat this area -

weedburners will be suitable to torch oiled fucus & splattered logs.

End of SEGMENT FB-7

ACE a701860


FB-9
FB-8
7/15 pm
SEGMENT:
K2-4, FB-5 — 7/15 a.m
FB-6 — 7/15 p.m.
Map 9
N
no oil - steep rocky shore w/ boulders @ UHWL
heavy oil
moderate oil
very light oil
stream
① location - see notes.
sand-gvl beach w/ mousse soaked berm
10m x 10m coated rocks
ck.
10m x ½m asphalt @ HWL on rock + fucus
low cliff (10m) w/ jumble bldr. shore.
ice-scoured islets w/ sand-gvl. pocket beaches
FB-7
7/15 p.m
no oil
gvl-sand beach
hi. cliff
(100')
debris balls @ UHWL
boulders & cobbles under hi. cliff w/ 80m long x 5m wide coated mousse & splats @ UHWL → MHTL.
FB-6
steep rock walls, no oil.
½ m x 30m @ HWL on rock
sand bar
no oil
sand beaches
ice scoured bedrock coast w/ some cob-gvl. strands
U. intertidal grassy flatlands @ head
thin, narrow gravel shore @ ≤ MWL
NO FISH
NOOK
0.5m x 8m mousse splat @ HWL
ADFG Notices.
Foul Bay.
1 mile
FB-5
steep, low relief rocky shore. w/ some bldr and gravel strands.
no oil
v. hi vol stream
sheltered, steep bedrock coast.
ACE 5701961

ECOLOGICAL EVALUATION

LOCATION: Foul Bay SITE: N. Shore OBSERVER: SMBAN

LOCATION PREFIX: K2-4 SEG. NO.: FB-07 LENGTH: 5,500 (M)

DATE: 7/15/89 TIME (HHMM): 1825 TIDE HT.: +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

Oiled high in ITZ. Total area of oiled Fucus = 14 m²
(Most of this is on rock FACE or steep boulder beaches)

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

Dense in crevices - sparse elsewhere none oiled.
More dense on west facing shores of islands

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

Dense spat in lower ITZ - unoiled. Adults in upper ITZ of splash zone oiled - TOTAL oiled area of Balanus = ± 3½ m²

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

Dense under Fucus fronds - also oiled ± 2 m²

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

Many under Fucus also oiled where Fucus is oiled

OTHER OBSERVATIONS: No amphipods under pebbles on beaches.
Tidal pools are healthy & diverse NO sheen on pools

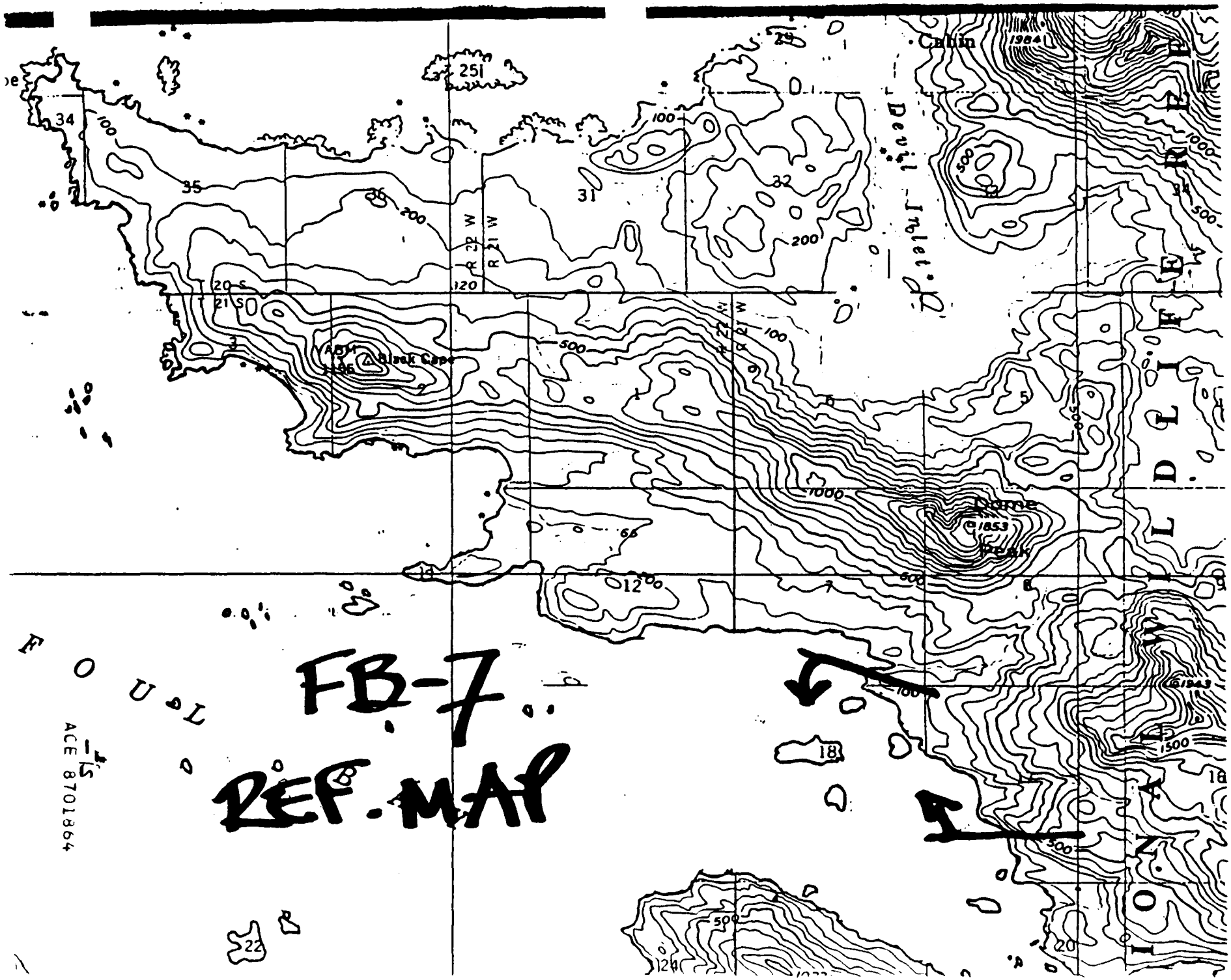
CLEANUP PRECAUTIONS: No constraints on gravel/Pebble areas.
Protect lower intertidal and tidal pools. Restrict Access.

MAMMALS: Otters (land & Sea) X Harbor Seals ____ Sea Lions ____ Whales ____
Other ____

BIRDS: Eagles, gulls, oystercatchers, puffins

GENERAL OBSERVATIONS: Fucus, Balanus and Littorines located high in ITZ have been impacted. Lower ITZ is healthy throughout segment.

ACE 8701862


Cabin
1984
Devil Island
Black Cape
Dome
1853
Peak
FB-7
REF. MAP
ACE 8701864

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/16/89 SHORELINE SEGMENT K2-4-FB-8

LOCATION: (see enclosed map) NE coast of Foul Bay - Afognak Bay

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

Recommended Cleanup Activity(ies):

- -Manual removal of mousse patties and oiled debris.
- -Low pressure/warm water wash (with boom across inlet) of mousse coated areas.
- -Wash or scrape/wipe oiled logs.

Priorities/Considerations: Class 3-B

- -Use small crew with intent to minimize traffic and impact in sandy inlet.
- -Submerged mousse patties in lower intertidal zone.

Ecological Constraints (from site survey):

- -Do not wash oil into stream.
- -Take appropriate measures to protect healthy lower intertidal areas.

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.

J. David McMahan Date: 7/26/89

State Historic Preservation Officer *

EXXON:_____ Date:_____

FOSC:_____ Date:_____

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

+/s
ACE 8701865

(version 5/16/89)

SHORELINE OIL EVALUATION FORM - KODIAK

Date: 7/15/89 Time: 20:40 Observer: G. MACDONALD

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

LOCATION
LOCATION NE COAST of FOUL BAY SEGMENT I.D. K2-4, FB-8

LENGTH OF SHORELINE SEGMENT: 700 m

ACCESS: Foot/Vehicle/(Boat/Barge)/Helio/Float Plane beach, boulders
SHALLOW DRAFT

SHORELINE:
Shoreline Type: SPI/BEA/COV/HLD/STRT/(INLET) Slope: (LANG)/(MOD.—rock)/VER

Wave Exposure: (High)(Med)(Low) — V. NARROW FETCH ANGLE — V. HI. FETCH (>40 miles)

Sediment: B 10 % / C 10 % / P 35 % / G 20 % / S 15 % / M [redacted] % /R 10 %

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 % ~35% No. Bands 1 Width 4m - 10m

Sporadic: Y/(N) Segment %_____ Min/Max Dia_____ Impact Width_____

Est. Oil Thickness where > 1cm:_____cm. SU / SP / UP / MID / LO
Depth below top seds
Est. Oil Penetration: <10 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
COATED 80 % (M)
Pooled Oil _____% "Free" Oil _____% Spattered 10 % H/(M/L)/VL Sheen_____%
MOUSSE CAKES 10 % (L)

OIL WEATHERING (OW)
Fresh Oil_____% SU/SP/VP/MID/LO Choc Mousse TRACE % SU/SP/VP/MID/LO

Pancake Mousse 20 % SU/(SP/VP/MID)/LO Asphalt Mousse 10 % SU/(SP/VP)/MID/LO

Tar Formation_____%

Comments:

SMALL INLET W/ ABUNDANT GRAVEL OUTWASH "FAN";
SUNKEN MOUSSE PANCAKES WIDESPREAD & BEYOND LOW TIDE LEVEL - COULD BE COLLECTED EASILY W/ SMALL, LONG-HANDLE DIPNET; CAKES ALSO COMMON ON SMALL BEACH TO NORTH — COATED W/ SAND

ACE 8701866

K2-4-FB-8

DOCUMENTATION:

(Map)/Aerial photo marking segment boundaries Attached

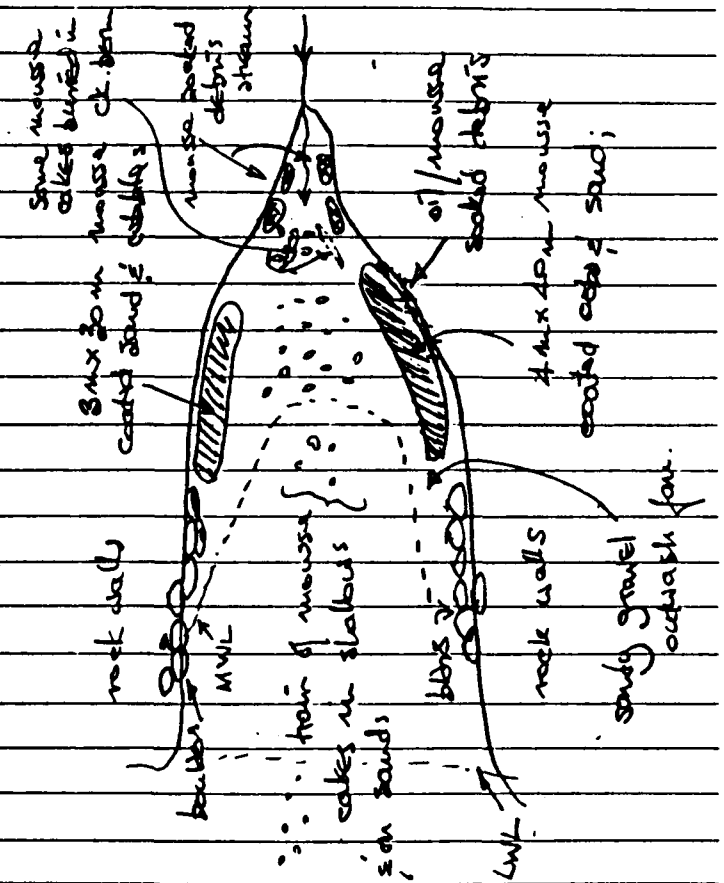
VTR: (Y)/N Tape Number(s) Unknown

Photography: (Y)/N Roll Number(s) 5-5-19 (7-15-89)

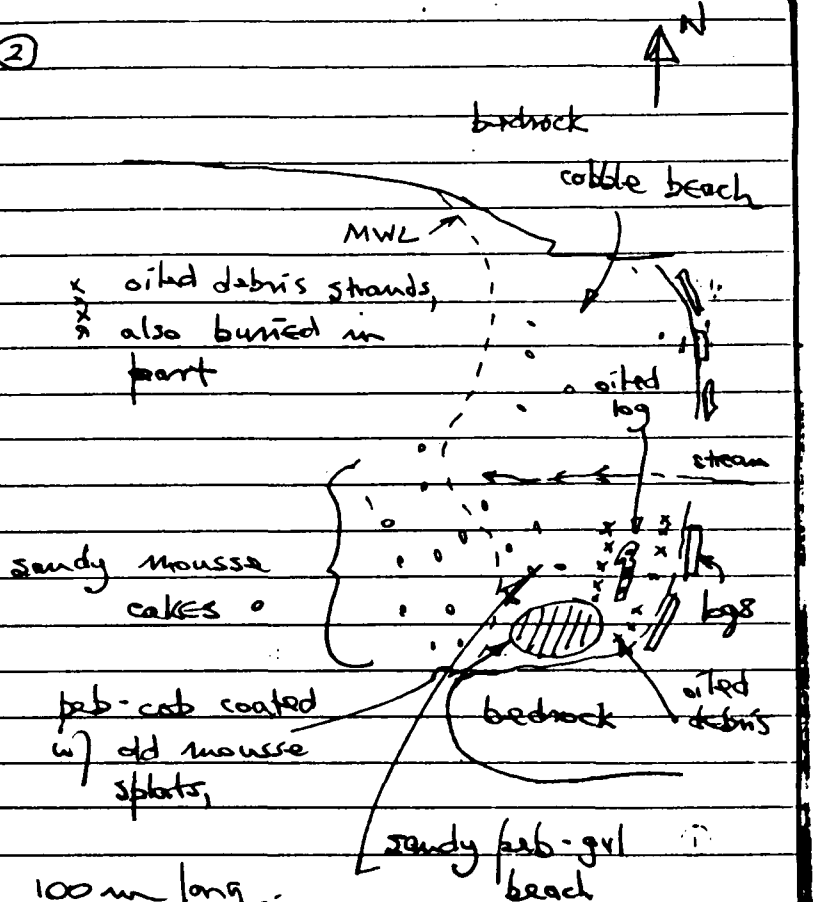
Sample Numbers Collected: None

20-10 hrs SEGMENT FB-8 7/15 p.m

exposed tidal inlet w/ coarse sand & gvl outwash ; small stream



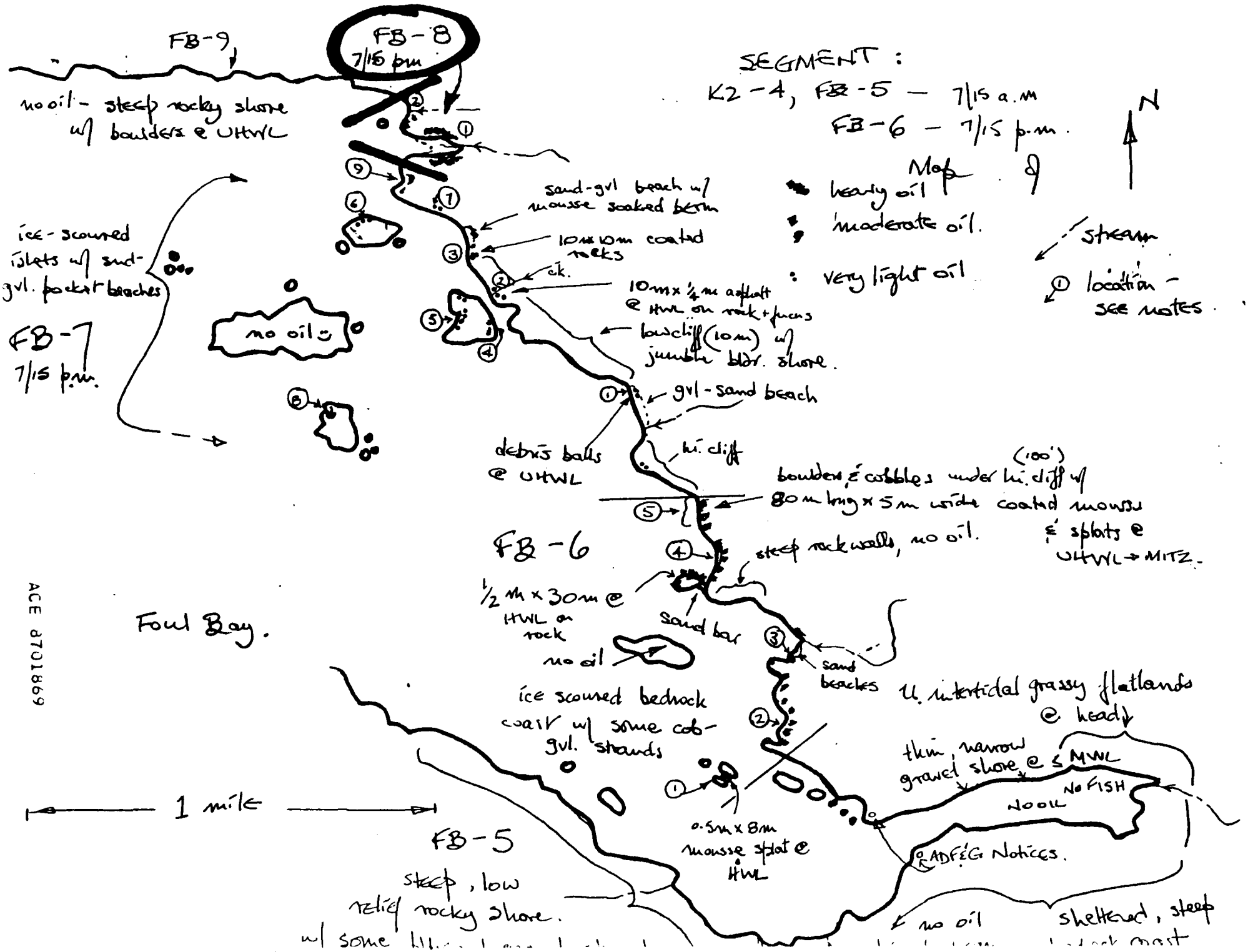
(2)



End of SEGMENT FB-8

21:30 hrs

ACE 870186


FB-9
FB-8
7/15 pm
no oil - steep rocky shore w/ boulders @ UHWL
SEGMENT :
K2-4, FB-5 — 7/15 a.m
FB-6 — 7/15 p.m.
Map 9
N
heavy oil
moderate oil
very light oil
stream
① location - see notes
sand-gvl beach w/ mousse soaked berm
10m x 10m coated rocks
ck.
10m x ½m asphalt @ HWL on rock + grass
bouldercliff (10m) w/ jumbled bldr. shore.
gvl - sand beach
ice-scoured islets w/ sand-gvl. pocket beaches
FB-7
7/15 p.m.
no oil
debris balls @ UHWL
hi. cliff
(100')
boulders & cobbles under hi. cliff w/ 80m long x 5m wide coated mousse & splats @ UHWL → MITZ.
FB-6
steep rock walls, no oil.
½m x 30m @ HWL on rock
sand bar
no oil
sand beaches
U. intertidal grassy flatlands @ head
Foul Bay.
ice scoured bedrock coast w/ some cob-gvl. strands
thin, narrow gravel shore @ ≤ MWL
NO FISH
NO OIL
0.5m x 8m mousse splat @ HWL
ADFEG Notices.
1 mile
FB-5
steep, low relief rocky shore.
w/ some
no oil
sheltered, steep
ACE #701869

ECOLOGICAL EVALUATION

LOCATION: Foul Bay SITE: N. Shore OBSERVER: SM BAN

LOCATION PREFIX: K2-4 SEG. NO.: FB-8 LENGTH: ~~[illegible]~~ 900 (M)

DATE: 7/15/89 TIME (HHMM): 2030 TIDE HT.: + 1½ (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

UNOILED
Clumps among gravel at stream margins - Dense on boulders
Oiled high in ITZ - TOTAL area of oiled Fucus ± 5m²

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

Dense subtidally - None oiled

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

Adults in upper ITZ oiled total area of oiled Balanus = 5m²

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

Dense under Fucus fronds most not oiled

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

Few individuals seen - None oiled

OTHER OBSERVATIONS: Small Fish in water - many dead clam shells in sandy lagoon - indicates rich clam beds

CLEANUP PRECAUTIONS: Do not wash oil into stream. Protect areas of healthy vegetation on cobbles in lower ITZ. Minimize disturbance to sandy bay when collecting mousse balls.

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

BIRDS: Gulls crows

GENERAL OBSERVATIONS: This small lagoon is oiled throughout in intertidal. Fucus and Balanus are impacted. Care must be taken to protect the stream

Devil Inlet
Cape
1853
R 21 W
R 22 W
R 23 W
FB-8
REF. MAP
ACE 8701872

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/16/89 SHORELINE SEGMENT K2-4-FB-9

LOCATION: (see enclosed map) NE coast of Foul Bay - Afognak Bay

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

Recommended Cleanup Activity(ies):
-No cleanup recommended due to apparent absence of oil. Subject to FOSC reassessment at a later date.

Priorities/Considerations: Class

Ecological Constraints (from site survey):

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.

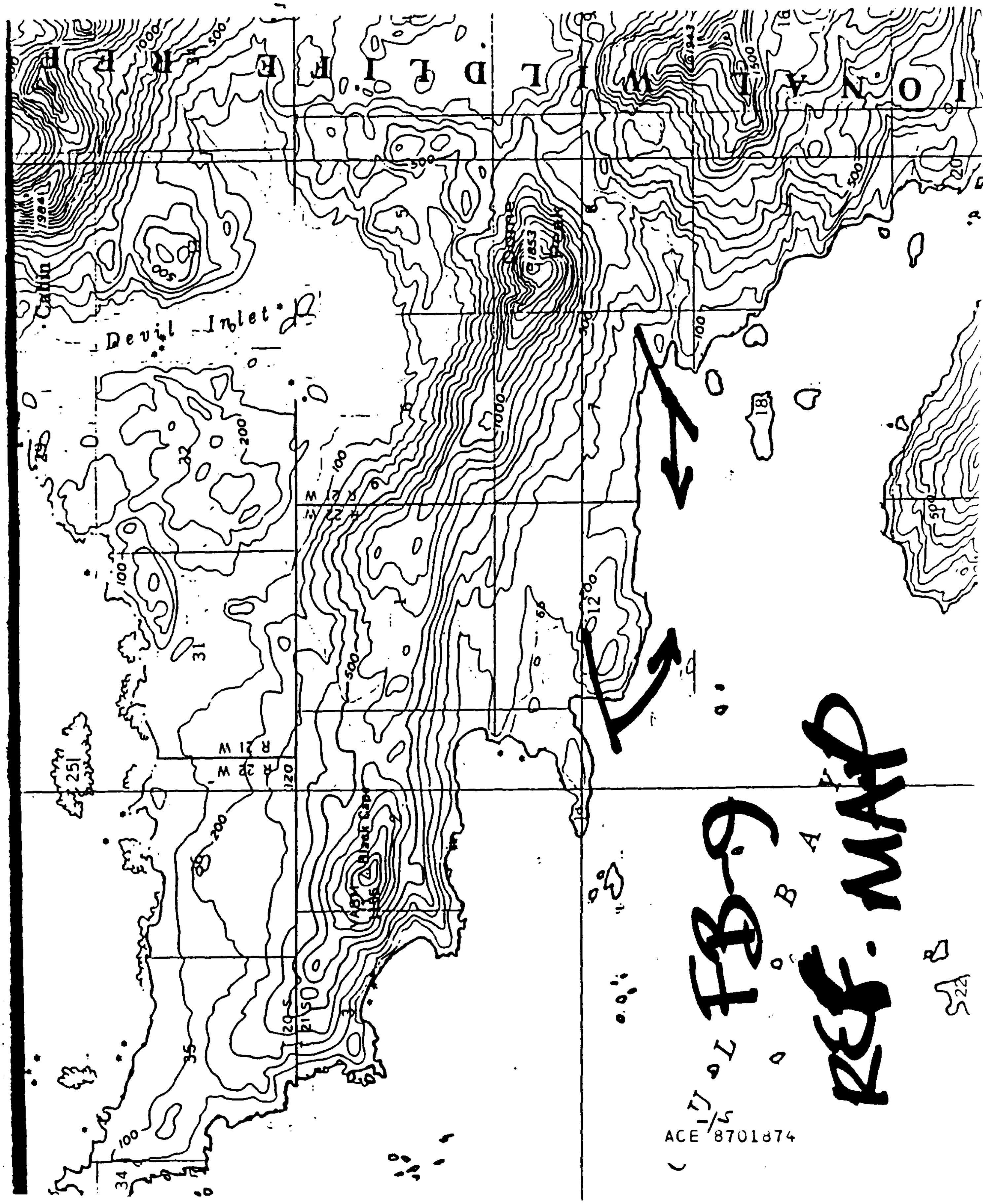
A. David McMahon Date: 7/26/89
State Historic Preservation Officer *

EXXON:_____ Date:_____

FOSC:_____ Date:_____

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

+/S
ACE 8701873


Devil Inlet
Cabin
Black Cap
R 21 W
R 22 W
FB-9
REF. MAP
ACE 8701874

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/16/89 SHORELINE SEGMENT K2-4-FB-9

LOCATION: (see enclosed map) NE coast of Foul Bay - Afognak Bay

---

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

Recommended Cleanup Activity(ies):
-No cleanup recommended due to apparent absence of oil. Subject to FOSC reassessment at a later date.

Priorities/Considerations: Class

Ecological Constraints (from site survey):

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.

J. David McMahan Date: 7/26/89
State Historic Preservation Officer *

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

ACE 8701875 +1/5

(version 5/16/89)

SHORELINE OIL EVALUATION FORM - KODIAK

Date: 7/16/89 Time: 07:20 Observer: G. MACDONALD

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

LOCATION
LOCATION N. COAST of FOUL BAY. SEGMENT I.D. K2-4, FB-9

LENGTH OF SHORELINE SEGMENT: 4,350 m

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

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

Wave Exposure: (High)/(Med)/Low

Sediment: B 25 % / C ___ % / P 5 % / G 5 % / S ___ % / M ___ % / R 70 %

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

OIL
Degree of Oiling: Heavy/Moderate/Light/(No Oil)/Unobserved/Very Light

Total Area of Beach Impact: SU / SP / H / M / L NOT APPLICABLE

OIL DISTRIBUTION
Continuous: Y/N Segment %_____ No. Bands_____ Width_____

Sporadic: Y/N Segment %_____ Min/Max Dia_____ Impact Width_____

Est. Oil Thickness where > 1cm: _____cm. SU / SP / UP / MID / LO
Depth below top seds
Est. Oil Penetration: _____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 _____% "Free" Oil _____% Spattered_____% H/M/L/VL Sheen_____%

OIL WEATHERING (OW)
Fresh Oil_____% SU/SP/VP/MID/LO Choc Mousse_____% SU/SP/VP/MID/LO

Pancake Mousse_____% SU/SP/VP/MID/LO Asphalt Mousse _____% SU/SP/VP/MID/LO

Tar Formation_____%

Comments:

STEEP ROCKY LOW RELIEF COAST; ICE-SCOURED;
BOULDERS AT BASE of ROCK FACES.
NO OIL.

ACE 8701876

IL-2-4-FB-9

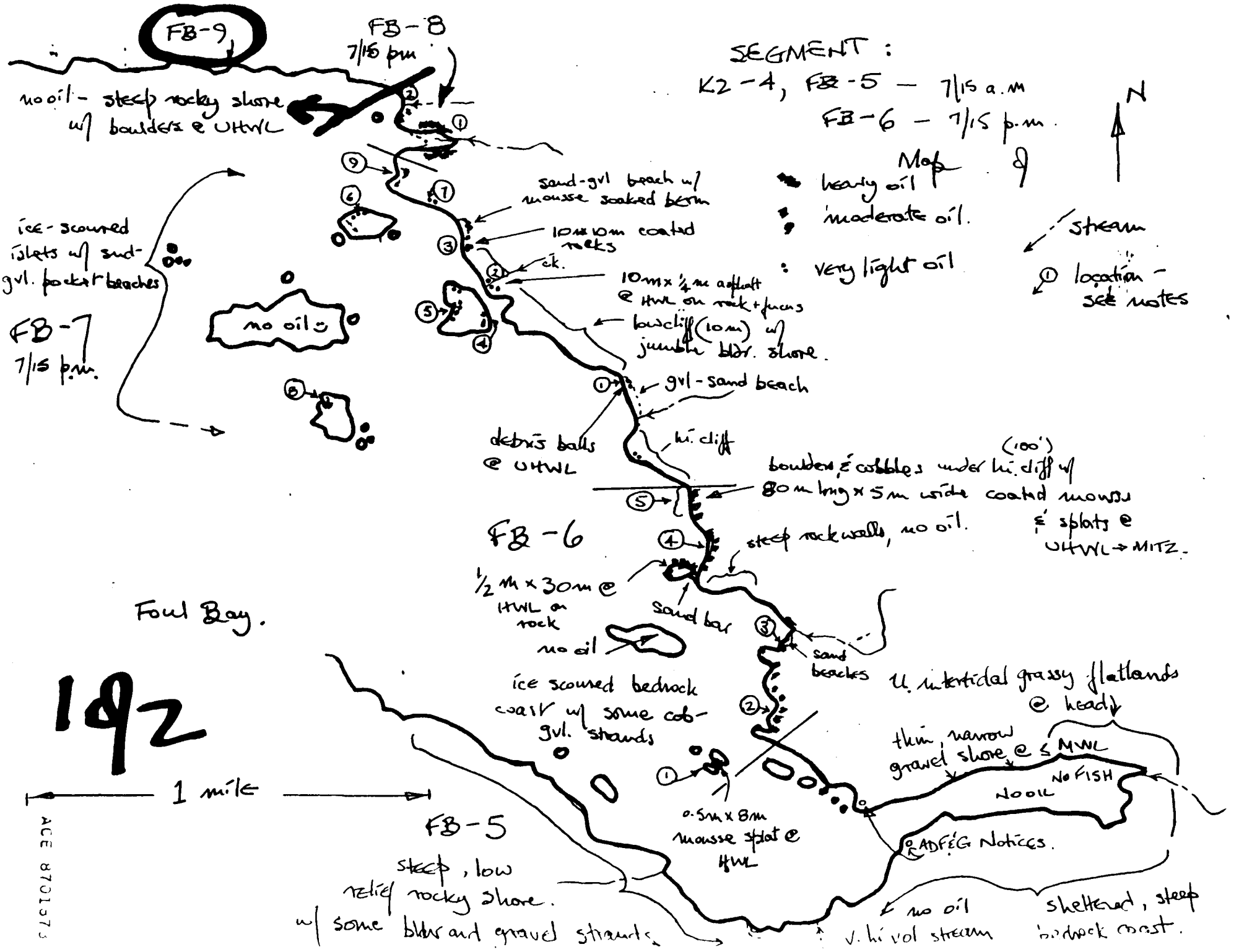
DOCUMENTATION:

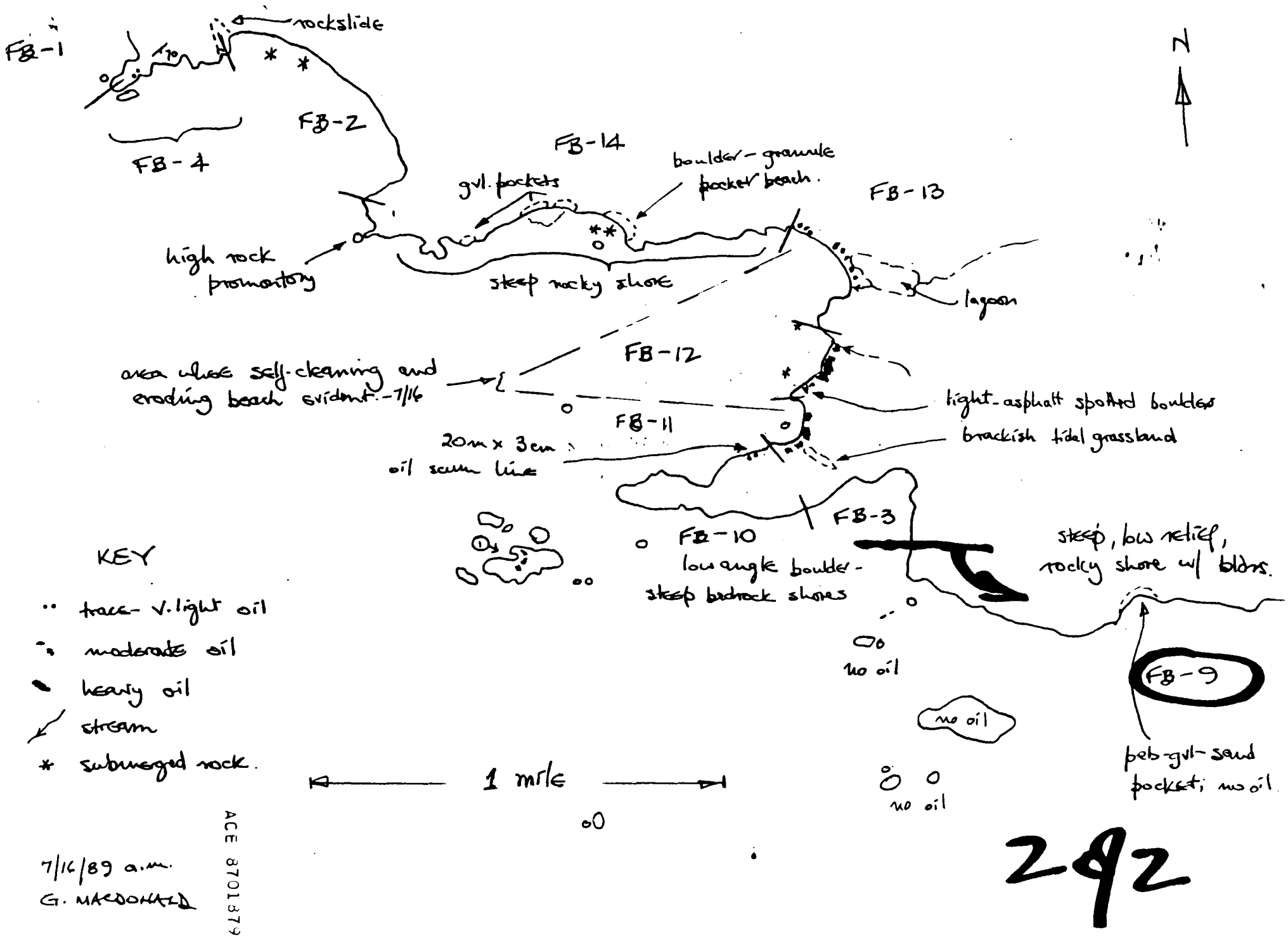
Map/Aerial photo marking segment boundaries Attached

VTR: Y/N Tape Number(s) Unknown

Photography: Y/N Roll Number(s) SMB-19

Sample Numbers Collected: None


FB-9
FB-8
7/15 p.m.
SEGMENT:
K2-4, FB-5 — 7/15 a.m.
FB-6 — 7/15 p.m.
N
Map 9
no oil - steep rocky shore w/ boulders @ UHWL
sand-gvl beach w/ mousse soaked berm
10m x 10m coated rocks
ck.
10m x ¼m asphalt @ HWL on rock + fucus
low cliff (10m) w/ jumbly bldr. shore
gvl-sand beach
ice-scoured islets w/ sand-gvl. pocket beaches
FB-7
7/15 p.m.
no oil
debris balls @ UHWL
hi. cliff
(100')
boulders & cobbles under hi. cliff w/ 80m long x 5m wide coated mousse & splats @ UHWL → MITZ.
FB-6
steep rock walls, no oil.
½ m x 30m @ HWL on rock
sand bar
no oil
sand beaches
Foul Bay.
ice scoured bedrock coast w/ some cob-gvl. strands
U. intertidal grassy flatlands @ head
thin, narrow gravel shore @ ≤ MWL
NO FISH
NO OIL
0.5m x 8m mousse splat @ HWL
ADFEG Notices.
192
1 mile
FB-5
steep, low relief rocky shore w/ some bldr and gravel strands
no oil
v. hi vol stream
sheltered, steep bedrock coast.
Map
heavy oil
moderate oil.
: very light oil
stream
① location - see notes
ACE 8701575


FB-1
rockslide
FB-2
FB-4
FB-14
gvl. pockets
boulder-granule pocket beach.
FB-13
high rock promontory
steep rocky shore
lagoon
FB-12
area where self-cleaning and eroding beach evident - 7/16
light-asphalt spotted boulder brackish tidal grassband
FB-11
20m x 3cm oil scum line
FB-3
FB-10
low angle boulder-steep bedrock shores
steep, low relief, rocky shore w/ blders.
no oil
FB-9
no oil
peb-gvl-sand pocket; no oil
no oil
KEY
trace - v. light oil
moderate oil
heavy oil
stream
submerged rock.
1 mile
N
7/16/89 a.m.
G. MACDONALD
ACE 8701379
292

version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: Foul Bay SITE: N. Shore Foul Bay OBSERVER: SM BAN

LOCATION PREFIX: K-2-4 SEG. NO.: FB-9 LENGTH: 4,350 (M)

DATE: 7/16/89 TIME (HHMM): 0730 TIDE HT.: 1/3 to 1 (M)

OILED ZONE: Splash High Medium Low No oil!

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 boulders, some clumps on gravel beaches

Also Halosaccion in Fucus zone - None oiled. Also Ulva

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

May be more dense subtidally. None oiled

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

Adults dense on boulder/cobbles at splash to high ITZ. Spat

Dense on gravel/cobbles at water level or subtidally - None oiled

Littorina

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

Dense under Fucus fronds - Some very dense patches

in crevices. None oiled.

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

Dense subtidally and in tidal pools

OTHER OBSERVATIONS: Many starfish - Pisaster, Pycnopodia, Solaster, Henricia. Cyanea, in water.

CLEANUP PRECAUTIONS: No cleanup recommended - Restrict

Access to all parts of segment.

MAMMALS: Otters (land + sea) X Harbor Seals ±10' (Hauled out on small rocky island) Sea Lions ___ Whales ___

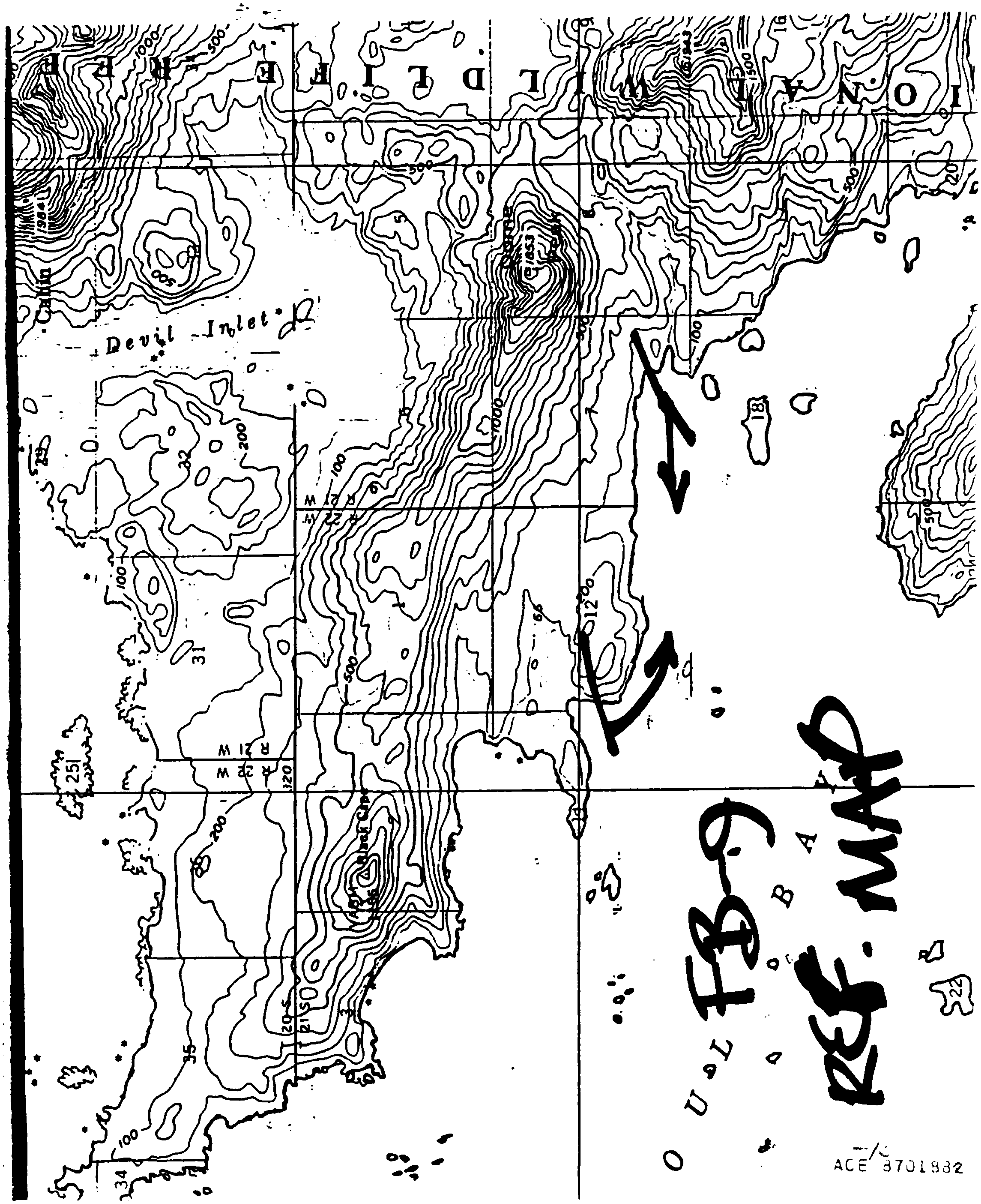
Other Fox on cobble beach

BIRDS: Eagle and eagle nest near end of seg. Pigeon guillemots, gulls and goldeneyes dense on rocky islets.

GENERAL OBSERVATIONS:

No oil worth cleaning up on this segment

ACE 8701880



ACE 8701882

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/16/89 SHORELINE SEGMENT K2-4-FB-10

LOCATION: (see enclosed map) N coast of Foul Bay - Afognak Bay

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

Recommended Cleanup Activity(ies):

-No cleanup recommended due to very light oiling, high natural cleaning potential and ecological constraints listed below. Subject to FOSC reassessment at a later date.

Priorities/Considerations: Class 5-B

Ecological Constraints (from site survey):

-Very active nesting/rookery on island - re: assess next year prior to nesting.

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.

J. David McMahan Date: 7/26/89

State Historic Preservation Officer *

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

+/S
ACE 8701883

(version 5/16/89)

SHORELINE OIL EVALUATION FORM - KODIAK

Date: 7/16/89 Time: 08:20 Observer: G. MACDONALD

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

LOCATION
LOCATION N. COAST of FOUL BAY SEGMENT I.D. K24, FB-10

LENGTH OF SHORELINE SEGMENT: 2,860 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: BLDR % / CBBL % / P___% / G___% / S___% / M___% / R 100 %

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

OIL
Degree of Oiling: Heavy/Moderate/Light/No Oil/Unobserved/(Very Light)

Total Area of Beach Impact: SU / SP / (H) / M / L

OIL DISTRIBUTION
Continuous: Y/N Segment % < 1 No. Bands 1 Width 2m wide x 20 long.

Sporadic: Y/N Segment %_____ Min/Max Dia_____ Impact Width_____

Est. Oil Thickness where > 1cm:_____cm. SU / SP / UP / MID / LO

Depth below top seds
Est. Oil Penetration: ___0___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

discontin. coAT 100%

OIL MORPHOLOGY
Pooled Oil _____% "Free" Oil _____% Spattered_____% H, M, (L)/(VL) Sheen_____%

OIL WEATHERING (OW)
Fresh Oil_____% SU/SP/VP/MID/LO Choc Mousse_____% SU/SP/VP/MID/LO

MATURE
(Pancake) Mousse 100 % SU/SP/(VP)/MID/LO Asphalt Mousse _____% SU/SP/VP/MID/LO

Tar Formation_____%

Comments:

SINGLE OILED BAND on V. EXPOSED WNW FACING BOULDER - COBBLE POCKET. — ISLAND IS HIGH POPULATION BIRD NESTING SITE —

LEAVE THIS SEGMENT UNTREATED — RE-ASSESS NEXT YEAR PRIOR TO NESTING.

ACE 8701884

DOCUMENTATION:

Map/Aerial photo marking segment boundaries Attached

VTR: (Y)/N Tape Number(s) Unknown

Photography: (Y)/N Roll Number(s) SMB-19

Sample Numbers Collected: None

SEGMENT FB-10

08.20 HRS

low lying, ice-scoured bedrock & bldr. shore; occas. low vert. rock face to 7m; v. exposed;

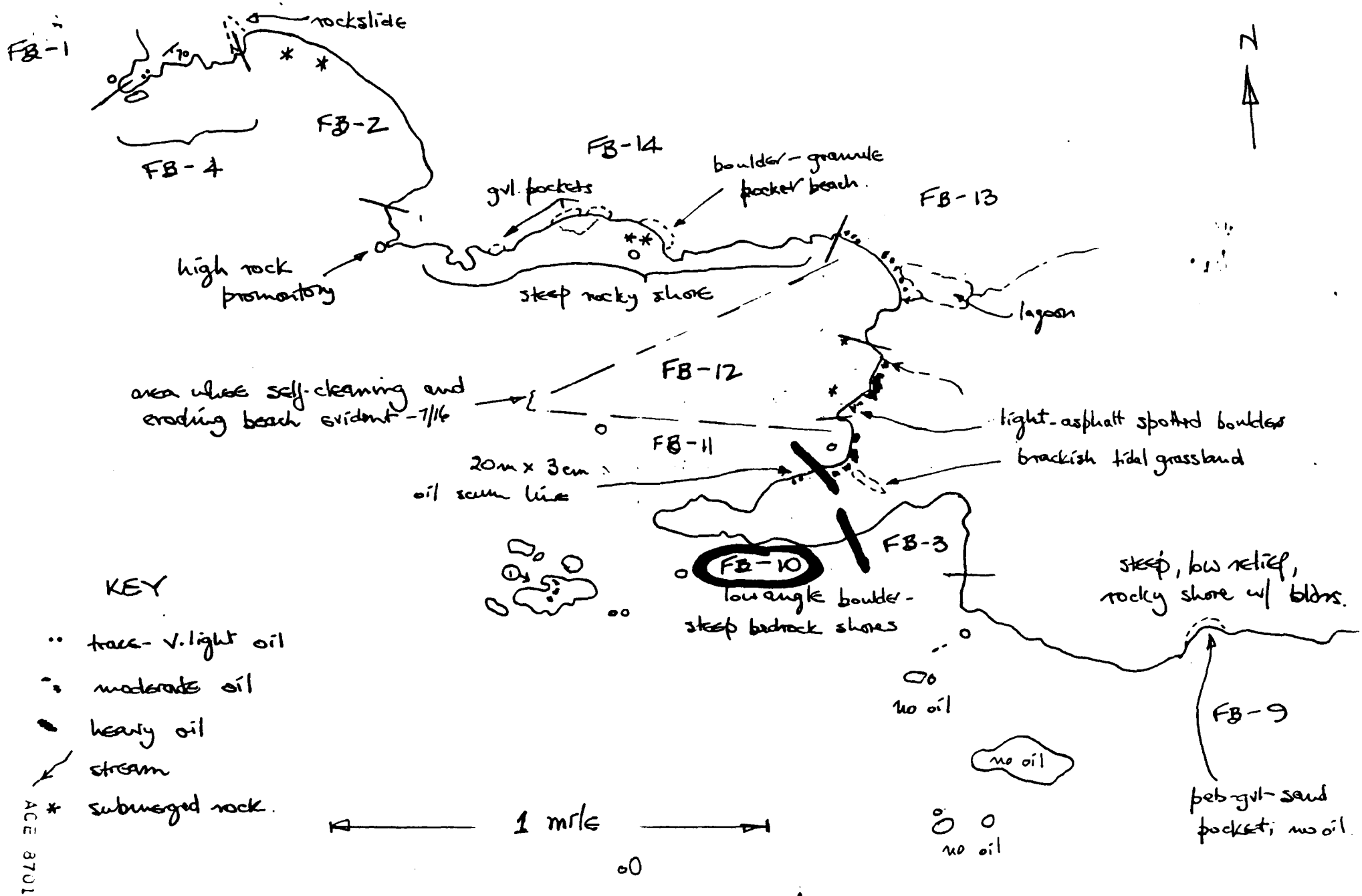
① islet - oiled by mature mousse @ HITZ on boulders, fucus & cobbles; discon. coating on top & sides; ~ 2m wide x 20 long; @ nesting grounds! END —

SEGMENT FB-11 09.00 HRS

① wide, exposed rounded boulder beach lying on bedrock -
asphalt mousse splat zone on bldrs. - HITZ - supra; ~ 30m x 100m long; oiled debris, matting, rags, fucus; END —

09.50 SEGMENT FB-12

bay N of ① - self cleaning cutting away oil soaked cob-peb berm, capped by oiled debris strand line. ~ 40m x 200m long
heavily oiled rock outcrop; x. mousse coating; MITZ - SL; some shallow < 15cms burial of cobs & bldrs - oiled; by grls


FB-1
rockslide
FB-2
FB-4
FB-14
gvl. pockets
boulder-granule pocket beach
FB-13
high rock promontory
steep rocky shore
lagoon
N
FB-12
area where self-cleaning and eroding beach evident-7/16
light-asphalt spotted boulders
FB-11
brackish tidal grassband
20m x 3cm oil scum line
FB-3
FB-10
low angle boulder-steep bedrock shores
steep, low relief, rocky shore w/ bldrs.
no oil
FB-9
no oil
peb-gvl-sand pockets; no oil
KEY
trace-v.light oil
moderate oil
heavy oil
stream
submerged rock
1 mile
7/16/89 a.m.
G. MACDONALD
ACE 8701887

version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: Foul Bay SITE: N. Shore Foul Bay OBSERVER: SMBAW

LOCATION PREFIX: K-2-4 SEG. NO.: FB-10 LENGTH: 2,860 (M)

DATE: 7/16/89 TIME (HHMM): 0810 TIDE HT.: 0 to 1 (M)

OILED ZONE: (Splash) High Medium Low Very light.

SUBSTRATUM: (Rocks Boulder Cobble Gravel Sand) Mud

LIVE BIOTA

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

Dense on Rock faces. Sparse subtidally. Oiled patch on island (west-facing shore)

Other algae: Algae, Ulva, Enteromorpha, None oiled

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

Dense in rock crevices - None oiled

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

Dense on boulders - dense spat on boulders and cobbles None oiled.

Littorina

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

Dense under Fucus and in Tidal pools

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

Dense in lower ITZ

OTHER OBSERVATIONS: Several healthy tidal pools including Pagurids, Littorines, Limpets, Anthopleura and Tealia

CLEANUP PRECAUTIONS: Restrict access to clean areas. Minimize disturbance to bird rookery if island beach is cleaned. Take appropriate measures to protect lower intertidal areas.

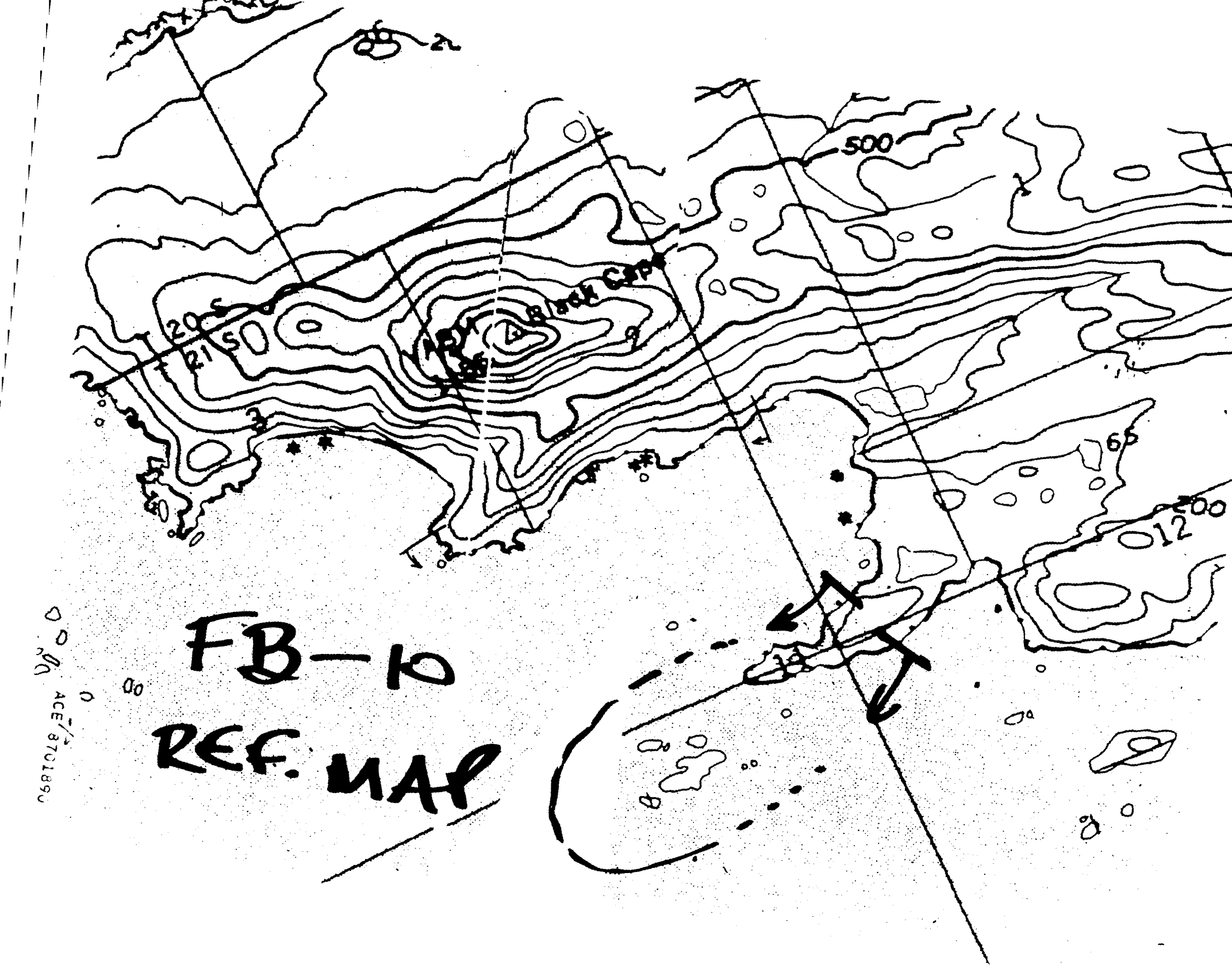
MAMMALS: Otters ___ Harbor Seals ___ Sea Lions ___ Whales ___

Other ___

BIRDS: Dense birds & nests on islands: Cormorants, gulls, Pigeon guillemots

GENERAL OBSERVATIONS: Eagles on shore. Most of this segment is unoiled. A small area of one of the islands (west facing shore) has been oiled. About 5m² area of Fucus has been impacted.

ACE 8701888


500
Black Cap
66
12
FB-10
REF. MAP

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/17/89 SHORELINE SEGMENT K2-4-FB-11

LOCATION: (see enclosed map) N coast of Foul Bay - Afognak

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

Recommended Cleanup Activity(ies):
-Manual removal of oiled debris.
-Relocation of oiled storm berm sediments to surf zone.

Priorities/Considerations: Class 3-A
-Some biled granuals/cobbles buried in beach.

Ecological Constraints (from site survey):
-Work at mid-tide plus or take appropriate measures to protect lower 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.

A. David McMahan Date: 7/26/89
State Historic Preservation Officer *

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

+/S
ACE 8701891

(version 5/16/89)

SHORELINE OIL EVALUATION FORM - KODIAK

Date: 7/16/89 Time: 09.00 Observer: G. MACDONALD

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

LOCATION
LOCATION N. COAST OF FOUL BAY SEGMENT I.D. K2-4, FB-11

LENGTH OF SHORELINE SEGMENT: 350 m

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

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

Wave Exposure: (High)/Med/Low

Sediment: B 40 % / C 20 % / P 10 % / G 15 % / S ___ % / M ___ % / R 15 %

Drift Debris on Beach: (Yes)/No (Supra)/Upper/Mid/Lower Type SEAWEED, DRIFTWOOD, RAGS, NET

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 % 30 No. Bands 1 Width ~30 m

Sporadic: Y/N Segment %_____ Min/Max Dia_____ Impact Width_____

Est. Oil Thickness where > 1cm:_____cm. SU / SP / UP / MID / LO
Depth below top seds 10-20 cms.
Est. Oil Penetration: 10-20 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 _____% "Free" Oil _____% Spattered 100 % (H)(M)/L/VL Sheen_____%

OIL WEATHERING (OW)
Fresh Oil_____% SU/SP/VP/MID/LO Choc Mousse_____% SU/SP/VP/MID/LO

Pancake Mousse_____% SU/SP/VP/MID/LO Asphalt Mousse 100 % SU/SP/(VP)/MID/LO

Tar Formation_____%

ACE 8701892

Comments:

SINGLE BAY SEGMENT — OIL IN STORM BERM ~30 cms.

SOME OILED COBBLES BURIED BY 1Y GRAVEL ~15 cm DEEP BELOW SURFACE

ABUNDANT OILED DEBRIS

SEDIMENTS LYING OVER BEDROCK — COULD ERODE MOST OF SEDS. DURING WINTER / DESTRUCTIVE WAVE ACTION.

DOCUMENTATION:

(Map)/Aerial photo marking segment boundaries Attached

VTR: (Y)/N Tape Number(s) Unknown

Photography: (Y)/N Roll Number(s) SMB-19

Sample Numbers Collected: None

SEGMENT FB-10

08.20 .. HRS

low lying, ice-scoured bedrock & bldr. shore; occas. low vert. rock face to 7m; v. exposed;

① islet - oiled by mature mousse @ HITZ on boulder, fucus & cobbles; discon. coating on top & sides; ~ 2m wide x 20 long; @ nesting grounds! END —

SEGMENT FB-11 09.00 HRS

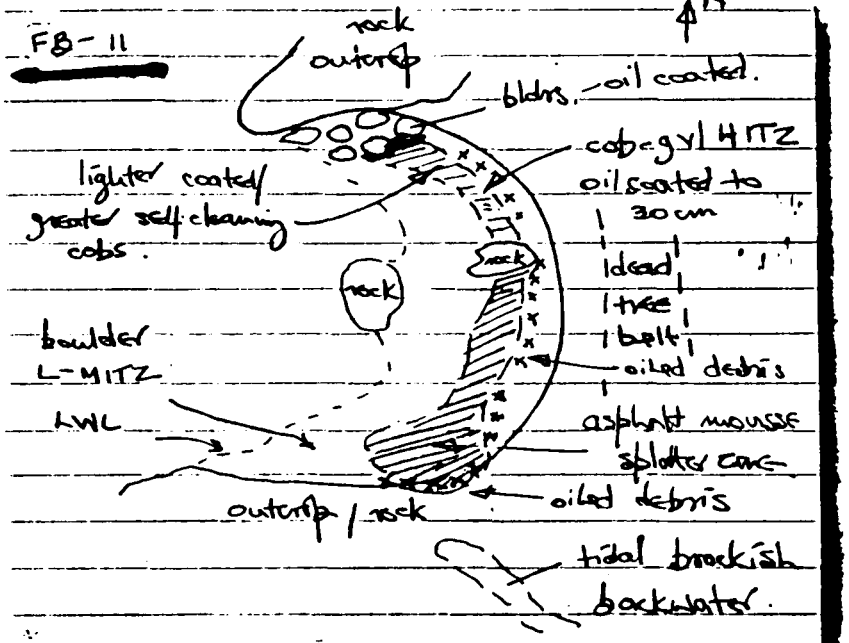
@ wide, exposed rounded boulder beach lying on bedrock -

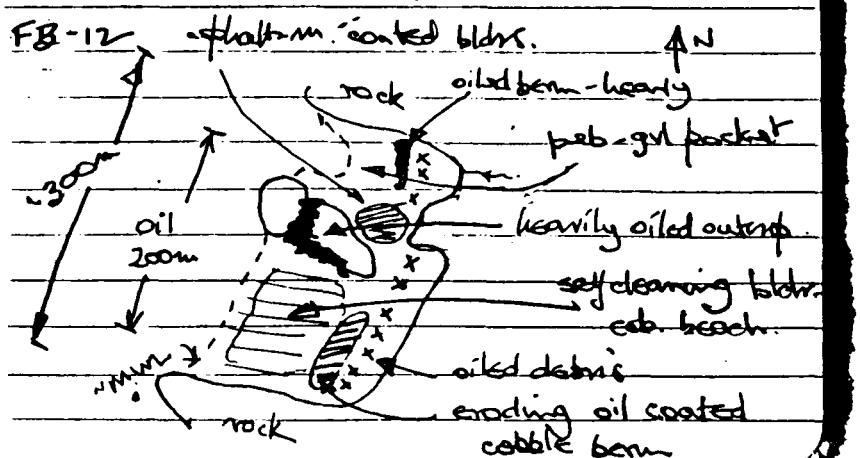
asphalt mousse splot zone on bldrs. - HITZ - Supra; ~ 30m x 100m long; oiled debris, matting, rags, fucus; END —

09.50 SEGMENT FB-12

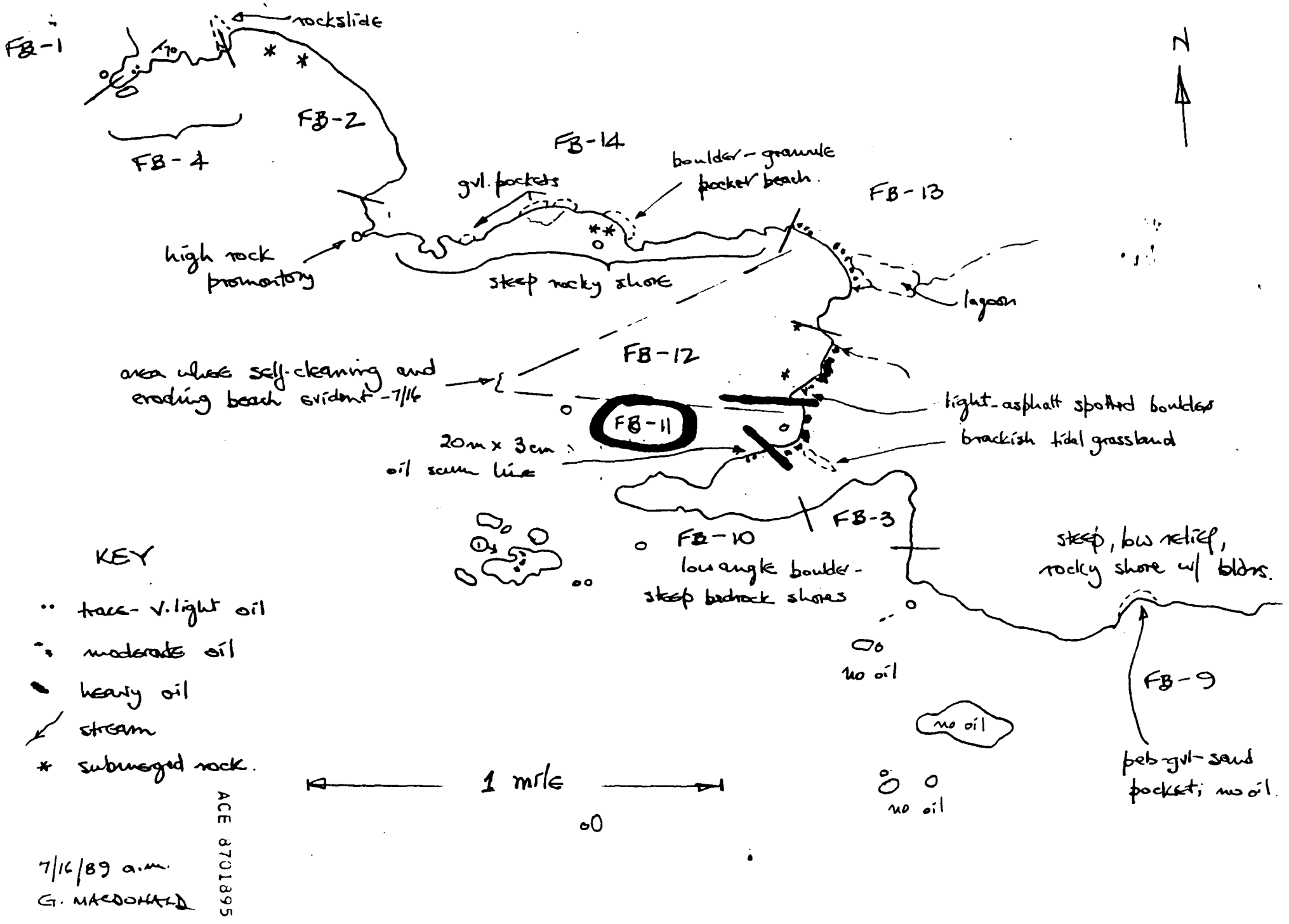
bay N of ② - self cleaning cutting away oil soaked cob-peb berm, capped by oiled debris strand line. ~ 10m x 200m long

heavily oiled rock outcrop; & mousse coating; HITZ → SP; some shallow < 15cms burial of cobs & bldrs - oiled; by gvls





ACE 8701894


FB-1
rockslide
FB-2
FB-4
FB-14
gvl. pockets
boulder-granule pocket beach
FB-13
high rock promontory
steep rocky shore
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FB-12
area where self-cleaning and eroding beach evident-7/16
light-asphalt spotted boulders
FB-11
20m x 3cm oil scum line
brackish tidal grassland
FB-3
FB-10
low angle boulder-steep bedrock shores
steep, low relief, rocky shore w/ bldrs.
no oil
FB-9
no oil
peb-gvl-sand pockets; no oil
N
KEY
trace-v.light oil
moderate oil
heavy oil
stream
submerged rock.
1 mile
7/16/89 a.m.
G. MACDONALD
ACE #701895

version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: Foul Bay SITE: N Shore OBSERVER: SMBAN

LOCATION PREFIX: K2-4 SEG. NO.: FB-11 LENGTH: 350 (M)

DATE: 7/16/89 TIME (HHMM): 0905 TIDE HT.: +1/3 (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 on boulders and cobble beach. Total area of oiled Fucus ±12m². Halosaccion also oiled.

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

Few patches in boulder crevices lower IN ITZ. None oiled.

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

Adults and spat dense on boulders. Heavy predation by Nucella near water level. Oiled Balanus in western edge of segment

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

Dense in tidal pools and subtidally. Also dense in boulder crevices. Those in upper ITZ are oiled.

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

Dense under Fucus. None seen in oiled zone.

OTHER OBSERVATIONS: No amphipods under oiled or unoiled cobbles. Many healthy tidal pools downslope of oiled boulders

CLEANUP PRECAUTIONS: Take appropriate measures to protect healthy lower intertidal, especially boulder patches with healthy tidal pools.

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

BIRDS: Eagle in nest

GENERAL OBSERVATIONS: Heavy oil on cobble/boulders. Fucus Balanus and Littorina impacted in upper ITZ. Lower ITZ generally healthy.

ACE 8701896

500
1200
1000
B
FB-11
REF. MAP
ACE 8701898

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/17/89 SHORELINE SEGMENT K2-4-FB-12

LOCATION: (see enclosed map) N coast of Foul Bay - Afognak

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

Recommended Cleanup Activity(ies):

- -Manual removal of oiled debris.
- -Manual removal of free oil on rocky outcrop if possible.
- -Low pressure/warm water wash of rocky outcrop unless recovery of removal oil is not feasible.
- -Relocate oiled cobbles to surf zone.

Priorities/Considerations: Class 2-A

- -Evidence of natural cleaning cobbles.

Ecological Constraints (from site survey):

- -Work at mid-tide plus or take appropriate measures to protect lower intertidal zone.
- -Minimize additional damage to tide pools in oiled areas.
- -Do not dislodge healthy algae from these pools.

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.

J. David McMahan Date: 7/26/89

State Historic Preservation Officer *

EXXON:_____ Date:_____

FOSC:_____ Date:_____

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

ACE 8701899

(version 5/16/89)

SHORELINE OIL EVALUATION FORM - KODIAK

Date: 7/16/89 / Time: 09:30 Observer: G. MACDONALD

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

LOCATION
LOCATION N. COAST of FOUL BAY. SEGMENT I.D. K2-4, FB-12

LENGTH OF SHORELINE SEGMENT: 470 m

ACCESS: Foot/Vehicle/(Boat)/(Barge)/Helio/Float Plane rock walls

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

Wave Exposure: High/Med/Low TRACK beach

Sediment: B 20 % / C 30 % / P 10 % / G ~~5~~ % / S ~~5~~ % / M ___ % / R 40 %

Drift Debris on Beach: (Yes)/No (Supra)/Upper/Mid/Lower Type SEAWEED & SOME DRIFTWOOD.

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 % 40 No. Bands 1 Width ~40 m

Sporadic: Y/N Segment %_____ Min/Max Dia_____ Impact Width_____

Est. Oil Thickness where > 1cm:_____cm. SU / SP / UP / MID / LO
Depth below top seds 10 cm
Est. Oil Penetration: 15-20 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 0 % "Free" Oil 30 % Spattered (COATED) 70 % (H/M)/L/VL Sheen 0 %

OIL WEATHERING (OW)
Fresh Oil_____% SU/SP/VP/MID/LO Choc Mousse 40 % SU/SP/(VP/MID)/LO

Pancake Mousse_____% SU/SP/VP/MID/LO Asphalt Mousse 60 % SU/(SP/VP/MID)/LO

Tar Formation_____%

Comments:

HEAVILY OILED BEACH & ROCK OUTCROP; LITZ → HITZ
COBBLES SHOW EVIDENCE OF SELF CLEANING;
FREE OIL ON OUTCROP.
OIL COATED COBBLES @ STORM BERM BEGINNING TO ERODE.

K2-4-FB-12

DOCUMENTATION:

(Map)/Aerial photo marking segment boundaries ATTACHED

VTR: (Y)/N Tape Number(s) Unknown

Photography: (Y)/N Roll Number(s) SMB-19

Sample Numbers Collected: None

SEGMENT FB-10

08.20 HRS

low lying, ice-scoured bedrock & bldr. shore; occas. low vert. rock face to 1m; v. exposed;

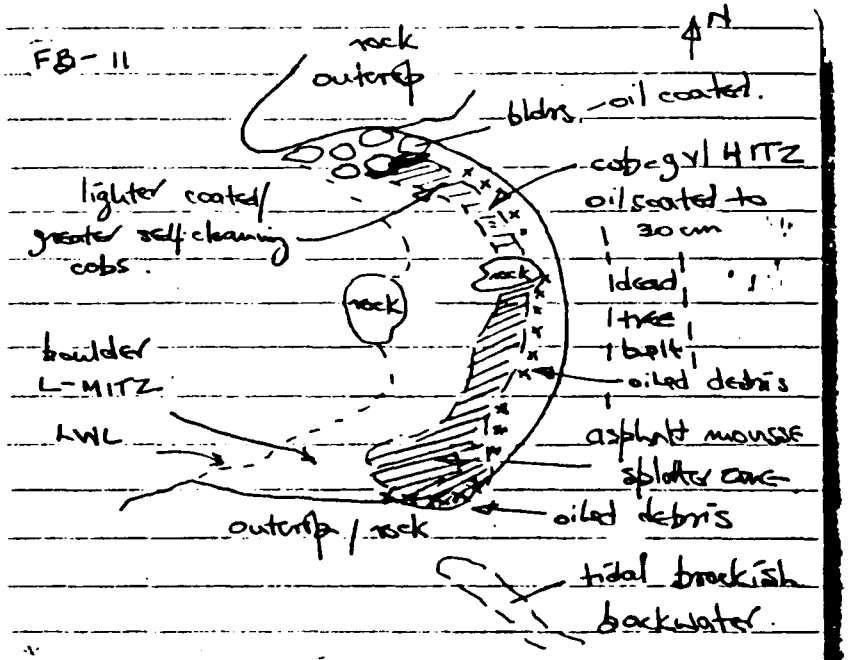
① islet - oiled by mature mousse @ HITZ on boulders, fucus & cobbles; discon. coating on top; ~ 2m wide x 20 long;
② nesting grounds! END —

SEGMENT FB-11 09.00 HRS

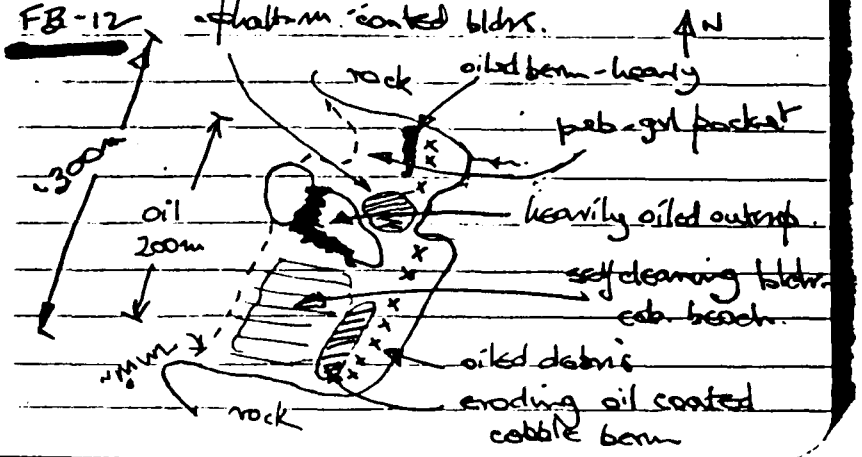
wide, exposed rounded boulder beach lying on bedrock -
asphalt mousse splot zone on bldrs. - HITZ - Supra; ~ 30m x 100m long; oiled debris melting rags, fucus; END —

09.50 SEGMENT FB-12

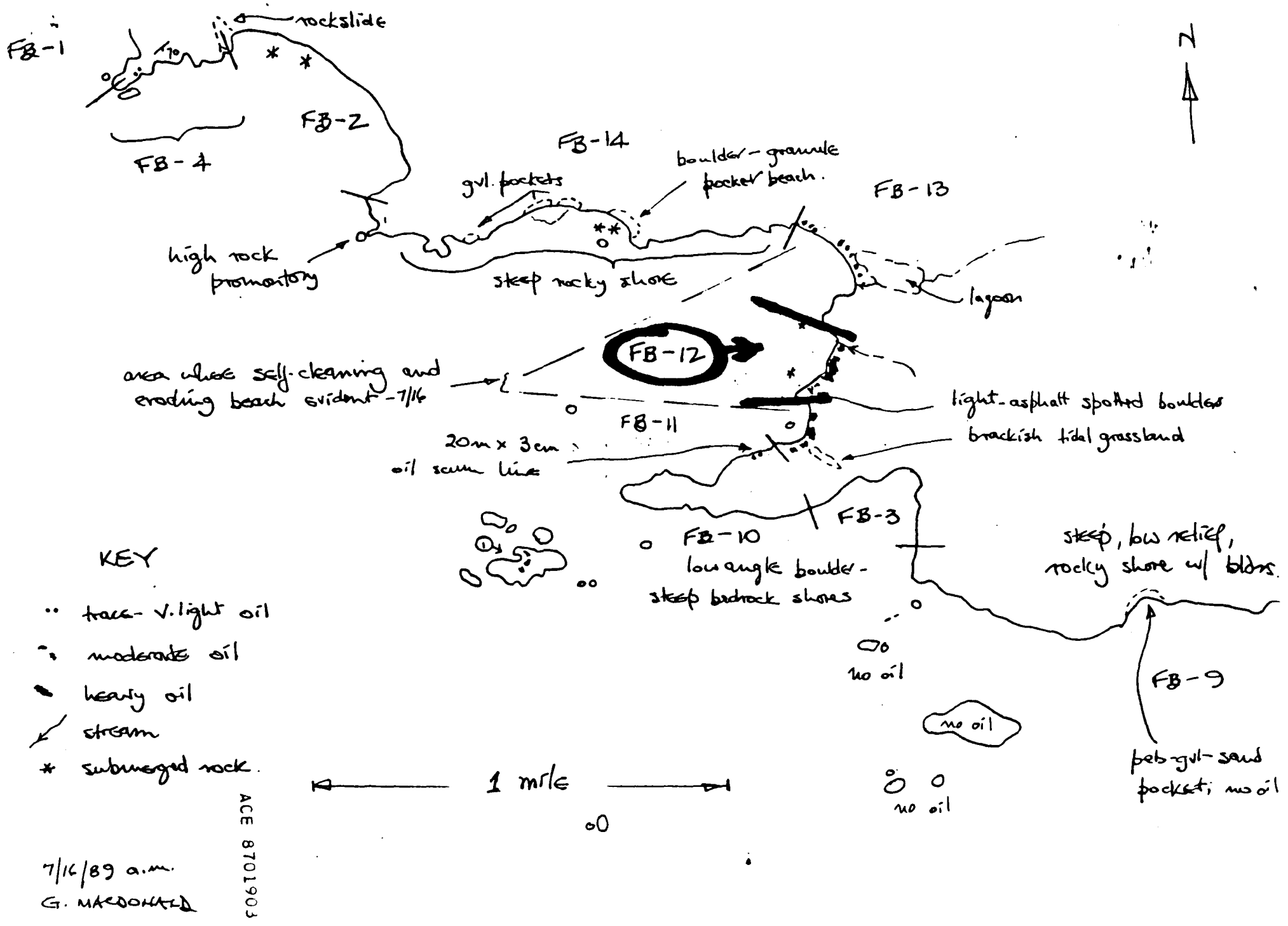
bay N of ② - self cleaning cutting away oil soaked cob-peb berm, capped by oiled debris strand line.
~ 10m x 200m long
heavily oiled rock outcrop; & mousse coating; HITZ → SP; some shallow < 15cms burial of cobs & bldrs - oiled; by gvls



peri-tr. to ~ 15cms - cobs buried by gvls; oil in storm berm.



ACE 8701902


FB-1
rockslide
FB-2
FB-4
FB-14
gvl. pockets
boulder-granule pocket beach.
FB-13
high rock promontory
steep rocky shore
lagoon
N
FB-12
area where self-cleaning and eroding beach evident-7/16
FB-11
light-asphalt spotted boulders
brackish tidal grassband
20m x 3cm oil scum line
FB-3
FB-10
low angle boulder-steep bedrock shores
steep, low relief, rocky shore w/ bldrs.
no oil
FB-9
no oil
peb-gvl-sand pockets; no oil
no oil
KEY
trace-v.light oil
moderate oil
heavy oil
stream
submerged rock
1 mile
7/16/89 a.m.
G. MACDONALD
ACE 8701903

version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: Foul Bay SITE: N. Shore OBSERVER: SM BAN

LOCATION PREFIX: Ka-4 SEG. NO.: FB-12 LENGTH: 470 (M)

DATE: 7/16/89 TIME (HHMM): 1000 TIDE HT.: + 1½ (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

Patches in upper ITz on boulders are oiled. TOTAL area of oiled Fucus is ± 20 m².

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

Some patches in lower itz and cobbles subtidally none oiled.

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

Individuals in upper ITz are oiled Total area of Balanus oiled is ± 15 m². Spat in lower ITz is healthy.

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

Dense in crevices and subtidally. Those in upper ITz are oiled but alive.

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

Dense under healthy Fucus fronds. None under oiled Fronds.

OTHER OBSERVATIONS: Margins of tidal pools are oiled - NO sheen on pool water. Active Pagurus in pool. Littorina in pools alive.

CLEANUP PRECAUTIONS: Take appropriate measures to protect healthy areas in lower itz. Minimize additional damage to tidal pools in oiled areas. Do not dislodge healthy algae from these pools.

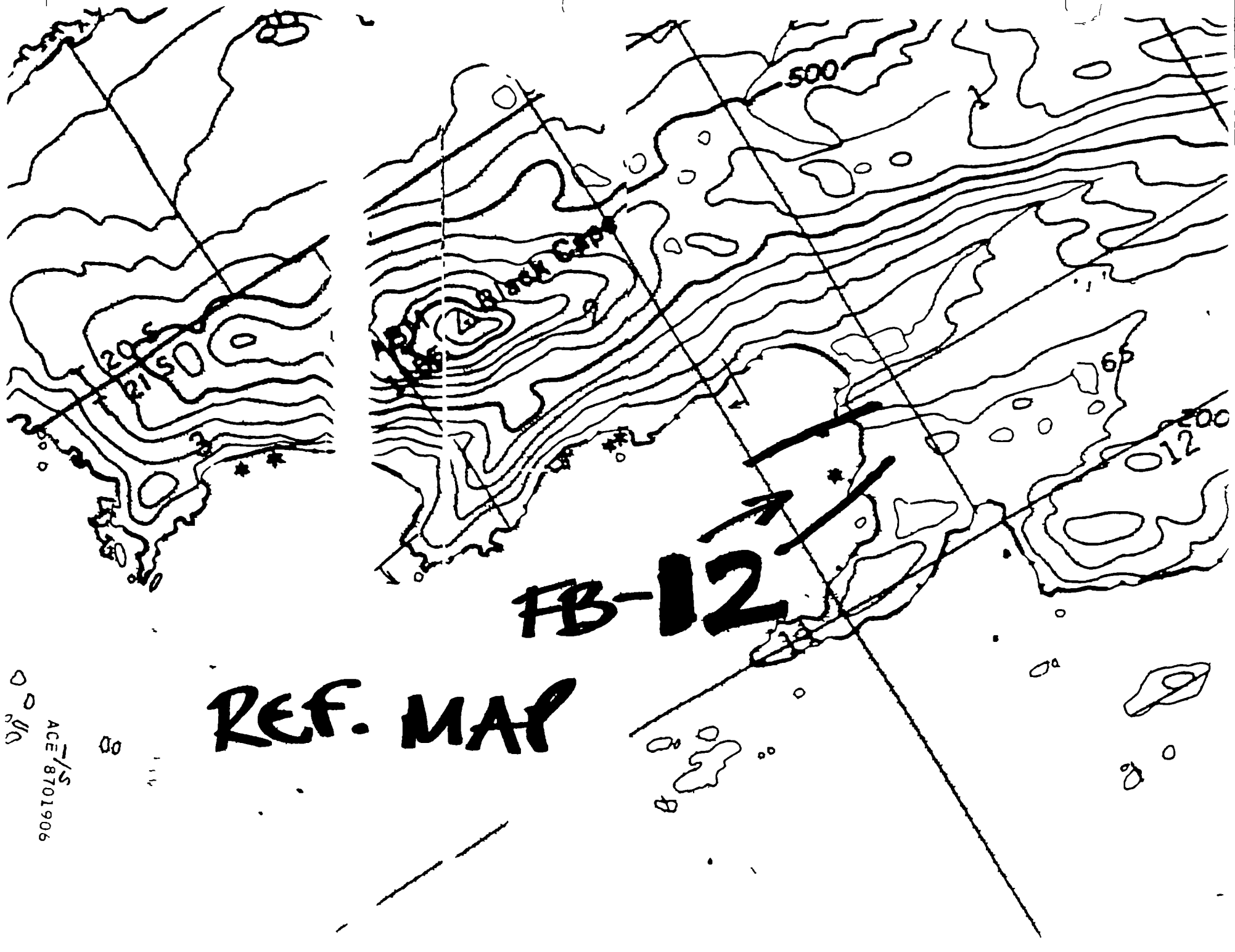
MAMMALS: Otters ___ Harbor Seals ___ Sea Lions ___ Whales ___

Other None seen

BIRDS: Eagles, gulls, crows

GENERAL OBSERVATIONS: Oiling is heavy on this beach. Organisms affected include Fucus Balanus Littorina and Pagurids. Some tidal pools have been oiled but may have self-cleaned. Do NOT disturb healthy pools or lower ITz.

ACE 8701904


500
Block Cape
FB-12
REF. MAP
ACE/S/8701906

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/17/89 SHORELINE SEGMENT K2-4-FB-13

LOCATION: (see enclosed map) N coast of Foul Bay - Afognak

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

Recommended Cleanup Activity(ies):
-Manual removal of oiled debris and mousse patties.
-Wash or manual removal of oil off of logs.
-Relocate oil coated berm cobbles to surf zone.

Priorities/Considerations: Class 4-B
-Evidence of natural cleaning is apparent.

Ecological Constraints (from site survey):
-Avoid trampling lower 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.

J. David McMahan Date: 7/26/89
State Historic Preservation Officer *

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

ACE +/S 8701907

(version 5/16/89)

SHORELINE OIL EVALUATION FORM - KODIAK

Date: 7/16/89 Time: 10:40 Observer: G. MACDONALD

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

LOCATION
LOCATION N. COAST of FOUL BAY SEGMENT I.D. K2-4, FB-13

LENGTH OF SHORELINE SEGMENT: 550 m

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

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

Wave Exposure: (High/Med)/Low

Sediment: B 20 % / C 10 % / P 30 % / G 15 % / S 5 % / M ___ % / R 20 %

Drift Debris on Beach: (Yes)/No (Supra)/Upper/Mid/Lower Type small logs, scattered driftwood, mousse

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 % 25 No. Bands 1 Width 4+3m (debris & mousse / patties / oiled peb. berm) total 7m

Sporadic: (Y)/N Segment % 3 Min/Max Dia _____ Impact Width 7m x 30 m long.

Est. Oil Thickness where > 1cm: _____ cm. SU / SP / UP / MID / LO
Depth below top seds 0-5cm
Est. Oil Penetration: 35 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 ____ % "Free" Oil ____ % Spattered 30 % (COATED 70 %) (M) H/M/(L)/VL Sheen ____ %

OIL WEATHERING (OW)
Fresh Oil ____ % SU/SP/VP/MID/LO Choc Mousse ____ % SU/SP/VP/MID/LO

Pancake Mousse 50 % (DEBRIS) SU/(SP)/(VP)/MID/LO Asphalt Mousse 50 % (COATING) SU/(SP)/(VP)/(MID)/LO

Tar Formation ____ %

Comments:

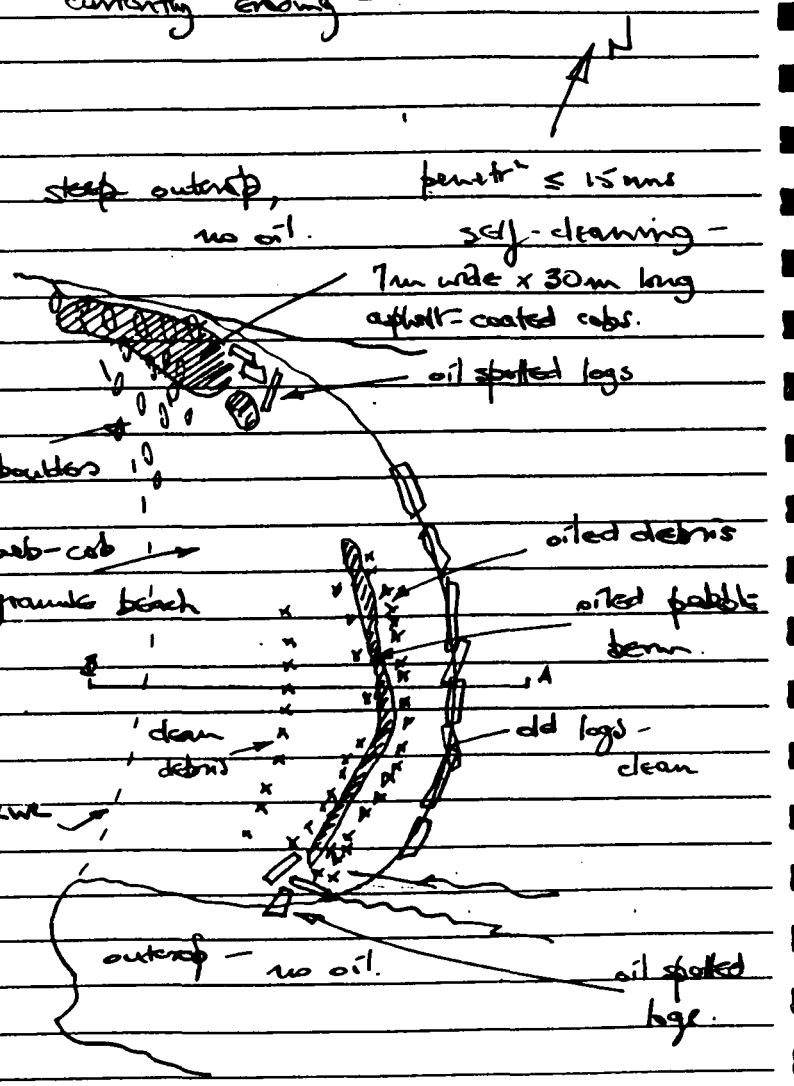
BROAD, LONG BEACH — SELF-CLEANING & ERODING IN PART; LIGHT — MOD. OILED.

ACE 8701908

NO PHOTOS: CAMERA BROKEN G.

FB-13

currently ending –



7/16/89 10.40 HRS SEGMENT FB-13

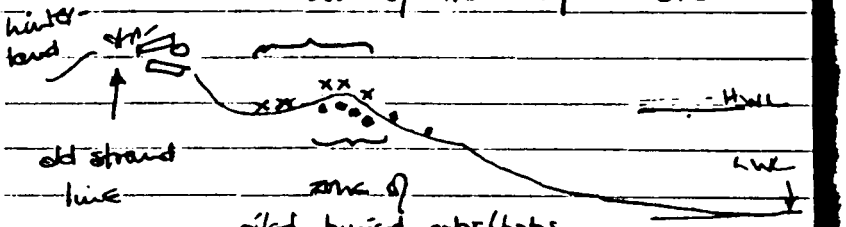
bedrock bluff ; v. exposed ; no oil.

broad, v. exposed, mod. angle peb-gvl-snd beach w/ hinterland lagoon – eroding at present.

oiled debris – small logs, seaweed and driftwood & mousse-bound debris cakes, (100m x 1m)

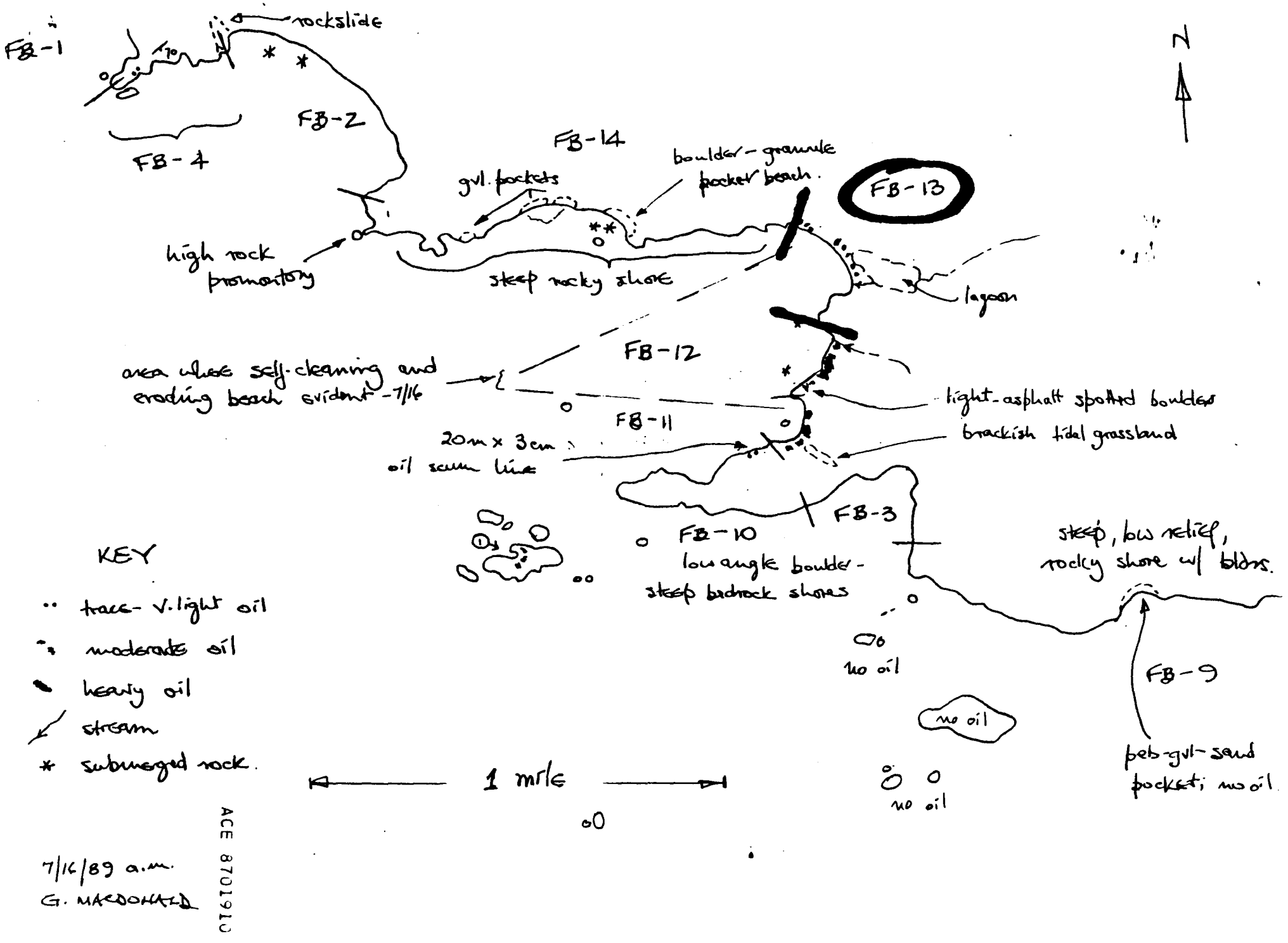
buried oil-coated pebbles in recent berm, (5cms) to depth of 35+ cms ; w/ rotting organics. (80m x 3m x 3.5m)

X-sect^n:



END of SEGMENT

ACE 8701909


FB-1
rockslide
FB-2
FB-4
FB-14
gvl. pockets
boulder-granule pocket beach
FB-13
high rock promontory
steep rocky shore
lagoon
FB-12
area where self-cleaning and eroding beach evident-7/16
FB-11
light-asphalt spotted boulder
brackish tidal grassland
20m x 3cm oil scum line
FB-3
FB-10
low angle boulder-steep bedrock shores
steep, low relief, rocky shore w/ blders.
no oil
FB-9
no oil
peb-gvl-sand pocket; no oil
N
KEY
trace-v.light oil
moderate oil
heavy oil
stream
submerged rock
1 mile
7/16/89 a.m.
G. MACDONALD
ACE 8701910

ECOLOGICAL EVALUATION

LOCATION: Afognak Isl SITE: Foul Bay OBSERVER: M. Fawcett

LOCATION PREFIX: FB SEG. NO.: 13 LENGTH: 550 (M)

DATE: 7/16/89 TIME (HHMM): 11-1140 TIDE HT.: 1.5 (M)

OILED ZONE: (Splash) (High) Medium Low

SUBSTRATUM: (Rocks) (Boulder) (Cobble) (Gravel) (Sand) Mud

LIVE BIOTA

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

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

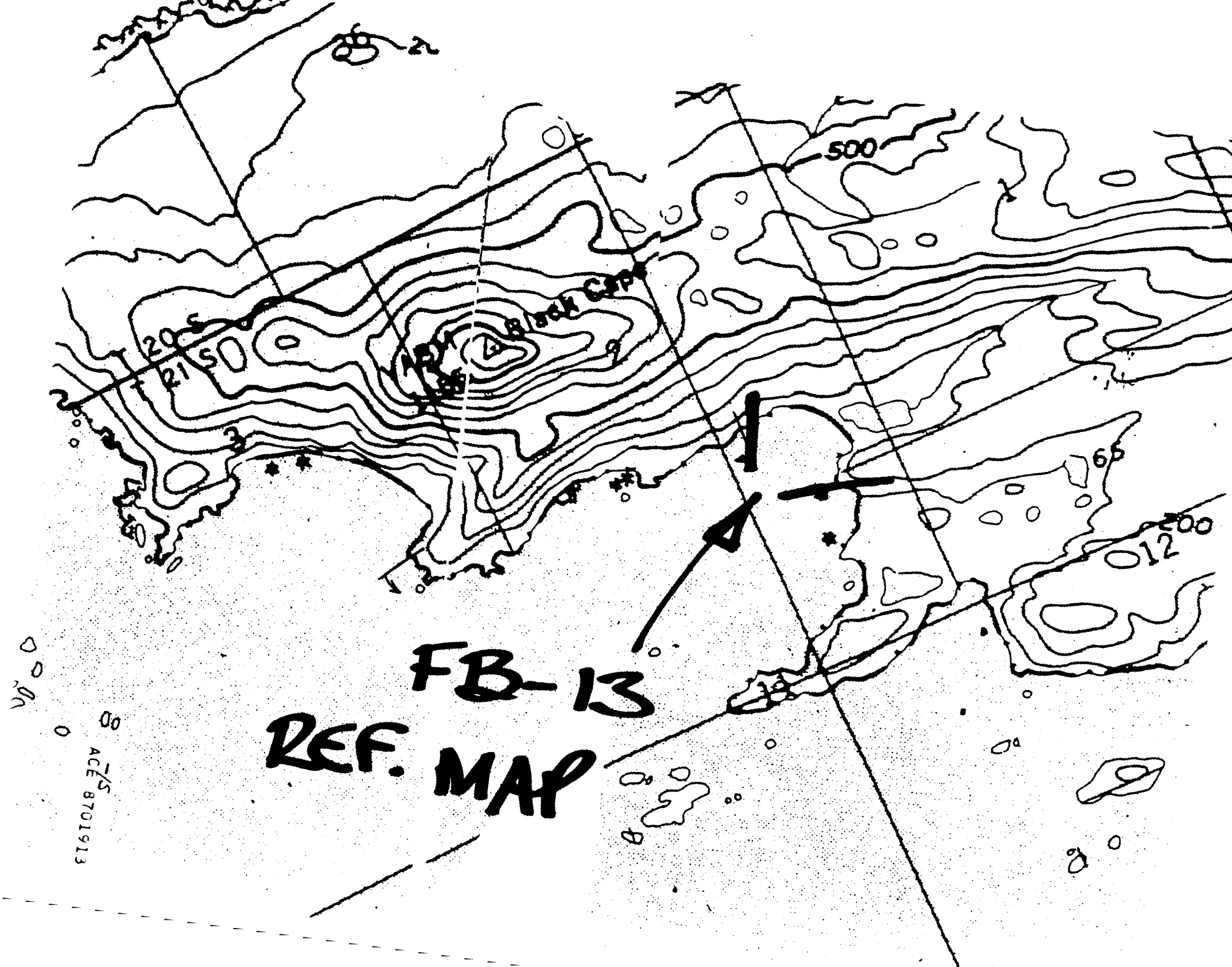
OTHER OBSERVATIONS: Most of segment is barren sand/gravel beach, little macro-fauna except barnacles at lower level

CLEANUP PRECAUTIONS: no constraints for oiled area, avoid trampling lower intertidal zone

MAMMALS: Otters ___ Harbor Seals ___ Sea Lions ___ Whales ___
Other ___

BIRDS: pigeon guillemots

GENERAL OBSERVATIONS: ___


500
Block Cape
20
21
50
65
200
12
FB-13
REF. MAP
ACES 8701513

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/17/89 SHORELINE SEGMENT K2-4-FB-14

LOCATION: (see enclosed map) N coast of Foul Bay - Afognak

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

Recommended Cleanup Activity(ies):
-No cleanup recommended due to aparent absence of oil. Subject to FOSC reassessment at a later date.

Priorities/Considerations: Class

Ecological Constraints (from site survey):

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.

J. David McMahan Date: 7/26/89
State Historic Preservation Officer *

EXXON:_____ Date:_____

FOSC:_____ Date:_____

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

4/5
ACE 8701914

(version 5/16/89)

SHORELINE OIL EVALUATION FORM - KODIAK

Date: 7/16/89 / Time: 11:30 Observer: G. MACDONALD.

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

LOCATION
LOCATION N. COAST of FOUL BAY. SEGMENT I.D. KZ-4, FB-14

LENGTH OF SHORELINE SEGMENT: 2,450 m

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

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

Wave Exposure: (High)/Med/Low

Sediment: B 5 % / C ___ % / P ___ % / G ___ % / S ___ % / M ___ % / R 90 %

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

OIL
Degree of Oiling: Heavy/Moderate/Light/(No Oil)/Unobserved/Very Light

Total Area of Beach Impact: SU / SP / H / M / L NOT APPLICABLE

OIL DISTRIBUTION
Continuous: Y/N Segment %_____ No. Bands_____ Width_____

Sporadic: Y/N Segment %_____ Min/Max Dia_____ Impact Width_____

Est. Oil Thickness where > 1cm:_____cm. SU / SP / UP / MID / LO
Depth below top seds
Est. Oil Penetration: _____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 _____% "Free" Oil _____% Spattered_____% H/M/L/VL Sheen_____%

OIL WEATHERING (OW)
Fresh Oil_____% SU/SP/VP/MID/LO Choc Mousse_____% SU/SP/VP/MID/LO

Pancake Mousse_____% SU/SP/VP/MID/LO Asphalt Mousse _____% SU/SP/VP/MID/LO

Tar Formation_____%

Comments:

STEEP ROCKY COAST, VERY EXPOSED SEGMENT
- NO OIL -

ACE 8701915

NO PHOTO: CAMERA BROKEN G.

7/16 11.30 SEGMENT FB-14

steep, exposed rocky coast; cliffs to 12 m, 80-120°; boulders @ base @ HTZ; no oil.

gravel pockets w/ cob/ bldrs; v. exposed.

END SEGMENT

11.55 SEGMENT FB-4 7/16

v. steep rocky coast, intensely sheared & folded metased.; (Chugach Terrane)

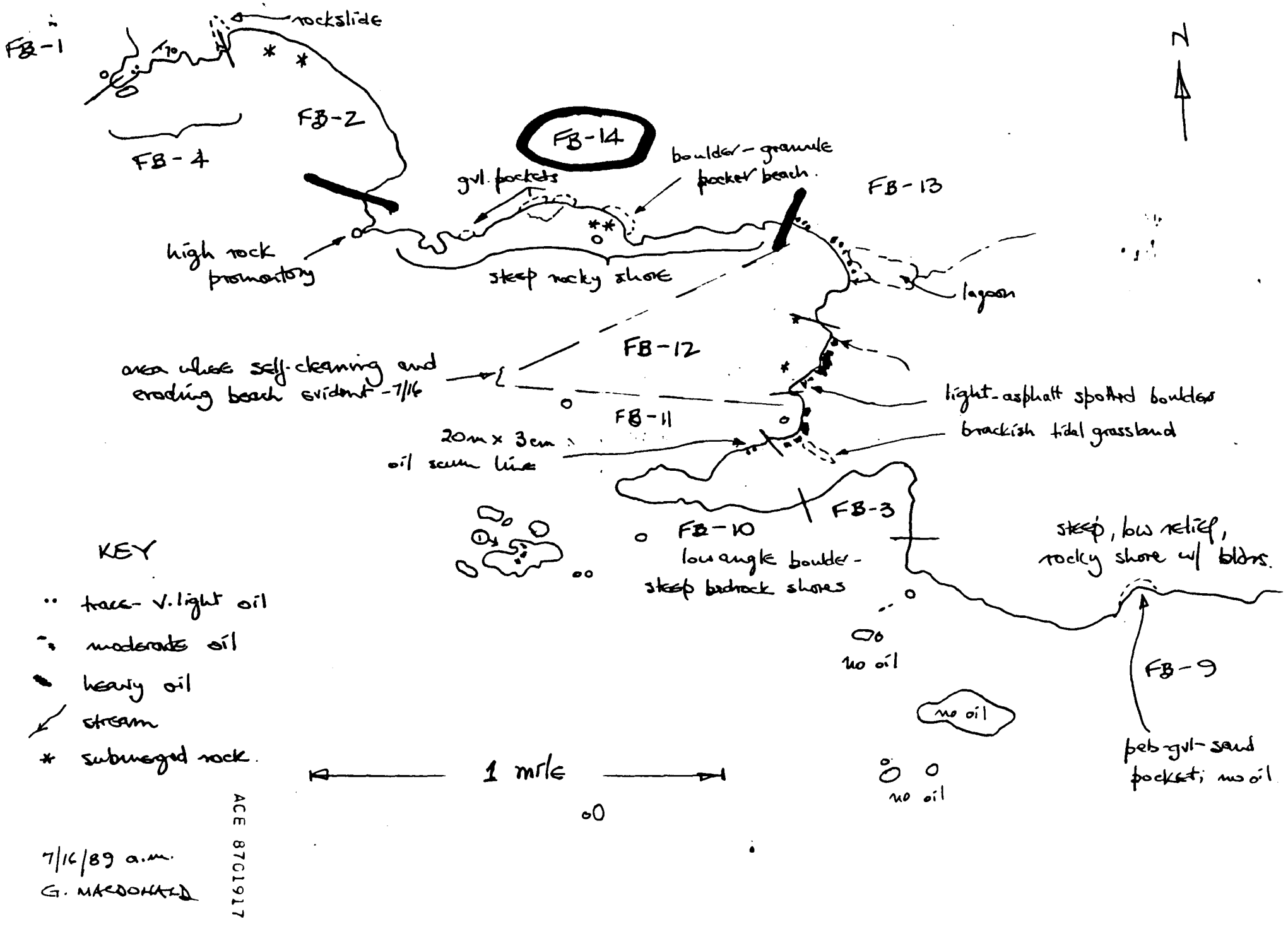
low- mod. sand-gravel pockets, w/ bldrs cob @ MHTZ; beach grades into low relief steep rockface to W;

no oil - (face)

@ point - steeply dipping (70°) altered sed./metased. rocks.

12.15 END SEGMENT

ACE 8701916


FB-1
rockslide
FB-2
FB-4
FB-14
gvl. pockets
boulder-granule pocket beach
FB-13
high rock promontory
steep rocky shore
lagoon
FB-12
area where self-cleaning and eroding beach evident-7/16
light-asphalt spotted boulders
FB-11
brackish tidal grassband
20m x 3cm oil scum line
FB-3
FB-10
low angle boulder-steep bedrock shores
steep, low relief, rocky shore w/ blders.
no oil
FB-9
no oil
peb-gvl-sand pocket; no oil
no oil
N
1 mile
KEY
.. trace-v.light oil
moderate oil
heavy oil
stream
* submerged rock.
7/16/89 a.m.
G. MACDONALD
ACE 87C1917

ECOLOGICAL EVALUATION

LOCATION: Afognak Is. SITE: Foul Bay OBSERVER: M. Fawcett

LOCATION PREFIX: FB SEG. NO.: 14 LENGTH: _____ (M)

DATE: 7/16/89 TIME (HHMM): 1140 TIDE HT.: 1.5-1.6 (M)

OILED ZONE: Splash High Medium Low no oil observed

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

Balanus glandula & cariosus, very dense spat everywhere

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

hardly any available space, as rocks almost entirely covered with barnacles

OTHER OBSERVATIONS: _____

Barnacle spat largest (2-4mm) lower on shore, small higher (1-2mm), probably reflecting higher growth rate lower on shore

CLEANUP PRECAUTIONS: no oil observed, however, if re-oiling occurs & cleanup is recommended, avoid damaging healthy lower intertidal

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

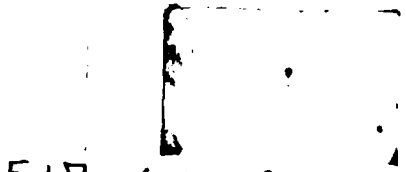
Other _____

BIRDS: 2 eagles, several pigeon guillemots, oystercatchers, gulls

GENERAL OBSERVATIONS: mostly steep rocks, small pocket beaches

---

Devil Inlet
Cabin
Mt. Zahl
R 22 W
R 21 W
T 25 S
T 24 S
FOUL BAY
FB-1A
REG. MAP
-1415/FF
ACE 8701920



517 (65) -90

KODIAK SCAT

K2-5

COMPLETE

JAN 04 1990

ACE 8643501

(version 6/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Block (see enclosed map): K2-5

Includes Shoreline Segments: BI-10, BI-11

Location: Ban Island

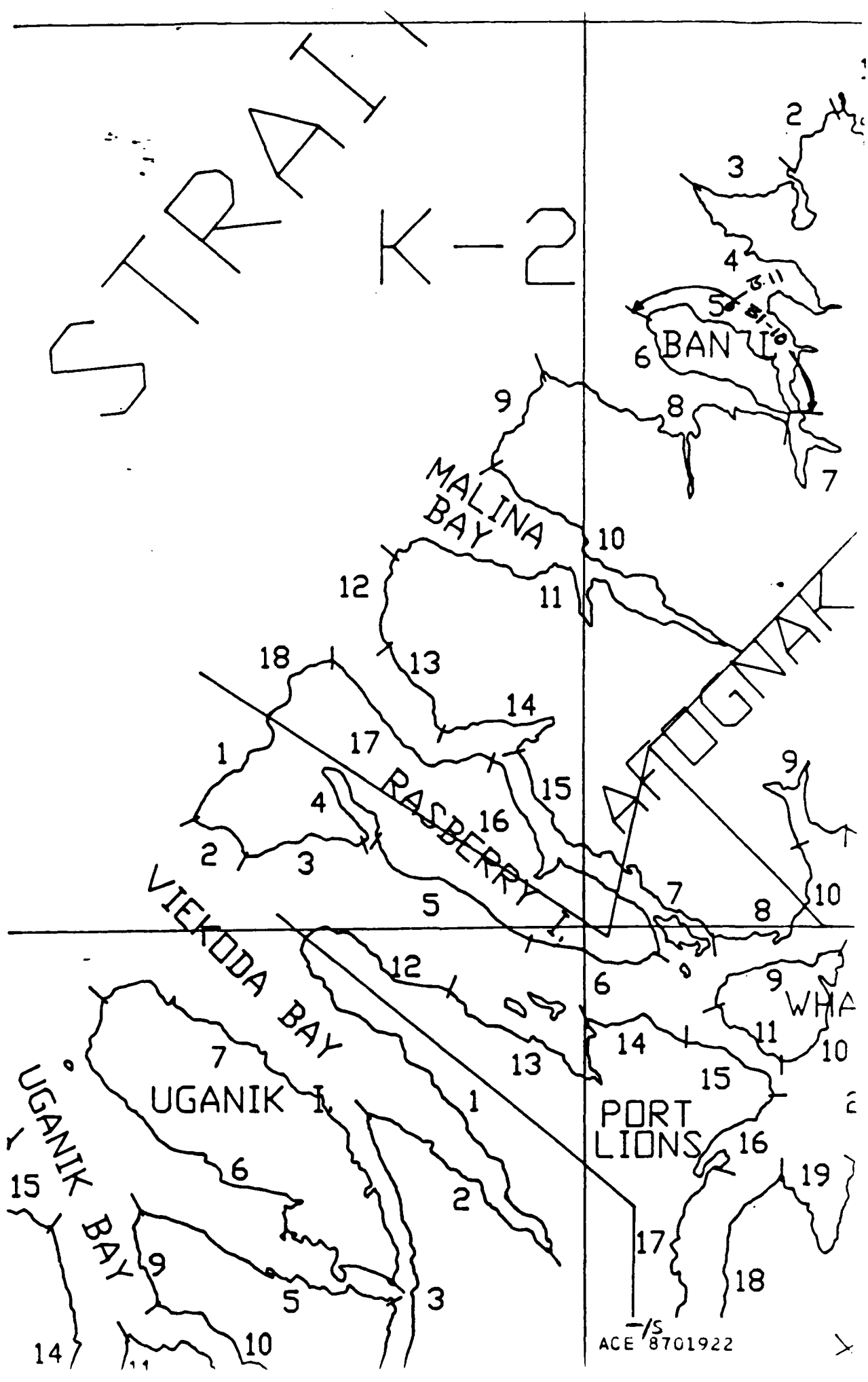
Submitted: _____ Date: _____
(for Exxon)

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

+/F/S/FF
ACE 8701921


STRAIT
K-2
BAN I.
MALINA BAY
AKUGNAK
RASBERRY I.
VIEKODA BAY
UGANIK I.
UGANIK BAY
PORT LIONS
WHA
ACE 8701922

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/14/89 SHORELINE SEGMENT K2-5-BI-10

LOCATION: (see enclosed map) North coast of Ban Island - Afognak

ADEC NO._____ SHORELINE ASSESSMENT DATE: 7/13/89 & 7/14/89

Recommended Cleanup Activity(ies):
-No cleanup recommended due to apparent absence of oil. Subject to FOSC reassessment at a later date.

Priorities/Considerations:
-None

Ecological Constraints (from site survey):
This is National Wildlife Refuge Land. Restrict all access to this segment if nearby areas of Foul Bay are being cleaned.

Archaeological Constraints (from site survey):
If cleanup is planned for this segment, an archaeological monitor must be assigned for specific sections within this segment.

J. David McMahan Date: 7/26/89
State Historic Preservation Officer *

EXXON:_____ Date:_____

FOSC:_____ Date:_____

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

4/5
ACE 8701923

(version 5/16/89)

SHORELINE OIL EVALUATION FORM - KODIAK

Date: 7/14/89 / Time: 08.00 ~~17.30~~ 7/13 Observer: GRAHAM MACDONALD.

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

LOCATION N. COAST of BARE ISLAND

LOCATION _____ SEGMENT I.D. K2-5, BI-10

LENGTH OF SHORELINE SEGMENT: 25,700 m

ACCESS: Foot/Vehicle/(Boat)/(Barge)/Helio/Float Plane - calm only.

SHORELINE:

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

Wave Exposure: (High)/(Med)/Low 15%

Sediment: B 10 % / C 5 % / P ~~0~~ % / G ~~0~~ % / S ~~0~~ % / M ___ % / R 70 %

Drift Debris on Beach: (Yes)/No (Supra)/Upper/Mid/Lower Type DRIFTWOOD / SEAWEED.

OIL

Degree of Oiling: Heavy/Moderate/Light/(No Oil)/Unobserved/Very Light

Total Area of Beach Impact: SU / SP / H / M / L NOT APPLICABLE!

OIL DISTRIBUTION

Continuous: Y/N Segment %_____ No. Bands_____ Width_____

Sporadic: Y/N Segment %_____ Min/Max Dia_____ Impact Width_____

Est. Oil Thickness where > 1cm: _____cm. SU / SP / UP / MID / LO

Depth below top seds

Est. Oil Penetration: _____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 _____% "Free" Oil _____% Spattered_____% H/M/L/VL Sheen_____%

OIL WEATHERING (OW)

Fresh Oil_____% SU/SP/VP/MID/LO Choc Mousse_____% SU/SP/VP/MID/LO

Pancake Mousse_____% SU/SP/VP/MID/LO Asphalt Mousse _____% SU/SP/VP/MID/LO

Tar Formation_____%

Comments:

6263+

ACE 8701924

K2-6-BE-10

DOCUMENTATION:

(Map)/Aerial photo marking segment boundaries Attached

VTR: (Y)/N Tape Number(s) Unknown

Photography: (Y)/N Roll Number(s) SMB-19 (7-13 to 7-14-89)

Sample Numbers Collected: None

7/13/89 SEGMENT BI-10 (KZ-5)
17.30 HRS N. BAN ISLAND

Steep granitic cliff + wave-cut bench
w/ thin (< 20cm) overlay of v. round/
spheroidal cobbles. V. Exposed.

Trace asphalt mousse in fracture system
in splash zone; self cleaning; coast +
stain, 30m x 3m area; no penetr^n

boulder beach over abraded bedrock
bench; sub-rnd boulders & rnd. pebbs
& cobs; moraine source of pebbles
& cobbles & some coarse sand;
altered, sheared granite-granodiorites
- rockfalls, pro-glacial cap; ice
scoured cliff face;
erosional coastline;
wet, v. windy (< 35 mph), coast.

halt segment @ 19.30
restart " " 08.00

tombolo/spit complex — no oil

break BI-10

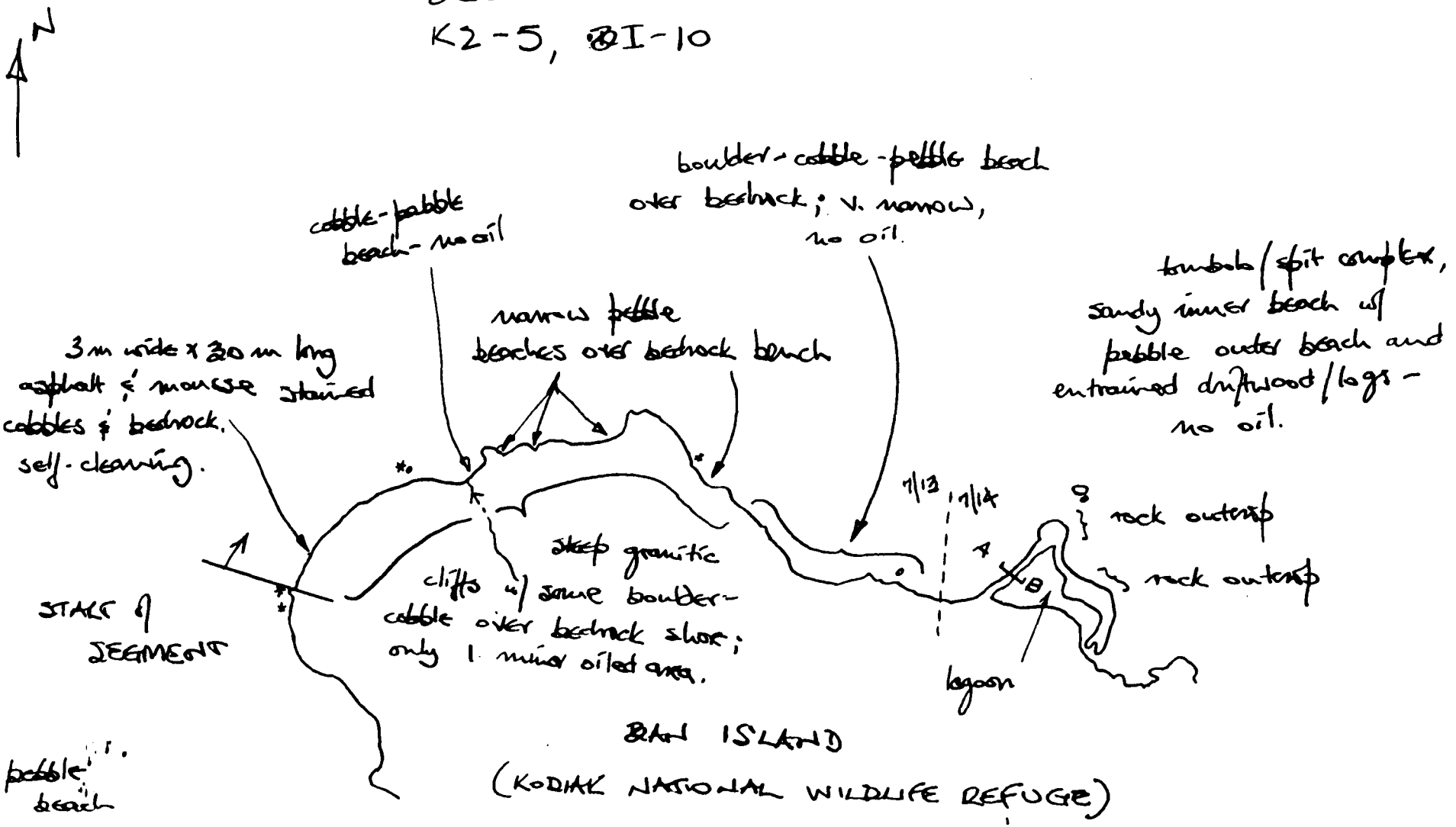
BI-11 KZ-5
ice-scoured rocky islands; mousse
coating bedrock, used by chevrices;
mod. exposed, HWL contam; no
penetration; partly dessicated dull
honey brown abraded mousse;
< 0.2 mm th; 2@ 15m x 30m &
1@ 2 x 10 m; mod high wash @
mod high tide to pebble/cobble
back intertidal zone
08-35 HRS END of SEGMENT BI-11

restart BI-10 —
granitics → metaseds; ice-
scoured metaseds.; shallows;
generally low relief, steep rocky
shore w/ some boulder shore and
shelly gvl-peb. pocket beaches;
@ neck ~ 20 - 50cm dia, mousse
-bound grass/weed/seaweed balls
@ SP zone — no action —
95% debris & 5% mousse!

steep rocky shore w/ veneer of bi-
organic soil; wind downed
trees, no oil.
11.00 END of SEGMENT

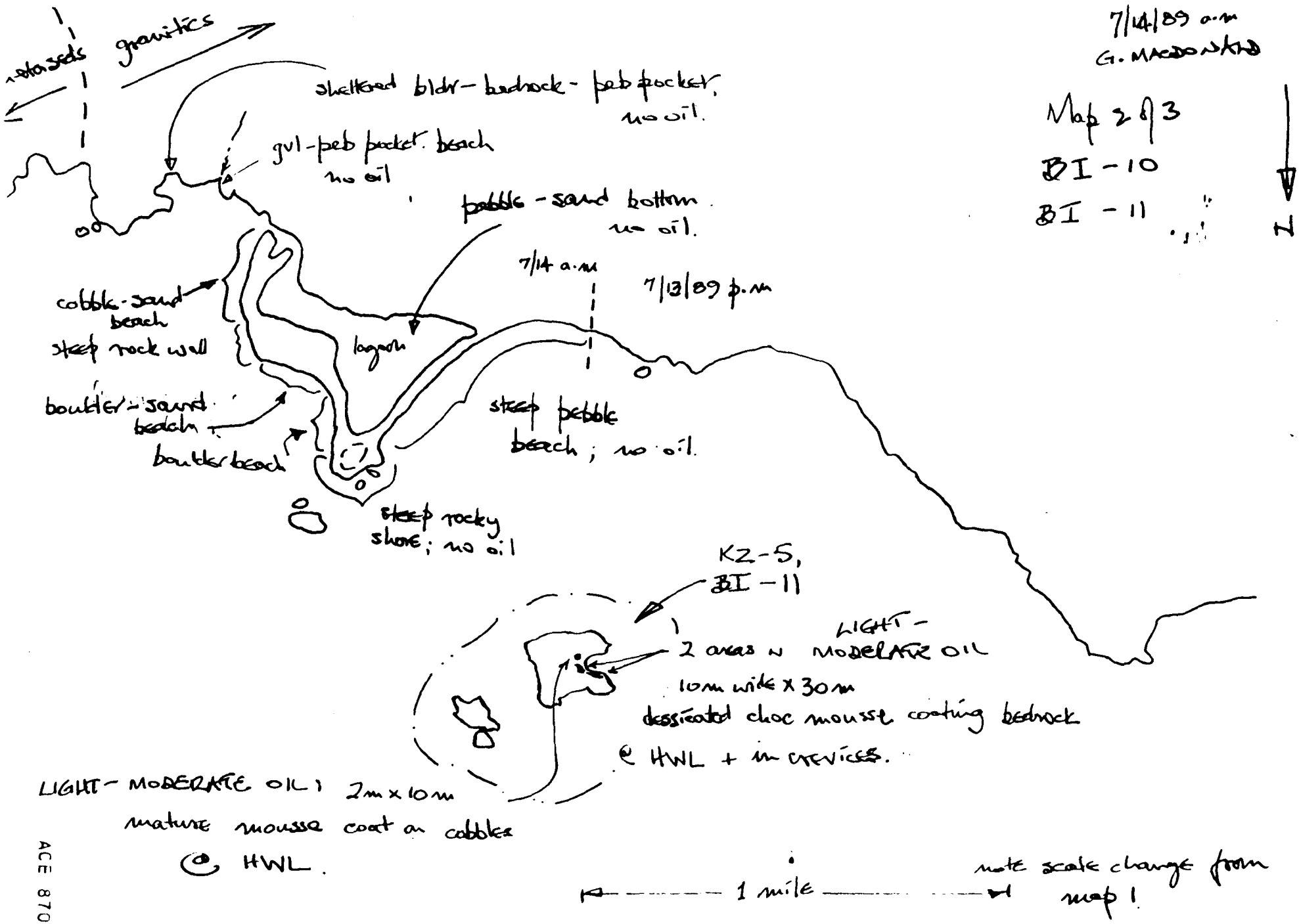
ACE 8701926

SEGMENT
K2-5, 8I-10



7/13/09 p.m.
G. MACDONALD
Map 1 of 3

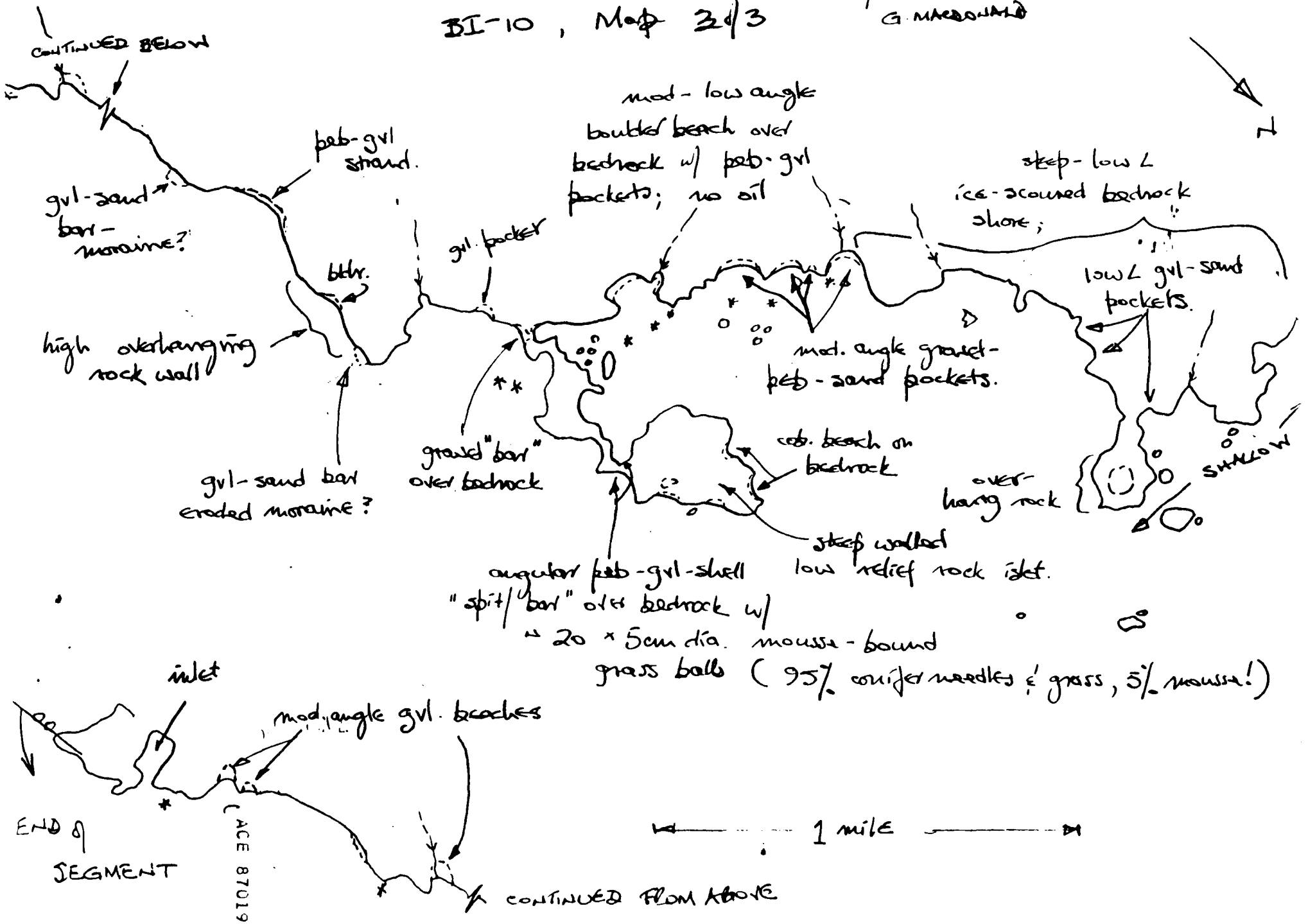
ACE 8701927


7/14/89 a.m
G. MACDONALD
Map 2 of 3
BI - 10
BI - 11
N
seaweeds
gravities
sheltered bldr - bedrock - peb pocket; no oil.
gvl - peb pocket beach no oil
pebble - sand bottom no oil.
7/14 a.m
7/13/89 p.m
cobble - sand beach
steep rock wall
lagoon
boulder - sand beach
boulder beach
steep pebble beach; no oil.
steep rocky shore; no oil
KZ-5, BI - 11
LIGHT - MODERATE OIL
2 areas w
10m wide x 30m
dessicated choc mousse coating bedrock
@ HWL + in crevices.
LIGHT - MODERATE OIL; 2m x 10m
mature mousse coat on cobbles
@ HWL.
1 mile
note scale change from map 1

ACE 8701923

BI-10, Map 2 of 3

7/14 a.m.
G. MACDONALD



ECOLOGICAL EVALUATION

LOCATION: BAN Island SITE: N. Shore BAN Island OBSERVER: SM BAN

LOCATION PREFIX: K-2-5 SEG. NO.: BI-10 LENGTH: 25,700 (M)

DATE: 7/13/14/89 TIME (HHMM): 7/13 - 1720 / 7/14 - 0535 TIDE HT.: 7/13 +2 / 7/14 +1 (M)

OILED ZONE: Splash High Medium Low No oil!

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 sparse at NW end increasing density with movement toward east. Most dense on boulders. None oiled.

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

None at NW end of segment. Increasing density - however indiv. size is small. Most indiv. are at water level. None oiled.

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

Distribution as above. Dense spat in some areas. Adults mostly on boulders and rock faces.

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

Dense patches high in ITZ in boulder crevices. Some lone individuals among Balanus

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

Several organisms in Balanus and Fucus zone - Not oiled.

OTHER OBSERVATIONS: Tidal pools at beginning of segment are not highly diverse. Diversity increases down the seg. Large lagoon in MID segment - diverse lower ITZ. Good shell beds subtidally. Algae Ulva Enteromorpha common in eastern parts of segment.

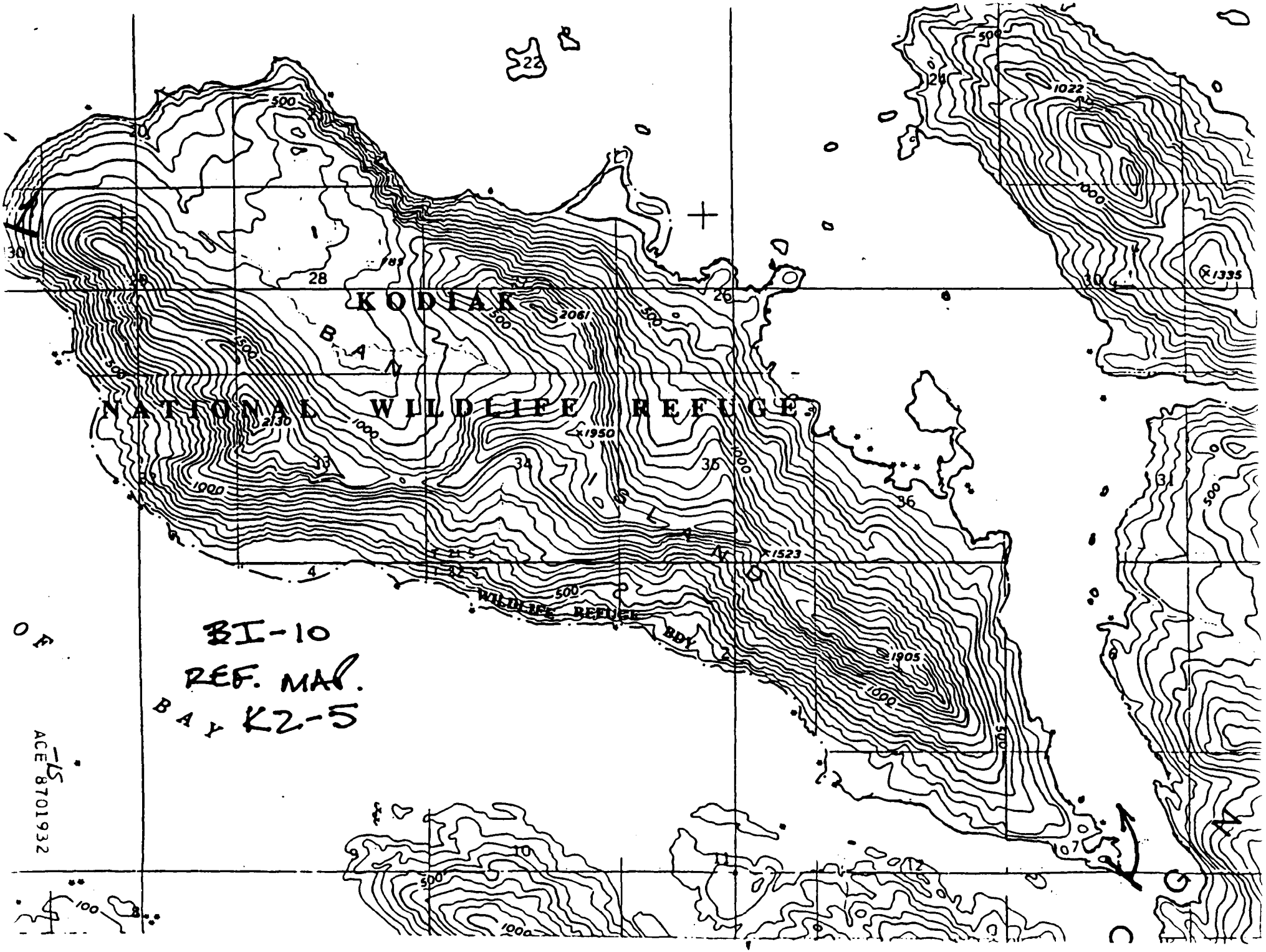
CLEANUP PRECAUTIONS: Herring seen in coves. Cyanea offshore. Disaster. Restrict access to segment, particularly the lagoon.

MAMMALS: Otters X Harbor Seals X Sea Lions ___ Whales ___
Other Sitka black tail deer on beach, Red + Silver Foxes

BIRDS: Glaucous, Eagles, oystercatchers, puffins

GENERAL OBSERVATIONS: NW end of island is very rocky and exposed - not much intertidal life. Diversity and density increases to the east. Segment is healthy and must not be disturbed

ACE 8701930



BI-10
REF. MAP.
BAY K2-5

ACE 8701932

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/14/89 SHORELINE SEGMENT K2-5-BI-11

LOCATION: (see enclosed map) Ban Island

ADEC NO._____SHORELINE ASSESSMENT DATE: 7/14/89

Recommended Cleanup Activity(ies):
-low pressure/warm water wash of oiled bedrock and cobbles.

Priorities/Considerations: Class 4-A

Ecological Constraints (from site survey):
-When using low pressure wash, do not dislodge healthy organisms in lower intertidal zone, especially in tide pools.
-Notify USFWS prior to cleaning as this is a National Wildlife Refuge.
-Work at mid tide plus or take appropriate measures to protect lower intertidal zone.

Archaeological Constraints (from site survey):
-If 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.

J. David McMahan Date: 7/26/89
State Historic Preservation Officer *

EXXON:_____ Date:_____

FOSC:_____ Date:_____

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

ACE 8701933 +15

(version 5/16/89)

SHORELINE OIL EVALUATION FORM - KODIAK

Date: 7/14/89 Time: 08:15 Observer: G. MACDONALD

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

LOCATION
LOCATION N. SIDE of BAN ISLAND SEGMENT I.D. BI-11

LENGTH OF SHORELINE SEGMENT: 1,620 m

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

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

Wave Exposure: (High)/Med/Low

Sediment: B 5 % / C 5 % (10) / P___ % / G___ % / S___ % / M___ % /R 90 %

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

OIL
Degree of Oiling: Heavy/(Moderate)/(Light)/No Oil/Unobserved/Very Light

Total Area of Beach Impact: SU / (SP) / (H) / M / L

OIL DISTRIBUTION
Continuous: (Y)/N Segment % 4 No. Bands 1 Width 2 @ 10m 1 @ 2m

Sporadic: Y/N Segment %_____ Min/Max Dia_____ Impact Width_____

Est. Oil Thickness where > 1cm:_____cm. SU / SP / UP / MID / LO
Depth below top seds
Est. Oil Penetration: 0 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 _____ % "Free" Oil TRACE % Spattered _____ % (H/M)/L/VL Sheen _____ %
COATED 100%

OIL WEATHERING (OW)
Fresh Oil_____% SU/SP/VP/MID/LO Choc Mousse_____% SU/SP/VP/MID/LO
PARTLY DRIED
Mousse 100 % SU/SP/VP/MID/LO Asphalt Mousse _____% SU/SP/VP/MID/LO

Tar Formation_____%

Comments:

3 AREAS of DULL HONEY BROWN COLOURED MOUSSE
COATING BEDROCK & COBBLES @ HWL/SP

ACE 8701934

DOCUMENTATION:

(Map)/Aerial photo marking segment boundaries Attached

VTR: (Y)/N Tape Number(s) Unknown in field

Photography: (Y)/N Roll Number(s) SMB-19 (7-14-89)

Sample Numbers Collected: None

7/13/89 SEGMENT BI-10 (KZ-5)
17.30 HRS NI BAN ISLAND

Steep granitic cliff + wave-cut bench up thin (< 20cm) overlay of v. round/ spheroidal cobbles. N. Exposed

Thick asphalt mousse in fracture system of splash zone; self cleaning, coat + stain, 30m x 3m area, no penetr^n

boulder beach over abraded bedrock bench; subround boulders + cobbles; moderate source of pebbles + cobbles & some coarse sand; altered, sheared granite-granodiorite - rockfalls, pro-glacial cap; ice scoured cliff face; emergent coastline

wet, v. windy (< 35 mph), o'cast.

halt segment @ 19.30

restart " " 08.00

tombolo/split complex — no oil

break BI-10

BI - 11 KZ - 5

ice-scoured rocky islands; mousse coating bedrock and in crevices; mod. exposed; HWL contam; no penetration; partly desiccated dull honey brown aground mousse; < 0.2 mm thk; 2@ 10m x 30m & 1@ 2 x 10 m; high wash @ mod. high tide to protect mid & lower intertidal zone.

08-35 HRS END of SEGMENT BI-11

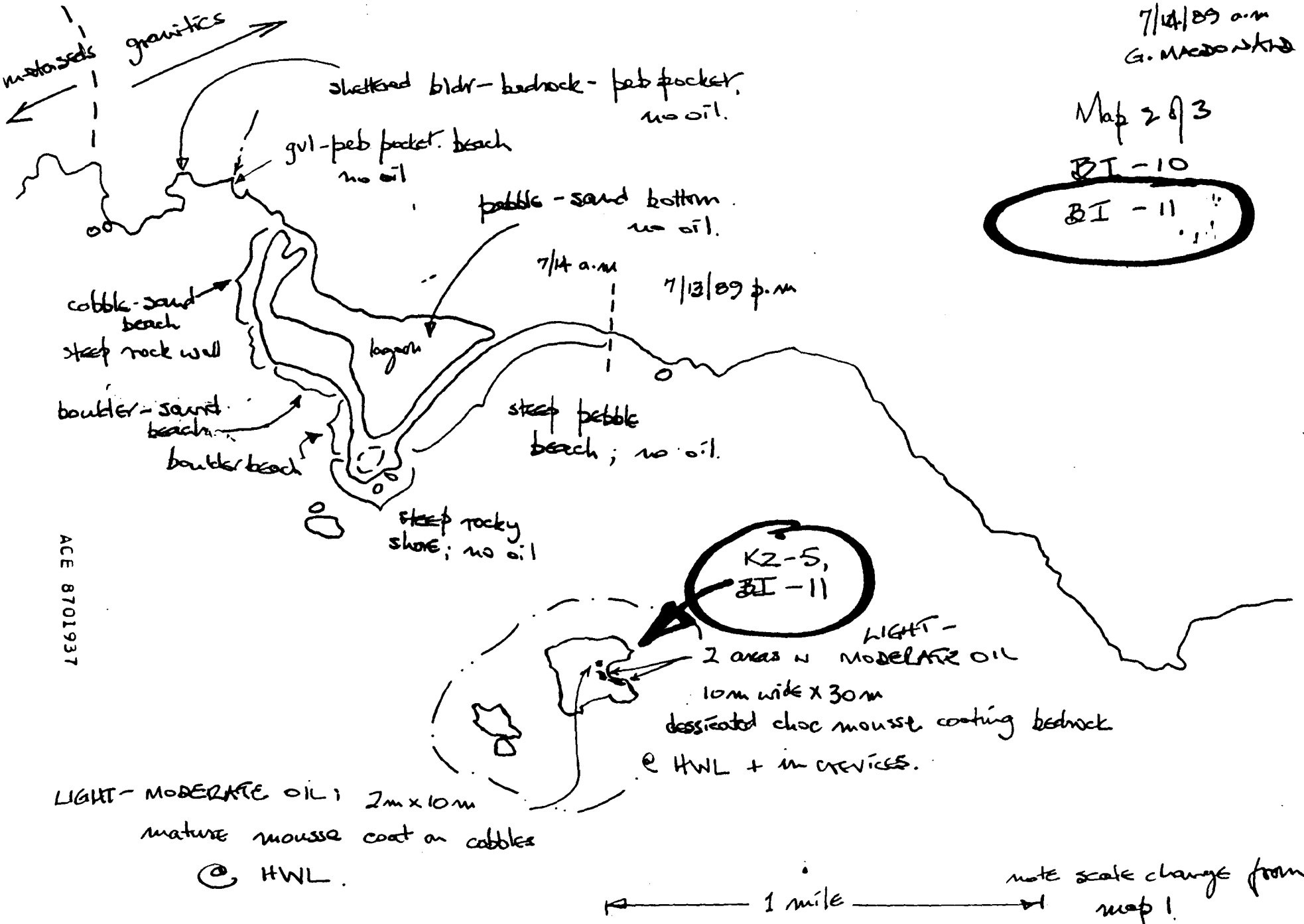
restart BI-11

granitics → coarse-grained ice-scoured metabasalts, + shallows; generally low relief, steep rocky shore w/ some boulder shore and shelly gvl-pebb. pocket beaches; @ check — 20 - 30cm dia mousse - bound grass/weed/seaweed balls @ SP — two orders - 95% (debris) & 5% mousse!

steep rocky shore w/ remnant of high organic soil; wind downed trees, two oil

11.00 END of SEGMENT

ACE 8701936


7/14/89 a.m
G. MACDONALD
Map 2 of 3
BI-10
BI-11
motorsleds
gravitics
sheltered bldr-bedrock-peb pocket; no oil.
gvl-peb pocket beach no oil
pebble-sand bottom no oil.
7/14 a.m
7/13/89 p.m
cobble-sand beach
steep rock wall
lagoon
boulder-sand beach
boulder beach
steep pebble beach; no oil.
steep rocky shore; no oil
K2-5, BI-11
LIGHT-
2 areas w MODERATE OIL
10m wide x 30m
dessicated choc mousse coating bedrock
@ HWL + in crevices.
LIGHT-MODERATE OIL; 2m x 10m
mature mousse coat on cobbles
@ HWL.
1 mile
note scale change from map 1
ACE 8701937

version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: BAN Island SITE: Islands in Bay OBSERVER: SM BAN

LOCATION PREFIX: K2-5 SEG. NO.: BI-11 LENGTH: 1620 (M)

DATE: 7/14/89 TIME (HHMM): 0750 TIDE HT.: 1 to 1½ (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

Several small oiled patches (± ½m²) in upper intertidal

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

Most located at or below water level. Some in crevices high in ITZ are oiled (small clump ± ¼m²)

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

Dense spat. Adults in vicinity of oiled Fucus are also oiled.

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

Individuals in crevices high in ITZ (vicinity of Mytilus) are also oiled.

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

Several org. in lower ITZ and tidal pools - not oiled

OTHER OBSERVATIONS: Many dense at water level. Tidal pools are present but are not highly diverse - contain mostly algae (red filamentous, green filamentous and Ulva). Pools are not oiled.

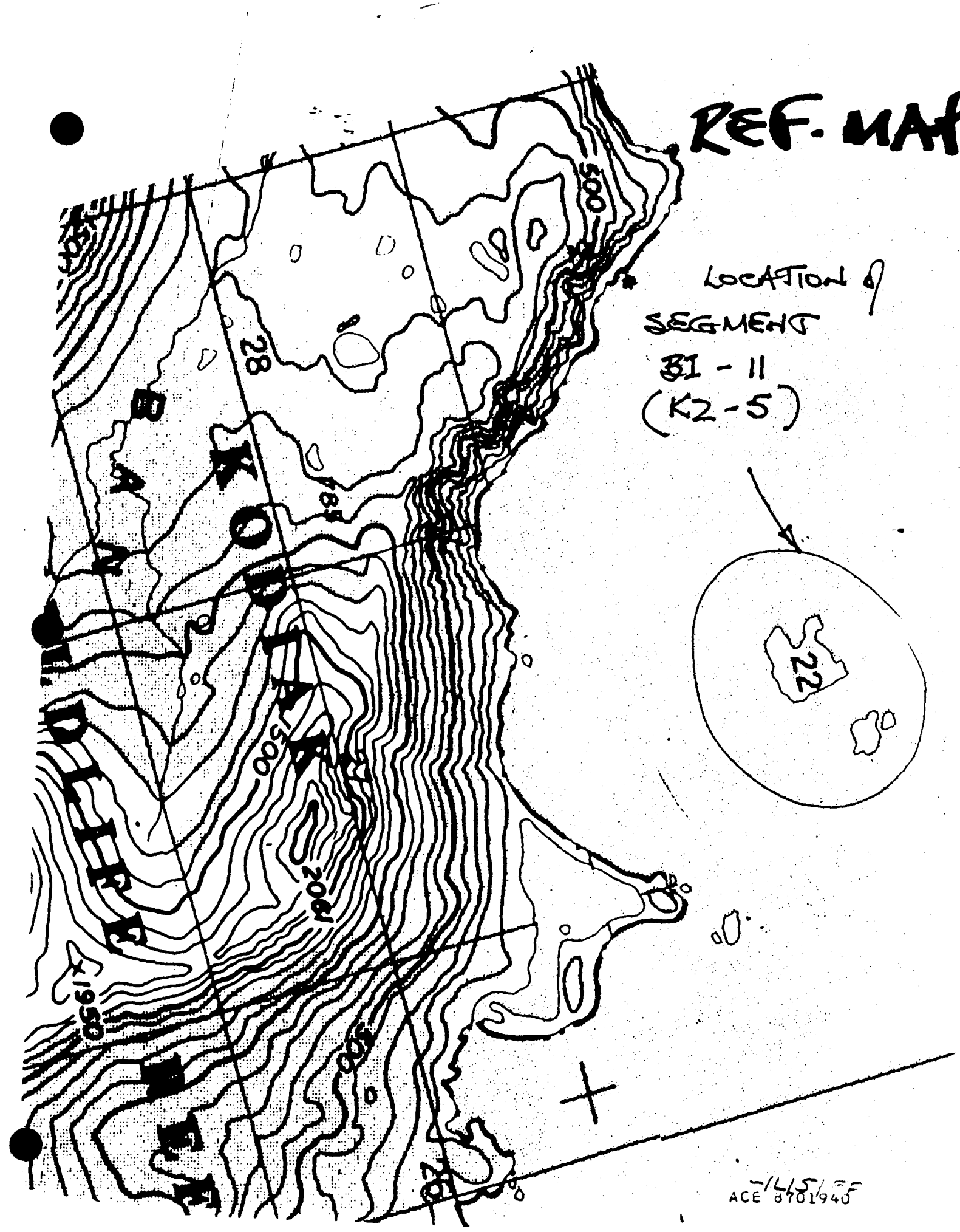
CLEANUP PRECAUTIONS: Do not dislodge healthy organisms in lower ITZ with high pressure. Take other appropriate measures to protect lower ITZ especially tidal pools.

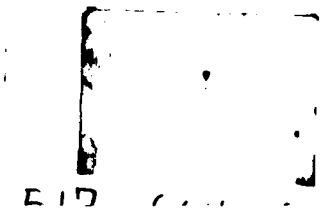
MAMMALS: Otters ___ Harbor Seals ___ Sea Lions ___ Whales ___
Other None seen

BIRDS: Harlequin ducks, pigeon guillemots, gulls, cormorants, puffins, oystercatchers

GENERAL OBSERVATIONS: Parts of these islands are moderately oiled. Impacted organisms include Fucus, Balanus, Mytilus and Littorina all high in ITZ. Lower ITZ is unaffected.

ACE 5701938


REF. MAP
LOCATION of SEGMENT BI - 11 (K2-5)
22
ACE 8701945



KODIAK SCAT
K2-6

DEC 29 1989

ACE 8643502

(version 6/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Block (see enclosed map): K2-6

Includes Shoreline Segments: BI-1r, BI-2R, BI-3, BI-4

Location: Ban Island

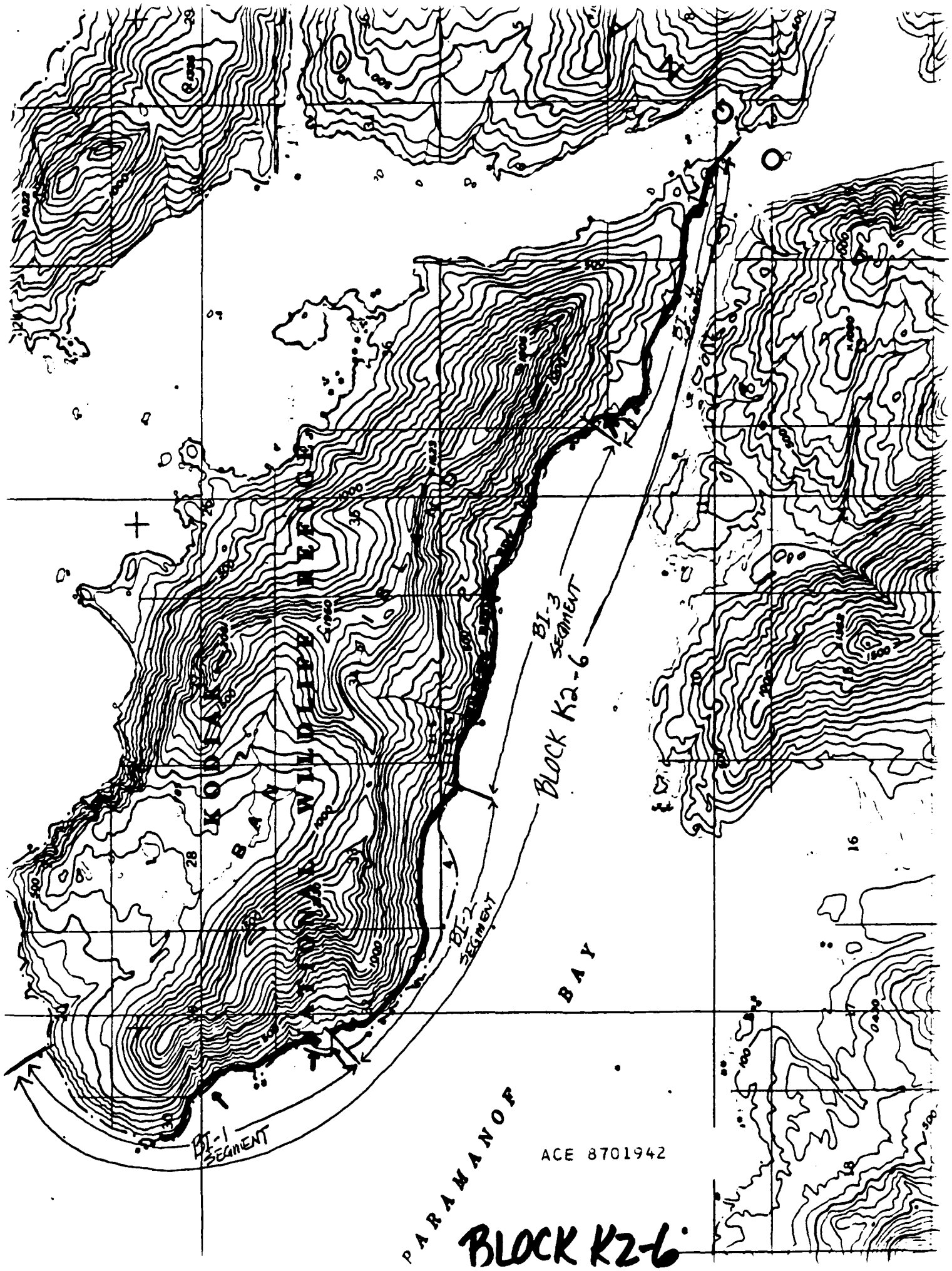
Submitted: _____ Date: _____
(for Exxon)

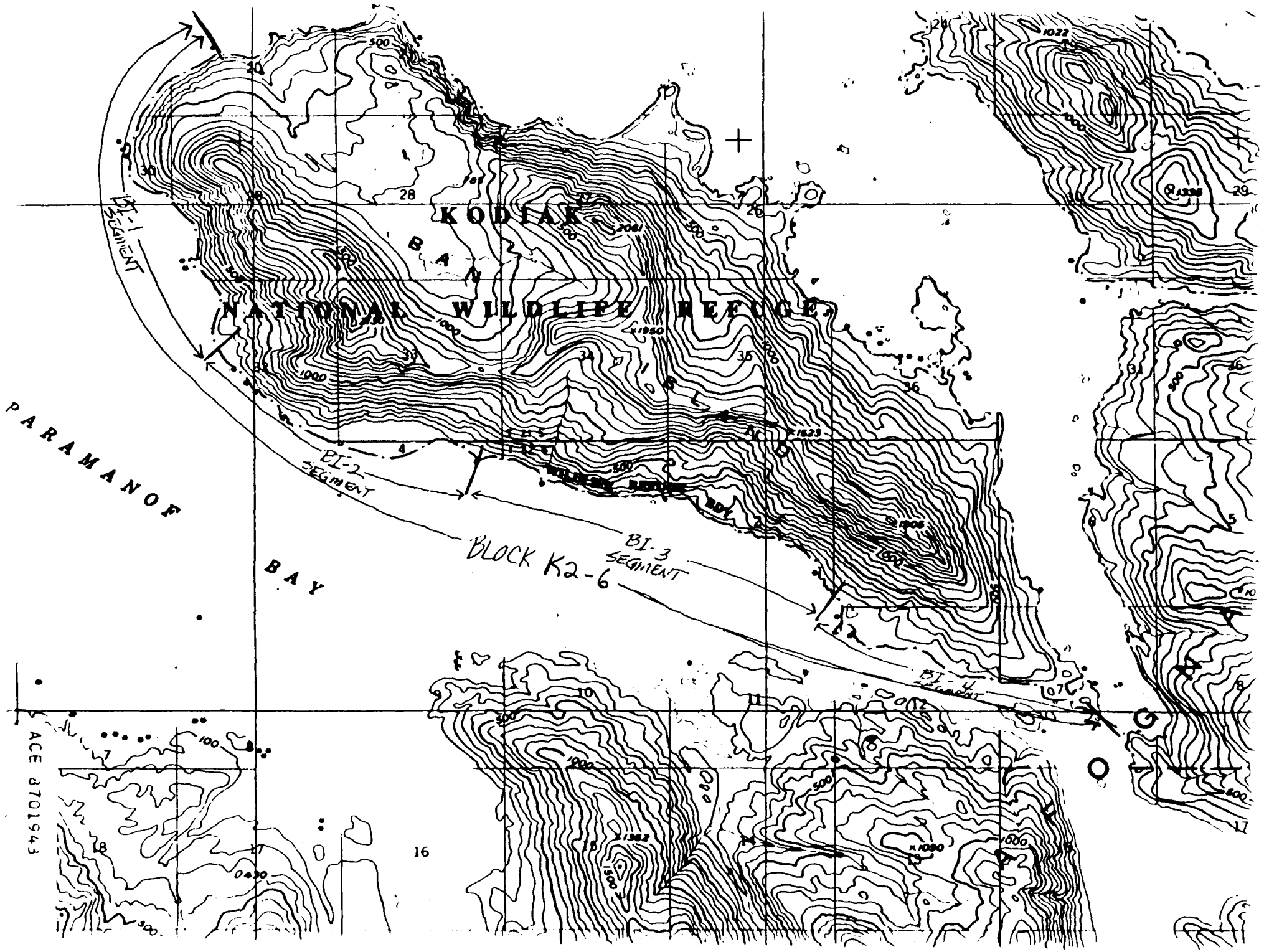
FOSC Approval: _____ Date: _____

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

T/F/S
ACE 8701941


BAN WILDER
KOLOMANI
BI-3 SEGMENT
BLOCK K2-6
BI-2 SEGMENT
BI-1 SEGMENT
PARAMANOF BAY
ACE 8701942
BLOCK K2-6


KODIAK
NATIONAL WILDLIFE REFUGE
BAY
PARAMANOF
BAY
BI-1 SEGMENT
BI-2 SEGMENT
BI-3 SEGMENT
BI-4 SEGMENT
BLOCK K2-6
ACE 8701943

(version July 23, 1989)

SHORELINE PRE CLEANUP REASSESSMENT

DATE 7/19/89 SHORELINE SEGMENT K2-6-BI-1R REASSESSMENT DATE7/19

Observers: OG C. Dillon BIO M.Fawcett ARCH S. Ludwig

Reason for Reassessment

Revised Recommended Cleanup Activity(ies):
- Manual removal of oiled algae and driftwood on strand line.

- Manual removal (wiping) splatters of oil off of large cobbles and boulders on mid to upper intertidal zone.

- Low priority cleanup.

- This segment appears to have been naturally cleaned then re-oiled since the first SCAT assessment on 5/19/89.

-K2-6-BI-1R and K2-6-BI-2 (as reported on 5/19/89) were re-assessed and evaluated entirely on 7/19/89. See segment report for K2-6-BI-1 dated 7/19/89 - The attached new segment report was completed due to significant changes in oiling conditions since initial segment report.

Revised Ecological Constraints:
- No constraints regarding oiled areas per se, but avoid trampling highly developed community of lower intertidal zone.

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.

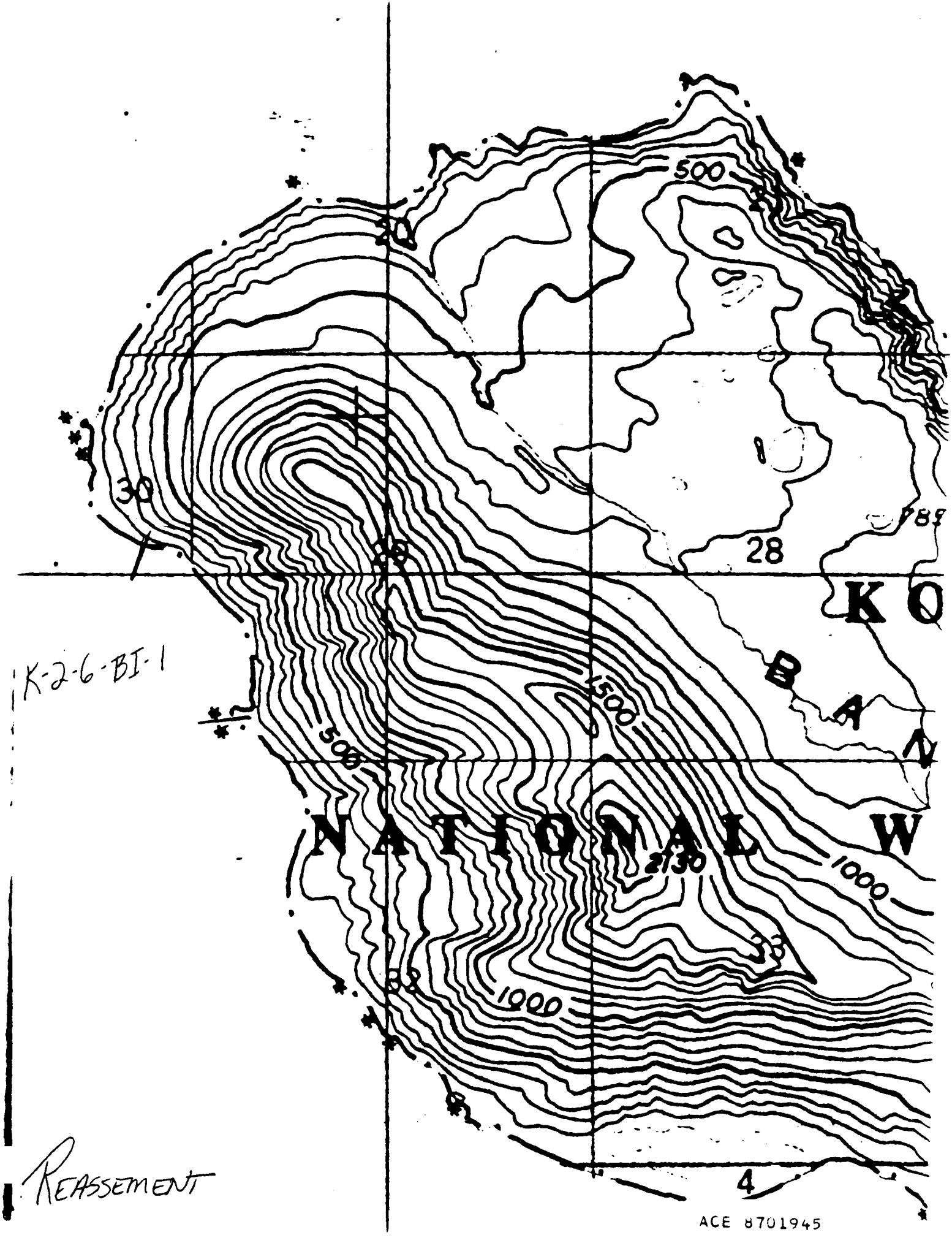
J. David McMahon Date: 7/26/89
State Historic Preservation Officer *

EXXON: Date:

FOSC: Date:

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

ACE 8701944



K-2-6-BI-1

REASSEMENT

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/19/89 SHORELINE SEGMENT K2-6-BI-1R

LOCATION: (see enclosed map) W side of Afognak Island, W and SW shoreline of Ban Island

ADEC NO._____ SHORELINE ASSESSMENT DATE: 7/19/89

Recommended Cleanup Activity(ies):

-Manual removal of oiled debris (beaches 1 and 3) and oil splatches (wipe) from large boulders (beach 1).
-Manual removal of oiled sediments (beach 3) or relocate to surf zone.

Priorities/Considerations: Class 5-B

-Access to northwestern portion of segment may be restricted by rocks and waves.

Ecological Constraints (from site survey):

-No constraints re: oiled areas per se, but avoid trampling highly developed community in lower intertidal zone, or allowing run-off of oily wastes.

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.

_____ Date:_____
State Historic Preservation Officer *

EXXON:_____ Date:_____

FOSC:_____ Date:_____

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

ACE 8701946

SHORELINE OIL EVALUATION

A. General
1. Date: 7/19/89 2. Time: 0745-0945 3. Observer: C. DILLON

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

B. Location
6. Location Ban Island (W and SW shore) 7. Segment #: K-2-6-BI-1

8. Length of shoreline segment: 4000 m

9. Access: Foot/Vehicle/(Boat/Barge/Helio/Float Plane)

10. The westernmost part of the segment is inaccessible due to rocks/waves.

C. Shoreline
11. Shoreline Type: SPI/BAR/(BEA)/COV/(HLD/STRT)/CLF/EST/DAF

12. Slope: (LANG)/(HAND/VER)

13. Wave Exposure: (High)/Med/Low

14. Sediment: B60% / C20% / P5% / G & S<5% / M__% / R10%

15. Drift Debris on Beach: (Yes)/No (Supra)/Upper/Mid/Lower Type logs/algae

D. Oil Summary
16. Degree of Oiling: Heavy/Moderate/(Light/Very Light/No Oil/Unobserved)

17. Area of Beach Impact: Width of Band: 5 - 40 m
Continuous: Y/(N) % of Segment_____ SU / SP / H / M / L

Sporadic: (Y)/N % of Segment <10 SU / (SP / H / M) L

18. Est. Oil Thickness where >1cm: 0 cm Est. Oil Penetration: <2 cm

19. Pooled Oil: ____% "Free" Oil: ____% ~~Coated:~~ Splattered H__% / M__% / L40% VL 60%

20. Fresh _____% Weathered & Mousse 100 % Tar Formation: _____%

21. Drift Debris Oiled? (Yes)/No (Supra)/Upper/Mid/Lower Amount: very small %

Comments: This is a general segment cover page. The northwesternmost 30% of the segment was not observed - rough seas prevented access. This area is mostly steep boulder and rocky slopes and is most likely unoiled due to the very high energy waves. The remainder of the segment consists of boulder slopes, rocky headlands and straits with 3 beaches. Two of the beaches are oiled and evaluated separately on the following forms.

ACE 0701947

DOCUMENTATION: K-2-6-BI-1

(Map)/Aerial photo marking segment boundaries Attached

VTR: Y/(N) Tape Number(s) None } No camera available

Photography: Y/(N) Roll Number(s) None

Sample Numbers Collected: None

SHORELINE OIL EVALUATION

A. General
1. Date: 7/19/89 2. Time: 0800-0930 3. Observer: C. DILLON

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

B. Location
6. Location Bun Island (SW shore) 7. Segment #: K-2-6-BI-1 (Beach 1)

8. Length of shoreline ~~segment~~ Beach: 600 m

9. Access: Foot/Vehicle/(Boat/Barge/Helio/Float Plane)

10. Access is best to SE-most section of beach where sed's are smaller.

C. Shoreline
11. Shoreline Type: SPI/BAR/(BEA)/COV/(HLD)/STRT/CLF/EST/DAF

12. Slope: (LANG/HAND)/VER

13. Wave Exposure: (High)/Med/Low

14. Sediment: B50% / C30% / P15% / G & S5% / M__% / R__%

15. Drift Debris on Beach: (Yes)/No (Supra)/Upper/Mid/Lower Type logs/lahar

D. Oil Summary
16. Degree of Oiling: Heavy/Moderate/(Light/Very Light/No Oil)/Unobserved

17. Area of Beach Impact: Width of Band: 5 - 25 m
Continuous: (Y)N % of ~~Segment~~ Beach 30 SU / SP / (H / M) / L
Sporadic: Y/(N) % of Segment_____ SU / SP / H / M / L

18. Est. Oil Thickness where >1cm: Ø cm Est. Oil Penetration: Ø cm

19. Pooled Oil:____% "Free" Oil:____% ~~Coated~~ Splattered: H___% / M___% / L40% VL 60%

20. Fresh _____% & Mousse 100 % Tar Formation: _____% (Weathered)

21. Drift Debris Oiled? (Yes)/No (Supra)/Upper/Mid/Lower Amount: Small %

Comments: In the center of the beach the sediments abruptly turn from cobbles/pebbles to boulders. At this point and northwestward for a distance of approx. 200m, along the mid to upper ITZ, there are splatters of weathered oil on the boulders. The degree of oiling is light in the center of the beach and tapers to very light then no oil going NW.

ACE 07U1949

SHORELINE OIL EVALUATION

22. Oil Type

Fresh	_____	%
Mousse	_____	%
Weathered	100	%
Tar	_____	%
	100	%

23. (Stabilized) or "Free" (some is a dried stain)

24. Oil Character (Location)

	SU	SP	H	M	L	Buried	Length (m)	Width (m)
thick (> 1cm) + continuous (> 1sq.m.) coating on B/BD/Wood/(Rock) splattered			✓	✓			200	5-25
cracks & crevices on bedrock								
patties (>10cm diameter)								
balls (< 10cm diameter)								
asphalt pavement								

25. Oil Distribution:

Continuous % of ~~Segment~~ Beach 30 SU/SP/(H/M)/L H/M/(L/VL)

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

Total	Length (m)	Width (m)
Very light:	125	5-25
Light:	75	25
Moderate:		
Heavy:		
Buried:		

26. Preliminary Cleanup Est.

Total TYPE A: 200 m

Total TYPE B: _____ m

Total TYPE A/B: _____ m

Mobilization Potential: High/Medium/(Low)

Comments:

(Draft Version July 18, 1989) Page 1

SHORELINE OIL EVALUATION

A. General

1. Date: 7/14/89 2. Time: 0900-0945 3. Observer: C. DILLON

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

B. Location

6. Location Ban Island (SW shore) 7. Segment #: K-2-6-BI-1 (Beach 3)

8. Length of shoreline segment: 600 m

9. Access: Foot/Vehicle/(Boat/Barge)/Helio/(Float Plane)

10. Too bouldery for a helo. Helo could land on adjacent beach + shift over.

C. Shoreline

11. Shoreline Type: SPI/BAR/(BEA)/COV/HLD/STRT/CLF/EST/DAF

12. Slope: (LANG)/HAND/VER

13. Wave Exposure: (High)/Med/Low

14. Sediment: B 50 % / C 40 % / P 10 % / G & S __ % / M __ % / R __ %

15. Drift Debris on Beach: (Yes)/No (Supra)/Upper/Mid/Lower Type logs

D. Oil Summary

16. Degree of Oiling: Heavy/Moderate/(Light/Very Light/No Oil)/Unobserved

17. Area of Beach Impact: Width of Band: 20 - 40 m
Continuous: (Y)/N % of ~~Segment~~ Beach 30 SU / (SP / H / M) / L
Sporadic: Y/(N) % of Segment _____ SU / SP / H / M / L

18. Est. Oil Thickness where >1cm: 0 cm Est. Oil Penetration: 62 cm

19. Pooled Oil: _____ % "Free" Oil: _____ % Splattered Coated: H __ % / M __ % / L 50 % VL 50 %

20. Fresh _____ % Weathered & Mousse 100 % Tar Formation: _____ %

21. Drift Debris Oiled? (Yes)/No (Supra)/Upper/Mid/Lower Amount: small %

Comments:

ACE 8701951

SHORELINE OIL EVALUATION

22. Oil Type

Fresh	_____	%
Mousse	_____	%
Weathered	100	%
Tar	_____	%
	100	%

23. (Stabilized) or "Free" (mostly dried stain splatters)

24. Oil Character (Location)

	SU	SP	H	M	L	Buried	Length(m)	Width(m)
thick(> 1cm) + continuous (> 1sq.m.) coating on B/BD/Wood/(Rock) and splattered		✓	✓	✓			200	20-40
cracks & crevices on bedrock								
patties (>10cm diameter)								
balls (< 10cm diameter)								
asphalt pavement								

25. Oil Distribution:

Continuous % of ~~Segment~~ Beach 30 SU/(SP/H/M)/L H/M/(L/VL)

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

Total	Length(m)	Width(m)
Very light:	100	20-40
Light:	100	20-30
Moderate:		
Heavy:		
Buried:		

26. Preliminary Cleanup Est.

Total TYPE A: _____ m

Total TYPE B: _____ m

Total TYPE A/B: 75 m

Mobilization Potential: High/Medium/(Low)

Comments:

ACE 8701952

version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: Ban Island SITE: W & SW shore OBSERVER: M. Fawcett

LOCATION PREFIX: BI SEG. NO.: 1 LENGTH: 4000 (M)

DATE: 7/19/89 TIME (HHMM): 0745-0945 TIDE HT.: -0.9 to +1.2 (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

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

dense patches on large rocks, and around bases of boulders in some sheltered areas, sparse or absent elsewhere

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

Continuous dense barnacle cover in most areas except unstable cobble beach
& continuous cover of large, old Balanus cariosus on many rock faces

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

N. scutum, N. persona, C. digitalis, A. mitra

OTHER OBSERVATIONS: High energy sections of cobble/gravel beaches devoid of macro-flora or fauna. Other areas have rich community.
Seastars observed: Evasterias, Pisaster, Pycnopodia, Dermasterias, Henricia

CLEANUP PRECAUTIONS: No precautions re: oiled areas, but avoid trampling lower shore or allowing run-off of oily wastes

MAMMALS: Otters ___ Harbor Seals ___ Sea Lions 1 Whales ___
Other ___

BIRDS: 2 eagles with nest, pigeon guillemots, gulls

ACE 8701953

GENERAL OBSERVATIONS: Segment contains steep rocks & cliffs, and 3 beaches which are high energy, unstable in centers, sheltered near ends.

KODIAK NATIONAL WILDLIFE REFUGE
BAY
AMANOF
BEACH
BEACH 2
BEACH 3
INACCESSIBLE UNOBSERVED
K-2-6-BI-1
ACE 8701955

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 5/20/89 SHORELINE SEGMENT BI-1

LOCATION: (see enclosed map) West Shore of Ban Island

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/19/89

Recommended Cleanup Activity(ies):

- See below
- Use high temperature flooding/spray to remove mousse from coated boulders/cobbles.

Priorities Considerations:

- Remove by shovel the one (1) meter wide continuous band of contaminated seaweed drift at the top of the high intertidal zone.

Ecological Constraints (from site survey):

- Avoid healthy community in low 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.

Charles E. Holmes
State Historic Preservation Officer *

Date: May 21, 1989

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

ACE 8701955

⊗

SHORELINE OIL EVALUATION

ate: 19 MAY 1989 Time: 0800 HRS Observer: BRYAN TRIMM

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

LOCATION

LOCATION WEST COAST BAN IS. PARAMANOF BAY SEGMENT NUMBER BI-1

LENGTH OF SHORELINE SEGMENT: 1200 m

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

SHORELINE:

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

Wave Exposure: (High/Med)/Low

Sediment: B 25 % / C 25 % / P 35 % / G 15 % / S - % / M - % /R - %

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

OIL

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

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

Continuous: (Y)/N % of Segment 150 Width of Band: 1 m

Sporadic: (Y)/N % of Segment 5

Est. Oil Thickness where > 1cm: - cm Est. Oil Penetration: ? cm

Pooled Oil: - % "Free" Oil: 50 % Coated: H - % /M 50 % /L - %

Fresh - % Mousse 100 % Tar Formation: - %

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

Comments:

ON THE 1M WIDE CONTINUOUS BAND OF OILED SEAWEED DRIFT AT THE TOP OF THE HIGH INTERTIDAL ZONE. A 6M WIDE, MODERATE COATING OF COBBLE/BOULDER BEACH IN THE HIGH INTERTIDAL ZONE HAS AN UNKNOWN DEPTH OF PENETRATION. HI-TEMPERATURE FLOODING MAY CLEAN THE BOULDER/COBBLE BEACH. REMOVAL OF THE SEAWEED DRIFT (OILED) WILL PREVENT ANIMALS FROM CONTAMINATION.

DOCUMENTATION:

Map/Aerial photo marking segment boundaries Attached

IR: Y/N Tape Number(s) None

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

Sample Numbers Collected: None

version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: Bon Island SITE: W. Shore Bon Is. OBSERVER: Son Bon

LOCATION PREFIX: BI SEG. NO.: 1 LENGTH: 1200 (M)

DATE: 5/19/89 TIME (HHMM): 0800 TIDE HT.: +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

Dense on rocks, healthy in lower ITZ, None oiled

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

Dense on rocks and healthy in lower ITZ

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

Dense in lower ITZ, Not Impacted

ttorina
patchy (Y)/N Contin. Y/N Dense Y/N Sparse (Y)/N None Y/N

Healthy on rocks in Lower ITZ also Thais

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

Healthy on rocks in Lower ITZ

OTHER OBSERVATIONS: Two Deer seen on beach prior to landing Most oil is mixed with debris at Strandline decreases as moving down the beach.

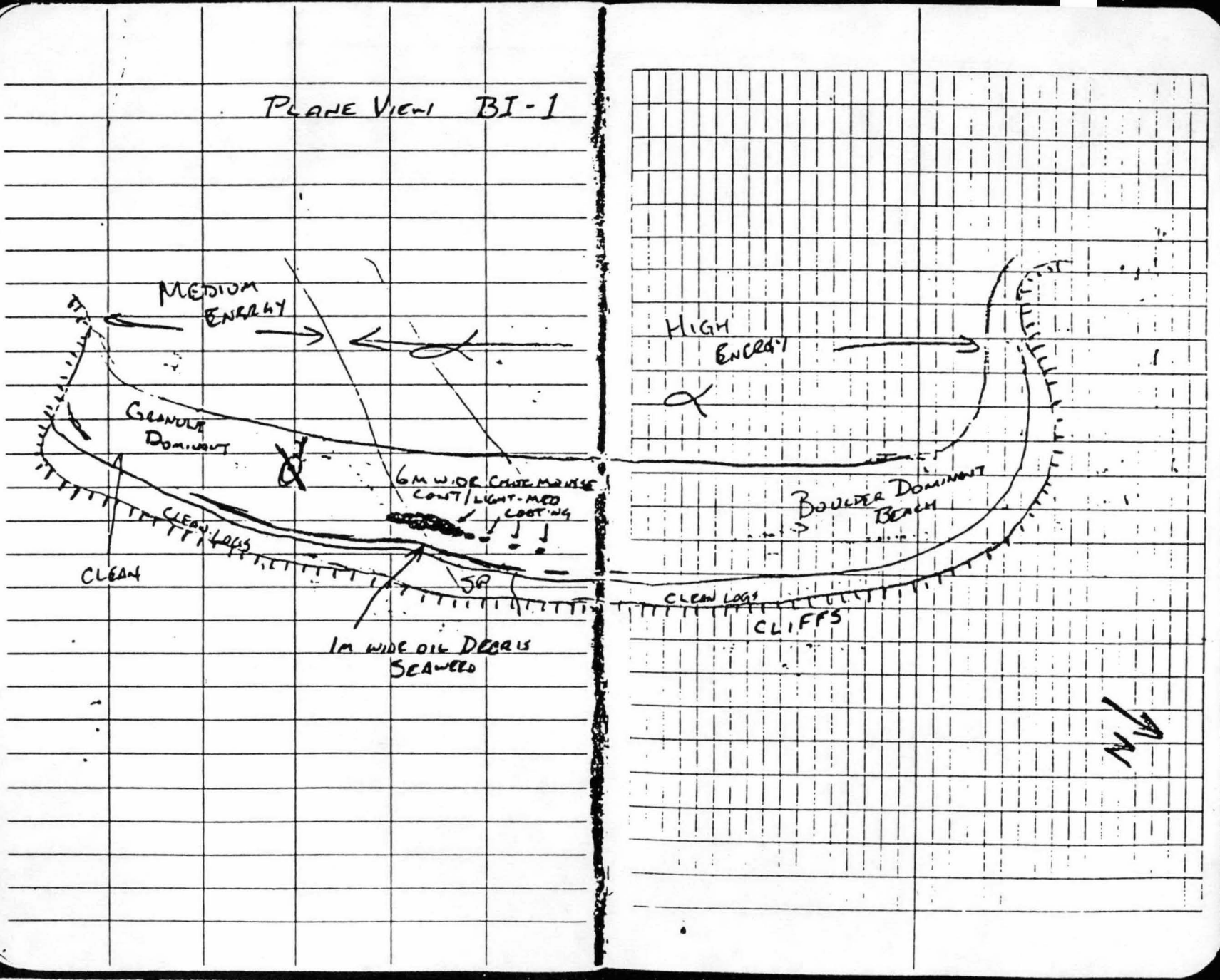
CLEANUP PRECAUTIONS: Avoid healthy communities in lower ITZ

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

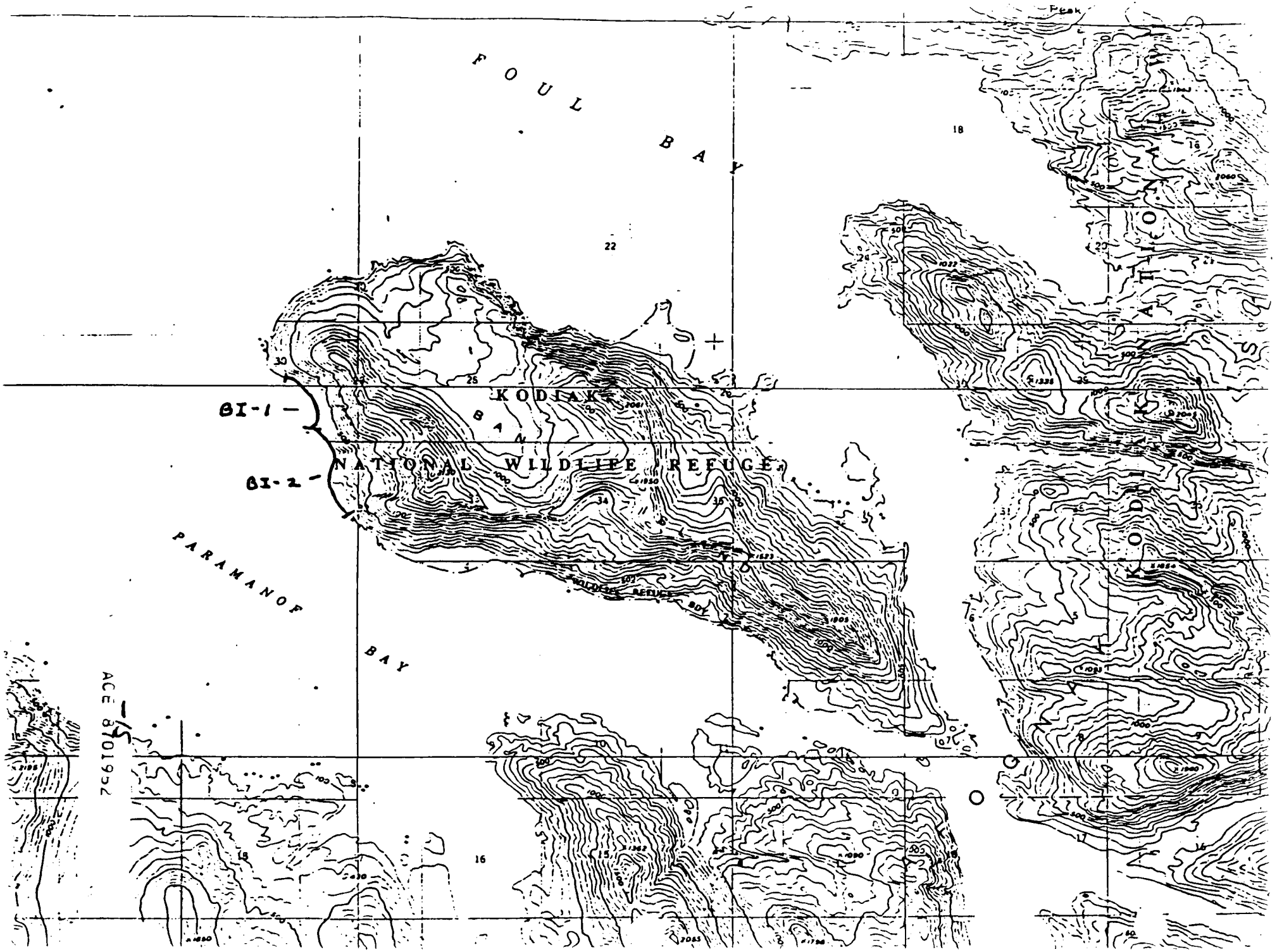
BIRDS: Gulls & eagles

GENERAL OBSERVATIONS: Light to moderate oiling, boulder & cobble areas have been oiled and may need to be steam cleaned

ACE 8701959


PLANE VIEW BI-1
MEDIUM ENERGY
HIGH ENERGY
GRANULE DOMINANT
6M WIDE CONTINUOUS CONT/LIGHT-MED COATING
BOULDER DOMINANT BEACH
CLEAN LOGS
CLEAN
SR
CLEAN LOGS
CLIFFS
1M WIDE OIL DEBRIS SEAWEED
N

ACE 8701961


FOUL BAY
KODIAK
NATIONAL WILDLIFE REFUGE
BI-1
BI-2
PARAMANOF BAY
ACE 801952
KODIAK ISLAND
GULF OF ALASKA

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

X2-6

DATE 5/19/89 SHORELINE SEGMENT BE-1

LOCATION: (see enclosed map) West Shore of Bay Island

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/19/89

Recommended Cleanup Activity(ies):

RE - SEE BELOW

- USE HIGH-TEMPERATURE FLOODING/SPRAY TO REMOVE MOUSSE FROM COATED BOULDERS/COBBLES

Priorities Considerations:

- REMOVE BY SHOVEL THE 1M WIDE CONTINUOUS BAND OF CONTAMINATED SEAWEED DRIFT AT THE TOP OF THE HIGH INTERTIDAL ZONE.

Ecological Constraints (from site survey):

Avoid healthy community in lower ITZ

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.

_____ Date: _____
State Historic Preservation Officer *

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

ACE +/S 8701963

SHORELINE OIL EVALUATION

Date: 19 MAY 1989 Time: 0800 HRS Observer: BRYAN TRIMM

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

LOCATION

LOCATION WEST COAST BAN IS. PARAMANOF BAY SEGMENT NUMBER BI-1

LENGTH OF SHORELINE SEGMENT: 1200 m

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

SHORELINE:

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

Wave Exposure: (High/Med)/Low

Sediment: B 25 % / C 25% / P 35 % / G 15 % / S - % / M - % /R - %

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

OIL

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

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

Continuous: (Y)/N % of Segment 150 Width of Band: 1 m

Sporadic: (Y)/N % of Segment 5

Est. Oil Thickness where > 1cm: - cm Est. Oil Penetration: ? cm

Pooled Oil: - % "Free" Oil: 50 % Coated: H ___ % /M 50 % /L ___ %

Fresh - % Mousse 100 % Tar Formation: - %

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

Comments:

THERE IS A 1M WIDE CONTINUOUS BAND OF OILED SEAWEED DRIFT AT THE TOP OF THE HIGH INTERTIDAL ZONE. A 6M WIDE MODERATE COATING OF COBBLE/BOULDER BEACH IN THE HIGH INTERTIDAL ZONE HAS AN UNKNOWN DEPTH OF PENETRATION. HI-TEMPERATURE FLOODING MAY CLEAN THE BOULDER/COBBLE BEACH. REMOVAL OF THE SEAWEED DRIFT (OILED) WILL PREVENT ANIMALS FROM CONTAMINATION.

DOCUMENTATION:

Map/Aerial photo marking segment boundaries Attached

VTR: Y/N Tape Number(s) None

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

Sample Numbers Collected: None

version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: Bon Island SITE: W. Shore Bon Is. OBSERVER: Son Bon

LOCATION PREFIX: BI SEG. NO.: 1 LENGTH: 1200 (M)

DATE: 5/19/89 TIME (HHMM): 0800 TIDE HT.: +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

Dense on rocks, healthy in lower ITZ, None oiled

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

Dense on rocks and healthy in lower ITZ

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

Dense in lower ITZ, not impacted

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

Healthy on rocks in Lower ITZ also Thais

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

Healthy on rocks in Lower ITZ

OTHER OBSERVATIONS: Two Deer seen on beach prior to landing Most oil is mixed with debris at strandline decreases as moving down the beach.

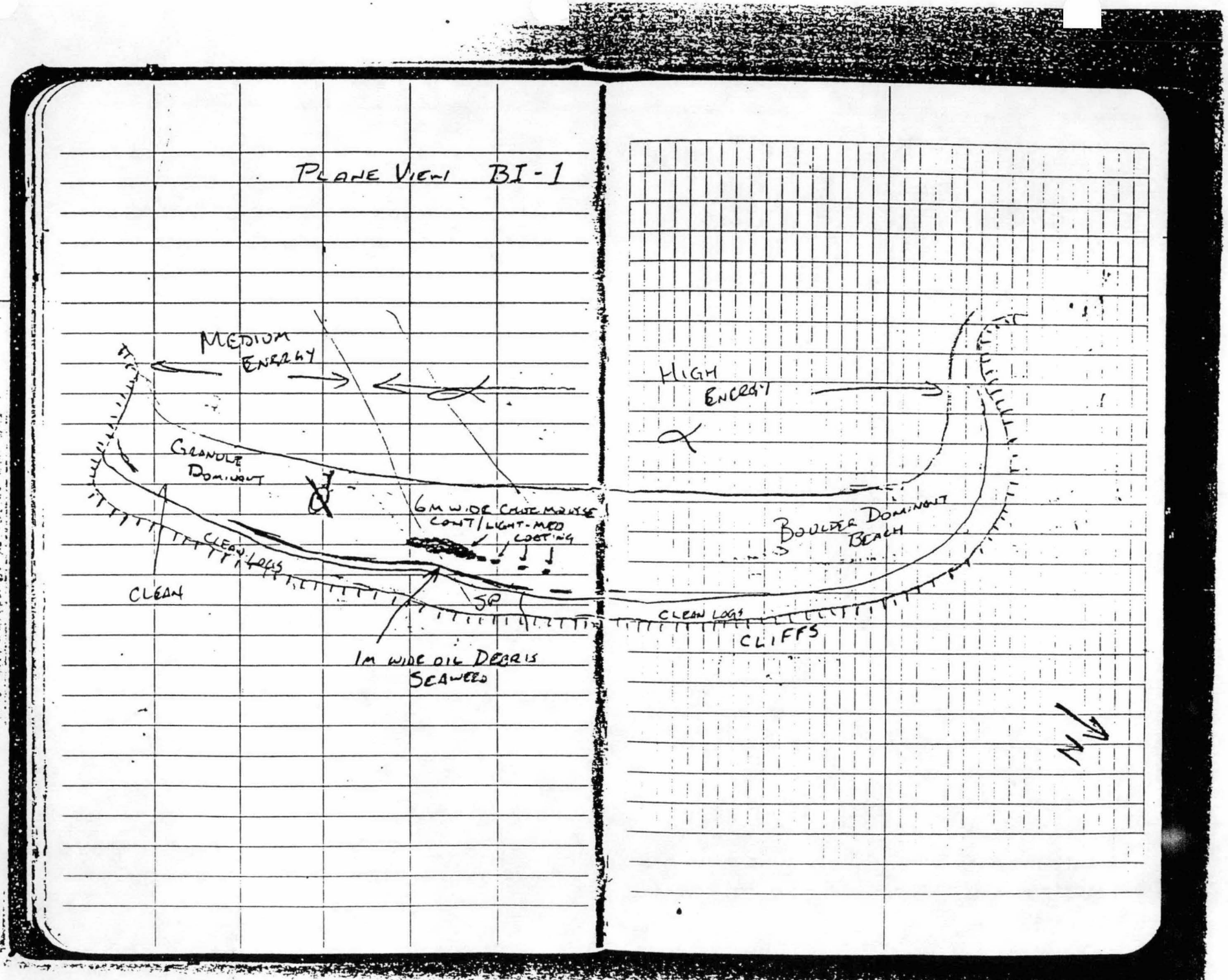
CLEANUP PRECAUTIONS: Avoid healthy communities in lower ITZ

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

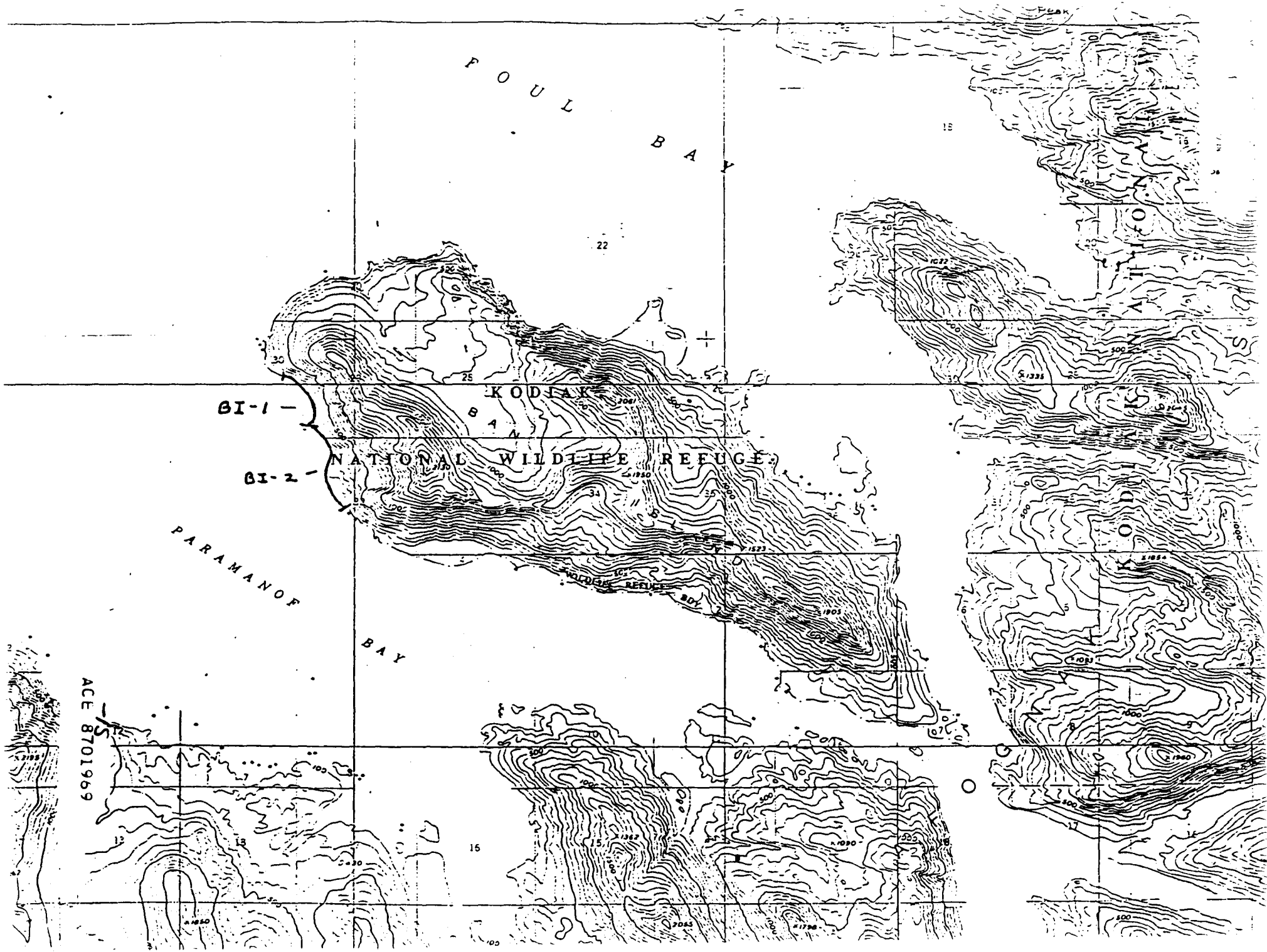
BIRDS: Gulls & eagles

GENERAL OBSERVATIONS: Light to moderate oiling, boulder or cobble areas have been oiled and may need to be steam cleaned

ACE 8701965


PLANE VIEW BI-1
MEDIUM ENERGY
HIGH ENERGY
GRANULE DOMINANT
6M WIDE COARSE MOUSSE CONT/LIGHT-MED COATING
BOULDER DOMINANT BEACH
CLEAN LOGS
CLEAN
SP
CLEAN LOGS
CLIFFS
1M WIDE OIL DEBRIS SEAWEED
N

ACE 8701968


FOUL BAY
KODIAK
BAY
NATIONAL WILDLIFE REFUGE
BI-1
BI-2
PARAMANOF
BAY
ACE 8701969
KODIAK

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

K2-6

DATE 5/19/89 SHORELINE SEGMENT BI-2

LOCATION: (see enclosed map) West side of Bay Island

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/19/89

Recommended Cleanup Activity(ies):

See Below

Priorities Considerations:

Remove 1 to 2m wide band of continuous seaweed drift (that is oiled) at the top of the high intertidal zone. Check to make sure that clean seaweed drift ~~does~~ is not ~~burying~~ burying oiled seaweed & drift

Ecological Constraints (from site survey):

Avoid healthy communities in lower ITZ

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.

_____ Date: _____
State Historic Preservation Officer *

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

+15
ACE 8701970

DOCUMENTATION:

Map/Aerial photo marking segment boundaries Attached

VTR: Y (N) Tape Number(s) None

Photography: (Y) N Roll Number(s) SMB-9

Sample Numbers Collected: None

version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: Baas Is. SITE: West Bird Is. OBSERVER: SM BAN

LOCATION PREFIX: BI SEG. NO.: 2 LENGTH: 1750 (M)

DATE: 5/19/89 TIME (HHMM): 0840 TIDE HT.: + 1½ (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 on rocks in Lower ITZ - healthy

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

Same comment as Fucus, some small patches in high ITZ oiled - gaping.

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

Dense spat + Adults in lower ITZ healthy

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

healthy

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

healthy

OTHER OBSERVATIONS: light oil and spatters at and above Strand line

CLEANUP PRECAUTIONS: Avoid healthy areas of Fucus in lower ITZ

MAMMALS: Otters ___ Harbor Seals ___ Sea Lions ___ Whales ___
Other ~~None~~ ~25

BIRDS: ~~None~~ dead murres, commerants and/or unknown spp.

GENERAL OBSERVATIONS: overall oiling on beach is light

ACE 8701972

SHORELINE OIL EVALUATION

Date: 19 MAY 1989/ Time: 0838 HRS Observer: BRYAN TRIMM

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

LOCATION

LOCATION S & W OF BI-1 BAN IS./PARAMANOF BAY SEGMENT NUMBER BI-2

LENGTH OF SHORELINE SEGMENT: 1750 m

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

SHORELINE:

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

Wave Exposure: (High)/(Med)/Low

Sediment: B 25 % / C 50 % / P 25 % / G — % / S — % / M — % /R — %

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

OIL

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

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

Continuous: (Y)/N % of Segment 70 Width of Band: 1 TO 2 m

Sporadic: (Y)/N % of Segment 5

Est. Oil Thickness where > 1cm: — cm Est. Oil Penetration: 12 cm

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

Fresh — % Mousse 100 % Tar Formation: — %

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

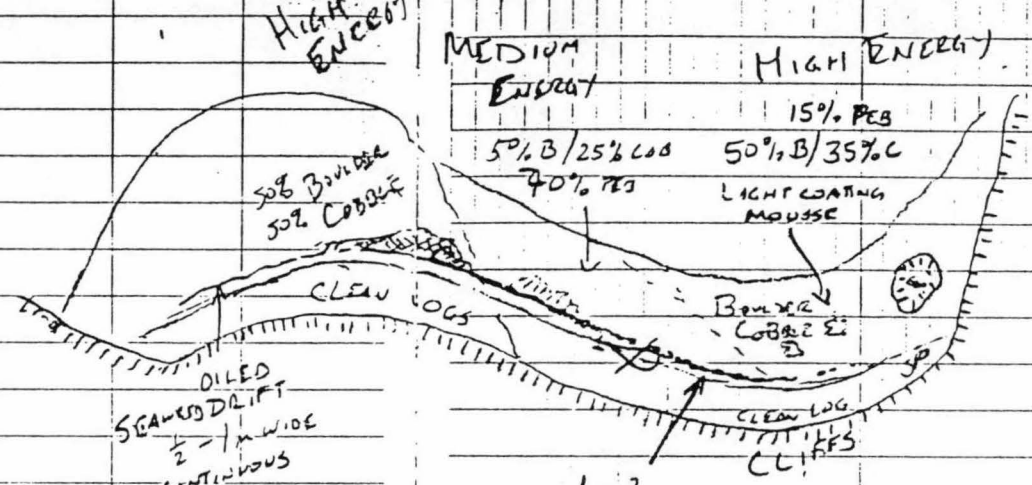
Comments:

TWO ZONES OF COATED (LIGHT MOUSSE) FOUND IN THE MIDDLE TO HIGH INTERTIDAL ZONE CONSISTING OF BOULDER/COBBLE BEACHES. THE COATING IS SO LIGHT, THOUGH PENETRATION IS ABOUT 12CM, THAT ANY TYPE OF CLEAN-UP WILL DO (PROBABLY) MORE DAMAGE THAN IF LEFT ALONE. THERE IS A LIGHTLY COATED BAND (1 TO 2M) WIDE) OF SEAWEED DRIFT AT THE TOP OF THE HIGH INTERTIDAL ZONE. THIS MUST BE REMOVED. NOTE: CHECK THAT PRE CLEAN SEAWEED DRIFT HAS NOT BURIED THE OILED SEAWEED.

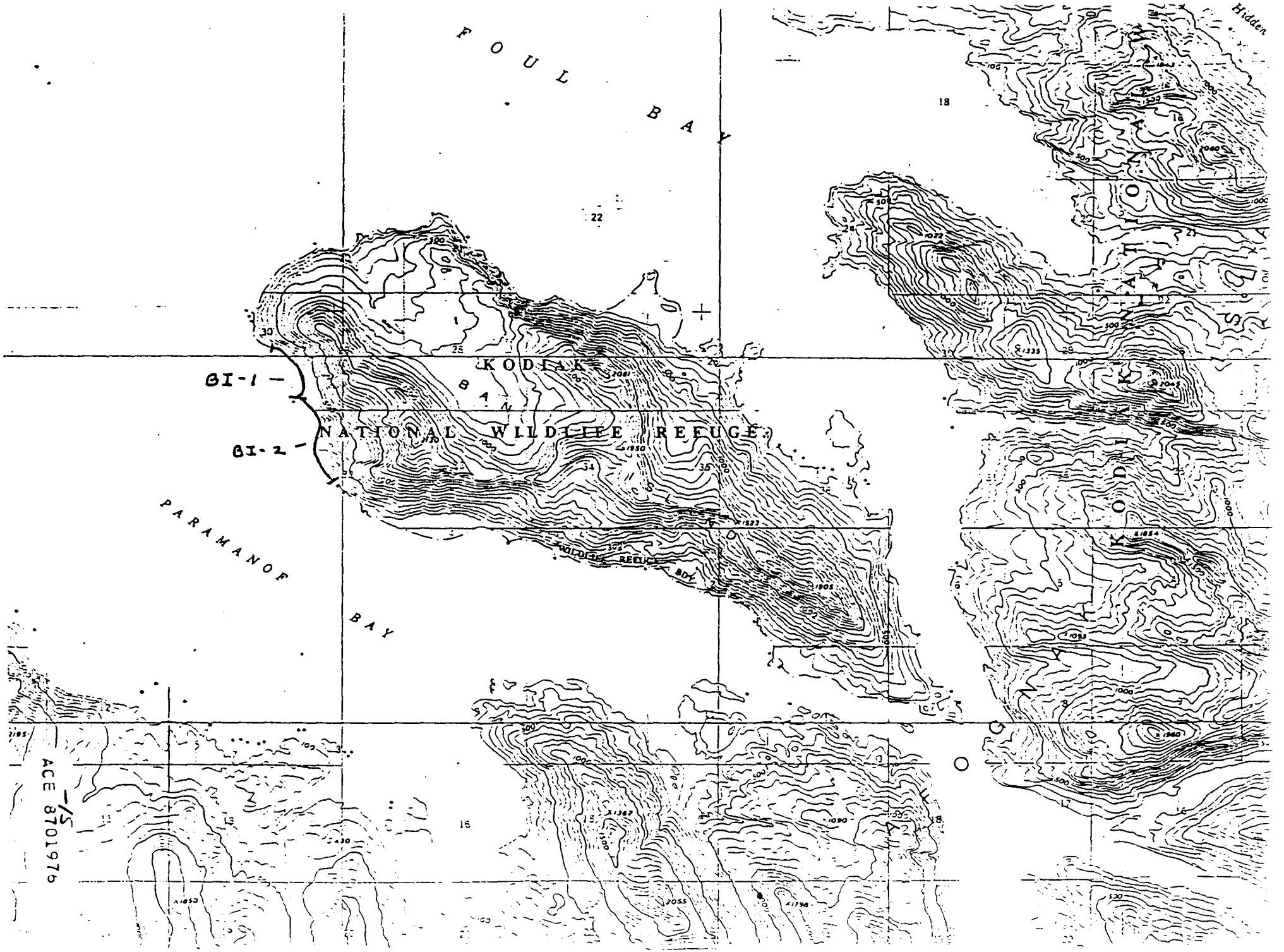
PLANE VIEW BI-2

MOD/LIGHT COATING MOUSSE

LIGHT COATING



ACE 8701974


FOUL BAY
KODIAK
BAY
NATIONAL WILDLIFE REFUGE
PARAMANOF
BAY
GI-1
GI-2
ACE 8701976
KODIAK ISLAND
Hidden

(version July 23, 1989)

SHORELINE PRE CLEANUP REASSESSMENT

DATE 7/19/89 SHORELINE SEGMENT K2-6-BI-2R REASSESSMENT DATE 7/19

Observers: OG C. Dillon BIO M.Fawcett ARCH S. Ludwig

Reason for Reassessment

Revised Recommended Cleanup Activity(ies):
- Manual removal of oiled algae and driftwood on strand line.

- Manual removal of oiled sediments.

-K2-6-BI-1 and K2-6-BI-2 (as reported on 5/19/89) were reassessed and evaluated entirely on 7/19/89. See segment report K2-6-BI-1 dated 7/19/89.

Revised Ecological Constraints:
- Avoid trampling highly developed community of lower intertidal zone or allowing run-off of oily wastes into lower intertidal zone.

Revised Archaeological Constraints:
No access to the forest/upland zone by beach crews during cleanup in this 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.

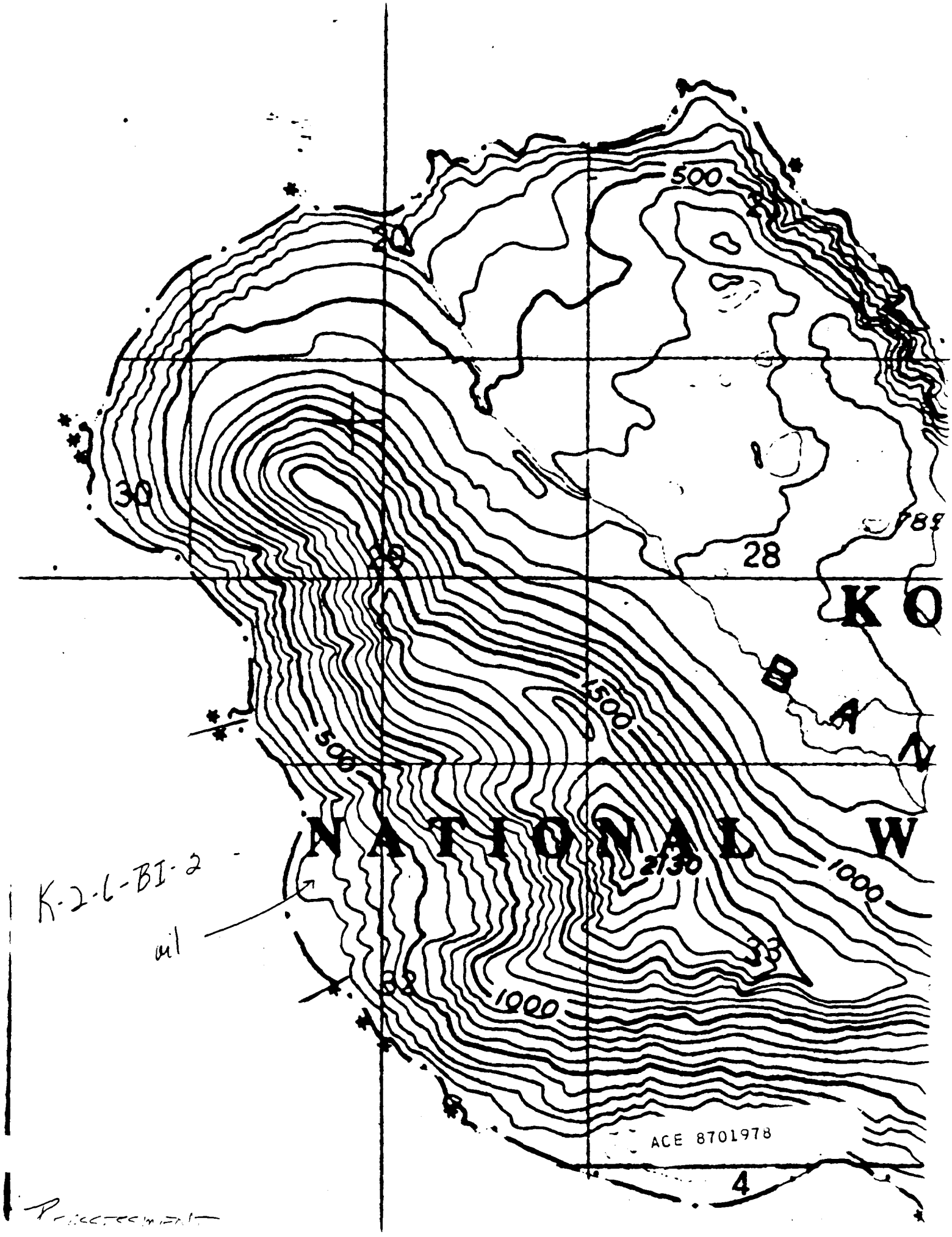
J. Reid McMahan Date: 7/26/89
State Historic Preservation Officer *

EXXON: Date:

FOSC: Date:

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

+15
ACE 8701977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K-2-6-BI-2

oil

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/19/89 SHORELINE SEGMENT K2-6-BI-2

LOCATION: (see enclosed map) Ban Island W side of Afognak Island

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 7/13/89 & 7/14/89

Recommended Cleanup Activity(ies):
-Manual removal of some smaller, lightly oiled sediments, wipe off splatters on larger sediments.

Priorities/Considerations: Class 5-A
-Low priority-most oil is dried residue, not recoverable.

Ecological Constraints (from site survey):
-Avoid damaging rich community in low intertidal zone at western end of segment. Most of the segment consists of unstable beach with little or no macro-flora or fauna.

Archaeological Constraints (from site survey):
-No access to forest/upland zone by beach crews during cleaning of this 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. David McMahon Date: 7/26/89
State Historic Preservation Officer *

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

ACE 8701979

SHORELINE OIL EVALUATION

A. General
1. Date: 7/19/89 2. Time: 0945-1100 3. Observer: C. DILLON

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

B. Location
6. Location Ban Island (S. shore) 7. Segment #: K-2-6-BI-2

8. Length of shoreline segment: 3000 m

9. Access: Foot/Vehicle/(Boat/Barge/Helio/Float Plane)

10. _____

C. Shoreline
11. Shoreline Type: SPI/BAR/(BEA)/COV/HLD/(STRT)/CLF/EST/DAF

12. Slope: LANG/(HAND)/VER

13. Wave Exposure: (High)/Med/Low

14. Sediment: B 40 % / C 50 % / P 10 % / G & S __ % / M __ % / R __ %

15. Drift Debris on Beach: (Yes)/No (Supra)/Upper/Mid/Lower Type logs

D. Oil Summary
16. Degree of Oiling: Heavy/Moderate/(Light/Very Light/No Oil)/Unobserved

17. Area of Beach Impact: Width of Band: 10 - 25 m
Continuous: (Y)/N % of Segment 20 SU / SP / (H / M) / L

Sporadic: Y/(N) % of Segment _____ SU / SP / H / M / L

18. Est. Oil Thickness where >1cm: 0 cm Est. Oil Penetration: 0 cm

19. Pooled Oil: ____ % "Free" Oil: ____ % ~~Coated:~~ Splattered H __ % / M __ % / L 40 % VL 60 %

20. Fresh _____ % & Weathered Mousse 100 % Tar Formation: _____ %

21. Drift Debris Oiled? Yes/(No) Supra/Upper/Mid/Lower Amount: _____ %

Comments: This is a general segment cover sheet. The segment consists of steep boulder slopes at the westernmost 25%. The remainder of the segment is made up of 2 beaches separated by small rocky headlands. The second beach is partially oiled and is evaluated on the following pages.

ACE 8701980

SHORELINE OIL EVALUATION

A. General
1. Date: 7/19/89 2. Time: 1000-1100 3. Observer: C. DILLON

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

B. Location
6. Location Bar Island (S. Shore) 7. Segment #: K-2-6-BI-2 (Beach 2)

8. Length of shoreline ~~Segment~~ Beach: 2500 m

9. Access: Foot/Vehicle/(Boat/Barge/Helio/Float Plane)

10. _____

C. Shoreline
11. Shoreline Type: SPI/BAR/(BEA)/COV/HLD/STRT/CLF/EST/DAF

12. Slope: LANG/(HAND)/VER

13. Wave Exposure: High/(Med)/Low

14. Sediment: B10% / C60% / P30% / G & S__% / M__% / R__%

15. Drift Debris on Beach: (Yes)/No (Supra)/Upper/Mid/Lower Type logs

D. Oil Summary
16. Degree of Oiling: Heavy/Moderate/(Light/Very Light/No Oil)/Unobserved

17. Area of Beach Impact: Width of Band: 10 - 25 m
Continuous: (Y)/N % of ~~Segment~~ Beach 40 SU / SP / (H / M) / L
Sporadic: Y/(N) % of Segment _____ SU / SP / H / M / L

18. Est. Oil Thickness where >1cm: 0 cm Est. Oil Penetration: 0 cm

19. Pooled Oil: ____% "Free" Oil: ____% ~~Coated~~ Splattered: H__% / M__% / L40 % VL 60 %

20. Fresh _____% & Mousse 100 % Tar Formation: _____% (Weathered)

21. Drift Debris Oiled? Yes/(No) Supra/Upper/Mid/Lower Amount: _____%

Comments: Only the westernmost 1000 m of this beach is oiled. The first 400m is lightly splattered and that tapers off into 600m of very lightly splattered then unoiled sediments.

ACE 8701981

K-2-6-BI-2 (Beach 2)

(Version July 18, 1989) Page 2

SHORELINE OIL EVALUATION

22.Oil Type

Fresh	_____	%
Mousse	_____	%
Weathered	100	%
Tar	_____	%
	100	%

23. (Stabilized) or "Free" (mostly dried stain)

24. Oil Character (Location)

	SU	SP	H	M	L	Buried	Length(m)	Width(m)
thick(> 1cm) + continuous (> 1sq.m.) coating on B/BD/Wood/(Rock) splattered			✓	✓			1000	10-25
cracks & crevices on bedrock								
patties (>10cm diameter)								
balls (< 10cm diameter)								
asphalt pavement								

25.Oil Distribution:

Continuous % of ~~Segment~~ Beach 40 SU/SP/H/M/L ~~H~~/M/(L)/VL

Sporadic % of Segment_____ SU/SP/H/M/L H/M/L/VL

Total	Length(m)	Width(m)
Very light:	600	10-25
Light:	400	10-25
Moderate:		
Heavy:		
Buried:		

26.Preliminary Cleanup Est.

Total TYPE A: 200 m

Total TYPE B: _____ m

Total TYPE A/B: _____ m

Mobilization Potential: High/Medium/(Low)

Comments:

ACE 8701982

version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: Ban Island SITE: West + SW shore OBSERVER: M. Fawcett

LOCATION PREFIX: BI SEG. NO.: 2 LENGTH: 3000 (M)

DATE: 9/19/89 TIME (HHMM): 0945-1100 TIDE HT.: -0.9 to -0.3 (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

Abundant large, old B. cariosus on rocks

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

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

OTHER OBSERVATIONS: _____

CLEANUP PRECAUTIONS: none re: main beach, but avoid damaging rich community in low intertidal below oiled cobble at west end

MAMMALS: Otters ___ Harbor Seals ___ Sea Lions ___ Whales ___
Other _____

BIRDS: 2 eagles with nest, ravens, pigeon guillemots

GENERAL OBSERVATIONS: Most of segment consists of long unstable cobble beach, little or no macro-flora or fauna

ACE 8701963

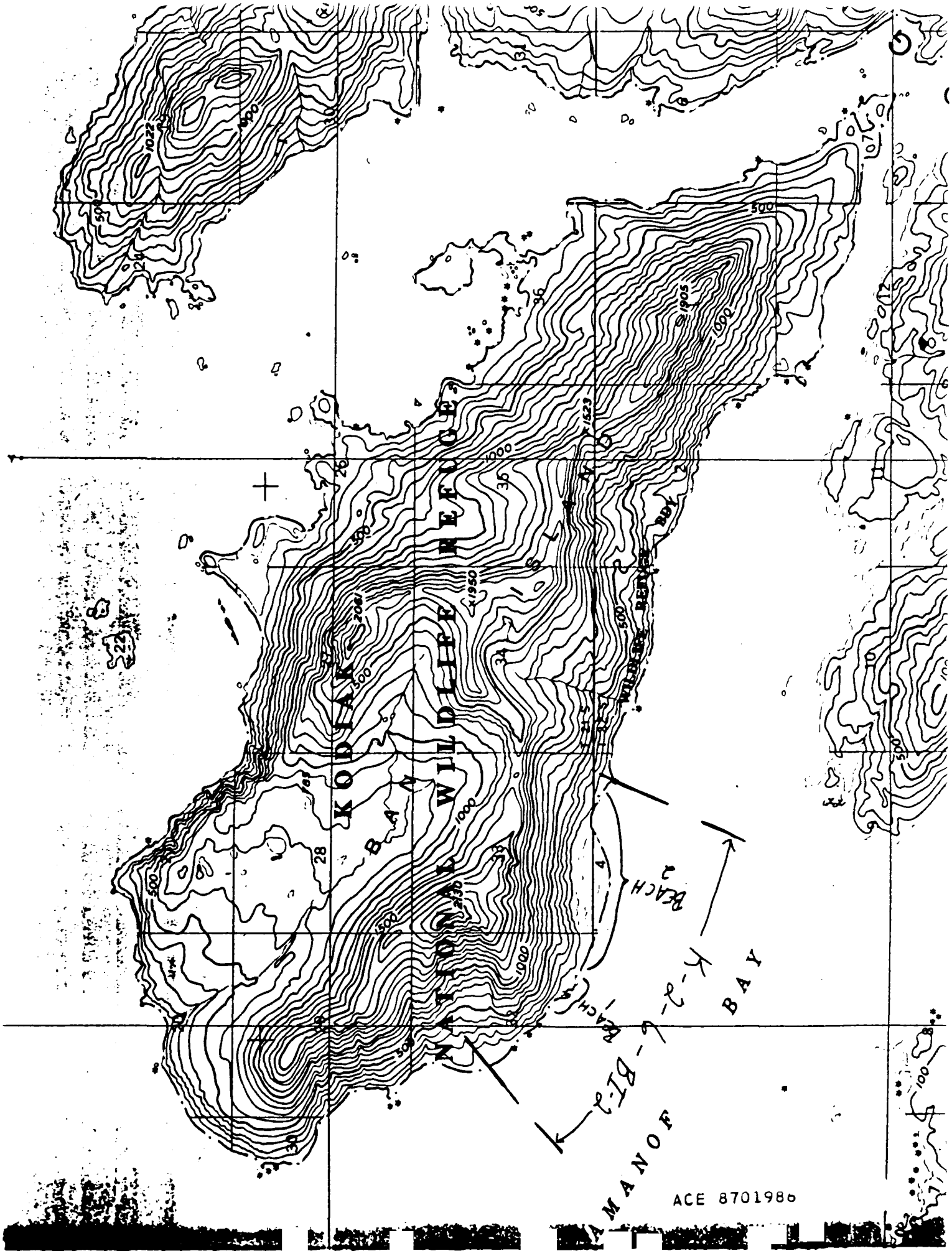
DOCUMENTATION: K-2-6-BI-2

Map/Aerial photo marking segment boundaries Attached

VTR: Y/(N) Tape Number(s) None? No camera available

Photography: Y/(N) Roll Number(s) None

Sample Numbers Collected: None


KODIAK NATIONAL WILDLIFE REFUGE
BAY
BEACH
BEACH
AMANOF BAY
ACE 8701986

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 5/20/89 SHORELINE SEGMENT BI-2

LOCATION: (see enclosed map) West side of Ban Island

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 5/19/89

Recommended Cleanup Activity(ies):

- See Below.

Priorities Considerations:

- Remove 1 to 2 meters wide band of continuous seaweed drift (that is oiled) at the top of the high intertidal zone. Check to make sure that clean seaweed drift is not burying oiled seaweed drift.

Ecological Constraints (from site survey):

- Avoid healthy communities in low 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.
No access to the forest/upland zone by beach crews during cleanup of this segment.

Charles E. Holmes Date: May 21, 1989
State Historic Preservation Officer *

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

ACE 8701967

SHORELINE OIL EVALUATION

Date: 19 MAY 1989/ Time: 0830 HRS Observer: BRYAN TEMM

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

LOCATION

LOCATION S & W OF BI-1 BAN IS./PARAMAN OF BAY SEGMENT NUMBER BI-2

LENGTH OF SHORELINE SEGMENT: 1750 m

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

SHORELINE:

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

Wave Exposure: (High/Med)/Low

Sediment: B 25 % / C 50 % / P 25 % / G — % / S — % / M — % /R — %

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

OIL

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

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

Continuous: (Y)/N % of Segment 70 Width of Band: 1 TO 2 m

Sporadic: (Y)/N % of Segment 5

Est. Oil Thickness where > 1cm: — cm Est. Oil Penetration: 12 cm

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

Fresh — % Mousse 100 % Tar Formation: — %

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

Comments:

TWO ZONES OF COATED (LIGHT MOUSSE) FOUND IN THE MIDDLE TO HIGH INTERTIDAL ZONE CONSISTING OF BOULDER/COBBLE BEACHES. THE COATING IS SO LIGHT, THOUGH PENETRATION IS ABOUT 12CM, THAT ANY TYPE OF CLEAN-UP WILL DO (PROBABLY) MORE DAMAGE THAN IF LEFT ALONE. THERE IS A LIGHTLY COATED BAND (1 TO 2M) WIDE) OF SEAWEED DRIFT AT THE TOP OF THE HIGH INTERTIDAL ZONE. THIS MUST BE REMOVED. NOTE: CHECK THAT PRE-CLEAN SEAWEED DRIFT HAS NOT BURIED THE OILED SEAWEED.

DOCUMENTATION:

Map/Aerial photo marking segment boundaries Attached

TR: Y (N) Tape Number(s) None

Photography: (Y) N Roll Number(s) SMB-9

Sample Numbers Collected: None

version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: Baw Is. SITE: West Bird Is. OBSERVER: SM BHN

LOCATION PREFIX: BI SEG. NO.: 2 LENGTH: 1750 (M)

DATE: 5/19/89 TIME (HHMM): 0840 TIDE HT.: + 1½ (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 on rocks in lower ITZ - healthy

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

Same comment as Fucus, some small patches in high ITZ oiled - gaping

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

Dense spat + Adults in lower ITZ healthy

ttorina
Patchy Y/N Contin. Y/N Dense Y/N Sparse (Y)/N None Y/N

healthy

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

healthy

OTHER OBSERVATIONS: light oil and spatters at and above strand line

CLEANUP PRECAUTIONS: Avoid healthy areas of Fucus in lower ITZ

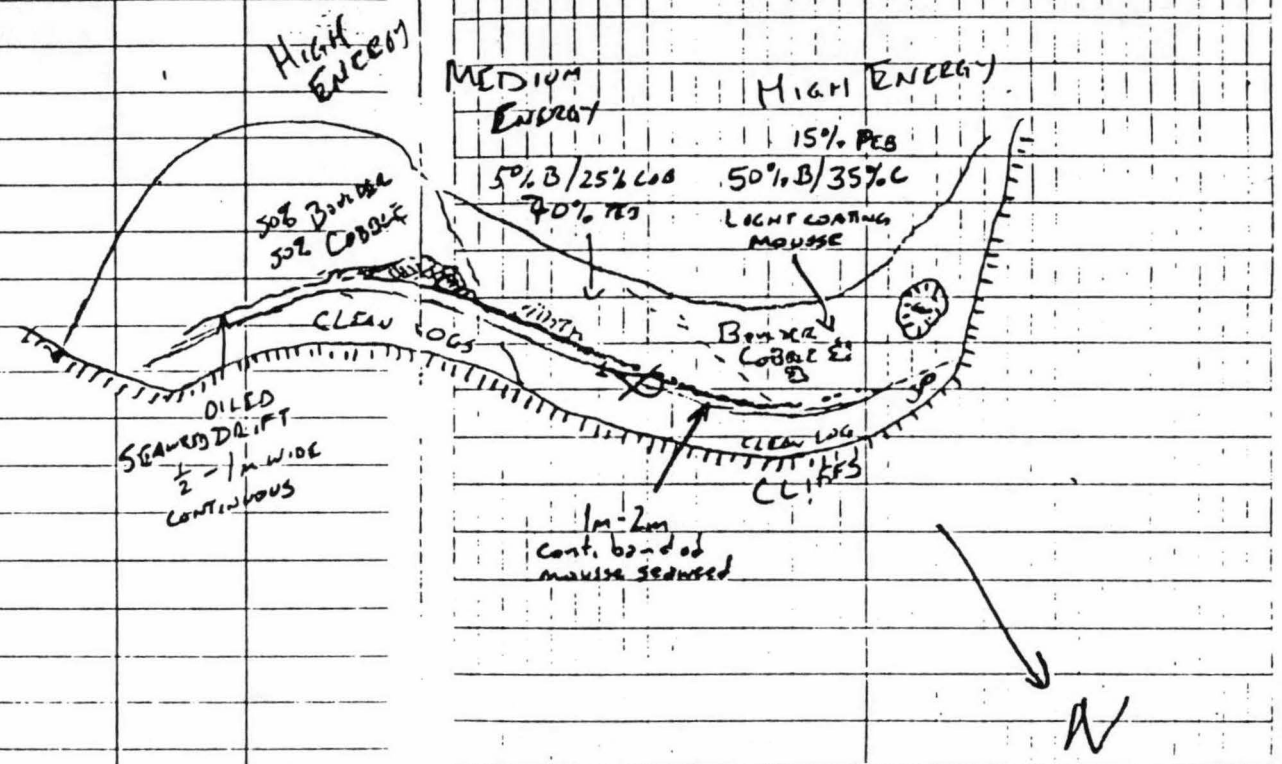
MAMMALS: Otters ___ Harbor Seals ___ Sea Lions ___ Whales ___
Other ± 25 None

BIRDS: ~~EBE~~ dead murres, cormorants and/or unknown spp.

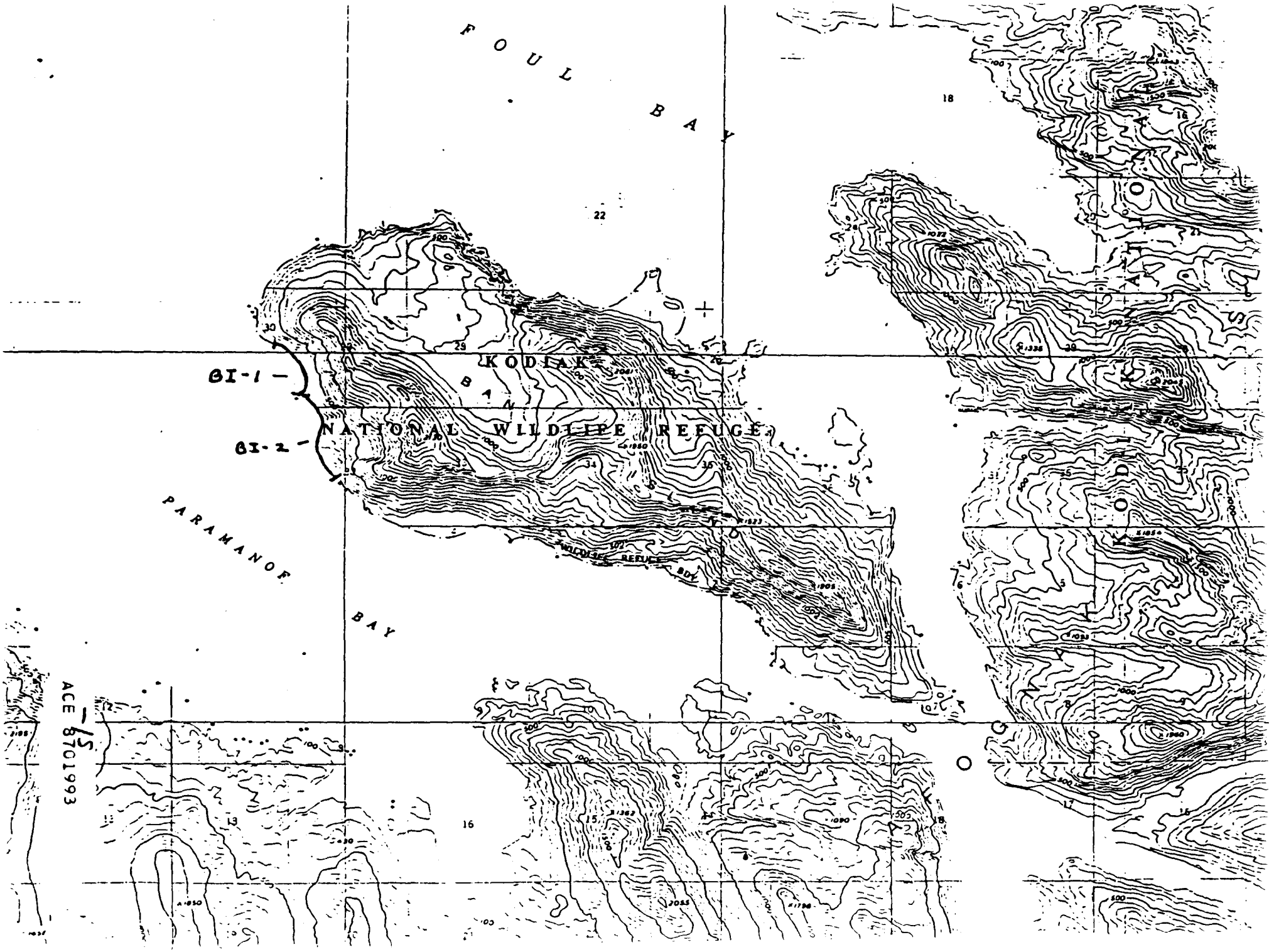
GENERAL OBSERVATIONS: overall oiling on beach is light

ACE 8701990

PLANE VIEW BI-2



ACE 8701991


FOUL BAY
KODIAK
BAY
NATIONAL WILDLIFE REFUGE
PARAMANOF BAY
KODIAK
BI-1
BI-2
ACE 8701993
1-15

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/19/89 SHORELINE SEGMENT K2-6-BI-3

LOCATION: (see enclosed map) Ban Island (S. shore) off west shore of Afognak Island

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 7/19/89

Recommended Cleanup Activity(ies):
-No cleanup recommended due to apparent absence of oil. Subject to FOSC reassessment at a later date.

Priorities/Considerations: Class
-None

Ecological Constraints (from site survey):

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.

J. David McMahan Date: 7/26/89
State Historic Preservation Officer *

EXXON: _____ Date: _____

FOSC: _____ Date: _____

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

ACE 8701994

SHORELINE OIL EVALUATION

A. General
1. Date: 7/19/89 2. Time: 1100-1215 3. Observer: C. DILLON

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

B. Location
6. Location Ban Island (S. shore) 7. Segment #: K-2-6-BI-3

8. Length of shoreline segment: 3800 m

9. Access: Foot/Vehicle/(Boat/Barge/Helio/Float Plane)

10. _____

C. Shoreline
11. Shoreline Type: SPI/BAR/(BEA)/COV/(HLD/STRT)/CLF/EST/DAF

12. Slope: LANG/(HAND)/VER

13. Wave Exposure: High/(Med/Low)

14. Sediment: B60% / C30% / P5% / G & S__% / M__% / R5%

15. Drift Debris on Beach: (Yes)/No (Supra/Upper/Mid/Lower) Type logs/algae

D. Oil Summary
16. Degree of Oiling: Heavy/Moderate/Light/Very Light/(No Oil)/Unobserved

17. Area of Beach Impact: Width of Band: N/A m
Continuous: Y/N % of Segment_____ SU / SP / H / M / L

Sporadic: Y/N % of Segment_____ SU / SP / H / M / L

N/A 18. Est. Oil Thickness where >1cm:_____cm Est. Oil Penetration:_____cm

N/A 19. Pooled Oil:_____% "Free" Oil:_____% Coated: H___% / M___% / L___%

N/A 20. Fresh _____% Mousse _____% Tar Formation: _____%

21. Drift Debris Oiled? Yes/(No) Supra/Upper/Mid/Lower Amount:_____%

Comments: Entire segment is unoiled. 2nd page of oil evaluation form is not applicable

ACE 8701995

DOCUMENTATION: K-2-6-BI-3

(Map) Aerial photo marking segment boundaries Attached

VTR: Y (N) Tape Number(s) None ? No camera

Photography: Y (N) Roll Number(s) None ; available

Sample Numbers Collected: None

K-7-6-BI-3

(Version July 18, 1989) Page 2

SHORELINE OIL EVALUATION

N/A

22.Oil Type

Fresh	_____	%
Mousse	_____	%
Weathered	_____	%
Tar	_____	%
	100	%

23. Stabilized or "Free"

24. Oil Character (Location)

	SU	SP	H	M	L	Buried	Length(m)	Width(m)
thick(> 1cm) + continuous (> 1sq.m.) coating on B/BD/Wood/Rock								
cracks & crevices on bedrock								
patties (>10cm diameter)								
balls (< 10cm diameter)								
asphalt pavement								

25.Oil Distribution:

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

Total	Length(m)	Width(m)
Very light:		
Light:		
Moderate:		
Heavy:		
Buried:		

26.Preliminary Cleanup Est.

Total TYPE A:_____m
Total TYPE B:_____m
Total TYPE A/B:_____m

Mobilization Potential: High/Medium/Low

Comments:

No oil - page not applicable

ACE 8701997

ECOLOGICAL EVALUATION

LOCATION: Pan Island SITE: SW shore OBSERVER: M. Fawcett

LOCATION PREFIX: BI SEG. NO.: 3 LENGTH: 3800 (M)

DATE: 7/19/89 TIME (HHMM): 1100-1215 TIDE HT.: -0.3 to +0.6 (M)

OILED ZONE: Splash High Medium Low no oil observed

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

continuous dense barnacles on all available rock surface in mid-intertidal

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: Abundant Katharina among B. cariosus, Eermasterias, Pisaster, Pycnopodia common. Many large Tealia

CLEANUP PRECAUTIONS: no cleanup needed

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

Other ____

BIRDS: 2 Harlequin ducks with 5 or 6 young

GENERAL OBSERVATIONS: ____

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