

OIL SPILL PUBLIC INFO. CENTER



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EVOS
GC
1552
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S42
1990
v.14

[Shoreline evaluations, 1990].

KN-118 – KN-145

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SHORELINE EVALUATION

SEGMENT ST/ KN-118 SUBDIVISION A (1 OF 1) DATE 4/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

6V Recreation: Anchorages (6/1 to 9/15)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid disturbance/damage to unoiled biota and substrate.

SHPO SIGNATURE: Mark Z. Hume DATE: 4/18/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 743 m: V. Light 1000 m: No Oil 391 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: Recommend bioremediation of areas shown on attached sketch map. No specific time constraints identified.

CHECK FOR DEBRIS PRIOR TO BIOREMEDIATION.

TAG COMMENTS:

TAG APPROVAL DATE: 4/18/90
ADEC ART WEINER Art Weiner
EXXON ANDY CCA Andy CCA FOSC: My L DATE: 4-22-90
NOAA Bruce Wescott Bruce Wescott
USCG G.A. HEITER G.A. Heiter

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

1A	Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B	Salmon stream mouth - spawning (7/10 to 8/31) No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
1C	Salmon fry nursery area (4/31 to 7/31)
1D	Esther Hatchery release (4/15 to 6/1)
1E	Main Bay Hatchery release (4/20 to 5/10)
1F	Sawmill Bay Hatchery release (4/15 to 6/1)
1G	Cannery Creek Hatchery release (4/21 to 6/1)
1H	Remote release site
1I	Gill net area (6/7 to 8/31)
1J	Purse seine area (7/20 to 9/30)
1K	Purse seine hook-off (7/20 to 9/30)
1L	Set net sites (6/11 to 7/25) For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
2M	Herring spawning (4/1 to 6/15) Restrict boat traffic to essential minimum. Avoid damage to unrolled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
3N, 3P 3O, 3Q	Harbor seal and sea lion pupping (5/15 to 7/1) Harbor seal and sea lion molting (8/15 to 9/15) Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
5R	Seabird colony (5/1 to 9/1) Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
5S	Shorebird/waterfowl concentration (4/1 to 5/15) Restrict all activity to essential minimum, especially air traffic.
5T	All Bald Eagle nests (3/1 to 6/1) Active Bald Eagle nests (3/1 to 9/1) Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
6U	Recreation: Tent sites (6/1 to 9/15)
6V	Recreation: Camp sites (6/1 to 9/15)
6W	Forest Service cabins (6/1 to 9/15)
6X	Lodge (6/1 to 9/15)
6Y	Special use destination
7Z	Subsistence area: Salmon harvesting (5/1 to 9/30)
7HH	Finfish harvesting
7II	Deer harvesting (8/15 to 2/28)
7JJ	Invertebrate harvesting For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN 118 SUBDIVISION: NONE DATE 4/4/90

USCG NAME Pat Malay SIGNATURE _____

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS → Sick LEAVE

ADEC NAME M. Cunningham SIGNATURE M. Cunningham

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

Bioremediate low angle sediments where coat visible. Ck. for debris. This segment is in fairly good shape and should clean-up nicely when it warms up... it was ice covered much of the time

LAND MANAGER NAME Steven Phillips SIGNATURE Steven Phillips

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

Scout storm berm for debris.
Bioremediate on segment portions with "narrow" oiling

SHORELINE OILING SUMMARY

REVISION NO. 02/27/90

OG Greg Chaney (Sick Not Present) USCG (Patrick Malay) SEGMENT ST-118
 IO Jim Roth LAND REP Steve Phillips SUBDIVISION ST-118
 XXON Ray Satele ADEC Mike Cunningham TIME 13:00 to 15:00
 TEAM NO.: 7 TIDE LEVEL: 6.0 to 2.0 ft DATE April 14 1990
 EST. SUBDIVISION LENGTH: 15.5 m ☒ Sun ☒ Clouds ☐ Fog ☒ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock SNOW
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: West to East
 SURFACE SEDIMENTS: R 20 % B 30 % C 20 % P 20 % G 10 % S — % M — % V — %
 SLOPE: Long 20 % Hang 60 % Vert 20 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W — m M — m N 600 m VL 700 m NO 215 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	IC	IS	IF	IR	SP	BP	OP	BP	OP	BP	OP	BP	SU	U	M	U
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT		X	✓	O	X			X					X	✓	O	X
STAIN		X	✓	O	X			X					X	✓	O	X
MOUSSE																
PATTIES																
TARBALLS																
FILM			X			X										X
NO OIL																

PAVEMENT: H F S — sq. m by — cmPATTIES / TARBALLS — BAGSNEAR SHORE SHEEN? NO BR (RW) SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash	X		
Debris	X		

DEBRIS COLLECTED

☒ YES ☐ NOTYPE Repeat Pompon#BAGS less than 1

Photographs:

Roll No. ST-7-2Frames 1

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CH)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		VO	UC	SP	BP	OP	BP	OP	BP	OP	BP	SU	U	M	U		
1	15					X	.		X											X			CBGM
2	20					X	.		X											X			CPGS
* 3	20				X		0-1		X				X							X			GP
* 4	25				X		0-1		X				X							X			GP
5	40					X	.		X											X			GM
							.																

COMMENTS

Pits #3 & #4 trace of translucent sheen on ground water which filled the pits.

Ice Dam Across Bay Seems To Have Trapped Sheen.

"Bathtub ring" of rainbow sheen was observed around embayment.
 * Oiled interval of 0-1 cm in Pits 3 & 4 does not constitute
 Page 1 of — Subsurface oil. 11/11

REVIEWED YH DATE 4-8-90

UG Craig Chaney
 SEGMENT ST/ KN-118

SUBMISSION None

DATE April 14, 80

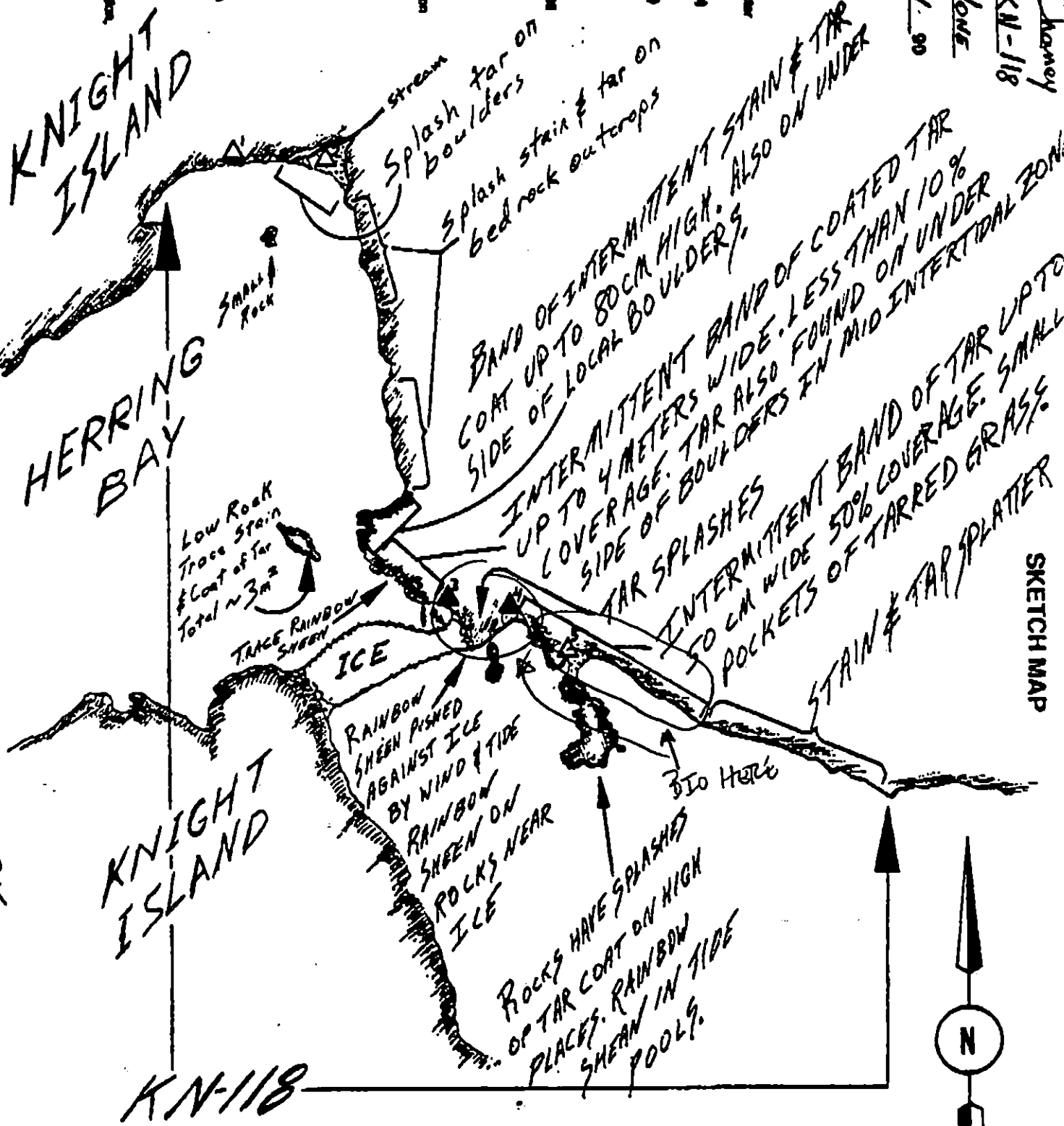
CHECKLIST

- ✓ N Arrow
- ✓ Approx. Scale
- ✓ Sample Bathy
- ✓ On Out
- ✓ Length
- ✓ % Cover
- ✓ Substrate Character
- ✓ Eel. HAWAII
- ✓ SST
- ✓ Profile Location(s)
- ✓ Profile(s)
- ✓ Photo Location(s)
- ✓ Photo Location(s)

LEGEND

- 1 Δ
- 2 Δ
- PR - No Substratum On
- PR - Substratum On
- CT/C
- CT/B
- Broken Distribution
- CT/P
- Patchy Distribution
- CT/S
- Specified Distribution
- Old Vegetation
- 1 a+
- Photo location, direction, and number

SKETCH MAP



ON Character in part AP PO CV CT 100 ST 00 MS TB FL 400 NO 315

10/20/80-20/20/80

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/23/90

Segment ST / KN 118 Subdivision — Date (mo / day / yr) Apr 4, 90
 Time (24 hr) ARR 1305 Biologist ROTH
LV 1500

- (A) Substrate type and % of segments:
 (1) Bedrock 40 (2) Boulder 30 (3) Cobble 15 (4) Pebble 15 (5) Sand — (6) Silt —
- (B) Overall % cover of biota (% of segment): Dense 10 Moderate 30 Low 60
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs:
 Roll No. ST-7-2

Frames 1

BARNACLES

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

MYTILUS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

GASTROPODS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

FUCUS

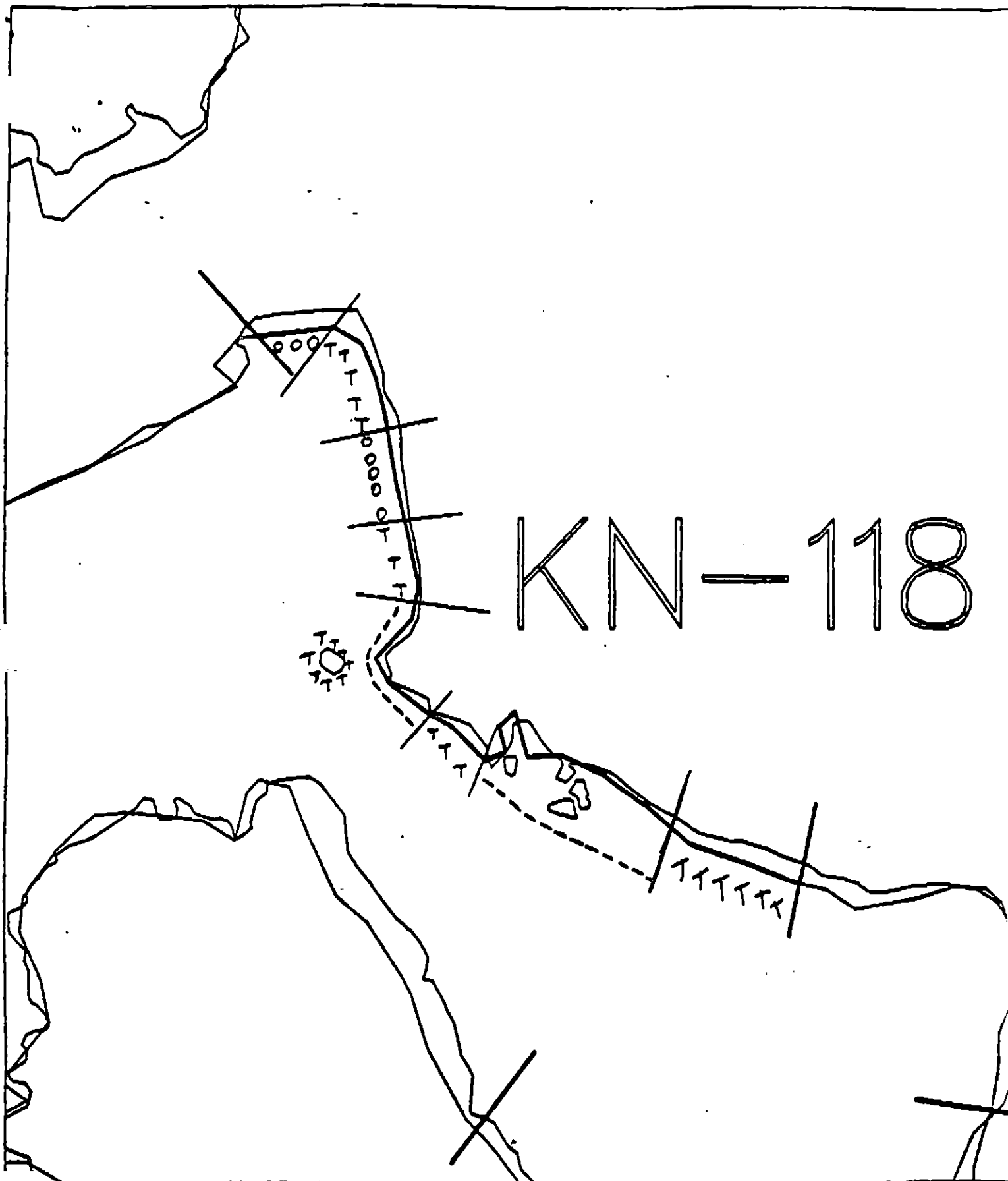
Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

Wildlife Observations/ General Comments:

1 SEA OTTER FEEDING NEAR SEGMENT
 CAN'T SEE LOWER ZONE AT THIS TIDE; ONLY FUCUS ESTIMATES POSSIBLE.

Ecological Considerations:

GV- RECREATION ANCHORAGES



XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

KN-118

ADEC Segment Length: 1193m
Exxon Segment Length: 1515m



Map Key: PWS-299

Name: Greg Chaney

Date: April 4 1990

SHORELINE EVALUATION

SEGMENT ST/ KN-119 SUBDIVISION A (1 OF 1) DATE 4/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

6V Recreation: Anchorages (6/1 to 9/15)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid disturbance/damage to unoiled biota and substrate.

SHPO SIGNATURE: Charles E. Hoffman

DATE: 4/18/90

OILING CATEGORIZATION:

Wide 0 m: Medium 219 m: Narrow 76 m: V. Light 160 m: No Oil 57 m
Subsurface Oil Observed: Yes X No Maximum Depth 10 cm

RECOMMENDATIONS:

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

+ TARBALLS

COMMENTS: Recommend manual pick up of debris, as indicated on attached sketch map and bioremediation of areas indicated on map.

TAG COMMENTS:

TAG APPROVAL DATE: 4/18/90.

ADEC ART WEINER Art Weiner

EXXON ANDY TEAL Andy Teal

NOAA Bruce Wesscott Bruce Wesscott

USCG G.A. REITER G.A. Reiter

FOSC: 4

DATE: 4-22-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
- 1C Salmon fry nursery area (4/31 to 7/31)
1D Esther Hatchery release (4/15 to 6/1)
1E Main Bay Hatchery release (4/20 to 5/10)
1F Sawmill Bay Hatchery release (4/15 to 6/1)
1G Cannery Creek Hatchery release (4/21 to 6/1)
1H Remote release site
1I Gill net area (8/7 to 8/31)
1J Purse seine area (7/20 to 9/30)
1K Purse seine hook-off (7/20 to 9/30)
1L Set net sites (6/11 to 7/25)
For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
- 2M Herring spawning (4/1 to 6/15)
Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
- 3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
- 5R Seabird colony (5/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic.
- 5T All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
- 6U Recreation: Tent sites (6/1 to 9/15)
6V Recreation: Picnicking (6/1 to 9/15)
6W Forest Service cabins (6/1 to 9/15)
6X Lodge (6/1 to 9/15)
6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
7HH Finfish harvesting
7H Deer harvesting (8/15 to 2/28)
7JJ Invertebrate harvesting
For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ KN 119 SUBDIVISION: NONE DATE 4/4/90

USCG NAME Pat Malay SIGNATURE _____

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Sick leave

ADEC NAME M. CUNNINGHAM SIGNATURE Michael Cunningham

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Bioremediate surface "coat" when visible. There was only minor penetration of oil lens into substrate. Check for debris/wash. Segments covered by winter ice sheet.

LAND MANAGER NAME Steven Phillips SIGNATURE Steven Phillips

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Storm terms should be rechecked (snow cover), pick up scattered tar balls.

Bioremediate "Narrow" bands of oil. Leave the rest alone.

SHORELINE OILING SUMMARY

REVISION NO. 03/28/90

OG Greg Chaney USCG Patrick Malay SEGMENT ST/ KN-119
BIO Jim Bath LAND REP Steve Phillips SUBDIVISION Area A (1 of 1)
TXN Ben Setelo ADEC Mike Cunningham TIME 15:00 10/6/90
TEAM NO.: 7 TIDE LEVEL: 2.0 ft to 1.0 ft DATE April 14 1990
EST. SUBDIVISION LENGTH: 497 m ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☐ Snow
UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock SNOW
SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: West to East
SURFACE SEDIMENTS: R 20 % B 40 % C 30 % P 10 % G — % S — % M — % V — %
SLOPE: Long 6.0 % Hang 20 % Vert 20 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
OIL CATEGORY LENGTH: W — m M 150 m N 80 m VL 300 m NO 67 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	C	R	P	B	SL	OR	GR	BL	PK	LT	DR	OT	SU	U	M	U
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT	X	✓	○	□	SL	OR	GR	BL	PK	LT	DR	OT	SU	U	M	U
STAIN			X	✓	X	X							X	✓	X	✓
MOUSSE																
PATTIES																
TARBALLS				X	X								X			
FILM			X		X										X	X
NO OIL																

PAVEMENT: H F S — sq. m by — cm
PATTIES / TARBALLS less than 1 BAGS
NEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs	X		
Vegetation			
Trash	X		
Debris			

DEBRIS COLLECTED
☐ YES ☒ NO
Small
TYPE Green Net
#BAGS less than 1

Photographs:
Roll No. —
Frames —

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm-0.05)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OF	OR	OL	OF	NO		UO	UC	SL	OR	GR	BL	PK	LT	DR	OT	SU	U	M	U		
1	20		X				0.3		X	X									X				BCM
2	20		X				0.3		X						X				X				CPM
					X		0.3		X	X													CPM
3	15		X				0.5		X	X									X				CPM
4	15		X				0.10		X	X									X				CPM
							.																

COMMENTS

Ice dam across bay seems to have trapped sheen. "Bathtub ring" of rainbow sheen was observed around Embayment.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 08/23/90

Segment ST/ KN 119 Subdivision _____ Date (mo / day / yr) APR 4, '90Time (24 hr) APR 1500 1530 Biologist ROTH(A) Substrate type and % of segments:
(1) Bedrock 20 (2) Boulder 40 (3) Cobble 30 (4) Pebble 10 (5) Sand — (6) Silt —(B) Overall % cover of biota (% of segment): Dense 20 Moderate 50 Low 30

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

Photographs: Roll No. NONE

Frames _____

BARNACLES

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

MYTILUS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

GASTROPODS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

FUCUS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

Wildlife Observations/ General Comments:

1. BALD EAGLE ADULT SEEN ON WING.

CAN ONLY SEE TOP OF LOWER INTERTIDAL ZONE.

A LOW ENERGY SITE.

Ecological Considerations:

GV- RECREATION ANCHORAGES

OG Greg Cheney
 SEGMENT ST/ KN-119

SUBDIVISION None

DATE April 17 80

CHECKLIST

- ☐ Macro
- ☐ Approx. Scale
- ☐ Sample Grid
- ☐ Or Date
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Eel Habitat
- ☐ SS
- ☐ Profile (Location)
- ☐ Profile
- ☐ Photo Location
- ☐ Photo Location

LEGEND

1 A

R - No Substrate Or

2 A

R - Substrate Or

CT/C

Outcrops Distribution

CT/B

Broken Distribution

CT/P

Paddy Distribution

CT/S

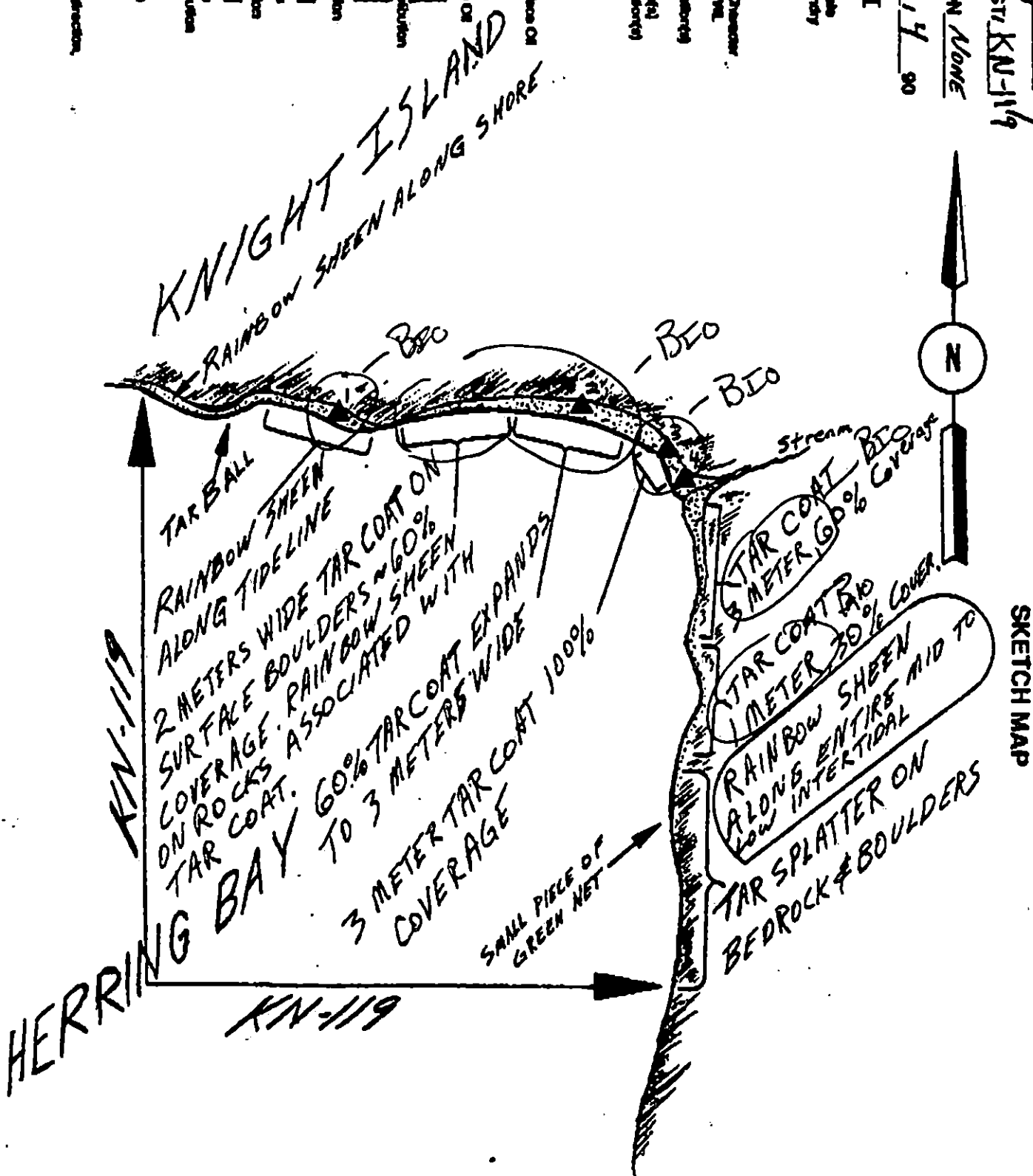
Shaded Distribution

Other Vegetation

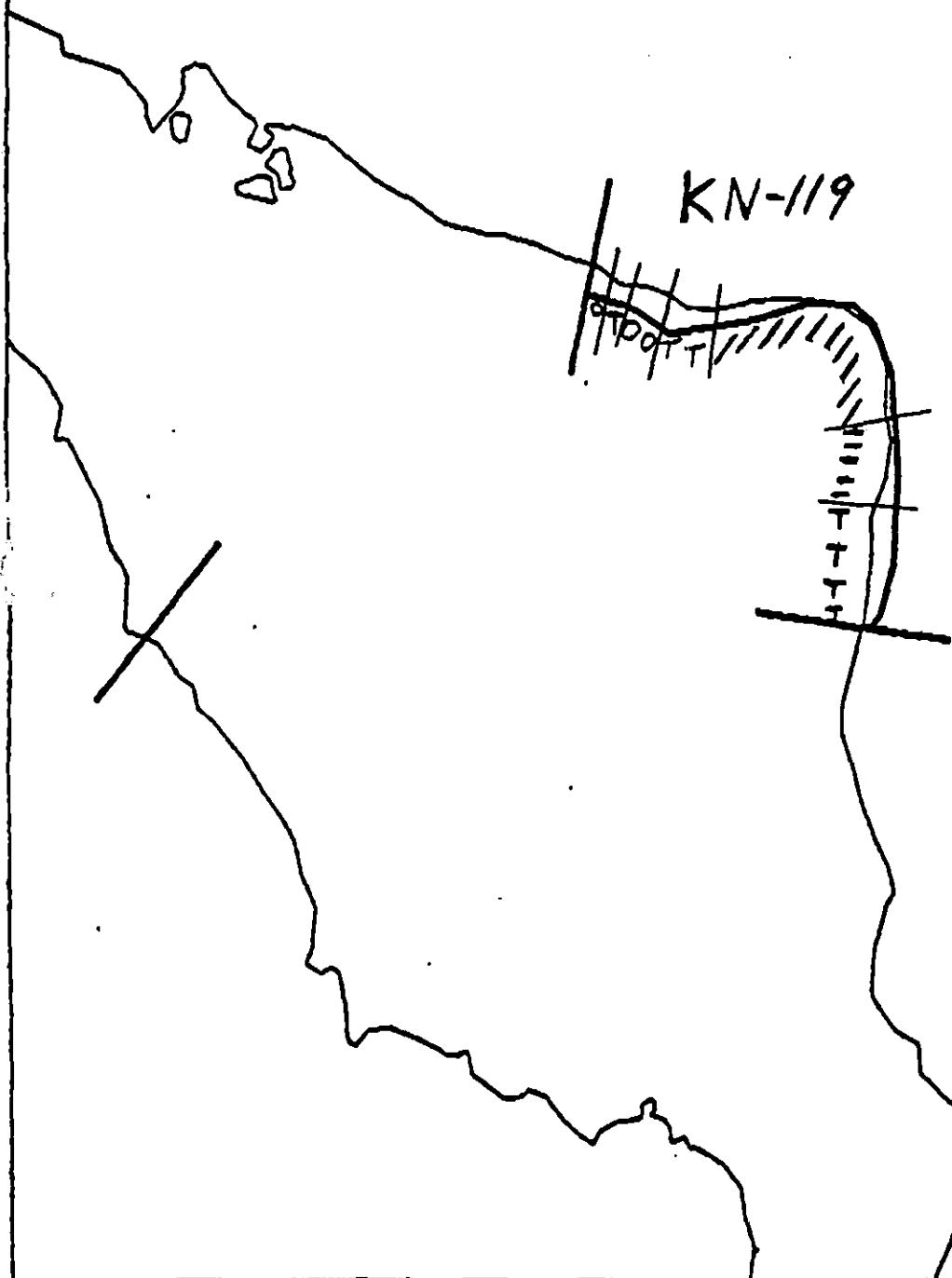
1 a+

Photo location, direction,
and number

On Character sh (m): AP PO CV CT 230 ST 280 MS TB 1 FL 430 NO 69



~~KN-118~~



KN-119

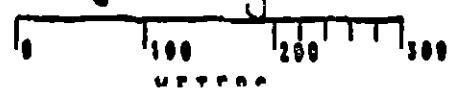
KN-1

KN-

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

KN-119

ADEC Segment Length: 513m
EXXON Segment Length: 499m



Map Key: PWS-300
Name: Greg Chang
Date: April 4 1990
Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-120 SUBDIVISION A (1 OF 1) DATE 4/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Salmon stream (catalogue no. 226-10-16940)

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)

1B Salmon stream mouth - spawning (7/10 to 8/31)

6V Recreation: Anchorages (6/1 to 9/15)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance/damage to uncoiled biota and substrate.

SHPO SIGNATURE: Charles E. Hines DATE: 4/18/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V. Light 577 m: No Oil 1121 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 4/18/90.
ADEC ART WEINER
EXXON ANDY TEAL FOSC: DATE: 4-21-90
NOAA Burt Wiggott
USCG G.A. BEITER

PWS ECOLOGICAL CONSTRAINTS

- 1A ~~Salmon stream stretch - fry emigration (3/1 to 5/15)~~
 1B ~~Salmon stream stretch - spawning (7/10 to 8/31)~~
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
- 1C Salmon fry nursery area (4/31 to 7/31)
- 1D Esther Hatchery release (4/15 to 6/1)
- 1E Main Bay Hatchery release (4/20 to 5/10)
- 1F Sawmill Bay Hatchery release (4/20 to 5/10)
- 1G Cannery Creek Hatchery release (4/21 to 6/1)
- 1H Remote release site
- 1I Gill net area (6/7 to 8/31)
- 1J Purse seine area (7/21 to 9/30)
- 1K Purse seine hook-off (7/20 to 9/30)
- 1L Set net sites (6/11 to 7/25)
 For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
- 2M Herring spawning (4/1 to 6/15)
 Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
- 3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
 3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
- 5R Seabird colony (5/1 to 9/1)
 Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
 Restrict all activity to essential minimum, especially air traffic.
- 5T All Bald Eagle nests (3/1 to 6/1)
 Active Bald Eagle nests (3/1 to 9/1)
 Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
- 6U Recreation: Tent sites (6/1 to 9/15)
- 6V ~~Storage area (5/1 to 9/15)~~
- 6W Forest Service cabins (6/1 to 9/15)
- 6X Lodge (6/1 to 9/15)
- 6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
- 7HH Finfish harvesting
- 7II Deer harvesting (8/15 to 2/28)
- 7JJ Invertebrate harvesting
 For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

FIELD SHORELINE COMMENT SHEETSEGMENT ST / KN 120 SUBDIVISION: NONE DATE 4/4/90USCG
NAME Pat Malay SIGNATURE _____☐ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

→ SICK LEAVE

ADEC
NAME M. CUNNINGHAM SIGNATURE Me. Cunningham☒ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

Segment in good shape. Occasional splatters and stain on vertical bedrock and little trash noted (removed). Bioremediation of uncertain benefit.

LAND MANAGER
NAME Steven Phillips SIGNATURE Steven Phillips☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Scout for trash / debris.

No ~~oil~~ treatments for oil except pickup tar balls/patties.

* Notify ADF&G of 8x8 plywood shack 50' up stream is breaking down. Is it theirs?

SHORELINE OILING SUMMARY

REVISION NO. 03/23/90

OG Greg Chaney USCG Patrick Malay SEGMENT ST/ KN-120
 BIO Jim Rath LAND REP Steve Phillips SUBDIVISION Area A (1 of 1)
 EXXON Rey Stelo ADEC Mike Cunningham TIME 16:00 to 17:40
 IAM NO.: 7 TIDE LEVEL: 1.0 ft to 2.0 ft DATE April 4 / 90
 JT. SUBDIVISION LENGTH: 1799 m ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock SNOW
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: East to West
 SURFACE SEDIMENTS: R 10 % B 30 % C 30 % P 30 % G — % S — % M — % V — %
 SLOPE: Long 30 % Hang 60 % Vert 10 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W — m M — m N — m VL 555 m NO 1234 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	R	B	P	C	1	2	3	4	5	6	7	8	SU	U	M	V
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT				X				X					X	X	X	X
STAIN				X				X					X	X	X	X
MOUSSE																
PATTIES				X	X								X			
TARBALLS																
FILM		X						X							X	X
NO OIL																

PAVEMENT: H F S — sq. m by — cmPATTIES / TARBALLS less than 1 BAGSNEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris	X		

DEBRIS COLLECTED

☒ YES ☐ NOTYPE Green Pom pom#BAGS 1

Photographs:

Roll No. NONEFrames —

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM/IN)	BELOW	OIL / FILM COLOR								PIT ZONE	A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO			1	2	3	4	5	6	7	8	SU	U	
1	25					X	—	X											M
2	25					X	—	X											PM
3	20					X	—	X									X		PM
4	20					X	—	X									X		PM

COMMENTS

Ice dam across bay seems to have trapped sheen. "Bathub ring" of rainbow sheen was observed around embayment.

06 Grey Wharf

SEGMENT KN-120

SUBMISSION NO. 101E

DATE April 14 90

CHECKLIST

M. Arner
Appar. Scale
Sap/Gra. Brdy
Oil Dst.
Sediment
Length
% Cover
Sketches Character
Est. HMM/MA
SSA
Profile Location(s)
Profile(s)
Photo Location(s)
Photo Location(s)

LEGEND

1 A

R. No Substrate Oil

2 A

R. Substrate Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/E

Patchy Distribution

CT/S

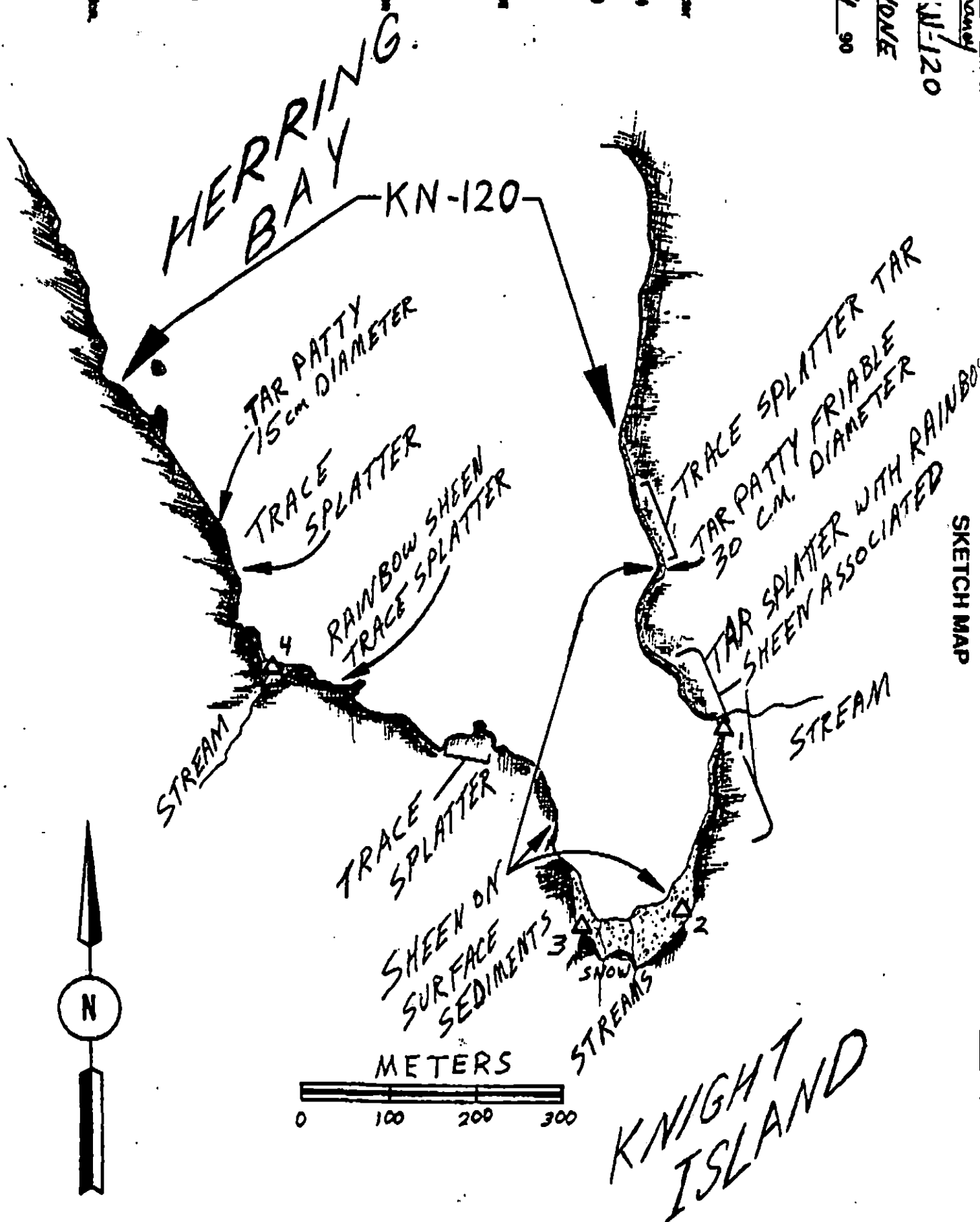
Spotted Distribution

Other Vegetation

1

Photo location, direction,
and number

SKETCH MAP



Oil Character Length (m): AP — PO — CV — CT 150 ST 300 NB — PT — TB — FL 550 NO 1234

REVISIONS/CHANGES

SHORELINE ECOLOGICAL SUMMARY

REVISION: 00/00/00

Segment ST/ KN 120 Subdivision — Date (mo / day / yr) Apr 4, '90
ARR 1555
 Time (24 hr) LV 1740 Biologist ROTH

- (A) Substrate type and % of segments:
 (1) Bedrock 10 (2) Boulder 30 (3) Cobble 30 (4) Pebble 30 (5) Sand — (6) SM —
- (B) Overall % cover of biota (% of segment): Dense 20 Moderate 60 Low 20
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs: NONE
 Roll No. —
 Frames —

BARNACLES

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

MYTILUS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

ASTROPODS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

FUCUS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

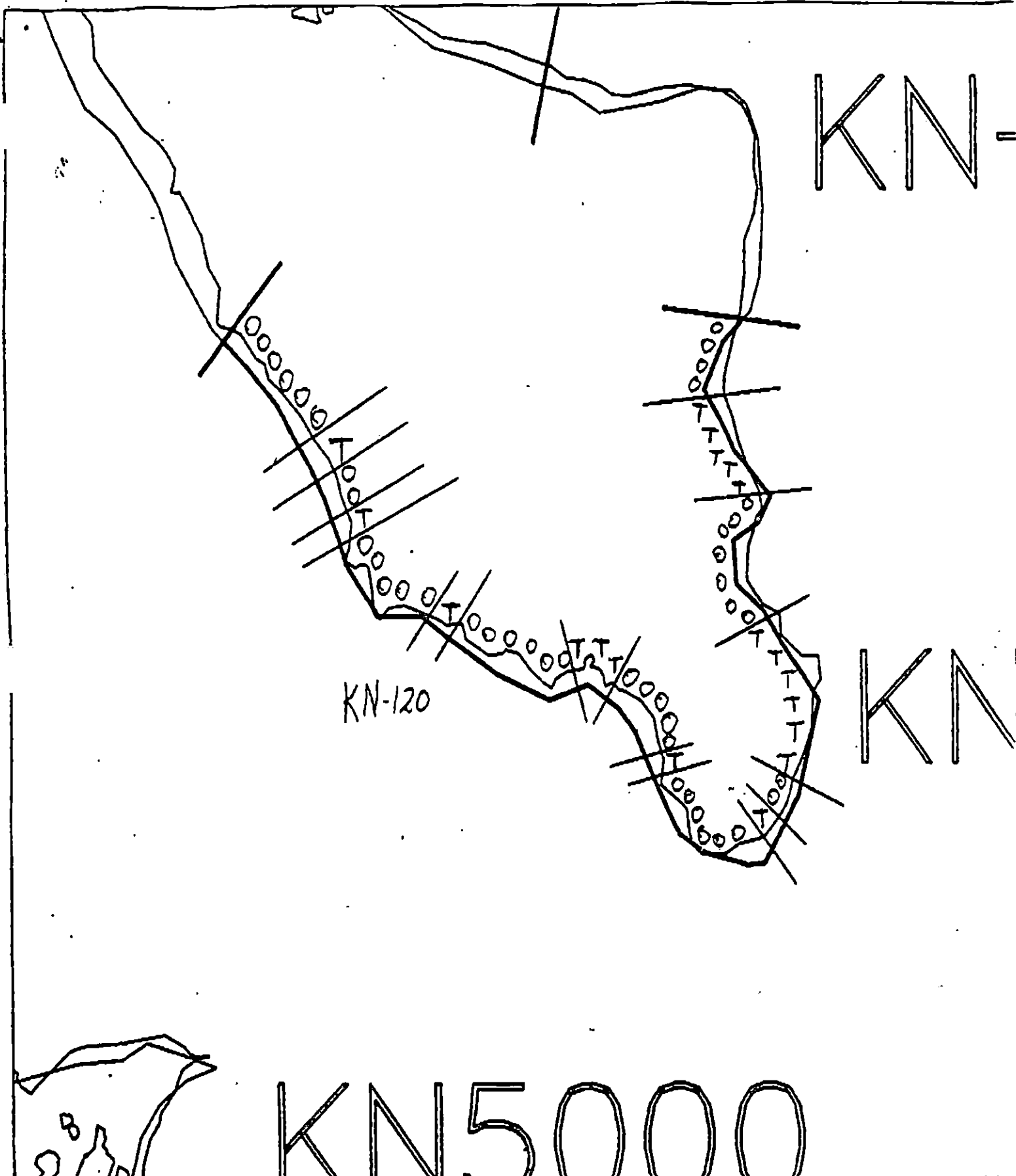
NOT PRESENT

Wildlife Observations/ General Comments:

A LOW ENERGY SITE

Ecological Considerations:

GV - RECREATION ANCHORAGES
 1B - SALMON SPAWNING



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

KN-120

ADEC Segment Length: 1898m
 Exxon Segment Length 1787m



Map Key: PWS-302

Name: Greg Chaney

Date: April 4 1990

Not Entered.

SHORELINE EVALUATION

SEGMENT ST/ KN-121 SUBDIVISION A (1 OF 1) DATE 4/20/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)

3O,3Q Harbor seal and sea lion molting (8/15 to 9/15)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

SHPO SIGNATURE: [Signature] DATE: 5/3/90

OILING CATEGORIZATION:

Wide 0 m: Medium 411 m: Narrow 399 m: V.Light 1471 m: No Oil 208 m
Subsurface Oil Observed: Yes X No Maximum Depth 60+cm

RECOMMENDATIONS:

 No Treatment Recommended

 X Treatment Recommended

 X Manual Pickup

 X Bioremediation

 Tarmat Removal

 Snare/Absorbent Booms

 Oil Snares (pom poms)

 Absorbents (pads, rolls, etc)

 Spot Washing: Wands

 Beach Cleaner

 * Other (see comments)

COMMENTS: Recommended treatment includes manual raking and bioremediation of areas shown on sketch map. Work should be conducted prior to 5/15 or between 7/2 and 7/31 based on pinniped constraints.

MANUAL PICKUP OF DEBRIS.

TAG COMMENTS:

TAG APPROVAL DATE: 5/3/90

ADEC ART WEINER

EXXON ANDY BAC

NOAA GARY REFRER

USCG KENNETH KEANE

FOSC: [Signature] DATE: 5-12-90

Attempt spot washing for this high human use area. If impractical, continue as per comments above.

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
 1B Salmon stream mouth - spawning (7/10 to 8/31)
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.
 AGENCY CONTACT PERSON: ADF&G John Morison 267-2324
- 1C Salmon fry nursery area (4/31 to 7/31)
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.
 AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1D Esther Hatchery release (4/15 to 6/1)
 1E Main Bay Hatchery release (4/20 to 6/10)
 1F Sawmill Bay Hatchery release (4/15 to 6/1)
 1G Cannery Creek Hatchery release (4/21 to 6/1)
 1H Remote release site
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.
 AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214
 1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511
- 1I Gill net area (5/7 to 6/31)
 1J Purse seine area (7/20 to 9/30)
 1K Purse seine hook-off (7/20 to 9/30)
 1L Set net sites (8/11 to 7/25)
 Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
 AGENCY CONTACT PERSON: ADF&G James Brady 424-3212
- 2M Herring spawning (4/1 to 6/15)
 Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
 AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
- Harbor seal and sea lion pupping (5/15 to 7/1)
 Harbor seal and sea lion molting (8/15 to 9/15)
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31).
 Contact ADF&G and USFWS prior to treatment for confirmation.
 AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
 ADF&G Don Calkins 267-2403
- 5R Seabird colony (5/1 to 9/1)
 Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
 Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
 ADF&G Tom Roth 267-2208
- 5T All Bald Eagle nests (3/1 to 6/1)
 Active Bald Eagle nests (3/1 to 9/1)
 Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 6U Recreation: Tent sites (5/1 to 9/15)
 6V Anchorages (5/1 to 9/15)
 6W Forest Service cabins (5/1 to 9/15)
 6X Lodge (5/1 to 9/15)
 6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
 7HH Finfish harvesting
 7H Deer harvesting (8/15 to 2/28)
 7JJ Invertebrate harvesting
 Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.
 AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ KN 121 SUBDIVISION: A 1 of 1 DATE 4-20-90

USCG

NAME

Patrick Malay

SIGNATURE

Patrick Malay

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

This segment had a continuous bathtub ring stain almost the full length of the upper intertidal zone. The coated boulders in areas other than the pocket beaches might present a problem for bioremediation due to the steep angle of the rocks. The thick subsurface residual oil in the vicinity of pits 4 & 7 is of concern but I'm not sure what to suggest because of its depth (40-60 cm).

ADEC

NAME

Michael CUNNINGHAM

SIGNATURE

M. Cunningham

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

This long segment consisted of steep vertical cliffs w/ numerous pocket beaches composed of high-angle interlocking sediments (boulder + cobble) which would pose problems for hand filling crews. However an attempt should be made to fill over the rocks to expose undersides to bioremediation. Recommend extensive bioremed along entire segment w/ emphasis incl filling @ sites 1-3. Biota not that critical a consideration except where recruitment noted (NE end segment). Bedrock coats pose visual eye sore however treatment not yet defined to effectively remove.

LAND MANAGER

NAME

Steven Phillips

SIGNATURE

Steven Phillips

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

There wasn't much debris on this segment but storm berms on west aspect pockets should be rechecked after the snow melts.

Tar bands on bedrock and boulders was very visible from the water. most tar was on vertical surfaces, bioremediation would do little. surfaces were too rough for effective scraping. Consider a type B method for removing or at least reducing visibility of bands. Worst locations were near Pits #1, #2, #3 and vertical rocks on the South 1/4 of the segment. Bioremediate Cercle #1522 beach, beach at Pit 1.

Subsurface oil was found deep on small pockets - best chance to treat is when the sediments recede - who knows when this will be.

SHORELINE OILING SUMMARY

REVISION NO. 04/13/90

OG Greg Chaney USCG Pat Malay DNR
 BIO Jim Roth LAND REP Steve Phillips SEGMENT ST/ KN-121
 EXXON Rex Sotelo ADEC Mike Cunningham SUBDIVISION 4 (1 OF 1)
 TEAM NO. 17 TIDE LEVEL 5.0 to 1.5 DATE April 1, 20/90
 EST. SUBDIVISION LENGTH: 2573 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock SNOW
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: South to North
 SURFACE SEDIMENTS: R 50 % B 40 % C 5 % P 5 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 10 % Hang 40 % Vert 50 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 412 m N 412 m VL 1544 m NO 305 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	C	N	P	B	1	2	3	4	5	SU	U	M	U
ASPHALT PAVEMENT													
POOLED													
COVER													
COAT	X	X	X	X	X	X	X	X	X	X	X	X	X
STAIN	X	X	X	X	X	X	X	X	X	X	X	X	X
MOUSSE													
PATTIES													
TARBALLS													
FILM			X		X	X						X	X
NO OIL													

PAVEMENT H F S 0 sq. m by 0 cm

PATTIES / TARBALLS 0 BAGS

NEAR SHORE SHEEN? NO ☒ BR ☒ RW ☒ SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs	X		
Vegetation			
Trash	X		
Debris	X		

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐
 Styrofoam cup, Black
 TYPE Pom-pom Strands
 Sorbent Pads
 #BAGS less than 1

Photographs:

Roll No. ST-7-4

Frames 1,2,3,4,5,6,7

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SHEEN (Y/N)	↓	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	1	2	3	4	5	SU	U	M	U				
1	25	X					0-10		X								X			Y	20	B-BCGM
2	20	X					0-15		X								X			Y	10	B-BCM
3	45					X	.										X			N	0	CP-GP
4	60	X					40-60	X							X					Y	55	CP-GPB
5	40					X	.										X			N	15	PG-GPB
6	35					X	.										X			N	30	PG-BPG

COMMENTS

See attached page.

REVIEWED 7w DATE 4/23/90

SHORELINE OILING SUMMARY (PAGE 2)

REVISION 04-13-90

SEGMENT ST/ KN-121 SUBDIVISION A (1 OF 1)

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR						PIT ZONE				A N A	SHEEN (Y/N)	↓	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	SP	BP	OR	OT	OC	OT	SU	U	M	U				
7	50		X				40-50	X		X						X					Y	45	P-GPB
8	40					X	.									X					N	0	P-GPB
9	30					X	.									X					N	20	P-GP
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							.																

COMMENTS

REVIEWED Yw DATE 4/23/90

SKETCH MAP 1 of 2

CONTINUED ON NEXT PAGE

CONTINUOUS TAR COAT BAND 130 CM HIGH ON BEDROCK

BOULDER PEBBLE BEACH TAR COAT ON BOULDERS. RANDOM PEBBLES WITH STAIN.

SMALL POCKET OF LARGE BOULDERS. RAINBOW SHEEN IN TIDE POOLS

BLACK TAR BAND 20CM. HIGH BLACK TAR COAT ON BOULDERS ~ 3 METERS WIDE. LESS THAN 10% COVERAGE. RAINBOW SHEEN ON LOWER MITZ MOBILE BROWN OIL IN MATRIX

BLACK TAR COAT ON BOULDERS ~ 3 METERS WIDE 30% COVERAGE.

BLACK TAR COAT ON BOULDERS ~ 4 METER BAND 40% COVERAGE 2, 3, 4, 5

2 METER BAND PATCHY COAT 30% COVERAGE

BAND TAR COAT 4 METERS WIDE 70% COVERAGE BROWN TAR UNDERNEATH BOULDERS

SMALL POCKET OF LARGE BOULDERS PATCHES COAT & STAIN ON PROTECTED BOULDER FACES

SPECIAL SYMBOL

HEXAGONS MARK. 00000 TRACE SPLASHED TAR COAT ON BEDROCK

200 METERS

1 METER DISCONTINUOUS TAR BAND 50% COVERAGE ON BEDROCK FACE

STATE OF ALASKA CERCLA STUDY SITE 1522

Rate & Bio HERE

N

Be HERE

KN-121A (SOUTH)

OG Greg Canyon
SEGMENT ST/ 121

SUBDIVISION A
DATE April 20 90

CHECKLIST

- N Arrow
- Approx. Scale
- Seg/Sub Entry
- Oil Dist.
- Width
- Length
- % Cover
- Substrate Character
- Est. H/W/L/V
- SSI
- Profile Location(s)
- Photo(s)
- Photo Location(s)
- Photo Location(s)

LEGEND

- 1 Δ Pt - No Subsurface Oil
- 2 Δ Pt - Subsurface Oil
- CT/C Continuous Distribution
- CT/B Broken Distribution
- CT/P Patchy Distribution
- CT/S Splashed Distribution
- Cloud Vegetation
- Photo location, direction, and number

see next page for Total for both maps

Oil Character Length (m): AP

next page

SKETCH MAP 2 of 2

CONTINUED

FROM LAST PAGE

OG Grey 6-24

SEGMENT ST/121

SUBDIVISION A

DATE April 12 1990

CHECKLIST

N Arrow
 Approx. Scale
 Sub/Side Drift
 Oil Dist.
 Width
 Length
 % Cover
 Substrate Character
 Est. HML/A/VL
 SGL
 Profile Location(s)
 Profile(s)
 Photo Location(s)
 Photo Location(s)

LEGEND

1 A

Pt - No Subsurface Oil

2 A

Pt - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

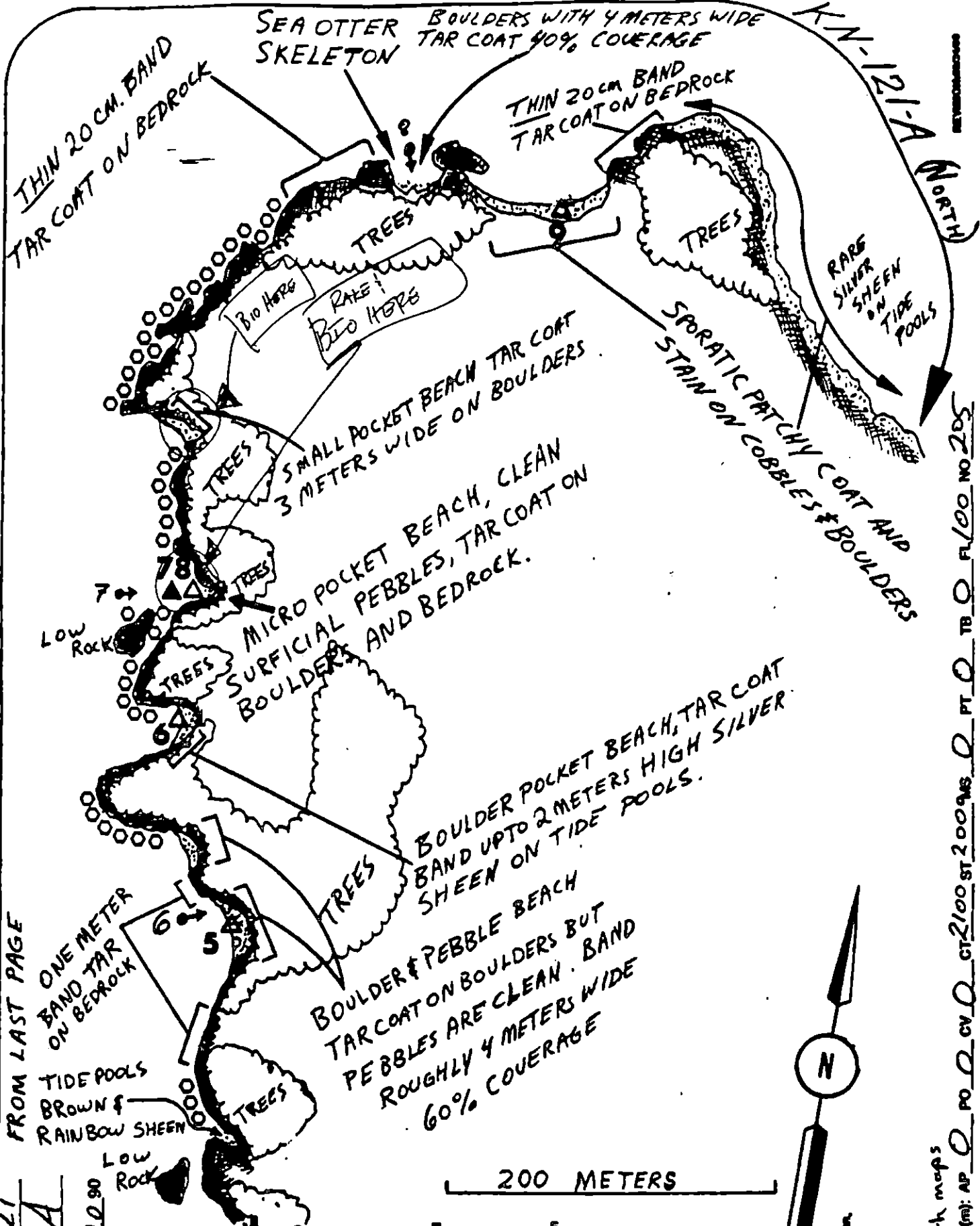
CT/S

Sporadic Distribution

Oil Vegetation

1

Photo location, direction, and number



Total for both maps

Oil Character Length (m): AP 0 PO 0 CV 0 CT 2100 ST 2009 AS 0 PT 0 TB 0 FL 00 NO 205

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / KN 121 Subdivision A Date (mo / day / yr) Apr 20, 90
 Time (24 hr) 1322-1735 Biologist ROTH

- (A) Substrate type and % of segments:
 (1) Bedrock 50 (2) Boulder 40 (3) Cobble 5 (4) Pebble 5 (5) Sand - (6) Silt -
- (B) Overall % cover of biota (% of segment): Dense 5 Moderate 30 Low 65
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (O)

Photographs:
 Roll No. ST-7-4

Frames 1-8

BARNACLES

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	X	2	2	2	X	2	2	2	
3	3	3	3	X	3	3	X	X	3	X	X	
4	4	4	4	4	4	4	4	X	4	X	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

MYTILUS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	X	X	2	2	2	
3	3	3	3	3	3	3	X	X	3	X	3	
4	4	4	4	4	4	4	X	X	4	X	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

GASTROPODS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	X	2	2	2	2	2	2	X	
3	3	3	3	X	3	3	3	3	3	3	X	
4	4	4	4	4	4	4	X	4	4	X	X	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

FUCUS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	X	X	2	2	2	
3	3	3	3	3	3	3	X	X	3	X	X	
4	4	4	4	4	4	4	4	4	4	X	X	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

Wildlife Observations/ General Comments:

SOMEWHAT LIMITED VARIETY OF PLANTS AND ANIMALS SEEN, WHICH PROBABLY REFLECTS BOTH THE SHELTERED NATURE OF THE SITE AND THE LIMITED OBSERVATION TIME AVAILABLE IN THE LOWER INTERTIDAL ZONE. SOME OF THE BOULDER/COBBLE BEACHES HAD LOW BIOTA COVER — EVIDENCE OF HOT-WATER FLUSHING DURING PG

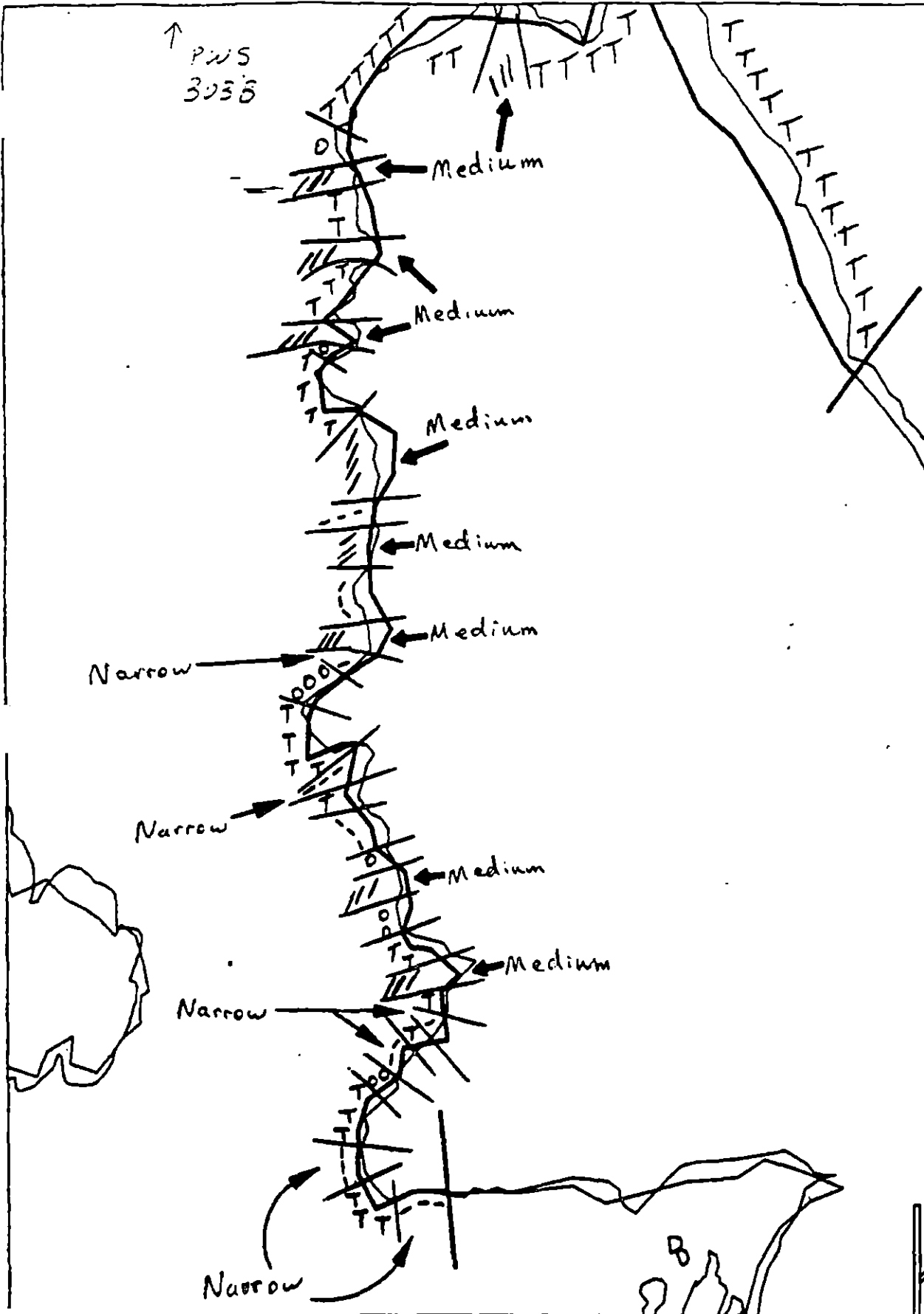
Ecological Considerations:

NONE; SEGMENT INCLUDES "STATE OF ALASKA CERCLA STUDY SITE # 1522"

COMMENTS
SEGMENT 8T-KN-121-A

Greg Chaney
April 20 1990

Segment 8T-KN-121-A consisted of a long pillow lava bedrock face with several small and "micro" pocket boulder beaches. The bedrock headlands retained sporadic tar coats and occasionally a clearly defined tar "bath tub ring." The tar on these faces appeared very stable. The pocket boulder beaches seemed to harbor the most significant oil still present in the segment. The boulders retained tar on their exposed faces and often had thin mobile brown and black oil on the bottom of these boulders. In a few instances a small amount of cobbles, pebbles and granules formed an interstitial matrix between the boulders. While the boulders often retained tar and stain on their exposed faces, the cobbles/pebbles were usually quite clean. This appeared to have resulted from the mechanical cleaning of storm waves. Pits 4 & 7 in these cobbles/pebbles revealed oil at depths between 40 - 60 cm. The buried oil seemed to be concentrated near the same level as the tar "bath tub ring" on the adjacent bedrock faces. The oil located in pit 7 was very thick and did not sheen when placed in the bay (although some sheen occurred in the pit.) A sea otter skeleton was located at the northern point of the segment. The only flesh present was the skin which did not appear to have been oiled (due to state of decay this was difficult to determine.)



XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

KN-121

ADEC Segment Length: 2487m
EXON Segment Length: 2573m

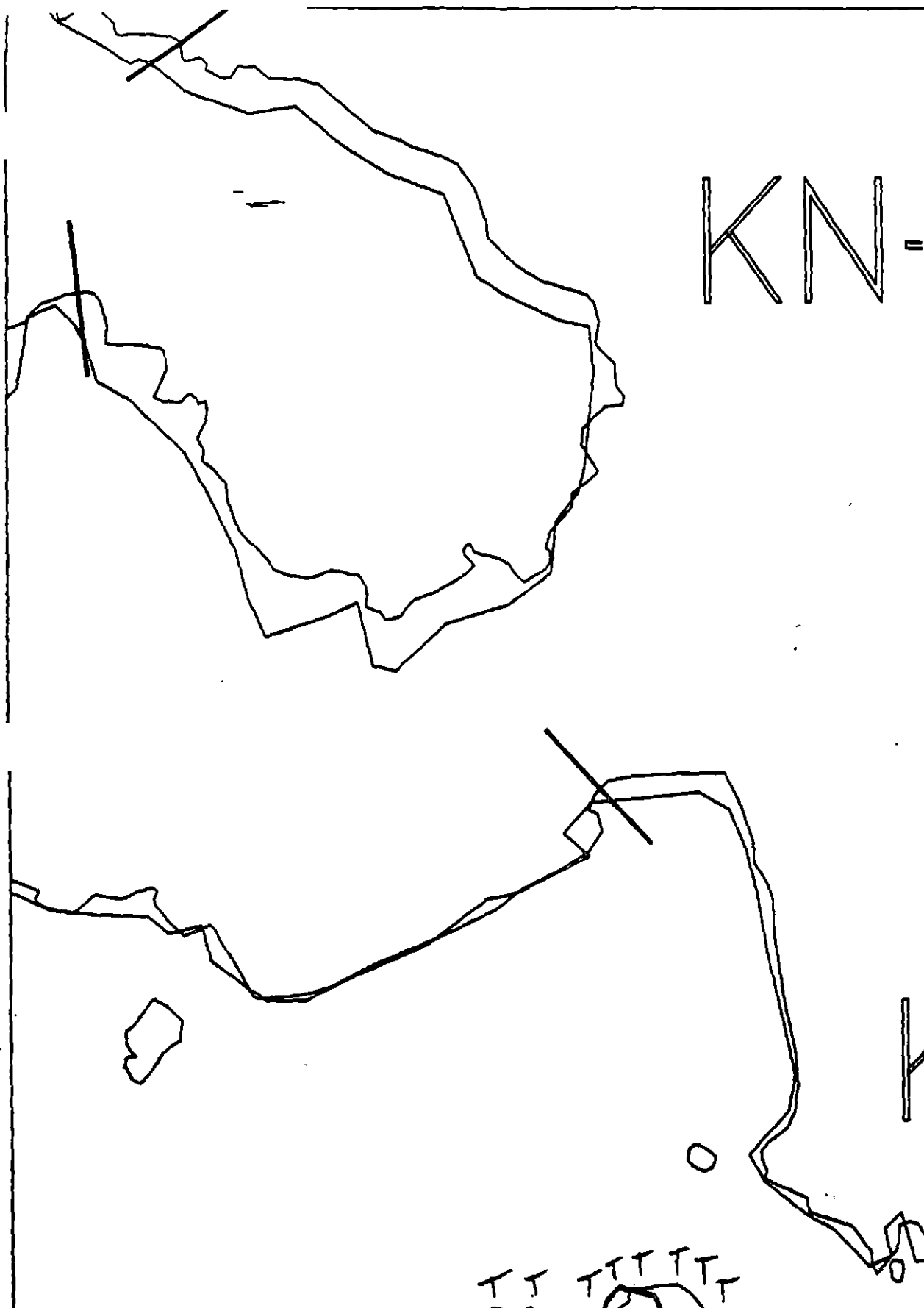
0 100 200 300

Map Key: PWS-303a

Name: Greg Chaney

Date: April 20 1990

Data Entered:



↓ PWS
303A

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

KN-121

ADEC Segment Length: 2487m
 EXCER Segment Length: 2573m



Map Key: PWS-303b
 Name: Greg Chaney
 Date: April 20 1990
 Data Entered:

SEGMENT KN-121 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup	OPEN
Manual Raking Spot Washing Bioremediation	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

3N,O,P,Q

Harbor Seal & Sea Lion Pupping and Molting

NO TIME CONSTRAINT. Authorized per memorandum dated 5/14/90 from Kathryn Frost/ADF&G to Mark Kuwada/ADF&G.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat traffic and general disturbance to minimum. Do not apply bioremediation to specific areas where seals are observed to haulout. Do not chase or harass seals or sea lions, and do not approach pups under any circumstances. When working on or near haulouts, complete the job as quickly as possible with minimum personnel, equipment, noise and disturbance. Keep boats and personnel as far from actual haulouts as is practical to do the work specified. Minimize air traffic near haulouts, maintain elevation as is practical, and avoid repeated overflights of the same haulout areas. Avoid any unnecessary disturbance or damage to unrolled biota and substrate.

TAG APPROVAL DATE 5/30/98

ADEC Arzt WEINER Det. Weiner

EXXON Andy G. A. Beal

NOAA G.A. FETER CH

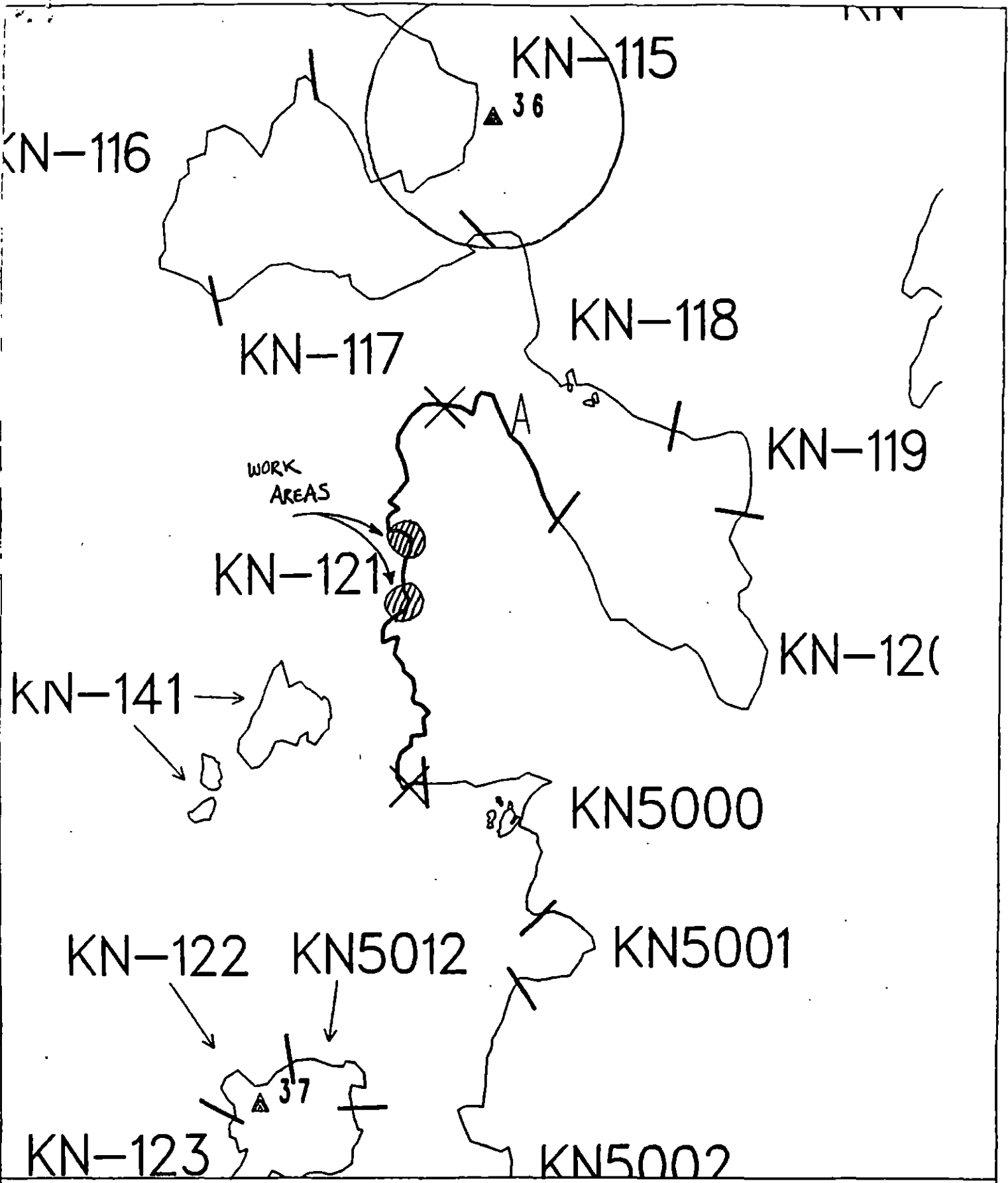
USCG G.A. BEITER G.A.

FOSC

DATE _____

Prepared By: Andres Nelson WIK

Date 5/29/90





Exxon Company, USA
Map Key: KN1-KN-121
May 11, 1990

ECOLOGY MAP
SEGMENT KN-121
SUBDIVISION A (1 of 1)
METERS

0
405

405
809

★
Seabird Colony

▲
Eagle Nest

1 inch = 1327 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-122 SUBDIVISION A (1 OF 1) DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Harbor seal and sea lion pupping (3N, 3P) - 5/15 to 7/1 and molting (3O, 3Q) - 8/15 to 9/15; Active eagle nests (5T) - 3/1 to 6/1.
Restrict air and boat traffic and general disturbance to essential minimum. Air approach and takeoff from and to seaward only. Contact ADF&G Habitat division re: seals/sea lions and USF&WS re: eagle nests prior to treatment.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Avoid disturbance/damage to un-oiled biota and substrate.

SHPO SIGNATURE: [Signature] DATE: April 12, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 96 m: Narrow 45 m: V.Light 194 m: No Oil 88 m
Subsurface Oil Observed: Yes X No Maximum Depth 40+ cm

RECOMMENDATIONS:

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

COMMENTS: Bioremediate pocket beaches as shown on sketch map.
Pick up any debris. Work between 7/1 and 8/15 due to constraints.

TAG COMMENTS: MANUALLY TILL/RAKE + SPOT WASH (WITH SORBENTS)
BIOREMEDIATION WITH INIPOL OR ~~RAKE~~ RAKE IN CUSTOMER.

TAG APPROVAL DATE: 4/12/90

ADEC JOHN BAUER [Signature]
EXXON ANDY TAY [Signature]
NOAA Burt Weis [Signature]
USCG M.J. HALL [Signature]

FOSC: [Signature]

DATE: 4-19-90

FIELD SHORELINE COMMENT SHEET

SEGMENT ST KN122 SUBDIVISION: None DATE 4/1/90

SCG NAME Patrick Malay SIGNATURE Patrick Malay

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Suggest bioremediation in the cobble beaches where pits 1-4 were dug. There was also a small area of oil covered grass that should be manually removed in the N.W. portion of the low rock area.

ADEC NAME M. WASHINGTON SIGNATURE M. WASHINGTON

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

- 1) Dig up (use wheelbarrow) rocky sediments which appear contaminated in area where Pit #1 dug. (~ 10 sq m) Haul away. Hot water would force oil deeper into very porous substrate. Bioremediate. Adjacent rocks ideal seal haulout
- 2) Bioremediate (several times over summer) pocket beaches. An other treatment requires taking beach apart to get to subsurface lens. (NOTE: these beaches have not been active sheen)

LAND MANAGER NAME Steven Phillips SIGNATURE Steven Phillips

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Pick up debris in storm berm.
Tars with hemlock needles very easy to collect (I used a salvaged fork) due to softness in sun and thick coats > 2mm.
Two pocket beaches need to be washed as high, mobile oil content seems recoverable. Sediments overlying eastern pocket may present challenges.

SHORELINE OILING SUMMARY

REVISION NO. 03/20/90

OG Gray Chaney USCG Patrick Malay SEGMENT ST/ KN 122
 BIO Jim Roth LAND REP Steve Phillips SUBDIVISION NONE
 EXXON Ray Sutele ADEC Mike Cunningham TIME 14:00 10/5:40
 TEAM NO.: 7 TIDE LEVEL: 1.5 ft to 5.0 ft DATE APR 11 1990
 EST. SUBDIVISION LENGTH: 628 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock SNOW
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: South to North
 SURFACE SEDIMENTS: R 70 % B 20 % C 10 % P - % G - % S - % M - % V - %
 SLOPE: Long 40 % Hang 30 % Vert 30 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 50 m M 4045 m N 140 m VL 143 m NO 300 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	C	B	P	S	SP	BR	OR	OL	OP	NO	TL	LR	SU	U	M	U
ASPHALT PAVEMENT																
POOLED																
COVER	X					X							X			
COAT	X	✓				X							X			
STAIN		X	✓			X		✓					X	X	X	X
MOUSSE																
PATTIES																
TARBALLS																
FILM	X					X	X						X	X		
NO OIL																X

PAVEMENT: H F S - sq. m by - cmPATTIES / TARBALLS - BAGSNEAR SHORE SHEEN? NO BR RW (SU) TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs	X		
Vegetation	X		
Trash	X		
Debris	X		

DEBRIS COLLECTED
☒ YES ☐ NOTYPE Pom-pom, Plas#BAGS 1

Photographs:

Roll No. ST-7-1Frames 22

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OP	NO		UC	UC	SP	BR	OR	OL	OP	NO	TL	LR	SU	U	M	U		
1	30	X			✓		0-25	X	✓							X		X					BGM
2	20					X	- -	X												X			BGM
3	40					X	0-25	X											X				BPG
3	40	X		✓			25-40	X											X				BPG
4	35					X	0-25	X												X			BPG
4	35			X			25-35	X												X			BPG

COMMENTS ⁴³

see comment 43 Pebble cobble beach where pits #3 & 4 were located has an oil lense extending 25 cm below the surface to an undetermined depth. Oil is still mobile at depth.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / KN122 Subdivision _____ Date (mo / day / yr) APR 1, 1990Time (24 hr) ARR 1405 Biologist ROTHA) Substrate type and % of segments:
(1) Bedrock 40 (2) Boulder 30 (3) Cobble 20 (4) Pebble 10 (5) Sand — (6) Silt —(B) Overall % cover of biota (% of segment): Dense 35 Moderate 30 Low 30

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

Photographs:
Roll No. ST-7.1Frames 22

BARNACLES

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

MYTILUS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

ASTROPODS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

FUCUS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

Wildlife Observations/ General Comments:

LOSING THE LOWER ZONE NOW — TIDE ~ +2. ONLY FUCUS ESTIMATED FOR LOWER ZONE. BEDROCK AND BOULDER IN UPPER ZONE NEAR NORTHERNMOST 2 POCKET BEACHES LARGELY DENUDED OF MUSSELS AND BARNACLES ON TOP SURFACES; Ecological Considerations: SPARSE FUCUS REMAINS THERE; THESE SECTIONS WERE SUBJECTED TO ST. ACTIVE BALD EAGLE NESTS / HOT-WATER WASHING IN 1989.

3 N, O, P, Q. HARBOR SEAL AND SEA LION MOLTING AND PUPPING

OG. Geo Chaney

SEGMENT KN 122

SUBDIVISION NONE

DATE April 1 90

ETCH MAP

CHECKLIST

- ☐ Narrow
- ☐ Approx. Scale
- ☐ Seg/Sub Bndry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HWA/LWL
- ☐ SSI
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pst Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ
Pst - No Subsurface Oil

2 Δ
Pst - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/P
Patchy Distribution

CT/S
Splashed Distribution

Oiled Vegetation

Photo location, direction,
and number

COAT OIL UP TO
ONE METER HIGH
ON ROCK FACE

LOW ROCK

4x1/3 METER
FREE OIL OBSERVED
SNOW

HERRING
GULL
BOULDER'S 100% COVERAGE.
UPPER EDGE OF PIT ONE.

BIO
HERE

Pick up any
DEBRIS ON POCKET
BEACHES

BURIED OIL LENSE
25 CM DEEP FREE
OIL AT DEPTH

COAT
ONE METER
FILM ON BOULDERS IN POCKET BEACH

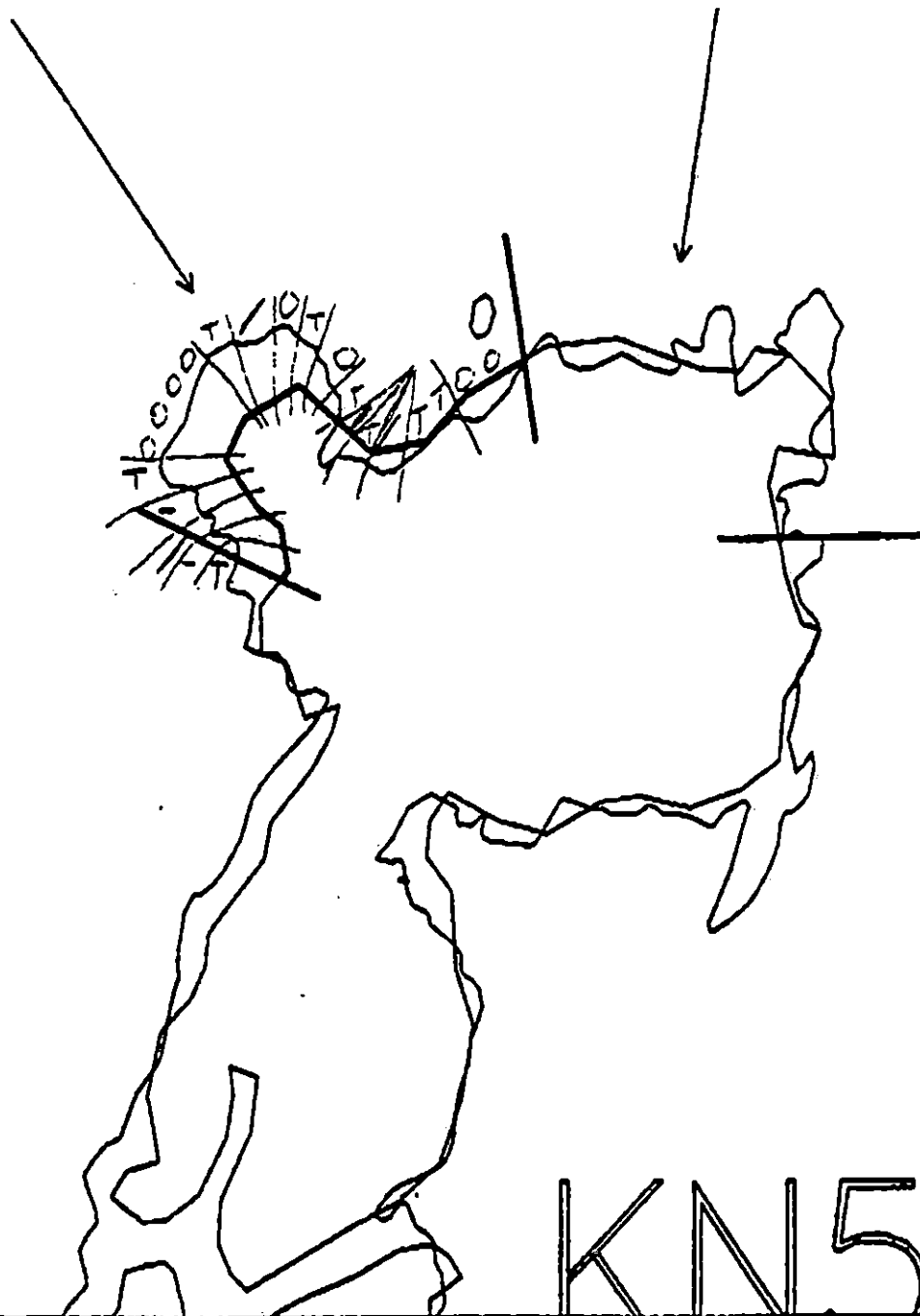
BEACH
BED ROCK FACE

30 CM VERTICAL
BAND 1 IS NOTED WITH
DOTTED LINE
20 METERS

Oil Character Length (m): AP — PO — CV 13 CT 55 ST 250 MS — PT — TB — FL 10 NO 300

REVISION 23398

KN-122 KN50



KN50

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

KN-122

ADEC Segment Length: 423m
Exxon Segment Length: 628m

0 100 200 300
METERS



Map Key: PWS-304

Name: Greg Chaney

Date: April 1, 1990

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

-SEGMENT KN-122 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup	OPEN
Spot Washing	OPEN
Bioremediation Manual Raking	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

3N,O,P,Q	Harbor Seal & Sea Lion Pupping and Molting	NO CONSTRAINT. Authorized per memorandum dated 5/14/90 from Kathryn Frost/ADF&G to Mark Kuwada/ADF&G.
5T	Bald Eagle Nest	NO CONSTRAINT. USFWS bald eagle impact assessment conducted on 5/27/90 by Mike Lockhart indicates no active nests within 400m of the work area.

OTHER ECOLOGICAL CONSIDERATIONS

Do not apply bioremediation to specific areas where seals are observed to haulout. Do not chase or harass seals or sea lions, and do not approach pups under any circumstances. When working on or near haulouts, complete the job as quickly as possible with minimum personnel, equipment, noise and disturbance. Keep boats and personnel as far from actual haulouts as is practical to do the work specified. Minimize air traffic near haulouts, maintain elevation as is practical, and avoid repeated overflights of the same haulout areas. Avoid any unnecessary disturbance or damage to unrolled biota and substrate.

FOSC

Date

6-10-90

Prepared by

Date

6/9/90

KN-141 →

*Incorporates information from
USFWS bald eagle survey 5/27/90.
and agrees with 6/1/90 USFWS Map.*

KN-122 KN5012

WORK
AREAS

37

Inactive

KN-123

-145

KN-144

03

KN5011

KN5010

KN5000



Exxon Company, USA
Map Keys KN1-KN-122



ECOLOGY MAP 5/31
SEGMENT KN-122

SUBDIVISION A (1 of 1)

METERS



Seabird Colony



Eagle Nest

[F2] - Complete edit, [Esc] - Cancel edit, Ctrl-U - Undo last change
[Ins] - Insert a record

EXXON VALDEZ CULTURAL RESOURCES PROGRAM
SSAT DATABASE

Record No: 811

Segment: KN-0122A Afs: ADD Quad: Map: Region: PWS

Block: Sector: Landowner: NFS

Ahrs:

SCAT Person: WILSON SCAT Length: 400
SCAT Method: G SCAT Time: 25

SSAT Person: SSAT Length: 0
SSAT Method: SSAT Time: 0

1989 CONSTRAINTS: Standard X Evaluation Pre-Evaluation & Monitor
Other Monitor Monitoring
Incidents Post-Cleanup Assessments Bioremediation

SSAT WORK-PROGRAM: ~~Bioremediation~~ X Manual/Mechanical MECH ADDED
Treatment Intensity Class 1 No Treatment Recommended

Page Down for Next Screen

[F2] - Complete edit, [Esc] - Cancel edit, Ctrl-U - Undo last change
[Ins] - Insert a record

SSAT DATABASE Cont..

Record No: 811

1990 CONSTRAINTS: Deferred Standard X Inspection Monitor
Required Survey Subdivision Survey Judgmental Survey

STATUS: Received 7/31/90 Survey Out Survey Back

CTAG: To Returned Completed
SHPO FOSC

Cleanup Team Treatment Dates: From
Manager Informed To

MONITORING DATES

MONITOR(S)

Cleanup
Bioremediation
Bio Assessment Team
Dames & Moore

Comments

Page Up for Previous Screen

SHORELINE EVALUATION

SEGMENT ST/ KN-123 SUBDIVISION A (1 OF 2) DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Harbor seal and sea lion pupping (3N, 3P: 5/15 to 7/1) and molting (8/15 to 9/15: 3Q, 3Q) area. Limit boat and air traffic to essential minimum. Contact ADF&G Habitat Division prior to any activity. Complete treatment before 5/15 or between 7/1 and 8/15 unless otherwise approved by ADF&G.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid unnecessary disturbance/damage to unoiled biota and substrate.

SHPO SIGNATURE: [Signature] DATE: April 14, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 27 m: Narrow 42 m: V.Light 85 m: No Oil 170 m
Subsurface Oil Observed: Yes X No Maximum Depth 20 cm

RECOMMENDATIONS:

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

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 4/14/90

ADEC JOHN BAUER [Signature]
EXXON ANDY TELL [Signature] FOSC: [Signature] DATE: 4-20-90
NOAA Buck Westcott [Signature]
USCG G.A. KETTER [Signature]

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / 123 B SUBDIVISION: A DATE 4/1/90

ICG
NAME Patrick May SIGNATURE Patrick May

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

I do not recommend treatment of this area segment. The one very small area of splashy coat does not warrant the damaging impact of a cleanup party.

ADEC
NAME Michael CUNNINGHAM SIGNATURE M Cunningham

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Only area where possible treatment might be appropriate is on ismus blwn KU 123 A + 144 B and in my judgement more harm than good would be the result of tromping around on the rich biological communities found there. The thin coat & stain on the vertical headlands is there to stay - but it should not harm seals etc as its quite hard

LAND MANAGER
NAME Steven Phillips SIGNATURE Steven Phillips

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Only worthwhile treatment is check for debris and check tar on vertical faces when temperature rises. Not much collectable now.

SHORELINE OILING SUMMARY

REVISION NO. 05/29/90

OG Greg Chaney USCG Patrick Malay SEGMENT ST/ 123
 BIO Jill Roth LAND REP Steve Phillips SUBDIVISION A
 EXXON Ray Setelo ADEC Mike Cunningham TIME 10:40 to 11:10
 TEAM NO.: 7 TIDE LEVEL: 2 ft to 1 ft DATE April 11 / 1990
 EST. SUBDIVISION LENGTH: 360 m. ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock Snow
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: West to East
 SURFACE SEDIMENTS: R 80 % B 15 % C 5 % P - % G - % S - % M - % V - %
 SLOPE: Long 20 % Hang - % Vert 80 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W - m M - m N 9 m VL 45 m NO 300 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES					
	C	S	P	B	SP	OR	OL	OF	NO	TL	LR	SU	U	M	U
ASPHALT PAVEMENT															
POOLED															
COVER															
COAT				X		X						X	X		
STAIN	X			✓		X	✓					✓	X		
MOUSSE															
PATTIES															
TARBALLS															
FILM															
NO OIL												None			X

PAVEMENT: H F S - sq. m by - cm

PATTIES / TARBALLS - BAGS

NEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash	X		
Debris			

DEBRIS COLLECTED
☒ YES ☐ NO

TYPE fork, rope

#BAGS 1

Photographs:

Roll No. -

Frames -

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR						PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	SP BL	OR PK	OT LL	SP TL	OR LR	SU	U	M	U			
1	20				X		5' - 20'		X					X				X			PGS
2	15					X	- - -		X									X			PGS
3	20					X	- - -		X									X			GSM
							.														
							.														
							.														

COMMENTS

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/23/90

Segment ST / KN 123 Subdivision A Date (mo / day / yr) Apr 1, 90Time (24 hr) 1040 Biologist ROTH

- (A) Substrate type and % of segments:
 (1) Bedrock 30 (2) Boulder 30 (3) Cobble 20 (4) Pebble 20 (5) Sand — (6) Silt —
- (B) Overall % cover of biota (% of segment): Dense 10 Moderate 30 Low 60
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (O)
- Photographs: —
 Roll No. —
 Frames NONE

BARNACLES

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	X	X	2	2	2	2	2	2	2	
3	3	3	X	X	3	3	3	3	3	3	3	
4	4	4	X	X	4	X	4	4	4	4	4	
5	5	5	X	X	5	5	5	5	5	5	5	
6	6	6	X	X	6	6	6	6	6	6	6	

MYTILUS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	X	X	2	2	2	2	
3	3	3	3	3	3	X	X	3	X	X	3	
4	4	4	4	4	4	X	X	4	X	X	4	
5	5	5	5	5	5	X	X	5	X	X	5	
6	6	6	6	6	6	X	X	6	X	X	6	

STROPODS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	X	X	2	2	2	2	2	2	2	
3	3	3	X	X	3	X	X	3	3	3	3	
4	4	4	X	X	4	X	X	4	4	4	4	
5	5	5	X	X	5	X	X	5	5	5	5	
6	6	6	X	X	6	X	X	6	6	6	6	

FUCUS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	X	X	X	2	2	2	2	2	2	2	
3	3	X	X	X	3	3	3	3	3	3	3	
4	4	X	X	X	4	4	4	4	4	4	4	
5	5	X	X	X	5	5	5	5	5	5	5	
6	6	X	X	X	6	6	6	6	6	6	6	

Wildlife Observations/ General Comments:

2 HARBOR SEALS SEEN IN WATER EN ROUTE TO SUBDIVISION.

1 BALD EAGLE FLEW OVERHEAD.

CAN'T SEE MUCH OF THE LOWER ZONE YET, SO ONLY FUCUS ESTIMATED.

Ecological Considerations:

3 N.P. }
 3 O.Q. } SEA LION AND HARBOR SEAL MOLTING AND PUPPING.

OG Greg Chaney

SEGMENT KN123

SUBDIVISION A

DATE April 1 90

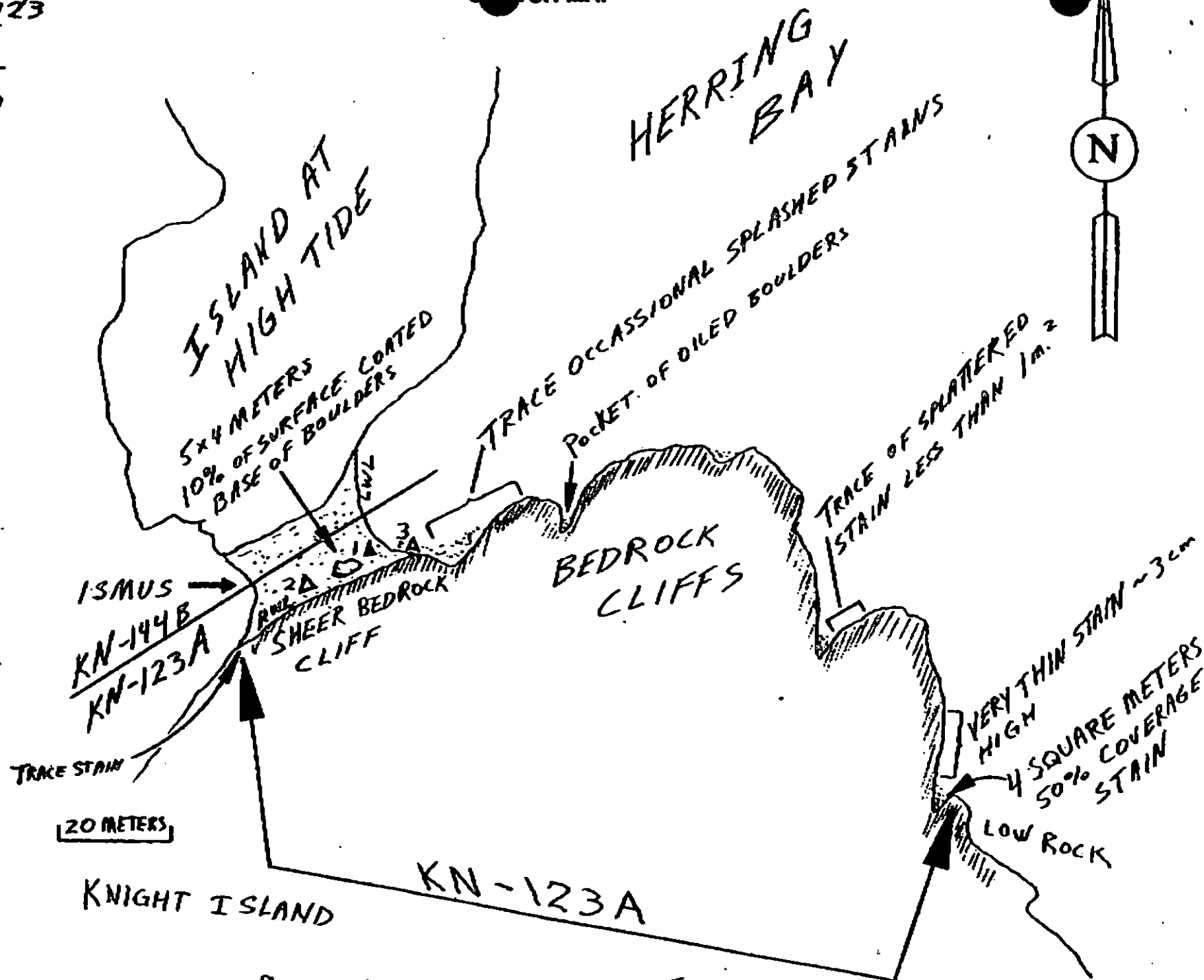
CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Ext. HML/AWL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ P/L Location(s)
- ☐ Photo Location(s)

LEGEND

- 1 Δ
P/L - No Subsurface Oil
- 2 Δ
P/L - Subsurface Oil
- CT/C
Continuous Distribution
- CT/B
Broken Distribution
- CT/P
Patchy Distribution
- CT/S
Splashed Distribution
- Oiled Vegetation
- Photo location, direction, and number

SKETCH MAP



Oil Character Length (m): AP — PO — CV — CT 9 ST 45 MS — PT — TB — FL 5 NO 30/

REVISION: 02/01/90

KN-123

KN



XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-123A

ADEC Segment Length: 1837m

EXON Segment Length: 1467



Map Key: PWS-305

Name: Greg Chaney

Date: April 1 1996

Date Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-123 SUBDIVISION B (2 OF 2) DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)
3O,3Q Harbor seal and sea lion molting (8/15 to 9/15)

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid unnecessary disturbance/damage to unoiled biota and substrate.
See attached Ecological Constraint Sheet.

SHPO SIGNATURE: Charles H. Shaw

DATE: April 14, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 257 m: Narrow 220 m: V.Light 370 m: No Oil 205 m
Subsurface Oil Observed: Yes X No Maximum Depth 20 cm

RECOMMENDATIONS:

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

COMMENTS: Recommend spot washing followed by bioremediation of cobble beach areas as shown on attached sketch map. Conduct treatment before 5/15 and/or between 7/1 and 8/15 unless otherwise approved by ADF&G.

TAG COMMENTS:

MONITORS TO CHECK FOR OILED DEBRIS IN SUIT 2

TAG APPROVAL DATE: 4/14/90

ADEC [Signature]

EXXON [Signature]

NOAA [Signature]

USCG [Signature]

FOSC: [Signature]

DATE: 4-20-90

PWS ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ 123 B SUBDIVISION: B DATE 4/1/90USCG
NAME Patrick Malay SIGNATURE Patrick Malay☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

Suggest bioremediation at cobble beach in the middle of the segment where pits 2 & 3 were dug. I'm not sure what would get the tar that is covering the U.I. zone in the northern portion of the segment but whatever method is used it should be low impact due to the abundance of life in that area.

ADEC
NAME M. Cunningham SIGNATURE M. Cunningham☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

Manual (low impact) techniques used to remove existing soft tars found under ledges + in cracks which are highly visible due to spruce needle blankets which identify them. Perhaps a long handled brush & 5 gal bucket w/dilute solvent would work.
Bioremediate in areas nr Pits 2+3... caution rich biota.

LAND MANAGER
NAME Steven Phillips SIGNATURE Steven Phillips☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

Check all storm berms for debris.

Tars soft enough to collect needles ^{are} collectable especially when over 2mm thick.

Need technology for removing harder vertical coats - some flakes.
Pocket beaches with brown oil forming in pits would be difficult to clean without damaging Lower Intertidal biota.

SHORELINE OILING SUMMARY

REVISION NO. 02/25/90

Greg Chaney USCG Patrick Malloy SEGMENT ST/ 123
 Jim Roth LAND REP Steve Phillips SUBDIVISION B
 EAXON Ray Settle ADEC Mike Cunningham TIME 11:20 to 14:00
 TEAM NO.: 7 TIDE LEVEL: 1 ft. to 0 ft. DATE April 1 / 1990
 EST. SUBDIVISION LENGTH: 1407 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock Snow
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: South to North
 SURFACE SEDIMENTS: R 70 % B 20 % C 5 % P - % G - % S - % M 5 % V - %
 SLOPE: Long 10 % Hang 25 % Vert 65 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W - m M 190 m N 380 m VL 557 m NO 340 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	IC	IS	IP	IR	SP	BP	OP	BP	TP	BP	TP	BP	SU	UI	M	U
ASPHALT PAVEMENT																
POOLED																
COVER	X					X							X			
COAT	X	✓				X							X	X		
STAIN		X	✓			X							X	X		
MOUSSE																
PATTIES																
TARBALLS																
FILM		X				X		X								X
NO OIL																X

PAVEMENT: H F 8 - sq. m by - cm

PATTIES / TARBALLS - BAGS

NEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris	X		

DEBRIS COLLECTED
☒ YES ☐ NOTYPE Blue banding#BAGS less than 1 bc

Photographs:

Roll No. ST-7-1Frames 19, 20, 21

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	SP BR	OR RY	OT BL	OR TL	LR	SU	U	M	U					
1	20					X	- - -		X								X						GM
2	20				X		5 - 20		-			X							X				GM
3	20		X				0.5 - 10		X				X				X			X			PGM
					X		0 - 10		X								X			X			PGM
4	20					X	- - -		X								X						PGS

COMMENTS

MOBILE OIL STILL PRESENT NEAR PITS #2 & 3.
 MOBILE OIL ALSO PRESENT IN SMALL ROCK BASIN
 JUST NORTH OF THESE PITS. (SEE SKETCH MAP;
 LOOK FOR FAT ARROW.) TAR BANDS FORM COVER OVER
 2mm THICK IN NORTHERN PORTION OF SEGMENT.

Change due to data base limit 5, H 4-4-90

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/23/90

Segment ST/KN123 Subdivision B Date (mo / day / yr) APR 1, 90
 (24 hr) ARR 1110 Biologist ROTH
LV 1355

- (A) Substrate type and % of segments:
 (1) Bedrock 70 (2) Boulder 15 (3) Cobble 10 (4) Pebble 5 (5) Sand — (6) Silt —
- (B) Overall % cover of biota (% of segment): Dense 40 Moderate 40 Low 20
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (O)

Photographs: ST-7.1
 Roll No. ST-7.1
 Frames 19-21

BARNACLES

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

MYTILUS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

GASTROPODS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

FUCUS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

Wildlife Observations/ General Comments:

EXTENSIVE, DENSE MUSSEL BEDS ON 2 SMALL "RIFFLES" IN STREAM DRAINING
 BRACKISH POOL (RIFFLE SUBSTRATE: PEBBLE) NEAR CENTER OF SUBSECTION

Ecological Considerations:

? N, P, O, Q. HARBOR SEAL AND SEA LION MOLTING AND PUPPING

HERRING BAY



CH MAP

NORTHEGE
SEGMENT

OIL COAT ON BEDROCK
UP TO 2 METERS HIGH.
OVER 2mm THICK
WITH HEMLOCK NEEDLES
~30 METERS LONG
TOTAL

ONE METER BAND
TAR ON HIGH OUTER
ROCKS

SNOW

TREES

LOW ROCK

SPORATIC
BAND UP TO
80 CM HIGH

BAND 30cm HIGH

BLACK LICHEN IN VICINITY.
SMALL ROCK BASIN WITH UP
TO 1 METER WIDE 12 METERS
LONG. BROWN OIL FLOATS
WHEN SEDIMENT
DISTURBED

LOW CHANNEL
ICE ON POND

Low Rock

TAR COAT ON BEDROCK
AND COBBLES. ~35m.
THICKEST IN CRACKS

DISCONTINUOUS
BAND TAR COAT
UP TO 20 CM.

RANDOM SPLATTERS

CONTINUOUS TAR
COAT ON CLIFF
60cm. HIGH

100 METERS

SOUTH EDGE
SEGMENT

BEDROCK CLIFF

LEGEND

1 A

PH - No Subsurface Oil

2 A

PH - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splattered Distribution

Oil Vegetation

Oil Vegetation

Oil Vegetation

Oil Vegetation

Oil Vegetation

Oil Vegetation

Oil Vegetation

Oil Vegetation

Oil Vegetation

Oil Vegetation

Oil Vegetation

Oil Vegetation

HERRING BAY

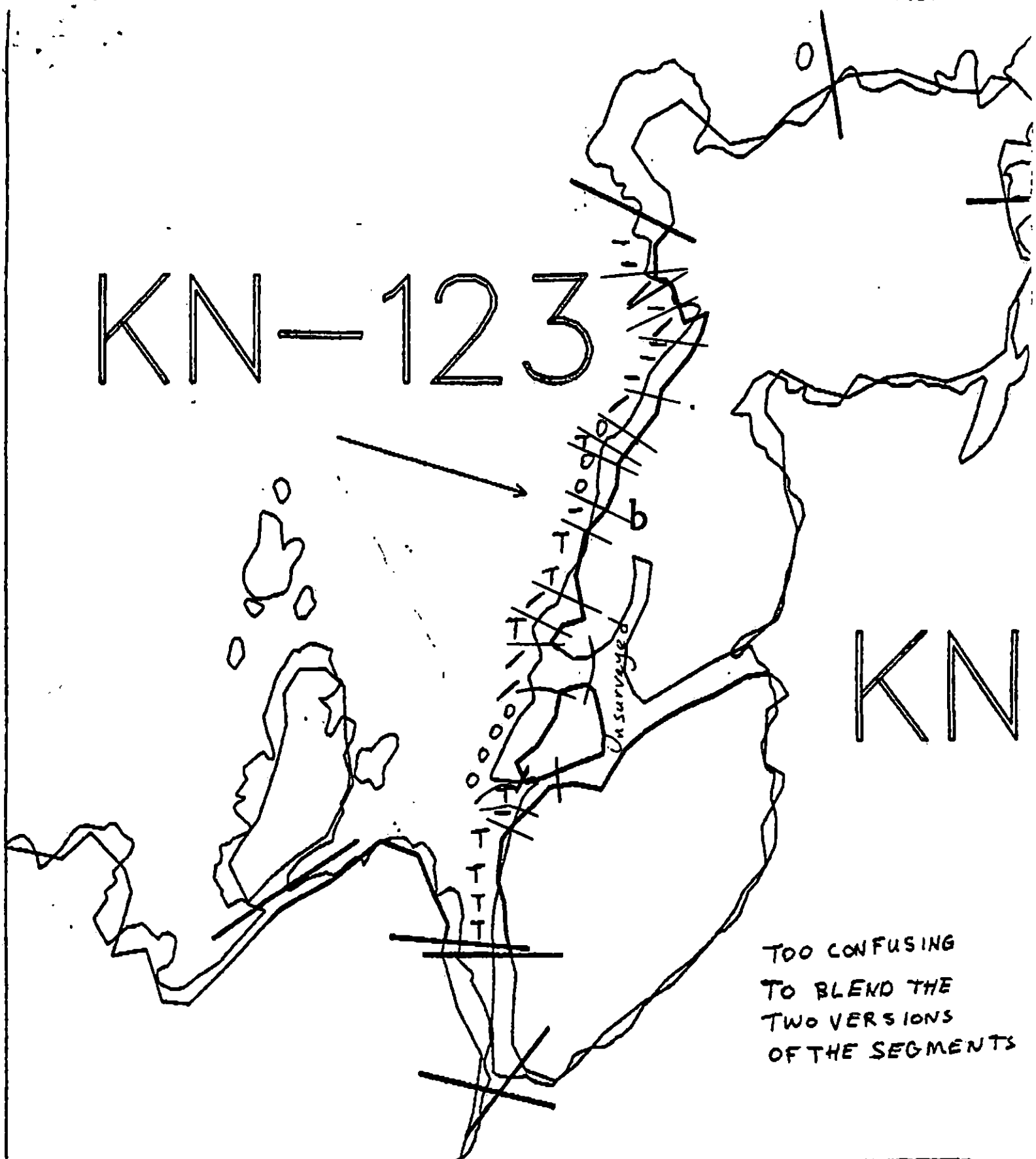
Oil Character Length (m): AP — PO — CV 50 CT 380 ST 557 MS — PT — TB — FL 20 NO 340

OG: Greg Chaney
SEGMENT: N123
SUBDIVISION: B
DATE: APRIL 1 / 90

CHECKLIST

- N Arrow
- Approx. Scale
- Spot/Sub Basin
- Oil Det.
- Width
- Length
- % Cover
- Substrate Character
- Est. NW/NE/SE
- SSL
- Profile Location(s)
- Profile(s)
- PH Location(s)
- Photo Location(s)

KN-123



KN

TOO CONFUSING
TO BLEND THE
TWO VERSIONS
OF THE SEGMENTS

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-123b

ADEC Segment Length: 1837m
Exxon Segment Length: 1467



Map Key: PWS-305

Name: Greg Chaney

Date: April 1 1990

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-123 SUBDIVISION B (2 of 2)

WORK WINDOW	
Bioremediation Spot Washing	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

3N,O,P,Q

Harbor Sea & Sea Lion
Pupping and Molting

NO TIME CONSTRAINT. Authorized per
memorandum dated 5/14/90 from Kathryn
Frost/ADF&G to Mark Kuwada/ADF&G

OTHER ECOLOGICAL CONSIDERATIONS

Do not apply bioremediation to specific areas where seals are observed to haulout. Do not chase or harass seals or sea lions, and do not approach pups under any circumstances. When working on or near haulouts, complete the job as quickly as possible with minimum personnel, equipment, noise and disturbance. Keep boats and personnel as far from actual haulouts as is practical to do the work specified. Minimize air traffic near haulouts, maintain elevation as is practical, and avoid repeated overflights of the same haulout areas. Avoid any unnecessary disturbance or damage to unrolled blots and substrate.

TAG APPROVAL DATE

ADEC Andi Weiler

EXXON Andi Weiler

NOAA B. Webster

USCG G.A. REITER

FOSC [Signature]

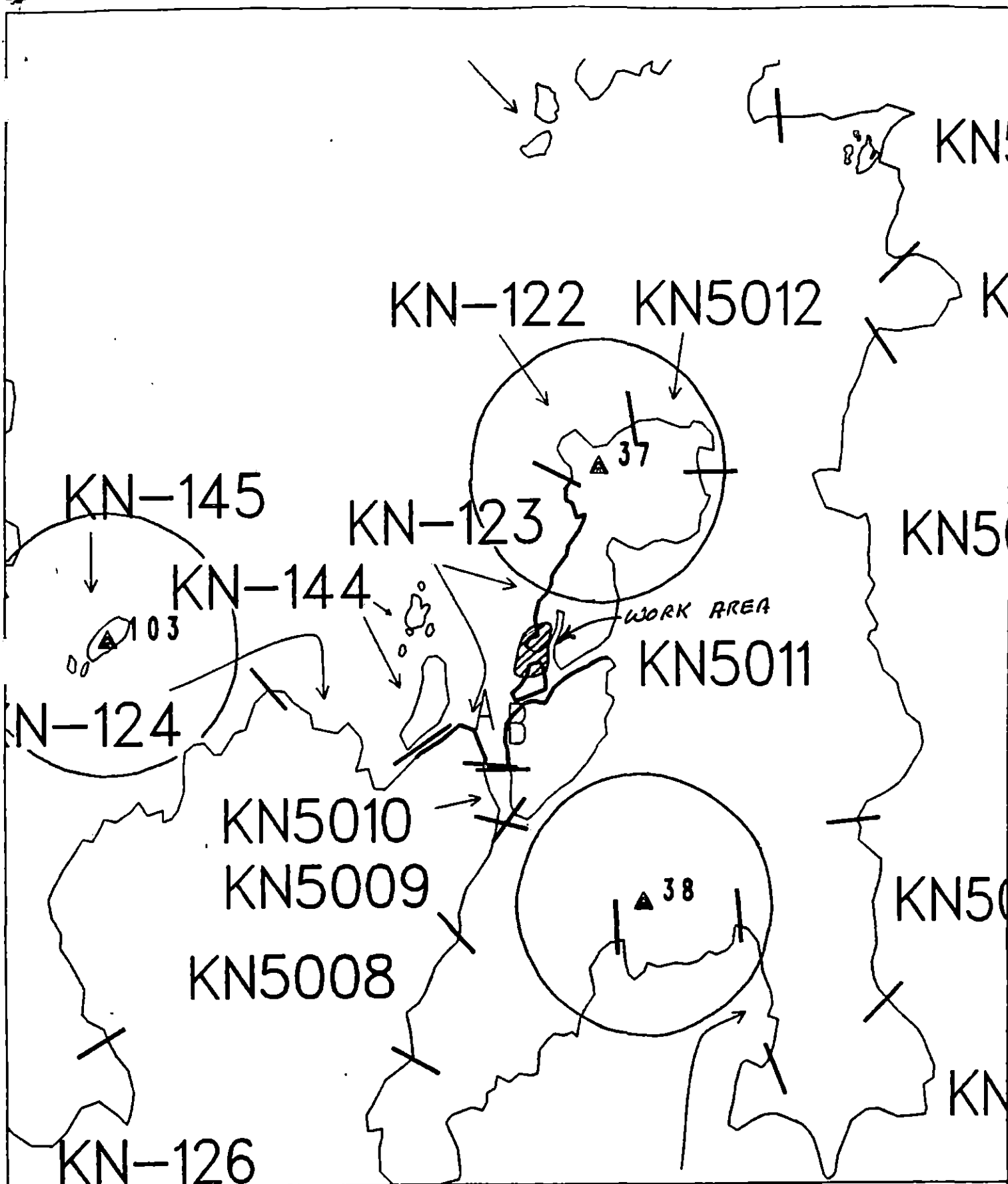
DATE

MAY 29 1990

Prepared By: Andi Meyer

Date

5/24/90



Exxon Company, USA

Map Keys KNI-KN-123

May 11, 1990



ECOLOGY MAP
SEGMENT KN-123
SUBDIVISION B (2 of 2)

METERS

0 399 798



Seabird Colony



Eagle Nest

1 inch = 1309 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-124 SUBDIVISION A (1 OF 1) DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Recreation anchorages (6V) - 6/1 to 9/15.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Avoid disturbance/damage to unoiled substrate and biota.

SHPO SIGNATURE: Mark Hohme DATE: April 14, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 638 m: V. Light 113 m: No Oil 0 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: Bioremediate area of surface oil shown on attached sketch map. No constraints.

TAG COMMENTS: MONITORS TO ASSESS THE NEED FOR TAR PATCH Removal
PRIOR TO BIOREMEDIATION

TAG APPROVAL DATE: 4/14/90

ADEC JOHN BAUER
EXXON ANDY TAYLOR
NOAA Burt Warrick
USCG G.A. REITER

FOSC: W L

DATE: 4-20-90

FIELD SHORELINE COMMENT SHEET

SEGMENT ST 1 KN 124 SUBDIVISION: Near DATE 4-1-90

USCG

NAME D. E. WHITE SIGNATURE D. E. White☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Recommend manual removal coasts and covers, also beaches
that have buried oiled sediments also manual removal

ADEC

NAME Dianne Munson SIGNATURE Dianne Munson☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Patchy coasts and sporadic covers on surface.
Small amount of silver sheen in subsurface
interstitial water. Buried oiled sediments
from 2-5 cm; Recommend manual removal
coasts and covers. Bioremediate pocket
beaches that have buried oiled sediments.

LAND MANAGER

NAME David Mandrella SIGNATURE David M. Mandrella☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Narrow band of broken coasts along most of segment. Both
boulder and pebble beach covers w/ silver sheens in pools of
ter. Recommend low impact (manual) removal of coating
on bedrock and underside of boulders.

SHORELINE OILING SUMMARY

REVISION NO. 03/23/90

OG Sawyer USCG White SEGMENT ST/ 124
Benson LAND REP Mandrella SUBDIVISION NONE A (1 of 1)
ON Katsimpealis ADEC Muhson TIME 15:15 to 16:20
 TEAM NO.: 8 TIDE LEVEL: +3 to +6 DATE Apr 1 / 1 / 1990
 EST. SUBDIVISION LENGTH: 995 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: W to E
 SURFACE SEDIMENTS: R 60 % B 20 % C 10 % P 10 % G — % S — % M — % V — %
 SLOPE: Long 20 % Hang 10 % Vert 70 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W — m M — m N 855 m VL 140 m NO — m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	IC	IB	IP	IS	SP	BP	CP	GP	HP	TP	LP	UP	SU	UT	ME	LI
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT																
STAIN																
MOUSSE																
PATTIES																
TARBALLS																
FILM																
NO OIL																

PAVEMENT: H F S — sq. m by — cmPATTIES / TARBALLS 2 BAGSNEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NOTYPE —#BAGS —

Photographs:

Roll No. —Frames NONE

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW	OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO			UO	UG	SP OR	BP OR	CP OR	GP OR	HP OR	TP OR	LP OR	SU	UI	ME		
1	25					/	- - -		/	/	/	/	/	/	/			/		N	G, P	
2	35					/	- - -		/								/			N	P, G	
3	30			/			2 - 5		/		/					/				N	G, M	
							.															
							.															
							.															

COMMENTS ST/KN124: Rocky coastline with a few, small, low angle beaches.

Strong H₂S smell in lower part of pit 3.

Oiled interval of 2-5 cm in pit 3 does not constitute subsurface oil.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 06/22/90

Segment ST / KN 124 Subdivision None Date (mo / day / yr) 4/1/90ne (24 hr) 1345-1500 Biologist J. Benson

- (A) Substrate type and % of segments:
 (1) Bedrock 60 (2) Boulder 20 (3) Cobble 10 (4) Pebble 10 (5) Sand 0 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense 10 Moderate 30 Low 60
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs:

Roll No. no photos

Frames _____

BARNACLES

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

MYTILUS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

GASTROPODS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

FUCUS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

Wildlife Observations/ General Comments:

Bald Eagle (*Haliaeetus leucocephalus*)

tracks in snow leading down to cobbly/poulder beach (deer)

This segment is dominated by bedrock, which in many locations forms

Ecological Considerations:

Sensitivities: none

vertical walls. These walls face north and northwest, receive little direct sunlight and therefore limit algal population ^{size}. Also, the density of *Mytilus* was lower than in other areas seen so far, with similar substrate that I've seen so far.

00 Sawy
SEGMENT ST/ KN124

SUBDIVISION _____

DATE Apr 1 90

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HWA/VL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ PI Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ

PI - No Subsurface Oil

2 Δ

PI - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splashed Distribution

Oil Vegetation

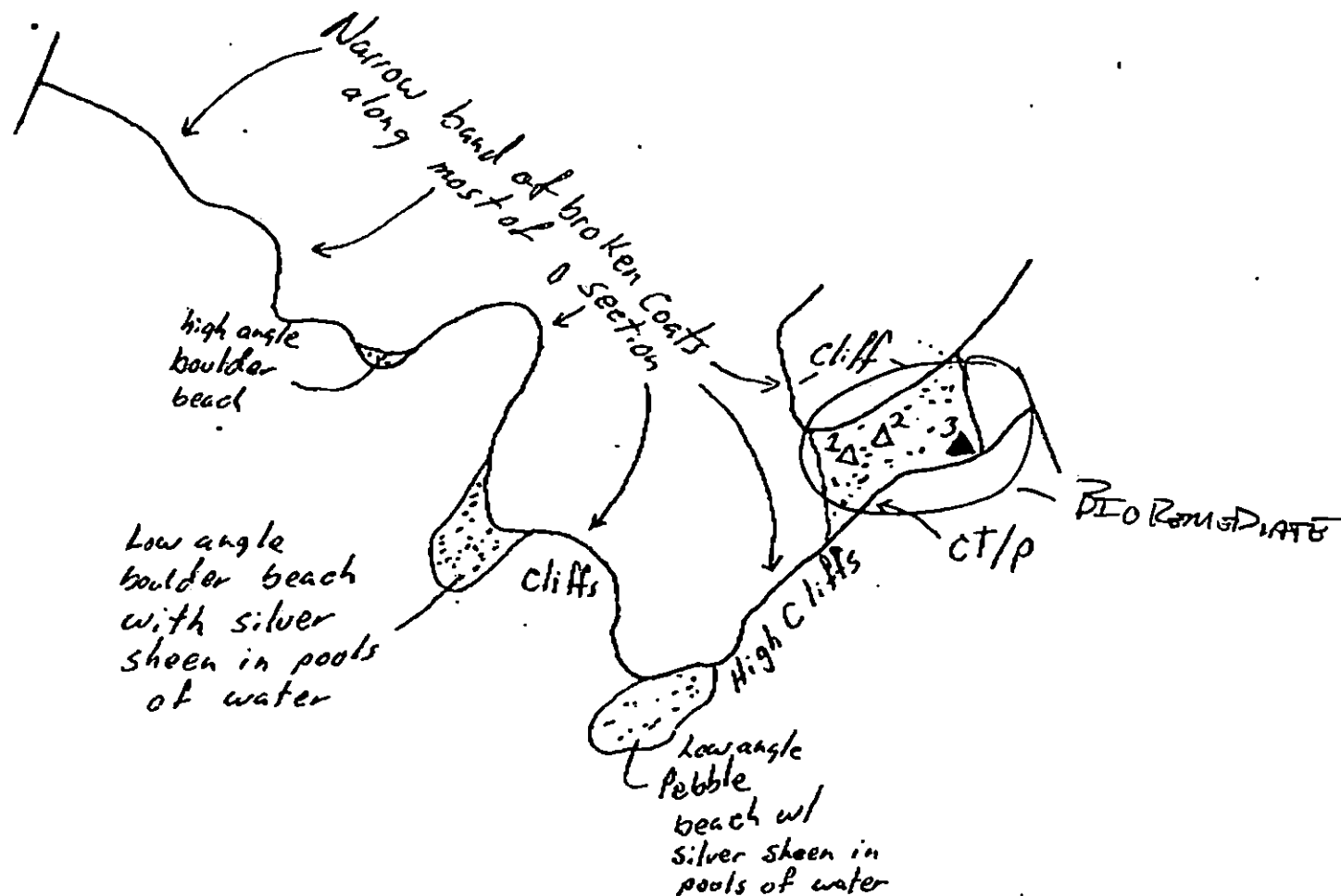
1 →

Photo location, direction,
and number

SK H MAP



~ 75m



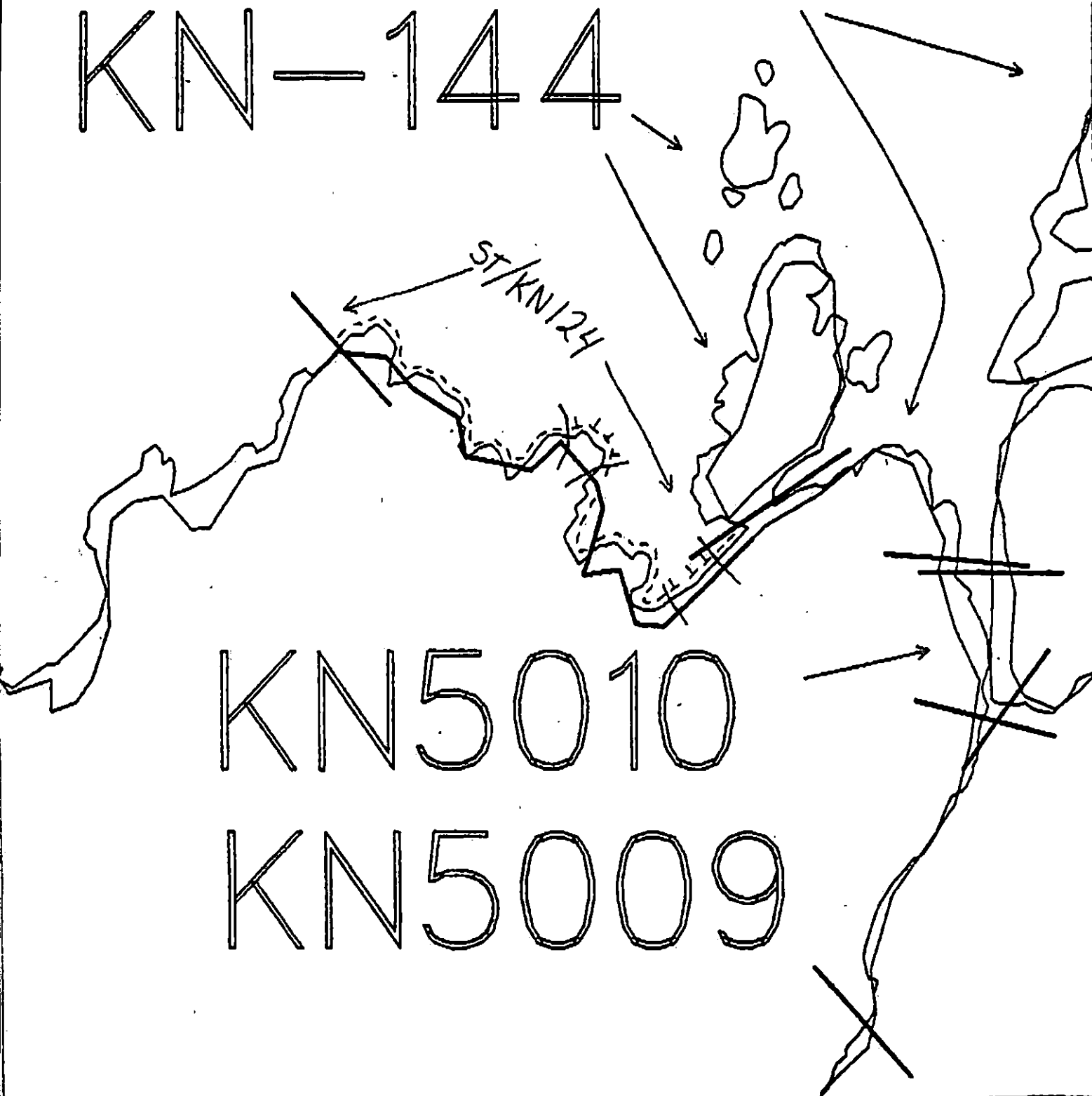
245 YH 4-7

Oil Character Length (m): AP _____ PO _____ CV _____ CT 750 ST 200 MS _____ PT _____ TB _____ FL _____ NO _____

REVISION: 2000

KN-123

KN-144



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

KN-124

ADEC Segment Length: 751m



Map Key: PWS-306

Name: Sawyer

Date: Apr 1, 1990

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-125 SUBDIVISION A (1 OF 1) DATE 4/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)

3O,3Q Harbor seal and sea lion molting (8/15 to 9/15)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

SHPO SIGNATURE: Charles E. Johnson DATE: 5/3/90

OILING CATEGORIZATION:

Wide 0 m: Medium 73 m: Narrow 182 m: V.Light 1282 m: No Oil 159 m
Subsurface Oil Observed: Yes X No Maximum Depth 20 cm

RECOMMENDATIONS:

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

COMMENTS: Bioremediate areas where subsurface oil found as shown on sketch map. Work should be conducted prior to 5/15 or between 7/2 and 7/31 based on pinniped constraints.

TAG COMMENTS: MANUAL PICK UP OF DEBRIS, MANUAL RAKING IN AREA OF PT 7 PRIOR TO BIO.

TAG APPROVAL DATE: 5/3/90

ADEC ART WEINER Art Weiner

EXXON ANDY TEAL Andy Teal

NOAA GARY PETERSON Gary Peterson

USCG KENNETH KEANE Kenneth Keane

FOSC: WJL DATE: 5-8-90

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.
AGENCY CONTACT PERSON: ADF&G John Morison 267-2324
- 1C Salmon fry nursery area (4/31 to 7/31)
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.
AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1D Esther Hatchery release (4/15 to 6/1)
1E Main Bay Hatchery release (4/20 to 6/10)
1F Sawmill Bay Hatchery release (4/15 to 6/1)
1G Cannery Creek Hatchery release (4/21 to 6/1)
1H Remote release site
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.
AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214
1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511
- 1I Gill net area (6/7 to 8/31)
1J Purse seine area (7/20 to 9/30)
1K Purse seine hook-off (7/20 to 9/30)
1L Set net sites (8/11 to 7/25)
Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
AGENCY CONTACT PERSON: ADF&G James Brady 424-3212
- 2M Herring spawning (4/1 to 6/15)
Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to unopened intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
- 30 Harbor seal and sea lion pupping (5/15 to 7/1)
Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
ADF&G Don Calkins 267-2403
- 5R Seabird colony (5/1 to 9/1)
Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
ADF&G Tom Rothy 267-2206
- 5T All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 6U Recreation: Tent sites (5/1 to 9/15)
6V Anchorages (5/1 to 9/15)
6W Forest Service cabins (5/1 to 9/15)
6X Lodge (5/1 to 9/15)
6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
7H1 Finfish harvesting
7H2 Deer harvesting (5/15 to 2/28)
7H3 Invertebrate harvesting
Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.
AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN-125 SUBDIVISION: A DATE April 21, 1990

USCG

NAME

Patrick Malay

SIGNATURE

Patrick Malay

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

This segment has a consistent splashed stain & coat on the boulders and bedrock that produces a band when viewed from a distance. The northern half of the segment includes several pocket beaches where most of the pits dug contained subsurface residual oil at shallow depths. The pocket beaches on the northern half would be good candidates for bioremediation. The beach in the vicinity of pit 6 contains oil covered grass in a 100 m² area. Several scattered tarballs and one patty were collected.

ADEC

NAME

M. Cunningham

SIGNATURE

M. Cunningham

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

- ① Hand till & bio sites *4+5; Bag up and hand till site 6 (remove oiled vegetation), aerate sediments + bio.
- ② Flip over boulders to expose to bio @ sites 7
- ③ Bio along boulder headlands when topography permits
- ④ S 1/2 segment from "low rock" island (on map) southward is OK as is... little stain & coat in evidence.

LAND MANAGER

NAME

Steven Phillips

SIGNATURE

Steven Phillips

☐ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS

Debris picked up as seen, some snow at supertidal left so scout again.

Tar bands were mostly on vertical bedrock and boulders. ^{very} visible but not very treatable due to rough surface and steep to "hang" slopes.

Bioremediate pocket beaches on north half of segment. Oil is shallow so some rock turning or moderate disturbance would aid in treatment.

SHORELINE OILING SUMMARY

REVISION NO. 04/13/88

OG Greg Chaney USCG Pat Malay SEGMENT ST/ KN-125
 BIO Jim Roth LAND REP DNR Steve Phillips SUBDIVISION A (1 OF 1)
 EXXON Key Setelo ADEC Mike Cunningham TIME 19:30 to 18:15
 TEAM NO. 7 TIDE LEVEL 5.0 to 1.0 ft DATE April 21 / 90
 EST. SUBDIVISION LENGTH: 1955 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock SNOW
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: North to South
 SURFACE SEDIMENTS: R 45 % B 30 % C 15 % P 5 % G 5 % S 0 % M 0 % V 0 %
 SLOPE: Long 20 % Hang 60 % Vert 20 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 100 m N 155 m VL 1505 m NO 195 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES				
	C	R	P	S	1	2	3	4	5	SU	U	M	V	U
ASPHALT PAVEMENT														
POOLED														
COVER														
COAT	X	X	X	X	X	X	X	X	X	X	X	X	X	X
STAIN														
MOUSSE														
PATTIES														
TARBALLS														
FILM														
NO OIL														

PAVEMENT H F S 0 sq. m by 0 cmPATTIES / TARBALLS collected 0 BAGSNEAR SHORE SHEEN? NO BR (RW) (SL) TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs	X		
Vegetation			
Trash	X		
Debris	X		

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐
 TYPE tire, pom po
fish hook
 #BAGS 3

Photographs:

Roll No. NONEFrames NONE

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SHEEN (Y/N)	↓	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UG	UC	1	2	3	4	5	SU	U	M	V				
1	20		X				0-10		X	X					X					N	0	B-CPM
2	40					X	.								X					N	30	P-PGM
3	50					X	.								X					N	0	P-PG
4	25		X				0-20		X					X						Y	15	BP-PG
5	25		X				15-20		X					X						N	0	BP-GB
6	30		X				0-15		X					X						Y	15	BY-1GMB

COMMENTS

See Attached

 REVIEWED 7W DATE 4/23/90

SHORELINE OILING SUMMARY (PAGE 2)

REVISION 06-13-88

SEGMENT ST/ KN 125 SUBDIVISION A (1 OF 1)

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-GM)	BELOW		OIL / FILM COLOR							PIT ZONE				A N A	SCREEN (Y/N)	↓	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	10	20	30	40	50	60	70	SU	U	M	U				
7	25	X			✓		0-10		X	X	✓							X				Y	20	B-BM
8	25					X	.											X				N	15	C-BGM
9	40					X	.													X		N	35	P-VGM
							.																	
							.																	
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							.																	

COMMENTS

REVIEWED 7W DATE 4/23/90

SHORELINE ECOLOGICAL SUMMARY

REVISION: 08/22/90

Segment ST / KN-125 Subdivision A Date (mo / day / yr) APR 21, '90
 Time (24 hr) 1440 - 1815 Biologist RETU

- (A) Substrate type and % of segments:
 (1) Bedrock 45 (2) Boulder 30 (3) Cobble 15 (4) Pebble 5 (5) Sand 5 (6) Silt _____
- (B) Overall % cover of biota (% of segment): Dense 20 Moderate 50 Low 30
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (O)

Photographs: _____
 Roll No. _____
 Frames _____

BARNACLES

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	X	2	X	2	X	2	2	2	
3	3	3	3	X	3	X	3	X	3	3	3	
4	4	4	4	4	4	X	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

MYTILUS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	X	2	X	2	2	2	2	X	
3	3	3	3	X	3	X	3	3	3	3	X	
4	4	4	4	4	4	X	4	4	4	4	X	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

GASTROPODS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	X	2	X	2	2	2	2	2	
3	3	3	3	X	3	X	3	3	3	3	3	
4	4	4	4	X	4	X	4	4	4	4	X	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

FUCUS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	X	2	X	2	2	2	2	2	
3	3	3	3	X	3	X	3	3	3	3	3	
4	4	4	4	4	4	X	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

Wildlife Observations/ General Comments: 1 SEA OTTER SEEN ON RETURN TRIP TO SHIP.
 A SHELTERED SITE WITH LIMITED DIVERSITY, DENSE TO MODERATE OVERALL COVER OF BIOTA, AND EVIDENCE OF RECENT SETTLEMENT OF BARNACLES, MYTILUS, AND FUCUS.

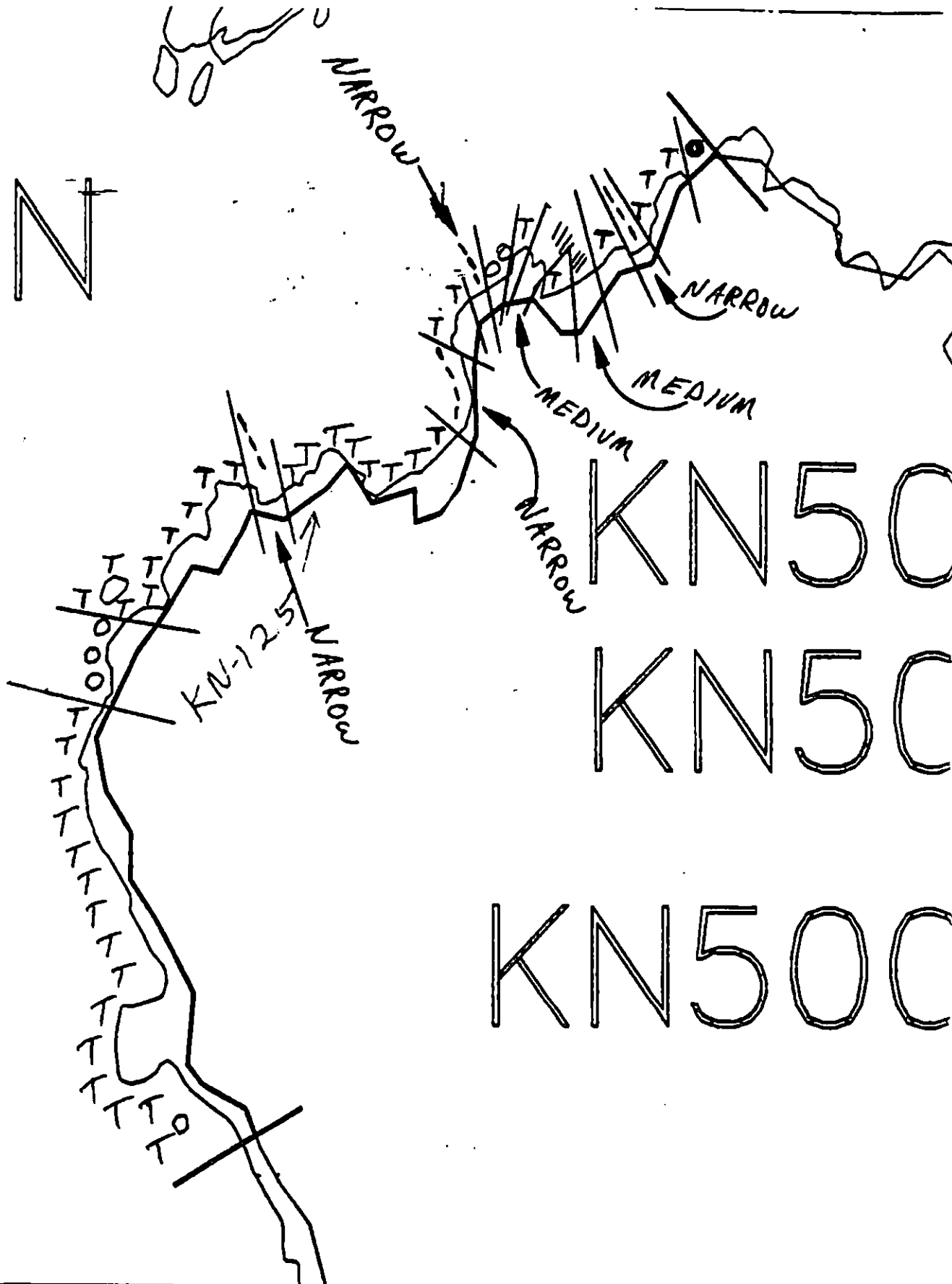
Ecological Considerations:
 NONE LISTED

COMMENTS
SEGMENT 8T-KN-125A

Greg Chaney
April 21 1990

The northern portion of Segment 8T-KN-125A was surveyed during sunny weather. High clouds moved in while surveying the southern half of the segment. The beach sediments were primarily dry and the vast majority of the segment was surveyed on foot. Splashed tar coats were common throughout the segment. The thickest tar was retained behind large boulders and in bedrock cracks. A thin film of black mobile oil was present under several boulders. Silver and rainbow sheens were observed in a few small tidal pools along the segment. A few small friable black tar balls were collected. A mousse patty roughly 40x20 cm. was collected near the northern border of the segment. This mousse patty had the appearance fresh brown frosting and looked as if it had landed recently. Three oiled pompoms were collected as well as an old tire. Buried oil was present in the MITZ of some small pocket beaches. At the base of the boulders around pit #6, a mud and peat layer retained oil to a depth of 15 cm.

KN



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-125

ADEC Segment Length: 1694m

EXXON SEGMENT LENGTH: 1955m



Map Key: PWS-307

Name: Greg Chaney

Date: April 21 1990

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-125 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup	OPEN
Manual Raking Bioremediation	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

3N,O,P,Q

Harbor Seal & Sea Lion
Pupping and Mating

NO TIME CONSTRAINT. Authorized per memorandum dated 5/14/90 from Kathryn Frost/ADF&G to Mark Kuwada/ADF&G.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat traffic and general disturbance to minimum. Do not apply bioremediation to specific areas where seals are observed to haulout. Do not chase or harass seals or sea lions, and do not approach pups under any circumstances. When working on or near haulouts, complete the job as quickly as possible with minimum personnel, equipment, noise and disturbance. Keep boats and personnel as far from actual haulouts as is practical to do the work specified. Minimize air traffic near haulouts, maintain elevation as is practical, and avoid repeated overflights of the same haulout areas. Avoid any unnecessary disturbance or damage to unrolled biota and substrate.

TAG APPROVAL DATE 5/30/90

ADEC ART WEAVER Art Weaver

EXXON Arny Talar Arny Talar

NOAA G.A. Foster G.A. Foster

USCG G.H. Foster G.H. Foster

FOSC

DATE

5/30/90

Prepared By: Arden Meyer WIK

Date

5/29/90

USFWS Bald Eagle Impact Assessment Survey
by Mike Lockhart, USFWS on 5/27/90

NO BOAT, BEACH, AIRCRAFT
ACCESS

ACTIVE NEST
KN-MS-1
Hatched Young

N-301

KN-12

KN-145

KN-123

KN-144

103

KN-133

KN-124

WORK
AREAS

KN-125

KN5010

KN5009

KN5008



Exxon Company, USA

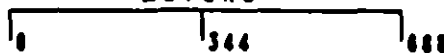
Map Keys KN1-KN-145

May 11, 1990



ECOLOGY MAP
SEGMENT KN-1
SUBDIVISION A (L of L)

METERS



Seabird Colony



Eagle Nest

1 inch = 1128 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-126 SUBDIVISION A (1 OF 1) DATE 4/22/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
No specific constraints identified.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

SHPO SIGNATURE: Charles E. Hoffman DATE: 5/3/90

OILING CATEGORIZATION:

Wide 0 m: Medium 83 m: Narrow 147 m: V.Light 503 m: No Oil 513 m
Subsurface Oil Observed: Yes X No Maximum Depth 40+ cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) spot washing in conjunction
with absorbents in area shown on sketch map and 2) rake and bioremedi-
ate area of subsurface oil also shown on map. No time constraints
identified.

TAG COMMENTS: Monitors to Assess SUIZ

TAG APPROVAL DATE: 5/3/90
ADEC ART WENNER Dist. Officer
EXXON ANDY TETZ
NOAA GARY PETROS
USCG KENNETH KEANE

FOSC: [Signature] DATE: 5-8-90

PWS, SEWARD, STEWART AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
 1B Salmon stream mouth - spawning (7/10 to 8/31)
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.
 AGENCY CONTACT PERSON: ADF&G John Morison 267-2324
- 1C Salmon fry nursery area (4/31 to 7/31)
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.
 AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1D Esther Hatchery release (4/15 to 6/1)
 1E Main Bay Hatchery release (4/20 to 6/10)
 1F Sawmill Bay Hatchery release (4/15 to 6/1)
 1G Cannery Creek Hatchery release (4/21 to 6/1)
 1H Remote release site
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.
 AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214
 1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511
- 1I Gill net area (8/7 to 8/31)
 1J Purse seine area (7/20 to 9/30)
 1K Purse seine hook-off (7/20 to 9/30)
 1L Set net sites (8/11 to 7/25)
 Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
 AGENCY CONTACT PERSON: ADF&G James Brady 424-3212
- 2M Herring spawning (4/1 to 6/15)
 Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
 AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
- 30, 3Q Harbor seal and sea lion pupping (5/15 to 7/1)
 Harbor seal and sea lion molting (8/15 to 9/15)
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
 AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
 ADF&G Don Calkins 267-2403
- 5R Seabird colony (5/1 to 9/1)
 Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
 Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
 ADF&G Tom Roth 267-2206
- 5T All Bald Eagle nests (3/1 to 6/1)
 Active Bald Eagle nests (3/1 to 9/1)
 Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 6U Recreation: Tent sites (5/1 to 9/15)
 6V Anchorages (5/1 to 9/15)
 6W Forest Service cabins (5/1 to 9/15)
 6X Lodge (5/1 to 9/15)
 6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
 7H Finfish harvesting
 7I Deer harvesting (8/15 to 2/25)
 J Invertebrate harvesting
 Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.
 AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ KN126 SUBDIVISION: A of 1 DATE 4-22-90

USCG

NAME Patrick Malay SIGNATURE Patrick Malay

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS The predominant oil in this segment was concentrated in the cove in the vicinity of pits 4 & 5. The steep sloping bedrock & boulder shore on the eastern side of the cove had a heavy cover that may need spot washing. The eastern side of the cove may be too steep for bioremediation, however it would work well in the lower sloping portions of the cove. This beach may be a bleeder later this summer.

ADEC

NAME M. Cunningham SIGNATURE M. Cunningham

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

- ① Spot wash boulder & bedrock headlands in pit #4. (lamda)
- ② Hand till gravel portions of beach btwn #4 + 5 then biorem. Flip over larger boulders on remaining portions of beach and biorem.
- ③ Check for debris (most retained) under remaining snow packs
- ④ Leave remainder of segment to weather naturally.

LAND MANAGER

NAME Steven Phillips SIGNATURE Steven Phillips

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Most of the storm berm was melted, a lot of debris was already collected. Tarbands on high angle and vertical rock/boulders was very easy to scrape near pit #4. This should be scraped and the remaining soft (brown) oil hit with high pressure cold water to dislodge oil tar/needle mix. Beach around Pit #5 has shallow, brown oil globs. This should be disturbed then bioremediated. Absorbant boom may be needed to contain sheening. This oil readily spread to a rainbow color

SHORELINE OILING SUMMARY

REVISION NO. 04-12-90

OG Greg Chaney USCG Pat Malloy SEGMENT ST/ KN-126
 BIO Dirk Roth LAND REP DNR Steve Phillips SUBDIVISION A (LOFT)
 EXXON Ray Satelo ADEC Mike Cunningham TIME 15:30 12:40
 TEAM NO. 7 TIDE LEVEL 5.0 to 10.5 ft DATE April 22, 1990
 EST. SUBDIVISION LENGTH: 1422 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☐ Forest ☐ Rock Snow
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: East to West
 SURFACE SEDIMENTS: R 50 % B 25 % C 15 % P 5 % G 5 % S 0 % M 0 % V 0 %
 SLOPE: Lang 30 % Hang 30 % Vert 40 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 70 m N 142 m VL 740 m NO 470 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	C	N	P	R	1	2	3	4	5	SU	U	M	L
ASPHALT PAVEMENT													
POOLED													
COVER				X		X						X	
COAT	X	X	X	X		X						X	
STAIN				X		X						X	
MOUSSE													
PATTIES													
TARBALLS													
FILM	X				X	X						X	
NO OIL													X

PAVEMENT H F S 0 sq. m by 0 cmPATTIES / TARBALLS collected 0 BAGSNEAR SHORE SHEEN? NO SR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs	X		
Vegetation			
Trash			
Debris	X		

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐TYPE Yellow rope
plumpoms
#BAGS 2

Photographs:

Roll No. ST-7-4Frames 910

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	S H E E N (Y/N)	↓	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	1	2	3	4	5	SU	U	M	L				
1	25					X	.								X					N	0	CB-G
2	40					X	.									X				N	0	P-GM
3	30					X	.										X			N	20	P-GM
4	25	X					0-10		X				X			X				N	0	B-CM
5	40				X		30-40	X		X						X				Y	35	CG-GM

COMMENTS

See attached page.

REVIEWED 7W DATE 4/24/90

COMMENTS
SEGMENT 8T-KN-126-A

Greg Chaney
April 22 1990

The survey of segment KN-126-A was conducted under sunny skies. The beach sediments were dry. Drips of coated tar were common on boulders and bedrock throughout the segment. A few tar balls and tar patties were collected from this segment as well. Along the extreme eastern edge of the segment a stream enters Herring Bay. The banks of this stream were partially covered in snow but no oil was observed along the stream channel. Near pit #4 a tar band roughly 130 cm high was observed. The band consisted of a thin coat on the exposed portions of the bedrock face but increased to a tar cover 5 mm thick in bedrock cracks. This tar was mixed with spruce and hemlock needles. On the boulder beach between pits 4 and 5, rainbow sheen was observed between the clean surface boulders over most of the beach. When the sediments were disturbed, brown oil ran freely out of the surface deposits. In this region mobile oil is still present near the surface. A pit was not dug in this area due to the coarse grain size of the beach but pit #5 revealed an oiled layer 30 to +40 cm deep on the western border of the beach. The bottom of this oil layer could not be reached due to boulders at the bottom of the pit. After this survey I was left with the impression that mobile oil is still held in the sediments along this beach and it may be a source of remobilized oil during spring tides.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 04/22/90

Segment ST / KN-126 Subdivision A Date (mo / day / yr) APR 22, 90
 Time (24 hr) 1520-1740 Biologist ROTH

- (A) Substrate type and % of segments:
 (1) Bedrock 50 (2) Boulder 25 (3) Cobble 15 (4) Pebble 5 (5) Sand 5 (6) Silt —
- (B) Overall % cover of biota (% of segment): Dense 40 Moderate 30 Low 30
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (O)

Photographs:
 Roll No. ST-7-4

Frames 9-10

BARNACLES

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	X	2	X	2	X	2	2	O	NOT PRESENT
3	3	3	3	X	3	3	3	X	3	3	O	
4	4	4	4	X	4	4	4	X	4	4	O	
5	5	5	5	5	5	5	5	5	5	5	O	
6	6	6	6	6	6	6	6	6	6	6	O	
6	6	6	6	6	6	6	6	6	6	6	O	

MYTILUS

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	X	2	X	2	X	NOT PRESENT
3	3	3	3	3	3	3	X	3	X	3	X	
4	4	4	4	4	4	4	4	4	4	4	X	
5	5	5	5	5	5	5	5	5	5	5	X	
6	6	6	6	6	6	6	6	6	6	6	X	
6	6	6	6	6	6	6	6	6	6	6	X	

GASTROPODS

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	X	2	X	2	X	2	2	2	NOT PRESENT
3	3	3	3	3	3	3	X	3	3	3	3	
4	4	4	4	4	4	4	X	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	
6	6	6	6	6	6	6	6	6	6	6	6	

FUCUS

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	X	2	2	X	X	X	2	2	O	2	2	NOT PRESENT
3	3	3	3	X	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	X	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	
6	6	6	6	6	6	6	6	6	6	6	6	

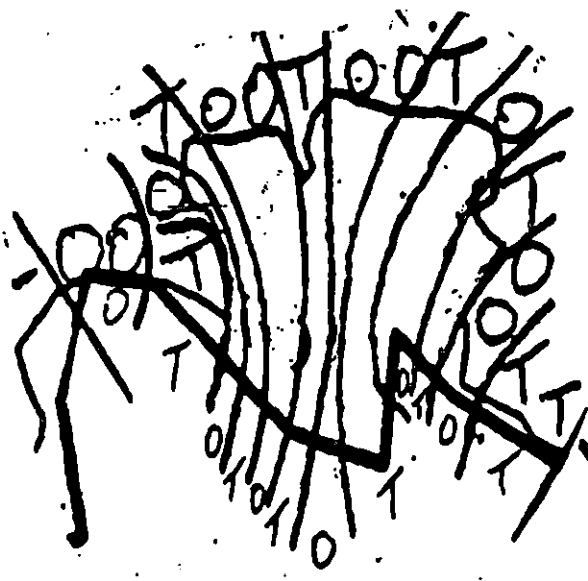
Wildlife Observations/ General Comments:

ONE SEA OTTER SEEN EN ROUTE. A FAIRLY DIVERSE INTERTIDAL COMMUNITY WAS FOUND AT THIS SITE, WHICH CONTAINED NORTH-FACING BEDROCK/BOULDER OUTCROPPING: WITH POOLS AND MODERATE EXPOSURE. EVIDENCE OF RECRUITMENT / GROWTH SEEN IN

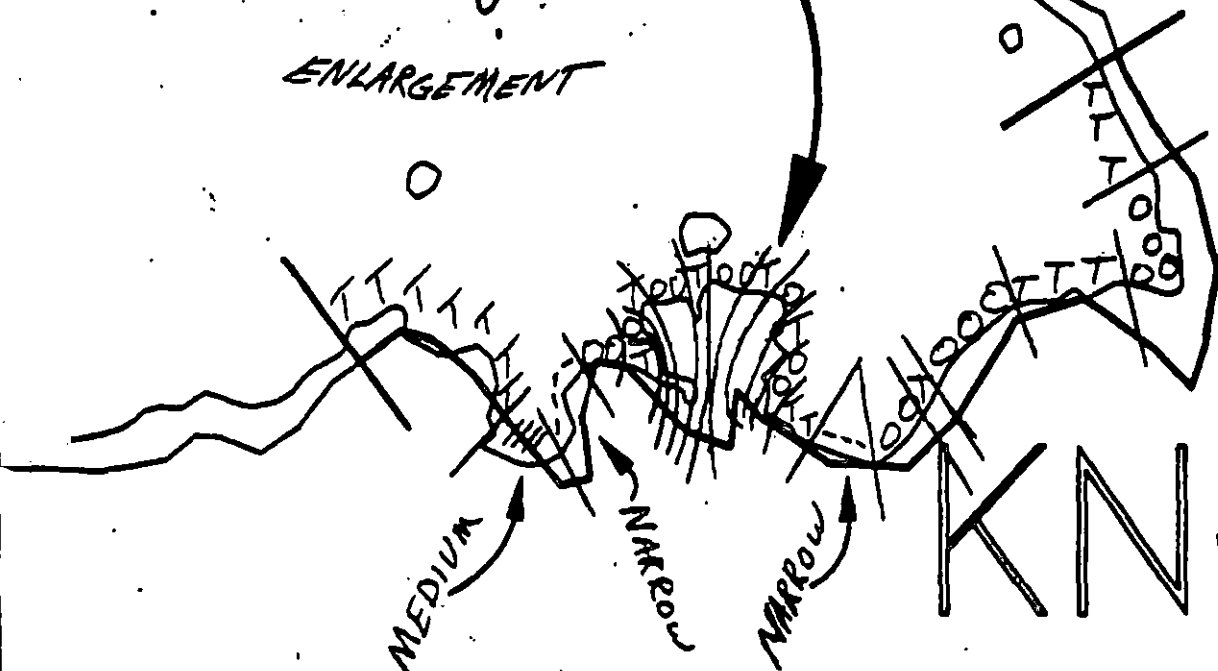
Ecological Considerations:

NONE LISTED.

BARNACLES (SPAT), MYTILUS (YOUNG MARSHALLS), GASTROPODS (LITTORINA AND NUCELLA EGGS), AND FUCUS (SPORANGIOS)



ENLARGEMENT



KN-12

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

OOOO No Oil

KN-126

ADEC Segment Length: 1242m



Map Key: PWS-308

Name: Greg Chaney

Date: April 22 1992

Date Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-127 SUBDIVISION A (1 OF 3) DATE 4/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)

3O,3Q Harbor seal and sea lion molting (8/15 to 9/15)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

SHPO SIGNATURE: J. David McManis

DATE: 5/8/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 117 m: No Oil 164 m
Subsurface Oil Observed: Yes X No Maximum Depth 10 cm

RECOMMENDATIONS:

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

 Snare/Absorbent Booms
 Oil Snares (pom poms)
 Absorbents (pads, rolls, etc)
 Spot Washing: Wands
 Beach Cleaner
 Other (see comments)

COMMENTS: Recommended treatment is manual pickup of oiled vegetation and limbs. Work should be conducted prior to 5/15 or between 7/1 and 8/15 based on pinniped constraints.

TAG COMMENTS:

MONITORS TO ASSESS SUITS + LOG LIMBS INDICATED.

TAG APPROVAL DATE: 5/8/90.

ADEC Art Wagon Art Wagon

EXXON Art Wagon

NOAA Gary Petros Gary Petros

USCG GA. FEITER GA. FEITER

FOSC: ML

DATE: 5-12-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A** Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.
 AGENCY CONTACT PERSON: ADF&G John Morison 267-2324
- 1C** Salmon fry nursery area (4/31 to 7/31)
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.
 AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1D** Esther Hatchery release (4/15 to 6/1)
1E Main Bay Hatchery release (4/20 to 6/10)
1F Sawmill Bay Hatchery release (4/15 to 6/1)
1G Cannery Creek Hatchery release (4/21 to 6/1)
1H Remote release site
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.
 AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214
 1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511
- 1I** Gill net area (8/7 to 8/31)
1J Purse seine area (7/20 to 9/30)
1K Purse seine hook-off (7/20 to 9/30)
1L Set net sites (5/11 to 7/25)
 Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
 AGENCY CONTACT PERSON: ADF&G James Brady 424-3212
- 2M** Herring spawning (4/1 to 6/15)
 Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to unopened intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
 AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
- ✓ 3A** Harbor seal and sea lion pupping (5/15 to 7/1)
✓ 3B Harbor seal and sea lion molting (8/15 to 9/15)
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
 AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
 ADF&G Don Calkins 267-2403
- SR** Seabird colony (5/1 to 9/1)
 Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- SS** Shorebird/waterfowl concentration (4/1 to 5/15)
 Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
 ADF&G Tom Roth 267-2206
- ST** All Bald Eagle nests (3/1 to 6/1)
 Active Bald Eagle nests (3/1 to 9/1)
 Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 6U** Recreation: Tent sites (5/1 to 9/15)
6V Anchorages (5/1 to 9/15)
6W Forest Service cabins (5/1 to 9/15)
6X Lodge (5/1 to 9/15)
6Y Special use destination
- 7Z** Subsistence area: Salmon harvesting (5/1 to 9/30)
7-H Finfish harvesting
7I Deer harvesting (8/15 to 2/28)
7J Invertebrate harvesting
 Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.
 AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ KN 127 SUBDIVISION: A DATE 11-21-90

USCG

NAME

BM3 David A. Sylvest

SIGNATURE

BM3 David A. Sylvest

☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

There was 2 logs that were coated with oil.
The logs were approx. 10" in diameter and approx 15-20' long.
This area was very lightly impacted as far as the signs
of oil in this segment. Small scattered traces of tar.

ADEC

NAME

Dianne Munson

SIGNATURE

Dianne Munson

☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

- Low angle boulder, cobble, pebble beach and bedrock cliff.
- Weathered splashy coats on boulders, cobbles, pebbles.
- Subsurface oil film.
- oiled tree limbs and grass.
- Recommend removal of oiled tree limbs and grass as shown on A.G. map.

LAND MANAGER

NAME

David Mandrella

SIGNATURE

David Mandrella

☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

- Very light sub surface oil film was noted in pits 1 and 3.
- Coats on boulder, cobble band in mid intertidal do not warrant any treatment.
- Only recommendation is to remove oiled logs, limbs and grass in western portion of subdivision.

SHORELINE OILING SUMMARY

REVISION NO. 06-12-90

OG A. Pittenger USCG D. Salvester SEGMENT ST/ KN 127
 BIO J. Benson LAND REP D. Mandrella SUBDIVISION A (1 OF 3)
 EXXON C. Katsimpalis ADEC D. Munson TIME 17:24 10/18:25
 TEAM NO. #8 TIDE LEVEL 1-2 ft DATE 4/21/90
 EST. SUBDIVISION LENGTH: 27.5 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock Snow
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: North to South
 SURFACE SEDIMENTS: R 5 % B 30 % C 50 % P 15 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 50 % Hang 50 % Vert 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 75 m NO 200 m

SURFACE OIL

CHARACTER	DISTRIBUTION					OIL / FILM COLOR					IMPACTED ZONES				
	0	1	2	3	4	5	6	7	8	9	SW	U	M	U	
ASPHALT PAVEMENT															
POOLED															
COVER															
COAT															
STAIN															
MOUSSE															
PATTIES															
TARBALLS															
FILM															
NO OIL															

PAVEMENT H F S 0 sq. m by 0 cmPATTIES / TARBALLS 0 BAGSNEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☐ NO ☒TYPE Logs/limbs/gtr#BAGS 0

Photographs:

Roll No. ST-8-4Frames 9

SUBSURFACE OIL

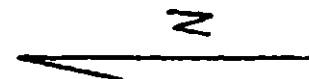
PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SHEEN (Y/N)	↓	SURFACE - SUBSURFACE SEDIMENTS
		OP	GR	OL	OF	NO		US	UC	5	6	7	8	9	SW	U	M	U				
1	35						0-10													Y	10	C,P-C,P
2	30						.													N	>30	P,G-P,G
3	30						0-5													Y	15	C,P-C,P
4	30						.													N	15	C,P-C,P
5	35						.													N	>35	G-G
							.															

COMMENTS

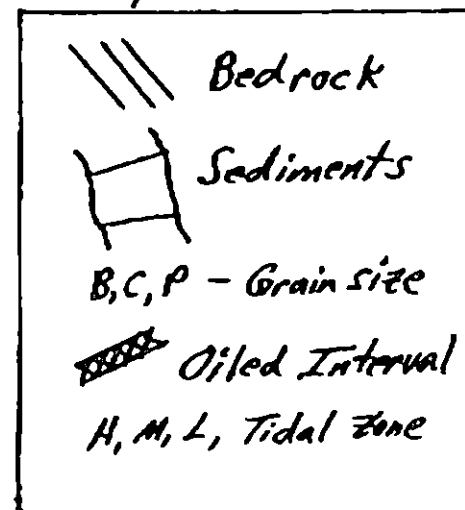
REVIEWED 7wDATE 4/24/90

SKETCH MAP

00 A. Pitt :r
 SEGMENT ST KN 127
 SUBDIVISION A
 DATE 4/21/90



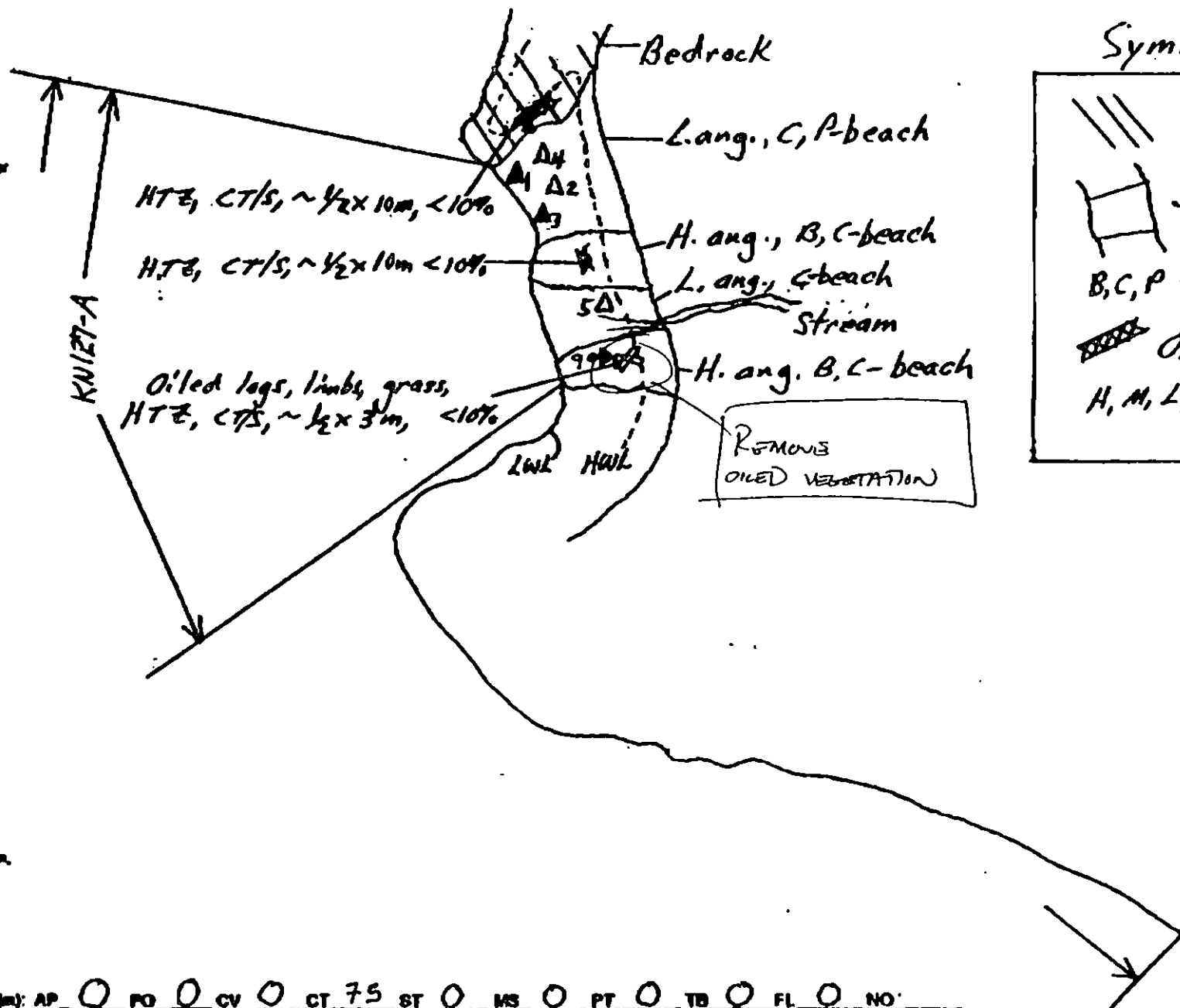
Symbols



- CHECKLIST**
- ☐ N Area
 - ☐ Approx. Scale
 - ☐ Seg/Side Entry
 - ☐ Oil Dist.
 - ☐ Width
 - ☐ Length
 - ☐ % Cover
 - ☐ Substrate Character
 - ☐ Est. HML/LVL
 - ☐ SSL
 - ☐ Profile Location(s)
 - ☐ Profile(s)
 - ☐ PI Location(s)
 - ☐ Photo Location(s)

LEGEND

- ☐ Δ No Subsurface Oil
- ☐ Δ Subsurface Oil
- ☐ CT/C Continued Distribution
- ☐ CT/B Broken Distribution
- ☐ CT/P Patchy Distribution
- ☐ CT/S Splashed Distribution
- ☐ eee Oiled Vegetation
- ☐ $\Rightarrow$ Photo location, direction, and number



SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/22/90

Segment ST/ KN127 Subdivision A Date (mo / day / yr) Apr 21 1990Time (24 hr) 1730-1830 Biologist Benson

(A) Substrate type and % of segments:

(1) Bedrock 5 (2) Boulder 30 (3) Cobble 50 (4) Pebble 15 (5) Sand 0 (6) Silt 0(B) Overall % cover of biota (% of segment): Dense 40 Moderate 40 Low 10

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

Photographs:

Roll No. ST-8-4Frames 9-11

BARNACLES

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	X	2	2	2	X	2	O	2	NOT PRESENT
3	3	3	3	X	3	3	3	X	3	3	O	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	
6	6	6	6	6	6	6	6	6	6	6	6	

MYTILUS

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	X	X	NOT PRESENT
3	3	3	3	3	3	3	3	3	3	X	X	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	
6	6	6	6	6	6	6	6	6	6	6	6	

GASTROPODS

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	X	X	X	2	2	2	NOT PRESENT
3	3	3	X	X	X	3	3	3	3	3	3	
4	4	4	4	4	4	4	X	X	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	
6	6	6	6	6	6	6	6	6	6	6	6	

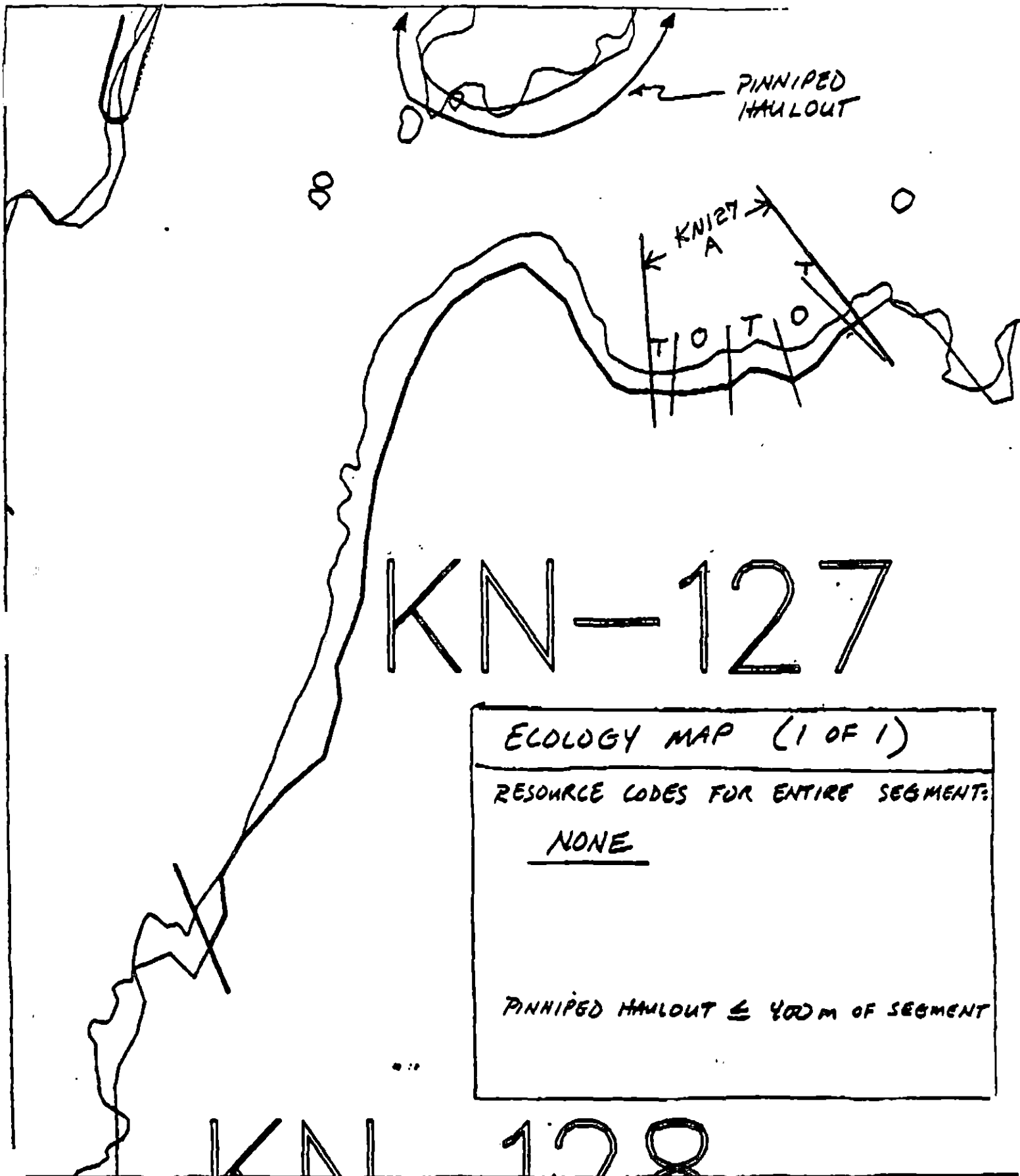
FUCUS

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	X	2	2	X	2	2	2	X	X	2	X	NOT PRESENT
3	3	3	3	X	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	
6	6	6	6	6	6	6	6	6	6	6	6	

Wildlife Observations/ General Comments:.

Ecological Considerations: NONE (3 NQPRQ within 400m of this segment)

The standing stock is moderate, but the diversity is low to moderate. About 90% of the unopened barnacles are alive.



ECOLOGY MAP (1 OF 1)

RESOURCE CODES FOR ENTIRE SEGMENT:

NONE

PINNIPED HAULOUT $\leq$ 400m OF SEGMENT

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

KN-127

ADEC Segment Length: 1435m
Exxon Segment Length: 1477

Map Key: PWS-309

Name: A. Pittenger

Date: 4/21/90

SHORELINE EVALUATION

SEGMENT ST/ KN-127 SUBDIVISION B (2 OF 3) DATE 4/22/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

N,3P Harbor seal and sea lion pupping (5/15 to 7/1)

SO,3Q Harbor seal and sea lion molting (8/15 to 9/15)

Pinnipeds within 400 M of this segment in KN-125.

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

SHPO SIGNATURE: Rachel Ann Olen DATE: 5/22/90

OILING CATEGORIZATION:

Wide 0 m: Medium 225 m: Narrow 0 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 45+ cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual removal of oiled
logs and vegetation in areas indicated on sketch map, 2) spot hot water
washing of upper ITZ in area indicated on sketch map, 3) manual filling
of mid and lower ITZ in area indicated on sketch map, and 4) bioremedi-
ation of upper, mid, and lower ITZ in area indicated on sketch map.
Work should be conducted between 7/1 and 8/15 based on pinniped con-
straints with the exception of inipol which should only be applied from
7/2 to 7/31.

TAG COMMENTS: SEE TAG ADDENDUM SKETCH 5/12/90. - MANUAL
REMOVAL OF DEBRIS + OILED TREE LIMBS AS INDICATED. BIOREMEDIATION
USING CUSTOMER AS INDICATORY

TAG APPROVAL DATE: 5/21/90.

ADEC ART WILSON Art Wilson

EXXON ANDY GIL Andy Gil

NOAA Joseph T. Lott Joseph T. Lott

USCG G.A. REITER G.A. Reiter

EOSC: W L

DATE: 6-19-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
 1B Salmon stream mouth - spawning (7/10 to 8/31)
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.
 AGENCY CONTACT PERSON: ADF&G John Morison 267-2324
- 1C Salmon fry nursery area (4/31 to 7/31)
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.
 AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1D Esther Hatchery release (4/15 to 6/1)
 1E Main Bay Hatchery release (4/20 to 6/10)
 1F Sawmill Bay Hatchery release (4/15 to 6/1)
 1G Cannery Creek Hatchery release (4/21 to 6/1)
 1H Remote release site
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.
 AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214
 1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511
- 1I Gill net area (6/7 to 8/31)
 1J Purse seine area (7/20 to 9/30)
 1K Purse seine hook-off (7/20 to 9/30)
 1L Set net sites (6/11 to 7/25)
 Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
 AGENCY CONTACT PERSON: ADF&G James Brady 424-3212
- 2M Herring spawning (4/1 to 6/15)
 Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
 AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
- 30, 32 Harbor seal and sea lion pupping (5/15 to 7/1)
 Harbor seal and sea lion molting (8/15 to 9/15)
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
 AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
 ADF&G Don Calkins 267-2403
- SR Seabird colony (5/1 to 9/1)
 Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- SS Shorebird/waterfowl concentration (4/1 to 5/15)
 Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
 ADF&G Tom Roth 267-2206
- 5T All Bald Eagle nests (3/1 to 6/1)
 Active Bald Eagle nests (3/1 to 9/1)
 Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 6U Recreation: Tent sites (6/1 to 9/15)
 6V Anchorages (6/1 to 9/15)
 6W Forest Service cabins (6/1 to 9/15)
 6X Lodge (6/1 to 9/15)
 6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
 7H Finfish harvesting
 7I Deer harvesting (8/15 to 2/28)
 7J Invertebrate harvesting
 Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.
 AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ KN 127 SUBDIVISION: B DATE 4-22-90

USCG

NAME BM3 David A. Sylvester SIGNATURE BM3 David A. Sylvester

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

This area contained mousse that could possibly be mobilized once it gets heated up and the water level rises. The area is approximately 150 m. in length. The majority of the oil was found in the lower and middle tidal zones. Tacky to the touch "mousse" was primarily found in the middle tidal zone. Sheening was found in pits dug in middle and lower tidal zones.

ADEC

NAME Dianne Munson SIGNATURE Dianne Munson

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Actively sheening.

- within 400 meters of possible sea lion/seal haulout.
- At h.i.t.z., high angle, angular boulder with mousse, covers, coats and saturated vegetation/substrate to 2 cm.
- At mid and low itz, low angle pebble beach. Subsurface O.P. o.i. (Fresh; mobile, black) oil throughout. Wading in water produces sheening.

→ continued

LAND MANAGER

NAME David Mandrella SIGNATURE David Mandrella

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Active sheens were observed to a distance of about 30 yards offshore. Possible pinniped haulout and heavy oiling characteristics may justify a priority higher than no. 5.

Mousse, covers and coats and OP substrate throughout subdivision indicates mobilization of oil.

Treatment recommendations:

- Manual pickup of sporadic mousse in upper intertidal with trowels and shovels.
- Manual tilling of small boulder, cobble in upper. Possible mechanical tilling of ...

FIELD SHORELINE COMMENT SHEET Pg 2/2

GMENT ST / KN 127 SUBDIVISION: B DATE 4-22-90**USCG**

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED**ADEC**NAME Dianne Munson SIGNATURE Dianne Munson☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

- For hit2 area recommend turning boulders where possible and manually removing mousse, warm header flood in conjunction with spot washing and bioremediation.
- For mid and low it2 area recommend manual/mechanical tilling, warm header flood and steam washing (shore crew) and bioremediation.
- Remove oiled grass and oiled logs.

LAND MANAGERNAME David Mandrella SIGNATURE David Mandrella☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

- High pressure hot water spot washing and Flooding in heavily impacted areas. Remobilized oil will be manually removed with sorbents (snare-bum, pompoms).
- Utilize bioremediation techniques
- Oiled logs and vegetation removed.

OG A. Pittenger USCG D. Sylvester SEGMENT ST/ KN 127
 BIO J. Benson LAND REP D. Mandrella SUBDIVISION B (2 OF 3)
 EXXON C. Katsimpalis ADEC D. Munson TIME 15:30 to 16:50
 TEAM NO. #7 TIDE LEVEL 18-4 ft DATE 4/22/90
 T. SUBDIVISION LENGTH 280m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 LANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: North to South
 SURFACE SEDIMENTS: R 10 % B 35 % C 30 % P 25 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 40 % Hang 60 % Vert 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 240 m N 400 m VL 0 m NO 0 m

SURFACE OIL

CHARACTER	DISTRIBUTION OIL / FILM COLOR										IMPACTED ZONES			
	OC	OR	OL	OP	NO	GR	BL	BR	GY	DR	SU	U	M	L
ASPHALT PAVEMENT														
POOLED														
COVER														
COAT														
STAIN														
MOUSSE														
PATTIES														
TARBALLS														
FILM														
OIL														

PAVEMENT H F S 0 sq. m by 0 cm

PATTIES / TARBALLS 0 BAGS

NEAR SHORE SHEEN? NO BR (RW) SL TL

OILED DEBRIS	AMOUNT			DID YOU COLLECT DEBRIS?
	SM	MD	LG	
Logs				YES ☒ NO ☐
Vegetation				
Trash				
Debris				
				TYPE <u>Rope/Plastic</u>
				#BAGS <u>1</u>

Photographs:

Roll No. ST-8-4

Frames 9, 12, 13

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SHEEN (Y/N)	↓	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	BRN BT	ORL	GY	BL	DR	LR	SU	U	M	U						
1	35	X					5-35	X		X								X		Y	12	P-P, G			
2	30	X					5-30	X		X								X		Y	5	P-P			
3	35	X					5-35	X		X								X		N	>35	P-P			
4	40		X				5-40	X			X							X		N	>40	P-P			
5	45	X					5-45	X		X								X		N	>45	C, P-C, P			
6	35					X												X		N	20	P-P			

COMMENTS

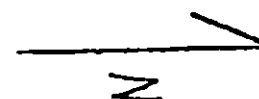
Surface oiling occurs on upper beach face, i.e., su, u & M tidal zones, where surface sediment are primarily boulders & cobbles. Pebble zones occur on lower beach face and are not oiled on the surface. Pebble zone substrate is oiled and oil film is present (occasional) in shallow water, throughout.

"Fresh" oil, mousse, abundant sheen in water, and OP substrate

REVIEWED STH DATE 4-28-90

OG Pitt er
 SEGMENT ST/ KN127
 SUBDIVISION B
 DATE 4/22/90

ETCH MAP



CHECKLIST

☐ N Arrow
☐ Approx. Scale
☐ Seg/Sub Entry
☐ Oil Dist.
☐ Width
☐ Length
☐ % Cover
☐ Substrate Character
☐ Est. HW/LAWL
☐ SSL
☐ Profile Location(s)
☐ Profile(s)
☐ Pit Location(s)
☐ Photo Location(s)

LEGEND

1 Δ
 Pit - No Subsurface Oil

2 Δ
 Pit - Subsurface Oil

CT/C
 Continuous Distribution

CT/B
 Broken Distribution

CT/P
 Patchy Distribution

CT/S
 Splashed Distribution

eee
 Oiled Vegetation

1 $\Rightarrow$
 Photo location, direction,
 and number

Symbols

Bedrock

Oiled Interval

Sediment Covered
B, C, P - Grain Size

Herring Bay

Knight Island

Forest/Trees

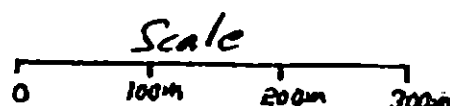
High angle, B, C beach

Low angle,
B, C, P beach
& bedrock

High angle,
P, C beach

Oiled logs
& grasses

MANUALLY REMOVE
LIMBS
OILED LOGS & GRASSES

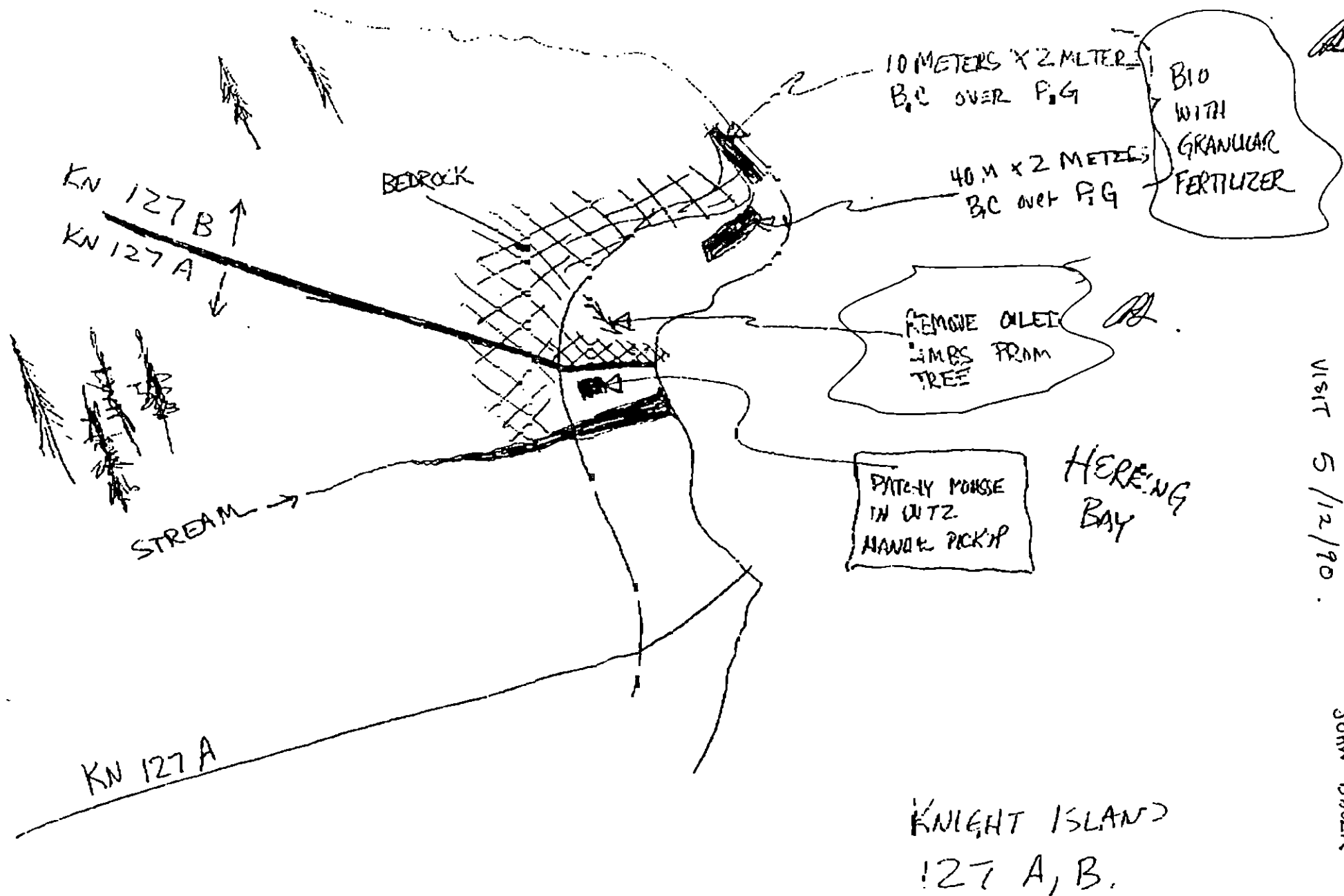


SPOT HOT WATER WASH UPPER ITZ
 TILL MID & LOWER ITZ, THEN
 STORE IMMEDIATE UPPER, MID;
 LOWER ITZ.

See attached
addendum.

CT/P, 5m x 100m, ~50%
 ~> Film (Sheet)
 CV/B, 4m x 60m, ~50%
 MS/S, < 10%
 CT/B, 4m x 50m, ~60%
 MS/S, < 10%
 CT/B, 2m x 50m, ~60%
 MS/S, < 10%
 ~> Film

Oil Character Length (m): AP 0 PO 0 CV 50 CT 200 ST 0 MS 25 PT 0 TB 0 FL 0 NO 0



TAG EVOLUTION - Ken Keane
 VISIT 5/12/90 - John Bauer

FAX TO WEINER
 65-4666 PAGE 2 OF 2

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / KN127 Subdivision B Date (mo / day / yr) Apr 22, 1990Time (24 hr) 1530-1645 1830-1855 Biologist Benson

() Substrate type and % of segments:

(1) Bedrock 10 (2) Boulder 35 (3) Cobble 30 (4) Pebble 25 (5) Sand 0 (6) Silt 0(B) Overall % cover of biota (% of segment): Dense 30 Moderate 40 Low 30

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

Photographs:

Roll No. ST-8-4Frames 9, 12-13

BARNACLES

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

MYTILUS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

ASTROPODS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

FUCUS

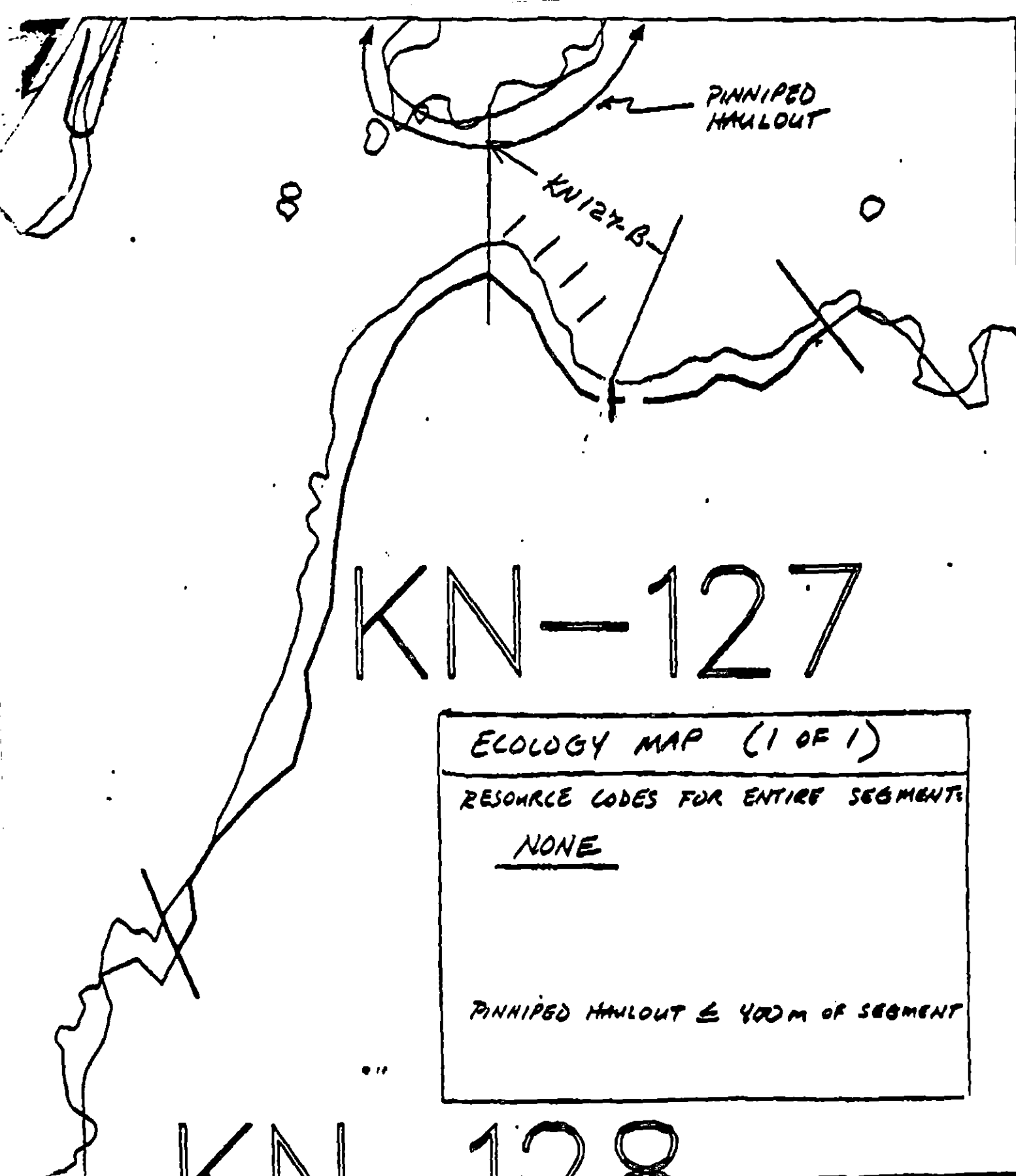
Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

Wildlife Observations/ General Comments:

bald eagle (*Haliaeetus leucocephalus*) - flew off log perch on beach as we approach

Ecological Considerations: NONE (3 N, P, Q within 400m of this segment)

This subsegment has a relatively low number of species. Barnacles with oil appeared to be 40-60% alive, while barnacles 70-80% of barnacles without oil on the outside were alive. The high density portions of this subsegment were composed primarily of *Fucus* and/or barnacles. The low density areas were composed on gravel-sand substrate. There were quite a few dead *Fucus* stipes and holdfasts. The standing stock is low.



XXX Wide
/ / Medium
- - - Narrow
TTT Very Light
OOO No Oil

KN-127

ADEC Segment Length: 1435m
Exxon Segment Length 1477m



Map Key: PWS-300
Name: Pittenger
Date: 4/22/90
Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-127 SUBDIVISION B (2 of 3)

WORK WINDOW	
Manual Pickup	OPEN
Bioremediation*	OPEN

*Use Customblen Only - Do Not Use Inipol

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

3N,O,P,Q

Harbor Seal & Sea Lion
Pupping and Molting

NO TIME CONSTRAINT. Authorized per memorandum dated 5/14/90 from Kathryn Frost/ADF&G to Mark Kuwada/ADF&G.

OTHER ECOLOGICAL CONSIDERATIONS

Do not apply bioremediation to specific areas where seals are observed to haulout. Do not chase or harass seals or sea lions, and do not approach pups under any circumstances. When working on or near haulouts, complete the job as quickly as possible with minimum personnel, equipment, noise and disturbance. Keep boats and personnel as far from actual haulouts as is practical to do the work specified. Minimize air traffic near haulouts, maintain elevation as is practical, and avoid repeated overflights of the same haulout areas. Avoid any unnecessary disturbance or damage to uncollected biota and substrate.

FOSC

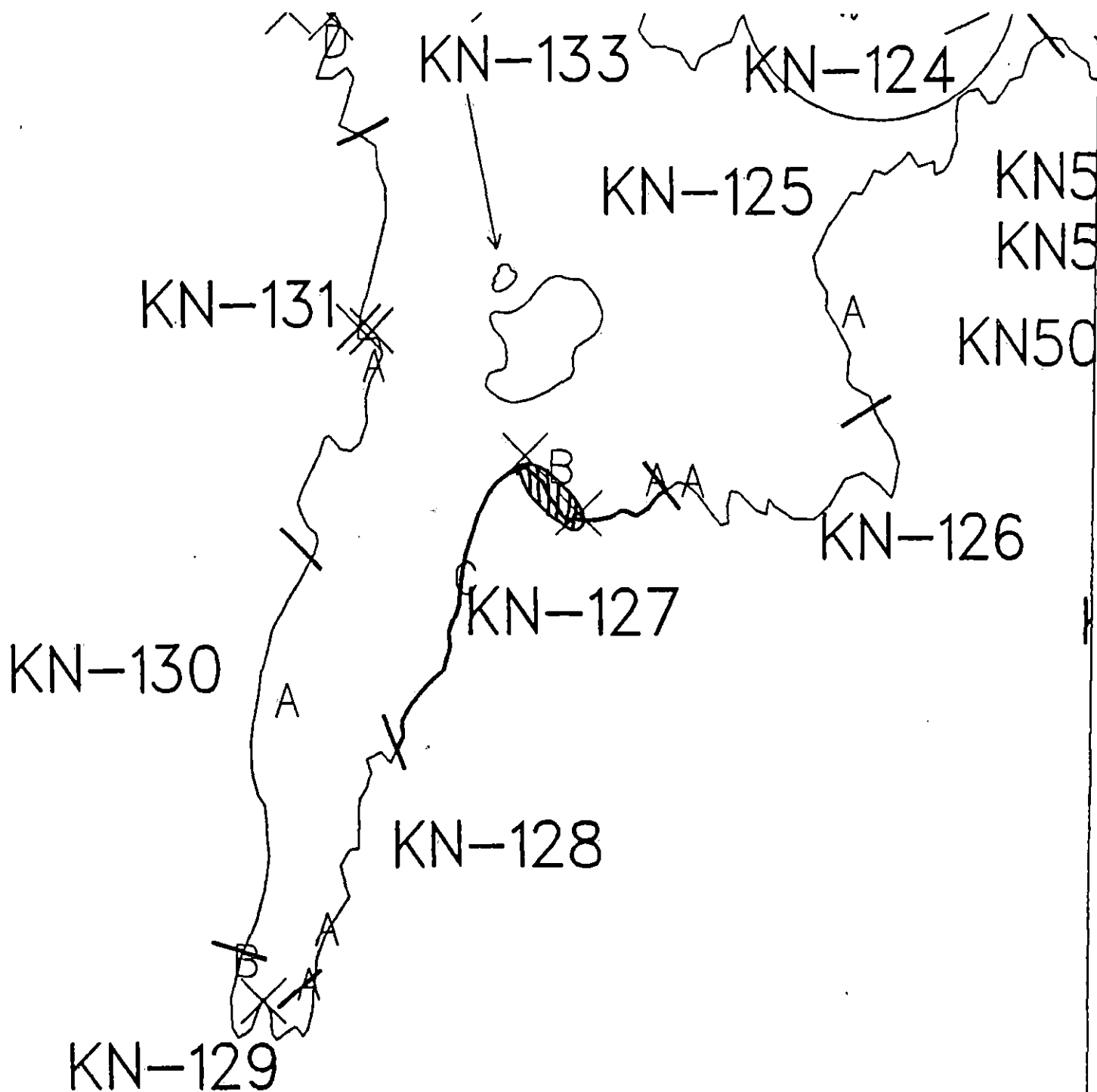
Date

7-12-90

Prepared by

Date

7/12/90



Exxon Company, USA
Map Key: PWS-KN-127
June 09, 1990



ECOLOGY MAP
SEGMENT KN-127
SUBDIVISION B (2 of 3)
METERS
0 423 846

- ★ Seabird Colony
- △ Active Eagle Nest
- △ Inactive Eagle Nest

1 inch = 1387 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-127 SUBDIVISION C (3 OF 3) DATE 4/22/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)
3O,3Q Harbor seal and sea lion molting (8/15 to 9/15) - pinnipeds within
400 M of this segment in KN-125.
See attached Ecological Constraint sheet for specific constraints and
contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and
substrate.

SHPO SIGNATURE: [Signature]

DATE: 5/2/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 929 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 30+ cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes bioremediation in areas of
subsurface oil shown on attached sketch map. Work should be conducted
between 7/2 and 7/31 based on pinniped constraints and Inipol applica-
tions.

TAG COMMENTS: MANUALLY REMOVE UNATTACHED DICED VEGETATION.

TAG APPROVAL DATE: 5/8/90.

ADEC ART WEINER
EXXON ANDY TIGHE
NOAA Gary Petros
USCG G.A. REITER

FOSC: [Signature]

DATE: 5-12-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.
AGENCY CONTACT PERSON: ADF&G John Morison 267-2324
- 1C Salmon fry nursery area (4/31 to 7/31)
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.
AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1D Esther Hatchery release (4/15 to 6/1)
1E Main Bay Hatchery release (4/20 to 6/10)
1F Sawmill Bay Hatchery release (4/15 to 6/1)
1G Cannery Creek Hatchery release (4/21 to 6/1)
1H Remote release site
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.
AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214
1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511
- 1I Gill net area (6/7 to 8/31)
1J Purse seine area (7/20 to 9/30)
1K Purse seine hook-off (7/20 to 9/30)
1L Set net sites (8/11 to 7/25)
Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
AGENCY CONTACT PERSON: ADF&G James Brady 424-3212
- 2M Herring spawning (4/1 to 6/15)
Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to unopened intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
- 3A Harbor seal and sea lion pupping (5/15 to 7/1)
3B Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
ADF&G Don Calkins 267-2403
- 5R Seabird colony (5/1 to 9/1)
Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
ADF&G Tom Roth 267-2206
- 5T All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only, maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 6U Recreation: Tent sites (5/1 to 9/15)
6V Anchorages (5/1 to 9/15)
6W Forest Service cabins (5/1 to 9/15)
6X Lodge (5/1 to 9/15)
6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
7H Finfish harvesting
7I Deer harvesting (8/15 to 2/28)
7J Invertebrate harvesting
Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.
AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2350

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN 127 SUBDIVISION: C DATE 4-22-90**USCG**NAME RM3 David A. Sylvester SIGNATURE RM3 David A. Sylvester☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

There is a semi-continuous band of coating approx. 4-6" wide and 3-6 mm thick with cracks and crevices being filled. Some of the crevices were filled with as much as 2-3 cm thick oil. The entire area was only 20-35 m. long. This area is between the two pits where sheens were spotted.

P.S. Most of the areas that treatment is suggested is not a complete segment but only a small part of a segment.

ADECNAME Dianne Munson SIGNATURE Dianne Munson☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

- Primarily bedrock cliff with small pocket beaches.
- Patchy / sporadic coats and stains on bedrock cliff.
- Pocket beaches of boulder / cobble / pebble with sand substrate. Surface coats and residual subsurface oil mixed with vegetation to 5 cm. Actively sheening.
- Recommend bioremediation of pocket beaches with pit #'s 2 and 3.

LAND MANAGERNAME David Mandrella SIGNATURE David Mandrella☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

- Primarily bedrock cliff with patchy coat along 3 meter wide band in upper 1/2.
- Treat pocket beach in the vicinity of pits 2 and 3 with bioremediation.

SHORELINE OILING SUMMARY

REVISION NO. 04/13/90

OG A. P. Hanger USCG D. Sylvester SEGMENT ST/ KN 127
 BIO J. Benson LAND REP B. Mandrella SUBDIVISION C (3 OF 3)
 EXXON C. Katsingalis ADEC D. Munson TIME 16:50 18:22
 TEAM NO. #2 TIDE LEVEL 1-4 ft DATE 4/22/90
 EST. SUBDIVISION LENGTH: 922 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☐ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: North to South
 SURFACE SEDIMENTS: R 50 % B 30 % C 10 % P 10 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 20 % Hang 50 % Vert 20 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 922 m VL 0 m NO 0 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR				IMPACTED ZONES			
	C	B	P	S	1	2	3	4	SU	U	M	U
ASPHALT PAVEMENT												
POOLED												
COVER												
COAT			X		X	X				X		
STAIN			X							X		
MOUSSE												
PATTIES												
TARBALLS												
FILM			X		X					X		
NO OIL										X	X	X

PAVEMENT H F S 0 sq. m by 0 cmPATTIES / TARBALLS 0 BAGSNEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation	X		
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☐ NO ☒TYPE 0#BAGS 0

Photographs:

Roll No. Frames

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR				PIT ZONE				A N A	SHEEN (Y/N)	↓	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	1	2	3	4	SU	U	M	U				
1	35					X	.									X			N	30	P-P
2	30				X		0-30	X				X				X	X		N	15	P-G, S
3	30	X					0-5		X	X					X				N	>30	B, C-P, C
4	30					X	.									X			N	25	C, P-P
5	15					X	.							X					N	5	C, P-C
6	30					X	.									X			N	>30	C, P-C, P

COMMENTS

REVIEWED 7WDATE 4/24/90

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/23/90

Segment ST / KN 127 Subdivision C Date (mo / day / yr) Apr 22 1990Time (24 hr) 1650-1830 Biologist Benson

(A) Substrate type and % of segments:

(1) Bedrock 50 (2) Boulder 30 (3) Cobble 10 (4) Pebble 10 (5) Sand 0 (6) Silt 0(B) Overall % cover of biota (% of segment): Dense 60 Moderate 20 Low 20

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

Photographs:

Roll No. ST-8-4Frames 14

BARNACLES

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	X	2	2	X	2	X	2	2	2	2	X
3	3	3	3	3	3	3	X	3	X	3	X
4	4	4	4	4	4	4	X	4	4	4	X
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

MYTILUS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	X	X
3	3	3	3	3	3	3	3	3	3	X	X
4	4	4	4	4	4	4	4	4	4	X	X
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

GASTROPODS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	X	2	2	X	2	X	2	X
3	3	3	3	X	3	3	X	3	X	3	X
4	4	4	4	4	4	4	X	4	4	4	X
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

FUCUS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	X	2	2	2	X	2	2	2	(1U)	2	(2)
3	3	3	3	3	3	3	X	3	3	3	3
4	4	4	4	4	4	4	4	4	4	X	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

Wildlife Observations/ General Comments:

bluish, 2-3" long, 1/2" high fish near shore
salmon fry near shore.

Ecological Considerations: NONE (3NP, PQ, within 400 m of this segment)

The ^{high} densities of barnacles and Fucus, as well as Verrucaria in some locations, raised the total % cover of biota to high levels. Nucella was also common, perhaps because of the abundance of their food, the barnacles. Although the standing crop was high, the diversity was still low to moderate. In several places, there were numerous barnacle scars on the substrate.

DATE 4/22/90 TIME 1650-1830 TIDE HEIGHT 0.5'-1.5'

1= BEDROCK 2=BOULDER 3=COBBLE 5=SAND 6=SILT

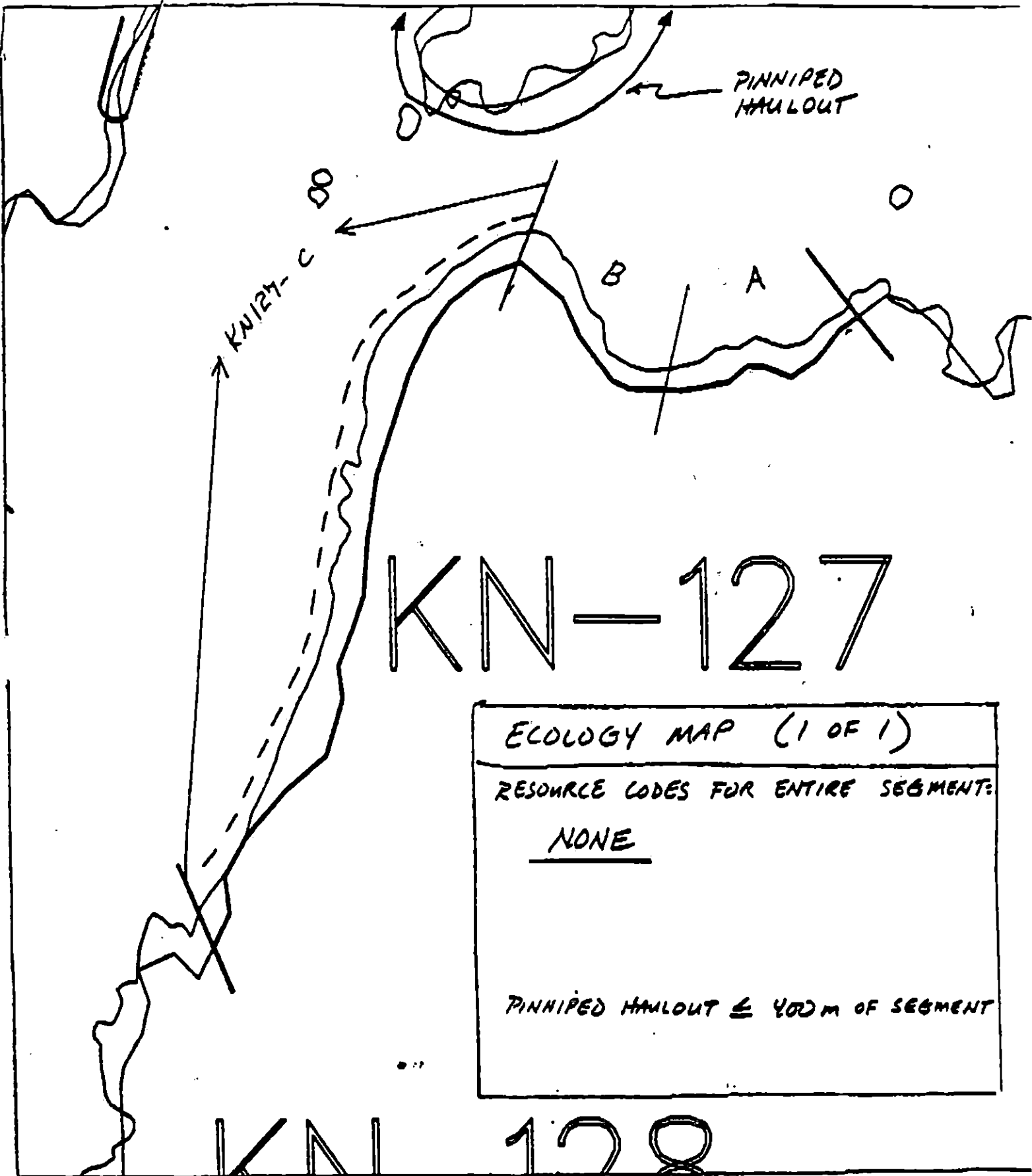
1ENT.ST. KN 127 SUBDIVISION C LENGTH 922 m BIOLOGIST Benson

FLORA:

SPECIES	UITZ	MITZ	LITZ	COMMENTS
BOSSIELLA/CORALLINA				
CALLIARTHRON/CORALLINA				
CLADOPHORA SPP				
COSTARIA SPP				subtidal
ENDOCLADIA MURICATA				
FILMAENTOUS GREENS	1	1,2	1,2	
FILAMENTOUS REDS				
OLOIOPELTIS FURCATA				
HALOSACCION GLANDIFORME			2	
LAMINARIA SPP				
LITHOTHAMNION				
NEREOCYSTIS SPP				
PORPHYRA SPP				
RALPHSIA/HILDENBRANDIA		1		
PHODOMELA LARX		1,2	1,2	
RHOHOMENIA PALMATA				
SCYTOSIPHON SPP		2	2,3	
ULVA SPP			2,3	
ZOSTERA MARINA				subtidal
ENTOROMORPHA				
Verrucaria				

FAUNA:

pink annelid (100m L X 2mm D)				
ANTHOPLEURA SPP				
(SEMI) BALUNUS CARIOSUS	1,2	1,2,3	1,2,3	both species on 2
B. GLANDULA	1,2	1,2,3	1,2,3	
BRYOZOANS			2,3	
CHITONS (other than K. TUNICATA)				
CLAMS				drift shells of Macoma, Protothaca
CRABS				subtidal Hemigrapsus oregonensis
DERMASTERIAS IMBRICATA				
KATHARINA TUNICATA				
LEPTASTERIAS HEXACTIS			2	
LIMPETS		1	1	Notarmacaea persone
LITTORINA SPP		1,2,3	1,2,3	egg mass on 2
NUCELLA SPP		2,3	2,3	empty egg cases
PAGURUS SPP		2,3	2,3	
PISASTER OCHRACEUS				
POLYCHAETES		2,3		
PYCNOPODIA HELIANTHOIDES			2	
SEARLESIA DIRA				
SERPULIDS		2		
SIPHONARIA THERSITES				
TEALIA				
fl's sculpin, flenny eels			2	



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

KN-127

ADEC Segment Length: 1435m
 Exxon Segment Length: 1477



Map Key: PWS-309

Name: Pittenger

Date: 4/22/90

Data Entered:

SEGMENT ST/ KN-128 SUBDIVISION A (1 OF 1) DATE 4/23/90

SUBDIVISION ECOLOGICAL CONSTRAINTS:

SHPO SIGNATURE: Charles E. Homan DATE: 5/2/90

Wide 0 m: Medium 237 m: Narrow 195 m: V.Light 386 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 5 cm

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

COMMENTS: Recommend manual pickup of debris and bioremediation of area of subsurface oil shown on attached sketch map. No specific time constraints identified.

TAG COMMENTS: _____

TAG APPROVAL DATE: 5/2/90.

ADEC	<u>Art Weiler</u>	<u>Art Weiler</u>
EXXON	<u>Cheryl</u>	<u>Cheryl</u>
NOAA	<u>Gary Petrac</u>	<u>Gary Petrac</u>
USCG	<u>Kenneth Kene</u>	<u>Kenneth Kene</u>

FOSC: DATE: 5-8-90

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ KN-128 SUBDIVISION: A DATE 4.23.90

USCG

NAME Patrick Mahy SIGNATURE Patrick Mahy

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

This segment consisted of a lot of steep bedrock and boulder that contained heavily weathered stains and coats. Cleanup efforts should be concentrated in the vicinity of pit 3 where subsurface oil was found and the slope of the beach would allow treatment.

ADEC

NAME M. Cunningham SIGNATURE M. Cunningham

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Flip over boulders & Bioremediate on all accessible parts of segment. Check storm berm for debris. Note Rich biota in lower intertidal areas.

LAND MANAGER

NAME Steven Phillips SIGNATURE Steven Phillips

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

PomPoms remain frozen in supertidal - marked with a pallet. Bioremediate boulder areas of high intertidal along about the whole segment. Problem is that beach is higher angle and the fertilizer has to get stuck under the rocks where the oil is. Tar bands are not scrapable. Some visual degradation is present due to "bathtub rings" and wider tar bands. Breakup some of the bands through methods as they develop. REVISION NO. 0001/90

SHORELINE OILING SUMMARY

REVISION NO. 04/12/89

OG Greg Chaney USCG Pat Malay SEGMENT ST/ KN-128
 BIO Jim Roth LAND REP DNR Steve Phillips SUBDIVISION A (LOFL)
 EXXON Ray J. J. J. ADEC Mike Cunningham TIME 17:40 10/1/90
 EAM NO. 7 TIDE LEVEL 1.1 ft to 0.5 ft DATE April 23 1990
 ST. SUBDIVISION LENGTH: 944 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock SNOW PATCHES / CLIFFS
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: North to South
 SURFACE SEDIMENTS: R 70 % B 20 % C 5 % P 5 % G — % S — % M — % V — %
 SLOPE: Long 5 % Hang 45 % Vert 50 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 284 m N 255 m VL 405 m NO 0 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	C	B	P	S	1	2	3	4	5	SU	U	M	V
ASPHALT PAVEMENT													
POOLED													
COVER				X					X			X	
COAT	X	X	X	X						X	X	X	X
STAIN	X	X	X	X						X	X	X	X
MOUSSE													
PATTIES													
TARBALLS													
LM				X					X			X	X
NO OIL													

PAVEMENT H F S — sq. m by — cmPATTIES / TARBALLS collected BAGSNEAR SHORE SHEEN? NO BR FW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs	X		
Vegetation			
Trash	X		
Debris		X	

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐TYPE plastic bags#BAGS 3+

Photographs:

Roll No. NONEFrames NONE

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SHEEN (VW)	↓	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UG	UC	1	2	3	4	5	SU	U	M	V				
1	20					X	.									X				N	0	BCP-CG
2	20					X	.										X			N	10	CPG-GS
3	15				X		0.5		X	X						X				Y	12	BP-BPG
							.															
							.															
							.															

COMMENTS

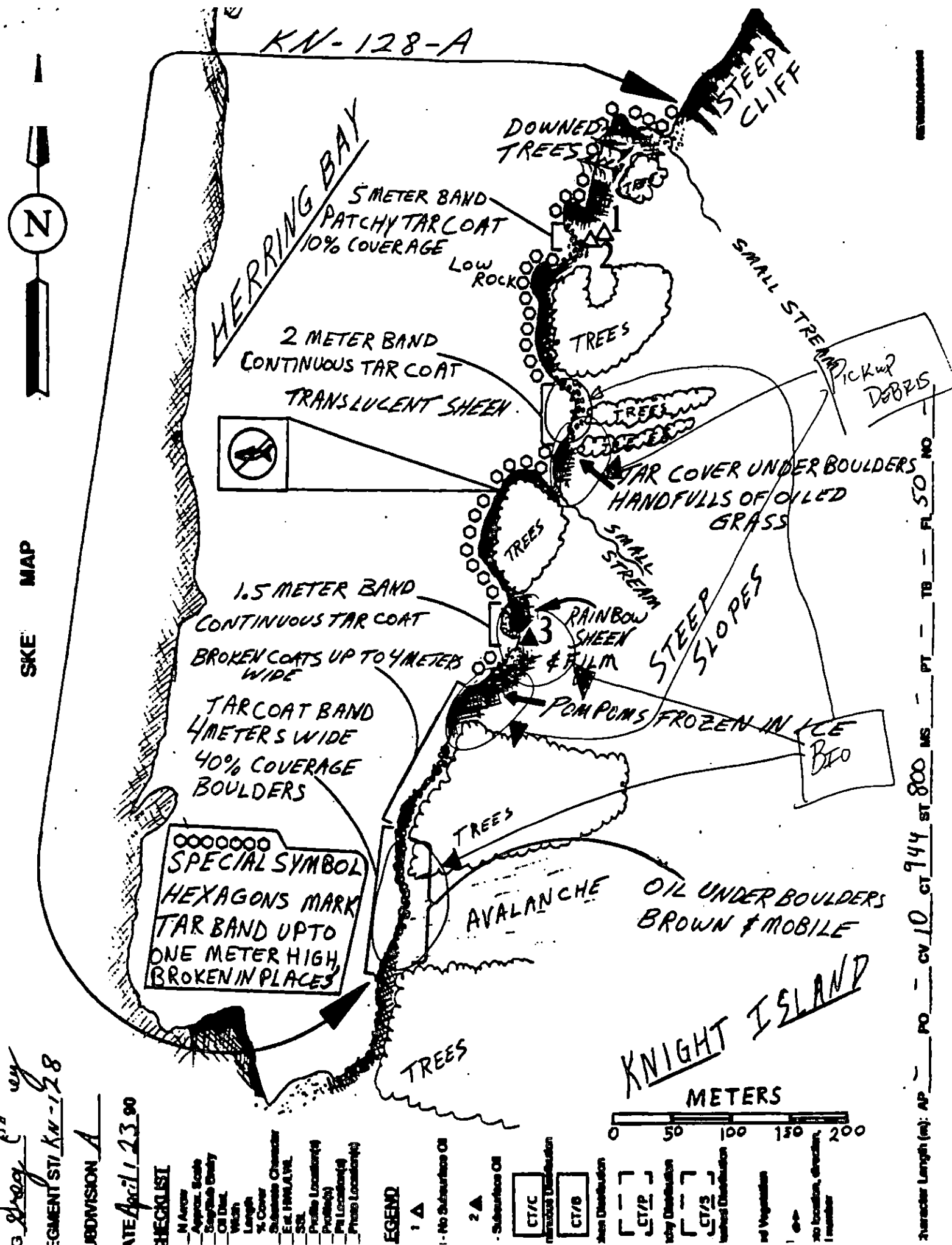
See attached page.

REVIEWED MH DATE 4-25-10

**COMMENTS
SEGMENT ST-KN-128-A**

**Greg Chaney
April 23 1990**

Segment KN-128-A was surveyed under overcast skies. This segment runs along a steep bedrock and boulder face with very little fine sediment. The bedrock and littoral sediments were not entirely dry due to the falling tide and runoff from melting snow. Oil was present in some form along the entire length of the segment. This oil was primarily in the form of weathered tar coats and stains. It appeared that significant quantities of mobile oil had been present in the past but most of the oil had weathered to stable tar coats. This tar was often mixed with spruce and hemlock needles. In places tar cover was observed on the bottom of boulders. Although the surface oil present throughout the majority of the segment had weathered, brown mobile oil was still present under the boulders of the coarse beach at the southern end of the segment. Rainbow and translucent sheens observed in tide pools along the segment may be a result of this mobile subsurface oil. No pits were dug in the southern portion of the segment due to the rugged, coarse nature of this boulder beach. Three full bags of poisons were collected from this segment and more remain frozen in the supra tidal.



SHORELINE ECOLOGICAL SUMMARY

REVISION: 05/22/90

Segment ST / KN-128 Subdivision A Date (mo / day / yr) Apr 23, 90
 e (24 hr) 1745-1930 Biologist ROTH

- (A) Substrate type and % of segments:
 (1) Bedrock 70 (2) Boulder 20 (3) Cobble 5 (4) Pebble 5 (5) Sand — (6) Silt —
- (B) Overall % cover of biota (% of segment): Dense 10 Moderate 20 Low 70
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs:

Roll No. —Frames —

BARNACLES

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	X	2	2	2	X	X	2
3	3	3	3	3	X	3	3	X	X	X	3
4	4	4	4	4	X	4	4	X	X	X	4
5	5	5	5	5	X	5	5	X	X	X	5
6	6	6	6	6	X	6	6	X	X	X	6

NOT PRESENT

MYTILUS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	X	X	X
3	3	3	3	3	3	3	3	3	X	X	X
4	4	4	4	4	4	4	4	4	X	X	X
5	5	5	5	5	5	5	5	5	X	X	X
6	6	6	6	6	6	6	6	6	X	X	X

NOT PRESENT

GASTROPODS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	X	2	2	2	X	X	2
3	3	3	3	3	X	3	3	3	X	X	3
4	4	4	4	4	X	4	4	4	X	X	4
5	5	5	5	5	X	5	5	5	X	X	5
6	6	6	6	6	X	6	6	6	X	X	6

NOT PRESENT

FUCUS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	X	2	2	2	X	X	2
3	3	3	3	3	X	3	3	3	X	X	3
4	4	4	4	4	X	4	4	4	X	X	4
5	5	5	5	5	X	5	5	5	X	X	5
6	6	6	6	6	X	6	6	6	X	X	6

NOT PRESENT

Wildlife Observations/ General Comments:

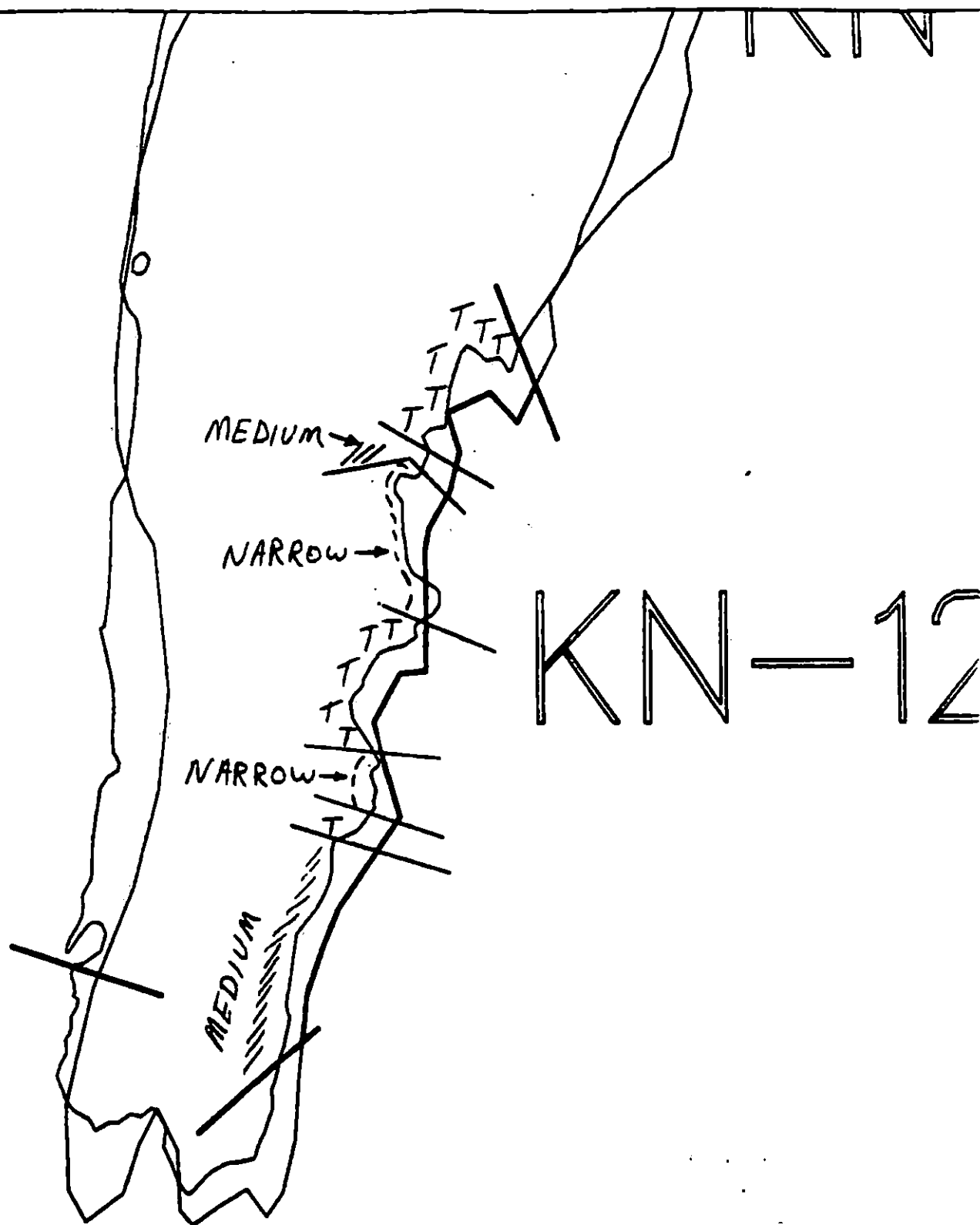
A GOOD VARIETY OF INVERTEBRATE SPECIES WERE FOUND IN LITZ TIDEPOOLS IN THIS SEGMENT. OVERALL PERCENT COVER OF BIOTA IS LOW, HOWEVER, ESPECIALLY IN THE MITZ. A FEW AREAS HAVE "NORMAL" FUCUS/BARNACLE/GASTROPOD COMMUNITIES, BUT

Ecological Considerations:

NONE NOTED

MOST ARE QUITE BARE, WITH ONLY HOLDFASTS REMAINING WHERE FUCUS HAS BEEN ATTACHED. NEW GROWTH ON ^{THESE} MITZ BEDROCK/BOULDER WAS LIMITED TO FILAMENTOUS GREEN ALGAE AND BARNACLE SPRT. IT IS SPECULATED THAT INTENSIVE CLEAN-UP PROCEDURES DURING 1989 MAY HAVE BEEN RESPONSIBLE FOR DENUDING MITZ BEDROCK/BOULDER OUTCROPPINGS. VERY FEW MYTILUS WERE FOUND IN THIS SEGMENT

AC-11000



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

KN-128

ADEC Segment Length: 819m
EXON SEGMENT LENGTH: 944m

0 100 200 300

Map Key: PWS-310

Name: Greg ChaneyDate: April 23 1990

SHORELINE EVALUATION

SEGMENT ST/ KN-129 SUBDIVISION A (1 OF 2) DATE 3/30/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Salmon stream mouth (ADF&G catalogue Rev. 2190, #226-10-16975) - fry outmigration (1A) 3/1 to 5/15 and spawning (1B) 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

(1A,1B) No disturbance of stream bed or banks unless authorized by ADF&G. Contact ADF&G Habitat Division prior to treatment for permits. Restrict disturbance of uncoiled fucus and barnacles in L and M ITZ.

SHPO SIGNATURE

Charles R. Hume

DATE:

4/18/90

OILING CATEGORIZATION:

Wide 0 m: Medium 34 m: Narrow 78 m: V.Light 296 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 25 cm

RECOMMENDATIONS:

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

COMMENTS: Recommend manual removal of tarmats as shown on attached sketch map. Work should be conducted between 5/15 and 7/10 based on above constraints.

MANUAL TILL IN AREA OF ANAEROBIC CONDITION (PIT #7) PRIOR TO BIOREMEDIATION.
BIOREMEDIATE WHERE APPLICABLE AS INDICATED ON SKETCH.

TAG COMMENTS:

TAG APPROVAL DATE: 4/18/90

ADEC

ART WEINER

EXXON

ANDY TEAL

NOAA

Burt Wescott

USCG

G.A. Reiter

FOSC:

[Signature]

DATE: 4-22-90

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ KN 129 SUBDIVISION: A (172) DATE 3.30.90

USCG

NAME MST Mahy / PS Ed White SIGNATURE Patrick Mahy / Ed E. White☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Broken pavement in U.I. zone to remove manually. Boulders in U.I. zone turned to expose coated areas. Residual oil in subsurface U.I. zone to 30 cm. (and) Silver & Rainbow sheens on both ends of the subdivision (25m²) at the waterline. Sensitive ~~the~~ stream runs through the middle of the subdivision. Would not recommend bioremediation.

ADEC

NAME Cunningham / Munson SIGNATURE M Cunningham / D. Munson☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

turn boulders at h.i.t.z. to expose oil coating, use a beach crew to team and flush. From mid to high i.t.z. where subsurface oil was observed at 15-20 cm use mechanical dredging / cleaning of native beach materials with redeposition of the same materials on the site. Physical removal of asphalt / pavement. use a type of absorbent boom to collect mobile sheen which is leaching out at waters edge. Note: possible anadromous stream. low energy environment.

LAND MANAGER

NAME Phillips (OUR) Mandrella (USEF) SIGNATURE Steve Phillips Dave Mandrella☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

turn over boulders scoop up asphalt
'sturb moderate oil layers
may need absorbant boom along creeks (sansorb)
pick up debris especially pom-pom strands
bioremediation around boulders
sensitive stream # 16932 in A or B?

SHORELINE OILING SUMMARY

REVISION NO. 06/23/90

Chaney / Sawyer USCG Malay / White SEGMENT ST/ KN129
 O Roth / Benson LAND REP Phillips / Mandella SUBDIVISION A (1 of 2)
 EXXON Sotelo / Katsimanolis ADEC Cunningham / Munson TIME 10:30 to 1:00
 TEAM NO.: 7 and 8 TIDE LEVEL: -0.5 ft to 5.0 ft DATE March / 30 / 90
 EST. SUBDIVISION LENGTH: 300 m ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☒ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock ☐ Snow
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 10 % B 40 % C 10 % P 30 % G 10 % S - % M - % V - %
 SLOPE: Long 90 % Hang - % Vert 10 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W - m M 16 m N 54 m VL 230 m NO - m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	10	15	20	25	SP	OR	OL	OP	NO	SU	U	M	L
ASPHALT PAVEMENT		X									X		
POOLED													
COVER													
COAT				X		X					X		
STAIN													
MOUSSE													
PATTIES				X				X				X	
TARBALLS													
FILM				X				X			X	X	X
NO OIL													

PAVEMENT: H F @ 70 sq. m by 8 cm

PATTIES / TARBALLS 2 BAGS

NEAR SHORE SHEEN? NO BR RW S TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris	X		

DEBRIS COLLECTED
☒ YES ☐ NO

TYPE pom-pom / rope

#BAGS 1

Photographs:

Roll No. St-8-1

Frames 1, 2, 3

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW	OIL / FILM COLOR					PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO			SP	OR	OL	OP	NO	SU	U	M	L		
1	25				X		5-25									X			G P C
* 2	30		X				0-5										X		S G P
* 3	30		X				0-5										X		S G P
* 4	30		X				0-5										X		G S P
5	30		X				05-8										X		G C G
6	25					X	- - -									X			G C G

COMMENTS St/KN129A: low angle boulder and pebble beach bordered by high angle bedrock cliffs. Broken pavement in upper tidal zone appears to be erosional remnants of formerly more extensive pavement. Snow covering supratidal zone. Sub-surface oiling not continuous. Pits excavated where surficial oil observed. Sporadic oil coats bottom of boulders in upper intertidal zone. * Oiled intervals of 0-5 cm in Pits 2, 3 & 4 do not constitute subsurface oil. 1/11 4-4-90

SHORELINE OILING SUMMARY (PAGE 2 of 2)

REVISION 03/22/99

SEGMENT ST/ KN129 SUBDIVISION A

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR						PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	SL BL	OC BL	FW BL	EL BL	TR BL	LS BL	SU	U	M	U		
7	20	X					15-20	X						X		X				X	GCG
							.														
							.														
							.														
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							.														
							.														

COMMENTS

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/12/90

Segment ST/KN0129 Subdivision A Date (mo/day/yr) 3/30/90

Time (24 hr) 1050 Biologist Benson/Roth

(A) Substrate type and % of segments:
(1) Bedrock 10 (2) Boulder 40 (3) Cobble 10 (4) Pebble 30 (5) Sand 10 (6) Silt 0

(B) Overall % cover of biota (% of segment): Dense 10 Moderate 30 Low 60

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

Photographs:
Roll No. ST-8-1

Frames 1-3

BARNACLES

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

MYTILUS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

GASTROPODS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

FUCUS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

Wildlife Observations/ General Comments:

- 3 Killer Whales (Orcinus orca) in mid-Herring Bay (2 large, 1 small)
- Adult Sea Otter (Enhydra lutra) between ship (Yukon River) and site (KN0129)

Ecological Considerations:

Sensitivities: 1B (Salmon spawning)

DIVISION A

E Mar 1 30 90

SKETCH MAP

1 Area
1 approx. Scale
1 eg/Sub Endry
1 Dist
1 Veth
1 engh
1 Cover
1 Uterate Character
1 st. HERRING BAY
1 SL
1 velle Location(s)
1 velle(s)
1 Location(s)
1 note Location(s)

SEND

Δ Subsurface Oil

2 Δ Surface Oil

CT/C
100% Distribution

CT/D
100% Distribution

CT/P
100% Distribution

CT/S
100% Distribution

Vegetation

location, direction, meter

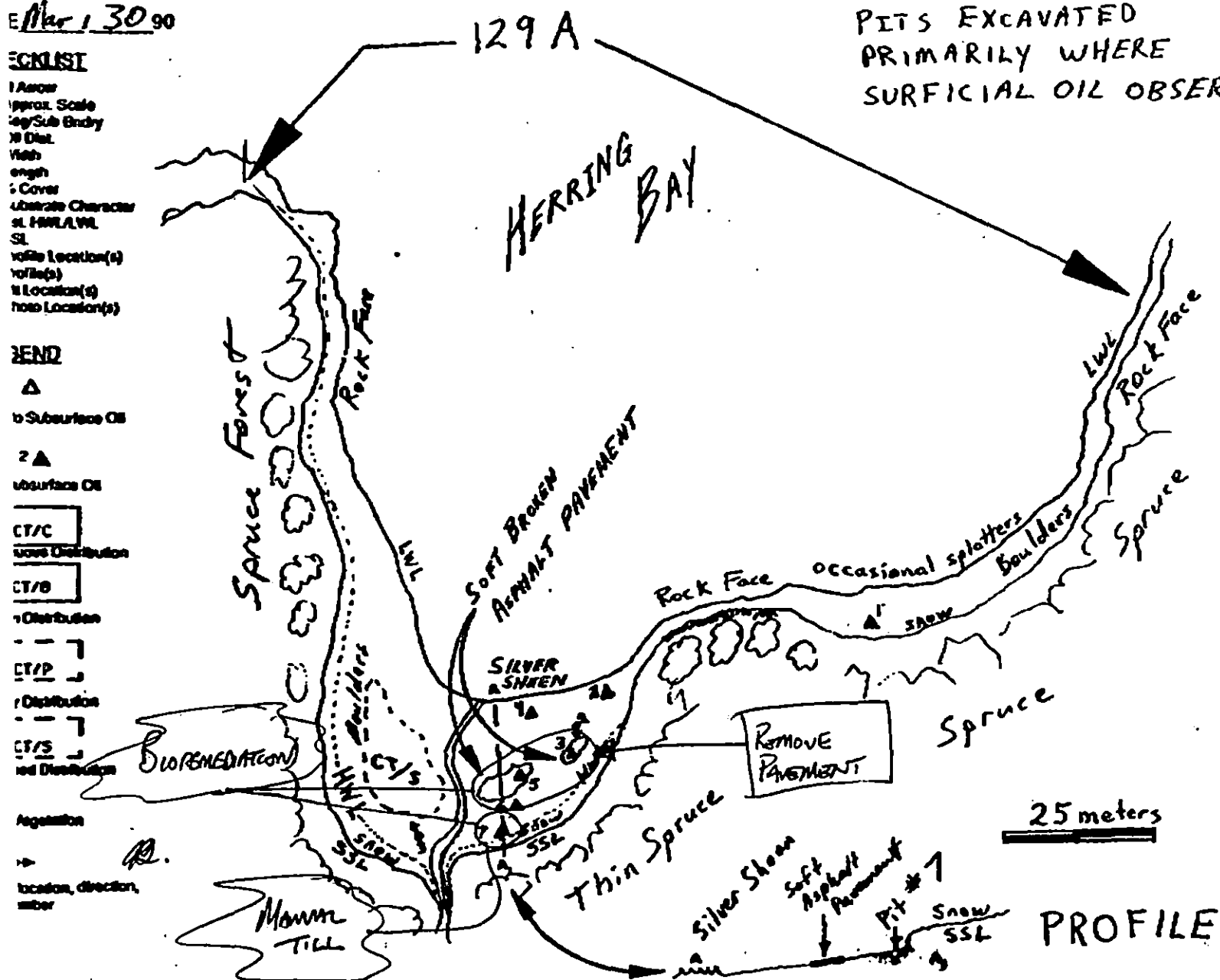
SUB SURFACE OILING
NOT CONTINUOUS.
PITS EXCAVATED
PRIMARILY WHERE
SURFICIAL OIL OBSERVED



DET-10-1989 08:53 FROM YUKON RIVER

TO

P. 22



Factor Length (m): AP 16 PO - CV - CT 25 ST - MS - PT 5 TB - FL 40 NO 214

NEWBONE 202400

ty observed approximately every 25 meters along subsegment. Total continuous pattys observed ~ 5m.

KN-129

KN

KN-129 A 300 meters

XXX Wide

//// Medium

---- Narrow

TTTT Very Light

KN-129A

ADEC Segment Length: 802m
Exxon Segment Length: 532m

Map Key: PWS-311

Name: Greg Chaney/Tom Sawyer

Date: March 30 1990



ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-129 SUBDIVISION A (1 of 2)

WORK WINDOW	
Tarmat Removal	OPEN
Bioremediation and Manual Tilling Less Than 100m From Stream	WORK PRIOR TO 7/10 (ADF&G MONITOR REQ.)

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

An uncatalogued stream is in Subdivision A. This subdivision is closed to bioremediation and manual tilling less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation and manual tilling are permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation and manual tilling more than 100m from stream. No constraint to tarmat removal.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or banks. No flushing of pollutants or sediments into stream drainage; do not allow Inipol to enter stream flow. On-site examination and consultation by ADF&G monitor is required prior to bioremediation in order to authorize a setback distance from the stream during chemical application; if ADF&G monitor's presence is impossible, authorization may be given by the ADEC monitor. Avoid any unnecessary disturbance or damage to uncolled biota and substrate. Restrict disturbance to uncolled *Fucus* and barnacles in lower and mid-intertidal zones.

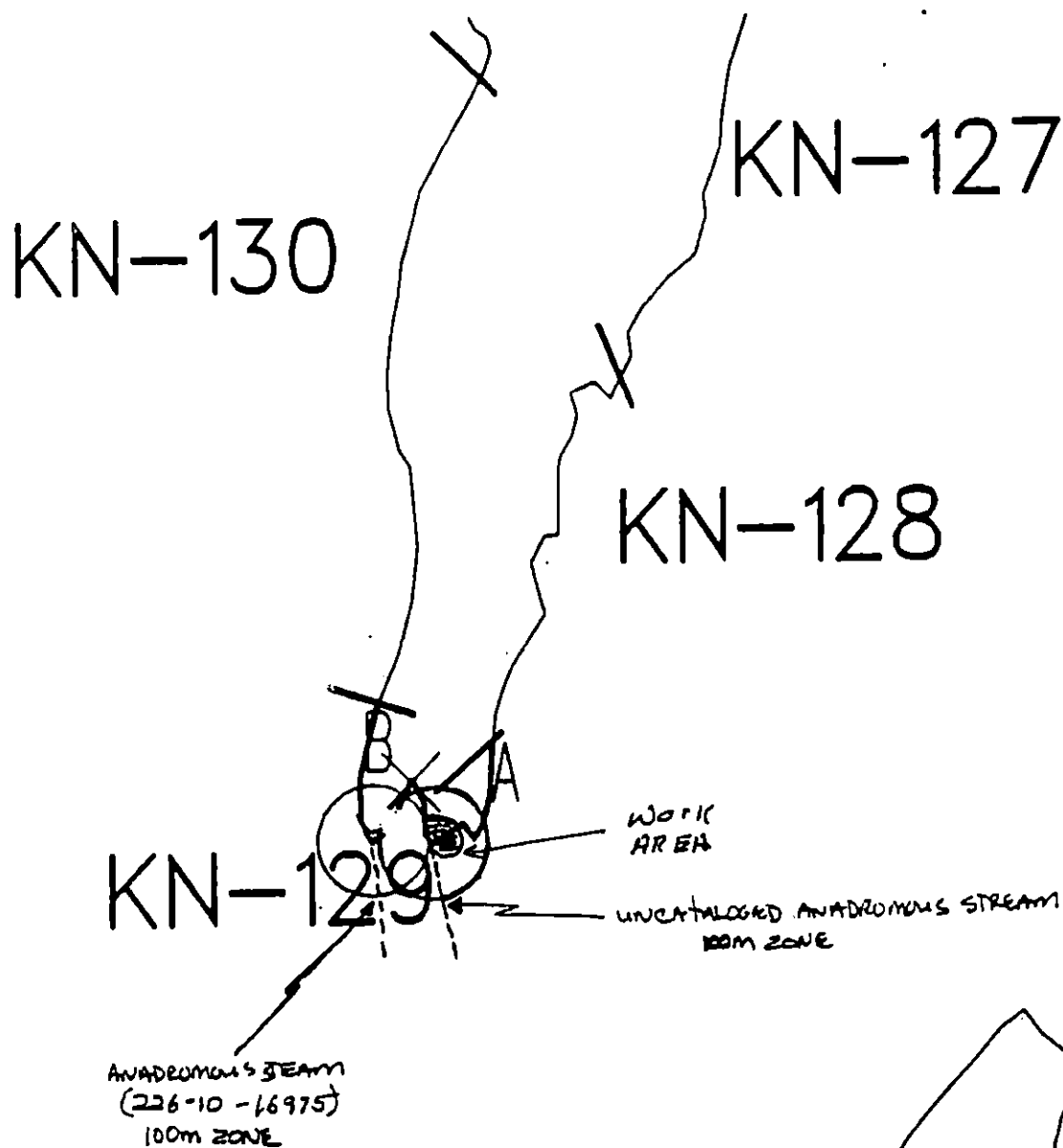
**SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM (UNCATALOGUED STREAM)
FOR ADDITIONAL CONSTRAINT INFORMATION**

TAG APPROVAL DATE 6/04/90
 ADEC R. M. Morris
 EXXON Andy T. ...
 NOAA Joseph Talbot
 USCG G. A. ...

FOSC [Signature] Date 6/5/90

Prepared by Anna Meyer Date 6/4/90

* INCORPORATES USFWS 01110
MAP OF ACTIVE BALD EAGLE
NESTS.



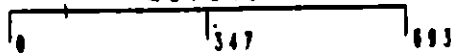
Exxon Company, USA
Map Key: KNI-KN-129
May 11, 1990



ECOLOGY MAP SEGMENT KN-129

SUBDIVISION A (1 of 3)

METERS



Seabird Colony



Eagle Nest

1 inch = 1137 feet

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-129 A STREAM NO: 226-10-16975 DATE 4/24/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Subject salmon stream, previously uncatalogued, now numbered 226-10-16975 (P, 2/90)

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)

1B Salmon stream mouth - spawning (7/10 to 8/31)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. No additional ecological constraints. Subject stream is located in Subdivision B (2 of 2).

SHPO SIGNATURE: Rachel Jean One DATE: 5/22/90

Subsurface Oil Observed: Yes X No Maximum Depth 10 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual tarmat removal, and
2) bioremediation of areas shown on attached sketch map. Work should
be conducted between 5/15 and 7/10 based on salmon constraints with
approval of ADF&G regarding bioremediation near stream bank.

TAG COMMENTS: NO BIO WITHIN STREAM AREA (50m) PRIOR TO JUNE 1
PERMIT REQUIRED FOR BIO AFTER JUNE 1

TAG APPROVAL DATE: 5/18/90.

ADEC ART WEINER

EXXON AMY GIL

NOAA GARY PETRAE

USCG G.A. REITER

FOSC [Signature]

DATE: MAY 25 1990

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

Salmon stream mouth - fry outmigration (3/1 to 5/15)

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

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

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

1C **Salmon fry nursery area (4/31 to 7/31)**

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

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

1D **Esther Hatchery release (4/15 to 6/15)**

1E **Main Bay Hatchery release (4/20 to 6/15)**

1F **Sawmill Bay Hatchery release (4/15 to 6/1)**

1G **Cannery Creek Hatchery release (4/21 to 6/1)**

1H **Remote release site**

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

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

1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511

1I **Gill net area (6/7 to 8/31)**

1J **Purse seine area (7/20 to 9/30)**

1K **Purse seine hook-off (7/20 to 9/30)**

1L **Set net sites (6/11 to 7/25)**

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

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

2M **Herring spawning (4/1 to 6/15)**

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

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

3N, 3P **Harbor seal and sea lion pupping (5/15 to 7/1)**

3O, 3Q **Harbor seal and sea lion molting (8/15 to 9/15)**

Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.

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

ADF&G Don Calkins 267-2403

5R **Seabird colony (5/1 to 9/1)**

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

ADF&G Tom Rothy 267-2206

5T **All Bald Eagle nests (3/1 to 6/1)**

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

6U **Recreation: Tent sites (8/1 to 9/15)**

6V **Anchorage (6/1 to 9/15)**

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

6X **Lodge (6/1 to 9/15)**

6Y **Special use destination**

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

1H **Finfish harvesting**

7L **Deer harvesting (8/15 to 2/28)**

7J **Invertebrate harvesting**

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

AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359

FIELD SHORELINE COMMENT SHEET

43/4

226-10-16975

ASC #

SEGMENT ST 1 KN-129 A SUBDIVISION: not documented cataloged DATE 24 MAR 90

USCG

NAME Kerwin L. Dreher SIGNATURE cwo K. L. Dreher

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

Withhold recommendation of Bolsing (COH) method.

~~ADFG~~ → ADFG

NAME Rick Gustin SIGNATURE Richard J. Gustin

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

Perform work during proper tide window 0 → minus if possible
Remove oiled gravels, patches etc. along east side of creek.

Survey entire beach area and remove oiled vegetation or isolated oil patches where found.

Use Bolsing Process on boulders on west bank of stream

~~LAND MANAGER~~ → NONE

NAME Rick Gustin SIGNATURE Richard J. Gustin

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

in the upper inter-tide where oiled.

Till areas after removal of oiled gravels/sediment.

SHORELINE OILING SUMMARY (ANAD)

REVISION NO. 04

OG CAL LARSON USCG DREHER, CWE SEGMENT ST/ KN129E
 BIO KEN CRITCHLOW LAND REP STREAM NO NUMBER 1 OF 7
 EXXON DARRELL YOE ADFG BARBARA-AIMEE WISEMAN TIME 09:45 to 10:10
 TEAM NO. 14 TIDE LEVEL +4 DATE 4/24/90
 EST. SUBDIVISION LENGTH: 30 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo
 SURFACE SEDIMENTS: R 5 % B 40 % C 25 % P 25 % G 5 % S 5 % M 5 % V 5
 SLOPE: Long 50 % Hang 30 % Vert 20 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 5 m M 5 m N 4 m VL 5 m NO 21

SURFACE OIL

CHARACTER	DISTRIBUTION					OIL / FILM COLOR					IMPACTED ZONES			
	E	N	P	R	S	1	2	3	4	5	SU	U	M	U
ASPHALT PAVEMENT		✓				✓					✓	✓		
POOLED														
COVER			✓					✓				✓	✓	
COAT														
STAIN				✓		✓					✓			
MOUSSE														
PATTIES														
TARBALLS														
FILM														
NO OIL											✓			

PAVEMENT H F (S) 50 sq. m by 5PATTIES / TARBALLS BA

NEAR SHORE SHEEN? NO BR RW SL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

Did You Col
 DEBRIS
☐ YES ☐ NO

TYPE #BAGS

Photographs:

Roll No. Frames

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR					PIT ZONE				ANA	REMARKS (Y/N)	↓	SURFA SUBSUR SEDIME
		OP	OR	OL	OP	NO		SO	VO	1	2	3	4	5	SU	U	M	U				
1	20					✓	.								✓							OR, SO, R
2	15					✓	.								✓					Y	✓	OR, SO, R
3	32		✓				5yo	✓	✓								✓			N		PA, OR, S
4	25					✓	.								✓							PA, OR, S
							.															PA, OR, S
							.															PA, OR, S

COMMENTS OILED UNDER COBBLES/BOLDERS ON SOUTH SIDE
OF POCKET CUE.

REVIEWED JWDATE 4-26

SEGMENT ST/KN129 d15

STREAM NO. 1000000

DATE 9/24/90

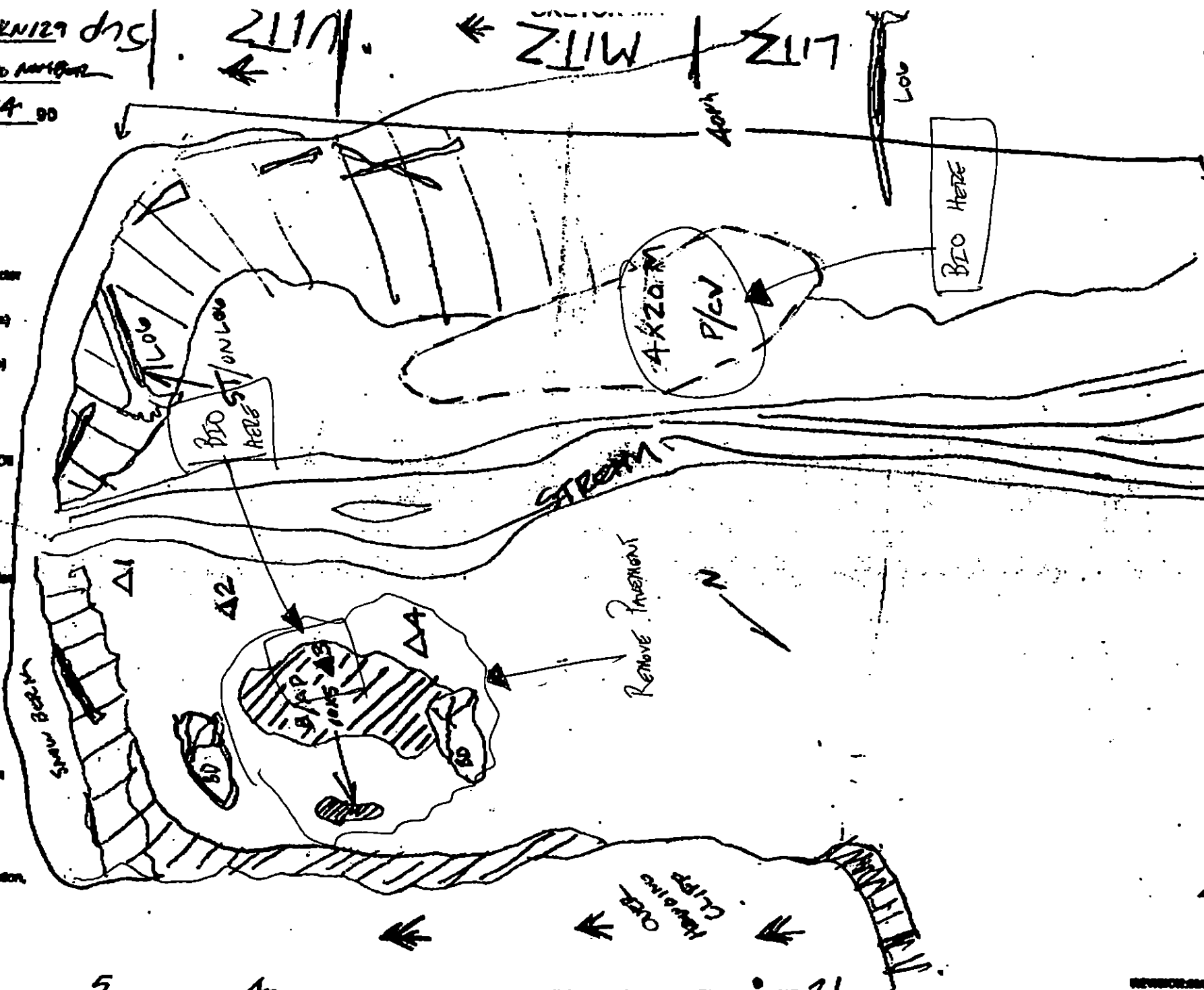
CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Body
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HWA/LM
- ☐ SBL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ P/L Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ
P/L - No Subsurface Oil2 Δ
P/L - Subsurface OilCT/C
Continuous DistributionCT/D
Broken DistributionCT/P
Patchy DistributionCT/S
Scattered Distributioneee
Oiled Vegetation1 →
Photo location, direction,
and number

Oil Character Length (m): AP 5 PO CV 4 CT ST MS PT TS FL NO 21



40/40

ADFG MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: ES 2 DE TS AYS SOM FIVE PTA 2 REGION: 2 2 2 2 2

METHOD Aerial Point Boat

3 DATE: 1-24-90 15 HIGH TIDE TIMES: 1 21 TEAM RECORDED: R. L. Smith

4 START TIME: 0953 16 HIGH TIDE HTS: 1 22 OBSERVERS: A. W. Wapner

5 STOP TIME: 1011 17 LOW TIDE TIMES: 1 23 AGENCY: ADFG

6 SEGMENT #: KN129E 18 LOW TIDE HTS: 1 24 PHOTOS TAKEN: Y 2

7 STATION #: _____ 19 TIDE HT AT SURVEY: _____ Roll #: _____ Frame: _____

8 K-UNIT: _____ 20 USCG QUAD: _____ Station: 219 End: 235

9 STAT AREA: _____ 21 LONG: _____ 22 SAMPLES TAKEN: Y 2 2 2

12 SOURCE: NO Local 23 CATALOGED: Y 2 2 2 2

13 LOCATION: Smith's Bay, Henning Bay 24 CATALOG #: NONE

14 DESCRIPTION: Knish 25 25 OIL IN STREAM BED: Y 2 2 2 2

26 OIL ON STREAM BANK: Y 2 2 2 2

27 OIL ON BEACH ADJACENT TO MOUTH: Y 2 2 2 2

28 OIL WITHIN 1 MILE OF STREAM: Y 2 2 2 2

EXTENT OF OIL

	SHORELINE				STREAM			
	L	V	H	N	L	V	H	N
27 SURFACE COVERAGE								
28 SURFACE THICKNESS	1-2mm	1/2 in						
29 PENETRATION	Shallow	10-15 cm						
30 OVERALL OIL IMPACT:	N	VL	L	H	N	VL	L	H
31 OIL TYPE:	Pooled	<u>Emulsion</u>	Tar	Asphalt	Slick	Stain		
32 OILED DEBRIS:	<u>Y</u>	N						
33 SHORELINE TYPE:	Marine	Low-lying Beach	Beach	<u>Coast</u>				
34 WAVE EXPOSURE:	High	Moderate	<u>Low</u>					
35 SUBSTRATE TYPE:	Bedrock	Boulder	<u>40</u>	Cobble	<u>25</u>			
	Crustal	<u>35%</u>	Sand		Mud/silt			

43 ANADROMOUS FISH PRESENT: Y 2 2 2 2

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

COMMENTS: observed oil on east bank of stream

scattered patches of oil gravel oiled areas primarily east

bank - approx 1 mile T-2. Mixed organic/oil sludge

seen at within edge 20-40' long

A6/AE

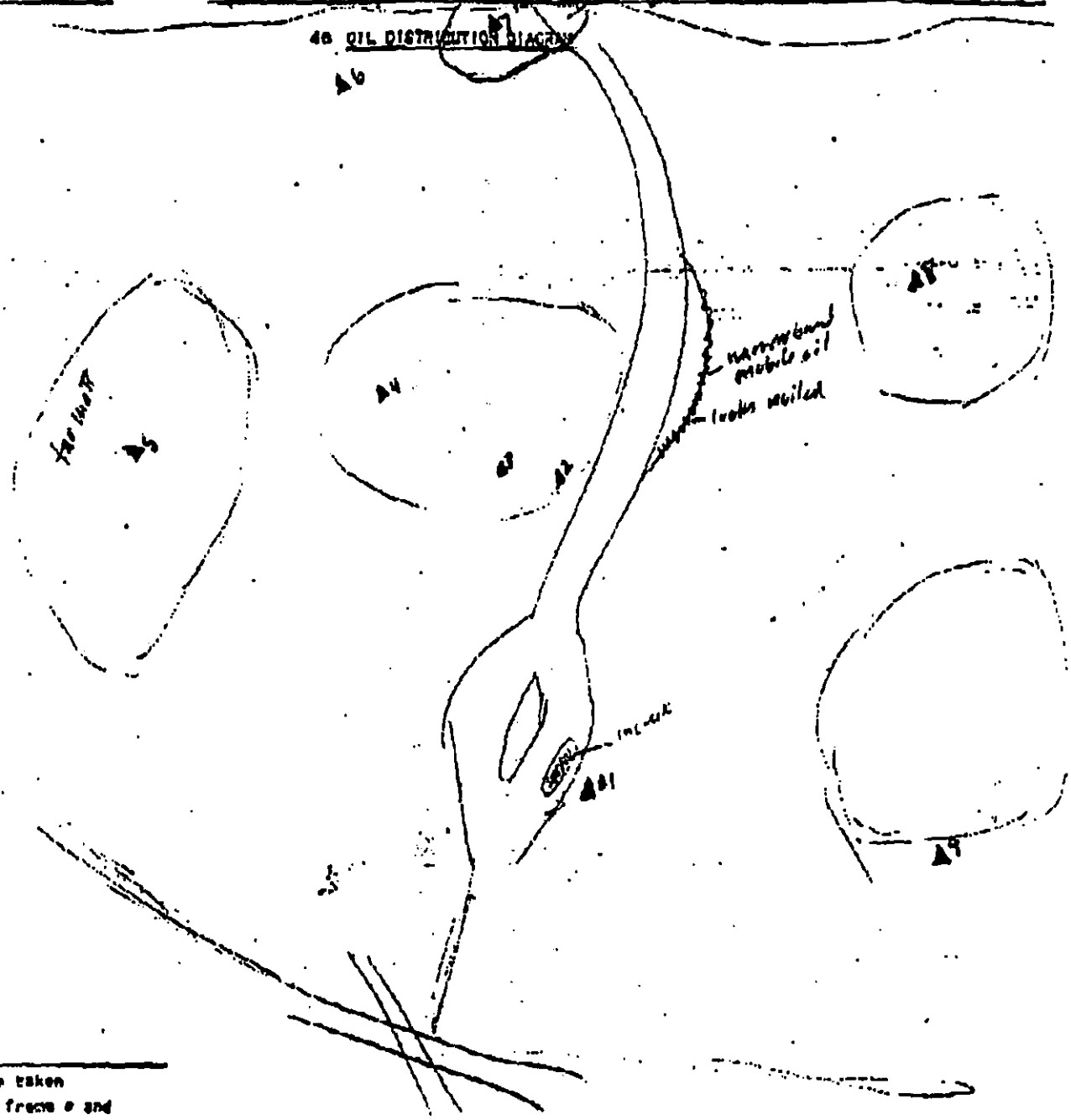
48 PHOTOLOG

FRAME(S)	DESCRIPTION
5000 2nd - 3rd	pit #1 15cm deep 4cm oil from top down
	pit #2 25cm deep 18cm oil from top down
	pit #3 20cm deep 30cm oil from top down
	pit #4 20cm deep 8cm oil 3cm in hole
	pit #5 15cm deep 3cm oil heard strong
	pit #6 19cm deep no noticeable oil
	pit #7 20cm deep no oil noticed
	pit #8 20cm deep 20cm oil deep 3cm in hole
	pit #9 20cm deep 5cm oil deep 3cm in hole

Rosa Miller (Whitely)
Linda Hess project coord.

48 OIL DISTRIBUTION DIAGRAM

broken 3 1/2" - 4" but
resistant to fire



Scatter taken
Photo frame 8 and
snow direction.

Remove with scrapers tar bands on faces of bedrock cliffs. AS/AE

Remove oiled vegetation or other debris as found.

Remove oiled tar bands and sediments along stream edge (primarily N side of stream from upper I.T.Z. to top of L.I.T.Z.)

Remove and or wash with some type of ^{mechanical} rock washer the oiled portions on the north side of creek that are heavily oiled and penetrate up to 30cm.

Remove and or wash with rock washer, areas of tar matts and deep oil penetration on south side of stream.

Remove sediments in stream that produce sludge.

Use Bolsing Process (CaOH) on large substrate on south side of stream in upper I.T.Z.

After removal of oiled sediments fill the areas skimmed as well as other oiled areas and treat with the Bolsing Process (CaOH).

Consult with city council of Whittier, and Homer regarding acceptance of oiled gravels to be composted with Bolsing Process (CaOH) and used for road repair, maintenance, and construction rather than shipping to Oregon. Perhaps arrangements to haul to Whittier by landing craft or barge + shipment to Homer by truck/train could be arranged.

This is already being done by state cleanup crews.

(Ken Miller, Linda Hyce) - State Oilspill Response.
of Whittier

Whittier Linda Hyce 492-2345

Homer Planning Dept. 235-3106

REPORT 1330 23-01 FROM EMUL AND JORDON TO BART TERNI FIG 4/4E
Seg ID: KN-129 E Subdiv: No ASC #
Survey Date: 4/24/90
Comments of: Ken Critchlow

About 25 percent of the UITZ, MITZ and LITZ were oiled (cover and asphalt pavement on this small pocket beach. Subsurface oil was found in association with asphalt pavement on the east side of the stream in the lower UITZ and upper MITZ. Some stain was observed on a log in the STZ.

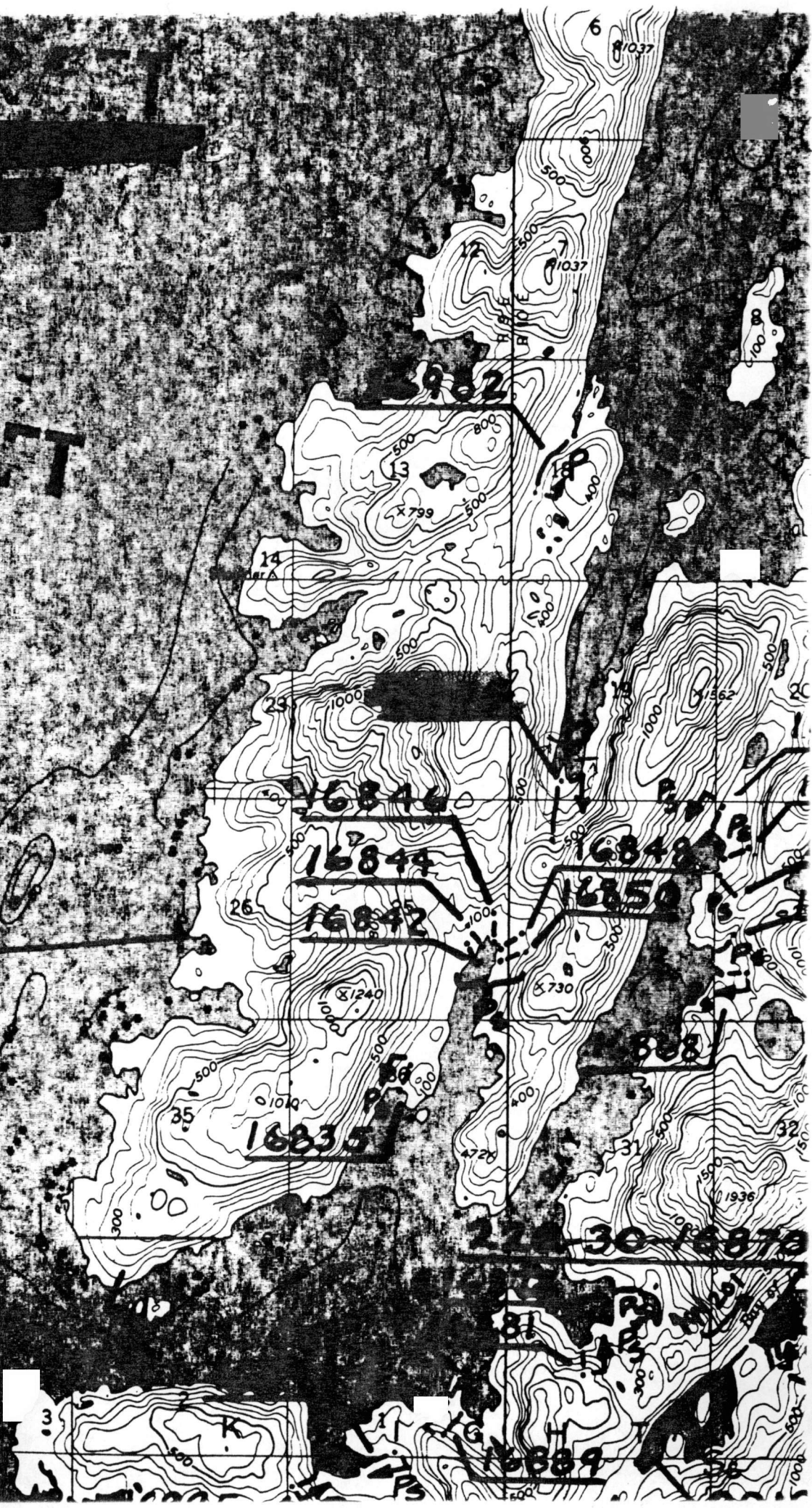
I suggest that oiled surface sediments be removed by shovel. If asphalt pavement proves difficult to remove completely, till beach sediments to the depth of oil penetration and apply Inipol. Oil stain on the log may be removed by scraping the surface. Boom-off the entire cove and use snare boom on the beach to minimize contamination of the stream and to contain sheen.

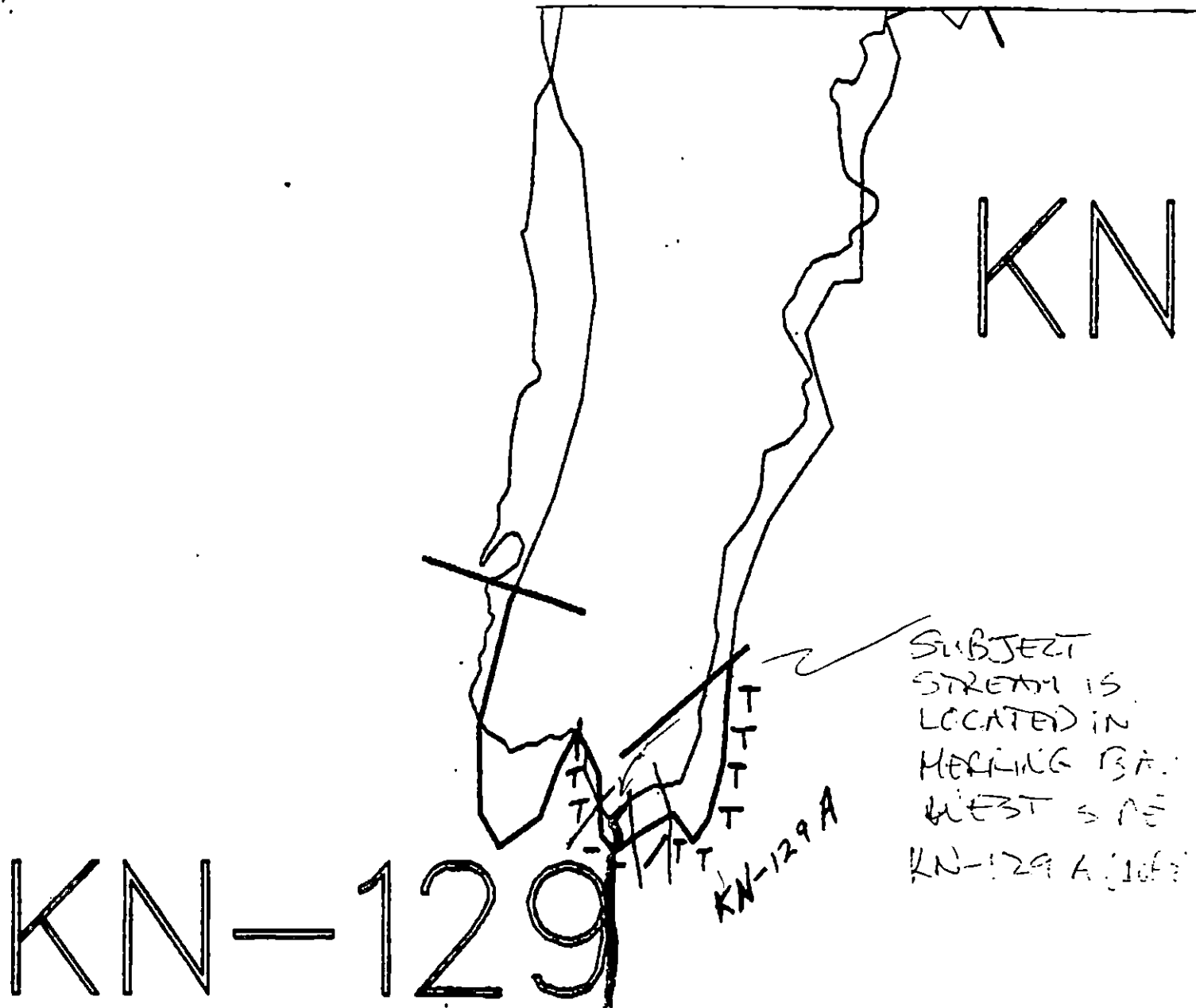
KR Critchlow

PAGE 25-30

DRAFT

226-10
226-20





KN-129 A 300 meters

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

KN-129A

ADEC Segment Length: 802m

EXXON Segment Length 532m



Map Key: PWS-311

Name: Greg Chapp / Tom Stump

Date: March 30 1990

ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. KN-129A Uncatalogued Stream

SEGMENT KN-129 SUBDIVISION A

WORK WINDOW	
Tarmat Removal	OPEN
Bioremediation Less Than 100m From Stream	WORK PRIOR TO 7/10 (ADF&G MONITOR REQ.)

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

An uncatalogued anadromous stream is in Subdivision A. This subdivision is closed to bioremediation less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation is permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation more than 100m from stream. No constraint to tarmat removal.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or banks. No flushing of pollutants or sediments into stream drainage; do not allow Inipol to enter stream flow. On-site examination and consultation by ADF&G monitor is required prior to bioremediation in order to authorize a setback distance from the stream during chemical application; if ADF&G monitor's presence is impossible, authorization may be given by the ADEC monitor. Avoid any unnecessary disturbance or damage to uncolled biota and substrate.

SEE SUBDIVISION CONSTRAINT ADDENDA KN-129A & KN-129B
FOR ADDITIONAL CONSTRAINT INFORMATION.

TAG APPROVAL DATE 6/04/90
ADEC Ray Mcgarry R. Mcgarry
EXXON Amor Ten Amor Ten FOSC D. Zavaroff Date 6/4/90
NOAA Joseph Tallant Joseph Tallant
USCG G.A. REITER G.A. Reiter

Prepared by Andrew Meyer AM Date 6/3/90

KN-130

KN-127

KN-128

KN-129

WORK
AREA

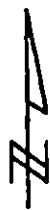
UNCATALOGED ANADROMOUS STREAM
100m ZONE

ANADROMOUS STREAM
(226-10-16975)
100m ZONE

Anadromous Stream Evaluation: 226-10-16975



Exxon Company, USA
Map Key: KN1-KN-129



ECOLOGY MAP
SEGMENT KN-129
SUBDIVISION A (1 of 1)
METERS

- ★ Seabird Colony
- ▲ Eagle Nest

1:25,000 - 1:125,000

SHORELINE EVALUATION

SEGMENT ST/ KN-129 SUBDIVISION B (2 OF 2) DATE 3/30/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Salmon stream mouth (ADF&G catalogue Rev. 2190, #226-10-16975) - fry outmigration (1A) 3/1 to 5/15 and spawning (1B) 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

(1A,1B) No disturbance of stream bed or banks unless authorized by ADF&G. Contact ADF&G Habitat Division prior to treatment for units.

SHPO SIGNATURE: J. David McManis DATE: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 49 m: V.Light 346 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 15 cm

RECOMMENDATIONS:

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

COMMENTS:

+ PARTIES
MANUAL PICKUP OF OILED DEBRIS AND TRASH. MANUAL RAKING IN AREA OF PIT 1 PRIOR TO BIOREMEDIATION (SEE SKETCH)

TAG COMMENTS:

TAG APPROVAL DATE: 4/18/90

ADEC ART WEINER
EXXON ANDY TELL
NOAA Burt Wierhoff
USCG G.A. FEITER

FOSC: ML

DATE: 4-29-90

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN 129 SUBDIVISION: B DATE 3-30-90

USCG

NAME MST Pat Phay / PSE Ed White SIGNATURE Pat Phay / Ed White

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Sporadic oil coats on bottom of boulder in U.I.T. zone. Grass in the upper intertidal should be monitored for recovery this summer. If it doesn't recover top layer should be removed. A stream runs through the middle of the subdivision. Small amount of trash and debris (poppons). Suggest boulders in the upper intertidal be turned.

ADEC

NAME Dianne Munson SIGNATURE Dianne Munson

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Turn boulders at h.i.t.z. to expose oil coating, use a beach crew to steam and flush. Where oil was observed at 0-15cm use mechanical dredging/cleaning of native beach materials with redeposition of the same materials on the site. At h.i.t.z. where oil was observed under grass mat to 5cm. remove manually. Pick-up debris.

Note: Snow at supra tidal (unobserved)
Anadromous Stream.

LAND MANAGER

NAME Mandrella / Phillips SIGNATURE Dave Mandrella / Steve Phillips

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Sensitive Stream # 16932
UI behind large rock: monitor for grass recovery (June)
turn over boulders (UI)
may need absorbant boom along creek
if grass doesn't recover, pick up top 5cm.
pick up debris esp. pom-pom strands

SHORELINE OILING SUMMARY

REVISION NO. 08/20/90

OG Chaney / Sawyer USCG Malay / White SEGMENT ST/ KN129
 BIO Roth / Benson LAND REP Phillips / Mandrella SUBDIVISION B (2 of 2)
 EXXON Sotelo / Kathimopolis ADEC Cunningham / Munson TIME 13:00 to 13:45
 TEAM NO.: 7 and 8 TIDE LEVEL: 5 to 7 DATE March 1 30 1990
 EST. SUBDIVISION LENGTH: 232 m ☒ Sun ☒ Clouds ☐ Fog ☒ Rain ☒ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock Snow
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 10 % B 70 % C 10 % P 10 % G - % S - % M - % V - %
 SLOPE: Long 90 % Hang - % Vert 10 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W - m M - m N 5.3 m VL 179 m NO - m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	R	B	P	NO	1	2	3	4	5	6	7	8	SU	U	M	V
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT																
STAIN																
MOUSSE																
PATTIES																
TARBALLS																
FILM																
NO OIL																

PAVEMENT: H F S - sq. m by - cmPATTIES/ TARBALLS 1 BAGSNEAR SHORE SHEEN? ☒ NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☒ YES ☐ NOTYPE Pem Pem#BAGS 1

Photographs:

Roll No. St-8-1Frames 4, 5

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UO	1	2	3	4	5	6	7	8	SU	U	M	V		
1	20						0.5-1.5																GP
2	20						- - -																GPS
3	15						- - -																GPS
4	20						0-5																GPS
							.																
							.																

COMMENTS St/KN129B: Sporadic oil coats bottom of boulders in upper inter tidal.
 Snow covers supratidal zone. Possible debris and trash within storm surge line
 Oiled interval from 0-5 cm in Pit 4 does not constitute subsurface oil. YH

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/23/90

Segment ST / KNO129 Subdivision B Date (mo / day / yr) 3/30/90

Time (24 hr) 1300 Biologist Roth/Benson

- (A) Substrate type and % of segments:
 (1) Bedrock 10 (2) Boulder 70 (3) Cobble 10 (4) Pebble 10 (5) Sand 0 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense 0 Moderate 30 Low 70
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs:
 Roll No. ST-B-2

Frames 4,5

BARNACLES

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	X	2	2	X	2	2	X	2	
3	3	3	3	3	3	3	X	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

MYTILUS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	3	X	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

GASTROPODS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	X	2	
3	3	3	3	3	3	3	3	3	3	X	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

FUCUS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	X	2	2	X	2	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

Wildlife Observations/ General Comments:

We did not observe the low intertidal zone in this Subdivision.

Ecological Considerations:

Sensitivities: 1B (Salmon spawning)

OG Greg! ney/Tom Sawyer

SEGMENT ST/ 129

SUBDIVISION B

DATE Mar 130 90

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Site Grid
- ☐ Oil Dist
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. PML/VL
- ☐ SSI
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pt Location(s)
- ☐ Photo Location(s)

LEGEND

1 ▲

Pt - No Subsurface Oil

2 ▲

Pt - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

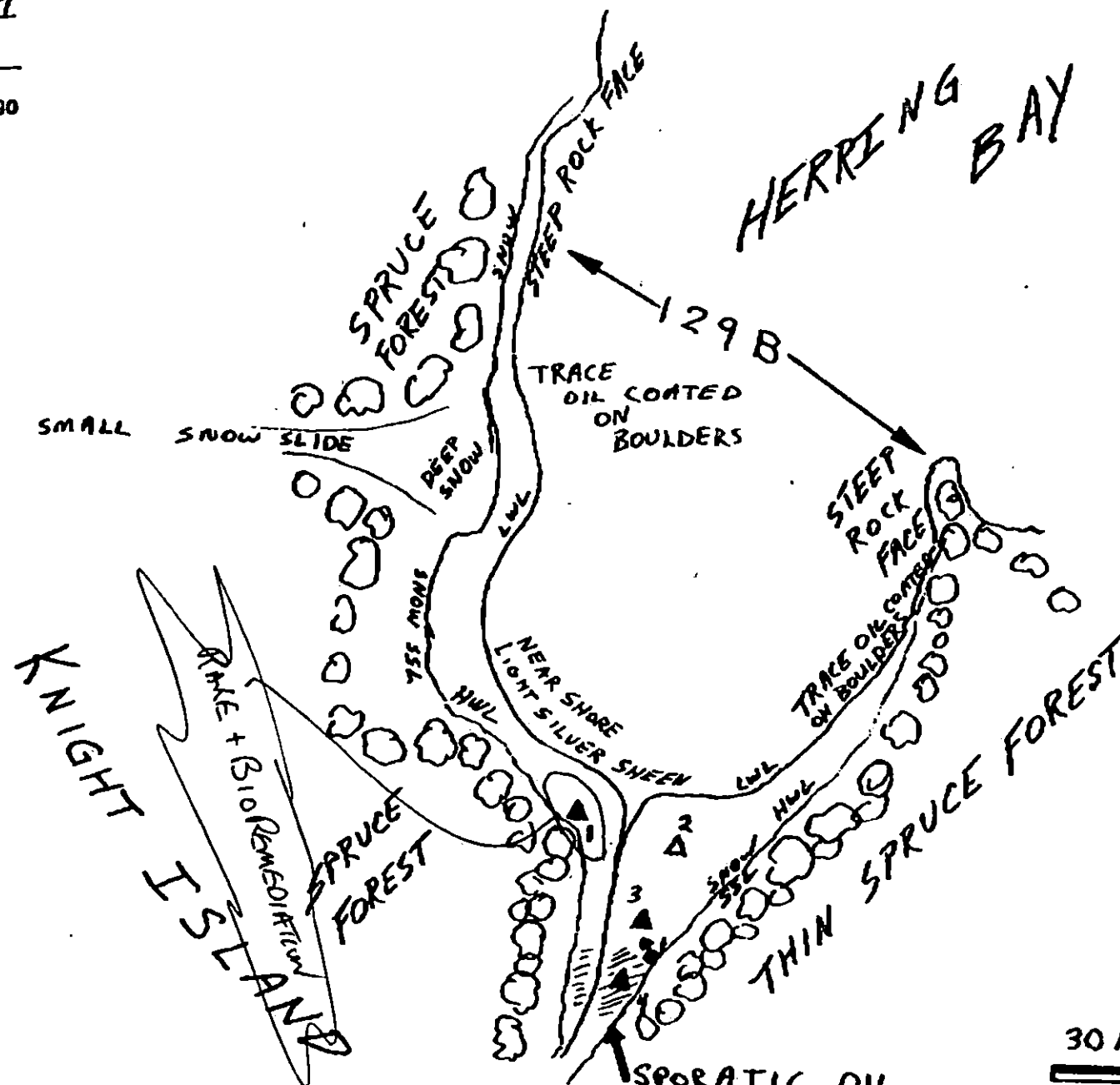
CT/S

Splashed Distribution

Oiled Vegetation

1 ●

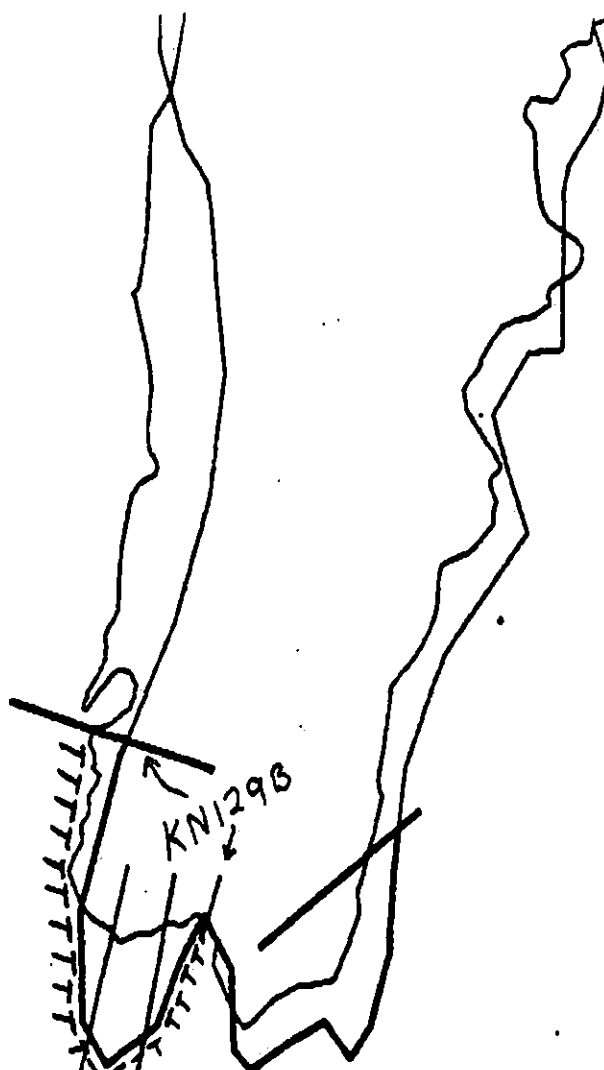
Photo location, direction,
and number



Oil Character Length (m): AP — PO — CV — CT 60 ST — MS — PT 80 TB — FL 15 NO. —

REVISION 000000

KN



KN-129

Sub segment length 232

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-129B

ADEC Segment Length: 802m
EXXON Segment Length: 532



Map Key: PWS-311

Name: Chaney/Sawyer

Date: 3-30-90

Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS**SEGMENT KN-129 SUBDIVISION B (2 of 2)****WORK WINDOW**

Manual Pickup

OPENBioremediation and Manual Raking
Less Than 100m From Stream**WORK PRIOR TO 7/10
(ADF&G MONITOR REQ.)****ARCHAEOLOGICAL STANDARD CONSTRAINT**

If cultural resources are uncovered, PHONE 564-3274

APPLICABLE ECOLOGICAL TIME CONSTRAINTS**1A,1B Salmon Stream**

ADF&G catalogued anadromous stream (226-10-16975) is in Subdivision B. This subdivision is closed to bioremediation and manual raking less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation and manual raking are permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation and manual raking more than 100m from stream. No constraint to manual pickup.

OTHER ECOLOGICAL CONSIDERATIONS

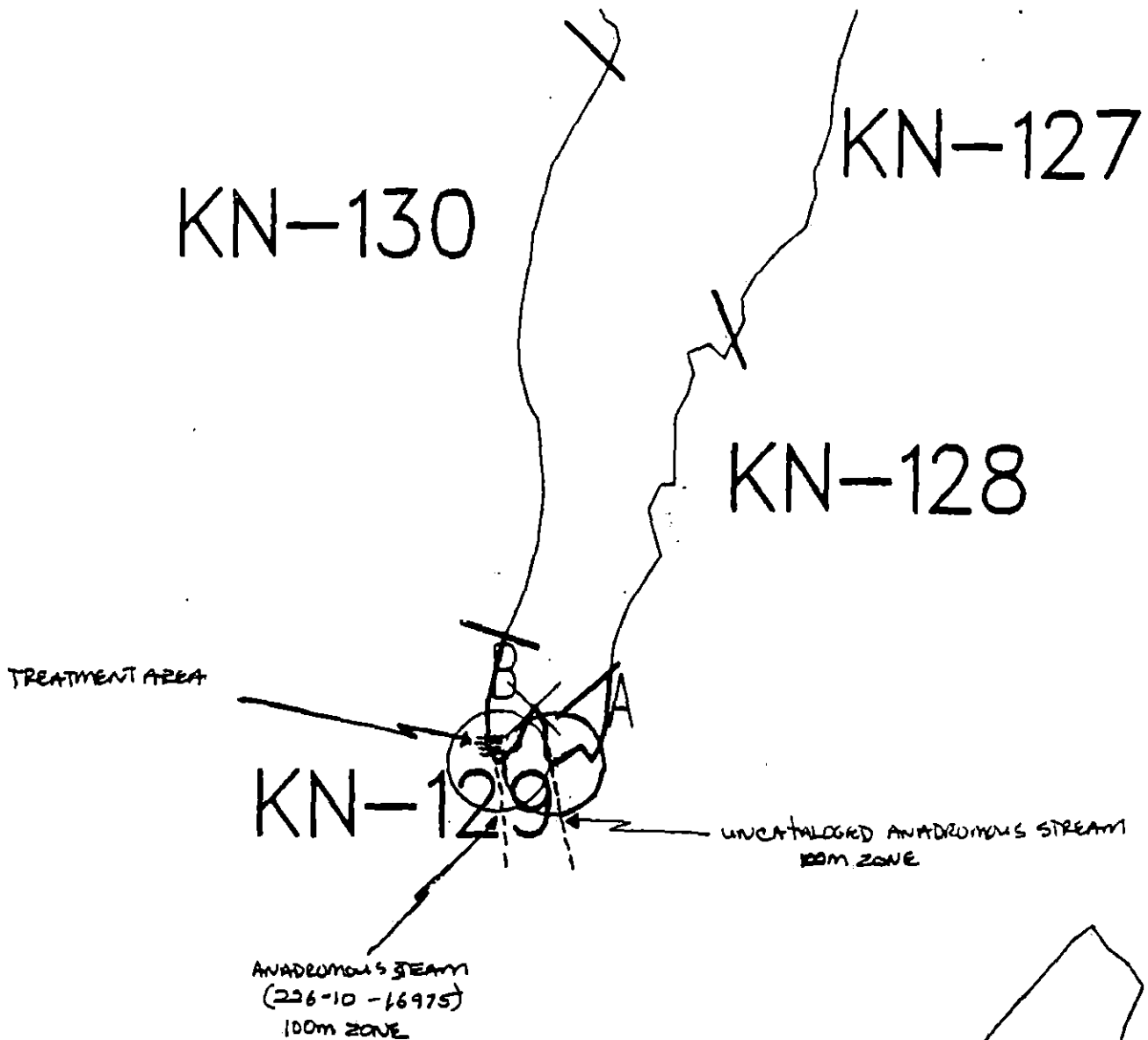
No disturbance to stream bed or banks. No flushing of pollutants or sediments into stream drainage; do not allow inpol to enter stream flow. On-site examination and consultation by ADF&G monitor is required prior to bioremediation in order to authorize a setback distance from the stream during chemical application; if ADF&G monitor's presence is impossible, authorization may be given by the ADEC monitor. Avoid any unnecessary disturbance or damage to uncollected biota and substrate.

**SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM (STREAM NO. 226-10-16975)
FOR ADDITIONAL CONSTRAINT INFORMATION**

TAG APPROVAL DATE 6/04/90
 ADEC Ray Morris
 EXXON ANDY GEAR
 NOAA Joseph Talbot
 USCG G.A. Kleiter

FOSC D. ZauschDATE 6/5/90Prepared By: London MeyerDate 6/4/90

* Incorporates USFWS Active
Bald Eagle Nest Survey
Map 6/1/90



Xon Company, USA

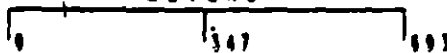
Map Key: KN1-KN-129

May 11, 1990



ECOLOGY MAP
SEGMENT KN-129
SUBDIVISION B (2 of 3)

METERS



- ★ Seabird Colony
- ▲ Eagle Nest

1 inch = 1137 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-130 SUBDIVISION A (1 OF 1) DATE 4/23/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:
No specific constraints identified.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

SHPO SIGNATURE: Charles E. Hoffman DATE: 5/3/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 956 m: V. Light 215 m: No Oil 0 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS:

TAG COMMENTS: MONITORS TO ASSESS AREA CHECK SHEENING AND
NEED FOR TARBALL PICKUP.

TAG APPROVAL DATE: 5/3/90.
ADEC ART WEINER Noted
EXXON ANDY TAYLOR Agreed
NOAA Gary Petros Agreed
USCG KENNETH KEANE Agreed

FOSC: DATE: 5-8-90

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ KN 130 SUBDIVISION: A DATE 4-23-90

USCG

NAME BM3 David A. Sylvester SIGNATURE BM3 David A. Sylvester

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

There was a light sheen in the lower to subtidal zone. The tips on 3 logs were splattered with oil however it was less than 10% of the log. Removal of the tips of those logs could create a safety hazard, due to the fact they support the other end of the log. This area should be reassessed at a later date.

ADEC

NAME Dianne Munson SIGNATURE Dianne Munson

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

- Primarily high angle boulder beach with bedrock cliff behind.
- Surface at high tide has splashy, sporadic, patchy coats.
- Low tide area is actively sheening although no subsurface oil was detected in pits. Wading with slight agitation produces brown/rainbow sheen.
- oiled trees and logs, 50% oiled.
- Recommend removal of oiled trees/logs and passive collection with sorbents where active sheening is taking place for interim protection of possible sensitive resources.

LAND MANAGER NAME David Mandrella SIGNATURE David Mandrella

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

- Primarily low to high angle boulder cobble beach with 1-2 meter band of patchy coats in upper intertidal zones.
- Remove oiled portions of logs and branches.
- No subsurface oil was noted in Pits 8, 9, 10 however disturbance of substrates in shallow water produced a brown/rainbow sheen.
- This portion of segment could be rechecked at time of cleanup operations to determine whether further treatment is needed.

SHORELINE OILING SUMMARY

REVISION NO. 04/13/90

OG A. Pittenger USCG D. Sylvester SEGMENT ST/ KN130
 BIO J. Bencart LAND REP D. Mandcella SUBDIVISION A (1 OF 1)
 EXXON C. Katsimpalis ADEC D. Munson TIME 06:24:09:04
 TEAM NO. #8 TIDE LEVEL -1.4 to -3.4 DATE 4/23/90
 EST. SUBDIVISION LENGTH: 1291 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: South to North
 SURFACE SEDIMENTS: R 30 % B 40 % C 25 % P 5 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Lang 20 % Hang 60 % Vert 10 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 1091 m VL 200 m NO 0 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES				
	C	B	P	R	1	2	3	4	5	SU	U	M	V	U
ASPHALT PAVEMENT														
POOLED														
COVER														
COAT														
STAIN														
MOUSSE														
PATTIES														
TARBALLS														
FILM														
NO OIL														

PAVEMENT H F S 0 sq. m by 0 cmPATTIES/TARBALLS < 1 BAGSNEAR SHORE SHEEN? NO ☒ BR ☒ RW ☒ SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐TYPE Plastic/Rope#BAGS < 1

Photographs:

Roll No. 54-8-4Frames 15

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR					PIT ZONE				AN A	SHEEN (Y/N)	↓	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UG	UC	1	2	3	4	5	SU	U	M	U				
1	40					X	.										X		N	>40	P.G.S-G, S	
2	25					X	.								X				N	15	C, P-B, C, F	
3	30					X	.									X			N	2	P.G-P, G	
4	40					X	.										X		N	>40	C, P-P, G	
5	35					X	.										X		N	>35	P, G-P, G, S	
6	25;					X	.								X				N	>25	B, C-C, P, G	

COMMENTS

REVIEWED YWDATE 4/24/90

SHORELINE OILING SUMMARY (PAGE 2)

REVISION 06/13/90

SEGMENT ST/ KN130 SUBDIVISION A (1 OF 1)

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR						PIT ZONE				A N A	SHEEN (Y/N)	↓	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UO	W	W	W	W	W	W	BU	U	M	U				
7	40					X	.														N	30	C, P, B - B, S
8	35					X	.														N	30	C, P - P, G
9	45					X	.														N	35	C, P - C, P, G
10	35					X	.														N	25	C, P - C, P
11	35					X	.														N	>35	P - P, G
							.																
							.																
							.																
							.																
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							.																
							.																
							.																
							.																

COMMENTS

REVIEWED YW DATE 4/24/90

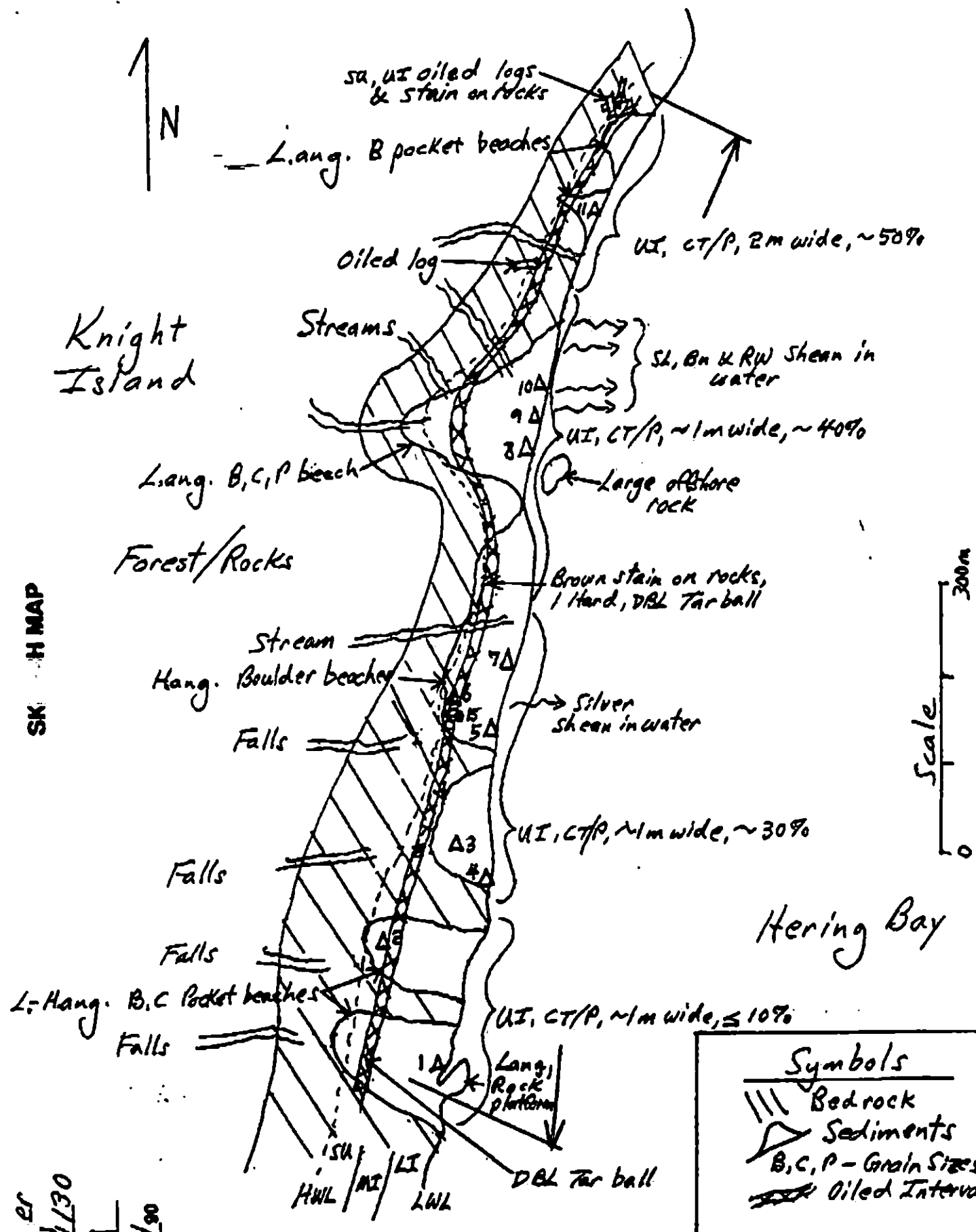
OG Pitt er
SEGMENT STK 130

SUBDIVISION A
DATE 4/23/90

- CHECKLIST
- ☐ M Areas
 - ☐ Approx. Scale
 - ☐ Map Scale Ratio
 - ☐ Oil Data
 - ☐ Width
 - ☐ Length
 - ☐ % Cover
 - ☐ Substrate Character
 - ☐ Est. HMLA/M
 - ☐ S/S
 - ☐ Profile Location(s)
 - ☐ Profile(s)
 - ☐ Photo Location(s)
 - ☐ Photo Location(s)

LEGEND

- 1 Δ
- 2 Δ
- PH - No Substrate Oil
- PH - Substrate Oil
- CT/C
- CT/B
- Broken Distribution
- CT/P
- Partial Distribution
- CT/S
- Spotted Distribution
- CLV
- Clad Vegetation
- Photo location, direction, and number



Character Length (m) AP O PO O CV O CT 129/ ST 30 aer O pr O m 2. ri O m O

SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/22/78

Segment ST / KN130 Subdivision A Date (mo / day / yr) 4/23/90

ne (24 hr) 0630-0900 Biologist Benson

- (A) Substrate type and % of segments:
 (1) Bedrock 30 (2) Boulder 40 (3) Cobble 25 (4) Pebble 5 (5) Sand 0 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense 40 Moderate 40 Low 20
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L): juveniles / adults (X), new settlement (O)

Photographs:
 Roll No. ST-8-4
 Frames 15

BARNACLES

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

MYTILUS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

GASTROPODS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

FUCUS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

Wildlife Observations/ General Comments:

mature bald eagle (Haliaeetus leucocephalus) flying over bay

Ecological Considerations: None

The number of species is moderately high. This is surprisingly high compared to nearby segments and considering the paucity of tidepools. Heterogeneity of substrate and crevice sizes may promote species diversity here. The standing stock of algae (primarily Fucus and filamentous green algae) is very high by the southern third of this segment and seems to be correlated with increased shade cast by surrounding hills.

ECOLGY MAP (1 OF 1)

SOURCE CODES FOR ENTIRE
SEGMENT:

NONE



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

KN-130

ADEC Segment Length: 1171m
Exxon Segment Length: 1291m

Map Key: PWS-313

Name: Pittenger

Date: 4/23/90

SEGMENT ST/ KN-131 SUBDIVISION A (1 OF 1) DATE 4/23/90

SUBDIVISION ECOLOGICAL CONSTRAINTS:

SHPO SIGNATURE: J. David McMahon DATE: 5/1/90

Wide_0_m: Medium_409_m: Narrow_615_m: V.Light_486_m: No Oil_0_m
Subsurface Oil Observed: Yes X No Maximum Depth 25 cm

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

COMMENTS: Recommend bioremediation of areas where subsurface oil is found as shown on sketch map. No specific ecological or time constraint identified. MAINTAIN PICKUP OF ASPHALT PATCH INDICATED ON SKETCH

TAG COMMENTS: _____

TAG APPROVAL DATE: 5/1/70
 ADEC ART WEINER Art Weiner
 EXXON ANDY TRAL Andy Tral
 NOAA GARY RETROG Gary Retrog
 USCG KENNETH KEANE Kenneth Keane

FOSC: ML DATE: 5-8-92

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN 131 SUBDIVISION: A 1 of 1 DATE 4-23-90

USCG

NAME Patrick Malay SIGNATURE Patrick Malay

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

This segment consisted of very weathered stains and coats. The majority of the segment was steep bedrock & boulder that would limit our cleanup techniques. I suggest bioremediation in the areas where the beach was low sloping and the pits were dug.

ADEC

NAME M. Cunningham SIGNATURE M. Cunningham

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Most of this segment contained tar coats on boulder headlands w/ 45° slopes. Suggest Granular biorem to infiltrate sub-surface space btwn boulders. Hand till gravel patches near pits 1-3, then bio. Check storm berm for debris (m snow melted). Vertical coats on headlands pose eyesore however leave to natural weathering.

LAND MANAGER

NAME Steven Phillips SIGNATURE Steven Phillips

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Remove asphalt patch near barge. Debris was picked up as found, most storm berms were clear of snow. Tar coats were very visible including "bathtub rings". Most all tar coats were not scrapable so another, hydraulic method would need to be developed to break up the straight line and speed weathering. This applies to almost the entire segment. Oil has soaked in between the boulders. Bioremediate around boulders near pit 1, 2, 3, 4, 5, and 6. Avoid bioremediation within the pits.

SHORELINE OILING SUMMARY

REVISION NO. 04-13-90

OG Greg Chaney USCG Pat Malay SEGMENT ST/ 131
 BIO Jim Roth LAND REP ONR Steve Phillips SUBDIVISION A (1 OF 1)
 EXXON Ray Sotelo ADEC Mike Cunningham TIME 06:2009:35
 TEAM NO. 7 TIDE LEVEL -0.8 ft to 4.4 ft DATE April 23, 1990
 EST. SUBDIVISION LENGTH: 14.58 m ☒ Sun ☐ Clouds ☒ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: North to South
 SURFACE SEDIMENTS: R 30 % B 50 % C 15 % P 5 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 5 % Hang 60 % Vert 35 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 365 m N 640 m VL 453 m NO 0 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR				IMPACTED ZONES			
	C	R	P	S	1	2	3	4	SU	U	M	U
ASPHALT PAVEMENT				X	X	X	X	X	X			
POOLED												
COVER				X	X	X	X	X				
COAT	X	X	X	X	X	X	X	X	X	X	X	X
STAIN	X	X	X	X	X	X	X	X	X	X	X	X
MOUSSE												
PATTIES												
TARBALLS												
FILM				X	X	X	X	X				X
NO OIL									X			

PAVEMENT ☒ F S 2 sq. m by 5 cmPATTIES / TARBALLS Collected BAGSNEAR SHORE SHEEN? NO BR RW ☒ SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs	X		
Vegetation			
Trash	X		
Debris	X		

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐
yellow rope,
deck launch, fire h.
 TYPE fishing net,
purple plastic bag
 #BAGS 3

Photographs:

Roll No. ST-7-4Frames 11, 12, 13, 14, 15

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR				PIT ZONE				A N A	SHEEN (Y/N)	↓	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	1	2	3	4	SU	U	M	U				
1	30		X				0-10		X				X			X			Y	20	PC-PGM
2	25		X				0-25	X					X		X				Y	24	B-SMB
3	20		X				0-5		X				X		X				Y	10	B-GB
4	30		X				0-2		X				X		X				N	0	C-GM
5	35					X	.							X					N	30	C-GM
6	30					X	.							X					Y	25	P-GM

COMMENTS

See attached.

REVIEWED 7CW DATE 4/24/90

COMMENTS
SEGMENT BT-KN-131-A

Greg Chaney
April 23 1990

The survey of segment KN-131-A began at dawn and therefore the littoral sediments were wet even though the skies were clear. Oil was present in some form along the entire length of the segment. This oil was primarily in the form of weathered tar coats and stains. It appeared that significant quantities of mobile oil had been present in the past but the oil had weathered to stable tar coats. Therefore even though 365 meters of the segment were classified as "Medium" in width, they do not seem to be a major source of mobile oil at this time. Rare silver sheens were observed in the LITZ so it can be assumed that some mobile oil is still present in the segment. Small pockets of finer sediments were located in the vicinity of all pits. Surficial residual oil was present in all pit locations but depth of penetration was generally minor except for pit #2 where residual oil was present to +25 cm. Further excavation of pit #2 was not possible due to boulders in the area. A few small patches of asphalt pavement were located near pit #4 but the total area covered is probably less than 2 square meters.

OG *Shug Chany*
 KN 131
 SEGMENT ST/131

SUBDIVISION A

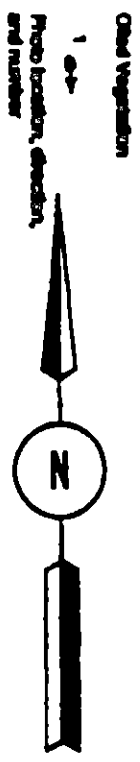
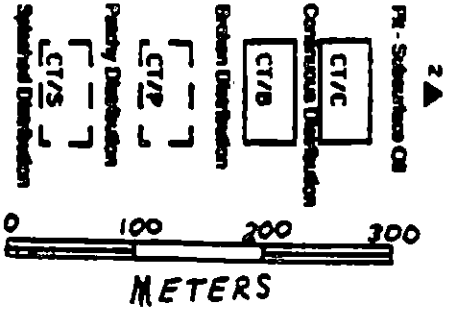
DATE April 23 90

CHECKLIST

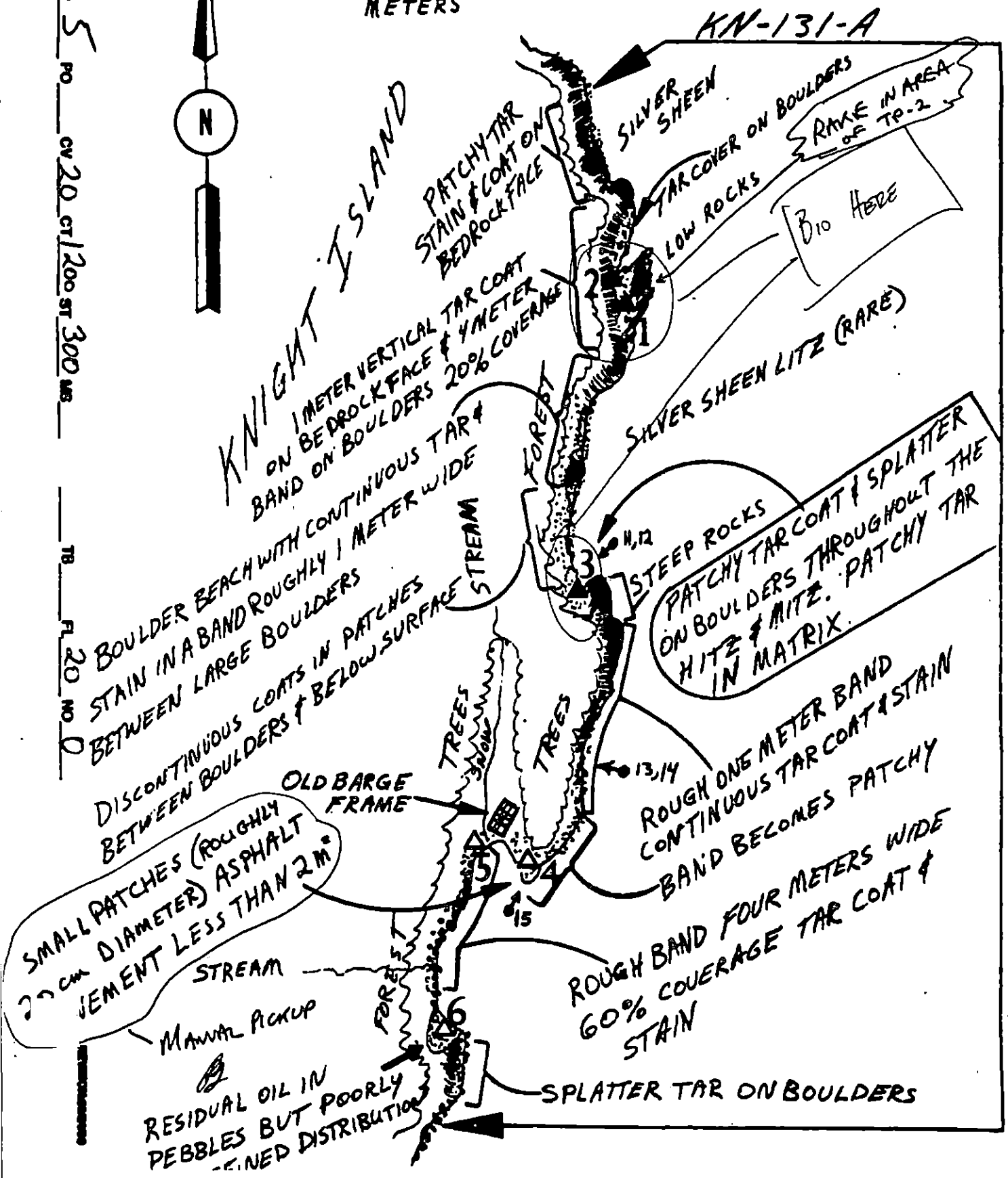
- ☐ M. Area
- ☐ Approx. Scale
- ☐ Sample Grid
- ☐ On Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. H.W./L.W.
- ☐ S.S.L.
- ☐ Profile Location (e)
- ☐ Profile (e)
- ☐ Photo Location (e)
- ☐ Photo Location (e)

LEGEND

- 1 Δ Pt. - No Substrate On
- 2 Δ Pt. - Substrate On



On Channel 5 PO CV 20 CT 1200 ST 300 MS TB FL 20 NO 0



SKETCH MAP

HERRING BAY

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / EN-131 Subdivision A Date (mo / day / yr) Apr 23, 90Time (24 hr) 0625-0930 Biologist ROTH

(A) Substrate type and % of segments:

(1) Bedrock 30 (2) Boulder 50 (3) Cobble 15 (4) Pebble 5 (5) Sand — (6) Silt —(B) Overall % cover of biota (% of segment): Dense 40 Moderate 40 Low 20

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

Photographs:

Roll No. ST-7-4Frames 11-15

BARNACLES

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	NOT PRESENT
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

MYTILUS

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	NOT PRESENT
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

GASTROPODS

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	NOT PRESENT
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

FUCUS

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	NOT PRESENT
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

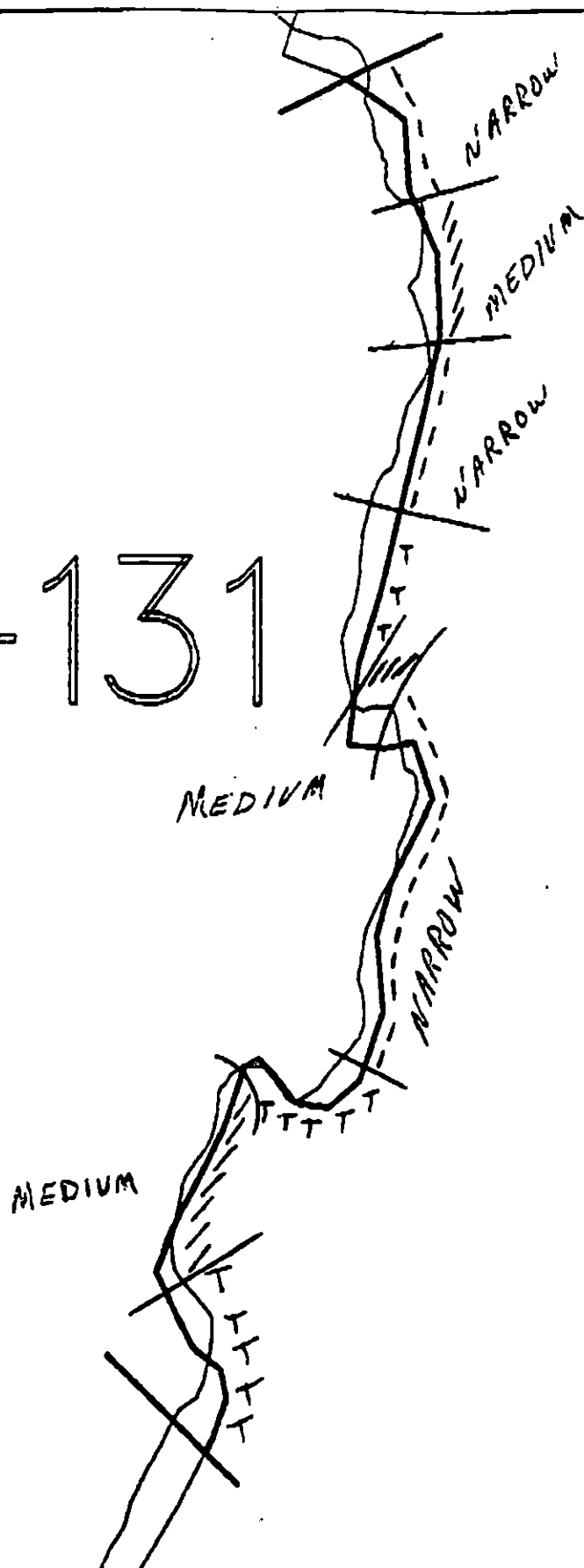
Wildlife Observations/ General Comments:

TWO HARBOR SEALS, ONE IMMATURE BALD EAGLE SEEN. THIS SEGMENT IS CHARACTERIZED BY A DIVERSE BIOTA, PARTICULARLY RICH IN STARFISH SPECIES. THE NORTH TWO-THIRDS ARE SLIGHTLY MORE EXPOSED THAN THE SOUTHERN THIRD. NORTH SECTION CHARACTERIZED BY

Ecological Considerations: RHODOMELA, RHODYMENIA, ULVA, AS WELL AS FUCUS. PISASTER WAS

NONE NOTED. COMMON. THIS SEGMENT WAS VISITED DURING A MIDGE TIDE, & IT IS POSSIBLE THAT THE LENGTH OF THE SPECIES LIST WAS INFLUENCED BY THIS FACT; HOWEVER, ALL OF THE STARFISH SPECIES OCCURRED IN THE MIDGE AS WELL AS THE L-2, AND NO TIDEPOOLS — USUALLY CHARACTERIZED BY A VARIETY OF SPECIES — OCCURRED IN THE L-2 IN THIS SECTION. VERY FEW MYTILUS WERE FOUND ANYWHERE IN THE SEGMENT. COBBLE / Boulders REACHED 10' IN THE SOUTHERN THIRD. (WATER WASHED?)

KN-131



XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

OOOO No Oil

KN-131

ADEC Segment Length: 1510m

0 100 200 300

Map Key: PWS-3140

Name: Greg ChaneyDate: April 23 1990

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-132 SUBDIVISION A (1 OF 4) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Stream mouth (anadromous catalogue 226-10-16982) - Salmon fry out-
migration (1A) - 3/1 to 5/15; Salmon spawning (1B) - 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Avoid disturbance/damage to un-
oiled biota and substrate.

SHPO SIGNATURE: Charles E. Johnson DATE: April 14, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 235 m: No Oil 0 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: Manual pickup of rope/pom-pom found during survey. Bio-
remediation of area where surface coat found.

TAG COMMENTS:

TAG APPROVAL DATE: 4/13/90.

ADEC JOHN BAUER John Bauer

EXXON ANDY TEAL Andy Teal

NOAA Burt Warroff Burt Warroff

USCG G.A. BEITER G.A. Beiter

FOSC: W L DATE: 4-20-90

FIELD SHORELINE COMMENT SHEET

INMENT ST / KN 132 SUBDIVISION: A DATE 3/31/90

USCG

NAME W. F. White SIGNATURE W. F. White☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

MANUALLY REMOVING OF OIL - DEBRIS AND TRASH REMOVAL.

ADEC

NAME Dianne Munson SIGNATURE Dianne Munson☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Low angle boulder beach. Coats are primarily on under surface of boulders. Recommend turning boulders over and manually removing oil. Possible tools could be a putty knife or wire brush. Debris and trash removal.

LAND MANAGER

NAME Dave Mandrella SIGNATURE Dave Mandrella☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Low angle boulder beach with sporadic coating of oil primarily on underside of boulders in the upper to lower intertidal zone. & post scraping and/or riving underside of boulders. Debris pickups in supratidal zone.

SHORELINE OILING SUMMARY

REVISION NO. 03/23/90

OG Gowyer USOG White SEGMENT ST/ KN132
Benson LAND REP Mandrella SUBDIVISION A (1 of 4)
 EXXON Katsingalis ADEC Munson TIME 7:30 to 9:00
 TEAM NO.: 2 TIDE LEVEL: +5.5 to +1.0 DATE Mar 13 / 1990
 EST. SUBDIVISION LENGTH: 550-290m ☒ Sun ☒ Clouds ☐ Fog ☒ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 5 % B 90 % C 5 % P — % G — % S — % M — % V — %
 SLOPE: Long 100 % Hang — % Vert — % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W — m M — m N — m VL 290 m NO — m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	C	S	P	N	1	2	3	4	5	SU	U	M	L
ASPHALT PAVEMENT													
POOLED													
COVER													
COAT													
STAIN													
MOUSSE													
PATTIES													
TARBALLS													
FILM													
NO OIL													

PAVEMENT: H F S — sq. m by — cmPATTIES / TARBALLS — BAGSNEAR SHORE SHEEN? ☒ NO BR RW SL TL

OILED DEBRIS	AMOUNT	
	SM	MD/LG
Logs		
Vegetation		
Trash		
Debris		

DEBRIS COLLECTED
☒ YES ☐ NOTYPE Plastic/Repe#BAGS 1

Photographs:

Roll No. St-8-1Frames 6, 7

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OF	OR	OL	OP	NO		UO	UC	1	2	3	4	5	SU	U	M	L		

COMMENTS ST/KN132 low angle boulder beach. Coats are primarily on the underside of boulders in the upper to lower intertidal zone. Subsurface pits were not excavated because of boulder substrate.

SHORELINE ECOLOGICAL SUMMARY

Segment ST / KN132 Subdivision A Date (mo / day / yr) 3/31/90

(24 hr) 0730 Biologist J. Benson

(A) Substrate type and % of segments:
(1) Bedrock 5 (2) Boulder 90 (3) Cobble 5 (4) Pebble 0 (5) Sand 0 (6) Silt 0

(B) Overall % cover of biota (% of segment): Dense 10 Moderate 60 Low 30

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

Photographs: Roll No. ST-B-1

Frames 627

BARNACLES

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

MYTILUS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

GASTROPODS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

FUCUS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

Wildlife Observations/ General Comments:

sea otter (Enhydra lutris)

Ecological Considerations:

sensitivities: 1B (stream mouth - salmon spawning)



OG Sawye
 SEGMENT ST/KNL32
 SUBDIVISION A (1 of 4)
 DATE Mar 1 31 80

CHECKLIST

- ☒ N Arrow
- ☒ Approx. Scale
- ☒ Seg/Sub Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. NWL/VNL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pit Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ

Pt - No Subsurface Oil

2 Δ

Pt - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Pecchy Distribution

CT/S

Splashed Distribution

Oil Vegetation

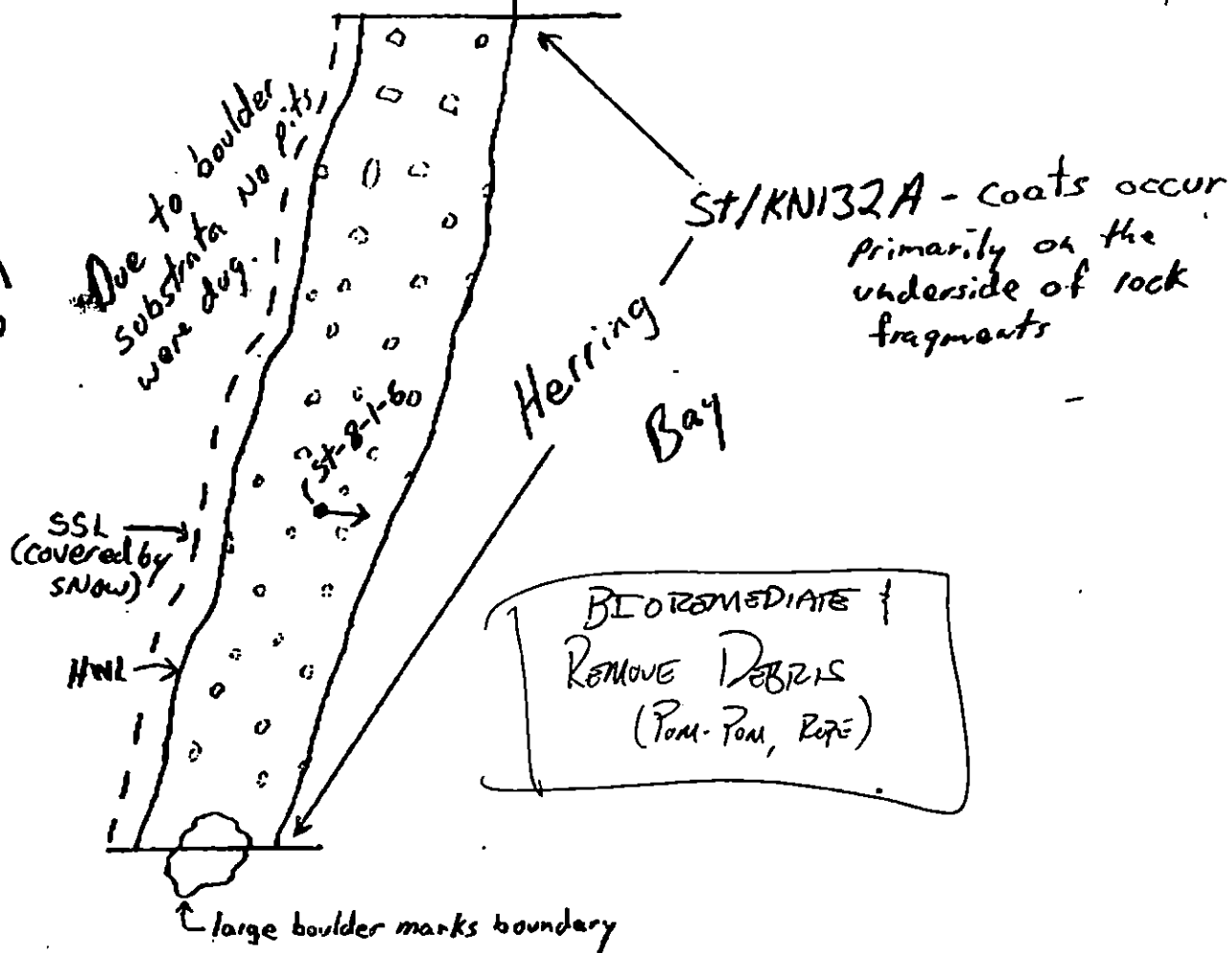
1 ●→

Photo location, direction,
and number

Forest

Alaska Dept. of Fish + Game
 No fishing sign

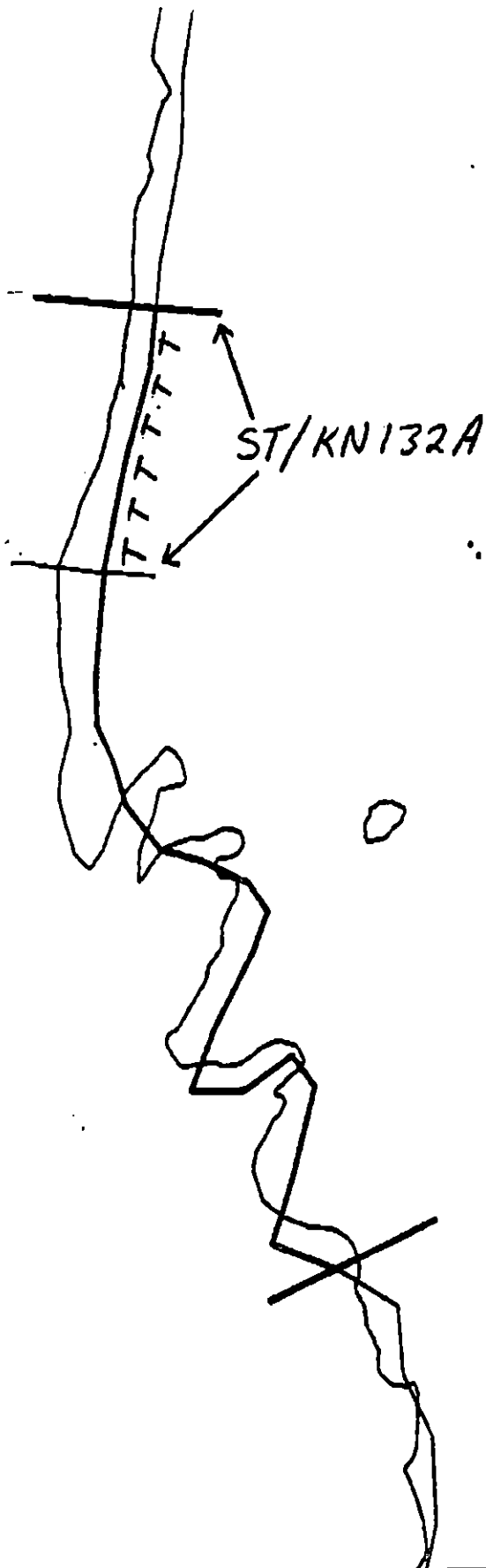
SKI MAP ST-8-1-7



~100m

Oil Character Length (m): AP — PO — CV 290 CT — ST — MS — PT — TB — FL — NO —

REVISIONS



KN-

v v X X Wide

, , / / Medium

- - - - Narrow

T T T T Very Light

0 0 0 0 No Oil

KN-132

ADEC Segment Length: 1108m



Map Key: PWS-315

Name: SawyerDate: Mar 31, 1990

Date Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-132 SUBDIVISION B (2 OF 4) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Stream mouth (anadromous catalogue 226-10-16982) - Salmon fry out-
migration (1A) - 3/1 to 5/15; Salmon spawning (1B) - 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS: No disturbance of stream bed or
banks unless authorized by ADF&G. Contact ADF&G Habitat Division
prior to treatment for permits.

SHPO SIGNATURE: [Signature] DATE: April 14, 1990

OILING CATEGORIZATION:

Wide 46 m: Medium 69 m: Narrow 55 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 22 cm

RECOMMENDATIONS:

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

COMMENTS: Bioremediate area of surface coat as shown on sketch map.
Breakup and Remove asphalt mats. Work between 5/15 and 7/10 based
on constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/13/90
ADEC JOHN BAUER
EXXON ANDY GIL FOSC: [Signature] DATE: 4-20-90
IOAA Burl Westcott
JSCG G.A. REITER

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ KN 132 SUBDIVISION: B DATE 3-31-90

CG
NAME W. E. WHITE SIGNATURE W. E. White

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

TREATMENT OF THIS SEDIMENT - RECOMMEND HIGH QUALITY
TREATMENT - DUE TO FISH AND GAME - HEAVY OIL
SHORE LINE.

ADEC
NAME Dianne Munson SIGNATURE Dianne Munson

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED This subsegment
COMMENTS is adjacent to a high quality anadromous stream. Very
extensive asphalt/pavement (ca 1300 sq. meters with a maximum
thickness of greater than 22 cm). Oil saturates pore spaces between
surface sediments. Black oil globules surface in pits interstitial
water (definitely mobile). This subsegment definitely needs further
attention. Because cobbles lie on top of the asphalt it would be difficult
to remove manually. Recommend mechanical dredging or mechanical
tilling with water washing. Possible bioremediation polishing.
Note: All recommendations pending Alaska Fish and Game Regulations.

LAND MANAGER
NAME David Mandrella SIGNATURE David Mandrella

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

Station is adjacent to high quality anadromous stream. Substantial
areas of asphalt pavement occur, primarily in upper intertidal zone.
Subsurface oil was measured to be up to 22 cm. thick in pit nearest stream.
Paradic and patchy coats of oil occur in all zones.
Recommend: Selected removal of asphalt pavement.
Scraping and absorbing underside of boulders and cobbles.
Manual tilling of heavily impacted areas along with spot flushing
and placement of canards.
Possible bioremediation in compliance with AK 1.1.1. 1.1.1.

SHORELINE OILING SUMMARY

REVISION NO. 05/28/98

OG Sawyer USCG White SEGMENT ST/ KN132
 BIO Benson LAND REP Mandrella SUBDIVISION B (2 of 4)
 XON Katsimpalis ADEC Munson TIME 9:00 to 11:30
 AM NO.: 8 TIDE LEVEL: +1 to -0.5 DATE Mar 13 / 90
 EST. SUBDIVISION LENGTH: 310 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☒ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 5 % B 20 % C 70 % P 5 % G - % S - % M - % V - %
 SLOPE: Long 95 % Hang - % Vert 5 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 70 m M 60 m N 35 m VL - m NO 0 m

SURFACE OIL

CHARACTER	DISTRIBUTION					OIL / FILM COLOR					IMPACTED ZONES				
	10	15	20	25	30	35	40	45	50	55	SU	U	M	L	U
ASPHALT PAVEMENT				✓								✓			
POOLED															
COVER															
COAT				✓							✓	✓	✓	✓	✓
STAIN															
MOUSSE															
PATTIES															
TARBALLS															
FILM							✓				✓	✓	✓	✓	✓
NO OIL															

 PAVEMENT: H F ⑤ 1300 sq. m by 5.20 22 cm ^{Avg = 14cm}
PATTIES / TARBALLS - 0 BAGSNEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED ☐ YES ☒ NOTYPE -#BAGS -

Photographs:

Roll No. ST-2-1Frames 8, 9, 10, 11, 12

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW	OIL / FILM COLOR										PIT ZONE	A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO			UO	UO	20	25	30	35	40	45	50	55			
1	20	✓					0.5		✓										✓	N	B, G, P
2	25						- - -		✓										✓	N	G, P, S
3	30	✓					50-22		✓										✓	N	P, G
							.														
							.														
							.														

COMMENTS ST/KN132B Low angle cobble, boulder beach with patchy and splashes of pavement in upper intertidal zone. Subsurface oil was measured to be upto 22 cm thick in pit #3. Films occur occasionally within upper and middle intertidal zones throughout segment.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST/K132 Subdivision B Date (mo / day / yr) 3/31/90

Time (24 hr) 0920 Biologist J. Benson

(A) Substrate type and % of segments:
(1) Bedrock 5 (2) Boulder 20 (3) Cobble 70 (4) Pebble 5 (5) Sand 0 (6) Silt 0

(B) Overall % cover of biota (% of segment): Dense 10 Moderate 70 Low 20

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

Photographs:
Roll No. ST-8-1

Frames 8-12

BARNACLES

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

MYTILUS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

IASTROPODS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

FUCUS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

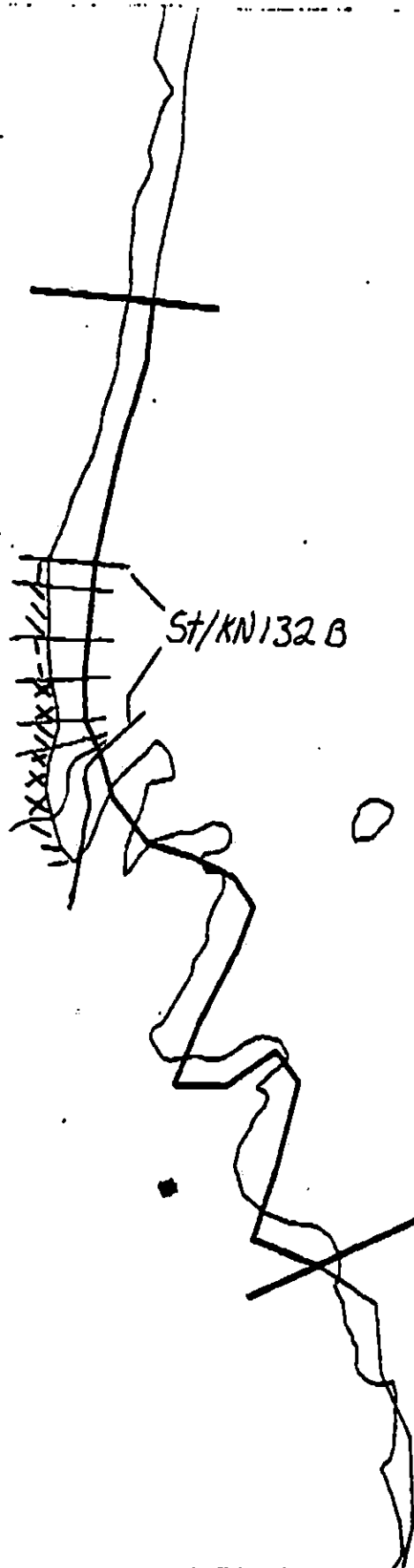
NOT PRESENT

Wildlife Observations/ General Comments:

gull

Ecological Considerations:

sensitivities: 1B (stream mouth; salmon spawning)



KN-

XXXX Wide

// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-132

ADEC Segment Length: 1108m



Map Key: PWS-315

Name: Sawyer

Date: 3-31-90

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-132 SUBDIVISION B (2 of 4)

WORK WINDOW	
Tarnat Removal	OPEN
Bioremediation More Than 100m From Stream	OPEN
Bioremediation Less Than 100m From Stream	WORK PRIOR TO 7/10 (ADF&G MONITOR REQ.)

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

ADF&G catalogued anadromous stream (226-10-16982) forms the boundary between Subdivision B and C. Subdivision B is closed to bioremediation less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation is permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation more than 100m from stream. No constraint to tarnat removal.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or bank. No flushing of pollutants or sediment into stream drainage; do not allow Inipol to enter stream flow. On-site examination and consultation by ADF&G monitor is required prior to bioremediation in order to authorize a setback distance from the stream during chemical application; if ADF&G monitor's presence is impossible, authorization may be given by the ADEC monitor. Avoid any unnecessary disturbance or damage to uncolled biota and substrate.

SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM (STREAM NO. 226-10-16982)
FOR ADDITIONAL CONSTRAINT INFORMATION

TAG ADDENDUM DATE 6/04/90
 ADEC Ram Morris R. 27/90
 EXXON AMY TEAL
 NOAA Joseph Talbot
 USCG G.A. Reiter
 FOSC [Signature] DATE 6/5/90

Prepared by: Anda Meyer JPP

Date: 6/4/90

* Incorporates USFWS
6/1/90 Active BALD EAGLE
NEST SURVEY MAP INFO.

▲ 102
ACTIVE
NEST

KN-301

97
KN-503

WORK
AREA

KN-132

KN-133

KN

-505

ANADROMOUS
STREAM

226-10-16982

KN-125

KN-131



Exxon Company, USA
Map Keys KN1-KN-132
May 11, 1990

ECOLOGY MAP
SEGMENT KN-132
SUBDIVISION B (2 of 4)
METERS

0 355 710

★ Seabird Colony
▲ Eagle Nest

1 inch = 1164 feet

ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 226-10-16982

SEGMENT KN-132 SUBDIVISION B

WORK WINDOW	
Manual Pickup Tarmat Removal	OPEN
Spot Washing	OPEN
Bioremediation More Than 100m From Stream	OPEN
Bioremediation Less Than 100m From Stream	WORK PRIOR TO 7/10 (ADF&G MONITOR REQ.)

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

ADF&G catalogued anadromous stream (226-10-16982) forms the boundary between Subdivision B and C. Subdivision B is closed to bioremediation less than 100m from stream 7/10 to 8/31. Prior to 7/10, bioremediation is permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation more than 100m from stream. No constraint to manual pickup, tarmat removal and spot washing.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or bank. No flushing of pollutants or sediment into stream drainage; do not allow Inlpol to enter stream flow. On-site examination and consultation by ADF&G monitor is required prior to bioremediation in order to authorize a setback distance from the stream during chemical application, if ADF&G monitor's presence is impossible, authorization may be given by the ADEC monitor. Avoid any unnecessary disturbance or damage to unrolled biota and substrate.

SEE SUBDIVISION CONSTRAINT ADDENDUM KN-132B
FOR ADDITIONAL CONSTRAINT INFORMATION

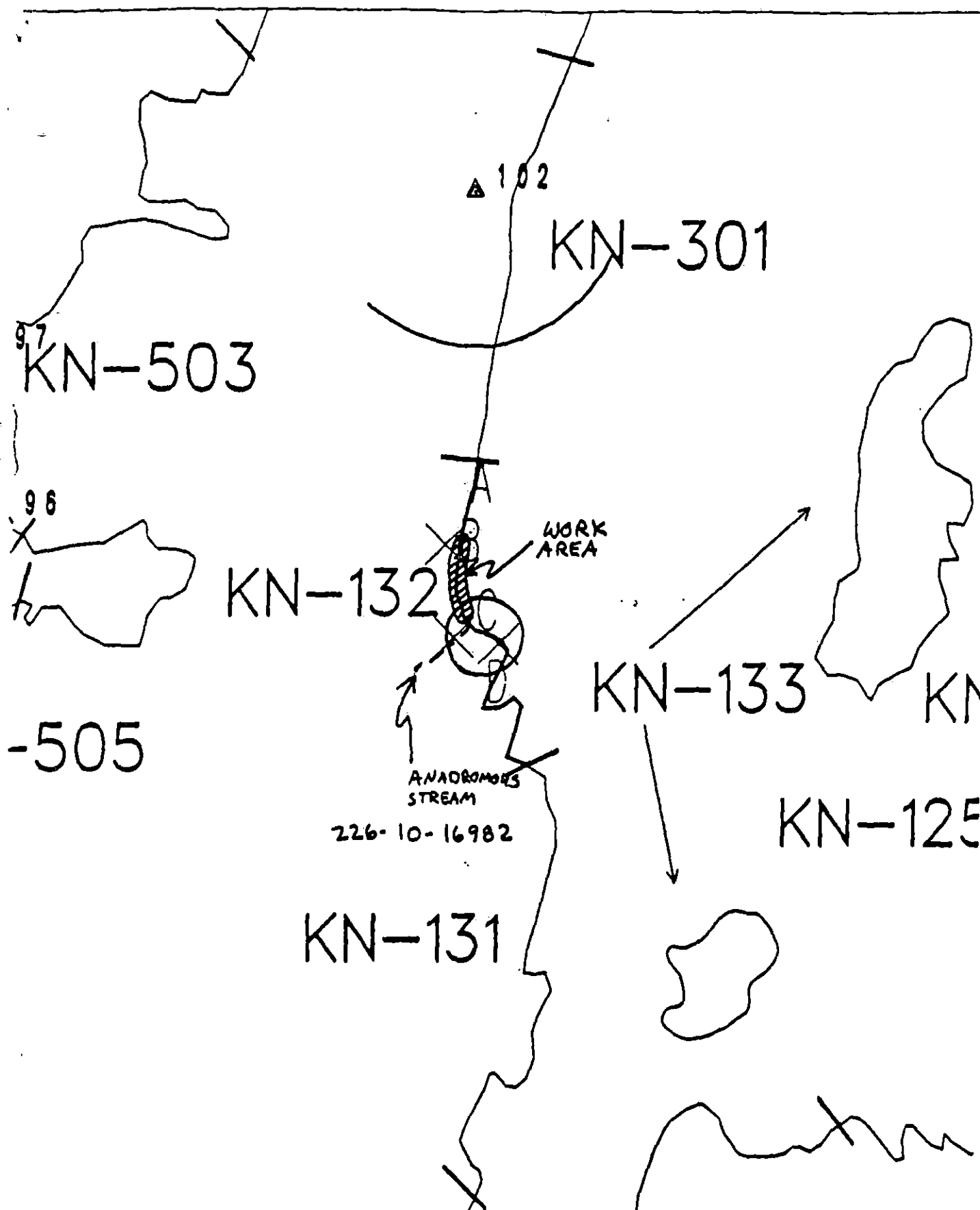
TAG APPROVAL DATE 5/29/90
ADEC Art Warner
EXXON Art Warner
NOAA B. Wascott
USCG G.A. Reiter

FOSC

DATE MAY 29 1990

Prepared By: Andrew Meyer WTR

Date 5/29/90



Exxon Company, USA
Map Keys KN1-KN-132
May 11, 1990



ECOLOGY MAP
SEGMENT KN-132
SUBDIVISION B (2 of 4)
METERS
0 355 710

- ★ Seabird Colony
- △ Eagle Nest

1 inch = 1164 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-132 SUBDIVISION C (3 OF 4) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Stream mouth (anadromous catalogue 226-10-16982) - Salmon fry out-
migration (1A) - 3/1 to 5/15; Salmon spawning (1B) - 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS: No disturbance of stream bed or
banks unless authorized by ADF&G. Contact ADF&G Habitat Division
prior to treatment for permits.

SHPO SIGNATURE: Charles E. Hume DATE: April 14, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 63 m: No Oil 106 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: Bioremediate area shown on sketch map. Work between
5/15 and 7/10 based on constraints.

TAG COMMENTS: SUGGEST CUSTOMER FOR BIOREMEDIATION
AS INDICATED ON SKETCH.

TAG APPROVAL DATE: 4/13/90

ADEC JOHN BAUER EXXON ANDY TEAL FOSC: My L DATE: 4-20-90
NOAA Burt Wessett USCG G.H. REITER

FIELD SHORELINE COMMENT SHEET

3MENT ST / AN 132 SUBDIVISION: C DATE 3-31-90**USCG**NAME W. F. WHITE SIGNATURE William F. White☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

SMALL AMOUNTS OF OIL ON COBBLES, DEBRIS
AND TRASH REMOVAL.

ADECNAME Dianne Munson SIGNATURE Dianne Munson☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

Small amounts of coats on cobbles, seen in interstitial
water. Debris and trash removal in supratidal.

LAND MANAGERNAME David Mandrella SIGNATURE David M. Mandrella☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

Sporadic coat noted on underside of boulder cobble
substrate. Debris pickups in supratidal.

SHORELINE OILING SUMMARY

REVISION NO. 00/2093

OG Sawyer USCG White SEGMENT ST/ KN132
 BIO Benton LAND REP Mandrella SUBDIVISION C (3 of 4)
 EXXON Katsimpalis ADEC Munson TIME 11:30 to 11:40
 TEAM NO.: 8 TIDE LEVEL: -0.5 to -1 DATE Mar 13 / 1990
 EST. SUBDIVISION LENGTH: 471 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 40 % B 30 % C 10 % P 20 % G - % S - % M - % V - %
 SLOPE: Long 60 % Hang - % Vert 40 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W - m M - m N - m VL 300 m NO 171 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR				IMPACTED ZONES			
	R	B	P	V	SP	BP	CP	PP	SU	U	M	L
ASPHALT PAVEMENT												
POOLED												
COVER												
COAT												
STAIN												
MOUSSE												
PATTIES												
TARBALLS												
FILM												
NO OIL												

PAVEMENT: H F S 0 sq. m by 0 cmPATTIES / TARBALLS 0 BAGS

NEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED

☒ YES ☐ NOTYPE Part of Boat#BAGS 4

Photographs:

Roll No. ST-8-1Frames 13-14

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CH)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	SP	BP	CP	PP	SL	TL	LR	SU	UM	ML	LU			
1	30					/	- - -		/	SP	BP	CP	PP	SL	TL	LR			/	N	P, G, S		
2	30					/	- . -		/									/		N	G, P		
3	15					/	- . -		/									/		N	G, P, S		
							.																
							.																
							.																

COMMENTS ST/KN132C: Pocket beaches separated by vertical bedrock cliffs.

* No oil layers observed in subsurface, however a sheen was noted in pit #3.

OG Sawya —

SEGMENT ST/KN/32

SUBDIVISION C (3 of 4)

DATE Mar 1 31 90

CHECKLIST

- N Arrow
- Approx. Scale
- Seg/Sub Body
- Oil Dist.
- Width
- Length
- % Cover
- Substrate Character
- Est. H/W/L/W/L
- SSL
- Photo Location(s)
- Probe(s)
- P4 Location(s)
- Photo Location(s)

LEGEND

1 Δ

Ph - No Subsurface Oil

2 ▲

Ph - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

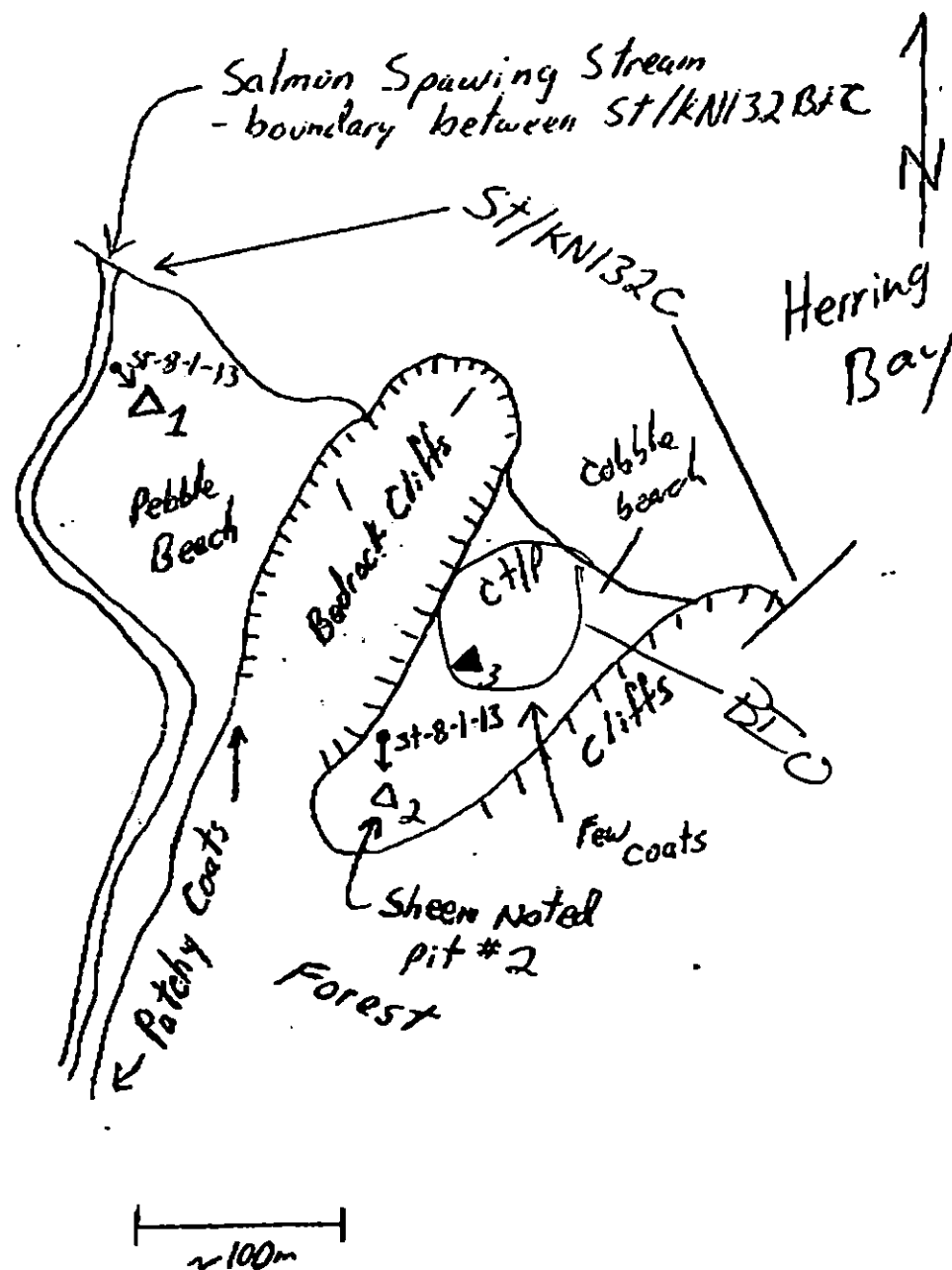
Splashed Distribution

Oiled Vegetation

1 ➡

Photo location, direction,
and number

SK H MAP



Oil Character Length (m): AP — PO — CV — CT 200 ST — MS — PT — TB — FL 30 NO 300

REVISION: 032000

SHORELINE ECOLOGICAL SUMMARY

REVISION: 8/22/90

Segment ST / KN 13a Subdivision C Date (mo / day / yr) 3/31/90Time (24 hr) 1130 Biologist J. Benson

- (A) Substrate type and % of segments:
 (1) Bedrock 40 (2) Boulder 30 (3) Cobble 10 (4) Pebble 20 (5) Sand 0 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense 20 Moderate 50 Low 30
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs: Roll No. ST-B-1Frames 13, 14

BARNACLES

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

MYTILUS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

GASTROPODS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

FUCUS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

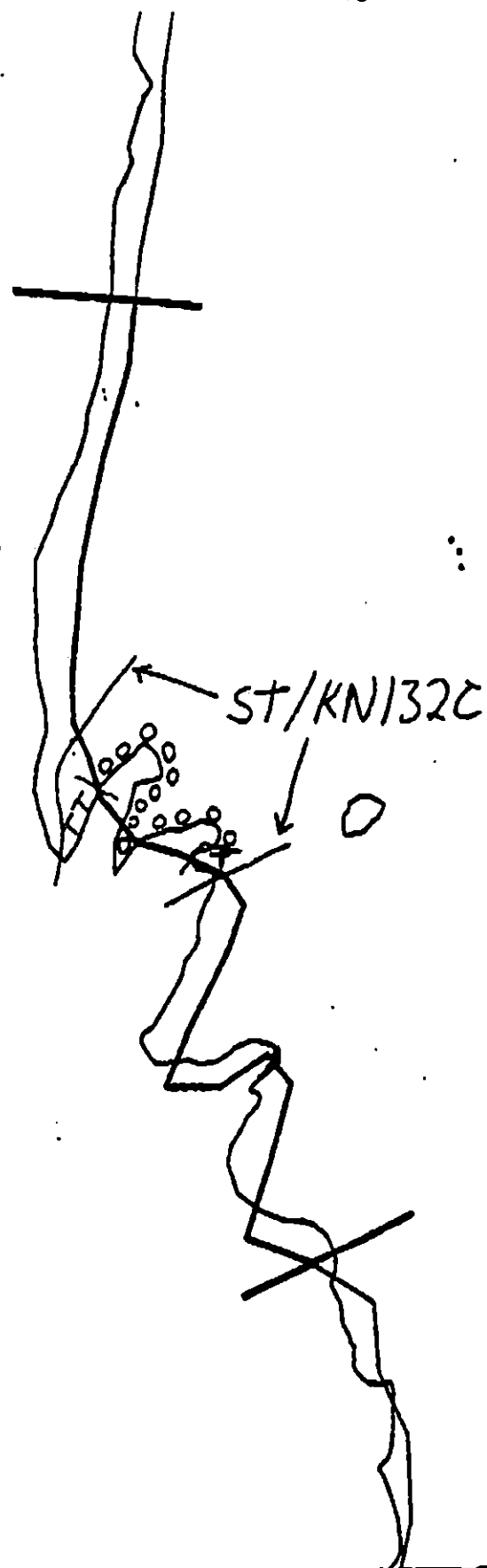
NOT PRESENT

Wildlife Observations/ General Comments:

Bald Eagle (Haliaeetus leucocephalus)Overall 1/2 cover of biota was dense which a green filamentous alga (not among 4 groups above) covered many cobbles

Ecological Considerations:

sensitivities: 1B (stream mouth - salmon spawning)



KN-

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

KN-132

ADEC Segment Length: 1108m



Map Key: PWS-315

Name: _____

Date: _____

Date Entered: _____

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-132 SUBDIVISION C (3 of 4)

WORK WINDOW

Bioremediation More Than 100m From Stream OPEN

Bioremediation Less Than 100m From Stream WORK PRIOR TO 7/10
(ADF&G MONITOR REQ.)

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,B Salmon Stream

ADF&G catalogued anadromous stream (226-10-16982) is located in this Subdivision. This subdivision is closed to bioremediation less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation is permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation more than 100m from stream.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or bank. No flushing of pollutants or sediment into stream drainage. Avoid any unnecessary disturbance or damage to unrolled biota and substrate.

SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM (STREAM NO. 226-10-16982)
FOR ADDITIONAL CONSTRAINT INFORMATION

TAG ADDENDUM DATE 6/04/90
ADEC Ray Morris
EXXON Andy (EAT)
NOAA Joseph Tallent
USCG G. M. Hunter

FOSC

[Signature]

DATE

6/5/90

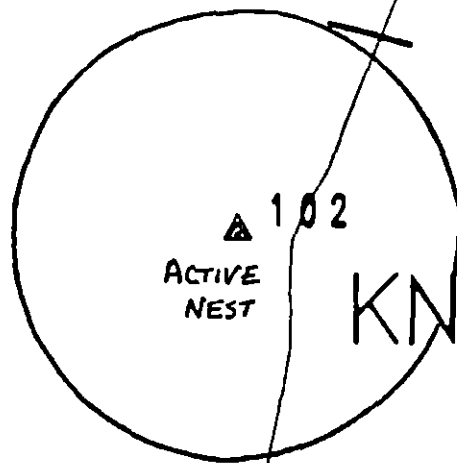
Prepared by:

Andrew Meyer

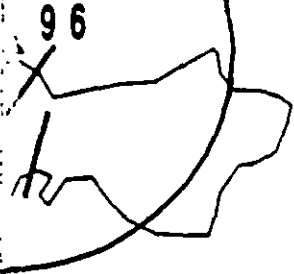
Date:

6/4/90

* INCORPORATES USFWS
6/1/90 map of ACTIVE
BALD EAGLE NESTS



97
KN-503



KN-132

WORK
AREA

KN-133

KN

KN-125

ANADROMOUS
STREAM
226-10-16982

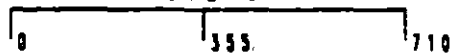
KN-131



Exxon Company, USA
Map Key: KN1-KN-132
May 11, 1990

ECOLOGY MAP
SEGMENT KN-132
SUBDIVISION C (3 of 4)

METERS



★ Seabird Colony
▲ Eagle Nest

1 inch = 1164 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-132 SUBDIVISION D (4 OF 4) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Stream mouth (anadromous catalogue 226-10-16982) - Salmon fry out-
migration (1A) - 3/1 to 5/15; Salmon spawning (1B) - 7/10 to 8/31.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Avoid disturbance/damage to un-
oiled substrate and biota.

SHPO SIGNATURE: Charles E. Johnson DATE: April 14, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V. Light 246 m: No Oil 319 m
Subsurface Oil Observed: Yes X No Maximum Depth 14 cm

RECOMMENDATIONS:

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

COMMENTS: Bioremediate area(s) shown on sketch map. Remove asphalt
mats. Work between 5/15 and 7/10 based on constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/13/90

ADEC JOHN BAKER
EXXON ANDY TEAL FOSC: DATE: 4-20-90
NOAA Burk Wesscott
USCG G.A. KETTER

FIELD SHORELINE COMMENT SHEET

SEGMENT ST 1 KN-132 SUBDIVISION: 1 DATE 3-31-90

USCG

NAME W. F. WHITE SIGNATURE William F. White

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

RECOMMEND REMOVAL OF OILED LOG, HOT WATER/
STEAM WASHING.

ADEC

NAME Dianne Munson SIGNATURE Dianne Munson

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

This subsegment is a boulder, cobble, cove separated by bedrock headlands. Coats on surface and undersides of boulders and cobbles. Pit shows sheen in interstitial water. Sporadic asphalt pavement at h.i.t.z. Large log at h.i.t.z is 70% oiled. Recommend removal of oiled log, hot water/steam washing with cold water flush (shore crew).

LAND MANAGER

NAME David Mandrella SIGNATURE David Mandrella

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Oiled condition consists of small patches of asphalt pavement which should be removed. Treat large woody debris covered with coat of oil. Gravel and pebble areas in intertidal have no apparent oiling. Sporadic coats on underside of rocks should be manually scraped.

SHORELINE OILING SUMMARY

REVISION NO. 03/05/90

OG Sawyer USCG White SEGMENT ST/ KN132
 BIO Benson LAND REP Mandrella SUBDIVISION 0 (4 of 4)
 EXXON Katsimpalis ADEC Munson TIME 11:40 to 13:00
 M NO.: B TIDE LEVEL: -0.5 to +3.0 DATE Mar 13 / 90
 SUBDIVISION LENGTH: 440 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 40 % B 20 % C 20 % P 0 % G 10 % S - % M - % V - %
 SLOPE: Lang 70 % Hang - % Vert 30 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W - m M - m N - m VL 170 m NO 270 m

SURFACE OIL

CHARACTER	DISTRIBUTION					OIL / FILM COLOR					IMPACTED ZONES			
	10	15	20	25	30	35	40	45	50	55	SU	U	M	L
ASPHALT PAVEMENT			✓											✓
POOLED														
COVER														
COAT			✓										✓	
STAIN														
MOUSSE														
PATTIES														
TARBALLS														
ILM														
NO OIL														

PAVEMENT: H (F) S 5 sq. m by 14 cmPATTIES / TARBALLS - BAGSNEAR SHORE SHEEN? NO BR (RW) (SL) TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☒ YES ☐ NOTYPE rope#BAGS 1

Photographs:

Roll No. ST-8-1Frames 15-16

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW	OIL / FILM COLOR					PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO			UO	UC	35	40	45	50	55	60	65		
*1	20						①-②											N	P, G, S, wt
2	25						50-14											N	P, G, S
*3	25						①-②											N	P, S, wt
*4	35						①-②											N	C, P, G, wt

COMMENTS ST/KN132D: Boulder and cobble beaches separated by bedrock ridges. Sporadic pavement occurs only in small areas (2 to 3 m²), but may be buried in places. Large oiled log in upper tidal zone of westernmost "pocket" beach. *Pits 1, 3, and 4 had silver sheens (Film on water in pits, but films were not observed on subsurface sediment.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 08/22/90

Segment ST / KN132 Subdivision D Date (mo / day / yr) 3/31/90

Time (24 hr) 1150 Biologist J. Jensen

- (A) Substrate type and % of segments:
 (1) Bedrock 40 (2) Boulder 20 (3) Cobble 20 (4) Pebble 5 (5) Sand 5 (6) Silt 9
- (B) Overall % cover of biota (% of segment): Dense 50 Moderate 25 Low 25
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (O)

Photographs:
 Roll No. ST-8-1

Frames 15, 16

BARNACLES

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	X	2	X	X	X	X	1M	1L
3	3	3	3	3	3	X	3	3	3	2	3
4	4	4	4	4	4	4	4	4	4	X	X
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

MYTILUS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	X	2	X	(1M)	1L
3	3	3	3	3	3	3	X	3	3	X	X
4	4	4	4	4	4	4	4	4	4	3	3
5	5	5	5	5	5	5	5	5	5	4	X
6	6	6	6	6	6	6	6	6	6	5	5

NOT PRESENT

ISTROPODS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	X	2	X	1M	1L
3	3	3	X	3	3	3	X	3	3	2	X
4	4	4	4	4	4	4	4	4	4	3	3
5	5	5	5	5	5	5	5	5	5	4	4
6	6	6	6	6	6	6	6	6	6	5	5

NOT PRESENT

FUCUS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	X	2	2	X	2	X	2	X	(1M)	1L
3	3	3	3	3	X	3	3	3	3	X	3
4	4	4	4	4	4	4	4	4	4	4	X
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

Wildlife Observations/ General Comments:

gull
 High % cover of green filamentous algae

Ecological Considerations:

sensitivities: 1B (stream mouth - salmon spawning)

OG. Sewer

STITCH MAP

SEGMENT ST/ KN132

SUBDIVISION 0 (4a/4)

DATE Mar 13/ 90

CHECKLIST

☐ N Area
☐ Approx. Scale
☐ Seg/Sub Body
☐ Oil Dist.
☐ Width
☐ Length
☐ % Cover
☐ Substrate Character
☐ Est. HML/LWL
☐ SSL
☐ Profile Location(s)
☐ Profile(s)
☐ Pit Location(s)
☐ Photo Location(s)

LEGEND

1 Δ

Pit - No Subsurface Oil

2 Δ

Pit - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

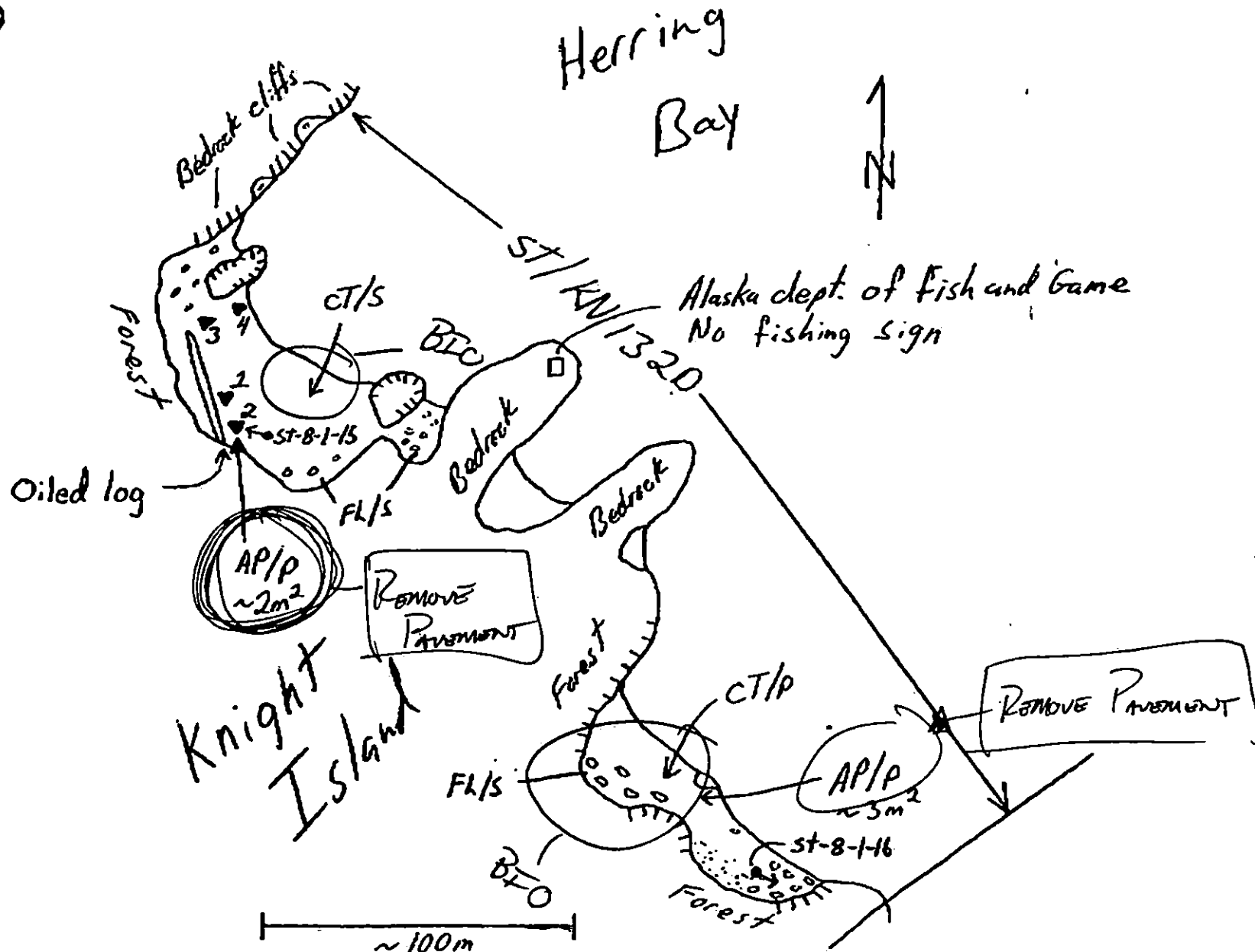
CT/S

Splashed Distribution

Oiled Vegetation

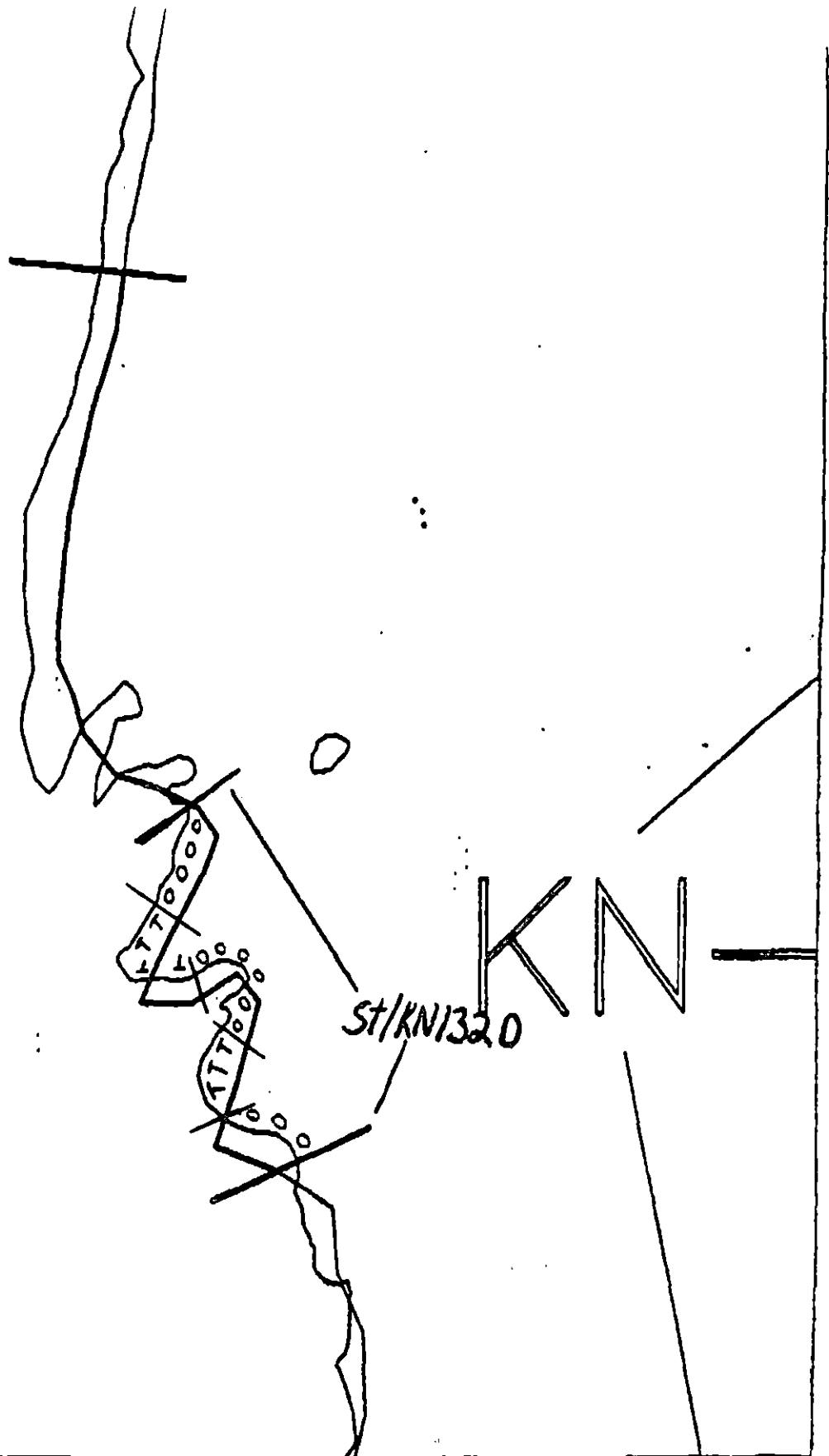
1 $\Rightarrow$

Photo location, direction, and number



Oil Character Length (m): AP 5 PO - CV - CT 80 ST - MS - PT - TB - FL 60 NO -

REVISION 1/1/80



XXXX Wide

// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-132

ADEC Segment Length: 1108m



Map Key: PWS-315

Name: _____

Date: _____

Data Entered: _____

SHORELINE EVALUATION

SEGMENT ST/ KN-133 SUBDIVISION A (1 OF 1) DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Harbor seal and sea lion molting (30, Q) - 8/15 to 9/15.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Restrict boat traffic, air traffic and general disturbance to minimum essential. Contact ADF&G habitat director prior to treatment.

SHPO SIGNATURE: Charles Hoffman DATE: April 14, 1990

OILING CATEGORIZATION:

Wide 41 m: Medium 673 m: Narrow 3813 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 30+ cm

RECOMMENDATIONS:

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

COMMENTS: Manual pickup of oiled vegetation. Tarmat breakup and removal where indicated on sketch maps. Patchy distribution of coat and tar patties does not require treatment as area not a high human use location. Bioremediate broken coat area found on smaller island (2nd sketch map). Work prior to 8/15 based on molting constraints. The two small areas with subsurface oil indicated on the larger island may require hand raking prior to bioremediation.

TAG COMMENTS:

TAG APPROVAL DATE: 4/13/90

ADEC JOHN BAKER John Baker
EXXON ANDY GAZ Andy Gaz FOSC: h h DATE: 4-20-90
NOAA Burl Wescott Burl Wescott
USCG G.A. REITER G.A. Reiter

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN 133 SUBDIVISION: None DATE 4-1-90

SCG

NAME W.E. White SIGNATURE William E White

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Recommended treatment - manual removal of asphalt/pavement.
Subsurface oil, mechanical - Hot water / STEAM washing with
cold water flush.

ADEC

NAME Dianne Munson SIGNATURE Dianne Munson

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

been was consistently observed surrounding the island
segment. Several pocket beaches have subsurface sediment
with residual, free floating brown oil. Recommended
treatment includes manual removal of asphalt/pavement,
and removal of subsurface oil via mechanical or
manual tilling and hot water / steam washing with
cold water flush (shore crew).

LAND MANAGER

NAME David Mandrella SIGNATURE David M. Mandrella

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Treatments on northern island are primarily needed in
cobble and pebble coves where pits 1 and 6 were excavated.
Repeated methods include manual tilling steam washing and
cold water flush along with bioremediation. Other treatments
include manual pickup of asphalt pavement and spot
washing of underside of coated rocks along 3m band
in water and mid-tidal zones with affected coves on both islands.

SHORELINE OILING SUMMARY

REVISION NO. 03/23/88

OG Sawyer USCG White SEGMENT ST/ KN133
 BIO Benson LAND REP mandrella SUBDIVISION None
 TXXON Katsimpalis ADEC Munson TIME 10:00 to 14:30
 EAM NO.: 8 TIDE LEVEL: +4 to +3 DATE Apr. 1 1 / 90
 EST. SUBDIVISION LENGTH: 4764 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 70 % B 20 % C 5 % P 5 % G — % S — % M — % V — %
 SLOPE: Long 20 % Hang 50 % Vert 30 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 70 m M 950 m N 3744 m VL — m NO — m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	IC	IS	IP	IS	SP	SB	SL	ST	TL	LS	SU	UI	ME	U		
ASPHALT PAVEMENT		/	/										/			
POOLED																
COVER																
COAT			/	/								/		/		
STAIN			/	/								/				
MOUSSE																
PATTIES		/	/	/								/		/		
TARBALLS		/	/	/								/		/		
FILM		/	/	/								/		/		
NO OIL																

PAVEMENT: H F (S) 450 sq. m by 5 cmPATTIES / TARBALLS — BAGSNEAR SHORE SHEEN? NO BR (RW) (SL) TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs	/		
Vegetation	/		
Trash	/		
Debris			

DEBRIS COLLECTED
☒ YES ☐ NOTYPE Net, Plastic#BAGS 1

Photographs:

Roll No. St-8-1Frames 18-27

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CH)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	SO OR	SO OR	SO OR	SO OR	SO OR	SO OR	SO OR	SO OR	SU	U	M	U		
1	30		/				5 - 30+	/		/							/				N	C, G, P, wt	
2	20						- - -	/		/							/				N	G, P	
3	30						- - -	/		/							/				N	P, G	
*4	30				/	/	4H - -	/		/							/				N	C, P, G, wt	
*5	20				/	/	4H - -	/		/							/				N	C, P, G, wt	
6	25		/		/		4 - 25	/		/							/				N	C, P, G, S, wt	

COMMENTS ST/KN133: Two small islands with numerous boulders and cobble beaches bordered by bedrock cliffs. Broken pavement occurs between boulders and cobble in upper intertidal zone on beaches. Also, within this zone silver and translucent sheens were observed on pooled water and sporadic coats on boulders.
 * Sheen on water in pits, not subsurface oil as defined. YH

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / KN 133 Subdivision None Date (mo / day / yr) 4/1/90Time (24 hr) 1000-1230 Biologist J. Benson

- (A) Substrate type and % of segments:
 (1) Bedrock 70 (2) Boulder 20 (3) Cobble 5 (4) Pebble 5 (5) Sand 0 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense 40 Moderate 30 Low 30
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)
- Photographs: Roll No. ST-8-1
 Frames 18-27

BARNACLES

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	X	X	X	X	X	X	NOT PRESENT
3	3	3	3	3	3	X	X	X	X	X	X	
4	4	4	4	4	4	X	X	X	X	X	X	
5	5	5	5	5	5	X	X	X	X	X	X	
6	6	6	6	6	6	X	X	X	X	X	X	
6	6	6	6	6	6	X	X	X	X	X	X	

MYTILUS

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	X	X	X	X	X	X	NOT PRESENT
3	3	3	3	3	3	X	X	X	X	X	X	
4	4	4	4	4	4	X	X	X	X	X	X	
5	5	5	5	5	5	X	X	X	X	X	X	
6	6	6	6	6	6	X	X	X	X	X	X	
6	6	6	6	6	6	X	X	X	X	X	X	

ASTROPODS

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	X	X	X	X	X	X	NOT PRESENT
3	3	3	3	3	3	X	X	X	X	X	X	
4	4	4	4	4	4	X	X	X	X	X	X	
5	5	5	5	5	5	X	X	X	X	X	X	
6	6	6	6	6	6	X	X	X	X	X	X	
6	6	6	6	6	6	X	X	X	X	X	X	

FUCUS

Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	X	X	X	X	X	X	NOT PRESENT
3	3	3	3	3	3	X	X	X	X	X	X	
4	4	4	4	4	4	X	X	X	X	X	X	
5	5	5	5	5	5	X	X	X	X	X	X	
6	6	6	6	6	6	X	X	X	X	X	X	
6	6	6	6	6	6	X	X	X	X	X	X	

Wildlife Observations/ General Comments:

sea otter (*Enhydra lutris*) observed near island all day
 cormorants, merganser, golden eye?
 The north and south ends of each island are more different from each other than the two islands from one another. Also, the biological diversity was markedly higher

Ecological Considerations:

Sensitivities: 3 N, P : Harbor seal & sea lion pupping
 3 O, Q : " " " " molting
 1 B : stream mouth - salmon spawning

note on the north end of the large island, probably due to the increased wave exposure and especially the intertidal tidepools found there. Much of the "dense" overall % cover (B, above) is filamentous green algae which may be seasonally abundant or promoted by runoff or bioremediation

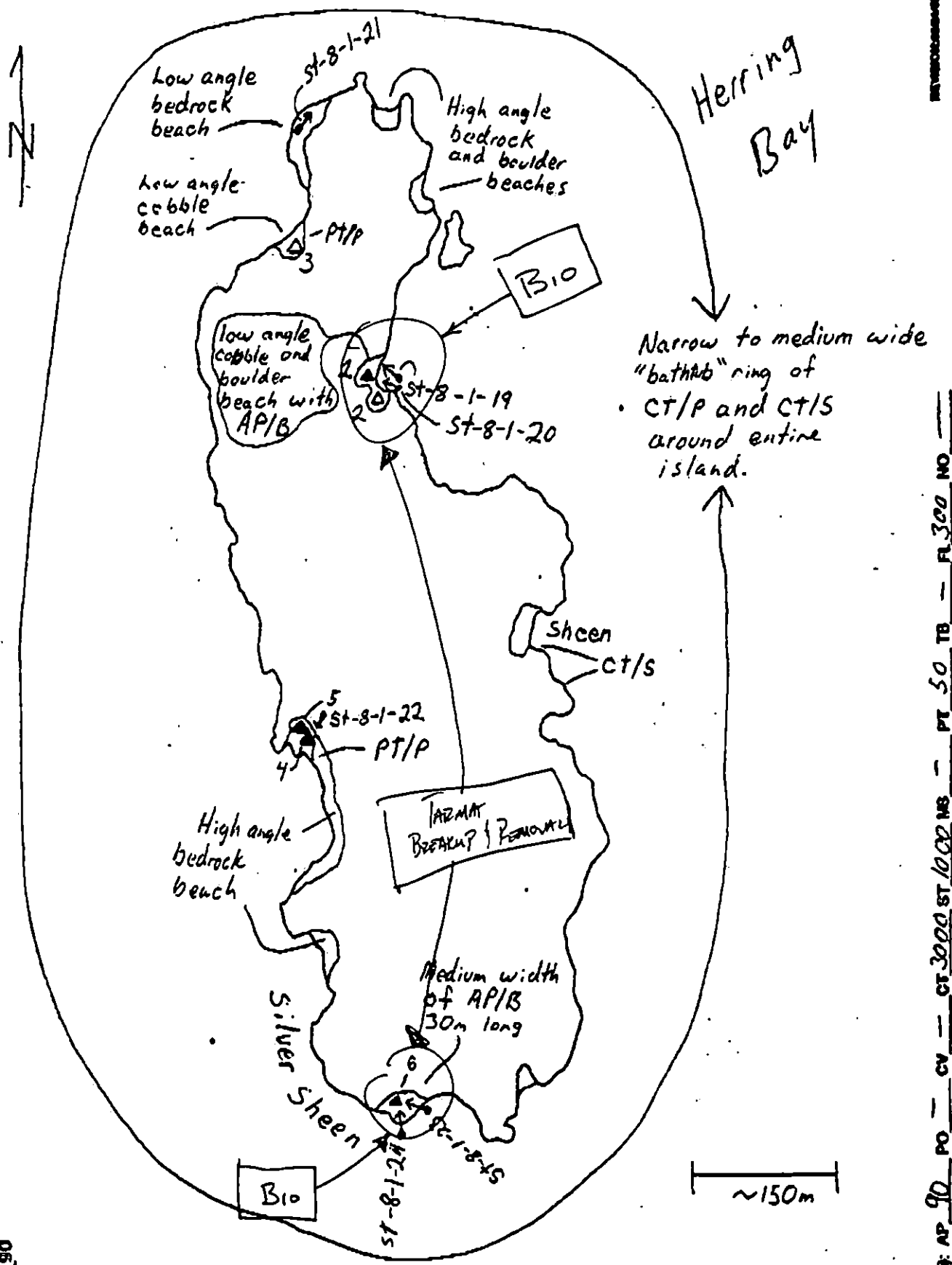
OG Saw
SEGMENT ST/KN/133
SUBDIVISION
DATE Apr 1 1 90

CHECKLIST

- ✓ H Area
- ✓ Approx. Scale
- ✓ Sep/Sub Body
- ✓ Oil Out
- ✓ Width
- ✓ Length
- ✓ % Cover
- ✓ Sediment Character
- ✓ Est. HPA/LWL
- ✓ SSL
- ✓ Profile Location(s)
- ✓ Profile(s)
- ✓ Pk Location(s)
- ✓ Photo Location(s)

LEGEND

- 1 Δ Pk - No Substrate Oil
- 2 Δ Pk - Substrate Oil
- CT/C Contaminant Distribution
- CT/B Broken Outlines
- CT/P Patchy Distribution
- CT/S Sphered Distribution
- Oil Vegetation
- 1 Photo location, direction, and number



Oil Character Length (m): AP 90 PO CV CT 3000 ST 1000 NS PT 50 TB FL 300 NO

OG S-100
 SEGME... KN133

ETCH MAP

SUBDIVISION _____

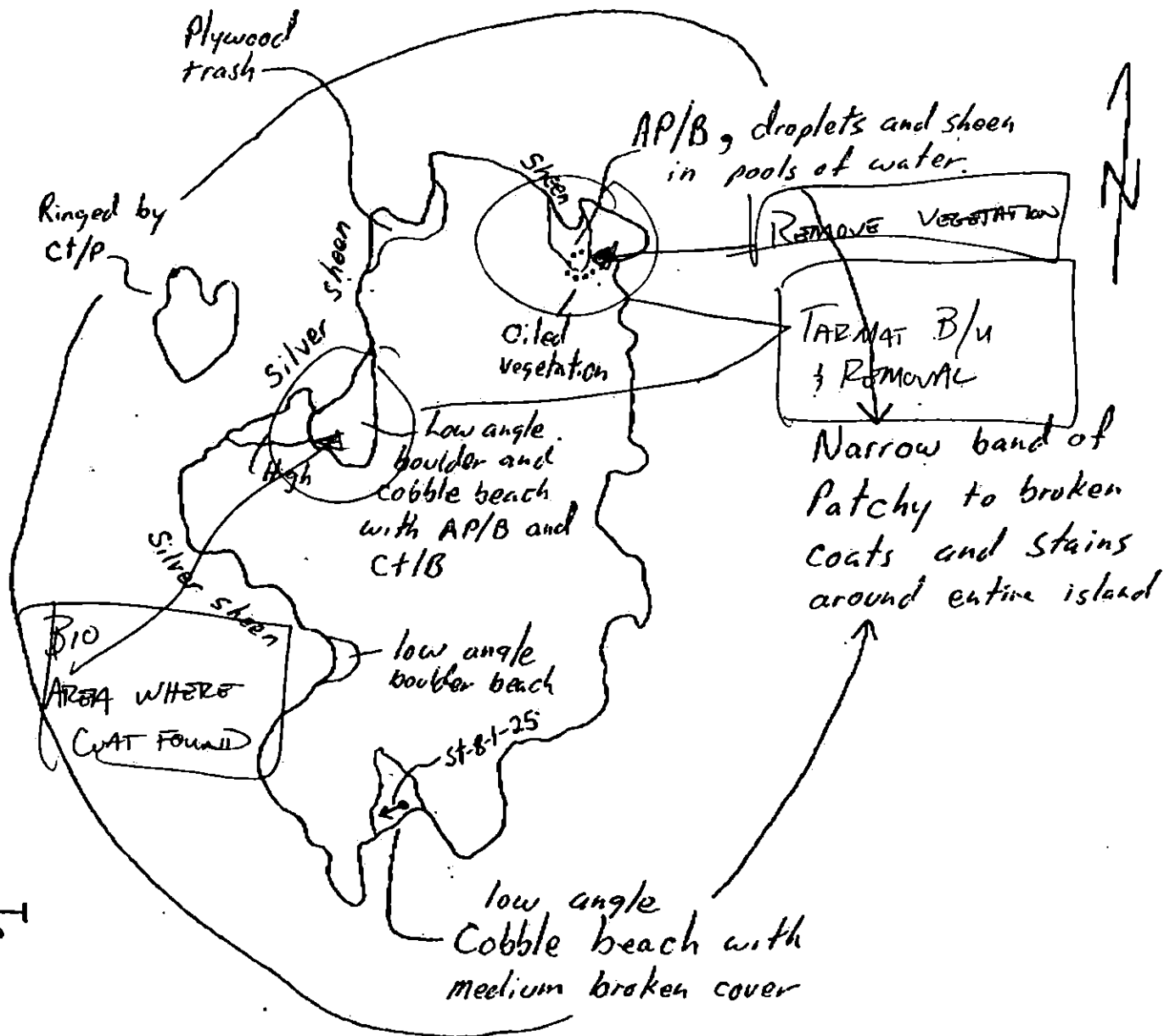
DATE Apr 1 1 90

CHECKLIST

- ___ N Arrow
- ___ Approx. Scale
- ___ Seg/Sub Grid
- ___ Oil Dist.
- ___ Width
- ___ Length
- ___ % Cover
- ___ Substrate Character
- ___ Est. HW/LA/WL
- ___ SSL
- ___ Profile Location(s)
- ___ Profile(s)
- ___ PR Location(s)
- ___ Photo Location(s)

LEGEND

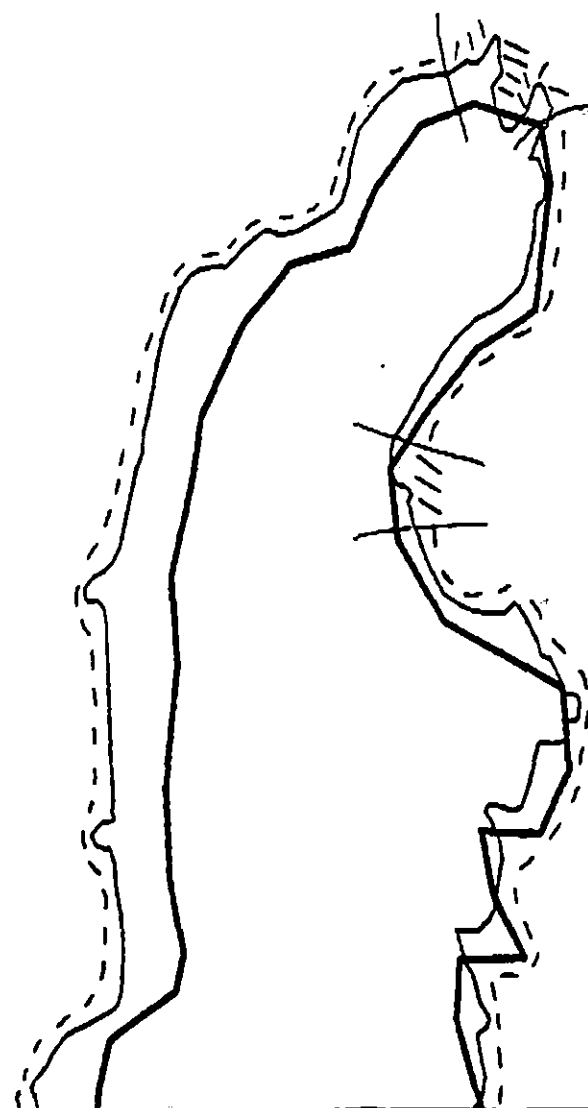
- 1 Δ
PR - No Subsurface Oil
- 2 Δ
PR - Subsurface Oil
- CT/C
Continuous Distribution
- CT/B
Broken Distribution
- CT/P
Patchy Distribution
- CT/S
Splashed Distribution
- Oiled Vegetation
- 1 $\bullet$
Photo location, direction, and number



See other map

Oil Character Length (m): AP _____ PO _____ CV _____ CT _____ ST _____ MS _____ PT _____ TB _____ FL _____ NO _____

PWS 316A



XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-133

ADEC Segment Length: 3860m



Map Key: PWS-316b

Name: SmyerDate: Apr. 1, 1990

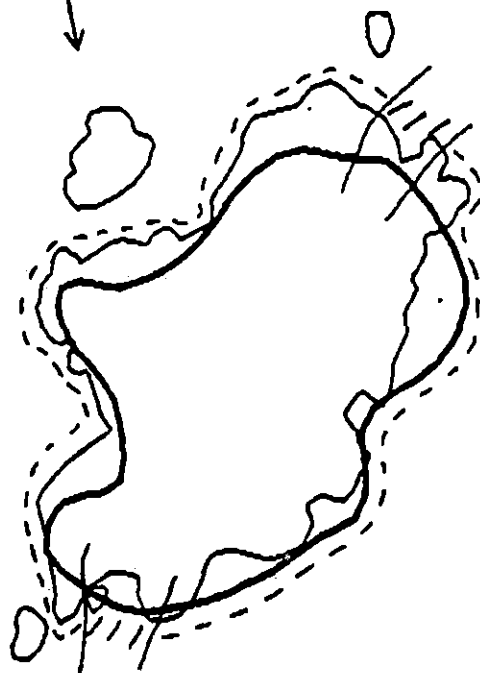
Data Entered:

KN-133

KN-

↑ PWS
316B

KN-125



vv XX Wide
/// Medium
--- Narrow
TTTT Very Light
0000 No Oil

KN-133

ADEC Segment Length: 3860m



Map Key: PWS-316a

Name: SawyerDate: Apr. 1, 1990

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-134 SUBDIVISION A (1 OF 1) DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Herring spawning (2M) - 4/1 to 6/15: Adjacent to medium
use recreation area - 6/1 to 9/15.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Same as above.

SHPO SIGNATURE: Charles Z. H. Smith DATE: April 8, 1990

OILING CATEGORIZATION:

Wide 46 m: Medium 0 m: Narrow 0 m: V. Light 186 m: No Oil 26 m
Subsurface Oil Observed: Yes X No Maximum Depth

RECOMMENDATIONS:

 No Treatment Recommended
X Treatment Recommended
X Manual Pickup X Snare Booms Sorbents X Tarmat Removal
X Bioremediation SPOT WASHING Other
 X Wands
 Beach Cleaner

Comments: Pick up tar patties in area indicated on OG map.
Recommend tar mat ~~removal~~ and manual cleanup with
pom-pom sorbents in areas shown. Also recommend manual raking of
sediments followed by bioremediation in all 3 areas as shown on
sketch. Recommend all work begin after 6/15/90 based on ecological
constraints.

TAG COMMENTS: Add spot wash as necessary, due to snow
cover in SUITZ ~~area~~ assess need to extend treatment to
snow covered area unsurveyed.

TAG APPROVAL DATE: 4-6-90
ADEC JOHN BAUGH
EXXON ANDY TSH
NOAA Buel Wescott
; G.A. REITER G.A. Reiter
FOSC: ML DATE: 4-22-90

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ KN-134 SUBDIVISION: A DATE 3/30/90

USCG

NAME

SCOTT RAINSFORD SIGNATURE Scott Rainford MST1☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

ADEC

NAME

NAME Wesley Ghormley SIGNATURE Wesley Ghormley☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

This segment needs both manual & mechanical attention. The asphalt patties need to be physically removed. Do to the cobble, pebble make up of the beach and a gradual grade I think a Hot H2O Flood system would work excellent on this area. The surface coverage consists of 4cm thick soft mousse and should flow easily when the Hot H2O Flood system is applied.

LAND MANAGER

NAME

NAME LORA JOHNSON SIGNATURE Lora Johnson☐ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

RESURVEY NEEDED FOR UPLANDS UNDER SNOW.

10% COVER" AREAS HAD SUBSTANTIAL CONCENTRATIONS
THAT COULD RAISE PERCENTAGE.

SHORELINE OILING SUMMARY

REVISION NO. 02/22/90

G. MACDONALD **USCG S. RAINFORD** **SEGMENT ST/ KN-134**
BIO MA. SCOTT **LAND REP L. JOHNSON** **SUBDIVISION A**
EXXON J. BUTLER **ADEC W. GORDLEY** **TIME 07:10 to 09:00**
TEAM NO.: 3 **TIDE LEVEL: +4 to -1 FT** **DATE 3 / 30 / 90**
EST. SUBDIVISION LENGTH: 250 m ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☒ Snow
UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo **WORKING DIRECTION: S to N**
SURFACE SEDIMENTS: R 20 % B 5 % C 30 % P 30 % G 10 % S - % M 5 % V - %
SLOPE: Long 20 % Hang 70 % Vert 10 % **WAVE EXPOSURE: ☒ Low ☐ Med ☐ High**
OIL CATEGORY LENGTH: W 50 m M - m N - m VL 170 m NO 30 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	C	R	P	B	BR	DR	OR	GR	BL	TR	LR	TL	SU	U	M	U
ASPHALT PAVEMENT		X								X				X	X	
POOLED																
COVER			X							X				X	X	
COAT																
STAIN																
MOUSSE																
PATTIES			X							X				X		
TARBALLS																
FILM			X							X			X	X	X	
NO OIL																X

PAVEMENT: H F (S) 650 sq. m by 4 cm

PATTIES / TARBALLS 5 BAGS

NEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs	X		
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NO

TYPE

#BAGS

Photographs:

Roll No. ST-3-1

Frames 10, 11.

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		VO	UC	BR	DR	OR	GR	BL	TR	LR	TL	SU	U	M	U		
1	10					X	-	X										X				N	G, P
2	25					X	-	X										X				N	P, C, M
3	30					X	-	X										X				N	P, G, M
4	25					X	-	X											X			N	P, M
5	35					X	-	X												X		N	M, feat.
6	25					X	-	X												X		N	C, P, M.

COMMENTS SURFACE OIL AS 4cm th. soft mousse AP/B & PT/P;
 no subsurface oil except surface film which seeps into
 pits - v. high water table over peat bed. Beachface
 flushed by stream & meltwater. Pits 2 & 4 had DBN oil drops
 and sheen; pit 4 had silver sheen.

NH11

4/1/90

OG G. MAEDONALD

SEGMENT ST/ 134

SUBDIVISION A

DATE 3 130 90

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Map Bdry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HML/LWL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pit Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ
Pit - No Subsurface Oil

2 Δ
Pit - Subsurface Oil

$\square$ CT/C
Continuous Distribution

$\square$ CT/B
Broken Distribution

$\square$ CT/P
Patchy Distribution

$\square$ CT/S
Splashed Distribution

Oil Vegetation

1 $\rightarrow$
Photo location, direction, and number

Oil Character Length (m): AP 50 PO - CV 55 CT - ST - MS - PT 100 TB - FL 50 NO -

SKETCH MAP

Recommend 294
* TAKE AND BIOREMEDIATE ALL THREE BOXED AREAS

Natural Wapac w/Porter Fan

KN-125

0 50m approx. scale.

2m x 5m x 1cm DBR MS as ev between cobs. in rock channel, < 10% cover.

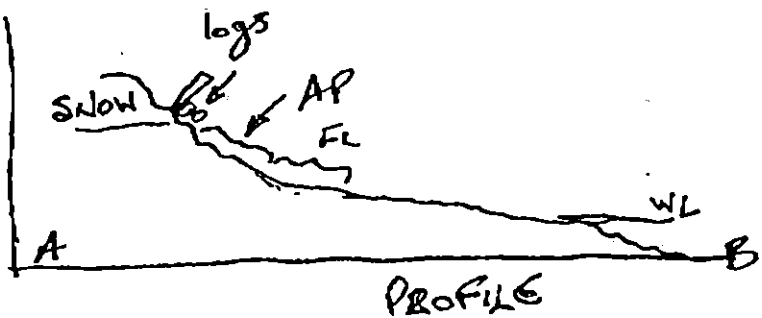
KN-134

steep rock walls

4m x 20m x 2cm.

MS/CV/P e HRTZ < 10% cover, between cob-peb armor.

REMOVE TAR PATCHES HERE



steep rock.

rock

stream

bldrs.

bldrs.

TAR MAT B/U/Remain

stream

o.c.

SSL

SNOW

50-70% cover

AP-13x50

2dem

AP/CV/B

MRTZ-50TZ

logs w/OT/s

tree

REVISION: 00/24/90

499

SHORELINE ECOLOGICAL SUMMARY

REVISION: 0322/90

Segment ST / KN-134 Subdivision A Date (mo / day / yr) 3/30/90Time (24 hr) 7:00 - Biologist M. S. Smith

(A) Substrate type and % of segments:

(1) Bedrock 20 (2) Boulder 5 (3) Cobble 30 (4) Pebble 30 (5) Sand 10 (6) Silt 5(B) Overall % cover of biota (% of segment): Dense 0 Moderate 1 Low 4

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

Photographs:

Roll No. _____

Frames _____

BARNACLES

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

MYTILUS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

GASTROPODS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

FUCUS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

Wildlife Observations/ General Comments:

3 black oystercatchers
20-30 "shore birds" feeding in Fucus bed on small island

Ecological Considerations:

394

KN-134

~~KN-12~~

0
VL
VL
x x

XXX Wide

//// Medium

--- Narrow

TTTT Very Light

KN-134

ADEC Segment Length: 258m

Exxo " " : 421

0 100 200 300

Map Key: PWS-317

Name: G. Macdonald

Date: 8/30/90

ADDENDUM: SUBDIVISION CONSTRAINTS**SEGMENT KN-134 SUBDIVISION A (1 of 1)**

WORK WINDOW	
Manual Pickup Tarmat Removal Other Approved Treatment	OPEN
Spot Washing	OPEN
Bioremediation and Manual Raking More Than 100m From Stream	OPEN
Bioremediation and Manual Raking Less Than 100m From Stream	WORK PRIOR TO 7/10 (ADF&G MONITOR REQ.)

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS**1A,1B Salmon Stream**

ADF&G catalogued anadromous stream (226-30-16865) is in the Subdivision. This subdivision is closed to bioremediation and manual raking less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation and manual raking are permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation and manual raking more than 100m from stream. No constraint to manual pickup, tarmat removal, spot washing, and other approved treatment.

2M Herring Spawning

NO CONSTRAINT. Authorized by Claudia Slater/ADF&G on 5/10/90 to Exxon/Tom Kelley.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or bank. No flushing of pollutants or sediment into stream drainage. Avoid any unnecessary disturbance or damage to uncollected biota and substrate.

**SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM (STREAM NO. 226-30-16865)
FOR ADDITIONAL CONSTRAINT INFORMATION**

TAG ADDENDUM DATE 6/04/90

ADEC

EXXON

NOAA

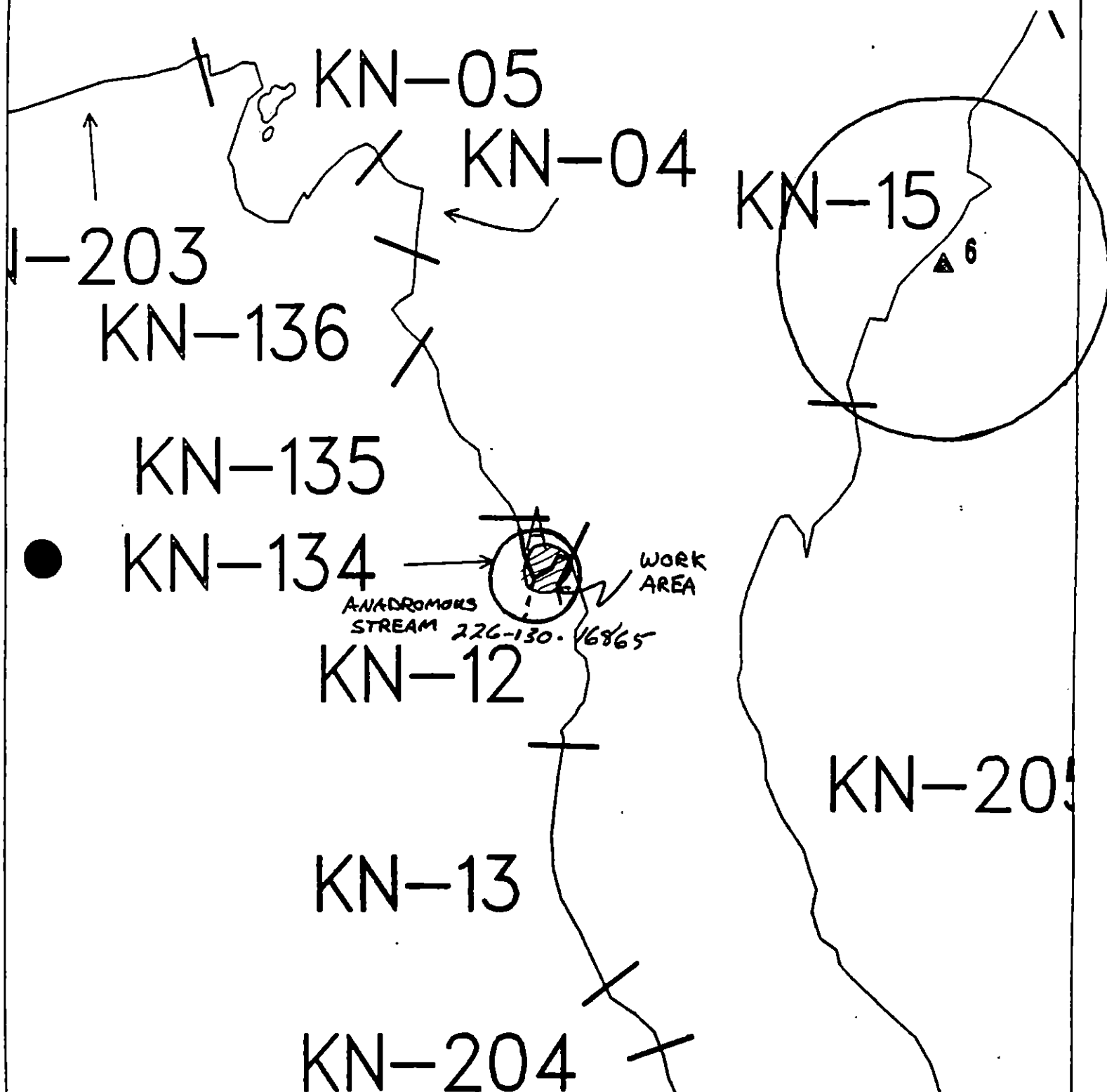
USCG

FOSC

DATE

Prepared by:

Date:



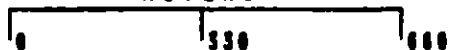
Exxon Company, USA

Map Key: KNI-KN-134

May 11, 1990



ECOLOGY MAP
SEGMENT KN-134
SUBDIVISION *H* (1 of 1)
METERS



- ★ Seabird Colony
- ▲ Eagle Nest

1 inch = 1082 feet

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-134 STREAM NO: 226-30-16865 DATE 4/22/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
- 1B Salmon stream mouth - spawning (7/10 to 8/31)
- 2M Herring spawning (4/1 to 6/15)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Subject stream is located within subdivision A (1 of 1). Prevent oiled debris from blocking or falling into stream

SHPO SIGNATURE: Reckie Don Durr DATE: 5/22/90

Subsurface Oil Observed: Yes ☐ No ☒ Maximum Depth

RECOMMENDATIONS:

- | | |
|---|--|
| ☐ No Treatment Recommended | ☐ Snare/Absorbent Booms |
| ☒ Treatment Recommended | ☐ Oil Snares (pom poms) |
| ☒ Manual Pickup | ☐ Absorbents (pads, rolls, etc) |
| ☒ Bioremediation | ☐ Spot Washing: <u> </u> Wands |
| ☒ Tarmat Removal | ☐ Beach Cleaner |
| | ☐ Other (see comments) |

COMMENTS: Recommended treatment: 1) manual removal of pavement and oiled debris and 2) bioremediation of coat and cover as indicated on attached sketch map. Work from 6/16 to 7/9.

TAG COMMENTS: BIOREMEDIATION TO INCLUDE IN/POZ AS INDICATED IN
AREAS OF "COVER" + CUSTOMER AS REQUIRED FOLLOWING
TARMAAT REMOVAL

TAG APPROVAL DATE: 5/18/90.

ADEC ART WEINER Art Weiner

EXXON AMON TOL

NOAA GARY PETRAE Gary Petrae

USCG G.H. REITER G.H. Reiter

FOSCH [Signature]

DATE: MAY 25 1990

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- ✓ 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
 ✓ 1B Salmon stream mouth - spawning (7/10 to 8/31)
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.
 AGENCY CONTACT PERSON: ADF&G John Morison 267-2324
- 1C Salmon fry nursery area (4/31 to 7/31)
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.
 AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1D Esther Hatchery release (4/15 to 6/15)
 1E Main Bay Hatchery release (4/20 to 6/15)
 1F Sawmill Bay Hatchery release (4/15 to 6/1)
 1G Cannery Creek Hatchery release (4/21 to 6/1)
 1H Remote release site
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.
 AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214
 1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511
- 1I Gill net area (6/7 to 8/31)
 1J Purse seine area (7/20 to 9/30)
 1K Purse seine hook-off (7/20 to 9/30)
 1L Set net sites (6/11 to 7/25)
 Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
 AGENCY CONTACT PERSON: ADF&G James Brady 424-3212
- ✓ 2M Herring spawning (4/1 to 6/15)
 Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to unopened intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
 AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
- 3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
 3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
 AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
 ADF&G Don Calkins 267-2403
- 5R Seabird colony (5/1 to 9/1)
 Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
 Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
 ADF&G Tom Roth 267-2206
- 5T All Bald Eagle nests (3/1 to 6/1)
 Active Bald Eagle nests (3/1 to 9/1)
 Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 6U Recreation: Tent sites (6/1 to 9/15)
 6V Anchorages (6/1 to 9/15)
 6W Forest Service cabins (6/1 to 9/15)
 6X Lodge (6/1 to 9/15)
 6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
 7H14 Finfish harvesting
 Deer harvesting (8/15 to 2/28)
 Invertebrate harvesting
 Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.
 AGENCY CONTACT PERSON: ADF&G Jim Fall 267-2359

FIELD SHORELINE COMMENT SHEET

43/43

SEGMENT ST / KN-134 SUBDIVISION: ASC# 226-30-16860 DATE 22 APR 90USCGNAME Kerwin L. Dreher SIGNATURE CWO K. L. Dreher☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

I agree with clean up methodology except; I would also consider bioremediation.

ADFGADECNAME Aimee Weseman SIGNATURE Aimee Weseman☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Remove oiled tar mats, patties and crusted oiled gravels on intertidal flat on north side of stream - the majority lie in the M to U.I.T.Z.

Remove oiled debris along banks - taking particular notice of U.I.T.Z and Supra I.T.Z - now snow covered.

Remove oiled organic material from knoll on north side of stream
- cut off stump + roots + other oiled parts of 2 trees
- oiled grasses

No bioremediation recommended.

LAND MANAGER

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

SHORELINE OILING SUMMARY (ANAD)

REVISION NO. 04/12/90

24/43

OG GAL LARSON USCG DREHER, CWE SEGMENT ST/ KN13A
 BIO KEN CRITCHLOW LAND REP STREAM 22630-11805 (OF)
 EXXON DARRELL YOE ADFG BARBARA KAYE - AIMEE WEISMAN TIME 17:10 to 18:05
 TEAM NO. 14 TIDE LEVEL .5 FT DATE 4/22/90
 EST. SUBDIVISION LENGTH: 110 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☐ Foot ☐ Boat ☐ Helo
 SURFACE SEDIMENTS: R 20 % B 20 % C 20 % P 20 % G 10 % S 10 % M 10 % V 10
 SLOPE: Long 50 % Hang 50 % Vert 50 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 90 m M 90 m N 90 m VL 20 m NO 90 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR				IMPACTED ZONES			
	C	B	P	S	1	2	3	4	SU	U	M	V
ASPHALT PAVEMENT	✓				✓				✓	✓	✓	
POOLED												
COVER		✓			✓				✓	✓	✓	
COAT	✓				✓				✓	✓		
STAIN												
MOUSSE												
PATTIES			✓		✓						✓	✓
TARBALLS												
FILM												
NO OIL												

PAVEMENT H F (S) 457 sq. m by .3 cPATTIES / TARBALLS 1 BAGSNEAR SHORE SHEEN? ☒ BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs	✓		
Vegetation	✓		
Trash	✓		
Debris	✓		

 Did you collect DEBRIS
☐ YES ☒ NO

TYPE _____

#BAGS _____

Photographs:

Roll No. _____

Frames _____

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR				PIT ZONE				A N A	SHEEN (Y/N)	↓	SURFACE SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	1	2	3	4	SU	U	M	V				
1	15					✓	•							✓							CB, PB, OF / CBT
2	8					✓	•			✓						✓					CB, PB, OF / CBT
3	12					✓	•							✓							CB, PB, OF / CBT
							•														
							•														
							•														

COMMENTS NO OIL OBSERVED IN STREAM BED, ON WEST SIDE OF SITE.
 CLIFF, SMALL BOLDER BEACH. NEW SPAT SET IN LOWER INTERTIDAL ZONE. UPPER SURFACE ZONE SNOW COVERED W/ SOME OILED DEBRIS UNDER SNOW

REVIEWED AW DATE 5-1-90

IGNMENT ST/ KN/34
STREAN 226-30-16885 ✓

DATE / ' 90

CHECKLIST

- ___ N Arrow
- ___ Appeal, Seals
- ___ Sig/Tab Study
- ___ On Dist.
- ___ Width
- ___ Length
- ___ % Cover
- ___ Substrate Character
- ___ Est. HWT/LWT
- ___ STL
- ___ Profile Location(s)
- ___ Profile(s)
- ___ Pin Location(s)
- ___ Photo Location(s)

LEGEND

14
 FBI - No Substantive CV

2A
PH - Substantive C

CT/C

CT/B

CT/P

1. **Family Discussion**
 2. **Family Discussion**
 3. **Family Discussion**

Splashed Distribution

eee
Ond Vegetation

Form location, direction,
and number

XI Character Length (in): AP 475 PO CV 70 CT 72 ST NS 5 FT 3 TB 1 FL 2 NO 1

SUBSURFACE ON STUDY MARKET

4

REVISED 4/24/90 SKETCH MAP
95M

ETCH MAP
WATER LINE

CUSTOMER
WATER METER
REMOVAL

LITZ

Remove
Pavement

МГЗ

UTZ

STLEAM

Bad
ok

26/43

ADP&G MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: BS SS DS TS AVS SCMA HMAH PTA2 REGION: PS KP, CI K, APMETHOD: Aerial Ground Boat3 DATE: 4-22-9015 HIGH TIDE TIMES: 121 TEAM RECORDER: R. Gynki4 START TIME: 154016 HIGH TIDE HTS: 122 OBSERVERS: A. Williams5 STOP TIME: 170717 LOW TIDE TIMES: 123 AGENCY: NOEL6 SEGMENT #: KN21118 LOW TIDE HTS: 124 PHOTOS TAKEN: Y 0

7 STATION #: _____

19 TIDE HT AT SURVEY: _____

Roll #: _____ Frame: _____

8 K-UNIT: _____

Ebb Slack Flood Slack

25 VIDEO TAKEN: Y N TAPES: 90A1601555

9 STAT AREA: _____

20 USCG QUAD: _____

Starts: 0235 Ends: 0306

10 LAT: _____

11 LONG: _____

26 SAMPLES TAKEN: Y 0 Number12 SOURCE: Map Loren

Oil _____

13 LOCATION: Alone Bay Is.

Sediment _____

14 DESCRIPTION: Knight Is.

Biological _____

Water _____

EXTENT OF OIL

	SHORELINE				STREAM			
	L	N	N ²	S	L	N	N ²	S
27 SURFACE COVERAGE					60%	20ft		

36 CATALOGED ANAD. FISH BREAK? Y N37 CATALOG #: 16875

38 STREAM NAME: _____

28 SURFACE THICKNESS 1-4mm39 OIL IN STREAM BED? Y N29 PENETRATION 45cm - no bottom point found40 OIL ON STREAM BANKS? Y N

30 OVERALL OIL IMPACT: N VL L M H

41 OIL ON BEACH ADJACENT TO MOUTH? Y N31 OIL TYPE: Poole House Tar Asphalt Sticky Stain42 OIL WITHIN 1 MILE OF STREAM? Y N32 OILED DEBRIS? Y N much

Where: _____

33 SHORELINE TYPE: Headland Low-lying Rocks Beach Cove43 ANADROMOUS FISH PRESENT? Y N34 WAVE EXPOSURE: High Moderate Low

44 ANADROMOUS FISH OBSERVATION

35 SUBSTRATE TYPE: Bedrock Boulder 60% Cobble 40%

Species Aerial Ground

Gravel _____ Sand _____ Mud/silt _____

Species	Aerial	Ground

COMMENTS: Outlet of lake is choked with oiled logs, needles, kelp, mouse
 shenanigan. Thick layers of oiled vegetation / grass etc.
 Some stream down stream from log jam is braided stream on beach.
 (copper stream) oiled debris continues in HTB on both sides

27/43

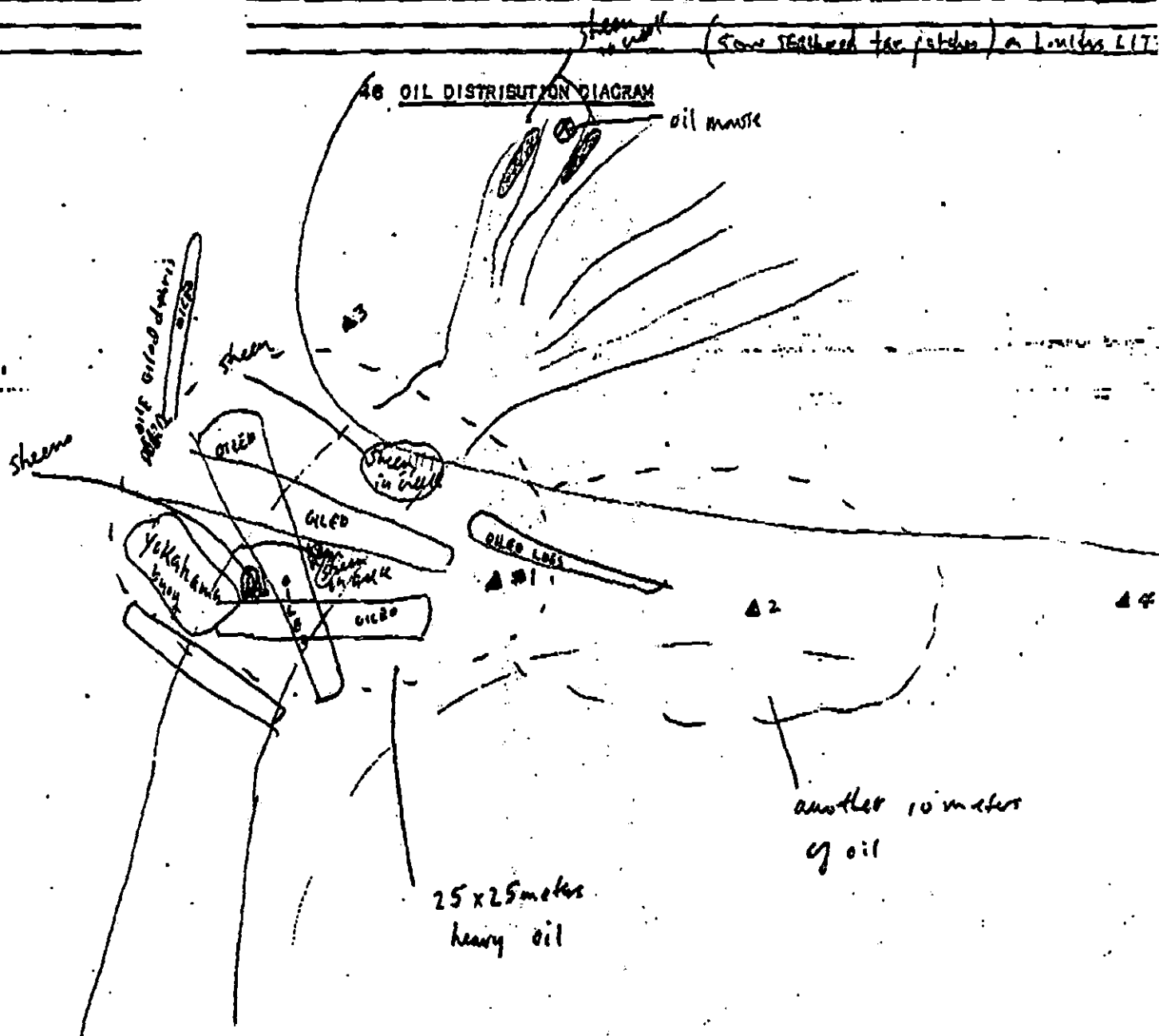
43 PHOTOLOG

DESCRIPTION

pit #1 45cm oil continues deeper than 45. Subsurface oil find oil
pit #2 34cm deep (oil surface down 4cm deep) cont. of oil
pit #3 weathered oil as sm. of small gravel in hole 18cm deep hole
pit #4 some oil stained rock found. Cobble/gravel random filling of sand
oil on bottom of rocks. cont. 0.71 random throughout.

low (low feathered for jacks) a lousier LIT:

46 OIL DISTRIBUTION DIAGRAM



sample taken

Shore from 4 mi.

29/4

Recommendations

Perform work during proper tidal window.
Remove as much oiled debris manually as possible prior to removing logs.

Remove oiled logs, branches, needles, kelp etc debris from creek mouth and burn on site, preferably at a high ground site. A tracked caterpillar tractor with winch + blade or spring tooth rake would make this job quicker + more effective.

Shovel removal or other manual removal, after logs have been cleared, of oiled gravels and finer gravels, particularly within 25 meters of either side of stream. Throw larger oiled rocks after wiping down up into supratidal areas.

Resurvey beach area and remove any oiled debris or obvious tar mats, patties etc.

- Lay out pompan material if possible along banks of stream to prevent oil from bleeding into stream bed. Do this prior to beginning of work.

* Main point to observe is to remove as much of the oiled debris between logs and around the log jams before disturbing the logs. This will prevent a lot of oiled debris from falling into the stream.

comment by Ken Critchlow: ADFG recommendations are reasonable and should be effective in cleaning beach. Burning on high ground may not be acceptable. KRC

28/43

debris between, on, and around the log jams
before disturbing the logs. This will prevent
a lot of oiled debris from falling into the stream.
No bo remediation recommended.

ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 226-30-16865

SEGMENT KN-134 SUBDIVISION A

WORK WINDOW

Manual Pickup
Tarmat Removal

OPEN

Bioremediation Less Than 100m From Stream **WORK 6/15 to 7/10**
(ADF&G MONITOR REQ.)

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

ADF&G catalogued anadromous stream (226-30-16865) is in Subdivision A. This subdivision is closed to bioremediation less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation is permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation more than 100m from stream. No constraint to manual pickup and tarmat removal.

2M Herring Spawning

Closed to bioremediation prior to 6/15. No constraint to manual pickup and tarmat removal.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or banks. No flushing of pollutants or sediments into stream drainage; do not allow Inlpol to enter stream flow. On-site examination and consultation by ADF&G monitor is required prior to bioremediation in order to authorize a setback distance from the stream during chemical application; if ADF&G monitor's presence is impossible, authorization may be given by the ADEC monitor. Restrict boat traffic to essential minimum. Avoid any unnecessary disturbance or damage to unloiled substrate and biota especially intertidal and subtidal algae and seagrass.

**SEE SUBDIVISION CONSTRAINT ADDENDUM KN-134A
FOR ADDITIONAL CONSTRAINT INFORMATION.**

FOSC

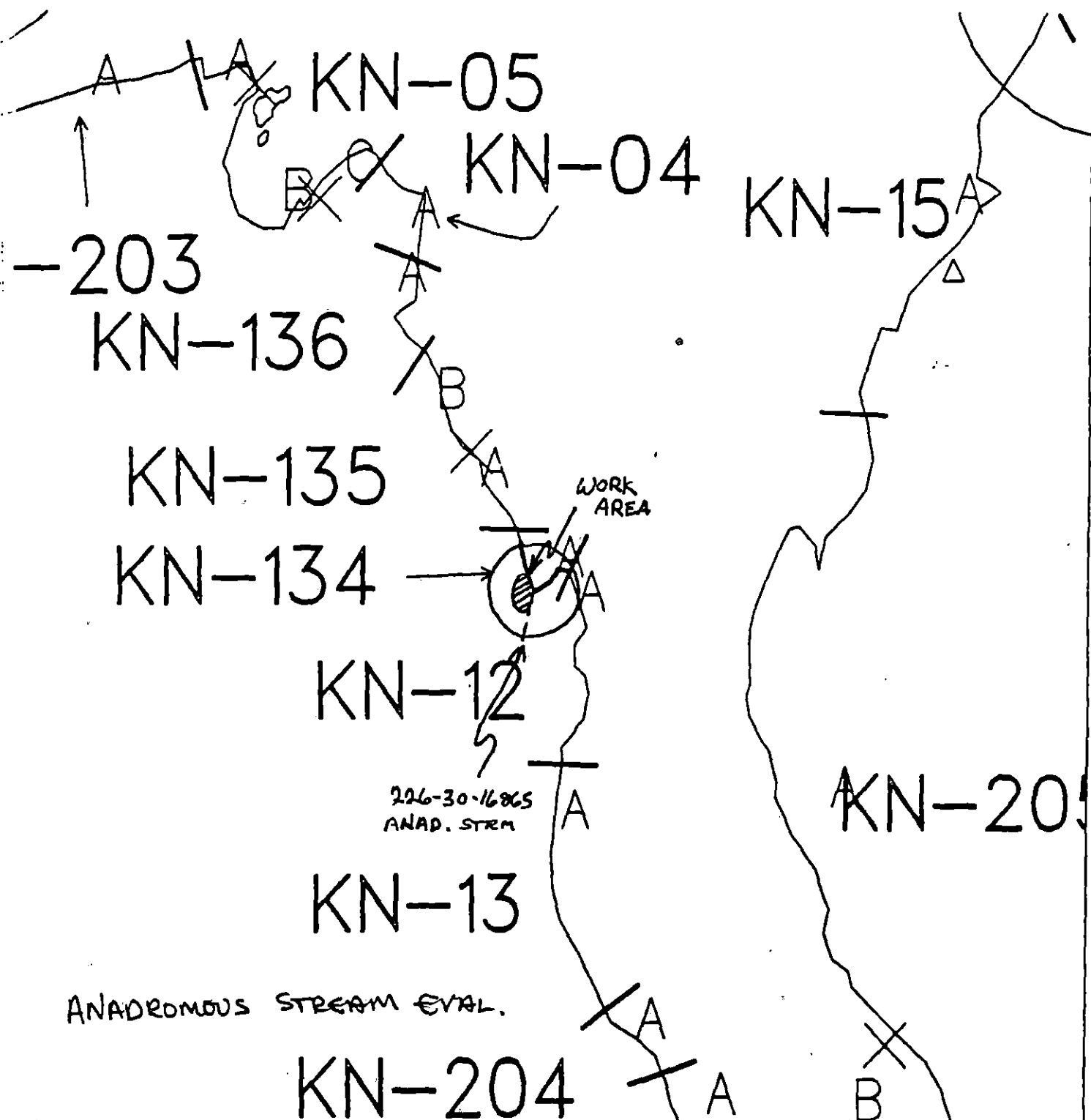
Date

6-10-90

Prepared by

Date

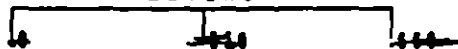
6/10/90



Exxon Company, USA
Map Key: PMS-KN-134
June 05, 1990



ECOLOGY MAP
SEGMENT KN-134
SUBDIVISION A (1 of 1)
METERS



- ★ Seabird Colony
- △ Active Eagle Nest
- △ Inactive Eagle Nest

1982-1987

SHORELINE EVALUATION

SEGMENT ST/ KN-135 SUBDIVISION A (1 OF 2) DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Herring spawning (2M) - 4/1 to 6/15; May be near harbor seal and sea lion pupping areas (3N, P) - 5/15 to 7/1; May be near harbor seal and sea lion molting areas (3O, Q) - 8/15 to 9/15. Ask ADF&G to clarify pupping and molting locations.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Restrict disturbance of uncoiled fucus, barnacles and gastropods in M and UITZ.

SHPO SIGNATURE: [Signature] DATE: April 12, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 134 m: Narrow 0 m: V. Light 0 m: No Oil 151 m
Subsurface Oil Observed: Yes X No Maximum Depth 20 cm

RECOMMENDATIONS:

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

COMMENTS: Recommend tarmat breakup and removal in areas as shown on sketch map, manual tilling of area where subsurface oil found, and bioremediation of areas shown. All work between 7/1 and 8/15 based on constraints. SPOT WASH AS INDICATED ON SKETCH.

TAG COMMENTS:

TAG APPROVAL DATE: 4/10/90
ADEC JOHN BAUER
EXXON Andy Tetz
NOAA Bert Westcott
USCG G.A. REITER

FOSC: [Signature] DATE: 5-6-90
CG/ADEC monitors survey UITZ and SITZ for oil during work. Provide 24 hour notice to CAC prior to begin work. Upon request, CG T&P supervisor transport on berth CAC monitor.

1

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN-135 SUBDIVISION: A DATE 3/30/90

USCG

NAME SCOTT RAINSFORD SIGNATURE Scott Rainsford (MST)

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

ADEC

NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Pavement/Asphalt in this area could be manually removed using shovels & bagging debris. Possibly mechanical method of agitating surface sediment would work well in this area.

LAND MANAGER

NAME LORA JOHNSON SIGNATURE Lora Johnson

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

RE SURVEY NEEDED FOR UPLANDS UNDER SNOW.

HEAVY SNOWFALL AT TIME OF VISIT INHIBITED

SURVEY OF LITZ & MITZ AT SOUTH END OF SUBDIVISION.

SHORELINE OILING SUMMARY

REVISION NO. 03 22/90

OG G. MACDONALD USCG S. RAINFORD SEGMENT ST/ KN-135
 BIO M.A. SCOTT LAND REP L. JOHNSON SUBDIVISION A
 XON J. BUTLER ADEC W. GORMLEY TIME 09:00 to 09:30
 AM NO.: 3 TIDE LEVEL: -1 to -2 DATE 3/30/90
 EST. SUBDIVISION LENGTH: 220 m ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☒ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: 3 to 2
 SURFACE SEDIMENTS: R 5 % B 5 % C 30 % P 30 % G 15 % S 5 % M 10 % V %
 SLOPE: Long 90 % Hang 10 % Vert % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W m M 140 m N m VL m NO 80 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR						IMPACTED ZONES			
	C	B	P	S	OR	OC	OL	OP	OT	OB	SU	U	M	V
ASPHALT PAVEMENT	X	✓								XV	XV	XV		
POOLED														
COVER		X	X							X	X	X		
COAT		X	X							X	X	X	X	
STAIN			X							X			X	
MOUSSE														
PATTIES		X	X								X	X		
TARBALLS														
FILM			X			X	X						X	
NO OIL														X

PAVEMENT: H F (S) 750 sq. m by 15 cmPATTIES / TARBALLS EXHIBIT 20 BAGSNEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs		X	
Vegetation		X	
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NOTYPE #BAGS

Photographs:

Roll No. ST-3-1Frames 12-15

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW	OIL / FILM COLOR						PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OS	NO			OR	OC	OL	OP	OT	OB	SU	U	M	V		
1	25		X				0-20	X	X						X				N	G, P
2	30		X				0-20	X	X						X				N	G.
3	20					X	.	X								X			N	C, P, G
4	20					X	.	X									X		N	C, P, G.
5	20					X	.	X									X		N	P, G, M
6	15					X	.	X								X			N	P, C, M

COMMENTS: Low L cob-pab. beach w/ outcrop @ mid beach. Surface oil as soft AP, CV, CT & PR @ MIZ-SUTZ, w/ AP to 15 cm. thk. Subsurface oil as OR in granule & vegetation berm @ SUTZ, oiled to about 20 cm deep — dk. brown oil film on pit water here. Film occurs below URTZ oiling as surface runoff w/ sheen

PRE VISION: 627450

1348 → 135A

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/80

Segment ST / KN 135 Subdivision X A Date (mo / day / yr) 3/30/98

Time (24 hr) 830 Biologist MAS

- (A) Substrate type and % of segments:
 (1) Bedrock 5 (2) Boulder 5 (3) Cobble 30 (4) Pebble 45 (5) Sand 5 (6) Silt 10
- (B) Overall % cover of biota (% of segment): Dense 5 Moderate 1 Low 4
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs:
 Roll No. _____

Frames _____

BARNACLES

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

MYTILUS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

GASTROPODS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

FUCUS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

Wildlife Observations/ General Comments:

Ecological Considerations:

KN-04

KN-135

KN-12

XXX Wide
//// Medium

----- Narrow

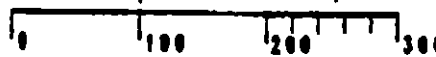
TTTT Very Light

0000 No Oil

KN-135

ADEC Segment Length: 483m

Exxon " " 511m



Map Key: PWS-318

Name: G. Macdonald

Date: 3/30/20

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-135 SUBDIVISION A (1 of 2)

WORK WINDOW

Bioremediation
Tarmat Removal
Spot Washing
Manual Tilling

OPEN PRIOR TO 8/15

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

2M Herring Spawning

NO CONSTRAINT. Authorized by Claudia Slater, ADF&G, 5/10/90 to Exxon/Tom Kelley.

3N,3P Pinniped Pupping
3O,3Q Pinniped Molting

CONSTRAINT 8/15 to 9/15. 5/15 to 7/1 constraint waived for bioremediation and site monitoring by Lloyd Lowry, ADF&G, per conversation with Exxon/John Wilkinson, 5/8/90; vessels will navigate slowly staying near the north side of the entrance. Steve Zimmerman, USNMFS, deferred to ADF&G (phone conversation with Exxon/J. Wilkinson 5/8/90).

OTHER ECOLOGICAL CONSIDERATIONS

Restrict disturbance of unrolled fucus, barnacles and gastropods in M and UITZ.

IF CULTURAL RESOURCES ARE UNCOVERED. PHONE 564-3274.

TAG APPROVAL DATE 5/11/90
ADEC ART WEINER
EXXON ANDY TERN
NOAA JOHN WILKINSON
USCG D.D. ROME

FOSC [Signature]

DATE 5-18-90

Prepared by: [Signature]

Date: 5/10/90

SHORELINE EVALUATION

SEGMENT ST/ KN-135 SUBDIVISION B (2 OF 2) DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Herring spawning (2M) - 4/1 to 6/15; May be near harbor seal and sea lion pupping areas (3N, P) - 5/15 to 7/1; May be near harbor seal and sea lion molting areas (3O, Q) - 8/15 to 9/15. Ask ADF&G to clarify pupping and molting locations.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Restrict disturbance of uncoiled fucus and barnacles in MITZ.

SHPO SIGNATURE: *Charles J. Horne*

DATE: April 12, 1990

OILING CATEGORIZATION:

Wide 77 m: Medium 112 m: Narrow 0 m: V. Light 70 m: No Oil 5 m
Subsurface Oil Observed: Yes X No Maximum Depth 30 cm

RECOMMENDATIONS:

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

COMMENTS: Recommend ~~bioremediation~~ removal of tarmats, as well as manual pickup of ~~tarmats~~ in areas shown on sketch map. In addition, bioremediation is recommended in those areas where a coat is shown on sketch map. All work 7/1 to 8/15 based on pupping and molting constraints. SPOT WASH AS REQUIRED AS INDICATED ON SKETCH

TAG COMMENTS: FOR TARMAT REMOVAL. SMALL MECHANICAL EQUIPMENT MAY BE USED AS DETERMINED BY FIELD OPS.

TAG APPROVAL DATE: 4/10/90

ADEC

JOHN BAUER

EXXON

ANDY TAN

FOSC: *[Signature]*

DATE: 5-6-90

NOAA

Barbara

USCG

G.A. REITER

G.A. Reiter

CG/ADEC monitors survey SITZ and UITZ during work. Provide 24 hour notice to CAC prior to work. CG ICP supervisor transport and berth CAC monitor upon request.

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN-135 SUBDIVISION: B DATE 3/30/90

USCG

NAME SCOTT RAINSFORD SIGNATURE Scott Rainford MST1

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

ADEC

NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

VERY thick asphalt pavement in segment of up to 15cm in depth. Pavement needs to be manually bagged and removed using square point shovels. Beach consists primarily of cobble beach on a gradual grade. Hot H₂O Flood system with workers agitating beach with rakes would possibly work ideally in this area. Some trash at SUTZ needs to be retrieved.

LAND MANAGER

NAME LORA JOHNSON SIGNATURE Lora Johnson

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

RESURVEY NEEDED FOR UPLANDS UNDER SNOW.

SHORELINE OILING SUMMARY

REVISION NO. 02/22/90

OG G. MACDONALD USCG D. RAINFORD SEGMENT ST/ KW-135
MS. SCOTT LAND REP L. JOHNSON SUBDIVISION 3
ION J. BUTLER ADEC W. COKLEY TIME 09:20:10:45
 TEAM NO.: 3 TIDE LEVEL: -2 to +1 FT DATE 3/30/90
 EST. SUBDIVISION LENGTH: 290 m ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: 5 to N
 SURFACE SEDIMENTS: R 5 % B 30 % C 40 % P 20 % G 5 % S - % M - % V - %
 SLOPE: Long 80 % Hang 20 % Vert - % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 80 m M 120 m N - m VL 80 m NO 10 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	K	R	P	S	SP	BR	FW	GY	BL	GR	LG	OR	SU	U	M	L
ASPHALT PAVEMENT	X											X		X		
POOLED																
COVER																
COAT		X								X			X	X		
STAIN			X							X					X	
MOUSSE																
PATTIES			X							X				X		
TARBALLS																
FILM			X							X			X	X	X	X
NO OIL																

PAVEMENT: H F (S) 500 sq. m. by 15 cm

PATTIES / TARBALLS > 50 BAGS

NEAR SHORE SHEEN? NO, BR (RW) SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs		X	
Vegetation			
Trash		X	
Debris			

DEBRIS COLLECTED
☐ YES ☒ NO

TYPE _____

#BAGS _____

Photographs:

Roll No. ST-3-1

Frames 16

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR								PIT ZONE	A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	SP	BR	FW	GY	BL	GR	LG	OR			
1	35		X	-			5-25	X						X		X			N	G
2	20					X	-		X										N	P, C, G
3	30				X		5-15		X					X		X			N	G
4	15				X		5-10		X								X		N	P, C, G
5	20					X	-											X	N	P, C, G
6	15					X	-											X	N	G, P, S
7	30		X		X		5-30	X											N	P, C, G

COMMENTS

Low L beach w/ P, C, G @ S half and B, C @ north half. Surface oil is AP/C and P, C, G @ HRTZ w/ CT, F, H below. Subsurface oil is OR in granule berm @ JUTZ. Snow stained light brown where it covers log berm — so some oil is present here.

135 → 135B

SHORELINE ECOLOGICAL SUMMARY

REVISION: 00/00/00

Segment ST / KN135 Subdivision B Date (mo / day / yr) 3/13/00Time (24 hr) 9:35 Biologist MSS/M(A) Substrate type and % of segments:
(1) Bedrock 5 (2) Boulder 30 (3) Cobble 40 (4) Pebble 25 (5) Sand 0 (6) Silt 0(B) Overall % cover of biota (% of segment): Dense 3% Moderate 4% Low 3

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

Photographs:
Roll No. _____

Frames _____

BARNACLES

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

MYTILUS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

GASTROPODS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

FUCUS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

Wildlife Observations/ General Comments:

Ecological Considerations:

UG C ADDONALD

SEGMENT ST/KN-135

SUBDIVISION B

DATE 3/30/90

CHECKLIST

- N Arrow
- Approx. Scale
- Seg/Sub Bndry
- Oil Dist.
- Width
- Length
- % Cover
- Substrate Character
- Est. HW/LWL
- SSL
- Profile Location(s)
- Profile(s)
- Pit Location(s)
- Photo Location(s)

LEGEND

1 Δ
Pit - No Subsurface Oil

2 Δ
Pit - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/P
Patchy Distribution

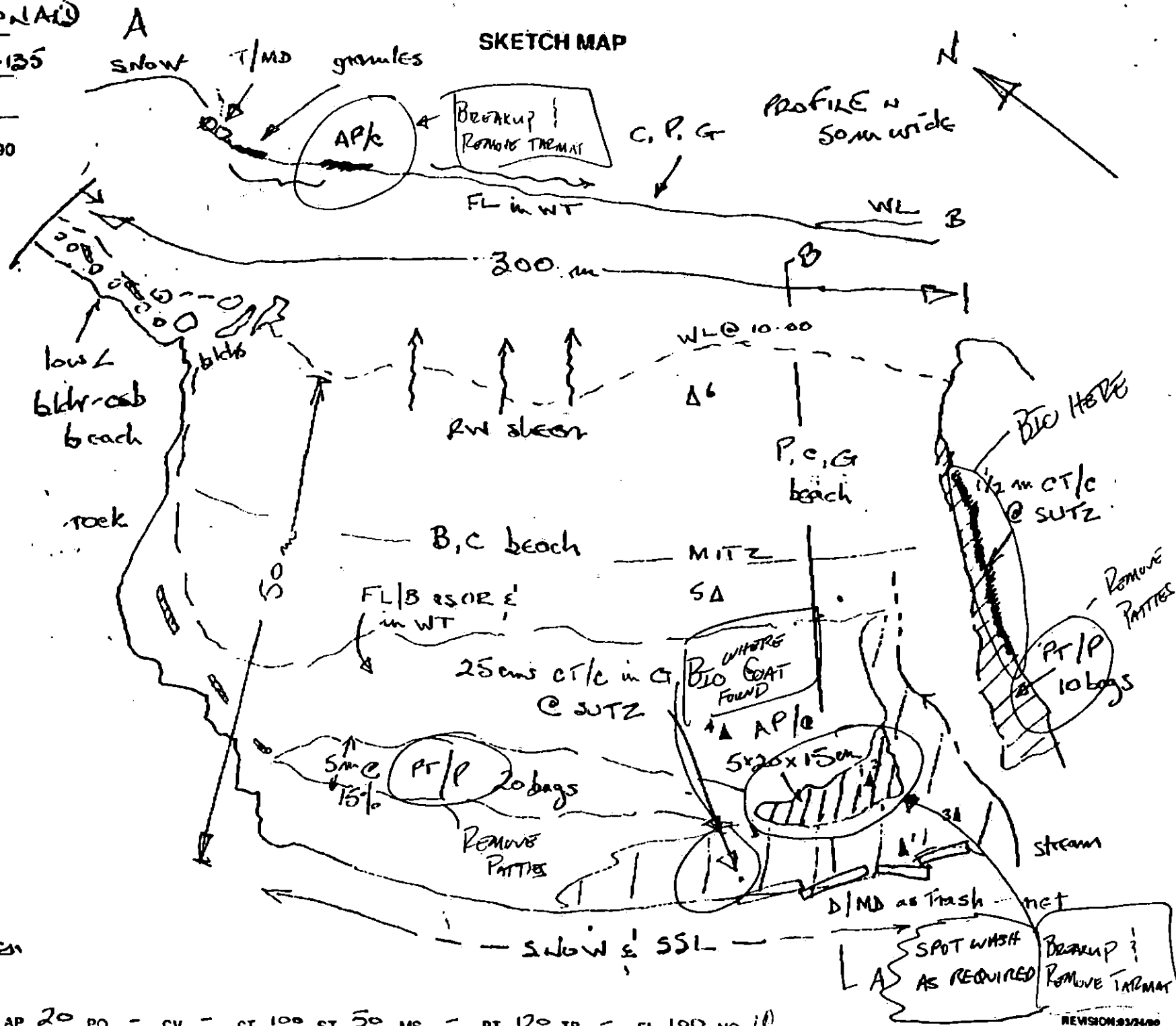
CT/S
Splashed Distribution

Oiled Vegetation

Photo location, direction, and number

→ skreen

SKETCH MAP



Oil Character Length (m): AP 20 PO - CV - CT 100 ST 50 MS - PT 120 TR - FL 100 NO 10

REVISION 93/24/90

SHORELINE EVALUATION

SEGMENT ST/ KN-135 SUBDIVISION B(2 of 2) DATE 4/1/90

ECOLOGICAL CONSTRAINTS:

TIME SENSITIVITY _____ TO _____

Herring spawning (2M): 4/1-6/15; May be near harbor seal & sea lion pupping areas(3N, P): 5/15-7/1; May be near harbor seal and sea lion molting areas (30, Q):8/15-9/15. Ask ADF&G to clarify pupping & molting locations. Restrict disturbance of moiled buoys & barnacles in MIT E.

ARCHAEOLOGICAL CONSTRAINTS: _____

ARCHAEOLOGICAL CONSTRAINTS: Cultural resource survey in progress. Shoreline treatment cannot proceed until field data have been assessed and a formal archaeological constraint entered on the shoreline evaluation form. -

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

77 m Wide, 112 m Medium, 0 m Narrow, 70 m V. Light, 5 m No Oil
Oil Subsurface observed X Yes _____ No Maximum Depth 30 cm

RECOMMENDATIONS:

☐ No Treatment Recommended☒ Treatment Recommended☒ Manual Pickup _____ Snare Booms/Sorbents ☒ Tarmat Breakup/Removal☒ Bioremediation _____ Spot Washing _____ Other _____☐ Wands ☐ Beach Cleaner

COMMENTS: RECOMMEND BREAKUP & REMOVAL OF TARMATS SHOWN, AS WELL AS
MANUAL PICKUP OF TARBALLS. IN ADDITION, BIOREMEDIATION IS RECOMMENDED
IN THOSE AREAS WHERE A COAT IS SHOWN ON OG MAP. CLASS 3 WITH WORK DONE
ALL WORK 7/1 TO 8/15 BASED ON PUPPING & MOLTING CONSTRAINTS

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC

EXXON

NOAA

USCG

FOSC: _____ DATED: _____

KN-12

KN-135

SUBDIN. 3

SUBV. A

0000 No Oil

KN - 135

Exxon " " 1.511m



Data Entered:

19

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-135 SUBDIVISION B (2 of 2)

WORK WINDOW

Manual Pickup
Bioremediation
Tarmat Removal
Spot Washing
Small Mechanical Equipment

OPEN PRIOR TO 8/15

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

2M	Herring Spawning	NO CONSTRAINT. Authorized by Claudia Slater, ADF&G, 5/10/90 to Exxon/Tom Kelley.
3N,3P 3O,3Q	Pinniped Pupping Pinniped Molting	CONSTRAINT 8/15 to 9/15. 5/15 to 7/1 constraint waived for bioremediation and site monitoring by Lloyd Lowry, ADF&G, per conversation with Exxon/John Wilkinson, 5/8/90; vessels will navigate slowly staying near the north side of the entrance. Steve Zimmerman, USNMFS, deferred to ADF&G (phone conversation with Exxon/J. Wilkinson 5/8/90).

OTHER ECOLOGICAL CONSIDERATIONS

Restrict disturbance of unrolled fucus, barnacles and gastropods in M and UITZ.

IF CULTURAL RESOURCES ARE UNCOVERED, PHONE 564-3274.

TAG APPROVAL DATE 5/11/90
ADEC ART WEINER
EXXON ANDY TGM
NOAA Joseph Kilbait
USCG D. D. ROME

FOSC [Signature] DATE 5-11-90

Prepared by: [Signature]

Date: 5/10/90

SHORELINE EVALUATION

SEGMENT ST/ KN-136 SUBDIVISION A (1 OF 1) DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Herring spawning area (2M) - 4/1 to 6/15; Near harbor seal and sea lion pupping (3N, P) - 5/15 to 7/1 and molting (3O, Q) - 8/15 to 9/15. Restrict boat and air traffic to minimum essential. Contact ADF&G Habitat Division to confirm locations prior to treatment. Windows are prior to 5/15 or from 7/1 to 8/15 unless otherwise approved by ADF&G.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Avoid disturbance/damage to un-oiled biota and substrate.

SHPO SIGNATURE: Charles E. Palmer DATE: April 12, 1990

OILING CATEGORIZATION:

Wide 179m: Medium 0 m: Narrow 81 m: V. Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 14cm

RECOMMENDATIONS:

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

COMMENTS: Manual pickup of oiled debris and vegetation, breakup and removal of tarmats. Bioremediate area of broken coat. Work between 7/1 and 8/15 based on constraints.

TAG COMMENTS: CLOSE SUPERVISION MANDATORY ON THIS LOCATION DUE TO THE POTENTIAL FOR IMPACT OF THE SALT MARSH SPOT WASH AND RAKING - GUIDELINES TO BE ESTABLISHED ON SITE BY TAG REPRESENTATIVES PRIOR TO TREATMENT.

TAG APPROVAL DATE: 4/12/90

ADEC JOHN PAUER
EXXON ANDY TEAL
NOAA Barl Wescott
USCG M. J. HALL

FOSC: W L DATE: 5-8-90

Advise C&G 24 hours prior to work. CG arrange transport + berthing, if desired.

FIELD SHORELINE COMMENT SHEET

INMENT ST / KN 136 SUBDIVISION: NONE DATE 3/30/90**USCG**NAME MARICIA J. SHARPSIGNATURE [Signature]☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED**ADEC**NAME S. FERGUSONSIGNATURE [Signature]☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

* AT PIT #2 (ON SKETCH MAP): LOCATED AT 1200 FROM WHERE SKIFF IS SHOWN ON SHORELINE, A TEST PIT WAS DUG TO A DEPTH OF 20CM. → AS THE PIT FILLED IN, A PUDDING-LIKE OIL FORMED ON THE WATER'S SURFACE. QUESTION: THERE IS NO REAL CLASSIFICATION ON THE FORM FOR THIS TYPE OF OCCURANCE → THE SUBSTANCE APPEARED TO BE THE LOW-ENDS OF CRUDE WITH VERY LITTLE WATER EMULSIFIED WITH IT [OG-K. RAMSEY SHOT VIDEO FOOTAGE OF THIS]. THIS PIT WAS LOCATED IN PAVEMENT WITH OIL PENETRATION AT 7 TO 10CM IN LOWER HITZ

AS WATER + OIL SEEPED INTO PIT FROM SKIFF

* SEE PAGE ATTACHED

LAND MANAGERNAME M.C.T. SMITHSIGNATURE [Signature]☐ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

ADCC / FIELD SHORELINE COMMENT SHEET

KN 136 → * SHORELINE OIL CATEGORY LENGTH

(1) #S SHOWN ON FORM REPRESENT ONLY THE SHORELINE. ~~TIDAL~~ LANDS THAT RAP AROUND ISLAND IN CENTER OF SKETCH MAP ARE NOT REPRESENTED.

(A) LENGTH OF WIDE OILING WOULD INCREASE SUBSTANTIALLY (SEE SKETCH MAP FOR TALL PARK FIGURES)

MISSING UNIFORM MOUSSE MAT IN FORM

GUESS THE CLASSIFICATION TO TAR BALLS IN THIS INSTANCE

* MOUSSE BALLS (MOUSSE MIXED WITH ORGANIC MATTER / FEATHERS) WHICH WERE TACKY / STICKY, WERE DECEASED ALONG THE HITZ AREA IN TIDAL FLATS. → NOTE FORM IS NOT FILLED IN REGARDING THIS CATEGORY

TREATMENT RECOMMENDED: HAND + MECH CLEAN-UP

Southern most end of Segment has an area approx. 15m x 20m x 3cm that consists of Bedrock & slated bedrock that would respond to cleaning with omni-boorn using hot H₂O OR using a lambda also with hot H₂O/steam.

3/30/90 S. Ferguson

* A CONTINUOUS BAND OF OILED ORGANIC MATTER ATOP 1cm OF MUD IN THE TIDAL FLATS IN UPPER HITZ → M. SOFT PAVEMENT LIKE OIL CHARACTER / EXTENDED AROUND 70% OF TIDAL FLATS

— A LIGHT SHEEN MIXED WITH MOUSSE MATS IN
⊗ CENTRAL AREA OF TIDAL FLATS (E)

SHORELINE OILING SUMMARY

REVISION NO. 02/22/90

OG K. Ramsey USCG R. Sharp SEGMENT ST/ KN-136
G. Penn LAND REP M. Smith SUBDIVISION
ON S. Reid ADEC Ferguson TIME 9:45 to 11:32
TEAM NO.: 4 TIDE LEVEL: -2 ft to 2 ft DATE 3/30/90
EST. SUBDIVISION LENGTH: 340 m ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☒ Snow
UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: N to S
SURFACE SEDIMENTS: R 15 % B 10 % C 30 % P 10 % G 5 % S — % M 70 % V 30 %
SLOPE: Long 70 % Hang — % Vert 30 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
OIL CATEGORY LENGTH: W 204 m M — m N 136 m VL — m NO — m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR						IMPACTED ZONES			
	C	B	P	S	SP	OR	OL	OF	NO	—	SU	U	M	V
ASPHALT PAVEMENT		X				X					X	X		
POOLED														
COVER	X										X			
COAT		X											X	
STAIN			X								X	X		
MOUSSE		X									X			
PATTIES														
BALLS														
FILM						X							X	X
NO OIL														

PAVEMENT: H Ⓟ S 560 sq. m by 5 cm

PATTIES / TARBALLS — BAGS

NEAR SHORE SHEEN? NO BR RW Ⓢ TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs		X	
Vegetation			X
Trash	X		
Debris		X	

DEBRIS COLLECTED
☐ YES ☒ NO

TYPE —

#BAGS —

Photographs:

Roll No. 1

Frames 5, 6, 7

340
124
216

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR						PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	SP	OR	OL	OF	NO	—	SU	U	M	V		
1	15					X	0-5													N	C, P
2	20	X					5-10	X			X					X				N	C, P, G
2	20		X				10-14		X		X					X				N	C, P, G
3	35					X	0-5		X									X		N	M, V
4	29					X	0-5		X									X		N	M, G, V

COMMENTS

Stream leads into a large tidal flat which is saturated with vegetation + mud.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/25/88

Segment ST, KN 136 Subdivision NONE Date (mo / day / yr) 03/30/90
 Time (24 hr) 0945 Biologist PENN

- (A) Substrate type and % of segments:
 (1) Bedrock 15 (2) Boulder 10 (3) Cobble 10 (4) Pebble 10 (5) Sand (6) Silt 20
- (B) Overall % cover of biota (% of segment): Dense 41 Moderate 5 Low 90
- (C) Density, substrate preference (by number from A. above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L):
 juveniles / adults (X), new settlement (3)

Photographs:
 Roll No.
 Frames

BARNACLES

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

MYTILUS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

GASTROPODS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

observed
NOT PRESENT

FUCUS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

Wildlife Observations/ General Comments:

Other Skeleton - no visible oiling

oiled vegetation in segment (Gardissas) is Supratidal

Ecological Considerations:

SEGMENT 5, IN-136

②

SUBDIVISION

DATE 3/30 90

CHECKLIST

- ☒ N Arrow
☒ Approx. Scale
☒ Seg/Sub Bndry
☒ Oil Dist.
 Width
 Length
 % Cover
☒ Substrate Character
☒ Est. HWL/LWL
 SSL
 Profile Location(s)
 Profile(s)
☒ PH Location(s)
☒ Photo Location(s)

LEGEND

- P11 - No Subsurface Oil**

- 2 ▲**
P11 - Subsurface OI

CT/C
Continuous Distribution

CT/B
Broken Distribution

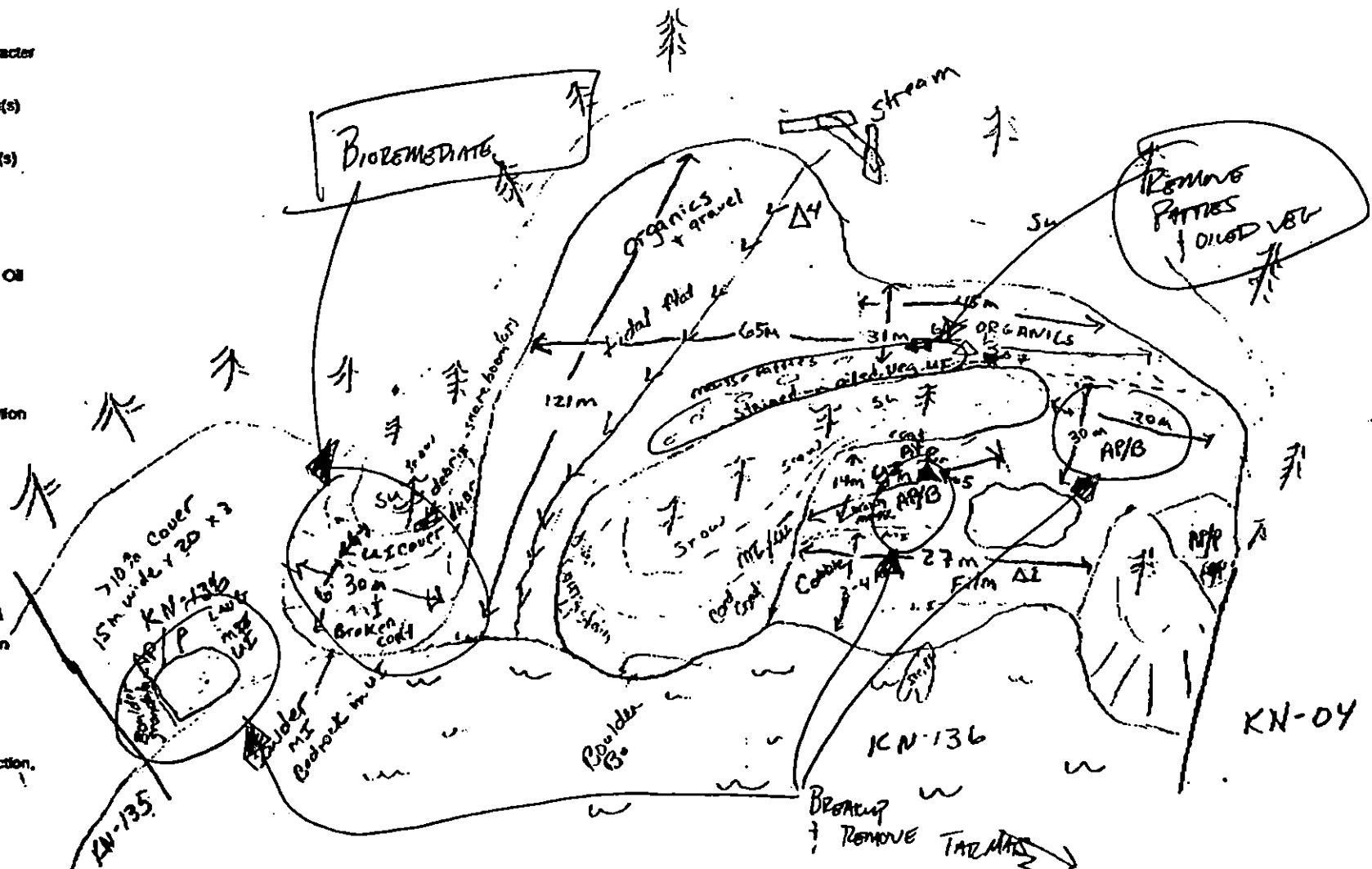
CT/P

Palchy Distribution

CT/S
Splashed Distribution

Oiled Vegetation

1 →
Photo location, direction,
and number



Oil Character Length (m): AP 181 PO 0 CV 136 CT 136 ST 136 MS 65 PT 65 TB 0 FL 27 NO 0

REVISION 02/2003

00 K E1
SEGMENT ST/ KN-136

ETCH MAP

SUBDIVISION

DATE 3/20/90

CHECKLIST

- ☐ N Area
- ☒ Approx. Scale
- ☒ Sep/Sub Entry
- ☒ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☒ Substrate Character
- ☒ Est. MHL/LVL
- ☐ SST
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☒ Photo Location(s)
- ☒ Photo Location(s)

LEGEND

1 Δ

Pl - No Subsurface Oil

2 Δ

Pl - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splashed Distribution

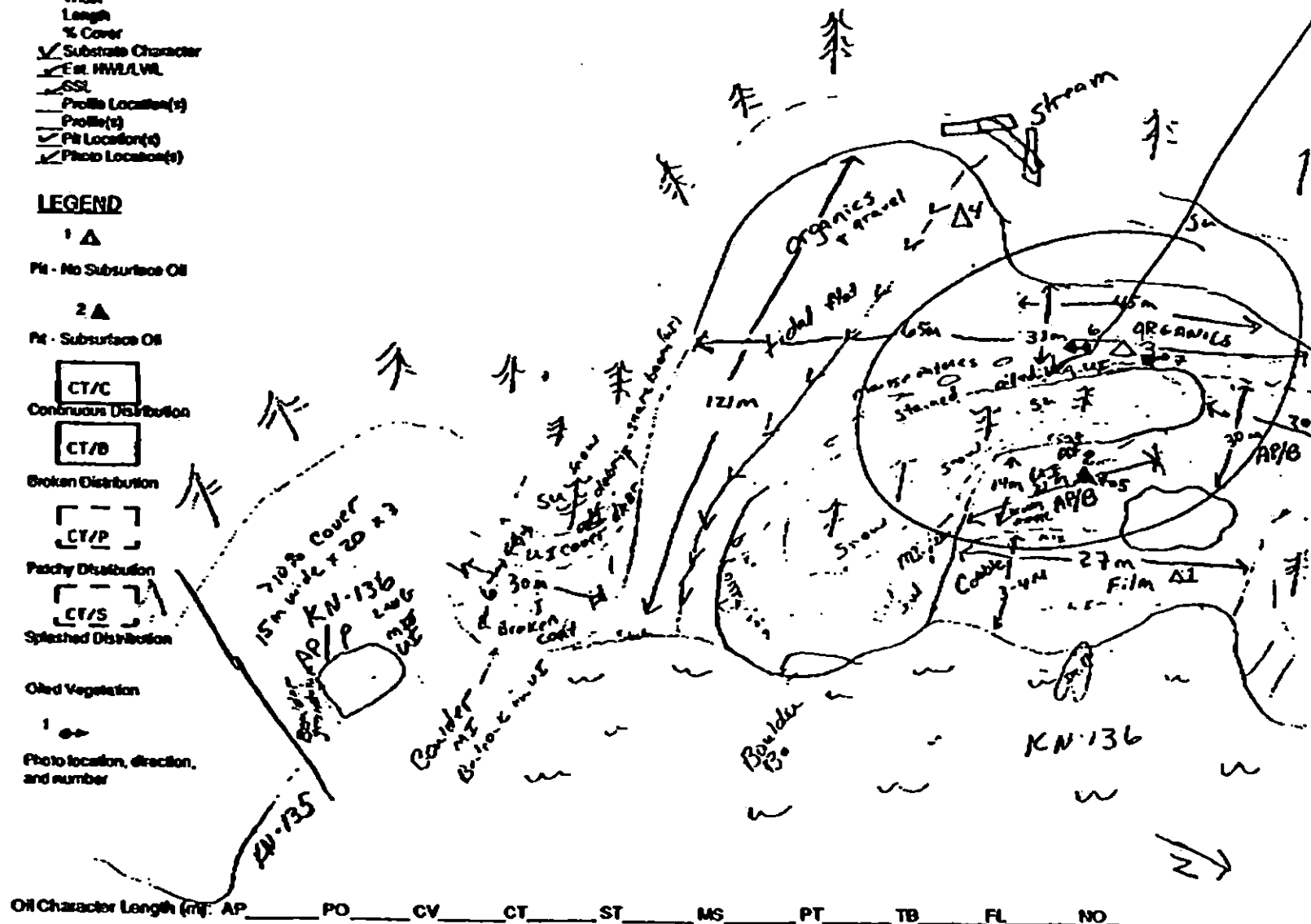
Oiled Vegetation

1 →

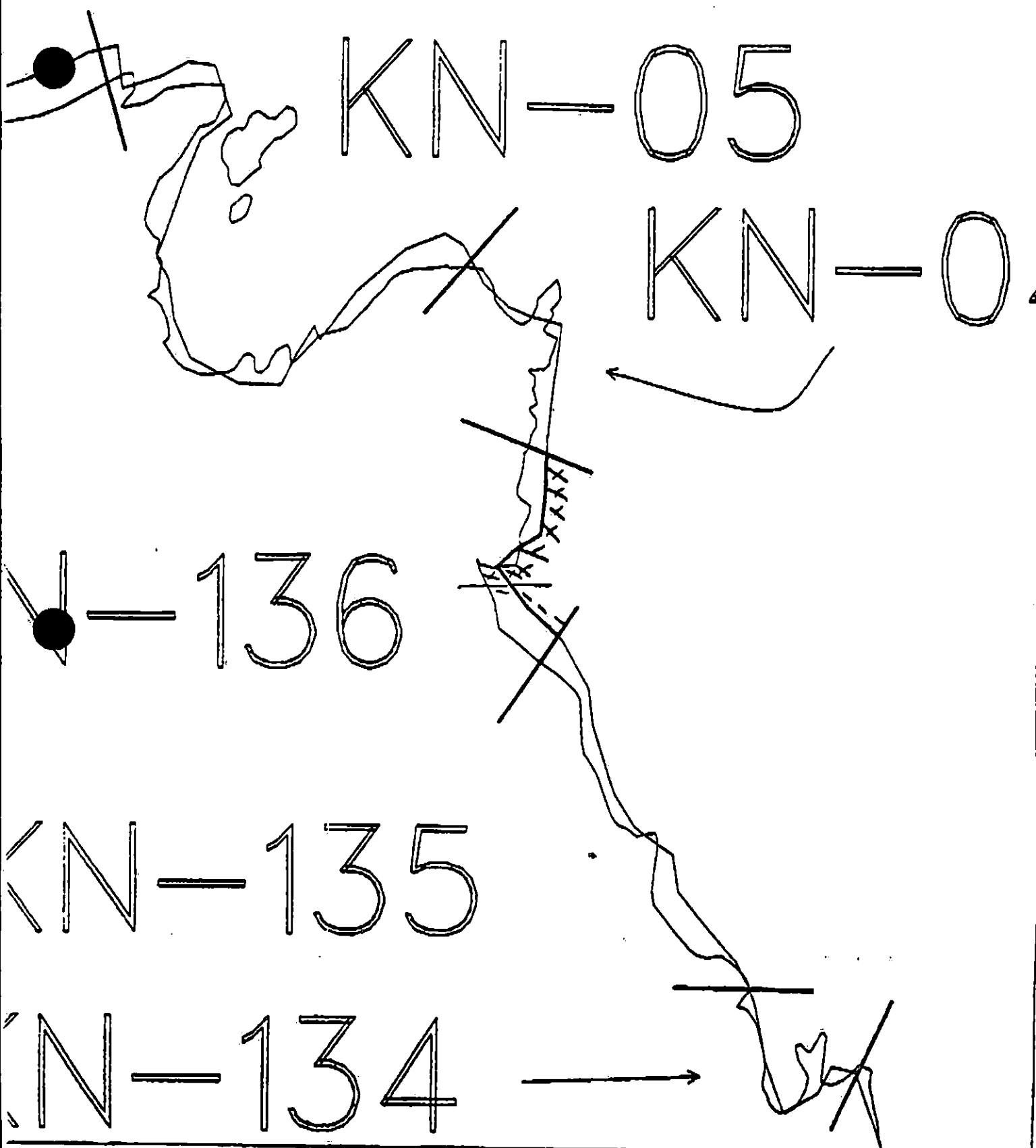
Photo location, direction, and number

yes, su has
oiled veg.
the UT you see
is marking
the UT
boundary on dotted
line

Stain on back
Side facing
tidal flat
but not the
side facing
the shoreline



Oil Character Length (m): AP PO CV CT ST MS PT TB FL NO



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

KN-136

ADEC Segment Length: 259m



Map Key: PWS-319

Name: RAMSEY

Date: 3/30/90

Date Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-141 SUBDIVISION A (1 OF 2) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Harbor seal and sea lion pupping (3N, 3P) - 5/15 to 7/1 and molting (3Q, 3Q) - 8/15 to 9/15. Restrict boat and air traffic to essential minimum. Contact ADF&G and USFWS prior to treatment.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Avoid unnecessary disturbance of unoiled substrate and biota.

SHPO SIGNATURE: Charles Z. Johnson DATE: April 12, 1990

OILING CATEGORIZATION:

Wide 26 m: Medium 161 m: Narrow 119 m: V. Light 712 m: No Oil 130 m
Subsurface Oil Observed: Yes X No Maximum Depth 30 cm

RECOMMENDATIONS:

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

COMMENTS: Bioremediate areas shown on sketch map. Work before 5/15 or 7/1 to 8/15 based on pupping constraints.

TAG COMMENTS: MANUALLY TILL/RACE WHERE APPROPRIATE PRIOR TO BIOREMEDIATION

TAG APPROVAL DATE: 4/12/90

ADEC JOHN BAUER

EXXON ANDY GATZ

NOAA Bruce Wesscott

USCG M. J. HALL

FOSC:

DATE: 4-19-90

FIELD SHORELINE COMMENT SHEET

GMENT ST / KN 141 SUBDIVISION: A DATE 3-31-90

USCG

NAME Patrick Malay SIGNATURE Patrick Malay☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

1/4 of the island was stained in the U.I. zone. The covered beaches on the North side of the island are sheering. Suggest light tilling and bio remediation in these areas. Grass mats on SW & SE side of the island have residual oil to 20 cm. Suggest waiting until summer to see if the grass survives.

ADEC

NAME M. Cunningham SIGNATURE M. Cunningham☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Bioremediate low angle pocket beaches from mid to storm berm. Stay out of Marsh on SE shore. Rahe up oiled grass nr site #7 and flip over shield borders of HT to expose to bioremediation treatment. Debris pickup when snow melts

LAND MANAGER

NAME Steven Phillips SIGNATURE Steven Phillips☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Search storm berm for trash / oil debris
Pocket beaches candidates for bio remediation.
North pocket beach formed brown films (sheens) which can be absorbed by pads - need to disturb top 10 cm.
Monitor bands on vertical rock for deterioration.

SHORELINE OILING SUMMARY

REVISION NO. 000278

XG Greg Chaney USCG Patrice Malay SEGMENT ST/141
 NO Jim Roth LAND REP Mike Cunningham SUBDIVISION A
 EXXON Rex Setelo ADEC Steve Philips TIME 11:15 to 13:40
 TEAM NO.: 7 TIDE LEVEL: 0.5 ft to 5.0 ft DATE Mar 13 / 90
 EST. SUBDIVISION LENGTH: 1311 m ☒ Sun ☒ Clouds ☐ Fog ☒ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock ☒ Snow
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: South to North
 SURFACE SEDIMENTS: R 80 % B 10 % C 2 % P 2 % G 2 % S 2 % M 2 % V 0 %
 SLOPE: Long 10 % Hang 40 % Vert 50 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 5 m M 225 m N 160 m VL 780 m NO 141 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	R	B	P	S	1	2	3	4	5	6	7	8	SU	U	M	V
ASPHALT PAVEMENT																
POOLED																
COVER		X				X							X	X		
COAT	X	O				X							X	O	X	O
STAIN	X	O				X	O						X	O	X	O
MOUSSE																
PATTIES																
TARBALLS																
FILM	X					X	X	X	X				X	X	X	
NO OIL																

PAVEMENT: H F S — sq. m by — cm

PATTIES / TARBALLS — BAGS

NEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash	X		
Debris			

DEBRIS COLLECTED ☒ YES ☐ NO

TYPE Rope

#BAGS less than 1

Photographs:

Roll No. ST-7-1

Frames 10, 11, 12

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR								PIT ZONE	A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	1	2	3	4	5	6	7	8			
1	20		X				0-3		X									X		BCPG
					X		0-1		X									X		BCPG
2	20		X				0-3		X									X		PGM
					X		0-1		X									X		PGM
3	30	X					0-6		X									X		PG
4	25		X				0-10		X									X		BCPG

COMMENTS

Majority of island has bedrock faces with some level of staining. Micro pocket beaches hold only significant oil. Mobile oil was present on micro pocket beach where pits 5 & 6 were done.

* Problem: Pit 1, 2 oil

** Oiled interval of pit 2 from 0-3cm does not constitute subsurface oil

Changes made due to data base limits. MH 4-4-90

SHORELINE OILING SUMMARY (PAGE of)

REVISION 08/23/88

SEGMENT ST/ 141 SUBDIVISION A

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OF	OR	OL	OP	NO		UO	UC	BR	BL	GR	BR	BL	GR	BR	BL	SU	U	M	U		
5	30				X		5-30 UH	X					X					X					PG (oil mobilized)
6	15				X		5-15 UH	X	X										X				PG
7	20	X					05-15 UH	X					X					X					PG
							.																
							.																
							.																
							.																
							.																
							.																
							.																
							.																
							.																
							.																
							.																

COMMENTS

Mobile oil observed in pits 5 & 6.
Melt water mobilized brown sheen
but depth of penetration impossible
to measure.

REVIEWED UH DATE 4-4-90

SHORELINE ECOLOGICAL SUMMARY

Segment ST/ KN-141 Subdivision A Date (mo / day / yr) 31 MAR 90Time (24 hr) ARR 1115 HR
LV 1300 Biologist ROTH

- (A) Substrate type and % of segments:
(1) Bedrock 20 (2) Boulder 10 (3) Cobble 2 (4) Pebble 2 (5) Sand 4 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense 10 Moderate 60 Low 30
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (O)

Photographs:
Roll No. ST-7-1Frames 10-12

BARNACLES

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	X	O	2	X	O	2	2	2	2
3	3	3	X	3	3	X	3	3	3	3	3
4	4	4	X	4	4	X	4	4	4	4	4
5	5	5	X	5	5	X	5	5	5	5	5
6	6	6	X	6	6	X	6	6	6	6	6

NOT PRESENT

MYTILUS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	X	X	2	X	X	2	2	2	2
3	3	3	X	3	3	X	3	3	3	3	3
4	4	4	X	4	4	X	4	4	4	4	4
5	5	5	X	5	5	X	5	5	5	5	5
6	6	6	X	6	6	X	6	6	6	6	6

NOT PRESENT

ASTROPODS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	X	X	X	X	X	2	2	2	2
3	3	3	X	3	3	X	3	3	3	3	3
4	4	4	X	4	4	X	4	4	4	4	4
5	5	5	X	5	5	X	5	5	5	5	5
6	6	6	X	6	6	X	6	6	6	6	6

NOT PRESENT

FUCUS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	X	O	X	X	X	2	2	2	2
3	3	3	X	3	3	X	3	3	3	3	3
4	4	4	X	4	4	X	4	4	4	4	4
5	5	5	X	5	5	X	5	5	5	5	5
6	6	6	X	6	6	X	6	6	6	6	6

NOT PRESENT

Wildlife Observations/ General Comments:

MANY MYTILUS < 1 cm

5 BALD EAGLES SEEN - 3 EVIDENTLY ON CARRION ON THIS ISLAND

Ecological Considerations:

3 N, P } SEA LION AND SEAL PUPPING AND MOLTING
3 O, Q }

SKETCH MAP

LOG Greg Chisney
 SEGMENT ST/ KN 141
 SUBDIVISION A
 DATE Mar 31 90

CHECKLIST

- ☐ M Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HML/LWL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Photo(s)
- ☐ P/L Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ
 P/L - No Subsurface Oil

2 Δ
 P/L - Subsurface Oil

CT/C
 Continuous Distribution

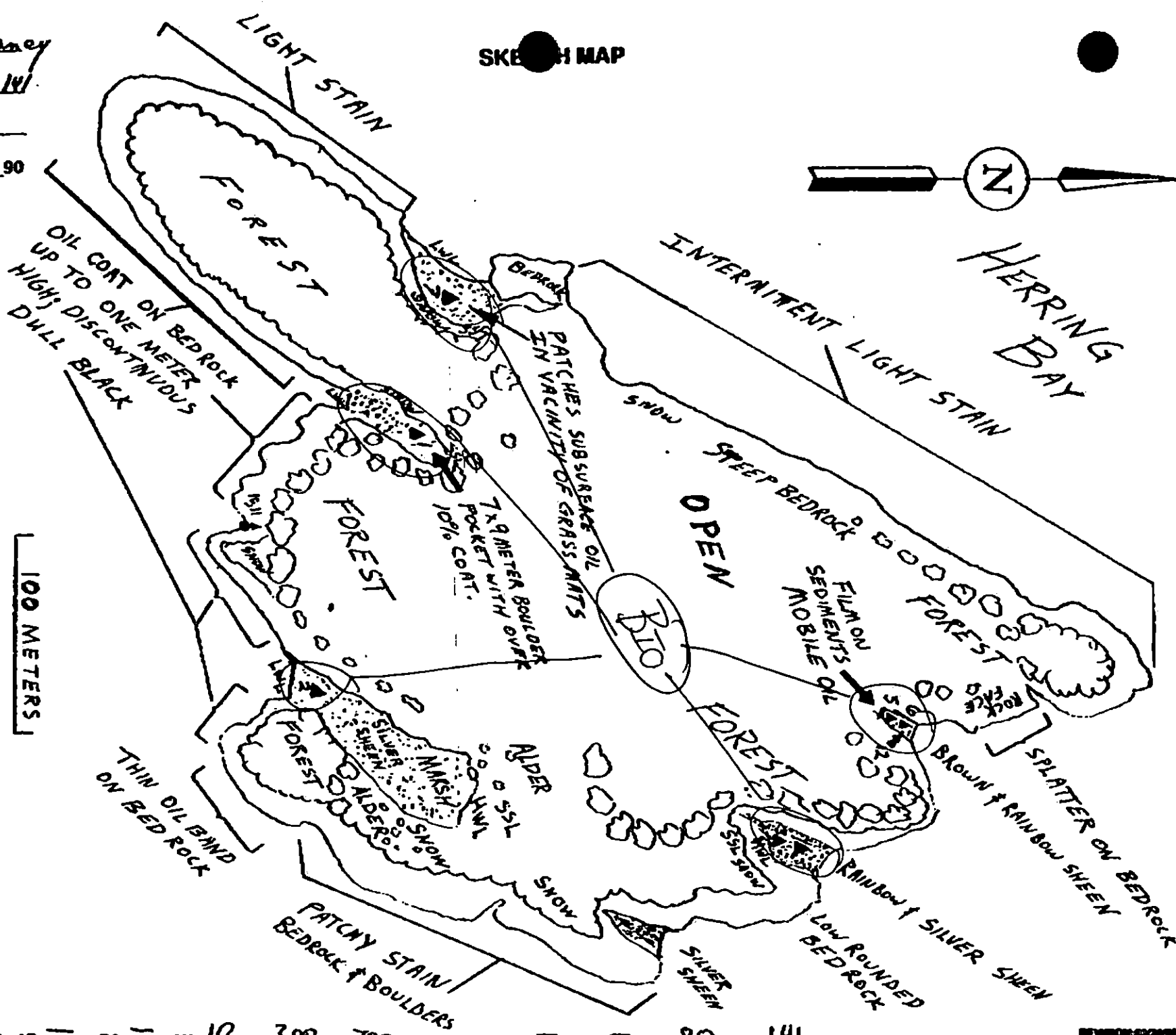
CT/B
 Broken Distribution

CT/P
 Patchy Distribution

CT/S
 Splashed Distribution

Oiled Vegetation

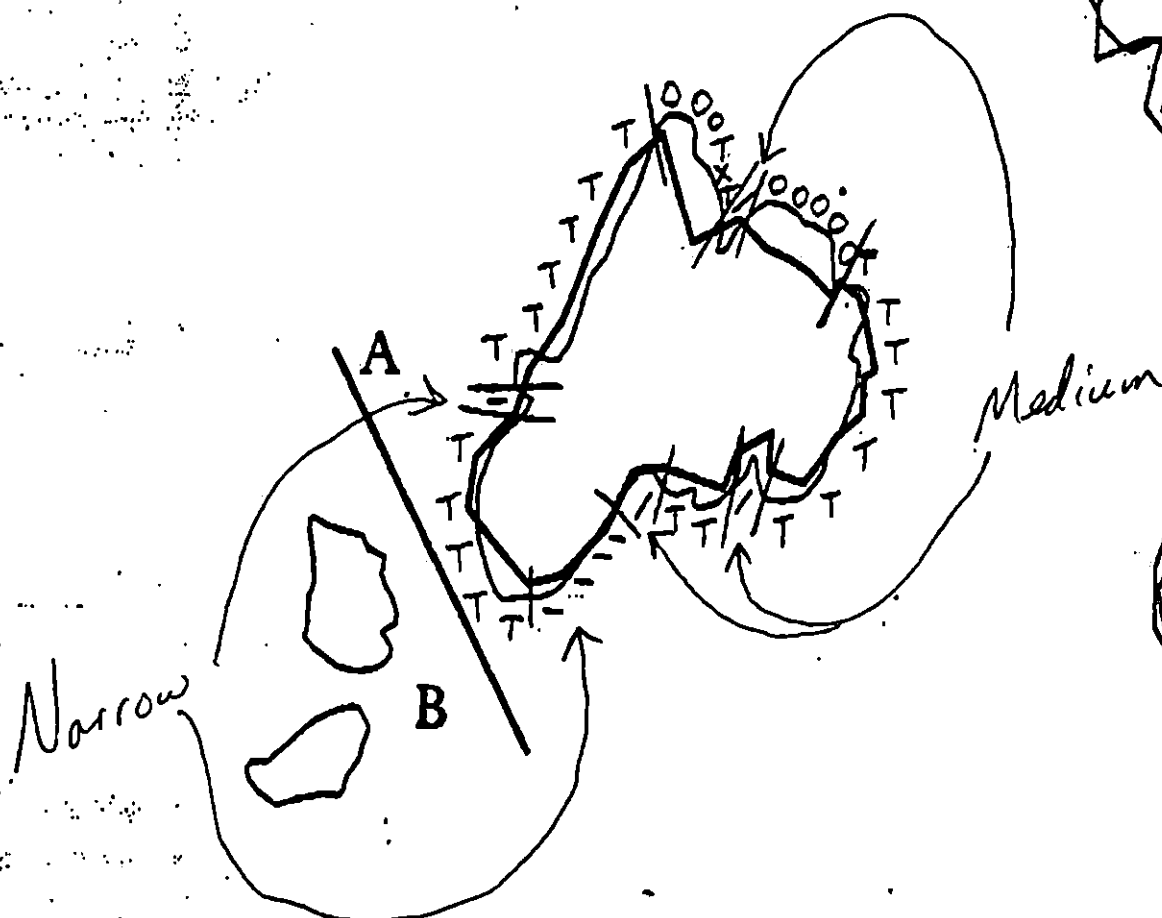
1 ●●●
 Photo location, direction, and number



Oil Character Length (m): AP — PO — CV 10 CT 300 ST 780 MS — PT — TB — FL 80 NO 141

REVISION 02/20/90

~~KN-121~~



1 100 150 1

XXXX Wide

/// Medium

---- Narrow

TTTT Very Light

0000 No Oil

KN-141A

ADEC Segment Length: 1148m

Exxon Segment Length: 1891m



Map Key: PWS-321

Name: Greg Chaney

Date: March 31, 1990

Data Entered:

REVISION 1 6/10/90

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-141 SUBDIVISION A (1 of 2)

WORK WINDOW	
Manual Pickup	CLOSED
Bioremediation Manual Raking/Tilling	CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

3N,P,O,Q	Harbor Seal and Sea Lion Pupping and Molting Area	NO TIME CONSTRAINT. Authorized per memorandum dated 5/14/90 from Kathryn Frost/ADF&G to Mark Kuwada/ADF&G.
5T	Bald Eagle Nest	USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to manual pickup, bioremediation and manual raking/tilling within 400m of active nest.

OTHER ECOLOGICAL CONSIDERATIONS

If eagle nest constraint is removed, other ecological considerations will apply.

FOSC

Date

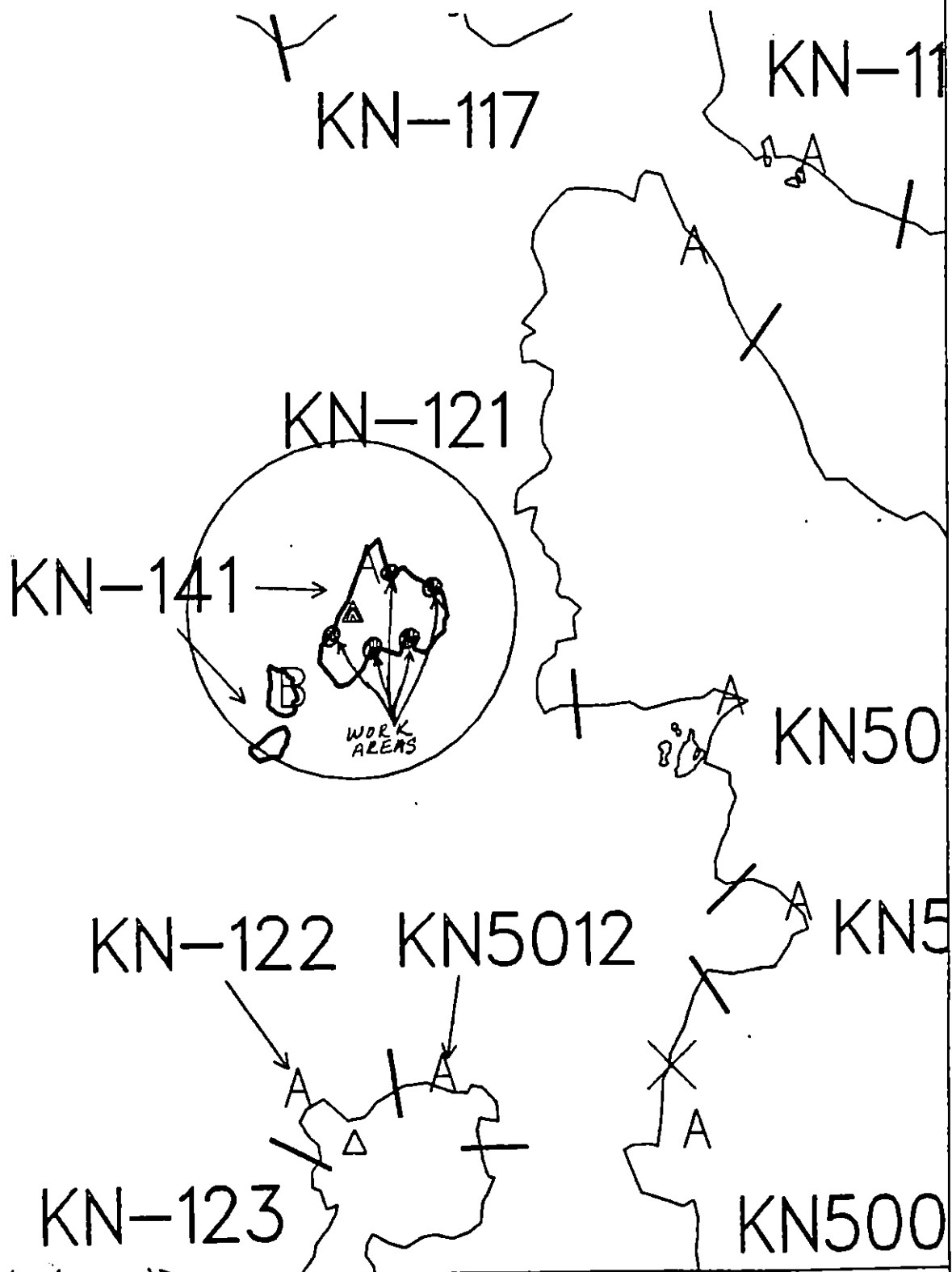
6-10-90

Prepared by

J.P. Phillips
6-10-90

Date

6/10/90



Exxon Company, USA
 Map Key: PMS-KN-141
 June 05, 1990

ECOLOGY MAP
 SEGMENT KN-141
 SUBDIVISION A (1 of 2)
 METERS

- ★ Seabird Colony
- ▲ Active Eagle Nest
- △ Inactive Eagle Nest

2/1/90 - 2/1/90

SHORELINE EVALUATION

SEGMENT ST/ KN-141 SUBDIVISION B (2 OF 2) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Harbor seal and sea lion pupping (3N, 3P) - 5/15 to 7/1 and molting (3O, 3O) - 8/15 to 9/15. Restrict boat and air traffic to essential minimum. Contact ADF&G and USFWS prior to treatment.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Avoid unnecessary disturbance of unoiled substrate and biota.

SHPO SIGNATURE: [Signature] DATE: April 14, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 34 m: V.Light 201 m: No Oil 359 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS:

TAG COMMENTS: PRIOR CLEANUP TEAM MOVEMENT TO THIS LOCATION
INSPECTION BY MONITORS FOR DETERMINATION OF
PRESENCE OF DEBRIS.

TAG APPROVAL DATE: 4/12/90
ADEC JOHN BAUER [Signature]
EXXON ANDY TEAL [Signature] FOSC: [Signature] DATE: 4-19-90
NOAA Burt Wescott [Signature]
USCG M. J. HALL [Signature]

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN 141 SUBDIVISION: B DATE 3-31-90

USCG

NAME

Patrick Malay

SIGNATURE

Patrick Malay☒ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

This subsegment consisted of 2 bedrock islands that had areas of continuous and broken stain and weathered coating in the U.I. zone. Debris may exist in the storm berm but it is not evident at this time (due to the snow) so I can not recommend treatment.

ADEC

NAME

Michael Cunningham

SIGNATURE

Michael Cunningham☒ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

↳ as per guidelines for "coat"
(see pg 6 flow diagram)

[High Angle bedrock w/ patchy stain & coat, both very weathered (very hard)]
All debris observed = removed by SSAT

LAND MANAGER

NAME

Steven Phillips

SIGNATURE

Steven Phillips☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Manual Pickup of debris in Storm Berm (under snow)
watch bathtub rings for deterioration

SHORELINE OILING SUMMARY

REVISION NO. 03/23/88

OG Greg Chaney USCG Patric Malay SEGMENT ST/ 141
 BIO Jim Roth LAND REP Mike Cunningham SUBDIVISION B
 EXXON Rey Setelo ADEC Steve Phillips TIME 13:50 to 19:10
 TEAM NO.: 7 TIDE LEVEL: 5 ft to 5.5 ft DATE Mar 13 / 80
 EST. SUBDIVISION LENGTH: 580 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock Snow
 SURVEYED FROM: ☐ Foot ☒ Boat ☐ Helo WORKING DIRECTION: North to South
 SURFACE SEDIMENTS: R 90 % B 10 % C — % P — % G — % S — % M — % V — %
 SLOPE: Long — % Hang 60 % Vert 40 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W — m M — m N 35 m VL 170 m NO 375 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR						IMPACTED ZONES			
	C	B	P	S	SP BK	BL PK	GY	SL OR	TL LR	SU	U	M	L	
ASPHALT PAVEMENT														
POOLED														
COVER														
COAT		X				X					X			
STAIN	X	✓				X					X			
MOUSSE														
PATTIES														
TARBALLS														
FILM														
NO OIL											Flow	X	X	X

PAVEMENT: H F S — sq. m by — cPATTIES / TARBALLS — BAGSNEAR SHORE SHEEN? ☒ BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☒ YES ☐ NOTYPE Net#BAGS 1

Photographs:

Roll No. ST-7-1Frames 13, 14

SUBSURFACE OIL No pits dug due to bed rock substrate.

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR						PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		VO	UC	SP BR	OR TR	OL BL	OC TL	OC LR	SU	UI	ME	U			
							-														
							-														
							-														
							-														
							-														
							-														
							-														

COMMENTS

Subsegment consisted of 2 small islands which were very simple bedrock knolls. Oil stain bands were evident but some cracks contained coated oil.

SHORELINE ECOLOGICAL SUMMARY

Segment ST/KN-141 Subdivision B Date (mo / day / yr) 31 MAR 90
 Time (24 hr) ARR 1350 Biologist ROTH

- (A) Substrate type and % of segments:
 (1) Bedrock 90 (2) Boulder 10 (3) Cobble (4) Pebble (5) Sand (6) Silt
- (B) Overall % cover of biota (% of segment): Dense 10 Moderate 50 Low 40
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs:
 Roll No. ST-7-1
 Frames 13-14

BARNACLES

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	XU	XM	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

MYTILUS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	XU	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

GASTROPODS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

FUCUS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	XU	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

Wildlife Observations/ General Comments:

TIDE WAS ~ +4 FT. WHEN WE ARRIVED - THEREFORE NO LOWER ZONE OBSERVATIONS POSSIBLE.
 ISLAND WAS SURVEYED FROM BOAT ONLY - GASTROPODS NOT VISIBLE

Ecological Considerations:

OG Greg C cy

SEGMENT ST. 1.1

SUBDIVISION B

DATE Mar 13/ 90

CHECKLIST

- ... Arrow
- ... Approx. Scale
- ... Seg/Sub Bndry
- ... Oil Dist
- ... Width
- ... Length
- ... % Cover
- ... Substrate Character
- ... Est. HML/LVL
- ... SSL
- ... Profile Location(s)
- ... Profile(s)
- ... Pit Location(s)
- ... Photo Location(s)

LEGEND

1 Δ

Pit - No Subsurface Oil

2 Δ

Pit - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splashed Distribution

Cited Vegetation

1 →

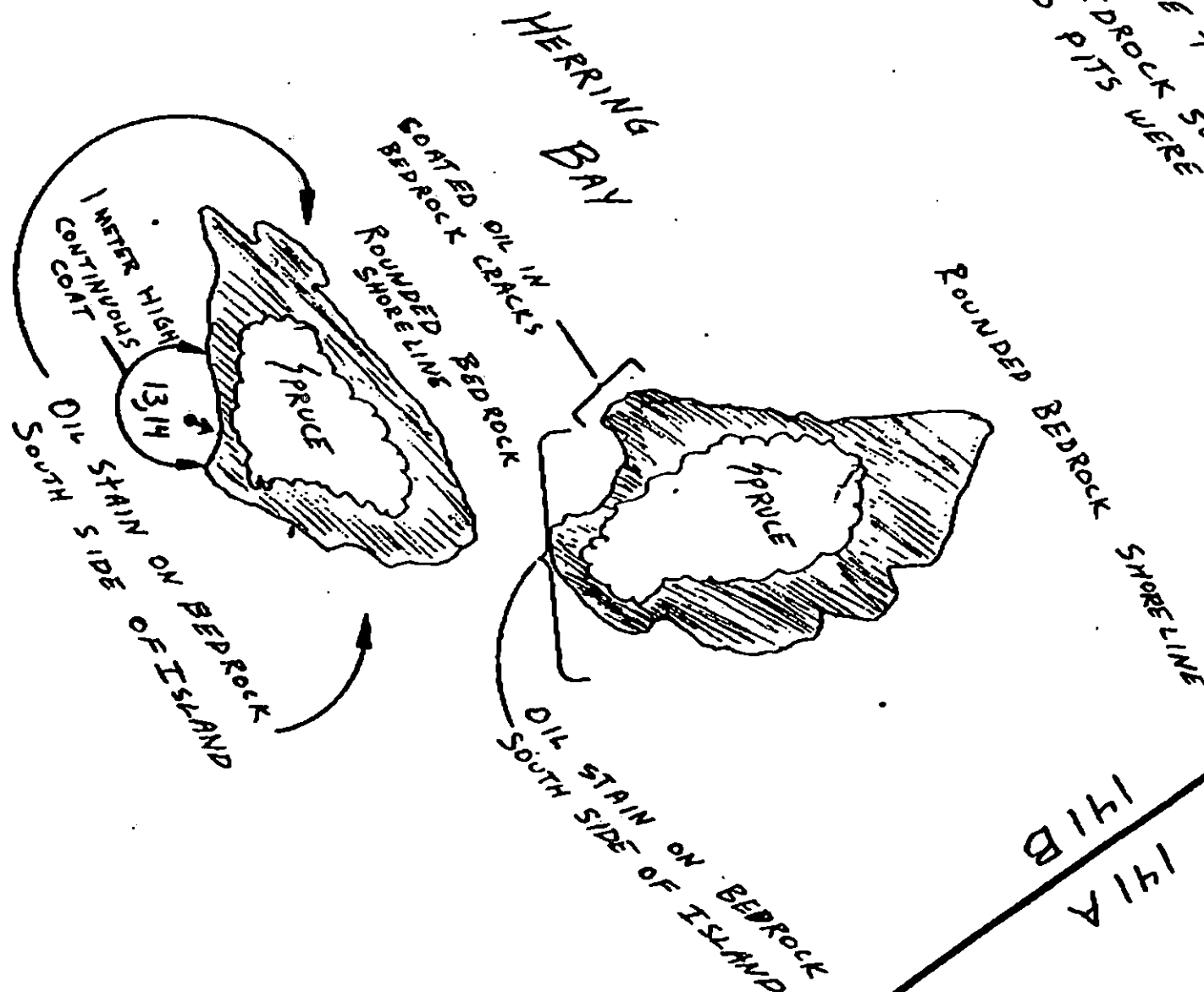
Photo location, direction,
and number

SKI 1 MAP



DUE TO
BEDROCK SUBSTRATE
NO PITS WERE DUG.

100 METERS



Oil Character Length (m): AP — PO — CV — CT 35 ST 205 MS — PT — TB — FL — NO 375

REVISION 02/24/90

0 KN-121



B

0000 No Oil

KN-141B

ADEC Segment Length: 1148m
EXXON Segment Length: 1291m



Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-141 SUBDIVISION B (2 of 2)

WORK WINDOW	
Manual Pickup	CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

3N,O,P,Q	Harbor Seal and Sea Lion Pupping and Molting Area	NO TIME CONSTRAINT. Authorized per memorandum dated 5/14/90 from Kathryn Frost/ADF&G to Mark Kuwada/ADF&G.
5T	Bald Eagle Nest	USFWS 6/1/90 map indicates an active nest in Subdivision B. Closed to manual pickup within 400m of active nest. No constraint to manual pickup more than 400m from active nest.

OTHER ECOLOGICAL CONSIDERATIONS

If eagle nest constraint is removed, other ecological considerations will apply.

FOSC

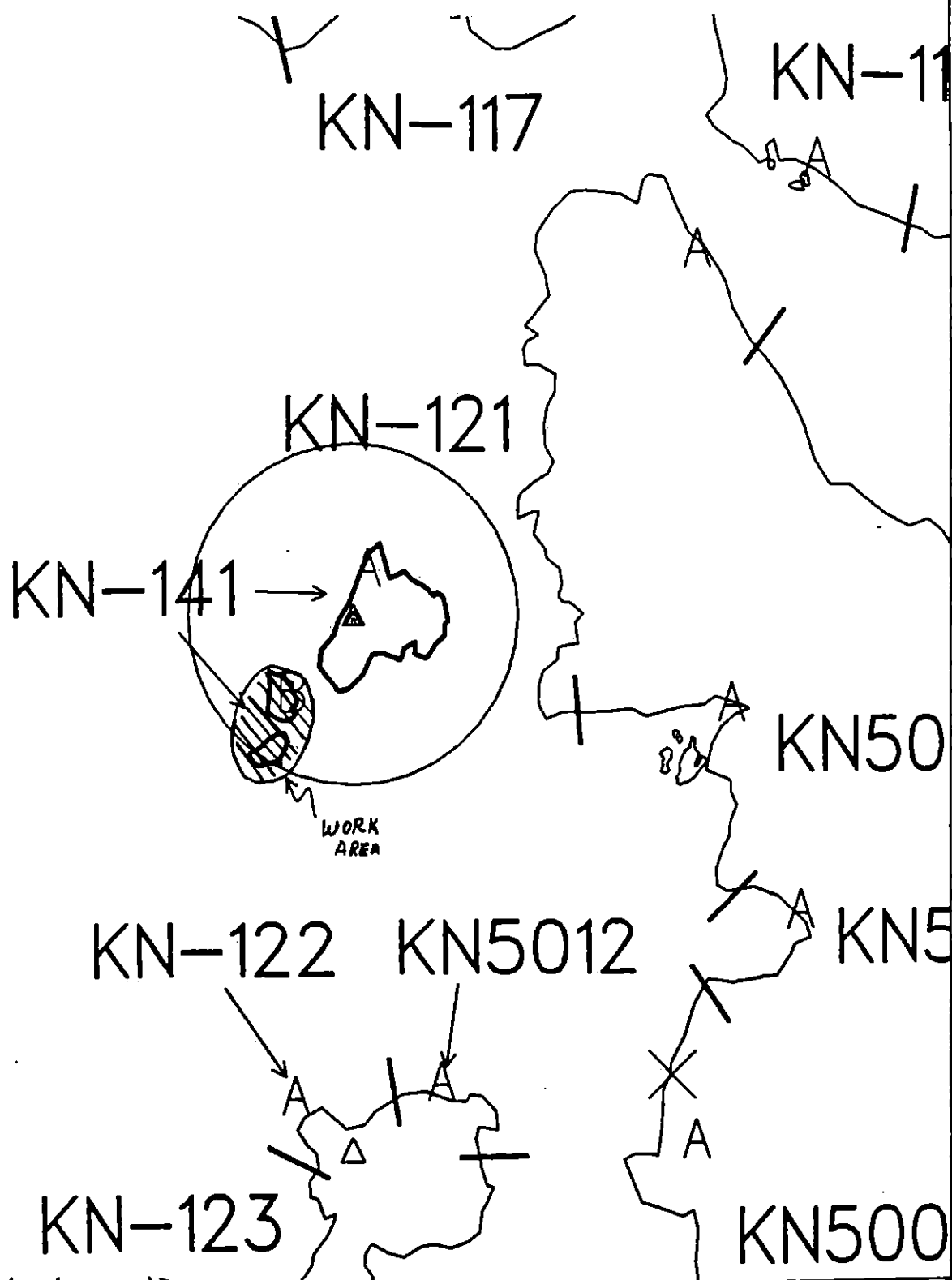
Date

6-10-90

Prepared by

Date

6-10-90
6/10/90



Exxon Company, USA

Map Key: PWS-KN-141

1-1-85 1000



ECOLOGY MAP
SEGMENT KN-141
SUBDIVISION B (2 of 2)

METERS



- ★ Seabird Colony
- ▲ Active Eagle Nest
- △ Inactive Eagle Nest

1 inch = 1248 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-144 SUBDIVISION A (1 OF 2) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)

3O,3Q Harbor seal and sea lion molting (8/15 to 9/15)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

SHPO SIGNATURE: [Signature] DATE: 4/24/90

OILING CATEGORIZATION:

Wide 0 m: Medium 59 m: Narrow 91 m: V.Light 225 m: No Oil 305 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS:

TAG COMMENTS: REMAINING OIL ON VERTICAL GEOROCK RICH INTERTIDAL BIOTA
THEREFORE NTR RECOMMENDED

TAG APPROVAL DATE: 4/24/90
ADEC ART WEINER [Signature]
EXXON ANDY TOL [Signature]
NOAA Jared Talbot [Signature]
USCG M. J. MALL [Signature]

FOSC: [Signature] DATE: 5-3-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

1A	Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B	Salmon stream mouth - spawning (7/10 to 8/31) No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
1C	Salmon fry nursery area (4/31 to 7/31)
1D	Esther Hatchery release (4/15 to 6/1)
1E	Main Bay Hatchery release (4/20 to 5/10)
1F	Sawmill Bay Hatchery release (4/15 to 6/1)
1G	Cannery Creek Hatchery release (4/21 to 6/1)
1H	Remote release site
1I	Gill net area (6/7 to 8/31)
1J	Purse seine area (7/20 to 9/30)
1K	Purse seine hook-off (7/20 to 9/30)
1L	Set net sites (6/11 to 7/25) For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
2M	Herring spawning (4/1 to 6/15) Restrict boat traffic to essential minimum. Avoid damage to unopened intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
3N, 3P 3O, 3Q	Harbor seal and sea lion pupping (5/15 to 7/1) Harbor seal and sea lion molting (8/15 to 9/15) Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
5R	Seabird colony (5/1 to 9/1) Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
5S	Shorebird/waterfowl concentration (4/1 to 5/15) Restrict all activity to essential minimum, especially air traffic.
5T	All Bald Eagle nests (3/1 to 6/1) Active Bald Eagle nests (3/1 to 9/1) Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
6U	Recreation: Tent sites (6/1 to 9/15)
6V	Anchorage (6/1 to 9/15)
6W	Forest Service cabins (6/1 to 9/15)
6X	Lodge (6/1 to 9/15)
6Y	Special use destination
7Z	Subsistence area: Salmon harvesting (5/1 to 9/30)
7HH	Finfish harvesting
7I	Deer harvesting (8/15 to 2/28)
7JJ	Invertebrate harvesting For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN 144 SUBDIVISION: None DATE 31 MAR 90SCG
NAME Patrick Malay SIGNATURE Patrick Malay☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Small pocket beach on W side of the island is the only area with a treatable condition. It has a continuous broken area of cover that is a candidate for bioremediation. The other areas of broken coat and pebbly skin are very weathered and would be impractical to remove.

ADEC
NAME M. CUNNINGHAM SIGNATURE M. Cunningham☒ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

Rich biological communities present w/ animals in and around oil contaminated sediments.
 "More harm than good" scenario.
 Debris pickup if evidence later warrants.

LAND MANAGER
NAME Steve Phillips SIGNATURE Steve Phillips☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Search storm berm for trash / oiled debris.
 Tars were getting baked on south exposures - need to scrape off when thicker than 2mm to speed up deterioration.
 Note that some hard layers were found on vertical rock.

SHORELINE OILING SUMMARY

REVISION NO. 05/25/90

OG Greg Chaney USCG Patrick Malay SEGMENT ST/ KN-144
 BIO Jim Roth LAND REP Mike Cunningham SUBDIVISION AC10f21
 EXON Ray Sotelo ADEC Steve Phillips TIME 09:20 to 10:45
 TEAM NO.: 7 TIDE LEVEL: 0 ft to -1 ft DATE Mar 13 1990
 EST. SUBDIVISION LENGTH: 1542 m ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☒ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock Snow
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: South to North
 SURFACE SEDIMENTS: R 70 % B 20 % C 10 % P — % G — % S — % M — % V — %
 SLOPE: Long 10 % Hang 30 % Vert 50 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W — m M 95 m N 215 m VL 260 m NO 572 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	C	B	P	R	SP	OR	OP	OW	OT	OL	OC	OB	SU	U	M	L
ASPHALT PAVEMENT																
POOLED																
COVER	X					X							X			
COAT		X				X							X		X	
STAIN			X			X							X			
MOUSSE																
PATTIES																
TARBALLS																
FILM				X		X										X
NO OIL																

PAVEMENT: H F 8 — sq. m by — cm

PATTIES / TARBALLS — BAGS

NEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs	X		
Vegetation			
Trash	X		
Debris			

DEBRIS COLLECTED
☒ YES ☐ NO

TYPE Rope

#BAGS less than

Photographs:

Roll No. ST-7-1

Frames 8,9

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		VO	UC	SP	OR	OP	OW	OT	OL	OC	OB	SU	U	M	L		
1	15					X	— . .	X										X					PC
							.																
							.																
							.																
							.																
							.																

COMMENTS

00.600 ¹ name
 SEGMENT ST/ ^N 144
 SUBDIVISION A
 DATE Mar 13/ 90

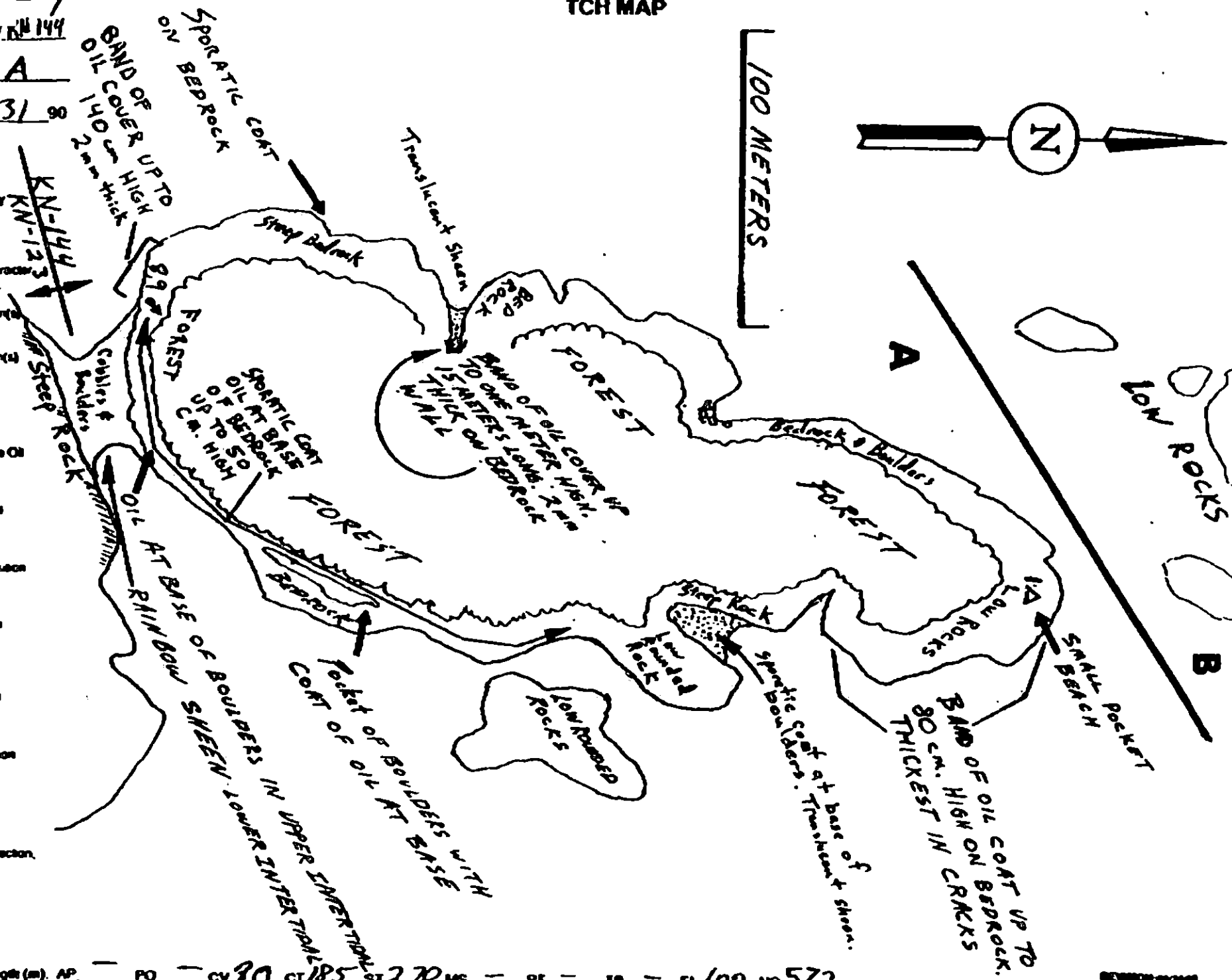
TCH MAP

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HMLA/M
- ☐ SSI
- ☐ Profile Location(s)
- ☐ Photo(s)
- ☐ Pit Location(s)
- ☐ Photo Location(s)

LEGEND

- 1 Δ No Subsurface Oil
- 2 Δ Subsurface Oil
- CT/C Continuous Distribution
- CT/B Broken Distribution
- CT/P Patchy Distribution
- CT/S Spotted Distribution
- Old Vegetation
- Photo location, direction, and number



Oil Character Length (m) AP — PO — CV 20 CT 185 ST 270 MS — PT — TB — FL/00 NO 572

REVISED 02-24-90

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST/KN-144 Subdivision Date (mo / day / yr) 31 March 12

Time (24 hr) ARR 0915 1400 Biologist R-T-H

- A) Substrate type and % of segments:
 (1) Bedrock 70 (2) Boulder 20 (3) Cobble 10 (4) Pebble — (5) Sand — (6) Silt —
- (B) Overall % cover of biota (% of segment): Dense 20 Moderate 60 Low 20
- (C) Density, substrate preference (by number from A. above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (O)

Photographs:
 Roll No. 57-7-1
 Frames 8-1

BARNACLES

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	XU	XM	1L	1U	1M	1L	1U	1M	XL	
2	2	2	X	X	2	2	2	2	2	2	X	
3	3	3	X	X	3	X	X	3	3	3	X	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

MYTILUS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	XU	XM	1L	1U	1M	1L	1U	1M	1L	
2	2	2	X	X	2	2	2	X	2	2	2	
3	3	3	X	X	3	X	X	3	3	3	X	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

ASTROPODS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	XU	XM	1L	1U	1M	1L	1U	1M	1L	
2	2	2	X	X	2	2	2	X	2	2	2	
3	3	3	X	X	3	X	X	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

FUCUS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

Wildlife Observations/ General Comments:

MANY MYTILUS < 1cm

MANY LITTORINIDS, EVIDENTLY NEWLY SETTLED (1-10mm)

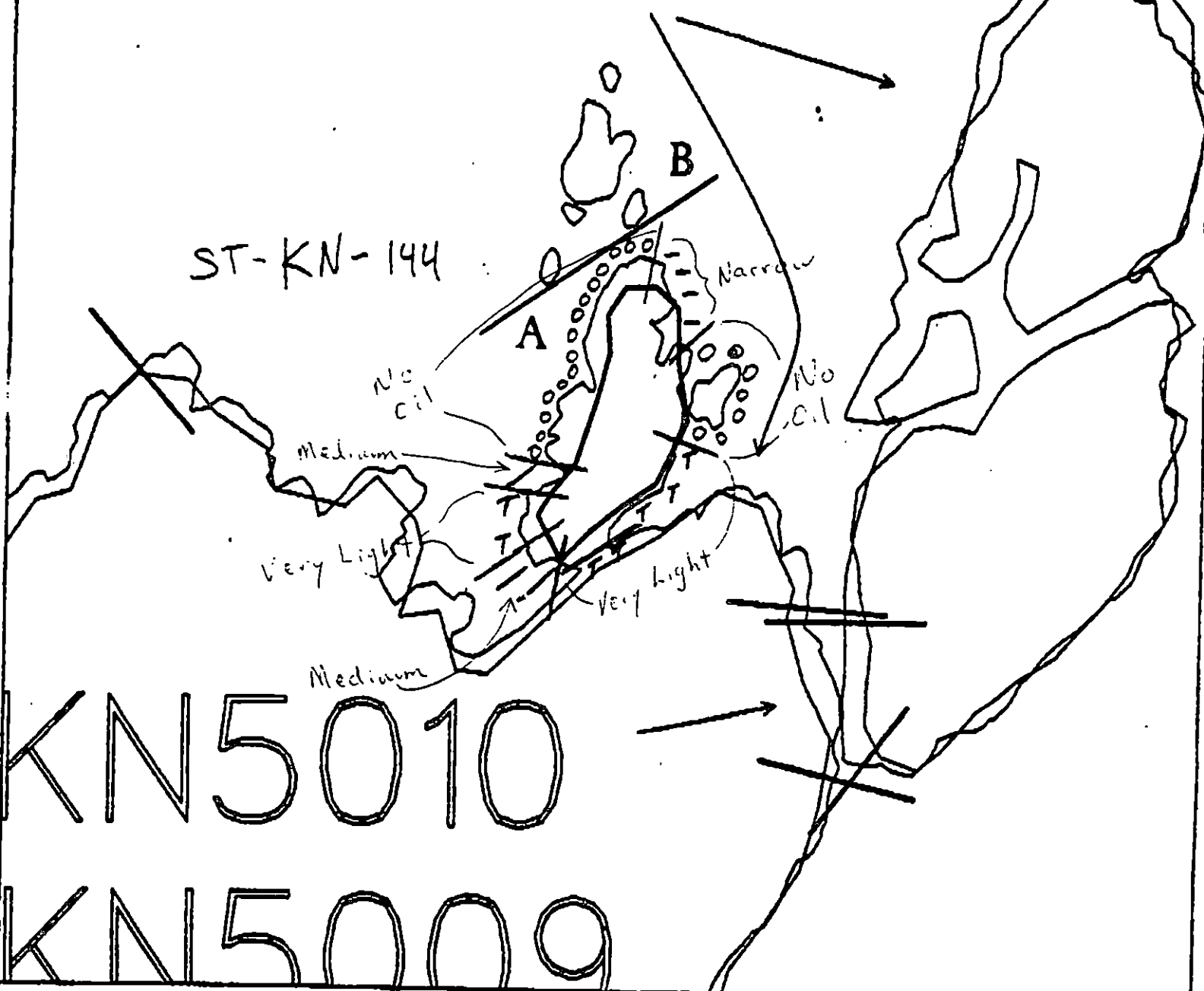
LIMPETS MODERATE TO DENSE ON CORAL IN LOWER INTERTIDAL

Ecological Considerations:

3 N.P. } SEA LION AND HARBOR SEAL MORTALITY - POSSIBLE
 3 O.Q. }

KN-123

ST-KN-144



KN5010

KN5009

XXXX Wide

/// Medium

---- Narrow

TTTT Very Light

0000 No Oil

KN-144

 ADEC Segment Length: 681m
 EXXON Segment Length: 1542


Map Key: PWS-322

Name: Greg ChaneyDate: March 31 1990

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-144 SUBDIVISION B (2 OF 2) DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)

3O,3Q Harbor seal and sea lion molting (8/15 to 9/15)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate.

SHPO SIGNATURE: [Signature]

DATE: 4/25/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 308 m: V.Light 0 m: No Oil 473 m
Subsurface Oil Observed: Yes X No Maximum Depth 10 cm

RECOMMENDATIONS:

 No Treatment Recommended

X Treatment Recommended

X Manual Pickup

X Bioremediation

 Tarmat: Breakup

 Removal

 Snare/Absorbent Booms

 Oil Snares (pom poms)

 Absorbents (pads, rolls, etc)

 Spot Washing: Wands

 Beach Cleaner

 Other (see comments)

COMMENTS: Recommended treatment includes 1) manual pick up of oiled
vegetation and 2) bioremediation of areas shown on attached sketch map.
Work should be conducted between 7/2 and 8/14.

TAG COMMENTS:

TAG APPROVAL DATE: 4/24/90

ADEC ART WEINER

EXXON ANDY GEM

NOAA Joseph C. Tallent

USCG M. J. HALL

FOSC: [Signature]

DATE: 5-3-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

1A	Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B	Salmon stream mouth - spawning (7/10 to 8/31) No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
1C	Salmon fry nursery area (4/31 to 7/31)
1D	Esther Hatchery release (4/15 to 6/1)
1E	Main Bay Hatchery release (4/20 to 5/10)
1F	Sawmill Bay Hatchery release (4/15 to 6/1)
1G	Cannery Creek Hatchery release (4/21 to 6/1)
1H	Remote release site
1I	Gill net area (6/7 to 8/31)
1J	Purse seine area (7/20 to 9/30)
1K	Purse seine hook-off (7/20 to 9/30)
1L	Set net sites (6/11 to 7/25) For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
2M	Herring spawning (4/1 to 6/15) Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
3R, 3P 3Q, 3Q	Harbor seal and sea lion pupping (5/15 to 7/1) Harbor seal and sea lion molting (5/15 to 9/15) Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
5R	Seabird colony (5/1 to 9/1) Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
5S	Shorebird/waterfowl concentration (4/1 to 5/15) Restrict all activity to essential minimum, especially air traffic.
5T	All Bald Eagle nests (3/1 to 6/1) Active Bald Eagle nests (3/1 to 9/1) Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
6U	Recreation: Tent sites (6/1 to 9/15)
6V	Anchorage (6/1 to 9/15)
6W	Forest Service cabins (6/1 to 9/15)
6X	Lodge (6/1 to 9/15)
6Y	Special use destination
7Z	Subsistence area: Salmon harvesting (5/1 to 9/30)
7HH	Finfish harvesting
7II	Deer harvesting (8/15 to 2/28)
7JJ	Invertebrate harvesting For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

FIELD SHORELINE COMMENT SHEET

EGMENT ST / KN144 SUBDIVISION: B DATE 01 APR 90

USCG

NAME

Patrick Maloy

SIGNATURE

Patrick Maloy☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Small bedrock island with weathered coat & stain. Removal would be impractical. There was one area in the U.I. zone of grass, about 10m² that ~~was~~ was oiled and should be removed, lightly tilled and bioremediated.

* There was a Bald Eagle on the island that fled before we beached the Zodiac. There were no signs of nesting on the island but it should be taken into consideration.

ADEC

NAME

M. CUNNINGHAM

SIGNATURE

M. Cunningham☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Manual removal of oiled grass & weed at site where Pit #1 was dug. Till to aerate sediments then bioremediate area... (no more than 10 sq m).

Tar present on angular boulders & headlands well weathered & hardened making removal unlikely by current technology. No treatment re

LAND MANAGER

NAME

Steven Phillips

SIGNATURE

Steven Phillips☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Small bioremediation possible
Tar on bedrock not currently treatable
could experiment with citrasol or other tarry removal
This tar not thick enough to scrape and not worth using a harsh dissoluant.

SHORELINE OILING SUMMARY

REVISION NO. 06/28/90

OG Greg Chaney USCG Patrick Malay SEGMENT ST/ KN-144
 BIO Jim Rath LAND REP Steve Phillips SUBDIVISION B (2 of 2)
 EXXON Rey Sotelo ADEC Mike Cunningham TIME 10:00 to 10:30
 TEAM NO.: TIDE LEVEL: 4 ft to 3 ft DATE April 1 1990
 EST. SUBDIVISION LENGTH: 400 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☐ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: EAST to WEST
 SURFACE SEDIMENTS: R 100 % B % C % P % G % S % M % V %
 SLOPE: Long 30 % Hang 40 % Vert 30 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W m M m N 180 m VL m NO 220 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	C	R	P	S	W	Y	OR	BR	BL	GR	PK	LT	SW	U	M	L
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT	X	✓			X	✓							X	✓		
STAIN			X	✓	X	✓							X	✓	✓	
MOUSSE																
PATTIES																
TARBALLS																
FILM		X			X	X									X	
NO OIL													X			X

PAVEMENT: H F S sq. m by cmPATTIES / TARBALLS BAGSNEAR SHORE SHEEN? NO BR (FW) SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NOTYPE #BAGS

Photographs:

Roll No. ST-7-1Frames 16, 17, 18

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-DM)	BELOW		OIL / FILM COLOR						PIT ZONE				A N A	SUBSURFACE SEDIMENTS	
		OP	OR	OL	OF	NO		VO	UC	W	Y	OR	BR	BL	GR	PK	LT	SW	U			M
1	20				X		0-10	X	X	X									X			CM
							.															
							.															
							.															
							.															
							.															

COMMENTS

Pit #1 was dug in small pocket of sediment at southern edge of hollow. Brown sheen observed in water which filled in the pit and on sediment. Total area of sediment roughly 7 square meters.

OG GREL HANEY

SEGMENT ST/ IN144

SUBDIVISION B

DATE April 1 1990

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Bndry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HW/LWL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Pct/B(s)
- ☐ PH Location(s)
- ☐ Photo Location(s)

LEGEND

1 ▲

PH - No Subsurface Oil

2 ▲

PH - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splashed Distribution

Oiled Vegetation

1 ●→

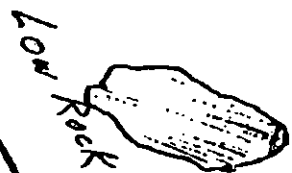
Photo location, direction, and number

S CH MAP

90% TAR COVER IN ROCK
CREVASSE 1x14 meters



~2 meters 2 star
in rock crack



Low Rock

50% COVERAGE
1x5 meters TAR

50 METERS

SHOULD BE
TO
BLACK LICHEN
TAR.
ARE IN
CREVASSE
COATED
WITH



30% COVERAGE. 50CM BAND
3 METERS LONG TAR

ROUNDED
ROCK

80CM x 6 METER
VERTICAL BAND
ON ROCK FACE



Remove Manually
Oiled Bio
Debris

Oil Character Length (m): AP — PO — CV — CT 180 ST 20 MS — PT — TB — FL 10 NO 220

REVISION 000000

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/08/90

Segment ST / KN 144 Subdivision B Date (mo / day / yr) Apr 1, '90
 Time (24 hr) ARR 0955 LV 1032 Biologist ROTH

- (A) Substrate type and % of segments:
 (1) Bedrock 100 (2) Boulder (3) Cobble (4) Pebble (5) Sand (6) Silt
- (B) Overall % cover of biota (% of segment): Dense 20 Moderate 50 Low 30
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs:
 Roll No. ST-7-1

Frames 16-18

BARNACLES

Dense			Moderate			Sparse			Rare		
1U	1M	1L	XU	XM	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

MYTILUS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	XU	XM	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

GASTROPODS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	XU	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

FUCUS

Dense			Moderate			Sparse			Rare		
1U	1M	XL	XU	1M	1L	XU	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

Wildlife Observations/ General Comments:

1 BALD EAGLE PERCHED ON STUDY ISLET ON OUR ARRIVAL.
 TIDE ~ +4', SO CAN'T SEE MUCH OF LOWER ZONE; THEREFORE ONLY FUCUS ESTIMATED.
 SOME MUSSELS VERY SMALL (CA. 5mm)
 MANY LITTORINES TINY

Ecological Considerations:

3 NPOQ. SEA LION AND HARBOR SEAL PUPPING AND MOLTING.

KN-123

KN-144

Narrow

Narrow

a

b

KN5010

KN5009

XXXX Wide

/// Medium

---- Narrow

TTTT Very Light

0000 No Oil

KN-144b

ADEC Segment Length: 681m

Exxon Segment Length: 1542



METERS



Map Key: PWS-322

Name: Greg Chaney

Date: April 1 1990

Date Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-145 SUBDIVISION A (1 OF 1) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Harbor seal and sea lion pupping (3N, 3P) - 5/15 to 7/1 and molting (3O, 3Q) - 8/15 to 9/15; Active eagle nest (5T) - 3/1 to 6/1; Anch-
orages (6V) - 6/1 to 9/15. Restrict air and boat traffic to essen-
tial minimum. Air approach and takeoff from and to seaward only.
Contact ADF&G prior to any activity re: seals and sea lions and
USF&WS re: eagle nest. Cleanup should be completed before 5/15 or
between 7/1 - 8/15 unless otherwise approved by ADF&G.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Avoid disturbance/damage to un-
oiled substrate and biota.

SHPO SIGNATURE: Charles Z. Holmer DATE: April 12, 1990

OILING CATEGORIZATION:

Wide 119m: Medium 20 m: Narrow 329 m: V.Light 291 m: No Oil 140 m
Subsurface Oil Observed: Yes X No Maximum Depth 15 cm

RECOMMENDATIONS:

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

COMMENTS: Bioremediate areas of surface coat on low angle pocket
beaches only. See sketch map for work areas. Work dates 7/1 to
8/15 based on seal, sea lion constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/12/90

ADEC JOHN BAKER
EXXON ANDY TGA
NOAA Burt Wescott
USCG M. J. HALL

FOSC:

DATE: 4-19-90

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ KN145 SUBDIVISION: Nor DATE Mar 31, 1990

SCG
NAME Patrick Maloy SIGNATURE Patrick Maloy

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Suggest further evaluation (TAG) of the UI zone and M.I. zone on south side of the island. Full range of distribution of crust & stain on the entire island. Suggest bioremediation on the central areas in the UI zone and M.I. zone. Crust areas are producing brown & rainbow sheens. Small amount of oil covered logs.

ADEC
NAME M. Cunningham SIGNATURE M. Cunningham

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Selective bioremediation on mid to upper tide in pocket beaches only. Caution: there was a wealth of healthy biological communities adjacent to contaminated areas which should not be disturbed. Debris check under storm berm when snow melts.

LAND MANAGER

NAME Steven Phillips SIGNATURE Steven Phillips

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Search storm berm for trash and oiled debris
Monitor verticle rock stains, clean if they don't deteriorate
Scrape tarry coat off rocks when it exceeds 2mm.

Chronic problem: oil globules in mud, south side of island
I don't know what can be done here - anaerobic and worked into sediments.

RECEIVED

SHORELINE OILING SUMMARY

REVISION NO. 03/22/88

APR 02 1990
 OG Greg Chaney USCG Patrick Malay SEGMENT ST/ KN-145
 BIO Jim Rath LAND REP Mike Cunningham SUBDIVISION None
 EXXON Ray Sotelo ADEC Steve Phillips TIME 07:00 to 09:00
 TEAM NO.: 7 TIDE LEVEL: 7 ft. to 0 ft. DATE Mar 13 / 1990
 EST. SUBDIVISION LENGTH: 962 m ☒ Sun ☒ Clouds ☐ Fog ☒ Rain ☒ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock Snow
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: South to North
 SURFACE SEDIMENTS: R 70 % B 20 % C 5 % P 2 % G 2 % S 2 % M 2 % V 2 %
 SLOPE: Long 30 % Hang 40 % Vert 30 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 37 m M 60 m N 500 m VL 300 m NO 65 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	N	S	E	W	SP	BR	OR	GR	BL	SU	U	M	L
ASPHALT PAVEMENT													
POOLED													
COVER													
COAT	X	✓	0	□	X	BR				X	X	X	X
STAIN	X	✓	0	□	X	BR				X	X	X	X
MOUSSE													
PATTIES													
TARBALLS													
FILM			X		X	X	X	X	X	X	X	X	X
NO OIL													

PAVEMENT: H F S sq. m by cmPATTIES / TARBALLS BAGSNEAR SHORE SHEEN? NO BR (RW) (SL) (TL)

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs	X		
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NOTYPE #BAGS

Photographs:

Roll No. ST 71Frames 1, 2, 3, 4, 5, 6, 7

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW	OIL / FILM COLOR							PIT ZONE				A N A	SUBSURFACE SEDIMENTS				
		OP	OR	OL	OF	NO			UO	UC	SOL BR	COL PW	GY	SLT BL	TL	LRH	SU	U	M			L			
1	15		X				0 - 15	X					X			X									CM
					X		0 - 15	X			X														CPA
2	20	X					0 - 15	X					X					X							CM
3	10		X				0 - 10	X					X				X								CPG
					X		0 - 10	X			X						X								CPG
4	10		X				0 - 2	X					X				X								CPM

COMMENTS

Sheen formed in pits 1, 2 & 3 immediately after hole was dug. Sheen was a dull brown.

Unable to examine ~~upper~~ supratidal zone due to snow.

Changes due to data base limitation 4-4-90

SHORELINE OILING SUMMARY (PAGE 2 of)

REVISION 03/23/80

SEGMENT ST/ 145 SUBDIVISION NONE

SUBSURFACE OIL (CONTINUED)

*Change due to data base limit
4-4-90*

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OF	OR	OL	OF	NO		VO	UC	SP	BR	OR	PK	BL	GR	TC	LS	SU	UR	MR	U		
5	10	X					0-10	X										X					S
6	25	X					0-5		X												X		M.D.
					X		0-5		X	X	X										X		M.D.
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							.																

COMMENTS

REVIEWED _____ DATE _____

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST/KN-145 Subdivision _____ Date (mo / day / yr) 31 Mar 90
 Time (24 hr) ARR 0710 LV 0900 Biologist ROTH

- (A) Substrate type and % of segments:
 (1) Bedrock 72 (2) Boulder 20 (3) Cobble 5 (4) Pebble 2 (5) Sand 4 (6) Silt 2
- (B) Overall % cover of biota (% of segment): Dense 20 Moderate 70 Low 10
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (O)

Photographs:
 Roll No. ST-7-1
 Frames 1-7

BARNACLES

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	X	X	2	X	X	X	2	2	2	
3	3	3	X	X	3	X	X	X	3	3	X	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

MYTILUS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	X	X	2	X	X	X	2	2	2	
3	3	3	X	X	3	X	X	X	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

GASTROPODS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	X	X	2	X	X	X	2	2	2	
3	3	3	X	X	3	X	X	X	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

FUCUS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	X	X	2	X	X	X	2	2	2	
3	3	X	X	X	3	X	X	X	X	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

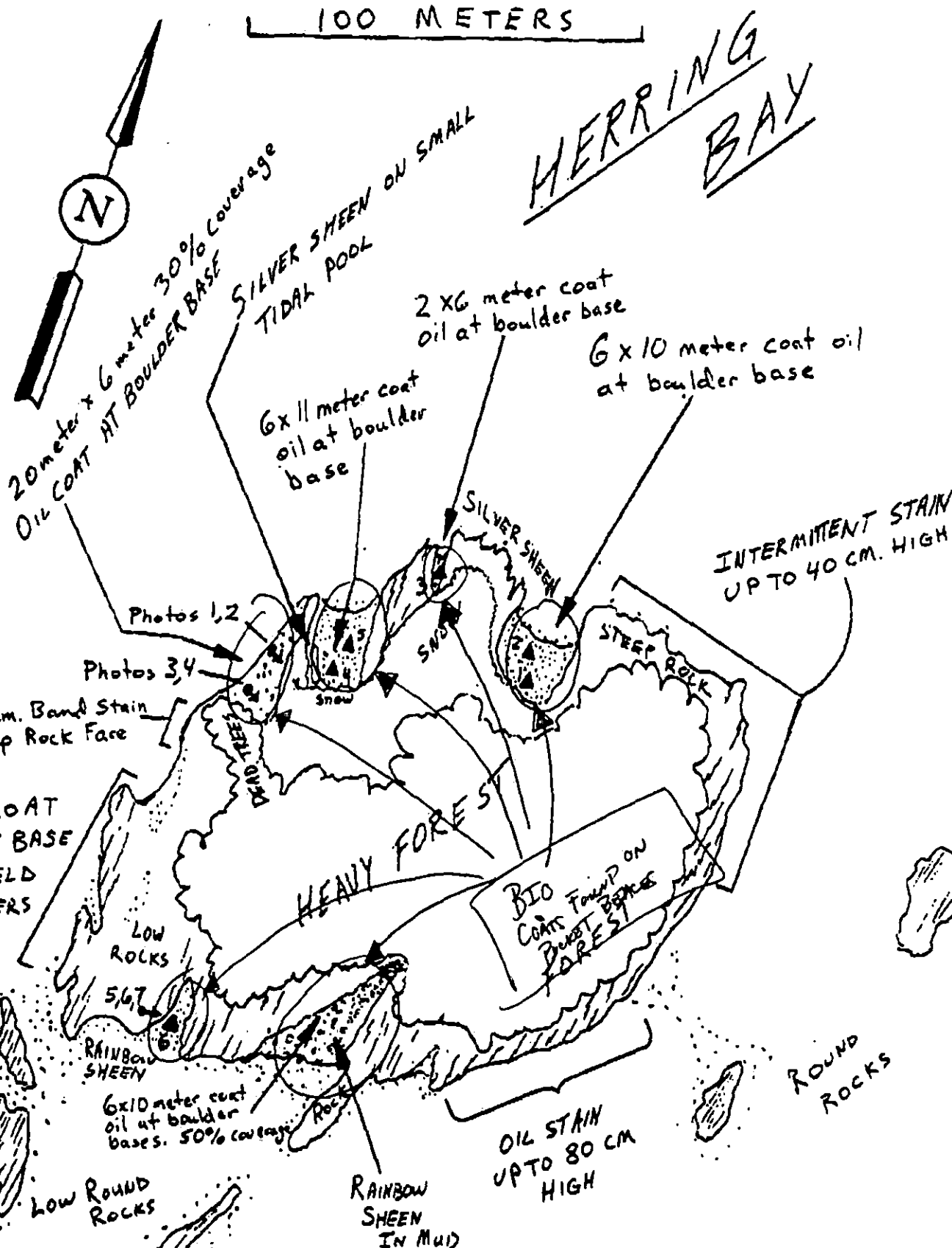
Wildlife Observations/ General Comments:

MANY OF THE MYTILUS WERE TINY (>1cm)
 MANY LITTORINES <2mm; OFTEN IN EMPTY BARNACLE SHELLS

Ecological Considerations:

3 N, P } SPA LION AND HARBOR SEAL MOLTING AND PLODING
 3 O, R }
 6 V RECREATIONAL ANCHORAGE
 ST ACTIVE BALD EAGLE NESTS

SKETCH MAP



OG: Greg Chamy
SEGMENT 5/1/95
SUBDIVISION None

DATE Mar 13/90

CHECKLIST

- 1 Arrow
- 2 Approx. Scale
- 3 Sep/Side Body
- 4 Oil Bar
- 5 Width
- 6 Length
- 7 % Core
- 8 Substrate Character
- 9 Est. HAZELAVE
- 10 S/S
- 11 Profile Location(s)
- 12 Profile(s)
- 13 Pt Location(s)
- 14 Photo Location(s)

LEGEND

- 1 Δ
- Pt. No Subsurface Oil
- 2 Δ
- Pt. Subsurface Oil
- CT/C
- Continuous Distribution
- CT/B
- Broken Distribution
- CT/P
- Patchy Distribution
- CT/S
- Spotted Distribution
- Oiled Vegetation
- 1 -
- Photo location, direction, and number

KN-145

KN-1

KN-124

KN5

Note Narrow for
small islet & wide
for main land
(Exxon Data Base)

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-145

ADEC Segment Length: 384m
Exxon Segment Length: 962

0 100 200 300
METERS

Map Key: PWS-323

Name: Gary Chancy

Date: Aug 1990

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-145 SUBDIVISION A (1 of 1)

WORK WINDOW	
Bioremediation	CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

3N,O,P,Q Harbor Seal & Sea Lion
Pupping and Molting

NO TIME CONSTRAINT. Authorized per
memorandum dated 5/14/90 from Kathryn
Frost/ADF&G to Mark Kuwada/ADF&G

5T Bald Eagle Nest

USFWS 6/1/90 map indicates an active nest in
Subdivision A. Closed to bioremediation within
400m of active nest.

OTHER ECOLOGICAL CONSIDERATIONS

If eagle nest constraint is removed, other ecological considerations will apply.

FOSC

DATE

6-10-90

Prepared By:

W. Kelley

Date

6/9/90

N-301

KN-12

A

KN-145

KN-123

WORK
AREA

KN-144

KN-133

KN-124

KN-125

KN5010

KN5009

KN5008

A

A

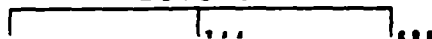
A



Exxon Company, USA
Map Key: PMS-KN-145



ECOLOGY MAP
SEGMENT KN-145
SUBDIVISION A (1 of 1)
METERS



Seabird Colony



Active Eagle Nest



Inactive Eagle Nest

1 inch = 1128 feet