[Shoreline evaluations, 1989].

Volume 22

Knight Island (507-5012)

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LIST OF KEY CODES USED ON SHORELINE CLEANUP EVALUATION FORMS

ISLANDS (Locations)

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

* GEOLOGIC SEDIMENT TYPE

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

** DEGREE OF OILING

Heavy	HV
Moderate	MD
Light	LT
No Oil	NO
Unobserved	UN

AREA OF BEACH IMPACT

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

ADEC IMPACT SURVEY

Heavy	HVY
Moderate	MOD
Light	LT
No Oil	NO
Unobserved	UNOBS

SHORELINE TYPE

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

Comments:

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

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

File: \VALDEZ\KEYCODES.LST

KEY

BEACH LEVEL

SUPRATIDAL (+SHWL)	SU
HWL to SHWL	SP
UPPER 1/3 ITZ	H
MIDDLE 1/3 ITZ	M
LOWER 1/3 ITZ	L

SEDIMENT TYPE

BOULDER	(> 256 mm)	B
COBBLE	(64 - 256)	C
PEBBLE	(4 - 64)	P
GRANULE	(2 - 4)	G
SAND	(0.06- 2)	S
MUD	(< 0.06)	M
ROCK		R

Can use multiple entries e.g. C/G/S; in which case the first letter is the predominant sediment type and the following are in decreasing order

KEY

LOCATION PREFIX

NAKED IS	NA
PEAK IS	PE
STOREY IS	ST
ELEANOR IS	EL
INGOT IS	IN
BLOCK IS	BL
ENTRANCE IS	EN
SPHINX IS	SP
DISK IS	DI
KNIGHT IS	KN
SMITH IS	SM
SEAL IS	SE
APPELGA[illegible] IS	AP
GREEN IS	GR

LOCATION SUFFIX

A unique number which identifies the distinct segment described in this report.

C:\WP\DATA\SHOREVAL.1

(version 5/13/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Location (see enclosed map): Herring Point Central Block

Includes Shoreline Segments: KN-507, KN-508, KN-509, KN-510, KN-511, ~~KN-512~~ SKC 7/7/89

Submitted : [signature] (for Exxon) Date: 7/3/89

ISCC Approval: Sharon K. Christopherson Date: 7/7/89

FOSC Approval: [signature] Date: 7/8-89

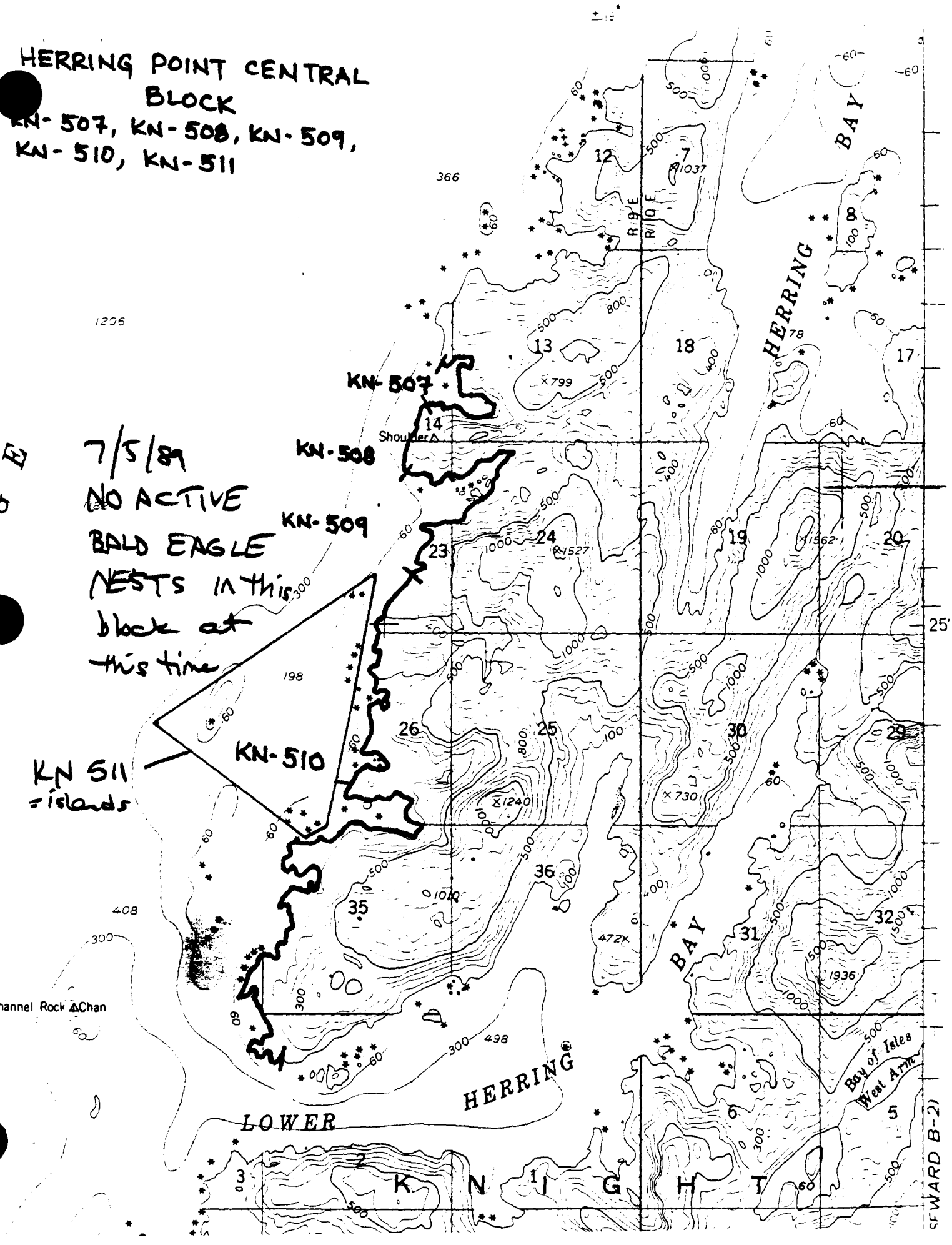
The cleanup procedures identified in the Shoreline Cleanup Program are recommended. Modifications to these systems can be made in the field. Exxon and other field personnel are encouraged to suggest innovations and productivity enhancements to the OSC's on-scene representative. The OSC's representative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

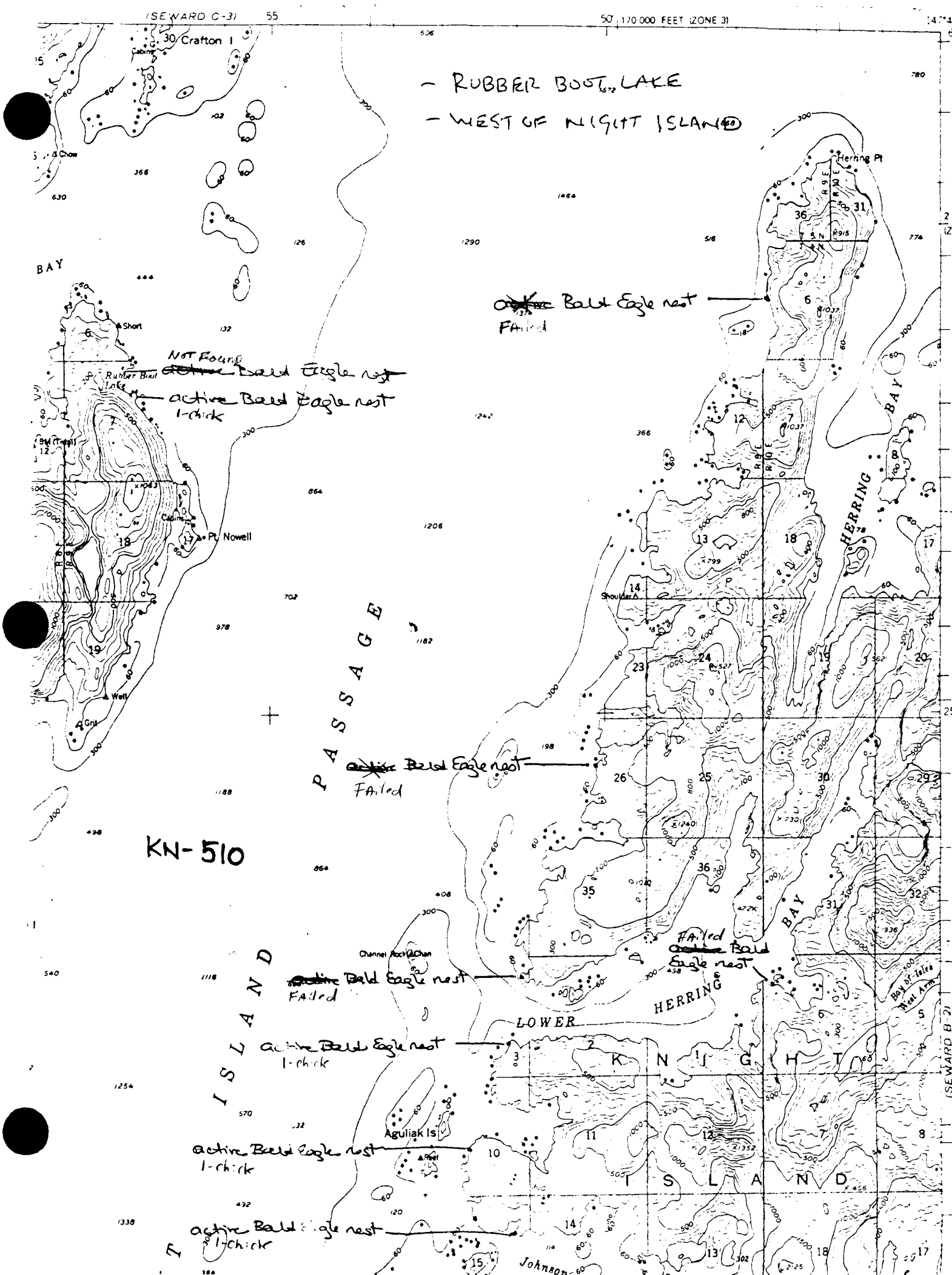
Distribution:

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

HERRING POINT CENTRAL BLOCK
KN-507, KN-508, KN-509, KN-510, KN-511




(SEWARD C-3)
170 000 FEET (ZONE 3)
- RUBBER BOOT LAKE
- WEST OF NIGHT ISLAND
Crafton I
Herring Pt
Short
Rubber Boot Lake
Pt Nowell
Well
Grit
Shoulder
Channel Rock
Aguliak Is
Johnson
Bay of Isles
West Arm
BAY
PASSAGE
ISLAND
HERRING
LOWER
KNIGHT
ISLAND
KN-510
Bald Eagle nest
FAILED
NOT FOUND
active Bald Eagle nest
1-chick
(SEWARD B-2)

(version 6/14/89)

SHORELINE CLEANUP PROGRAM

DATE 7/01/89 SHORELINE SEGMENT KN-507

LOCATION: (see enclosed map) KNIGHT ISLAND-WEST SIDE

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 6/19/89

Recommended Cleanup Activity(ies):
- Manually remove contaminated drift material (fucus) and patches of mousse.
- Flood/flush with warm to hot water (up to 140 F) on low angle beaches.
- Use moderate to high pressure washing on rock.
- Use other approved methods as appropriate.

Priorities Considerations:
Class 4: light oil.
Class A: resources present.

Ecological Constraints (from site survey): Work at mid tide and/or take appropriate measures to protect lower intertidal zone.

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

Charles E. Holmes — Date: July 2, 1989
State Historic Preservation Officer *

ISCC: Sharon K. Christopherson — Date: 7/7/89

EXXON: R L Metcalf (for A. J. Tiel) — Date: 7/7/89

FOSC: D E Rollins — Date: 7/8/89

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

SHORELINE OIL EVALUATION

Date: June 19 / Time: 2000 2125 Observer: Jim Temple

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

LOCATION

LOCATION Western Knight Island SEGMENT NUMBER KN-507

LENGTH OF SHORELINE SEGMENT: 1,500 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 70 % / C 10 % / P 10 % / G 10 % / S ___ % / M ___ % / R 50 %

Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type 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 10 % Width of Band: 3-5 m

Sporadic: Y/N % of Segment 90 %

Est. Oil Thickness where > 1cm: None cm Est. Oil Penetration: max 5 cm cm

Pooled Oil: 0 % "Free" Oil: 0 % Coated: H ___ % / M 100 % / L ___ %

Fresh 0 % Mousse 0 % Tar Formation: 100 %

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

Comments:

See attached map and note.

ECOLOGICAL EVALUATION

LOCATION: KNIGHT IS. SITE: _____ OBSERVER: A. JAHN

LOCATION PREFIX: KN SEG. NO.: 507 LENGTH: 1,500 (M)

DATE: 6/19/89 TIME (HHMM): 2000-2125 TIDE HT.: 1 (M)

OILED ZONE: Splash (High) Medium Low

SUBSTRATUM: (Rocks) Boulder (Cobble) (Gravel) Sand Mud
(Fractured rock - not smooth)

LIVE BIOTA

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

no oil in Fucus

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

mainly on broken-rock beaches

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

mostly new recruits - abundant on gravel

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

dense in Fucus beds

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

OTHER OBSERVATIONS: eel grass continuous subtidally: oil mainly @ south end of segment

CLEANUP PRECAUTIONS: none

MAMMALS: Otters ____ Harbor Seals ____ Sea Lions ____ Whales 1 (Humpback)
Other school of dolphins - not seen closely

BIRDS: none observed

GENERAL OBSERVATIONS: _____

(version of 4/29/89) KN-507

CULTURAL RESOURCE EVALUATION

Date JUNE 19 Location PNS, Knight Is. Site Herring Central

Location Prefix KN Segment # 507 Length 1,500 m

Survey Method:

Air _____ (A - indicate on map) Boat 50 (A - indicate on map)

Ground 50 (G - indicate on map)

Known cultural resources (AHRS #) None Data Source _____

Oil conditions/beach visibility generally light oil / good visibility

Width of beach zone surveyed 2-15 m Tree fringe surveyed 0 to 20 m

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 Bedrock bluffs alternating with moderate angle pebble/cobble beaches

Fresh Water Sources Small streams at head of large bays

Sea Exposure Generally exposed, with a few places safe to land small boats in heavy sea

Access/Safety Fair to good in light winds

Probability of undiscovered sites in beach zone (circle one) 1 (2) 3 4 5

Monitoring during cleanup needed yes/(no) Collection yes/(no)

Photos: Color Roll # None Frames _____

B/W Roll # ~~None~~ ME-3 Frames 3-6

Observer(s) Morley Eldridge

Time survey started 20:00 Time survey ended 21:25

Cultural resource considerations/restraints:

If hitherto undiscovered cultural resources etc. etc. No other cultural resource constraints.

Segment KN-507

Steep or vertical bedrock shore with narrow (< 150m) pocket beaches.
where beaches are present, they are generally moderately sloping (~20°) and made up of angular mixed sediments (boulders, cobbles, pebbles, gravel and fines)

1: Tarry coating 2-5 m wide, discontinuous, ≤ 5 cm penetration in upper intertidal zone. Some oiled debris in backshore and at high tide line.

2: Narrow (≤ 2 m) discontinuous band of tarry oil ≤ 5 cm penetration in upper intertidal zone on north side of pocket beach. No oil on south side

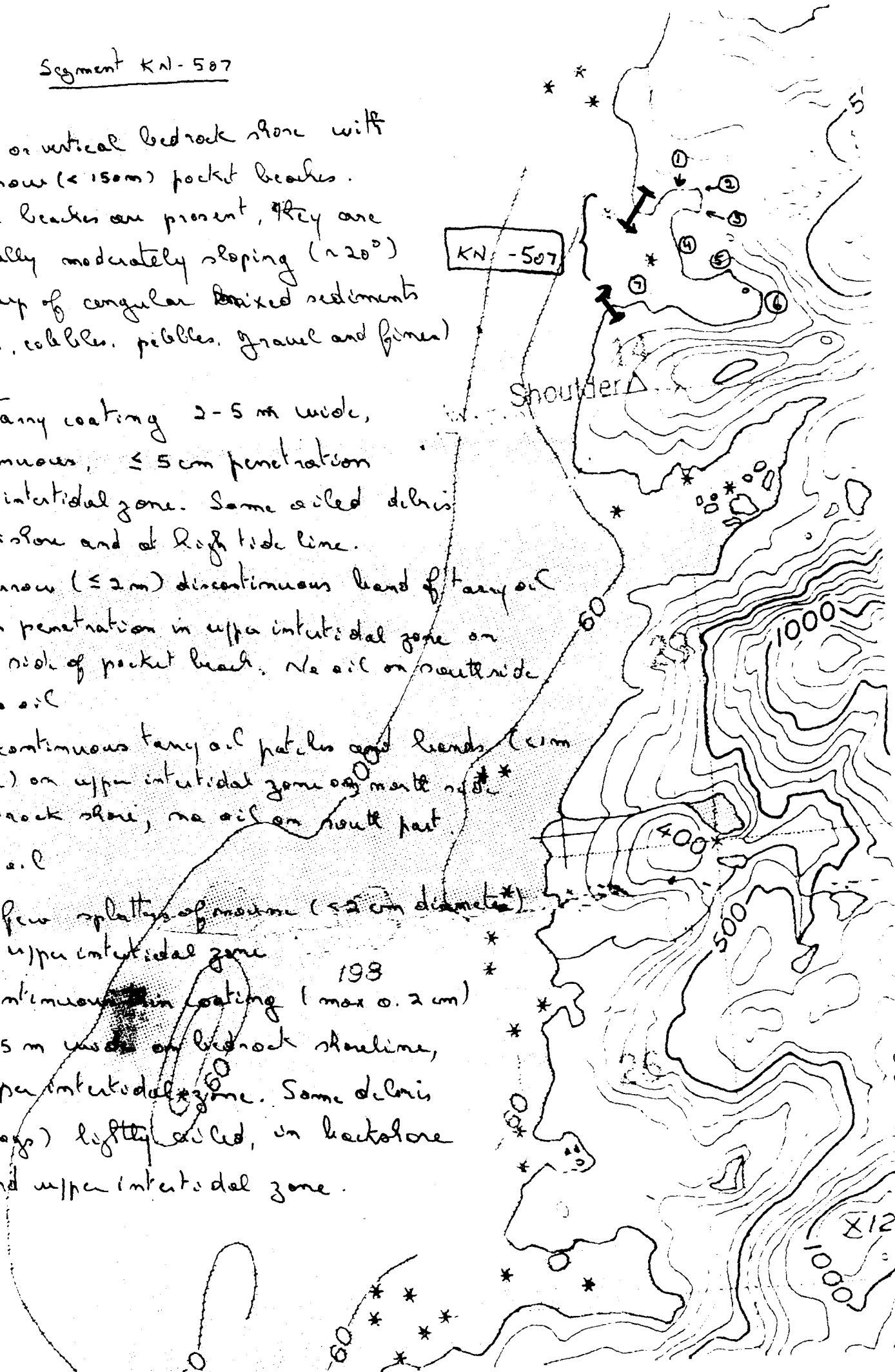
3: No oil

4: Discontinuous tarry oil patches and bands (cm wide) on upper intertidal zone on north side of bedrock shore, no oil on south part

5: No oil

6: A few splatters of mousse (≤ 2 cm diameter) in upper intertidal zone

7: Continuous thin coating (max 0.2 cm) 3-5 m wide on bedrock shoreline, upper intertidal zone. Some debris (logs) lightly oiled, in backshore and upper intertidal zone.



(version 6/14/89)

SHORELINE CLEANUP PROGRAM

DATE 7/01/89 SHORELINE SEGMENT KN-508

LOCATION: (see enclosed map) KNIGHT ISLAND-WEST SIDE

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 6/19/89

Recommended Cleanup Activity(ies):
- Manually remove contaminated drift material (fucus) and patches of mousse.
  Flood/flush with warm to hot water (up to 140 F) on low angle beaches.
  Use moderate to high pressure washing on rock.
  Use other approved methods as appropriate.

Priorities Considerations:
Class 3: moderate oil.
Class A: resources present.

Ecological Constraints (from site survey): Work at mid tide and/or take appropriate measures to protect lower intertidal zone. PROTECT TIDE POOL AREAS FROM OIL AND SHEEN DURING CLEANUP OPERATIONS.

7/7/89

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. Adams — Date: July 2, 1989
State Historic Preservation Officer *

ISCC: Sharon K. Christopherson — Date: 7/7/89

EXXON: R.L. Mattenberger (for Andy Teel) — Date: 7/7/89

FOSC: C.E. Nollin — Date: 7/8/89

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

SHORELINE OIL EVALUATION

Date: June 19 1989 Time: 2125 2200 Observer: JM Semple

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

LOCATION

LOCATION Western Kyll Island SEGMENT NUMBER KN-508

LENGTH OF SHORELINE SEGMENT: 600 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 10 % / G 10 % / S ___ % / M ___ % / R 50 %

Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type 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 80% Width of Band: 4 - 20 m

Sporadic: Y/N % of Segment 20

Est. Oil Thickness where > 1cm: ___ cm Est. Oil Penetration: ~10 cm

Pooled Oil: — % "Free" Oil: — % Coated: H 80 % / M 20 % / L ___ %

Fresh — % Mousse — % Tar Formation: 100 %

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

Comments:

See attached notes and map.

ECOLOGICAL EVALUATION

LOCATION: KNIGHT IS. SITE: _____ OBSERVER: A. JAHN

LOCATION PREFIX: KN SEG. NO.: 508 LENGTH: 600 (M)

DATE: 6/19/89 TIME (HHMM): 2125 - 2200 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
very dense on filamentous algae in tide pool area

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

OTHER OBSERVATIONS: unsorted tide pool areas on bedrock - ~~be~~ surf grass, anemones, sculpins, etc.

CLEANUP PRECAUTIONS: ~~[illegible]~~ most oil on rocks - best to stay off bedrock areas.

MAMMALS: Otters 1 Harbor Seals ____ Sea Lions ____ Whales ____
Other dolphins

BIRDS: Eagle, gulls

GENERAL OBSERVATIONS: straight stretch of shoreline

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date JUNE 19 Location Knight Island, PWS Site Herring Central

Location Prefix KN Segment # 508 Length 600 m

Survey Method:

Air — (A - indicate on map) Boat 80 (A - indicate on map)

Ground 20 (G - indicate on map)

Known cultural resources (AHRS #) None Data Source

Oil conditions/beach visibility

Width of beach zone surveyed ≤ 20 m m Tree fringe surveyed 10 m

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 steep uplands, mostly bedrock, low angle inter-tidal angular

Fresh Water Sources small streamlets

Sea Exposure Exposed to all winds with westerly component.

Access/Safety good in light winds

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) Morley Eldridge

Time survey started 21:25 Time survey ended 22:00

Cultural resource considerations/restraints:

If hitherto undiscovered etc. etc. No other archaeological constraints.

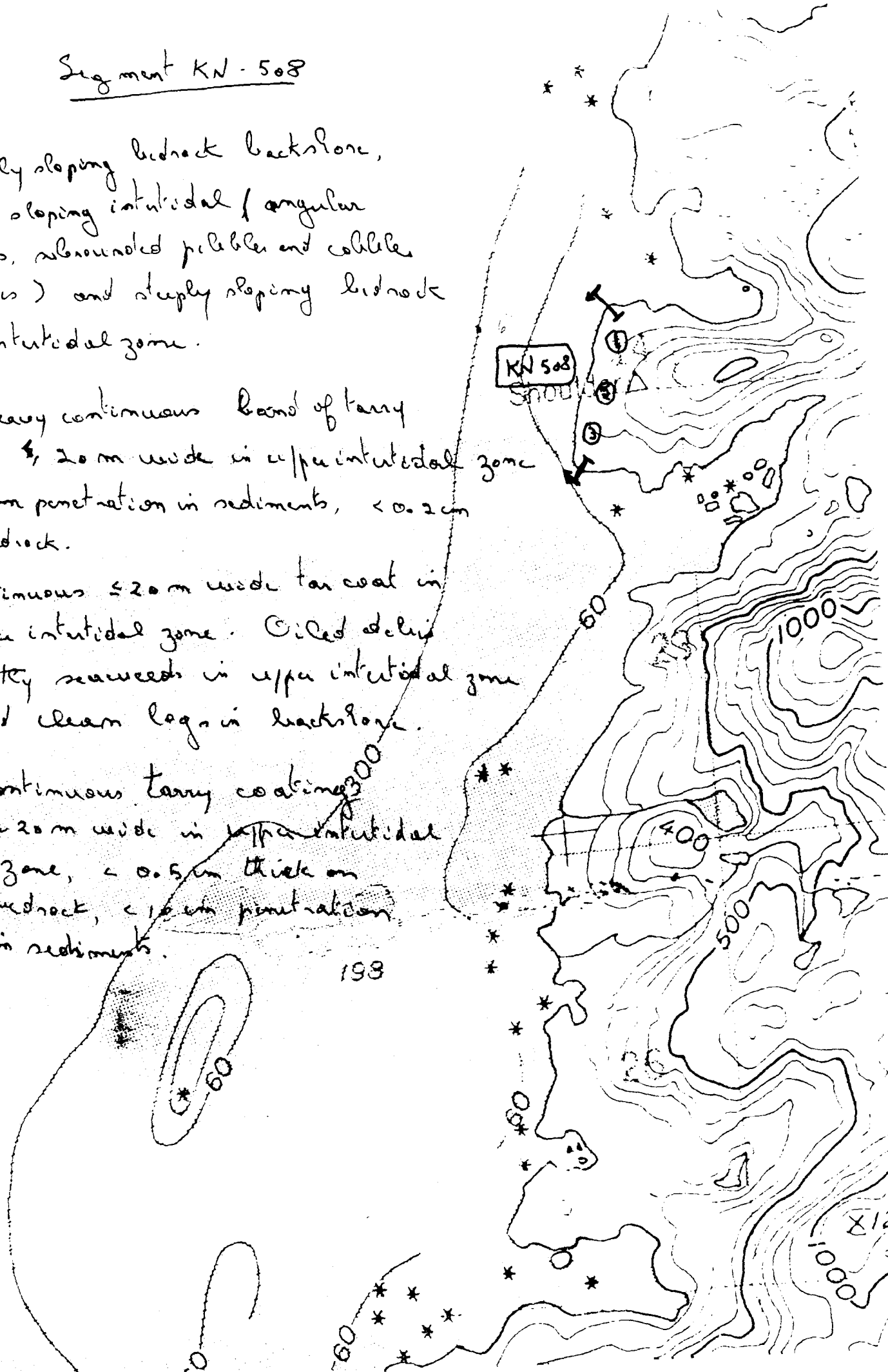
Segment KN - 508

Steeply sloping bedrock backshore, gently sloping intertidal (angular boulders, subrounded pebbles and cobbles and fines) and steeply sloping bedrock lower intertidal zone.

1: heavy continuous band of tarry oil ≤ 20 m wide in upper intertidal zone ≤ 10 cm penetration in sediments, < 0.2 cm on bedrock.

2: Continuous ≤ 20 m wide tar coat in upper intertidal zone. Oiled debris mostly seaweeds in upper intertidal zone and clean logs in backshore.

3: Continuous tarry coating ~ 20 m wide in upper intertidal zone, < 0.5 cm thick on bedrock, < 10 cm penetration in sediments.



(version 6/14/89)

SHORELINE CLEANUP PROGRAM

DATE 7/01/89 SHORELINE SEGMENT KN-509

LOCATION: (see enclosed map) KNIGHT ISLAND-WEST SIDE

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 6/19/89

Recommended Cleanup Activity(ies):
- Manually remove contaminated drift material (fucus) and patches of mousse.
  Flood/flush with warm to hot water (up to 140 F) on low angle beaches.
  Use moderate to high pressure washing on rock.
  Use other approved methods as appropriate.

Priorities Considerations:
Class 4: light oil.
Class A: resources present.

Ecological Constraints (from site survey): Work at mid tide and/or take appropriate measures to protect lower intertidal zone.

Archeological Constraints (from site survey):
No access beyond beach zone at the head of the bay.
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 Holmes — Date: July 2, 1989
State Historic Preservation Officer *

ISCC: Sharon K. Christopherson — Date: 7/7/89

EXXON: RJ Matunaki (for Andy Teal) — Date: 7/7/89

FOSC: CE Robbins — Date: 7/8/89

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

(version 4/29/89) Page 1

19 2200 2250h.
20 2300 0900h.
1989

SHORELINE OIL EVALUATION

Date: 19 & 20 June / Time: _____ Observer: JM Sample

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

LOCATION

LOCATION Western Knight Island SEGMENT NUMBER KN 500

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 10 % / C 20 % / P 10 % / G 10 % / S ___ % / M ___ % / R 50 %

Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type 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 _____ Width of Band: _____ m

Sporadic: Y/N % of Segment 500 %

Est. Oil Thickness where > 1cm: _____ cm Est. Oil Penetration: 10 cm

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

Fresh — % Mousse — % Tar Formation: 100 %

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

Comments:

See attached notes and maps

ECOLOGICAL EVALUATION

LOCATION: KNIGHT Is SITE: _____ OBSERVER: A. JAHN

LOCATION PREFIX: KN SEG. NO.: 509 LENGTH: 3,500 (M)

DATE: 6/11-20/89 TIME (HHMM): 0700-0930 (2200-2250) TIDE HT.: 1.5 -0.5 (M)

OILED ZONE: Splash High Medium Low very little

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

choked out by filamentous algae in middle tide zone

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

thick beds on gravel bottoms, but bedrock areas are algae-dominated

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

dense on filamentous algae in splash zone pools

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

common on gradually-sloping beach @ head of embayment

OTHER OBSERVATIONS: small crustaceans (crabs, amphipods) abundant on beaches.

CLEANUP PRECAUTIONS: none

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

BIRDS: Merganser w/ ducklings - inadvertently chased from bay and then seen again in segment to south

GENERAL OBSERVATIONS: narrow embayment w/ snow patches on north-facing slope. 3 small streams. Low-energy beaches, fractured rock. Segment extends ~150 m south of embayment.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date June 19-20 Location Knight Island Site Herring Central

Location Prefix KN Segment # 509 Length 3,500

Survey Method:

Air — (A - indicate on map) Boat 80% (A - indicate on map)

Ground 20% (G - indicate on map)

Known cultural resources (AHRS #) None Data Source

Oil conditions/beach visibility None-Light / good

Width of beach zone surveyed 2-15 m Tree fringe surveyed 0-15 m

Cultural resources observed in beach zone (AHRS code) None

Cultural resources observed in tree fringe (AHRS code) RKS?, CMT

General observations justifying survey method and segment's site probability

Shore Profile Generally steep bedrock, narrow steep pocket beaches B, C, P, except low angle bay head.

Fresh Water Sources Creek at head of bay

Sea Exposure fairly protected bay head; rest open to all westerlies.

Access/Safety good in light winds

Probability of undiscovered sites in beach zone (circle one) 1 2 (3) 4 5

Monitoring during cleanup needed yes/(no) Collection yes/(no)

Photos: Color Roll # None Frames

B/W Roll # M.E. 3 Frames 7-10

Observer(s) Morley Eldridge

Time survey started 22:00; 7:00 Time survey ended 22:00; 9:00

Cultural resource considerations/restraints:

If historic undiscovered etc. etc. No cleaning of very lightly oiled beaches at head of bay.

Segment KN - 509

Steep bed rock shoreline alternating with narrow pocket beaches of angular boulders, cobbles and pebbles. Pocket beaches when present are relatively steep (~30°) and their frequency of occurrence decreases towards the south.

1: Moderately sloping (~30°) pocket beach of pebbles and cobbles. Lightly oiled ~2 m wide band, little penetration (<10 cm) in upper intertidal zone. Oiled seaweed strandline in upper intertidal zone.

2: 3 m wide discontinuous band of tarry oil in upper intertidal zone of pebble cobble beach. Log and seaweed debris in backshore, debris not oiled.

3: Oiled algae strandline in upper intertidal zone, few tarry splatters 5-10 cm diameter in upper intertidal.

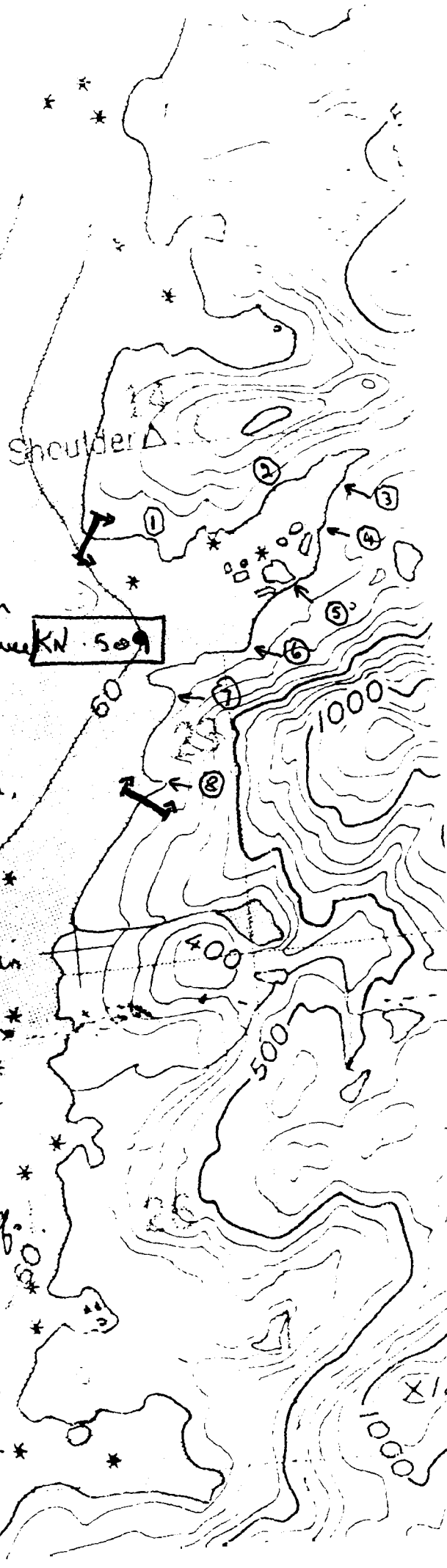
4: no oil

5: no oil

6: no oil

7: Light tarry discontinuous coat < 20 cm wide in upper intertidal zone of bedrock cliffs.

8: Discontinuous [illegible] m wide bands, ≤ 50 m long, tarry oil in upper intertidal, little penetration in sediments < 10 cm and thin coatings on bedrock bluffs.



(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/2/89 SHORELINE SEGMENT KN-510

LOCATION: (see enclosed map) KNIGHT ISLAND-WEST SIDE

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 6/20/89

Recommended Cleanup Activity(ies):
- Manually remove contaminated drift material (fucus) and patches of mousse.
- Flood/flush with warm to hot water (up to 140 F) on low angle beaches.
- Use moderate to high pressure washing on rocks.
- Use other approved methods as appropriate.

Priorities Considerations:
Class 4: Light oil.
A: Resources present.

Ecological Constraints (from site survey): Work at mid tide and/or take appropriate measures to protect healthy lower intertidal zone. Avoid offshore rocks near south end of segment due to heavy otter use. ~~There are two active bald eagle nests in this segment. See advisory.~~ NESTS HAVE BEEN ABANDONED SKC 7/7/89 RLM 7/7/89

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 — Date: July 2, 1989
State Historic Preservation Officer *

ISCC: Sharon K. Christopherson — 7/7/89

EXXON: R L Mitchell (for Andy Teel) — Date: 7/7/89

FOSC: C E Poole — Date: 7/8/89

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

SHORELINE OIL EVALUATION

Date: June 20/89 Time: 0930-2130 Observer: Jim Semple

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

LOCATION

LOCATION Western Knight Island SEGMENT NUMBER KN 510

LENGTH OF SHORELINE SEGMENT: 9,000 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 10 % / C 30 % / P 10 % / G 10 % / S ___ % / M ___ % / R 40 %

Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type 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 _____ Width of Band: _____ m

Sporadic: Y/N % of Segment 80%

Est. Oil Thickness where > 1cm: _____ cm Est. Oil Penetration: 10-20 cm

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

Fresh — % Mousse — % Tar Formation: 100 %

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

Comments:

See attached map and notes.

2

Segment KN-510 (1 of 2)

Steep bedrock ramp shoreline. Numerous faults and fractures. Bedrock alternates with narrow pocket beaches of angular mixed sediments generally with angular boulders near the bedrock.

1: Pocket beach, boulder on upper intertidal cobble pebble middle & lower intertidal. Light discontinuous tarry coating < 2 m wide in upper intertidal, very little penetration some oil in algae strandline in upper intertidal.

2: Discontinuous bands < 2m wide, little or no penetration in upper intertidal

3: Discontinuous tarry coating < 2m wide on bedrock at upper intertidal

4: Scattered patches < 1 m diameter in upper intertidal sediments of pocket beach and discontinuous banding on steep bedrock shoreline, in upper intertidal zone

5: no oil

6: Discontinuous light patches ≤ 2m diameter little penetration (< 5 cm) in upper intertidal sediments of pocket beach light discontinuous banding < 1 m wide on steep bedrock shoreline

7: 1 m bands on bedrock show upper intertidal

8: Few traces < 10 cm wide lines on bedrock show, 1 m long, thin coating

9: Few lines < 5 cm wide on bedrock, 1 to 2 m long in upper intertidal zone

10 Few mousse splatters < 5 cm diameter on bedrock show

11: Bedrock cliff, no oil

13: 1 m wide 2 m long oil band on overhanging bedrock cliff

Segment KN-510 (2 of 2)

13: moderately sloping (20°) pebble sand pocket beach.
Oiled seaweed strand line in upper intertidal zone
Clean logs in backshore. Light discontinuous tarry coating
on and in storm berm, 10-20 cm penetration.

14: same shoreline type as 13 with boulders and cobbles
in lower intertidal zone. Discontinuous patches of tarry oil
3-4 m. diameter in upper intertidal sediments, ≤ 5 cm penetration.

15: Steep or cliffed bedrock shoreline. Oil patches ~2 m diameter
and bands 1-2 m ~~long~~ wide, 10 m. long on vertical bedrock
fracture planes. All coats tarry and ≤ 0.5 cm thick.

16: Pocket beach, No oil

17: No oil

18: Pocket beach, No oil

19: Pocket beach, No oil.

Sections of shoreline south of 18 and 19 consists of bedrock
step ramps or cliffs and pocket beaches as described above.
No oil was observed south of 18 and 19.

No oil observed on rocks west of station 19, and no oil observed
on island located nearshore between stations 8 and 9.

ECOLOGICAL EVALUATION

LOCATION: KNIGHT IS SITE: _____ OBSERVER: A. JAHN

LOCATION PREFIX: KN SEG. NO.: 510 LENGTH: 9,000 (M)

DATE: 6/20/89 TIME (HHMM): 0930-2130 TIDE HT.: -0.5 to +0.5 (M)

OILED ZONE: Splash High Medium Low (but very little)

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

Mussel band 4 ft vertically along some shorelines

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

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

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

OTHER OBSERVATIONS: gravel-bottom stream @ beach with 2 chimney rocks. Eagle nest @ Bend #3 (O.G. log). Very healthy + diverse intertidal zone. Possible second eagle nest @ south end of segment - did not investigate so as not to disturb others unnecessarily.

CLEANUP PRECAUTIONS: IF cleaning is done, avoid offshore rocks near south end of segment - heavy otter use (resident?)

MAMMALS: Otters ≥12 Harbor Seals 1 - on rock offshore Sea Lions ____ Whales ____
Other Marmot @ head of embayment

BIRDS: 4 eagles, Mergansers, pair of wood ducks, 1 Oyster Catcher

GENERAL OBSERVATIONS: generally steep cliffs, but some tide pools - continuation of algae-dominated shoreline

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date June 20, 1989 Location Knight Is. Site Knight Is., Johnson Bay

Location Prefix KN Segment # 510 Length 9,000 m

Survey Method:

Air — (A - indicate on map) Boat 90% (A - indicate on map)

Ground 10% (G - indicate on map)

Known cultural resources (AHRS #) None Data Source

Oil conditions/beach visibility generally none to light.

Width of beach zone surveyed to 20 m Tree fringe surveyed to 10m

Cultural resources observed in beach zone (AHRS code) None

Cultural resources observed in tree fringe (AHRS code) CMT, RCS

General observations justifying survey method and segment's site probability:

Shore Profile Steep bedrock, numerous faults & fractures.

Fresh Water Sources Several moderate-sized creeks.

Sea Exposure generally exposed to all westerlies; a few secure coves

Access/Safety good in light ~~wind~~ winds

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 # ME Roll 3 Frames 11, 12

Observer(s) Morley Eldridge

Time survey started 9:30; 17:10 Time survey ended 10:00; 21:30

Cultural resource considerations/restraints:

If hitherto undiscovered sites etc. etc. No other archaeological constraints.

(version 6/14/89)

SHORELINE CLEANUP PROGRAM

DATE 7/01/89 SHORELINE SEGMENT KN-511

LOCATION: (see enclosed map) KNIGHT ISLAND-SMALL ISLANDS AND ROCKS ON THE WEST SIDE

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 6/20/89

Recommended Cleanup Activity(ies):
- Manually remove contaminated drift material (fucus).
  Flood/flush with warm to hot water (up to 140 F) on low angle beaches.
  Use moderate to high pressure washing on rock.
  Use other approved methods as appropriate.

Priorities Considerations:
Class 2-3: heavy to moderate oil.
Class A: resources present.

Ecological Constraints (from site survey): Work at mid tide and/or take appropriate measures to protect lower intertidal zone.

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

Charles E Holmes — Date: July 2, 1989
State Historic Preservation Officer *

ISCC: Sharon K. Christopherson — Date: 7/7/89

EXXON: R L Metcalfe (for Andy Teal) — Date: 7/7/89

FOSC: D E Rollins — Date: 7/5-89

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

SHORELINE OIL EVALUATION

Date: 2 June 1984 / Time: 1020-1100 Observer: JM Semples

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

LOCATION

LOCATION Western Knight Island SEGMENT NUMBER KN-511

LENGTH OF SHORELINE SEGMENT: All rock Islands m

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

SHORELINE:

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

Wave Exposure: High/Med/Low

Sediment: B___% / C 10 % / P 0 % / G___% / S___% / M___% /R 80 %

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

OIL

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

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

Continuous: Y/N % of Segment 80 % Width of Band: ≤ 5 m

Sporadic: ~~Y/N~~ % of Segment ~~100 %~~

Est. Oil Thickness where > 1cm:_____cm Est. Oil Penetration: 20 cm

Pooled Oil: — % "Free" Oil: — % Coated: H 100 % /M___% /L___%

Fresh — % Mousse — % Tar Formation: _____%

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

Comments:

See attached notes and map.

ECOLOGICAL EVALUATION

LOCATION: offshore KNIGHT IS SITE: _____ OBSERVER: A JOHN

LOCATION PREFIX: KN SEG. NO.: 511 LENGTH: ? (all offshore rocks) (M)

DATE: 6/20/89 TIME (HHMM): 1020-1100 TIDE HT.: -0.5 (M)

OILED ZONE: Splash (High) Medium Low

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

LIVE BIOTA

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

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

great vertical extent (~2m) of dense growth

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

Very dense, mature Balanus below mussel band

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: typical P.W.S. intertidal - except unusual vertical extent of mussel band

CLEANUP PRECAUTIONS: none

MAMMALS: Otters ____ Harbor Seals 1 Sea Lions ____ Whales ____
Other _____

BIRDS: pair of loons

GENERAL OBSERVATIONS: amongst rocks was gravel in surge channels. North end of segment more oiled than rocks to south

ersion of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date JUNE 20 Location PWS, Knight Is. Site Herring Central

Location Prefix KN Segment # 511 Length N/A offshore rocks.

Survey Method:

Air _____ (A - indicate on map) Boat 50 (A - indicate on

Ground 50 (G - indicate on map)

Known cultural resources (AHRS #) None Data Source _____

Oil conditions/beach visibility heavy / fair

Width of beach zone surveyed 1 - 10 m Tree fringe surveyed None

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 probabili

Shore Profile All subtidal

Fresh Water Sources None

Sea Exposure Exposed, especially SSW to NNW.

Access/Safety Good during light winds.

Probability of undiscovered sites in beach zone (circle one) (1) 2 3 4 5

Monitoring during cleanup needed yes/(no) Collection yes/(no)

Photos: Color Roll # None Frames _____

B/W Roll # None Frames _____

Observer(s) Morley Eldridge

Time survey started 10:00 / Time survey ended 10:20 /

Cultural resource considerations/restraints:

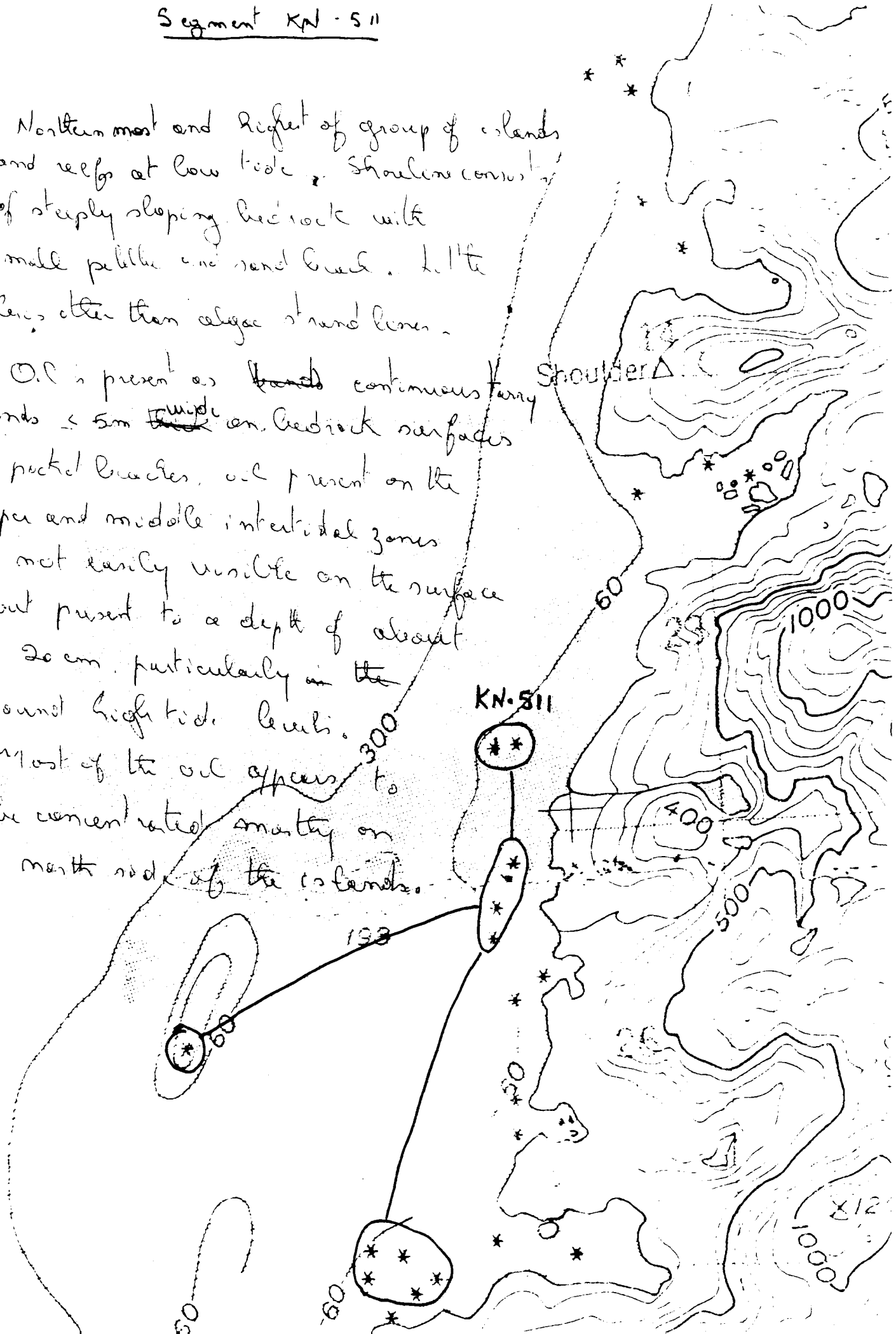
~~All subtidal, virtually no archeo~~ If hitherto undiscover cultural resources etc. etc. No additional cultural resource constraints.

Segment KN - 511

Northernmost and highest of group of islands and reefs at low tide. Shoreline consists of steeply sloping bedrock with small pebble and sand beach. Little debris other than algae strand lines.

Oil is present as ~~bands~~ continuous tarry bands ≤ 5m ~~thick~~ wide on bedrock surfaces. In packed beaches, oil present on the upper and middle intertidal zones is not easily visible on the surface but present to a depth of about 20 cm, particularly ~~in the~~ around high tide levels.

Most of the oil appears to be concentrated mostly on the north side of the islands.



KN-507

SEG KN 507 INSPECTION # 1

DATE 7/24/89

TREATMENT MAP 6/6/89

SEGMENT INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

- ☐ Hot water wash
- ☐ Warm water wash
- ☒ Water deluge
- ☐ Mechanical
- ☒ Non-mechanical PM PON IN INTERTIDAL AREAS
- ☒ Other SNARE BOOM IN TIDAL ZONE

Exxon

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

Comments TREATMENT OF SEGMENT KN-507 IS COMPLETE. READY FOR DEMOBILIZATION & DEPLOYMENT TO A NEW SEGMENT.

Signature [signature] Date: 7/24/89 Time: 5:10 PM

Printed Name JOHN C. PONTICELLO

Existing Shoreline Condition As Visually Determined by USCG

Percent	Degree of Oiling
0	Heavy
0	Medium
5	Light
0	Very Light
95	None
100 %	

Surface Oil

Subsurface Oil

☐ Yes ☒ No

Comments

Reassessment

☒ Yes - necessary ☐ No - not necessary unless re-oiled

ADEC rep Comments NONE Provided

Signature Date: / / Time:

Printed Name

FOSC rep Demobilization approved/disapproved

Comments NO GROSS CONTAMINATION Found

Signature [signature] Date: 7/24/89 Time: 1715

Printed Name Arthur J Smith LTJG

COPY: EXXON ADEC FOSC ISCC

TREATMENT MANUAL, 6/15/89

SEG KN-508 INSPECTION # 1

DATE 7/20/89

SEGMENT INSPECTION RECORD

JBS 7/21/89

Shoreline Treatment Process(es) Completed for this Segment

- [x] Hot water wash
- [ ] Warm water wash
- [x] Water deluge
- [ ] Mechanical
- [ ] Non-mechanical
- [ ] Other

Exxon

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

Comments TREATMENT OF SEGMENT KN-508 IS COMPLETE. READY FOR DEMOBILIZATION + DEPLOYMENT TO A NEW SEGMENT

Signature [signature] Date: 7/20/89 Time:

Printed Name JOHN C. PONTICELLO

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil	
Percent	Degree of Oiling
Ø	Heavy
30	Medium
30	Light
Ø	Very Light
40	None
100 %	

Subsurface Oil

- [x] Yes
- [ ] No

Comments LIGHT CONCENTRATION

Reassessment

- [x] Yes - necessary
- [ ] No - not necessary unless re-oiled

ADEC rep Comments Gross heavy surface oil removed.

Signature [signature] Date: 7/20/89 Time: 1420

Printed Name Douglas H. Dasher, E.E. III, ADEC

FOSC rep Demobilization approved/disapproved

Comments AS GROSS CONTAMINATION. ONE 20 YDS SECTION WAS LEFT UNTREATED. MODERATE SUBSURFACE OIL WITH ONLY 1" SUBSURFACE CONTAMINATION*

Signature [signature] Date: 7/20/89 Time: 1420

Printed Name TOM TUTTLE CONTRACTOR

* ENVIRONMENTAL CONCERNS OF DAMAGING TIDAL ZONE OUT WEIGHT OIL THAT WOULD BE RECAUT

COPY: EXXON ADEC FOSC ISCC

7/25/89

TREATMENT MANAGER

SEG KN-509 INSPECTION # ___ SEGMENT

DATE _____

INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

- ☐ Hot water wash
- ☐ Warm water wash
- ☐ Water deluge
- ☐ Mechanical _____
- ☒ Non-mechanical AN AM IN ISOLATED AREAS
- ☒ Other STEAM CLEANED ROCKS

Exxon

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

Comments TREATMENT OF SEGMENT KN-509 IS COMPLETE READY FOR DEMOBILIZATION & DEPLOYMENT TO A NEW SEGMENT

Signature [signature] Date: 7/24/89 Time: 5:00 PM

Printed Name JOHN C. PONTICELLO

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil Percent	Degree of Oiling
Ø	Heavy
Ø	Medium
2%	Light
2%	Very Light
96	None
100 %	

Subsurface Oil

☐ Yes ☒ No

Comments _____

Reassessment

☒ Yes - necessary ☐ No - not necessary unless re-oiled

ADEC rep Comments NO BE Provided

Signature _____ Date: / / Time:

Printed Name _____

FOSC rep Demobilization approved/disapproved

Comments NO GROSS CONTAMINATION

Signature [signature] Date: 7/24/89 Time: 1722

Printed Name LTJG Arthur J Smith

COPY: EXXON ADEC FOSC ISCC

7/25/89
[illegible]

TREATMENT MANUAL [illegible]

SEG KN-510 INSPECTION # ___ SEGMENT

DATE 7/24/89 INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

- [ ] Hot water wash
- [ ] Warm water wash
- [ ] Water deluge
- [ ] Mechanical ___
- [x] Non-mechanical PORT PORT [illegible]
- [ ] Other ___

Exxon

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

Comments TREATMENT OF SEGMENT KN-510 IS COMPLETE. READY FOR DEMOBILIZATION & DEPLOYMENT TO A NEW SEGMENT.

Signature [signature] Date: 7/24/89 Time: 5:17 pm

Printed Name JOHN C. PONTRELLO

Existing Shoreline Condition As Visually Determined by USCG

Percent	Degree of Oiling
Ø	Heavy
Ø	Medium
2	Light
3	Very Light
95	None
100 %	

Surface Oil

Subsurface Oil

- [ ] Yes
- [x] No

Comments ___

ADMIN CAMEO
POLREP OPS
HIST WAK
COS P.W.S

Reassessment

- [x] Yes - necessary
- [ ] No - not necessary unless re-oiled

ADEC rep Comments None provided

Signature Date: / / Time:

Printed Name

FOSC rep Demobilization approved/disapproved

Comments NO GROSS CONTAMINATION

KN-511

24/7/04

See 9/2

- ☐ Hot water wash
- ☐ Warm water wash
- ☐ Water deluge
- ☐ Mechanical
- ☒ Non-mechanical Air from Jackhammer
- ☐ Other

Exxon

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

Comments TREATMENT OF SEGMENT KN-511 IS COMPLETE. READY FOR DEMOBILIZATION & DEPLOYMENT TO A NEW SEGMENT

Signature

Date: 7/24/04 Time: 1:35 PM

Printed Name JOHN C. PANTICELLO

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil		Subsurface Oil
Percent	Degree of Oiling	☐ Yes ☒ No
Ø	Heavy	Comments
Ø	Medium	
5	Light	
Ø	Very Light	
95	None	
100 %		

Reassessment

☒ Yes - necessary ☐ No - not necessary unless re-oiled

ADEC rep Comments None Provided

Signature Date: / / Time:

Printed Name

FOSC rep Demobilization approved/disapproved

Comments No Gross Contamination

Signature Date: 7/24/04 Time: 1727

Printed Name Arthur J Smith LTJG

COPY: EXXON ADEC FOSC ISCC

(version 6/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Location (see enclosed map): KNIGHT ISLAND-LOWER HERRING BAY NORTH BLOCK

Includes Shoreline Segments: KN-550, KN-551

Submitted: Colin Boat (for Exxon) Date: 6/20/89.

ISCC Reccomendation: Sherm K. Christopherson Date: 6-14-89

FOSC Approval: A E Robbins Date: 6-18-89

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
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NOAA
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USDA (FS)
USFW
A.DEC
A.FG
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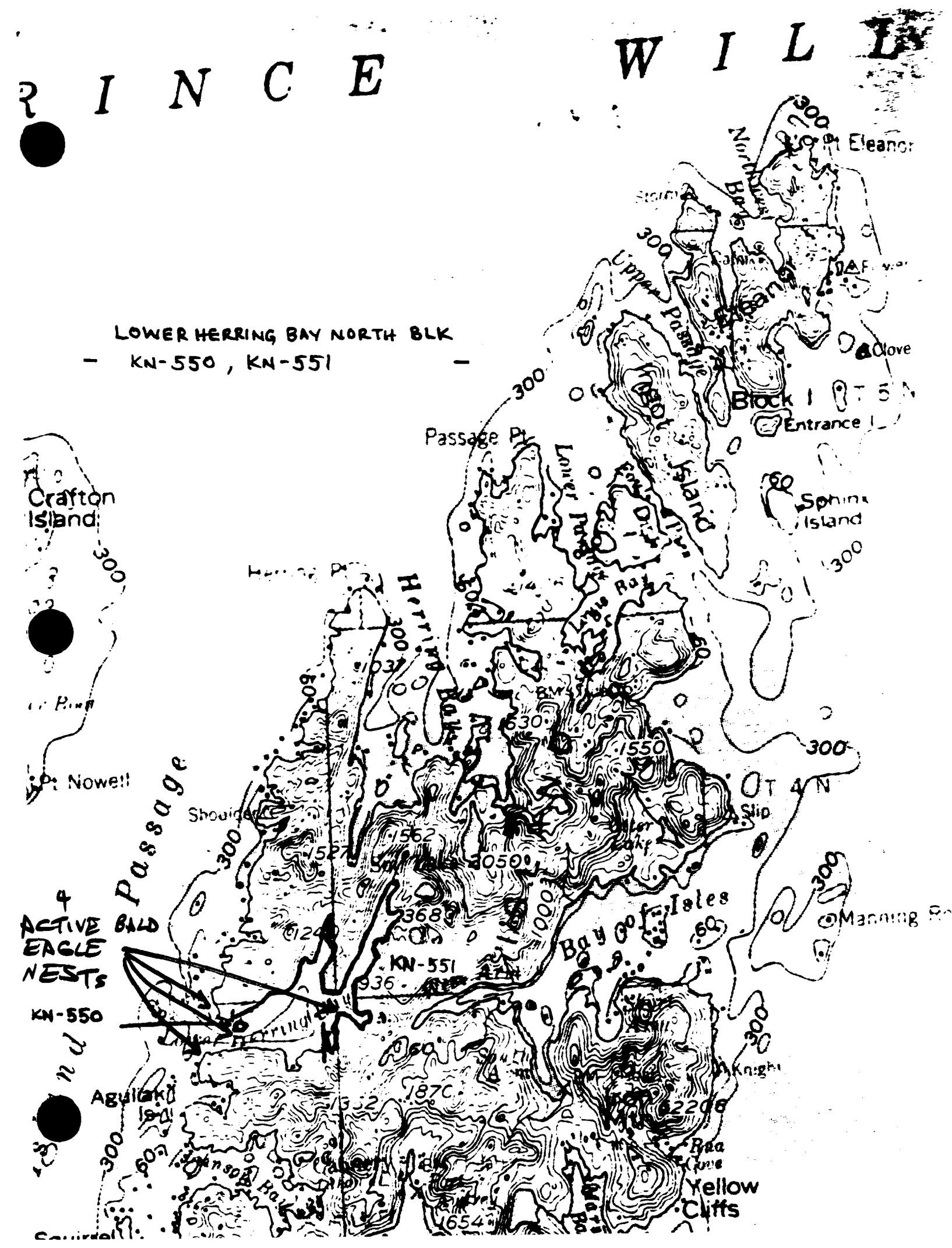
CAC
PWSCA
USFS
SHPO


LOWER HERRING BAY NORTH BLK
— KN-550 , KN-551 —
4 ACTIVE BALD EAGLE NESTS
KN-550
KN-551
Crafton Island
Pt Nowell
Passage Pt
Entrance
Block
Sphinx Island
Pt Eleanor
Clove
Yellow Cliffs
Manning Pt
Isles
Bay of
Shoulder
Agulak Isl
Squirrel
Knight
Slip
Passage
Herring
Upper Passage
Lower Herring
Johnson Bay
Northwest Bay
300
60
1550
630
1562
1527
1368
1240
936
1870
1654
2206

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 6/10/89 SHORELINE SEGMENT KN-550

LOCATION: (see enclosed map) Knight Island-Lower Herring Bay Islands

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 6/07/89

Recommended Cleanup Activity(ies):
- No cleanup recommended at this time, due to no oil.

Priorities Considerations: NO OIL OBSERVED. R

Ecological Constraints (from site survey): Avoid area completely, due to presence of seal haulout areas and other sensitive, unoiled, intertidal organisms. ACTIVE BALD EAGLE NEST PRESENT. R

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.

Charles E. Holmes — Date: June 10, 1989
State Historic Preservation Officer *

ISCC: Sharon K. Christopherson — 6-14-89

EXXON: Beal — Date: June 14-89

FOSC: C E Robbins — Date: 6-14-89

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

SHORELINE OIL EVALUATION

Date: 6/7/89 Time: 09.55 HRS Observer: G. MACDONALD

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

LOCATION

LOCATION LOWER HERRING BAY SEGMENT NUMBER KN-550

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 5 % / 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

Area of Beach Impact: SU / SP / H / M / L NONE

Continuous: Y/N % of Segment_____ Width of Band: _____m

Sporadic: Y/N % of Segment_____

Est. Oil Thickness where > 1cm:_____cm Est. Oil Penetration: _____cm

Pooled Oil: _____% "Free" Oil: _____% Coated: H____% /M____% /L____%

Fresh _____% Mousse _____% Tar Formation: _____%

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

Comments:

THERE IS NO OIL ON THIS SEGMENT AT ALL!

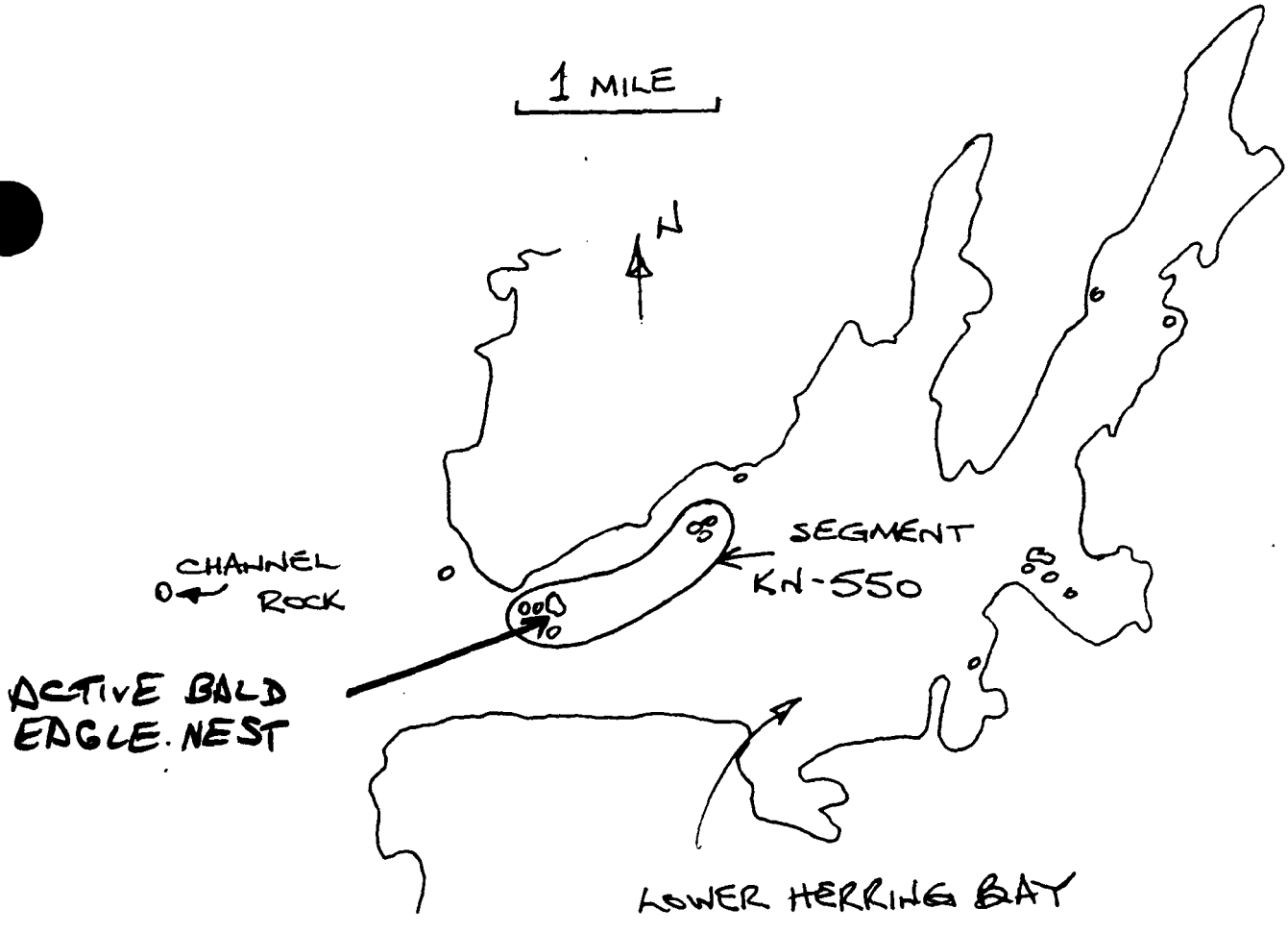
DOCUMENTATION:

Map/~~[illegible]~~ photo marking segment boundaries SEE BELOW

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

Photography: (Y)/N Roll Number(s) TS-SMB-11

Sample Numbers Collected: NONE



version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: Knight Is. SITE: Sm. Islands in ~~lower Herring Bay~~ OBSERVER: SM BAN

LOCATION PREFIX: KN SEG. NO.: 550 LENGTH: 800 (M)

DATE: 6/7/89 TIME (HHMM): 1000 TIDE HT.: + 2 (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

Continuous and dense on rock faces and boulders - healthy

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

Patchy - unoiled healthy organisms

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

Dense spat intertidally and subtidally. Thais dense among adults on rock faces - predating

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

Dense among barnacles

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

OTHER OBSERVATIONS: Seals hauled-out on rocks adjacent to islands. Otters + seal pups present. Leptasterias dense Laminaria dense subtidally. Zostera present. Dense Urothrix (?)

CLEANUP PRECAUTIONS: Avoid area due to sensitive wildlife and seal haulouts

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

BIRDS: Eagles, Mergansers

GENERAL OBSERVATIONS: No oil Do not approach the area or use this area for staging

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 6-7-89 Location Lower Herring Bay Site _____

Location Prefix KN Segment # 550 Length 800 m.

Survey Method:

Air _____ (A - indicate on map) Boat X (A - indicate on map)

Ground _____ (G - indicate on map)

Known cultural resources (AHRS #) _____ Data Source _____

Oil conditions/beach visibility No Oil

Width of beach zone surveyed 0-75 m Tree fringe surveyed NONE

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 Steep rock outcrops

Fresh Water Sources Rain

Sea Exposure North, south, East, West (Islands)

Access/Safety poor access

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 —

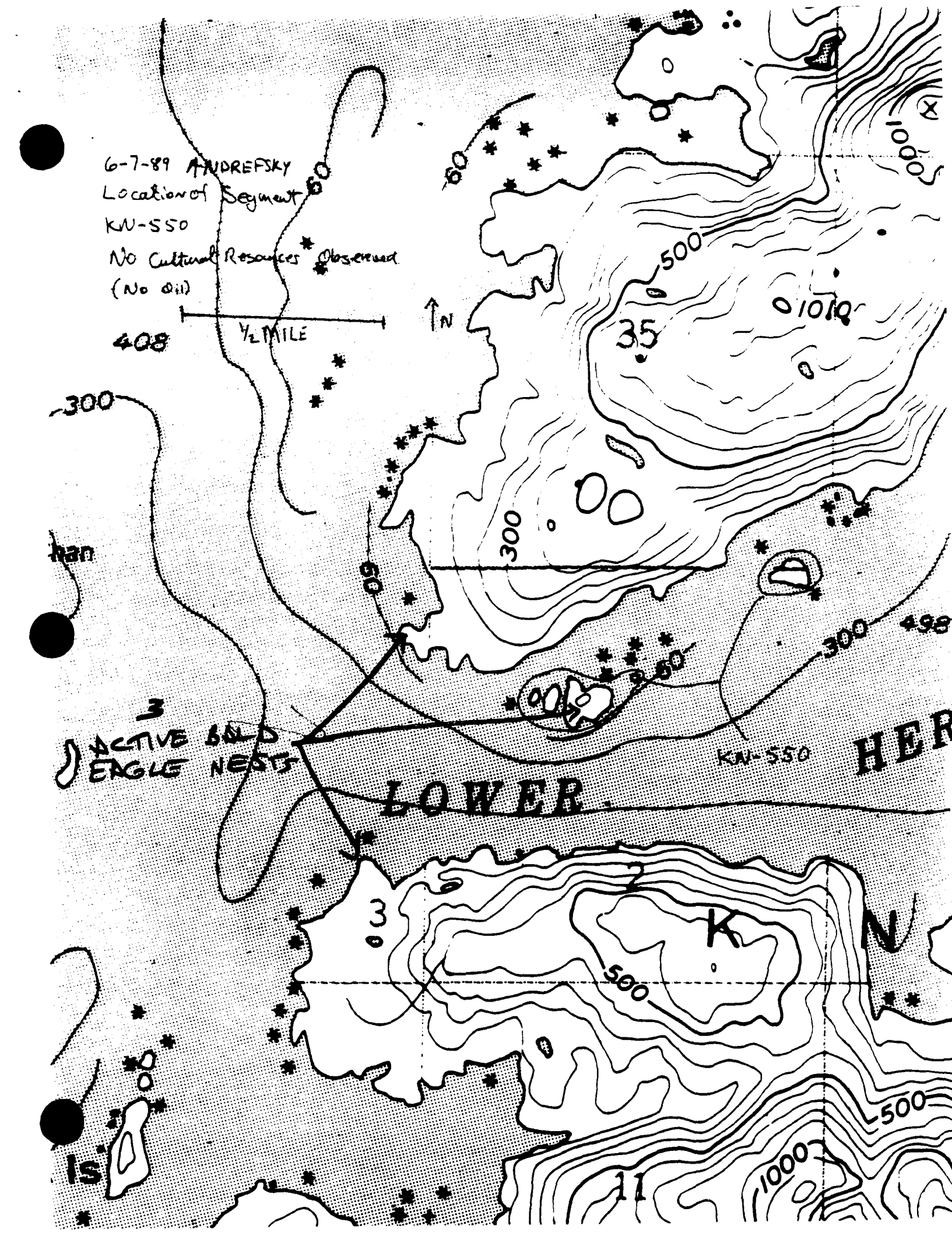
B/W Roll # — Frames —

Observer(s) ANDREFSKY

Time survey started 10:00 AM Time survey ended 10:30 AM

Cultural resource considerations/restraints:

If heretofore unidentified cultural resources are discovered during cleanup contact EXXON archaeologists immediately.


6-7-89 ANDREFSKY
Location of Segment
KW-550
No Cultural Resources Observed
(No Oil)
½ MILE
N
408
300
500
1000
35
300
300
498
3
ACTIVE BALD EAGLE NESTS
KW-550
LOWER
HER
3
K
500
500
1000
Is

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 6/10/89 SHORELINE SEGMENT KN-551

LOCATION: (see enclosed map) Knight Island-Lower Herring Bay

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 6/07/89

Recommended Cleanup Activity(ies):
- No cleanup recommended at this time, due to no oil.

Priorities Considerations: NO OIL OBSERVED.

Ecological Constraints (from site survey): Do not use this bay, except in emergency. Avoid area completely, due to nearby seal haulouts and abundant, healthy marine mammals, birds and intertidal organisms. ANADROMOUS FISH STREAM PRESENT. NOTIFY ADF&G AND KMT ~~AT~~ 48 HOURS PRIOR TO BEGINNING ANY CLEAN UP ON THIS SITE. ACTIVE BALD EAGLE NEST PRESENT.

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.

Charles E. Holmes — Date: June 10, 1989
State Historic Preservation Officer *

ISCC: Sharon K. Christopherson — Date: 6-14-89

EXXON: [signature] — Date: June 14-89

FOSC: [signature] — Date: 6-15-89

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

SHORELINE OIL EVALUATION

Date: 6/7/89 Time: 10·20 Observer: G. MACDONALD

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

LOCATION

LOCATION LOWER HERRING BAY SEGMENT NUMBER KN-551

LENGTH OF SHORELINE SEGMENT: 19,000 m.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 99%

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

OIL

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

Area of Beach Impact: SU / SP / H / M / L NONE

Continuous: Y/N % of Segment_____ Width of Band: _____m

Sporadic: Y/N % of Segment_____

Est. Oil Thickness where > 1cm:_____cm Est. Oil Penetration: _____cm

Pooled Oil: _____% "Free" Oil: _____% Coated: H____% /M____% /L____%

Fresh _____% Mousse _____% Tar Formation: _____%

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

Comments:

THERE IS NO OILING OF THIS LARGE SHELTERED BAY SYSTEM WHATSOEVER!

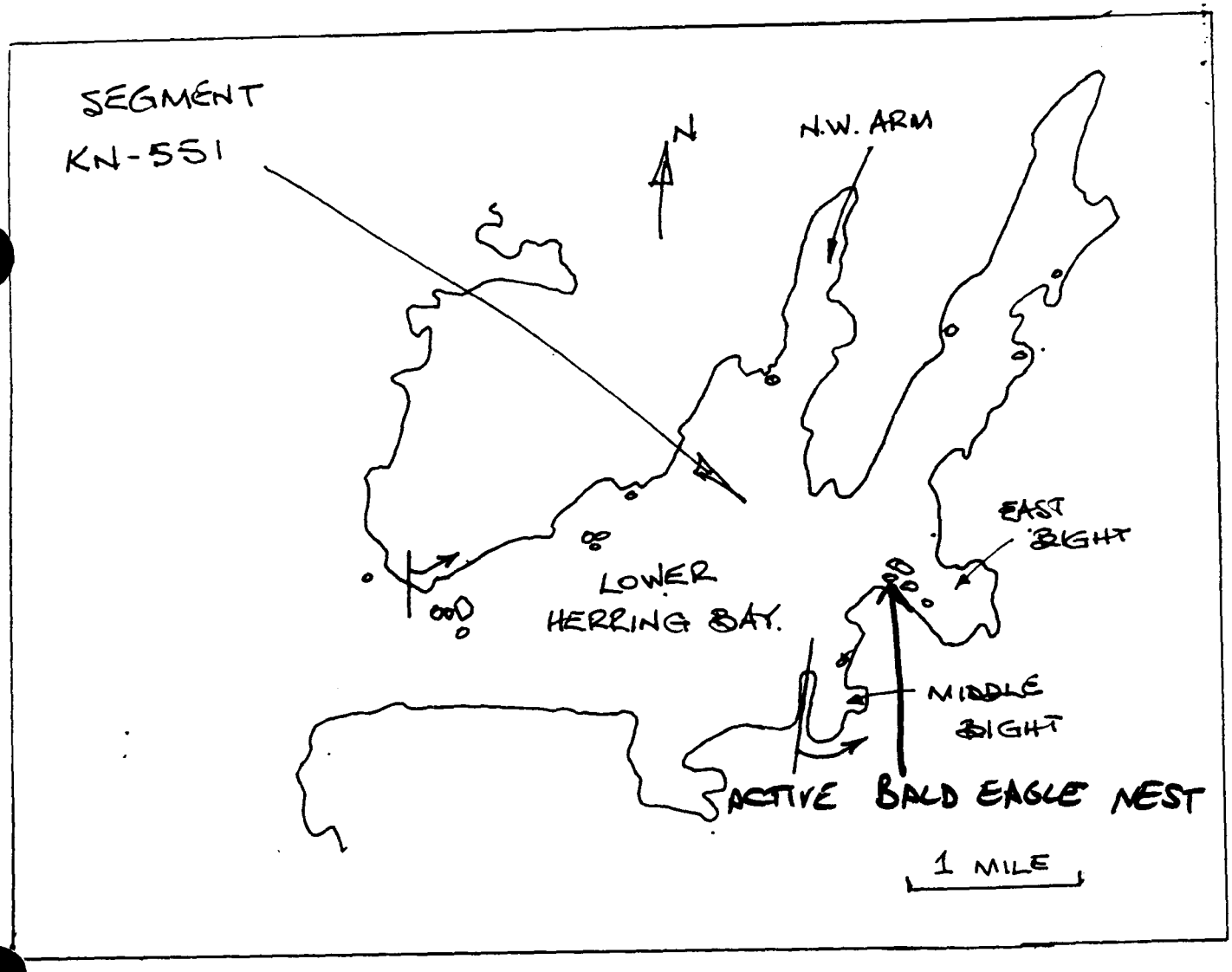
DOCUMENTATION:

Map/~~Aerial~~ photo marking segment boundaries SEE BELOW

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

Photography: (Y)/N Roll Number(s) TS - SMB - 12

Sample Numbers Collected: NONE



version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: Knight Island SITE: Lower Herring Bay OBSERVER: SMBAN

LOCATION PREFIX: KN SEG. NO.: 551 LENGTH: 19,000 m (M)

DATE: 6/7/89 TIME (HHMM): 1020 TIDE HT.: -1.0 to 2 (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

Continuous & dense on rock faces, Patchy & sparse on gravel beaches

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

None oiled - Heavy Predation by Thais

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

Dense spat and adults - adults being predated by Thais

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

Occurs in Barnacle zone - not oiled

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

OTHER OBSERVATIONS: Encrusting Red algae in Laminaria zone. Small bin water. Anemia. Two Black tail deers on shoreline, Eating Fucus. ~~Ulo~~ Ulothrix (filamentous green algae) dense beneath Fucus

CLEANUP PRECAUTIONS:

MAMMALS: Otters X ~~Harbor~~ Grey Seals X Sea Lions ____ Whales ____

Other Many otters & seals, both with pups

BIRDS: Eagles and Eagles nest, oystercatchers and nest,

GENERAL OBSERVATIONS: No oil throughout entire large segment

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 6-7-89 Location Lower Herring Bay Site —

Location Prefix KN Segment # 551 Length 19,000 m

Survey Method:

Air _____ (A - indicate on map) Boat X (A - indicate on map)

Ground X (G - indicate on map)

Known cultural resources (AHRS #) _____ Data Source _____

Oil conditions/beach visibility No oil

Width of beach zone surveyed 0-25 m Tree fringe surveyed NONE

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 Steep Rocky outcrops & one cobble beach

Fresh Water Sources Streams

Sea Exposure North, south, east, west

Access/Safety fair access for small barges

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) Andreefsky

Time survey started 10:30 AM Time survey ended 2:30 PM

Cultural resource considerations/restraints:

If heretofore unidentified cultural resources are discovered during cleanup contact Exxon archaeologists immediately.

6-7-89 ANDREASKY

Location of Segment

KN-551

[- - -] = segment Boundaries

No Cultural Resources Observed -

TREATMENT MANUAL, 6/15/89

SEG KU-550 INSPECTION # 1

DATE 7/26/89

SEGMENT INSPECTION RECORD

7/26/89

Shoreline Treatment Process(es) Completed for this Segment

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

Exxon

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

Comments NO CLEANUP REQUIRED

Signature [signature] Date: 7/26/89 Time: 6 43 PM

Printed Name JOHN C. PANTICELLO

Existing Shoreline Condition As Visually Determined by USCG

Percent	Degree of Oiling
	Heavy
	Medium
	Light
	Very Light
100%	None
100 %	

Surface Oil

Subsurface Oil

☐ Yes ☒ No

Comments

Reassessment

☐ Yes - necessary ☐ No - not necessary unless re-oiled

ADEC rep

Comments

Signature Date: / / Time:

Printed Name

FOSC rep

MOBILIZATION NOT REQUIRED

Demobilization approved/disapproved

Comments OBSERVED NO OIL ON BRIEF SURVEY.

Signature [signature] Date: 7/26/89 Time: 1905

Printed Name THOMAS D. HARRISON LT USCG

TREATMENT MANUAL, 6/15/89

SEG KN-551 INSPECTION # 1

DATE 7/28/89

SEGMENT INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

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

Exxon

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

Comments NO FOLLOW UP REQUIRED

Signature [illegible] Date: 7/28/89 Time: 7:55 PM

Printed Name TONY C. BATTISELLO

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil Percent	Degree of Oiling
	Heavy
	Medium
	Light
1%	Very Light
99%	None
100 %	

Subsurface Oil: ☐ Yes ☒ No

Comments DID NOT INSPECT @ ALL SPOTS - BAT SURVEY CONDUCTED RECENTLY DID NOT IDENTIFY ANY. (TBB)

Reassessment

☒ Yes - necessary ☐ No - not necessary unless re-oiled

ADEC rep

Comments NOT PRESENT DURING INSPECTION (TBB)

Signature Date: / / Time:

Printed Name

FOSC rep

Demobilization approved/disapproved

Comments MOBILIZATION NOT REQUIRED @ THIS TIME - MADE BRIEF SURV FOR CLOSE TO SHORE - SAW NO SIGN OF OILING, COORDINATE W/SCAT RECOM THEN [illegible]

Signature [illegible] Date: 7/28/89 Time: 2000

Printed Name [illegible]

SEG KN-552 INSPECTION # 1

DATE 7/25/89

SEGMENT INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

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

Exxon

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

Comments NO SHORELINE REPORTED

Signature [illegible] Date: 7/25/89 Time: 7:55 pm

Printed Name JOHN C. PASTICCIO

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil		Subsurface Oil
Percent	Degree of Oiling	☐ Yes ☒ No
	Heavy	Comments SURVEY CONDUCTED
	Medium	FROM NEAR SHORE – NONE
	Light	OBSERVED OR SUSPECTED.
1%	Very Light	
99%	None	
100 %		

Reassessment

☑ Yes - necessary ☐ No - not necessary unless re-oiled

ADEC rep Comments NOT PRESENT DURING INSPECTION (SAP)

Signature Date: / / Time:

Printed Name

FOSC rep ~~Demobilization approved/disapproved~~ MOBILIZATION NOT REQUIRED @ THIS TIME.

Comments AREA RECENTLY SURVEYED BY PAT – NO SIGNIFICANT FOUND SINCE SEAT REPORT – CONCUR W/ NO WORK RECOMMEN

Signature [illegible] Date: 7/28/89 Time: 2020

Printed Name THOMAS D. [illegible] LT USCG

(version 6/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Location (see enclosed map): KNIGHT ISLAND-LOWER HERRING BAY SOUTH BLOCK

Includes Shoreline Segments: KN-552

Submitted: [signature] Date: 6/12/89
(for Exxon)

ISCC Reccomendation: Sharon K Christopherson Date: 6-21-89

FOSC Approval: J. W. Kime Date: 6-25-89

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

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A.FG
A.DNR
CAC
PWSCA
USFS
SHPO

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 6/12/89 SHORELINE SEGMENT KN-552

LOCATION: (see enclosed map) LOWER HERRING BAY-KNIGHT ISLAND SOUTH SHORE

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 6/07/89

Recommended Cleanup Activity(ies):

- No cleanup recommended at this time SUBJECT TO FOSC ~~APPROVAL~~ REASSESSMENT AT A LATER DATE, due to no oil.

Priorities Considerations:

- No oil.

Ecological Constraints (from site survey): ~~Do not use bay as staging area.~~ Sensitive seal haulout areas should not be disturbed.

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.

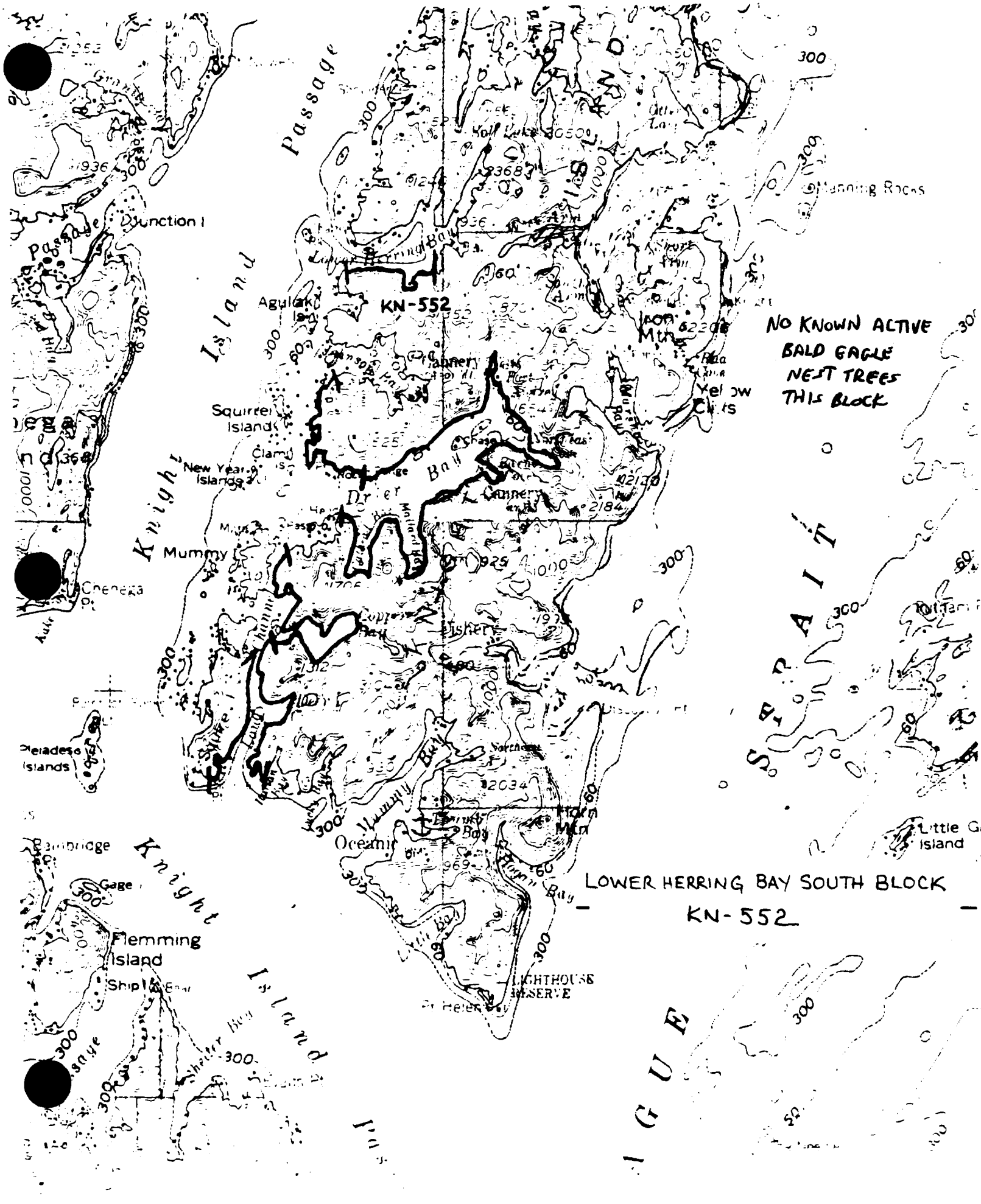
Charles E. Holmes — Date: June 12, 1989
State Historic Preservation Officer *

ISCC: Sharon K. Christopherson — 6-20-89

EXXON: _____ Date: June 21 1989

FOSC: J.W. Rice — Date: June 25, 1989

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


KN-552
NO KNOWN ACTIVE
BALD EAGLE
NEST TREES
THIS BLOCK
Passage
Knight
Island
Squirrel
Islands
Mummy
Pleiades
Islands
Flemming
Island
Ship
Bambridge
Gage
Oceanic
Bay
Fisher
Cannery
Dryer
Bay
Lower Herring Bay
Agulak
Junction I
Manning Rocks
Yellow
Cliffs
Little G
Island
LIGHTHOUSE
RESERVE
LOWER HERRING BAY SOUTH BLOCK
KN-552

SHORELINE OIL EVALUATION

Date: 6/7/89 Time: 22.35 Observer: G. MACDONALD

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

LOCATION Knight Island -

LOCATION LOWER HERRING BAY SEGMENT NUMBER KN- 552

LENGTH OF SHORELINE SEGMENT: 5,000 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 5 % / G___% / S___% / M___% /R 95 %

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

OIL

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

Area of Beach Impact: SU / SP / H / M / L NONE

Continuous: Y/N % of Segment_____ Width of Band: _____m

Sporadic: Y/N % of Segment_____

Est. Oil Thickness where > 1cm:_____cm Est. Oil Penetration: _____cm

Pooled Oil: _____% "Free" Oil: _____% Coated: H____% /M____% /L____%

Fresh _____% Mousse _____% Tar Formation: _____%

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

Comments:

NO OIL AT ALL ON THIS SEGMENT.

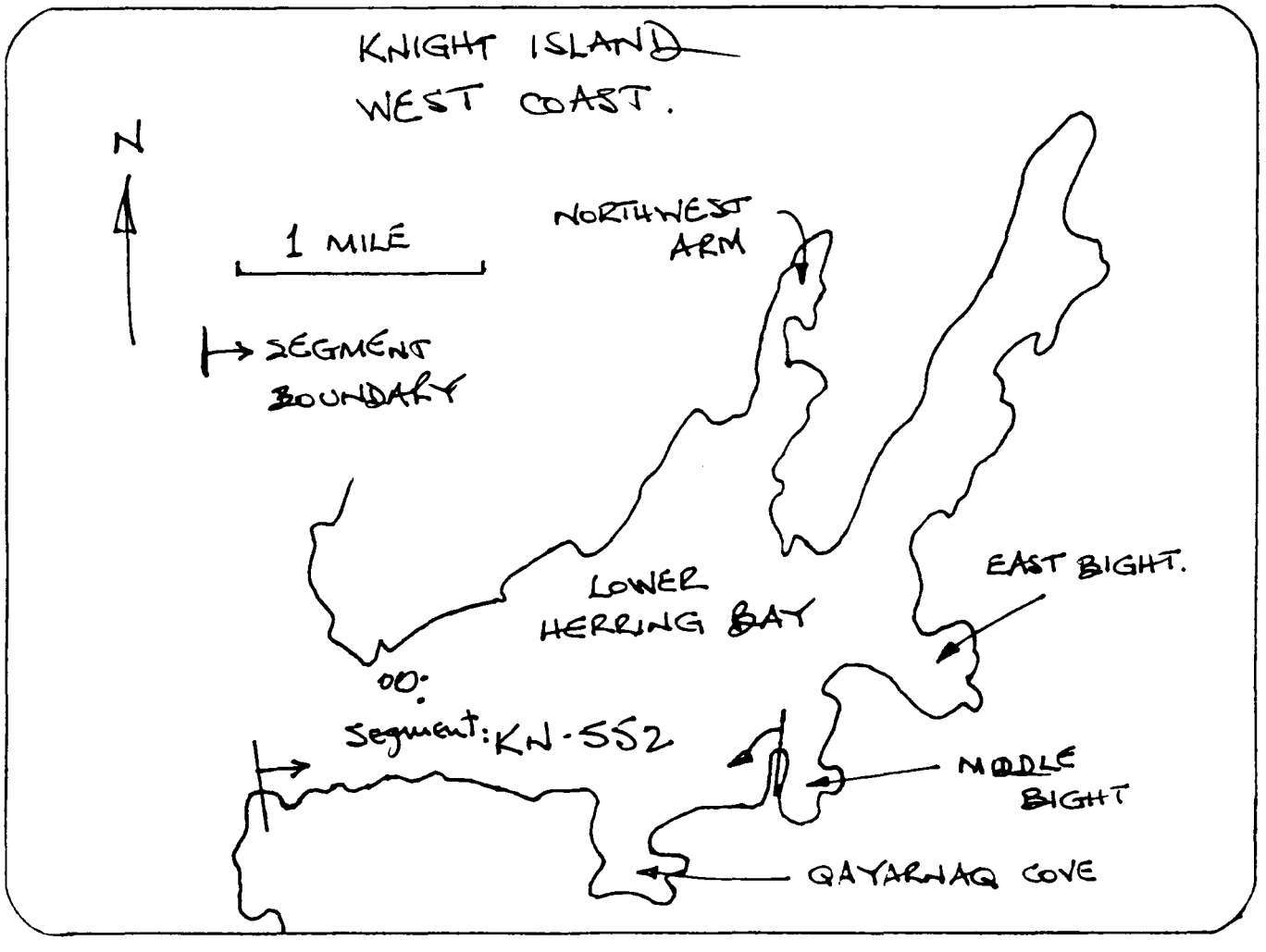
DOCUMENTATION:

Map/[redacted] marking segment boundaries Attached - SEE BELOW

VTR: Y/N Tape Number(s) None

Photography: Y/N Roll Number(s) T5-SMB-12

Sample Numbers Collected: None



6/7 SEGMENT KH 550

09.55 HRS Lower Herring Bay.

sheltered rocky shore; avg 45° slope;
no oil, rounded benches, steeply
shelving - islets w/ seal haul

END of SEGMENT

10.20 HRS SEG KH-551 - northern
shoreline.

sheltered rocky shore, 40°-90° w/ shelf &
bench. 5' - 15' high.

trace v. lt. tar (2 cm wide x 6 cm diameter)
lt. cream

tide lines @ HWL. Occasional perched
gravel "beaches". Glaciated islets, smooth
abraded tops w/ some "plucking." R. mountain?
2x1" dia v. soft tar splats @ v. head of Lit. Bay E,
@ UHWL no other oil whatsoever.

14.30 END of SEGMENT

KH-552 22.35 HRS

sheltered rocky shores, abundant pillow
lava - no beaches, no oil.

23.40 HRS 5,000 m.

END of SEGMENT

LOWER HERRING BAY COMPLETE
NO OIL AT ALL
SEAL HAULOUTS

version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: Knight Island SITE: S. Shore Lower Herring Bay OBSERVER: SM Ban

LOCATION PREFIX: KN SEG. NO.: 552 LENGTH: 5000 (M)

DATE: 6/7/89 TIME (HHMM): 2235 TIDE HT.: 1-0 (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

Continuous on Rock Faces, Patchy on boulders - NOT oiled

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

Healthy - Predation by Thais. Dense at S. Point

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

Very dense spat Heavy Predation by Thais

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

Dense IN Fucus/Balanus zone

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

Healthy

OTHER OBSERVATIONS: White line on boulders - rock Face
Aurelia in water. Ulva and Ulothrix dense, continuous

CLEANUP PRECAUTIONS: No cleanup - Also, only use bay in Emergency. Impact of staging activities on seals and other mammals, birds, fish etc. would be detrimental.

MAMMALS: Otters ___ Harbor Seals X Sea Lions ___ Whales ___
Other others

BIRDS: eagles.

GENERAL OBSERVATIONS: Pencilthin line on rock face is not a cause for concern.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date June 7, 1989 Location Knight Island Site Lower Herring Bay

Location Prefix KN Segment # 552 Length 5000 m

Survey Method:

Air _____ (A - indicate on map) Boat X (95%) (A - indicate on map)

Ground X (5%) (G - indicate on map)

Known cultural resources (AHRS #) none Data Source N/A

Oil conditions/beach visibility no oil; visibility excellent.

Width of beach zone surveyed 5-15 m Tree fringe surveyed 5 m

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 sheltered rocky shore; few, small beach areas.

Fresh Water Sources several small streams in segment.

Sea Exposure protected

Access/Safety N/A as no cleanup is required

Probability of undiscovered sites in beach zone (circle one) (1) 2 3 4 5

Monitoring during cleanup needed yes/(no) Collection yes/(no)

Photos: Color Roll # none Frames _____

B/W Roll # none Frames _____

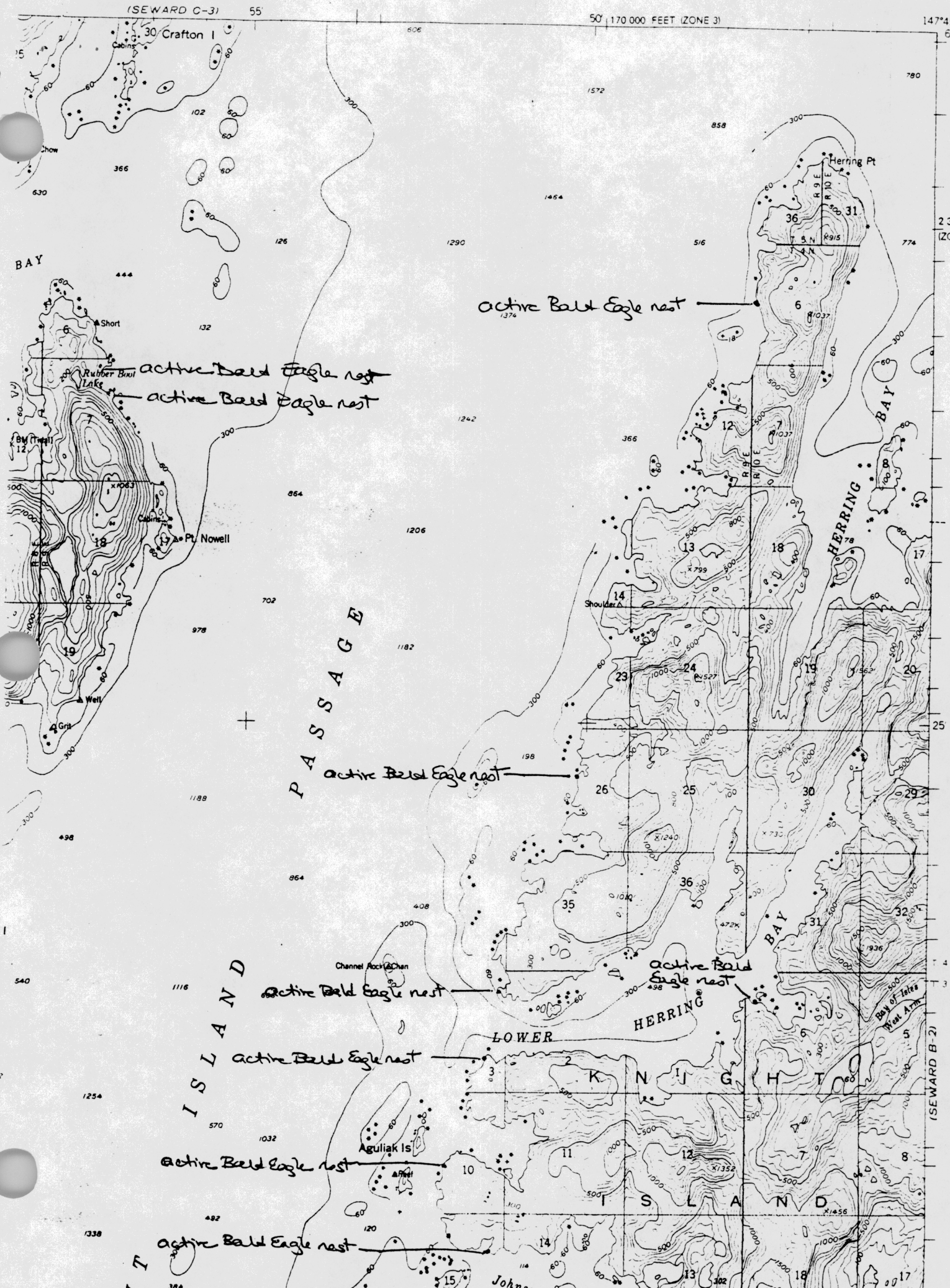
Observer(s) Jim Haggarty

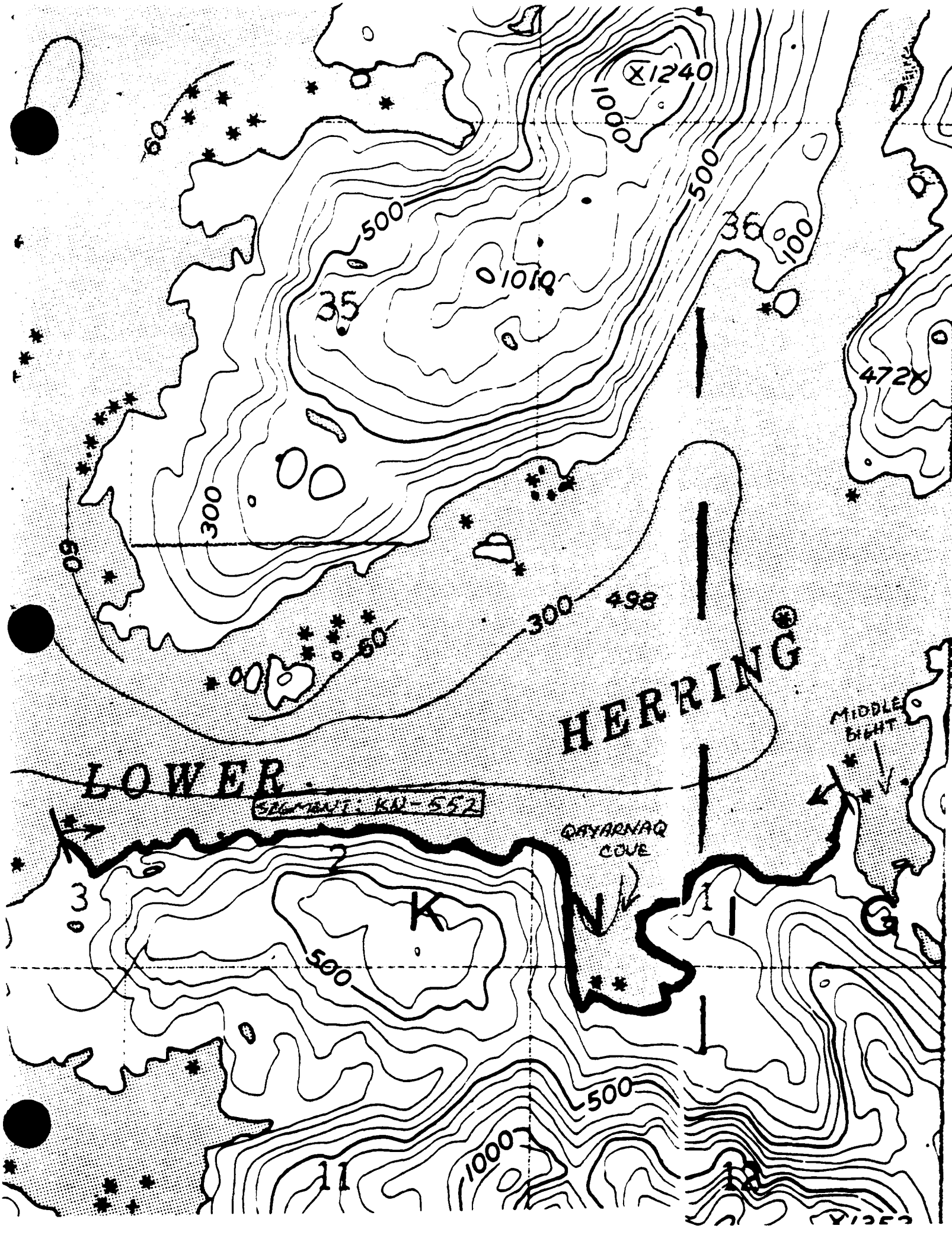
Time survey started 2235 Time survey ended 2400

Cultural resource considerations/restraints:

Standard constraints; no monitor required.

Square A-3 3/24


(SEWARD C-3)
55'
50' 170 000 FEET (ZONE 3)
147°45'
60°30'
Crafton I
Cabins
Chow
BAY
Short
Rubber Boat Lake
active Bald Eagle nest
active Bald Eagle nest
Cabins
Pt. Nowell
Well
Grit
PASSAGE
ISLAND
Herring Pt
active Bald Eagle nest
HERRING BAY
active Bald Eagle nest
Shoulder
Channel Rock
Channel
active Bald Eagle nest
active Bald Eagle nest
active Bald Eagle nest
LOWER
HERRING
BAY
Bay of Islands
West Arm
KNIGHT
ISLAND
Aguliak Is
Well
active Bald Eagle nest
active Bald Eagle nest
Johns
(SEWARD B-2)
T 5 N
T 4 N
T 3 N


X1240
1000
500
500
36
100
1010
35
4728
300
60
300
498
60
HERRING
MIDDLE BIGHT
LOWER
SEGMENT: KQ-552
QAYARNAQ COVE
3
K
500
500
1000
11
12

(version 5/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Location (see enclosed map): JOHNSON BAY BLOCK

Includes Shoreline Segments: KN-553, KN-554

Submitted : _____ Date: 7/8/89
(for Exxon)

ISCC Approval: Sharon K. Christopherson Date: 7/14/89

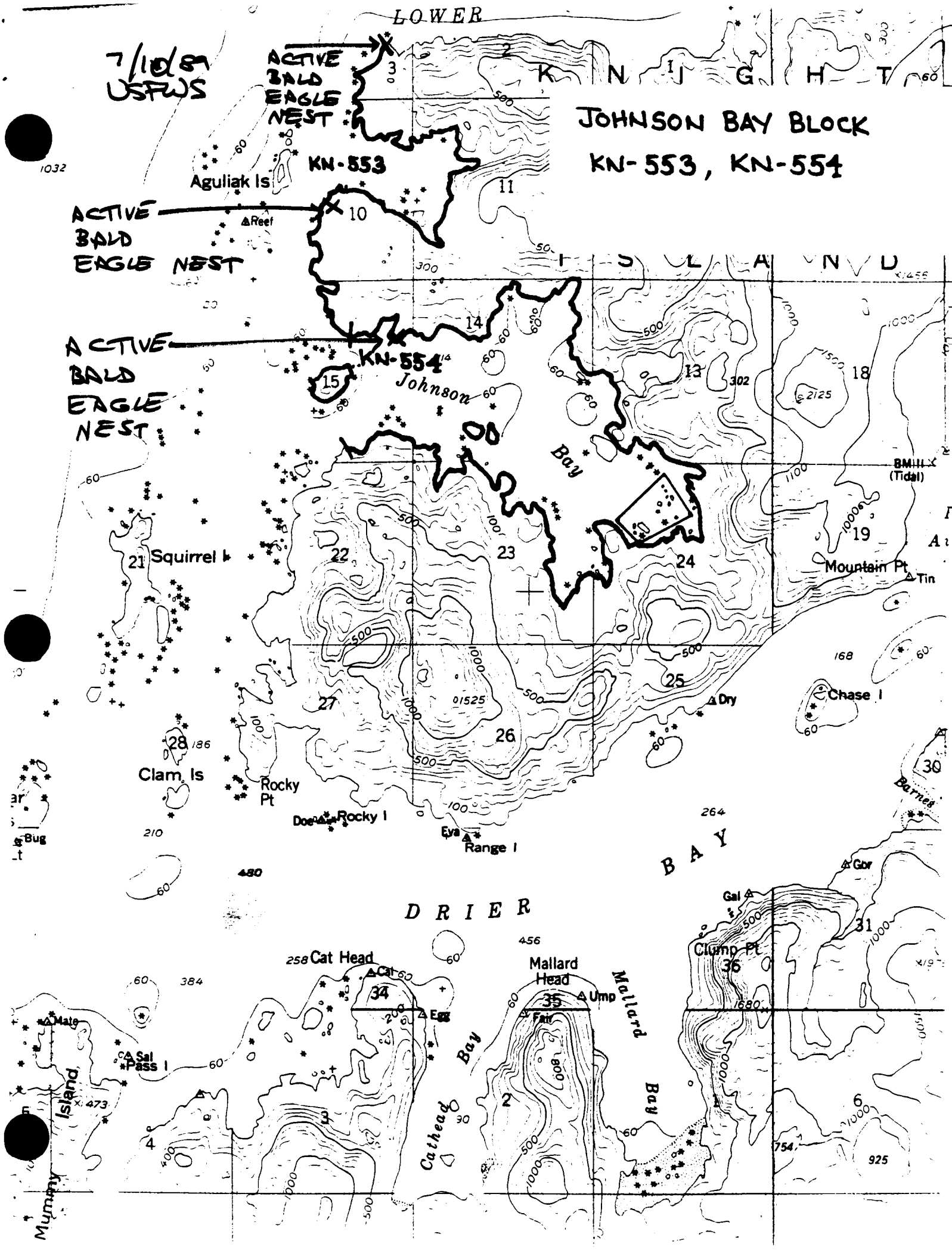
FOSC Approval: David Zanoli Date: 7/15/89

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


7/10/89
USFWS
ACTIVE BALD EAGLE NEST
JOHNSON BAY BLOCK
KN-553, KN-554
KN-553
Aguliak Is
ACTIVE BALD EAGLE NEST
ACTIVE BALD EAGLE NEST
KN-554
Johnson Bay
Squirrel I
Mountain Pt
Tin
Chase I
Dry
Clam Is
Rocky Pt
Rocky I
Doe
Eva
Range I
Bug
DRIER BAY
Cat Head
Cat
Egg
Mallard Head
Ump
Fair
Mallard Bay
Clump Pt
Gal
Gor
Barnes
Mate
Sal
Pass I
Cathead Bay
Mummy Island
Reef
BM III
(Tidal)

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/1/89 SHORELINE SEGMENT KN-553

LOCATION: (see enclosed map) Knight Island - North of Johnson Bay

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 6/21/89

Recommended Cleanup Activity(ies):
- Manually remove contaminated drift material (fucus) and patches of mousse.
- ~~Use other approved methods as appropriate~~.

SC 7/14/89 CO 7/14/89

Priorities Considerations:
Class 4: Light oil
A: Resources present

Ecological Constraints (from site survey): Work at mid tide and/or take appropriate measures to protect lower intertidal zone. PRESENCE OF TWO ACTIVE BALD EAGLE NESTS - SEE ADVISORY.

SC 7/14/89 CO 7/14/89

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 — Date: July 6, 1989
State Historic Preservation Officer *

ISCC: Sharon K. Christopherson — Date: 7/14/89

EXXON: [signature] — Date: 7/14/89

FOSC: David Zawoski — Date: 7/5/89

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

SHORELINE OIL EVALUATION

Date: 21 o 21 jun 1989 / Time: 0900 1045 on 21 1430 to 1100 on 22 Observer: Jean Marie Sempeck

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

LOCATION

LOCATION Western Knight Island SEGMENT NUMBER KN 553

LENGTH OF SHORELINE SEGMENT: 2100 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___% / C10% / P30% / G___% / S___% / M___% /R60%

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

OIL

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

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

Continuous: Y/N % of Segment_____ Width of Band: _____m

Sporadic: Y/N % of Segment 10%

Est. Oil Thickness where > 1cm:_____cm Est. Oil Penetration: 0 cm

Pooled Oil: —% "Free" Oil: —% Coated: H 100% /M___% /L___%

Fresh —% Mousse —% Tar Formation: 100 %

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

Comments:

See attached note and map.

8: Headland, steep bedrock backshore and upper intertidal. Gently sloping pebble and cobble beach, steep rocky lower intertidal zone. A few oiled logs in the backshore and upper intertidal zone and a few splatters 2-5 cm in diameter, thin and no penetration, in the upper intertidal zone

9 to 12: Same shoreline type as 4 above. No oil.

ECOLOGICAL EVALUATION

LOCATION: KNIGHT IS SITE: _____ OBSERVER: A. JAHN

LOCATION PREFIX: KN SEG. NO.: 553 LENGTH: 7,100 (M)

DATE: 6/21/89 (6/22/89) TIME (HHMM): 0820-1045 (0930-1010) TIDE HT.: -0.5 (M)

OILED ZONE: Splash High Medium Low (None) (almost)

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

most abundant on gravel beaches

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

native barnacles not forming dense clusters.

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

common/dense in tide pools on filamentous algae

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

OTHER OBSERVATIONS: many tide pools in bedrock areas - anemones abundant. Pricklebacks, urchins, pigmy crab abundant under boulders. Other excavations in lower tidal zone clam beds (2 or 3 per m²).

CLEANUP PRECAUTIONS: probably no need to clean here - there is hardly any oil, and none of it is likely to be remobilized.

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

BIRDS: 2 eagles (seen separately), Mergansers, Pidgeon guillemots

GENERAL OBSERVATIONS: Emerald Rocks immediately offshore guard pocket beaches from heavy waves. Apparently heavily-exploited clam beds in lower tidal zone. (Others?) - Numerous excavations in gravel/mud bottom (~30 cm in diameter, 10 cm deep).

ersion of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date June 20, 22 Location Knight Island Site Lower Henry Bay

Location Prefix KN Segment # 553 Length 7100

Survey Method:

Air _____ (A - indicate on map) Boat 90 (A - indicate on map)

Ground 10 (G - indicate on map)

Known cultural resources (AHRS #) None Data Source _____

Oil conditions/beach visibility generally NONE / good

Width of beach zone surveyed to 15 m Tree fringe surveyed to 10 m

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 Generally steep bedrock shore, with pocket beaches.

Fresh Water Sources Creeks.

Sea Exposure Few safe landing places in westerly winds.

Access/Safety Good in light winds.

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 _____

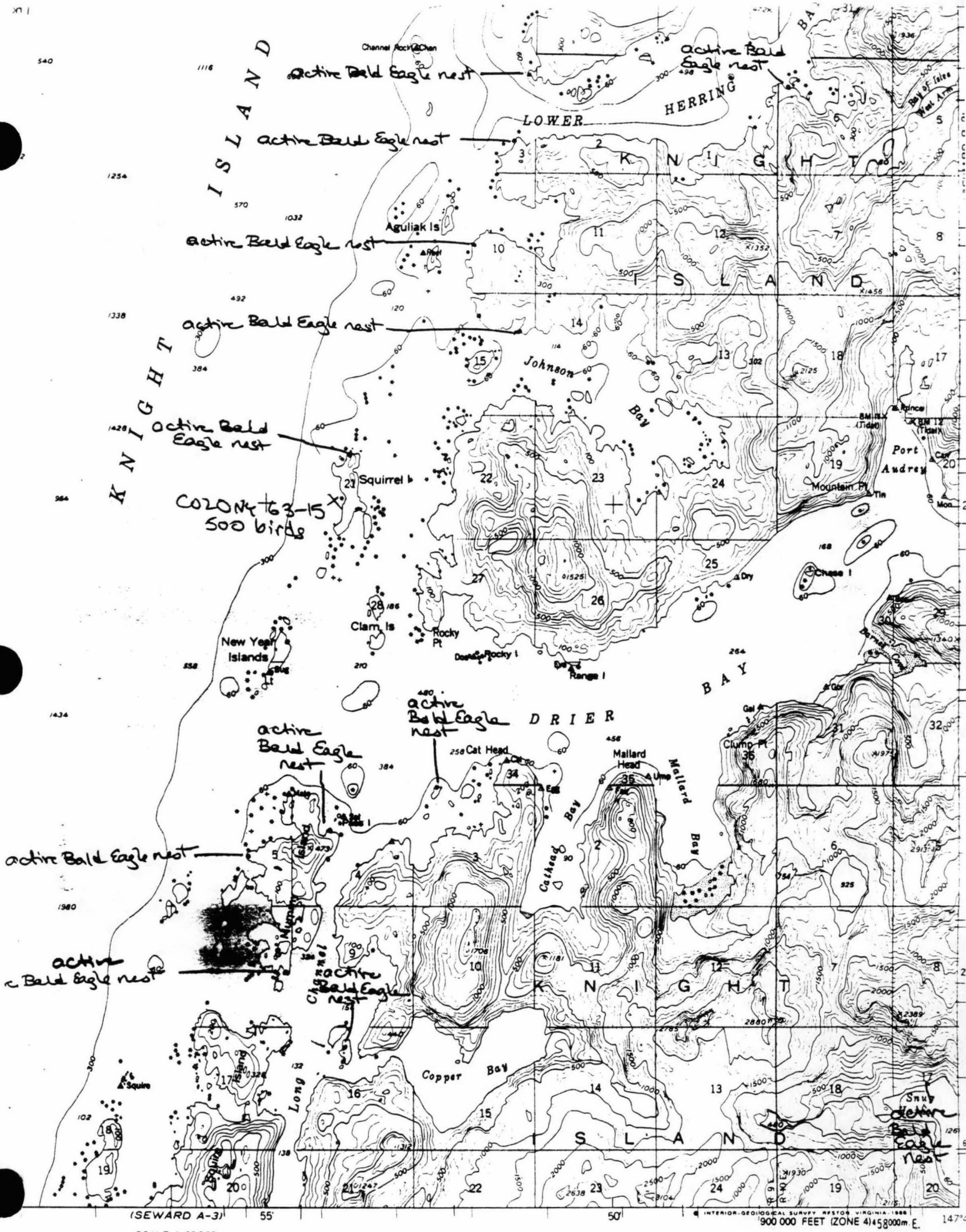
B/W Roll # ME Roll 4 Frames 1-4

Observer(s) Morley Eldridge

Time survey started 08:30 ; 9:30 Time survey ended 10:45 ; 10:00

Cultural resource considerations/restraints:

If hitherto undiscovered etc. etc. No other archaeological constraints.


active Bald Eagle nest
active Bald Eagle nest
active Bald Eagle nest
active Bald Eagle nest
active Bald Eagle nest
active Bald Eagle nest
COLONY 63-15X
500 birds
active Bald Eagle nest
active Bald Eagle nest
active Bald Eagle nest
active Bald Eagle nest
active Bald Eagle nest
active Bald Eagle nest
KNIGHT ISLAND
Channel Rock
LOWER HERRING BAY
KNIGHT ISLAND
Aguliak Is
Johnson Bay
Squirrel I
Port Audrey
Mountain Pt
Chase I
Clam Is
Rocky Pt
Rocky I
Range I
New Year Islands
DRIER BAY
Cat Head
Mallard Head
Mallard Bay
Cathead Bay
Clump Pt
Mummy Island
Channel
Long Channel
Copper Bay
Squire
Snug
KNIGHT ISLAND
(SEWARD A-3)
55'
50'
147°
INTERIOR-GEOLOGICAL SURVEY, RESTON, VIRGINIA-1980
900 000 FEET (ZONE 4)
458000m.E.
SCALE 1:63 360
1
2
3
4 MILES
KNIGHT ISLAND
ROAD CLASSIFICATION

Segment KN-553 (1 of 2)

Steep or cliffed bedrock shoreline with pocket beaches of boulder cobble and pebble at the head of fractured zones. Many nearshore reefs and a few islands.

1: no oil in pocket beach of pebble and cobbles.

2: Pocket beach of well sorted pebble and sand. cobbles in lower intertidal zone and areas of boulders near the steeply sloping bedrock backshore in upper intertidal zone. No oil. Some algae strand line and logs but no oil.

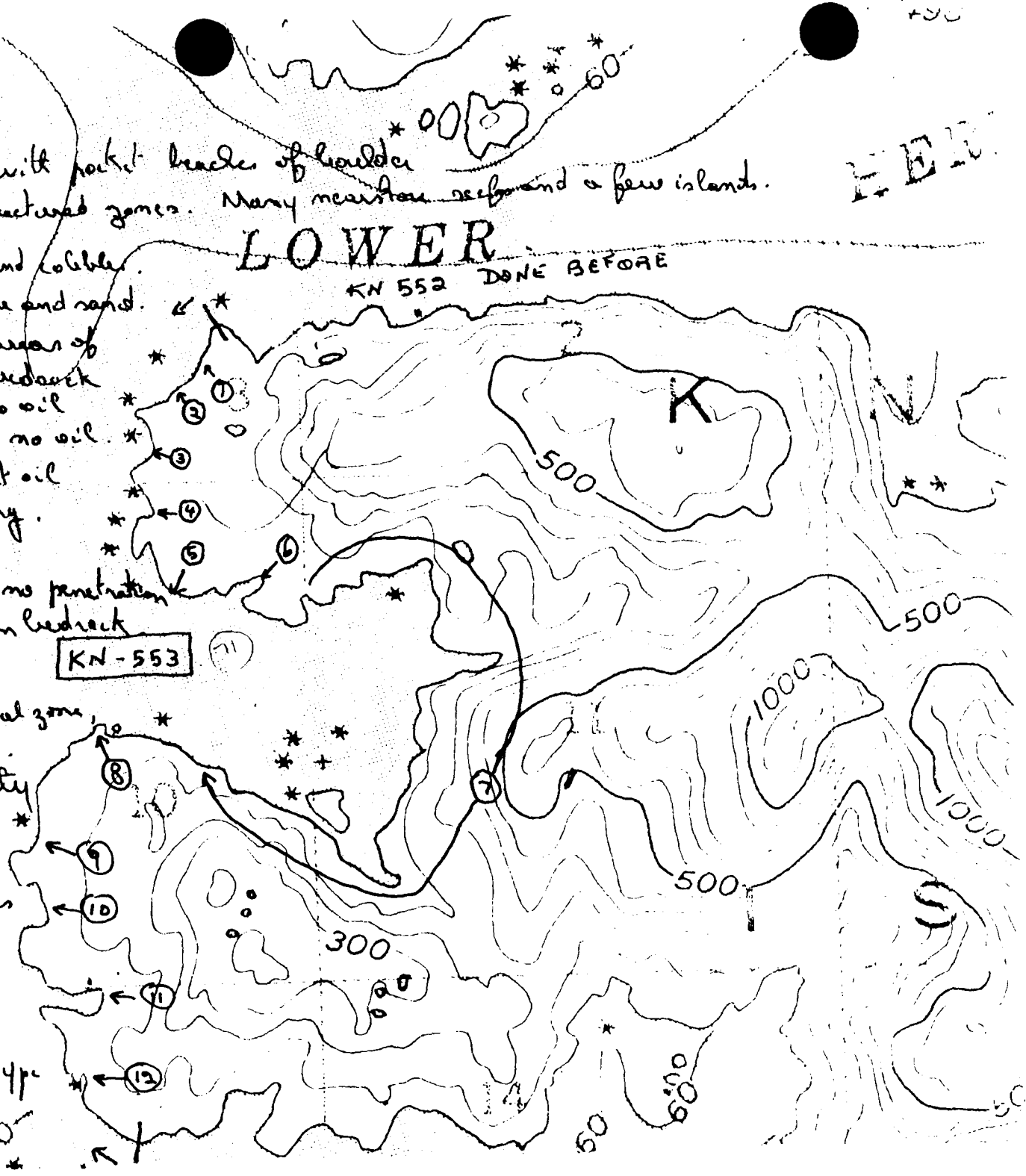
3 same shoreline type as 2 above, but oil present as a tarry thin (<0.5cm) coating. continuous on bedrock surfaces and patchy on boulder beach. Little or no penetration in the sediments. Bands ≤1m wide on bedrock

4: Steep bedrock backshore, gently sloping cobble and pebble intertidal zone, steep bedrock lower intertidal zone. Very few patches of oil approximately 20cm wide and up to 1m long on sediments. Tarry and little penetration. Discontinuous bands ≤1m on bedrock surfaces.

5: same shoreline type as 4 above. No oil.

6: Very indented shoreline, many small deep coves and inlets, same shoreline type as 4 above. No oil.

7: Same shoreline type as 4 above, no oil.



(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/1/89 SHORELINE SEGMENT KN-554

LOCATION: (see enclosed map) Knight Island - Johnson Bay

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 6/24/89

Recommended Cleanup Activity(ies):
- Manually remove contaminated drift material (fucus) and patches of mousse at entrance of bay.
- ~~Use other approved methods as appropriate.~~

CO 7/14/89
SC
7/14/89

Priorities Considerations:
Class 4: Light oil.
A: Resources present.

Ecological Constraints (from site survey): Work at mid tide and/or take appropriate measures to protect lower intertidal zone. Avoid seal haulout area at the entrance of Johnson Bay. CATALOGED ANADRAMOUS FISH STREAM ( ). ONE ACTIVE BALD EAGLE NEST - SEE ADVISORY. 226-20-16940

SC 7/14/89
CO 7/14/89

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: July 6, 1989

ISCC: Sharon K. Christopherson Date: 7/14/89

EXXON: [signature] Date: 7/14/89

FOSC: David Garrison Date: 7/5/89

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

SHORELINE OIL EVALUATION

Date: June 89 / Time: 22 & 24 / 22-1030 1400 / 24-945 1230 Observer: Jim Semple

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

LOCATION

LOCATION Western Knight Island SEGMENT NUMBER KN 554

LENGTH OF SHORELINE SEGMENT: 16,300 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 30% / G 10% / S___% / M___% / R 60%

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

OIL

Degree of Oiling: Heavy/Moderate/Light/No Oil/Unobserved (at entrance of bay — for the rest of segment)

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

Continuous: Y/N % of Segment_____ Width of Band: _____m

Sporadic: Y/N % of Segment 10%

Est. Oil Thickness where > 1cm:_____cm Est. Oil Penetration: _____cm

Pooled Oil: —% "Free" Oil: —% Coated: H 100% /M___% /L___%

Fresh —% Mousse —% Tar Formation: 100%

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

Comments:

See attached note and map

Segment AN-001

This segment is composed of steeply sloping or cliff bedrock alternating with pocket beaches of mixed sediments. Wider beaches occur at the head of bays, specially those marking the outflow of streams. The only oil present is located at the entrance of the bay only.

1: Steeply sloping bedrock shoreline with very narrow pocket beaches of cobble and pebbles. A few thin (≤10 cm wide) bands of tarry oil are present on the bedrock surfaces in the upper intertidal zone. These bands are discontinuous and less well defined when present on the sediments. Occasionally, small (< 5 cm diameter) mousse splatter can be found both on the bedrock surfaces and on the upper intertidal sediments of the pocket beaches.

2: Same general shoreline type as 1 above, except that the pocket beaches are wider. No oil

3: Bedrock cliff, no oil

4: Pocket beach as in 1 above, no oil

5: Steep bedrock shoreline, small pocket beaches in vicinity. No oil.

6: Steep bedrock shoreline, no oil

7: Pocket beach, no oil.

8: Wide bay head beach of mixed sediments, no oil.

9: Steep shoreline made up of bedrock, no oil.

: Steep or cliffed bedrock shoreline, including nearshore island. Few pocket beaches of coarse sediments, no oil.

11 : Steep bedrock shoreline, No. oil.

12 : Steep bedrock shoreline, No. oil.

13 : Bedrock cliffs, occasional narrow talus, no oil.

14 : Small islands and reefs, steep bedrock shoreline, no oil.

15 : Bedrock cliffs, occasional narrow boulder talus, no oil.

16 : Same as 15, no oil

17 : Bayhead beach, including a stream. Gently sloping beach of very poorly sorted angular pebble and sand at the head of the bay, in the vicinity of the stream. This shoreline type gives way to steep talus of angular boulders and cobbles in the upper intertidal next to the adjoining steep bedrock shoreline. No oil.

18 : Same shoreline type as 15, No oil.

19 : Same shoreline type as 15, No oil.

20 : Same shoreline type as 15. No oil.

21 : Same shoreline type as 15, no oil.

22 : Same shoreline type as 15, no oil

23 : Same shoreline type as 15, no oil

24 : Same shoreline type as 15, no oil.

25 : Steep or cliffed bedrock shoreline, very fractured and faulted some accumulations of boulders, pebbles, and cobbles in fractured zones no oil.

26 : Pocket beach of pebbles in low intertidal, cobbles and boulders in upper intertidal zone. One small oily algae strand line in upper intertidal and few splatters < 5cm on ~~[illegible]~~ south facing bedrock surfaces. One discontinuous 1 m wide band on North facing bedrock

All oil in upper intertidal zone. No

27: Steep or cliffed bedrock shoreline. Few pocket beaches of coarse mixed sediments in fractured zones. Discontinuous 1 m. wide band in upper intertidal zone.

28: Same shoreline type as 27 but less oil, ~~and~~ Oil disappears between 28 and 29.

29: Same shoreline type as 27. No oil.

ECOLOGICAL EVALUATION

LOCATION: Johnson Bay (Knight Is.) SITE: _____ OBSERVER: A. JAHN

LOCATION PREFIX: KN SEG. NO.: 554 LENGTH: 16,300 (M)

DATE: 6/22/89 (6/24/89) TIME (HHMM): 1030-1400 (0945-1230) TIDE HT.: -0.5 to +0.5 (M)

OILED ZONE: Splash High Medium Low very top of Fucus band

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

Rich, golden color + lush growth in places - no oil here

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: Marine life is sparse intertidally in some embayments where freshwater inflow is considerable. Well-developed clam beds in mud/gravel bottom.

CLEANUP PRECAUTIONS: Although the island in the mouth of the bay is oiled, there is a seal haulout on rocks ~150 m to North, so it is best not to clean here. (The rest of ~~Johnson~~ Johnson Bay is not oiled)

MAMMALS: Otters 5 Harbor Seals 20 Sea Lions ____ Whales ____
Other _____

BIRDS: small flocks of merganser, gulls, 2 eagles, Oyster catchers

GENERAL OBSERVATIONS: We returned to this bay to confirm our observation that the entire main shoreline was unoiled.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date June 22; June 24 89 Location Western Knight Is Site

Location Prefix KN Segment # 554 Length 16,300 m

Survey Method:

Air (A - indicate on map) Boat 98 % (A - indicate on map

Ground 2 % (G - indicate on map)

Known cultural resources (AHRS #) SEW-350 Data Source AHRS

Oil conditions/beach visibility Mostly no oil

Width of beach zone surveyed to 30 m Tree fringe surveyed to 10 m

Cultural resources observed in beach zone (AHRS code) None

Cultural resources observed in tree fringe (AHRS code) None (CMT previously)

General observations justifying survey method and segment's site probability

Shore Profile gently steep bedrock, some debris

Fresh Water Sources several large creeks

Sea Exposure sheltered

Access/Safety good

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

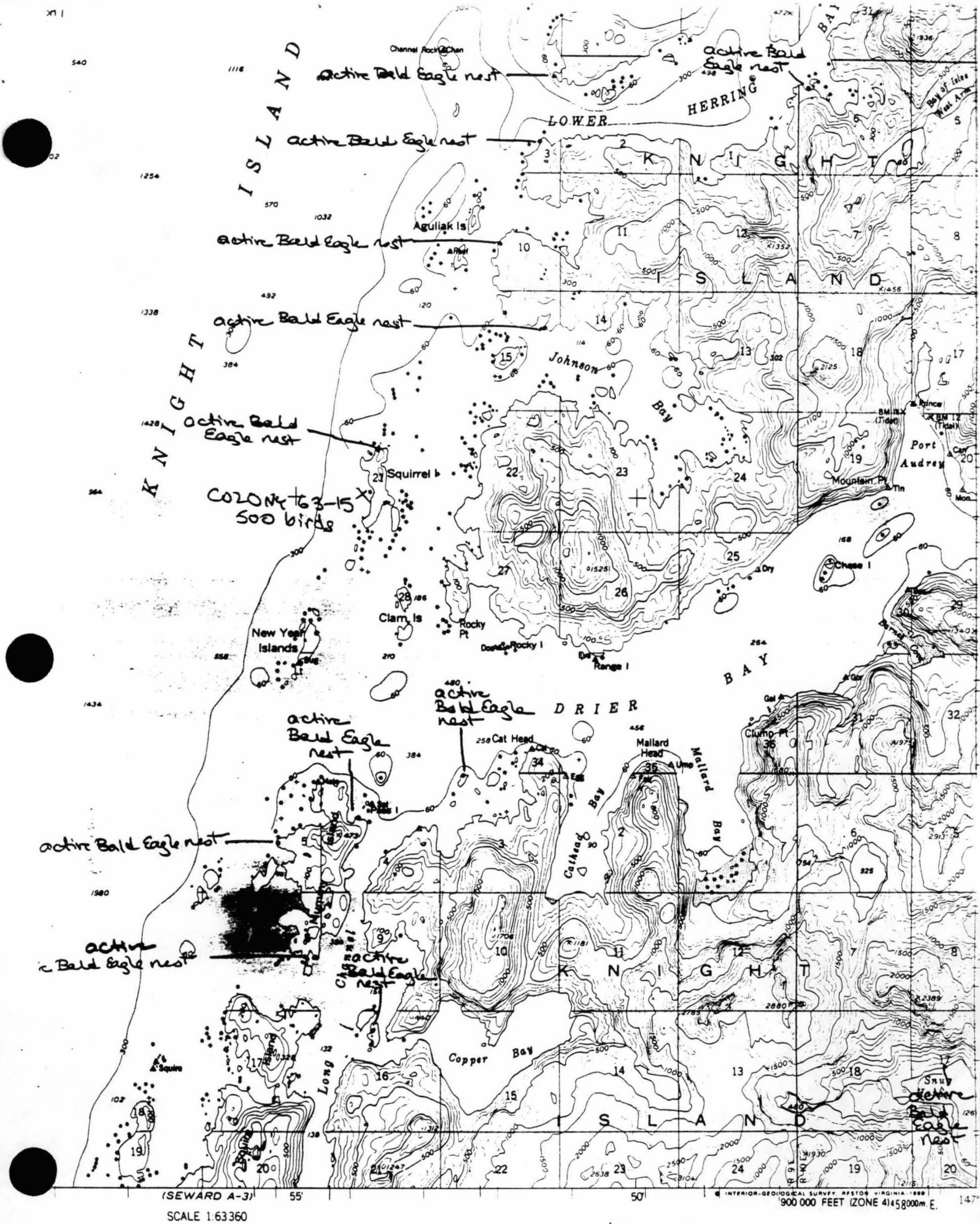
Observer(s) Morley Eldridge

Time survey started 10:30; 9:45 Time survey ended 1400; 12:30

Cultural resource considerations/restraints:

If hitherto etc. etc. No other cultural resource constraints.

xn 1



active Bald Eagle nest

active Bald Eagle nest

active Bald Eagle nest

active Bald Eagle nest

active Bald Eagle nest

active Bald Eagle nest

COLONY 63-15 X
500 birds

active Bald Eagle nest

active Bald Eagle nest

active Bald Eagle nest

active Bald Eagle nest

active Bald Eagle nest

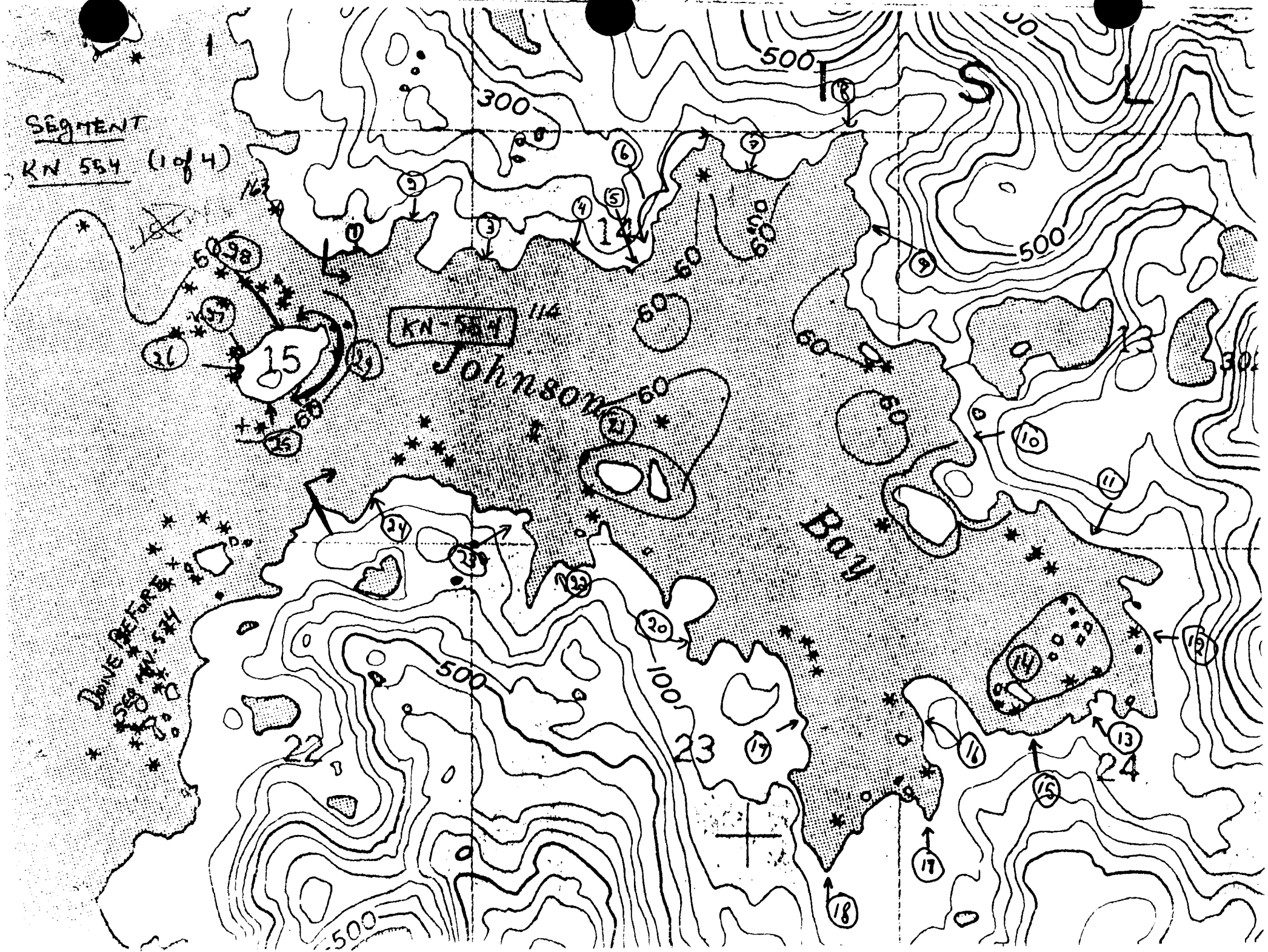
active Bald Eagle nest

SCALE 1:63360

1 2 3 4 MILES

KNIGHT ISLAND

ROAD CLASSIFICATION


SEGMENT
KN 554 (1 of 4)
KN-554
Johnson
Bay
500
300
100
60
DIVE BEFORE
SEG KN 554

KN-553

TREATMENT MANUAL, 6/15/89

SEG KN-553 INSPECTION # 1

DATE 7/21/89

SEGMENT INSPECTION RECORD

7/27/89

Shoreline Treatment Process(es) Completed for this Segment

- ☐ Hot water wash
- ☐ Warm water wash
- ☐ Water deluge
- ☐ Mechanical
- ☒ Non-mechanical [illegible]
- ☐ Other

Exxon

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

Comments [illegible] SEGMENT KN-553 IS COMPLETE READY FOR DEMOBILIZATION REFLOAT TO A NEW SEGMENT

Signature [illegible] Date: 7/21/89 Time: [illegible] AM

Printed Name JOHN C. PANTIELLO

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil		Subsurface Oil
Percent	Degree of Oiling	☐ Yes ☒ No
	Heavy	Comments NONE OBSERVED
	Medium	POSSIBLY BUT DOUBTFULL
	Light	
2%	Very Light	
98%	None	
100 %		

Reassessment

☒ Yes - necessary ☐ No - not necessary unless re-oiled

ADEC rep Comments NOT PRESENT [illegible]

Signature Date: / / Time:

Printed Name

FOSC rep Demobilization (approved) disapproved

Comments SOME THIN BANDS FOUND AT A FEW LOCATIONS

Signature [illegible] Date: 7/26/89 Time: 1845

Printed Name THOMAS [illegible]

KV-554

TREATMENT MANUAL, 6/15/89

SEG KV-554 INSPECTION # 1

DATE 7/26/89

SEGMENT INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

- ☐ Hot water wash
- ☐ Warm water wash
- ☐ Water deluge
- ☐ Mechanical
- ☒ Non-mechanical [illegible]
- ☐ Other

Exxon

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

Comments [illegible]

Signature [illegible] Date: 7/26/89 Time: [illegible]

Printed Name JOHN C. GUTIERREZ

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil		Subsurface Oil
Percent	Degree of Oiling	☐ Yes ☒ No
	Heavy	Comments NONE OBSERVED
	Medium	POSSIBLY SOME @ COBBLE
	Light	BUT DOUBTFUL
2%	Very Light	
98%	None	
100 %		

Reassessment

☒ Yes - necessary ☐ No - not necessary unless re-oiled

ADEC rep Comments NOT PRESENT (JOHN)

Signature Date: / / Time:

Printed Name

FOSC rep Demobilization approved/disapproved

Comments SOME LIGHT THIN BANDS 1-2" VERY SPARSE

Signature [illegible] Date: 7/26/89 Time: 1845

Printed Name [illegible]

(version 6/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Location (see enclosed map): KNIGHT ISLAND-DRIER BAY BLOCK

Includes Shoreline Segments: KN-574, KN-575

Submitted: [signature] (for Exxon) Date: 6/14/89

ISCC Reccomendation: Sharon K Christopherson Date: 6-20-89

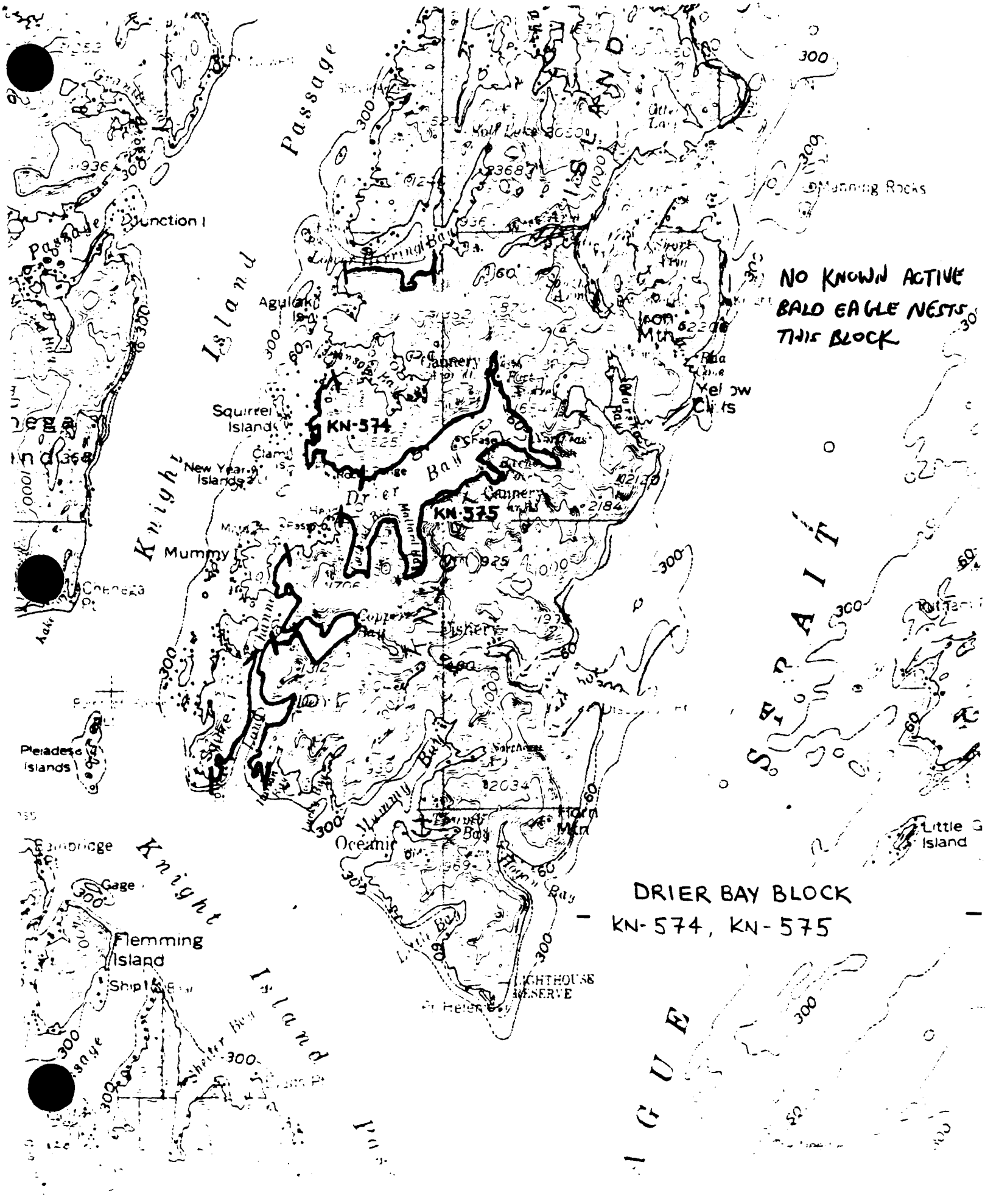
FOSC Approval: J.W. Kime Date: 6/25/89

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


NO KNOWN ACTIVE BALD EAGLE NESTS THIS BLOCK
KN-574
KN-575
Knight Island Passage
Knight Island
Squirrel Islands
New Year Islands
Mummy
Pleiades Islands
Flemming Island
Drier Bay
Fisher
Oceanic
Yellow Cliffs
Manning Rocks
Little Island
Junction I
Agulak Isl
Gage
Ship I
LIGHTHOUSE RESERVE
DRIER BAY BLOCK
KN-574, KN-575

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE June 13, 1989 SHORELINE SEGMENT KN-574

LOCATION: (see enclosed map) North of Rocky Point to Johnson Bay

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 6/09/89

Recommended Cleanup Activity(ies):

- No cleanup recommended at this time subject to FOSC ~~approval~~ REASSESSMENT AT A LATER DATE, due to very light oil poor access and ecological constraints.

Priorities Considerations:

- Class 4: light oil.
  Class A: resources present.

Ecological Constraints (from site survey): Do not use this area for staging. Sensitive marine mammals and birds should not be disturbed. ~~NUMEROUS CATALOGED ANADROMOUS FISH STREA~~

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.

Charles Z. Johnson — Date: June 13, 1989
State Historic Preservation Officer *

ISSC: Sharon K. Christopherson — 6-20-89

EXXON: [signature] — Date: June 21, 1989

FOSC: J. W. Rowe — Date: June 25, 1989

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

Date: 6/9/89 Time: 09:30 Observer: G. MACDONALD

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

LOCATION

LOCATION JOHNSON B. - DRIER B. SEGMENT NUMBER KN-574

LENGTH OF SHORELINE SEGMENT: 9,000 m

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

SHORELINE:

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

Wave Exposure: High/(Med/Low)

* 5% COMBINED

Sediment: B___% / C *% / P *% / G *% / S___% / M___% / R 95%

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

OIL

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

Area of Beach Impact: SU / (SP) / H / M / L NONE

Continuous: Y/N % of Segment_____ Width of Band: _____m

Sporadic: (Y)/N % of Segment TRACE

Est. Oil Thickness where > 1cm:_____cm Est. Oil Penetration: _____cm

Pooled Oil: _____% "Free" Oil: _____% (Coated:) H___% /M___% /L TR %

Fresh _____% Mousse _____% Tar Formation: ✓ TRACE %

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

Comments:

TRACE OIL AS VERY THIN TAR LINE (5-10 cm max width x total length of 30 m). AT UHWL;

NOT SUFFICIENT OIL TO JUSTIFY CLEANUP

SEGMENT INCLUDES N. CLAM ISLAND.

(ICE SMOOTHED COAST - GLACIAL SCOURING OBVIOUS)

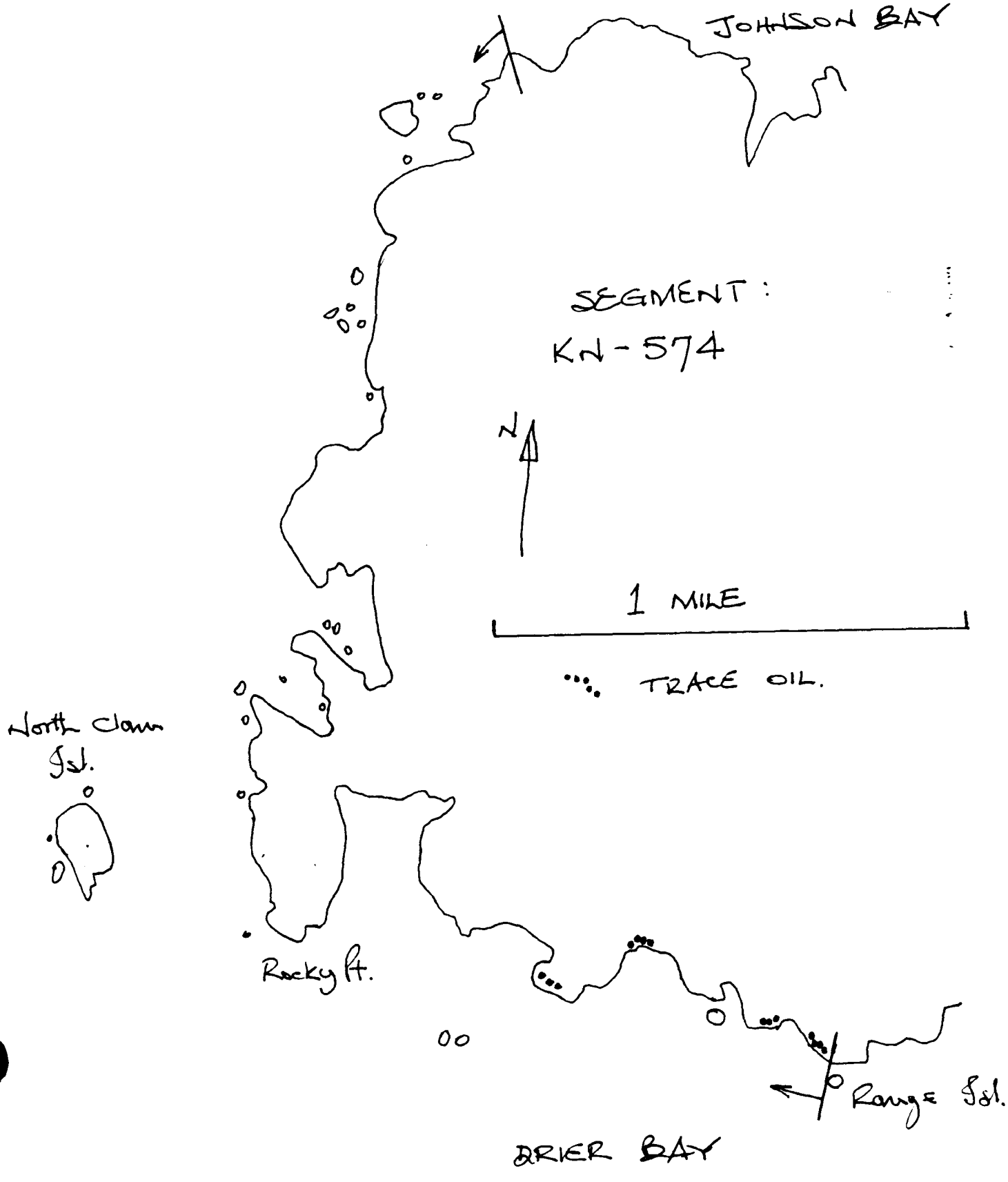
DOCUMENTATION:

Map/~~[illegible]~~ photo marking segment boundaries SEE BELOW

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

Photography: (Y)/N Roll Number(s) T5-SMB-12

Sample Numbers Collected: NONE



6/9 SEGMENT KN-574
09.30

steep mod. sheltered coast, oil @ thin < 3cm band @ AWL, occ. splats, discontin; 5-10m @ ① ≤ 30m total length ice carved flutes @ ②, entire coastline has ice-cut features, rocky mountains, N-NW flow. No oil was seen.

END of SEGMENT

14.00 HRS
SEG KN-577 Long Channel to Cu Bay.

trace oil as tar @ N. neck of channel, band ≤ 5cm wide, discontinuous, ≤ 20m total length; + rare tar splats on E shore < 6 counted in 2 miles; mod sheltered rocky shore; ice carved + smoothed bare v. common + erratics.
15.30 HRS

version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: Knight Island SITE: N. of Driver Bay OBSERVER: SmBAN

LOCATION PREFIX: KN SEG. NO.: 574 LENGTH: 9,000 (M)

DATE: 6/9/89 TIME (HHMM): 0930 TIDE HT.: + 2½ (M)

OILED ZONE: Splash (High) Medium Low (Very rarely 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

Dense - continuous only on rock face - unoiled

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

Very patchy - well separated patches - Thais predation

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

Very dense spots. Very heavy predation by dense Thais

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

Juveniles also.

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

Not oiled

OTHER OBSERVATIONS: Ulva, Ulothrix dense + continuous. Lottenzias and Solaster, Salmon fry - very dense in coves. Katharina, encrusting red algae, encrusting orange sponges at water line

CLEANUP PRECAUTIONS: Do not stage from this area. Sensitive marine mammals and birds are plentiful throughout the Sog.

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

Other ____

BIRDS: Eagles, mergansers, goldeneyes, terns and gulls

GENERAL OBSERVATIONS: White line occasionally seen

No cleanup needed

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date June 9, 1989 Location Knight Island Site Rocky Pt. to Johnson Bay

Location Prefix KN Segment # 574 Length 9,000 m

Survey Method:

Air _____ (A - indicate on map) Boat x (95%) (A - indicate on map)

Ground x (5%) (G - indicate on map)

Known cultural resources (AHRS #) ~~none~~ AA 12559 Data Source AHRS

Oil conditions/beach visibility trace of oil; visibility excellent.

Width of beach zone surveyed 5-15 m Tree fringe surveyed 5 m

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 sheltered rocky shore; few beach areas

Fresh Water Sources several small streams

Sea Exposure protected to semi-exposed

Access/Safety N/A as no cleanup is required

Probability of undiscovered sites in beach zone (circle one) (1) 2 3 4 5

Monitoring during cleanup needed yes (no) Collection yes (no)

Photos: Color Roll # none Frames _____

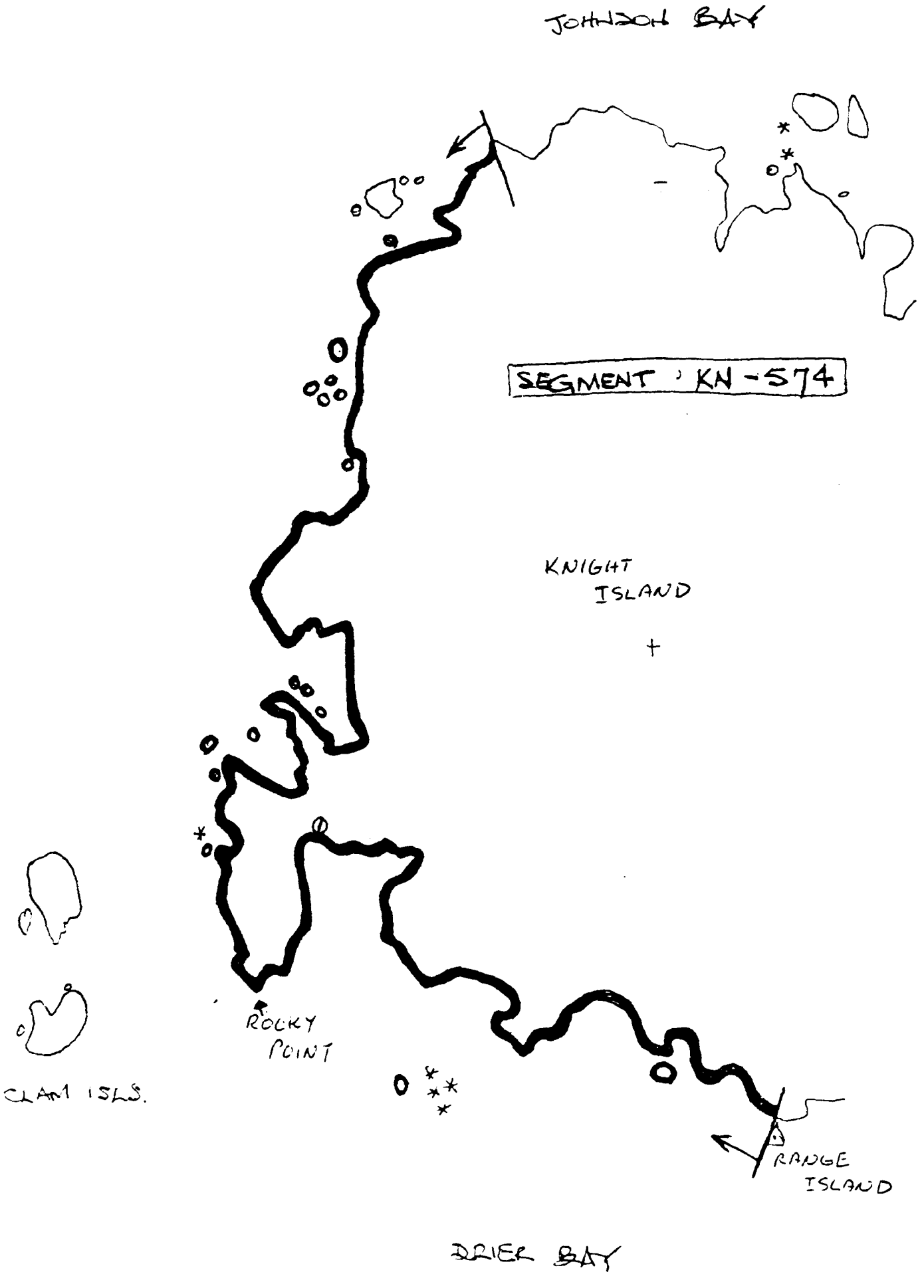
B/W Roll # none Frames _____

Observer(s) Jim Haggarty

Time survey started 0930 Time survey ended 1230

Cultural resource considerations/restraints:

Standard constraint; no monitor required.


JOHNSON BAY
SEGMENT KN-574
KNIGHT ISLAND
ROCKY POINT
CLAM ISLS.
RANGE ISLAND
DRIER BAY

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE June 13, 1989 SHORELINE SEGMENT KN-575

LOCATION: (see enclosed map) Knight Island-Drier Bay

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 6/08/89

Recommended Cleanup Activity(ies):

- No cleanup recommended at this time subject to FOSC ~~approval~~ REASSESSMENT AT A LATER DATE, due to no oil.

Priorities Considerations: No oil.

Ecological Constraints (from site survey): Due to sensitivity and high productivity of organisms, access to inner bay, east of Cat Head, should be restricted. NUMEROUS CATALOGED ANADROMOUS FISH STREAMS PRESENT (SEE MAP). CONTACT ADF&G IF CLEANUP IS PLANNED.

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

Charles E. Holmes — Date: June 13, 1989
State Historic Preservation Officer *

ISCC: Sharon K. Christopherson — 6-20-89

EXXON: _____ Date: June 21, 1989

FOSC: _____ Date: June 25, 1989

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

SHORELINE OIL EVALUATION

Date: 6/8/89 Time: 10.00 HRS Observer: G. MACDONALD

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

LOCATION

LOCATION DRIER BAY SEGMENT NUMBER KN-575

LENGTH OF SHORELINE SEGMENT: 32,500 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 5 % / P___% / G___% / S___% / M___% /R 95 %

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

OIL

SEE COMMENTS

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 < 0.001

Est. Oil Thickness where > 1cm:_____cm Est. Oil Penetration: _____cm

Pooled Oil: _____% "Free" Oil: _____% Coated: H____% /M____% /L Ø %

Fresh _____% Mousse _____% Tar Formation: _____%

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

Comments:

PENCIL THIN TRACE OF TAR OCCURS AT ENTRANCE TO DRIER BAY — AS < 2cm WIDE x 15-30m LONG DISCONTINUOUS BANDS; AS DOES V. THIN BANDS OF DISPERSANT STAIN.

DOCUMENTATION:

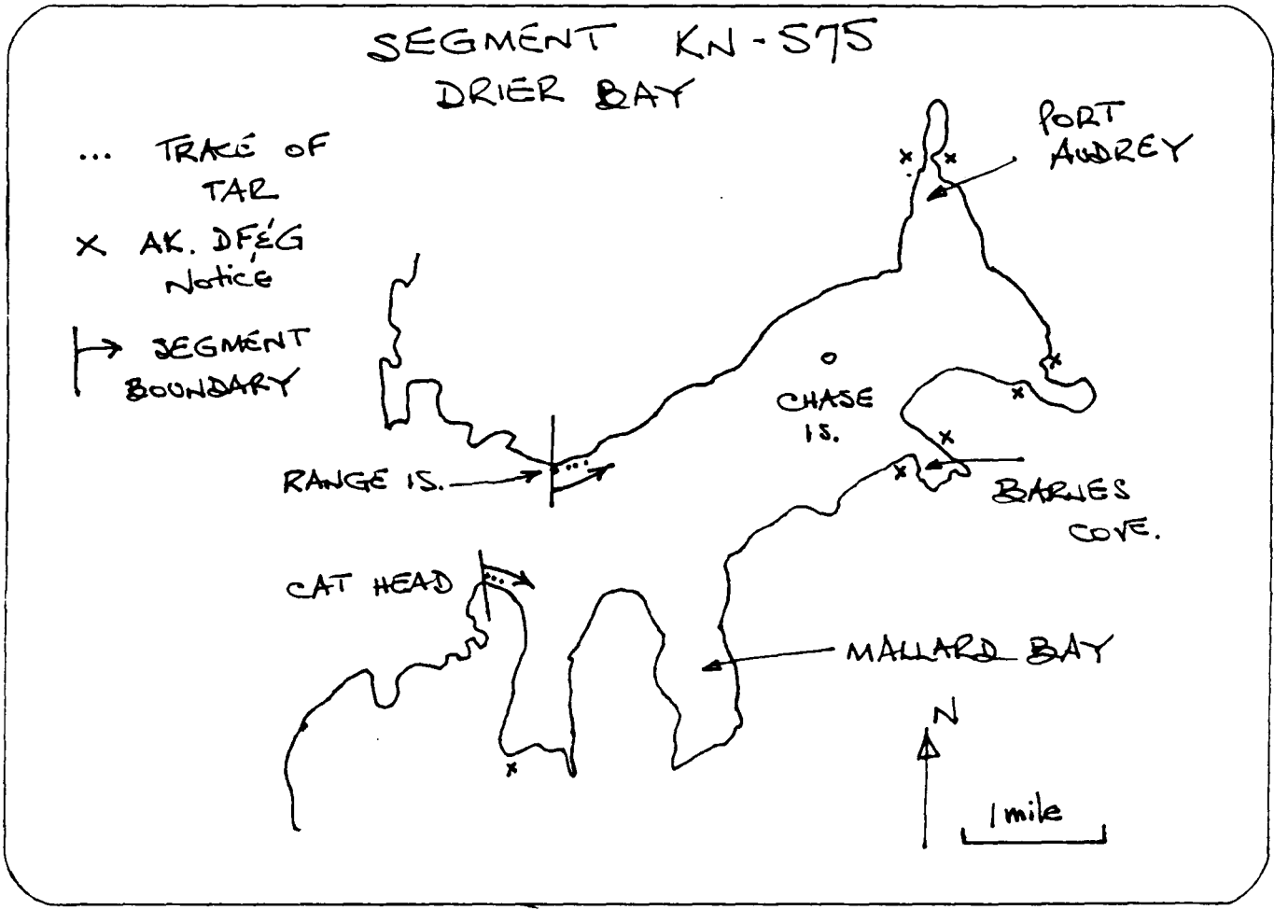
Map/Aerial photo marking segment boundaries SEE BELOW

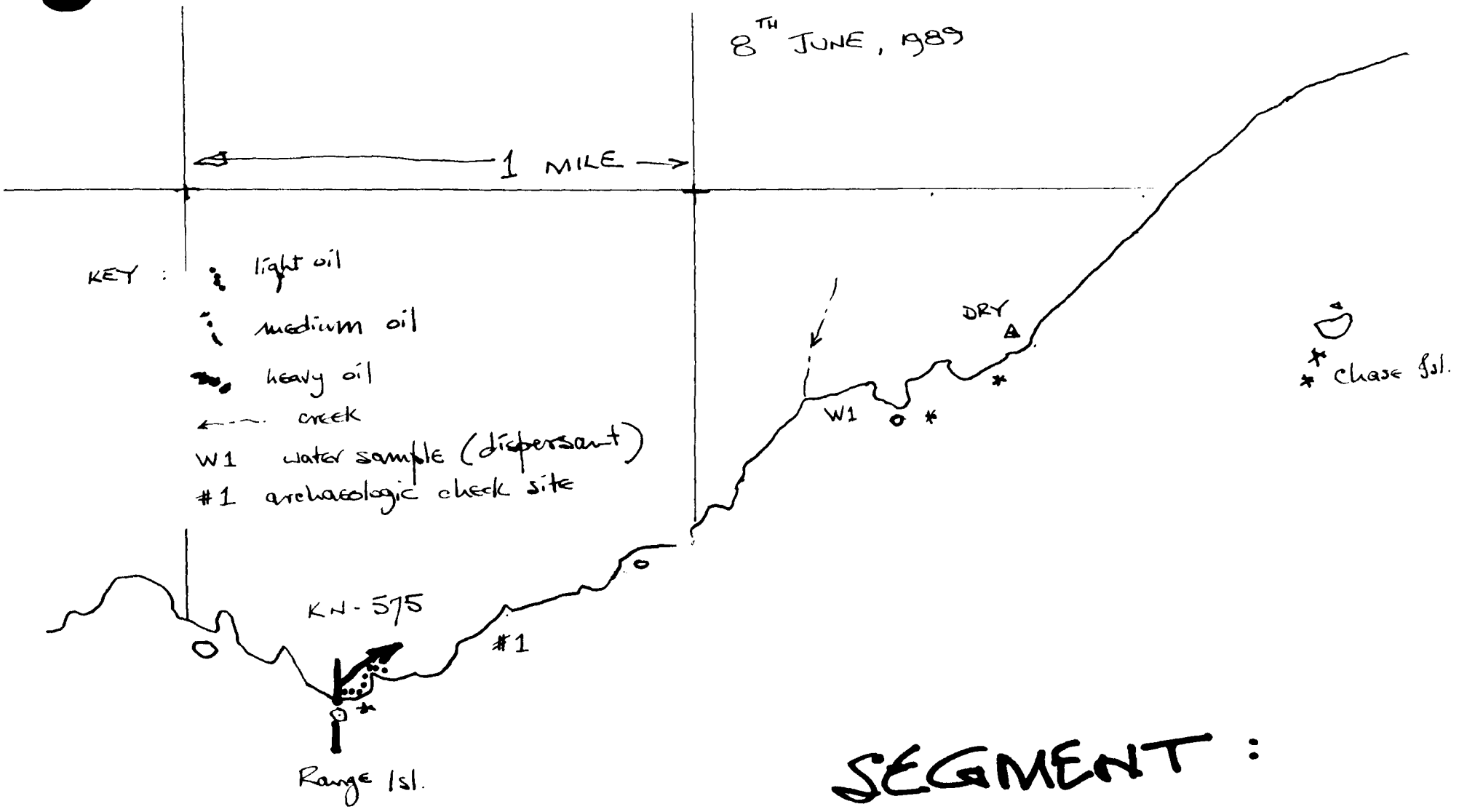
VTR: Y/N Tape Number(s) None

Photography: Y/N Roll Number(s) T5-SMB-12

Sample Numbers Collected: None

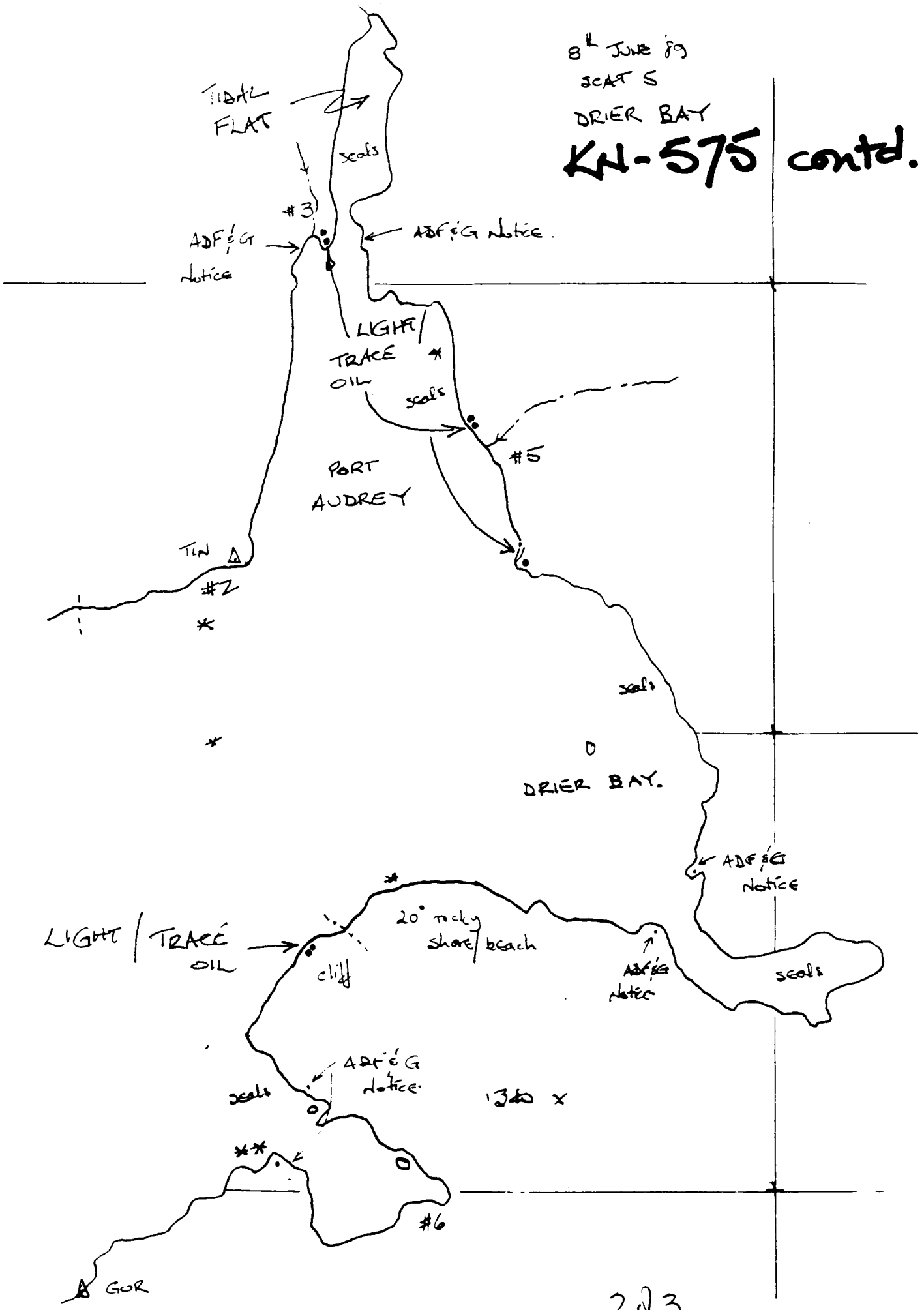
DETAILED MAPS OVER.





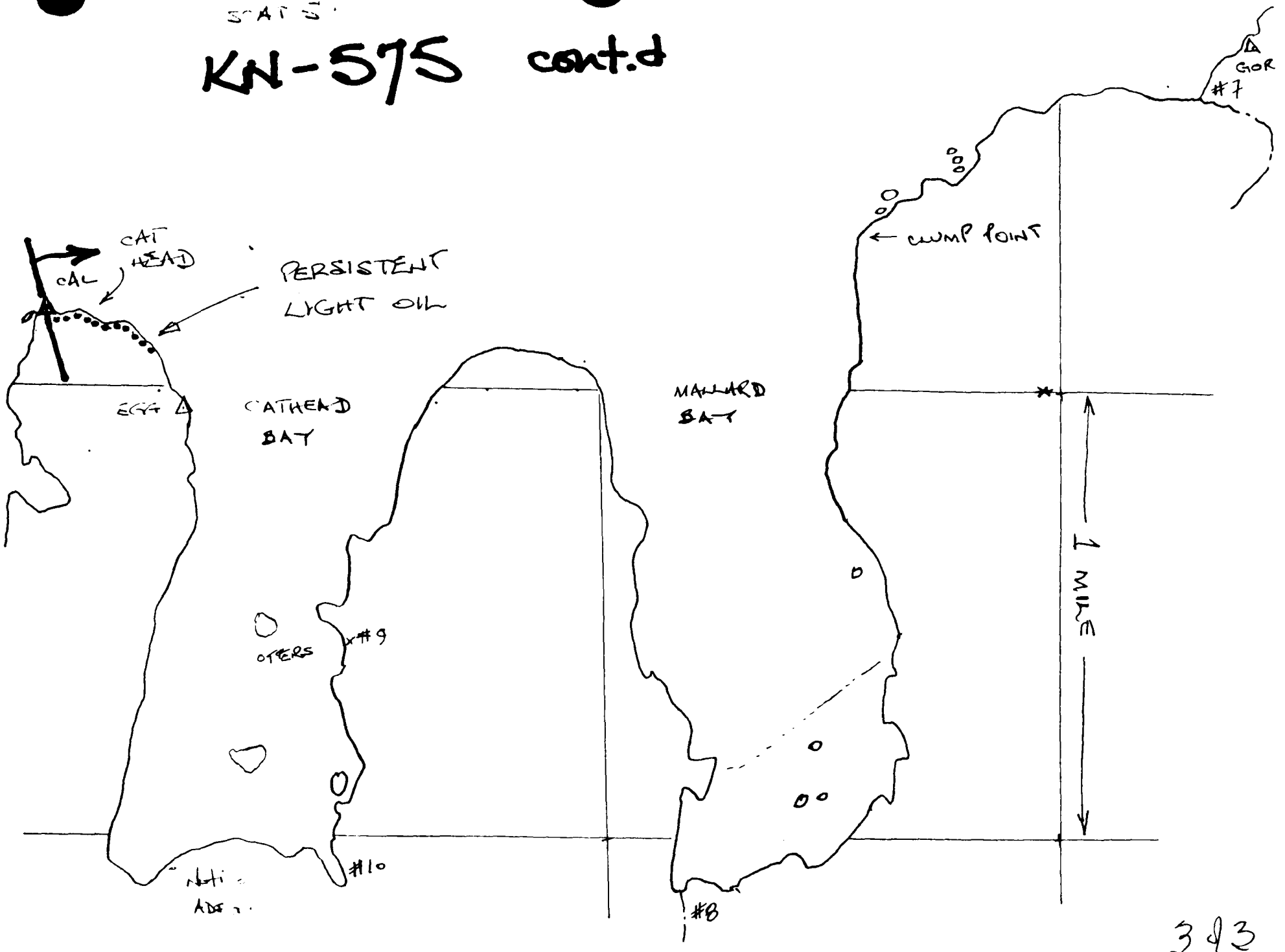
SEGMENT :
KN 575

8th June 89
SCAT 5
DRIER BAY
KN-575 contd.



8 JUNE 89
SCAT 5

KN-575 cont.d



DRIER BAY

6/8 KN-575 ΔEVA @ Range Isl.

09.55 HRS

sheltered rocky coast, pillow basalt, 40°-90°; H. oil as v. thin tar bands 2 cms wide, <1 mm thick; discontinuous @ HWL; 1-3 distinct levels; also pale white stain; white & pale pink specs on water surface; video mapped "oil" is conspicuous black lichen;

white line is clay like texture when wet, coats as fine, sli. filament or fibrous* scum, as dry*

11.20 HRS Port Audrey slack tide +.

12.35 HRS Inner Drier Bay

12.50 HRS Barnes Cove

avalanche or land/rock slide "jaws".

13.35 HRS Δ GOR

14.15 HRS S. Mallard Bay

15.00 HRS Cathead Bay

@ Cathead. - single 1½ cm tar line; discontinuous (< 20 m long) @ HWL.

END of SEGMENT.

32,500 m.

version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: Knight Island SITE: Driver Bay OBSERVER: SM BAN

LOCATION PREFIX: KN SEG. NO.: 575 LENGTH: 32,500 (M)

DATE: 6/8/89 TIME (HHMM): 1000 TIDE HT.: +3 to -1 (M)

OILED ZONE: Splash ← Pencil thin trace of tar 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

Continuous on rocks unoiled

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

Sparse clumps on boulders - Predation by Thais

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

Dense adults and very dense spat. Heavy Predation by dense Thais

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

Dense in Balanus zone

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

In tidal pools healthy

OTHER OBSERVATIONS: Pagurus dense in several bays - beaches. Laminaria, Zostera dense subtidally, Dense smolts/fry (Salmonids) Also Solaster, Leptasterias, Pisaster, Lepas (goosneck barnacle) Orange tunicate

CLEANUP PRECAUTIONS: No cleanup needed. Do not use the inner Bay (east of Cat Head).

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

Other ___

BIRDS: Eagles, mergansers, goldeneyes, geese,

GENERAL OBSERVATIONS: No oil, very productive area avoid disturbing.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date June 8, 1989 Location Knight Island Site Orier Bay

Location Prefix KN Segment # 575 Length 32,500 m

Survey Method:

Air _____ (A - indicate on map) Boat X (95%) (A - indicate on map

Ground X (5%) (G - indicate on map)

Known cultural resources (AHRS #) SEW-391 {SEW-246 AA12592} form missing AA12584 AA12558 Data Source AHRS

Oil conditions/beach visibility no oil; visibility excellent.

Width of beach zone surveyed 10-100 m Tree fringe surveyed 5-10 m

Cultural resources observed in beach zone (AHRS code) HTI, PLG, FSW

Cultural resources observed in tree fringe (AHRS code) HTI, PLG

General observations justifying survey method and segment's site probability:

Shore Profile sheltered rocky coast; steep profile with moraine/landslide deposit

Fresh Water Sources numerous streams & five small rivers.

Sea Exposure protected

Access/Safety N/A as no cleanup is required.

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 # See Sue Bon's photos T5-SMB-12 Frames 10, 11, & 14.

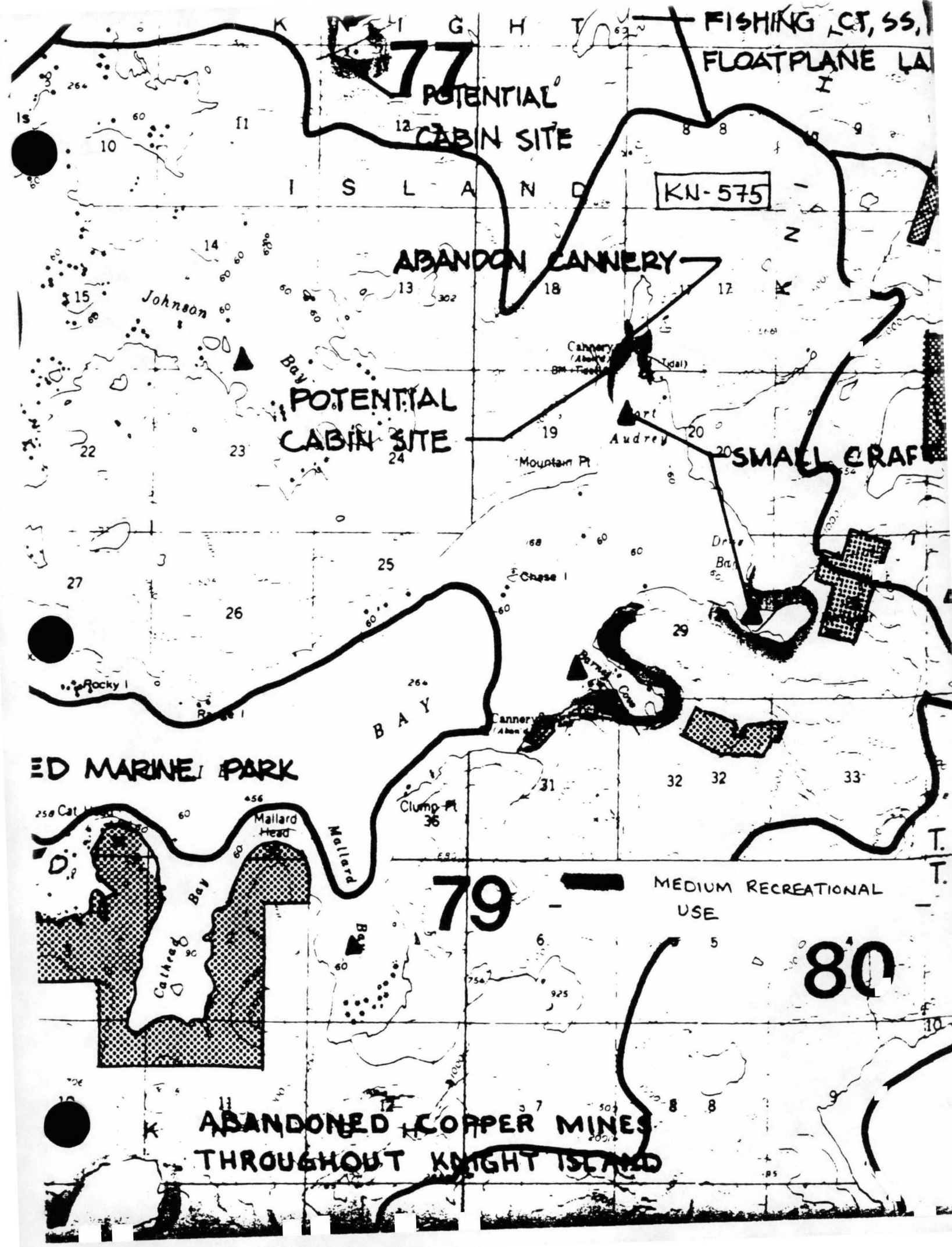
B/W Roll # none Frames _____

Observer(s) Jim Haggarty

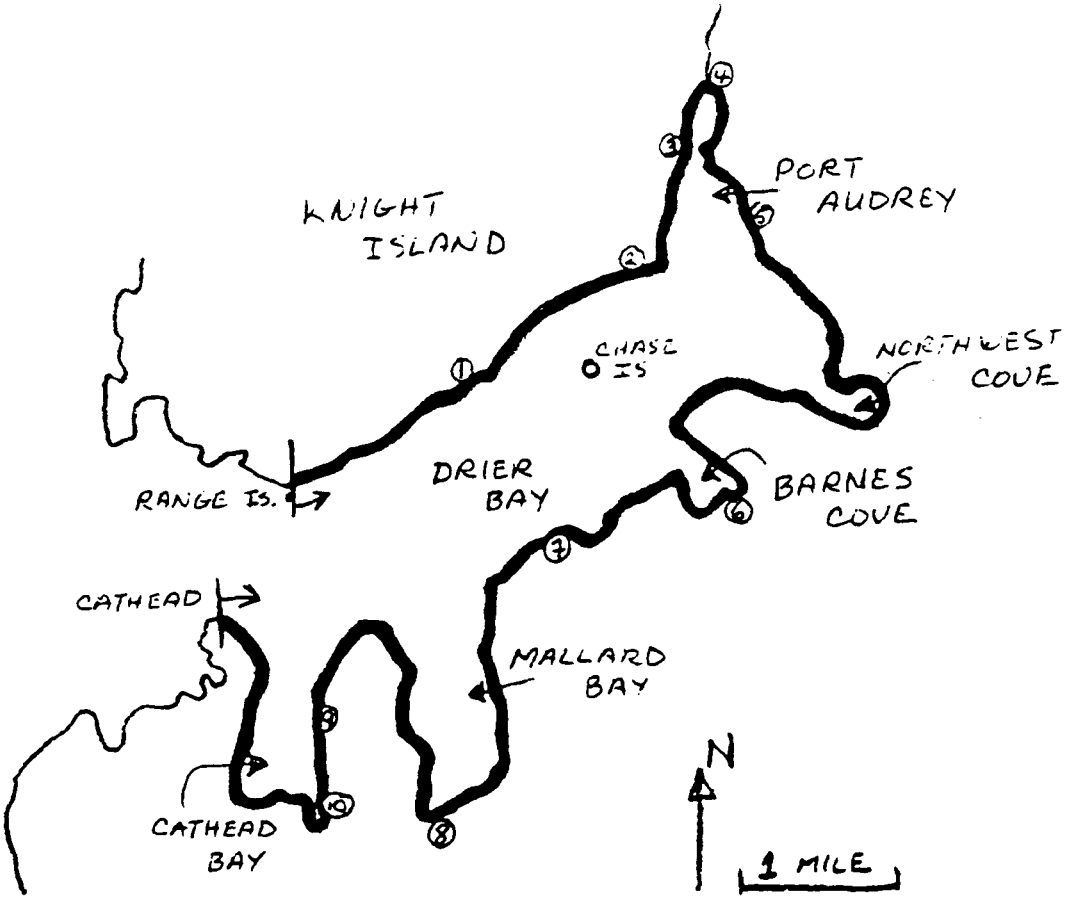
Time survey started 1000 Time survey ended 1700

Cultural resource considerations/restraints:

Standard constraints; no monitor required. The segment is rich in cultural resources and, should oiling occur in the future, these resources will require further documentation if they are to be protected adequately during any cleanup procedure.


FISHING CT, SS,
FLOATPLANE LA
77
POTENTIAL
CABIN SITE
KNIGHT ISLAND
KN-575
ABANDON CANNERY
Johnson Bay
POTENTIAL
CABIN SITE
Cannery
Tidal
Port Audrey
Mountain Pt
SMALL CRAF
Chase I
Rocky I
BAY
ED MARINE PARK
Mallard Head
Mallard Bay
Clump Pt
Cathead Bay
79
MEDIUM RECREATIONAL
USE
80
ABANDONED COPPER MINES
THROUGHOUT KNIGHT ISLAND

SEGMENT: KN-575



(version 5/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Location (see enclosed map): KNIGHT ISLAND-CAT HEAD BLOCK

Includes Shoreline Segments: KN-576

Submitted : _____ Date: 7/8/89
(for Exxon)

ISCC ~~Approval~~ Recommendation: Sharon K. Christopherson Date: 7/14/89

FOSC Approval: _____ Date: 7/15/89

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:

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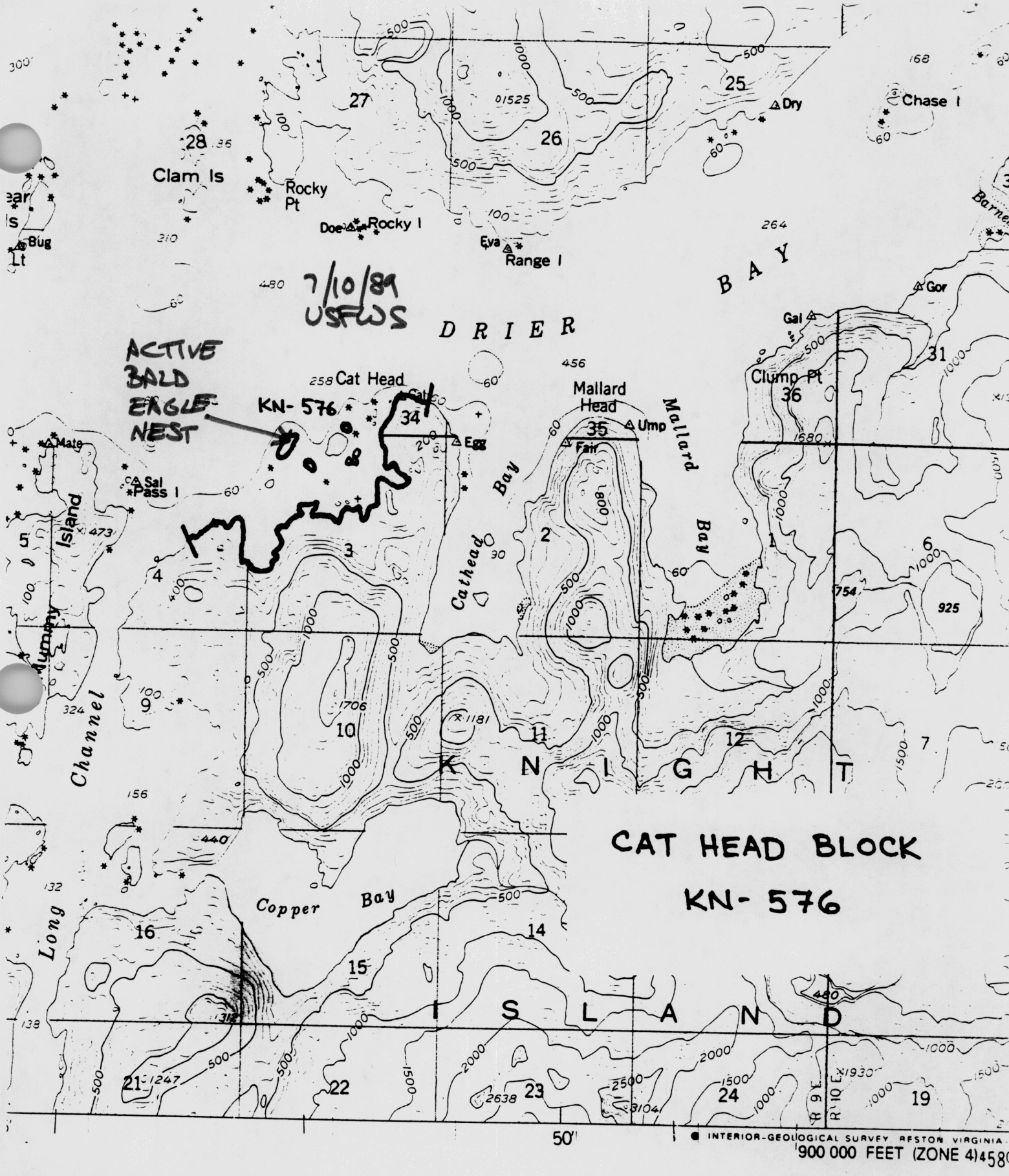

7/10/89
USFWS
ACTIVE
BALD
EAGLE
NEST
KN- 576
CAT HEAD BLOCK
KN- 576
DRIER BAY
Clam Is
Rocky Pt
Rocky I
Range I
Chase I
Cat Head
Mallard Head
Clump Pt
Cathead Bay
Mallard Bay
Copper Bay
Long Channel
Mummy Island
KNIGHT ISLAND
Dry
Gor
Gal
Ump
Fair
Egg
Mate
Sal
Pass I
Bug
Eva
Doe
INTERIOR-GEOLOGICAL SURVEY, RESTON, VIRGINIA
900 000 FEET (ZONE 4)
4 MILES
15000
18000
21000 FEET
5 KILOMETERS
ALASKA
ROAD CLA
No roads or tr
OF 1929

(version 6/14/89)

SHORELINE CLEANUP PROGRAM

DATE 6/30/89 SHORELINE SEGMENT KN-576

LOCATION: (see enclosed map) KNIGHT ISLAND-SOUTHWEST DRIER BAY

(Cat Head Block)

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 6/23/89

Recommended Cleanup Activity(ies):
- Manually remove contaminated drift material (fucus), pooled oil and patches of mousse.
  Flood/flush with warm to hot water (up to 140 F) on low angle beach in area #12 (as indicated on map).
  Use moderate to high pressure washing on rock.
  Use other approved methods as appropriate.

Priorities Considerations:
Class 2-4: Heavy to light oil.
Class A: Resources present.

Ecological Constraints (from site survey): Work at mid tide and/or take appropriate measures to protect lower intertidal zone. Avoid seal haulout area on the largest offshore island. An active bald eagles nest is located on one of the offshore islands (see map). See advisory. MARINE MAMMALS PRESENT IN AREA - MAINTAIN 150 METER DISTANCE IF POSSIBLE. (APPROX 500').

SC 7/14/89

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 UPLANDS.

SC 7/14/89

Charles E Holmes — Date: July 6, 1989
State Historic Preservation Officer *

ISCC: Sharon K. Christopherson — Date: 7/14/89

EXXON: [signature] — Date: 7/14/89

FOSC: [signature] — Date: 7/15/89

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

SHORELINE OIL EVALUATION

Date: 23 June 1989 / Time: 0945 - 1400 Observer: J M Sempels

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

LOCATION

LOCATION Western Knight Island SEGMENT NUMBER KN-576

LENGTH OF SHORELINE SEGMENT: 6000 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 10 % / G ___ % / S ___ % / M ___ % / R 40 %

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

OIL

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

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

Continuous: Y/N % of Segment 20 % Width of Band: 30 m

Sporadic: Y/N % of Segment 80 %

Est. Oil Thickness where > 1cm: ____ cm Est. Oil Penetration: 30 cm

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

Fresh — % Mousse — % Tar Formation: 100 %

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

Comments:

See attached notes and map

ECOLOGICAL EVALUATION

LOCATION: KNIGHT IS SITE: _____ OBSERVER: A. JAHN

LOCATION PREFIX: KN SEG. NO.: 576 LENGTH: 6,000 (M)

DATE: 6/23/89 TIME (HHMM): 0945-1400 TIDE HT.: -0.5 (M)

OILED ZONE: Splash (High) Medium Low

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

LIVE BIOTA

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

except on gravel beaches

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

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

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

in Fucus

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

OTHER OBSERVATIONS: crustaceans (amphipods, hermit crabs) abundant on boulder-strewn beaches (amphipods even in oiled Fucus litter)

CLEANUP PRECAUTIONS: Avoid seal haul-out, on largest of the offshore islets. (new #4 on O. G. map)

MAMMALS: Otters 5 Harbor Seals 8 (at least one was only) Sea Lions ____ Whales ____
Other _____

BIRDS: great blue heron, several ducks, gulls, numerous crows

GENERAL OBSERVATIONS: _____

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date June 23 89 Location W. Knight Is Site

Location Prefix KN Segment # 576 Length 6,000 m.

Survey Method:

Air ✓ (A - indicate on map) Boat 95 (A - indicate on map

Ground 5 (G - indicate on map)

Known cultural resources (AHRS #) None Data Source

Oil conditions/beach visibility Generally light, heavy / location

Width of beach zone surveyed to 20 m Tree fringe surveyed to 15 m

Cultural resources observed in beach zone (AHRS code) None

Cultural resources observed in tree fringe (AHRS code) CMT

General observations justifying survey method and segment's site probability

Shore Profile Generally steep bedrock, few pocket beaches

Fresh Water Sources Several large & medium creeks

Sea Exposure exposed NW; otherwise protected.

Access/Safety good in light winds

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 # ME4 Frames 5-7

Observer(s) Morley Eldridge

Time survey started 9:45 Time survey ended 14:00

Cultural resource considerations/restraints:

If hitherto et. al., No other archaeological constraints.

KN-576

active Bald Eagle nest

active Bald Eagle nest

active Bald Eagle nest

active Bald Eagle nest

active Bald Eagle nest

active Bald Eagle nest

active Bald Eagle nest

active Bald Eagle nest

active Bald Eagle nest

active Bald Eagle nest

active Bald Eagle nest

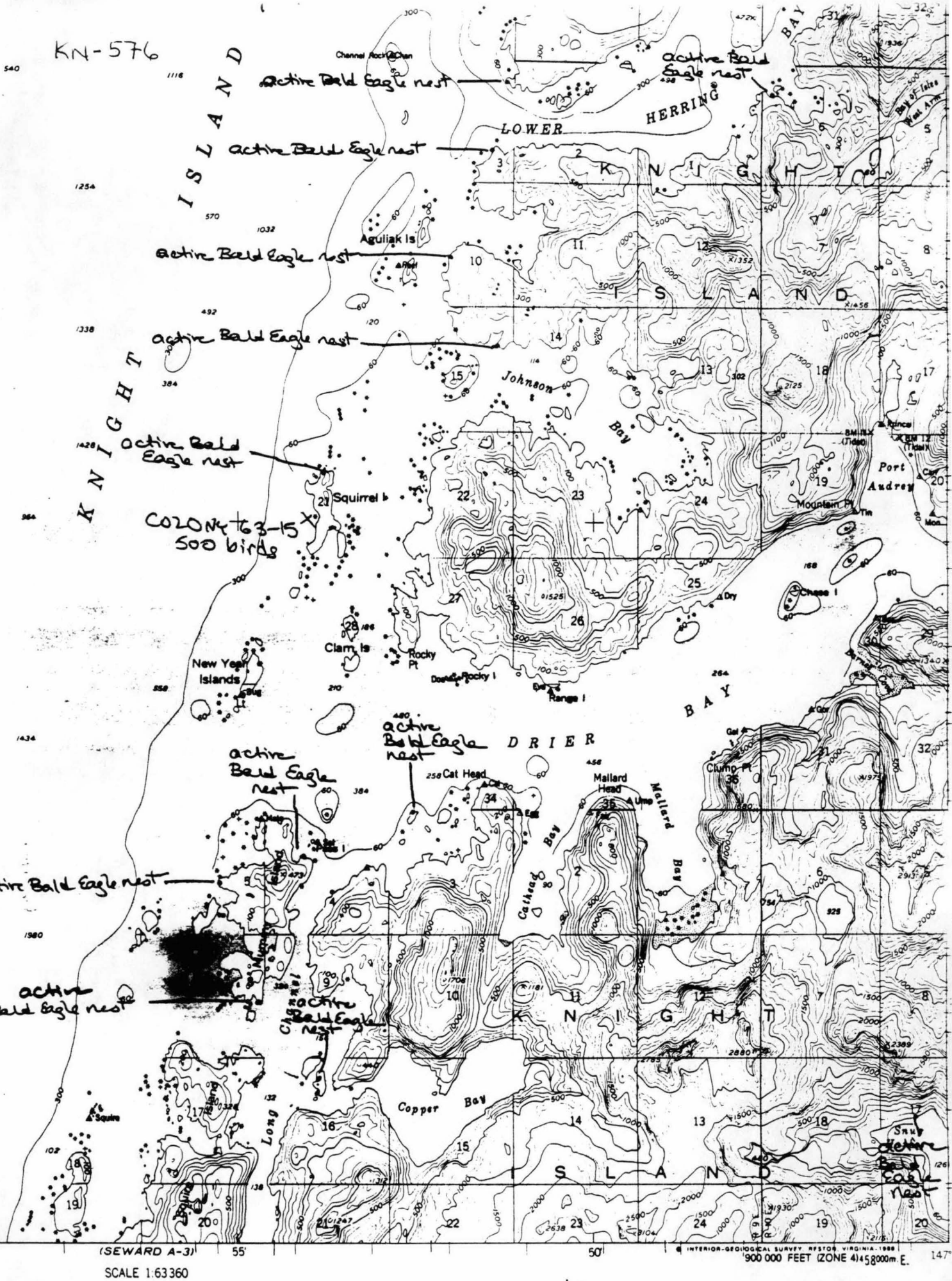
active Bald Eagle nest

active Bald Eagle nest

active Bald Eagle nest

active Bald Eagle nest

COZONY 63-15
500 birds



SCALE 1:63360

1 2 3 4 MILES

KNIGHT ISLAND

ROAD CLASSIFICATION

SEGMENT KN-576

Generally steeply sloping or vertical bedrock shoreline with few pocket beaches.

1. Steep or vertical bedrock shoreline.
Few pocket beaches of angular boulders, pebbles and cobbles.

Thin tarry 1 m. wide band of oil on the eastern and southeastern sides of the island.

2. Bedrock cliffs. thin discontinuous band < 1 m wide of tarry oil on eastern and southeastern sides of the island. 3 to 4 meter wide band on the western side of island discontinuous tarry oil.

3. Clean steep bedrock shoreline except for the south side of the island where patches of oil < 1 m diameter are present on the rock surface.

4 Discontinuous light 1 m. wide band on island and adjacent reefs if they extend upward to the high water level. Steep or cliffed bedrock shoreline

5. Bedrock cliff and talus of angular boulders.
Occasional very discontinuous patches and bands < 1 m wide of thin tarry coating in the upper intertidal zone.

6. Same as 5.

7: Bedrock cliffs and talus of angular boulders. Discontinuous thin bands of tarry coating 5-10 cm wide at 2 or sometimes 3 levels in the upper intertidal zone. Occasional 2 m diameter splatter.

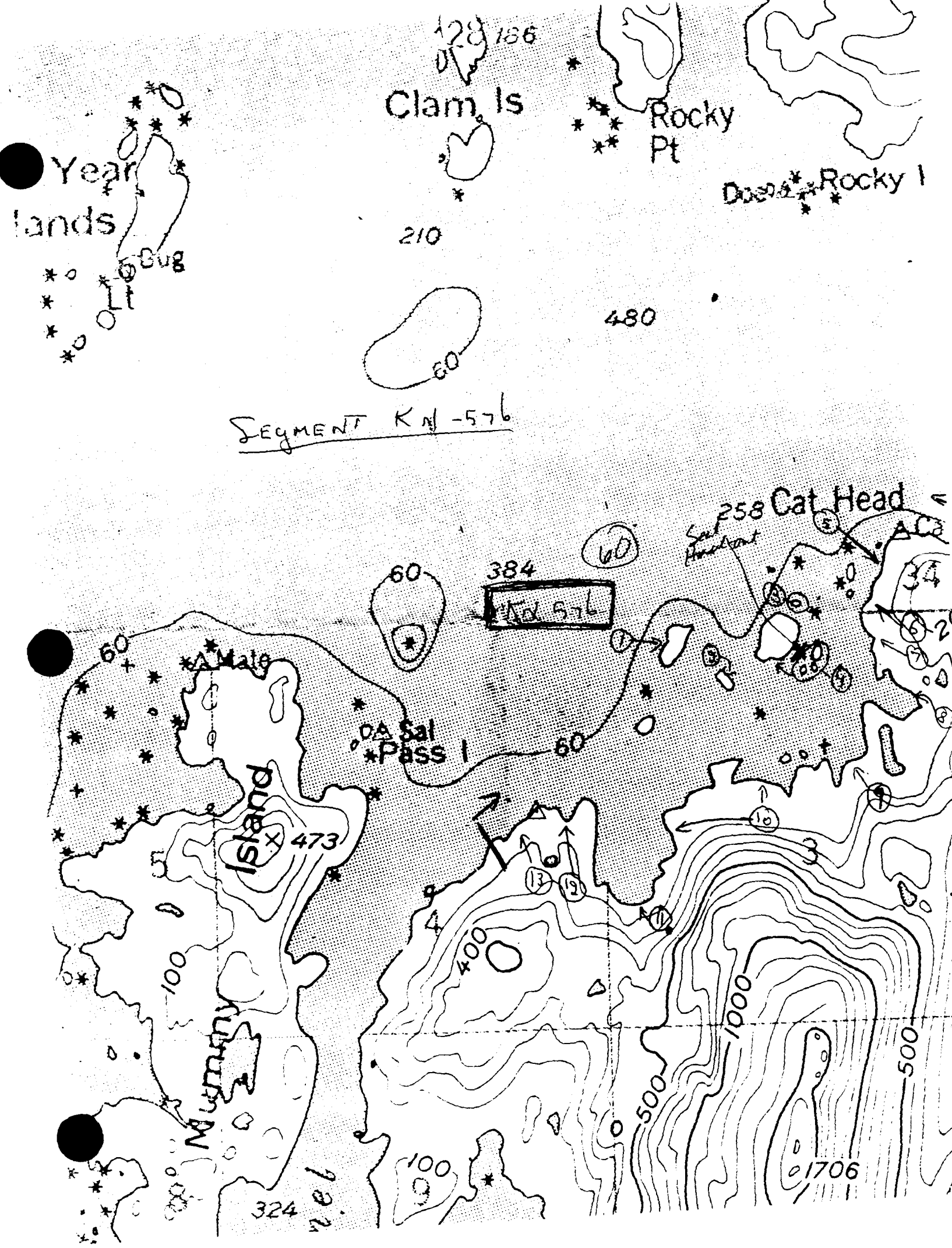
8 and 9. Same general shoreline type and oiling as 7. Oiling decreases towards the west.

10. Same general shoreline type as unit 7 above. No oil

11 Bay head beach, steep bedrock backshore, boulder, pebble and pockets of well sorted platy gravel. No oil.

12. Pocket beach (~100 m long) of pebble, gravel and boulders. sloping bedrock on backshore and on sides of pocket beach.
Heavy continuous coating of the entire beach face (~30 m wide) with penetration of at least 30 cm in the upper intertidal zone. Oiled seaweed strand lines at High water level.
Continuous coating at base of steep bedrock side of the pocket beach, 3-5 m wide, 0.5 cm thick.

13 - generally steep bedrock shoreline very few sediment pockets, narrow bands ≤ 50 cm of soil in the upper intertidal zone.


128
186
Clam Is
Rocky Pt
Rocky I
Year
lands
Bug
Lt
210
480
60
SEGMENT KN-576
258 Cat Head
Seal Headlant
60
384
KN 576
60
Male
Sal
Pass I
60
Island
473
5
100
Mummy
400
4
1000
500
500
3
1706
100
9
324

TREATMENT MANUAL, 6/15/89

SEG KN-576 INSPECTION # 1

DATE 7/26/89

SEGMENT INSPECTION RECORD

27 JULY 89.

Shoreline Treatment Process(es) Completed for this Segment

- [x] Hot water wash
- [ ] Warm water wash
- [ ] Water deluge
- [ ] Mechanical
- [x] Non-mechanical HAND WIPE WITH PIT-POND + OCEAN TENACLE
- [ ] Other

Exxon

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

Comments TREATMENT OF SEGMENT KN-576 IS COMPLETE. READY FOR DEMOBILIZATION + DEPLOYMENT TO A NEW SEGMENT

Signature [signature] Date: 7/26/89 Time: 6:42 PM

Printed Name JOHN C. PANTICELLO

Existing Shoreline Condition As Visually Determined by USCG

Percent	Degree of Oiling
	Heavy
	Medium
4%	Light
	Very Light
96%	None
100 %	

Surface Oil

Subsurface Oil

- [x] Yes
- [ ] No

Comments LIGHT SUBSURFACE CONTAMINATION @ COBBLE GRAVEL / COBBLE SECTIONS

Reassessment

- [x] Yes - necessary
- [ ] No - not necessary unless re-oiled

ADEC rep Comments NOT PRESENT [signature]

Signature Date: / / Time:

Printed Name

FOSC rep Demobilization approved/disapproved

Comments REMOVE SWABS AND BAGGED DEBRIS FROM SEGMENT.

Signature [signature] Date: 7/26/89 Time: 1654

Printed Name THOMAS D. HARRISON LT USCG

(version 6/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Location (see enclosed map): KNIGHT ISLAND-LONG CHANNEL EAST BLOCK

Includes Shoreline Segments: KN-577, KN-578

Submitted: Collins Boatty (for Exxon) Date: 6/12/89

ISCC Reccomendation: Sharon K Christopherson Date: 6/28/89

FOSC Approval: J. W. [illegible] Date: 6/29/89

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.

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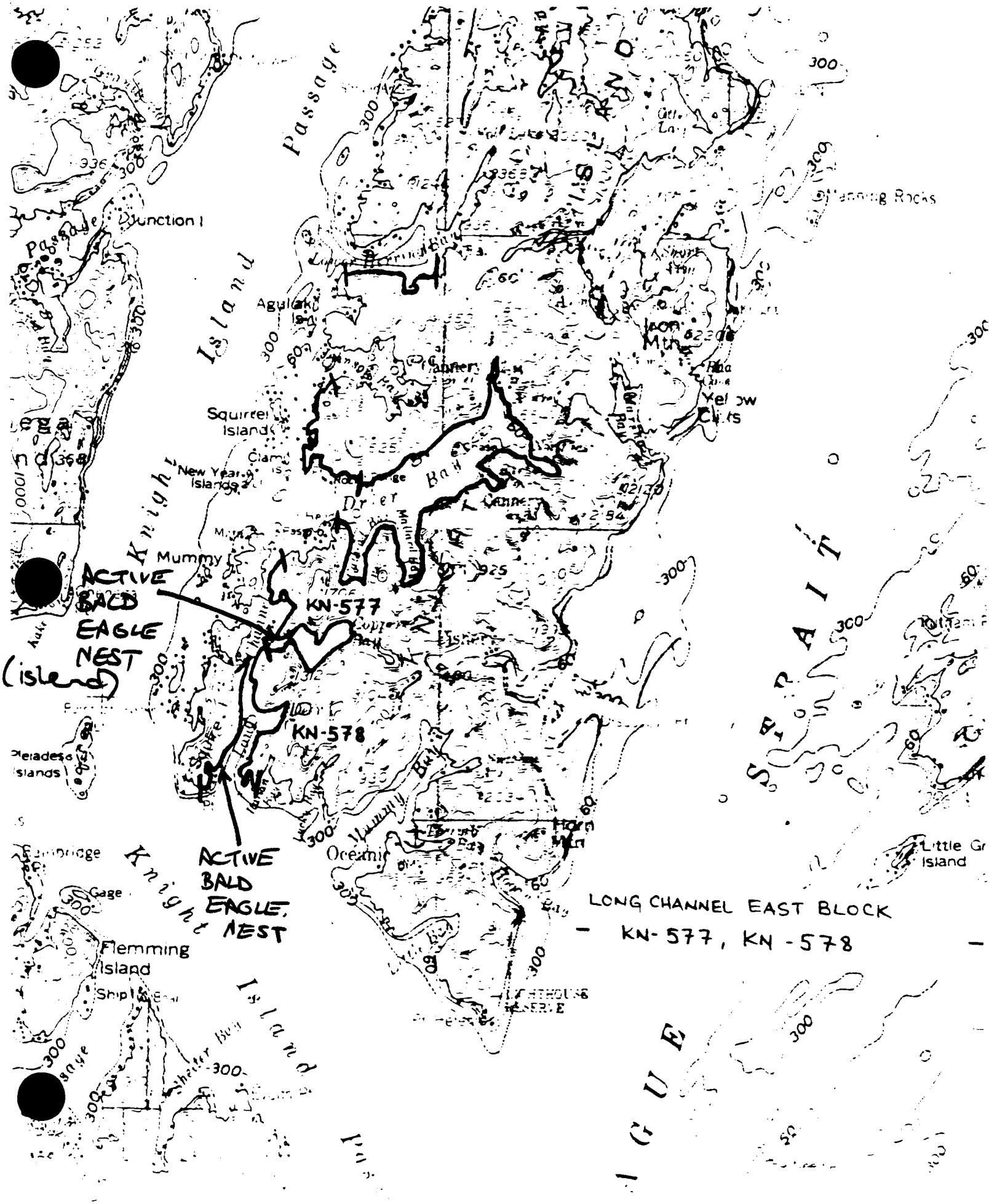
6/23/89


Passage
Passage Junction I
Knight Island
Agulak Isl
Squirrel Islands
New Year's Islands
Mummy
ACTIVE BALD EAGLE NEST (island)
KN-577
KN-578
Pleiades Islands
Cambridge
Gage
Flemming Island
Ship Bay
Shelter Bay
Knight Island
ACTIVE BALD EAGLE NEST
Dryer Bay
Cannery
Yellow Cliffs
Flemming Rocks
Mummy Bay
Oceanic
Little Gr Island
LONG CHANNEL EAST BLOCK
KN-577, KN-578

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 6/12/89 SHORELINE SEGMENT KN-577

LOCATION: (see enclosed map) KNIGHT ISLAND-LONG CHANNEL EAST SHORE, SOUTH TO AND INCLUDING COPPER BAY

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 6/09/89

Recommended Cleanup Activity(ies):
- No cleanup recommended at this time SUBJECT TO FOSC REASSESSMENT AT A LATER DATE due to very light discontinuous oil and ecological constraints.

Priorities Considerations:
- Class 4: light oil.
  Class A: resources present.

Ecological Constraints (from site survey): Due to sensitivity and high productivity of organisms, access to Copper Bay should be restricted. ACTIVE BALD EAGLE NEST ON ISLAND OUTSIDE COPPER BAY — SEE ADVISORY.

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 — Date: June 12, 1989
State Historic Preservation Officer *

ISCC: Sharon K. Christopherson

EXXON: _____ Date: 6/28/89

FOSC: J. W. Rice — Date: 6/27/89

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

Date: 6/9/89 Time: 14:00 Observer: G. MACDONALD

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

LOCATION

LOCATION Knight Island, W. coast COPPER BAY SEGMENT NUMBER KN-577

LENGTH OF SHORELINE SEGMENT: 13,300 m

ACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane
EXCEPT COPPER BAY

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 %

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

OIL

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

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

Continuous: Y/N % of Segment_____ Width of Band: _____m

Sporadic: Y/N % of Segment TRACE < 0.1 %..

Est. Oil Thickness where > 1cm:_____cm Est. Oil Penetration: _____cm

Pooled Oil: _____% "Free" Oil: _____% Coated: H___% /M___% /L TRACE %

Fresh _____% Mousse _____% Tar Formation: 100 %

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

Comments:

TRACE OIL AS TAR BAND (≤ 5cm wide × 20m) AND RARE SMALL TAR SPLATS (6 COUNTED IN ENTIRE SEGMENT) AT U.H.W.L..

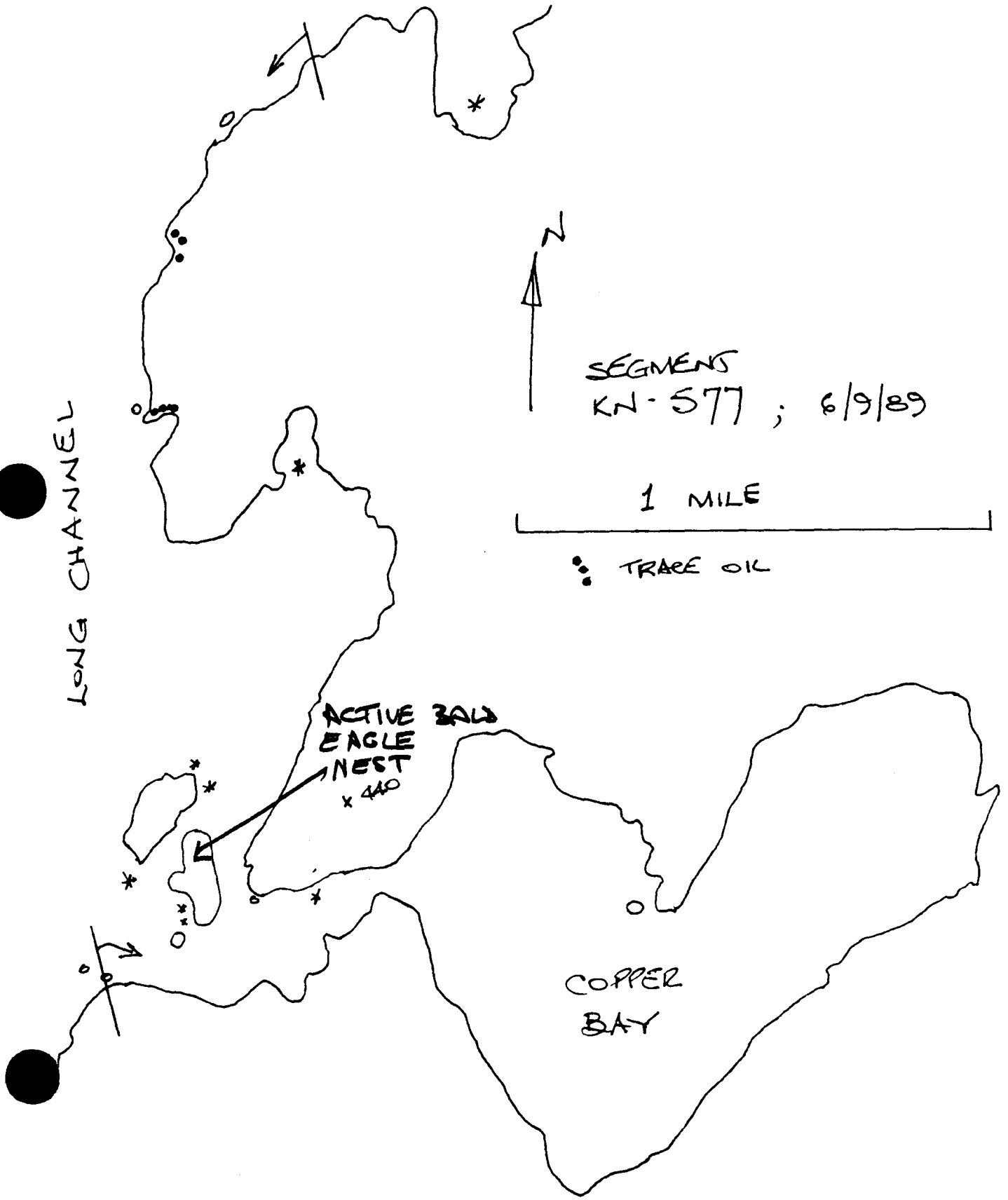
DOCUMENTATION:

Map/~~[illegible]~~ photo marking segment boundaries SEE BELOW

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

Photography: (Y)/N Roll Number(s) TS-SMB-12

Sample Numbers Collected: NONE



6/9 SEGMENT KN-574

09.30

steep mod. sheltered coast, oil @ thin < 3cm band @ AWL, occ. splats, discontin; 5-10m @ ① ≤ 30m total length ice carved flutes @ ②, entire coastline has ice-cut features, niche mountaine, N-NW flow. No oil was seen.

END of SEGMENT

14.00 hrs

SEG KN-577 Long channel to Cu Bay.

trace oil as tar @ N. neck of channel, band ≤ 5cm wide, discontinuous, ≤ 20m total length; + rare tar splats on E shore < 6 counted in 2 miles; mod sheltered rocky shore; ice carved + smoothed bare v. column + erratics.

15.30 hrs

version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: Knight Island SITE: East Shore Long Channel and Copper Bay OBSERVER: SM BAN

LOCATION PREFIX: KN SEG. NO.: 577 LENGTH: 13,300 (M)

DATE: 6 / 9 / 89 TIME (HHMM): 1400 TIDE HT.: +1½ (M)

OILED ZONE: (Splash) High Medium Low TRACE SPATTERS - RARE OCCURENCE

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 & continuous on rock faces. Healthy

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

clumps - NOT oiled - Predation by Thais

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

Dense spat also - Dense Thais in Balanus zone

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

Not oiled, dense in Balanus zone

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

Not oiled

OTHER OBSERVATIONS: Aurelia in water Lithasterias subtidal Ulva, Ulothrix dense subtidally

CLEANUP PRECAUTIONS: No Clean-up - Do not stage or enter Copper Bay. Heavy use by marine mammals etc

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

BIRDS: Mergansers, gulls

GENERAL OBSERVATIONS: Very clean area - do not disturb

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date June 9, 1989 Location Knight Island Site Long Channel/Copper Bo

Location Prefix KN Segment # 577 Length 13,300 m.

Survey Method:

Air _____ (A - indicate on map) Boat X (100%) (A - indicate on map)

Ground ~~X~~ _____ (G - indicate on map)

Known cultural resources (AHRS #) SEW-243; AA 12594 Data Source ~~[illegible]~~ AHRS

Oil conditions/beach visibility trace of oil; visibility excellent.

Width of beach zone surveyed 5-15 m Tree fringe surveyed 0 m

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 sheltered rocky shore; few beach areas.

Fresh Water Sources numerous small streams; several sm. rivers

Sea Exposure protected

Access/Safety N/A as no cleanup is required

Probability of undiscovered sites in beach zone (circle one) (1) 2 3 4 5

Monitoring during cleanup needed yes/(no) Collection yes/(no)

Photos: Color Roll # none Frames N/A

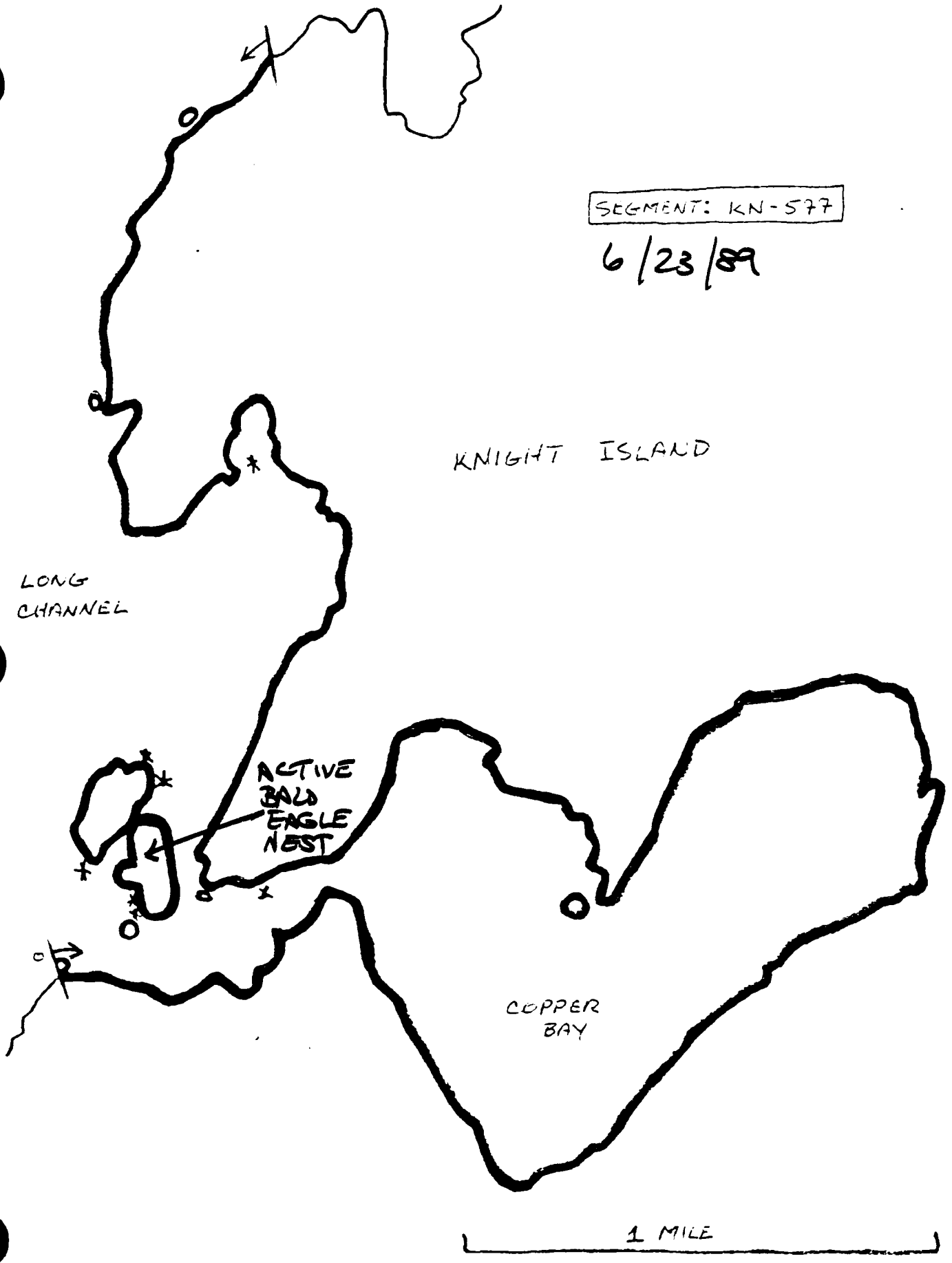
B/W Roll # none Frames N/A

Observer(s) Jim Haggerty

Time survey started 1400 Time survey ended 1530

Cultural resource considerations/restraints:

Standard constraints; no monitor required


SEGMENT: KN-577
6/23/89
KNIGHT ISLAND
LONG CHANNEL
ACTIVE BALD EAGLE NEST
COPPER BAY
1 MILE

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 6/12/89 SHORELINE SEGMENT KN-578

LOCATION: (see enclosed map) KNIGHT ISLAND-LONG CHANNEL

EASTERN SHORE

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 6/10/89

Recommended Cleanup Activity(ies):
- Manually remove oiled debris from beach 2 (as identified on the attached map).
- Manually remove patches of mousse from beach 1 (as identified on the attached map).

Priorities Considerations: Medium Recreational use.
- Class 4: light oil.
  Class A: resources present.

Ecological Constraints (from site survey): Do not disturb healthy lower intertidal areas on the two small beaches recommended for cleanup. ~~Avoid~~ IN seal haulout areas, ~~and~~ keep disturbance in the channel to a minimum. JM

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

State Historic Preservation Officer * Date: June 19, 1989

ISCC: Sharon K. Christopherson 6/28/89

EXXON: _____ Date: 6/28/89

FOSC: _____ Date: 6/27/89

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

Date: 6/10/89 Time: 11.15 Observer: G. MACDONALD

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

LOCATION W. COAST KNIGHT IS.

LOCATION DEER COVE SEGMENT NUMBER KN-578

LENGTH OF SHORELINE SEGMENT: 10,550 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___% / C___% / P___% / G TRACE % / S___% / M___% /R 100 %

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

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 <0.01

Est. Oil Thickness where > 1cm:_____cm Est. Oil Penetration: ≤ 5 cm

Pooled Oil: _____% "Free" Oil: _____% Coated: H___% /M___% /L TRACE %

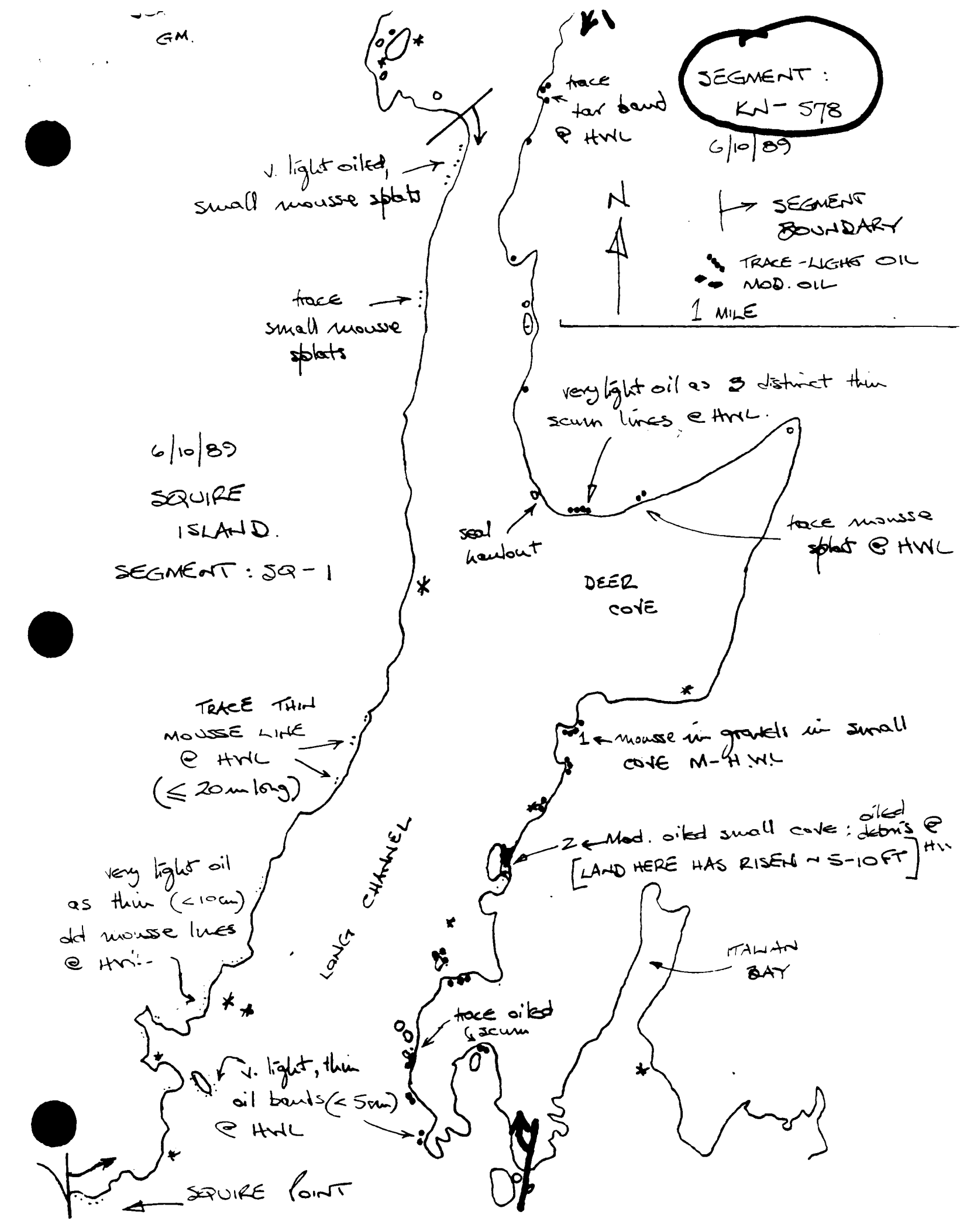
Fresh _____% Mousse 80 % Tar Formation: 20 %

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

Comments:

TWO VERY SMALL COVES HAVE OILED DEBRIS AND OILED GRAVEL WHICH CAN BE CLEANED BY A SMALL CREW BY HAND ; THE REST OF THE SEGMENT HAS INSUFFICIENT OIL TO JUSTIFY ANY CLEANUP

SEE ~~ATTATCHED~~ MAP.

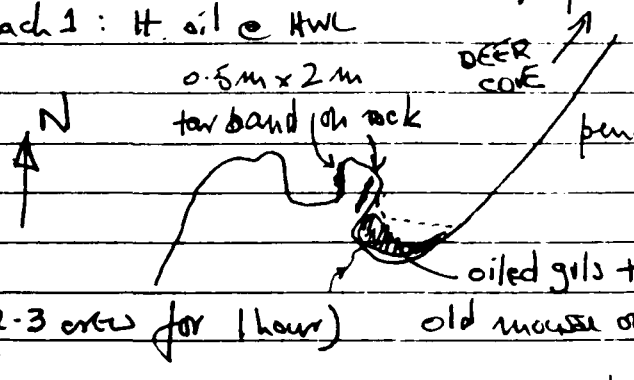

GM.
SEGMENT : KN-578
6/10/89
trace tar band @ HWL
v. light oiled, small mousse splats
N
SEGMENT BOUNDARY
TRACE-LIGHT OIL
MOD. OIL
1 MILE
trace small mousse splats
very light oil as 3 distinct thin scum lines @ HWL.
6/10/89
SQUIRE ISLAND.
SEGMENT : SQ-1
seal haulout
trace mousse splat @ HWL
DEER COVE
TRACE THIN MOUSSE LINE @ HWL (≤ 20m long)
1 ← mousse in gravels in small cove M-HWL
2 ← Mod. oiled small cove : oiled debris @ HWL [LAND HERE HAS RISEN ~ 5-10 FT]
very light oil as thin (<10cm) old mousse lines @ HWL
LONG CHANNEL
ITALIAN BAY
trace oiled scum
v. light, thin oil bands (< 5m) @ HWL
SQUIRE POINT

6/10 11.15 HRS SEG. KH-578 v. wet

mod. shattered rocky coast, pillow lava, rare tar splats; glacier scoured coast w/ erratics; rare 3-5 m x 20m HWL tar line

12.30 - small cove w/ @ least @ UHWL - 30' x 10' on gvl, @ tiny creek exit; could be shoveled out; 1 tar patty; + hand cleaned/wiped.

beach 1 : lt. oil @ HWL



(2-3 crew for 1 hour)

beach 2 mod oiled cove @ UHWL, debris ~~mod oiled~~ 40' x 60'; penetr ≤ 5 cm; 5 mm/hr; shovel up muddy gvl; no need to flush rocks or fauna.

14:00 - "Antler point"

14.35 END of SEG. clean rocky coast

6.5 miles ~

version: 4/24/89

ECOLOGICAL EVALUATION

LOCATION: Knight Is. SITE: E. shore Long Channel OBSERVER: S M BAN

LOCATION PREFIX: KN SEG. NO.: 578 LENGTH: 10,550 (M)

DATE: 6/10/89 TIME (HHMM): 1130 TIDE HT.: 1 2 to 0 (M)

OILED ZONE: Splash High Medium Low Trace to 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

Continuous on Rock Areas. Several species (less than 18" dia) orbs

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

Healthy, NO oil observed. Heavy Predation by Thais (Nucella) and Stephyroastrer (Starfish)

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

Most all Healthy - heavy predation by dense Nucella (Thais)

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

Dense in upper zone - Healthy

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

Notoacmea present in crevices

OTHER OBSERVATIONS: Encrusting red algae, Metridium substrally
Seal haulout near Deer Cove. Salmon fry in Deer cove

CLEANUP PRECAUTIONS: Two small beaches have light to med. oil. NO precautions for these beaches. However, a small team should do the work and the seal haulouts N. of Deer Cove must be avoided

MAMMALS: Otters 6 Harbor Seals 10 Sea Lions ___ Whales 2
Other ___

BIRDS: Gulls Crows Geese

GENERAL OBSERVATIONS: Segment contains much healthy wildlife. Disturbance must be kept to a minimum.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date June 10, 1989 Location Knight Island Site E. shore Long Channel

Location Prefix KN Segment # 578 Length 10,550 m.

Survey Method:

Air _____ (A - indicate on map) Boat X (80%) (A - indicate on map)

Ground X (20%) (G - indicate on map)

Known cultural resources (AHRS #) SEW-225 (AA 10750) Data Source AHRS

Oil conditions/beach visibility light to trace; very good visibility

Width of beach zone surveyed 5-20 m Tree fringe surveyed 5 m.

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 sheltered rocky shore; steep profile

Fresh Water Sources numerous small streams; a few small rivers

Sea Exposure protected

Access/Safety easily accessible; some tidal current present

Probability of undiscovered sites in beach zone (circle one) (1) 2 3 4 5

Monitoring during cleanup needed yes (no) Collection yes (no)

Photos: Color Roll # none Frames N/A

B/W Roll # none Frames N/A

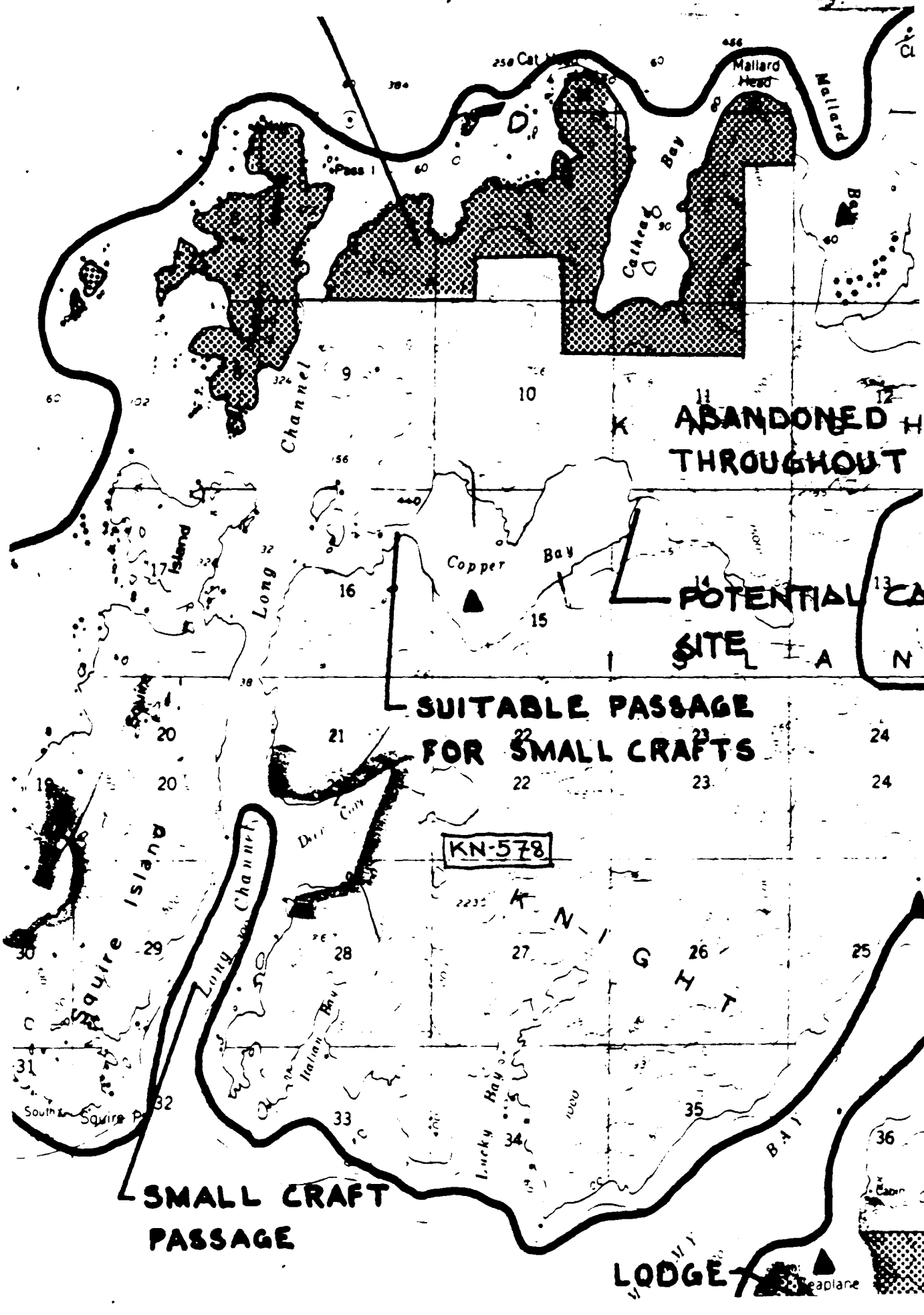
Observer(s) Jim Haggarty

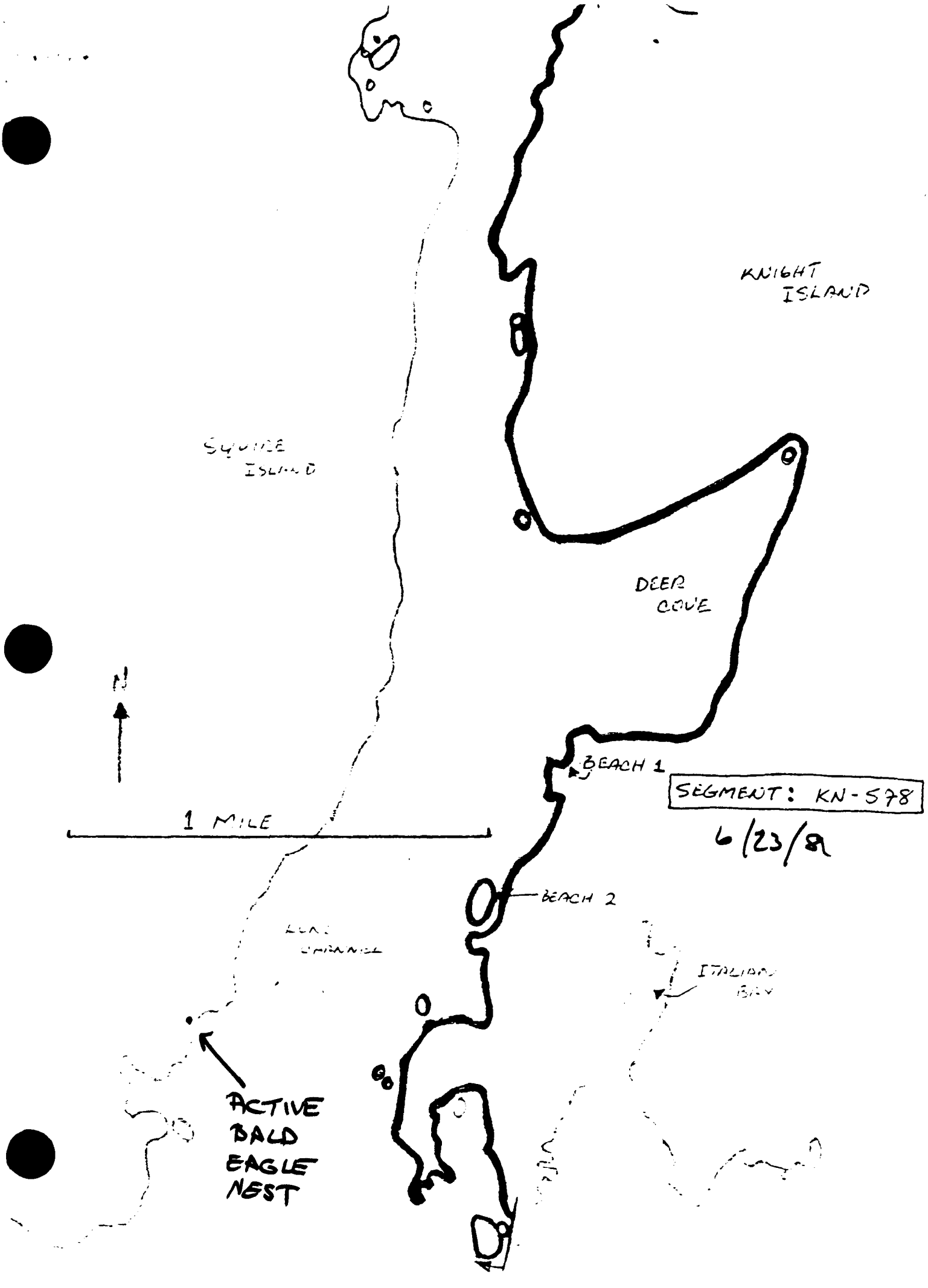
Time survey started 1120 Time survey ended 1435

Cultural resource considerations/restraints:

Standard constraints; no monitor required despite sm. moderate oil concentration at Beach 2 (see map). Cleanup crew must stay out of forest zone

[redacted] MEDIUM RECREATIONAL USE




KNIGHT ISLAND
SQUIRE ISLAND
DEER COVE
N
BEACH 1
SEGMENT: KN-578
6/23/8
1 MILE
BEACH 2
ITALIAN BAY
ACTIVE BALD EAGLE NEST

TREATMENT MANUAL, 6/15/89

SEG KW-577 INSPECTION # 1

DATE 7/29/89

SEGMENT INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

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

Exxon

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

Comments NO CLEANUP RECOMMENDED

Signature [signature] Date: 7/29/89 Time: 0900

Printed Name TONY C. PANTICELLO

Existing Shoreline Condition As Visually Determined by USCG

Percent	Degree of Oiling
	Heavy
	Medium
	Light
	Very Light
100%	None
100 %	

Subsurface Oil

☐ Yes ☒ No

Comments

Reassessment

☒ Yes - necessary ☐ No - not necessary unless re-oiled

ADEC rep

Comments NOT PRESENT DURING INSPECTION. (TAD)

Signature Date: / / Time:

Printed Name

FOSC rep

~~Demobilization approved/disapproved~~ MOBILIZATION NOT PROMULGED @ THIS TIME

Comments SOURCES FROM NEAR SITE? — SAW NO SIGN OF OIL

Signature [signature] Date: 7/28/89 Time: 2018

Printed Name THOMAS S. HARRISON LT USCG

TREATMENT MANUAL, 6/15/89

SEG KN-578 INSPECTION # 1

DATE 7/27/89

SEGMENT INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

- ☐ Hot water wash
- ☐ Warm water wash
- ☐ Water deluge
- ☐ Mechanical
- ☒ Non-mechanical BIO-BAM IN ISOLATED AREA
- ☒ Other NONO WIPING

Exxon

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

Comments TREATMENT OF SEGMENT KN-578 IS COMPLETE. READY FOR DEMOBILIZATION + DEPLOYMENT TO A NEW SEGMENT.

Signature [signature] Date: 7/27/89 Time: 9:00 AM

Printed Name JOHN C. PUTICELLO

Existing Shoreline Condition As Visually Determined by USCG

Percent	Degree of Oiling
	Heavy
<1%	Medium
2%	Light
1%	Very Light
96%	None
100 %	

Surface Oil

Subsurface Oil

☒ Yes ☐ No

Comments MINOR AMTS IN SOME GRAVEL COBBLE SPOTS. WILL PRODUCE SOME SHEEN, HOWEVER, NO GROSS CONTAMINATION.

Reassessment

☑ Yes - necessary ☐ No - not necessary unless re-oiled

ADEC rep Comments NOT PRESENT DURING INSPECTION. (TAA)

Signature Date: / / Time:

Printed Name

FOSC rep Demobilization approved/disapproved

Comments - MUST REMOVE MINOR AMTS OF WOOD DEBRIS FOUNDED DURING INSPECTION.

Signature [signature] Date: 7/25/89 Time: 2003

Printed Name

(version 8/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Location (see enclosed map): KNIGHT ISLAND SOUTHWEST BLOCK

Includes Shoreline Segments: KN-600, KN-601, KN-602, KN-603, KN-604, KN-605, KN-606, KN-607

Submitted : Jerry H. Bailey (for Exxon) Date: 8-9-89

ISCC Recommendation: Sharon K. Christopherson Date: 8-14-89

FOSC Approval: D. E. Cranney Date: 8-14-89

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

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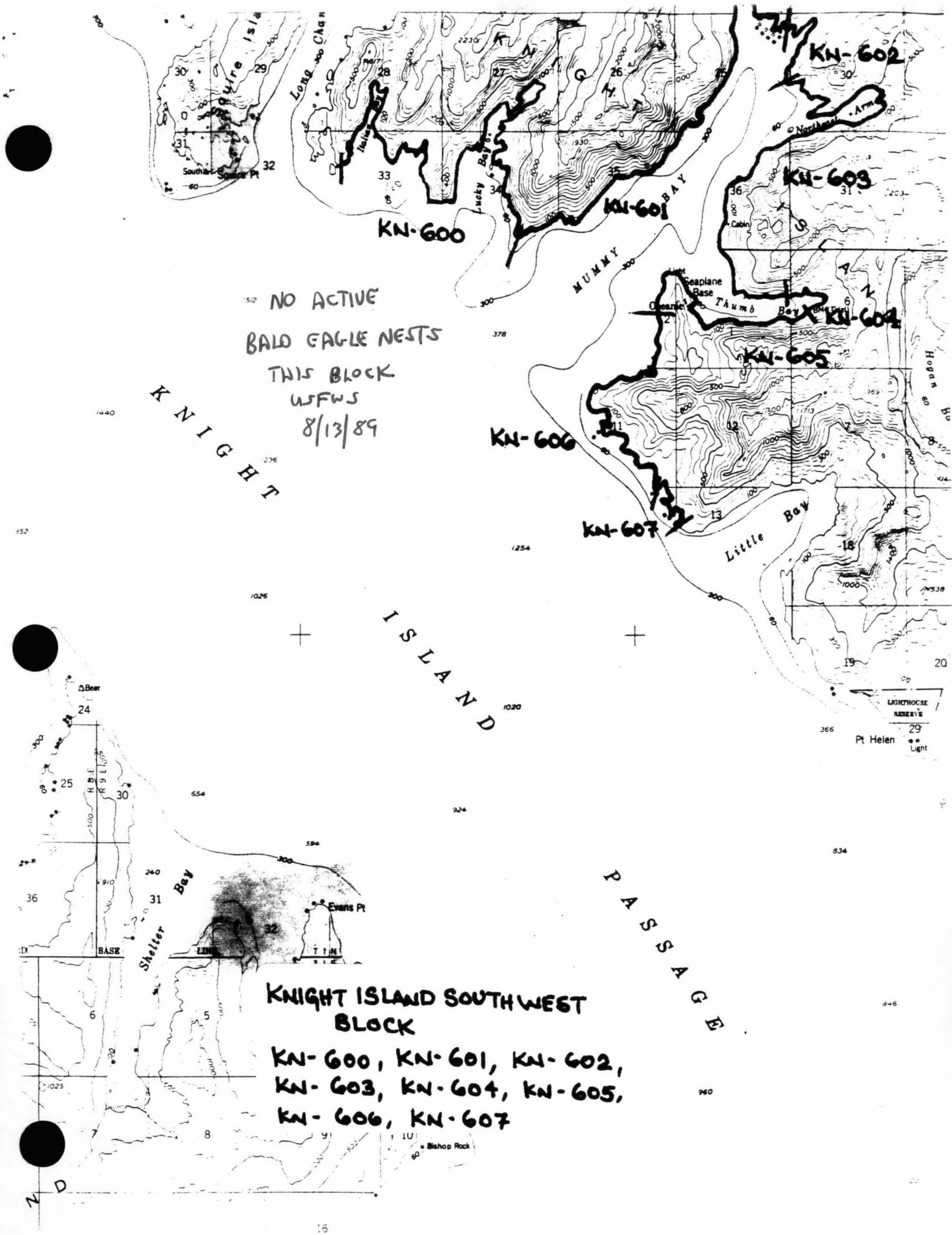


KNIGHT ISLAND SOUTHWEST BLOCK

KN-600, KN-601, KN-602, KN-603, KN-604, KN-605, KN-606, KN-607

********** SCOT NOTE **********

THERE ARE ITEMS OF GREAT CONCERN IN THIS APPROVAL BLOCK THAT AFFECT THE DEPLOYMENT OF CREWS AND EQUIPMENT.

READ THIS FIRST

SOUTH HALF OF SHORELINE SEGMENT KN-603 AND SHORELINE SEGMENTS KN-604 THROUGH KN-607 WITHIN THE KNIGHT ISLAND SOUTHWEST BLOCK ARE ON LANDS OWNED BY CHENEGA VILLAGE CORPORATION. PERMIT NO ACCESS TO UPLAND AREAS AT ANY TIME.

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 8/6/890 SHORELINE SEGMENT KN-600

LOCATION: (see enclosed map) KNIGHT ISLAND-SOUTHWEST COAST

(KNIGHT ISLAND SOUTHWEST BLOCK)

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 7/30/89

Recommended Cleanup Activity(ies):
No cleanup at this time (subject to FOSC reassessment at a later date), due to very little, discontinuous, light oil.

Priorities Considerations:
Class 4: Light oil
B: Resources absent

Ecological Constraints (from site survey):
If cleanup is conducted, work at mid tide + or take appropriate measures to protect lower intertidal zone.

ET 8/14/89
C 8/14/89
PRIOR TO CLEAN UP ACTIVITY

Archeological Constraints (from site survey):
If cleanup is planned, additional archeological assessment is required. 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.

Charles E Holmes
State Historic Preservation Officer * Date: August 9, 1989

ISCC: Sharon K. Christopherson Date: 8-14-89

EXXON: Daniel A. Tyler Date: 8-14-89

FOSC: D. E. Cravens Date: 8-14-89

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

SHORELINE OIL EVALUATION

Date: 7/30/89 / Time: _____ Observer: Norma Bigger

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

LOCATION

LOCATION SW corner of Knight Island SEGMENT NUMBER KN-600

LENGTH OF SHORELINE SEGMENT: 9850 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 8 % / P 2 % / G ___ % / S ___ % / M ___ % / R 50 %

Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type Minor Logs, Fuzz

OIL

Degree of Oiling: Heavy/Moderate/Light/Virtually 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 1

Est. Oil Thickness where > 1cm: N/A cm Est. Oil Penetration: N/A cm

Pooled Oil: 0 % "Free" Oil: 0 % Coated: H ___ % / M ___ % / L 100 %

Fresh 0 % Mousse 0 % Tar Formation: 100 %

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

Comments:

Locally, discontinuous oil deposits were observed at three locations in the segment. The heaviest concentration consisted of two drip lines, about 1 meter apart, and each being 10 to 20 cm wide with drips up to 30 cm long (observed on headland east of Lucky Bay) (see map).

ECOLOGICAL EVALUATION

LOCATION: Prince William Sd SITE: southern Knight Is OBSERVER: E.R. White

LOCATION PREFIX: KN SEG. NO.: 6000 LENGTH: 9850 (M)

DATE: 07 / 30 / 89 TIME (HHMM): 0600-0900 TIDE HT.: -0.3 - 1.6 (M)

OILED ZONE: Splash High Medium Low trace

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

-continuous dense on rock surfaces / patchy or sparse on cobble beaches
-algal community most diverse in mid/low tide zone

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

no mussels observed over 90-95% of segment / dense beds in surge channel of lagoon at head of Hocky Bay & occaisional small colonies east of there

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

50% of segment has sparse barnacle population & 50% has scattered individual

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

occur among Fucus or in beach faces / some dense populations of L lamellosa

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

limpets unobserved over 60-70% of segment / observed on cobble beaches

OTHER OBSERVATIONS: some eelgrass beds occur in bay heads & coves lower intertidal quite productive

CLEANUP PRECAUTIONS: biota would not benefit from clean up.

MAMMALS: Otters 10 ~~sea~~ others & 2 ♀ with young Harbor Seals ___ Sea Lions ___ Whales ___
Other ___

BIRDS: 4 bald eagles / 4-6 shore birds / several flocks (20-30 each) of small diving ducks / 20-30 murrelets

GENERAL OBSERVATIONS:

observed impact of oil is minimal

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 7-30-89 Location KNIGHT ISLAND Site SW COAST ITALIAN BAY AND LUCKY BAY

Location Prefix KN Segment # 600 Length 9850 M

Survey Method:

Air _____ (A - indicate on map) Boat x (99%) (A - indicate on map)

Ground x (1%) (G - indicate on map)

Known cultural resources (AHRS #) none Data Source N/A

Oil conditions/beach visibility No oil observed - Excellent ITZ visibility

Width of beach zone surveyed 5 m Tree fringe surveyed Ø

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 99% Vertical or high angle rock with boulder/Rock ITZ - Steep forest slope down to ITZ. A few small pocket gravel beaches

Fresh Water Sources Numerous creeks - major lake outlet at head of Lucky Bay.

Sea Exposure Protected except for seas from the South. lots of sheltered coves

Access/Safety Numerous rocks offshore - generally good small boat access

Probability of undiscovered sites in beach zone (circle one) 1 2 3 (4) 5

Monitoring during cleanup needed yes/(no) Collection yes/(no)

Photos: Color Roll # None Frames _____

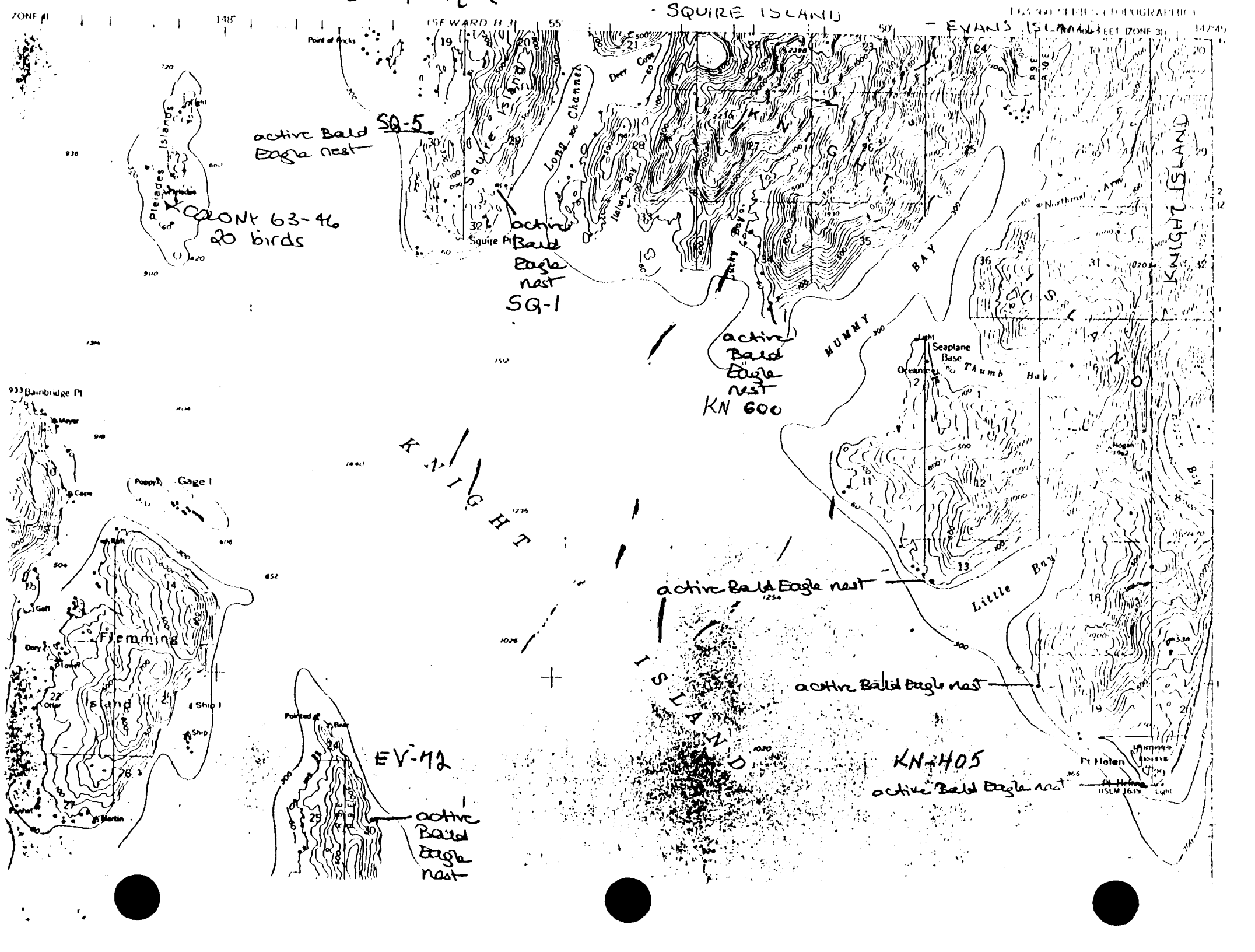
B/W Roll # None Frames _____

Observer(s) Ron Betts

Time survey started 0558 Time survey ended 0856

Cultural resource considerations/restraints:

Standard Statement. Additional site specific ground archaeological survey may be required in the event that any clean-up activities or re-oiling occurs in this segment. Initial boat survey does not indicate a need for an archaeological monitor.

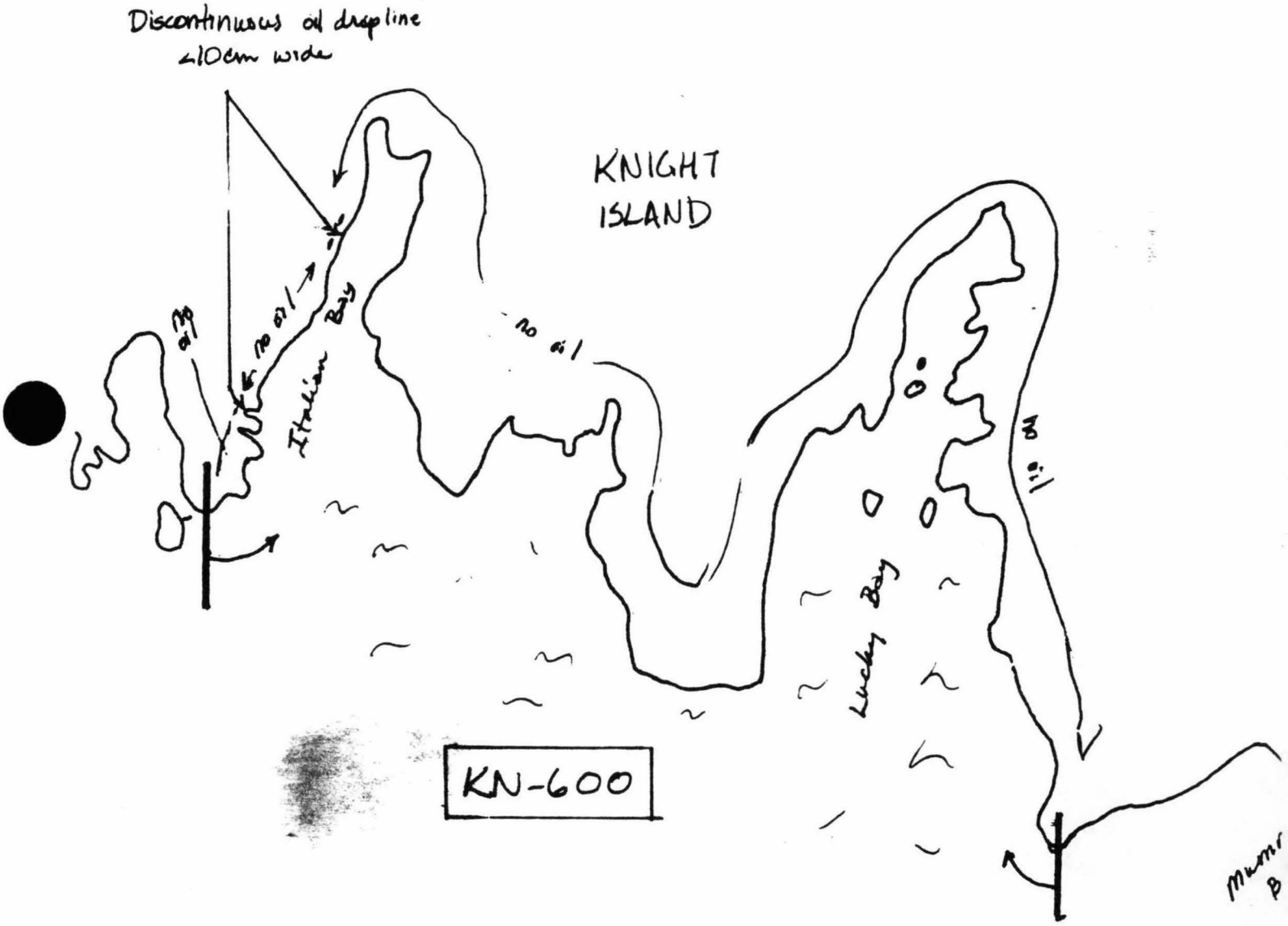

SQUIRE ISLAND
EVANS ISLAND
KNIGHT ISLAND
active Bald Eagle nest
SQ-5
Pleiades Islands
CONt 63-46
20 birds
Squire Island
Long Channel
Squire Pt
active Bald Eagle nest
SQ-1
active Bald Eagle nest
KN 600
MUMMY BAY
Seaplane Base
Thumb Bay
Little Bay
active Bald Eagle nest
active Bald Eagle nest
KN-405
active Bald Eagle nest
Ft Helen
Bainbridge Pt
Gage I
Fleming Island
EV-42
active Bald Eagle nest

6 miles

3.5 / 21.4

SEGMENT KN-600

~~Task~~
S.C.A.T. Team 1
Norma Biggs
July 30, 1989
Tide:
Location: SW Knight Island
Base Map: Seward B-4



(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 8/6/89 SHORELINE SEGMENT KN-601

LOCATION: (see enclosed map) KNIGHT ISLAND-WEST SIDE OF MUMMY BAY (KNIGHT ISLAND SOUTHWEST BLOCK)

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 7/30/89

Recommended Cleanup Activity(ies):
No cleanup recommended at this time (subject to FOSC reassessment at a later date), due to no oil.

Priorities Considerations:
No oil

Ecological Constraints (from site survey):
If cleanup is conducted, work at mid tide + or take appropriate measures to protect lower intertidal zone.

DT 8/14/89
SC 8/14/89

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

Charles E. Holmes
State Historic Preservation Officer * Date: August 9, 1989

ISCC: Sharon K Christopherson Date: 8-14-89

EXXON: Samuel D. Tift Date: 8-14-89

FOSC: D.G. Crawford Date: 8-14-89

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

SHORELINE OIL EVALUATION

Date: 7/30/89 / Time: _____ Observer: Norma Biggar

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

LOCATION

LOCATION West Side of Mummy Bay SEGMENT NUMBER KN-601

LENGTH OF SHORELINE SEGMENT: 5800 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 50 % / C 05 % / P___% / G___% / S___% / M___% /R 45 %

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

OIL

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

N/A

Area of Beach Impact: SU / SP / H / M / L ~~N/A~~

Continuous: ~~Y/N~~ % of Segment_____ Width of Band: N/A m

Sporadic: Y/N % of Segment N/A

Est. Oil Thickness where > 1cm:_____cm Est. Oil Penetration: _____cm

Pooled Oil: _____% "Free" Oil: _____% Coated: H____% /M____% /L____%

Fresh N/A % Mousse N/A % Tar Formation: _____%

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

Comments:

No evidence of oil was observed on this segment

BIOLOGICAL EVALUATION

LOCATION: Prince William Sd SITE: Mummy Bay Knight Is. OBSERVER: E.R. White

LOCATION PREFIX: KN SEG. NO.: 601 LENGTH: 5500 (M)

DATE: 07 / 30 / 89 TIME (HHMM): 1700 - 2000 (0900-1010) TIDE HT.: 1.2 (1-1.6) (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

continuous Fucus more dense @ mid/low tide level & on beaches esp @ head of Mummy Bay

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

small dense colonies on rock faces // extensive colonies in beach faces

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

some dense spat fall near mouth of Mummy Bay / continuous sparse populations throughout

Littorina

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

continuous among Fucus & as infauna of beaches.

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

- some populations high on coarse boulder shores ~~with~~ otherwise sparse

OTHER OBSERVATIONS:

CLEANUP PRECAUTIONS: Ø

MAMMALS: Otters 3 others / 1 ♀ with young Harbor Seals ___ Sea Lions ___ Whales ___

Other

BIRDS: 3 bald eagles / oyster catcher / kingfisher / 3 shore birds / 30-50 glaucous winged gulls

GENERAL OBSERVATIONS:

unit encompasses 1 possible salmon stream / one marked salmon stream.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 7-30-89 Location KNIGHT ISLAND Site NW COAST MUMMY BAY

Location Prefix KN Segment # 601 Length 5,500 M

Survey Method:

Air _____ (A - indicate on map) Boat X (99%) (A - indicate on map)

Ground X (1%) (G - indicate on map)

Known cultural resources (AHRS #) SEW-086, 224, 261 Data Source (MEANY 1906:488 AHRS, BIA 1447h. de Laguna (1950 90))

Oil conditions/beach visibility No oil observed

Width of beach zone surveyed 5 m Tree fringe surveyed up to 50 m FOR SEW 086

Cultural resources observed in beach zone (AHRS code) None

Cultural resources observed in tree fringe (AHRS code) CBN, CMT (SEW-224)

General observations justifying survey method and segment's site probability:

Shore Profile Vertical rock, High angle boulder ITZ, Steep forest slope - very few pocket beaches

Fresh Water Sources Numerous creeks, streams & waterfalls.

Sea Exposure Protected large bay open to south west

Access/Safety Deep water access to most of segment - no helicopter access.

Probability of undiscovered sites in beach zone (circle one) 1 2 3 4 (5)

Monitoring during cleanup needed (yes) no Collection yes (no)

Photos: Color Roll # None Frames _____

B/W Roll # RB#7 RB#8 Frames 24 1-8?

Observer(s) [redacted] BETTS

Time survey started 0904 Time survey ended 1820

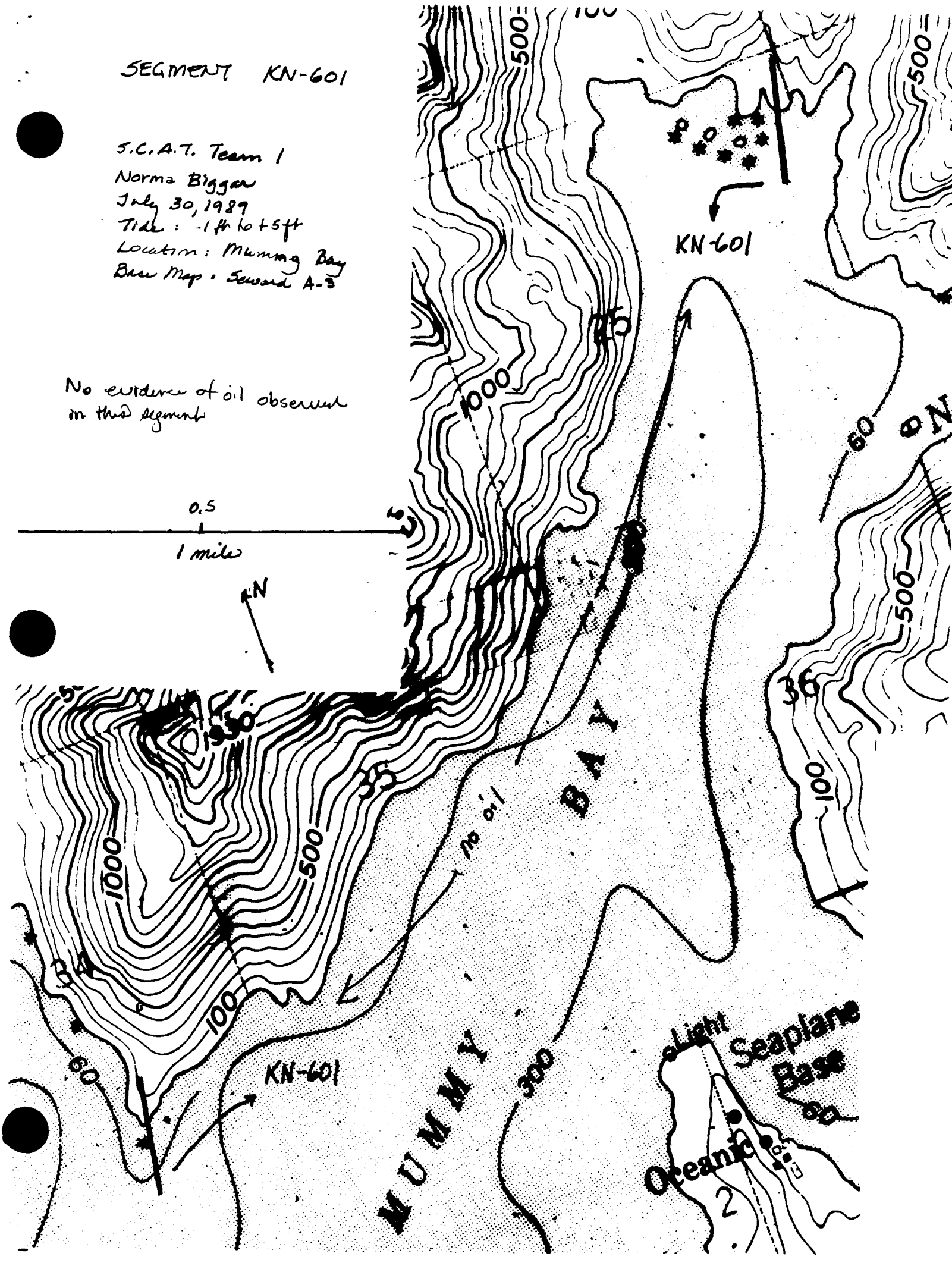
Cultural resource considerations/restraints:

Standard Statement. Several Known Historic and Prehistoric Sites in vicinity. Potential for additional sites is very high. No oil observed in this segment. Should clean-up occur an archaeology monitor is required.

SEGMENT KN-601

S.C.A.T. Team 1
Norma Bigger
July 30, 1989
Tide: -1 ft to +5 ft
Location: Mumma Bay
Base Map: Seward A-3

No evidence of oil observed in this segment



(version 6/14/89)

SHORELINE CLEANUP PROGRAM

DATE 8/6/89 SHORELINE SEGMENT KN-602

LOCATION: (see enclosed map) KNIGHT ISLAND-HEAD OF MUMMY BAY

(KNIGHT ISLAND SOUTHWEST BLOCK)

ADEC NO._____ SHORELINE ASSESSMENT DATE: 7/31 & 8/1/89

Recommended Cleanup Activity(ies):
- Manually remove oiled grass.
- Flood/flush with warm to hot water (up to 140 F) on low angle beaches.
- Use moderate to high pressure washing on rock.
- Use other approved methods as appropriate.

Priorities Considerations:
Class 4: Light oil
A: Resources present

Ecological Constraints (from site survey): Work at mid tide + or take appropriate measures to protect lower intertidal zone.
(CAT # 22630-16820) A cataloged anadromous stream is located in this segment. Contact ADF&G and RAT 48 hours prior to beginning cleanup activities.
/89
8/14/89

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. Johnson — Date: August 9, 1989
State Historic Preservation Officer *

ISCC: Sharon K. Christopherson — Date: 8-14-89

EXXON: Daniel S. Tyler — Date: 8-14-89

FOSC: D. E. Cranney — Date: 8-14-89

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

SHORELINE OIL EVALUATION

Date: 7/30/89 / Time: 7:30 PM Observer: Norma Biggar

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

LOCATION

LOCATION N. end of Mummy Bay SEGMENT NUMBER KN.602

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 20 % / C 60 % / P 20 % / G ___ % / S ___ % / M ___ % / R 20 %

Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type 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 100

Est. Oil Thickness where > 1cm: N/A cm Est. Oil Penetration: 5 cm

Pooled Oil: 0 % "Free" Oil: 95 % Coated: H ___ % / M ___ % / L 100 %

Fresh 0 % Mousse 0 % Tar Formation: 5 %

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

Comments:

Oil observed is concentrated at head of Mummy Bay, and stream delta. On either side of the delta there is a thin deposition up to 0.5 m. wide (Generally less than 30 cm). Petroleum smell is noticeable in area, and sheen can be observed in water close to shore. A band of brown oil, generally < 0.5 m wide, up to 3 m wide at E end can be seen in yellow grass; and oil coated pebbles and cobbles occur in stream channel (1-m-wide band - locally 3-4 m. wide) - Sheen is produced if you dig into streambed - Penetration in stream materials ≈ 5 cm. Local residents says that spill is due to the beaching of a sinking landing craft, not to Exxon Valdez oil, which did not get into Mummy Bay - would explain odor. No photos taken

BIOLOGICAL EVALUATION

LOCATION: Prince William Sd SITE: Mummy Bay OBSERVER: E. R. White

LOCATION PREFIX: KN SEG. NO.: 602 LENGTH: 1200 (M)

DATE: 07/30/89 TIME (HHMM): 1830-2000 TIDE HT.: 1.1-1.6 (M)

OILED ZONE: Splash (High) Medium Low

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

LIVE BIOTA

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

continuous Fucus @ high to mid intertidal / patchy algal cover below that

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

- some mussel beds in beach face

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

- accross high to mid intertidal level of beach face

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

mostly with Fucus

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

very few observed / some @ high tide level on rocks

OTHER OBSERVATIONS: stream in west cove (oiled beach) was marked with fishing regulation markers - no adults or fry observed
- sub tidal eelgrass beds present.

CLEANUP PRECAUTIONS: - confirm status of stream with ADF&G prior to cleanup / minimize subtidal / low intertidal disturbance

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

BIRDS: 15-30 gulls

GENERAL OBSERVATIONS: ____

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 7-30-89 Location Knight Island Site Mummy Bay

Location Prefix KN Segment # 602 Length 1200 M

Survey Method:

Air _____ (A - indicate on map) Boat X (80%) (A - indicate on map)

Ground X (20%) (G - indicate on map)

Known cultural resources (AHRS #) none Data Source N/A

Oil conditions/beach visibility Trace of oil - Oily line on vertical rocks & oil sheen on water

Width of beach zone surveyed 5 m Tree fringe surveyed Ø

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 gravel & rock beach - good foot access

Fresh Water Sources fresh water stream

Sea Exposure Protected Bay

Access/Safety Good Safe Access

Probability of undiscovered sites in beach zone (circle one) 1 2 (3) 4 5

Monitoring during cleanup needed yes/(no) Collection yes/(no)

Photos: Color Roll # none Frames _____

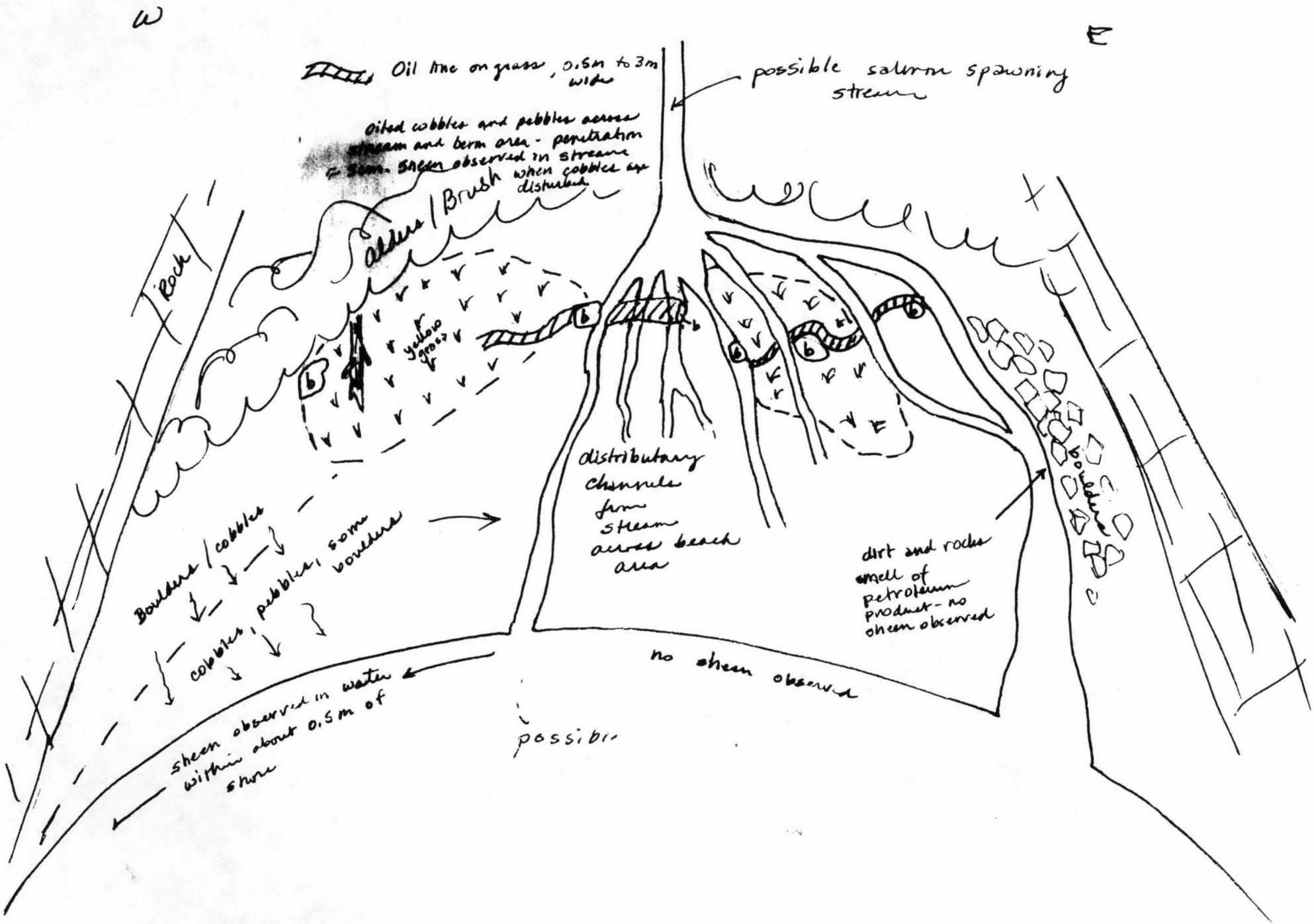
B/W Roll # none Frames _____

Observer(s) Lee Betts

Time survey started 7/30/89 1830 Time survey ended 7/30/89 2000

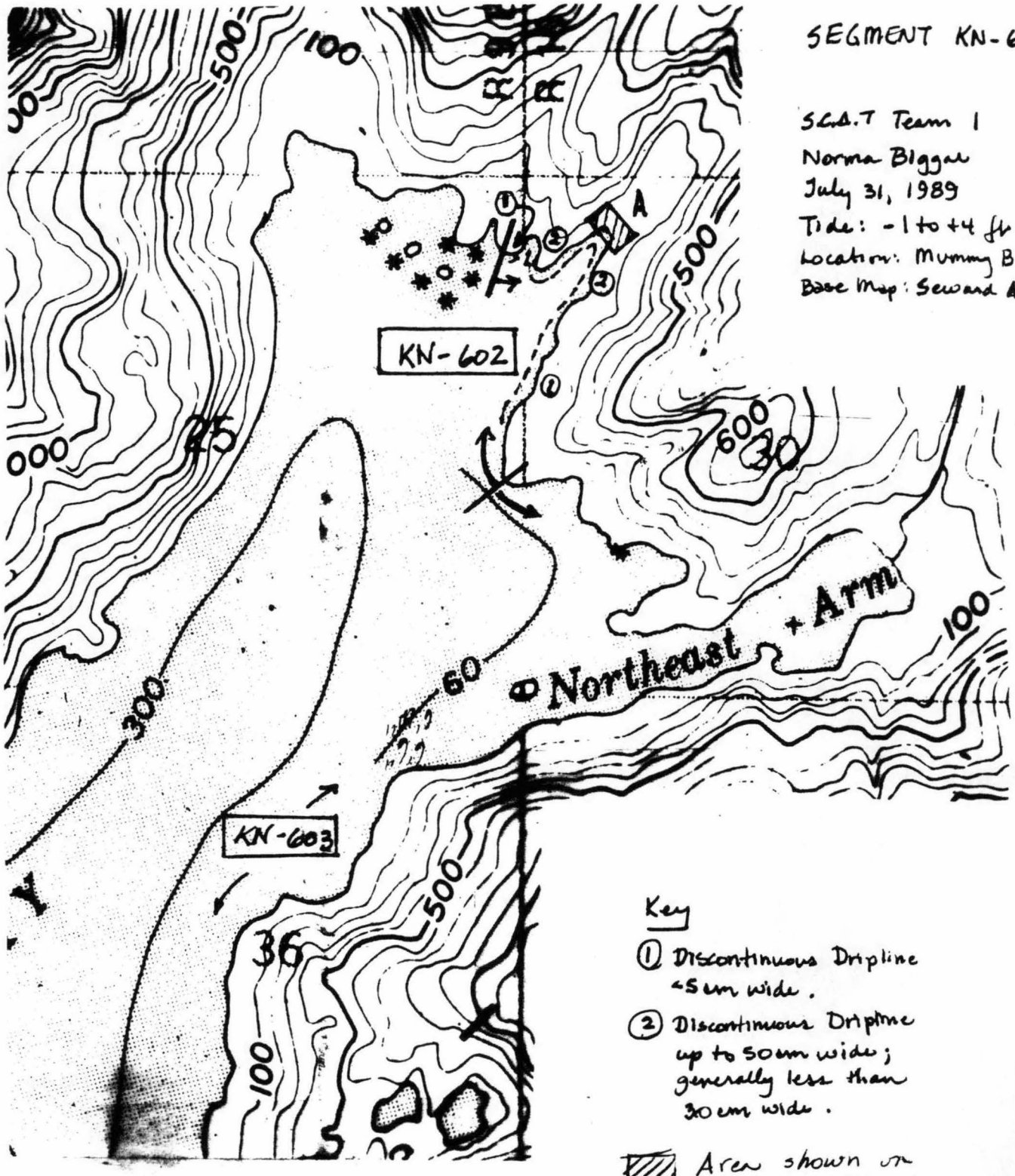
Cultural resource considerations/restraints:

Standard Statement. No Archeology monitor required.


W
E
Oil line on grass, 0.5m to 3m wide
possible salmon spawning stream
Oiled cobbles and pebbles across stream and berm area - penetration
Some sheen observed in stream when cobbles are disturbed
Rock
Alders / Brush
yellow grass
b
distributary channels from stream across beach area
Boulders / cobbles
cobbles, pebbles, some boulders
dirt and rocks smell of petroleum product - no sheen observed
boulders
no sheen observed
sheen observed in water within about 0.5m of shore
possibl

SEGMENT KN-60

S.C.A.T Team 1
Norma Biggar
July 31, 1989
Tide: -1 to +4 ft
Location: Mummy Ba
Base Map: Seward A-



Key

① Discontinuous Dripline <5 cm wide.

② Discontinuous Dripline up to 50 cm wide; generally less than 30 cm wide.

Area shown on attached sketch map (segment KN-602)

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 8/6/89 SHORELINE SEGMENT KN-603

LOCATION: (see enclosed map) KNIGHT ISLAND-NORTHEAST ARM TO THUMB BAY (KNIGHT ISLAND SOUTHWEST BLOCK)

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 7/31 & 8/1/89

Recommended Cleanup Activity(ies):
No cleanup recommended at this time (subject to FOSC reassessment a later date), due to no oil.

Priorities Considerations:
No oil
Medium recreational use

Ecological Constraints (from site survey): (CAT# 226-30-16810) SC 8/14/89
A cataloged anadromous stream is located in this segment. If cleanup is planned, notify ADF&G and RAT 48 hours prior to beginning cleanup activities.

Archeological Constraints (from site survey):
DT 8/14/89 SC 8/14/89 If cleanup is conducted, inspection by an archaeological monitor is ~~recommended~~ REQUIRED during cleanup. 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.

Charles E Holmes
State Historic Preservation Officer * Date: August 9, 1989

ISCC: Sharon K. Christopherson Date: 8-14-89

EXXON: Daniel S. Tyler Date: 8-14-89

FOSC: D. E. Cronquist Date: 8-14-89

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

SHORELINE OIL EVALUATION

Date: 7/31- 8/1/89 Time: _____ Observer: Norman Biggar

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

LOCATION

LOCATION NE part of Mummy Bay Northwestern, ~~and Thomas~~ Bay SEGMENT NUMBER KN-603

LENGTH OF SHORELINE SEGMENT: 9,100 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 5 % / P___% / G___% / S___% / M___% /R 70 %

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

N/A Sporadic: Y/N N/A % of Segment_____ N/A N/A

Est. Oil Thickness where > 1cm: _____cm Est. Oil Penetration: _____cm

Pooled Oil: _____% "Free" Oil: _____% Coated: H____% /M____% /L____%

Fresh _____% Mousse _____% Tar Formation: _____%

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

Comments:

No oil observed in this segment

ECOLOGICAL EVALUATION

LOCATION: Prince William Sd SITE: Mummy Bay OBSERVER: E.R. White

LOCATION PREFIX: KN SEG. NO.: 603 LENGTH: 9/00 (M)

DATE: 07 / 31 / 89 TIME (HHMM): 0630-0930 TIDE HT.: 1.0 - -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

dense-continuous Fucus on rock / sometimes dense-continuous - sometimes dense patchy on beaches - very little other algae observed (other than Fucus)

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

some colonies in beach Fucus - otherwise sparse to absent

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

distribution variable - sometimes dense spot set @ mid-high intertidal elevations.

Littorina

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

some dense colonies of N. lamellosa

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

often @ high tide only - sometimes distributed throughout intertidal

OTHER OBSERVATIONS: extensive subtidal eelgrass beds in Northeast Arm / salmon observed in northeast arm → salmon stream @ head of arm.

CLEANUP PRECAUTIONS: no oil / no cleanup / no precautions.

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

Other ____

BIRDS: gulls / murrelets - possible mew gull nest site near entrance to Thumb arm

GENERAL OBSERVATIONS:

- very few marine mammals & birds observed in Thumb arm → probably due to extensive human disturbance/activity in such a confined space

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 7-31-89 Location KNIGHT ISLAND Site MUMMY BAY

Location Prefix KN Segment # 603 Length 9,100 M

Survey Method:

Air _____ (A - indicate on map) Boat X (98%) (A - indicate on map)

Ground X (2%) (G - indicate on map)

Known cultural resources (AHRS #) SEW-087 Data Source AHRS

Oil conditions/beach visibility NO OIL - EXCELLENT BEACH VISIBILITY

Width of beach zone surveyed 5 m Tree fringe surveyed UP TO 50 M

Cultural resources observed in beach zone (AHRS code) HTI

Cultural resources observed in tree fringe (AHRS code) HTI

General observations justifying survey method and segment's site probability:

Shore Profile MODERATE TO HIGH ANGLE ROCKY BEACHES - ROCKY HEADLANDS - LOW ANGLE GRAVEL BEACH AT HEAD OF NE ARM

Fresh Water Sources Numerous creeks, large stream at head of Northeast arm

Sea Exposure Protected large Bay - excellent shelter

Access/Safety Easy boat access - helicopter access at head of NE ARM.

Probability of undiscovered sites in beach zone (circle one) 1 2 3 4 (5)

Monitoring during cleanup needed (yes) no Collection yes/(no)

Photos: Color Roll # NONE Frames _____

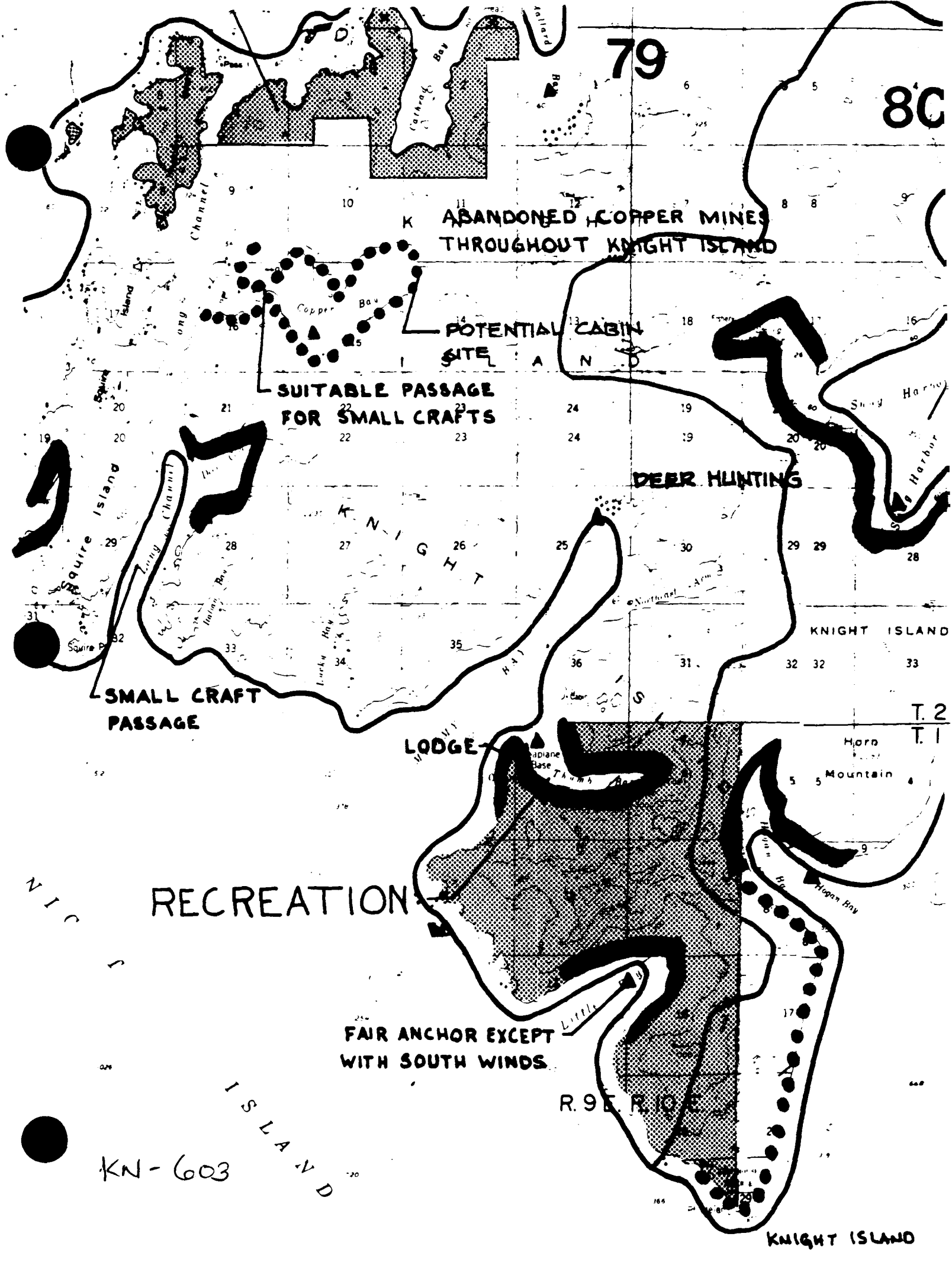
B/W Roll # TI-RB-8 Frames 17, 18-23

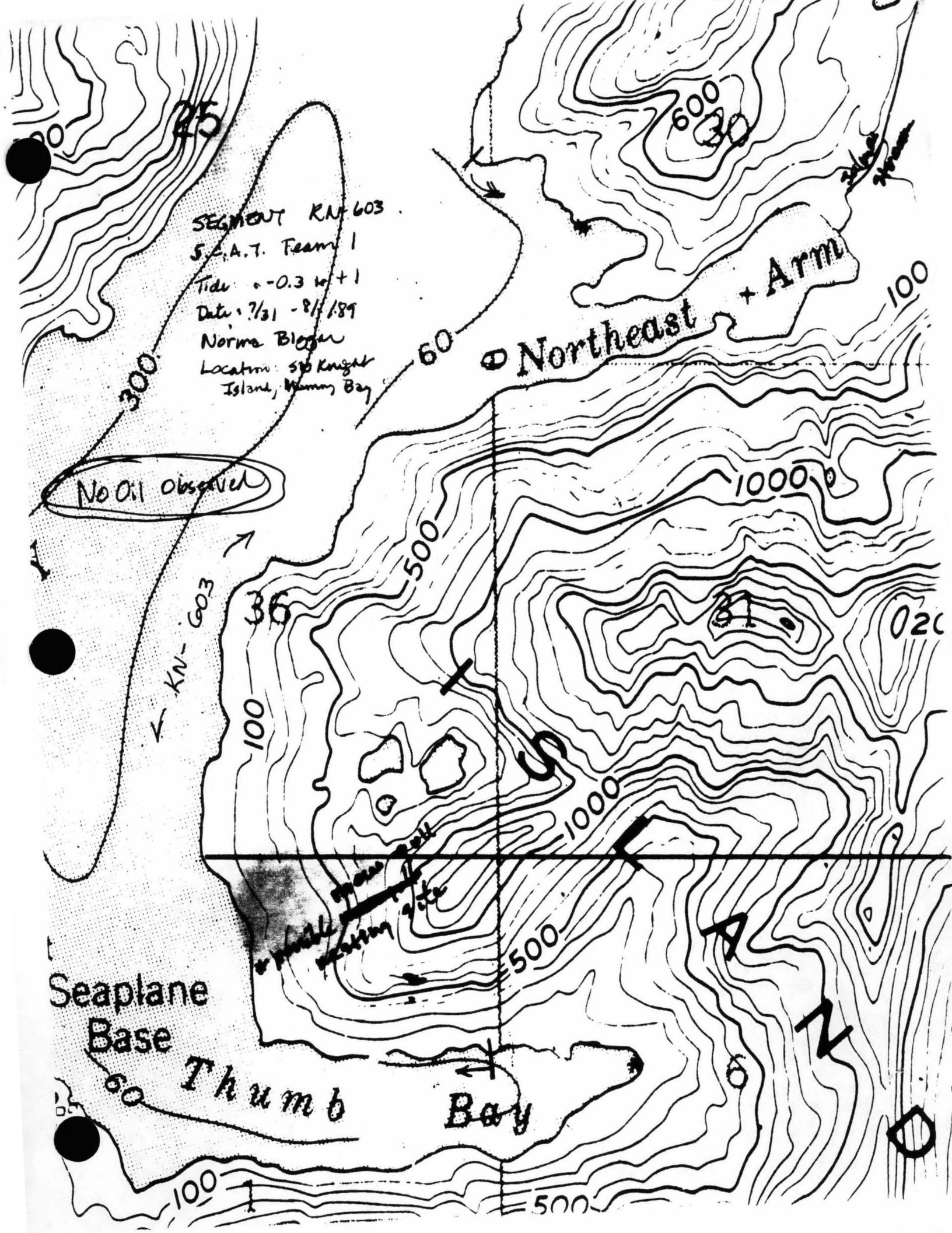
Observer(s) BOB BETTS

Time survey started 0613 Time survey ended 1345

Cultural resource considerations/restraints:

Standard Constraints. No oil observed in Segment, no clean-up recommended. TASK FORCE #1 Ships anchored in vicinity. LARGE AMOUNT OF HISTORIC DEBRIS IN ITZ - MONITOR IS REQUIRED IF ANY BEACH CLEAN-UP IS CONDUCTED IN THIS SEGMENT.


79
80
ABANDONED COPPER MINES
THROUGHOUT KNIGHT ISLAND
POTENTIAL CABIN
SITE
SUITABLE PASSAGE
FOR SMALL CRAFTS
DEER HUNTING
KNIGHT ISLAND
SMALL CRAFT
PASSAGE
LODGE
RECREATION
FAIR ANCHOR EXCEPT
WITH SOUTH WINDS
R. 9 E. R. 10 E.
T. 2
T. 1
KN-603
KNIGHT ISLAND


SEGMENT KN-603
S.C.A.T. Team 1
Tide: -0.3 to +1
Date: 7/31 - 8/1/89
Norma Blogger
Location: S of Knight Island, Herring Bay
No Oil observed
KN-603
Northeast Arm
Seaplane Base
Thumb Bay
600
30
25
300
60
100
1000
500
36
31
020
6
500

(version 6/14/89)

SHORELINE CLEANUP PROGRAM

DATE 8/6/89 SHORELINE SEGMENT KN-604

LOCATION: (see enclosed map) KNIGHT ISLAND-HEAD OF THUMB BAY

(KNIGHT ISLAND SOUTHWEST BLOCK)

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 7/31/89

Recommended Cleanup Activity(ies):
- Flood/flush with warm to hot water (up to 140 F) on low angle beaches.
- Use moderate to high pressure washing on rock.
- Use other approved methods as appropriate.

Priorities Considerations:
Class 4: Light oil
A: Resources present
Medium recreational use

Ecological Constraints (from site survey): Work at mid tide + or take appropriate measures to protect lower intertidal zone. A cataloged anadromous stream is located in this segment. Notify ADF&G and RAT 48 hours prior to beginning cleanup activities.

226-30-16820
189
OT 8-14-89

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

Charles E. Holman — Date: August 9, 1989
State Historic Preservation Officer *

ISCC: Sharon K. Christopherson — Date: 8-14-89

EXXON: Daniel D. Tufts — Date: 8-14-89

FOSC: D. E. Cranney — Date: 8-14-89

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

SHORELINE OIL EVALUATION

Date: 7/31/89 / Time: 17:50 - 19:00 Observer: Norma Bigger

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

LOCATION

LOCATION Thumb Bay, SE cove of Mummy Bay SEGMENT NUMBER KN-604

LENGTH OF SHORELINE SEGMENT: 1000 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 30% / C 30% / P 15% / G ___% / S ___% / M ___% / R 25%

Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type Fucus, some Trash

OIL

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

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

Continuous: Y/N % of Segment 5 Width of Band: 0.5 m

Sporadic: Y/N % of Segment 3

Est. Oil Thickness where > 1cm: N/A cm Est. Oil Penetration: ≤ 5 cm

Pooled Oil: 0 % "Free" Oil: ~~100~~ 50 % Coated: H ___% /M ___% /L 50 %

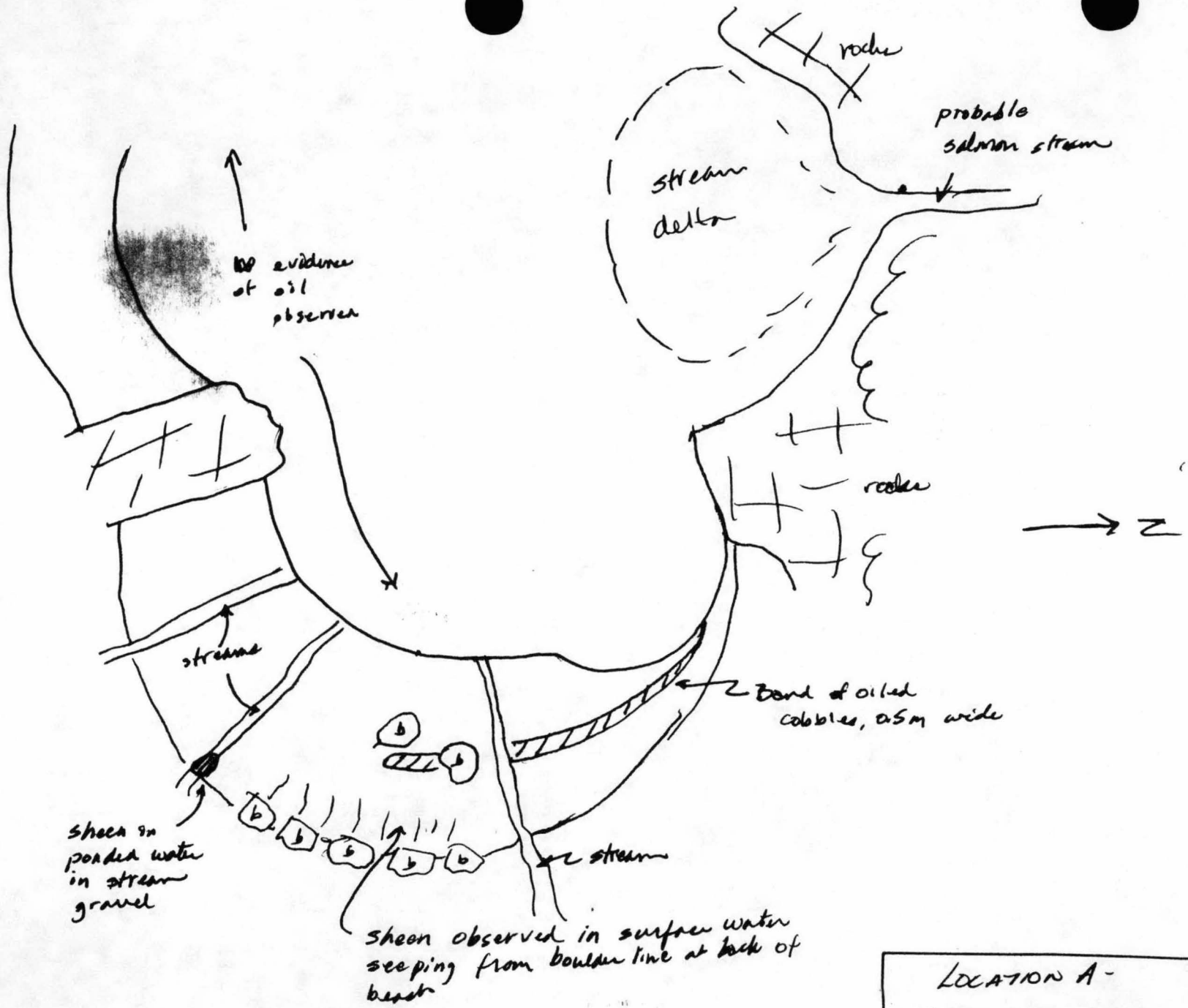
Fresh 100 % Mousse 0 % Tar Formation: 0 %

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

Comments:

Oil observed was thick but not at "tarry" stage - present on cobble beach - Some sheen seen in surface water seps across upper part of beach. No sheen observed in water of bay close to shore. The BRISKA (SCAT TM.1) was anchored about 100 yds from shore, and an oil sheen was observed in the water in that area on 7/31. The boat crew made a dive from that anchorage and saw a band of oil(?) about 5" thick at a depth of approximately 1 ft; - the band extended across much of end of the bay. The local people said that the Exxon Valley oil did not come into Thumb Bay; that we're seeing the effects of the Task Force / presence.

No photos Taken.



LOCATION A-
SEGMENT KN-604

ECOLOGICAL EVALUATION

LOCATION: Prince William Sd SITE: Mummy Bay OBSERVER: E.R. White

LOCATION PREFIX: KN SEG. NO.: 604 LENGTH: 1000 (M)

DATE: 07 / 31 / 89 TIME (HHMM): 1830-1900 TIDE HT.: 1.5-1.0 (M)

OILED ZONE: Splash (High) Medium Low

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

LIVE BIOTA

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

mostly at low to mid tide elevations

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

mussel beds in beach face

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

light spat set throughout

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

among Fucus & in beach face

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

on or under large cobbles

OTHER OBSERVATIONS: extensive eelgrass beds subtidally / salmon observed offmouth of stream on North shore (see map)

CLEANUP PRECAUTIONS: clear all cleanup plans with ADF&G re salmon stream / minimize disturbance to mid-low beach face & to subtidal environment

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

BIRDS: ____

GENERAL OBSERVATIONS: ____

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 7-31-89 Location KNIGHT ISLAND Site THUMB BAY MUMMY BAY

Location Prefix KN Segment # 604 Length 1,000 M

Survey Method:

Air _____ (A - indicate on map) Boat x (50%) (A - indicate on map

Ground x (50%) (G - indicate on map)

Known cultural resources (AHRS #) none Data Source NA

Oil conditions/beach visibility LIGHT TRACE OF OIL, OIL SHEEN ON WATER, EXCELLENT VISIBILITY

Width of beach zone surveyed 5 m Tree fringe surveyed Ø

Cultural resources observed in beach zone (AHRS code) PLG, HTI

Cultural resources observed in tree fringe (AHRS code) none

General observations justifying survey method and segment's site probability

Shore Profile Moderate angle gravel and rock ITZ, Good Forest access in places

Fresh Water Sources Three creeks at Head of Thumb Bay

Sea Exposure Extremely well protected bay - excellent anchorage

Access/Safety Safe easy boat access

Probability of undiscovered sites in beach zone (circle one) 1 2 3 4 (5)

Monitoring during cleanup needed (yes)/no Collection yes/(no)

Photos: Color Roll # none Frames _____

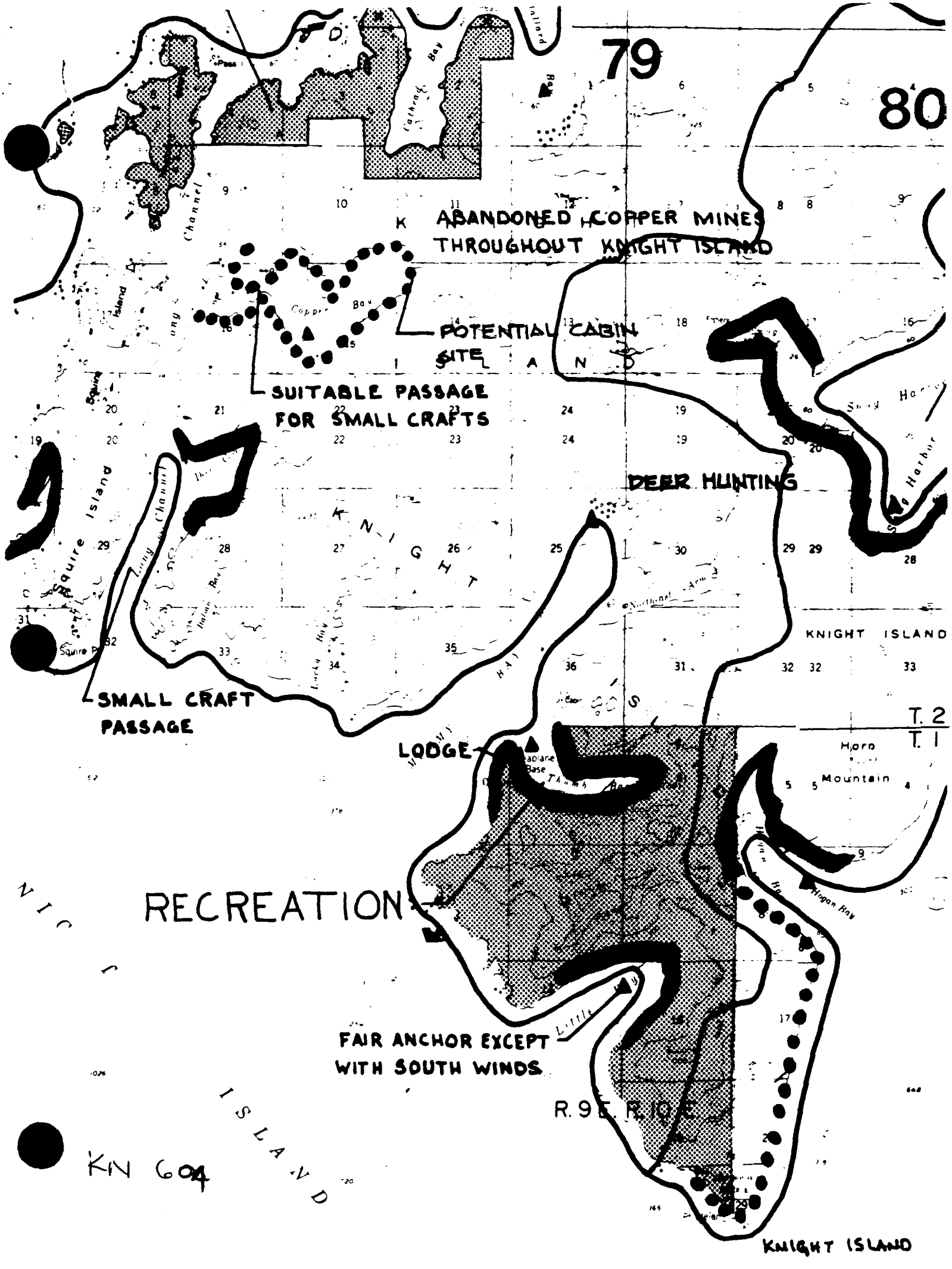
B/W Roll # T1-RB-9 Frames 8, 9

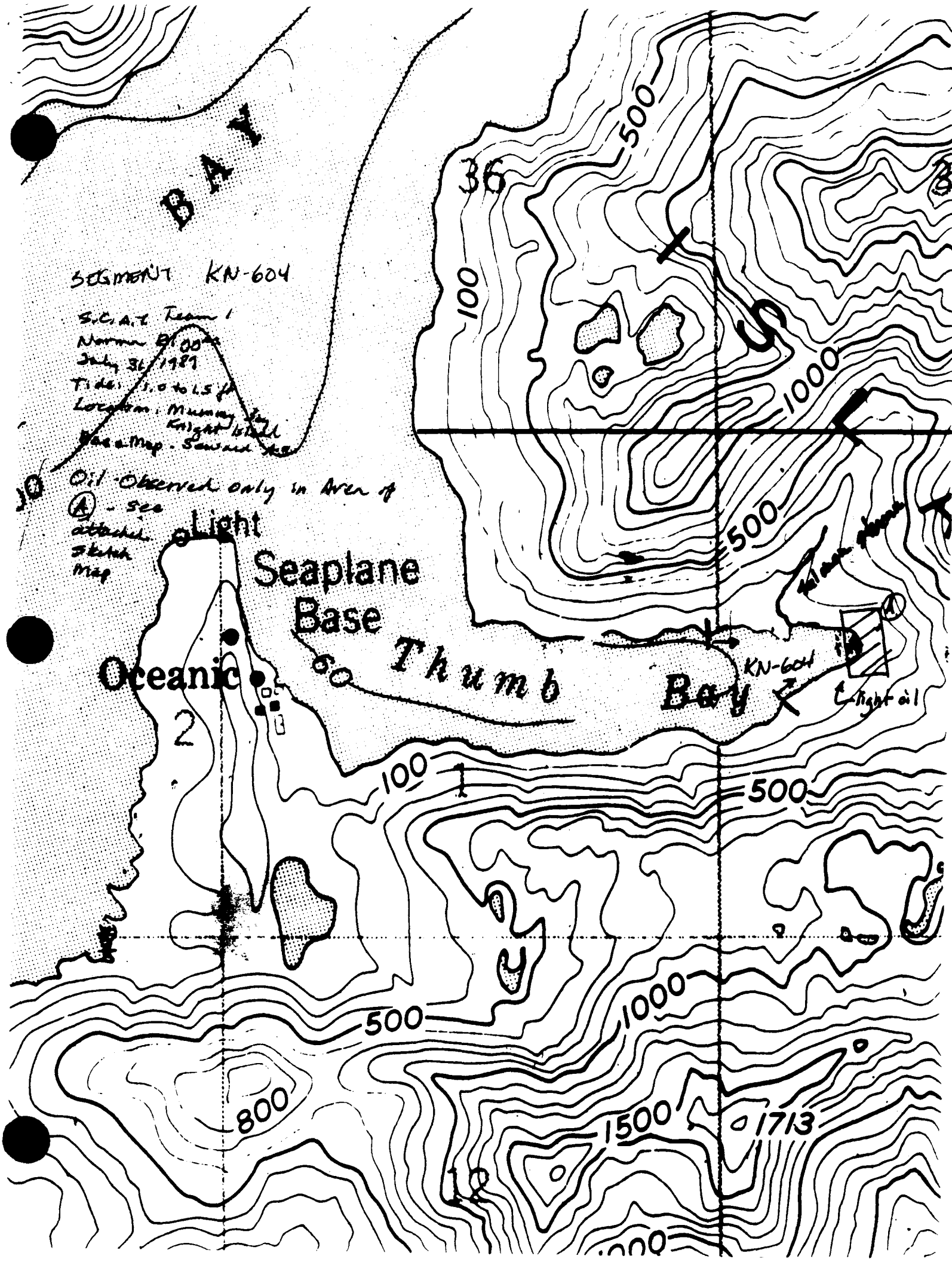
Observer(s) BETTS

Time survey started 1801 Time survey ended 1900

Cultural resource considerations/restraints:

Standard Constraints. Archaeology monitor required in this segment. Clean up personnel should be restricted from access to forest zone.


79
80
ABANDONED COPPER MINES
THROUGHOUT KNIGHT ISLAND
POTENTIAL CABIN
SITE
SUITABLE PASSAGE
FOR SMALL CRAFTS
DEER HUNTING
KNIGHT ISLAND
SMALL CRAFT
PASSAGE
LODGE
T. 2
T. 1
RECREATION
FAIR ANCHOR EXCEPT
WITH SOUTH WINDS
R. 9 E. R. 10 E.
KN 604
KNIGHT ISLAND


BAY
SEGMENT KN-604
S.C.A.T. Team 1
Norma 01:00
July 31, 1989
Tide: 1.0 to 1.5 ft
Location: Mummy Bay
Knight Island
Base Map - Seward Sea
Oil Observed only in Area of
(A) - See
attached
Sketch
Map
Light
Seaplane
Base
Oceanic
Thumb Bay
KN-604
Light oil
36
2
1
12
100
500
1000
800
1500
1713

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 8/6/89 SHORELINE SEGMENT KN-605

LOCATION: (see enclosed map) KNIGHT ISLAND-SOUTH SIDE OF OF THUMB BAY (KNIGHT ISLAND SOUTHWEST BLOCK)

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 7/31/89

Recommended Cleanup Activity(ies):
No cleanup recommended at this time (subject to FOSC reassessment at a later date), due to no oil.

Priorities Considerations:
No oil

Ecological Constraints (from site survey):
8-14-89 SC 8/14/89 If cleanup is conducted, work at mid tide + or take appropriate measures to protect lower intertidal zone. CATALOGED ANADROMOUS FISH STREAM (226-30-16797) present. Contact ADF+G AND RAT 48 HOURS PRIOR TO COMMENCING ANY CLEANUP.

Archeological Constraints (from site survey):
8-14-89 SC 8/14/89 If cleanup ~~if cleanup~~ is conducted inspection by an archaeological monitor is ~~recommended~~ REQUIRED during cleanup. 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.

Charles E Holmes
State Historic Preservation Officer * Date: August 9, 1989

ISCC: Sharon K. Christopherson Date: 8-14-89

EXXON: Daniel D. Tait Date: 8-14-89

FOSC: D. E. Cravens Date: 8-14-89

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

SHORELINE OIL EVALUATION

Date: 6/31/89 Time: 1900-2000 Observer: Norma Biggs

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

LOCATION

LOCATION Mummy Bay / Thrust Bay SEGMENT NUMBER KN-605

LENGTH OF SHORELINE SEGMENT: 3900 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 10 % / C 5 % / P___% / G___% / S___% / M___% / R 85 %

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

NA NA NA NA

Est. Oil Thickness where > 1cm:_____cm Est. Oil Penetration: _____cm

Pooled Oil: _____% "Free" Oil: _____% Coated: H____% /M____% /L____%

Fresh _____% Mousse _____% Tar Formation: _____%

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

Comments:

No oil observed.

ECOLOGICAL EVALUATION

LOCATION: Prince William S. SITE: Mummy Bay OBSERVER: C.R. White

LOCATION PREFIX: KN SEG. NO.: 605 LENGTH: ~~1000~~ 3,900 (M)

DATE: 07 / 31 / 89 TIME (HHMM): 1900-2000 TIDE HT.: 1.0-1.2 (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

continuous on rock shore - continuous or patchy on beaches

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

continuous throughout - some dense colonies on rock & in beach faces

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

parse & continuous throughout - sometimes dense spat set

Littorina

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

continuous throughout - esp among Fucus & in beach faces - also N lamella

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

continuous/sparse throughout.

OTHER OBSERVATIONS: beach infauna include hermit crabs & ~~amphi~~ amphipods

CLEANUP PRECAUTIONS: no oil / no cleanup / no precautions

MAMMALS: Otters 3 river otters Harbor Seals ___ Sea Lions ___ Whales ___

Other ___

BIRDS: ___

GENERAL OBSERVATIONS: ___

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 7-31-89 Location KNIGHT ISLAND Site THUMB BAY MUMMY BAY

Location Prefix KN Segment # 605 Length 3,900 M

Survey Method:

Air _____ (A - indicate on map) Boat X (95%) (A - indicate on map)

Ground X (5%) (G - indicate on map)

Known cultural resources (AHRS #) SEW-095 Data Source AHRS

Oil conditions/beach visibility No oil - excellent Beach visibility

Width of beach zone surveyed 5 m Tree fringe surveyed 10 M

Cultural resources observed in beach zone (AHRS code) PLG, HTI, HTD, CANNERY RUINS

Cultural resources observed in tree fringe (AHRS code) CAN, HTI, HTD, CANNERY RUINS

General observations justifying survey method and segment's site probability:

Shore Profile Moderate angle gravel and rock ITZ, Steep Forest slope downto ITZ

Fresh Water Sources Several small creeks

Sea Exposure East part of segment is protected bay - west part more exposed to PWS

Access/Safety Easy, Safe boat access via Thumb Bay, helicopter pad at SEW-095

Probability of undiscovered sites in beach zone (circle one) 1 2 3 4 (5)

Monitoring during cleanup needed (yes) no Collection yes/(no)

Photos: Color Roll # None Frames _____

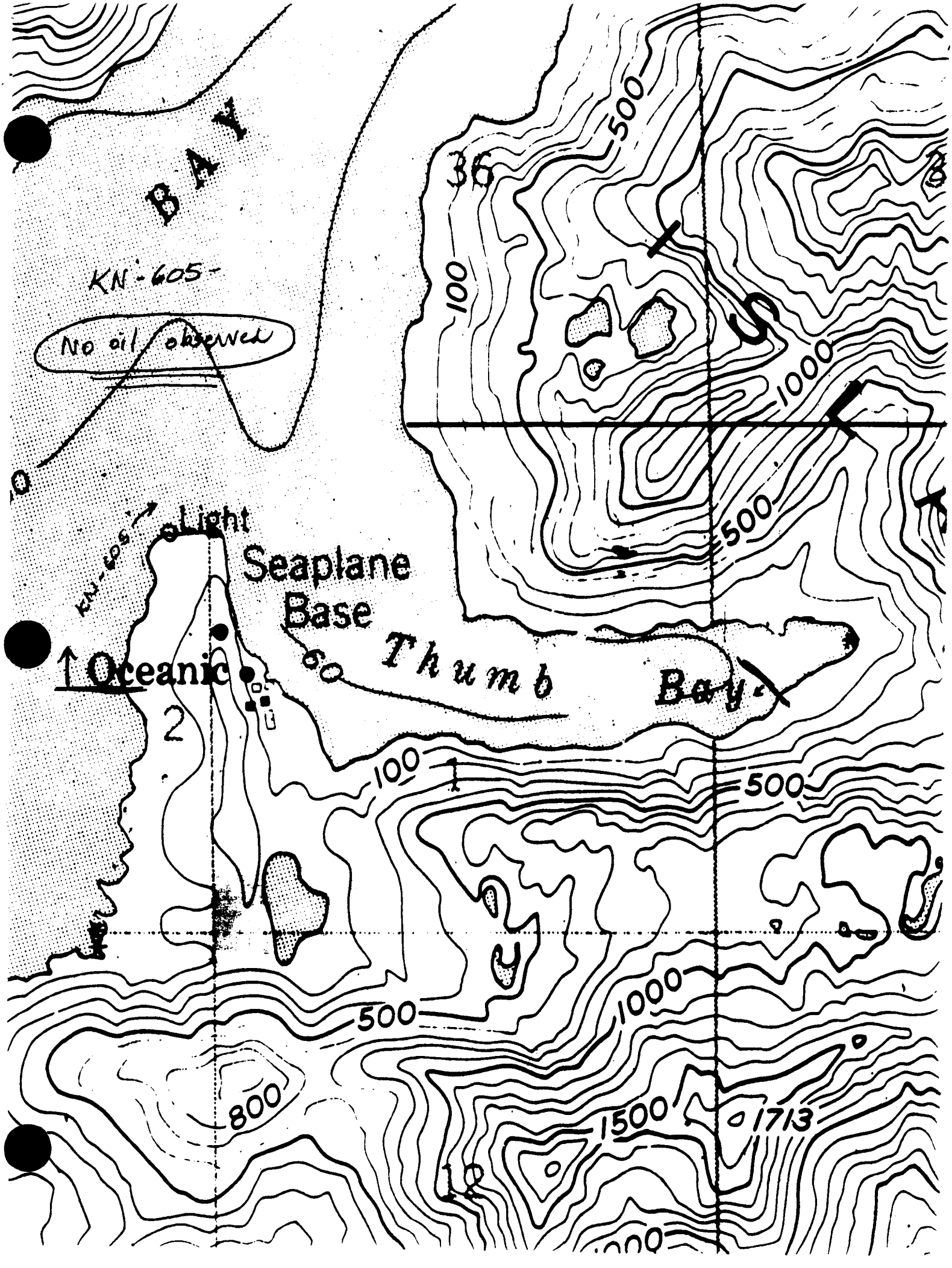
B/W Roll # 11-RB-9 Frames 10 - 14, 16-18

Observer(s) Rob BETTS

Time survey started 1900 Time survey ended 2030

Cultural resource considerations/restraints:

Standard Constraints. Cannery is private property with caretakers present but high probability of historical material in ITZ in vicinity of Cannery requires an Archaeological monitor if clean-up occurs in this segment.


BAY
KN-605-
No oil observed
KN-605
Light
Seaplane
Base
Oceanic
Thumb
Bay
36
2
1
500
100
1000
500
100
500
1000
500
800
1500
1713
1000

(version 6/14/89)

SHORELINE CLEANUP PROGRAM

DATE 8/6/89 SHORELINE SEGMENT KN-606

LOCATION: (see enclosed map) KNIGHT ISLAND-MUMMY BAY TO LITTLE BAY (KNIGHT ISLAND SOUTHWEST BLOCK)

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 8/1/89

Recommended Cleanup Activity(ies):
- Manually remove tar balls and patches of mousse.
- Flood/flush with warm to hot water (up to 140 F) on low angle beaches.
- Use moderate to high pressure warm to hot water washing on rocks.
- Use other approved methods as appropriate.

Priorities Considerations:
Class 3-4: Moderate to light oil
B: Resources absent

Ecological Constraints (from site survey): Work at mid tide + or take appropriate measures to protect lower intertidal zone.

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

Charles E. Holmes — Date: August 9, 1989
State Historic Preservation Officer *

ISCC: Sharon K. Christopherson — Date: 8-14-89

EXXON: Samuel S. Tift — Date: 8.14.89

FOSC: D. E. Cramer — Date: 8-14-89

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

SHORELINE OIL EVALUATION

Date: 8/1/89 / Time: 6:30-9:45 Observer: Norma Bigger

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

LOCATION

LOCATION Southwest side of Knight Island Mouth of Mummy Bay, Little Bay, S. Hawkins SEGMENT NUMBER KN-606

LENGTH OF SHORELINE SEGMENT: 5,500 m

ACCESS: Foot/Vehicle/Boat/Barge/Helio/Float Plane - Lot of offshore rocks

SHORELINE:

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

Wave Exposure: High/Med/Low

Sediment: B___% / C___% / P___% / G___% / S___% / M___% /R___%

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

OIL

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

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

Continuous: Y/N % of Segment 10 Width of Band: up to 14 m on beach

Sporadic: Y/N % of Segment 50

Est. Oil Thickness where > 1cm: ____cm Est. Oil Penetration: max: 5 +10 cm

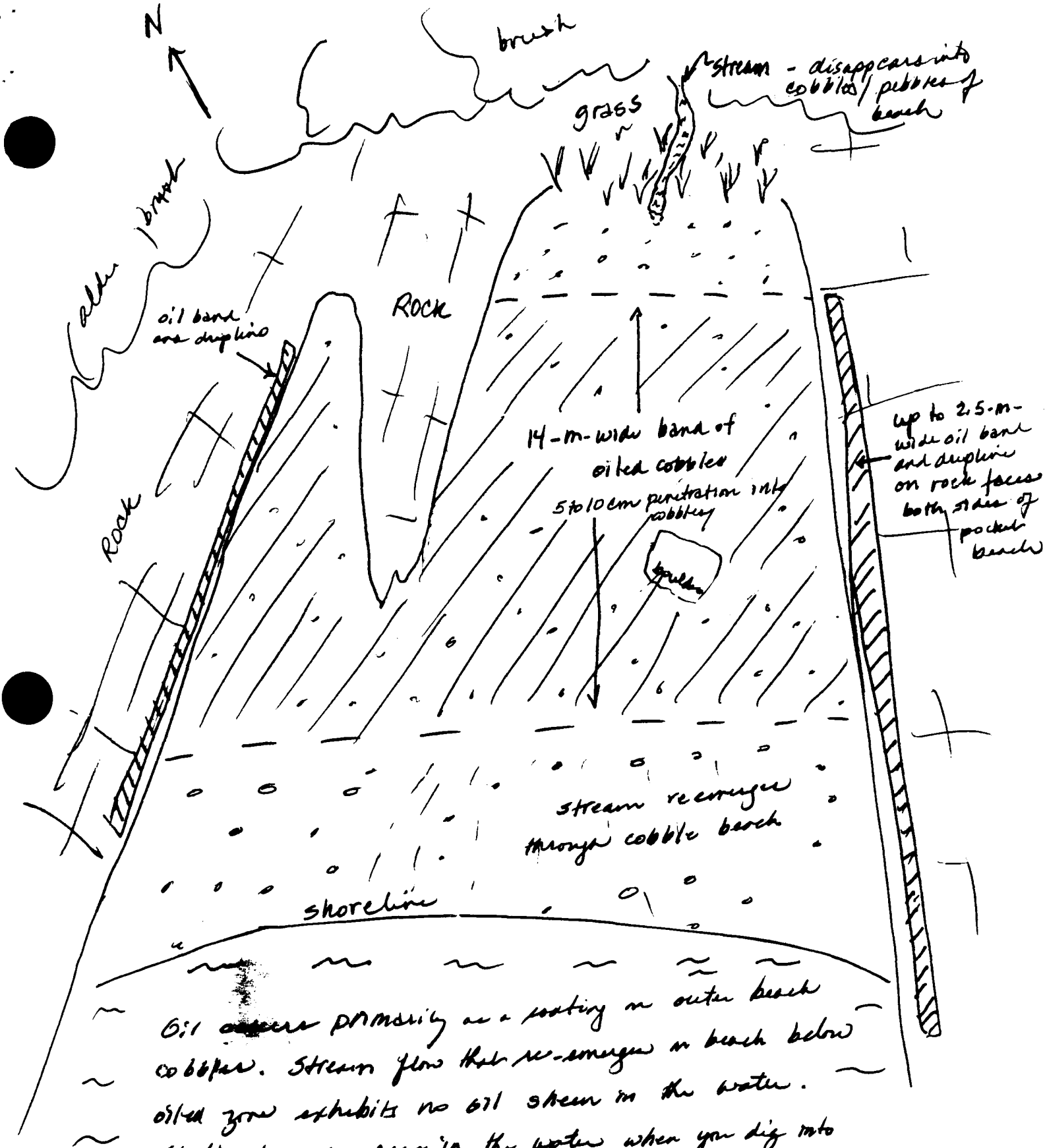
Pooled Oil: 0 % "Free" Oil: 0 % Coated: H___% /M 10 % /L 90 %

Fresh 0 % Mousse 10 % Tar Formation: 90 %

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

Comments:

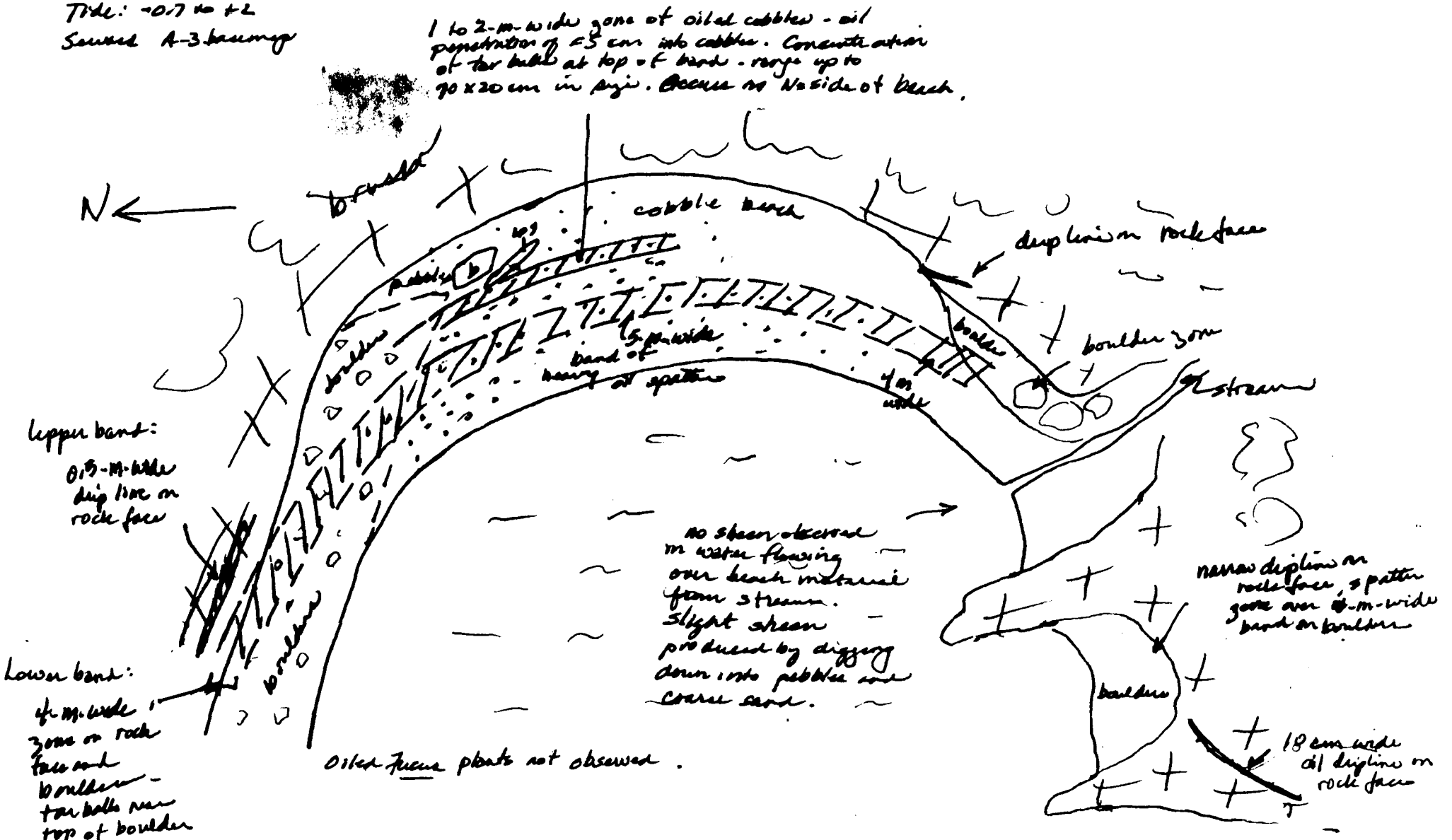
Oil droplets occurred in Fucus and barnacle areas, but Fucus does not appear oiled from passing by in a boat. Heaviest oiling observed was at location (A). Mousse and tarballs were seen in more southern part of segment



Oil occurs primarily as a coating on outer beach cobbles. Stream flow that re-emerges on beach below oiled zone exhibits no oil sheen on the water. Slight sheen is seen in the water when you dig into the upper beach. Mussels growing on top of the boulders on the beach are oiled but alive. Fucus has very little oiling.

KN-606 - Location [A] - Moderate Oiling

Segment KN-606
S.G.A.T Team 1
Norma Biggar
8/1/89
Tide: -0.7 to +2
Sensed A-3 bearings



KN-606 - LOCATION B

ECOLOGICAL EVALUATION

LOCATION: Prince William Sd SITE: South shore of Knight Is. OBSERVER: E.R. White

LOCATION PREFIX: KN SEG. NO.: 606 LENGTH: 5,500 (M)

DATE: 08 / 1 / 87 (07 31 87) TIME (HHMM): 0695-1230 (2030-2100) TIDE HT.: -0.7 - 2.0 (1.0-1.5) (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

continuous cover on rocks - beaches sparse to continuous dense (patchy) diverse & continuous algal cover over lower-subtidal environment

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

occaisional dense colonies on rock - some extensive beds in beach faces

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

continuous-sparse throughout - occaisionally dense - some dense spat set

Littorina

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

continuous with Fucus - patchy on rock & beach faces - some dense agglomerations near drift line

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

continuous throughout - sometimes dense in mid-low intertidal elevati

OTHER OBSERVATIONS: two possible salmon streams / eelgrass beds in bays & coves / lower beach & rock faces very productive

CLEANUP PRECAUTIONS: minimize lower intertidal & subtidal disturbance throughout / check with ADF&G re status of possible salmon streams

MAMMALS: Otters 15-20 sea otters / 5 ♀ with young Harbor Seals 2 Sea Lions 6 Whales 2

Other

BIRDS: shore birds / gulls / bald eagles / murrelets / scoters / mergansers - many water birds observed both adult & immature

GENERAL OBSERVATIONS:

- this segment is ecological very productive & supports many marine mammals & birds.

- all disturbance should be minimized.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 8-1-89 Location KNIGHT ISLAND Site SW COAST

Location Prefix KN Segment # 606 Length 5,500 M

Survey Method:

Air _____ (A - indicate on map) Boat X (98%) (A - indicate on map

Ground X (95%) (G - indicate on map)

Known cultural resources (AHRS #) NONE Data Source N/A

Oil conditions/beach visibility Light to Moderate oiling - discontinuous - generally no oil

Width of beach zone surveyed 5 m Tree fringe surveyed up to 25 M

Cultural resources observed in beach zone (AHRS code) HTI

Cultural resources observed in tree fringe (AHRS code) CMT

General observations justifying survey method and segment's site probability

Shore Profile Rocky headlands, small rock, cobble and gravel pocket beaches

Fresh Water Sources numerous creeks and streams

Sea Exposure Exposed to Knight Island Passage - a few coves but generally unsheltered

Access/Safety Dangerous rocks offshore - accessible only by small boat in calm seas

Probability of undiscovered sites in beach zone (circle one) 1 2 3 (4) 5

Monitoring during cleanup needed yes/(no) Collection yes/(no)

Photos: Color Roll # NONE Frames _____

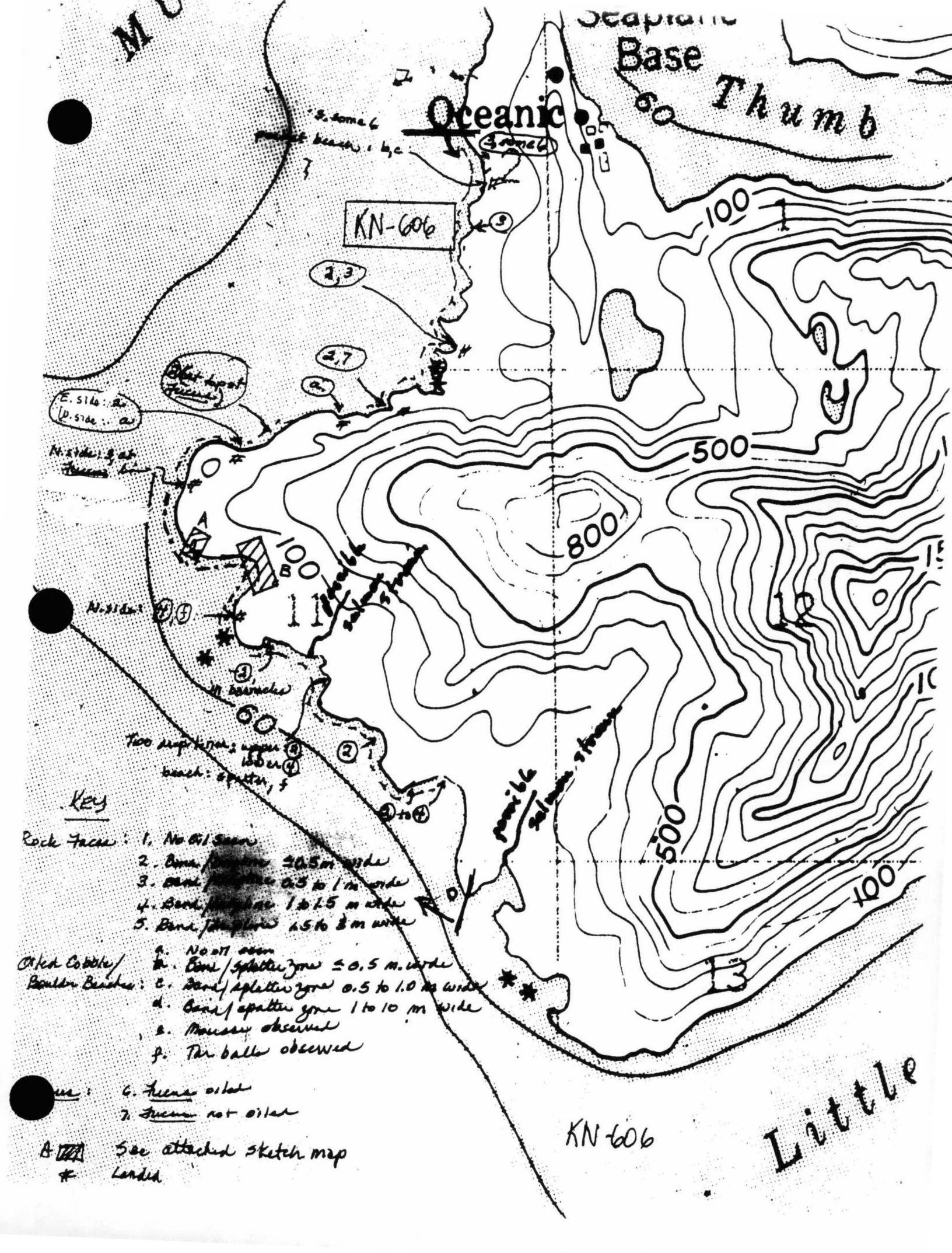
B/W Roll # NONE Frames _____

Observer(s) BOB BETTS

Time survey started 0640 Time survey ended 1050

Cultural resource considerations/restraints:

Standard Constraints. No Additional Archaeological Restraints.



KEY

Rock Faces: 1. No Oil Seen
2. Band/Splatter ≤0.5 m wide
3. Band/Splatter 0.5 to 1 m wide
4. Band/Splatter 1 to 1.5 m wide
5. Band/Splatter 1.5 to 3 m wide
6. No oil seen

Oiled Cobble/Boulder Beaches: b. Band/Splatter zone ≤ 0.5 m. wide
c. Band/Splatter zone 0.5 to 1.0 m wide
d. Band/Splatter zone 1 to 10 m wide
e. Mousse observed
f. Tar balls observed

Fuel: 6. Fuel oiled
7. Fuel not oiled

A ▨ See attached sketch map
* Landed

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 8/6/89 SHORELINE SEGMENT KN-607

LOCATION: (see enclosed map) KNIGHT ISLAND-NORTHWEST OF LITTLE BAY (KNIGHT ISLAND SOUTHWEST BLOCK)

ADEC NO._____ SHORELINE ASSESSMENT DATE: 8/1/89

Recommended Cleanup Activity(ies):
No cleanup recommended at this time (subject to FOSC reassessment at a later date), due to light oil, medium wave exposure and archeological constraints.

Priorities Considerations:
Class 4: Light oil
A: Resources present

Ecological Constraints (from site survey):
If cleanup is conducted, work at mid tide + or take appropriate measures to protect lower intertidal zone.

Archeological Constraints (from site survey):
No cleanup recommended due to sensitive cultural materials in this segment. If cleanup conducted, an archeological monitor is required and 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.

Charles E Holmes
State Historic Preservation Officer * Date: August 9, 1989

ISCC:_____ Date:_____

EXXON:_____ Date:_____

FOSC:_____ Date:_____

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

SHORELINE OIL EVALUATION

Date: 8/1/89 Time: _____ Observer: Norma Biggar

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

LOCATION

LOCATION SW side of Knight Island SEGMENT NUMBER KN-607

LENGTH OF SHORELINE SEGMENT: 1000 m

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

SHORELINE:

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

Wave Exposure: High/Med/Low

Sediment: B___% / C___% / P___% / G___% / S___% / M___% /R___%

Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type 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: about ~~20 cm~~ 0.2 m

Sporadic: Y/N % of Segment 10

Est. Oil Thickness where > 1cm: N/A cm Est. Oil Penetration: surficial cm

Pooled Oil: 0 % "Free" Oil: 0 % Coated: H___% /M___% /L 100 %

Fresh 0 % Mousse 90 % Tar Formation: 20 %

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

Comments:

Oil observed as mousse in band on cobble beach and as tar-balls on vertical rock face.

SHORELINE EVALUATION

LOCATION: Prince William Sd SITE: South shore of Knight Is. OBSERVER: E.R. White

LOCATION PREFIX: KN SEG. NO.: 607 LENGTH: _____ (M)

DATE: 08/02/89 TIME (HHMM): 1100-1230 1900-2200 TIDE HT.: 0.6-1.5 1.5-0.6 (M)

OILED ZONE: Splash (High) Medium Low trace

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

continuous on rock / sparse or absent on beach

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

dense, extensive bed in lower intertidal in west part of eastern bight

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

continuous throughout - sometimes dense on rock

Littorina

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

continuous on rock / patchy on beach face

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

on rock & on larger cobbles in beach

OTHER OBSERVATIONS: eelgrass in bays - subtidal

CLEANUP PRECAUTIONS: minimize disturbance to lower intertidal & in eelgrass beds.

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

Other _____

BIRDS: 30-40 gulls // 5-10 murrelets

GENERAL OBSERVATIONS: _____

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 8-1-89 Location KNIGHT ISLAND Site LITTLE BAY

Location Prefix KN Segment # 607 Length 600 M

Survey Method:

Air _____ (A - indicate on map) Boat X (30%) (A - indicate on map)

Ground X (70%) (G - indicate on map)

Known cultural resources (AHRS #) SEW-072 Data Source AHRS de Laguna (1956)

Oil conditions/beach visibility Very Light oil - excellent beach visibility

Width of beach zone surveyed 15 m Tree fringe surveyed 50 M

Cultural resources observed in beach zone (AHRS code) PAG

Cultural resources observed in tree fringe (AHRS code) CMT

General observations justifying survey method and segment's site probability:

Shore Profile TWO SMALL COVES SEPARATED BY A ROCKY HEADLAND

Fresh Water Sources Small creek at north end of Segment

Sea Exposure Small Bights open to PWS - exposed to West

Access/Safety Accessible by small boat in calm seas - offshore rocks

Probability of undiscovered sites in beach zone (circle one) 1 2 3 4 (5)

Monitoring during cleanup needed (yes)/no Collection (yes)/no

Photos: Color Roll # None Frames _____

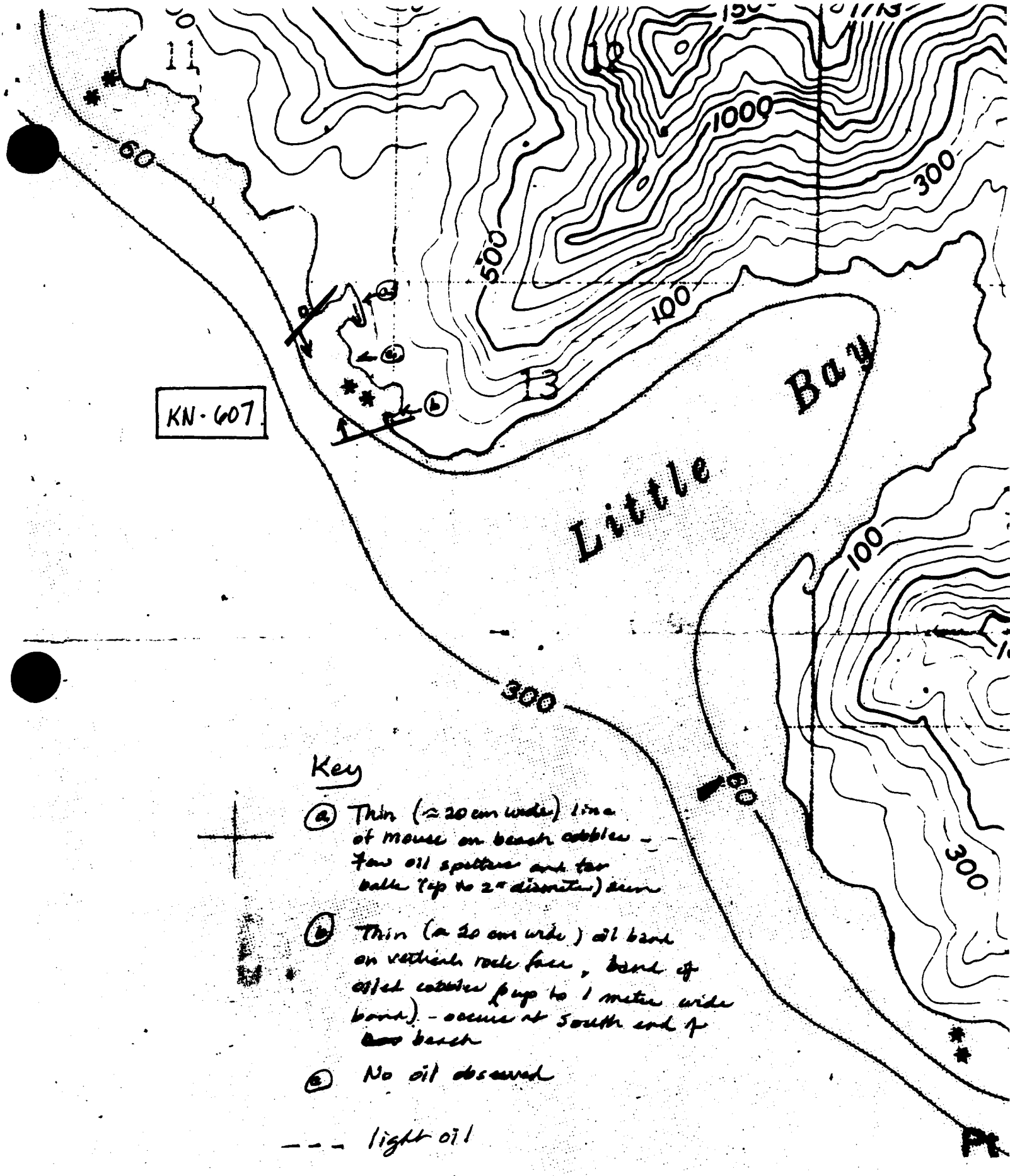
B/W Roll # T1-RB-9 Frames 19-26

Observer(s) BOB BETTS, PETER PHIPPEN

Time survey started 1058 Time survey ended 2159

Cultural resource considerations/restraints:

ARCHAEOLOGY MONITOR REQUIRED IF ANY CLEAN-UP ACTIVITY OCCURS IN THIS SEGMENT. CONTACT EXXON ARCHAEOLOGIST CHUCK MOBLEY AT 835-7525 PRIOR TO ANY WORK IN THIS SEGMENT.


11
12
13
1000
300
500
100
60
KN-607
Little Bay
100
300
60
300
Key
(a) Thin (≈ 20 cm wide) line of mousse on beach cobbles - few oil spattered and tar balls (up to 2" diameter) seen
(b) Thin (≈ 20 cm wide) oil band on vertical rock face, band of oiled cobbles (up to 1 meter wide band) - occurs at South end of beach
(c) No oil observed
--- light oil

(version 8/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Location (see enclosed map): KNIGHT ISLAND-LITTLE BAY BLOCK

Includes Shoreline Segments: KN-608

Submitted : Jerry H. Bailey (for Exxon) Date: 8-10-89

ISCC Recommendation: Sharon K. Christopher Date: 8/18/89

FOSC Approval: D. E. Cranney Date: 8-18-89

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

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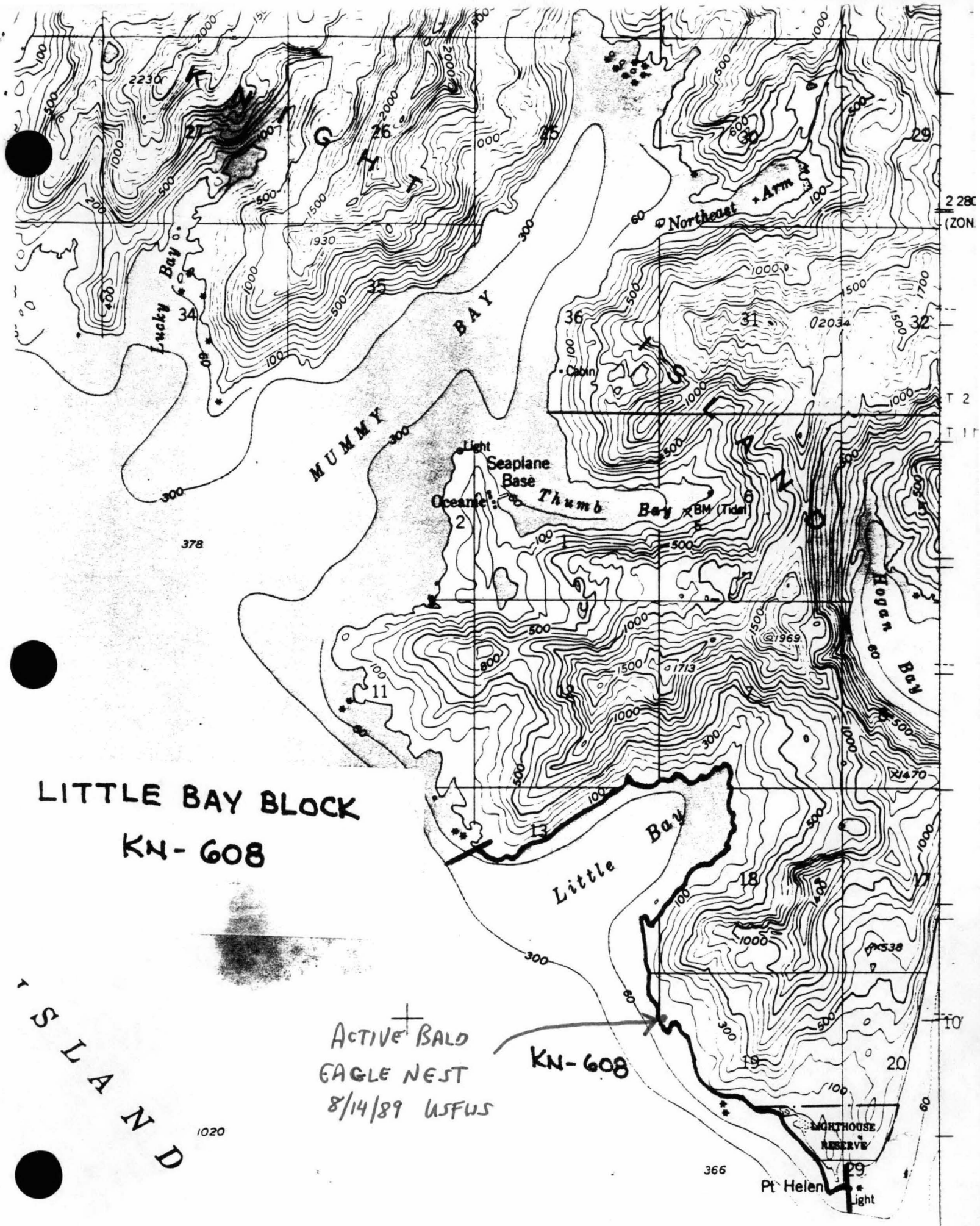
A.DEC
A.FG
A.DNR
CAC
PWSCA
USFS


LITTLE BAY BLOCK
KN-608
ACTIVE BALD
EAGLE NEST
8/14/89 USFWS
KN-608
Lucky Bay
MUMMY
BAY
Northeast Arm
Thumb Bay
Seaplane Base
Oceanic
Light
Little Bay
Hogan Bay
LIGHTHOUSE RESERVE
Pt Helen
Light
ISLAND

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 8/6/89 SHORELINE SEGMENT KN-608

LOCATION: (see enclosed map) KNIGHT ISLAND-LITTLE BAY TO POINT HELEN (LITTLE BAY BLOCK)

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 8/3/89

Recommended Cleanup Activity(ies):
No cleanup recommended at this time (subject to FOSC reassessment at a later date), due to no oil

Priorities Considerations:
No oil.
Medium recreational use.

Ecological Constraints (from site survey):
If cleanup is conducted, work at mid tide + or take appropriate measures to protect lower intertidal zone.
ONE ACTIVE BALD EAGLE NEST - SEE ADVISORY.

SC 8/18/89
DDT 8.18.89

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

State Historic Preservation Officer * Date: August 11, 1989

ISCC: Sheron K. Christopherson Date: 8/18/89

EXXON: Daniel R. Tufts Date: 8.18.89

FOSC: D.G. Cronenwett Date: 8-18-89

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

SHORELINE OIL EVALUATION

Date: 8/3/89 Time: 20.10 Observer: G. MACDONALD

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

LOCATION

LOCATION Little Bay - Pt. Helen SEGMENT NUMBER KN-608

LENGTH OF SHORELINE SEGMENT: 7,550 m

ACCESS: Foot/Vehicle/(Boat) (Barge) (Helio/Float Plane) — calm weather only

SHORELINE:

Shoreline Type: SPI/(BEA) (COV) HLD/(STRT) Slope: (LANG) (HANG) VER (beaches, rockwalls)

Wave Exposure: (High)/Med/Low

Sediment: B 20 % / C 15 % / P 15 % / G ~~x~~ % / S ~~x~~ % (5%) / M ___ % / R 45 %

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

OIL

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

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

Continuous: Y/N % of Segment _____ Width of Band: _____ m

Sporadic: (Y)/N % of Segment < 1%

Est. Oil Thickness where > 1cm: _____ cm Est. Oil Penetration: ∅ cm

Pooled Oil: _____ % "Free" Oil: _____ % (Coated) H ___ % / M ___ % / L ~~4~~ % / TRACE 100

Fresh _____ % Mousse _____ % Tar Formation: 100 %

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

Comments:

Exposed rocky shore with strands of pebble beach; oil as trace of tar spotting rock as thin coat; also as ≤ 3 cm line @ HWL; self-cleaning on pebble-cobble beaches and rock walls evident.

TAR is soft - mud. firm; dry surface skin.

8/3 Knight Isl. Little Bay. p.m.
Segment KNI-608
20.00 HRS

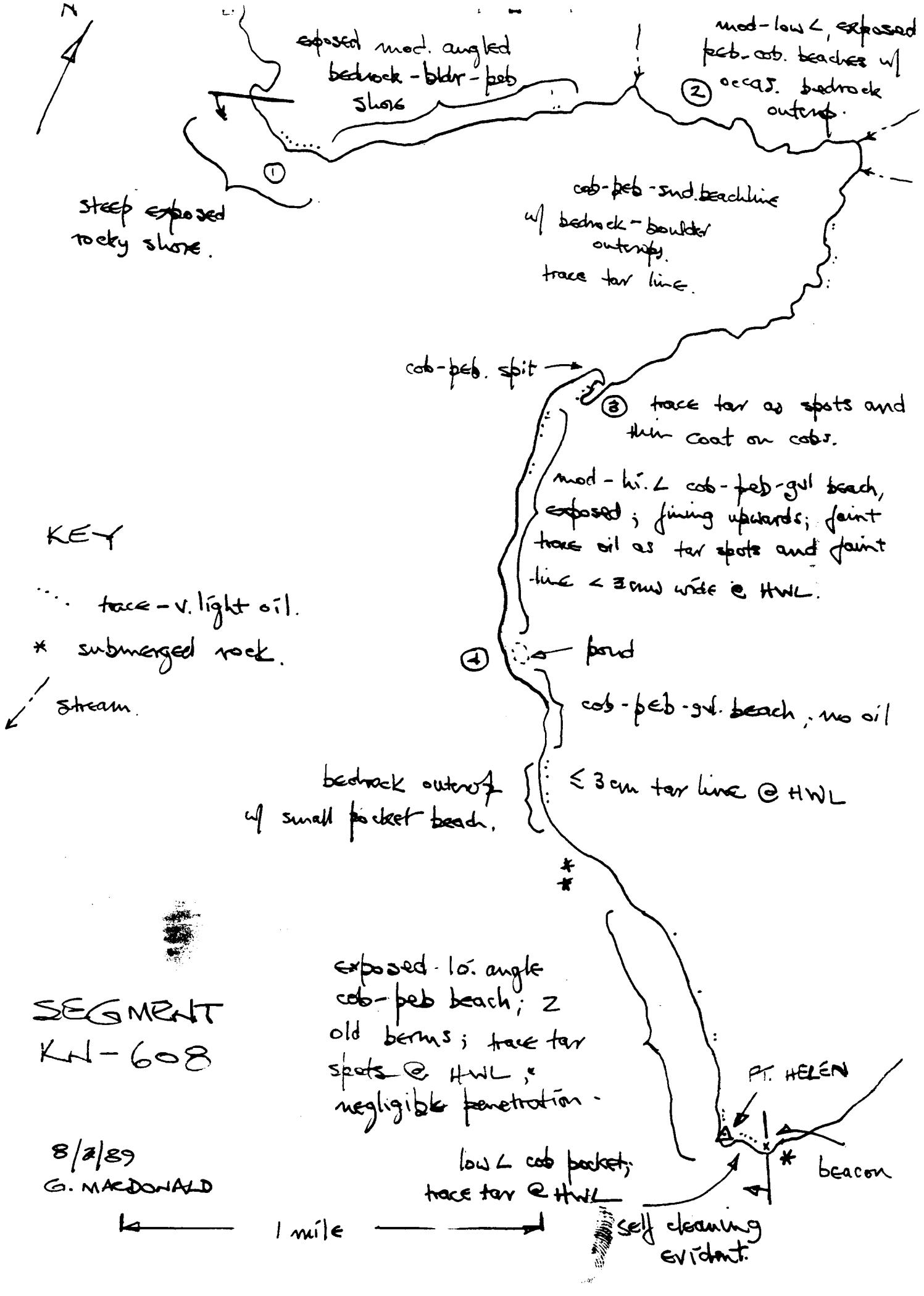
① steep rocky coast, cliffs to 3m; exposed; trace-tt oil as thin contin. seam line @ HWL, 2-10 cms wide, < 1mm tk; soft asphalt;

② ~3 sunken shoreline; peb-cob. beach; low ∠; w/ dead tree stumps; no oil; occas. bedrock outcrop; sandy bottom @ LWL.

③ fuming upwards, steep ∠. spit, cuspate; trace tar spots on pebs; discontin;

④ mod ∠ cob-peb-grl beach w/ berm. trapped lagoon/pond. no oil.

at least 2 major changes in land level (i) large drop (15-30'), then slow rise then (ii) ~5' rise. no cleaning here; self cleaning evident on cobbles & bedrock
22.30 END of SEGMENT.


N
exposed mod. angled bedrock - bldr - peb shore
mod-low ∠, exposed peb-cob. beaches w/ occas. bedrock outcrop.
2
1
steep exposed rocky shore.
cob-peb-snd. beachline w/ bedrock - boulder outcrops.
trace tar line.
cob-peb. spit
3
trace tar as spots and thin coat on cobs.
mod - hi. ∠ cob-peb-gvl beach, exposed; fining upwards; faint trace oil as tar spots and faint line < 3cm wide @ HWL.
KEY
trace - v. light oil.
* submerged rock.
stream.
4
pond
cob-peb-gvl. beach, no oil
bedrock outcrop w/ small pocket beach.
≤ 3cm tar line @ HWL
SEGMENT KH-608
exposed - lo. angle cob-peb beach; 2 old berms; trace tar spots @ HWL; negligible penetration.
PT. HELEN
beacon
8/2/89
G. MACDONALD
low ∠ cob pocket; trace tar @ HWL
1 mile
self cleaning evident.

south shore

LOCATION: Prince William Sd SITE: Knight Is. OBSERVER: E.R. White

LOCATION PREFIX: KN SEG. NO.: 608 LENGTH: 7550 (M)

DATE: 08 / 05 / 89 TIME (HHMM): 2000-2230 TIDE HT.: 1.3 - 0.6 (M)

OILED ZONE: Splash (High) Medium Low trace

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

continuous-dense on rock / sparse or absent on beaches / diverse lower intertidal or subtidal algae throughout

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

small dense colonies on rock / not observed on beaches

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

continuous throughout / small areas of dense spat fall

Littorina

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

discontinuous or continuous @ high tide on both rock & beaches / often over in lower beach faces

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

high to splash zone elevations on rock // often absent on beaches

OTHER OBSERVATIONS: subtidal eelgrass in head of Little Bay & protected areas of outer coast.

CLEANUP PRECAUTIONS: biota would not benefit from cleanup

MAMMALS: Otters 4 seen other ___ Harbor Seals ___ Sea Lions ___ Whales ___

BIRDS: 20-40 murrelets // 40-60 gulls // 2 bald eagles

GENERAL OBSERVATIONS: ___

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 8-3-89 Location Knight Island Site SW Coast

Location Prefix KN Segment # KN-608 Length 7550 meters

Survey Method:

Air _____ (A - indicate on map) Boat ✓ (A - indicate on map

Ground ✓ (G - indicate on map)

Known cultural resources (AHRS #) SEW-071 Data Source AHRS/De Laguna 1956:3

Oil conditions/beach visibility trace to Light

Width of beach zone surveyed 5-10 m Tree fringe surveyed <10m

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 Moderate to high angle cobble to blocky boulders below cliff.

Fresh Water Sources Streams, back beach ponds (2)

Sea Exposure High energy shoreline, exposure to SE, S, SW, W.

Access/Safety (Little Bay - Good, the remainder moderately hazardous).

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 _____

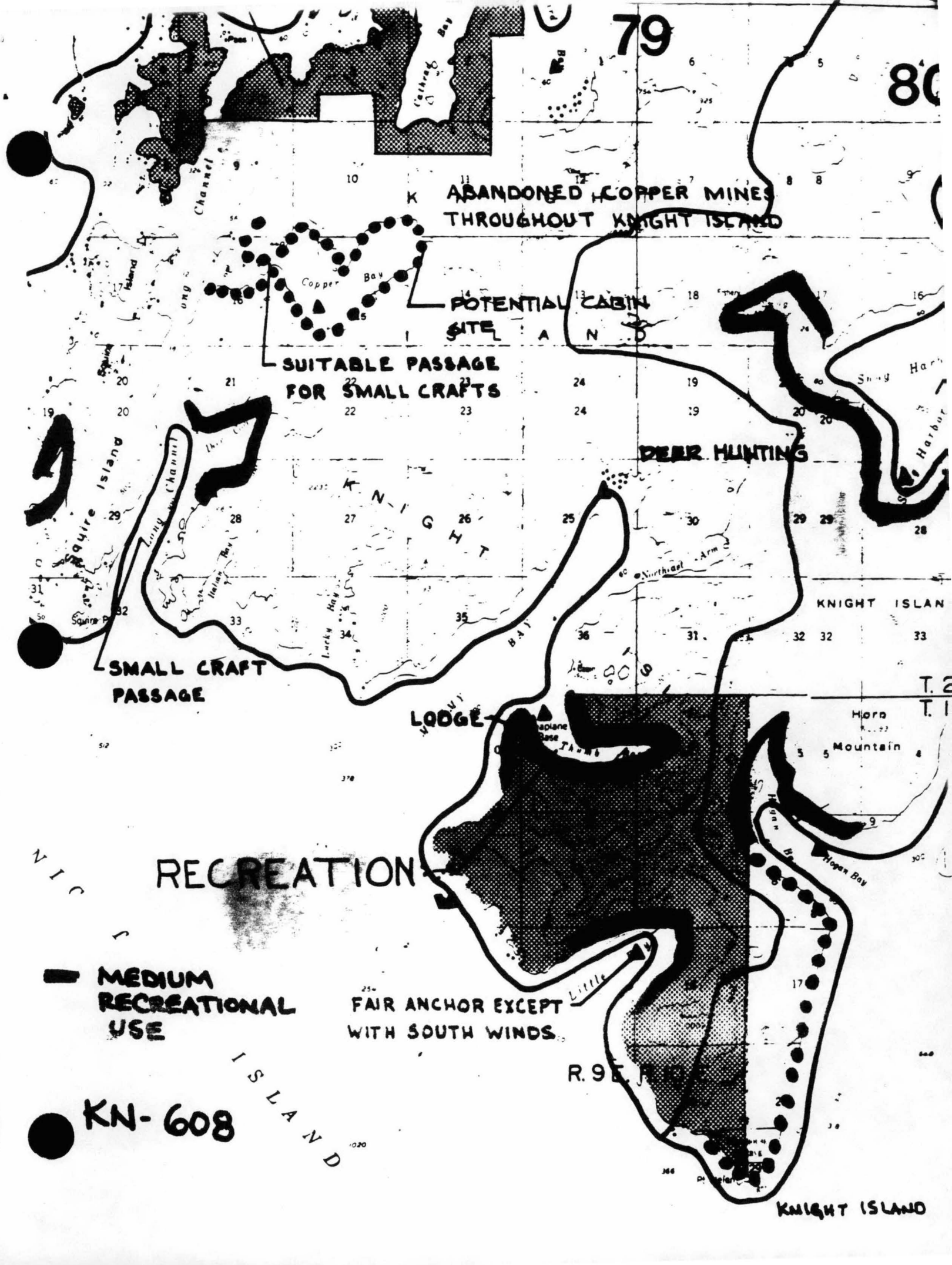
B/W Roll # P6P #12 Frames 29-31

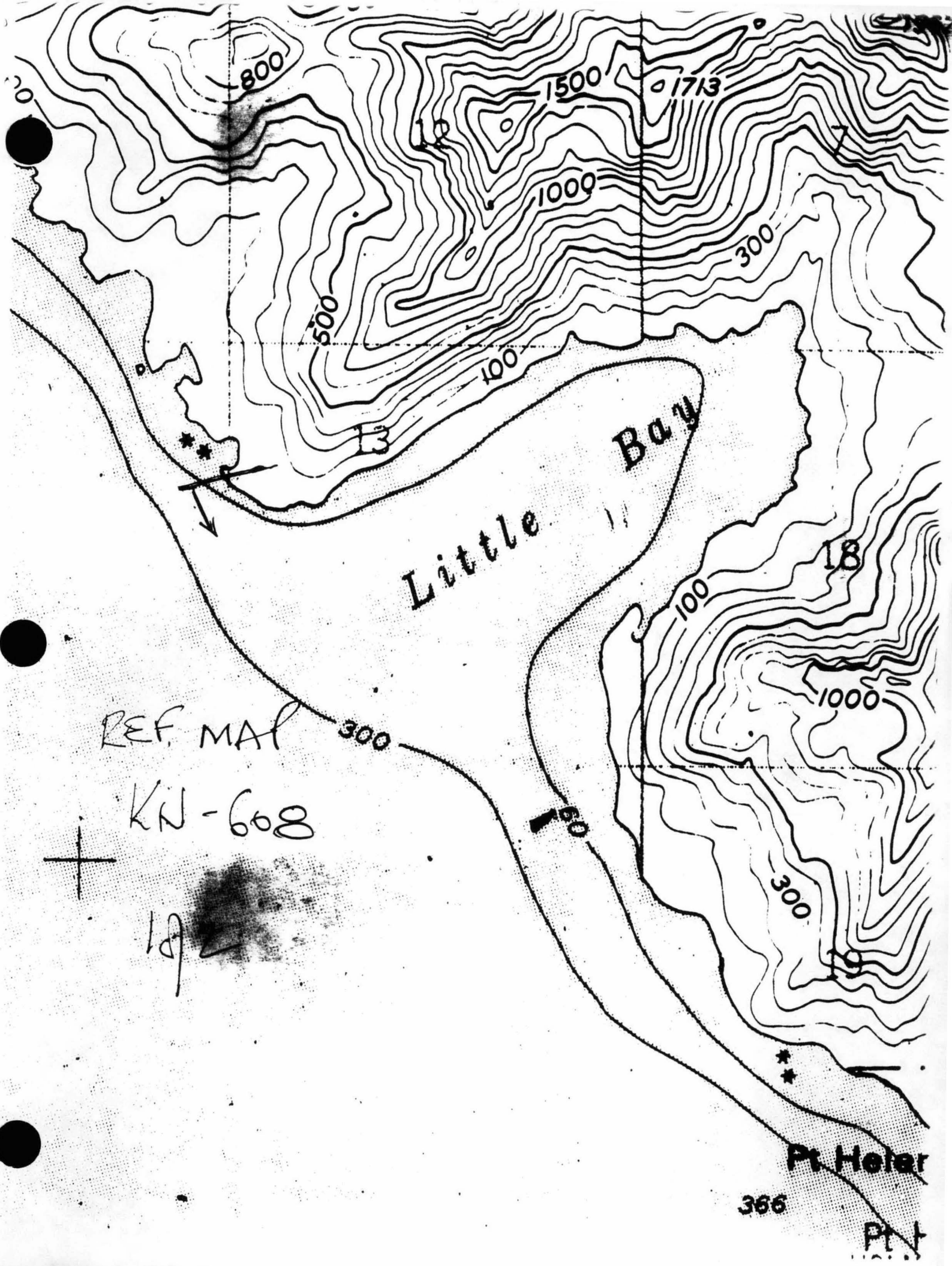
Observer(s) [redacted] Phippen

Time survey started 2020 Time survey ended 2250

Cultural resource considerations/restraints:

If heretofore unobserved cultural material... (Standard)


79
80
ABANDONED COPPER MINES
THROUGHOUT KNIGHT ISLAND
POTENTIAL CABIN
SITE
SUITABLE PASSAGE
FOR SMALL CRAFTS
DEER HUNTING
SMALL CRAFT
PASSAGE
LODGE
RECREATION
MEDIUM
RECREATIONAL
USE
FAIR ANCHOR EXCEPT
WITH SOUTH WINDS
KN-608
KNIGHT ISLAND
Copper Bay
Squire Island
Long Channel
Lucky Hay
Northeast Arm
Horn Mountain
Hogan Bay
Little
R. 9 E.
T. 2
T. 1


800
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1713
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7
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13
Little Bay
18
100
1000
REF. MAP
KN-608
300
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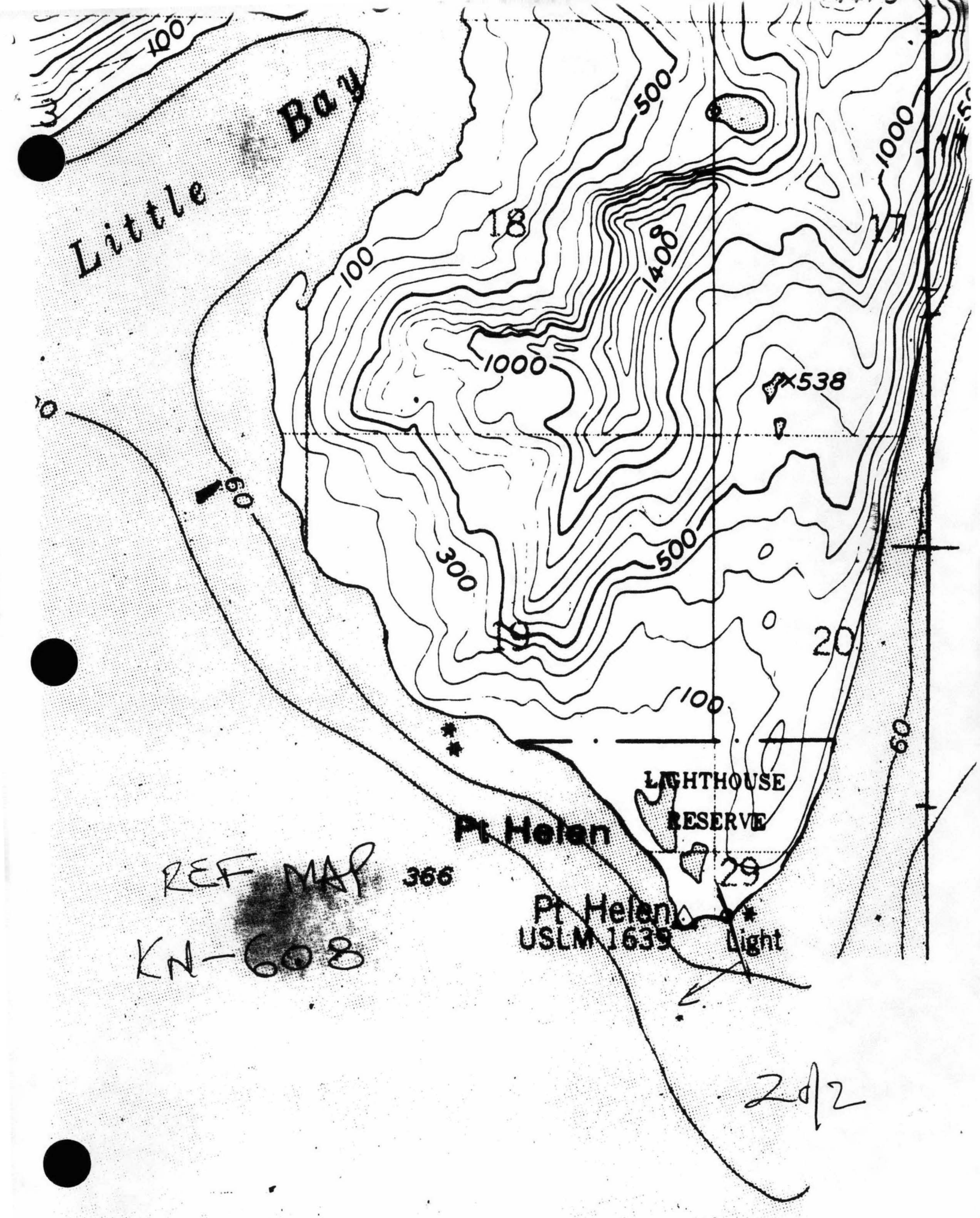
300
19
Pt. Heler
366
Pt.



REF MAP 366

KN-608

2 of 2

KN-608

9/6/89

INSPECTION REPORT

Shoreline Treatment Process(es) Completed for this Segment

- ☐ Hot water wash
- ☐ Warm water wash
- ☐ Water deluge
- ☐ Mechanical
- ☐ Non-mechanical
- ☒ Other Hand work only

Exxon

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

Comments Manually removed debris. No significant oiling remaining

Signature R C Harrelson Date: 9/6/89 Time: 15:55

Printed Name R C HARRELSON

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

Percent	Degree of Oiling
0	Heavy
0	Medium
0	Light
0	Very Light
100	None
100 %	

Subsurface Oil

☐ Yes ☒ No

COMMENT BELOW

Reassessment

☒ Yes - necessary

☐ No - not necessary unless re-oiled

Existing Shoreline Condition As Visually Determined by ADEC

Surface Oil

Percent	Degree of Oiling
	Heavy
	Medium
	Light
	Very Light
	None
100 %	

Subsurface Oil

☐ Yes ☐ No

COMMENT BELOW

Reassessment

☐ Yes - necessary

☐ No - not necessary unless re-oiled

ADEC rep

Comments

Signature Date: / / Time:

Printed Name

FOSC rep **Demobilization approved/disapproved**

Comments NO GROSS CONTAMINATION

Signature Scott Rainsford MST1 Date: 9/6/89 Time: 1600

Printed Name SCOTT RAINSFORD MST1

COPY: EXXON ADEC FOSC ISCC

(version 5/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Location (see enclosed map): KNIGHT ISLAND-MARSHA BAY BLOCK

Includes Shoreline Segments: KN-700, KN-701, KN-702, KN-703, KN-704

Submitted : Scott A. Neuman (for Exxon) Date: 7/6/89

ISCC Approval: Sharon K. Christopherson Date: 7/10/89

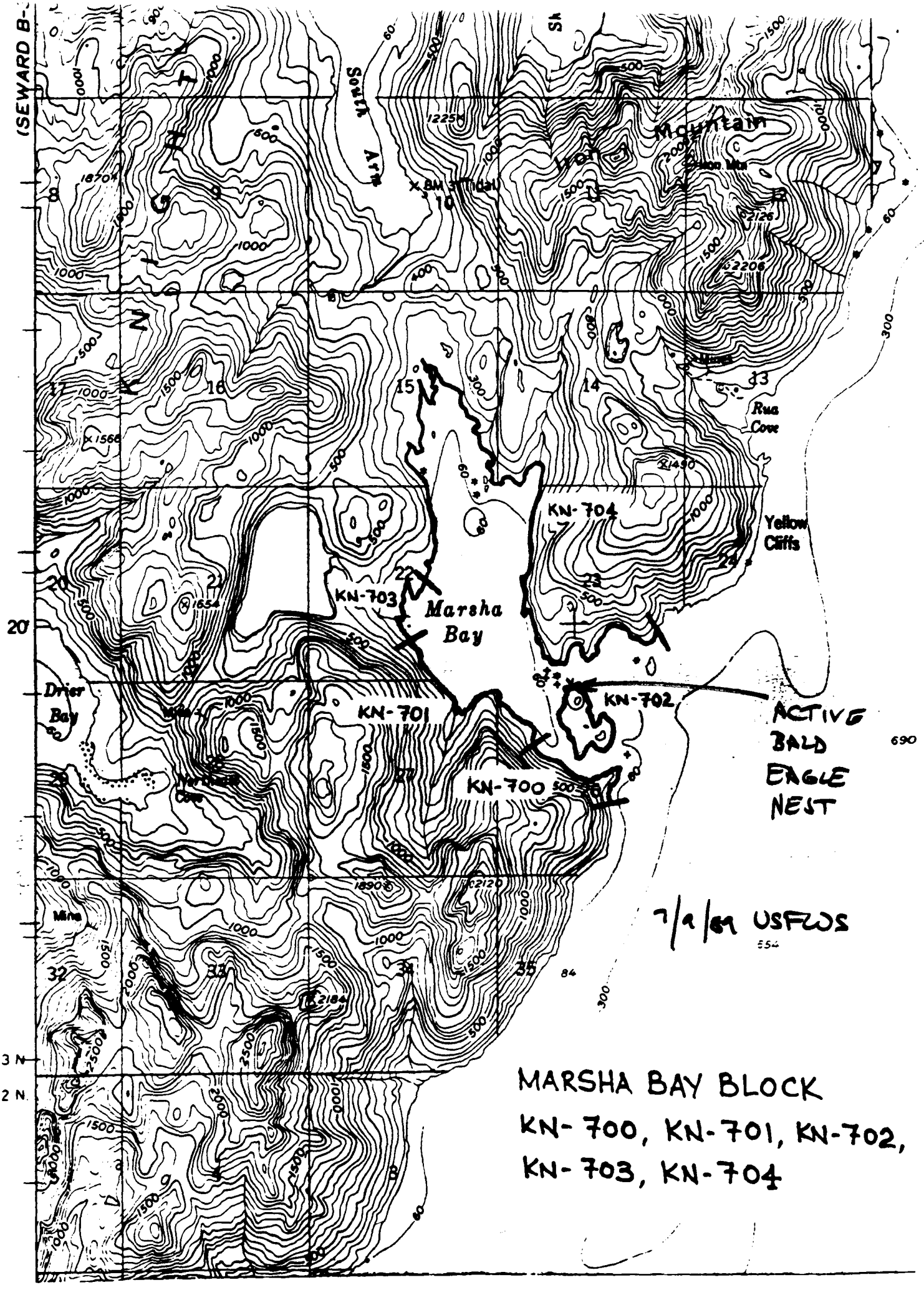
FOSC Approval: C. S. Robbins Date: 7/12/89

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



MARSHA BAY BLOCK
KN-700, KN-701, KN-702,
KN-703, KN-704

(version 6/14/89)

SHORELINE CLEANUP PROGRAM

DATE 7/06/89 SHORELINE SEGMENT KN-700

LOCATION: (see enclosed map) KNIGHT ISLAND-MARSHA BAY

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 7/02/89

Recommended Cleanup Activity(ies):
- Manually remove contaminated drift material (fucus and driftwood), pooled oil and patches of mousse.
- Use other approved methods as appropriate.
- No other cleanup recommended at this time (subject to FOSC approval) due to light oil and high wave action.

Priorities Considerations:
Class 3-4: moderate to light oil.
Class A: resources present.

Ecological Constraints (from site survey): Work at mid tide + or take appropriate measures to protect lower intertidal zone.
LANDS OWNED BY CAC – PERMIT NO ACCESS TO UPLANDS.

7/10/89

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 — Date: July 6, 1989
State Historic Preservation Officer *

ISCC: Sherry K. Christopherson — Date: 7-10-89

EXXON: [illegible] — Date: July 10 - 89

FOSC: [illegible] — Date: 7-10-89

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

SHORELINE OIL EVALUATION

Date: 2 July / Time: 0557 - 737 hr Observer: Mann

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

LOCATION

LOCATION south, outer portion of Marsha Bay SEGMENT NUMBER KN 700

LENGTH OF SHORELINE SEGMENT: 760 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 (High for PWS)

Sediment: B 40 % / C 40 % / P <1 % / G 0 % / S 0 % / M 0 % / R 20 %

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

OIL

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

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

Continuous: Y/N % of Segment 50 Width of Band: 2-6 m

Sporadic: Y/N % of Segment 50

Est. Oil Thickness where > 1cm: 2 cm Est. Oil Penetration: 10-20* cm

Pooled Oil: 0 % "Free" Oil: 5 % Coated: H 10 % / M 50 % / L 35 %

Fresh 0 % Mousse 20 % Tar Formation: 80 %

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

Comments:

Only "site a" of this segment might be considered cleanable. Even for "site a", no cleanup recommended due to this segment's high wave energy and consequent high probability of 'natural' cleanup.

*only at site 700a's storm berm

ECOLOGICAL EVALUATION

LOCATION: Knight Island SITE: Marsha Bay OBSERVER: MEYER

LOCATION PREFIX: KN SEG. NO.: 700 LENGTH: 760 (M)

DATE: 07 / 02 / 89 TIME (HHMM): 0600 TIDE HT.: -2.0 FT (M)

OILED ZONE: Splash (High) (Medium) Low

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

LIVE BIOTA

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

Seaweeds abundant and rich with associated biota throughout segment.

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

Some mussels on rock outcrop — unoiled.

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

Patches also of spat; few barnacles in oiled zone.

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

Patches of adults and young littorina dense, other areas littorina sparse in fucus. Some young littorina in oiled zone. Nucella present in patches in LTZ.

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

Often fairly dense beneath fucus — not oiled.

OTHER OBSERVATIONS: Abundant and diverse seastar populations: Dermasterias continuous throughout segment, some dense patches (2/yd²); also many Pycnopodia, Pisaster; a few Evasterias, Orthasterias. Low tidal zone also shows hermit crabs in fucus, calcareous worms, bryozoans, green anemones in tidal pool areas.

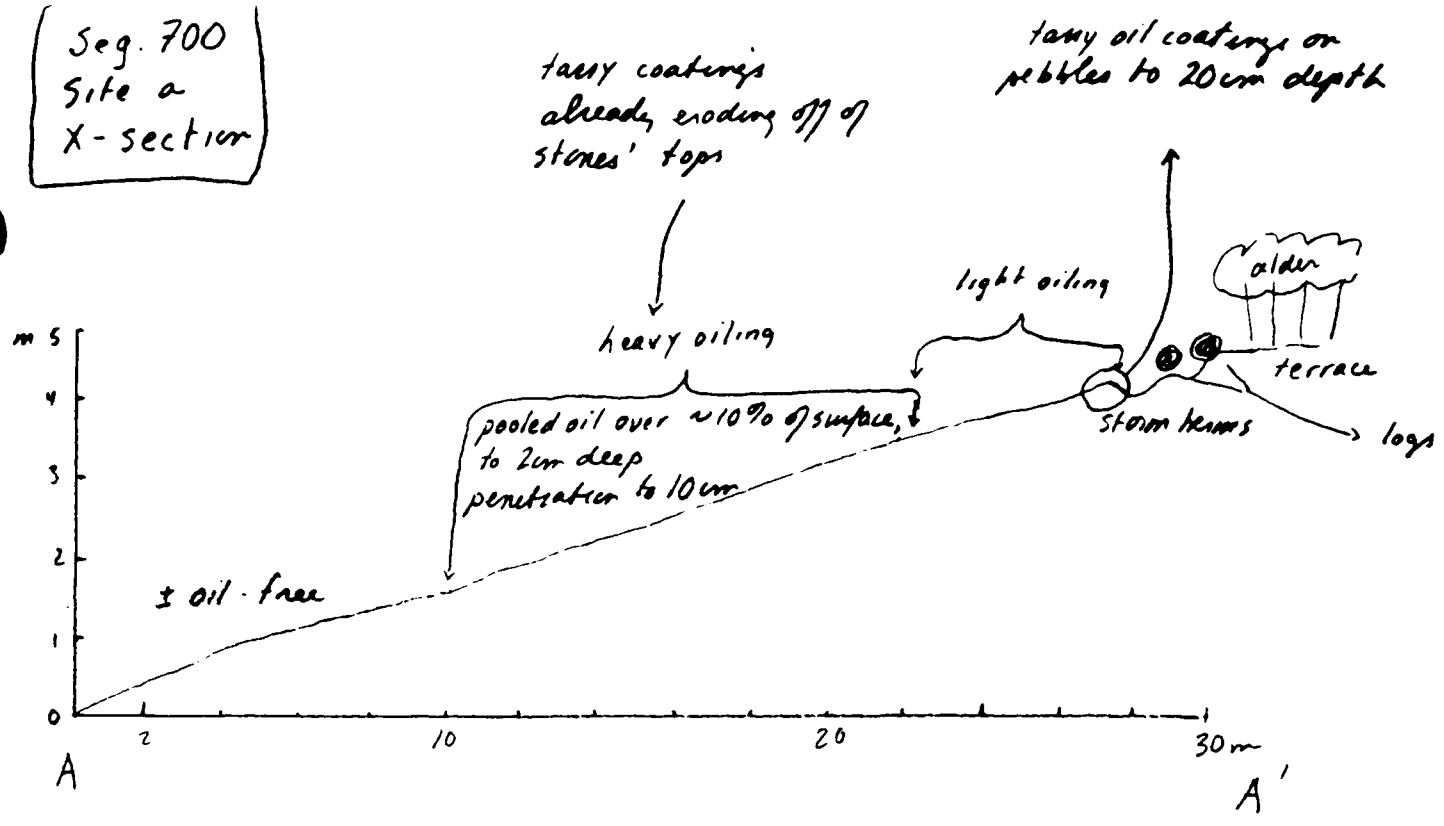
CLEANUP PRECAUTIONS: No cleanup recommended due to high energy beach and rich intertidal.

MAMMALS: Otters 1 Harbor Seals (outside Bay) 1 Sea Lions ____ Whales ____
Other ____

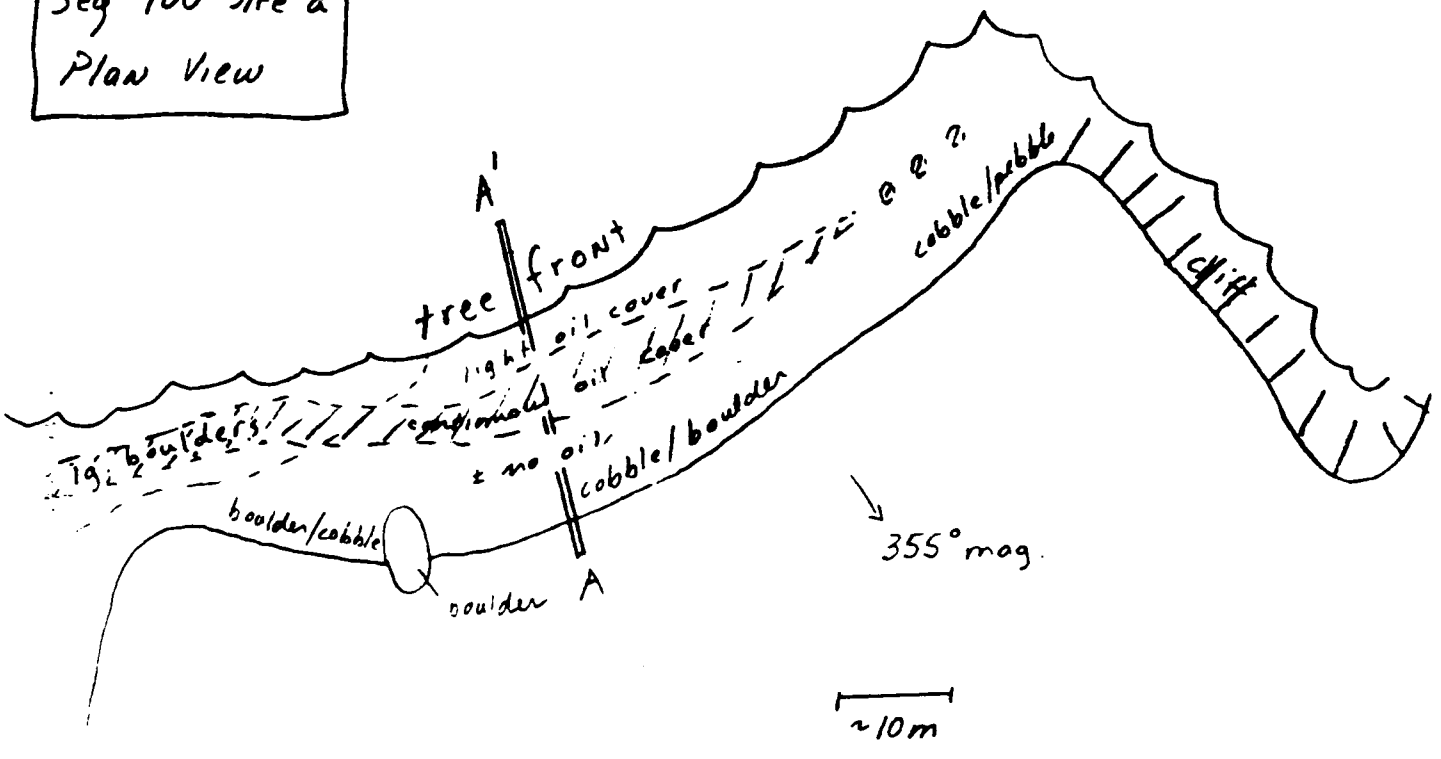
BIRDS: Rufous Hummingbird - 1

GENERAL OBSERVATIONS: Mid and low tidal zones unoiled and rich with biota throughout segment; Rock outcrops show especially high diversity of species.

Seg. 700
Site a
X-section



Seg 700 Site a
Plan View



<u>recommendation</u>: No cleanup recommended because natural wave action is cleaning beach.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 2 JULY 1989 Location Knight Island Site

Location Prefix KN Segment # KN-700 Length 0.76 Km

Survey Method:

Air (A - indicate on map) Boat ✓ (A - indicate on map)

Ground (G - indicate on map)

Known cultural resources (AHRS #) NONE Data Source —

Oil conditions/beach visibility light to moderate

Width of beach zone surveyed 0-100 m Tree fringe surveyed Up to 10 M

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 Very large cobbles, plus boulders. Steep cliff faces. Mixed evergreens, alder, grass, devil's club.

Fresh Water Sources NONE

Sea Exposure Fairly protected.

Access/Safety None

Probability of undiscovered sites in beach zone (circle one) 1 (2) 3 4 5

Monitoring during cleanup needed yes/(no) Collection yes/(no)

Photos: Color Roll # None Frames —

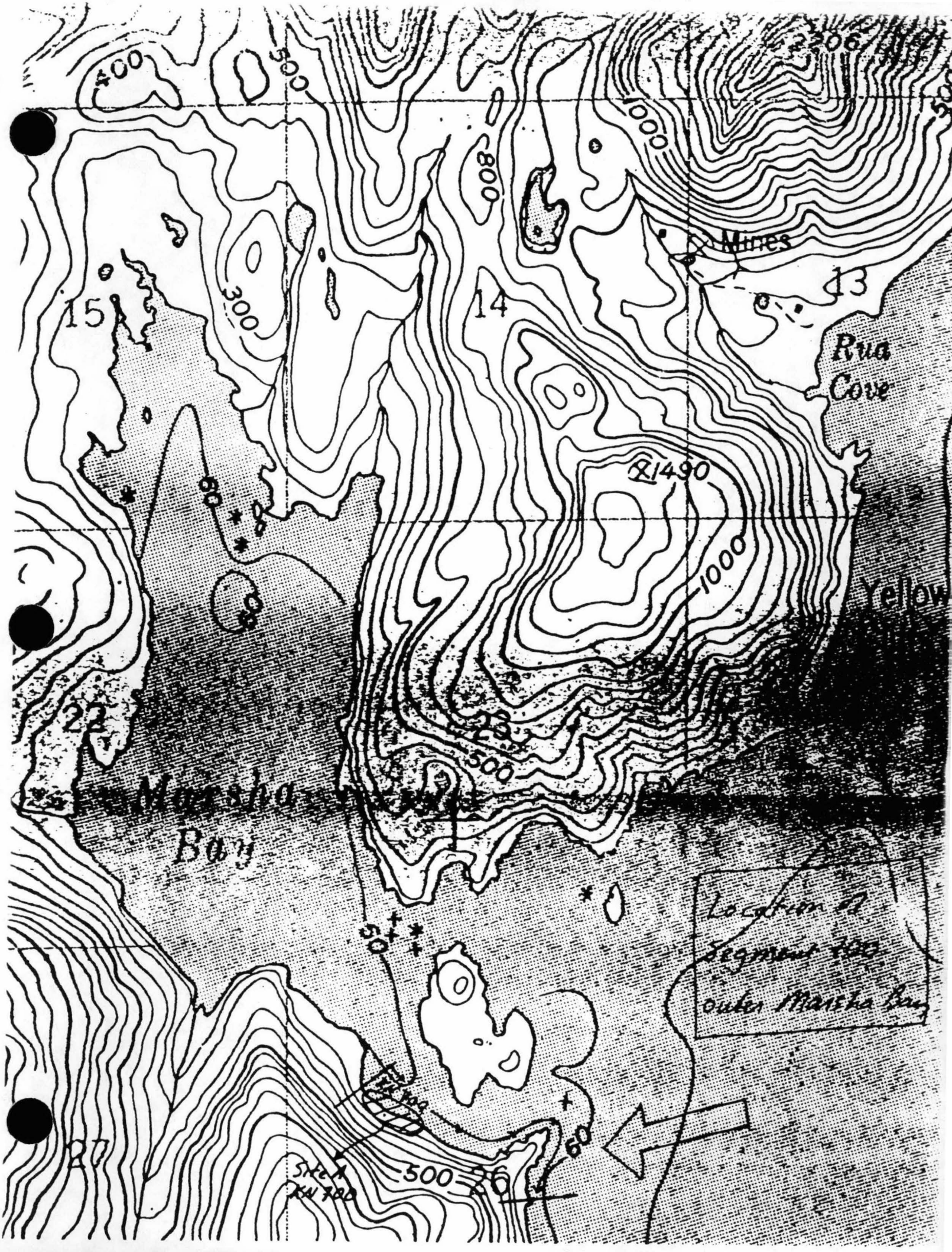
B/W Roll # None Frames —

Observer(s) TY L. DILLIPLANE

Time survey started 0557 hrs Time survey ended 0737 hrs

Cultural resource considerations/restraints:

If heretofore undiscovered cultural resources are found during any cleanup activities, please notify the Exxon archaeological director, Chuck Mobley, immediately.


400
500
1000
800
300
Mines
15
14
13
Rua
Cove
1490
1000
Yellow
22
23
500
Marsha
Bay
Location of
Segment 700
outer Marsha Bay
Skeen
Rn 700
500
26
60

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/06/89 SHORELINE SEGMENT KN-701

LOCATION: (see enclosed map) KNIGHT ISLAND-MARSHA BAY

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

SC 7/10/89

Recommended Cleanup Activity(ies):

-Manually remove contaminated drift material (fucus), free oil and patches of mousse.

MANUAL REMOVAL OF CONTAMINATED ~~SEDIMENTS~~ MATERIAL FROM STREAM AND BANKS PER ATTACHED PERMIT. 7/10/89

-~~Evaluate the possibility of redirecting the stream to its natural course by removing obstruction of primary channel. The primary channel outfalls into clean area, while secondary channel (which currently contains main flow) outfalls into moderately oiled area.~~

-Flood/flush with warm to hot water (up to 140°F) on low angle beach, ~~if it will not have severe adverse effects on stream bed.~~ DO NOT FLOOD/FLUSH IN AREA OF STREAM DELTA. PROTECT STREAM FROM SHEEN. 7/10/89 SC

-Determine if this is a "late use" stream.

Priorities Considerations:

Class 1: moderate to light oil/time sensitive.

Class A: subsistence resources present.

Ecological Constraints (from site survey): This segment contains a catalogued anadromous stream. Contact ADF&G and RAT 48 hours prior to conducting cleanup in this segment. Work at mid tide + or take appropriate measures to protect lower intertidal zone. Crews should avoid large unoiled fucus beds and salt marsh grasses in flood plain of site A if possible. Work at mid tide + or take appropriate measures to protect lower intertidal zone. 7/10/89 SC 7/10/89

CAC OWNED LAND – ~~RESTRICT~~ PERMIT NO ACCESS TO UPLANDS.

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 — Date: July 6, 1989

State Historic Preservation Officer *

ISCC: Sharon K. Christopherson — Date: 7-10-89

EXXON: [signature] — Date: July 10 - 89

FOSC: [signature] — Date: 7-12-89

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

SHORELINE OIL EVALUATION

Date: 2-3 July 89 Time: 0800hrs 2 July / 0649hrs 3 July Observer: Mann

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

LOCATION

LOCATION south shore of Marsha Bay SEGMENT NUMBER KN 701

LENGTH OF SHORELINE SEGMENT: 1.8 Km

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 5 % / S 5 % / M 0 % / R 20 %

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

OIL

at creek mouth only

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

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

Continuous: (Y)/N % of Segment 10 Width of Band: 10-12 m

Sporadic: (Y)/N % of Segment 90

Est. Oil Thickness where > 1cm: 1-5 cm Est. Oil Penetration: 2-5 cm

Pooled Oil: 0 % "Free" Oil: 5 % Coated: H 5 % / M 15 % / L 80 %

Fresh 0 % Mousse 5 % Tar Formation: 95 %

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

Comments: Site a of segment KN701 is a high priority site for cleanup. Only site a of this segment requires clean-up. At Site a, there is a 10-12m-wide band of mousse in the upper and middle ITZ along a creek flowing into Marsha Bay. We recommend immediate cleanup of this site. Two plans are suggested: a.) loaded oiled gravels (~50 yd^3) onto a barge and transport to a high energy beach on the outer coast of Knight Island where it would be cleaned by natural wave energy. No replacement of the removed sediments necessary due to the dynamic (rapidly sedimenting) of this delta area. (to separate sheet)

DOCUMENTATION: Site a

Map/Aerial photo marking segment boundaries _____

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

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

Sample Numbers Collected: _____

Comments (continued)

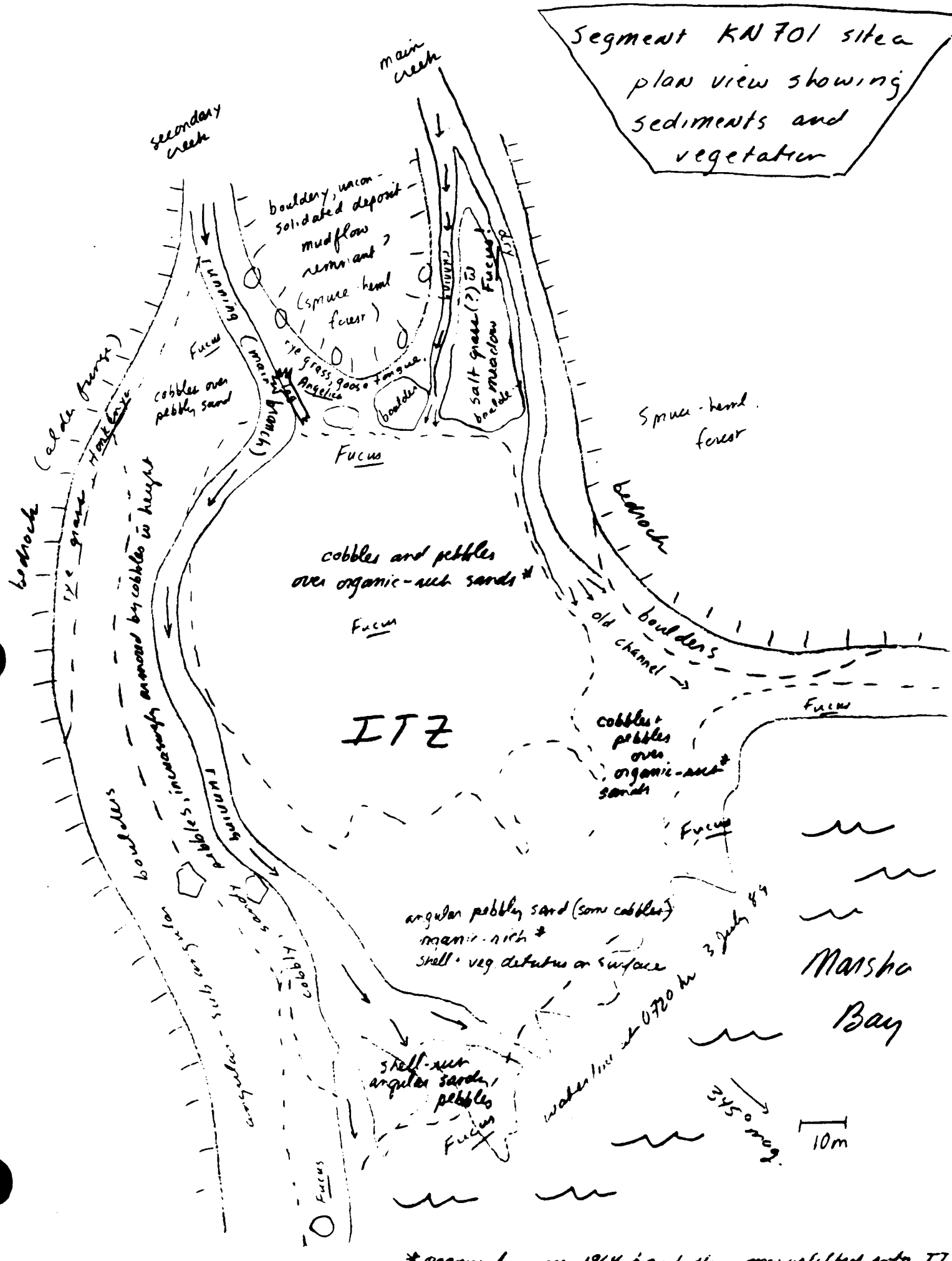
(suggested plans)

b). remove oiled sediments to nearby washing station and wash contaminated gravels in a mining rock-shaker. Replacement optional.

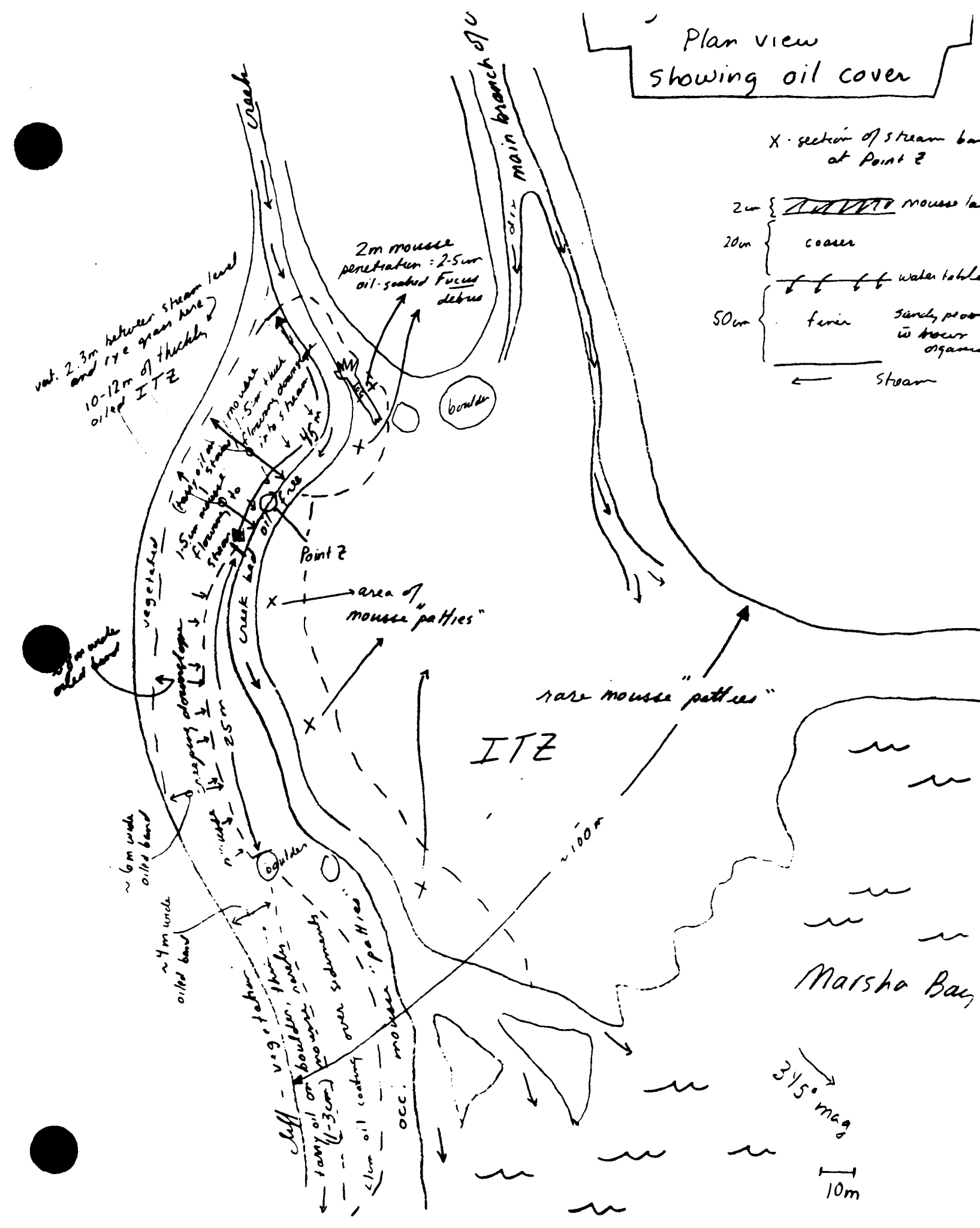
Two other steps should be taken:

1) manual cleanup of oiled debris

2) diversion of secondary (eastern) stream back into its primary, natural channel (western) so that salmon will not have to pass contaminated streambanks. This diversion could be accomplished by using visqueen (plastic) and boards upstream where the branches divide.



* organics from pre-1964 bay bottom now uplifted into IT


Plan view
showing oil cover
X - section of stream ba
at Point Z
2cm
mousse la
20cm
coarser
water table
50cm
fine
sandy peat
w/ trace
organ
Stream
main branch of
creek
2m mousse
penetration = 2-5cm
oil-soaked Fucus
debris
boulder
vat. 2.3m between stream level
and rye grass here
10-12m of thickly
oiled ITZ
no more
5cm thick
flowing downstream
into stream
45m
heavy oil on
stream
1.5cm mousse
flowing to
stream
oil free
Point Z
area of
"mousse patties"
vegetated
creek bed
rare mousse "patties"
ITZ
25m
flowing downstream
~100m
~6m wide
oiled band
~4m wide
oiled band
boulder
Marsha Bay
veg. + peat
boulder, rocky
heavy oil on
mousse
(1-3cm)
over submerged
occ. mousse
<1cm oil coating
31½° mag
10m

ECOLOGICAL EVALUATION

LOCATION: Knight Island SITE: Marsha Bay OBSERVER: Meyer

LOCATION PREFIX: KN SEG. NO.: 701 LENGTH: 1.8 KM (M)

DATE: 07/02/89 07/03/89 TIME (HHMM): 0800 0715 TIDE HT.: ~ -2.0 FT (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

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

Site A Floodplain has eelgrass and patchy fucus present; some fucus heavily coated with mousse; general rich fucus band throughout segment (often as wide as 4 meters).

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

Mussels patchy throughout segment; Site A Flood plain has unoiled mussels between pebbles.

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

Littorina often absent from LTZ fucus. Site A Floodplain has both young and adult littorina; Nucella present in patches in segment and one Searlesia was found.

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

Site A floodplain has limpets present

OTHER OBSERVATIONS: Site A subtidal has ABUNDANT Pycnopodia, many with diameter 5-10", in eelgrass area; also abundant Dermasterias along rocky edge. Entire segment has diverse sea star community - Pycnopodia, Pisaster, Dermasterias, Orthasterias, Evasterias. Hermit crabs common under LTZ fucus.

CLEANUP PRECAUTIONS: Restrict number of people and access through large fucus beds and saltmarsh grasses in Floodplain of Site A. Advise ADF&G and RAT 48 hours prior to beginning any cleanup activities at Site A if affirmatively confirmed to be an anadromous stream (not shown in ADF&G Anadromous Stream catalogue).

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

Other (@ Site A intertidal) ____

BIRDS: Wandering Tattler - 1; Eagle - 1; Black-legged Kittiwake - 5; Crows - 5; Raven heard.

GENERAL OBSERVATIONS: SITE A: Oil is directly adjacent to secondary channel of this forked 'potential anadromous stream' and will foul the streambed and be a constant source of recontamination at Marsha Bay.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 2-3 July 1989 Location Knight Island Site _____

Location Prefix KN Segment # KN-701 Length 1.8 km

Survey Method:

Air _____ (A - indicate on map) Boat ✓ (A - indicate on map)

Ground _____ (G - indicate on map)

Known cultural resources (AHRS #) None Data Source —

Oil conditions/beach visibility light to v. light

Width of beach zone surveyed 0-100 m Tree fringe surveyed Up to 10 m

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 Evergreen mix alder, moss, grass, blueberry etc. Cobble beach; cobbled stream delta.

Fresh Water Sources Stream flowing NNE into Marala Bay.

Sea Exposure Protected (in bay area)

Access/Safety None

Probability of undiscovered sites in beach zone (circle one) 1 2 (3) 4 5

Monitoring during cleanup needed yes/(no) Collection yes/(no)

Photos: Color Roll # None Frames —

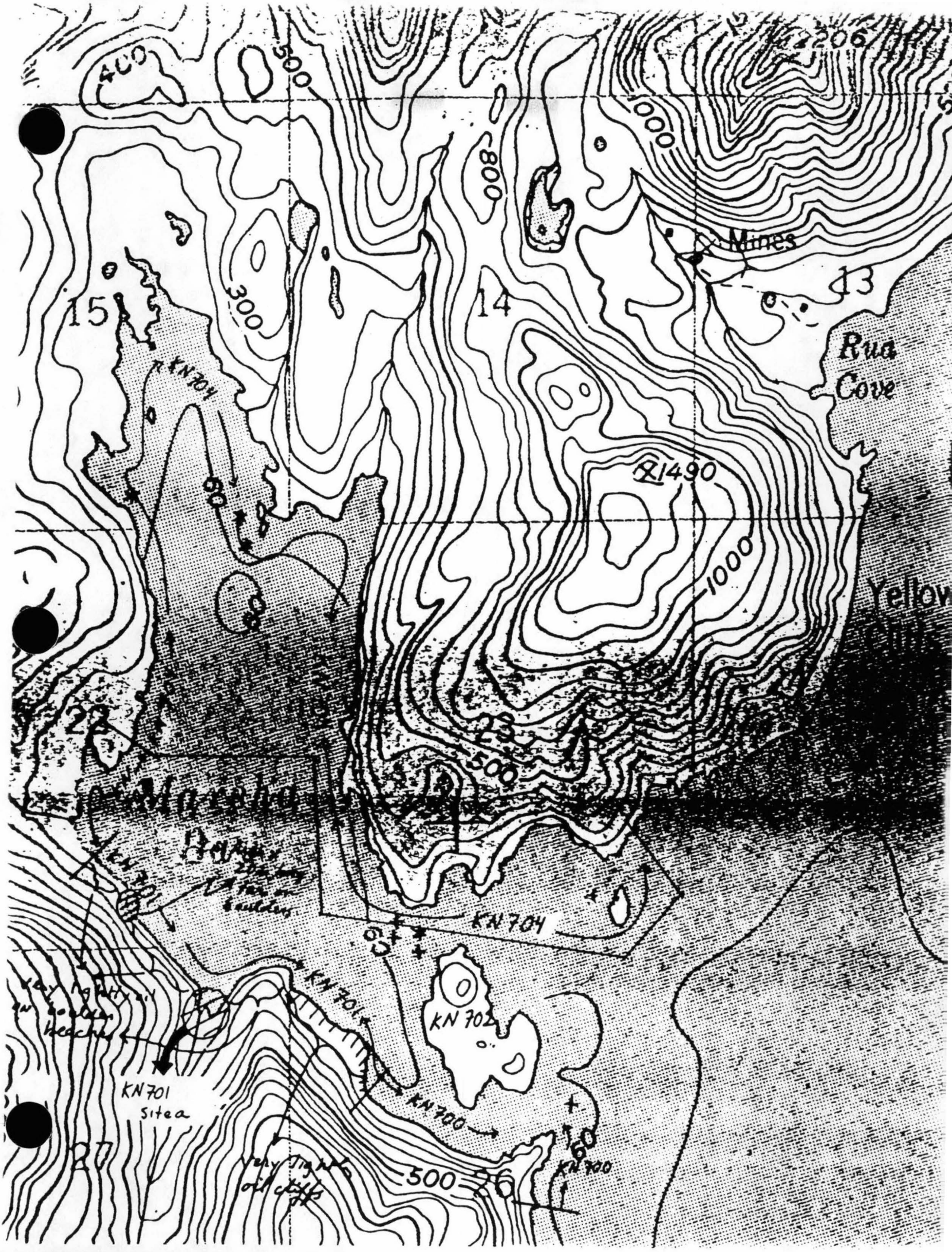
B/W Roll # None Frames —

Observer(s) TY L. DILLIPLANE

Time survey started 1417 hrs, 2 July 89 0649 hrs, 3 July 89 Time survey ended 1140 hrs, 2 July 89 0940 hrs, 3 July 89

Cultural resource considerations/restraints:

If heretofore undiscovered cultural resources are found during any cleanup activities, please contact the Exxon Archaeological Director, C. Mobley, immediately.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KN704
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Yellow
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KN704
KN701
KN702
KN701
Sitea
KN700
KN700
500
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(version 6/14/89)

SHORELINE CLEANUP PROGRAM

DATE 7/06/89 SHORELINE SEGMENT KN-702

LOCATION: (see enclosed map) KNIGHT ISLAND-UNNAMED ISLAND AT THE MOUTH OF MARSHA BAY

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 7/02/89

Recommended Cleanup Activity(ies):

- Manually remove contaminated drift material (fucus), free oil and patches of mousse.
- Flood/flush with warm to hot water (up to 140° F) on low angle beaches.
- Use moderate to high pressure warm to hot water washing on rock. 7/10/89.
- Use small units to be clean lagoon area, if possible.
- If possible, flood lagoon with cold sea water during cleanup to provide sufficient outflow. AND CONSIDER CHANNELING OUTFLOW WITH PIPE OR HOSE TO PROTECT LOWER UNOILED AREAS. SC 7/10/89
- Use other approved methods as appropriate.

7/10/89. SC 7/10/89

RESTRICT ~~CUTTING OUT~~ OR REMOVAL OF GRASS FROM LAGOON BANKS TO PROTECT STABILITY.

Priorities Considerations:

Class 2-3: heavy to moderate oil.
Class A: resources present.

Ecological Constraints (from site survey): Work at mid tide + or take appropriate measures to protect lower intertidal zone. Protect unoiled biota if possible. ~~Two~~ One active bald eagle nest~~s~~ are located within this segment. See advisory. CAC OWNED LAND. PERMIT NO ACCESS TO UPLANDS.

7/10/89

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 Holman — Date: July 6, 1989
State Historic Preservation Officer *

ISCC: Sharon K. Christopherson — Date: 7-10-89

EXXON: [signature] — Date: 7-10-89

FOSC: [signature] — Date: 7-12-89

* Signature required to satisfy stipulations in Alaska DNR land

SHORELINE OIL EVALUATION

Date: 2-3 July 89 Time: 0809hr 2 July, 0943hr 3 July Observer: Mann

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

LOCATION

LOCATION island at mouth of Marsha Bay SEGMENT NUMBER KN 702

LENGTH OF SHORELINE SEGMENT: 2.1 Km

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 relatively high to PWS

Sediment: B 15 % / C 5 % / P <5 % / G <1 % / S 0 % / M 0 % / R 80 %

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

OIL

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

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

Continuous: Y/N % of Segment 40 Width of Band: 2-4 m

Sporadic: Y/N % of Segment 60

Est. Oil Thickness where > 1cm: 5 cm Est. Oil Penetration: 10-15 cm

Pooled Oil: 0 % "Free" Oil: 20 % Coated: H 70 % / M 10 % / L 0 %

Fresh 0 % Mousse 30 % Tar Formation: 70 %

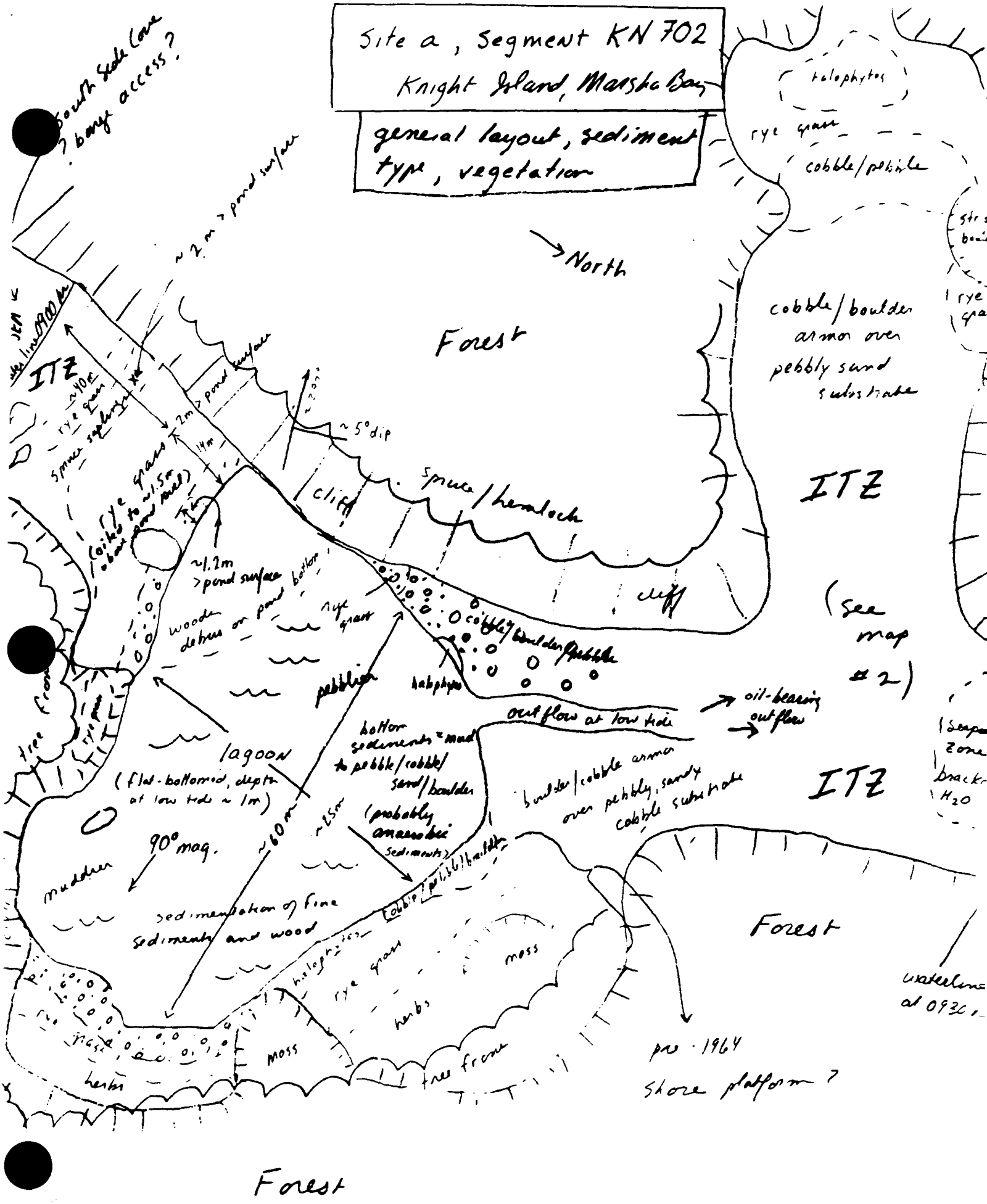
Drift Debris Oiled ? Yes/No Supra/Upper/Mid/Lower Amount: H/M/L/

Comments:

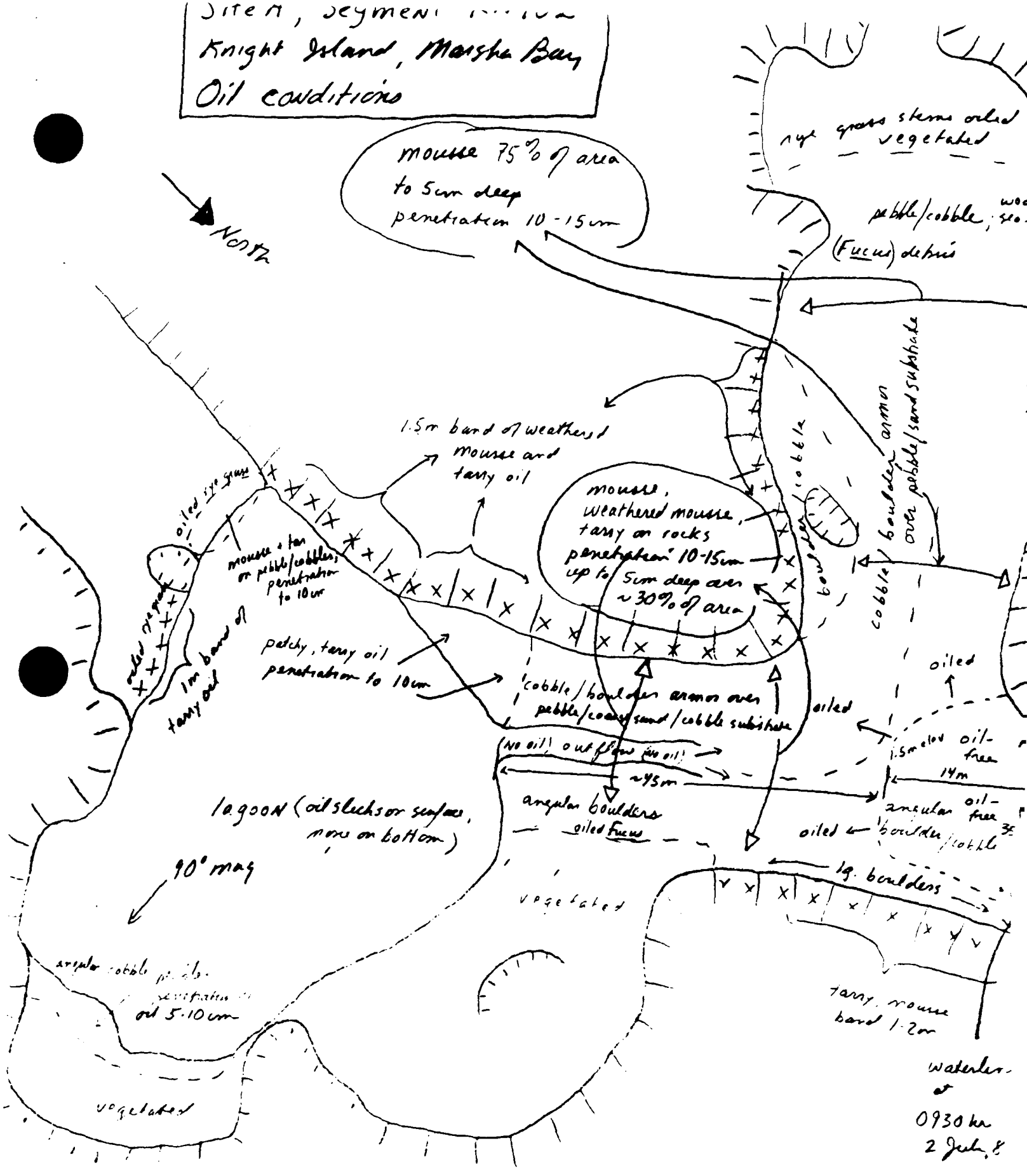
The outer (eastern) shoreline of this island is only lightly oiled. However, 3 pocket beaches along S. shore are heavily oiled and req. warm water/pressure cleanup. The northern pocket beach (Site a) includes a lagoon. This site is a high priority site as it serves as a source for re-contamination of the bay. The western cliffs of the island are heavily oiled and would be well-suited for cleaning using the "omni-sweep."

Site a, Segment KN 702
Knight Island, Marsha Bay

general layout, sediment type, vegetation

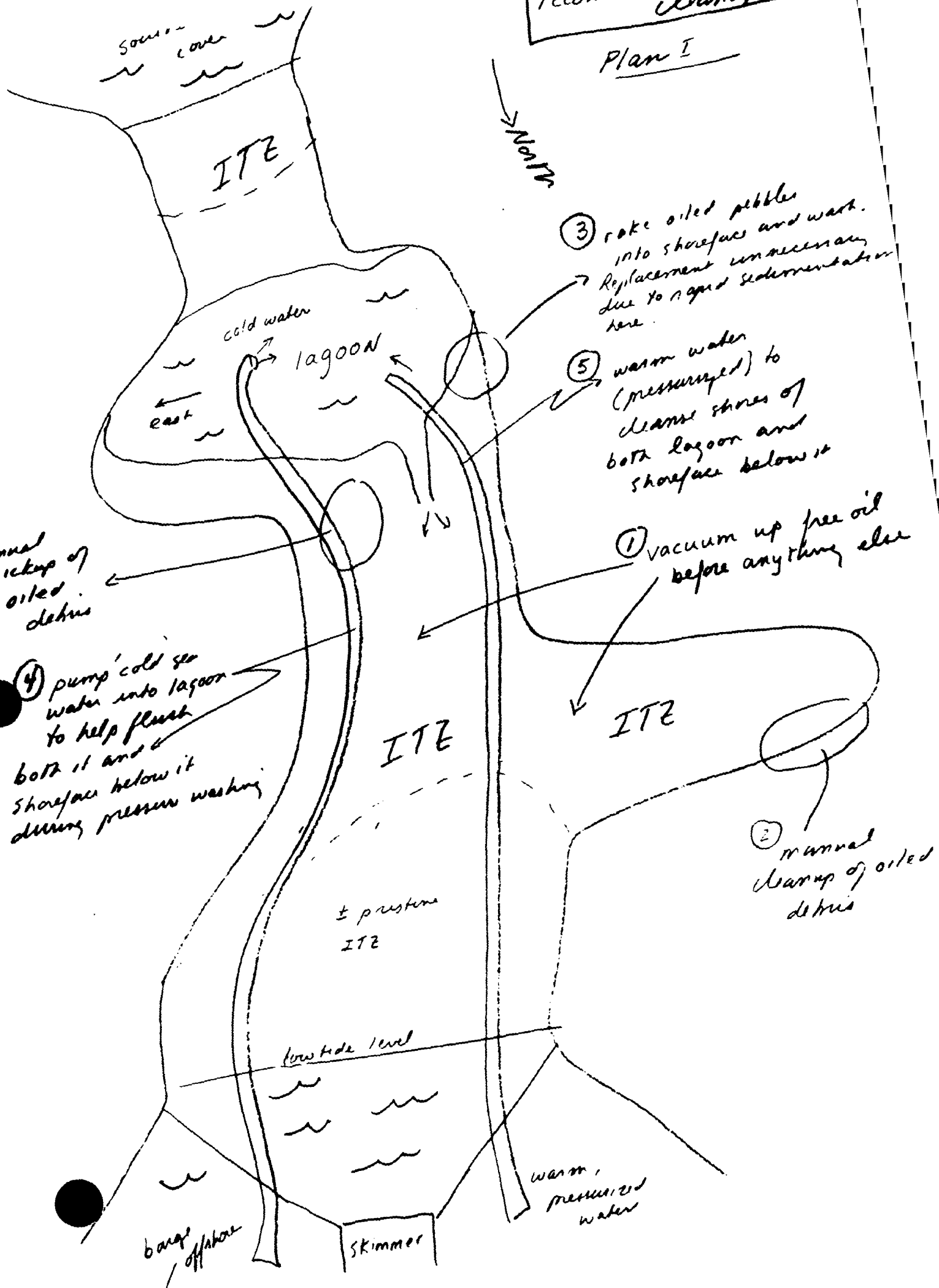


Site A, segment [illegible]
Knight Island, Marsha Bay
Oil conditions



recommended shore cleanup

Plan I



ECOLOGICAL EVALUATION

LOCATION: Knight Island SITE: Marsha Bay OBSERVER: MEYER

LOCATION PREFIX: KN SEG. NO.: 702 LENGTH: 2.1 KM (M)

DATE: 07/02/89 07 03 89 TIME (HHMM): 0815 0945 TIDE HT.: ~ -1.0 FT (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

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

Heavily oiled fucus band in some sections of segment. Algae dominant in brackish lagoon Site A

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

Patchy mussels in oiled zone of Site A are coated with oil.

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

Barnacles underneath heavily oiled fucus are often unoiled; some barnacles oiled (in oiled zone).

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

Site A: LTZ fucus has not Littorina — hermit crabs (in littorina shells) dominant; Oiled littorina scarce in oiled MTZ fucus, Abulla patchy throughout segment; some in oiled areas. Some young littorina and adults also in unoiled fucus.

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

Often under LTZ fucus; few seen in MTZ oiled zone.

OTHER OBSERVATIONS: Site A Lagoon is brackish with algae covered bottom. Several crabs (carapace 2"-4") seen, as well as several sculpin and other small Herring-like fish. Overall, however, little other vegetation was present and biota diversity appeared limited. Starfish abundant in segment: abundant pisaster, Dermasterias, Pycnopodia; occasional Evasterias. Site A has small patch of eelgrass

→ Site A: Check with ADF&G to confirm no sensitive use of lagoon habitat is jeopardized (see

CLEANUP PRECAUTIONS: as crab rearing habitat) and adjust cleanup recommendations as necessary i.e. leave oiled area surrounding lagoon untouched and use mechanical cleanup with from mouth of lagoon to lower tidal oiled area. Protect starfish exposed during cleanup activity by plucking them into a bucket and removing to adjacent unoiled area if possible; particularly those along rock wall at Site A. Protect the lower tidal as much as possible during cleanup, and restrict personnel from grassy areas. Harvest heavily oiled fucus found throughout segment: unoiled barnacles often are present beneath the oiled fucus.

MAMMALS: Otters ____ Harbor Seals 3 + pup Sea Lions ____ Whales ____

Other On west side of island 3 adults hauled out; next day 1 pup seen in area.

BIRDS: 2 Eagles in area, one with a fish in its talons; 2 Glaucous-winged gulls; 3 Black-legged Kittiwakes; 1 Rufous Hummingbird; 5 crows foraging in intertidal (W & SW side)

GENERAL OBSERVATIONS: Unoiled Barnacles often were beneath heavily oiled fucus. In areas of heavily oiled fucus there were pockets of unoiled algae with abundant baby littorina in algae but absent from oiled fucus. Sheen common on water throughout segment.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 2-3 July 1989 Location Knight Island Site

Location Prefix KN Segment # KN-702 Length 2.1 km

Survey Method:

Air (A - indicate on map) Boat ✓ (A - indicate on map)

Ground (G - indicate on map)

Known cultural resources (AHRS #) None Data Source —

Oil conditions/beach visibility heavy to moderate

Width of beach zone surveyed 0-100 m Tree fringe surveyed up to 10 m

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 Cobble beach. Mix of evergreen, rye grass, moss, blueberry, et

Fresh Water Sources No streams seen, or water sources clearly visible for drinking

Sea Exposure Western part of island protected.

Access/Safety None.

Probability of undiscovered sites in beach zone (circle one) 1 2 (3) 4 5

Monitoring during cleanup needed yes/(no) Collection yes/(no)

Photos: Color Roll # None Frames —

B/W Roll # None Frames —

Observer(s) TY L. DILLIPLANE

Time survey started 0809 hrs, 2 July '89; 0943 hrs, 3 July '89 Time survey ended 1114 hrs, 2 July '89; 1022 hrs, 3 July '89

Cultural resource considerations/restraints:

If heretofore undiscovered cultural resources are found during any cleanup activities, contact the Exxon archaeological director, C. Mobley, immediately.


500
1000
800
300
Mines
15
14
13
Rua Cove
KN704
KN703
1490
1000
Yellow Cliffs
22
23
500
Marsha Bay
KN704
KN701 sites
KN702
KN702 sites
KN701
KN700
KN700 sites
KN700
500
60
27
26
Index map to segments and sites in Marsha Bay
heavy oil on cliffs
heavy oil on rocks, beaches
traces of oil on cliffs

(version 6/14/89)

SHORELINE CLEANUP PROGRAM

DATE 7/06/89 SHORELINE SEGMENT KN-703

LOCATION: (see enclosed map) KNIGHT ISLAND-MARSHA BAY

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

Recommended Cleanup Activity(ies):

- -Manually remove contaminated drift material (fucus), free oil and patches of mousse.
- -Flood/flush with warm to hot water (up to 140°F) on low angle beaches.
- -Use moderate to high pressure warm to hot water washing on rock.
- -Use other approved methods as appropriate.

Priorities Considerations:

Class 3: Moderate oil.
Class B: Resources absent.

Ecological Constraints (from site survey): Work at mid tide + or take appropriate measures to protect lower intertidal

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 — Date: July 6, 1989
State Historic Preservation Officer *

ISCC: Sharon K Christopherson — Date: 7-10-89

EXXON: [illegible] — Date: July 10-89

FOSC: [illegible] — Date: 7-12-89

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

SHORELINE OIL EVALUATION

Date: 3 July 89 Time: 0631 hr 3 July 89 Observer: Mann

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

LOCATION

LOCATION west shore of Marsha Bay SEGMENT NUMBER KN 703

LENGTH OF SHORELINE SEGMENT: 870 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 10 % / C 0 % / P 0 % / G 0 % / S 0 % / M 0 % /R 90 %

Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type 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 90 Width of Band: 2-4 m

Sporadic: Y/N % of Segment 10

Est. Oil Thickness where > 1cm: NA cm Est. Oil Penetration: NA cm

Pooled Oil: 0 % "Free" Oil: 10 % Coated: H 80 % /M 10 % /L 0 %

Fresh 0 % Mousse 10 % Tar Formation: 90 %

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

Comments:

Moderate oil coating of the low, vertical cliffs of this segment will be cleaned only slowly by natural wave action due to the relatively low energy of this portion of Marsha Bay. Deep water and steep rock faces seems ideal for omni-sweep cleaning. Three pocket beaches are moderately to heavily oiled and may require washing manually using warm water at moderate to high pressure. Oil penetration on these small (<30m wide) beaches is 5-10 cm. //

ECOLOGICAL EVALUATION

LOCATION: KNIGHT ISLAND SITE: MARSHA BAY OBSERVER: MEYER

LOCATION PREFIX: KNI SEG. NO.: 703 LENGTH: 870 (M)

DATE: 07/03/89 TIME (HHMM): 0630 TIDE HT.: -1 FT (M)

OILED ZONE: Splash High Medium Low

SUBSTRATUM: Rocks Boulder Cobble Gravel Sand Mud

LIVE BIOTA

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

Top ~ meter of fucus band oiled in much of segment.

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

Pocket beach has young mussels (unoiled) on cobble/boulder beach.

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

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

Littorina adults not common in MTZ/LTZ fucus, some young littorina. Nucella Patchy.

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

OTHER OBSERVATIONS: Dermasterias common, also Pycnopodia, some patches of eelgrass pr in bay by small stream.

CLEANUP PRECAUTIONS: Protect LTZ as much as possible by confining cleanup to mid tide and higher.

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

BIRDS: ~25 Black legged Kittiwake in Marsha Bay; ~4 Arctic Terns

GENERAL OBSERVATIONS: Sheen on water.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 3 July 1989 Location Knight Island Site

Location Prefix KN Segment # KN-703 Length 870 m

Survey Method:

Air (A - indicate on map) Boat ✓ (A - indicate on ma

Ground (G - indicate on map)

Known cultural resources (AHRS #) None Data Source —

Oil conditions/beach visibility moderate

Width of beach zone surveyed 0-100 m Tree fringe surveyed Up to 10

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 probabilit

Shore Profile KN-703 begins due to reappearance of oil. Rocky coastl

Fresh Water Sources Fresh water stream

Sea Exposure Protected (in Bay area)

Access/Safety None

Probability of undiscovered sites in beach zone (circle one) 1 (2) 3 4 5

Monitoring during cleanup needed yes (no) Collection yes (no)

Photos: Color Roll # None Frames —

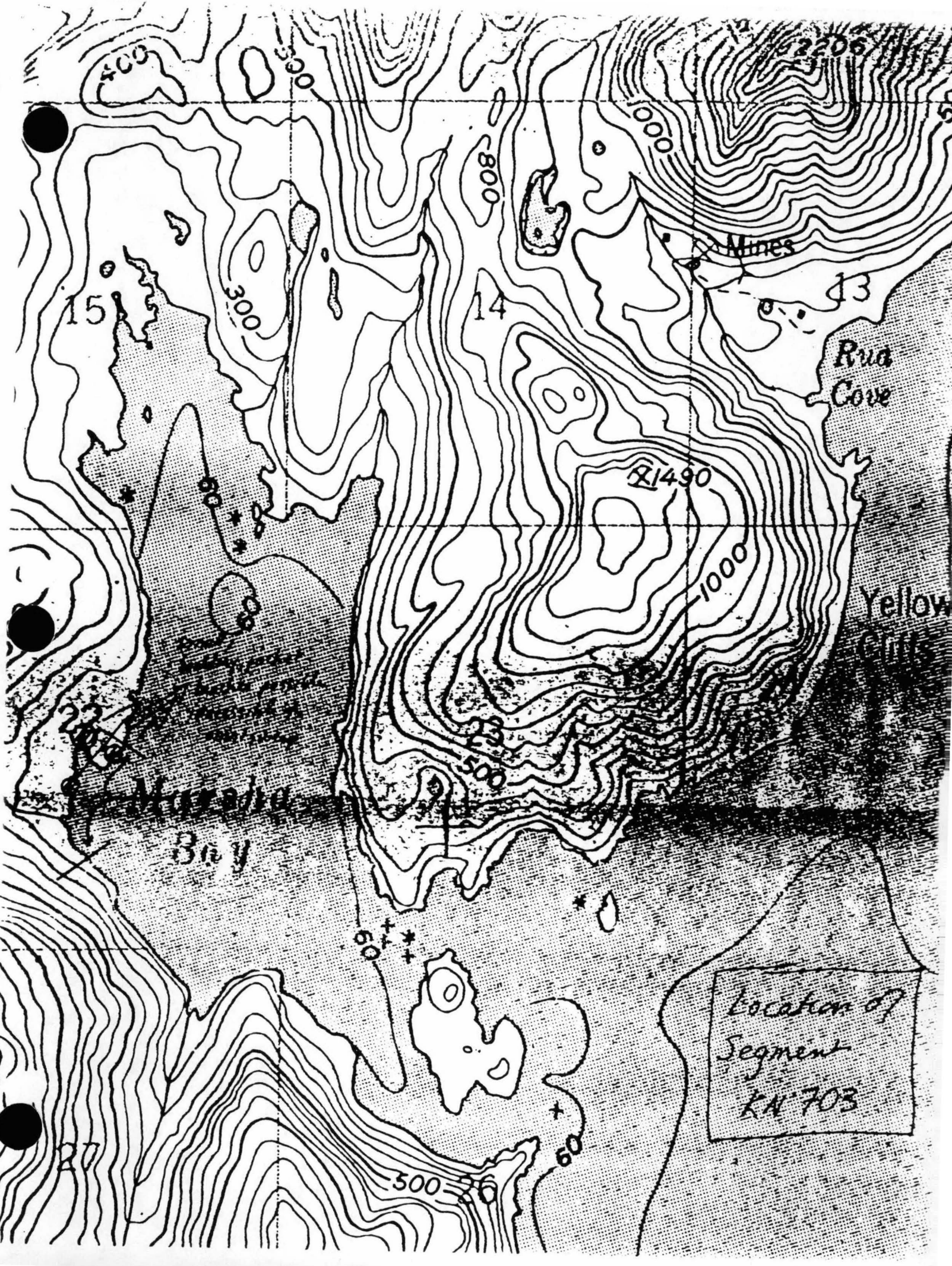
B/W Roll # None Frames —

Observer(s) TY L. DILLPLANE

Time survey started 0631 hrs, 3 July '89 Time survey ended 0649 hrs, 3 Jul'8

Cultural resource considerations/restraints:

If heretofore undiscovered cultural resources are found during any clean-up activities, please notify the EXXON Archaeologic Director immediately.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Cove
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Yellow
Cliffs
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Bay
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Location of
Segment
KN 703
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500
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(version 6/14/89)

SHORELINE CLEANUP PROGRAM

DATE 7/06/89 SHORELINE SEGMENT KN-704

LOCATION: (see enclosed map) KNIGHT ISLAND-MARSHA BAY

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

Recommended Cleanup Activity(ies):
- Manually remove contaminated drift material (fucus) and patches of mousse.
- Use other approved methods as appropriate.

Priorities Considerations: medium recreational use.
Class 4: light oil.
Class B: resources absent.

Ecological Constraints (from site survey): Work at mid tide +, or take appropriate measures to protect lower intertidal zone. Two catalogued anadromous streams are located in this segment. Contact ADF&G and RAT 48 hours prior to beginning mechanical cleanup in this segment. ~~An active bald eagle nest is located in this segment. See advisory~~. NO LONGER ACTIVE. PART OF SEGMENT ~~OWED~~ OWNED BY CAC.

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

State Historic Preservation Officer * Date: July 6, 1989

ISCC: Sharon K. Christopherson Date: 7-10-89

EXXON: [signature] Date: July 10-89

FOSC: [signature] Date: 7-12-89

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

2 July 89 : 1840 hr
3 July 89 0545 hr

SHORELINE OIL EVALUATION

Date: _____ / Time: _____ Observer: Mann

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

LOCATION

LOCATION Marsha Bay SEGMENT NUMBER KN 704

LENGTH OF SHORELINE SEGMENT: 7.1 Km

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 10 % / C 5 % / P <5 % / G <1 % / S <1 % / M 0 % / R 80 %

Drift Debris on Beach: Yes/No Supra/Upper/Mid/Lower Type 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 NA Width of Band: NA m

Sporadic: Y/N % of Segment 30

Est. Oil Thickness where > 1cm: NA cm Est. Oil Penetration: NA cm

Pooled Oil: 0 % "Free" Oil: 0 % Coated: H ___ % / M 5 % / L 95 %

Fresh 0 % Mousse 0 % Tar Formation: 90 %

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

Comments:

Sporadic oil bands 5 cm to 1 m wide off steep shorelines near mouth of Marsha Bay. Inner parts of bay are oil-free except for occassional mousse 'patties' in ITZ. However, oil slicks common in inner Marsha Bay. Crew of The Bruka reported seeing oil (?) sheens in water at depths of several meters while they were snorkeling in search of dinner.

ECOLOGICAL EVALUATION

LOCATION: Knight Island SITE: Marsha Bay OBSERVER: MEYER

LOCATION PREFIX: KN SEG. NO.: 704 LENGTH: 7.1 KM (M)

DATE: 07/02/89 07 03 89 TIME (HHMM): 1840 0545 TIDE HT.: +16.3 FT (M)

OILED ZONE: Splash (High) ~~Medium~~ Low

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

LIVE BIOTA

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

Present in band along rockfaces as well as in small stream floodplains

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

Spat on cobble, mussels.

Littorina

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

Adult and young (young littorina on barnacles on cobbles) littorina present, often LTO fucus had no littorina. Some Nucella patchy (common) prey

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

Abundant in floodplain

OTHER OBSERVATIONS: Pisaster, Dermasterias abundant Hungfoot segment – on small island one 4M x 2M area had 98 Pisaster! Henricia also found. Five small streams in segment basically all oil free except 2 marked on map where a few tarballs had washed up leaving 'stains' ½"-14" in diameter.

CLEANUP PRECAUTIONS: Limit manual cleanup to small crews.

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

Other ___

BIRDS: 2-Glaucous-winged Gulls; 1-Eagle; 25-Blk-legged Kittiwakes; 3-Arctic Terns; 1-Parasitic Jaeger

GENERAL OBSERVATIONS: Eelgrass common in subtidal of small stream areas. Hermit crabs in fucus.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 2-3 July 1989 Location Knight Island Site

Location Prefix KN Segment # KN-704 Length 7.1 Km

Survey Method:

Air (A - indicate on map) Boat ✓ (A - indicate on ma

Ground (G - indicate on map)

Known cultural resources (AHRS #) SEW-238 Data Source CPSU

Oil conditions/beach visibility

Width of beach zone surveyed 0-100 m Tree fringe surveyed Up to 10 A

Cultural resources observed in beach zone (AHRS code) None

Cultural resources observed in tree fringe (AHRS code) HTD

General observations justifying survey method and segment's site probability

Shore Profile Cobble beaches. Evergreen forms, rye grass, alders, blueberry, moss, grass, Devil's club, etc.

Fresh Water Sources 2 freshwater streams

Sea Exposure Protected, except for eastern-most portion of segment.

Access/Safety None

Probability of undiscovered sites in beach zone (circle one) 1 2 (3) 4 5

Monitoring during cleanup needed yes (no) Collection yes (no)

Photos: Color Roll # None Frames —

B/W Roll # 2 none Frames ~~1-4~~ —

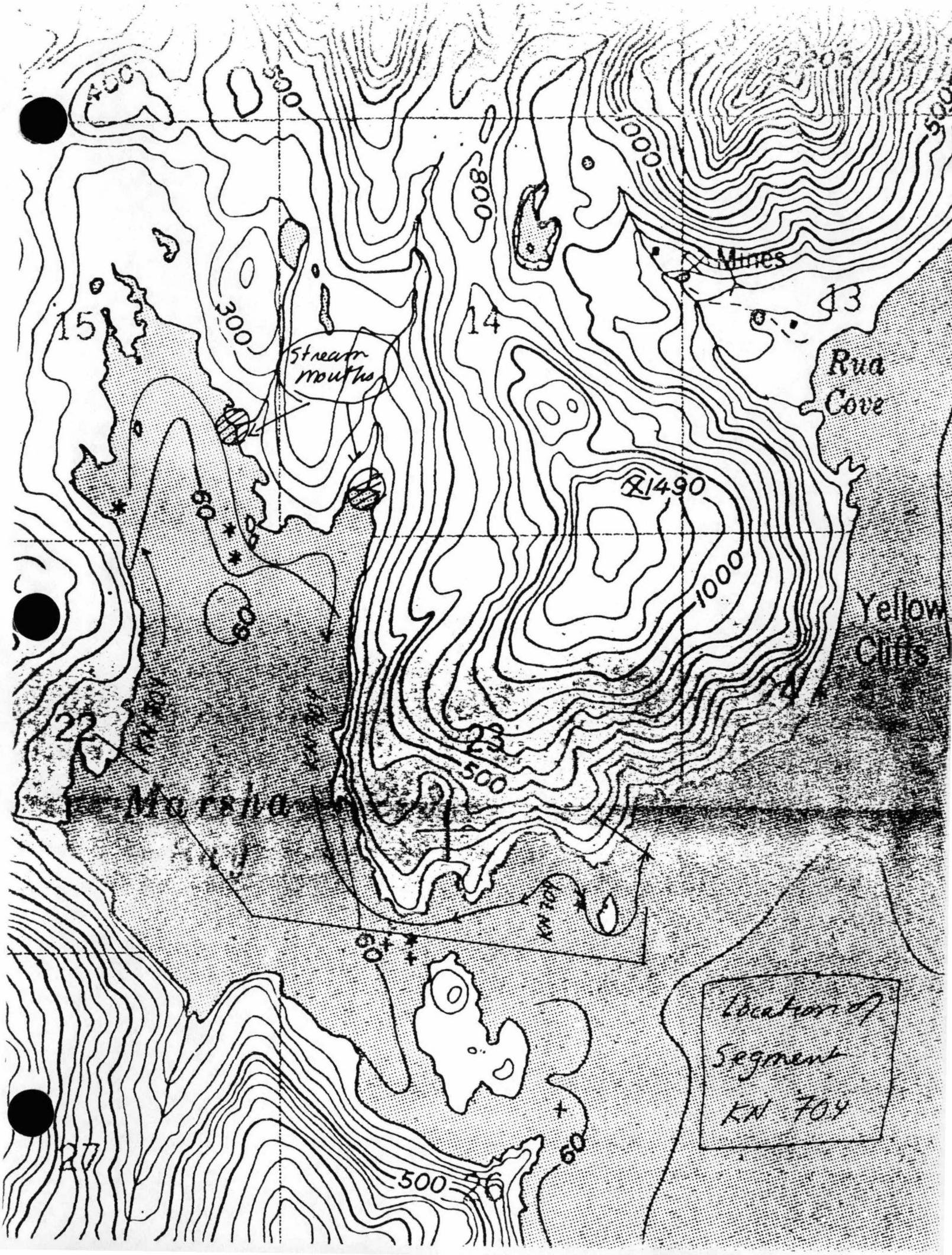
Observer(s) Ty L. Dickinson

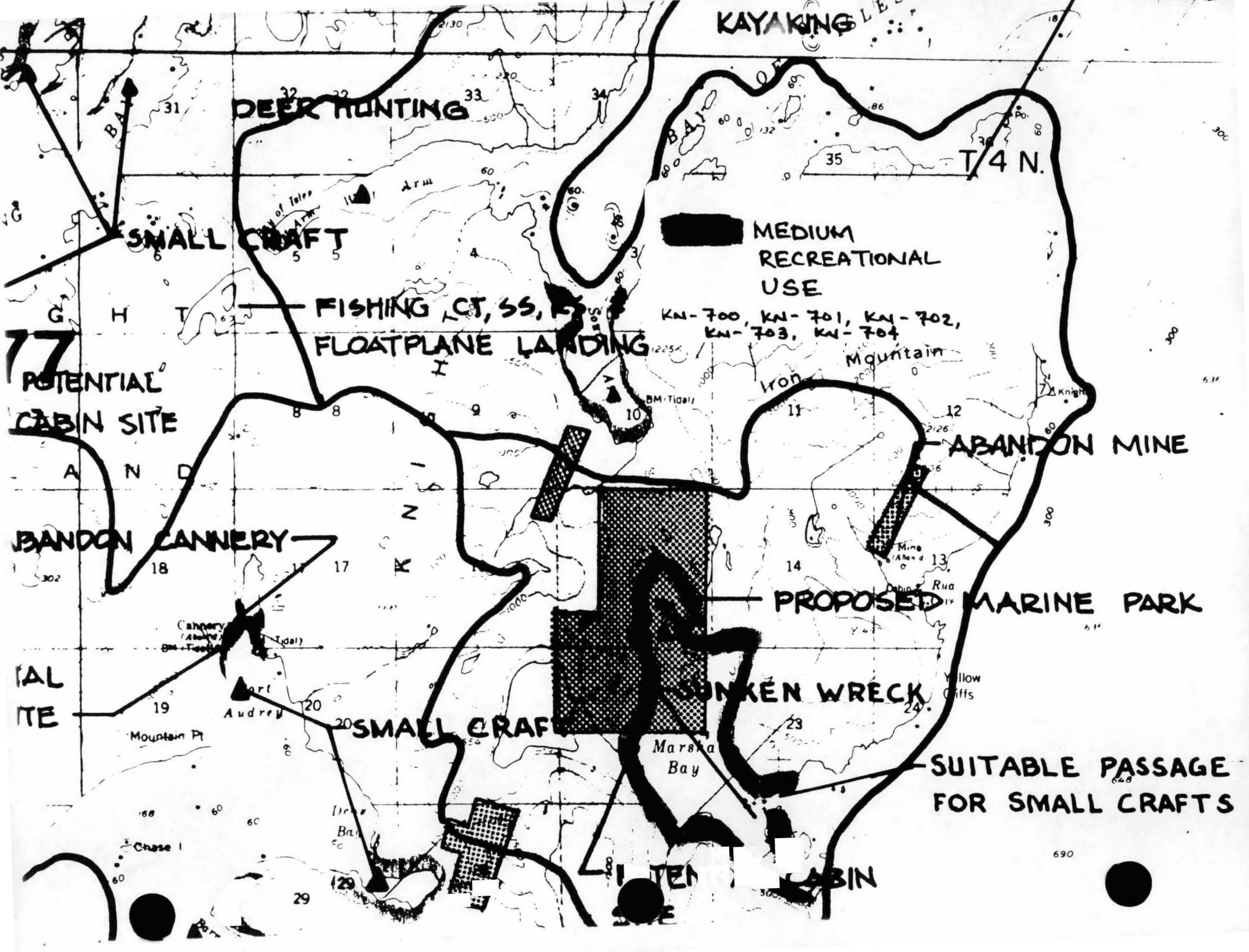
Time survey started 1840 hrs, 2 July 89 ~~0345 hrs, 3 July 89~~ Time survey ended 2100 hrs, 2 July 198 ~~0431 hrs, 3 July~~

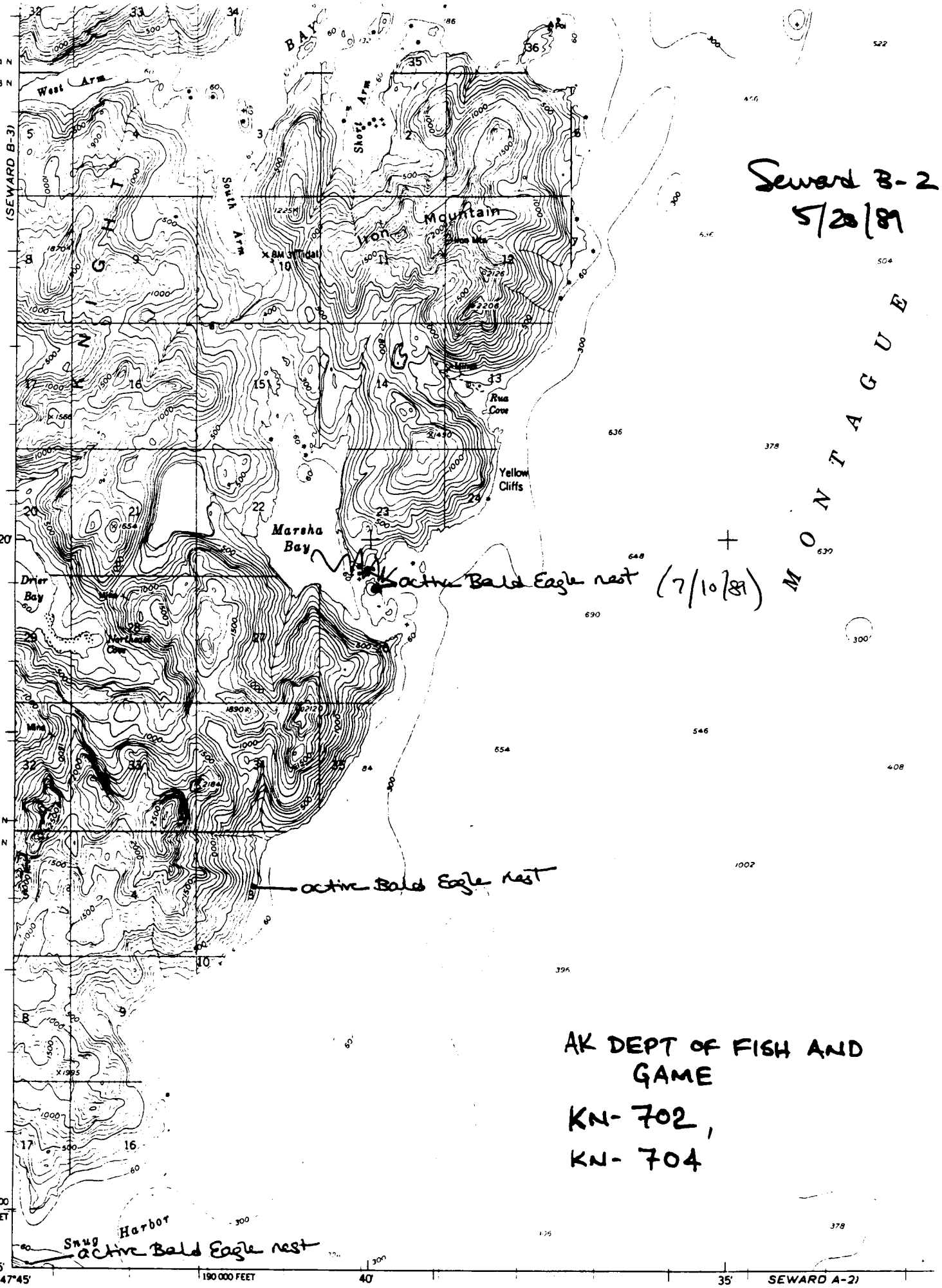
Cultural resource considerations/restraints:

(1) If heretofore undiscovered cultural resources are found during any clean-up activities, please contact the Exxon Archaeological Director, C. Mobley immediately.

(5) Cultural resources noted above are not on a beach recommended for clean-up. If clean-up occurs, all crews should be restricted from entering the tree fringe.


400
300
1000
800
Mines
15
14
13
300
Stream mouths
Rua Cove
1490
1000
Yellow Cliffs
22
23
500
Marsh
Location of Segment KN 704
27
500
26
60


KAYAKING
DEER HUNTING
T 4 N.
SMALL CRAFT
MEDIUM RECREATIONAL USE
KN-700, KN-701, KN-702, KN-703, KN-704
FISHING CT, SS,
FLOATPLANE LANDING
POTENTIAL CABIN SITE
ABANDON MINE
ABANDON CANNERY
PROPOSED MARINE PARK
SUNKEN WRECK
SMALL CRAFT
SUITABLE PASSAGE FOR SMALL CRAFTS
Iron Mountain
Marsha Bay
Audrey
Mountain Pt
Yellow Cliffs
Chase I



Mapped, edited and published by the Geological Survey

Control by NOS/NOAA and USCE

Topography by photogrammetric methods from aerial photographs taken 1951, field annotated 1951. Map not field checked

SCALE 1:63360

SEG KN 701 INSPECTION # ___

DATE: 8-15-89

SEGMENT INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

- [ ] Hot water wash
- [x] Warm water wash
- [ ] Water deluge
- [ ] Mechanical ___
- [x] Non-mechanical REMOVAL OF CONTAMINATED SOIL / ROCKS AND USE OF BOOMS & SCREENS IN STREAM.
- [ ] Other ___

Exxon

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

Comments TREATMENT OF SEGMENT KN-701 IS COMPLETE AND READY FOR DEMOBILIZATION TO NEW SEGMENT

Signature Melvin D. Moen Date: 8/15/89 Time: 1700

Printed Name MELVIN D. MOEN

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

Percent	Degree of Oiling
8	Heavy
2	Medium
5	Light
60	Very Light
25	None
100 %	

Subsurface Oil

- [x] Yes
- [ ] No

COMMENT BELOW

Reassessment

- [x] Yes - necessary NEXT YEAR
- [ ] No - not necessary unless re-oiled.

Existing Shoreline Condition As Visually Determined by ADEC

Surface Oil

Percent	Degree of Oiling
8	Heavy
2	Medium
5	Light
60	Very Light
25	None
100 %	

Subsurface Oil

- [x] Yes
- [ ] No

COMMENT BELOW

Reassessment

- [x] Yes - necessary NEXT YEAR - SPR
- [ ] No - not necessary unless re-oiled

ADEC rep

Comments Concur with percent oilings. Gross contamination & pooled oil has been removed with exception of approximately 150 YARDS TO EAST of Salmon STREAM. ADEC supports further operations of this area as per TRUE issue of 8/15/89 SAM

Signature Joseph S. Sautner Date: 8/15/89 Time: 1800

Printed Name JOSEPH S. SAUTNER

FOSC rep Demobilization approved / disapproved

Comments Subsurface oil is minor depth and limited to heavily oiled AREA

Signature C.A. Reiter Date: 8/15/89 Time: 1806

Printed Name C.A. REITER CDR, USCG

COPY: EXXON ADEC FOSC ISCC

Attached to Salmon STREAM

KN-702

DATE 8/27/89

INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

- [X] Hot water wash
- [X] Warm water wash
- [X] Water deluge
- [X] Mechanical
- [ ] Non-mechanical
- [ ] Other

Exxon

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

Comments Treatment of segment KN-702 is complete and ready for demobilization to next segment.

Signature [signature] Date: 8/27/89 Time: 1935

Printed Name [signature] TF-2 Commander

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

Percent	Degree of Oiling
0	Heavy
10	Medium
25	Light
35	Very Light
30	None
100 %	

Subsurface Oil

- [X] Yes
- [ ] No

COMMENT BELOW

Reassessment

- [X] Yes - necessary
- [ ] No - not necessary unless re-oiled

Existing Shoreline Condition As Visually Determined by ADEC

Surface Oil

Percent	Degree of Oiling
0	Heavy
10	Medium
40	Light
40	Very Light
10	None
100 %	

Subsurface Oil

- [X] Yes
- [ ] No

COMMENT BELOW

Reassessment

- [X] Yes - necessary
- [ ] No - not necessary unless re-oiled

ADEC rep

Comments No heavy contamination, several isolated pockets of moderate oiling, mainly in SW quarter of island. Mod of island has light oiling/very light oiling.

Signature [signature] Date: 8/27/89 Time: 1994

Printed Name Matt C. Biery

FOSC rep **Demobilization approved/disapproved**

Comments [illegible]

Signature [signature] Date: 8/27/89 Time: 1945

Printed Name [illegible]

COPY: EXXON ADEC FOSC ISCC

KN 703

TREATMENT MANUAL. 6/15/89

INSPECTION # 1

8/24/89

SEGMENT INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

- [X] Hot water wash
- [X] Warm water wash
- [X] Water deluge
- [ ] Mechanical
- [X] Non-mechanical
- [ ] Other

xxon

reatment as indicated above has been completed. Request demobilization om this segment.

Comments Treatment of segment KN-703 is complete and ready for demobilization to next segment.

Signature Steve E. Ramsower Date: 8/24/89 Time: 1900

Printed Name Steve E. Ramsower TF-2 Commander

isting Shoreline Condition As Visually Determined by USCG

ADEC	USCG	Degree of Oiling
5	5	Heavy
20	15	Medium
60	60	Light
10	10	Very Light
5	10	None
	100 %	

Subsurface Oil

- [X] Yes
- [ ] No

Comments Minor subsurface oiling Area in Drift Creek Headland shoreline

assessment

- [X] Yes - necessary
- [ ] No - not necessary unless re-oiled

EC rep Comments Demobilization approved. Subsurface oil is present in places. Request a polishing of this segment.

Signature Curtis C. Conner Date: 8/24/89 Time: 1915

Printed Name Curtis C. Conner

SC rep Demobilization approved/disapproved

Comments Area to east of stream requires additional hand work. Will be checked jointly by Smith-Kline and ADEC.

Aug

TREATMENT MANUAL, 6/15/89

SEG KN 704 INSPECTION # 1

DATE 8-9-89

SEGMENT INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

- [x] Hot water wash
- [x] Warm water wash
- [x] Water deluge
- [x] Mechanical HAND WIPING
- [ ] Non-mechanical
- [ ] Other

Exxon

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

Comments TREATMENT OF SEGMENT KN-704 IS COMPLETE AND READY FOR DEMOBILIZATION AND MOVE TO NEXT SEGMENT

Signature [illegible] Date: 8/14/89 Time: 2050

Printed Name MELVIN A GOET

Existing Shoreline Condition As Visually Determined by USCG

Percent	Degree of Oiling
0	Heavy
0	Medium
10	Light
65	Very Light
25	None
100 %	

Subsurface Oil

- [ ] Yes
- [x] No

Comments None

Reassessment

- [ ] Yes - necessary
- [x] No - not necessary unless re-oiled

ADEC rep Comments I would like some reassessment if possible. Small boom left in place on small island south of E boundary. Small pockets of heavy oil around (on island only) sea pangens left in place

Signature [illegible] Date: 8/19/89 Time: 2105

Printed Name Michele Pelo EHO II ADEC

FOSC rep Demobilization approved/disapproved

Comments

25/07/89

KN-706 ... /

DATE 8/27/89

INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

- [X] Hot water wash
- [X] Warm water wash
- [X] Water deluge
- [X] Mechanical
- [ ] Non-mechanical
- [ ] Other

Exxon

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

Comments Treatment of Segment KN-706 is complete and ready for demobilization to next segment

Signature Steve E. Ramsauer Date: 8/27/89 Time: 1940

Printed Name Steve E. Ramsauer TF-2 commander

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

Percent	Degree of Oiling
0	Heavy
5	Medium
15	Light
20	Very Light
60	None
100 %	

Subsurface Oil

- [x] Yes
- [ ] No

COMMENT BELOW

Reassessment

- [x] Yes - necessary
- [ ] No - not necessary unless re-oiled

Existing Shoreline Condition As Visually Determined by ADEC

Surface Oil

Percent	Degree of Oiling
0	Heavy
3	Medium
25	Light
40	Very Light
32	None
100 %	

Subsurface Oil

- [x] Yes
- [ ] No

COMMENT BELOW

Reassessment

- [x] Yes - necessary
- [ ] No - not necessary unless re-oiled

ADEC rep

Comments One gravel/cobble beach had moderate oiling. No heavy contamination in this section. Western/central section had most of the oiling.

Signature Matt C. Biery Date: 8/27/89 Time: 1948

Printed Name Matt C. Biery

FOSC rep **Demobilization approved/disapproved**

Comments [illegible] CONTAMINATION this does not INCLUDE

Signature [illegible] Date: 8/27/89 Time: 1950

Printed Name PAUL TOTTEN Cmdr

COPY: EXXON ADEC FOSC ISCC

Bio Section

(version 5/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Location (see enclosed map): Snug Harbor North Block

Includes Shoreline Segments: KN-705, KN-706

Submitted : _____ Date: 7/17/89
(for Exxon)

ISCC ~~Approval~~ Recommendation: Sharon K. Christopher Date: 7/25/89

FOSC Approval: C E Collins Date: 7/25/89

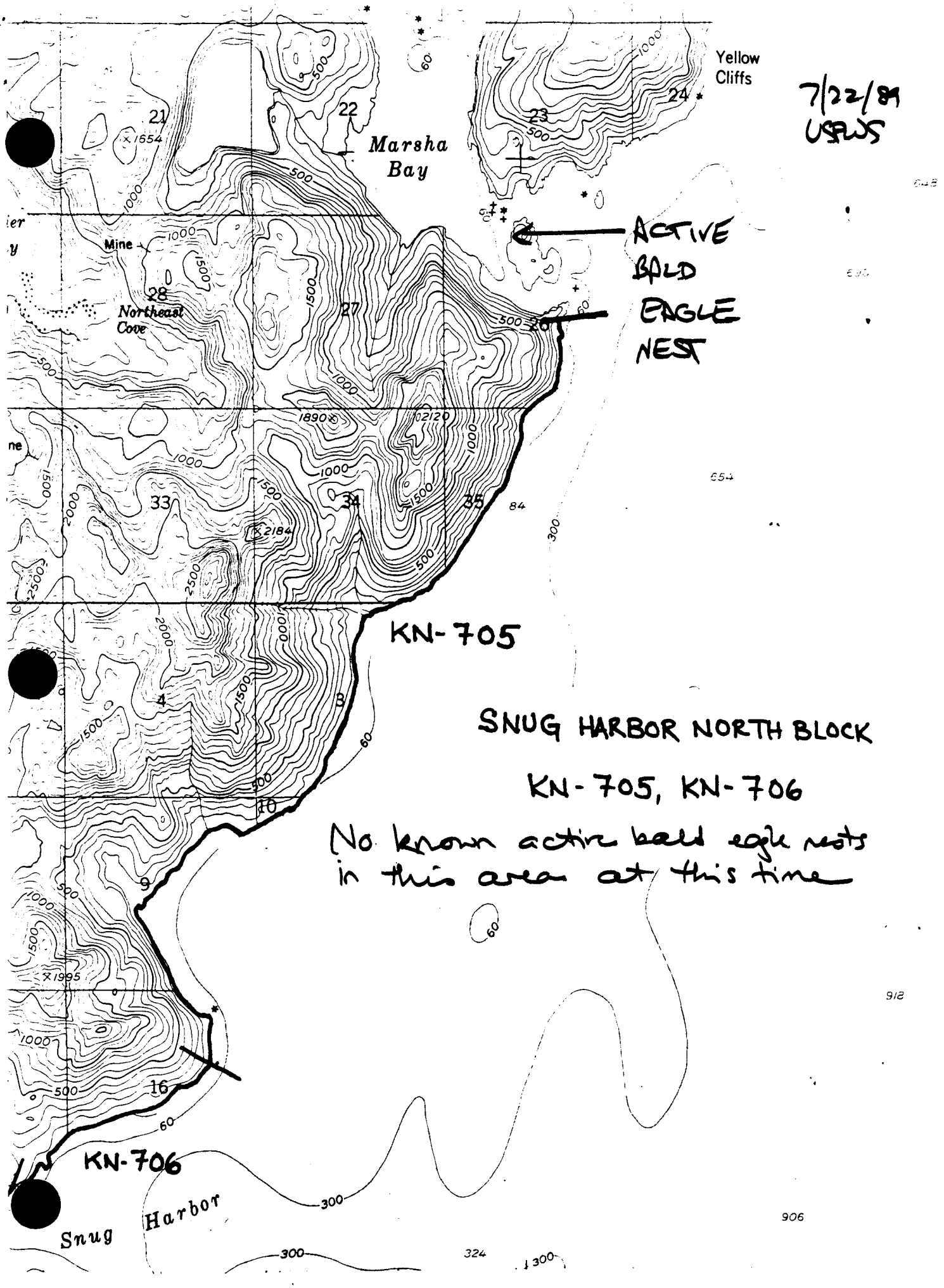
The cleanup procedures identified in the Shoreline Cleanup Program are recommended. Modifications to these systems can be made in the field. Exxon and other field personnel are encouraged to suggest innovations and productivity enhancements to the OSC's on-scene representative. The OSC's representative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

ACA


Yellow Cliffs
7/22/89
USFWS
Marsha Bay
ACTIVE BALD EAGLE NEST
Mine
Northeast Cove
KN-705
SNUG HARBOR NORTH BLOCK
KN-705, KN-706
No known active bald eagle nests in this area at this time
KN-706
Snug Harbor

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/15/89 SHORELINE SEGMENT KN-705

LOCATION: (see enclosed map) East shore of Knight Island between Marsha Bay and Snug Harbor

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 7/9/89

Recommended Cleanup Activity(ies):
No cleanup recommended at this time (subject to FOSC reassessment at a later date). Shoreline has sporadic, very light oil subject to high wave energy.

Priorities Considerations:
Class 4-5: very light to no oil
Class A: resources present

Ecological Constraints (from site survey):
No ecological constraints. CATALOGED ANADROMOUS FISH STREAM #226-20-10 PRESENT. CONTACT ADF+G AND RAT 48 HOURS BEFORE COMMENCING ANY CLEAN UP. NORTHERN HALF OF SEGMENT OWNED BY CAC. PERMIT NO ACCESS TO UPLANDS AT ANY TIME.

7/25/89

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.

7/25/89 ~~NORTHE~~
7/25/89

State Historic Preservation Officer * Date: July 18, 89

ISCC: Sharon K. Christopherson Date: 7/25/89

EXXON: Mark N. Rebert Date: 7/25/89

FOSC: C E Robbins Date: 7/26/89

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

SHORELINE OIL EVALUATION

Date: 9 July 89 / Time: 0959 to 1315 hr Observer: Mann

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

LOCATION east coast of Knight Island

LOCATION between Marsha Bay and Snug Harbor SEGMENT NUMBER KN 705

LENGTH OF SHORELINE SEGMENT: 8.3 K 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 30 % / C 10 % / P <1 % / G <1 % / S 0 % / M 0 % / R 60 %

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 0 Width of Band: 0 m

Sporadic: Y/N % of Segment 100

Est. Oil Thickness where > 1cm: NA cm Est. Oil Penetration: NA cm

Pooled Oil: 0 % "Free" Oil: 0 % Coated: H 0 % / M 0 % / L 100 %

Fresh 0 % Mousse 0 % Tar Formation: 100 %

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

Comments:

Sporadic oil contamination takes the form of 5 to 20 cm-wide bands of tar on boulder and cliff faces. Some splattering of tar occurs above high tide line in the small cobble/boulder, pocket beaches. Wave energy is high relative to much of PWSound so self-cleaning is well-advanced.

ECOLOGICAL EVALUATION

LOCATION: KNIGHT ISLAND SITE: between Marsha Bay and Snug Harbor OBSERVER: MEYER

LOCATION PREFIX: KN SEG. NO.: 705 LENGTH: 8.3 KM (M)

DATE: 07 / 09 / 89 TIME (HHMM): 1000 TIDE HT.: + 3 FT (M)

OILED ZONE: Splash ~~High~~ ~~Medium~~ Low

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

LIVE BIOTA

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

Absent below most cobble/pebble beaches. None oiled.

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

Patches of small mussel beds throughout segment.

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

Fairly continuous small zone of Balanus

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

Tiny Littorina common on cobbles of beaches, also in fucus.

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

OTHER OBSERVATIONS: Streams in segment all oil free. Onchidella borealis common, Pulmonate Siphonaria thersites more common than limpets in LT2. Katharina tunicata abundant on rock outcrops. Pycnopodia and Pisaster present.

CLEANUP PRECAUTIONS: No cleanup recommended - no cleanup precautions. Pink Salmon stream in segment.

Note: Eagle Nest + 2 eagles (see Map), plus 2 more pair of eagles in segment.

MAMMALS: Otters ____ Harbor Seals 2 Sea Lions ____ Whales ____
Other Deer tracks and scat on several beaches; River Otter - 1

BIRDS: 30 Black-legged Kittiwakes on rock top ±10 along segment; Common Mergansers - 7♀; Arctic Terns - 4; Crows - 9; 1 Hermit Thrush feeding in rack; Total Bald Eagles - 3 pairs (1 pair + Nest on map).

GENERAL OBSERVATIONS: No oil in most of segment, light band occassionally. Fucus sparse and generally segment is not very productive.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 9 July 1989 Location Knight Island Site

Location Prefix KN Segment # KN-705 Length 8.3 Km

Survey Method:

Air (A - indicate on map) Boat ✓ (A - indicate on map)

Ground (G - indicate on map)

Known cultural resources (AHRS #) None Data Source —

Oil conditions/beach visibility Light to No Oil

Width of beach zone surveyed 0-100 m Tree fringe surveyed (up to 50 m)

Cultural resources observed in beach zone (AHRS code) None

Cultural resources observed in tree fringe (AHRS code) None

General observations justifying survey method and segment's site probability:

Shore Profile Rocky coastline w/ boulder fringes - some gravel - cobbles pressbut - exposed cliff faces. Spruce, Alder, Devil's Club, etc.

Fresh Water Sources Several streams

Sea Exposure Exposed to the East.

Access/Safety Access on a stormy day would be dangerous.

Probability of undiscovered sites in beach zone (circle one) 1 2 (3) 4 5

Monitoring during cleanup needed yes/(no) Collection yes/(no)

Photos: Color Roll # None Frames —

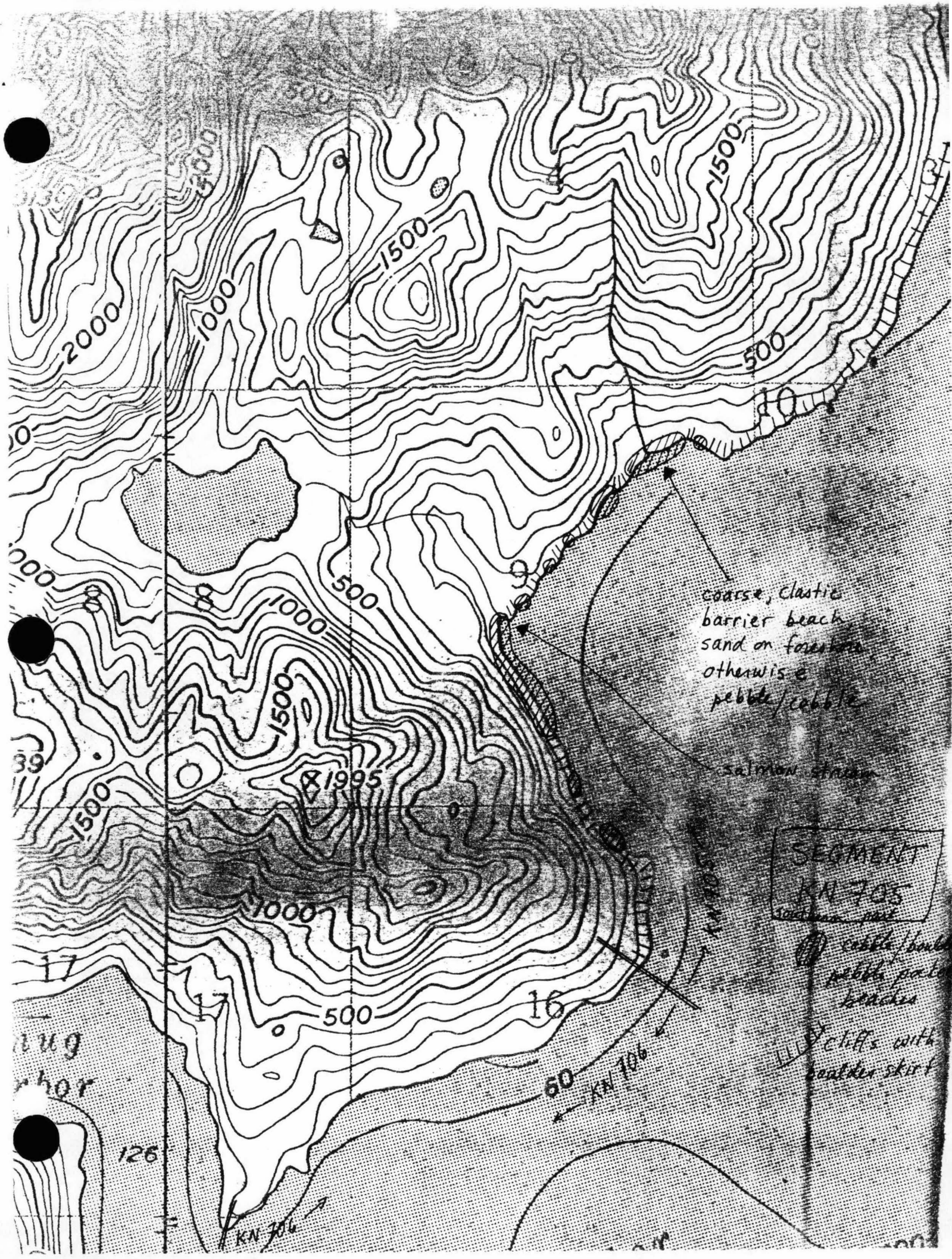
B/W Roll # None Frames —

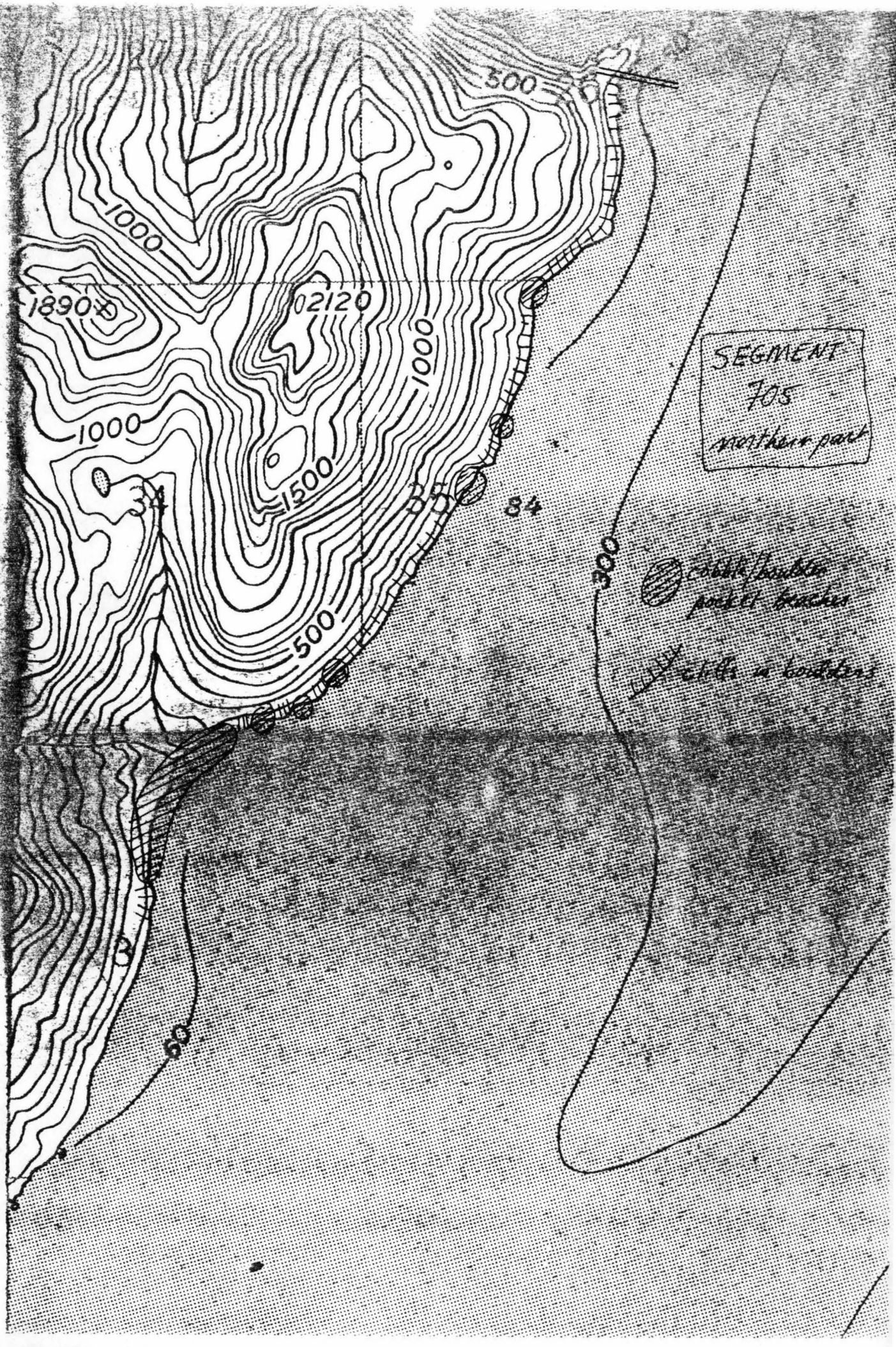
Observer(s) TY L. DILLIPLANE

Time survey started 0959 hrs Time survey ended 1315 hrs

Cultural resource considerations/restraints:

If heretofore undiscovered cultural resources are found during the course of any clean-up activities, please contact the Exxon Archaeological Director, Dr. C. Mobley, immediately.


2000
1000
1500
500
1995
coarse, clastic barrier beach, sand on foreshore, otherwise pebble/cobble
salmon stream
SEGMENT KN 705
southern part
cobble/boulder pebble pocket beaches
cliffs with boulder skirt
KN 706
KN 706
KN 705
60
126
17
16
10
9
8


300
1000
1890
2120
1000
1000
1500
34
35
84
300
500
3
60
SEGMENT
705
northern part
cobble/boulder
pocket beaches
cliffs in boulders

(version 5/02/89)

SHORELINE CLEANUP PROGRAM

DATE 7/15/89 SHORELINE SEGMENT KN-706

LOCATION: (see enclosed map) East shore of Knight Island, north of entrance of Snug Harbor

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 7/9/89

Recommended Cleanup Activity(ies):
- Manually remove contaminated drift material (fucus) at site B.
- Flood/flush with warm to hot water (up to 140 F) on low angle beach of site A.
- Use moderate to high pressure warm to hot water washing on rock and oiled logs.
- Use other approved methods as appropriate.

Priorities Considerations:
Class 2-4: Part of site A has heavy oil. Remainder has sporadic light oil.
Class B: resources absent

Ecological Constraints (from site survey):
Work at mid tide + or take appropriate measures to protect lower intertidal zone.

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

Robert D. Shaw
State Historic Preservation Officer * Date: July 18, 89

ISCC: Sharon K. Christopherson Date: 7/25/89

EXXON: Mark N. Sillert Date: 7/25/89

FOSC: C E Nobles Date: 7/26/89

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

SHORELINE OIL EVALUATION

Date: 9 July 89 Time: 1315 - 1445 Observer: Mann

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

LOCATION East shore Knight Island

LOCATION N of entrance to Snug Harbor SEGMENT NUMBER KN 706

LENGTH OF SHORELINE SEGMENT: 2.3 Km

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 30% / C 15% / P 5% / G <1% / S <1% / M 0% / R 50%

Drift Debris on Beach: (Yes)/No (Supra/Upper)/Mid/Lower Type 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 60 Width of Band: 0.5 - 2 m

Sporadic: (Y)/N % of Segment 40

Est. Oil Thickness where > 1cm: NA cm Est. Oil Penetration: to 25 cm

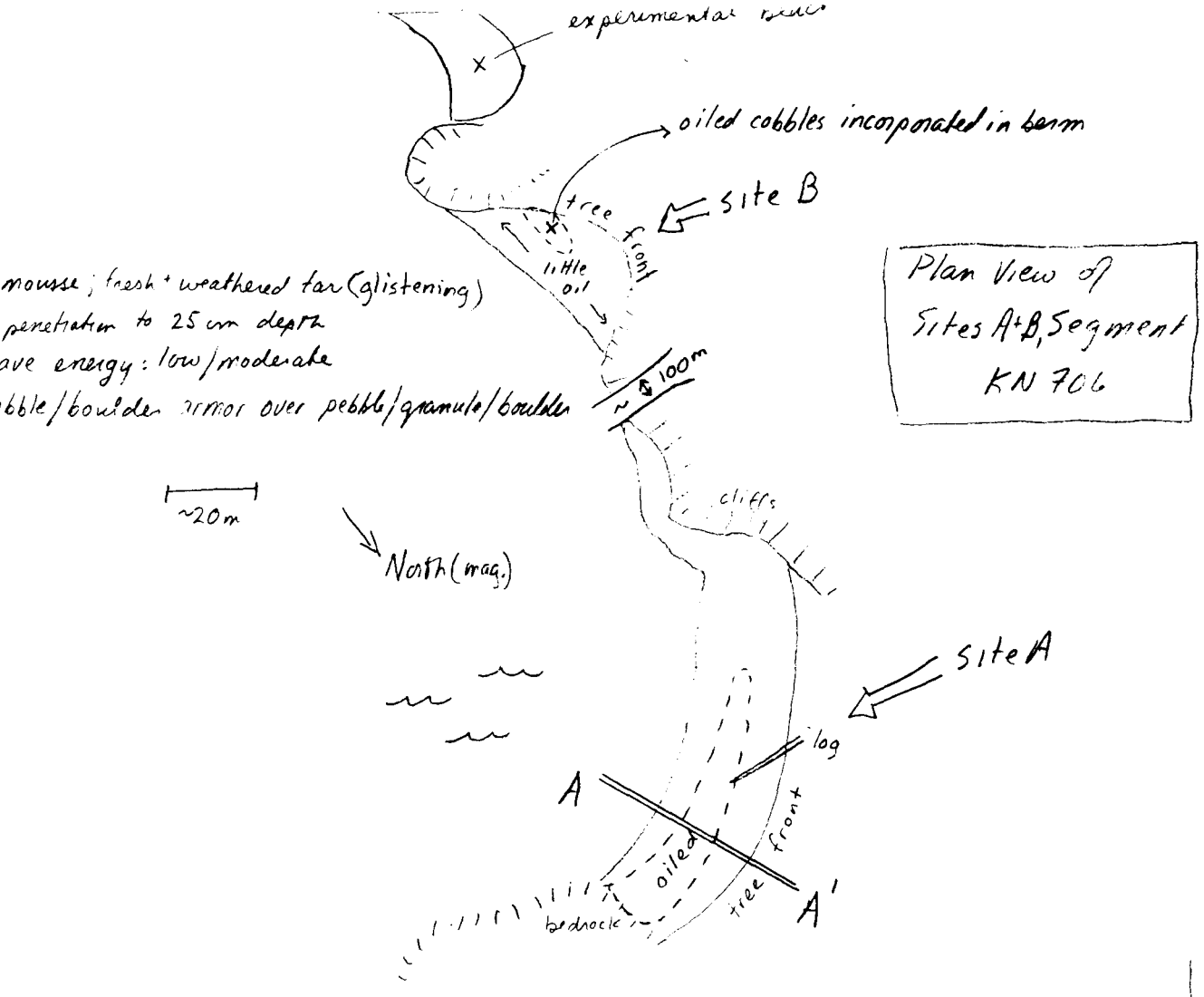
Pooled Oil: 0 % "Free" Oil: 0 % Coated: H 10 % / M 20 % / L 70 %

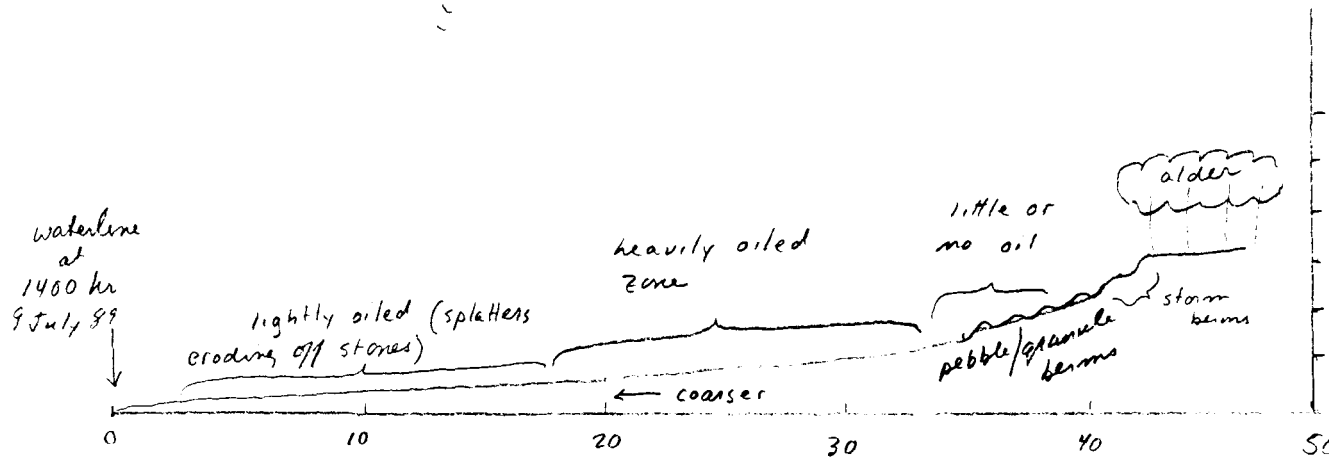
Fresh 0 % Mousse 0 % Tar Formation: 100 %

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

Comments:

This coastline consists of a mixture of pocket beaches and cliffs. Oiling on the cliffs takes the form of tar - now sloughing off. Only 1 beach is recommended for cleaning (Site A).





X-Section of Site A, Segment KN 706

ECOLOGICAL EVALUATION

LOCATION: KNIGHT ISLAND SITE: N of Snug Harbor OBSERVER: MEYER

LOCATION PREFIX: KN SEG. NO.: 706 LENGTH: 2.3 KM (M)

DATE: 07 / 09 / 89 TIME (HHMM): 1315 TIDE HT.: +2 FT (M)

OILED ZONE: Splash (High) (Medium) Low

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

LIVE BIOTA

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

Absent below most cobble/pebble beaches; sparse + patchy but present in LT2 of Site A. None oiled

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

Patches of small mussel beds throughout segment, none oiled.

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

Fairly continuous small zone of balanus + spat, occassionally into oiled zone. Some thatched on rock outcrops

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

Tiny littorina on cobbles of beaches, scattered Nucella

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

Sparse beneath patches of fucus.

OTHER OBSERVATIONS: Rock outcrop biota includes Pisaster, Pycnopodia, Katharina tunicata, Hermit crab, Calcareous worms, Thatched barnacles.

CLEANUP PRECAUTIONS: NONE.

MAMMALS: Otters 1 Harbor Seals ____ Sea Lions ____ Whales ____
Other ____

BIRDS: ~100 Black-legged Kittiwakes on rock ± 20 in segment; 9- Arctic Terns; 1- Pomarine Jaeger (harrassing A. Tern); 2- Crows; 1- Pigeon Guillemot; 2- Murrelet sp.

GENERAL OBSERVATIONS: Fucus generally sparse and biota low throughout segment. Cleanup at Site A cobble/boulder beach impacts little biota, LT2 not very productive.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 9 JULY 1989 Location Knight Island Site _____

Location Prefix KN Segment # KN-706 Length 2.3 Km

Survey Method:

Air _____ (A - indicate on map) Boat ✓ (A - indicate on map)

Ground _____ (G - indicate on map)

Known cultural resources (AHRS #) None Data Source —

Oil conditions/beach visibility Light to Moderate

Width of beach zone surveyed 0-75 m Tree fringe surveyed up to 50 m

Cultural resources observed in beach zone (AHRS code) None

Cultural resources observed in tree fringe (AHRS code) None

General observations justifying survey method and segment's site probability:

Shore Profile Rocky coastline

Fresh Water Sources No significant fresh water sources seen.

Sea Exposure Exposed

Access/Safety Access on a stormy day would be dangerous.

Probability of undiscovered sites in beach zone (circle one) 1 (2) 3 4 5

Monitoring during cleanup needed yes (no) Collection yes (no)

Photos: Color Roll # None Frames —

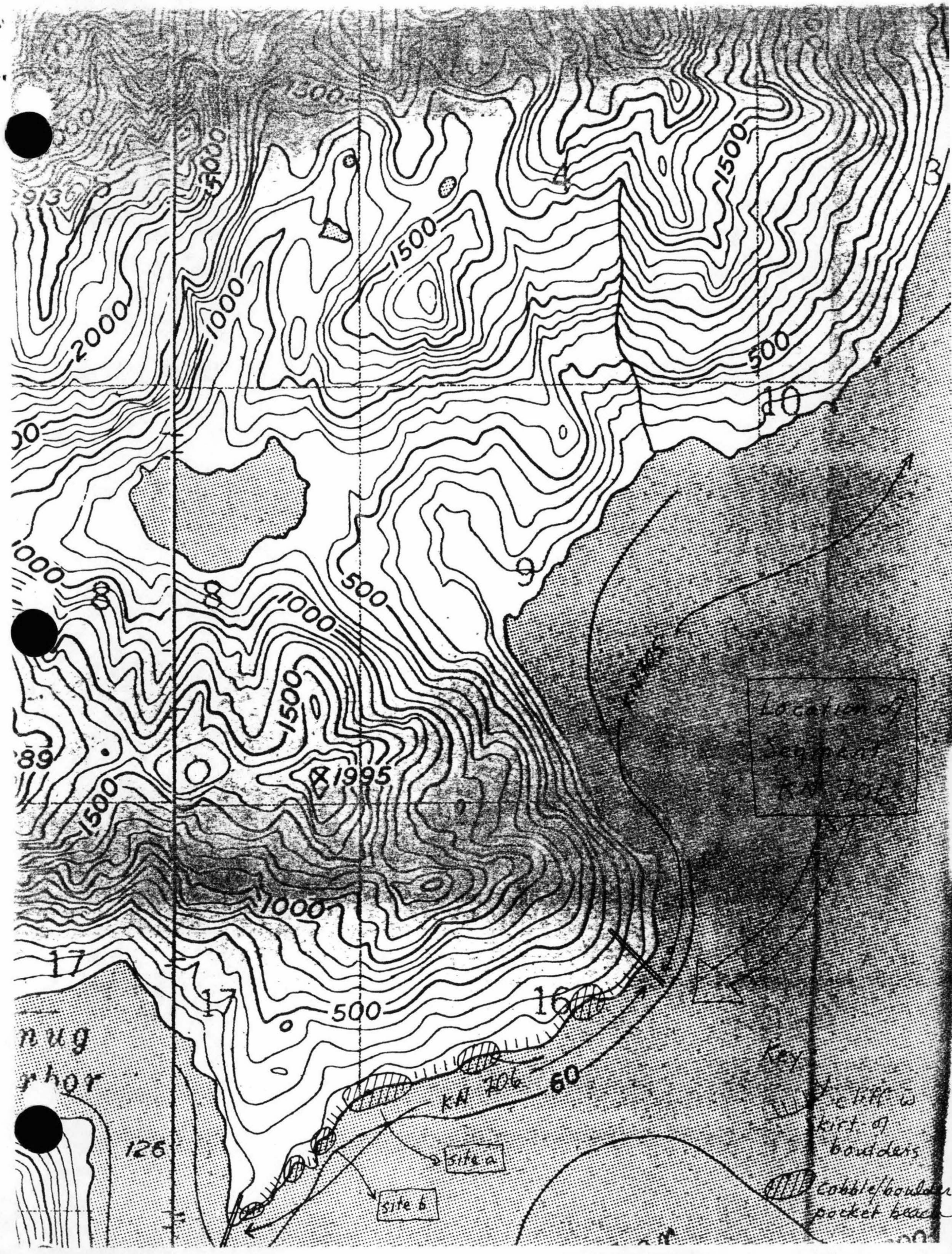
B/W Roll # None Frames —

Observer(s) TY. L. DILLIPLANE

Time survey started 1315 hrs Time survey ended 1445 hrs

Cultural resource considerations/restraints:

If heretofore undiscovered cultural resources are found during the course of any cleanup activities, please contact the EXXON Archaeological Director, Dr. C. Mobley, immediately.


1500
2000
1000
500
1995
Location of segment KN 206
KN 206
60
site a
site b
Key
cliff w/ talus of boulders
Cobble/boulder pocket beach

TREATMENT MANUAL, 6/15/89

SEG KU 705 INSPECTION # 1

DATE 8-9-89

SEGMENT INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

- [x] Hot water wash
- [x] Warm water wash
- [x] Water deluge
- [x] Mechanical HAND WEAVE
- [ ] Non-mechanical
- [ ] Other

Exxon

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

Comments TREATMENT OF SEGMENT KU-705 IS COMPLETE AND READY FOR DEMOBILIZATION AND MOVE TO NEW SEGMENT

Signature Melvin D Moore Date: 8/9/89 Time: 2050

Printed Name MELVIN A MOORE

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil		Subsurface Oil
Percent	Degree of Oiling	[ ] Yes [x] No
	Heavy	Comments
	Medium	
5%	Light	
30	Very Light	
65%	None	
100 %		

Reassessment

[ ] Yes - necessary [x] No - not necessary unless re-oiled

ADEC rep Comments Extremely clean segment except for most southern boulder which was heavily oil. Small pockets of mousse occur on rock under surfaces for about 30 yds.

Reassessment not requested because of location and exposure

Signature Michele Peep Date: 8/9/89 Time: 2105

Printed Name Michele Peep EFOII ADEC

FOSC rep Demobilization approved/disapproved

Comments No visible cross contamination, 7% oil

(version 6/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Location (see enclosed map): SOLF COVE EAST BLOCK

Includes Shoreline Segments: KN-5000, KN-5001, KN-5002, KN-5003, KN-5004

Submitted: DA Nyhing (for Exxon) Date: 6/7/89

ISCC Reccomendation: Sharon K. Christopherson Date: 6-14-89

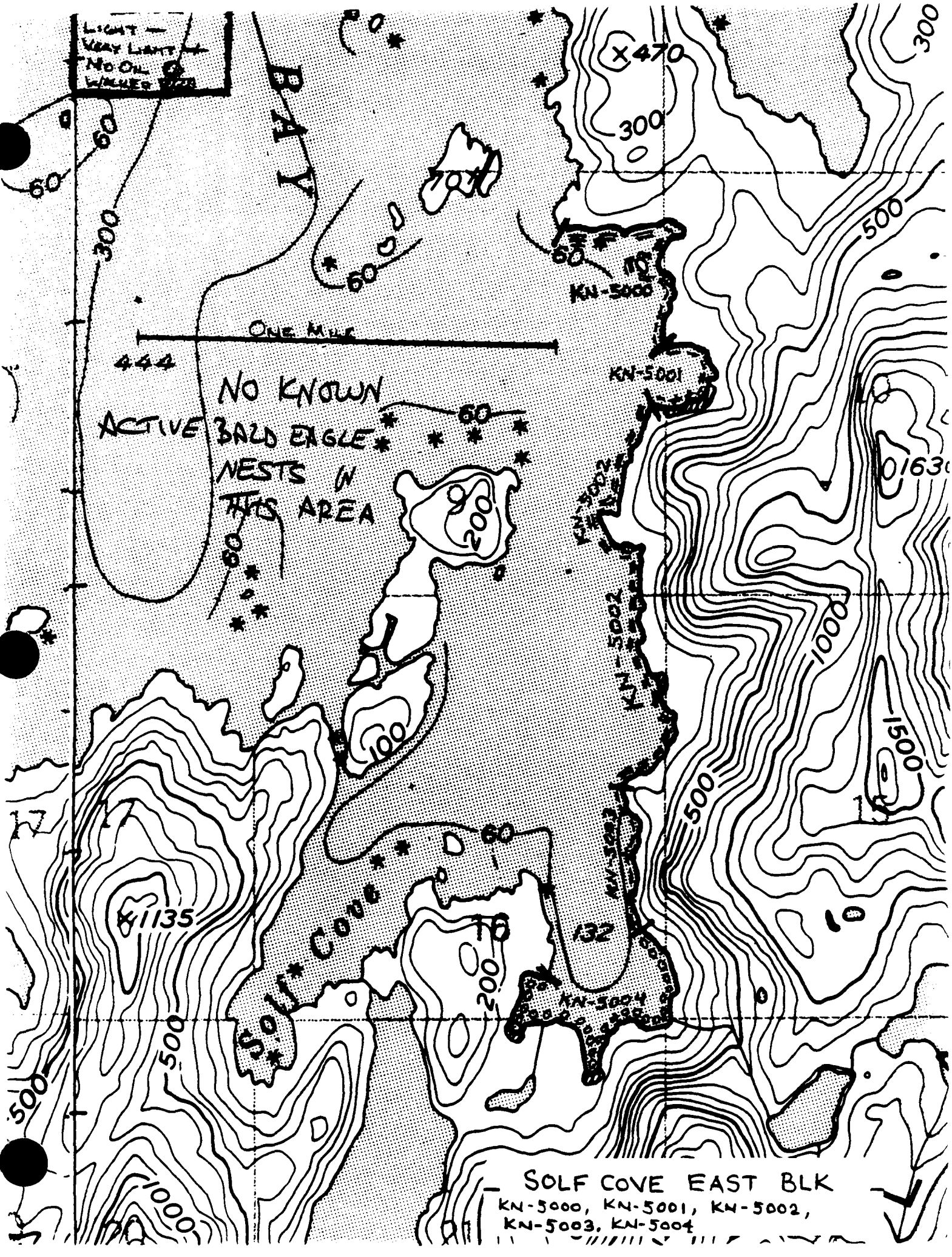
FOSC Approval: C S Robison Date: 6-15-89

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


LIGHT —
VERY LIGHT —
NO OIL
BAY
ONE MILE
NO KNOWN
ACTIVE BALD EAGLE
NESTS IN
THIS AREA
KN-5000
KN-5001
KN-5002
KN-5003
KN-5004
CONE
SOLF COVE EAST BLK
KN-5000, KN-5001, KN-5002,
KN-5003, KN-5004

(version 4/29/89)

SHORELINE CLEANUP PROGRAM

DATE 6/06/89 SHORELINE SEGMENT KN-5000

LOCATION: (see enclosed map) Herring Bay-Knight Island

East side (North adjacent to the NOAA oil spill study area)

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 6/03/89

Recommended Cleanup Activity(ies):
- Use high pressure hot water (up to 140 F) to wash oil from vertical rocks.

Priorities Considerations: CLASS 3B.
- The eastern end of the segment and the outside (seaward side) of the island have the heaviest oiling.

Ecological Constraints (from site survey): Protect lower intertidal zone from additional contamination. ~~This segment is adjacent to NOAA/NMFS test area. Suggest approval prior to any cleanup in this area.~~

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 — Date: June 9, 1989
State Historic Preservation Officer *

ISCC: Sharon K. Christopherson — 6-14-89

EXXON: [signature] — Date: June 14-89

FOSC: C E Tolkin — Date: 6-14-89

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

SHORELINE OIL EVALUATION

Date: 3 JUNE 89 / Time: 0930 Observer: BRIAN TERMIN

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

LOCATION

LOCATION EAST SIDE HERRING BAY, KNIGHT ISLE SEGMENT NUMBER KN-5000

LENGTH OF SHORELINE SEGMENT: 1160 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 10 % / P 2 % / G 2 % / S — % / M — % / R 80 %

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

OIL

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

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

Continuous: Y/N % of Segment 100 Width of Band: 4 m

Sporadic: Y/N % of Segment —

Est. Oil Thickness where > 1cm: — cm Est. Oil Penetration: — cm

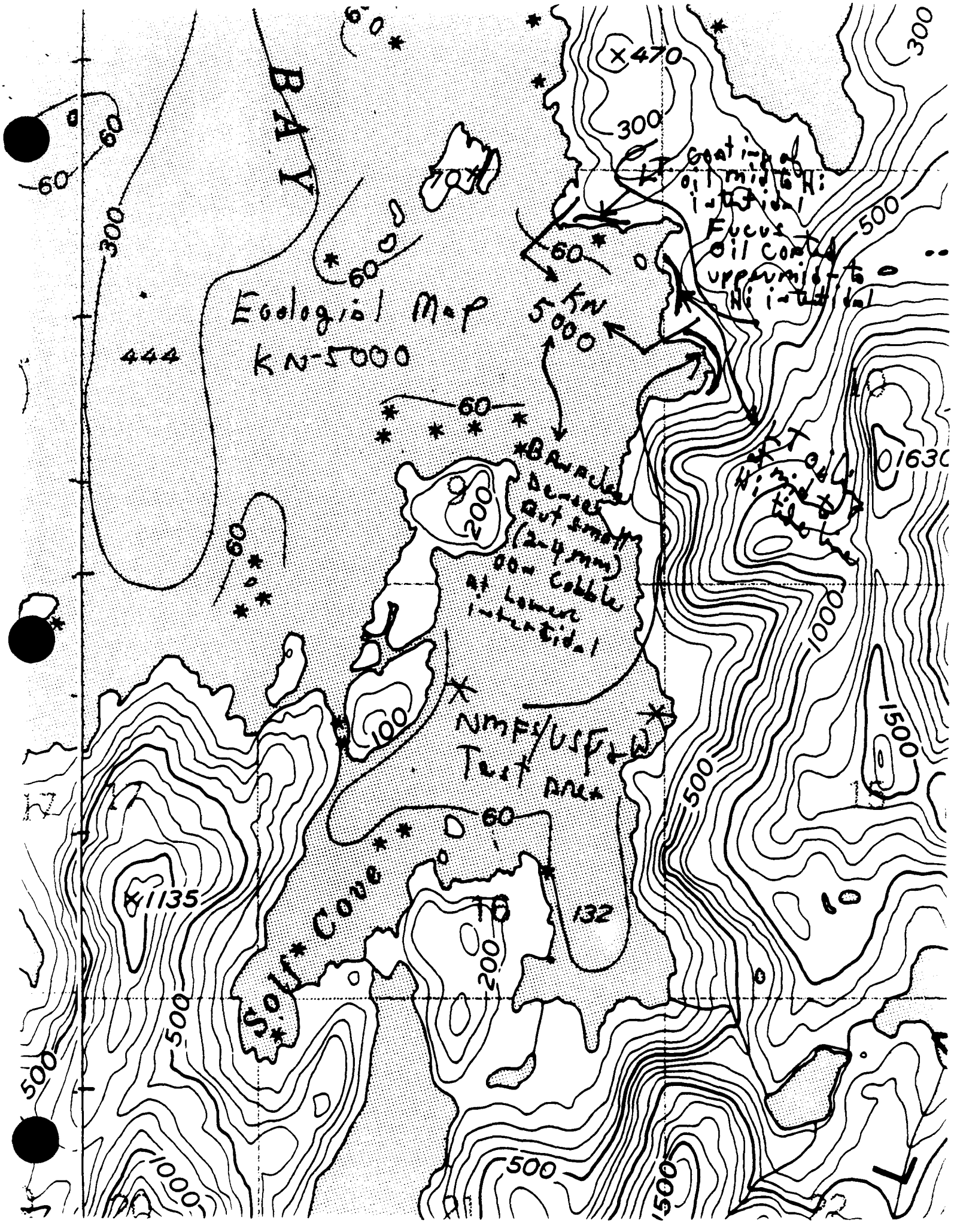
Pooled Oil: — % "Free" Oil: — % Coated: H 80 % / M 20 % / L — %

Fresh 100 % Mousse — % Tar Formation: — %

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

Comments:

SEGMENT SURVEY BY DINGY (3M OFF COAST). GOT OUT ONCE TO CHECK BOULDER/COBBLE BEACH. IN PLACE FUCUS OILED ON ROCKY VERT. CLIFFS. OILING VARIES FROM HEAVY AT THE ENTRANCE TO THE COVE TO LIGHT AT THE BACK OF COVE. OIL ACCUMULATION IS IN THE HIGH MIDDLE INTERTIDAL ZONES. ONLY THE FAR EAST PART OF THE SEGMENT & THE ISLAND HAVE HEAVY ACCUMULATION (6M) OF OIL. REST OF SEGMENT (MAJORITY) IS CLASSIFIED AS MODERATE.


BAY
Ecological Map
KN-5000
5000 KN
Barnacle
Dense
Cut smooth
(2-4 mm)
on Cobble
at lower
intertidal
NMFS/USFWS
Test Area
Coat in of
oil mid to Hi
intertidal
Fucus
oil coated
upper mid to
Hi intertidal
Hi oil
tide line
470
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132
200
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Knight Island

LOCATION: Henrietta Bay SITE: _____ OBSERVER: G. Penn

LOCATION PREFIX: KN SEG. NO.: 5000 LENGTH: 1160 (M)

DATE: 6/2/89 TIME (HHMM): 0930 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)

Fucus is oiled sporadically in mid to upper tidal areas

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

(+) Tactile Response

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

(+) Tactile Response

Dense new spats on cobble in lower intertidal

Littorina

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

(+) tactile Response

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

(+) tactile Response

OTHER OBSERVATIONS: _____

CLEANUP PRECAUTIONS: * use appropriate mechanical/dispersion techniques (including hot water up to 140°F) or other suitable means * Protect lower intertidal from additional contamination.

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

Other _____

BIRDS: _____

GENERAL OBSERVATIONS: _____

* adjacent to NOAA NMFS/USF&W test area - suggest approval prior to any clean up in this area.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 6-3-89 Location KNIGHT ISLAND/KERRING BAY Site

Location Prefix KN Segment # 5000 Length 1160 m.

Survey Method:

Air (A - indicate on map) Boat X (A - indicate on map)

Ground X (G - indicate on map)

Known cultural resources (AHRS #) Data Source

Oil conditions/beach visibility Moderate to heavy in patches

Width of beach zone surveyed 5-25 m Tree fringe surveyed 0-30 m.

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 Northern Tip has steep rock walls, some small pocket beaches occur.

Fresh Water Sources Seeps and small streams

Sea Exposure Open to the South and West.

Access/Safety Fair access to shore line.

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) ANDREFSKY

Time survey started 9:30 AM Time survey ended 10:15 AM

Cultural resource considerations/restraints:

If heretofore unidentified cultural resources are discovered contact Exxon archaeologists immediately.

(version 4/29/89)

SHORELINE CLEANUP PROGRAM

DATE 6/06/89 SHORELINE SEGMENT KN-5001

LOCATION: (see enclosed map) Herring Bay-Knight Island East shore (This segment is marked off by NOAA for an oil spill study

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 6/03/89

Recommended Cleanup Activity(ies):
- Flood/flush with warm to hot water (up to 140 F) on cobble beach. Use high pressure washing on vertical rock.

Priorities Considerations: CLASS 4B
- ~~Contact NOAA before any cleanup proceeds.~~

Ecological Constraints (from site survey): Protect lower intertidal zone from additional contamination. ~~This segment includes a NOAA/NMFS test area. Do not clean without appropriate approval~~.

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 — Date: June 8, 1989
State Historic Preservation Officer *

ISCC: Sharon K. Christopherson — Date: 6-14-89

EXXON: [signature] — Date: June 14-89

FOSC: [signature] — Date: 6-14-89

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

SHORELINE OIL EVALUATION

Date: 3 JUNE 89 / Time: 1015 Observer: BRYAN TERMIN

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

LOCATION

LOCATION EAST SHORE, HERRING BAY, KNIGHT ISLAND SEGMENT NUMBER KI-SU-1

LENGTH OF SHORELINE SEGMENT: 570 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 10 % / C 25 % / P 5 % / G ___ % / S ___ % / M ___ % / R 60 %

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

OIL

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

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

Continuous: Y/N % of Segment 85 Width of Band: 1-3 m

Sporadic: Y/N % of Segment ___

Est. Oil Thickness where > 1cm: — cm Est. Oil Penetration: — cm

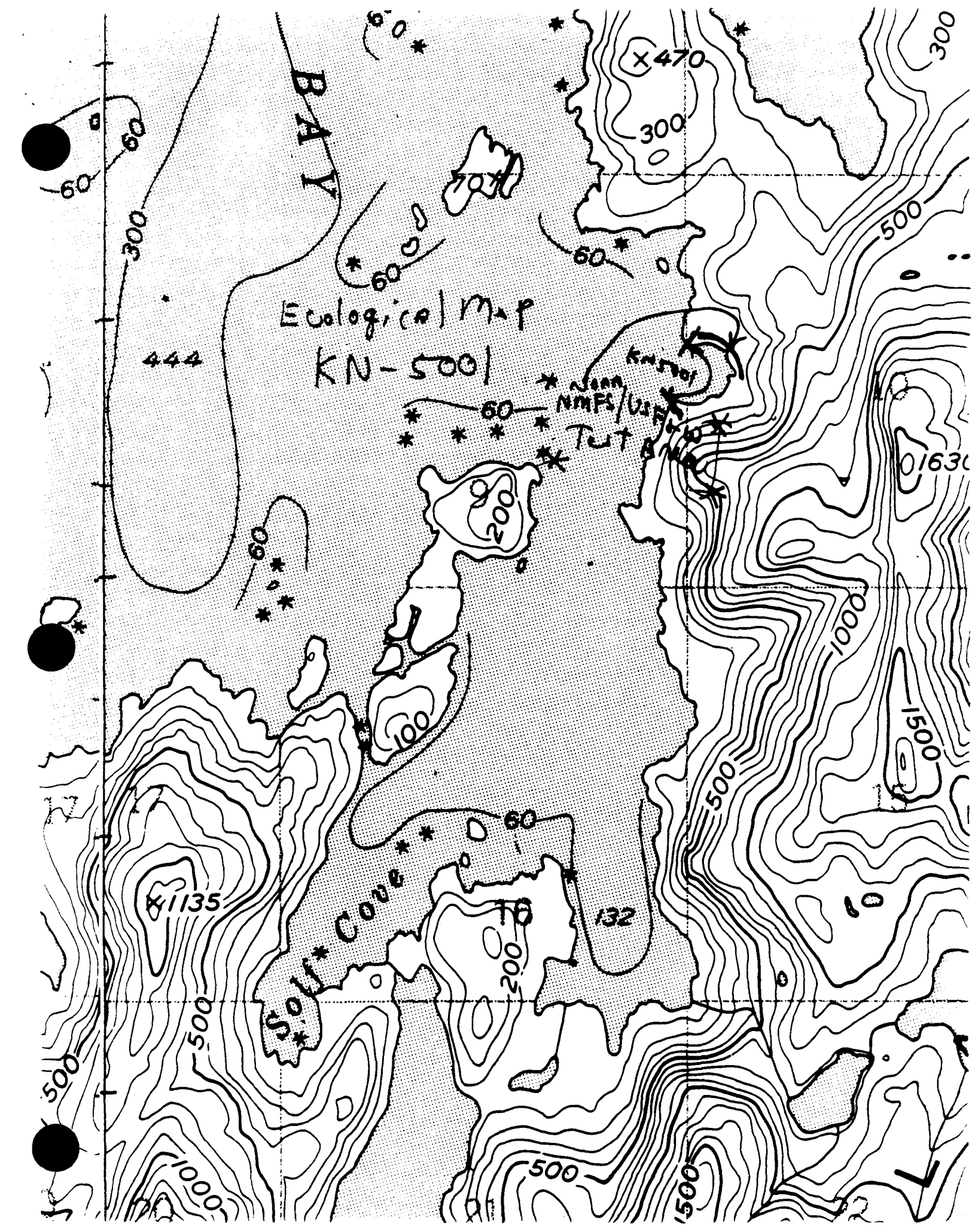
Pooled Oil: 0 % "Free" Oil: 0 % Coated: H ___ % / M 10 % / L 90 %

Fresh 75 % Mousse 0 % Tar Formation: 25 %

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

Comments:

THE OIL FM IS "DRIED" FRESH OIL ON VERTICAL ROCK CLIFFS. THE COBBLE/BOULDER/PEBBLE SHORE HAS LIGHT/VERY LIGHT OILING. THERE IS LIGHT COATING OIL ON FUCUS IN THE MID INTERTIDAL ZONE FOR THE ROCKY CLIFFS. THE OIL HAS A DISTINCT LINE AT THE TOP OF THE HIGH TIDE LINE


BAY
Ecological Map
KN-5001
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Knight Island

LOCATION: Herring Bay SITE: _____ OBSERVER: G. Penn

LOCATION PREFIX: KN SEG. NO.: 5001 LENGTH: 570 (M)

DATE: 6/2/89 TIME (HHMM): 1015 TIDE HT.: 1.0 (M)

OILED ZONE: Splash (High Medium) Low

SUBSTRATUM: (Rocks Boulder Cobble) Gravel Sand Mud

LIVE BIOTA

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

Light fucus oiling near upper limits of growth.

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

(+) Tactile Response - mussels rare to occasional in area

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

Young spats dense in lower intertidal - (+) Tactile Response

Littorina

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

(+) Tactile Response

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

(+) Tactile Response

OTHER OBSERVATIONS: This is a NOAA-NMFS test area

CLEANUP PRECAUTIONS: * upon approval, use mechanical/dispersion techniques or other suitable means - protect lower intertidal from further contamination.

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

Other _____

BIRDS: _____

GENERAL OBSERVATIONS: _____

*This is a NOAA/NMFS test area - do not clean without appropriate approval.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 6-3-89 Location Knight Island / Herring Bay Site

Location Prefix KN Segment # 5001 Length 570 m

Survey Method:

Air (A - indicate on map) Boat X (A - indicate on map)

Ground X (G - indicate on map)

Known cultural resources (AHRS #) Data Source

Oil conditions/beach visibility light oil cover, continuous.

Width of beach zone surveyed 5-30 m Tree fringe surveyed 5 m.

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 gentle beach slope w/ some rocks outcropped on points.

Fresh Water Sources small streams.

Sea Exposure Open to the West.

Access/Safety Good access for beach landing - safe.

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) ANDREFSKY

Time survey started 10:40 AM Time survey ended 11:05 AM

Cultural resource considerations/restraints:

If heretofore unidentified cultural resources are discovered contact Exxon archaeologists immediately.

(version 4/29/89)

SHORELINE CLEANUP PROGRAM

DATE 6/06/89 SHORELINE SEGMENT KN-5002

LOCATION: (see enclosed map) Herring Bay-Knight Island

East side (south and adjacent to NOAA oil spill area)

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 6/03/89

Recommended Cleanup Activity(ies):
- Use high pressure hot water (up to 140 F) to remove oil from vertical rocks. It may be necessary to use sorbants to recover heavy acculuations of oil from crevices.

Priorities Considerations: CLASS 3B

Ecological Constraints (from site survey): Protect lower intertidal from additional contamination. ~~This segment is adjacent to NOAA/NMFS test area~~. ~~Suggest appropriate clearance prior to cleanup.~~

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. Adams — Date: June 8, 1989
State Historic Preservation Officer *

ISCC: Sharon K. Christopherson — 6-14-89

EXXON: [signature] — Date: June 14-89

FOSC: C. E. Jacobsen — Date: 6-14-89

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

SHORELINE OIL EVALUATION

Date: 3 June 89 Time: 1040 Observer: Brian Tomin

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

LOCATION

LOCATION East Side, Herring Bay, Knight Island SEGMENT NUMBER KN-5002

LENGTH OF SHORELINE SEGMENT: 1900 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 10 % / C 10 % / P ___ % / G ___ % / S ___ % / M ___ % / R 80 %

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

OIL

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

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

Continuous: Y/N % of Segment 100 Width of Band: 4 m

Sporadic: Y/N % of Segment ___

Est. Oil Thickness where > 1cm: ___ cm Est. Oil Penetration: ? cm

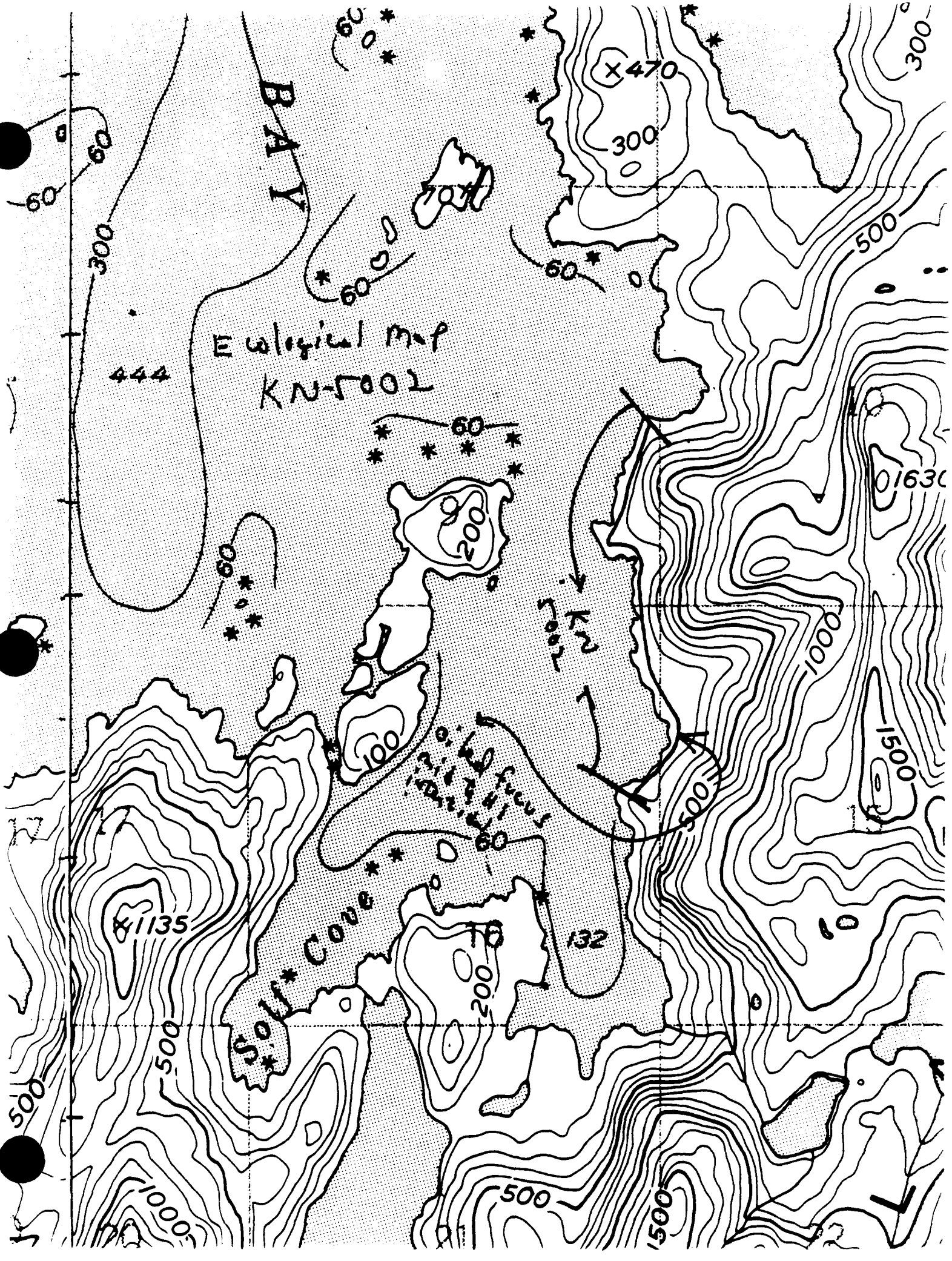
Pooled Oil: ___ % "Free" Oil: ___ % Coated: H 5 % / M 25 % / L 70 %

Fresh 60 % Mousse 25 % Tar Formation: 15 %

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

Comments:

Distinct linear band of oil marks the top of the high tide. Some rocks have 2 or more high tide bands of oil. Crevices in the vertical rock cliffs have medium/heavy oil coating (usually mousse). In place fucus has medium coating of mousse & oil. (Mit: Tar fall is "dried" oil & usually occurs at high tide line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Knight Island

LOCATION: Herring Bay SITE: _____ OBSERVER: G. Penn

LOCATION PREFIX: KN SEG. NO.: 5002 LENGTH: 1900 (M)

DATE: 6/2/89 TIME (HHMM): 1040 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)

Oiled Fucus mid to Hi tide levels

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

(+) Tactile Response - mussels Rare to occasional in area

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

(+) Tactile Response

Littorina

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

(+) Tactile Response

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

(+) Tactile Response

OTHER OBSERVATIONS: _____

CLEANUP PRECAUTIONS: * Use Appropriate mechanical/Dispersion techniques or other suitable means. protect Lower intertidal from additional contamination.

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

Other _____

BIRDS: _____

GENERAL OBSERVATIONS: Lt to med. oiling in 3m wide Band upper mid intertidal to High intertidal.

*Adjacent to NOAA/NMFS test area - suggest appropriate clearance prior to any clean-up.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 6-3-89 Location Knight Island/ Herring Bay Site

Location Prefix KN Segment # 5002 Length 1900 M.

Survey Method:

Air (A - indicate on map) Boat X (A - indicate on map)

Ground (G - indicate on map)

Known cultural resources (AHRS #) Data Source

Oil conditions/beach visibility light to moderate

Width of beach zone surveyed 0-5 m Tree fringe surveyed 0 m.

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 Vertical rock face.

Fresh Water Sources Small streams & seeps.

Sea Exposure Open to the West.

Access/Safety poor access for landing. Can pull barge right up to rock faces.

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) ANDREFSKY

Time survey started 10:40 AM Time survey ended 11:05 AM

Cultural resource considerations/restraints:

If heretofore unidentified cultural resources are discovered contact Exxon archaeologists immediately.

(version 4/29/89)

SHORELINE CLEANUP PROGRAM

DATE 6/06/89 SHORELINE SEGMENT KN-5003

LOCATION: (see enclosed map) Herring Bay-Knight Island East Side

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 6/03/89

Recommended Cleanup Activity(ies):
- Use high pressure warm to hot water (up to 140 F) to remove light oil from vertical rock.

Priorities Considerations: CLASS 4B.

Ecological Constraints (from site survey): Protect lower intertidal from any additional contamination.

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 — Date: June 8, 1989
State Historic Preservation Officer *

ISCC: Sharon K. Christopherson — 6-14-89

EXXON: [signature] — Date: June 14-89

FOSC: [signature] — Date: 6-14-89

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

SHORELINE OIL EVALUATION

Date: 3 JUNE '89 / Time: 1105 Observer: BRYAN TRIMM

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

LOCATION

LOCATION EAST SIDE, HERRING BAY KNIGHT ISLAND SEGMENT NUMBER KN-5003

LENGTH OF SHORELINE SEGMENT: 600 m

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

SHORELINE:

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

Wave Exposure: High/Med/Low

Sediment: B 10 % / C 10 % / P ___ % / G ___ % / S ___ % / M ___ % / R 80 %

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

OIL

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

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

Continuous: Y/N % of Segment 100 Width of Band: 1-2 m

Sporadic: Y/N % of Segment ___

Est. Oil Thickness where > 1cm: — cm Est. Oil Penetration: ? cm

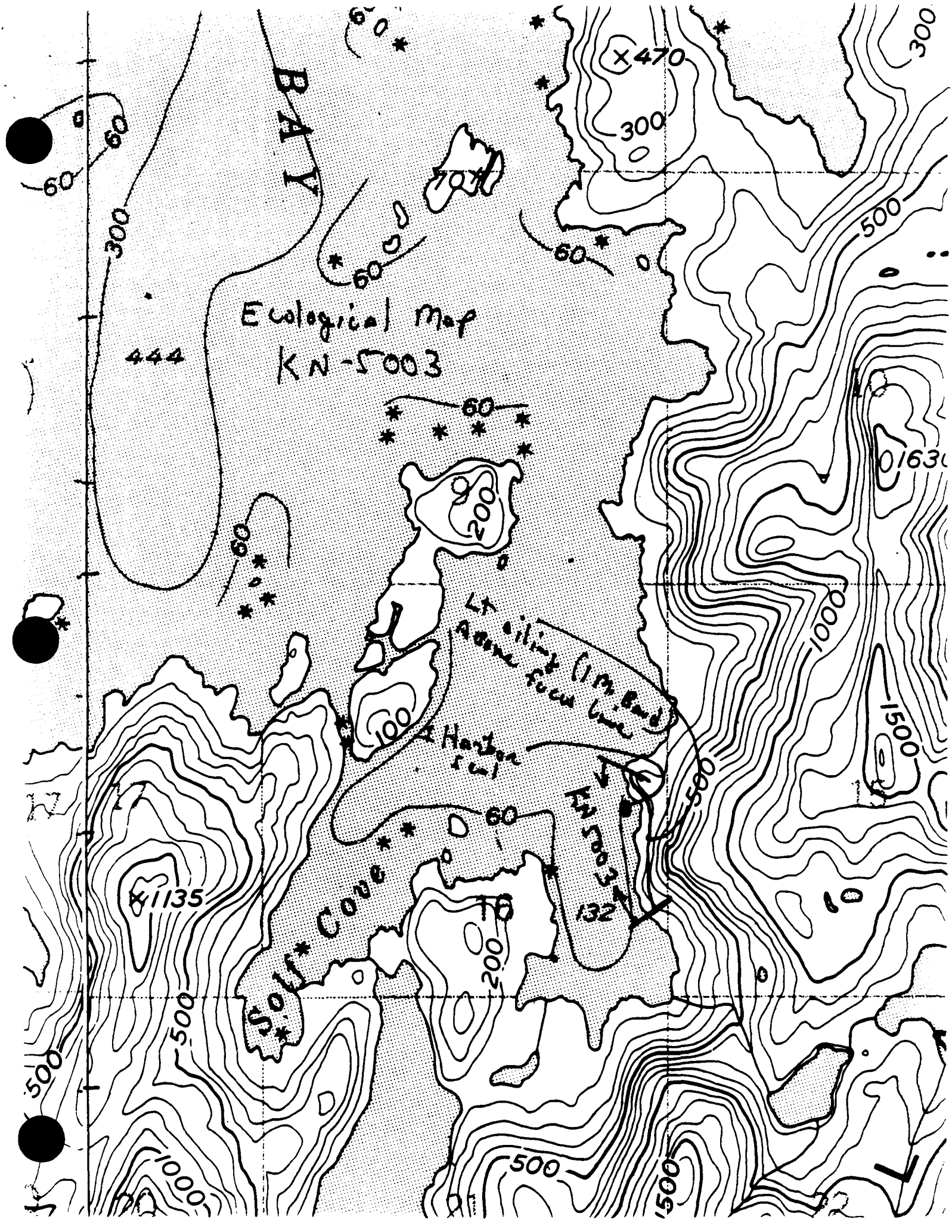
Pooled Oil: — % "Free" Oil: — % Coated: H ___ % / M ___ % / L 100 %

Fresh 60 % Mousse 25 % Tar Formation: 15 %

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

Comments:

1 [illegible] VERY LIGHT COATING OF HIGH & MIDDLE INTERTIDAL (1 TO 2 M WIDE CONTINUOUS BAND). SAME AS KN-5002 EXCEPT LIGHTER OILING. NO FUCUS OILED.


BAY
Ecological map
KN-5003
444
470
300
60
500
1000
1500
1630
200
100
1135
132
Horizon
Flint (1m band)
Acme focus line
Horizon
Flint
Core
10

Knight Island

LOCATION: Herring Bay SITE: _____ OBSERVER: _____

LOCATION PREFIX: KN SEG. NO.: 5003 LENGTH: 600m (M)

DATE: 6/2/89 TIME (HHMM): 11:05 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)

No oiling observed

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

Scarce to Rare (+) Tactile Response

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

(+) tactile response

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

+ Tactile Response

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

Rare - Positive Tactile Response

OTHER OBSERVATIONS: Lite oiling on rock surfaces in 1m. wide Band above fucus growth line.

CLEANUP PRECAUTIONS: Use Appropriate mechanical/dispersin techniques or other suitable means - Protect Lower inter-tidal from any additional contamination.

MAMMALS: Otters ___ Harbor Seals 1 Sea Lions ___ Whales ___
Other _____

BIRDS: _____

GENERAL OBSERVATIONS: _____

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 6-3-89 Location Knight Island/Herring Bay Site

Location Prefix KN Segment # 5003 Length 600 m.

Survey Method:

Air (A - indicate on map) Boat X (A - indicate on map)

Ground (G - indicate on map)

Known cultural resources (AHRS #) Data Source

Oil conditions/beach visibility light & very light

Width of beach zone surveyed 0-5 m Tree fringe surveyed 0m.

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 vertical rock walls

Fresh Water Sources Seeps

Sea Exposure Open to the west

Access/Safety poor landing access, can approach with barges.

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) ANDREFSKY

Time survey started 11:05 AM Time survey ended 11:20 AM

Cultural resource considerations/restraints:

If heretofore unidentified cultural resources are discovered contact EXXON archaeologists immediately.

(version 4/29/89)

SHORELINE CLEANUP PROGRAM

DATE 6/06/89 SHORELINE SEGMENT KN-5004

LOCATION: (see enclosed map) Herring Bay-Knight Island (East)

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 6/03/89

Recommended Cleanup Activity(ies):
- No oiling. No recommended cleanup AT THIS TIME.

Priorities Considerations: NO OIL OBSERVED.

Ecological Constraints (from site survey): No cleanup recommended. No oiling observed.

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.

Charles E. Holmes — Date: June 6, 1989
State Historic Preservation Officer *

ISCC: Sharon K. Christopherson — 6-14-89

EXXON: [signature] — Date: June 14-89

FOSC: C. E. Jolkins — Date: 6-15-89

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

SHORELINE OIL EVALUATION

Date: 3 June 89 Time: 1120 Observer: Bryan Trimm

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

LOCATION

LOCATION East Shore, Herring Bay, Knight Islands SEGMENT NUMBER KN-5004

LENGTH OF SHORELINE SEGMENT: 1900 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 2 % / C 20 % / P___% / G___% / S___% / M___% / R 60 %

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

OIL

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

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

Continuous: Y/N % of Segment_____ Width of Band: _____m

Sporadic: Y/N % of Segment_____

Est. Oil Thickness where > 1cm:_____cm Est. Oil Penetration: _____cm

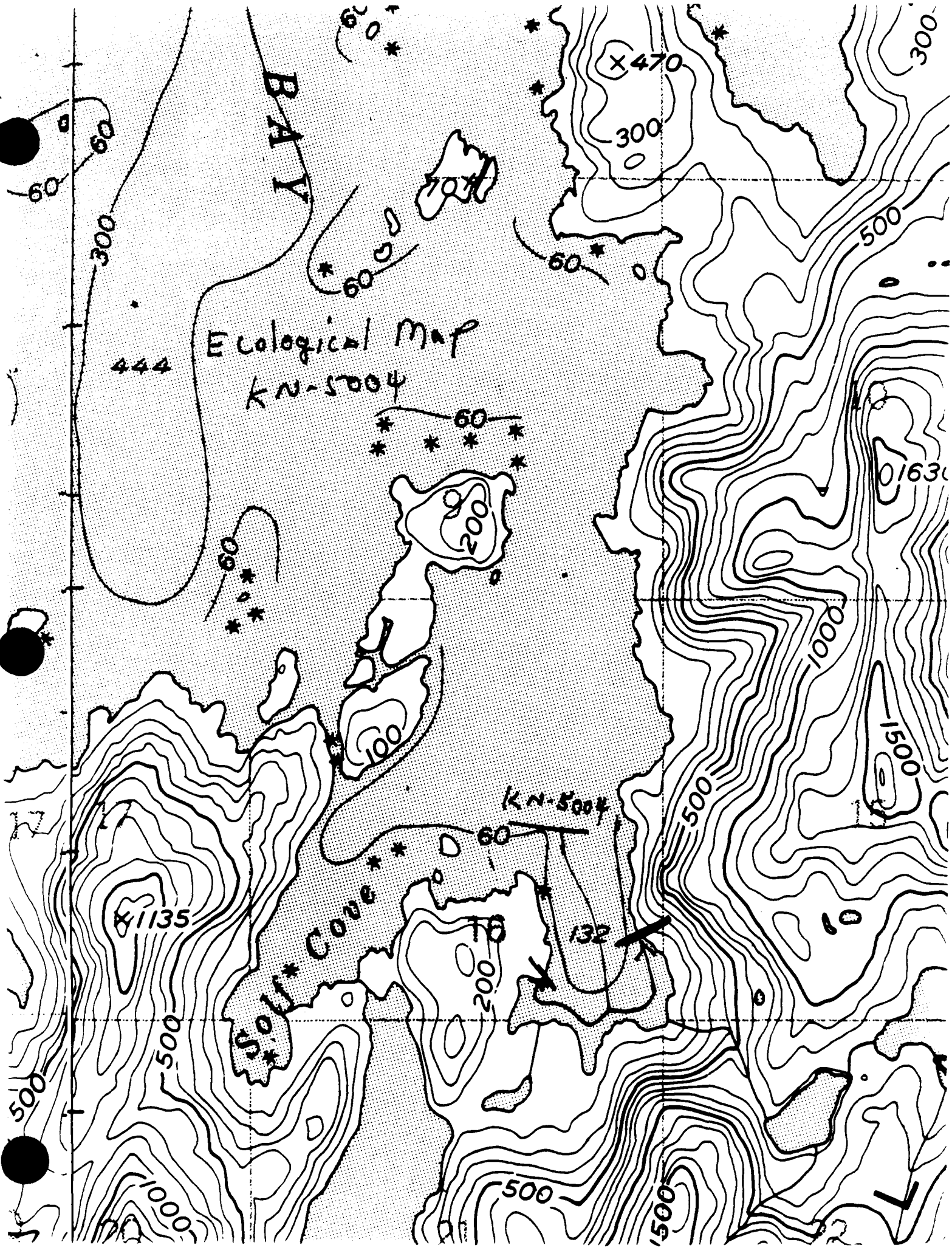
Pooled Oil: _____% "Free" Oil: _____% Coated: H____% /M____% /L____%

Fresh _____% Mousse _____% Tar Formation: _____%

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

Comments:

No oil / No Recommended Action


BAY
Ecological Map
KN-5004
KN-5004
Cone
444
470
300
60
500
1000
1500
200
100
1135
132
10

Knight Island

LOCATION: Herring Bay SITE: _____ OBSERVER: G Penn

LOCATION PREFIX: KN SEG. NO.: 5004 LENGTH: 1800 (M)

DATE: 6/2/89 TIME (HHMM): 11:20 TIDE HT.: 1.4 (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)

No oiled Fucus observed

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

(+) Tactile Response

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

(+) Tactile Response

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

(+) Tactile Response

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

(+) Tactile Response

OTHER OBSERVATIONS: _____

CLEANUP PRECAUTIONS: No clean-up recommended - no oiled surface observed.

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

BIRDS: _____

GENERAL OBSERVATIONS: Area appears pristine.

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 6-3-89 Location Knight Island/Herring Bay Site

Location Prefix KN Segment # 5004 Length 1800 m.

Survey Method:

Air (A - indicate on map) Boat X (A - indicate on map)

Ground X (G - indicate on map)

Known cultural resources (AHRS #) Data Source

Oil conditions/beach visibility No oil

Width of beach zone surveyed 0-5 m Tree fringe surveyed 0-20 m.

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 Variable w/ steep rock outcrops and pocket beaches.

Fresh Water Sources water falls and streams.

Sea Exposure Open to East, North, and West

Access/Safety good access

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) ANDREFSKY

Time survey started 11:20 AM Time survey ended 11:45 AM

Cultural resource considerations/restraints:

If heretofore unidentified cultural resources are discovered contact Exxon archaeologists immediately.

DATE KN.5000 INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

- [ ] Hot water wash
- [x] Warm water wash
- [ ] Water deluge
- [ ] Mechanical
- [ ] Non-mechanical
- [ ] Other

Exxon

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

Comments Treatment of segment KN-5000 is complete and Ready for Demobilization.

Signature Peter A. Allen Date: 8/20/89 Time:

Printed Name PETER A. ALLEN

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil

Percent	Degree of Oiling
Ø	Heavy
1	Medium
~~2~~ 15	Light
~~2~~ 5	Very Light
~~2~~ 79	None
100 %	

Subsurface Oil

- [x] Yes
- [x] No

COMMENT BELOW

Reassessment

- [x] Yes - necessary
- [ ] No - not necessary unless re-oiled

Existing Shoreline Condition As Visually Determined by ADEC

Surface Oil

Percent	Degree of Oiling
Ø	Heavy
1	Medium
15	Light
5	Very Light
79	None
100 %	

Subsurface Oil

- [ ] Yes
- [x] No

COMMENT BELOW

Reassessment

- [x] Yes - necessary
- [ ] No - not necessary unless re-oiled

ADEC rep

Comments No gross contamination observed. Light & very light spots of oil.

Signature Joseph S. Santmyer Date: 8-20-89 Time: 1532

Printed Name JOSEPH S. SANTMYER

FOSC rep Demobilization approved/disapproved

Comments No gross contamination

Signature [illegible] Date: 8/20/89 Time: 1530

Printed Name [illegible]

COPY: EXXON ADEC FOSC ISCC

TREATMENT MANUAL, 6/15/89

SEG KN 5001 INSPECTION # 1

DATE 7/30/89

SEGMENT INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

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

Exxon

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

Comments No treatment was required for segment KN 5001.

Signature R. Mealey Date: 7/30/89 Time: 2012

Printed Name Robert F. Mealey

Existing Shoreline Condition As Visually Determined by USCG

Percent	Degree of Oiling
	Heavy
1%	Medium
3%	Light
6%	Very Light
90%	None
100 %	

Surface Oil

Subsurface Oil

☒ Yes ☐ No

Comments Some minor amts of subsurface oil was present.

Reassessment

☒ Yes - necessary ☐ No - not necessary unless re-oiled

ADEC rep Comments JAN KRIEGER (ADEC) was present during inspection. (JK)

Signature Date: / / Time:

Printed Name

FOSC rep Demobilization approved/disapproved

Comments Mobilization not required @ this time

Signature Thomas D. Harrison Date: 7/30/89 Time: 2220

Printed Name THOMAS D. HARRISON

COPY: [illegible] FOSC [illegible]

KN

SEG 5002 INSPECTION # 1

DATE 7/30/89

SEGMENT INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

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

Exxon

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

Comments No treatment was required for segment KN 5002

Signature [signature] Date: 7/30/89 Time: 2012

Printed Name ROBERT L. MEALEY

Existing Shoreline Condition As Visually Determined by USCG

Percent	Degree of Oiling
	Heavy
	Medium
2%	Light
2%	Very Light
96%	None
100 %	

Subsurface Oil

☒ Yes ☐ No

Comments ONLY MINOR AMOUNTS IN FEW SPOTS

Reassessment

☒ Yes - necessary ☐ No - not necessary unless re-oiled

ADEC rep

Comments

Signature Date: / / Time:

Printed Name

FOSC rep

Demobilization approved/disapproved

Comments MOBILIZATION NOT REQUIRED @ THIS TIME

Signature [signature] Date: 7/30/89 Time:

Printed Name THOMAS B. HARRISON

COPY: [illegible] [illegible] FOSC ISCC

TREATMENT MANUAL, 6/15/89

SEG KN 5003 INSPECTION # 1 SEGMENT

DATE 7/30/89 INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

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

Exxon

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

Comments No treatment was required for segment KN 5003

Signature [signature] Date: 7/30/89 Time: 2012

Printed Name Robert T. Mealey

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil		Subsurface Oil
Percent	Degree of Oiling	☒ Yes ☐ No
	Heavy	Comments ONLY MINOR AMOUNTS
	Medium	IN A FEW SPOTS.
1%	Light	
2%	Very Light	
97%	None	
100 %		

Reassessment

☒ Yes - necessary ☐ No - not necessary unless re-oiled

ADEC rep Comments IAN KRIEGER (ADEC) WAS PRESENT DURING INSPECTION. (IBK)

Signature Date: / / Time:

Printed Name

FOSC rep Demobilization approved/disapproved

Comments MOBILIZATION NOT REQUIRED AT THIS TIME.

Signature [signature] Date: 7/30/89 Time: 2224

Printed Name THOMAS D. HARRISON

COPY: EXXON ADEC FOSC ISCC

SEG KN 5004 INSPECTION # 1

DATE 7/30/89

SEGMENT INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

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

Exxon

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

Comments No treatment was required for segment KN 5004

Signature R. Mealey Date: 7/30/89 Time: 2012

Printed Name Robert F. Mealey

Existing Shoreline Condition As Visually Determined by USCG

Percent	Degree of Oiling
	Heavy
	Medium
	Light
2%	Very Light
98%	None
100 %	

Surface Oil

Subsurface Oil

☒ Yes ☐ No

Comments Very insignificant!

Reassessment

☒ Yes - necessary ☐ No - not necessary unless re-oiled

ADEC rep Comments Jan Heisler (ADEC) was present during inspection. (Jan)

Signature Date: / / Time:

Printed Name

FOSC rep Demobilization approved/disapproved

Comments Mobilization not required @ this time.

Signature Thomas D. Harrison Date: 7/30/89 Time: 2227

Printed Name Thomas D. Harrison

(version 6/04/89)

SHORELINE PRE-CLEANUP ASSESSMENT BLOCK REPORT

Location (see enclosed map): SOLF COVE WEST BLOCK

Includes Shoreline Segments: KN-5005, KN-5006, KN-5007, KN-5008 KN-5009, KN-5010, KN-5011, KN-5012

Submitted: H. C. Ross (for Exxon) Date: 6/6/89

ISCC Reccomendation: Sharon K. Christopherson Date: 6/12/89

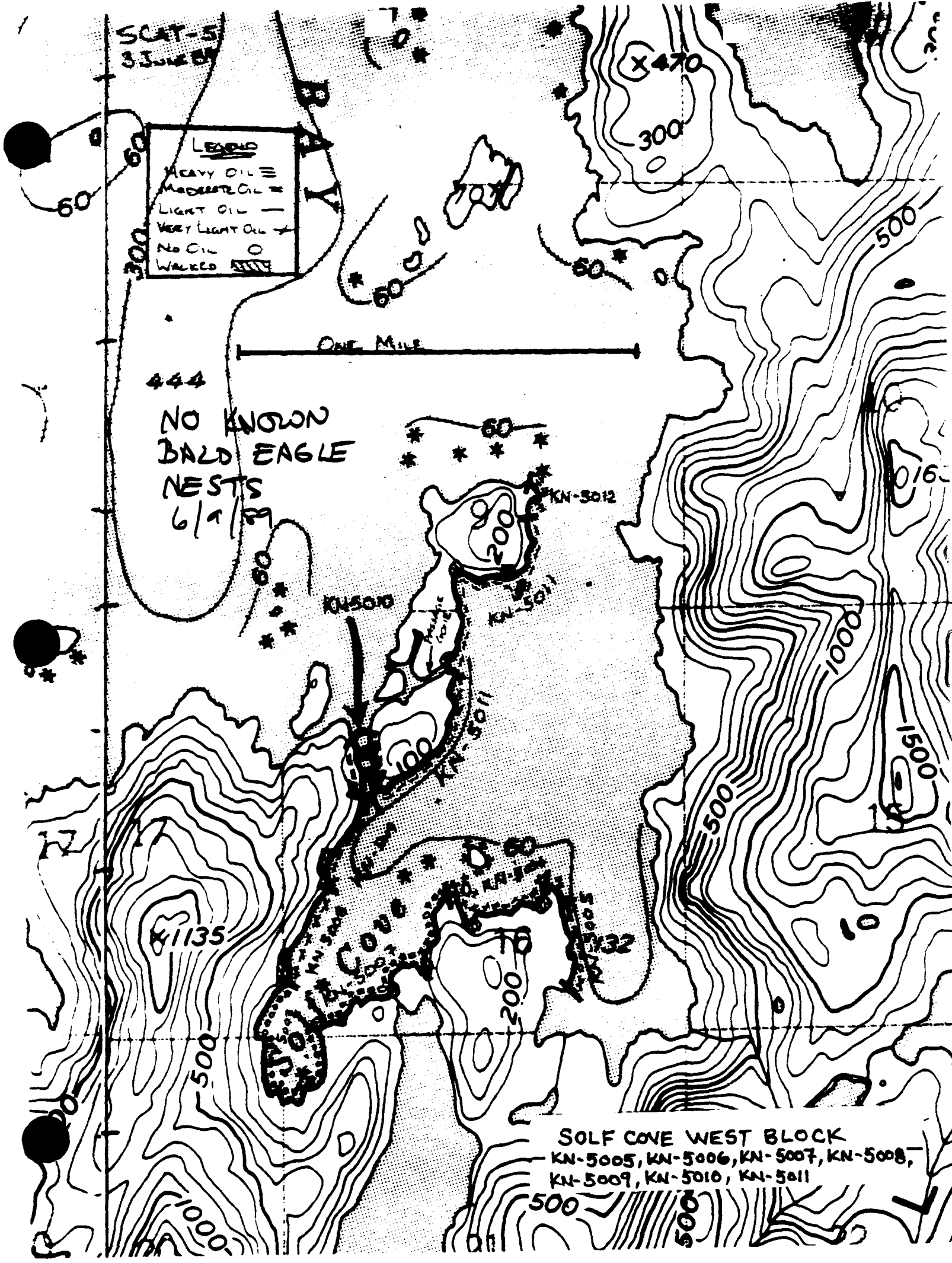
FOSC Approval: A. C. Alejandro, by dir. Date: 6/13/89

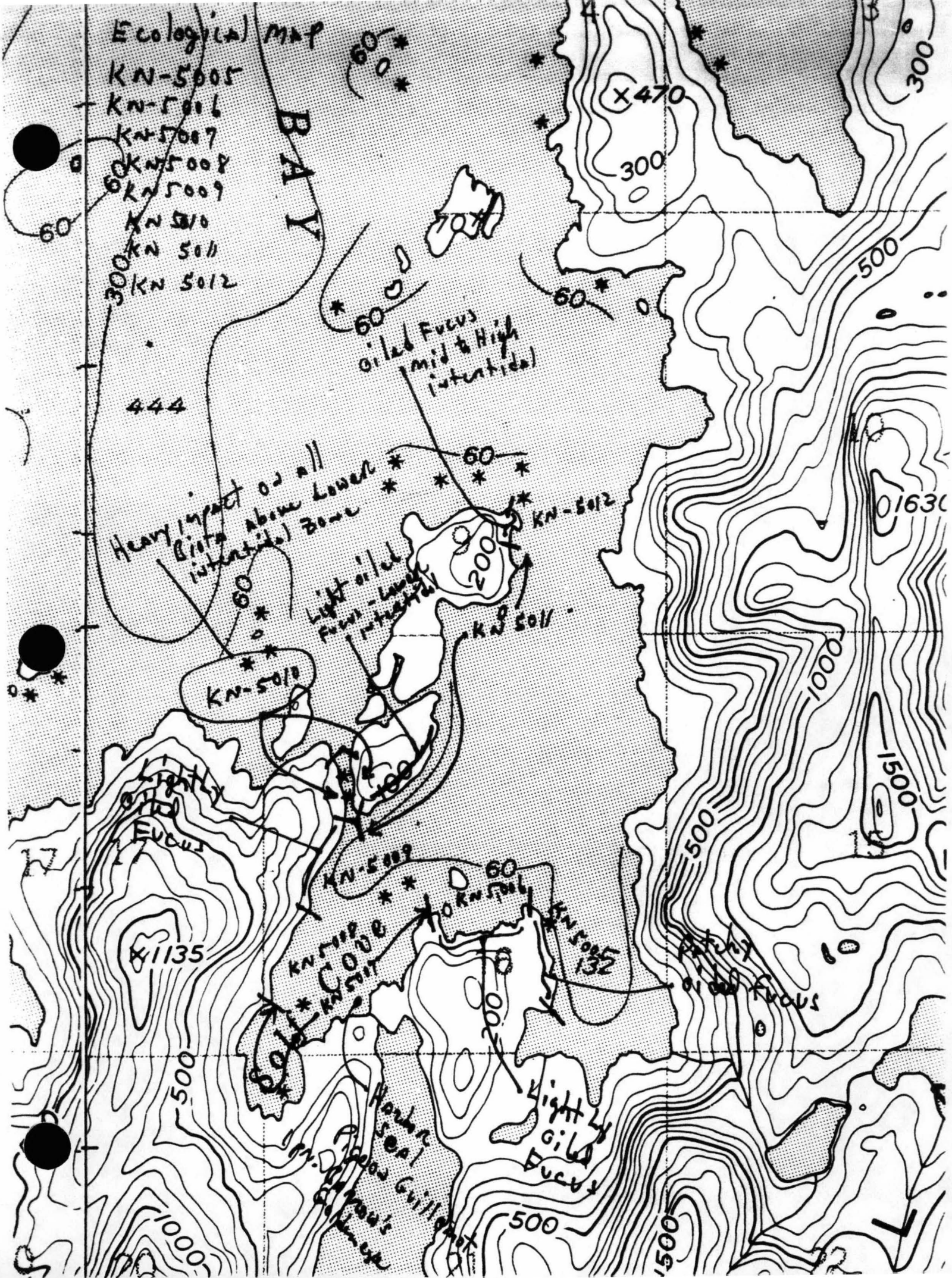
The cleanup procedures identified in the Shoreline Cleanup Program are recommended. Modifications to these systems can be made in the field. Exxon and other field personnel are encouraged to suggest innovations and productivity enhancements to the OSC's on-scene representative. The OSC's representative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


SCAT-5
3 June 89
LEGEND
HEAVY OIL
MODERATE OIL
LIGHT OIL
VERY LIGHT OIL
NO OIL
WALKED
ONE MILE
444
NO KNOWN
BALD EAGLE
NESTS
6/9/89
KN-5012
KN-5010
KN-5011
KN-5009
KN-5008
KN-5007
KN-5006
KN-5005
TD
SOLF COVE WEST BLOCK
KN-5005, KN-5006, KN-5007, KN-5008,
KN-5009, KN-5010, KN-5011


Ecological Map
KN-5005
KN-5006
KN-5007
KN-5008
KN-5009
KN-5010
KN-5011
KN-5012
BAY
470
300
500
1000
1500
1630
444
Oiled Fucus
Mid & High
intertidal
Heavy impact on all
Biota above Lower
intertidal Zone
KN-5012
Light oiled
Fucus - Lower
intertidal
KN-5011
KN-5013
Lightly
oiled
Fucus
KN-5009
KN-5008
KN-5010
KN-5011
1135
132
Oiled Fucus
Harbor Seal
Pupping Ground
Light
Oiled
Fucus

(version 6/04/89)

SHORELINE CLEANUP PROGRAM

DATE 6/06/89 SHORELINE SEGMENT KN-5005

LOCATION: (see enclosed map) East side Herring Bay-Knight Island

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 6/03/89

Recommended Cleanup Activity(ies):
- ~~Use appropriate methods to remove the band (3 to 25cm wide) of oil at the high tide line.~~ NO RECOMMENDED CLEANING AT THIS TIME IN ORDER TO PROTECT UNCONTAMINATED ZONE BIOTA.

Priorities Considerations: CLASS 4A.

Ecological Constraints (from site survey): Clip oiled fucus or use appropriate mechanical/~~dispursion techniques~~ or other appropriate means. Protect lower intertidal zone from additional contamination.

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 — Date: June 6, 1989
State Historic Preservation Officer *

ISCC: Sharon K. Christopherson — Date: 6/12/89

EXXON: [illegible] — Date: June 12 - 89

FOSC: A. C. Alejandro, by dir. — Date: 6/13/89

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

SHORELINE OIL EVALUATION

Date: 3 June '89 / Time: 1730 Observer: Bryan Trimm

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

LOCATION

LOCATION East Side Herring Bay, Knight Island SEGMENT NUMBER KN-5005

LENGTH OF SHORELINE SEGMENT: 500 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 % / 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

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

Continuous: Y/N % of Segment ___ Width of Band: ___ m

Sporadic: Y/N % of Segment 60

Est. Oil Thickness where > 1cm: — cm Est. Oil Penetration: ? cm

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

Fresh 50 % Mousse — % Tar Formation: 50 %

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

Comments:

Sporatic band of oil (3 to 25 cm wide) found at high tide mark. The coating was light, and the oil is weathering into a tar. Majority of segment is vertical rock with an occasional ½ small cobble/boulder beach. Fucus growing in place is clean

ECOLOGICAL EVALUATION

Knight Island

LOCATION: Herring Bay SITE: [redacted] OBSERVER: G. Penn

LOCATION PREFIX: KN SEG. NO.: 5005 LENGTH: 500 (M)

DATE: 6/3/89 TIME (HHMM): 17:30 TIDE HT.: 2.1 (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 oiled Fucus @ mid to hi intertidal zone - Patchy

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

(+) Tactile Response - Mussels scattered to rare

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

(+) Tactile Response - Hvy spatset in Lower intertidal

Littorina

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

(+) Tactile Response

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

(+) Tactile Response

OTHER OBSERVATIONS:

CLEANUP PRECAUTIONS: Clip oiled fucus or use appropriate mechanical/ dispersion techniques or other suitable methods. Protect lower intertidal from additional contamination

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

Other

BIRDS:

GENERAL OBSERVATIONS: Area is mostly rock. walls

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 6-3-89 Location Knight Island/Herring Bay Site

Location Prefix KN Segment # 5005 Length 500 m

Survey Method:

Air (A - indicate on map) Boat X (A - indicate on map)

Ground X (G - indicate on map)

Known cultural resources (AHRS #) Data Source

Oil conditions/beach visibility Oil cover is very light

Width of beach zone surveyed 0-5 m Tree fringe surveyed 0m.

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 vertical rock walls and some steep rock outcrops.

Fresh Water Sources Seeps, no streams

Sea Exposure Open to the East

Access/Safety Fair access to rock walls by barge, no landing.

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) ANDREFSKY

Time survey started 5:30 PM Time survey ended 5:50 PM

Cultural resource considerations/restraints:

If heretofore unidentified cultural resources are discovered during cleanup contact Exxon archaeologists immediately.

(version 6/04/89)

SHORELINE CLEANUP PROGRAM

DATE 6/06/89 SHORELINE SEGMENT KN-5006

LOCATION: (see enclosed map) East side Herring Bay-Knight Island

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 6/03/89

Recommended Cleanup Activity(ies):
- Use appropriate mechanical ~~or dispersion techniques~~ and/or other suitable means to clean the light band of chocolate mousse from the eastern pocket beach.

- Use suitable means to remove occasional band (1-5cm wide) at the high tide line.

Priorities Considerations: CLASS 3A
- Clean small cobble/pebble/granule beach on the east side of the segment.

Ecological Constraints (from site survey): Use appropriate mechanical/~~dispersion~~ techniques or other appropriate means. Protect lower intertidal zone from additional contamination.

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 G. Holmes — Date: June 6, 1989
State Historic Preservation Officer *

ISCC: Sharon K. Christopherson — Date: 6/12/89

EXXON: [signature] — Date: June 12-89

FOSC: A. C. Alejandro, by dir. — Date: 6/13/89

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

SHORELINE OIL EVALUATION

Date: 3RD JUNE 89 Time: 1750 Observer: BRYAN TRIMM

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

LOCATION

LOCATION EAST SIDE HERRING BAY, KNIGHT ISLAND SEGMENT NUMBER KN-5006

LENGTH OF SHORELINE SEGMENT: 1000 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 10 % / P 5 % / G 5 % / S___% / M___% / R 80 %

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

OIL

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

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

Continuous: Y/N % of Segment_____ Width of Band: _____ m

Sporadic: Y/N % of Segment 100

Est. Oil Thickness where > 1cm: ___ cm Est. Oil Penetration: ___ cm

Pooled Oil: ___% "Free" Oil: ___% Coated: H___% / M___% / L 100 %

Fresh 25 % Mousse 50 % Tar Formation: 25 %

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

Comments:

OCCASIONAL BAND(S) OF TAR/OIL 1 TO 5CM BAND AT HIGH INTERTIDAL ZONE ON THE 2 SMALL ISLANDS. ½ WEST SIDE OF SEGMENT. EAST SIDE OF SEGMENT HAS 1 SMALL COBBLE/PEBBLE/GRANULE BEACH THAT HAS A 3.5M WIDE BAND OF LIGHTLY COATED CHOCOLATE MOUSSE. (THUS MODERATE OILING ADJACENT TO THE WEST OF THIS BEACH, THE CHOCOLATE MOUSSE BAND THINS TO 1 TO 2 METERS TILL THE OCCASIONAL BAND(S) METIONED ABOVE. LIGHT SPLATTERING AT HIGH TIDE LINE FOUND WITH THE OCCASIONAL BAND(S) METIONED ABOVE. NO OILED FUCUS, BUT 0.25M CHAMPITE DISCONTINUOUS BAND AT THE HIGH TIDE LINE COULD BE DISPERSANT. I DO NOT KNOW.

ECOLOGICAL EVALUATION

LOCATION: Knights Island Herring Bay SITE: _____ OBSERVER: G. Penn

LOCATION PREFIX: KN SEG. NO.: 5006 LENGTH: 1000 (M)

DATE: 6/3/89 TIME (HHMM): 1750 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)

Lightly oiled fucus is mid to High tidal area - Patchy

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

(+) Tactile Response - mussels scattered to none

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

(+) Tactile Response - Good spat set Lower intertidal

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

(+) Tactile Response

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

(+) Tactile Response

OTHER OBSERVATIONS: _____

CLEANUP PRECAUTIONS: Use appropriate mechanical/Dispersion techniques or other appropriate means - protect lower intertidal from additional contamination.

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

BIRDS: _____

GENERAL OBSERVATIONS: _____

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 6-3-89 Location Knight Island/ Herring Bay Site

Location Prefix KN Segment # 5006 Length 1000 m

Survey Method:

Air (A - indicate on map) Boat X (A - indicate on map)

Ground X (G - indicate on map)

Known cultural resources (AHRS #) Data Source

Oil conditions/beach visibility light oiling, moderate on NE corner of segment

Width of beach zone surveyed 5-15 m Tree fringe surveyed 5 m.

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 steep cobble/boulder pocket beaches and rock outcrops.

Fresh Water Sources small stream and seeps -

Sea Exposure Open to the North.

Access/Safety fair access for landing boat on the beach.

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) ANDREFSKY

Time survey started 5:50 PM Time survey ended 6:20 PM.

Cultural resource considerations/restraints:

If heretofore unidentified cultural resources are discovered during cleanup contact Exxon archaeologists immediately.

(version 6/04/89)

SHORELINE CLEANUP PROGRAM

DATE 6/06/89 SHORELINE SEGMENT KN-5007

LOCATION: (see enclosed map) Solf Cove, Herring Bay-Knight Island

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 6/03/89

Recommended Cleanup Activity(ies):
- No cleanup recommended at this time subject to FOSC approval. No oil observed.

Priorities Considerations:

Ecological Constraints (from site survey): No oil observed on biota or rocks. No cleanup recommended. ~~Potential~~ Catalogued andromanous stream in segment. ADVISE ADF&G & ADNR 48 HOURS PRIOR TO BEGINNING ANY CLEAN UP ACTIVITY IN THIS SEGMENT.

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.

Charles E. Holmes — Date: June 6, 1989
State Historic Preservation Officer *

ISCC: Sharon K. Christopherson — Date: 6/12/89

EXXON: [illegible] — Date: June 12 - 89

FOSC: R. C. Alejandro, by dir. — Date: 6/13/89

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

SHORELINE OIL EVALUATION

Date: 3 June 89 / Time: 1820 Observer: Bryan Trimm

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

LOCATION

LOCATION Solf Cove, Herring Bay, Knight Island SEGMENT NUMBER KN-5007

LENGTH OF SHORELINE SEGMENT: 2000 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 10% / C 5% / P 5 % / G 5% / S ___% / M ___% /R 75 %

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

OIL

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

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

Continuous: Y/N % of Segment _____ Width of Band: _____m

Sporadic: Y/N % of Segment _____

Est. Oil Thickness where > 1cm: _____ cm Est. Oil Penetration: _____cm

Pooled Oil: _____% "Free" Oil: _____% Coated: H____% /M____% /L____%

Fresh _____% Mousse _____% Tar Formation: _____%

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

Comments:

No oiling, No Recommendations required

ECOLOGICAL EVALUATION

LOCATION: ~~Herring Bay~~ Knight Island SITE: _____ OBSERVER: G. Penn

LOCATION PREFIX: KN SEG. NO.: 5007 LENGTH: 2000 (M)

DATE: 6/3/89 TIME (HHMM): 18:20 TIDE HT.: 0.9 (M)

OILED ZONE: Splash (High) Medium Low

SUBSTRATUM: (Rocks Boulder Cobble Gravel) Sand Mud

LIVE BIOTA

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

No oiled fucus noted

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

(+) Tactile Response

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

(+) Tactile Response

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

(+) Tactile Response

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

(+) Tactile Response

OTHER OBSERVATIONS: _____

* CLEANUP PRECAUTIONS: ~~Use appropriate mechanical/dispersion techniques or other appropriate means~~ No oil observed - No cleanup recommended.

MAMMALS: Otters ___ Harbor Seals 1 Sea Lions ___ Whales ___

Other _____

BIRDS: 1 Pigeon Guillemot, 1 pr Barrows Goldeneye

GENERAL OBSERVATIONS: _____

Potential anadromous stream - suggest approval of Fish & Wildlife before any cleanup operations in vicinity of stream

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 6-3-89 Location Knight Island/Herring Bay Site _____

Location Prefix KN Segment # 5007 Length 2000 M

Survey Method:

Air _____ (A - indicate on map) Boat X (A - indicate on map)

Ground X (G - indicate on map)

Known cultural resources (AHRS #) _____ Data Source _____

Oil conditions/beach visibility NO oil

Width of beach zone surveyed 0-10 m Tree fringe surveyed 10 m.

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 90% of shoreline consists of steep rock walls and waterfalls.

Fresh Water Sources waterfalls, streams, seeps

Sea Exposure Open to the North, East, and West

Access/Safety good access to rock walls

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) ANDREFSKY

Time survey started 6:20 PM Time survey ended 7:05 PM

Cultural resource considerations/restraints:

If heretofore unidentified cultural resources are discovered during cleanup contact Exxon Archaeologists immediately.

(version 6/04/89)

SHORELINE CLEANUP PROGRAM

DATE 6/06/89 SHORELINE SEGMENT KN-5008

LOCATION: (see enclosed map) West Shore Solf Cove, Herring Bay-Knight Island

ADEC NO. _____ SHORELINE ASSESSMENT DATE: _____

Recommended Cleanup Activity(ies):
- ~~Use appropriate mechanical techniques to remove the spotty thinline (3cm) of oil at the high tide line.~~ RECOMMEND NO CLEAN UP AT THIS TIME TO PROTECT UNCONTAMINATED BIOTA IN LOWER ITZ.

Priorities Considerations: CLASS 4A.
- None.

Ecological Constraints (from site survey): When cleaning any oil from rock surfaces, try to avoid additional impacts to biota.

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 — Date: June 6, 1989
State Historic Preservation Officer *

ISCC: Sharon K. Christopherson — Date: 6/12/89

EXXON: [signature] — Date: June 12-89

FOSC: R. C. Alejandro, by der. — Date: 6/13/89

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

SHORELINE OIL EVALUATION

Date: 3 JUNE 89/ Time: 1905 Observer: BRYAN TRIMM

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

LOCATION

LOCATION WEST SHORE SOLF COVE, HERRING BAY (KNIGHT ISLAND) SEGMENT NUMBER KN-5008

LENGTH OF SHORELINE SEGMENT: 400 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 30% / P 20% / G 10% / S ___% / M ___% /R ___%

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

OIL

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

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

Continuous: Y/N % of Segment — Width of Band: — m

Sporadic: Y/N % of Segment 20

Est. Oil Thickness where > 1cm: — cm Est. Oil Penetration: — cm

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

Fresh 25 % Mousse — % Tar Formation: 75 %

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

Comments:

VERY LIGHT BAND (3CM WIDE) OF TAR/OIL FOUND AT HIGH TIDE LINE. BAND IS OCCASIONAL & FOUND 20% OF THE TIME (SPORATIC). NO FUCUS OILED

ECOLOGICAL EVALUATION

LOCATION: Herring Bay (Knight Island) SITE: _____ OBSERVER: G. Penn

LOCATION PREFIX: KN SEG. NO.: 5108 LENGTH: 400 (M)

DATE: 6/3/89 TIME (HHMM): 19:05 TIDE HT.: 0.8 (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)

No oiled fucus observed

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

(+) Tactile Response

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

(+) Tactile Response - Good spat set in Lower intertidal

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

(+) Tactile Response - scarce to none

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

(+) Tactile Response - scarce to none

OTHER OBSERVATIONS: _____

CLEANUP PRECAUTIONS: When cleaning any oil from rock surfaces, try to avoid additional impacts to Biota.

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

BIRDS: _____

GENERAL OBSERVATIONS: _____

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 6-3-89 Location KNIGHT Island/Herring Bay Site

Location Prefix KN Segment # 5008 Length 400 m

Survey Method:

Air (A - indicate on map) Boat X (A - indicate on map)

Ground X (G - indicate on map)

Known cultural resources (AHRS #) Data Source

Oil conditions/beach visibility Light traces of oil

Width of beach zone surveyed 0-10 m Tree fringe surveyed 5 m.

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 Steep grade, boulders & cobbles

Fresh Water Sources Seeps

Sea Exposure Open to the east

Access/Safety poor access to the beach for landing boats

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) ANDREFSKY

Time survey started 7:05 PM Time survey ended 7:30 PM

Cultural resource considerations/restraints:

If heretofore unidentified cultural resources are discovered during cleanup contact Exxon archaeologists immediately.

(version 6/04/89)

SHORELINE CLEANUP PROGRAM

DATE 6/06/89 SHORELINE SEGMENT KN-5009

LOCATION: (see enclosed map) West Shore, Solf Cove, Herring Bay-Knight Island

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 6/03/89

Recommended Cleanup Activity(ies):
- Use appropriate mechanical ~~or dispersion techniques~~ and or other suitable means to remove the continuous band of light mousse.

Priorities Considerations: CLASS 3A.
- Clean the north end of segment adjacent to the narrow passage first (worst hit).

Ecological Constraints (from site survey): ~~Clip oiled fucus or~~ Use mechanical ~~/dispersion techniques or~~ or other appropriate methods. Avoid additional contamination of lower intertidal zone.

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

Charles E. Holmes — Date: June 6, 1989
State Historic Preservation Officer *

ISCC: Sheron K. Christopherson — Date: 6/12/89

EXXON: [signature] — Date: June 12-89

FOSC: A.C. Alejandro, by dir. — Date: 6/13/89

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

SHORELINE OIL EVALUATION

Date: 3 JUNE 89 / Time: 1931 Observer: BRYAN TRIMM

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

LOCATION

LOCATION WEST SHORE SOLF COVE, HERRING BAY KNIGHT ISLAND SEGMENT NUMBER KN-5009

LENGTH OF SHORELINE SEGMENT: 400 m

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

SHORELINE:

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

Wave Exposure: High/Med/Low

Sediment: B 20% / C 10% / P 10% / G 10% / S ___% / M ___% / R 50%

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

OIL

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

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

Continuous: Y/N % of Segment 100 Width of Band: 1-4 m

Sporadic: Y/N % of Segment —

Est. Oil Thickness where > 1cm: — cm Est. Oil Penetration: — 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:

THE NORTHERN END OF SEGMENT ADJACENT TO THE NARROW PASSAGE (KN-5010) HAS A 4 METER BAND OF LIGHTLY COATED MOUSSE THAT THINS TO 1 METER AT THE SOUTH END OF THE SEGMENT. THE OILING IS IN THE HIGH & MIDDLE INTERTIDAL ZONES. FUCUS IS LIGHTLY OILED.

ECOLOGICAL EVALUATION

LOCATION: Knight Island Herring Bay SITE: _____ OBSERVER: G. Pend

LOCATION PREFIX: KN SEG. NO.: 5009 LENGTH: 400 (M)

DATE: 6/3/89 TIME (HHMM): 19:31 TIDE HT.: 0.8 (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 oil on fucus mid to Hi tidal zones

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

(+) Tactile Response

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

(+) Tactile Response - Good Spat set in Lower intertidal.

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

(+) Tactile Response

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

(+) Tactile Response

OTHER OBSERVATIONS: _____

CLEANUP PRECAUTIONS: Clip oiled fucus or use mechanical/dispersion techniques or other appropriate methods. Avoid additional contamination of Lower intertidal zone.

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

BIRDS: _____

GENERAL OBSERVATIONS: Mostly Vertical Rock surface

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 6-3-89 Location Knight Island/Herring Bay Site

Location Prefix KN Segment # 5009 Length 400 m

Survey Method:

Air (A - indicate on map) Boat X (A - indicate on map)

Ground X (G - indicate on map)

Known cultural resources (AHRS #) Data Source

Oil conditions/beach visibility light to moderate oil cover

Width of beach zone surveyed 5-15 m Tree fringe surveyed 5m.

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 Steep boulder/cobble beach.

Fresh Water Sources Seeps

Sea Exposure Open to the East

Access/Safety Good access for landing boats.

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 —

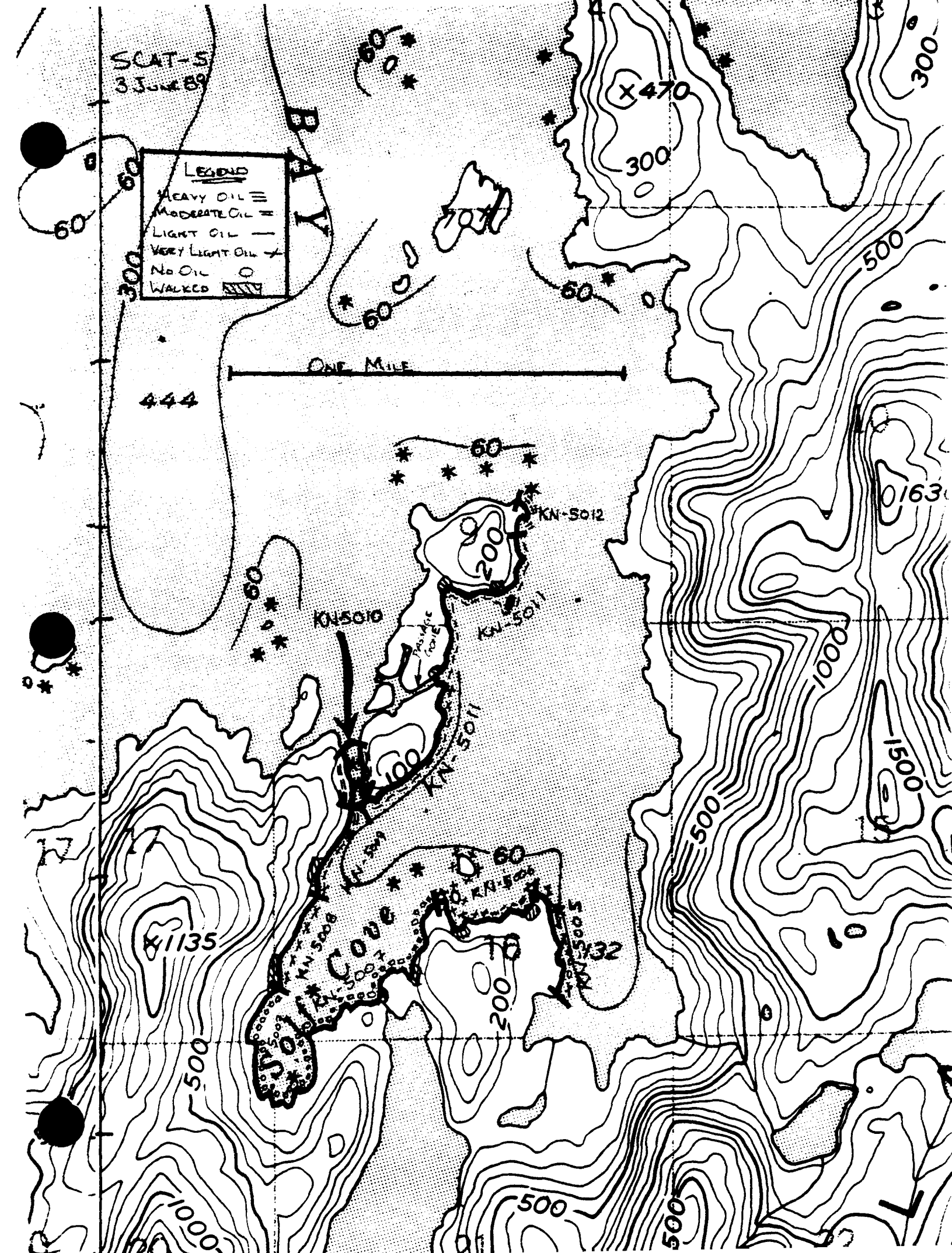
B/W Roll # — Frames —

Observer(s) ANDREFSKY

Time survey started 7:30 pm Time survey ended 7:42 pm

Cultural resource considerations/restraints:

IF heretofore unidentified cultural resources are discovered contact Exxon archaeologists immediately.


SCAT-5
3 JUNE 89
LEGEND
HEAVY OIL
MODERATE OIL
LIGHT OIL
VERY LIGHT OIL
NO OIL
WALKED
ONE MILE
444
KN-5012
KN-5010
KN-5011
KN-5008
KN-5007
KN-5006
Cove
1135
470
300
500
1000
1500
200
100
60
0
163
10
32

(version 6/04/89)

SHORELINE CLEANUP PROGRAM

DATE 6/06/89 SHORELINE SEGMENT KN-5010

LOCATION: (see enclosed map) Narrow Passage between Small Island and Knight Island (North of Solf Cove)

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 6/03/89

Recommended Cleanup Activity(ies):
- Use appropriate mechanical ~~or dispersant techniques~~ and/or other suitable means to remove the heavy coating of oil on the vertical walls of this passage.

Priorities Considerations: CLASS 2A.

Ecological Constraints (from site survey): ~~Recommend working at low tide.~~ Most healthy biota at low intertidal and below. Biota will have to recolonize the upper-low, mid and high intertidal.

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 — Date: June 6, 1989
State Historic Preservation Officer *

ISCC: Sharon K. Christopherson — Date: 6/12/89

EXXON: [illegible] — Date: June 12-89

FOSC: D.C. Alexandre, by dir. — Date: 6/13/89

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

SHORELINE OIL EVALUATION

Date: 3 June '89 / Time: 1945 Observer: Bryan Trimm

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

LOCATION

LOCATION Narrow Passage Between Small Isles Knight Island (N of Solf Cove) SEGMENT NUMBER KN-5010

LENGTH OF SHORELINE SEGMENT: 600 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%

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

OIL

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

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

Continuous: Y/N % of Segment 100 Width of Band: 4-6 m

Sporadic: Y/N % of Segment _____

Est. Oil Thickness where > 1cm: — cm Est. Oil Penetration: — 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:

Heavy coating of oil 4 to 6 meters wide against the vertical walls of this passage. Fucus oiled.

ECOLOGICAL EVALUATION

LOCATION: Knight Island Herring Bay SITE: _____ OBSERVER: G. Pend

LOCATION PREFIX: KN SEG. NO.: 5018 LENGTH: 600 (M)

DATE: 6/3/89 TIME (HHMM): 19:45 TIDE HT.: 0.8 (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)

Heavily oiled

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

Very few - most were coated with mousse/oil.

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

None observed

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

None observed

OTHER OBSERVATIONS: This area heavily oiled

CLEANUP PRECAUTIONS: Recommend working at Low tide - most healthy Biota at Low intertidal & Below. Use appropriate methods to remove oil from surfaces. Biota will have to re-colonize upper-Lower, middle high intertidal zone

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

BIRDS: _____

GENERAL OBSERVATIONS: Mostly Vertical Rock Surfaces

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 6-3-89 Location Knight Island/Herring Bay Site

Location Prefix KN Segment # 5010 Length 600 m

Survey Method:

Air (A - indicate on map) Boat X (A - indicate on map)

Ground (G - indicate on map)

Known cultural resources (AHRS #) Data Source

Oil conditions/beach visibility moderate to heavy cover

Width of beach zone surveyed 0-5 m Tree fringe surveyed NONE

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 very steep rock cliffs approximately 50 - 100 meters high.

Fresh Water Sources NONE

Sea Exposure North & south openings.

Access/Safety good access to rock walls

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) ANDRESKY

Time survey started 7:42 PM Time survey ended 7:56 PM

Cultural resource considerations/restraints:

If heretofore unidentified cultural resources are discovered during cleanup contact Exxon archaeologists.

(version 6/04/89)

SHORELINE CLEANUP PROGRAM

DATE 6/06/89 SHORELINE SEGMENT KN-5011

LOCATION: (see enclosed map) Herring Bay-Knight Island

East side Isles

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 6/03/89

Recommended Cleanup Activity(ies):
- Use available mechanical techniques to remove the thin bands of oil at the high tide line.

Priorities Considerations: CLASS 4A

Ecological Constraints (from site survey): Try to avoid additional contamination in lower intertidal zone. May be desirable to clip oiled fucus in lower intertidal zone.

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

Charles E. Holmes — Date: June 6, 1989
State Historic Preservation Officer *

ISCC: Sharon K. Christopherson — Date: 6/12/89

EXXON: [illegible] — Date: June 12-89

FOSC: A. C. Alejandro, by dir. — Date: 6/13/89

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

SHORELINE OIL EVALUATION

Date: 3 June 89 / Time: 1956 Observer: Bryan Trimm

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

LOCATION

LOCATION Isles at the East Side, Herring Bay Knight Island SEGMENT NUMBER KN-5011

LENGTH OF SHORELINE SEGMENT: 1500 m

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

SHORELINE:

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

Wave Exposure: High/Med/Low

Sediment: B___% / C 12% / P 6% / G 2% / S___% / M___% /R 80%

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

OIL

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

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

Continuous: Y/N % of Segment 50 Width of Band: 0.01-0.30 m

Sporadic: Y/N % of Segment 20

Est. Oil Thickness where > 1cm: — cm Est. Oil Penetration: — cm

Pooled Oil: — % "Free" Oil: — % Coated: H___% /M___% /L 100%

Fresh — % Mousse 50 % Tar Formation: 50 %

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

Comments:

Multiple bands of oil (High Tide Mark), each ranging from 1 to 6 cm wide, covering 50% of segment. Sporatic bands at High Tide Mark. Occasionally bands will merge creating a single band up to 30 cm wide. Oil deposit is mousse & tar.

ECOLOGICAL EVALUATION

LOCATION: Knight Island Herring Bay SITE: _____ OBSERVER: G. Penn

LOCATION PREFIX: KN SEG. NO.: 5011 LENGTH: 1500 (M)

DATE: 6/3/89 TIME (HHMM): 1957 TIDE HT.: 1.0 (M)

OILED ZONE: Splash (High) Medium (Low)

SUBSTRATUM: (Rocks Boulder Cobble Gravel) Sand Mud

LIVE BIOTA

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

Light oiled fucus at Low intertidal

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

(+) Tactile Response

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

(+) Tactile Response - Good Spat set at Lower intertidal

Littorina

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

(+) Tactile Response

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

(+) Tactile Response

OTHER OBSERVATIONS: _____

CLEANUP PRECAUTIONS: Use ~~[illegible]~~ mechanical/dispersion techniques or other appropriate means. Try to avoid additional contamination in Lower intertidal - May be desirable to clip oiled fucus in Lower intertidal

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

Other _____

BIRDS: _____

GENERAL OBSERVATIONS: Mostly vert. Rock surfaces

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 6-3-89 Location Knight Island/Herring Bay Site

Location Prefix KN Segment # 5011 Length 1500 m

Survey Method:

Air (A - indicate on map) Boat X (A - indicate on map)

Ground X (G - indicate on map)

Known cultural resources (AHRS #) Data Source

Oil conditions/beach visibility Oil cover is light.

Width of beach zone surveyed 0-5 m Tree fringe surveyed 0m.

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 90% of segment is composed of vertical rock walls.

Fresh Water Sources Seeps.

Sea Exposure Open to the east

Access/Safety Access to rock walls is good, not good for landing craft.

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 —

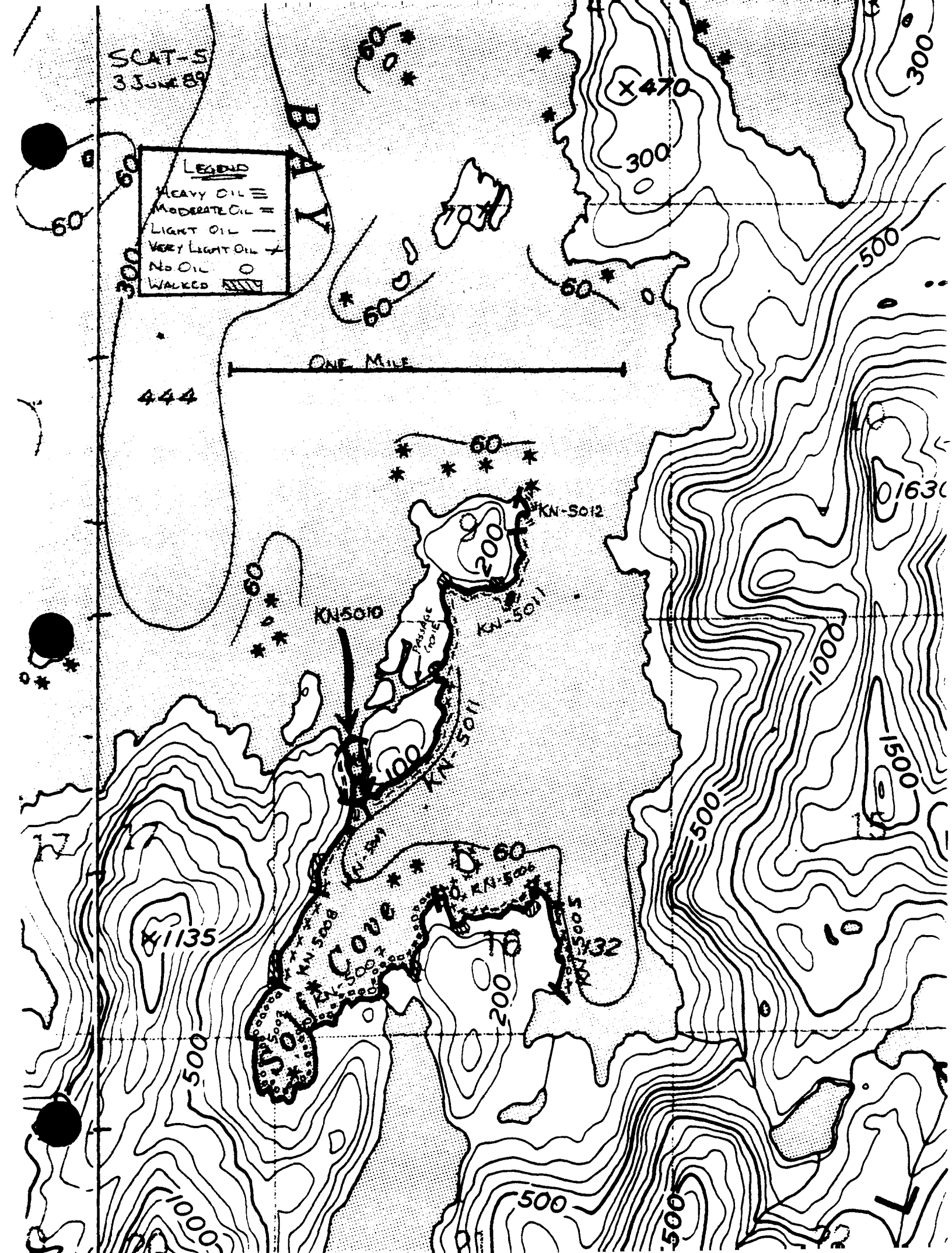
B/W Roll # — Frames —

Observer(s) ANDREFSKY

Time survey started 7:56 PM Time survey ended 8:45 PM

Cultural resource considerations/restraints:

If heretofore unidentified cultural resources are discovered during cleanup contact Exxon archaeologists immediately.


SCAT-5
3 JUNE 89
LEGEND
HEAVY OIL
MODERATE OIL
LIGHT OIL
VERY LIGHT OIL
NO OIL
WALKED
ONE MILE
BAY
KN-5010
KN-5011
KN-5012
KN-5006
KN-5007
KN-5008
PASSAGE COVE
COVE
444
470
1135
1132
1630
300
500
1000
1500
200
100
60

(version 6/04/89)

SHORELINE CLEANUP PROGRAM

DATE 6/06/89 SHORELINE SEGMENT KN-5012

LOCATION: (see enclosed map) Herring Bay-Knight Island

Tip of Isle on the East Side

ADEC NO. _____ SHORELINE ASSESSMENT DATE: 6/03/89

Recommended Cleanup Activity(ies):
- Use appropriate mechanical ~~or dispersant techniques~~ and/or any other suitable means to remove continuous moderate oil band from the middle and high intertidal zone.

Priorities Considerations: CLASS 3A.

Ecological Constraints (from site survey): Use mechanical/dispersion techniques or other appropriate methods. Biota is upper intertidal zone, appears heavily impacted. Protect lower zones from additional contamination.

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 — Date: June 6, 1989
State Historic Preservation Officer *

ISCC: Sharon K. Christopherson — Date: 6/12/89

EXXON: [signature] — Date: June 12-89

FOSC: R. C. Alejandro, by dir. — Date: 6/13/89

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

SHORELINE OIL EVALUATION

Date: 3 June '89 Time: 2045 Observer: Bryan Trimm

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

LOCATION

LOCATION Tip of Isle on the East Side of Herring Bay, Knight Island SEGMENT NUMBER KN-5012

LENGTH OF SHORELINE SEGMENT: 200 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 12 % / P 6 % / G 2 % / S___% / M___% / R 80 %

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

OIL

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

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

Continuous: Y/N % of Segment 100 Width of Band: 2-4 m

Sporadic: Y/N % of Segment _____

Est. Oil Thickness where > 1cm: — cm Est. Oil Penetration: — cm

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

Fresh — % Mousse 80 % Tar Formation: 20 %

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

Comments:

A 2 to 4 meter band in the Mid & High Intertidal Zones is continuous throughout segment. Fucus is oiled in the Mid/Hi Intertidal Zones but not in the Low Intertidal Zone

ECOLOGICAL EVALUATION

Knight Island

LOCATION: Herring Bay SITE: _____ OBSERVER: _____

LOCATION PREFIX: _____ SEG. NO.: 5012 LENGTH: 200 (M)

DATE: 6/3/89 TIME (HHMM): 2045 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

Oiled fucus is mid to high tide zone

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

(+) Tactile Response - Mussels in Lower intertidal denser here than other portions of Herring Bay.

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

(+) Tactile Response - Good spat set in Lower intertidal - Heavy spat set even on older mussels.

Littorina

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

(+) Tactile Response

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

(+) Tactile Response

OTHER OBSERVATIONS: Biota in mid & Lower intertidal not apparently heavily impacted - Biota in upper intertidal appears heavily impacted

CLEANUP PRECAUTIONS: Use mechanical/dispersion techniques or other methods, as appropriate - Protect mid & Lower intertidal from additional contamination

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

Other _____

BIRDS: _____

GENERAL OBSERVATIONS: Oil on rock surfaces is generally medium to heavy in this segment

(version of 4/29/89)

CULTURAL RESOURCE EVALUATION

Date 6-3-89 Location Knight Island/Herring Bay Site

Location Prefix KN Segment # 5012 Length 200 m.

Survey Method:

Air (A - indicate on map) Boat X (A - indicate on map)

Ground (G - indicate on map)

Known cultural resources (AHRS #) Data Source

Oil conditions/beach visibility moderate to Heavy

Width of beach zone surveyed 5-30 m Tree fringe surveyed 0m.

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 variable w/ steep rock walls and with long horizontal extensions of rock outcrops.

Fresh Water Sources Seeps.

Sea Exposure Open to the East & North

Access/Safety poor access to the shoreline

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) ANDREFSKY

Time survey started 8:45 PM Time survey ended 9:15 PM

Cultural resource considerations/restraints:

IF heretofore unidentified cultural resources are discovered during cleanup contact Exxon archaeologists immediately.

SEG 5005 INSPECTION # 1 SEGMENT

DATE 7/30/89 INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

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

Exxon

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

Comments No treatment was required for segment KN 5005

Signature R Healy Date: 7/30/89 Time: 2012

Printed Name Robert F. McAlay

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil		Subsurface Oil
Percent	Degree of Oiling	☒ Yes ☐ No
	Heavy	Comments Very insignificant!
	Medium	
	Light	
2%	Very Light	
98%	None	
100 %		

Reassessment

☒ Yes - necessary ☐ No - not necessary unless re-oiled

ADEC rep Comments Jon Kruger (ADEC) was present during inspection. (POD)

Signature Date: / / Time:

Printed Name

FOSC rep Demobilization approved/disapproved.

Comments Mobilization not required at this time.

Signature Thomas D Harrison Date: 7/30/89 Time:

Printed Name Thomas D Harrison

TREATMENT MANUAL, 6/15/89

SEG KN 5006 INSPECTION # 1

DATE 7/30/89

SEGMENT INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

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

Exxon

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

Comments No treatment was required for segment KN 5006

Signature R. Healey Date: 7/30/89 Time: 2012

Printed Name ROBERT L. HEALEY

Existing Shoreline Condition As Visually Determined by USCG

Percent	Degree of Oiling
	Heavy
	Medium
	Light
2%	Very Light
98%	None
100 %	

Surface Oil

Subsurface Oil

☒ Yes ☐ No

Comments Very insignificant!

Reassessment

☒ Yes - necessary ☐ No - not necessary unless re-oiled

ADEC rep

Comments SAM KRIEGER (ADEC) was present during inspection!

Signature Date: / / Time:

Printed Name

FOSC rep

Demobilization approved/disapproved

Comments Mobilization not required @ this time

Signature Thomas D. Harrison Date: 7/30/89 Time: 2230

Printed Name THOMAS D. HARRISON

COPY: EXXON ADEC FOSC ISCC

KN

TREATMENT MANUAL, 6/15/89

SEG 5007 INSPECTION # 1

DATE 7/30/89

SEGMENT INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

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

Exxon

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

Comments No treatment was required for segment KN 5007

Signature R S Mealey Date: 7/30/89 Time: 2012

Printed Name Robert F. Mealey

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil		Subsurface Oil
Percent	Degree of Oiling	☒ Yes ☐ No
	Heavy	Comments Very insignificant!
	Medium	
	Light	
2%	Very Light	
98%	None	
100 %		

Reassessment

☒ Yes - necessary ☐ No - not necessary unless re-oiled

ADEC rep

Comments Sam Kriesman (ADEC) was present during inspection

Signature Date: / / Time:

Printed Name

FOSC rep

Demobilization approved/disapproved

Comments Mobilization not required @ this time.

Signature Thomas D. Harrison Date: 7/30/89 Time: 2234

Printed Name Thomas D. Harrison

COPY: EXXON ADEC FOSC ISCC

KW

TREATMENT MANUAL, 6/15/89

SEG 5008 INSPECTION # 1

DATE 7/30/89

SEGMENT INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

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

Exxon

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

Comments No treatment was required for segment KW 5008

Signature R Mealey Date: 7/30/89 Time: 2012

Printed Name Robert F. Mealey

Existing Shoreline Condition As Visually Determined by USCG

Percent	Degree of Oiling
	Heavy
	Medium
	Light
2%	Very Light
98%	None
100 %	

Surface Oil

Subsurface Oil

☒ Yes ☐ No

Comments Very insignificant.

Reassessment

☒ Yes - necessary ☐ No - not necessary unless re-oiled

ADEC rep Comments SAM KRUGER (ADEC) was present during inspection. (KW)

Signature Date: / / Time:

Printed Name

FOSC rep Demobilization approved/disapproved

Comments Mobilization - not required @ this time.

Signature Thomas D. Harrison Date: 7/30/89 Time: 2256

Printed Name THOMAS D. HARRISON

COPY: EXXON ADEC FOSC ISCC

KN

SEG 5009 INSPECTION # 1

DATE 7/30/89

SEGMENT INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

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

Exxon

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

Comments No treatment was required for segment KN 5009

Signature R. Mealey Date: 7/30/89 Time: 2012

Printed Name Robert T. Mealey

Existing Shoreline Condition As Visually Determined by USCG

Percent	Degree of Oiling
	Heavy
	Medium
	Light
2%	Very Light
98%	None
100 %	

Surface Oil

Subsurface Oil

☒ Yes ☐ No

Comments Very insignificant.

Reassessment

☒ Yes - necessary ☐ No - not necessary unless re-oiled

ADEC rep Comments Jan Haisler (ADEC) was present during inspection

Signature Date: / / Time:

Printed Name

FOSC rep Demobilization approved/disapproved

Comments Mobilization not required at this time

Signature Thomas D. Harrison Date: 7/30/89 Time:

Printed Name Thomas D. Harrison

COPY: EXXON ADEC FOSC ISCC

KN

TREATMENT MANUAL, 6/15/89

SEG 5010 INSPECTION # 1

DATE 7/30/89

SEGMENT INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

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

Exxon

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

Comments No treatment was required for segment KN 5010

Signature [signature] Date: 7/30/89 Time: 2012

Printed Name Robert F. McEaley

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil Percent	Degree of Oiling
	Heavy
	Medium
	Light
2%	Very Light
98%	None
100 %	

Subsurface Oil

☒ Yes ☐ No

Comments Very insignificant!

Reassessment

☒ Yes - necessary ☐ No - not necessary unless re-oiled

ADEC rep Comments TAN Kaiser (ADEC) was present during inspect

Signature Date: / / Time:

Printed Name

FOSC rep Demobilization approved/disapproved

Comments Mobilization NOT approved @ this time.

Signature [signature] Date: 7/30/89 Time: 2238

Printed Name THOMAS D HARRISON

COPY: EXXON ADEC FOSC ISCC

TREATMENT MANUAL, 6/15/89

SEG KN 5011 INSPECTION # 1

DATE 7/30/89

SEGMENT INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

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

Exxon

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

Comments No treatment was required for segment KN 5011

Signature R Mealey Date: 7/30/89 Time: 2012

Printed Name Robert T. Mealey

Existing Shoreline Condition As Visually Determined by USCG

Percent	Degree of Oiling
	Heavy
	Medium
	Light
7%	Very Light
93%	None
100 %	

Surface Oil

Subsurface Oil

☒ Yes ☐ No

Comments Very insignificant!

Reassessment

☒ Yes - necessary ☐ No - not necessary unless re-oiled

ADEC rep Comments JAN KRIGER (ADEC) was present during inspection (TDH)

Signature Date: / / Time:

Printed Name

FOSC rep Demobilization approved/disapproved

Comments Mobilization not required @ this time

Signature Thomas B. Harrison Date: 7/30/89 Time: 7239

Printed Name THOMAS B HARRISON

COPY: EXXON ADEC FOSC ISCC

SEG 5012 INSPECTION # 1 SEGMENT

DATE 7/30/89 INSPECTION RECORD

Shoreline Treatment Process(es) Completed for this Segment

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

Exxon

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

Comments No treatment was required for segment KN 5012

Signature [signature] Date: 7/30/89 Time: 2012

Printed Name Robert E. Mealey

Existing Shoreline Condition As Visually Determined by USCG

Surface Oil		Subsurface Oil
Percent	Degree of Oiling	☒ Yes ☐ No
	Heavy	Comments Very insignificant
	Medium	
	Light	
2 %	Very Light	
98%	None	
100 %		

Reassessment

☒ Yes - necessary ☐ No - not necessary unless re-oiled

ADEC rep Comments Jan Kaisler (ADEC) was present during ex

Signature Date: / / Time:

Printed Name

FOSC rep Demobilization approved/disapproved

Comments Mobilization not required at this time

Signature [signature] Date: 7/30/89 Time: 2240

Printed Name Thomas D. Harrison

COPY: EXXON ADEC FOSC ISCC