

OIL SPILL PUBLIC INFO. CENTER



3 6653 00006372 1

EVOS
GC
1552
.P75
S42
1990
v.13

[Shoreline evaluations, 1990].

KN-04 – KN-117

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SHORELINE EVALUATION

SEGMENT ST/ KN-04 SUBDIVISION A (1 OF 1) DATE 3/30/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Harbor seal and sea lion molting site (30. 0) - 8/15 to 9/15;
Herring spawning area (2M) - 4/1 to 6/15; contact ADF&G habitat
division prior to cleanup.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Restrict boat traffic and gen-
eral disturbance to minimum.

SHPO SIGNATURE: Richard J. O'Neil DATE: 4/10/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 199 m: V.Light 36 m: No Oil 50 m
Subsurface Oil Observed: Yes X No Maximum Depth 7+ 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>X</u> Tarmat: <u> </u> Breakup	<u> </u> Beach Cleaner
<u> </u> <u>X</u> Removal	<u> </u> Other (see comments)

COMMENTS: Recommend breakup and removal of tarmats as shown on map,
as well as bioremediation of area where cover and coat are indi-
ated. Work between 6/15 and 8/15 based on molting, herring spawn-
ing constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/10/90

ADEC JOHN BAUER

EXXON ANDY WEA

NOAA Burt Wilcott

USCG KEN KERRIN

FOSC: W L DATE: 5-6-90

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN-004 SUBDIVISION: N/A DATE 3.30.90

USCG

NAME MAURICE J. SHARPE SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

CONCUR WITH ADEC [Signature]

ADEC

NAME S. FERGUSON SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

NO SUBDIVISION WAS MADE FOR KNOOY - TWO PATCHES OF BROKEN PAVEMENT WERE OBSERVED ON THE SOUTH SIDE (HITZ) OF (KNOOY). SUGGEST HAND REMOVAL OF THESE TWO PAVEMENT PATCHES. PATTIES/TARBALLS WERE OBSERVED ON NORTH SIDE OF BEDROCK LOCATED IN MIDDLE OF KNOOY APPROX. 10-30 METERS FROM THAT BEDROCK. A CONTINUOUS BAND OF OILING, CLASSIFIED AS NARROW RAN N → SOUTH IN HITZ TO UPPER HITZ CONTAINING (COVER/COAT/STAIN) → COVER LOCATED IN THE INTERSTICES OF BOULDER + CREEPER (A UPPER HITZ) WITH PENETRATION 1 to > 4 CM. (PENETRATION VARIES) → NOTE THAT THE CONTINUOUS BAND OF NARROW OILING CONSISTED OF 45% COAT + 45% STAIN. SUGGEST THAT THE AREA NEEDS MORE THAN MANUAL CLEAN-UP IS POSSIBLE.

LAND MANAGER CAC

NAME M.C.T. SMITH SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS

SHORELINE OILING SUMMARY

Revision 1 REVISION NO. 000000

OG K Ramsey USCG R. Sharpe SEGMENT ST/ KN-04
 BIO G. Penn LAND REP M. Smith SUBDIVISION A-1 (off)
 EXXON S. Reid ADEC Ferguson TIME 7:10 to 9:45
 TEAM NO.: 4 TIDE LEVEL: 2 ft to -2 ft DATE 3/30/90
 EST. SUBDIVISION LENGTH: 417 m ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☒ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 10 % B 40 % C 50 % P — % G — % S — % M — % V — %
 SLOPE: Long 90 % Hang — % Vert 10 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W — m M — m N 255.5 m VL 138 m NO 21.5 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	N	E	S	W	1	2	3	4	5	6	7	8	SU	U	M	U
ASPHALT PAVEMENT		X											X	X		
POOLED																
COVER			X										X	X		
COAT	X												X	X		
STAIN	•		X										•	•		X
MOUSSE																
PATTIES			X										X	X		
TARBALLS			X										X	X		
FILM			X										X	X		
NO OIL																

PAVEMENT: H E S 38 m by 5 cm

PATTIES / TARBALLS < 5 BAGS

NEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris	X		

DEBRIS COLLECTED ☒ YES ☐ NO

TYPE Pom Pom

#BAGS —

Photographs: ST-4-1 Roll No. 1
 Couldn't test how much due to snow.

Frames 1-3

SUBSURFACE OIL

Question (1) now addressed.

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	U		
1	5 cm					X	—	X										X				N	B, C
2	7 cm	X					5-7	X										X				N	C, G
3	5 cm					X	0-25											X				N	C, G
							—																
							—																
							—																

Response to Fax dated 4/1/90 RE:

KN-04-A

C. J. H. 4/2/90

SHORELINE OILING SUMMARY

REVISION NO. 03/22/98

OG K Ramsey USCG R. SHARPE SEGMENT ST/ KN-04
 BIO G. Penn LAND REP M. SMITH SUBDIVISION _____
 EXXON S. Reid ADEC FERGUSON TIME 7:10 to 9:45
 TEAM NO.: 4 TIDE LEVEL: 2 ft 10 - 24 DATE 3/30/90
 EST. SUBDIVISION LENGTH: 417 m ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☒ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 10 % B 40 % C 50 % P — % G — % S — % M — % V — %
 SLOPE: Long 90 % Hang — % Vert 10 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W — m M — m N 255.5 m VL 138 m NO 21.5 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR						IMPACTED ZONES			
	IC	IS	IP	IS	DEL BR	DEL RW	OT	SL	DEL TL	LAB	SU	U	M	U
ASPHALT PAVEMENT		X							X			X	X	
POOLED														
COVER			X						X		N	X	X	
COAT	X								X	X		X		
STAIN	•		X						•	X		•		X
MOUSSE														
PATTIES			X						X		N	X	X	
TARBALLS				X					X		S			X
FILM								X					X	X
NO OIL														

PAVEMENT: H E S 38 m by 5 cmPATTIES / TARBALLS < 5 BAGSNEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris	X		

DEBRIS COLLECTED
☒ YES - ☐ NOTYPE Pm Pm#BAGS —Photographs: ↳ couldn't tell how mu. due to snow.Roll No. 1Frames 1-3

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			SB	BR	BL	BL	BL	BL	BL	BL	SU	U	
1	5cm					X	•	X									X		N B, C
2	7cm	X					5-7	X									X		N C, G
3	8cm					X	0-2.5										X		N C, G
							•												
							•												
							•												

COMMENTS Vertebrate Bedrock had a 1-1.5 m band coat. LI was splashed with tar balls or rocky outcrops. Splash behind rooftop up to ME. From ME-U.I. was a broken cover with Asphalt pavement. Moving down towards K136 there was a start about 2m wide 6m in length. Asphalt pavement was again found in 13m length. A discontinuous coat.
Pt #3 - top of the surface was pretty clean, however 2.5cm below top of surface was stained in the LI.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / KN-004 Subdivision NONE Date (mo / day / yr) 3/30/90
 Time (24 hr) 0730 Biologist PENN

- (A) Substrate type and % of segments:
 (1) Bedrock 10 (2) Boulder 40 (3) Cobble 50 (4) Pebble - (5) Sand - (6) Silt -
- (B) Overall % cover of biota (% of segment): Dense 10 Moderate 5 Low 85
- (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. 1

Frames 2 & 4

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 OTTER
 10 CROWS
 1 eagle
 1 Pigeon Guillemot
 1 HARBOR SEAL
 1 GREBE (PRO-NACHO)
 2 BARROW'S Golden Eye

1 OTTER skeleton - appeared
 winter kill?

Ecological Considerations:

Hermit crabs
 Pycnopodia starfish
 Sea Anemones
 Botry clams

UG PA EY
SEGMENT ST/ KN-04

SUBDIVISION —

DATE 3 / 30 90

CHECKLIST

- ☒ N Arrow
- ☒ Approx. Scale
- ☒ Seg/Sub Bndry
- ☒ Oil Dist.
- ☒ Width
- ☒ Length
- ☒ % Cover
- ☒ Substrate Character
- ☒ Est H/W/L/V/L
- ☒ 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

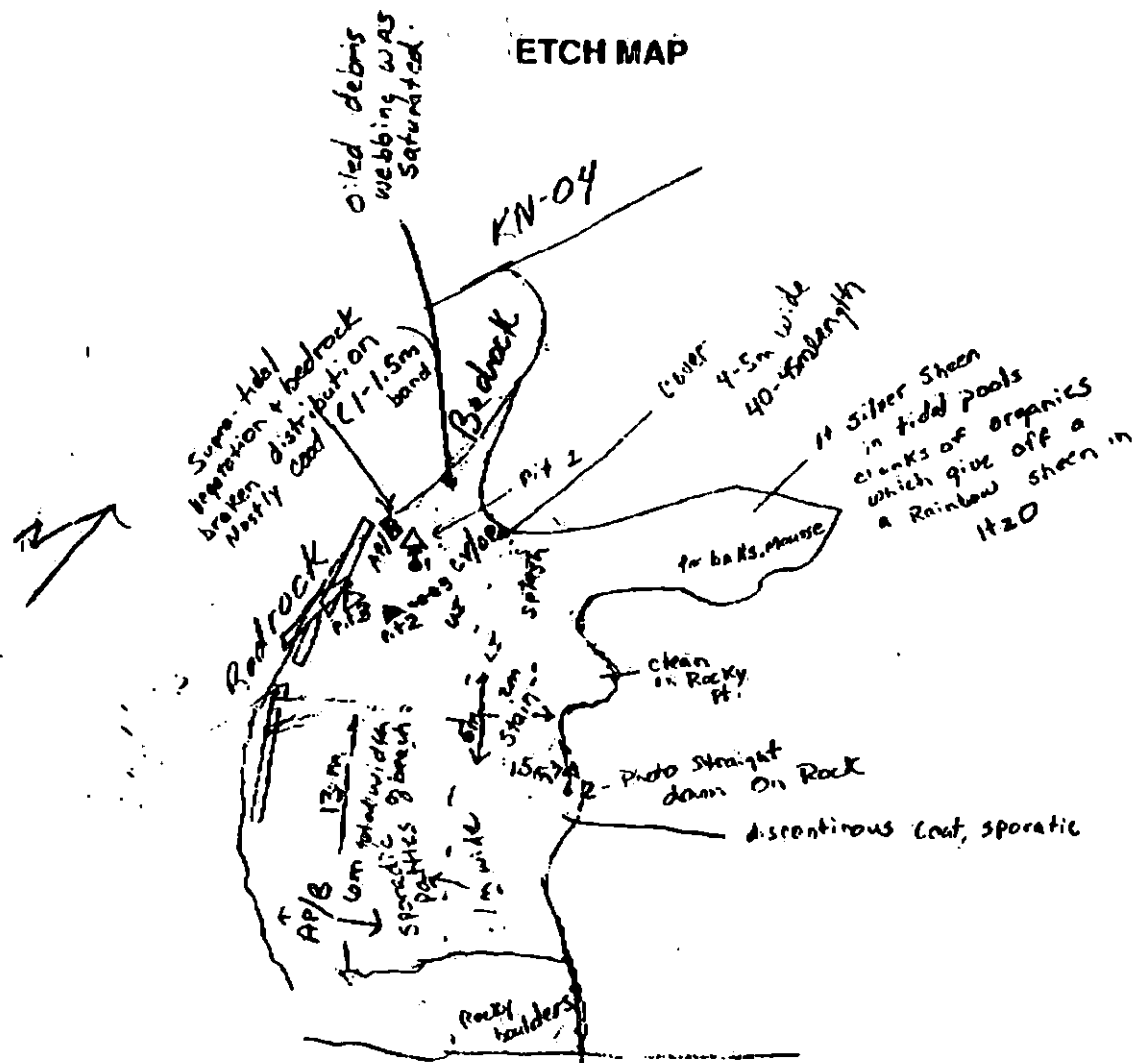
CT/P
Patchy Distribution

CT/S
Splashed Distribution

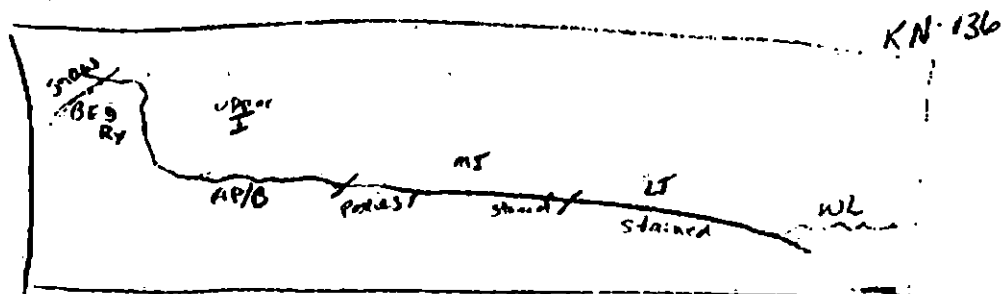
Oiled Vegetation

1 ●
Photo location, direction, and number

ETCH MAP



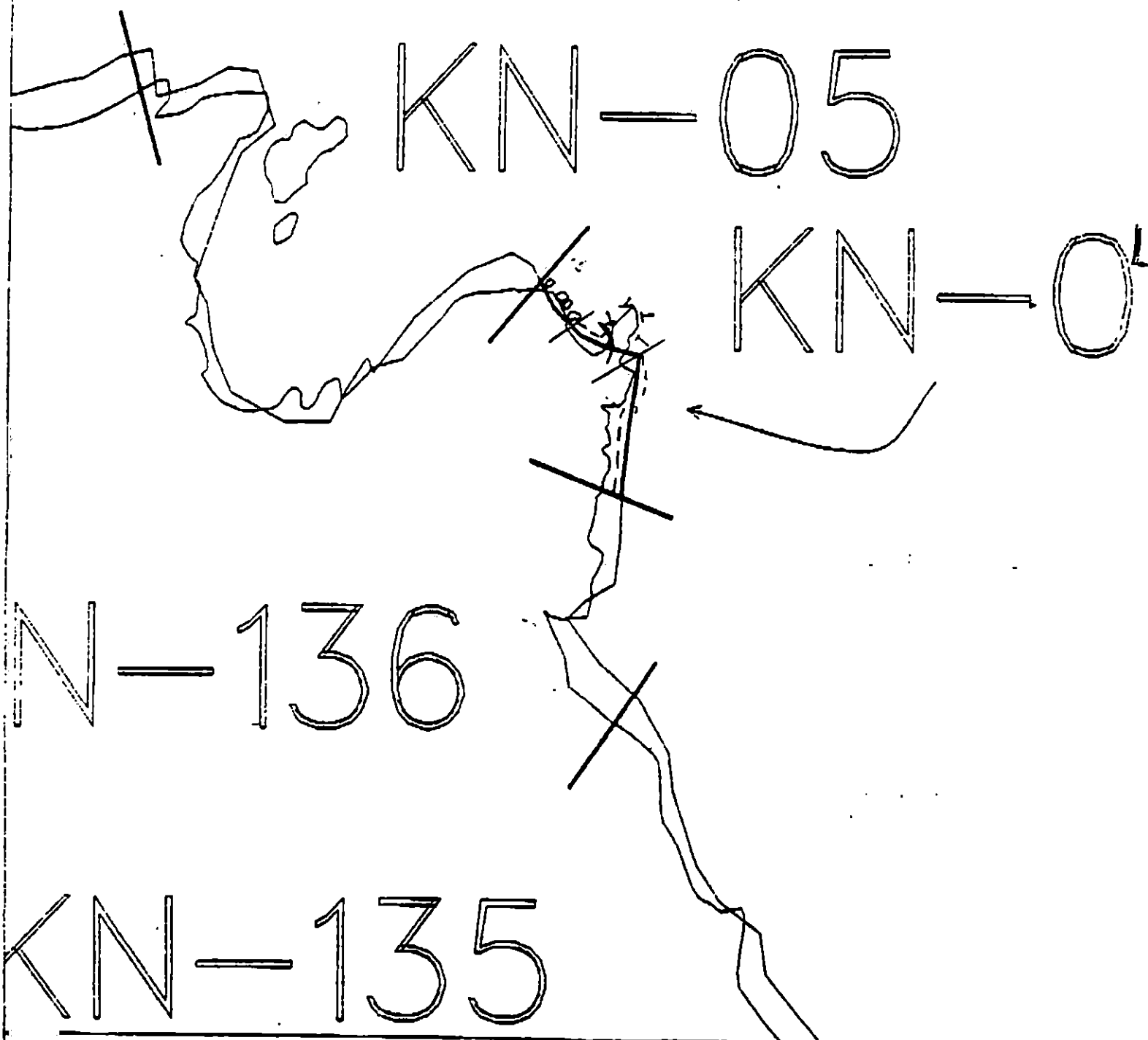
KN-04
417 m in length



100 m

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

REVISION: 03/14/00



XXX Wide

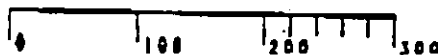
//// Medium

--- Narrow

TTTT Very Light

KN-4

ADEC Segment Length: 286m



Map Key: PWS-351

Name: RAMSEY

Date: 3/30/

SHORELINE EVALUATION

SEGMENT ST/ KN-05 SUBDIVISION A (1 OF 3) DATE 3/29/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

2M Herring spawning (4/1 to 6/15)
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)
6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid damage to uncoiled intertidal and subtidal algae and seagrass, and contact ADF&G and USFWS prior to treatment.

SHPO SIGNATURE: *M. E. Holmes* DATE: 4/18/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 219 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 Art Weiner
EXXON ANDY GRIFF Andy Griff
NOAA Bill Weiscott Bill Weiscott
USCG G.A. Reiter G.A. Reiter
FOSC: *W L* DATE: 5-6-90

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 uncolled 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 (5/15 to 8/15)
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 ~~Recreation: Boat ramp use destination~~
- 7Z Subistence 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-05 SUBDIVISION: A - C DATE 29 MAR 90

USCG SCOTT L. RAINSFORD

NAME MAURICE J. SHARCKSIGNATURE [Signature]☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

SUBDIVISION A & C NEEDS NO TREATMENT

SUBDIVISION B HAS OILED DEBRIS (SMALL BOOM) IN SOME FALLEN TREES AND DRIFT WOOD.

ADEC

NAME Wesley GhormleySIGNATURE [Signature]☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Subdivision B of segment KN-05 Needs further mechanical and manual labor. Oiled debris in subdivision B needs to be physically removed. Some pits dug in subdivision B filled with traces of free floating brown oil.

subdivision A and C of segment KN-05 Needs No Further treatment.

LAND MANAGER

NAME MICHAEL SMITHSIGNATURE [Signature]☐ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

SHORELINE OILING SUMMARY

REVISION NO. 05/25/90

OG McDonald / Ramsey USCG Ransom / Sharp SEGMENT ST/ KN-5
 BIO Scott / Penn LAND REP Johnson / Smith SUBDIVISION A
 EXXON John / S. Reid ADEC G. Hornby / Ferguson TIME 8:00 to 8:30
 TEAM NO.: 3 / 4 TIDE LEVEL: 0 to 0 DATE 3 / 29 / 90
 EST. SUBDIVISION LENGTH: 205 m ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 60 % B 10 % C 10 % P 20 % G 10 % S 0 % M 0 % V 0 %
 SLOPE: Long 20 % Hang 80 % Vert 0 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 0 m NO 205 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	C	B	P	S	W	OR	OL	OF	NO	TL	UR	UL	SU	U	ME	LI
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT																
STAIN																
MOUSSE																
PATTIES																
TARBALLS																
FILM																
NO OIL																

PAVEMENT: H F S 10 sq. m by 10 cmPATTIES / TARBALLS 10 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

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	W	OR	OL	OF	NO	TL	UR	UL	SU	U	ME	LI		

COMMENTS

steep incline shot with no oil..

OG G. MACDONALD

SEGMENT: N-S

SUBDIVISION A, B, C.

DATE 3 / 29 80

CHECKLIST

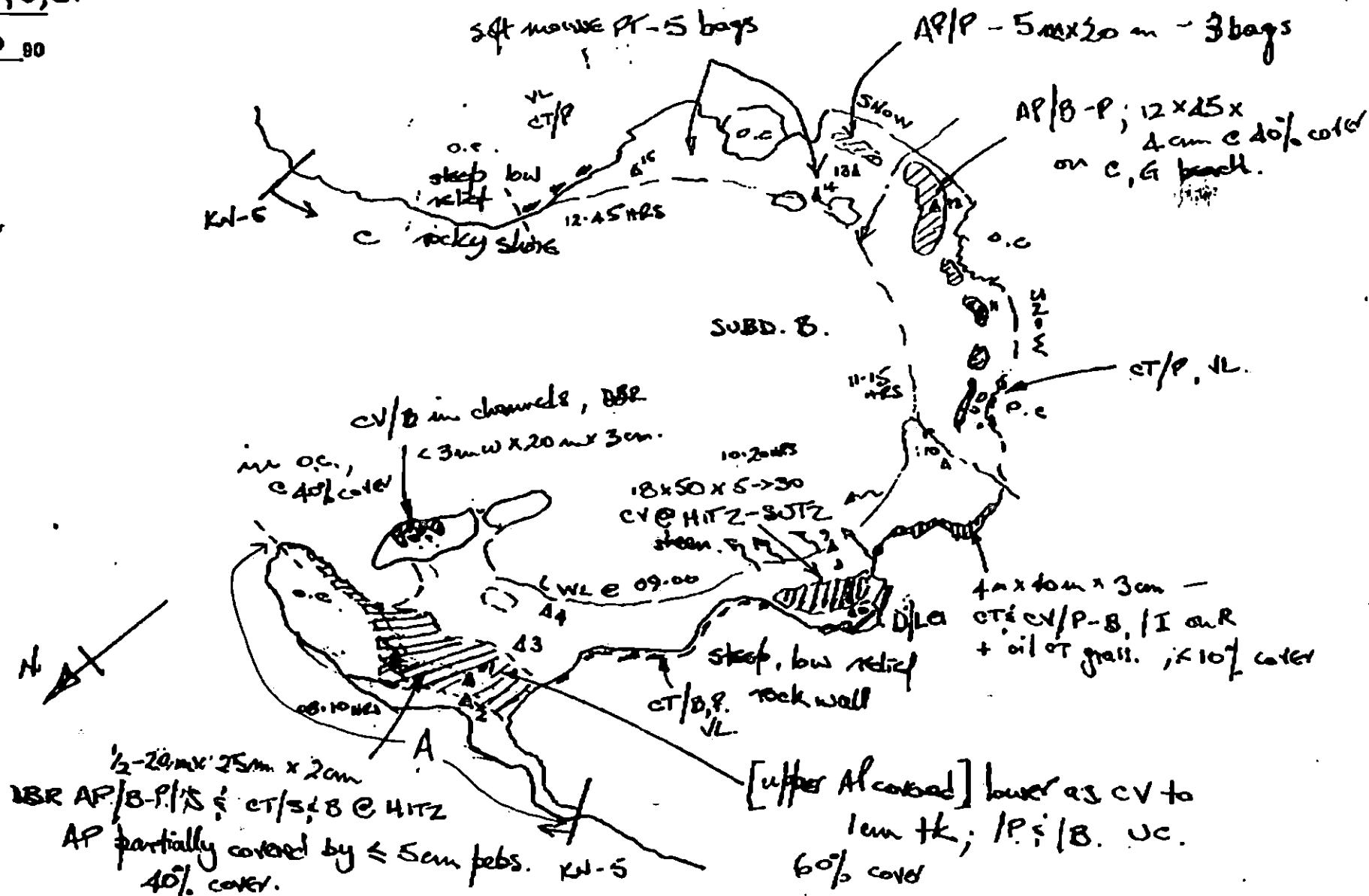
- ☐ N Area
- ☐ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HML/LWL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pit Location(s)
- ☐ Photo Location(s)

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
- $\square$ Oiled Vegetation
- 1 $\bullet$
Photo location, direction, and number

$\sim \rightarrow$ stream.

SCH MAP



Oil Character Length (m): AP 120 PO 0 CV 80 CT 300 ST 300 MS 0 PT 200 TB 0 FL 200 NO 50

FOR B SUBD N

REVISION 000000

SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/28/90

Segment ST / KN-05 Subdivision A Date (mo / day / yr) 3/29/90Time (24 hr) 8:45 AM MA SCOTT(A) Substrate type and % of segments:
(1) Bedrock 0% (2) Boulder 0% (3) Cobble 0% (4) Pebble 0% (5) Sand 0% (6) SM 0%(B) Overall % cover of biota (% of segment): Dense 0% Moderate 1% Low 3-5%

(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-3-1Frames 0
(general overview - frames 2-5)

BARNACLES

Dense			Moderate			~~X~~ 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

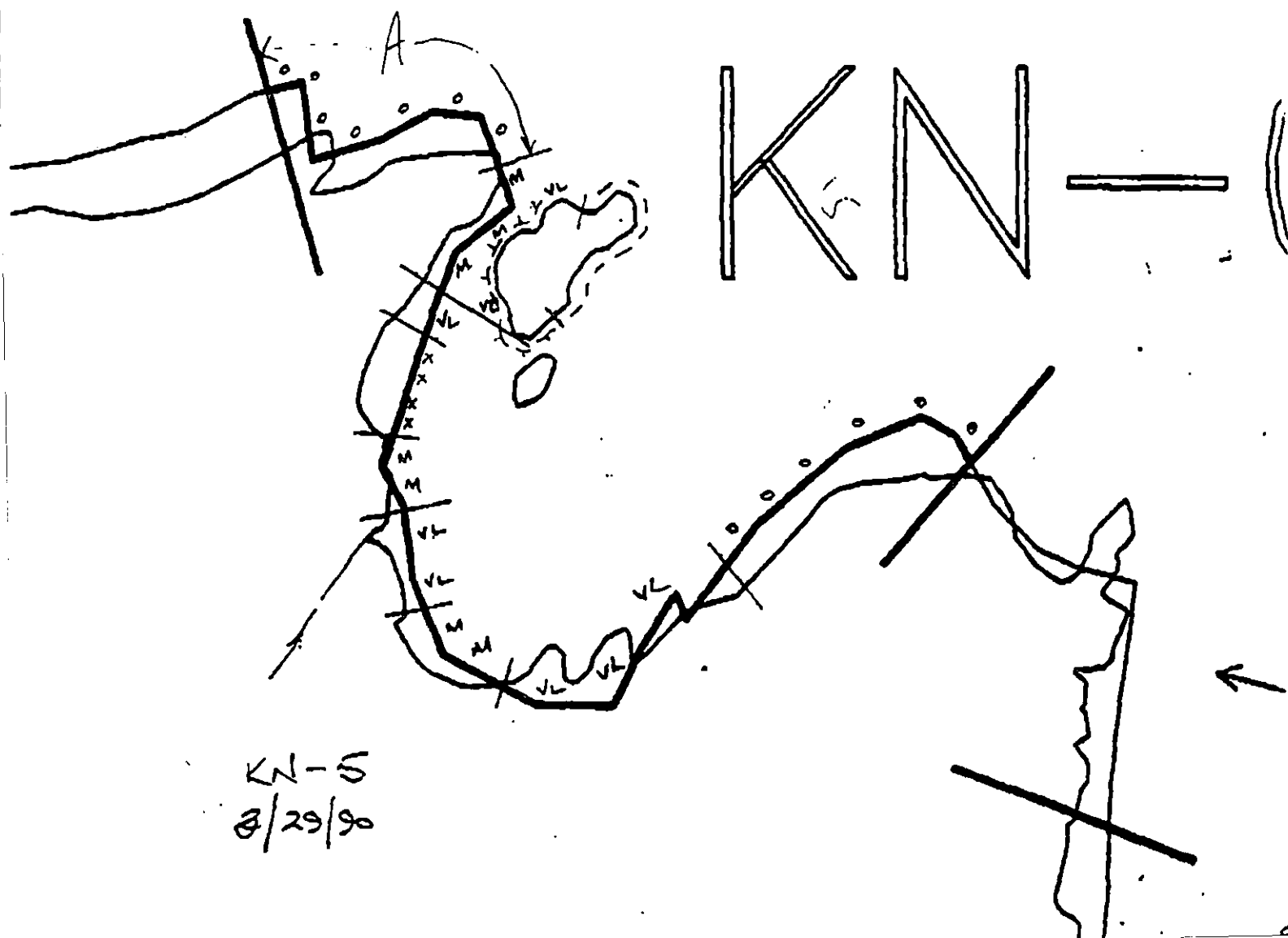
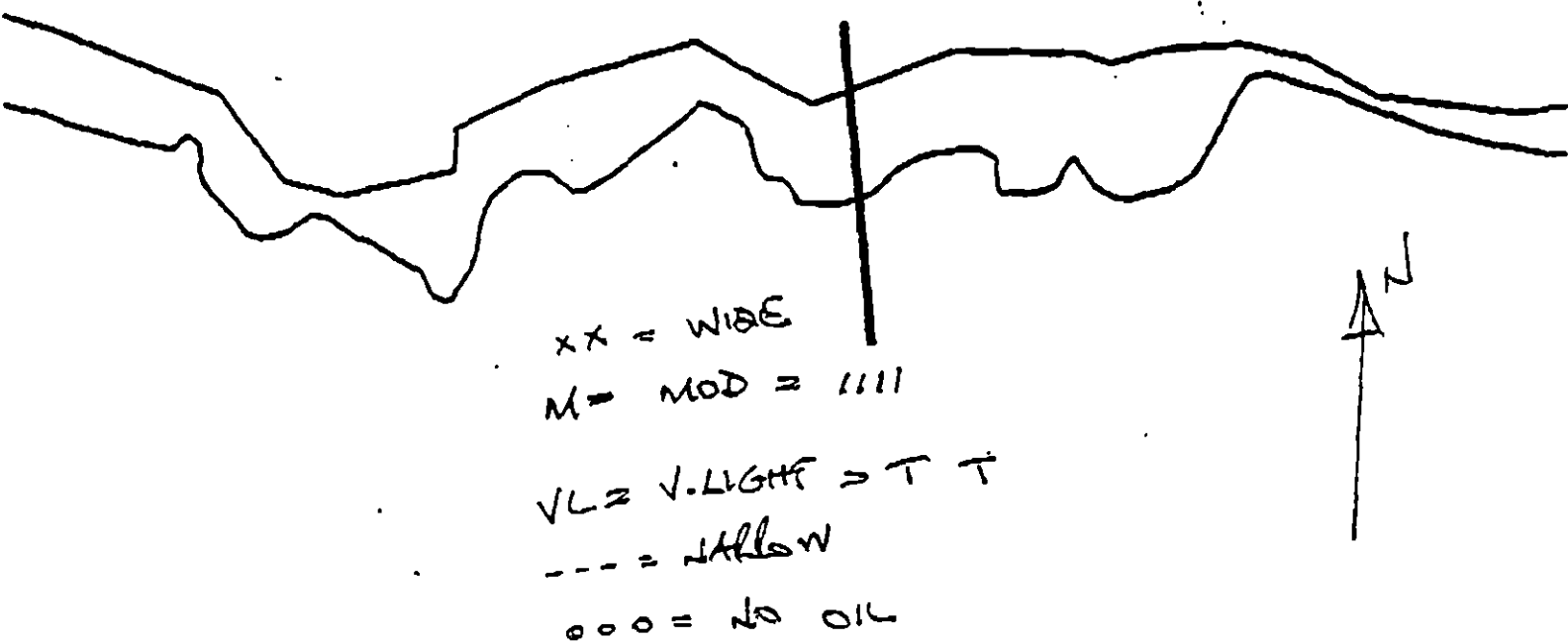
NOT PRESENT

Wildlife Observations/ General Comments:

4 harlequins
2 golden eye
5-10 gulls
2 eagles
heard seal(s)

Ecological Considerations:

0



SHORELINE EVALUATION

SEGMENT ST/ KN-05 SUBDIVISION B (2 OF 3) DATE 3/29/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

2M Herring spawning (4/1 to 6/15)
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)
6Y Recreation: Special use destination
See attached Ecological Constraint Sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid damage to unoiled intertidal and subtidal algae and seagrass.

SHPO SIGNATURE: Charles E. [Signature] DATE: 4/18/90

OILING CATEGORIZATION:

Wide 140m: Medium 431 m: Narrow 271 m: V.Light 545 m: No Oil 0 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>X</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)

+ POOLED OIL

COMMENTS: Recommend removal of tarmats, and bioremediation of areas shown on attached sketch map. Treatment to be completed prior to 5/15 or between 7/1 and 8/15 unless otherwise approved by ADF&G and/or USFWS.

REMOVE OILED DEBRIS + TRASH

TAG COMMENTS:

LOGS NOT TO BE REMOVED UNLESS FIELD ICP SUPERVISOR INDICATE REMOVAL NECESSARY AT TIME OF TREATMENT.

TAG APPROVAL DATE: 4/18/90

ADEC ART WILSON
EXXON JOEY TATE
NOAA Bill Wescott
USCG G.A. REITER

FOSC: [Signature]

DATE: 5-6-90

Provide 24 notice to CAC prior to beginning of work.
CAC monitor to be on scene during work. CAC ICP
supervisor to transport + berth CAC upon request.
monitor survey SITE of UITS.

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 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
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 1 KN-05 SUBDIVISION: A-C DATE 29 MAR 90

USCG SCOTT L. RAINSFORD

NAME MURIEL J. SHARPSIGNATURE [Signature]☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

SUBDIVISION A & C NEEDS NO TREATMENT

SUBDIVISION B HAS OILED DEBRIS (SNARE BOOM) IN SOME FALLEN TREES AND DRIFT WOOD.

ADEC

NAME Wesley GhormleySIGNATURE [Signature]☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Subdivision B of segment KN-05 Needs further mechanical and manual labor. Oiled debris in subdivision B needs to be physically removed. Some pits dug in subdivision B Filled with traces of free floating brown oil.

subdivision A and C of segment KN-05 Needs No Further treatment.

LAND MANAGER

NAME MICHAEL SMITHSIGNATURE [Signature]☐ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

SHORELINE OILING SUMMARY

REVISION NO. 08/20/90

OG Graham / Ramsey USCG Ransford / Sharp SEGMENT ST/ KN-05
 BIO Scott / Penn LAND REP Sohnsen / Smith SUBDIVISION B
 EXXON Butler / Riggins ADEC Ghormley / Ferguson TIME 8:30 to 12:45
 TEAM NO.: 3 / 2 TIDE LEVEL: 0 to 1.5 ft DATE 3 / 29 / 90
 EST. SUBDIVISION LENGTH: 660 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☐ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 25 % B 10 % C 20 % P 20 % G 20 % S 5 % M % V %
 SLOPE: Long 70 % Hang 30 % Vert % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 120 m M 210 m N m VL 330 m NO m

SURFACE OIL

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

PAVEMENT: H F S 2500 sq. m by 5 cmPATTIES / TARBALLS ~ 10 BAGSNEAR SHORE SHEEN? NO BR (RW) SL TL

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

DEBRIS COLLECTED
☐ YES ☒ NOTYPE #BAGS

Photographs:

Roll No. ST-3-1Frames 2-9

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	SU	U	M	V		
1	25			X			5-7		X					X	X				N	P, G, S
2	30					X	.								X				N	P, G, S
3	30					X	.									X			N	G, S, M
4	30					X	.								X				N	G, S, M
5	15	X					5-15		X					X	X				N	G, R
6	20	X					0-20	X						X	X				N	C, G, M @ 5 cm

COMMENTS In general, areas in sec. B indicated a film or coating on Rock facies boulder outcrops. Areas which had a cobble armour trapped the oil into pooled + covered zones. Fine-grained sediments coated Asphalt pavement on surface. Streams were much cleaner.

DATE 3 / 29 80

SWITCH MAP

CHECKLIST

_____ N Area
 _____ Approx. Scale
 _____ Bag/Sub Study
 _____ CH Dist.
 _____ Width
 _____ Length
 _____ % Cover
 _____ Substrate Character
 _____ Est. HPA/LV/L
 _____ SSA
 _____ Profile Location(s)
 _____ Profile(s)
 _____ PR Location(s)
 _____ Photo Location(s)

LEGEND

1 Δ
Plg. No Subsurface Oil

2▲
 FIG. 3. Substrate Oil

CT/C
Commonwealth Distribution

CT/8
Broken Distribution

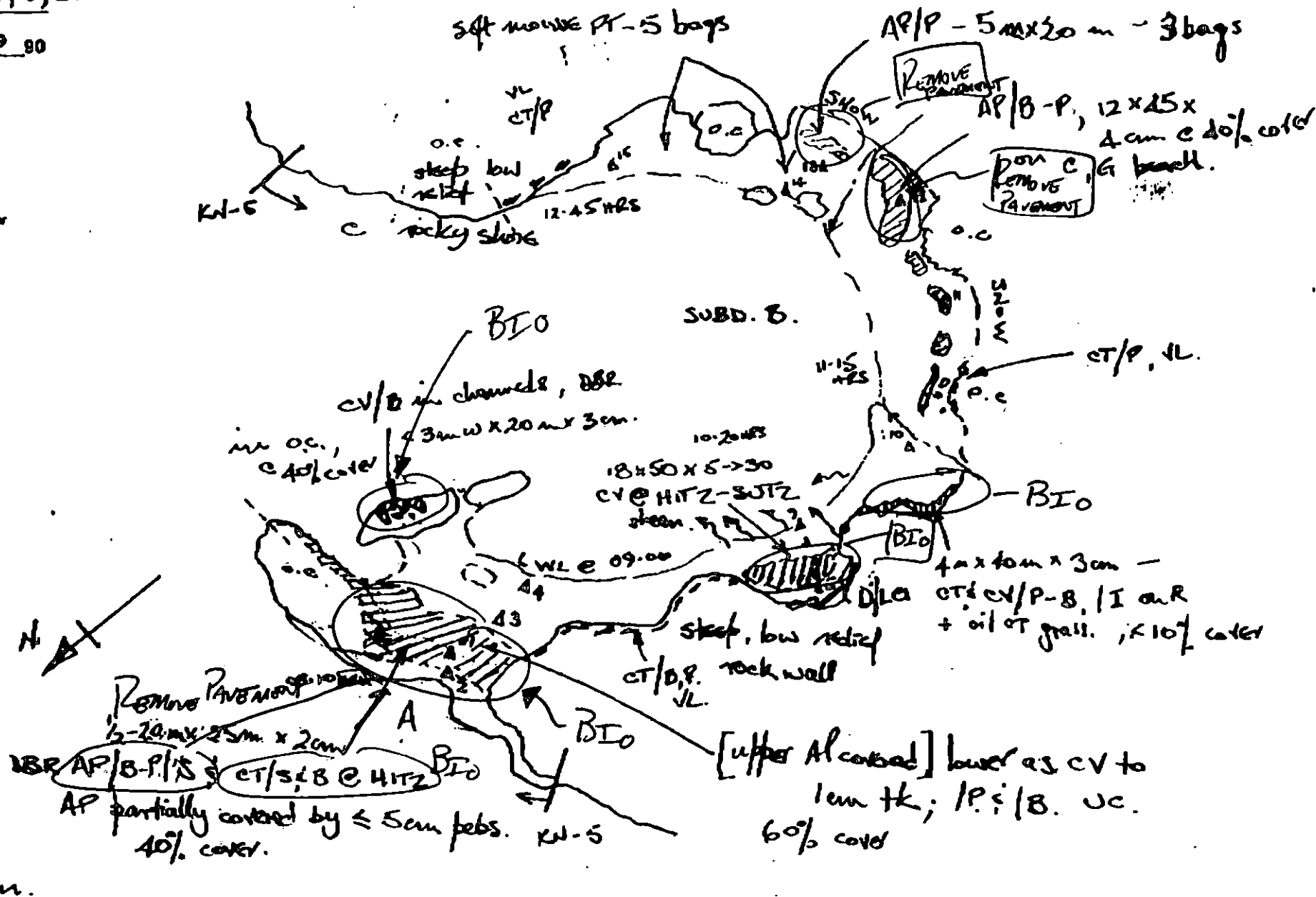
CT/P
Field Distribution

CT/S
Extended Plot System

Old Vegetation

Photo location, direction,
and number

~> sheer.



Oil Character Length (in): AP 120 PO 0 CV 80 CT 300 ST 300 MS 0 PT 200 TB 0 FL 200 NO 50

For B. Susan?
10/13/1971

Abstract

OG G. MacDonald

SEGMENT W-5

SUBDIVISION B partial

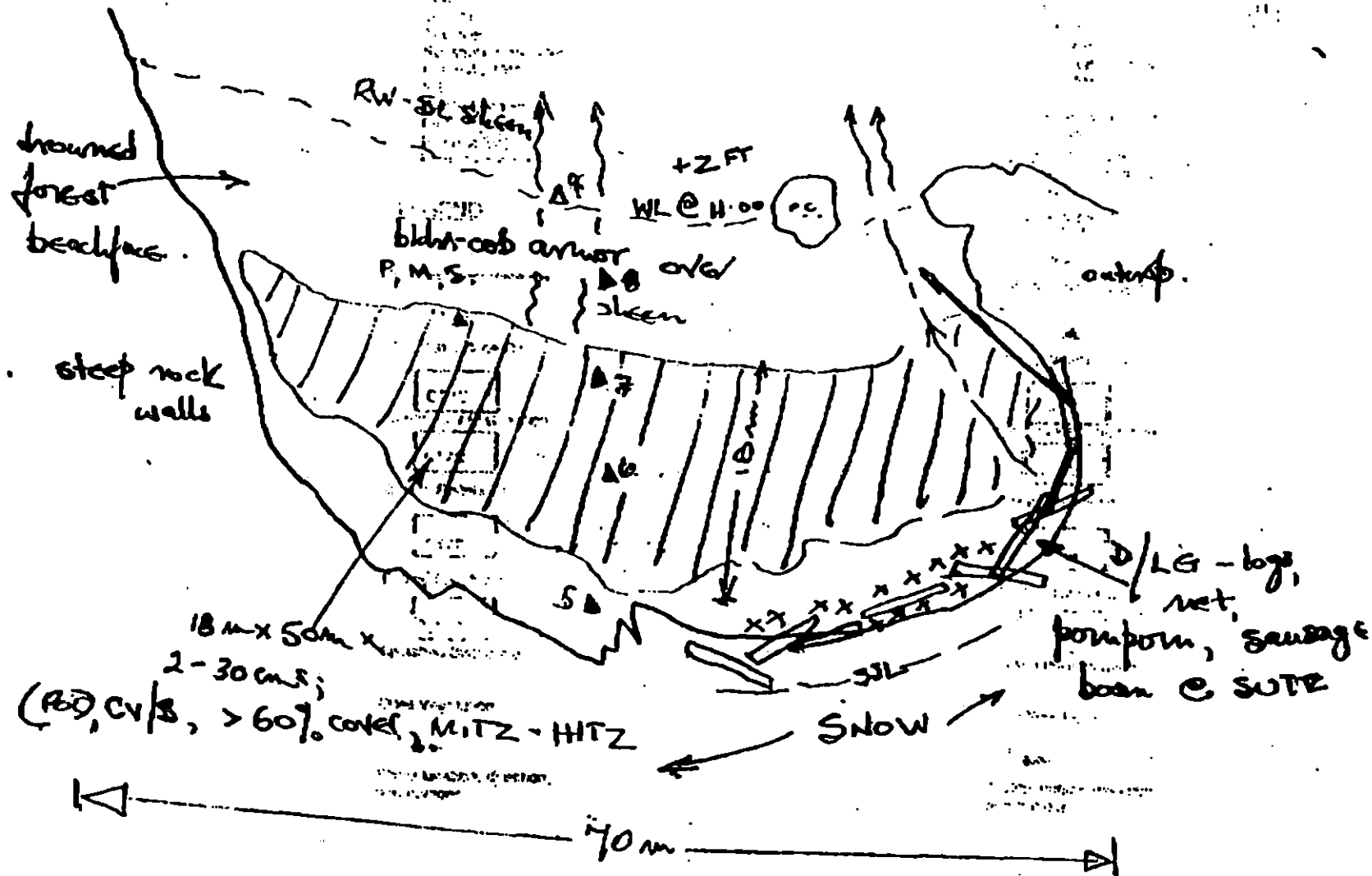
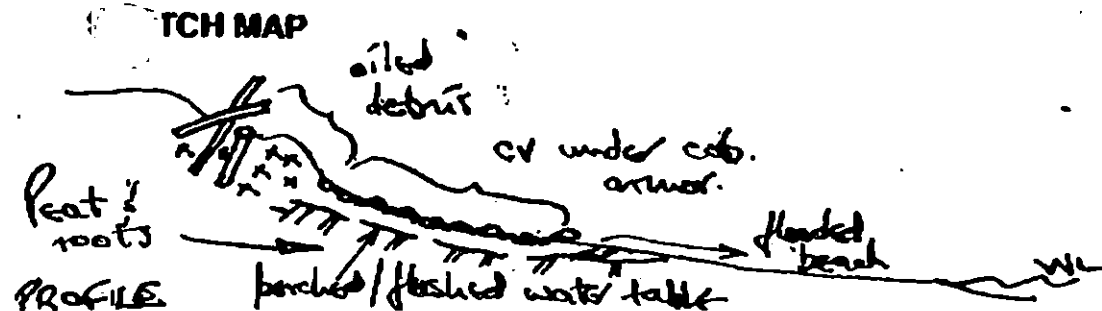
DATE 2 / 29 90

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HML/LWL
- ☐ SOL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ PH Location(s)
- ☐ Photo Location(s)

LEGEND

- 1 Δ
PH - No Subsurface Oil
- 2 Δ
PH - Subsurface Oil
- $\square$ CT/C
Continuous Distribution
- $\square$ CT/B
Broken Distribution
- $\square$ CT/P
Patchy Distribution
- $\square$ CT/S
Splashed Distribution
- x x x
Oiled Vegetation
- 1 $\Rightarrow$
Photo location, direction, and number



Oil Character Length (m): AP 0 PO 00 CV 50 CT 50 STIC 0 MMS 0 PPD 10 TBV 0 FGP 50 NDI 0 for 100% stable only

SHORELINE OILING SUMMARY (PAGE 2 of 2)

REVISION 03/2008

SEGMENT ST/ KN-05 SUBDIVISION B

SUBSURFACE (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE 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~~	SU	U	M	U		
7	30		X				0-20	X					X					X		N	C, G, M <i>water table @ 0 cm</i>
8	20				X		0-5	X			X							X		N	C, P, M
9	20					X	.												X	N	P, M
10	20					X	.											X		N	P, S, M
11	15					X	.										X			N	C, P, S
12	10					X	.										X			N	C, P, S
13	15					X	.										X			N	G, P, M
14	15					X	.											X		N	S, M
15	20					X	.											X		N	P, S, M
							.														
							.														
							.														
							.														
							.														
							.														

COMMENTS

REVIEWED YHDATE 4/2/90

SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/29/90

Segment ST / KN-05 Subdivision B Date (mo / day / yr) 3/29/90

Time (24 hr) 10:20 ~~10:20~~ MASCOTT

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

(B) Overall % cover of biota (% of segment): Dense Moderate 2 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 0

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:

2 dead otter - no visible oil
1 dead deer - no visible oil
2 buffleheads

1 - sea otter
2 - common mergansers

Ecological Considerations:

lower intertidal - appears to have extensive mussel bed

xx = WIDE
M = MOD = ||||

VL = V. LIGHT = T T

--- = NARROW

ooo = NO OIL

NARROW + VL + M ⇒
M overall on ADEC
coastline

KN

KN-5
3/29/90

SHORELINE EVALUATION

SEGMENT ST/ KN-05 SUBDIVISION C (3 OF 3) DATE 3/29/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

2M Herring spawning (4/1 to 6/15)
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)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid damage to unoiled intertidal and subtidal algae and seagrass.

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 197 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> <u> </u> Removal	<u> </u> Other (see comments)

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 4/18/90.

ADEC Aet Weaver Dpt Weaver
EXXON Andy TGA Dpt
NOAA Bayl Wescott Dpt
USCG G.A. Reiter G.A. Reiter

FOSC: Wyl

DATE: 5-6-90

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 unholed 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 1 KN-05 SUBDIVISION: A-C DATE 29 MAR 90

USCG SCOTT L. RAINSFORD

NAME MORRIS J. SHARP SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

SUBDIVISION A & C NEEDS NO TREATMENT
SUBDIVISION B HAS OILED DEBRIS (SMALL BOOM) IN SOME FALLEN TREES
AND DRIFT WOOD.

ADEC

NAME Wesley Ghormley SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Subdivision B of segment KN-05 Needs further mechanical and manual
Labor. Oiled debris in subdivision B needs to be physically removed.
Some pits dug in subdivision B Filled with traces of free floating brown oil.

subdivision A and C of segment KN-05 NEEDS NO Further treatment.

LAND MANAGER

NAME MICHAEL SMITH SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

SHORELINE OILING SUMMARY

REVISION NO. 02/22/90

OG McDonald / Ramsey USCG Ransford / Sharp SEGMENT ST/ KN-05
 BIO Scott / Penn LAND REP Lori / Smith SUBDIVISION C
 XXON Butler / Ried ADEC Ghermley / Ferguson TIME 12:45 to 1:00
 EAM NO.: 3 / 4 TIDE LEVEL: +5 ft to 6 ft DATE 3 / 29 / 90
 EST. SUBDIVISION LENGTH: 165 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☐ Foot ☒ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 80 % B 20 % C 0 % P 0 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 0 % Hang 0 % Vert 100 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 4 m M 4 m N 0 m VL 0 m NO 165 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR						IMPACTED ZONES				
	C	B	P	S	OR	BR	FW	GT	SL	TL	LG	SU	U	M	L
ASPHALT															
PAVEMENT															
POOLED															
COVER															
COAT															
STAIN															
MOUSSE															
PATTIES															
TARBALLS															
FILM															
NO OIL												X	X	X	X

PAVEMENT: H F S 2 sq. m By 1/1 cm

PATTIES / TARBALLS 0 BAGS

NEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NO

TYPE 0

#BAGS 0

Photographs:

Roll No. 0

Frames 0

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		UC	UC	90C BP	100C FW	101 SL	102 TL	103 LGR	SU	UE	ME	LI			
							-														
							.														
							.														
							.														
							.														
							.														

COMMENTS



SEGMENT STATION - 5

SUBDIVISION A, B, C.

DATE 3 / 29 80

CHECKLIST

☐ **NI Ansys**
☐ **Apprx. Scale**
☐ **Day/Job Study**
☐ **CH Dist.**
☐ **Width**
☐ **Length**
☐ **% Cover**
☐ **Substrate Character**
☐ **Est. INFLUENCE**
☐ **SN**
☐ **Profile Location(s)**
☐ **Profile(s)**
☐ **PN Location(s)**
☐ **Photo Location(s)**

LEGEND

! A
Fit - No Subsurface Oil

2A
Fit - Subsequent Call

CTAC
Construction Technology Applications Center

CT/O
Broken Blue Buttons

CT/P
Patch Distribution

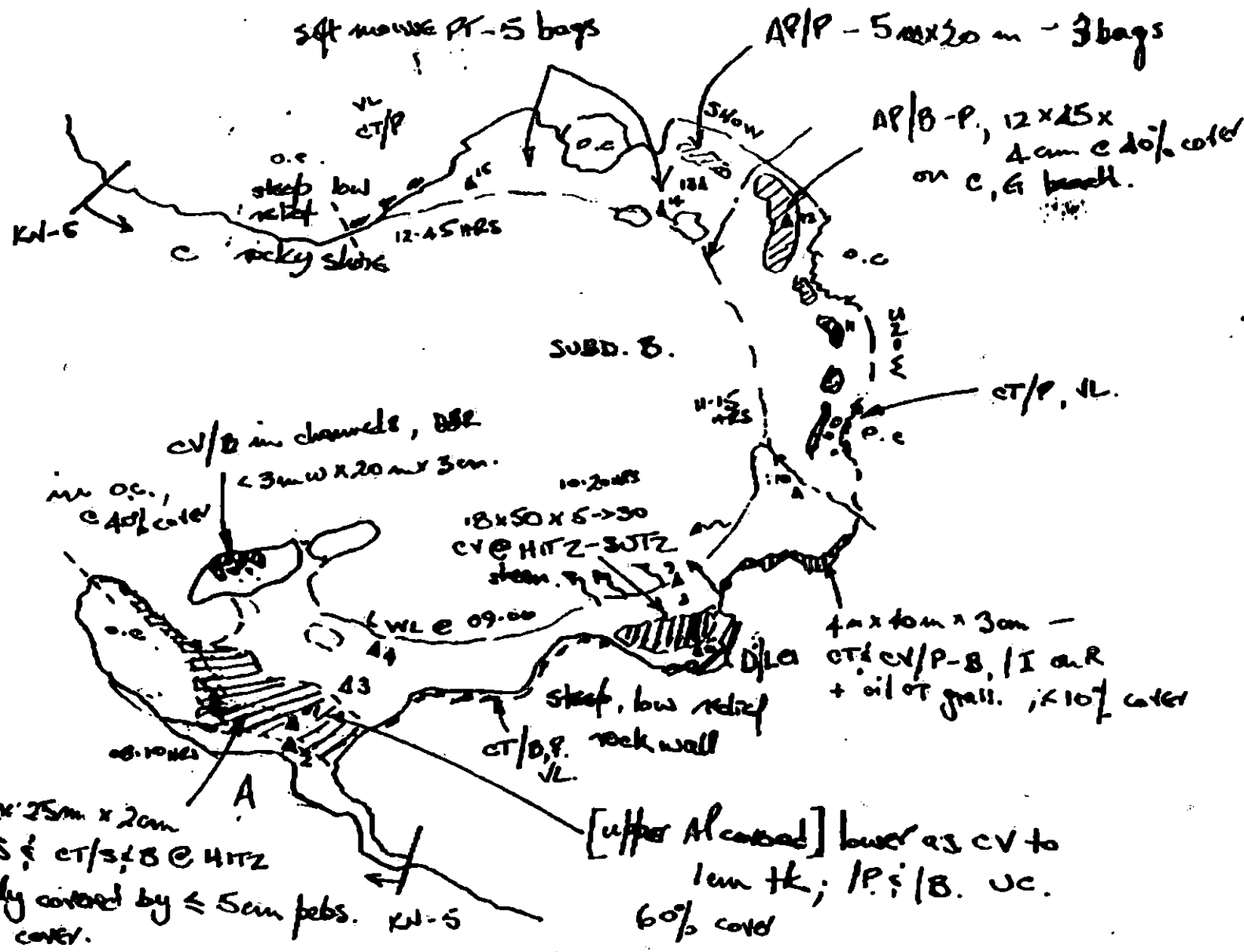
CT/S
Optimized Distribution

Cold Vegetation

Photo location, direction,
and number

~> deer.

SKETCH MAP



Oil Character Length (in): AP 120 PO 0 CV 80 GT 300 ST 300 MB 0 PT 200 TB 0 FL 200 NO 50 For B Super N

100

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / KN-05 Subdivision C Date (mo / day / yr) 3/29/90

Time (24 hr) 18:45 Biologist MASCOY

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

(B) Overall % cover of biota (% of segment): Dense _____ Moderate 5 Low _____

(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 0

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

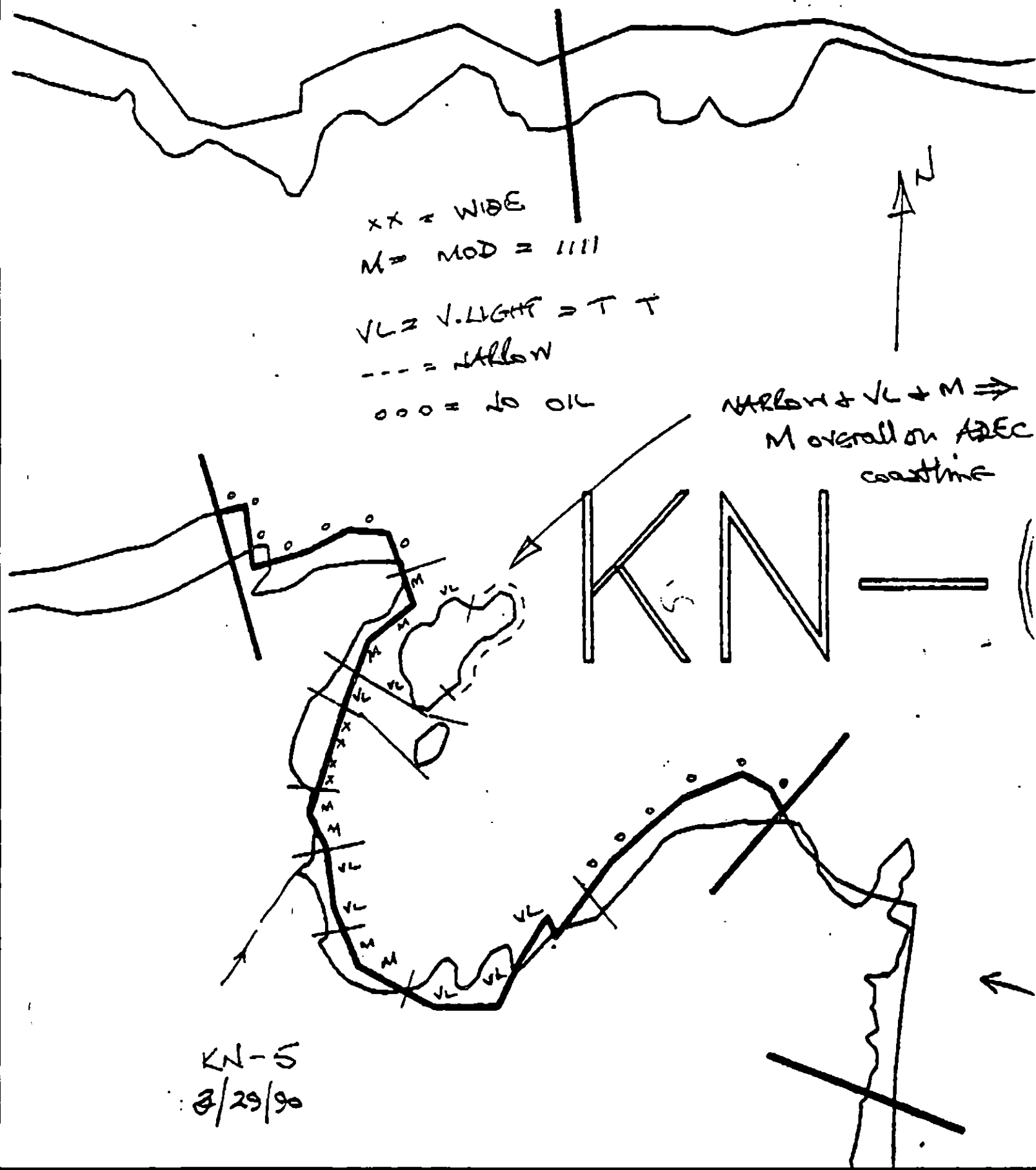
Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

Wildlife Observations/ General Comments:

Ecological Considerations:





SHORELINE EVALUATION

SEGMENT ST/ KN-06 SUBDIVISION A (1 OF 1) DATE 4/25/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

2M Herring spawning (4/1 to 6/15)
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)
5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
Eagle nest located in adjacent segment.
6Y Recreation: Special use destination
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 M. McKinn

DATE: 5/8/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 61 m: V.Light 828 m: No Oil 0 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> </u> Manual Pickup	<u> </u> Absorbents (pads, rolls, etc)
<u>X</u> Bioremediation	<u> </u> Spot Washing: <u> </u> Wands
<u>X</u> Tarmat Removal	<u> </u> Beach Cleaner
	<u> </u> Other (see comments)

COMMENTS: Recommended treatment includes 1) manual removal of tarmat/patties and 2) bioremediate in areas indicated on sketch map. Work should be conducted between 7/1 and 8/15 with approval of USFWS due to eagle nest constraint.

TAG COMMENTS: MONITORS TO ASSESS SIGNIFICANCE OF MOOSE PATTIES AND "HANDS" OF OILED GRASS AS INDICATED ON THE SKETCH.

TAG APPROVAL DATE: 5/8/90

ADEC Art Weiner Art Weiner

EXXON AWYTER

NOAA Gary Petras Gary Petras

USCG G.A. REITER G.A. Reiter

FOSC: W L

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 6/15)
 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 (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
- ✓ 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
- Subsistence area: Salmon harvesting (5/1 to 9/30)
 Finfish harvesting
 7A Deer harvesting (6/15 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 / KN006 SUBDIVISION: A of 1 DATE 4-25-90

USCG
NAME

Patrick Malay

SIGNATURE

Patrick Malay

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Recommend that the small area of asphalt pavement in the Eastern half of the segment be broken up and the beaches in the vicinity of pits 1-3 be bioremediated. All subsurface oil discovered was close to the surface ($\leq 10\text{cm}$). There was a small area of grass that was growing through about 5cm of oiled sediments but it appeared healthy.

ADEC

NAME

M. Cunningham

SIGNATURE

M. Cunningham

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Walk the segment, pick up tar splatters, bioremedia areas where patches asphalt occur + check for debris. This area was relatively free of oil with the exception of a few small patches oil & asphalt.

LAND MANAGER

NAME

Steven Phillips

SIGNATURE

Steven Phillips

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Scout segment to retrieve tarballs.
Remove asphalts near Pit 2 and by "oiled grass" (see map)
Sketch map indicates mousse which has weathered and mixed with sediment. This should all be removed including sediments. (it is more like asphalt now)
Near Pit 3 is a 7m x 4m patch of discolored area which had silver sheens in the interstitial water. This area should be bioremediated and disturbed to hasten recovery.
Tar bands on vertical bedrock and boulders is broken

SHORELINE OILING SUMMARY

REVISION NO. 04-12-90

OG Greg Chaney USCG Pat Malay SEGMENT ST/ KN 006
 BIO Gib Rath LAND REP DVR St. Phillips SUBDIVISION A (1 OF 1)
 EXXON Ray Sotelo ADEC Mike Cunningham TIME 07:30 to 09:00
 TEAM NO. 02 TIDE LEVEL -3.5 ft 0 - 2.5 ft DATE April 25 / 90
 EST. SUBDIVISION LENGTH: 989 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: East to West
 SURFACE SEDIMENTS: R 20 % B 60 % C 10 % P 5 % G - % S - % M 5 % V - %
 SLOPE: Long 10 % Hang 85 % Vert 5 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 90 m VL 899 m NO 0 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	1C	1B	1P	1S	2	3	4	5	6	7	8	9	SU	U	M	U
ASPHALT PAVEMENT				X	X									X		
POOLED																
COVER																
COAT		X	X	X		X							X	X	X	
STAIN		X	X	X		X							X	X	X	
MOUSSE																
PATTIES				X									X		X	
TARBALLS				X									X		X	
FILM			X										X		X	
NO OIL																X

PAVEMENT H F 01 sq. m by 5 cmPATTIES / TARBALLS collected 1 BAGSNEAR SHORE SHEEN? ☒ BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation	X		
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☐ NO ☒TYPE NONE FOUND#BAGS 0

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		UO	UC	2	3	4	5	6	7	8	9	SU	U	M	U				
1	20				X		0-5		X	X								X				-	Y	15	B-CM
2	20	X					0-5		X	X								X				-	N	0	B-CM
3	20				X		0-10		X	X								X				-	Y	15	B-CPM
4	30					X	.											X				-	N	0	B-BCM
5	25					X	.											X				-	N	10	B-GC
6	30					X	.											X				-	N	0	P-GBC

COMMENTS

REVIEWED YH DATE 4-29-90

COMMENTS
SEGMENT ST-KN-006-A

Greg Chaney
April 25 1990

This segment ran along the north shore of Bay of Isles on Knight Island. The survey was conducted in the morning under clear skies. The shoreline consisted of boulder beaches separated by rocky headlands. Traces of oil were observed along the entire length of the segment but it did not amount to more than "Narrow" at its greatest concentration. Patches of stain and tar, drops of tar coat and occasional splatters were typical. Near pit #2 asphalt patches between the boulder matrix were observed. The total area of these patches was roughly estimated at half a square meter. Near pit #3 a brown film of oil was observed on the surface sediments. Half way between pits #3 and #4, six patches were observed which appeared to have been mousse patties that had melted into finer sediments between the boulders. Subsurface oiling was relatively minor and appeared localized.

00 CHINA CHALK
 SEGMENT ST/ KN-006

SUBDIVISION A

DATE APRIL 25 90

CHECKLIST

N Arrow
 Approx. Scale
 Sep/Sub Body
 Oil Dri.
 Width
 Length
 % Cover
 Substrate Character
 Est. HML/LWL
 SSL
 Profile Location(s)
 Profile(s)
 P/L Location(s)
 Photo Location(s)

LEGEND

1 ▲

P/L - No Subsurface Oil

2 ▲

P/L - Subsurface Oil

CT/C
 Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

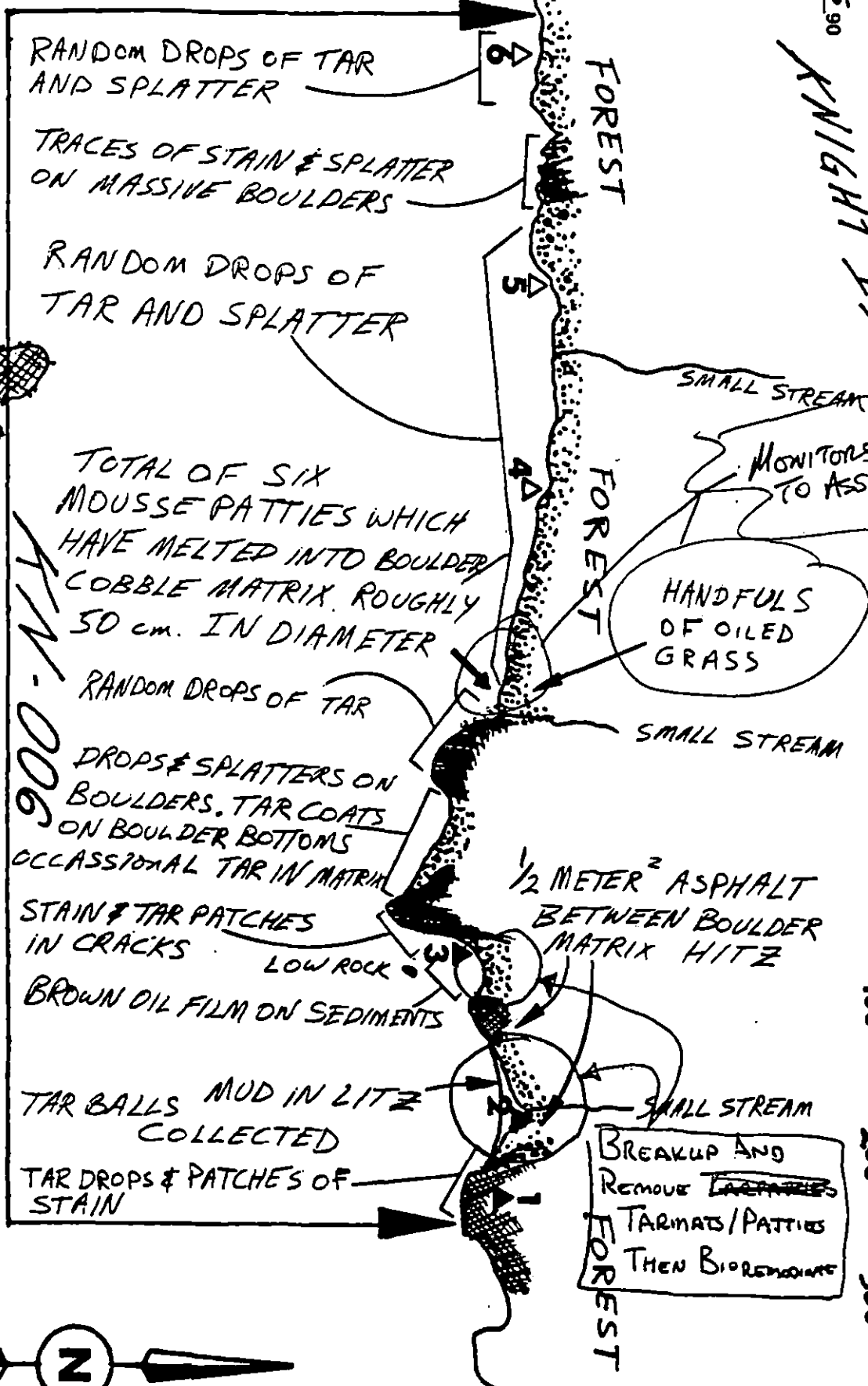
CT/S
 Splashed Distribution

Oil Vegetation

Photo location, direction,
 and number

SKETCH MAP

KNIGHT ISLAND



KN-006

Oil Character Length (m): AP 5 PO — CV — CT 500 ST 900 MS — PT 10 TB 2 FL 25 NO 0

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / KN-6 Subdivision A Date (mo / day / yr) Apr 25, 70Time (24 hr) 0730 - 0900 Biologist ROTH(A) Substrate type and % of segments:
(1) Bedrock 20 (2) Boulder 60 (3) Cobble 10 (4) Pebble 5 (5) Sand — (6) Silt 5(B) Overall % cover of biota (% of segment): Dense 20 Moderate 40 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 (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	O	2	2	2	O	
3	3	3	3	X	3	X	O	3	3	3	O	
4	4	4	4	X	4	X	O	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	

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	2	X	2	X	
3	3	3	3	X	3	3	X	3	X	3	X	
4	4	4	4	X	4	4	X	4	X	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	X	X	2	2	2	2	2	
3	3	3	X	X	X	3	3	3	3	3	3	
4	4	4	X	X	X	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	X	2	X	2	X	O	2	
3	3	3	3	X	X	3	X	3	X	3	3	
4	4	4	4	X	X	4	X	4	X	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 SEEN EN ROUTE TO SECTOR; 1 BALD EAGLE ADULT ON WING + PERCHING IN SECTOR. A SHELTERED SITE WITH MODERATE TO LOW OVERALL PERCENT COVER OF BIOTA. THE RELATIVELY LONG LIST OF PLANT AND ANIMAL SPECIES COLLECTED

Ecological Considerations:

POSSIBLE PINNIPED HAVLOUT
BALD EAGLE NEST
BY-SPECIAL USE DESIGNATION
(SEE ECOLOGY MAP)

REFLECTS THE EXCELLENT MINUS TIDE WATER

PERMITTED OBSERVATIONS IN BOTH LITZ AND SHALLOW SUBTIDAL HABITATS. EVIDENCE OF RECRUITMENT AND/OR NEW GROWTH WAS APPARENT FOR ALL 4 MAJOR BIOTAL GROUPS RATED ABOVE.

ECOLOGY MAP (1 OF 1)

RESOURCE CODES FOR ENTIRE SEGMENT

3N, O, P, Q
(SPECIAL USE DESIGNATION)
2MX (FERRING SPANNING)

BALD EAGLE NEST $\leq$ 400m OF SEGMENT

KN-06

BALD EAGLE
NEST

"POSSIBLE"
FINNIPED
HALL OUT

KN

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

KN-6

ADEC Segment Length: 989m

0 100 200 300
METERS

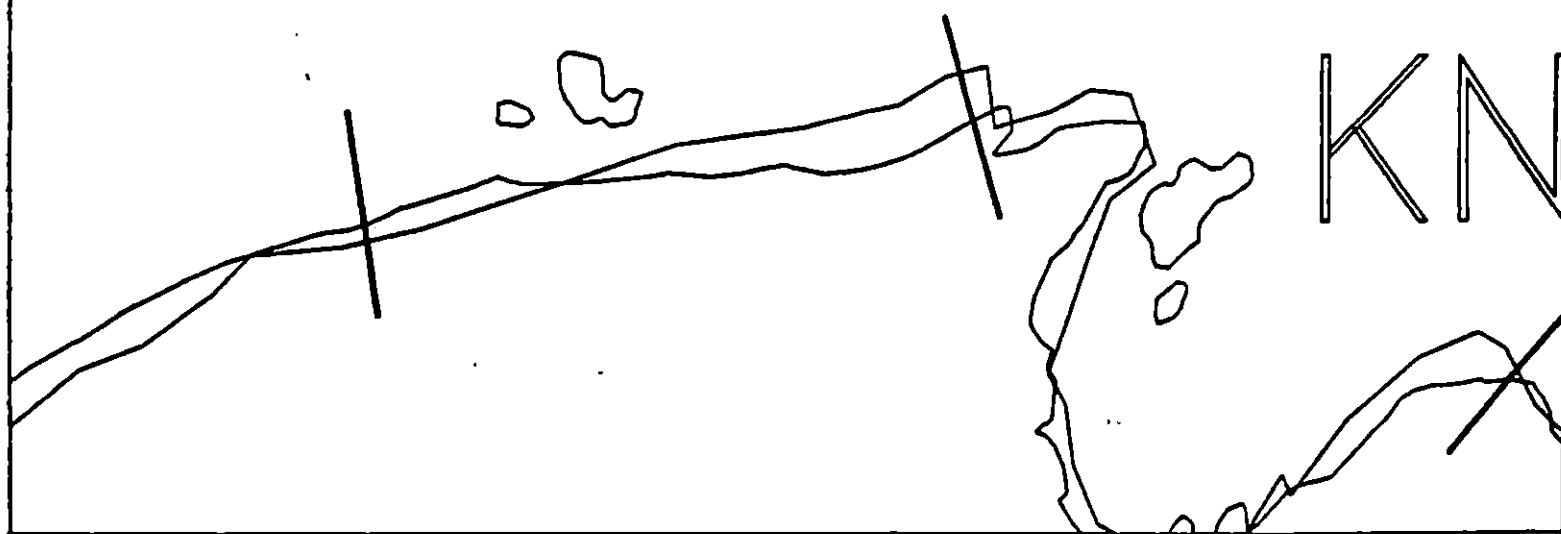
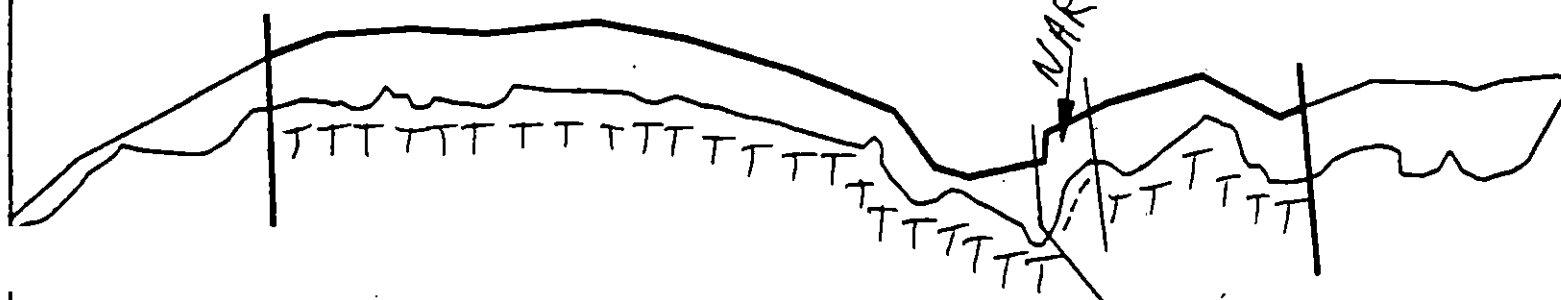
Map Key: PWS-467

Name: _____

Date: _____

Data Entered: _____

KN-06



XXXX Wide

KN-6

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ADEC Segment Length: 989m



Map Key: PWS-467

Name: Greg Chaney

Date: April 25 1990

Data Entered:

WORK PLAN MODIFICATION RECOMMENDATION

SEGMENT KN06 SUBDIVISION A DATED 6/1/90

MODIFICATION

1. REASON FOR MODIFICATION

MOST OF THE REMOVED OIL WAS AT THE HIGH STORM LEVEL. VERY LITTLE IN THE INTERTIDAL ZONE AND IT WAS ALL REMOVED. ABUNDANT PLANKT IN THE INTERTIDAL ZONE AND INSECTS UNDER THE ROCKS IN THE TREATED AREAS.

2. SUGGESTED ADJUSTMENT TO WORK PLAN

EXXON, USCG AND ADEC REPRESENTATIVE CONCUR THAT BIO REMEDIATION IN THIS SEGMENT IS NOT REQUIRED.

3. TIMING ISSUES

ADEC Richard McKean 6/3/90

EXXON [Signature]

USCG [Signature] LCDR, USCG 6/3/90

LAND MANAGER _____ (If field rep is on scene)

WORK PLAN ADDENDUM

Segment ST/KN-006

Subdivision A

Dated 6/8/90

MODIFICATION

1. REASON FOR MODIFICATION

- Joint request from the field by ADEC, Exxon and USCG

2. ADJUSTMENT TO WORK PLAN

- No bioremediation

SHPO APPROVAL NEEDED YES _____

SHPO SIGNATURE _____

NO X

TAG APPROVAL DATE 6/8/90

ADEC RAY MERRIS Fendall

EXXON HANS O. JAHNS

FOSC

[Signature]

DATE

6/16/90

NOAA Joseph Talbott

USCG

G.A. REITER

SHORELINE EVALUATION

SEGMENT ST/ KN-07 SUBDIVISION A (1 OF 1) DATE 4/19/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: J. David M. Mahan DATE: 5/1/90

OILING CATEGORIZATION:

Wide 42 m: Medium 21 m: Narrow 475 m: V. Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 20 cm

RECOMMENDATIONS:

 No Treatment Recommended

X Treatment Recommended

X Manual Pickup

X Bioremediation

X Tarmat Removal

 Snare/Absorbent Booms

 Oil Snares (pom poms)

 Absorbents (pads, rolls, etc)

 Spot Washing: Wands

 Beach Cleaner

 Other (see comments)

Tarballs, Patties
+ Trash

COMMENTS: Recommended treatment includes, 1) manual removal of tarmat
2) bioremediation of areas shown on attached sketch map. Work should
be conducted after 6/15 based on herring spawning constraints. Do not
treat up to 50 m on either side of stake for both the NOAA and Dames
and Moore (Exxon) study sites.

TAG COMMENTS: MONITOR TO ASSESS SUITZ

TAG APPROVAL DATE: 4/28/90

ADEC ART WEINER

EXXON AMON TAYLOR

NOAA GARY PETRAE

USCG KENNETH KENDRICK

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. 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 (8/11 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 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 (8/1 to 9/15)
 6V Anchorages (8/1 to 9/15)
 6W Forest Service cabins (8/1 to 9/15)
 6X Lodge (8/1 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-07 SUBDIVISION: A - 1 of 1 DATE 04/19/90

USCG

NAME David S. Thomas SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Patties/Tar Balls should be minimum 20 bags Net 2

ADEC

NAME Clara S. Crosby SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS ① Snow in Supratidal - reassessment.

- ② Manual removal of Asphalt, mousse, & tarballs (necessary prep if Bio considered)
- ③ On SW. end. of Segment - possible flush or spot wash SITE - along under B&E on Back - steep slope -
- ④ ADEC should be consulted for information on streams located within segment as well as cataloged stream within 100m of seg. Boundary (if Biorem. is considered)
- ⑤ IF flush or wash is considered - care should be taken to protect known anadromous stream at seg. Boundary.

LAND MANAGER

NAME Peter Zellers SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

- ① Concur with reassessment of supratidal.
- ② Segment should receive a thorough Assessment before opting for a bio. approach to cleanup. There are, presently, opportunities to do extensive manual removal of thin asphalt, mousse, and oiled debris in the mid upper intertidal.

SHORELINE OILING SUMMARY

REVISION NO. 24-13-90

OG RICK GILLIE USCG DAVE THOMAS SEGMENT ST/ KN-07
 BIO DAVE LOHSE LAND REP PETER ZILAR (CIC) SUBDIVISION A (1 OF 1)
 EXXON FRANK BOX ADEC CLARA CROSBY TIME 12:10 to 13:50
 TEAM NO. 13 TIDE LEVEL +6 to +3 DATE 04/19/90
 EST SUBDIVISION LENGTH: 572 m ☐ Sun ☒ Clouds ☒ Fog ☒ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock Snow in Supratidal
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 20 % B 30 % C 40 % P 10 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 80 % Hang 10 % Vert 10 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 70 m M 20 m N 482 m VL 0 m NO 0 m

SURFACE OIL

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

Snow

PAVEMENT H F (S) 100 sq. m by 5 cmPATTIES / TARBALLS 2 BAGS

NEAR SHORE SHEEN? (NO) BR RW SL TL

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

Photographs:

Roll No. ST-13-4Frames 1-7

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		SO	SS	~~1~~	~~2~~	~~3~~	~~4~~	~~5~~	~~6~~	~~7~~	~~8~~	BU	U					M
1	20					X	.		X								X					N		P/S/M
2	15					X	.		X								X					N		P/G/M
3	15					X	.		X								X					N		P/G/M
4	30					X	.		X								X					Y	15	P/G/S
5	40			X			5-15		X	X							X					N		P/G/S
6	15					X	.		X								X					N		P/G/S

COMMENTS * Note: Sheen on water in pits #4 & 5

① SURFACE OIL DEPTH (ASPHALT PAVEMENT) < 5 CM.

② "STREAMS" MAY BE SPRING MELT ONLY.

③ CT/CB ON ANGULAR COBBLE OVER BEDROCK.

REVIEWED 7WDATE 4/20/90

SHORELINE OILING SUMMARY (PAGE 2)

REVISION 04-13-88

SEGMENT ST/ KN-07 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	SL	BR	OR	WH	ST	BL	BU	U	M	U				
7	20					X	.		X								X						P/D/M
8	30			X			15-20		X					X		X					Y	25	G
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COMMENTS

- ① PITS 1, 2, 3 AND 6 WERE LOCATED IN AREA OF SURFACE OIL (USUALLY ASPHALT PAVEMENT). SURFACE OIL DEPTH WAS 1-5 CM.

REVIEWED 7W DATE 4/20/90

0 RICK G E
 SEGMENT ST/ KN-07
 SUBDIVISION A, 1 of 1
 DATE 04, 19/90

GENERAL SKETCH MAP

CHECKLIST

- ☒ N Area
- ☒ Approx. Scale
- ☒ Seg/Sub Boundary
- ☒ Oil Dist.
- ☒ Width
- ☒ Length
- ☒ % Cover
- ☒ Substrate Character
- ☒ Est. HML/LAVL
- ☒ 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

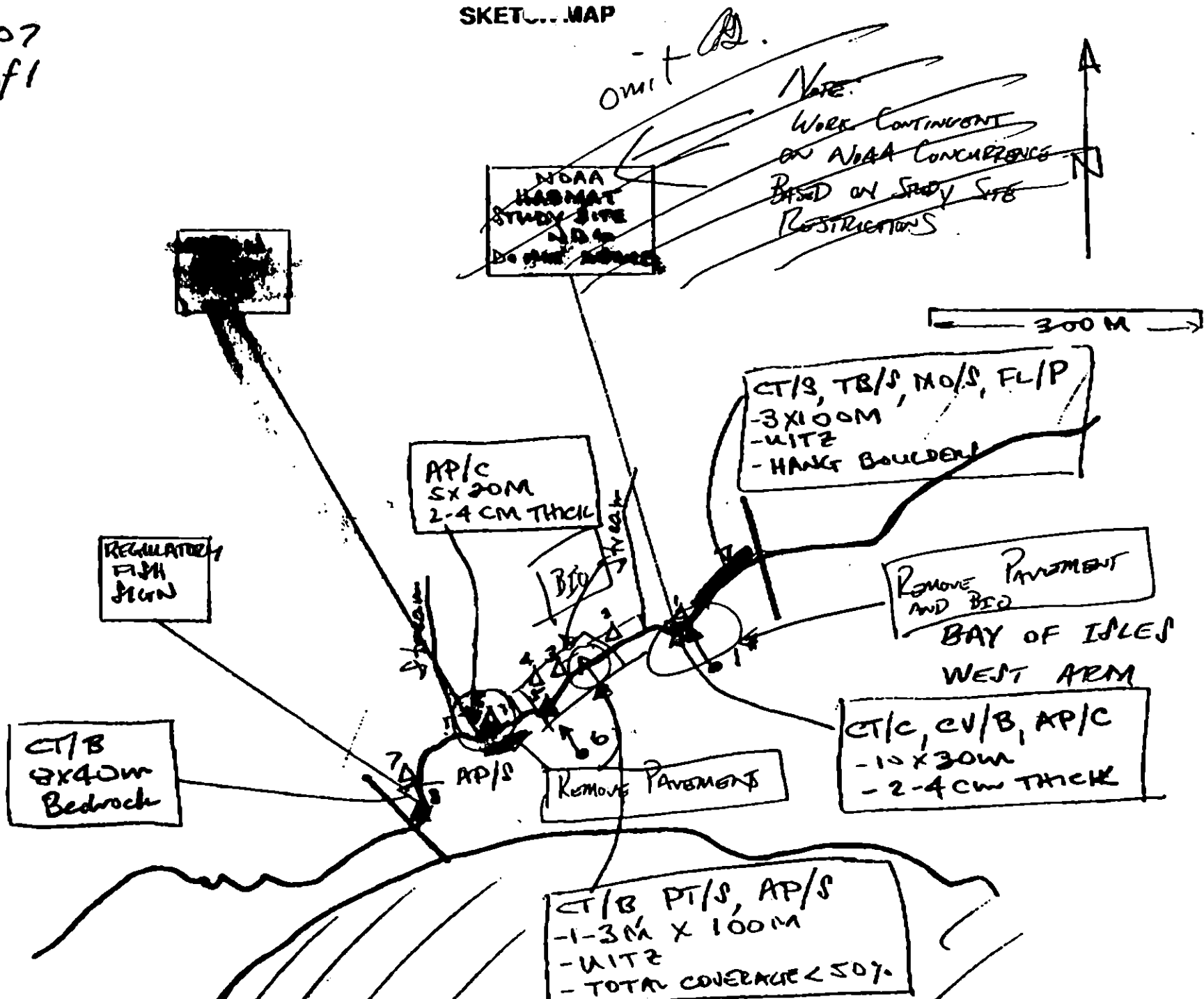
[CT/P]
 Patchy Distribution

[CT/S]
 Streaked Distribution

Oil/Vegetation

1 ●
 Photo location, direction,
 and number

Character Length (m): AP 50 PO 0 CV 100 CT 200 ST 0 MS 50 PT 20 TB 20 FL 10 NO 122



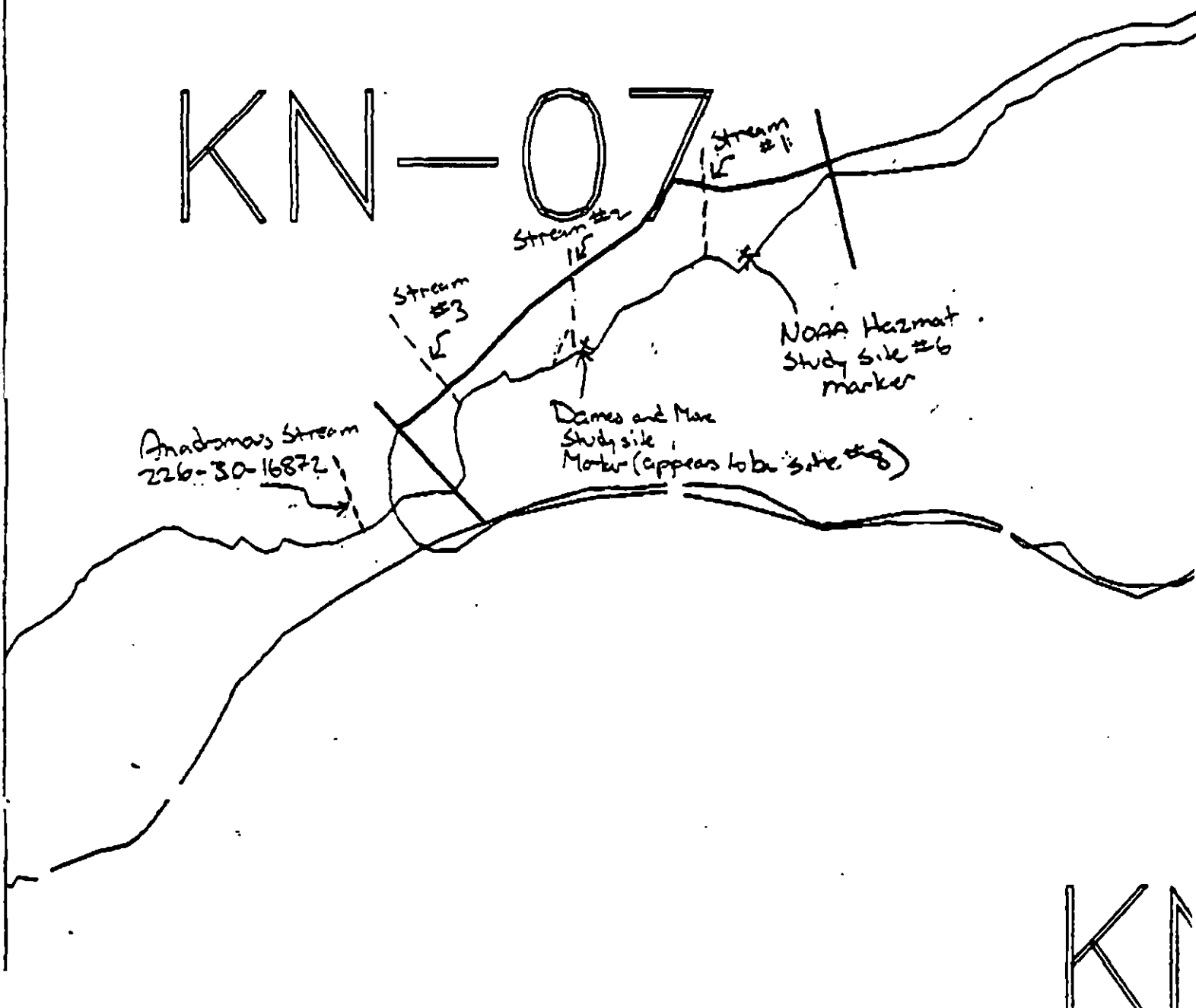
Ecology Map

Resource Cobs For entire segment
1A,B - Stream 226-30-16872 within
100m of segment boundary in
segment KN201

2M
6Y

KN-2C

KN-07



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

KN-7

Total Segment Length: 532

Map Key: PWS-411

Name: _____

Date: _____

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / KN007 Subdivision A Date (mo / day / yr) 4-19-90

Time (24 hr) 12:00 Biologist David Lohr

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

(B) Overall % cover of biota (% of segment): Dense 0 Moderate 25 Low 75

(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-13-4

Frames 1-7

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	
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	
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	
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	
6	6	6	6	6	6	6	6	6	6	6	6	

Wildlife Observations/ General Comments:

See page 2

Ecological Considerations:

1A,B Stream 226-30-16872 bank within 100 m of segment bandy.

2M- no comment

6Y- no comment

Shoreline Ecological Summary

2 of 2

Segment KN007

Subdivision A

4-19-90

Biologist: David Cohen

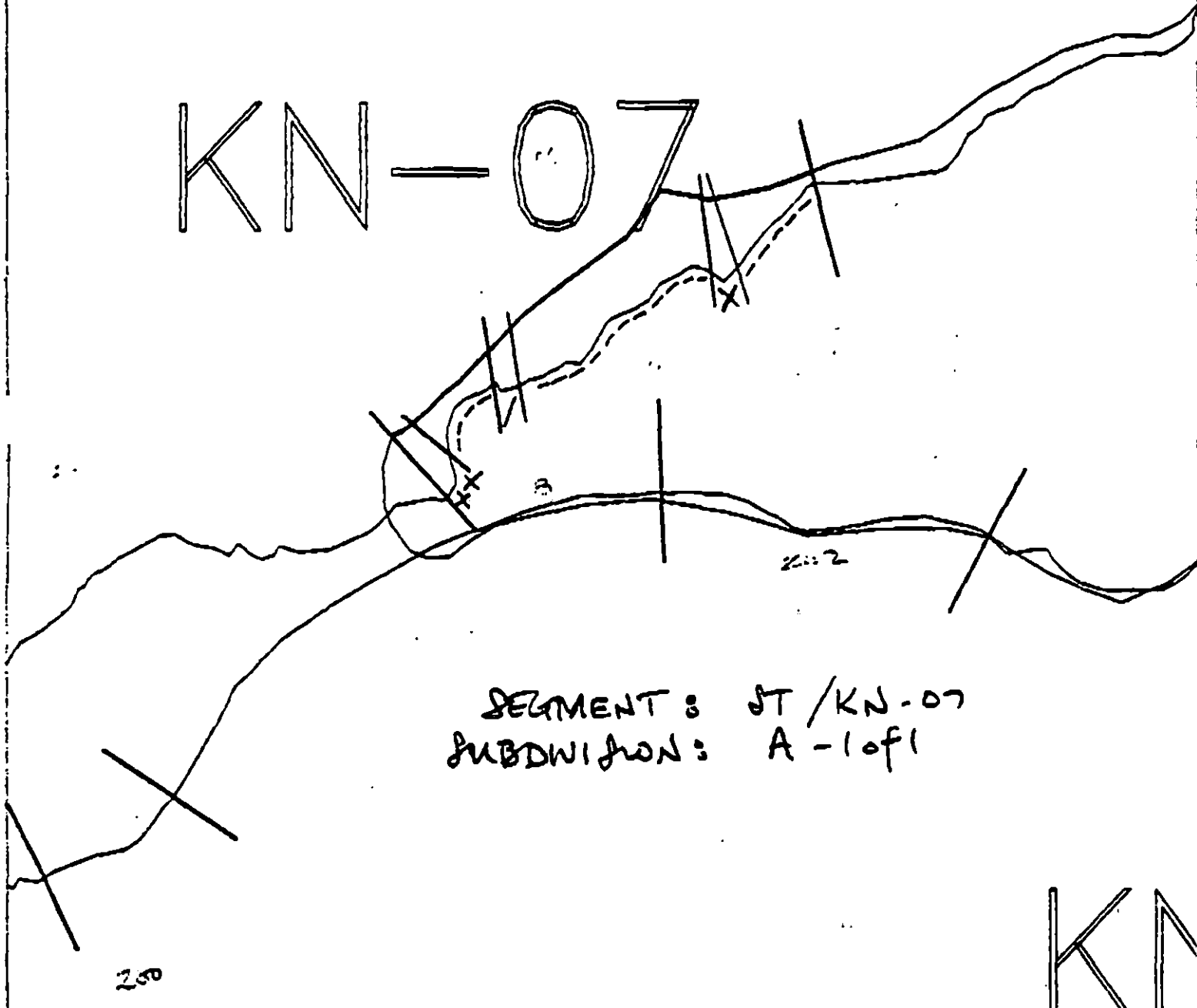
Wildlife Observations/General Comments

1. Low intertidal not sampled
2. present in mid intertidal: unidentified branching red (*Rhodomania*?)
3. 3 running streams found in segment (See Ecology map). Oil was present near all 3 streams. No information given on whether or not anabranching streams are present in this segment.
4. One NOAA Hazmat Study Site marker (site #6) and one Dames and Moore Study Site marker (site #8?) found in segment (see Ecology map).
5. Oil covered boulders found on mid-intertidal boulders near western segment boundary. Several oil-covered, empty limpet shells were found imbedded in the oil.
6. Several water fowl spotted on way to beach. Tentatively identified as Goldeneyes.
7. Between eastern segment boundary and stream #1 ~~area~~ on mid/high intertidal substrates. Fucus appeared reddish-brown in color. Fucus appeared olive-brown, golden-brown in rest of segment.
8. Mussel mortality reached 25% on mid-intertidal cobble, and 50% on mid-intertidal bedrock.

One dead, partially decomposed, oiled bird was collected in segment. Species of bird is unknown.

KN-20

KN-07



XXXX Wide

//// Medium

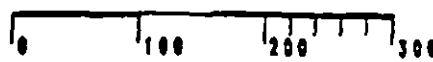
--- Narrow

TTTT Very Light

0000 No Oil

KN-7

Total Segment Length: 532



Map Key: PWS-411

Name: R. GILLIE

Date: 04/19/90

Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-7 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup Tarmat Removal	OPEN
Bioremediation	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

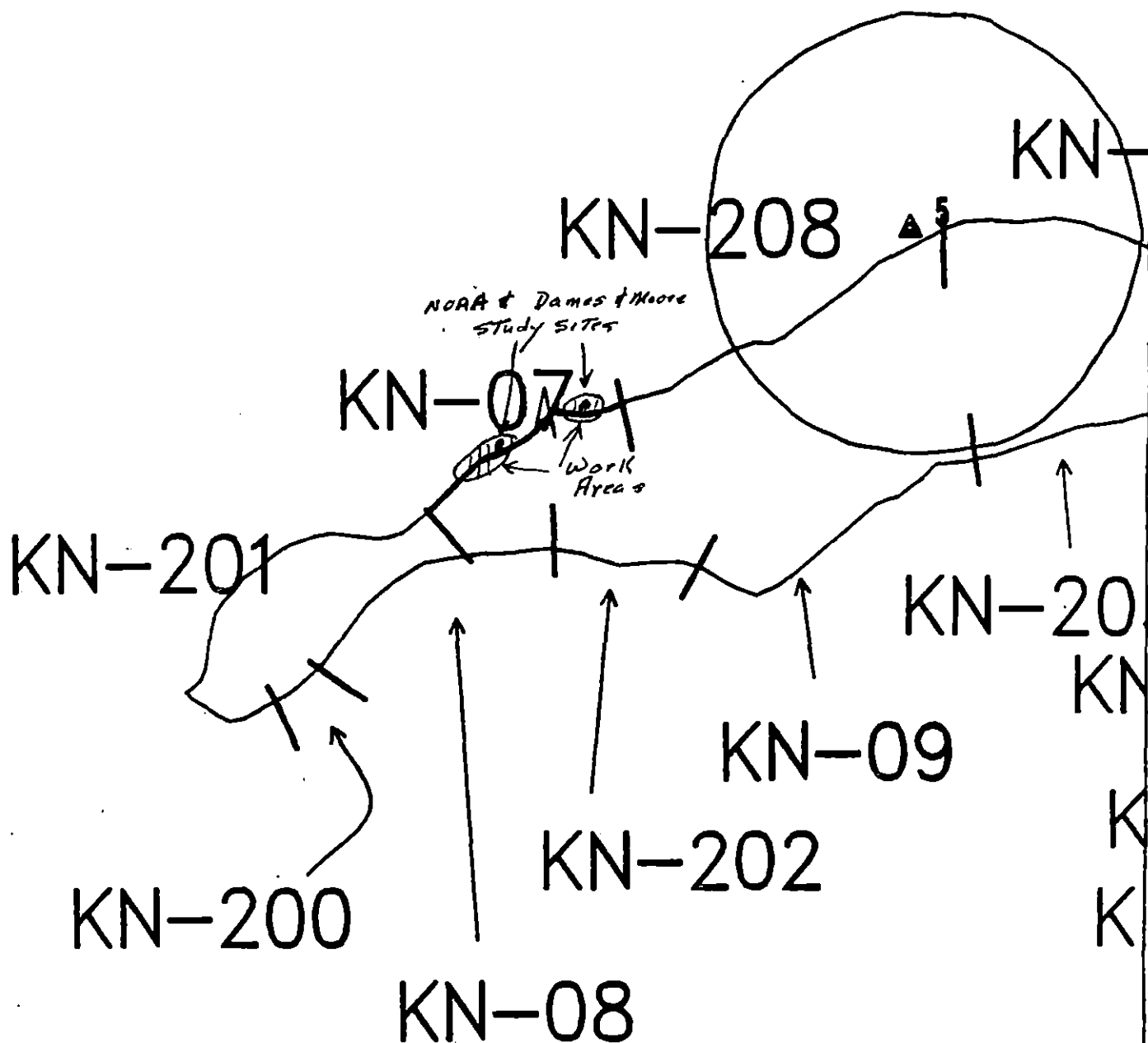
2M Herring Spawning

NO CONSTRAINT. Authorized by Claudia Slater/ADF&G on 5/10/90 to Exxon/Tom Kelley.

OTHER ECOLOGICAL CONSIDERATIONS

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

TAG APPROVAL DATE 6/04/90.
ADEC Ray Moniz's R. Moniz
EXXON Ann TER Ann FOSC [Signature] DATE 6/4/90
NOAA Joseph E. Hatt J. Hatt
USCG C. H. FEITER C. H. Feiter
Prepared By: Anders Meyer [Signature] Date 6/3/90



Exxon Company, USA
M. K. 101-101-7



ECOLOGY MAP
SEGMENT KN-7
SUBDIVISION A (1 of 1)
METERS



Seabird Colony



Eagle Nest

ASAP TAG REVIEW SHEET

Segment: KNO7 Subd: A Site: 1 Date
PRE-Review 11 AUG 90

Priority For Addressing In 1990

☒ HIGH ☐ MEDIUM ☐ LOW ☐ NTR

Treatment

Recommended: MANUAL REMOVE AP / ~~HANDS~~ / MOUSE
COND BIO

AREA IN CLOSE PROXIMITY OF
NOAA TEST SITE..... DOES TEST SITE
HAVE PERMIT?

Priority Site For Reassessment In 1991

YES NO YES NO YES NO YES NO
☒ CG ☐ ADEC ☒ EXXON ☐ LAND MGR ☐

TAG 13 AUG 90
Manual Rmv. AP & Mouse
& BIO

Low-Medium
Priority

ASAP FOLLOWUP RECOMMENDATIONS **ASAP**

Segment: AS/KV-07 Subd: A Site: _____ Date: 8-9-90 1990

Conditions Observed: Segment includes several areas of maskette oiling in the H/LZ. AP, m9 (between boulders), OP and OR subsurface oiling. NOAA Test Site / Exxon Set Aside Site has a moderate amount of AP, OR, OR. Area to west of test site has a band of AP, OP, OR which culminates in an area of heavy oiling - AP, m9, OP, OR, in boulders at East boundary of segment.

Followup Recommendations: Due to large areas of contamination AP, m9, OP, and OR, the manual removal of the oiling is recommended. Bioremediation should follow manual treatment.

Completed by Pickup Crew: ☐ YES ☒ NO

Priority for Addressing in 1990: ☒ High ☐ Mod. ☐ Low

ADEC Bob McCready Robert E. McCready
(name) (signature)

Comments: After described oiling should be removed in 1990.
Note: Area of heavy oiling at East end of segment was not noted
by D.A. on oiling map or oiling notes. Please see attached map
for location of heavy oiling.
Exxon DNA Dean [Signature]
(name) (signature)

Comments: The ASAP identified work areas would benefit from some additional
Manual Treatment to BIO. I can not comment on other area reference
since I did not participate in assessment.

USCG Dan Davis, Sr. [Signature]
(name) (signature)

Comments: Two sections of heavy oiling noted. NOAA test site should be treated and
quick removal. Second section may require further evaluation removal of ash and
moisture and test patches in addition to further bio.

Land Rep. LORA JOHNSON Lora L. Johnson
(name) (signature)

Comments: A PERMIT IS NEEDED FOR ALL SET ASIDES / TEST AREAS. IF A
PERMIT HAS NOT BEEN OBTAINED THEN AREA SHOULD BE TREATED. SUBSTANTIAL
AMOUNTS OF OIL ARE PRESENT AND NEED TREATMENT. THROUGHOUT SEGMENT
PAVEMENT AND OILED SEDIMENTS SHOULD BE REMOVED. SHOULD BE TREATED
IN 1990. CAL IS NOT TAKING A POSITION ON BIOREMEDIATION.

SEGMENT AS / KN-07 SUBDIVISION: A SITE: 1 DATE 09 AUG 90

NAME Dr. David C. McLean, USCG SIGNATURE [Signature]
David C. McLean, NOAA

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: Some small deposits of asphalt noted at beginning of segment, heaviest deposits discovered in two areas. First being the vicinity of the NOAA test site; removable accumulations of mousse, coat, stain, and tar particles. Penetration in one of two pits dug found during "OR" to 15cm. Second area of heaviest oiling was found in Pocket Beach located in narrows toward back of cove. This area was not located on oiling map, but shows heavy deposits of mousse, coat, stain, asphalt all along Pocket area in U/E. Both areas need clean-up effort in 1990.

DEC NAME Bob McLean SIGNATURE [Signature]

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: Two heavy areas of oiling occur on this segment requiring treatment. One is NOAA test site (CAC should be consulted regarding validity of test site) and the second was not surveyed by entire ASAP team. However, this pocket beach and rocky point at west boundary of segment is on AP, MS (interest), OP, and OR. Because this was not characterized in a visitation on the ASAP maps provided by Exxon, the OB did not survey area and did not mark this area. Substantial oiling on the Oiling map. This situation of designated work area being surveyed is greatly jeopardizing the integrity of the ASAP project.

AND MANAGER NAME LORA JOHNSON SIGNATURE [Signature]

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: AGREE WITH ADEC COMMENTS. SET ASIDES & TEST AREAS REQUIRE A PERMIT. IF NO PERMIT HAS BEEN ISSUED AREA SHOULD BE CLEANED. MANUAL REMOVAL RECOMMENDED. SEE SSAT SKETCH MAP.

EXON NAME JOHN DEAN SIGNATURE [Signature]

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: THE '90 WORK AREA WOULD BENEFIT FROM ADDITIONAL MANUAL WORK AS WELL AS BIODEGRADATION.

THE SECOND AREA REFERENCED ABOVE WAS NOT IDENTIFIED FOR ASAP ASSESSMENT. IF THIS OILING IS PRESENT THEN IT SHOULD BE ADDRESSED OUTSIDE THE ASAP PROCESS

SKETCH MAP

SEGMENT ST 1-07

SUBDIVISION A, 1-f1

DATE 04, 19/90

CHECKLIST

- ☒ At Area
- ☒ Approx. Scale
- ☒ Daylight Entry
- ☒ On Site
- ☒ Notes
- ☒ Length
- ☒ Color
- ☒ Substrate Character
- ☒ E. of HILLARY
- ☒ S.E.
- ☒ (Fishes)
- ☒ (Plants)
- ☒ (Invertebrates)
- ☒ (Mammals)

LEGEND

- 1 Δ
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- 100 Δ

KNIGHT ISLAND

300 M

MO/S, FL/P

LDEN

8/9/90
CT/SF-PS
100M K2
MS-S

2/9/90
AD/D 100M SAR
CT/PS
ST/PS
PIT1

STREAM

REGULATORY
FISH
SIGN

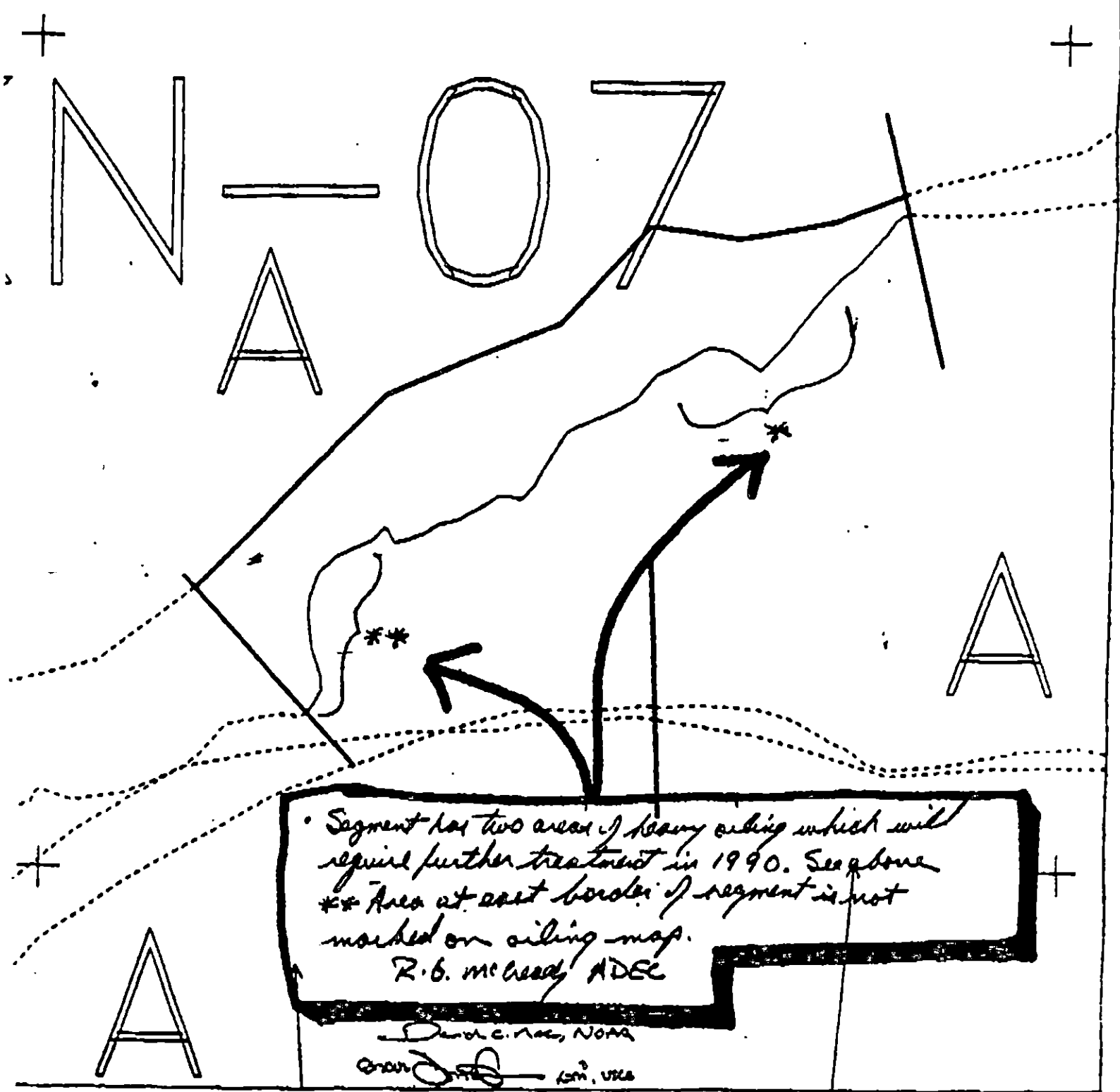
PIT2

BAY OF ISLES

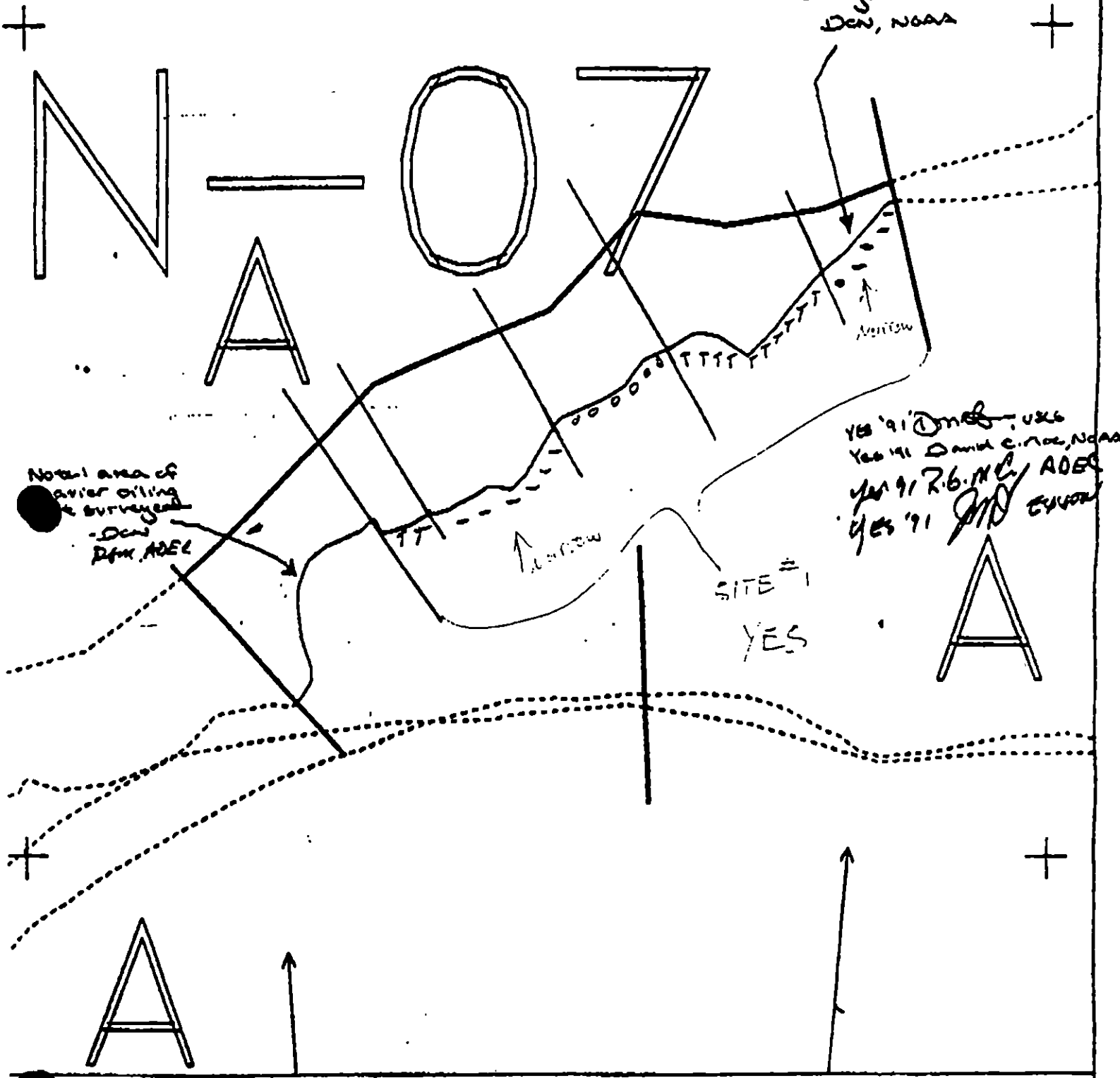
Character Length (m) AP 50 PO 0 CV 100 CT 200 ST 0

PE 20 TB 20

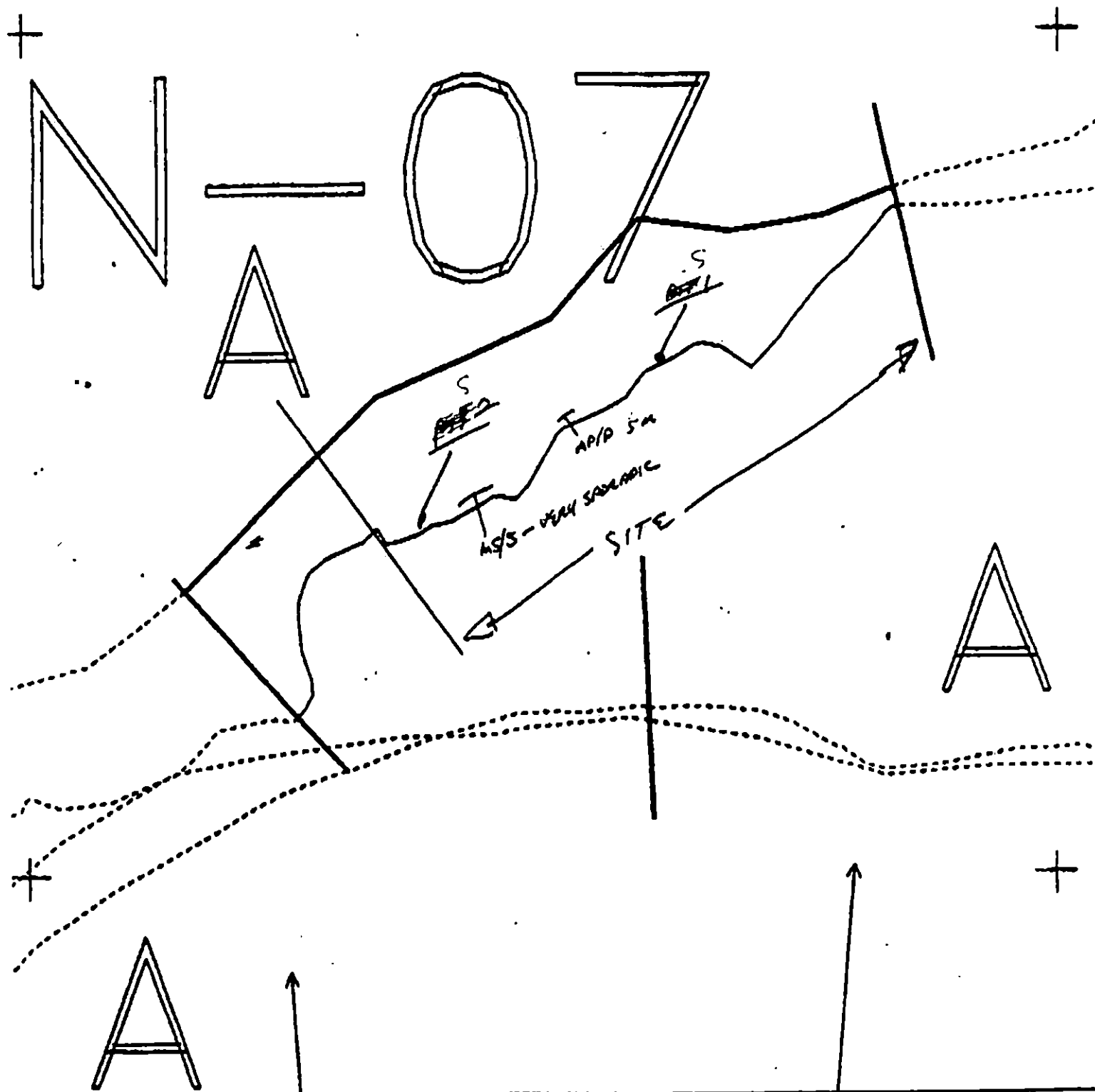
REVISION 000000



Wide Medium Narrow Very Light No Oil	KN-7 A ADEC Subsegment Length: 538m METERS 0 50 100 177 AK State Plane Zone 4 1:3401	Subdivision Field Map Map Key: KN1KN-7A Name: _____ Date: _____ EXXON



XXX	Wide	KN-7 A ADEC Subsegment Length: 538m METERS 		Subdivision Field Map
///	Medium			Map Key: KNKN-7A
---	Narrow			Name: <u>NAKASHIMA</u>
TTT	Very Light			Date: <u>8/9/90</u>
AAA	Not Aired			



XXX	Wide	KN-7 A	Subdivision Field Map
///	Medium	ADEC Subsegment Length: 538m	Map Key: KNKN-7A
---	Narrow	METERS	Name: <u>NAKASHIMA</u>
TTT	Very Light	0 50 100	Date: <u>8/9/90</u>
AAA		EXON	

SHORELINE EVALUATION

SEGMENT ST/ KN-08 SUBDIVISION A (1 OF 1) DATE 4/19/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

6Y Recreation: Special use destination

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 M. Mabey DATE: 5/1/90

OILING CATEGORIZATION:

Wide 0 m: Medium 650 m: Narrow 0 m: V.Light 0 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>X</u> Bioremediation	<u> </u> Spot Washing: <u> </u> Wands
<u>X</u> Tarmat Removal	<u> </u> Beach Cleaner
	<u> </u> Other (see comments)

COMMENTS: Recommended treatment includes 1) manual removal of patties and oiled debris in areas indicated on sketch map, 2) manual removal of tarmat in area indicated on sketch map and 3) bioremediation of entire subdivision following manual work. Work should be conducted after 6/15 based on herring spawning constraints.

TAG COMMENTS: Monitors to assess SURT

TAG APPROVAL DATE: 4/28/90.

ADEC Art Weiler Art Weiler

EXXON AMWETA

NOAA Gary Petrac Gary Petrac

USCG Kenneth Kene Kenneth Kene

FOSC: W L 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. 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 (8/1 to 9/15)
 6V Anchorages (8/1 to 9/15)
 6W Forest Service cabins (8/1 to 9/15)
 6X Lodge (8/1 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-08 SUBDIVISION: A-10f1 DATE 04/19/90

USCG

NAME David S. Thomas SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

ADEC

NAME Clara J. Crosby SIGNATURE Clara J. Crosby

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

- ① Suggest Supratidal be reassessed after snow melts - or crew is aware of oiling possibility in SU. (Numerous patties observed in observable debris as well as oiled debris)
- ② If Area is considered for Bioremediation... Asphalt should be removed... granular imp fertilizer - Also should be aware that this area is adjacent to anadromous fish stream - (note Regulators on map) - stream located at head of Bay - As well as KNOZ.
- ③ Surface sediment appears clean in spots - oil directly below sur. sed.

LAND MANAGER

NAME Peter Zollars SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

I concur with ADEC's statements above. There is a high incidence of oil & oiled debris that can be removed manually.

SHORELINE OILING SUMMARY

REVISION NO. 24.11.90

OG RICK GILLIE USCG DAVE THOMAS SEGMENT ST/ KN-08
 BIO DAVE LUNSE LAND REP PETER EXUM (CAC) SUBDIVISION A (LOFI)
 EXXON FRANK BOX ADEC CLARA CROSBY TIME 16:15 to 17:30
 TEAM NO. 13 TIDE LEVEL +2 to +3 DATE 04/19/90
 EST. SUBDIVISION LENGTH: 621 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock snow in Supratidal
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: W to E
 SURFACE SEDIMENTS: R 30 % B 30 % C 30 % P 10 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 30 % Hang 40 % Vert 30 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 621 m N 0 m VL 0 m NO 0 m

SURFACE OIL

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

PAVEMENT H F S 100 sq. m by 4 cmPATTIES / TARBALLS 2 BAGSNEAR SHORE SHEEN? NO BR RW SL TL

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

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐TYPE T.#BAGS 2

Photographs:

Roll No. FT-13-4Frames 11

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	5	6	7	8	SU	U	M	U						
1	15					X	.		X									X							Y	5	G/S
							.																				
							.																				
							.																				
							.																				
							.																				
							.																				

COMMENTS *Note: sheen on water in pit #1

① GEOMORPHOLOGY: Mostly High Angle, Boulder Shoreline

② OILING: Oil Coating on Underside of Boulder
INDICATIONS OF PATTIES IN SUTZ DEBRIS

REVIEWED

TW

DATE

4/20/90

RICK GILLES
 SEGMENT ST/ KN-08
 SUBDIVISION A-1 of 1
 DATE 04, 19/90

CHECKLIST

☒ N Arrow
☒ Approx. Scale
☒ Seg/Sub Entry
☒ Oil Out
 Width
 Length
 % Cover
 Substrate Character
 Est. HAP/L/VL
 SSL
 Profile Location(s)
 Profile(s)
 P/L Location(s)
 Photo Location(s)

LEGEND

1 ▲
No Subsurface Oil

2 ▲
Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

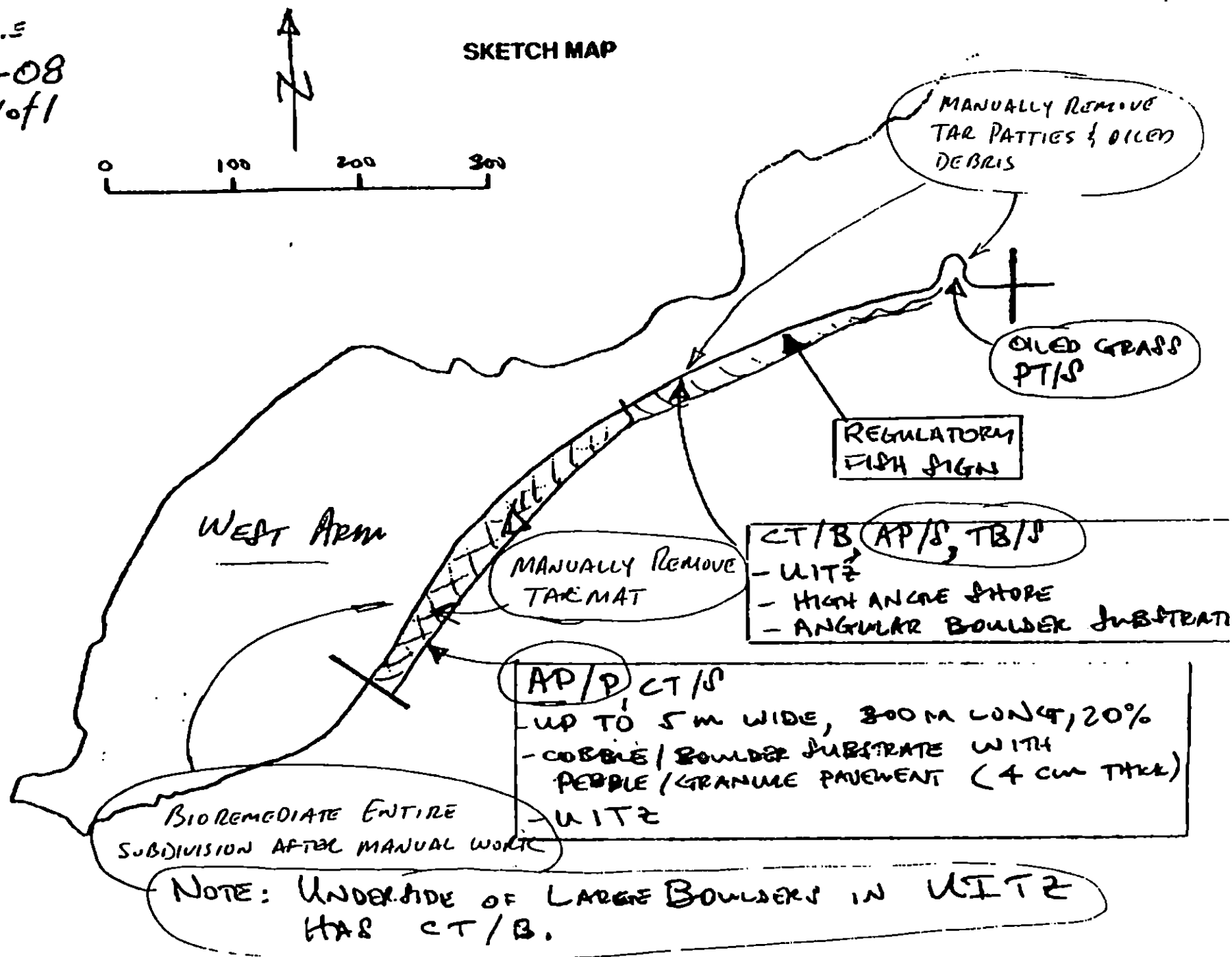
CT/P
Patchy Distribution

CT/S
Splashed Distribution

Oil & Vegetation

1 ●
Photo location, direction, and number

SKETCH MAP



APR-20-1990 10:23 FROM SEA TRIDER

ENCLOSURE

1-00

water Length (m): AP 100 PO 0 CV 0 CT 100 ST 0 MS 0 PT 20 TB 30 FL 0 NO 371

REVISION 02/94

(H) A100 100000

SEGMENT S11 N-08

SUDDIVISION A-1 of 1

DATE 04/19/90

CHECKLIST

- ✓ N Arrow
- ✓ Approx. Scale
- ✓ Seg/Sub Bdry
- ✓ Oil Dist
- Width
- Length
- % Cover
- Substrate Character (e.g. HWL/VL)
- SSL
- Profile Location(s)
- Photo(s)
- Photo Location(s)

LEGEND

1 Δ
No Subsurface Oil

2 Δ
Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

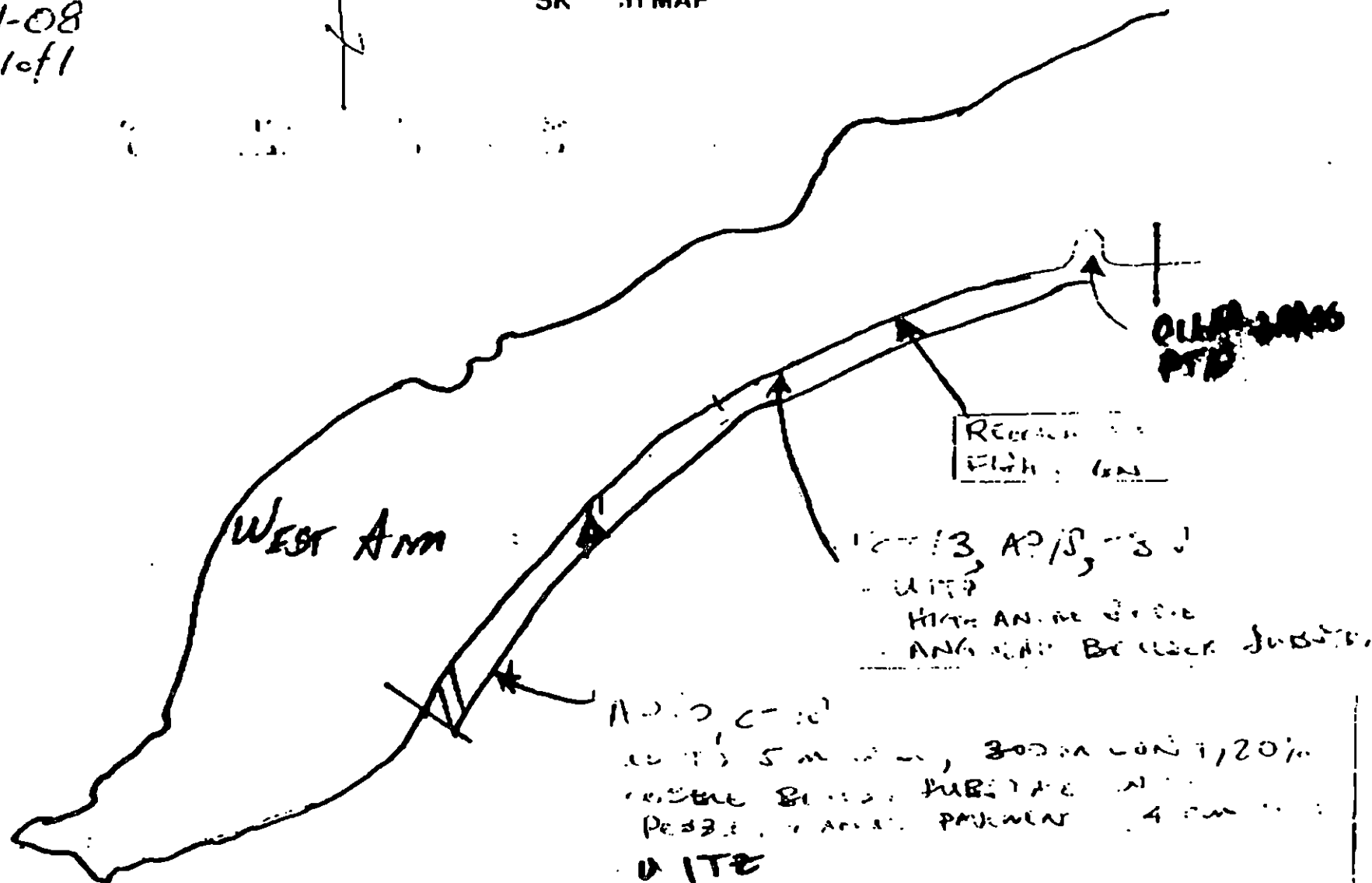
CT/P
Patchy Distribution

CT/S
Splashed Distribution

Older Vegetation

Photo location, direction,
and number

SK H MAP



NOTE: Underside of Large Boulders. in HITZ.
HAS CT/B.

Oil Character Length (m) AP 130 PO 0 CV 0 CT 10 ST 0 MS 0 PT 0 TB 20 FL 0 NO 371

REVISION 02/90

SHORELINE ECOLOGICAL SUMMARY

REVISION 03/22/90

Segment ST / KN008 Subdivision A Date (mo / day / yr) 4-19-90

Time (24 hr) 16:15 Biologist David Lohr

- (A) Substrate type and % of segments:
 (1) Bedrock 30 (2) Boulder 30 (3) Cobble 30 (4) Pebble 10 (5) Sand (6) Silt
- (B) Overall % cover of biota (% of segment): Dense 15 Moderate 45 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 (O)

Photographs: Roll No. ST-13-4

Frames 11

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. Low intertidal not sampled
2. present in mid intertidal: *Ralfsia*, *Cladophora*, undet. fixed branching red (*Rhodomenia*?)
high intertidal: *Ralfsia*

Ecological Considerations:

3. Herring eggs attached to *Nereocystis* stage found washed up on b
4. Salmon fishing regulatory marker found in segment

64 - no comment

ECOLOGY MAP (1 OF 1)

SOURCE CODES FOR ENTIRE SEGMENT:

6Y

KN-07

Salmon Fishing Regulation Marker

KN-08

KN-

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

KN-8

ADEC Segment Length: 621m

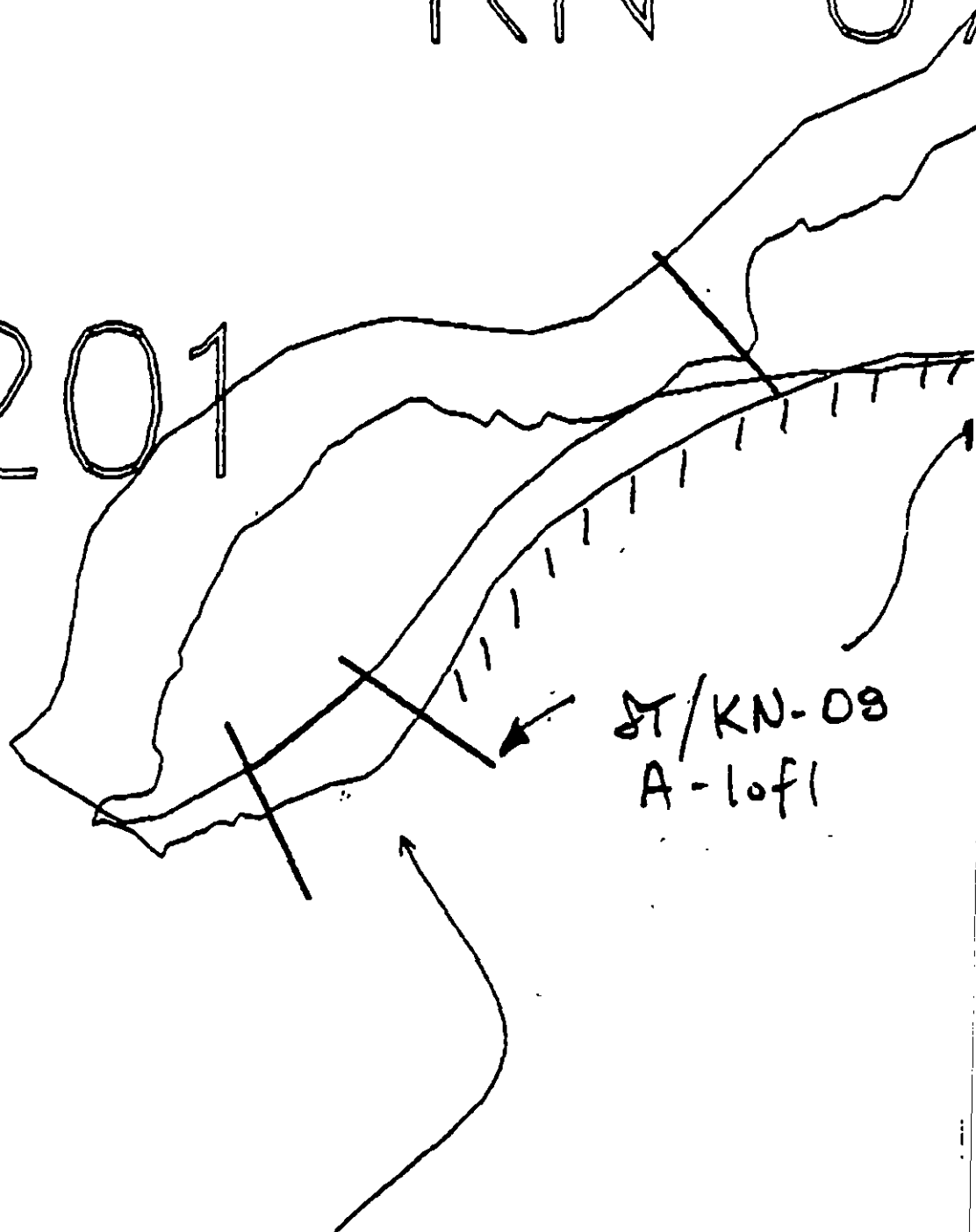
Map Key: PWS-494

Name: _____

Date: _____

KNV-U

N-201



ST/KN-08
A-10f1

KNV-2000

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

KN-~~2000~~ 08

ADEC Segment Length: ~~1000~~

Map Key: PWS-401

Name: Rick GILLIE

Date: 04/19/90

Revision 1
6/22/90

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-8 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup Tarmat Removal	OPEN
~~Bio remediation~~	~~OPEN~~

BIOREMEDIATION REMOVED
BY WORK PLAN ADDENDUM DATED 6/8/90
APPROVED BY FOSC 6/16/90
PPD 6/22/90

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

2M Herring Spawning

NO CONSTRAINT. Authorized by Claudia Stater/ADF&G
on 5/10/90 to Exxon/Tom Kelley.

OTHER ECOLOGICAL CONSIDERATIONS

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

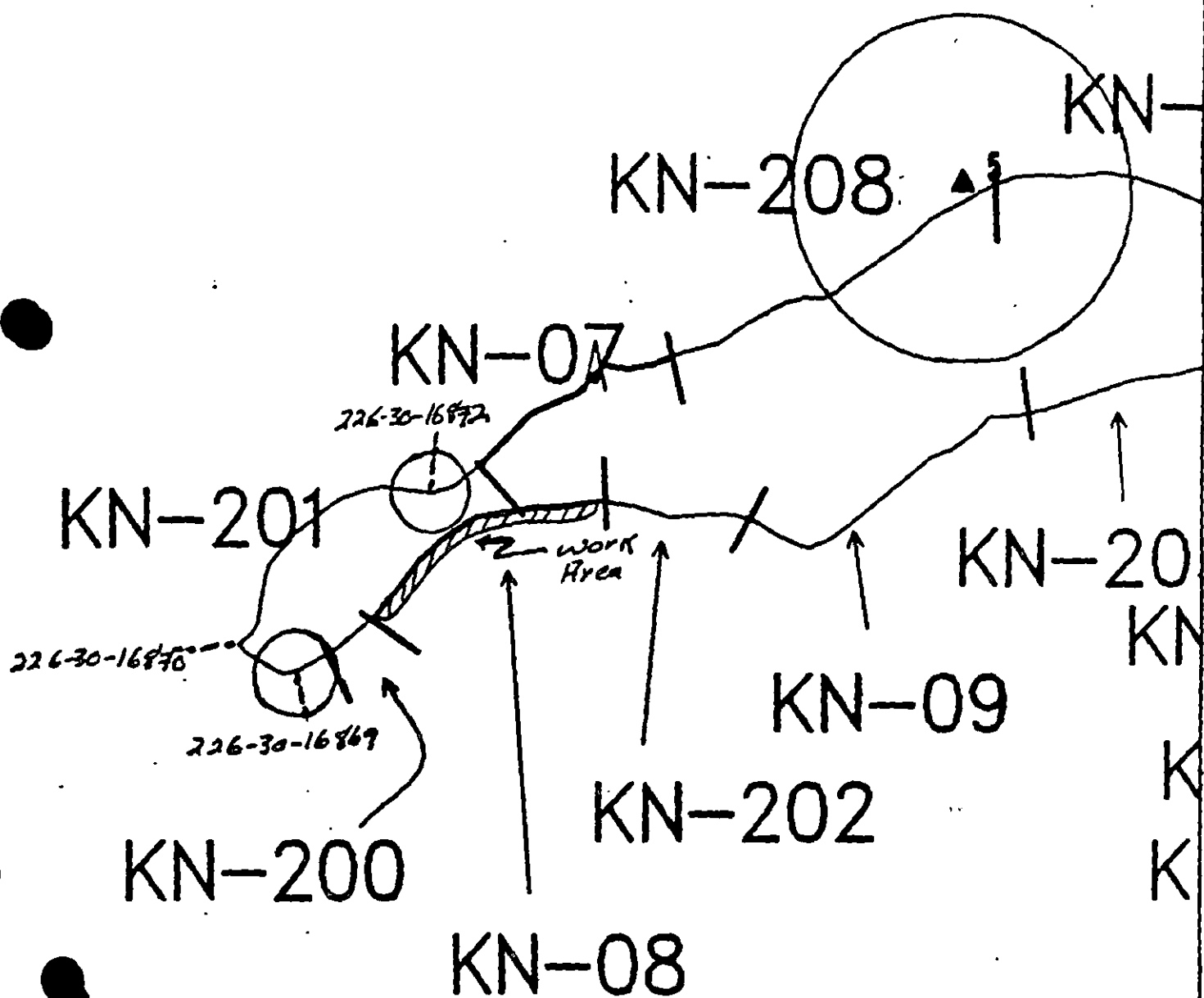
TAG APPROVAL DATE 5/24/90.
ADEC ART W. FISHER
EXXON AMY KATZ
NOAA B. WRIGHT
USCG M. J. HALL

FOSC

DATE 5-24-90

Prepared By: Linda M. Munn LMK

Date 5/22/90



ECOLOGY MAP
SEGMENT KN-8

SUBDIVISION A



Seabird Colony

WORK PLAN MODIFICATION RECOMMENDATION

SEGMENT KN08

SUBDIVISION A

DATED 6/1/90

MODIFICATION

1. REASON FOR MODIFICATION

LOTS OF FRESH WATER SEEPAGE
ALONG THE ENTIRE AREA. MOUSS WAS
SPORATIC AND SPREAD AT INTERVALS
UNDER BOULDERS. NOT MUCH LEFT.

2. SUGGESTED ADJUSTMENT TO WORK PLAN

EXXON, U.S.C.G. AND ADEC REPS
ALL CONCUR THAT BIOREMEDIATION
IN THIS AREA IS NOT NEEDED.

3. TIMING ISSUES

ADEC John McKee 6/3/90

EXXON [Signature]

USCG [Signature] LCDR, USCG 6/3/90

LAND MANAGER _____ (If field rep is on scene)

W. Mark Futhell
Chugach Alaska Corp

WORK PLAN ADDENDUM

Segment ST/KN-008

Subdivision A

Dated 6/8/90

MODIFICATION

1. REASON FOR MODIFICATION

- Joint request from the field by ADEC, Exxon and USCG

2. ADJUSTMENT TO WORK PLAN

- No bioremediation

SHPO APPROVAL NEEDED YES _____

SHPO SIGNATURE _____

NO X

TAG APPROVAL DATE 6/8/90

ADEC Ran Morris Raymond

EXXON HANSO. JAHNS

NOAA Joseph Elliott

USCG G.A. REITER

FOSC [Signature]

DATE 6/16/90

ASAP TAG REVIEW SHEET

Segment: KN08

Subd: A Site: 1

Date
PRE-Review 11AUG90

Priority For Addressing In 1990

 HIGH

MEDIUM

LOW

 NTR

Treatment
Recommended:

MANUAL PICKUP OF MOUSSE / TART
& BIO (IF PERMITTED)

As per
ASAP followup
Recommendation
Sheet

OG SHEET ~~INDICATES~~ INDICATES
SPORADIC / INTERSTITIAL MOUSSE
THIS WOULD NORMALLY BE NTR

LOW ENTIRE SITE

Priority Site For Reassessment In 1991

YES NO
 CG

YES NO
 ADEC

YES NO
 EXXON

YES NO
 LAND MGR

13AUG90 TAG

Manual Pickup Mousse & BIO

Low Priority

ASAP FOLLOWUP RECOMMENDATIONS

Segment: AS/KY-08 Subd.: A Site: _____ Date: 8-9-90 1990

Conditions Observed: Segment includes a virtually continuous band of AP, MS between shoulders and OP/OR subsurface oil. Band ranges from 25 m wide to 5 m wide. Some manual treatment and bioremediation appears to have been performed.

Followup Recommendations: Due to large amounts of removable AP, MS, OP and OR remaining, the manual removal of this area is recommended. Bioremediation should follow manual treatment.

Completed by Pickup Crew: ☐ YES ☒ NO Priority for Addressing in 1990: ☒ High ☐ Med ☐ ..

ADEC Bob McCreary Robert G. McCreary
(name) (signature)

Comments: Above described oiling should occur in 1990. The treatment that ~~was~~ was performed previously was inadequate.

Exxon John Dean John Dean
(name) (signature)

Comments: A LIMITED AMOUNT OF ADDITIONAL OIL COULD BE RECOVERED MANUALLY. I AGREE W/ BIOREMEDIATION RECOMMENDATIONS.

USCG Don Davis Don Davis
(name) (signature)

Comments: via various various soaked patches of mussels, oysters, and the patches. Some good work has been done. Some will be done. But more work is needed. Bioremediation should be used in conjunction w/ manual treatment.

Land Rep. LORA JOHNSON Lora Johnson
(name) (signature)

Comments: AGREE WITH ADEC RECOMMENDATIONS. CAG IS NOT TAKING A POSITION ON BIOREMEDIATION. SHOULD BE FURTHER TREATMENT IN 1990.

SEGMENT AS / KN-002 SUBDIVISION: A SITE: 1 DATE 8-9-90

NAME David A. NOAA SIGNATURE David A. NOAA
John O'Neil, OM, USCG

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: Several patches of mousse in band across high intertidal zone. Most are surface accumulations which can be manually removed. Less common are deep pockets of oiled pebbles and cobbles which could use removal plus bio in 1990. Recommend reassessment in 1991.

DEC NAME Bob McCreary SIGNATURE Robert G. McCreary

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: A fairly continuous band of AP, intertidal MS, and OP and OR sub surface oiling remains on segment. ASAP/Survey team has recommended that manual removal and bioremediation occur in 1990. Manual work performed in summer '90 was inadequate.

LAND MANAGER NAME Lora Johnson SIGNATURE Lora L Johnson

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: AGREE WITH ADEC. MANUAL REMOVAL RECOMMENDED. SEE SSAT SKETCH MAP ALSO. CHECK UNDER FOCUS THAT HAS WASHED ASHORE.

EXON NAME John Dean SIGNATURE John Dean

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: A LIMITED AMOUNT OF ADDITIONAL OIL COULD BE RECOVERED MANUALLY FOLLOWED BY BIO RE-TREATMENT.

SITE 3

CHARACTER	DISTRIBUTION				OILED ZONES			
	/C	/B	/P	/S	SU	UI	MI	LI
ASPHALT								
S.O.R.								
POOLED								
COVER								
COAT			X	X	X	X		
STAIN			X	X		X		
MOUSSE				I		X		
PATTIES/T.B.								
FILM								
NO OIL							X	X
EST. SITE LENGTH					650 m			

[illegible][illegible]

SUBSURFACE OIL

[illegible]

Photographs

2020

5. 2003

$\Gamma = \cup_{i \in I} E_i$

2/15/40

EXTREMUM
OF THE SIZE

COMMENTS

- MUCH OF THE SEGMENT IS COMPOSED OF A NARROW TO VERTICAL ANGULAR ROCK SHORLINE WITH PATCHES/AREAS OF CT/ST TO THE LEE OF LARGE Boulders
- MS/2 OCCURS ON FINE SEDIMENTS (PEARL/GRAVEL/SHELL COBBLES) WHICH FORM THE INTERSTICES BETWEEN THE Boulders
- CONCENTRATION/DISTRIBUTION OF OK DECREASES TO THE EAST. ALTHOUGH

REVISION NO: 7/17/98

SEGMENT ST/ 1-08

SUBDIVISION A-10f1

DATE 04, 19/90

CHECKLIST

- ☒ Area
- ☒ Approx. Scale
- ☒ Day/Sea/Entry
- ☒ COG/Alt
- ☒ Width
- ☒ Length
- ☒ % Cover
- ☒ Substrate Character
- ☒ F. & M. L. A. M.
- ☒ SCL
- ☒ Profile Location(s)
- ☒ Profile(s)
- ☒ P/L Location(s)
- ☒ Photo Location(s)

LEGEND

1 Δ
No Substrate Of

2 Δ
Substrate Of

CT/C
Substrate Distribution

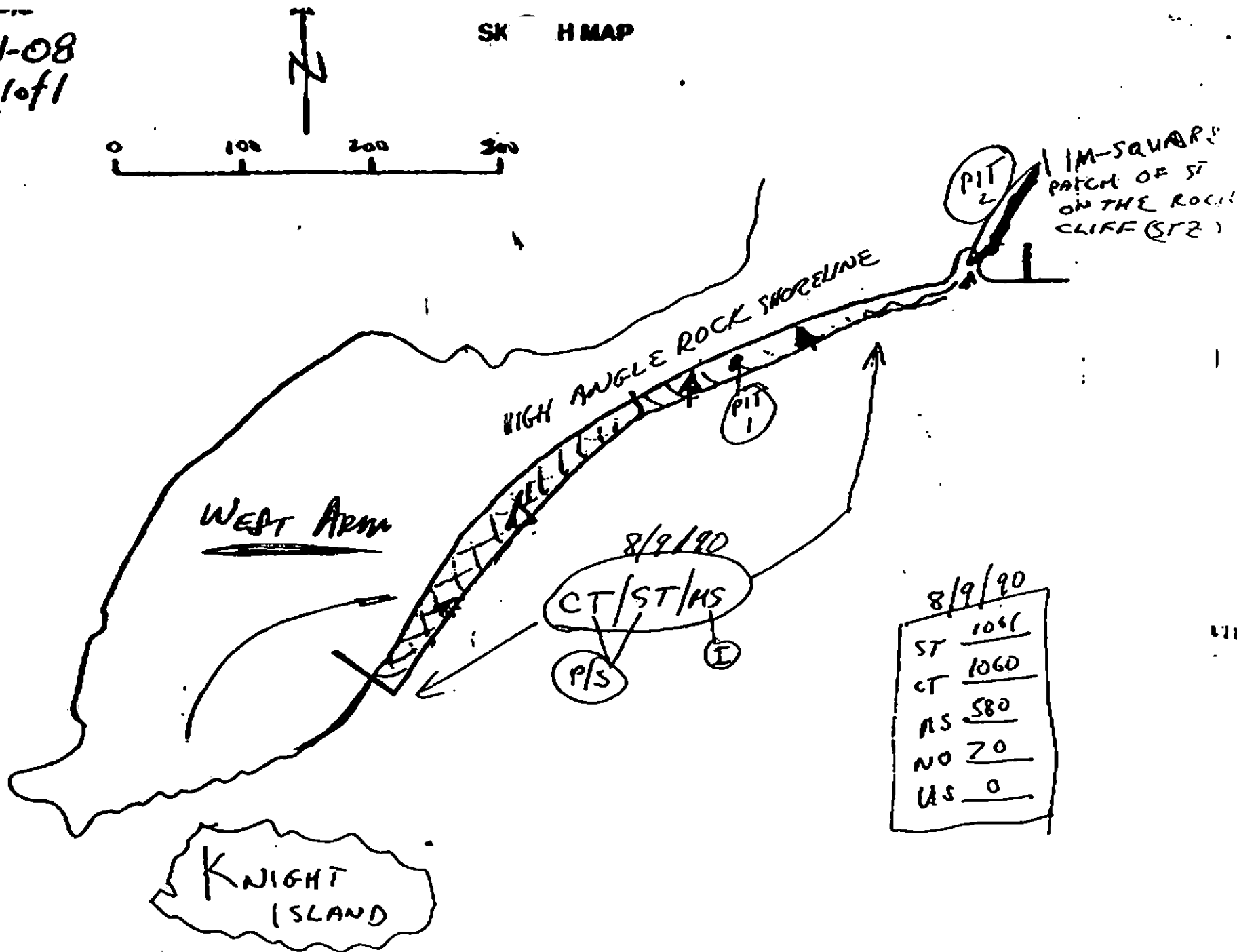
CT/B
Substrate Distribution

CT/P
Substrate Distribution

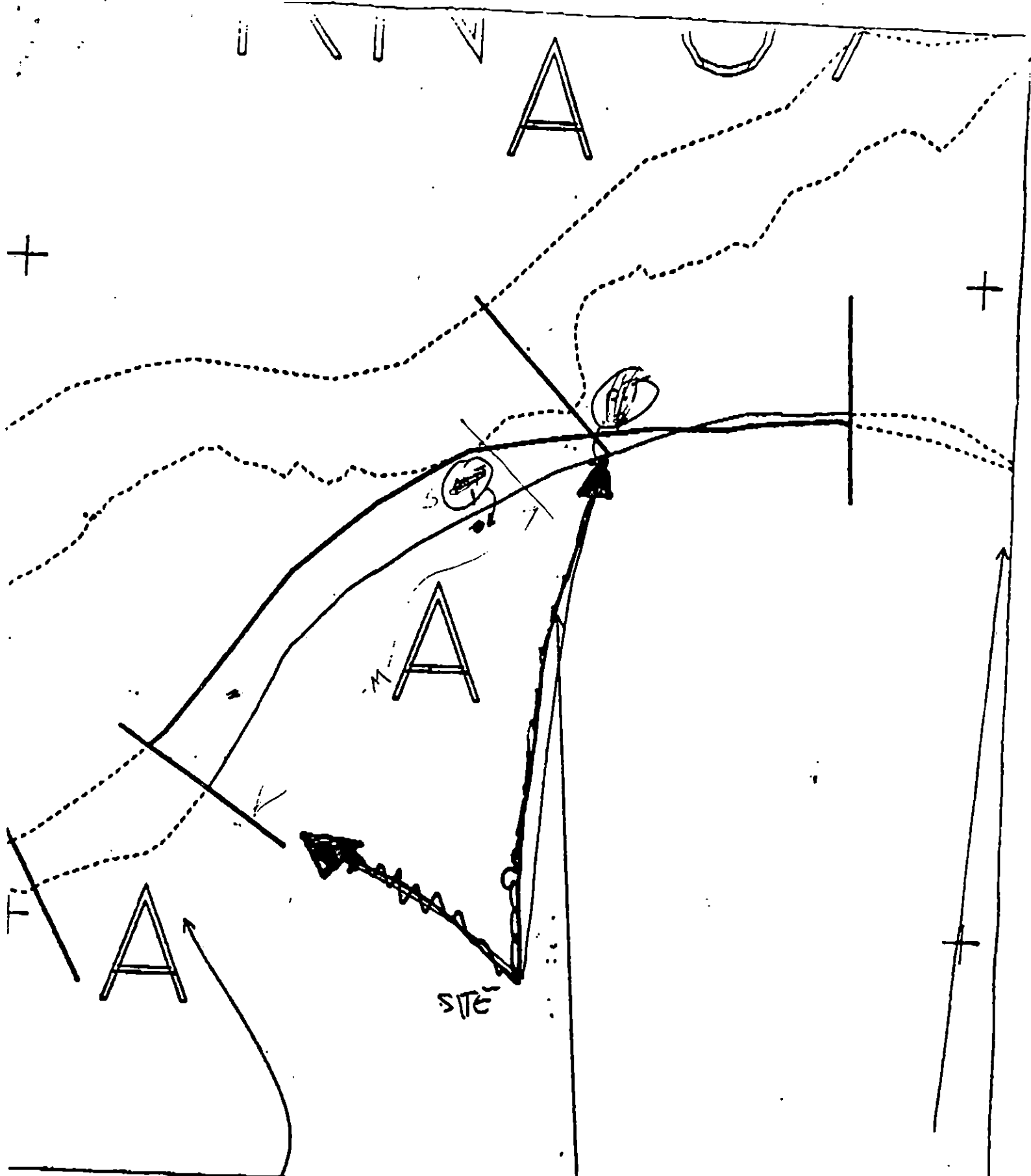
CT/S
Substrate Distribution

CT/S
Substrate Distribution

1 Δ
Substrate Distribution

1 Δ
Substrate Distribution, direction,
of number


Character Length (m) AP 100 PO CV CT 100 ST MS PI 20 TB 30 FL NO 371



yu / -- FT >0	Wide Medium Narrow Very Light No Oil	KN-8 A ADEC Subsegment Length: 850m METERS 0 102 204 AK State Plane Zone 4 1:4017		Subdivision Field Map Map Key: KNKN-8A Name: <u>NAKASHIMA</u> Date: <u>8/9/90</u>

SHORELINE EVALUATION

SEGMENT ST/ KN-09 SUBDIVISION A (1 OF 1) DATE 4/25/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: A. David M. McKee DATE: 5/11/90

OILING CATEGORIZATION:

Wide 0 m: Medium 261 m: Narrow 11 m: V.Light 488 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 10 cm

RECOMMENDATIONS:

No Treatment Recommended

X Treatment Recommended

Manual Pickup

X Bioremediation

X 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 1) manual removal of tarmats, and 2) bioremediate areas shown on attached sketch map. Work should be conducted after 6/15 based on herring spawning constraints.

TAG COMMENTS: _____

TAG APPROVAL DATE: 5/11/90

ADEC *Art Weinger* *Art Weinger*

EXXON ANDY TEAL *Real*

NOAA - Frank Taylor - CTA -

USCG D. D. Rome DD Rome

FOSC: ML DATE: 5-18-90

"NOTIFY CAC 24 HRS. IN ADVANCE OF WORK"

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
- 3P Harbor seal and sea lion pupping (5/15 to 7/1)
 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 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-09 SUBDIVISION: A-10f1 DATE 04/25/90

USCG

NAME David S. Thomas SIGNATURE *[Signature]*☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

ADEC

NAME Clara S. Crosby SIGNATURE *[Signature]*☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS 1). Manual removal of AP & spot wash at pit sites

#1 & 2. & to east of delta.

2). Manual removal of AP/p. 1x10m. area. Considered percentage of distribution heavier - However, regardless of any discrepancies consider dist. of AP significant enough to suggest crew be sent in to remove.

3). Please request CAC Rep. Peter Follan comments - Transferred before prep

LAND MANAGER work was done -

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

SHORELINE OILING SUMMARY

REVISION NO. 24-13-90

OG RICK GILLIE USCG DAVE THOMAS SEGMENT ST/ KN-09
 BIO DAVE LOHSE LAND REP PETER ZOLLAR (RA) SUBDIVISION A (1 OF 1)
 EXXON FRANK BOY ADEC CLARA CROSBY TIME 07:50 09:00
 TEAM NO. 13 TIDE LEVEL -3' to -2' DATE 04/28/90
 EST. SUBDIVISION LENGTH: 773 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: W to E
 SURFACE SEDIMENTS: R 20 % B 40 % C 30 % P 10 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 60 % Hang 30 % Vert 10 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 200 m N 10 m VL 563 m NO 0 m

SURFACE OIL

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

PAVEMENT H F (S) 147 sq. m by 5 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 POM-DM#BAGS 2

Photographs:

Roll No. ST-13-5Frames 20, 21

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	5	SW	U	M	U				
1	20	X					5.10		X	X					X					Y	10	P-PM
2	35					X	.		X						X							P-PM
3	30					X	.		X						X							P-PM
							.															
							.															
							.															

COMMENTS

① GEOGRAPHY: BOULDER / COBBLE SHORELINE WITH SMALL BEDROCK POINT AND ONE COBBLE DELTA.

② OIL CHARACTER / CATEGORY: COAT AND ASPHALT PAVEMENT ALONG WEST END OF SHORELINE IN 4-5 M BAND IN U1T2. TOP OF BOULDER'S CT/S. UNDERSIDE OF BOULDER'S CT/P WITH AP/P BETWEEN.

REVIEWED TWDATE 5-1-90

SEGMENT ST/ KN-09

SUBDIVISION A-10/1

DATE 04/25/90

ATCH MAP

Bay of Isles West Arm



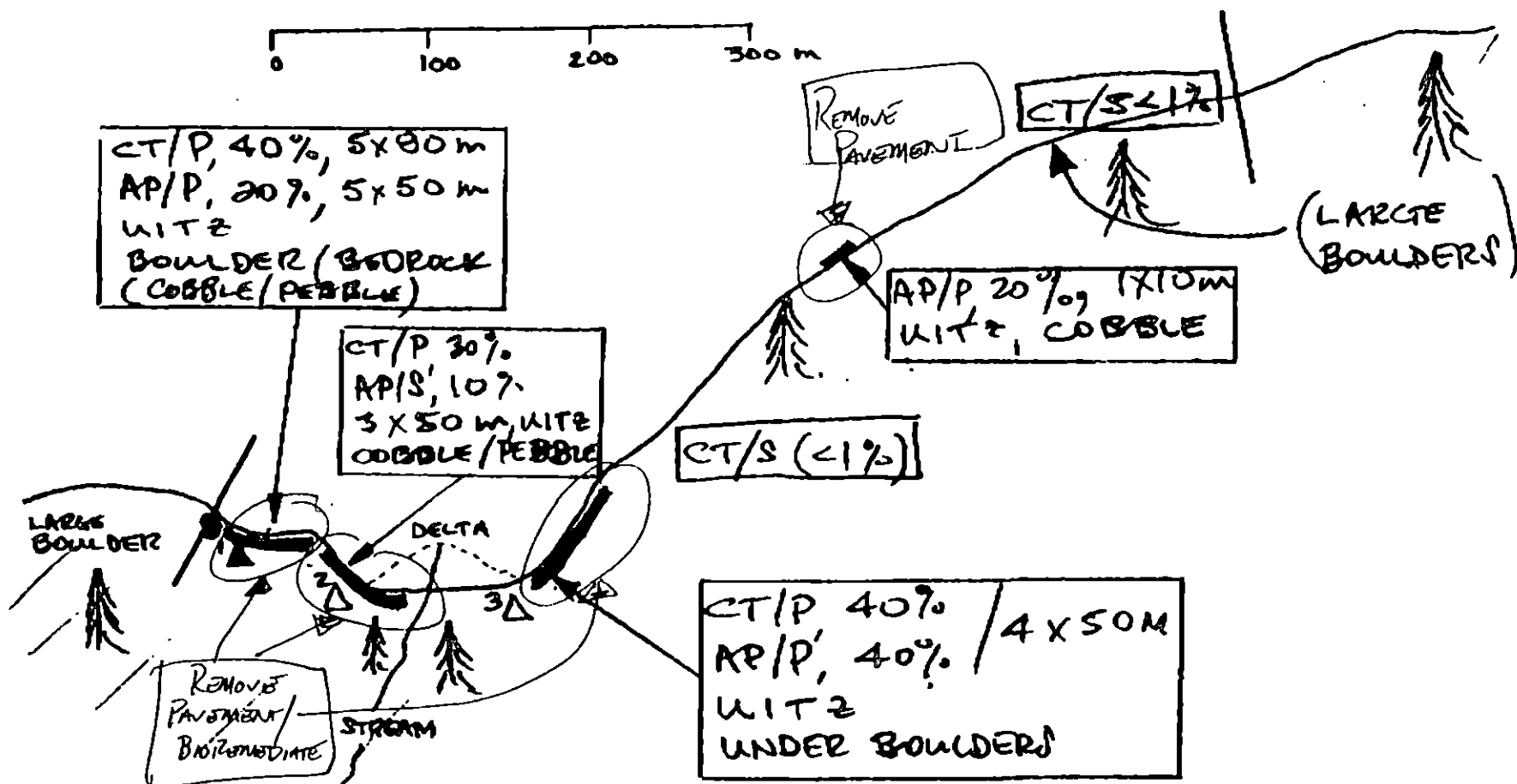
0 100 200 300 m

CHECKLIST

- ☒ H Arrow
- ☒ Approx. Scale
- ☒ Seg/Sub Entry
- ☒ Oil Out
- ☒ Width
- ☒ Length
- ☒ % Cover
- ☒ Substrate Character
- ☒ Est. HWA/LWA
- ☒ SSL
- ☒ Profile Location(s)
- ☒ Profile(s)
- ☒ P/L Location(s)
- ☒ Photo Location(s)

LEGEND

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



Oil Character Length (m): AP 35 PO 0 CV 0 CT 190 ST 0 MS 0 PT 0 TB 0 FL 0 NO 548

1 of 2

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/21/90

Segment ST / KN009 Subdivision A Date (mo / day / yr) 4-25-90

Time (24 hr) 7:45 Biologist David Dohse

(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 30 Moderate 50 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-135

Frames 20, 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	NOT PRESENT
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	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	NOT PRESENT
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	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	NOT PRESENT
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	
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:

See page 2

Ecological Considerations:

LM - no comment
BY - no comment

Abundant starfish in low intertidal would be susceptible to foot traffic.

Shoreline Ecological Summary

L of 2

Segment ST-KN009

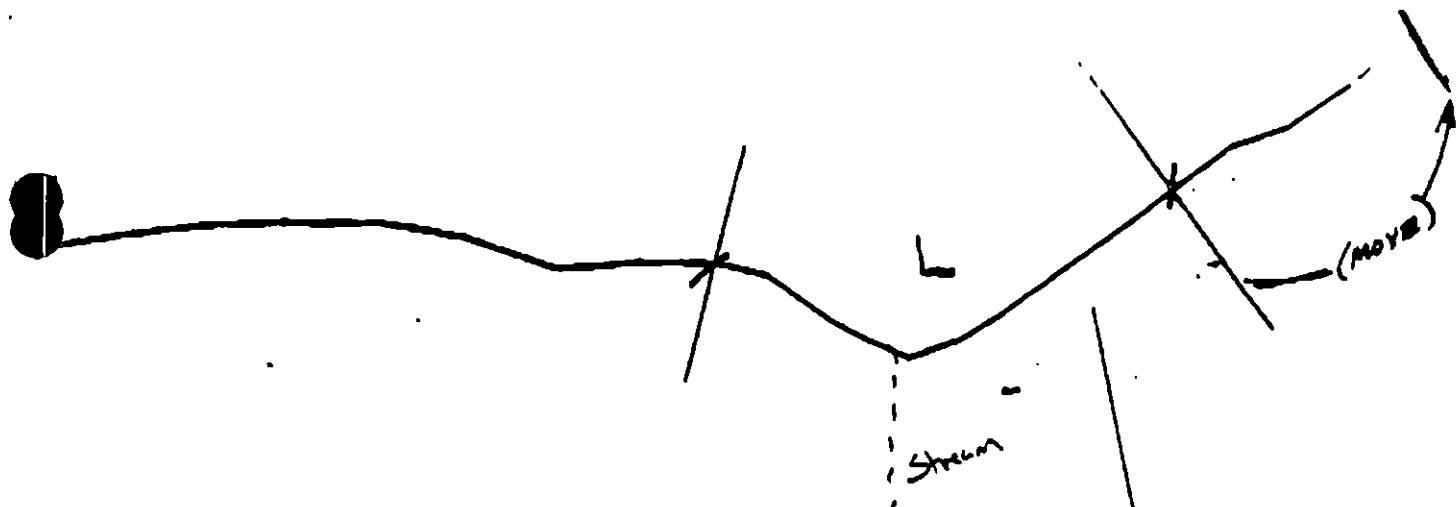
Subdivision A

4-25-90

Biologist: David Cohen

W.I.D.L. Observations / General Comments

1. Present in low intertidal: Spirorbis, Pycnopodia, Enteromorpha, unidentified red "branch" (Rhodomenia?), Coralline algae, Zostera, Mopalia, Dermasteria, Anthopleura, Onchidella, Rhodomenia, unidentified yellow sponge, Ulva
mid intertidal: Nivella, Anulipus, unidentified red "branch" (Rhodomenia?), amphipods
2. Littorine egg masses found underneath mid-intertidal cobble
3. Mussel mortality in mid intertidal cobble was ~10% (estimate based on one site).
4. Barnacle mortality was ~25% on both mid-intertidal bedrock and cobble, and ~80% on both low intertidal cobble and bedrock. (Estimates made at one site for each type of substrate)
5. Total algal cover in low intertidal was ~90% on bedrock, 80-90% on boulders, and 60-75% on cobble. (Estimates based on one site for bedrock, and 2 sites ^{each} for boulders and cobble).
6. Pycnopodia was quite abundant in low intertidal.
7. One stream was found in the segment. (see Ecology map for its location).



~~EC000000~~ (1 OF 1)

RESOURCE CODES FOR
ENTIRE SEGMENT:

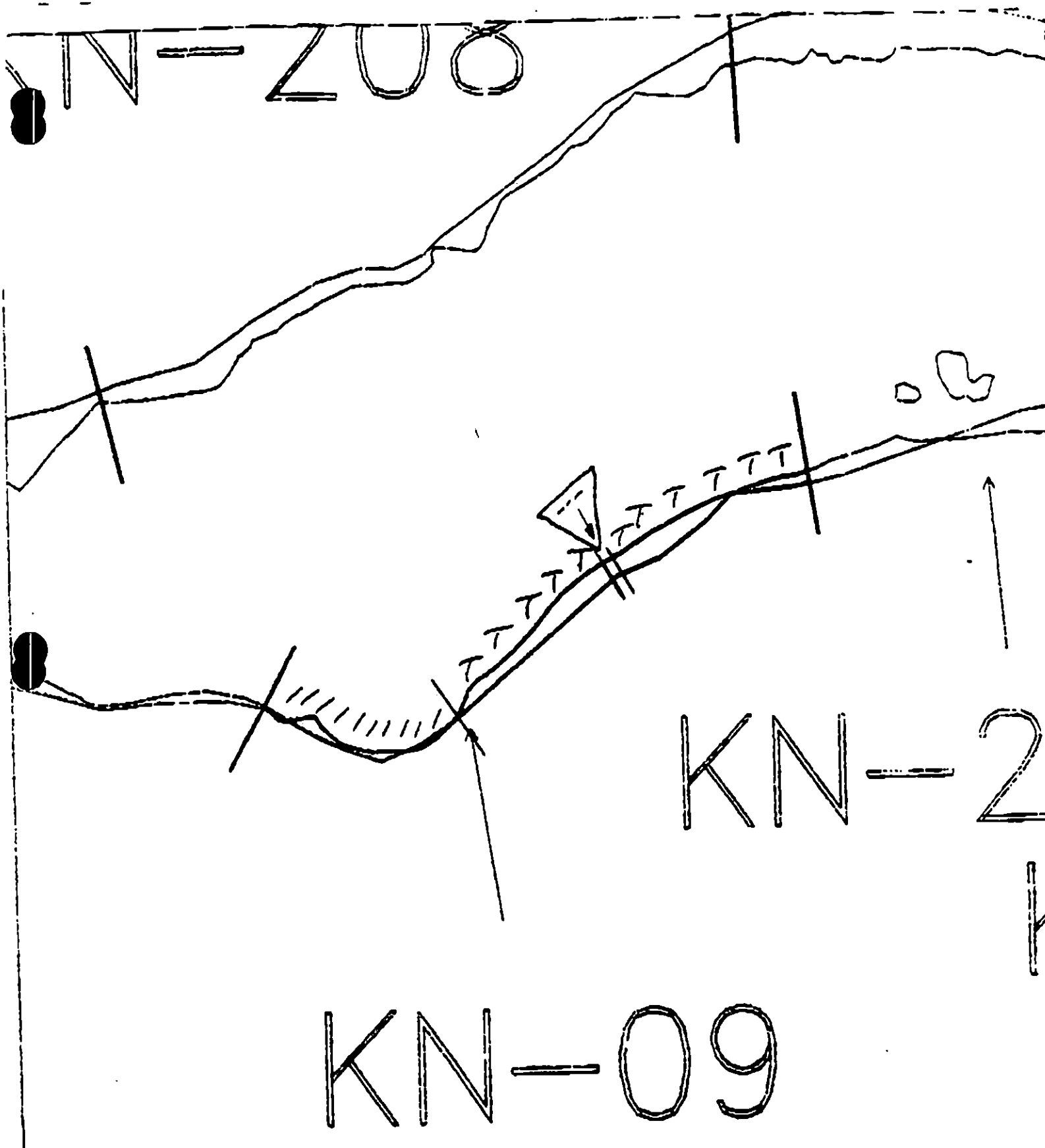
~~Y~~

~~M~~

KN0009

500:0

OYLING	
H	Heavy
M	Moderate
L	Light
VL	Very Light
N	None
NS	Not Surveyed
Distance In Meters	



XXXX Wide

//// Medium

--- Narrow

TTTT Very light

KN-9

Approx. Segment Length: 766m

Map Key: KN1-KN-9

Name: RICK GILLIE

Date: 04/25/90

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-9 SUBDIVISION A (1 of 1)

WORK WINDOW	
Tarmat Removal	OPEN
Bioremediation	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

2M Herring Spawning

NO CONSTRAINT. Authorized by Claudia Slater/ADF&G on 5/10/90 to Exxon/Tom Kelley.

OTHER ECOLOGICAL CONSIDERATIONS

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

TAG APPROVAL DATE 5/30/90.

ADEC Art Wernon Art Wernon

EXXON Andy Tetz Andy Tetz

NOAA Joseph Talbott Joseph Talbott

USCG G.A. Felter G.A. Felter

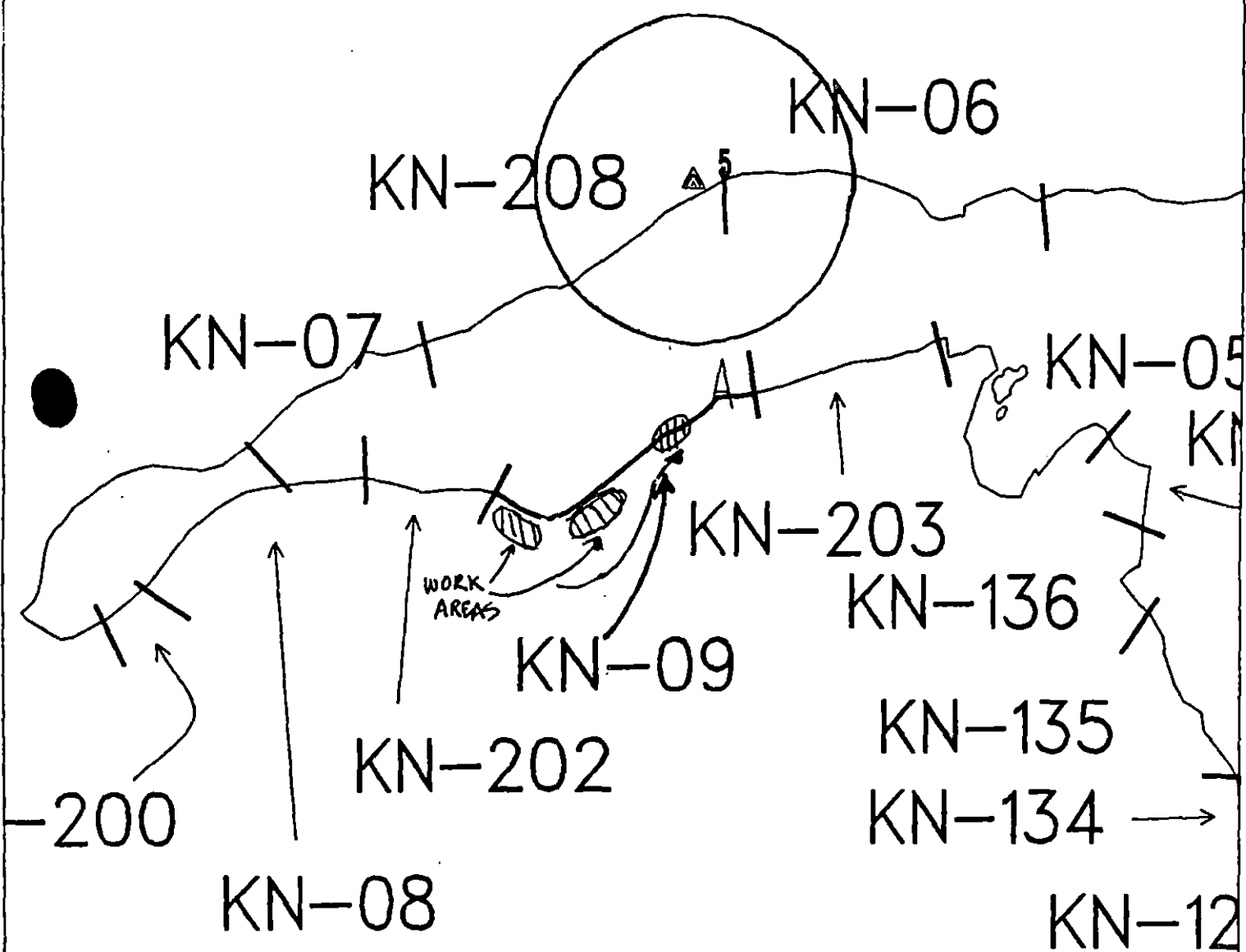
FOSC

DATE

Prepared By: Andrea Meyer LM

Date

5/29/90



Exxon Company, USA
Map Key: KNI-KN-9
May 11, 1990



ECOLOGY MAP
SEGMENT KN-9
SUBDIVISION A (1 of 1)
METERS
0 402 805

★ Seabird Colony
▲ Eagle Nest

1 inch = 1320 feet

ASAP TAG REVIEW SHEET

Segment: KN09

Subd: A

Site: 1

Date

PRE-Review 11 AUG 90

Priority For Addressing In 1990

 HIGH

X MEDIUM

 LOW

 NTR

Treatment

Recommended:

MANUAL REMOVE MOUSSE / HIGH SOX
& BIO

is per
ASAP for layout
sheet

The OG sheet does not agree
with COMMENT / Recommendation
pages... which indicate HP / OP
STRICTLY BY OG SHEET & SKETCH → NTR
SEEDING IN VICINITY OF
ANAD. STREAM
LOW ENERGY AREA:

Priority Site For Reassessment In 1991

YES NO
X CG

YES NO
X ADEC

YES NO
X EXXON

YES NO
X LAND MGR

13 AUG 90 TAG
TAG TRIP

ASAP FOLLOWUP RECOMMENDATIONS

Segment: AS/KV-09 Subd.: A Site: _____ Date: 8-9-90 1990

Conditions Observed: Length of segment contains a broken
distribution of AP, MP, OP and OR with several large areas
of continuous AP, OP and OR oil. A small amount of
manual removal and bio remediation appears to have
occurred.

Followup Recommendations: Due to large amounts of removable
AP, MP, OP and OR remaining, the manual removal of
oil in these areas is recommended. Bio remediation
should follow manual treatment.

Completed by Pickup Crew: ☐ YES ☒ NO

Priority for Addressing in 1990: ☒ High ☐ Mod. ☐ L.

ADEC

Bob McCready
(name)

Robert H. McLean
(signature)

Comments: KV-09 should receive further treatment in 1990.

Exxon

John Dean
(name)

John Dean
(signature)

Comments: SEGMENT WOULD BENEFIT FROM ADDITIONAL MANUAL PICK-UP
AND BACTERIAL FOLLOWED BY BIO APPLICATION

USCG

Don O'Neil
(name)

Don O'Neil
(signature)

Comments: AGREE WITH ABOVE COMMENTS.

Land Rep.

LORA JOHNSON
(name)

Lora L. Johnson
(signature)

Comments: AGREE WITH ADEC RECOMMENDATIONS. CAL IS NOT TAKING A
POSITION ON BIOREMEDIATION. SHOULD BE FURTHER TREATMENT IN
1990.

SEGMENT AS / KN-89 SUBDIVISION: A SITE: 1 DATE 69 AUG 901NAME Don Davis GCS USCG SIGNATURE Don Davis
David H. Noaa☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

SEVERAL AREAS OF GROUND CONTAINING MOUSSE, "SOR", COAT. ALL AREAS TREATABLE, BUT SHOW SHALLOW PENETRATION. MANUAL TREATMENT SHOULD BE EFFECTIVE. OTHER SEGMENTS IN AREA SHOULD BE ADDRESSED BEFORE THIS ONE. BUT MANUAL TREATMENT AND REASSESSMENT IN 1991 IS REQUIRED.

Agree. - DAV

ADECNAME Bob McCoskey SIGNATURE Bob McCoskey☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: A broken band of AP, MS, OP, and OR oil winds along entire length of segment with several areas of larger AP and OP/OR subsurface oil. Area has been recommended for further treatment in 1990 by ASAP survey team. Manual removal of AP, MS, OP, and OR oiling is the recommended technique to be followed by bioremediation.

LAND MANAGERNAME LORA JOHNSON SIGNATURE Lora L Johnson☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: AGREE WITH ADEC COMMENTS. MANUAL REMOVAL RECOMMENDED SEE SSAT SKETCH MAP ALSO.

EXXONNAME John Dean SIGNATURE John Dean☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: SOME ADDITIONAL RECOVERY BY MANUAL PICK UP IS POSSIBLE THRU-OUT. SEGMENT

REVISION NO. 7/17/98

SEGMENT SW

N-09

SUBDIVISION

A-10/1

DATE 04/28/90

CHECKLIST

- ☒ N Area
- ☒ Approx. Grid
- ☒ Day/Tab Grid
- ☒ C/P
- ☒ W/S
- ☒ L/S
- ☒ K Cover
- ☒ Substrate Character
- ☒ Ext. HML/SHL
- ☒ S/L
- ☒ P/L (Location)
- ☒ P/L (Type)
- ☒ P/L (Location)
- ☒ P/L (Location)

LEGEND

1 Δ
P/L - No Substrate Oil

2 Δ
P/L - Substrate Oil

CT/C
Coastal Distribution

CT/B
Shore Distribution

CT/P
P/L Distribution

CT/S
Shaded Distribution

CT/S
Shaded Distribution

Oil Vegetation

1 ●
P/L - Location, Direction,
and number

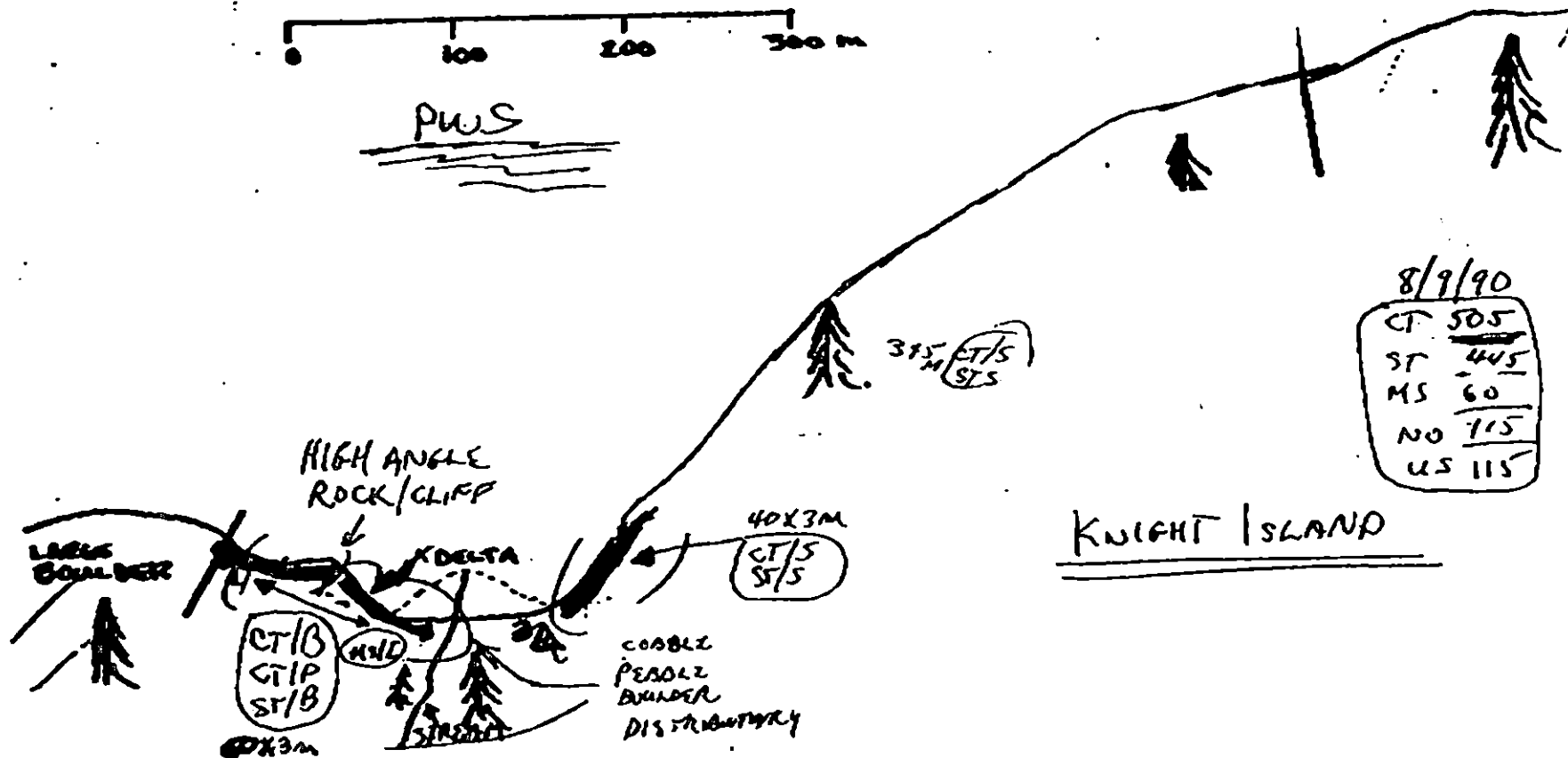
S CH MAP

Bay of Isles West Arm



0 100 200 300 m

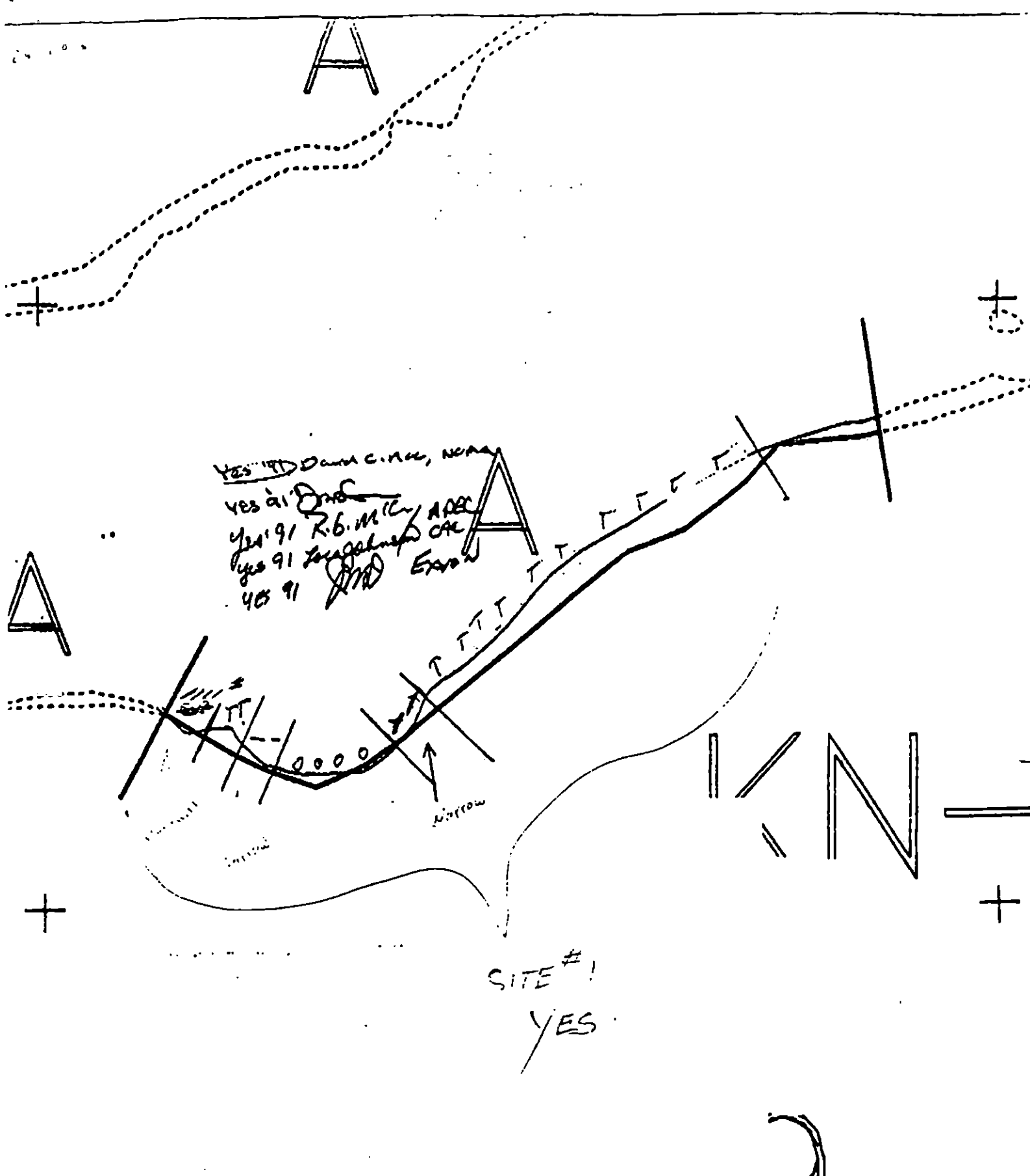
PWS



8/9/90

CT	505
ST	405
MS	60
NO	715
US	115

Oil Character Length (m): 35 PO 0 CV 0 CT 190 ST 0 MS 0 FT 0 TB 0 PL 0 NO 548



Yes 197 Dam C. H. H., N. H. H.
 Yes 21 Dam
 Yes 91 R. B. M. (C. H. H.)
 Yes 91 R. B. M. (C. H. H.)
 Yes 91 R. B. M. (C. H. H.)
 Yes 91 R. B. M. (C. H. H.)

Narrow

SITE #1
 YES

XX Wide
 /// Medium
 --- Narrow
 TTTT Very Light
 0000

KN-9 A
 ADEC Subsegment Length: 750m
 METERS
 0 115 230

EXON

Subdivision Field Map
 Map Key: KN-9A
 Name: NAKASHIMA
 Date: 8/9/90

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/~~109~~-10-CD-018 STREAM NO: 262-10-10000 DATE 5/2/90

check #'s → 10100

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

- 1A Salmon stream mouth - fry outmigration (4/31 to 7/31)
1B Salmon stream mouth - spawning (7/15 to 9/10; PEAK 8/15)
8AA Sensitive estuary

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

See above.

SHPO SIGNATURE: Charles Z. Hohn DATE: June 30, 1990

Subsurface Oil Observed: Yes _____ No X Maximum Depth _____

RECOMMENDATIONS:

☐ 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 manual removal of tarmat, tarballs and patties as indicated on attached sketch map. Consult ADF&G for appropriate work windows.

TAG COMMENTS: BIOREMEDIATE (CUSTOMER) AS REQUIRED FOLLOWING TARMAT REMOVAL

TAG APPROVAL DATE: 5/23/90

ADEC Art Weiner Dist. Weiner

EXXON Amol TEA

NOAA Byrl Wescott Ralph Jones

USCG G.A. Reiter G.A. REITER

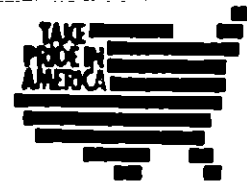
FOSC: [Signature] DATE: 7/5/90

SATISFY ENCLOSED NPS CONCERNS
for treatment per their let of 7/5/90



REPLY REFER TO

United States Department of the Interior



NATIONAL PARK SERVICE

ALASKA REGIONAL OFFICE
2525 Gambell Street, Room 107
Anchorage, Alaska 99503-2892

Ref: K9N-10-CD18
(26210-10100)

July 5, 1990

The National Park Service (NPS) will agree to the treatment recommendation on the segment referenced above only under the conditions specified by this office on May 21, 1990. If the Technical Advisory Group specifies the constraints, then treatment can be approved. The specific constraints include:

- Environmental sensitivities restrict treatment prior to July 11.

- Due to the sensitivity of this area, the potential hazard by brown bears, and the probable damage to the intertidal flats by large crews, the NPS recommends accessing this estuary for one day only with helicopters.

- Bioremediation with Inipol is not approved for this segment.

- NPS on-site monitor will be required.

- Special Use Permit will be required.

Cordell J. Roy
Acting Chief, Office of Oil Spill Coordination

KODIAK ECOLOGICAL CONSTRAINTS

1A	Salmon stream mouth - fry outmigration (4/15 to 7/31)
1B	Salmon stream mouth - spawning (7/15 to 9/10; PEAK 8/15) 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	Kodiak Bay Hatchery release Pink salmon - late May, early June; Chum salmon - June; Sockeye salmon - early July.
1H	Remote release site
1I	Gill net area
1J	Purse seine area Mainland, West side Kodiak, Shuyak & Moser/Olga Bay - 6/9 to 10/1. East side Kodiak, East side Afognak - 7/4 to 10/1.
1K	Purse seine hook-off
1L	Set net sites USFWS setnet uplands permit 5/15 to 9/15. For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
2M	Herring spawning (4/15 to 6/30) 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	Harbor seal and sea lion pupping (5/10 to 6/30) Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
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 8/31) 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 (6/1 to 9/30)
7HH	Finfish harvesting
7I	Deer harvesting (8/1 to 1/7)
7JJ	Invertebrate harvesting
7KK	Bear harvesting (4/1 to 5/15 and 10/25 to 11/30) For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

FIELD SHORELINE COMMENT SHEET

K-910

ASC*

SEGMENT ST / CD-18 SUBDIVISION: 262-10-10100 DATE 02 MAY 90

USCG

NAME Herwin L. Dreher SIGNATURE CWO H. L. Dreher

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

Type A manual pick up. This stream runs through a large delta area. I suggest that NPS or ADEC supply a guide to show where the very small patches are located.

~~ADEC~~ → ADFG

NAME Edward W. Weiss SIGNATURE Edward W. Weiss

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

TYPE A MANUAL PICKUP AGREED. MONITOR AGREED NPS AND/ADFG/HABITAT. ADFG PERMIT REQUIRED AND WILL HAVE MONITORS ON SITE OR VISITING DURING CLEANUP. CONTINUOUS ASPHALTING AREAS ON GRASS/MUD BANK WILL BE EASIER TO FIND / CLEAN IF DONE PRIOR TO GRASS BEGGINING GROWTH. OTHERWISE WILL HAVE TO CUT/DI THROUGH GRASSES TO GET UP GRASS TO GET OIL. GRASS GROWTH SHOULD BE WELL UNDERWAY BY MID MAY. LAGOON IS LOW ENERGY

~~LAND MANAGER~~ → NPS

NAME Carl Sebech SIGNATURE Carl Sebech

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

This lagoon / estuary system is very protected and any remaining oil can be expected to persist for a long time. The observed oil is mostly laying on the surface. The various bands of mousse and mousse patten should be removed with hand shovels. Cleanup crews can be directed to the sites by NPS monitors.

OG CAL LARSON USCG DREHER, CWE SEGMENT ST/ CD-019
 BIO KEN CRITCHLOW LAND REP BAL HADA, CARLSCHMIDT STREAM 202-10-101001 OF 1
 EXXON DARRELL YOE3 ADFG ED WELLS TIME 10:30 10/12/90
 TEAM NO. 18 TIDE LEVEL +5 FT DATE 5/12/90
 EST. SUBDIVISION LENGTH: 1000 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☐ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo
 SURFACE SEDIMENTS: R 0 % B 0 % C 0 % P 10 % G 10 % S 80 % M 0 % V 0
 SLOPE: Long 0 % Hang 0 % Vert 0 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 175 m VL 425 m NO 400 m

SURFACE OIL

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

PAVEMENT H F (S) 25 sq. m by .2 c

PATTIES / TARBALLS 10 BAGS

NEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs	✓		
Vegetation	✓		
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 (cm)	BELOW		OIL / FILM COLOR								PIT ZONE	A	N	A	SHEEN (Y/N)	V	SURFACE SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		DO	UC	1	2	3	4	5	6	7	8							
1	30					✓	.											✓						CD, PD, SD
2	24					✓	.											✓						CD, PD, SD
3	20					✓	.											✓						CD, PD, SD
4	24					✓	.											✓						TR, GR, SD
5	22					✓	.											✓						CD, SD, U2
6	4					✓	.											✓						SD, U2, SD

7 25
 COMMENTS
 8 30

SD, U2, SD
 PD, GR, SD
 GR, SD

REVIEWED 7W DATE 5/4/90

SEGMENT SYL CD-018

STREAM 262-10-10100

DATE 5/2/90

CHECKLIST

- Map Area
- Approx. Scale
- Surveyed Area
- On Out
- Notes
- Length
- % Cover
- Substrate Character
- For Habitat
- SSL
- Protein Lamination
- Protein Lamination
- Protein Lamination
- Protein Lamination
- Protein Lamination

LEGEND

1 A

PT - No Reference On

2 A

PT - Reference On

CT/C

Confusion Distribution

CT/B

Broken Distribution

CT/P

Protein Distribution

CT/S

Spaced Distribution

CT/S

Spaced Distribution

CT/S

Spaced Distribution

CT/S

Spaced Distribution

CT/S

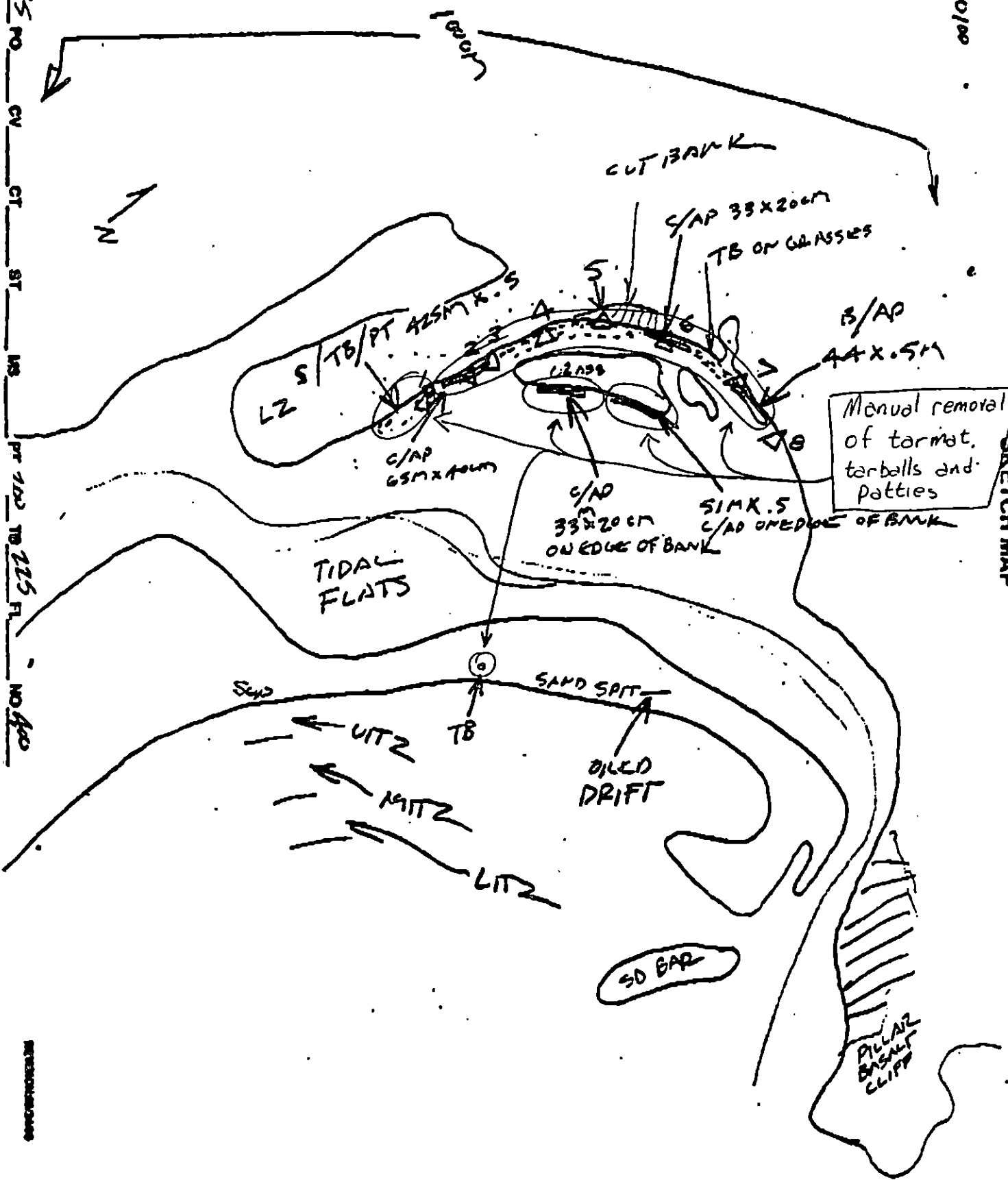
Spaced Distribution

CT/S

Spaced Distribution

SKETCH MAP

Manual removal of tarrot, tarballs and patties



On Character Length (m): AP 175 PO CV CT ST MS PR 120 TB 225 FL NO 400

REVISIONS

ADFG MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: BB SS DS TS AVS SCHA HHHS PTA 2 REGION: PWS KP,CI K,AP

METHOD: Aerial Ground Boat

3 DATE: 5/2/90 16 HIGH TIDE TIMES: 1 21 TEAM RECORDER: E. WEISS

4 START TIME: 1055 18 HIGH TIDE HTS: 1 22 OBSERVERS: K. SCHOCK, C. LARSON

5 STOP TIME: 1250 17 LOW TIDE TIMES: 1550 23 AGENCY: ADFG/EXXON/NAS/L

6 SEGMENT #: CDO18 19 LOW TIDE HTS: 1.9 24 PHOTOS TAKEN: Y N

7 STATION #: _____ 10 TIDE HT AT SURVEY: _____ Roll #: _____ Frame: _____

8 K-UNIT: K0910 Ebb Stack Flood Stack 25 VIDEO TAKEN: Y N TAPE#: _____

9 STAT AREA: _____ 20 USCG QUAD: AFOGNAK D-4 Starts: _____ Ends: _____

10 LAT: _____ 11 LONG: _____ 26 SAMPLES TAKEN: Y N Number _____

12 SOURCE: Map Loran 011 90EW00002 K 90EW00003 K

13 LOCATION: DOUGLAS CREEK LAGOON, CAPE DOUGLAS, AK PENN. Sediment _____

14 DESCRIPTION: _____ Biological _____

EXTENT OF OIL

	SHORELINE				STREAM			
	L	W	NE	S	L	W	NE	S
27 SURFACE COVERAGE								
28 SURFACE THICKNESS								
29 PENETRATION								

30 OVERALL OIL IMPACT: N VL L M H

31 OIL TYPE: Pooled House Tar Asphalt Sticky Stain

32 OILED DEBRIS: Y N

33 SHORELINE TYPE: Headland Low-lying Rocks Beach Cove
Lagoon Marsh

34 WAVE EXPOSURE: High Moderate Low

35 SUBSTRATE TYPE: Bedrock Boulder Cobble
Gravel 55 Sand 25 Mud/silt 20

36 CATALOGED ANAD. FISH STREAM: Y N

37 CATALOG #: 262-10-10100

38 STREAM NAME: DOUGLAS CREEK

39 OIL IN STREAM BED: Y N

40 OIL ON STREAM BANKS: Y N

41 OIL ON BEACH ADJACENT TO MOUTH: Y N
(within 50 meters)

42 OIL WITHIN 1 MILE OF STREAM: Y N

Where: _____

43 ANADROMOUS FISH PRESENT: Y N

44 ANADROMOUS FISH OBSERVATION

Species	Aerial	Ground

COMMENTS: BANDS OF (TO PT AP/SWT)/P TO B ALL SURFACE
NO SUBSURFACE. <3M BUT >10% COVERAGE. BAND
IS IN MID TO LOW TIDE LEVEL OF NORTH BANK OF
LAGOON. BAND OF MS/C 1-2' X ON MUD/GRASS
BANK CENTER OF LAGOON.

CONTINUED

FRAME(S)	DESCRIPTION
	OIL MOUSSE / PT-TM ON NORTH BANK OF LAGOON
	OIL MOUSSE

40 OIL DISTRIBUTION DIAGRAM

- Sample taken
- Photo frame # and shot direction.

141-03-1550 12:51 FROM EMON KUDIRK 10 15645771 P.12
pl of 2
Seg ID: CD-018

Subdiv: 262-10-10100

Survey Date: 5/2/90

Comments by: Ken Critchlow

Oil was observed in three principal locations at this site. The beach adjacent to the stream (Cape Douglas Creek) mouth is high energy with sand/gravel/pebble sediments. No oil was observed on the beach. The backshore, above the storm berm was littered with logs and a variety of debris; oil was present in this area as widely scattered small tarballs. A river otter was observed on the beach during the survey.

A large lagoon is present behind the storm berm; oil was observed along the seaward side of a grassland flat in mid-lagoon, and along the backshore of the lagoon. Asphalt pavement and tarballs occurred along the edge of the grassy area and in some locations had run down the face of the bank toward a side channel; oil along this face was nearly continuous. Tarballs were scattered among the newly emerging grasses which will observe the oil in the next few weeks.

The backshore of the lagoon was more extensively oiled by asphalt pavement in the ULTZ. This oil formed a large, continuous band as

262-10-10100

p 2 of 2

to a meter wide; pits indicated no subsurface oil. Small clams were commonly observed in the mud flats downshore of the oil band.

No ecological constraints were apparent.

KR Cutchlow



ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/CD-18 STREAM NO: 262-10-10100 DATE 5/2/90

*Segment not split as of 5/5/90
So no subdivisions*

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1A, 1B

BAA

SUBDIVISION ECOLOGICAL CONSTRAINTS: *See Above.*

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:** _____

Subsurface Oil Observed: Yes _____ No X **Maximum Depth** _____

RECOMMENDATIONS:

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

COMMENTS: Recommend manual removal of tarmat, tarballs and
patties as indicated on the attached sketch map. Consult ADFIC
for appropriate work window.

May need into Access only work this

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON WVS _____
NOAA _____
USCG _____

FOSC: _____ **DATE:** _____

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/~~K~~^N9-17-CC-100 STREAM NO: 262-15-10040 DATE 5/3/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1A Salmon stream mouth - fry outmigration (4/15 to 7/31)
1B Salmon stream mouth - spawning (7/15 TO 9/10; PEAK 8/15)
8AA Sensitive estuary
9LM Land mammals

ADF&G Anadromous stream # 262-15-10040.

Sensitivity code and general time constraints. See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Do not trample or disturb marsh area.

SHPO SIGNATURE: Rachel Jean Doe DATE: 5/25/90

Subsurface Oil Observed: Yes _____ No X Maximum Depth _____

RECOMMENDATIONS:

<u>X</u> 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: _____

TAG COMMENTS: NO OIL OBSERVED IN AREA OF STREAM. HOWEVER
WORK TO BE COMPLETED IN ADJACENT AREAS TO THE STREAM + LAGOON
SEE SEAT PACKAGES N-17-CC-180A + 02A FOR RECOMMENDED
WORK - MINIMIZE DISTURBANCE + WORK CREW SIZE.

TAG APPROVAL DATE: 5/23/90.

ADEC Art Womack Art Womack

EXXON Andy Earl Andy Earl

NOAA Bill Wernick Bill Wernick

USCG G.A. Reiter G.A. Reiter

FOSC: [Signature]

DATE: 5/31/90

KODIAK ECOLOGICAL CONSTRAINTS

- 1A** Salmon stream mouth - fry outmigration (4/15 to 7/31)
1B Salmon stream mouth - spawning (7/15 to 9/10; PEAK 8/15)
 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, 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 prior to treatment for consultation and/or permit application.
 AGENCY CONTACT PERSON: ADF&G Ken Middleton 267-2299
- 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, 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** Kotol Bay Hatchery release
 Pink salmon - late May, early June; Chum salmon - June; Sockeye salmon - early July.
- 1H** Remote release site
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, 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 for confirmation and authorization.
 AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1I** Gill net area
1J Purse seine area
 Mainland, West side Kodiak, Shuyak & Moser/Olga Bay (6/9 to 10/1)
 East side Kodiak, East side Afognak (7/4 to 10/1)
- 1K** Purse seine hook-off
1L Set net sites
 Contact ADF&G for confirmation - dates and locations may vary. 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 Larry Nicholson 424-4791
- 2M** Herring spawning (4/15 to 6/30)
 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 Larry Nicholson 486-4791
- Harbor seal and sea lion pupping (5/10 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 (8/1 to 9/15)
6V Anchorages (8/1 to 9/15)
6W Forest Service cabins (8/1 to 9/15)
6X Lodge (8/1 to 9/15)
6Y Special use destination
- 7Z** Subsistence area: Salmon harvesting (8/1 to 9/30)
H Finfish harvesting
I Deer harvesting (8/1 to 1/7)
J Invertebrate harvesting
7JK Bear harvesting (4/1 to 5/15 and 10/25 to 11/30)
 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

ANAD SCAT

ADF#G# 262-15-10040

SEGMENT ST/ K09/7CC/100

SUBDIVISION: A

DATE May 4, 1990

NAME STEPHEN LEHMAN SIGNATURE [Signature]☒ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

Diking was very light except for one section (identified by the DG) where oil appeared at surface. Given the sensitivity of this area and the disturbance required to remove this section of oil - treatment is not suggested.

ADEC

NAME

Terry Ellsworth

SIGNATURE

Terry Ellsworth☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Diking in this segment is confined to the SW portion of the segment. The most significant occurrence is a 20m x 1m area of asphalt of patchy distribution. Patches occur sporadically along the SW portion of the segment in areas up to 1m x 2m. Manual removal of the Asphalt and mouse patches is recommended. Due to the extreme sensitivity of this area to human disturbance, only 2-3 persons should work this area. Work should not extend beyond the shore bordered by steep alder slope.

LAND MANAGER

NAME

Carl Sebach

SIGNATURE

Carl Sebach☒ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

Oil remaining in this lagoon/estuary system can be expected to persist for a long time unless removed. However this critical habitat is sensitive to intrusion. The oil/mouse patches should be removed as soon as possible to avoid disturbing summer bear populations. A small crew of no more than five personnel should access the mouse patches on foot and remove by scraping the substrate with shovels. The mud flats should below the oiled area and the salt marshes to the north should not be disturbed.

FIELD SHORELINE COMMENT SHEET

CC001/CC002
 SEGMENT ST/CC100/CC005 SUBDIVISION: ANADSSAT DATE 5-11-90

NAME ~~AFG~~ EDWARDS W. WEISS SIGNATURE Edward W. Weiss

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

THIS EXXON/SSAT ANADSSAT REPORT ONLY REFLECTS THE OILING CONDITIONS WITH IN 100 M EITHER SIDE OF WHERE THE STREAM BED ENTERS THE UPPER LAGOON (CC100). IN THIS SHORT SECTION OF SEGMENT CC100 THERE INDEED WAS NO OIL FOUND, BUT IT DOES NOT REFLECT THE CONDITIONS WITH IN SEGMENTS CC002, 005, 001 NOR THE SOUTH AND WEST PORTIONS OF CC100. THESE SEGMENTS ARE WITHIN THE LAGOON WHICH IS PART OF THE ANADROMOUS STREAM. CONSEQUENTLY ADFG HABITAT PERSONNEL SHOULD BE INVOLVED IN THE TAG GROUP FOR ALL FOUR SEGMENTS (CC001, CC002, CC005, CC100); ADFG PERMITS NEED TO BE OBTAINED TO DO ANY WORK IN THESE FOUR SEGMENTS. THE FIELD SKETCHES SHOWING THE IMPACTS IN THESE OTHER SEGMENTS ARE INCLUDED IN THIS ANADSSAT REPORT. THESE AND THE SSAT REPORTS FOR THESE SECTIONS SHOULD BE CONSULTED WHEN CLEANING UP THIS ANADROMOUS STREAM.

MANUAL TYPE A CLEANUP SHOULD BE CONDUCTED IN FOLLOWING SEGMENT AREAS:

THE SOUTH & WEST PORTION OF CC100 ALONG THE STEEP ALDER COVERED BANK TO THE POINT WHERE IT FALLS AWAY FROM THE LAGOON AND THE MARSH GRASS STARTS. CLEANUP SHOULD NOT TAKE PLACE IN THE MARSH GRASS SECTION OF CC100 (NO OIL FOUND DURING SSAT AND SENSITIVE MARSH AREA). AP, PT, MS/P WITH BARTS LOCALLY /B, IN THE SOUTH & WEST PART OF CC100

SEGMENT CC002. ALSO PAK MAP, 11, 11, 11

SEGMENT CCOOS. TB/S IN THE WESTERN PORTION

NOTE THAT PO/S; ST/S; CT/S; MS/S OCCUR

SEGMENT C001.- THE OUTSIDE SPIT AREA

ALSO RECOMMEND THAT AAFSC OR NPS MONITOR

Ed Weiss
5-11-90

SHORELINE OILING SUMMARY

REVISION NO. 04/12/90

OG G. HEYMAN NOAA S. LEHMANN SEGMENT ST/ 262-15-10040
 BIO L. SHARMAN LAND REP E. Weiss ADFG SUBDIVISION CC100A (1 OF 1)
 EXXON NOT PRESENT ADEC T. E. Schmitt TIME 16:00 17:30
 EAM NO. 19 TIDE LEVEL +2 1/4 to +1 3/4 DATE 5/3/90
 EST. SUBDIVISION LENGTH: 200 m (2640) ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☐ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: W to E
 SURFACE SEDIMENTS: R 0 % B 0 % C 0 % P 0 % G 0 % S 0 % M 100 % V 0 %
 SLOPE: Long 100 % Hang 0 % Vert 0 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 0 m NO 200 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR				IMPACTED ZONES			
	IC	IB	IP	IR	1	2	3	4	SU	U	M	U
ASPHALT												
PAVEMENT												
POOLED												
COVER												
COAT												
STAIN												
MOUSSE												
PATTIES												
TARBALLS												
FILM												
NO OIL									X	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			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☐ NO ☒TYPE 0BAGS 0

Photographs:

Roll No. _____

Frames _____

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	6	7	8	SU	U	M	U				

COMMENTS No pits dug.

This anadromous stream (ADFG # 262-15-10040) was surveyed with E. Weiss of ADFG as part of the SSAT assessment of CC-100A. The anadromous SCAT assessment was restricted to 100m on each side of the stream. Sketch maps for the entire Chinike Lagoon are included with this form. See the respective SSAT reports for more information.

REVIEWED FWDATE 5/15/90

OG G. He in
SEGMENT ST/K 09 17 CC 100

SUBDIVISION A

DATE 5/3/90

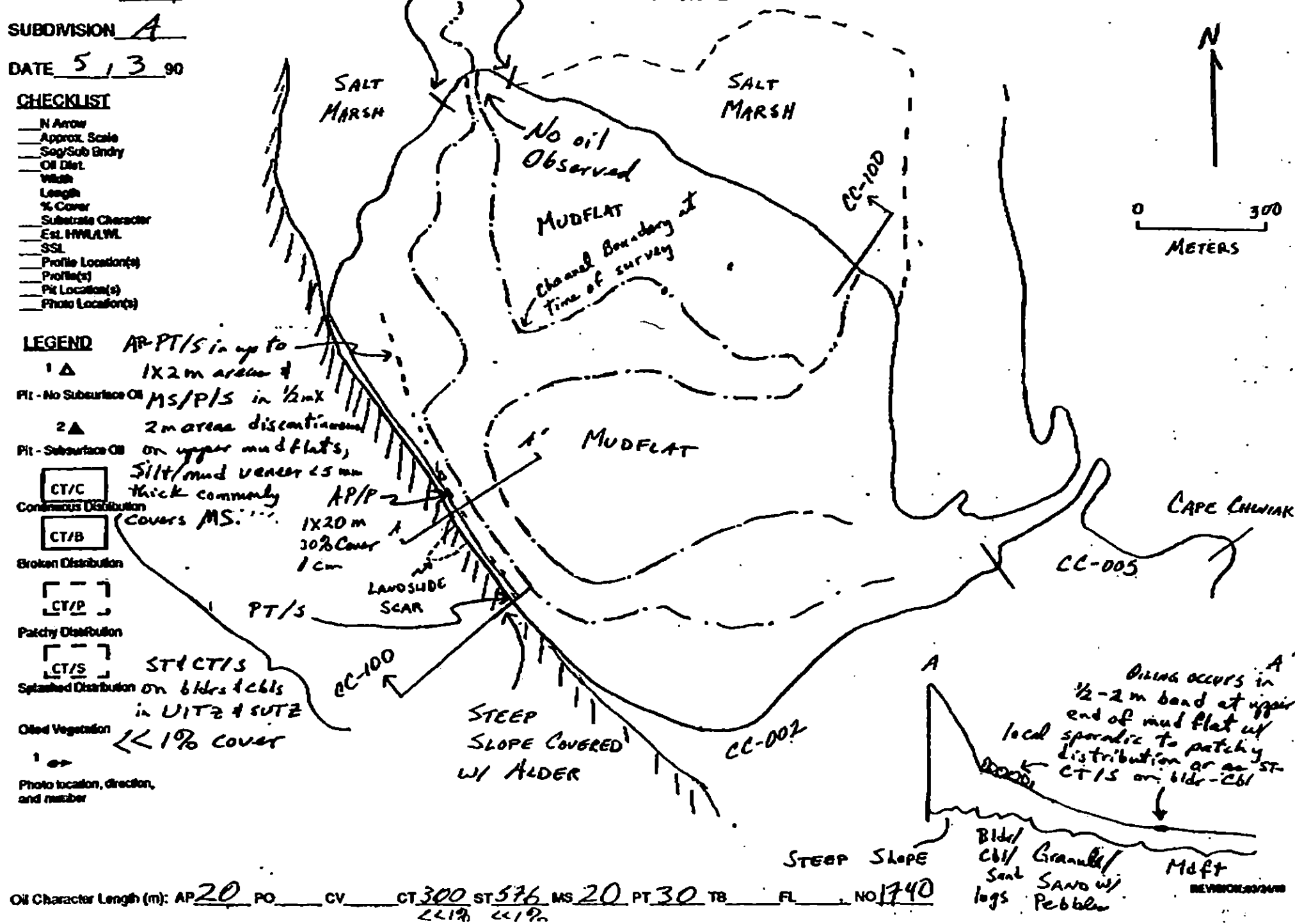
CHECKLIST

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

LEGEND

- AP-PT/S in up to 1X2 m area & MS/P/S in 1/2 m x 2 m area discontinuous on upper mud flats, silt/mud veneer 15 mm thick commonly covers MS.
- 1 Δ 1X20 m 30% cover 1 cm
- 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 on bldrs & cbls in U1T2 & SUT2
- Oiled Vegetation < 1% cover
- 1 $\rightarrow$ Photo location, direction, and number

ANADSCAT S...CH MAP BOUNDARIES



OG Gulf 1300

SEGMENT ST K017 CC 005

SUBDIVISION A

DATE 5/3/90

TCH MAP-1

CHECKLIST

☐ N Arrow
☐ Approx. Scale
☐ Seg/Sub Body
☐ Oil Det.
☐ Width
☐ Length
☐ % Cover
☐ Substrate Character
☐ Est. HML/LWL
☐ SSL
☐ Profile Location(s)
☐ Profile(s)
☐ Pl Location(s)
☐ Photo Location(s)

LEGEND

1 Δ
 Pl - No Subsurface Oil

2 Δ
 Pl - Subsurface Oil

CT/C
 Continuous Distribution

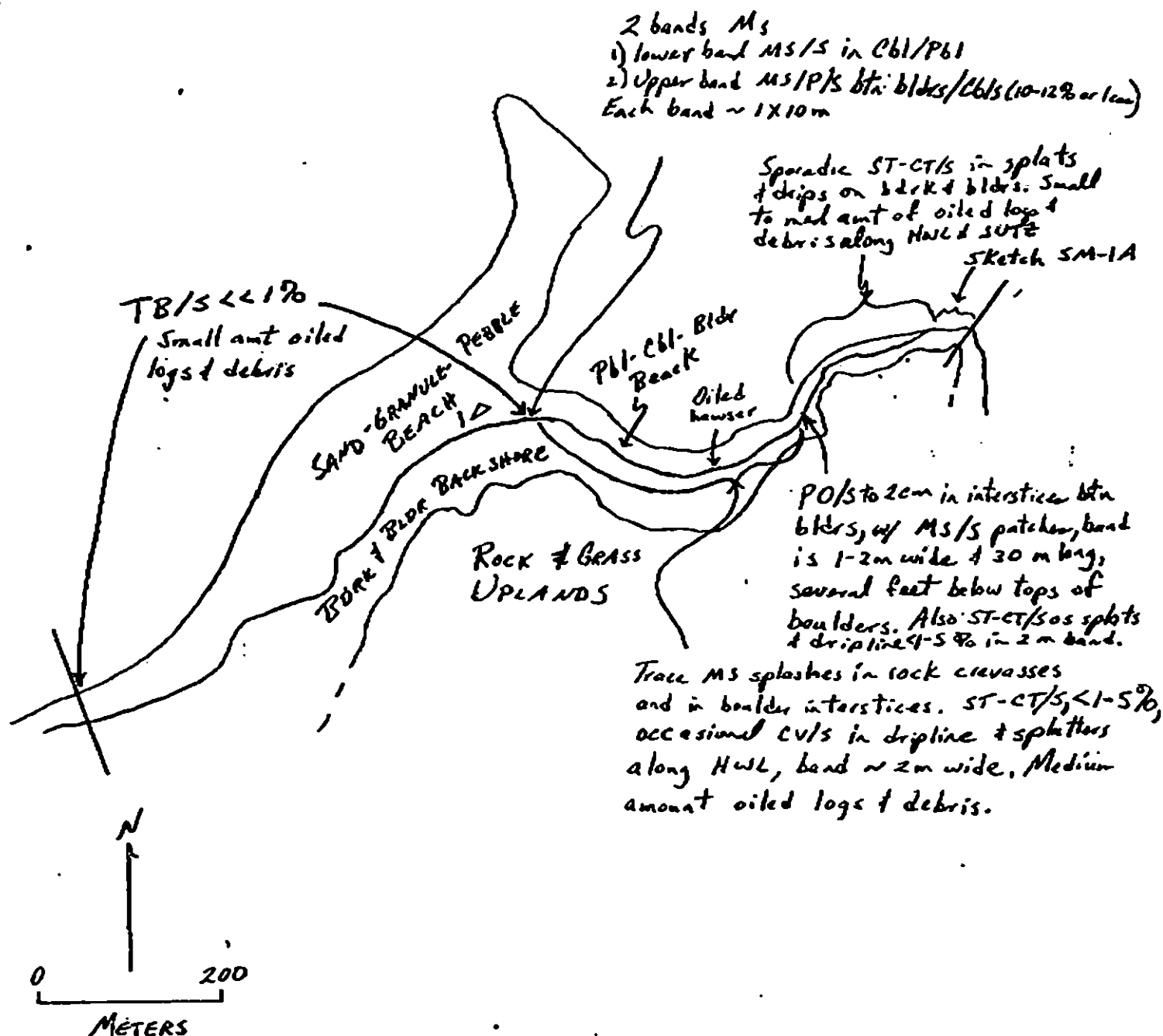
CT/B
 Broken Distribution

CT/P
 Patchy Distribution

CT/S
 Splashed Distribution

Oiled Vegetation

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



Oil Character Length (m): AP — PO 10 CV 62 CT 250 ST 200 MS 52 PT — TB 500 FL — NO 0

REVISION 000000

OG G. Heyman

SEGMENT ST/ K 0117 CC 005

SUBDIVISION A

DATE 5/3/90

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

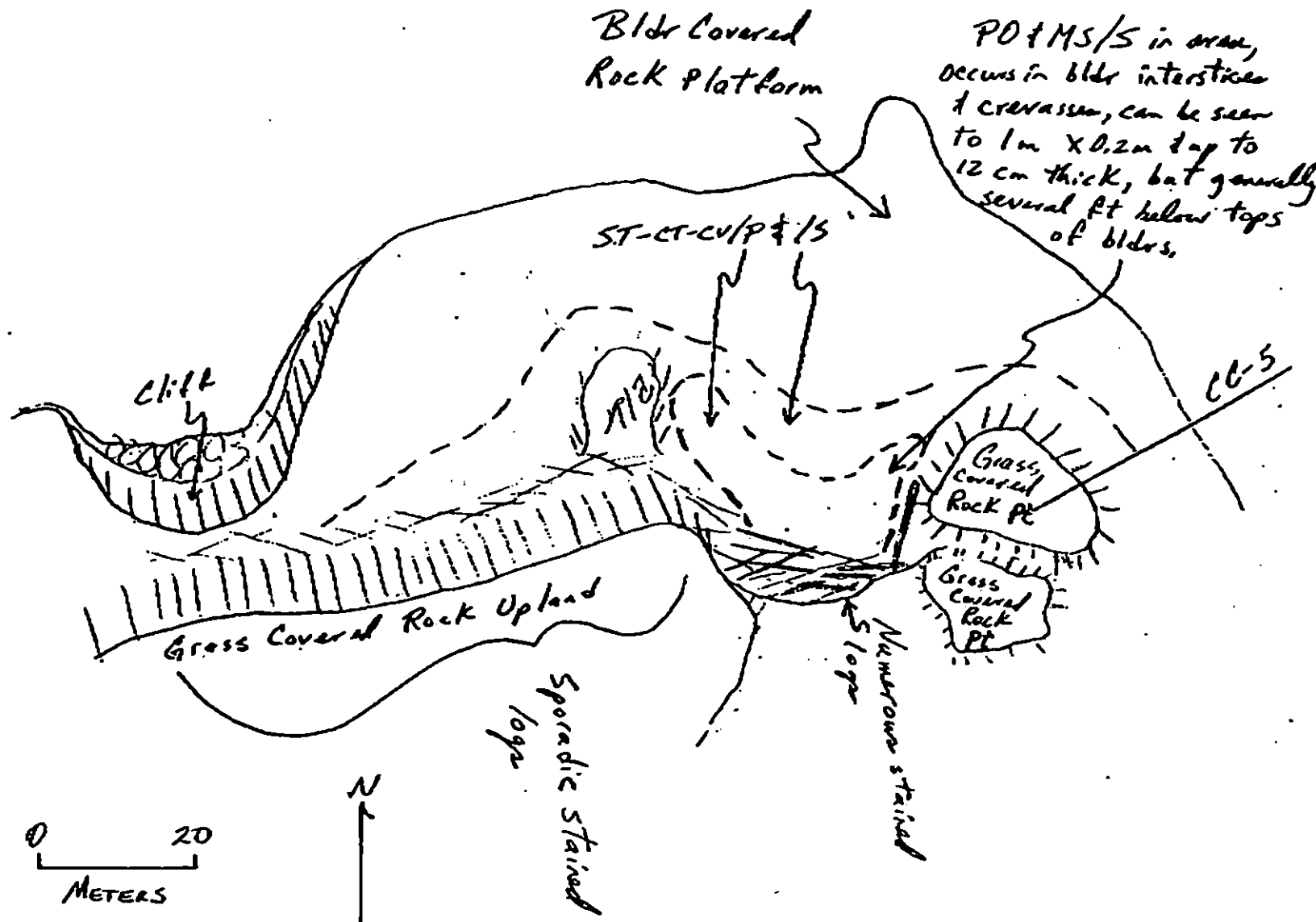
Continuous Distribution
- CT/B

Broken Distribution
- CT/P

Patchy Distribution
- CT/S

Splashed Distribution
- Oiled Vegetation
- 1 $\Rightarrow$
Photo location, direction, and number

SKETCH MAP SM-1A



Oil Character Length (m): AP _____ PO _____ CV _____ CT _____ ST _____ MS _____ PT _____ TB _____ FL _____ NO _____ See SM-1

REVISION: 02/24/98

SUBDIVISION A

DATE 5/3/90

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Body
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HMLA/WL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ PR Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ
Pl - No Subsurface OM

2 ▲
Pg - Subsurface Oil

CT/C
Confidential Distribution

CT/B
Broken Distribution

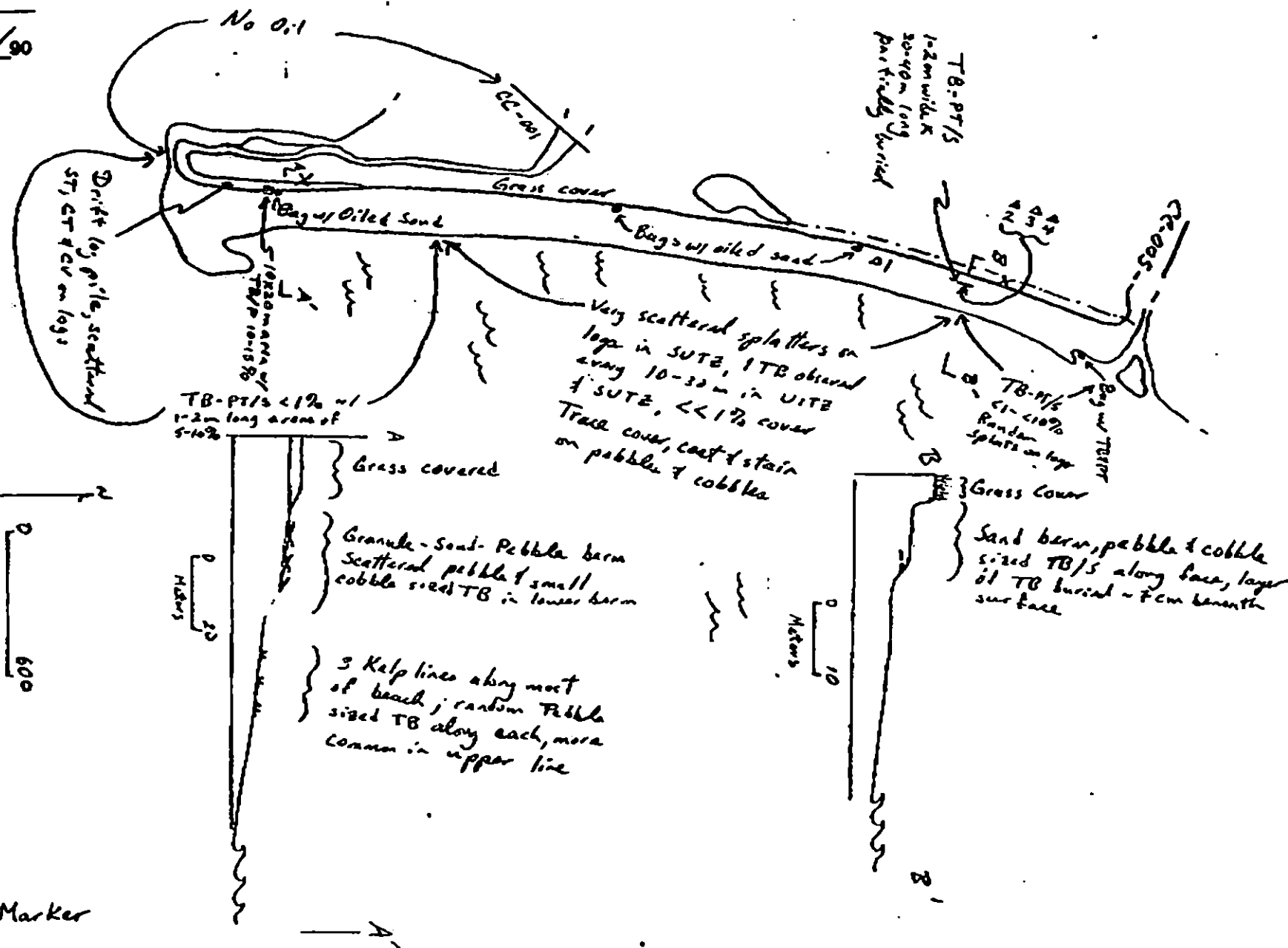
CT/P
Paidey Distribution

CT/S
Spliced Distribution

lll
Old Vegetation

Photo location, direction,
and number

x Regulatory Marker



Oil Character Length (m): AP — PO — CV 3 CT 3 ST 4 MS — PT 6.20 RS 2.30 FL — NO 1771

1800-222-2400

OG Alley

SEGMENT ST/ K017 CC002

SUBDIVISION A

DATE 5/3/90

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Bdry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HW/LWL
- ☐ 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

Scattered Distribution

Oiled Vegetation

Photo location, direction, and number

SALT MARSH MAP

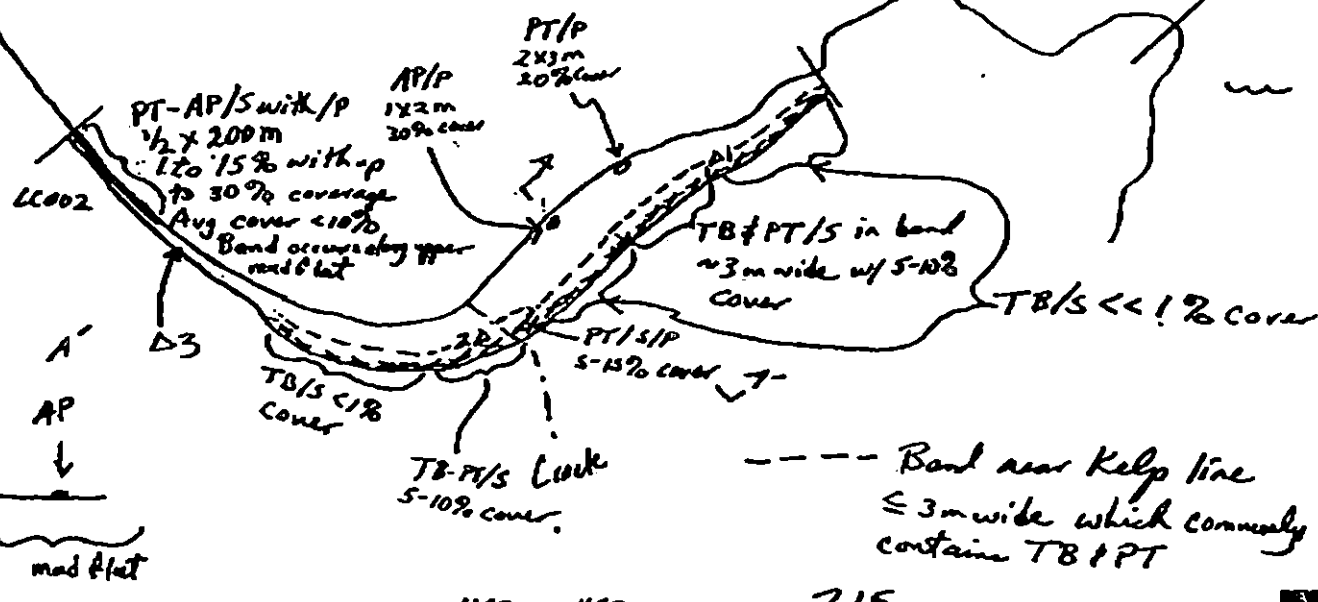
SALT MARSH

SALT MARSH

LAGOON

0 300
Meters

N



Oil Character Length (m): AP 10 PO — CV — CT — ST — MS — PT 450 TB 450 FL — NO 215

REVISION: 03/24/98

ADFG MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: BS CS DE TS AVE SCHA 1985 PTA2 REGION: PWS KP, CI K APMETHOD: Aerial Ground Boat3 DATE: 5/3/9015 HIGH TIDE TIMES: 121 TEAM RECORDER: E. WEISS
K. SCHOCK,4 START TIME: 133516 HIGH TIDE HTS: 1

22 OBSERVERS: _____

5 STOP TIME: 180017 LOW TIDE TIMES: 170923 AGENCY: ADFG/NPS/WWC/ASEC6 SEGMENT #: CC100 CC001 CC00218 LOW TIDE HTS: 1.6924 PHOTOS TAKEN: Y X

7 STATION #: _____

19 TIDE HT AT SURVEY: _____

Roll #: _____ Frames: _____

8 K-UNIT: K0917

Ebb Slack Flood Slack

25 VIDEO TAKEN: Y X TAPES: _____

9 STAT AREA: _____

20 USGS QUAD: AF09NAK C-6

Start: _____ End: _____

10 LAT: _____

11 LONG: _____

26 SAMPLES TAKEN: Y X Number _____

12 SOURCE: Map Loran

011 _____

13 LOCATION: CHINIAR LAGOON, CAPE CHINIAR, AK PENINS.

14 DESCRIPTION: _____

EXTENT OF OIL

Sediment _____

Biological _____

Water _____

7 SURFACE COVERAGE	SHORELINE				STREAM			
	L	V	H	S	L	V	H	S
	1000+	10M		5%			2600	10%

36 CATALOGED ANAD. FISH STREAM? X N37 CATALOG #: 262-15-1004038 STREAM NAME: CHINIAR LAGOON

28 SURFACE THICKNESS

2CM				1CM			
— SURFACE —							

39 OIL IN STREAM BED? Y X

29 PENETRATION

40 OIL ON STREAM BANKS? X N30 OVERALL OIL IMPACT: N VL 1 N H41 OIL ON BEACH ADJACENT TO MOUTH? X N
(within 50 meters)31 OIL TYPE: Pooled House Tar Asphalt Sticky Stain42 OIL WITHIN 1 MILE OF STREAM? X N32 OILED DEBRIS? X N

Where: _____

33 SHORELINE TYPE: Headland Lagoon Low-lying Rocks Marsh Beach Cove43 ANADROMOUS FISH PRESENT? Y X34 WAVE EXPOSURE: High Moderate Low

44 ANADROMOUS FISH OBSERVATION

Species Aerial Ground

35 SUBSTRATE TYPE: Bedrock 10 Boulder _____ Cobble 10Gravel 20 Sand _____ Mud/silt 60

Species	Aerial	Ground

COMMENTS: SCATTERED TAR BALLS PATCHES SOME ASPHALT/SOFT ON
SOUTH BANK. SOUTHWEST AND WEST BANK HAS TAR BALLS
PATCHES ASPHALT THAT IS PATCHY AND LOCALLY BROKEN.
BT CV/S IN SUPRA COBBLE TIDE ZONE.

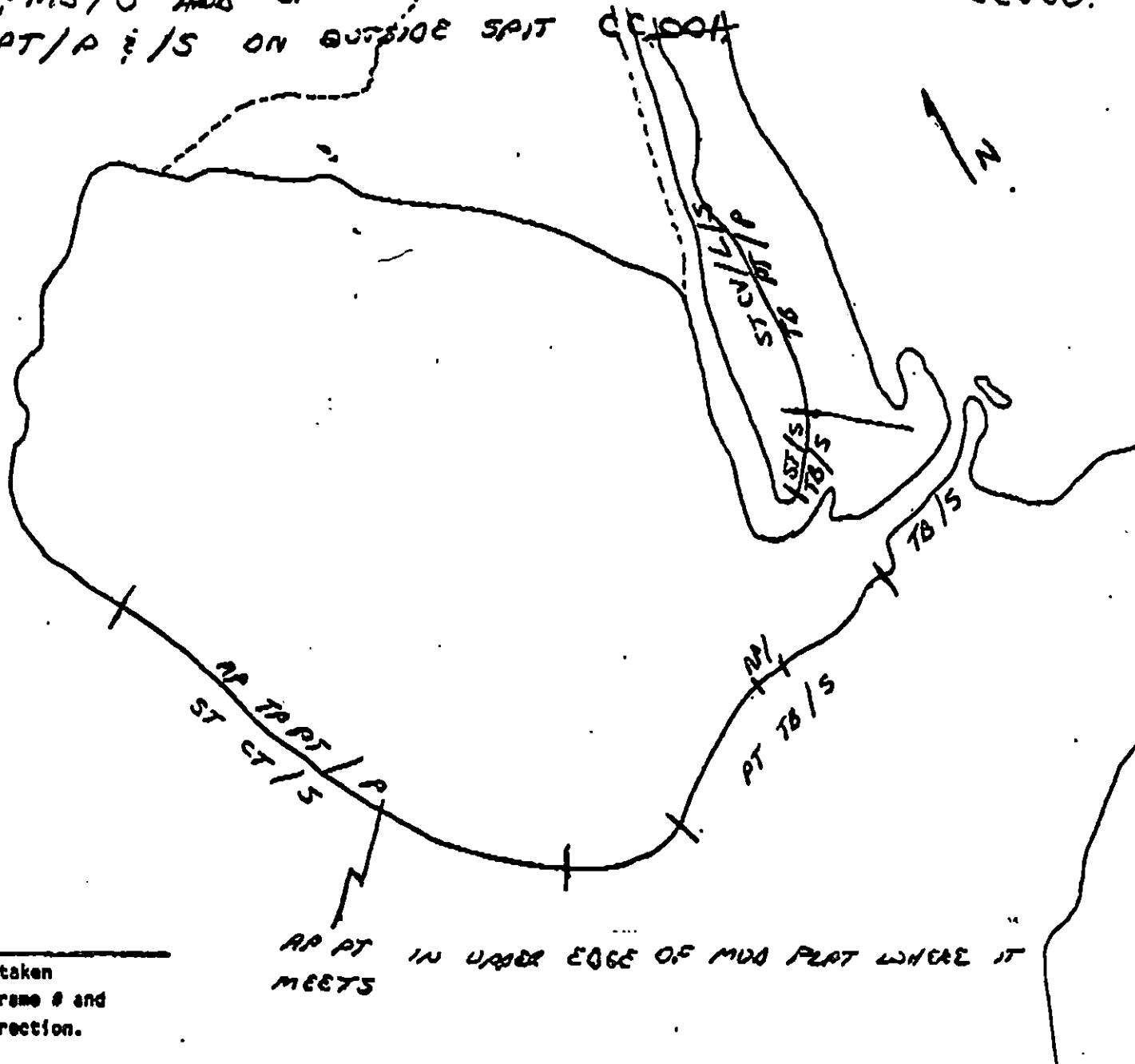
RECOMMEND: MANUAL TYPE A CLEANUP WITH MONITOR. (NAS &
ADFG) MONITOR SHOULD BE FAMILIAR WITH SITE AND OIL IN
LOCATION AS IT IS SOMETIMES HARD TO SPOT. (OVER)

FRAME(S)

DESCRIPTION

48 OIL DISTRIBUTION DIAGRAM

CLEANUP SHOULD TAKE PLACE IN CC002, CC005, CC001, BUT ONLY ON THE WEST/SOUTHWEST SIDE OF CC100, (WEST/SOUTHWEST SIDE OF LAGOON) UP TO BUT NOT INCLUDING GRASS/MARSH AREA AT NW CORNER OF LAGOON. ~~DO NOT~~ DO BEACH OUTSIDE LAGOON CC005. TB/PT/P & /S ON OUTSIDE SPIT CC100A



- Sample taken
 - Photo frame # and
 shot direction.

ADF#G # 262-15-10040

SHORELINE ECOLOGICAL SUMMARY

Segment ST / K917CC100 Subdivision A Date (mo / day / yr) 5/3/90Time (24 hr) 1600-1730 Biologist SHARMAN(A) Substrate type and % of segments: SUBDIV.
(1) Bedrock (2) Boulder (3) Cobble (4) Pebble (5) Sand (6) Mud 100(B) Overall % cover of biota (% of segment): Dense Moderate Low X
SUBDIV.

(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 (ALCELA, LITTORINA, LIMAEYS)

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: See above. The stream mouth quickly opens out into a sand/mud grassy tidal flat. No particularly unusual biological observations. The surrounding Chinik lagoon proper was surveyed in more detail (See Shoreline Ecological Summaries for CC-1, CC-2, CC-100, and CC-12).

Ecological Considerations:

ADF#G Catalog # 262-15-10040 anadromous stream ("Chinik lagoon stream"). No additional local (within 100m) ecological sensitivities other than the usual concern for sensitive & productive estuarine tidal areas. It may be useful to refer to this section of the regular SSAT survey of CC-100.

SHORELINE EVALUATION

SEGMENT ST/ KN-10 SUBDIVISION A (1 OF 2) DATE 4/8/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

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

30,3Q Harbor seal and sea lion molting (8/15 to 9/15)

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Charles E. Holmes DATE: 4/25/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 985 m: No Oil 396 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

X No Treatment Recommended

Treatment Recommended

Manual Pickup

Bioremediation

Tarmat: Breakup

Removal

Snare/Absorbent Booms

Oil Snares (pom poms)

 Absorbents (pads, rolls, etc)

Spot Washing: _____ Wands

_____ Beach Cleaner

Other (see comments)

COMMENTS: _____

TAG COMMENTS: _____

TAG APPROVAL DATE: 4/23/40

ADEC Art W. FINEST Est Denis

EXXON *Amoy 6642 Real*

NOAA: McLellan ST

USCG M. J. HALL

FOSC: ML 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 (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)
 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 unholed 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 KN-10 SUBDIVISION: 7 DATE 4/8/90

CG
NAME M.J. SHARPER SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED COMMENTS ☐ TREATMENT SUGGESTED

ADEC
NAME S. FERGUSON SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED COMMENTS ☐ TREATMENT SUGGESTED

LAND MANAGER
NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED COMMENTS ☐ TREATMENT SUGGESTED

[Handwritten line]

SHORELINE OILING SUMMARY

REVISION NO. 03/22/88

OG K. Ramsey USCG R. Sharpe SEGMENT ST/ KN-10
BIO G. Penn LAND REP SUBDIVISION A 192
EXXON S. Reid ADEC S. Ferguson TIME 4:10 to 5:45
TEAM NO.: 4 TIDE LEVEL: 6' to 1.5' DATE 4/8/90
EST. SUBDIVISION LENGTH: 1261 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: W to E
SURFACE SEDIMENTS: R 62 % B 70 % C 20.5 % P 0 % G 5 % S .5 % M 1 % V 1 %
SLOPE: Long 15 % Hang 2.5 % Vert 62 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 757 m NO 504 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	IC	IB	IF	IS	1	2	3	4	5	6	7	8	SU	U	M	U
ASPHALT PAVEMENT																
POOLED																
COVER				X										X		
COAT			X											X		
STAIN			X											X		
MOUSSE																
PATTIES			X												X	
TARBALLS			X												X	
FILM																
NO OIL													X			X

PAVEMENT: H F S 0 sq. m by 0 cm

PATTIES / TARBALLS 1 BAGS

NEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris	X		

DEBRIS COLLECTED

☒ YES ☐ NO

TYPE 2 oiled pom poms

#BAGS 1

Photographs:

Roll No. 0

Frames 0

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		UD	UC	1	2	3	4	5	6	7	8			
1	7					X	~~0-5~~	X										X		N B, C
2	30					X	~~0-25~~	X										X		N V, C, M

COMMENTS

This segment was mainly bedrock. In the pocket beaches at the beginning of the segment had splashes of cover + patchy coat + stain. There were a few pattys + tarballs but more oiled pompoms than patties.

SHORELINE ECOLOGICAL SUMMARY

Revision: 02/83

Segment ST KN-10 Subdivision A Date (mo / day / yr) 04 / 08 / 90
 Time (24 hr) 1630 Biologist PENN

- (A) Substrate type and % of segments:
 (1) Bedrock 62 (2) Boulder 10 (3) Cobble 21 (4) Pebble 5 (5) Sand 1/2 (6) Silt 1
- (B) Overall % cover of biota (% of segment): Dense — Moderate 60 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 (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~~	<u>2</u>	<u>2</u>	<u>2</u>	2	2	2	
3	3	3	~~3~~	~~3~~	~~3~~	<u>3</u>	<u>3</u>	<u>3</u>	3	3	3	
4	4	4	~~4~~	~~4~~	~~4~~	<u>4</u>	<u>4</u>	<u>4</u>	4	4	4	
5	5	5	~~5~~	~~5~~	~~5~~	<u>5</u>	<u>5</u>	<u>5</u>	5	5	5	
6	6	6	~~6~~	~~6~~	~~6~~	<u>6</u>	<u>6</u>	<u>6</u>	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:

2 eagles
 2 otters

Ecological Considerations:

03 K. A. USEY
 SEGMENT ST/ KN10
 SUBDIVISION A
 DATE 4, 8 90

SCH MAP

A

CHECKLIST

- ☒ N Arrow
- ☒ Approx. Scale
- ☒ Seg/Sub Body
- ☒ Oil Dist.
- ☒ Width
- ☒ Length
- ☒ % Cover
- ☒ Substrate Character
- ☒ Est. HNL/LNL
- ☒ SSL
- ☒ Profile Location(s)
- ☒ Profile(s)
- ☒ Pit Location(s)
- ☒ Photo Location(s)

LEGEND

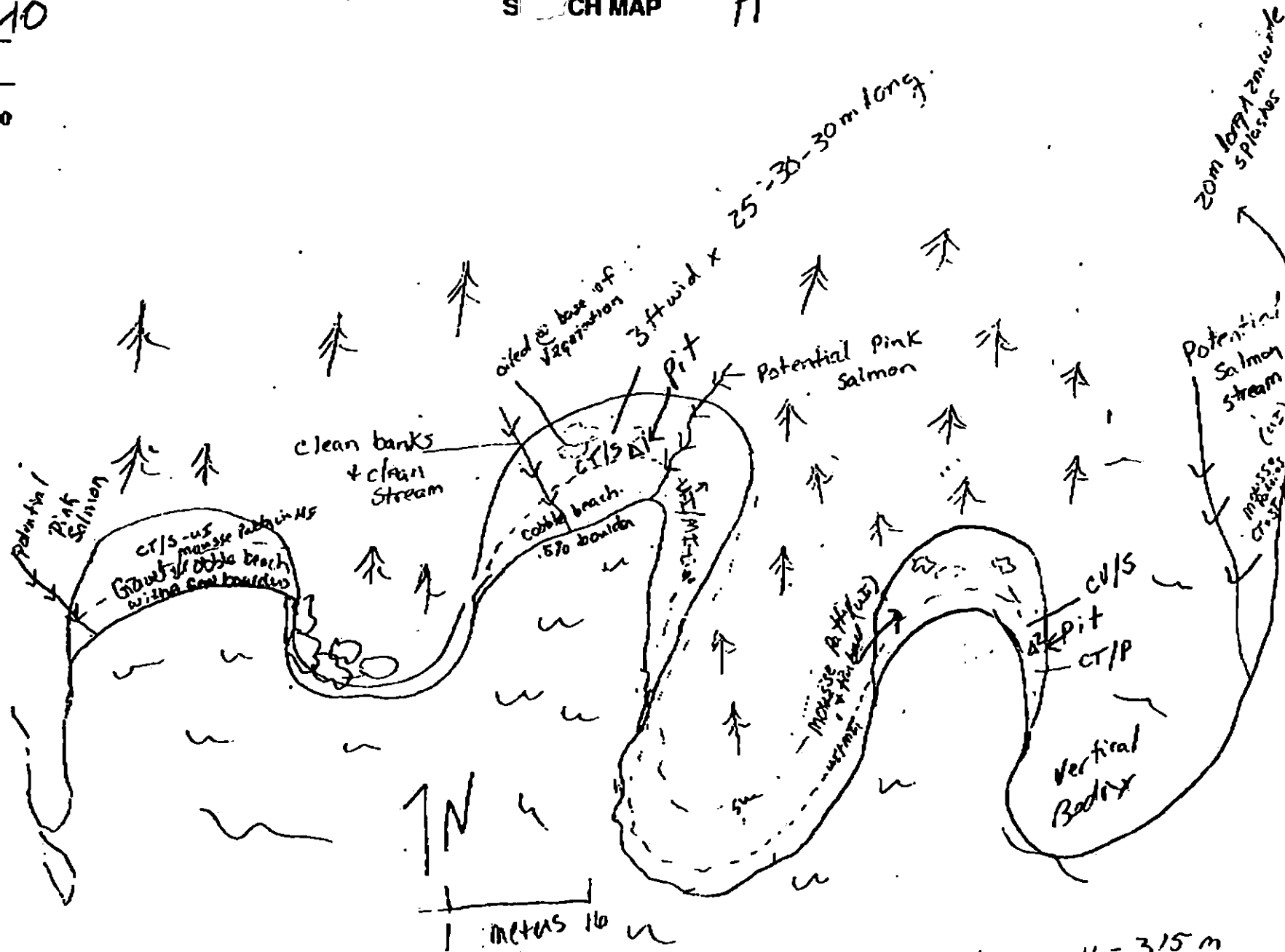
- 1 Δ
Pit - No Subsurface Oil
- 2 Δ
Pit - Subsurface Oil
- CT/C

Continuous Distribution
- CT/B

Broken Distribution
- CT/P

Patchy Distribution
- CT/S

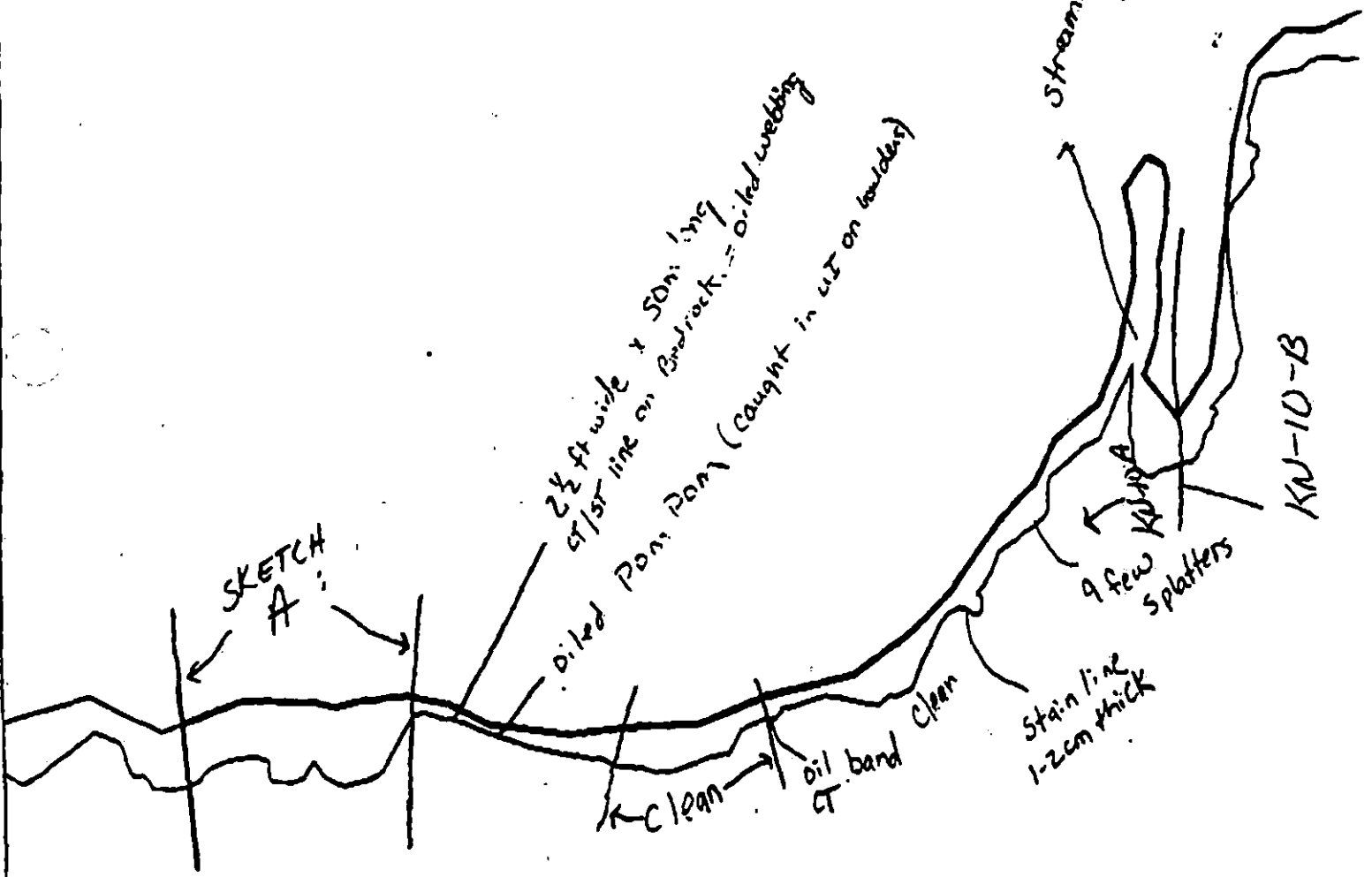
Splashed Distribution
- 
Oiled Vegetation
- 
Photo location, direction, and number



for entire subdivision

Oil Character Length (m): AP — PO — CV 3 CT 757 ST 757 MS — PT 3 TB — FL — NO 504

12



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-10

ADEC Segment Length: 3507m

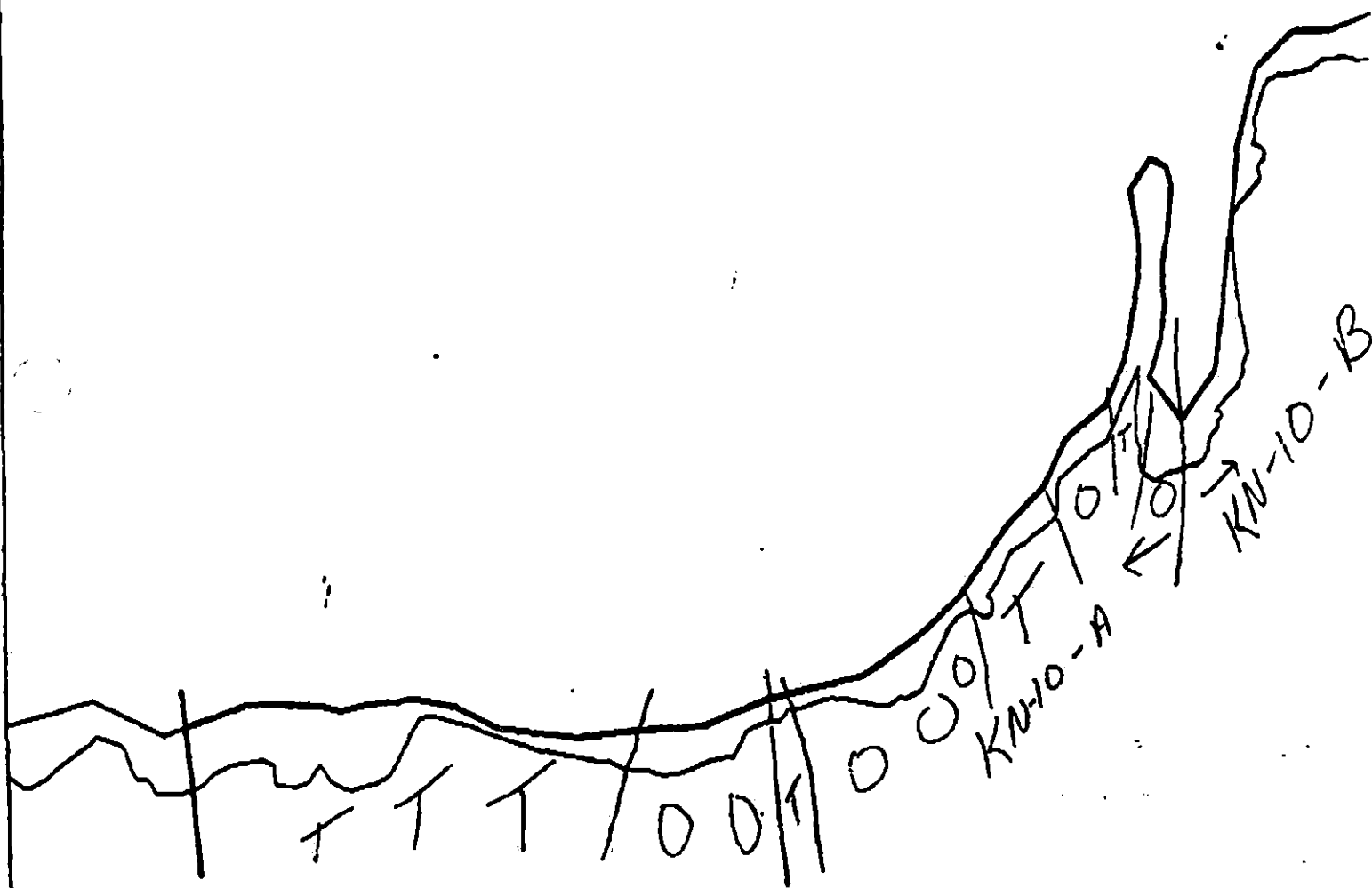


Map Key: PWS-280a

Name: K. RAMSEY

Date: 4/8/90

Date Entered:



XXXX Wide

//// Medium

--- Narrow

TTT Very Light

0000 No Oil

KN-10

ADEC Segment Length: 3587m



Map Key: PWS-2800

Name: K. RAMSEY

Date: 4/8/90

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-10 SUBDIVISION B (2 OF 2) DATE 4/8/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

2M Herring spawning (4/1 to 6/15)
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)
6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Charles E. Adams DATE: 4/25/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 486 m: No Oil 1720 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: MONITORED TO ASSESS THE FEASIBILITY AND NEED FOR
MANUAL PICK UP, SPOT WASH, AND BIOREMEDIATION WHILE IN
PROXIMITY TO THIS AREA.

TAG APPROVAL DATE: 4/24/90

ADEC ART WEINER

EXXON ANDY TEAL

NOAA Joseph Tevett

USCG M. J. HALL

FOSC: W L 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 (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)
 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 (8/1 to 9/15)
 6V Anchorages (8/1 to 9/15)
 6W Forest Service cabins (8/1 to 9/15)
 6X Lodge (8/1 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-10 SUBDIVISION: 3 DATE 4/8/90

ISCG
NAME MTSABARA SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

ADEC
NAME S. FERGUSON SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

LAND MANAGER
NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

SHORELINE OILING SUMMARY

REVISION NO. 02/23/90

OG K. RAMSEY USCG R. Sharpe SEGMENT ST/ KN-10
 BIO G. PENN LAND REP SUBDIVISION B
 EXXON S. REID ADEC S. FERGUSON TIME 5:45 to 7:40
 TEAM NO.: 4 TIDE LEVEL: 1.5' to 1' DATE 4/8 / 90
 EST. SUBDIVISION LENGTH: 252.2 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: S to N
 SURFACE SEDIMENTS: R 10 % B 69 % C 20 % P 1 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 21 % Hang 69 % Vert 10 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 757 m NO 1265 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	IC	IB	IP	IR	1	2	3	4	5	6	7	8	SU	U	M	U
ASPHALT PAVEMENT																
POOLED			X			X								X		
COVER			X			X								X		
COAT				X		X								X		
STAIN				X		X								X		
MOUSSE																
PATTIES			X				X							X		
TARBALLS			X			X								X		
FILM																
NO OIL													X		X	X

PAVEMENT: H F S 0 sq. m by 0 cm

PATTIES / TARBALLS 1 BAGS

NEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris	X		

DEBRIS COLLECTED ☒ YES ☐ NO

TYPE Pom Pom

#BAGS

Photographs:

Roll No.

Frames

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		UC	UC	1	2	3	4	5	6	7	8			
1	25					X	0-0		X									X	N	P all the way
2	10					X	0-0		X				X					X	N	C, P - dug through c

COMMENTS

This segment was mainly high angle bedrock + boulders. There were 2 areas of pooled mousse. the 1st at the beginning of the segment trapped behind the Rx outcrop in the UIZ behind + under the large boulders. The second was trapped in front of the 2nd to last outcrop before the end of the segment behind lg. boulders in the UIZ

REVIEWED 7w DATE 4/10/90

OG K. MSEC

SEGMENT STI KN10

SUBDIVISION B

DATE 4.8 90

ATCH MAP A

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Bndry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HML/LWL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Photo(s)
- ☐ Pit Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ
Fl - No Subsurface Oil

2 Δ
Fl - Subsurface Oil

CT/C
Continuous Distribution

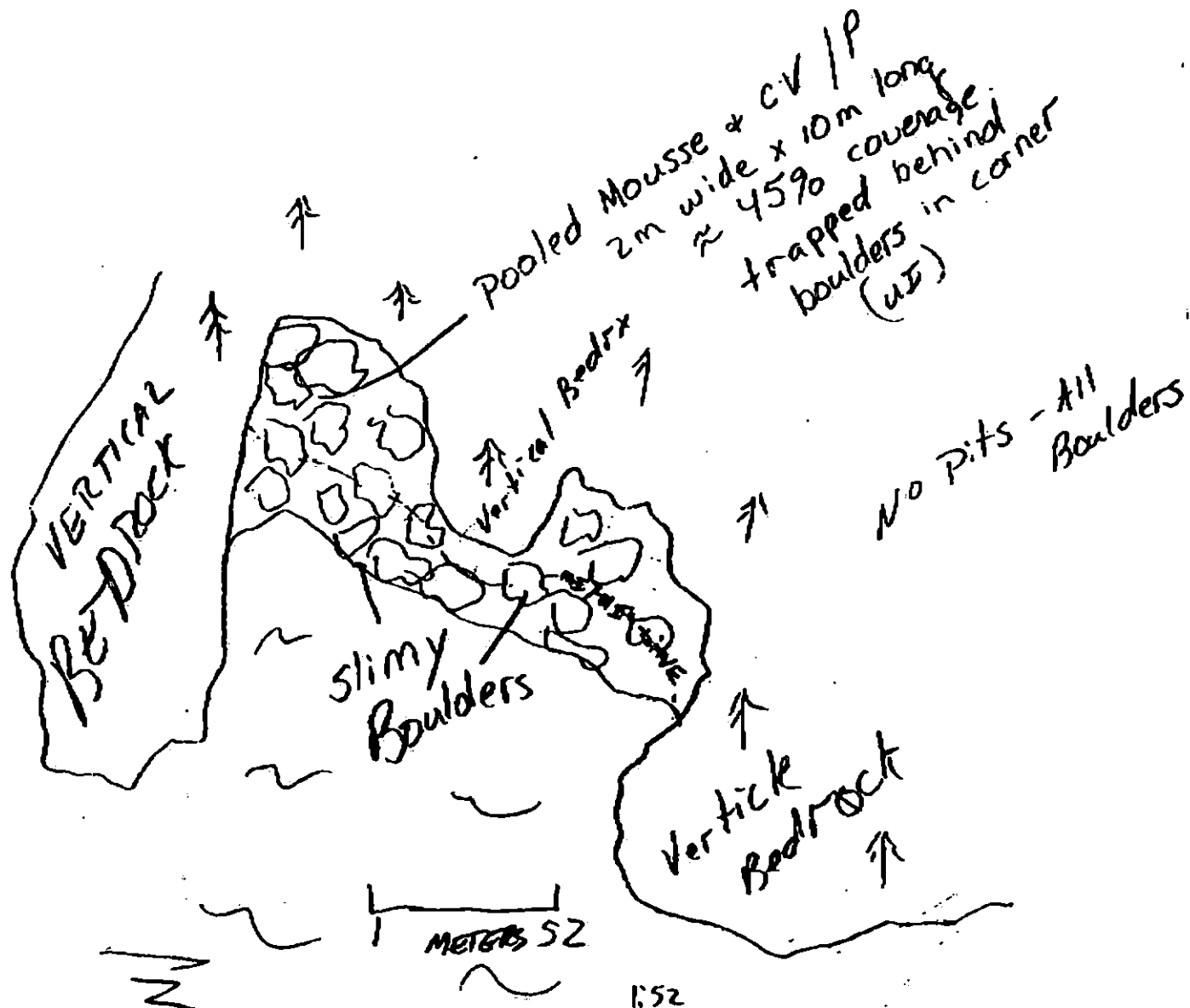
CT/B
Broken Distribution

CT/P
Patchy Distribution

CT/S
Splashed Distribution

Oiled Vegetation

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



entire subdivision
Oil Character Length (m): AP 6 PO 6 CV 6 CT 75 ST 75 MS 3 PT 2 TB 2 FL 1765

OG K. MSEY

SEGMENT ST/ KN-10

SUBDIVISION B

DATE 4, 9 90

TCH MAP B

CHECKLIST

- ☒ Area
- ☒ Approx. Scale
- ☒ Seg/Sub Entry
- ☒ Oil Out.
- ☒ Width
- ☒ Length
- ☒ % Cover
- ☒ Substrate Character
- ☒ Est. HML/AWL
- ☒ SSL
- ☒ Profile Location(s)
- ☒ Profile(s)
- ☒ PII Location(s)
- ☒ Photo Location(s)

LEGEND

1 Δ
Pk - No Subsurface Oil

2 Δ
PI - Subsurface Oil

CT/C
Continuous Distribution

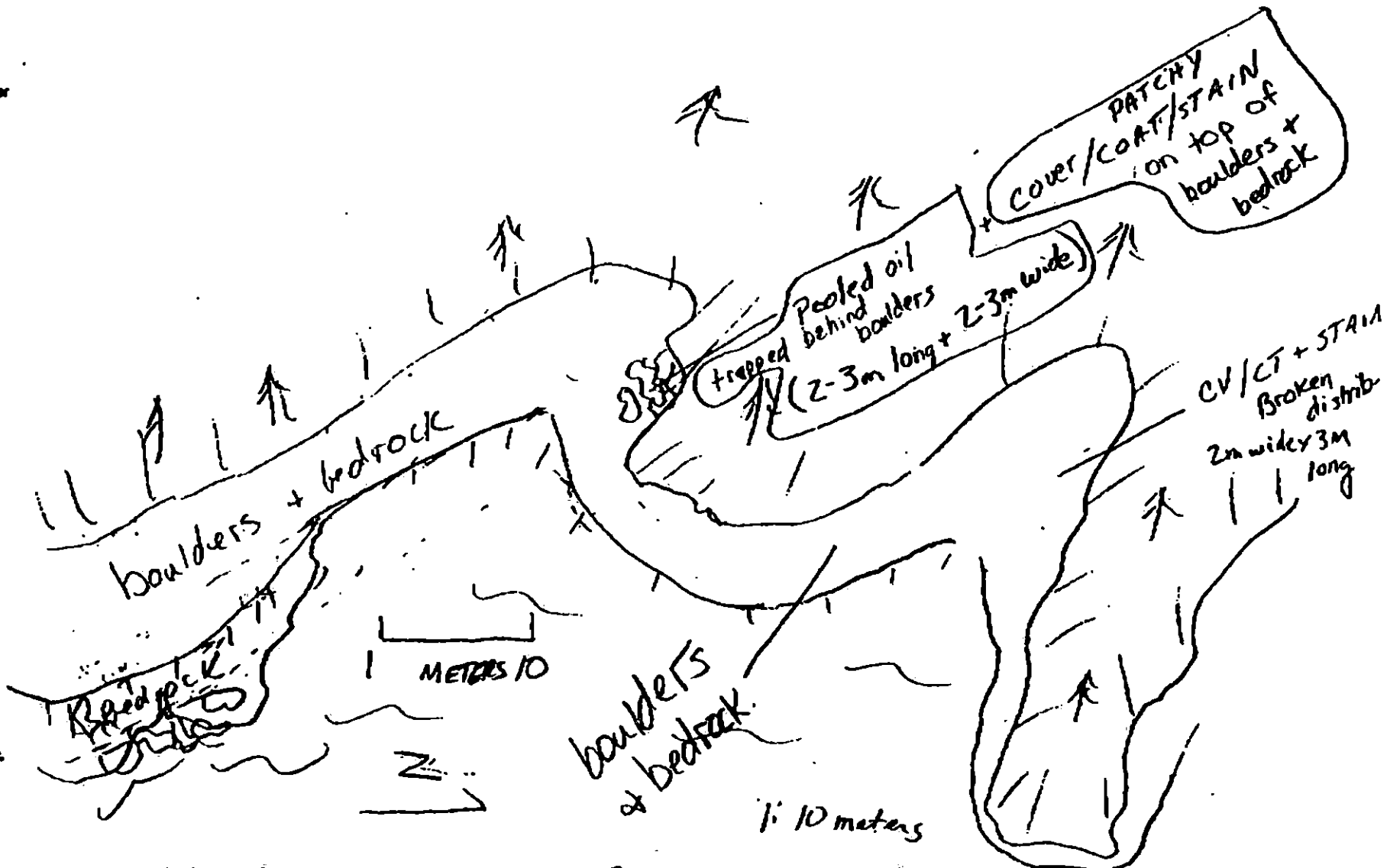
CT/B
Broken Distribution

CT/P
Patchy Distribution

CT/S
Splashed Distribution

Oiled Vegetation

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



Oil Character Length (m): AP — PO 6 CV 6 CT 757 ST 757 MS — PT 3 TB 2 FL — NO 1745

REVISION: 000000

APR-05-1990 15:26 FROM NO BEACH UNITIES TO EWIN SCHT F.13

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/88

Segment ST/KN-10 Subdivision B Date (mo/day/yr) 04/08/90

Time (24 hr) 1745 Biologist PENN

(A) Substrate type and % of segments:
(1) Bedrock 10 (2) Boulder 69 (3) Cobble 20 (4) Pebble 1 (5) Sand 1 (6) Silt 1

(B) Overall % cover of biota (% of segment): Dense 80 Moderate 10 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 (3)

Photographs:
Roll No. 1

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	

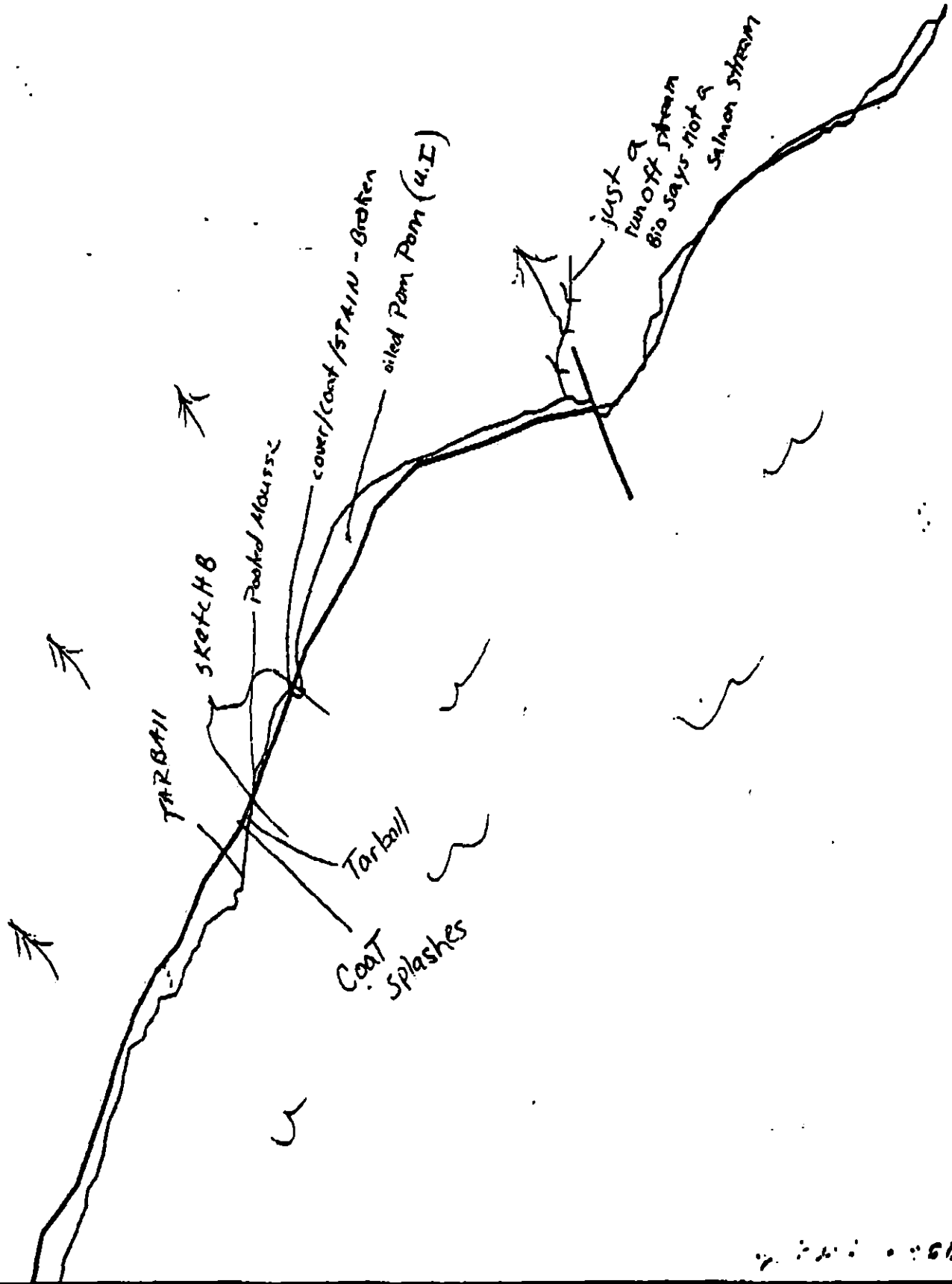
FUCUS

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:

2 mergansers 1 cormorant
1 seal 1 eagle
1 otter

Ecological Considerations:



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-10

ADEC Segment Length: 3587m



Map Key: PMS-2800

Name: K. RAMSEY

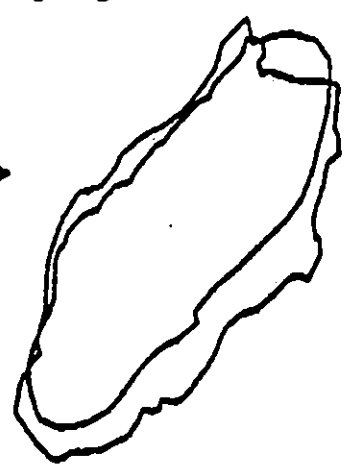
Date: 4/8/90

Date Entered:

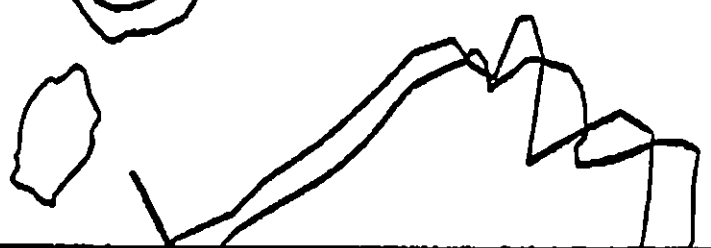
KN-11



KN-17



KN-16



Potential
Shallow
Stream
STNU/CONT/SPLASHES
Chain
SKIN
SKIN LINE
2cm wide @ Hull
only on this
Rock face

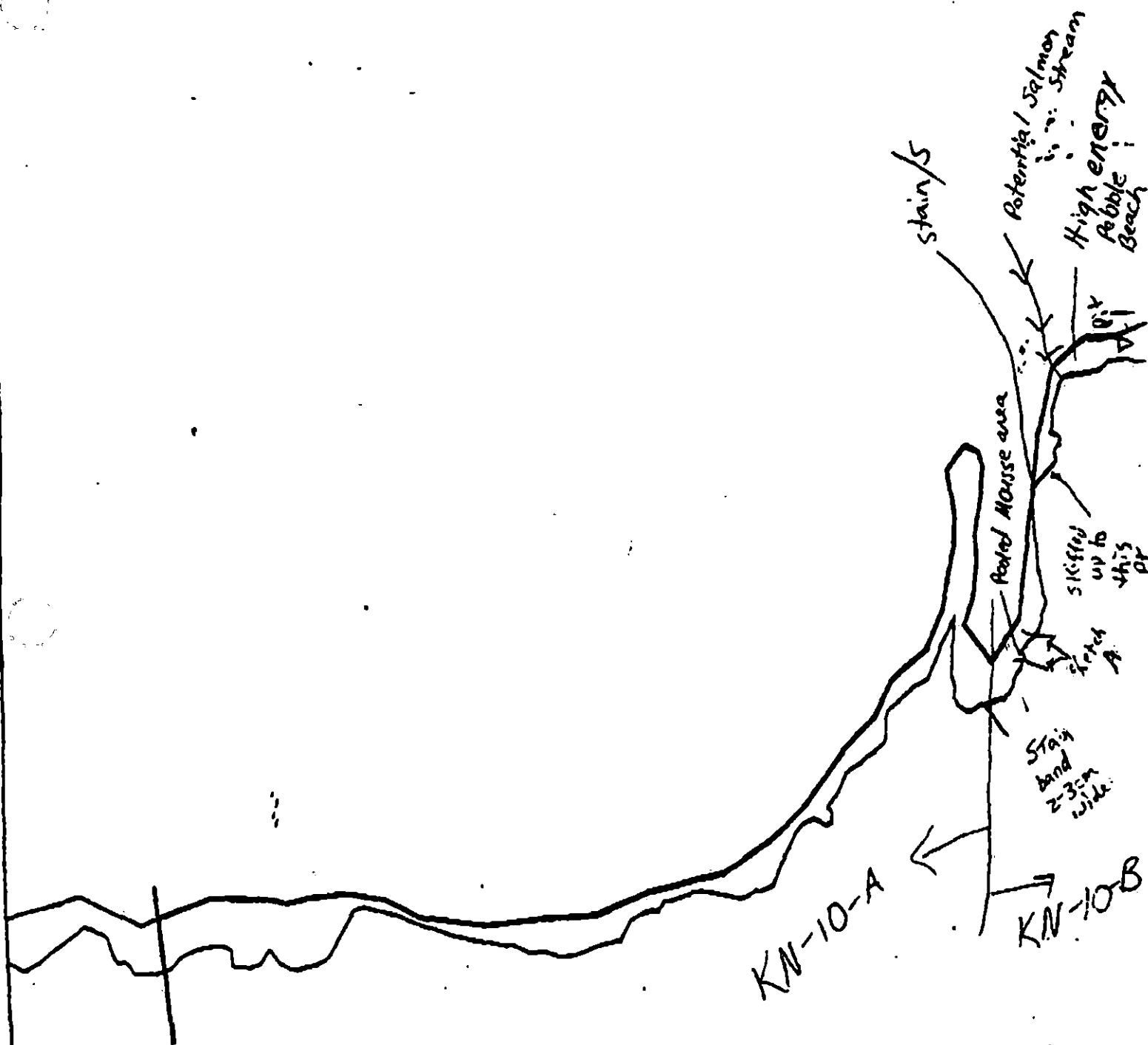
XXXX Wide
//// Medium
--- Narrow
TTTT Very Light
0000 No Oil

KN-10

ADEC Segment Length: 3587m



Map Key: PWS-280b
Name: K. RAMSEY
Date: 4/8/90
Date Entered:



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-10

ADEC Segment Length: 3587m

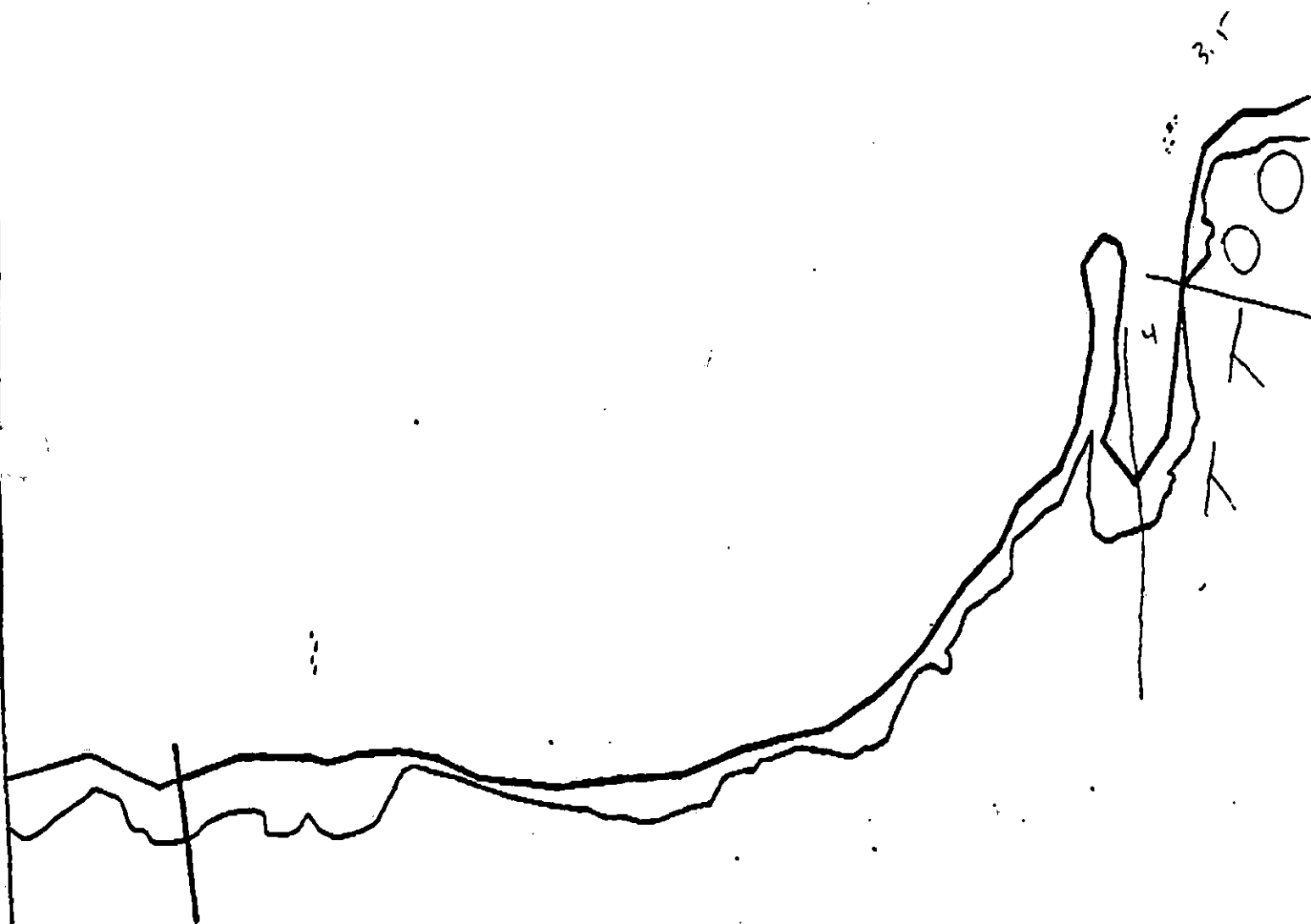


Map Key: PWS-240a

Name: K. RAMSEY

Date: 4/8/90

Date Entered:



XXXX Wide

/// Medium

----- Narrow

TTTT Very Light

0000 No Oil

KN - 10

ADEC Segment Length: 3587a



Map Key: PWS-280a

Name: K. RAMSEY

Date: 4/8/90

Data Entered:

KN-11

KN-17

KN-16

KN-10

XXXX Wide

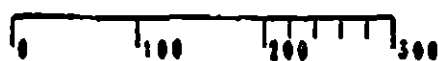
/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

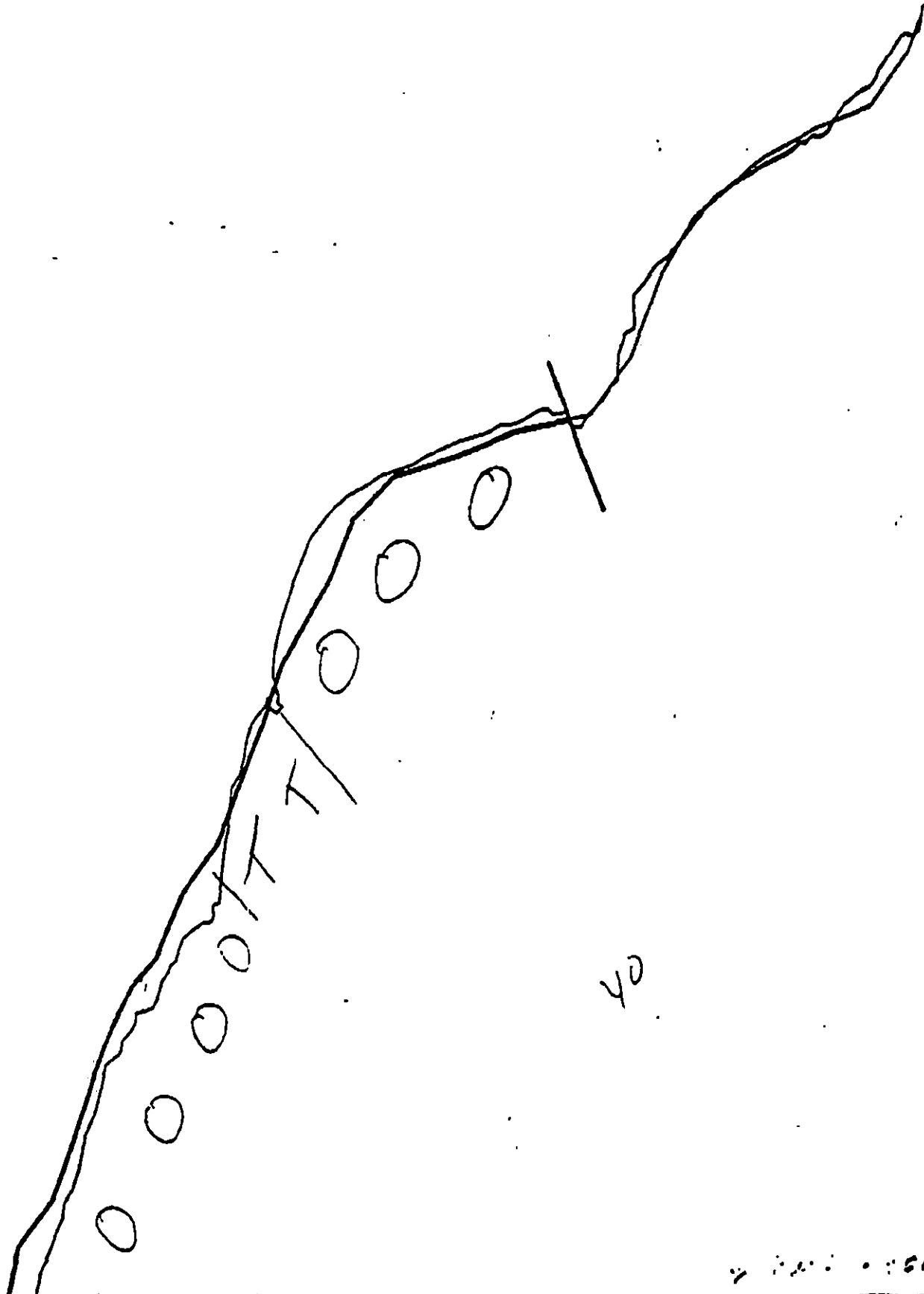
ADEC Segment Length: 3587m


METERS

Map Key: PWS-280b

Name: K. RamseyDate: 4/8/90

Date Entered:



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-10

ADEC Segment Length: 3587m



Map Key: PWS-280d

Name: K. RAMSEY

Date: 4/8/90

Date Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-11 SUBDIVISION A (1 OF 1) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Herring spawning (2M) - 4/1 to 6/15; harbor seal and sea lion
pupping and molting area (3N, O, P, Q) - 5/15 to 7/1 and 8/15 to
9/15.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Restrict disturbance of dense
to moderate fucus in U and MITZ, and moderate development of bar-
nacles and gastropods in U and MITZ.

SHPO SIGNATURE: Charles G. Hume DATE: April 11, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 6 m: Narrow 86 m: V.Light 244m: No Oil 144m
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>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 bioremediation of area indicated on sketch
map. All work to be performed between 7/1 and 8/15 based on
pinniped constraints. SPOT WASH AS REQUIRED PRIOR TO BIOREMEDIATION.

TAG COMMENTS:

TAG APPROVAL DATE: 4/10/90

ADEC JOHN MURPHY

EXXON ANDY GIL

NOAA Burl Wescott

USCG G.A. REITER

FOSC: WJL

DATE: 5-6-90

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN-11 SUBDIVISION: DATE 3/31/90

USCG

NAME M. J. SHARPE SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

ADEC

NAME S. FERGUSON SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

THE AREA ABOVE WHERE THE SKIFF IS LOCATED, CONCENTRATED OILING WAS OBSERVED ATOP THE HORIZONTAL BEDROCK IN THE BOULDERS/CORBLES/GRAVELS IN H1R2 + SU. SUGGEST A HOT WATER FLUSH USING SNARE BOOMS + MANUALLY HANDLED PUMP-UPS TO PICK UP THE OIL RELEASED (WITH FLUSHING) → A FEW SMALL AREAS ON EITHER SIDE OF AREA DESCRIBED HAVE CONCENTRATED OILING WHERE THE HOT WATER FLUSH SYSTEM DESCRIBED COULD BE USED.

LAND MANAGER

NAME M. C. T. SMITH SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

SHORELINE OILING SUMMARY

REVISION NO. 03/29/90

OG K. Ramsey USCG R. Sharpe SEGMENT ST/ KN-11A
 RIO G. Penn LAND REP M. Smith SUBDIVISION
 XXON S. Reid ADEC S. Ferguson TIME 1:10 to 1:46
 TEAM NO.: 4 TIDE LEVEL: 1.5' to 4' DATE 3.1.31.90
 EST. SUBDIVISION LENGTH: 585 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 95 % B 3 % C 1 % P 15 % G 5 % S — % M — % V — %
 SLOPE: Long 2 % Hang 3 % Vert 95 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W — m M 2 m N 40 m VL 262 m NO 24 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR						IMPACTED ZONES			
	C	R	P	B	SP	BR	GY	BL	TL	LT	SU	U	M	L
ASPHALT PAVEMENT														
POOLED														
COVER	X								X		X	X		
COAT	X		X						X		X	X		
STAIN	X	X				X					X			
MOUSSE														
PATTIES				X					X		X			
TARBALLS														
FILM														
NO OIL													X	X

PAVEMENT: H F S N/A 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 #BAGS

Photographs:

Roll No. P ST-4-1Frames 10, 11

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	GY	BL	TL	LT	SU	U	M	L		

COMMENTS

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/23/90

Segment ST / KN-11 Subdivision None Date (mo / day / yr) 03/31/90
Time (24 hr) 1310 Biologist Penn

(A) Substrate type and % of segments:
(1) Bedrock 95 (2) Boulder 3 (3) Cobble 1 (4) Pebble 1 (5) Sand 1 (6) Silt 1

(B) Overall % cover of biota (% of segment): Dense 5 Moderate 15 Low 0

(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:

8 CROWS

Boat + foot observations

Lower MITZ + LITZ not observed

Ecological Considerations:

ETCH MAP

SEGMENT ST/ KA-11

SUBDIVISION

DATE 3/31 90

CHECKLIST

- ☒ N Arrow
- ☐ Approx. Scale
- ☒ Seg/Sub Endry
- ☒ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☒ Substrate Character
- ☒ Est. HNW/LVL
- ☒ BSL
- ☒ Profile Location(s)
- ☐ Profile(s)
- ☒ Pit Location(s)
- ☒ Photo Location(s)

LEGEND

Pit - No Subsurface Oil

2 ▲

Pr - Subsurface Oil

CT/C

Convulsive Distribution

CT/B

Broken Distribution

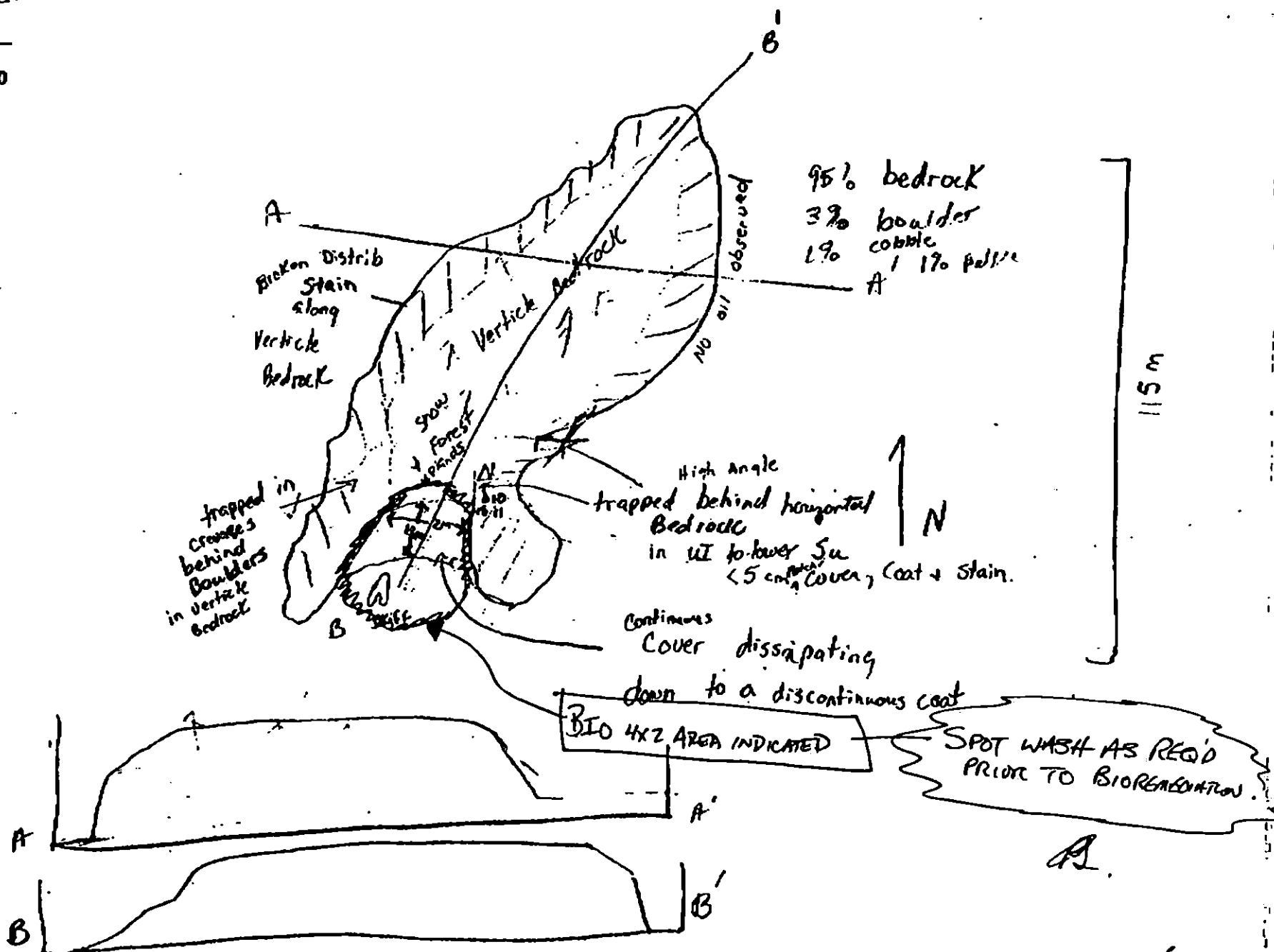
CT/P

Patchy Distribution

CT/S

Splashed Distribution

Old Vegetation

1. **1**Photo location, direction,
and number

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

100% Satisfaction Guarantee

DATE 3 131 90

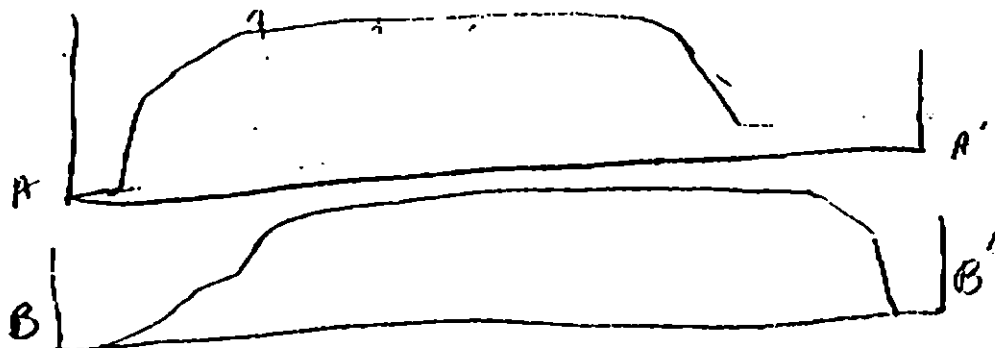
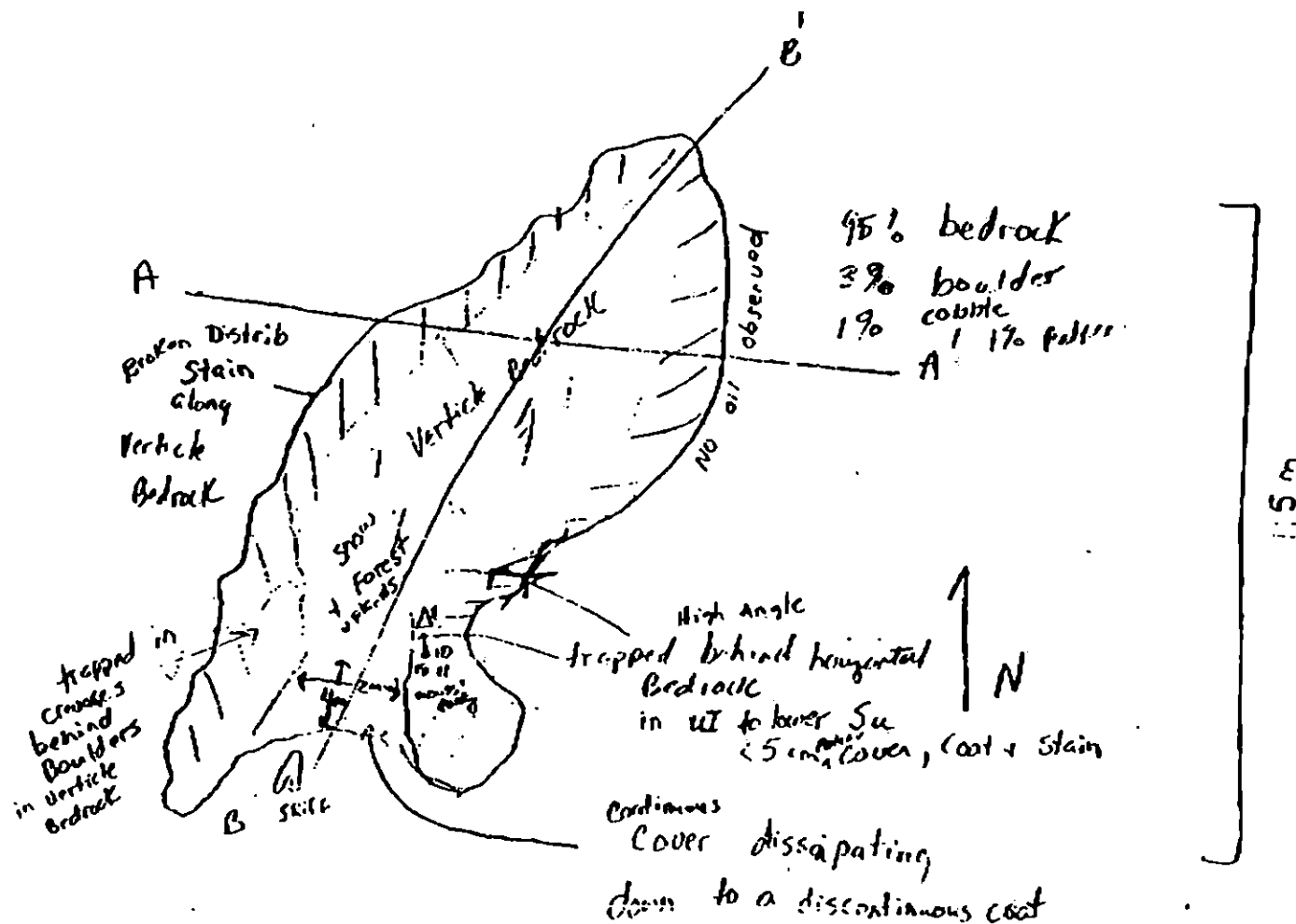
SKETCH MAP

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Endry
- ☒ OE Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☒ Est. 1MW/1WL
- ☐ SSL
- ☐ Profile Location(s)
- ☒ Profile(s)
- ☐ Pl Location(s)
- ☒ Photo Location(s)

LEGEND

- 1 
F11 - No Subsurface Oil
- 2 
F11 - Subsurface Oil
- 
Continuous Distribution
- 
Broken Distribution
- 
Patchy Distribution
- 
Splashed Distribution
- Oiled Vegetation
- 1 
Photo location, direction
and number

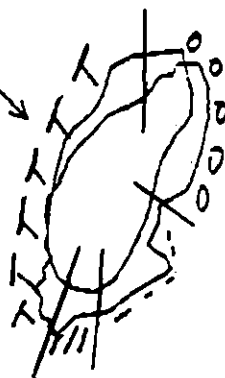


Oil Character Length (m): AP 0 PO 0 CV 2 CT 40 ST 302 MS 0 PT 1 TB 0 FL 0 NO 241

REVISIONS OUTLINE

REVISED TO INCLUDE

KN-11



KN-17



KN



XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-~~11~~ 11

Total Segment Length: 871

0 100 200 300

METERS

Map Key: PWS-325

Name: _____

Date: _____

Date Entered: _____

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-11 SUBDIVISION A (1 of 1)

WORK WINDOW	
Spot Washing Bioremediation	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

2M	Herring Spawning	NO CONSTRAINT. Authorized by Claudia Slater/ADF&G on 5/10/90 to Exxon/Tom Kelley.
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	NO CONSTRAINT. USFWS Bald Eagle Impact Assessment on 5/22/90 by Mike Lockhart verified no active nest within 400m of work site.

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. Restrict disturbance of *Fucus*, barnacles and gastropods in upper and mid intertidal zones.

TAG APPROVAL DATE

ADEC Art Weimer

EXXON Amr Tate

NOAA Joseph L. Lohr

USCG G.A. Deiter

FOSC [Signature]

Date

5/30/90

Prepared by

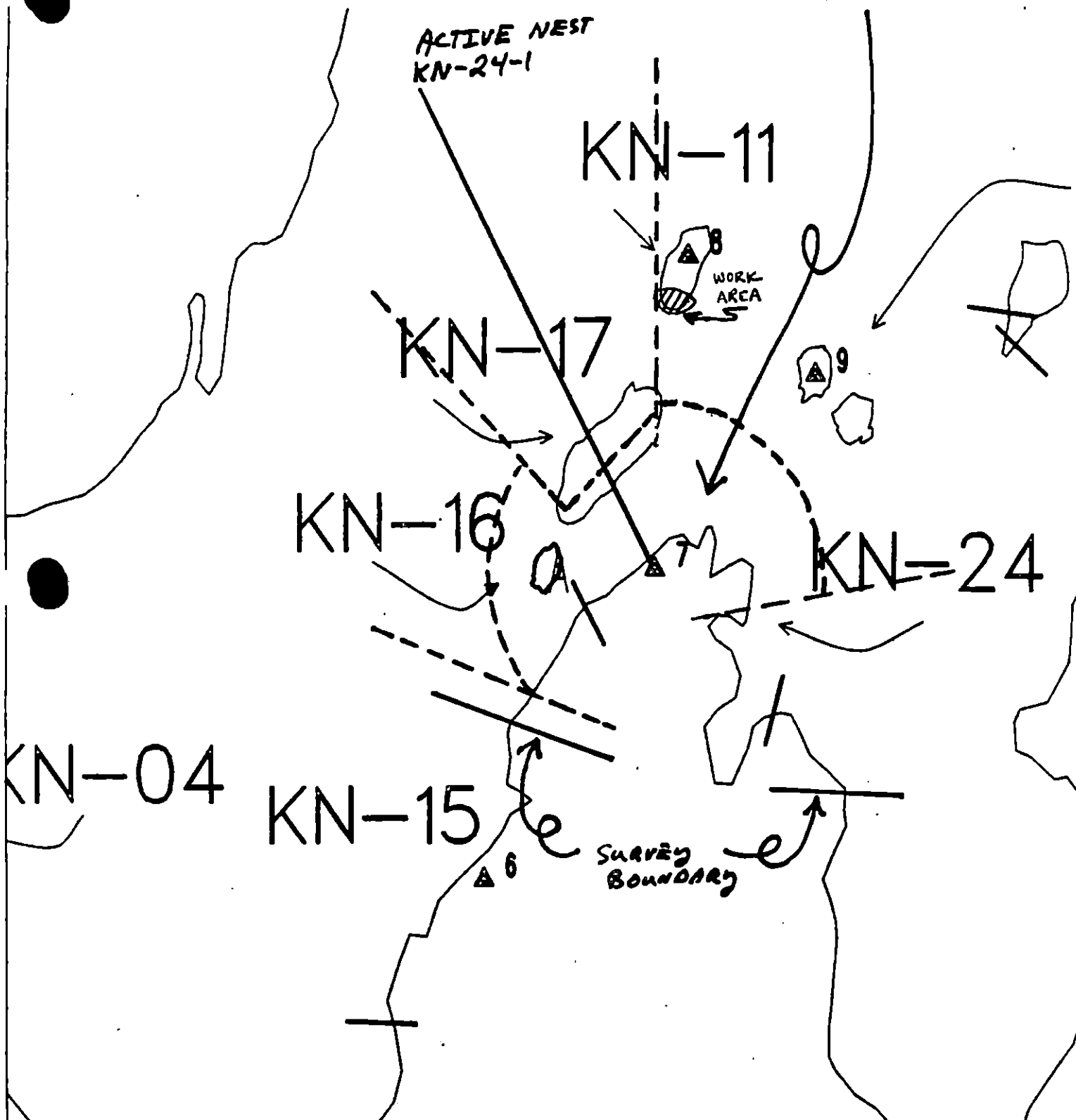
Anden Meyer

Date

5/29/90

USFWS Bald Eagle Damage Assessment
Survey by Mike Lockhard on 5/27/90.

NO BEACH, BOAT,
AIRCRAFT ACCESS



Exxon Company, USA
Map Key: KNI-KN-16
May 11, 1990

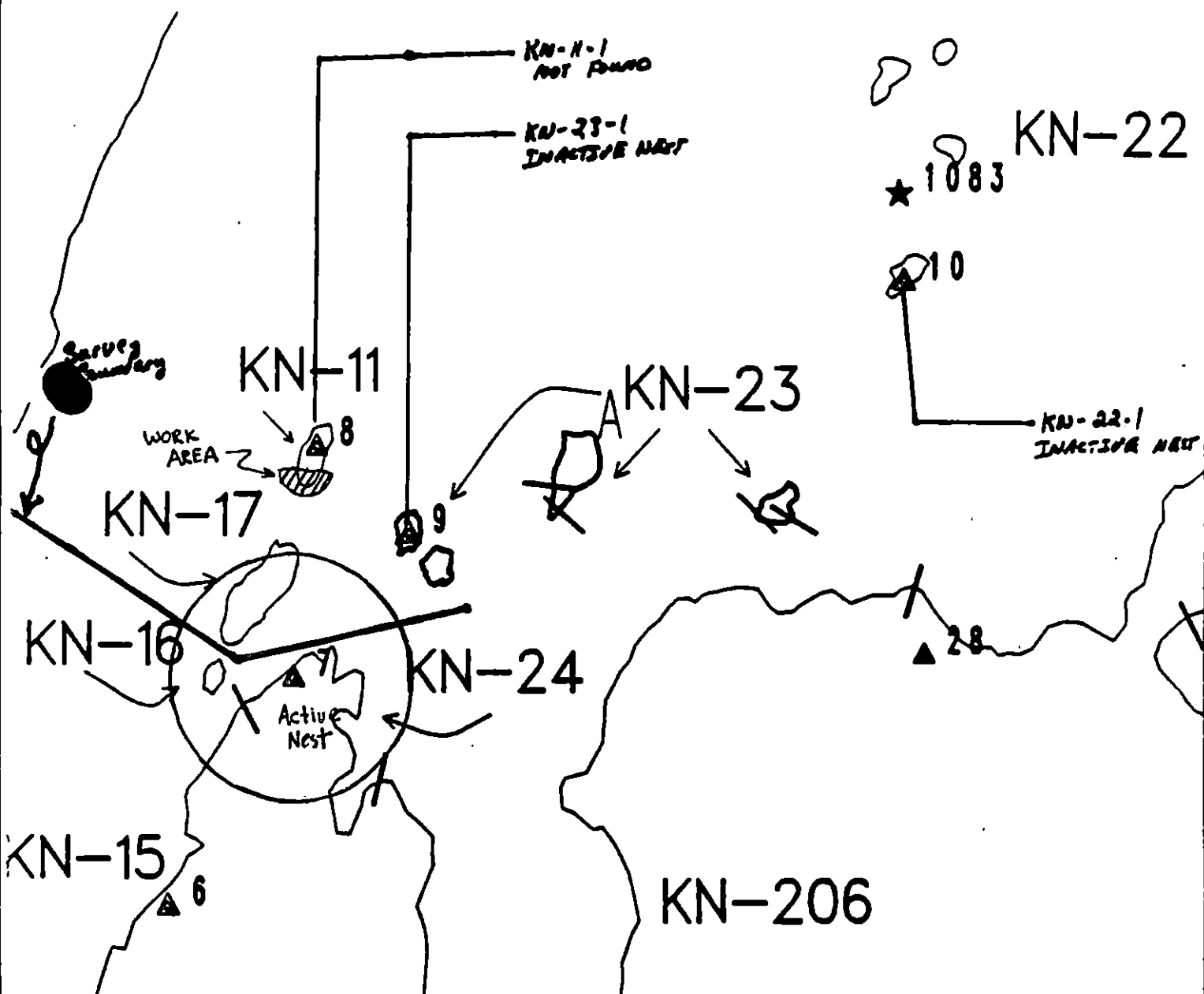
ECOLOGY MAP
SEGMENT KN-11
SUBDIVISION A (1 of 1)
METERS
0 321 642

- ★ Seabird Colony
- ▲ Eagle Nest

1 inch = 1054 feet

USFWS Bald Eagle Damage Assessment
Survey by Mike Lockhard on 5/22/90.

W-KN-11
4 of 4

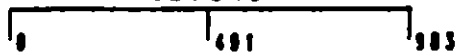


Exxon Company, USA
Map Key: KN-11-23
May 11, 1990

ECOLOGY MAP SEGMENT KN-11

SUBDIVISION A (1 of 1)

METERS



- ★ Seabird Colony
- ▲ Eagle Nest

1 inch = 1612 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-12 SUBDIVISION A (1 OF 1) DATE 4/24/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

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

OILING CATEGORIZATION:

Wide 97 m: Medium 32 m: Narrow 101 m: V.Light 251 m: No Oil 0 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>X</u> Tarmat Removal	<u> </u> Beach Cleaner
	<u> </u> Other (see comments)

COMMENTS: Recommended treatment includes 1) manual removal of tarmats
2) bioremediation of areas indicated on attached sketch map. Work
should be conducted after 6/15 based on herring constraints. REMOVE
UNATTACHED OILED VEGETATION

+TARBALLS

TAG COMMENTS: MANUALLY RAKE IF FEASIBLE FROM TO BIO INARGA
OF TP-1

TAG APPROVAL DATE: 5/4/90.

ADEC ART WENGER

EXXON ANDY

NOAA GARY

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 6/15)
 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
- Subsistence area: Salmon harvesting (5/1 to 9/30)
 Finfish harvesting
 Deer harvesting (6/15 to 2/28)
 Invertebrate harvesting
- 7J 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-12 SUBDIVISION: A-10f1 DATE 04/24/90USCGNAME David S. Thomas SIGNATURE [Signature]☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTEDADECNAME Clara S. Crosby SIGNATURE Clara S. Crosby☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS 1) Pit #1 SITE: Due to terrain (Ang. B/C armor w/ gravel) & extent of silt/sand suggest hot water flush or steam flush.

2) Same recommendation for area (Boulder Cove) to south.

3) Site @ pits # 2, 3, 4. 50 m area surface sediments silted low energy area - prep (rake or till) if Bio is considered.

LAND MANAGERNAME Peter Zellers SIGNATURE [Signature]☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTEDI concur with the above recommendations.

SHORELINE OILING SUMMARY

REVISION NO. 04-13-90

OG RICK GILLIE USCG DAVE THOMAS SEGMENT ST/ KN-12
 BIO DAVE LOHSE LAND REP PETER ZOLLAR SUBDIVISION A (1 OF 1)
 KXON FRANK BOY ADEC CLARA CONROY TIME 0800 to 0900
 TEAM NO. 13 TIDE LEVEL -2' to 0' DATE 04/24/90
 EST. SUBDIVISION LENGTH: 529 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 60 % B 20 % C 15 % P 5 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 10 % Hang 70 % Vert 20 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 120 m M 50 m N 150 m VL 209 m NO 0 m

SURFACE OIL

CHARACTER	DISTRIBUTION					OIL / FILM COLOR					IMPACTED ZONES				
	C	B	P	R	W	1	2	3	4	5	SU	U	M	L	U
ASPHALT PAVEMENT			X	✓		X					X				
POOLED															
COVER				X		X					X				
COAT	✓	*	0	X		X					X				
STAIN				X		X					X				
MOUSSE															
PATTIES															
ARBALLS				X		X					X				
FILM															
NO OIL											X		X	X	

PAVEMENT H F 20 sq. m by 5 cmPATTIES / TARBALLS 1 BAGSNEAR SHORE SHEEN? (NO) BR RW SL TL

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

DID YOU COLLECT DEBRIS?

YES ☐ NO ☒TYPE "#BAGS "

Photographs:

Roll No. ST-13-5Frames 12-16

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	OP	NO		UO	UC	1	2	3	4	5	SU	U	M	L				
1	30	X					5-10		X	X					X						25	C-P, S, M
2	25					X	.		X							X						P-G, M
3	25					X	.		X						X							P-G, M, P
4	20					X	.		X						X							C-S, M
							.															
							.															

COMMENTS

REVIEWED YHDATE 4-26-90

RICK LIE

EMENT ST/ KN-12

JB DIVISION A-1 of 1

ATE 04/24/90

CHECKLIST

- ☒ H Area
- ☒ Approx. Scale
- ☒ Seg/Sub Backy
- ☒ Oil Dist.
- Width
- Length
- % Cover
- Substrate Character
- Est. HWA/LWA
- SSL
- Profile Location(s)
- Profile(s)
- ☒ P/L 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
Splashed Distribution

Oiled Vegetation

1 ●
Photo location, direction, and number

SKE MAP

0 50 100 150m



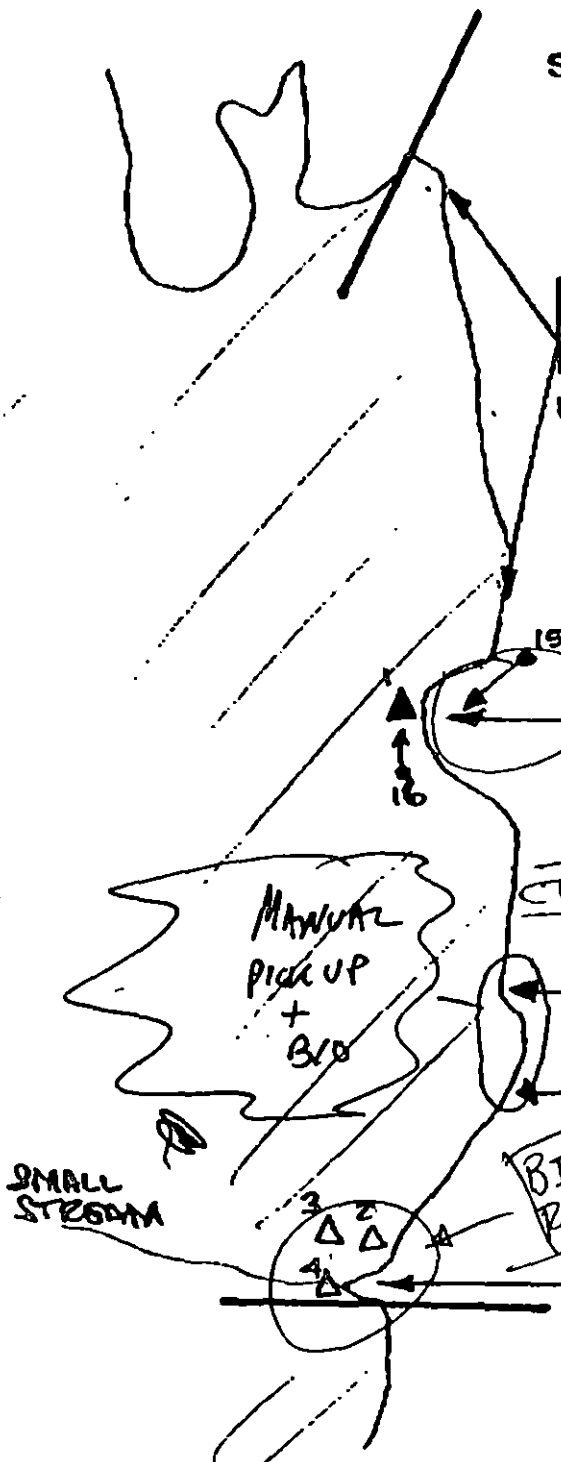
CT/S IN ROCK CREVICES (<1% COVER)
ST/S ON ROCK
0.5m BAND IN UITE

South Arm
Bay of Isles

COBBLE/BOULDER COVE (150M LONG)
- BAND IN UITE (3-8M WIDE)
- CT/C, 2x50M
- CT/B, 6x100M
- AP/P, 2x20m (TOTAL 5M²)
- TB/S (1 BAG)

BOULDER COVE (20M LONG)
- CT/B, 6m WIDE IN UITE
- CT/P, 2x50m
- CT/S, UNDERSIDE OF ROCKS
- AP/S, THIN VENEER OVER BDRK (5M²)

V-SHAPE BAY, UITE
CT/C, 2-4m x 50m
AP/P, 2x20m, 10m²
ANGULAR COBBLE



Character Length (m): AP 30 PO 0 CV 10 CT 200 ST 0 MS 0 PT 0 TB 5 FL 0 NO 284

REVISION: 02/20/00

SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/22/90

Segment ST / KNOW Subdivision A Date (mo / day / yr) 4-24-90

Time (24 hr) 8:00 Biologist David Lohse

(A) Substrate type and % of segments:
(1) Bedrock 60 (2) Boulder 20 (3) Cobble 15 (4) Pebble 5 (5) Sand (6) Silt

(B) Overall % cover of biota (% of segment): Dense 45 Moderate 30 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-13-5

Frames 12-16

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:

See page 2

Ecological Considerations:

ZM - no comment

64 - no comment

Moderate to dense mussels in mid-intertidal cobble at site 1 (see ecology map). will be assessed in next field visit.

Shoeline Ecological Summary

L of 2

Segment ST-KN012

Subdivision A

4-24-90

ol to: David Lohse

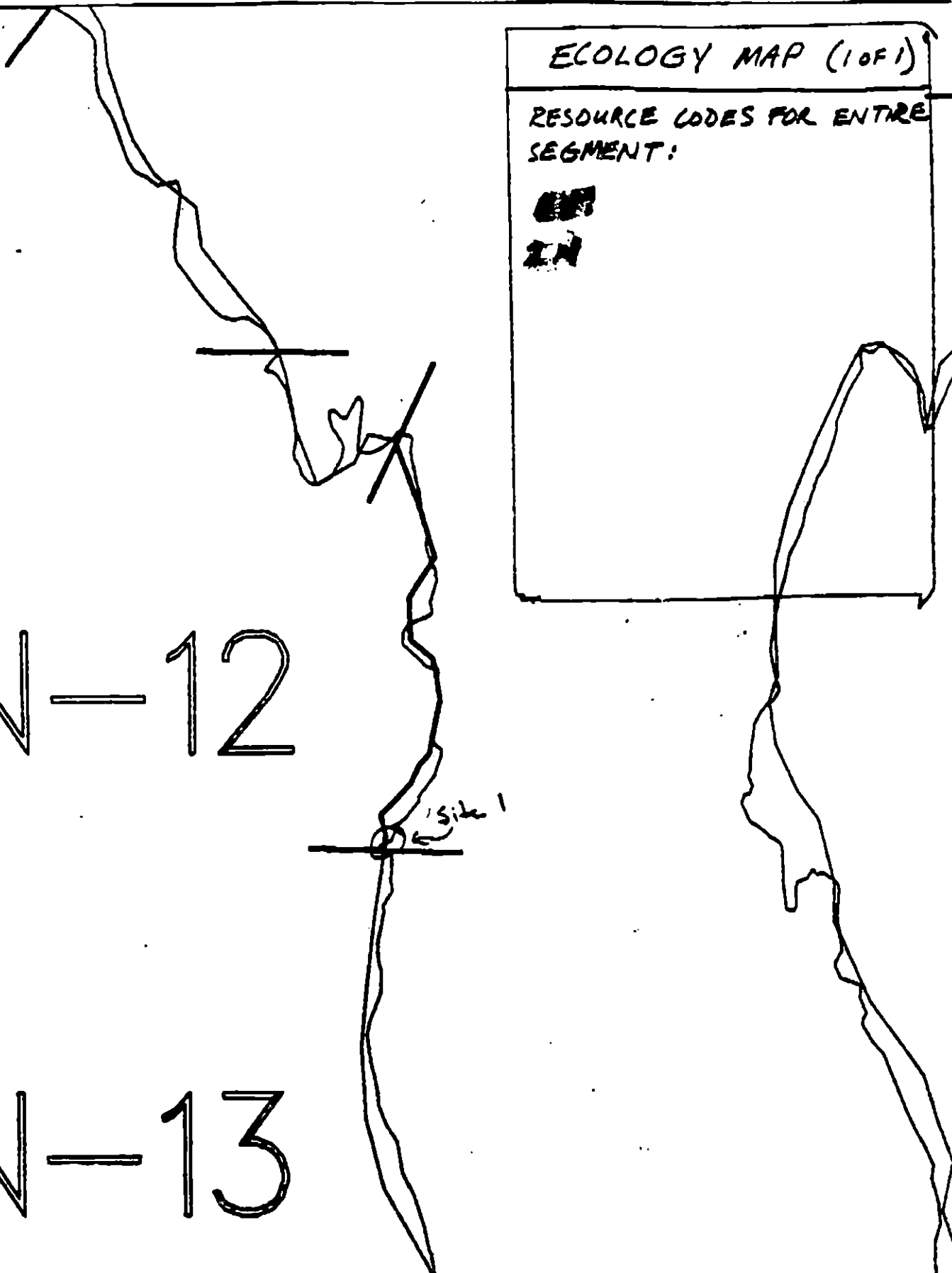
Wildlife Observations/General Comments

Present in low intertidal: Pycnopodia, Dermasterias, Evasterias, Pisaster ochraceus, Scytosiphon, Spirorbis, Ulva, Enteromorpha, Rhodomenia, coralline algae, Ectocarpus, Ralfsia

mid intertidal: Scytosiphon, Nereis, Cladophora, coralline algae, Endocladia, Enteromorpha, Agurus (under cobble), amphipods (under cobble), unidentified red "branch" (Rhodomenia)

- Barnacle mortality on mid intertidal bedrock was 10%, 10% on mid intertidal cobble, and 80% low intertidal cobble (one location estimated for each type of substrate).
- Algal cover in low intertidal ranged from 50-100% (ave ~ 75%).
- Many Melibe found in water near shore.
- The remains of a deer were ~~found~~ found above high tide line. No oil observed.
- Oil coated barnacles were found in high intertidal.
- Littorina egg masses were found underneath mid-intertidal cobble.
- Starfish, particularly Pycnopodia, were abundant in the low intertidal.

ECOLOGY MAP (1 of 1)

RESOURCE CODES FOR ENTIRE
SEGMENT:


KN-12

KN-13

Side 1

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

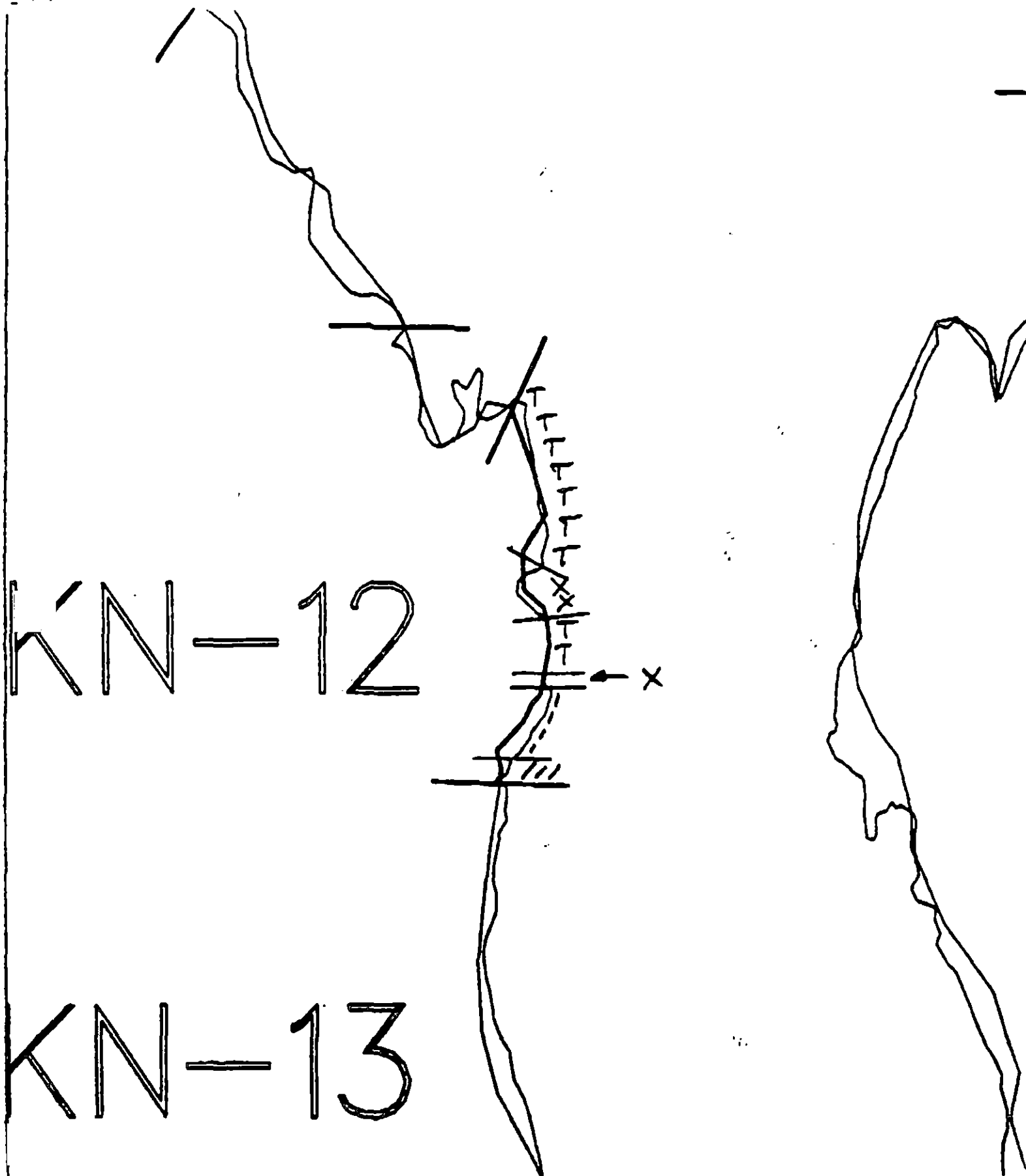
KN-12

ABEC Segment Length: 481m

Map Key: PWS-301

Name: _____

Date: _____



XXXX Wide

//// Medium

--- Narrow

KN-12

ADEC Segment Length: 481m

Map Key: PWS-301

Name: RICK GILHE

Date: 04/24/90

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-12 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup Tarmat Removal	OPEN
Manual Raking Bioremediation	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

2M Herring Spawning

NO CONSTRAINT. Authorized by Claudia Slater/ADF&G
on 5/10/90 to Exxon/Tom Kelley.

OTHER ECOLOGICAL CONSIDERATIONS

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

TAG APPROVAL DATE 5/30/90.

ADEC ART WEINER Art Weiner

EXXON ANDY GAZ Andy Gaz

NOAA Joseph Tallant Chris

USCG G. H. HEITER G. H. Heiter

FOSC

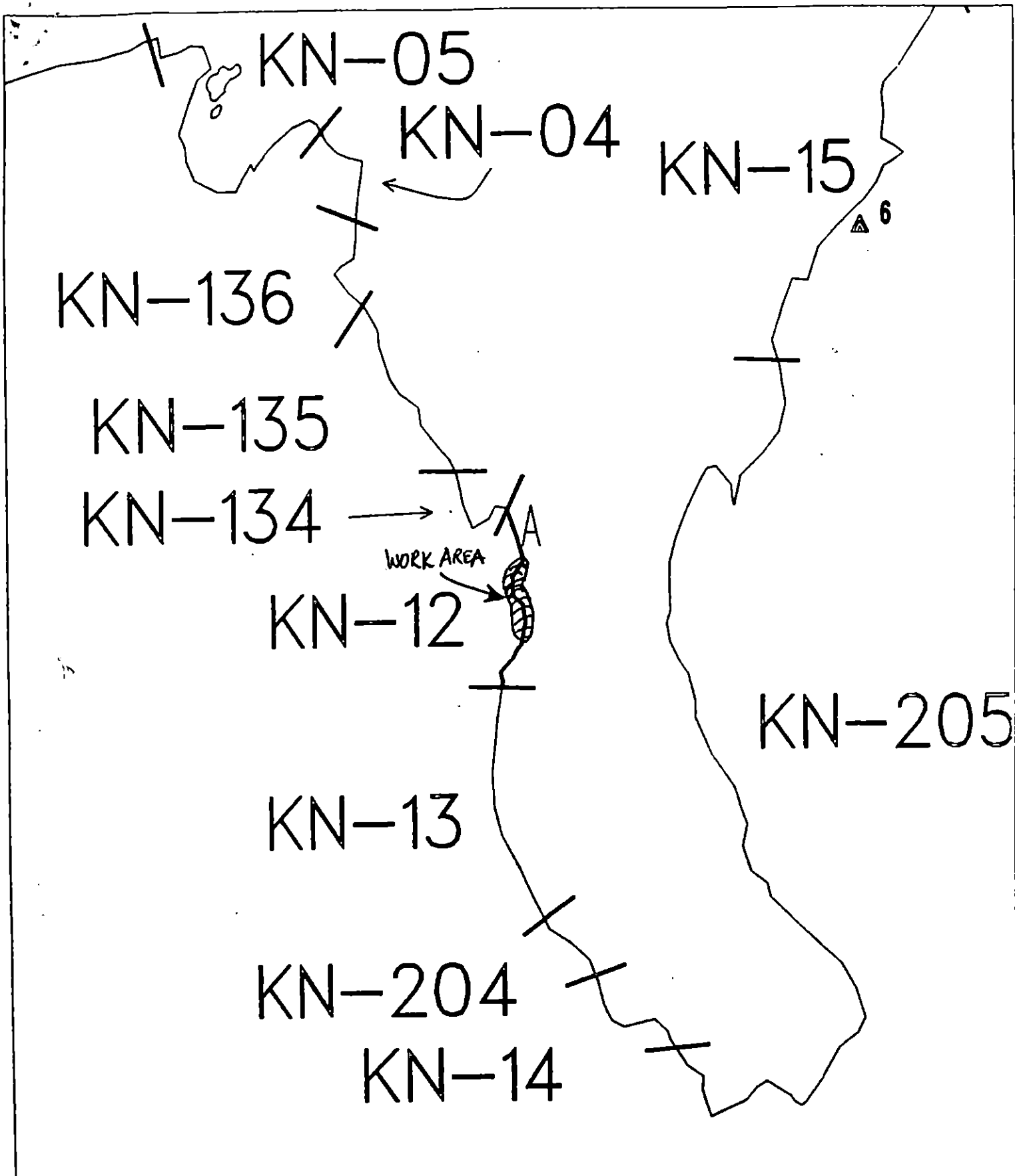
DATE

5/31/90

Prepared By: Andra Meyer wrk

Date

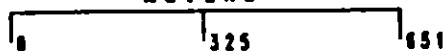
5/29/90



Exxon Company, USA
Map Key: KN1-KN12
May 11, 1990



ECOLOGY MAP
SEGMENT KN-12
SUBDIVISION A (1 of 1)
METERS



- ★ Seabird Colony
- ▲ Eagle Nest

1 inch = 1068 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-13 SUBDIVISION A (1 OF 1) DATE 4/24/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

6Y Herring spawning (4/1 to 6/15)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Charles J. Holman DATE: 5/5/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 121 m: V.Light 480 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> X </u> Tarmat Removal	<u> </u> Beach Cleaner
	<u> </u> Other (see comments)

COMMENTS: Recommended treatment includes 1) manual removal of tarmats in areas indicated on sketch map and 2) bioremediation of areas indicated on sketch map. Work should be conducted after 6/15 due to herring spawning constraints.

TAG COMMENTS: _____

TAG APPROVAL DATE: May 5 1990
 ADEC ART WENGER Not W/ear
 EXXON Mark N. Silbert Mark N. Silbert FOSC: my L DATE: 5-12-90
 NOAA Greg Pefrac Greg Pefrac
 USCG G.A. Reiter G.A. Reiter

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 Morrison 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 (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
- 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 267-2208
- 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 (8/1 to 9/15)
6V Anchorages (8/1 to 9/15)
6W Forest Service cabins (8/1 to 9/15)
6X Lodge (8/1 to 9/15)
6Y Special use destination
- 7Z** Subsistence area: Salmon harvesting (5/1 to 9/30)
 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

MENT ST / KN-13 SUBDIVISION: A-10f1 DATE 04/24/90

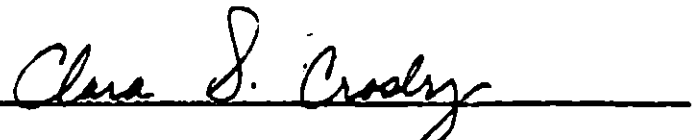
USCG

NAME David S. Thomas SIGNATURE 

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

ADEC

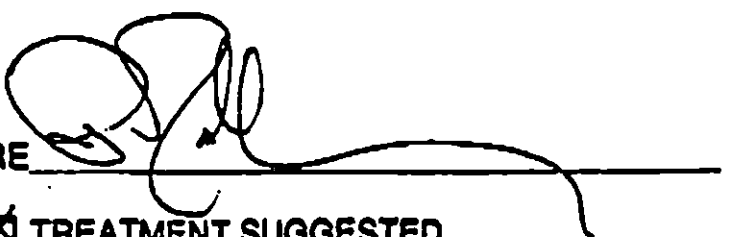
NAME Clara J. Crosby SIGNATURE 

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

- 1) Manual removal of AP
- 2) Bio of narrow Bands.

LAND MANAGER

NAME Peter Zellers SIGNATURE 

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

SHORELINE OILING SUMMARY

REVISION NO. 34-13-90

OG RICK GILLIE USCG DAVE THOMAS SEGMENT ST/ KN-13
 BIO DAVE LOHSE LAND REP PETER ZOLLAR SUBDIVISION A (1 OF 1)
 EXXON FRANK BOY ADEC CLARA CONROY TIME 0700 to 1000
 TEAM NO. 13 TIDE LEVEL 0' to +3' DATE 04/24/90
 EST. SUBDIVISION LENGTH: 603 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 20 % B 30 % C 40 % P 10 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 70 % Hang 20 % Vert 10 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 150 m VL 453 m NO 0 m

SURFACE OIL

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

PAVEMENT H F (S) 8 sq. m by 5 cmPATTIES / TARBALLS 0 BAGSNEAR SHORE SHEEN? (NO) BR RW SL TL

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

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐TYPE T.#BAGS 1

Photographs:

Roll No. ST-13-5Frames 17, 18

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					BELOW	OIL / FILM COLOR					PIT ZONE				A N A	SHEEN (Y/N)	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		1	2	3	4	5	SU	U	M	L			
1	30					X		X					X						C-P, SP
2	40					X		X					X						P-P, G
3	30					X		X					X						C-P, G

COMMENTS

GEOMORPHOLOGY: BOWDER/COBBLE/PEBBLE BEACH OVER MOST OF SEGMENT. PEBBLE DELTA AT SOUTHERN

OILING: VERY LIGHT EXCEPT FOR SOME CT/B UNDER BOWDERS AND AP/P ON DELTA.

REVIEWED Y/WDATE 4/27/90

OG RICK 'ILLIE

SEGMENT ST/ KN-13

SUBDIVISION A-10/1

DATE 04/24/90

CHECKLIST

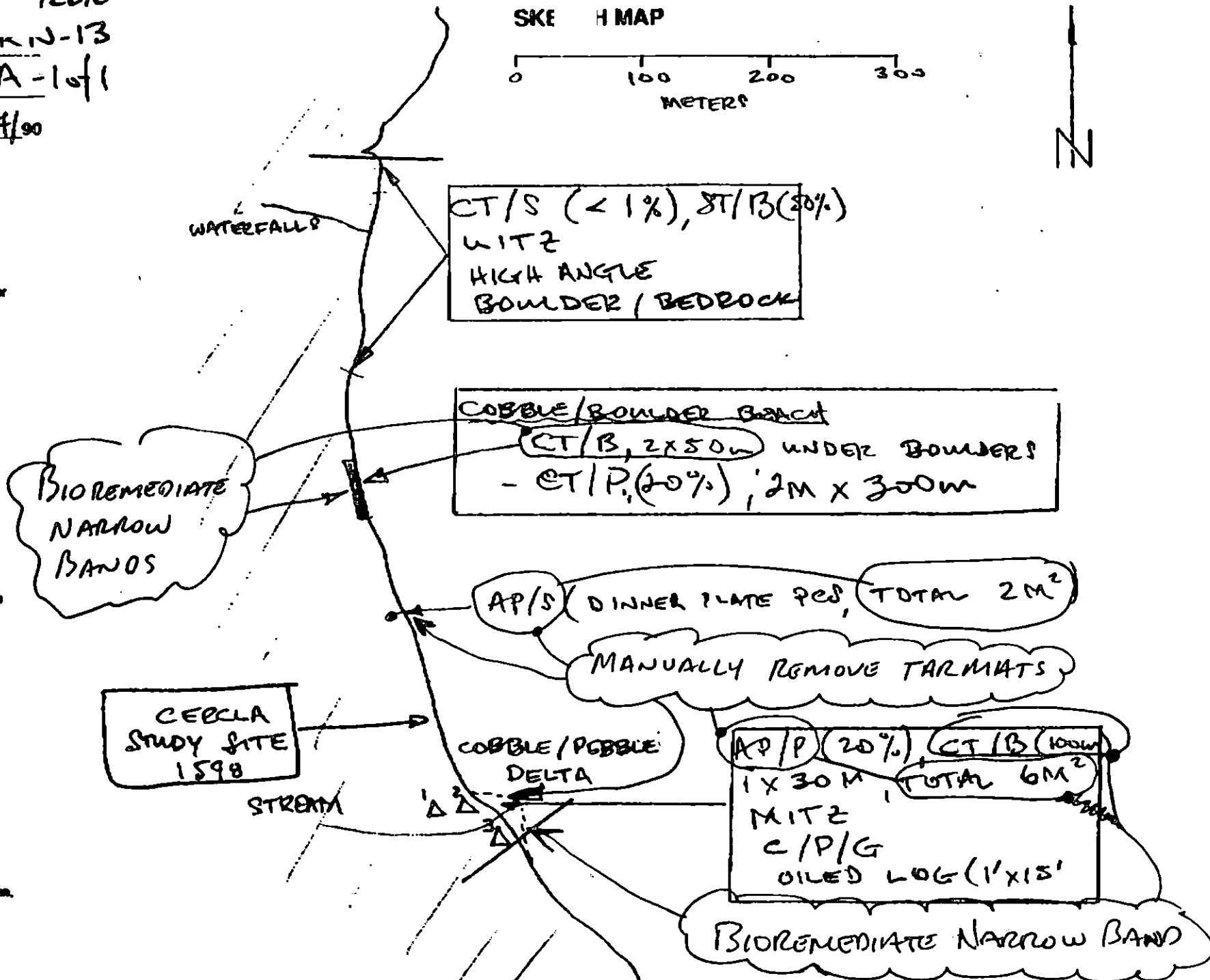
- ☒ N Arrow
- ☒ Approx. Scale
- ☒ Seg/Sub Entry
- ☒ Oil Dist
- ☒ Width
- ☒ Length
- ☒ % Cover
- ☒ Substrate Character
- ☒ Est. HVL/LWL
- ☒ SSL
- ☒ Profile Location(s)
- ☒ Profile(s)
- ☒ Pt Location(s)
- ☒ Photo Location(s)

LEGEND

- 1 Δ
Pt - No Subsurface Oil
- 2 Δ
Pt - Subsurface Oil
- $\square$ CT/C
Continuous Distribution
- $\square$ CT/B
Broken Distribution
- $\square$ CT/P
Patched Distribution
- $\square$ CT/S
Splashed Distribution
- $\bullet$
Oiled Vegetation
- $\bullet$
Photo location, direction, and number

SKE H MAP

0 100 200 300
METERS



Oil Character Length (m): AP 10 PO 0 CV 0 CT 200 ST 100 MS 0 PT 0 TB 0 FL 0 NO 293

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/1

Segment ST / KN013 Subdivision A Date (mo / day / yr) 4-24-90

Time (24 hr) 9:00 Biologist David Lohse

(A) Substrate type and % of segments:
(1) Bedrock 20 (2) Boulder 30 (3) Cobble 40 (4) Pebble 10 (5) Sand (6) Silt

(B) Overall % cover of biota (% of segment): Dense 25 Moderate 60 Low 15

(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-13-5

Frames 17, 18

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:

See Page 2

Ecological Considerations:

ZM - no comment

64 - no comment

The population of barnacles on mid and high intertidal boulders and cobbles (smaller moderate density) is not high density, could be

Shoreline Ecological Summary

Lot 2

Segment ST-KN013

Subdivision A

4-24-90

Ecologist: David Kohse

Wildlife observations / General comments

1. present in low intertidal: Enteromorpha, Scytosiphon, Cladophora, Pycnopoda, Nuella, Scytosiphon
mid intertidal: Nuella, Endocladia, Ulva, Scytosiphon, unidentified nemertean, amphipods (under cobble), unidentified red algal "branch" (Rhodomencia?)
2. No observations were taken on low intertidal bedrock
3. 1 weasel, 1 cormorant observed in the area
4. One stream located in segment. No information given on whether or not it is anadromous
5. Littorine egg masses found underneath mid-intertidal cobble.
6. Algal cover reached 50% in some areas in low intertidal.

ECOLOGY MAP (1 of 1)

RESOURCE CODES FOR
ENTIRE SEGMENT:

6 Y

2 M

KN-12

KN-13

KN-204

XXXX Wide

/// Medium

----- Narrow

TTTT Very Light

KN - 13

ADEC Segment Length: 601m

Map Key: PWS-312

Name: _____

Date: _____

KN-12

KN-13

KN-204

KN-11

KXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 U. 0000

KN-13

ADEC Segment Length: 601m

0 100 200 300

Map Key: PWS-312

Name: Rick Gilue

Date: 09/24/90

note: not a road.

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-13 SUBDIVISION A (1 of 1)

WORK WINDOW	
Tarmat Removal	OPEN
Bioremediation	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

2M Herring Spawning

NO CONSTRAINT. Authorized by Claudia Slater/ADF&G on 5/10/90 to Exxon/Tom Kelley.

OTHER ECOLOGICAL CONSIDERATIONS

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

TAG APPROVAL DATE 5/30/90

ADEC Art Weiner

EXXON Amy Blair

NOAA Joseph Talbot

USCG G.H. Deizer

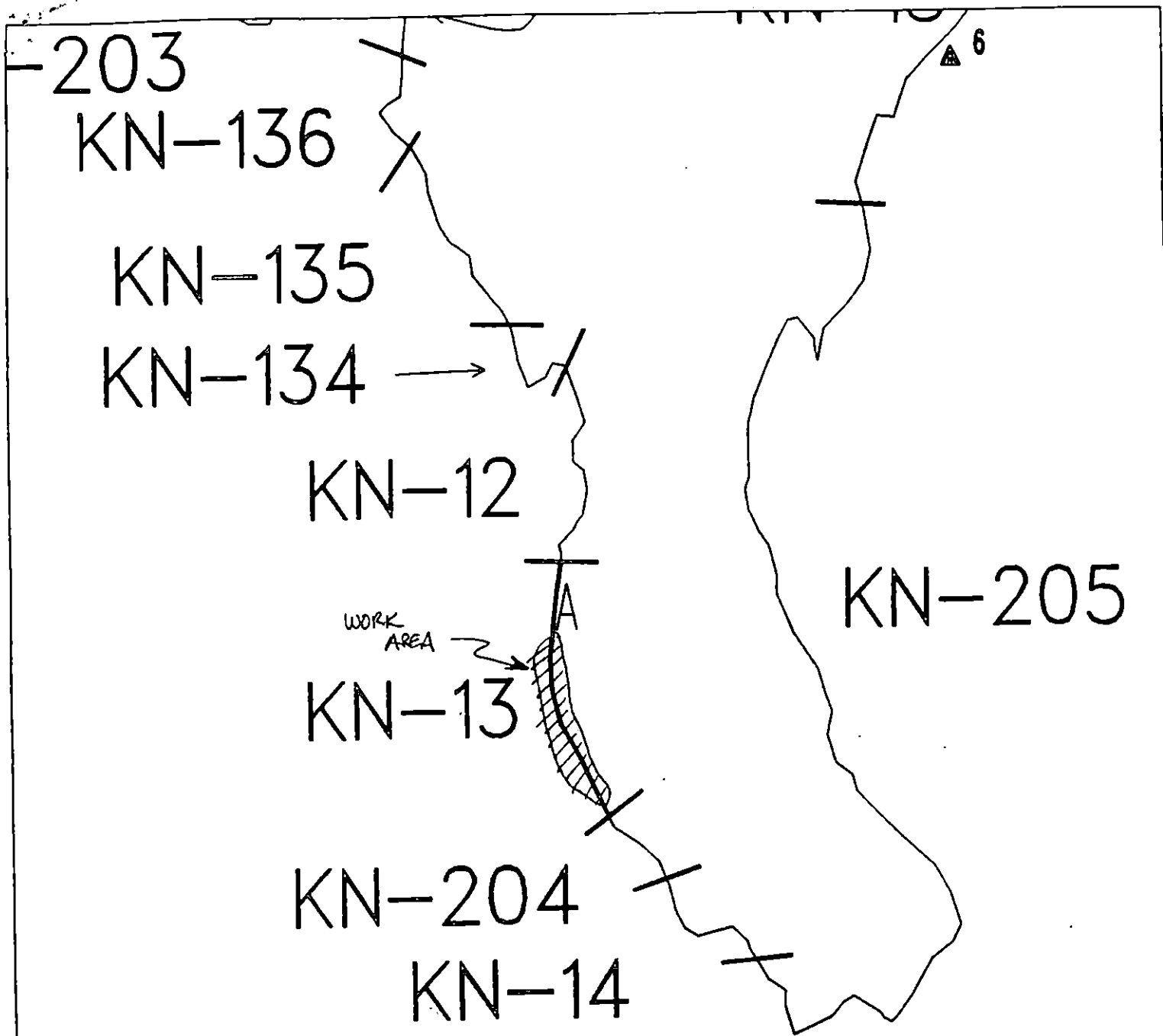
FOSC

DATE

Prepared By: Claudia Meyer WTK

Date

5/29/90



Exxon Company, USA
Map Key: KNI-KN-13
May 11, 1990



ECOLOGY MAP
SEGMENT KN-13
SUBDIVISION ___ (___ of ___)
METERS
0 337 674

- ★ Seabird Colony
- ▲ Eagle Nest

1 inch = 1106 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-14 SUBDIVISION A (1 OF 1) DATE 4/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Herring spawning (2M) 4/1 to 6/15. Restrict boat traffic to essential minimum. Do not damage uncoiled algae. Contact ADF&G for dates and locations. Special use area (6Y).

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

SHPO SIGNATURE: Charles Z. Hume DATE: 4/17/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V. Light 328 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 30cm

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)

COMMENTS: Recommend manual pick up of mousse patties and bioremediate area as shown on attached sketch map. Treatment activities should be conducted after 6/15 based on above constraints.

TAG COMMENTS:

**REASSESS SUITZ FOR OILED DEBRIS AT TIME OF CLEANUP.
ALSO CHECK FOR GENERAL OILING CONDITION IN SUITZ**

TAG APPROVAL DATE: 4/16/90
ADEC AL KEGLER
EXXON AMON TAYLOR FOSC: My L DATE: 5-6-90
NOAA Burt Wescott
USCG G.A. REITER

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN 14 SUBDIVISION: 7 DATE 4/4/90

USCG

NAME MARKIE J. SHARP SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

ADEC

NAME S. FERGUSON SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

* HITZ NEEDS TO BE LOOKED AT FORTHER DUE TO SNOW COVERAGE
AREA OF CONTINUOUS COVERAGE (AREA WAS 80% COVERED BY SNOW) SUGGEST
MANUAL REMOVAL → NOTE THAT THERE WERE 5 CM. OF GRAVEL (UNDOLED) OVER
THE CONTINUOUS BAND WHICH WAS APPROX. 2 CM. LAYER. / SPORADIC MOUSE PADDIES
ALONG LOWER HITZ.

LAND MANAGER

NAME M. C. F. SMITH SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

SHORELINE OILING SUMMARY

REVISION NO. 03/23

OG K. RAMSEY USCG R. SHARPE SEGMENT ST/ KN-14
 BIO G. PENN LAND REP M. SMITH SUBDIVISION A 191
 EXXON S. REID ADEC S. FERGUSON TIME 3:35 to 30:55
 TEAM NO.: 4 TIDE LEVEL: 2' to 2' DATE 4/14/90
 EST. SUBDIVISION LENGTH: 322 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: S to N
 SURFACE SEDIMENTS: R 2 % B 25 % C 31 % P 12 % G 30 % S — % M — % V —
 SLOPE: Long 98 % Hang 2 % Vert — % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W — m M — m N — m VL 322 m NO — m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR				IMPACTED ZONES			
	AC	AS	AP	AR	BS	BS*	CS	CS*	SU	U	M	L
ASPHALT PAVEMENT												
POOLED												
COVER	X				X				X			
COAT									X			
STAIN			X				X		X			
MOUSSE	X						X		X			
PATTIES		X					X		X			
TARBALLS									X			
FILM		X					X		X			
NO OIL									X		X	X

PAVEMENT: H F S N/A sq. m by 1PATTIES / TARBALLS 1 BAGS

NEAR 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 —

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			US	US*	CS	CS*	BS	SU	U	M	L		
1	20					X	0.0	X						X				N	B, C, G
2	25	X					0.30	X			X			X				N	C, P
3	25	X					5.7	X			X			X				N	G, Bedix
4	25	X					5.7	X			X			X				N	G, Bedix
5	25	X					5.7	X			X			X				N	G, Bedix
6	30					X	—	X						X				N	G, Bedix

COMMENTS

This segment was mainly a boulder shoreline. There was snow covering the SU + upper U. Sporadic mousse patties occurred throughout the section. A section of cont. cover 5m long x 1m wide occurs midway through the segment in the U.I. Splashes or stain on some of the boulders in the upper US can be found.

Page 1 of 2REVIEWED MH DATE 4-6-90

SEGMENT ST/ KN-14 SUBDIVISION A

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CA)	BELOW		OIL / FILM COLOR							PIT ZONE				A N A	SUBSURFACE SEDIMENTS		
		OP	OR	OL	OF	NO		UC	UC	~~1~~	~~2~~	~~3~~	~~4~~	~~5~~	~~6~~	~~7~~	~~8~~	~~9~~	~~10~~					
7	30					X	—		X										X				N	G, bedrock.
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
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							.																	
							.																	
							.																	
							.																	

COMMENTS

REVIEWED _____ DATE _____

SHORELINE ECOLOGICAL SUMMARY

REVISED: 05/

Segment ST / KN-14 Subdivision A Date (mo / day / yr) 04/04/90

Time (24 hr) 1535 Biologist PENN

(A) Substrate type and % of segments:
(1) Bedrock 2 (2) Boulder 25 (3) Cobble 31 (4) Pebble 42 (5) Sand - (6) Silt -

(B) Overall % cover of biota (% of segment): Dense 10 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. -
Frames -

BARNACLES

Dense			Moderate			Sparse			Rare			NOT PRESEN
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 PRESEN
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 PRESEN
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 PRESEN
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:

SEGMENT

KN-14

SKETCH MAP

SUBDIVISION

A

DATE

4, 4, 80

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HMR/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

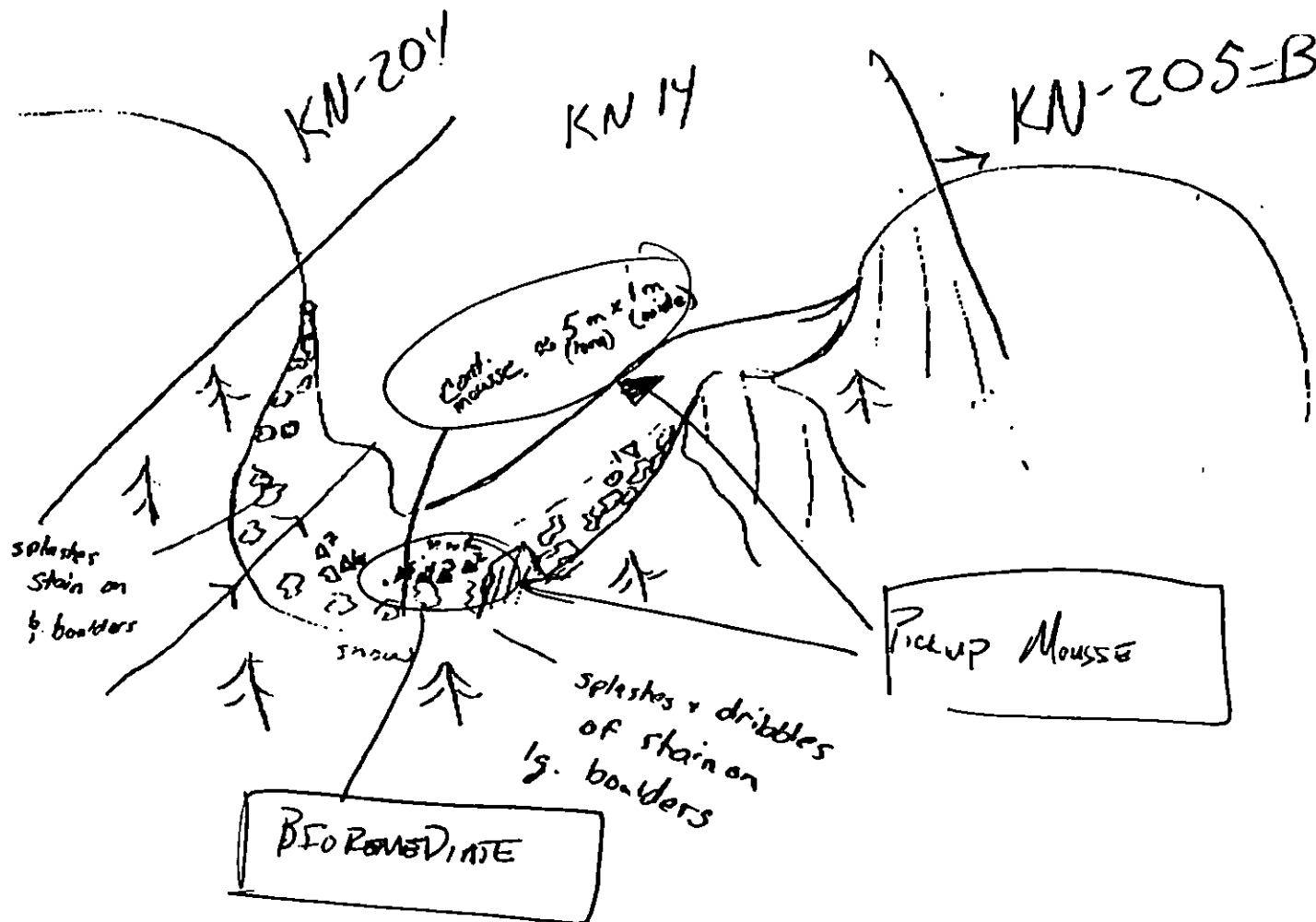
Patchy Distribution

CT/S

Splashed Distribution

Oil on Vegetation

1 ●→

Photo location, direction,
and number

Oil Character Length (m): AP 0 PO 0 CV 0 CT 0 ST 5 MS 0 PT 322 TB 0 FL 0 NO 0

KN-14

KN-204 →

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-~~204~~ 14

ADEC Segment Length: ~~200~~



Map Key: PWS-331

Name: K. RAMSEY

Date: 4/4/90

Date Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-15 SUBDIVISION A (1 OF 1) DATE 4/2/90

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. Restrict boat and air traffic to essential minimum. Treatment to be conducted prior to 5/15 or between 7/1 and 8/15 unless otherwise approved by ADF&G and/or USFWS. Contact ADF&G and USFWS prior to treatment. Eagle nest (5T) - 3/1 to 6/1. Air approach to and from seaward only. Contact USFWS prior to treatment.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid disturbance/damage to uncoiled biota and substrate. Additional segment constraints: herring spawning (2N) - 4/1 to 6/15. Restrict boat traffic to essential minimum. Contact ADF&G prior to treatment. Special use (6Y).

SHPO SIGNATURE: Charles E. Adams DATE: 4/12/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 1180m: 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>X</u> Tarmat: <u> </u> Breakup	<u> </u> Beach Cleaner
<u> </u> <u>X</u> Removal	<u> </u> Other (see comments)

COMMENTS: Recommend removal of tarmat shown on attached sketch map and manual pick up of mousse patties, tar balls, and debris also shown on map. Work before 5/15 or 7/1 to 8/15 based on constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/16/90
ADEC AL KEMEN
EXXON ANDY TOL FOSC: WJL DATE: 5-6-90
NOAA Burt Wescott
USCG G.A. Reiter

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN-15 SUBDIVISION: A DATE 4/2/90

USCG

NAME MAURICE J. SHARPE SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

ADEC

NAME S. FERGUSON SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

THIS SEGMENT HAS MOUSSE PADDIES → SCATTERED ALONG THE HITZ →
RUNNING THE ENTIRE SEGMENT. SUGGEST MANUAL CLEAN-UP OF THESE
MOUSSE PADDIES → IN THAT ONCE THE TEMPERATURE INCREASES THIS SPRING
& SUMMER THE MOUSSE WILL SIT ON THE SURFACE OF THESE PADDIES
CAUSING A POTENTIAL PROBLEM TO BIRD LIFE FEEDING ON THIS SHORELINE.
A 10 MAN CREW COULD ACCOMPLISH THIS IN 2-4 HOURS OF WALKING ALONG THE
SHORELINE PICKING UP THE PADDIES THAT ON AVERAGE ARE 2 METERS APART (BETWEEN 2000
ALSO PICK-UP OF THE 3M(L) X 4M(W) IS RECOMMENDED.

LAND MANAGER

NAME M.C.T. SMITH SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

SHORELINE OILING SUMMARY

REVISION NO. 02/28/90

OG K. Ramsey USCG R. Sharpe SEGMENT ST/ KN-15
 BIO G. Penn LAND REP M. Smith SUBDIVISION A 191
 EXXON S. Reid ADEC S. Ferguson TIME 7:30 to 6:00
 TEAM NO.: 4 TIDE LEVEL: 1 to 6 DATE 04/02/90
 EST. SUBDIVISION LENGTH: 1205 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☒ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 101 % B 30 % C 5 % P 2 % G 2 % S - % M - % V - %
 SLOPE: Long 5 % Hang 75 % Ven 20 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W - m M - m N - m VL 1205 m NO - m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR				IMPACTED ZONES			
	10	20	30	40	50	60	70	80	SU	U	M	U
ASPHALT PAVEMENT	X									X		
POOLED												
COVER												
COAT		X				X				X	X	
STAIN			X			X				X	X	
MOUSSE			X			X				X	X	X
PATTIES		X				X				X	X	X
TARBALLS			X					X			X	
FILM												
NO OIL									X			

PAVEMENT: H Ⓟ S 12 sq. m by 2 cm

PATTIES / TARBALLS 3 BAGS

NEAR SHORE SHEET? NO BR RW SL TL

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

DEBRIS COLLECTED
☒ YES ☐ NO

TYPE Pom Pom

#BAGS 1

Photographs:

1 oiled Pom Pom

Roll No. -

1 Clean Pom Pom

Frames -

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW					PIT ZONE	A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UO	UO	UO	UO			
<u>1</u>	<u>10</u>		X				<u>0-2</u>		X			X	X	<u>N</u>	<u>B, C Beddy</u>

COMMENTS This segment is a bedrock shoreline with boulder + some cobble beaches. There is a broken 1m wide coat along the mwl + thul which continues throughout the segment. You find the band prominent the southern face of the verticle bedrock with broken lines + splash on the high and bedrx/boulder between. Bedrx outcrops. Mousse patties + a few scattered tar balls found the length of the seg. in pocket beaches + High angle boulder shoreline. the way from the water line to top of U.I.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 08/20/90

Segment ST, KN-15 Subdivision A Date (mo / day / yr) 04/02/90
Time (24 hr) 1630 Biologist PENN

- (A) Substrate type and % of segments:
(1) Bedrock 61 (2) Boulder 30 (3) Cobble 5 (4) Pebble 4 (5) Sand — (6) Silt —
- (B) Overall % cover of biota (% of segment): Dense 35 Moderate 5 Low 5
- (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	NOT PRESENT
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	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	NOT PRESENT
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	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	NOT PRESENT
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	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	NOT PRESENT
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:

00 K.R. 24
 SEGMENT ST/ 5/15
 SUBDIVISION A 6/1
 DATE 4/2/90

SK H MAP

CHECKLIST

- ☒ N Arrow
- ☒ Approx. Scale
- ☒ Seg/Sub Study
- ☒ Oil Dist.
- ☒ Width
- ☒ Length
- ☒ % Cover
- ☒ Substrate Character
- ☒ Est. HML/LWL
- ☒ SSL
- ☒ Profile Location(s)
- ☒ Pit Location(s)
- ☒ Photo Location(s)

only 1 photo - Bedrock
 didn't allow
 any more

LEGEND

1 ▲

Pit - No Subsurface Oil

2 ▲

Pit - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

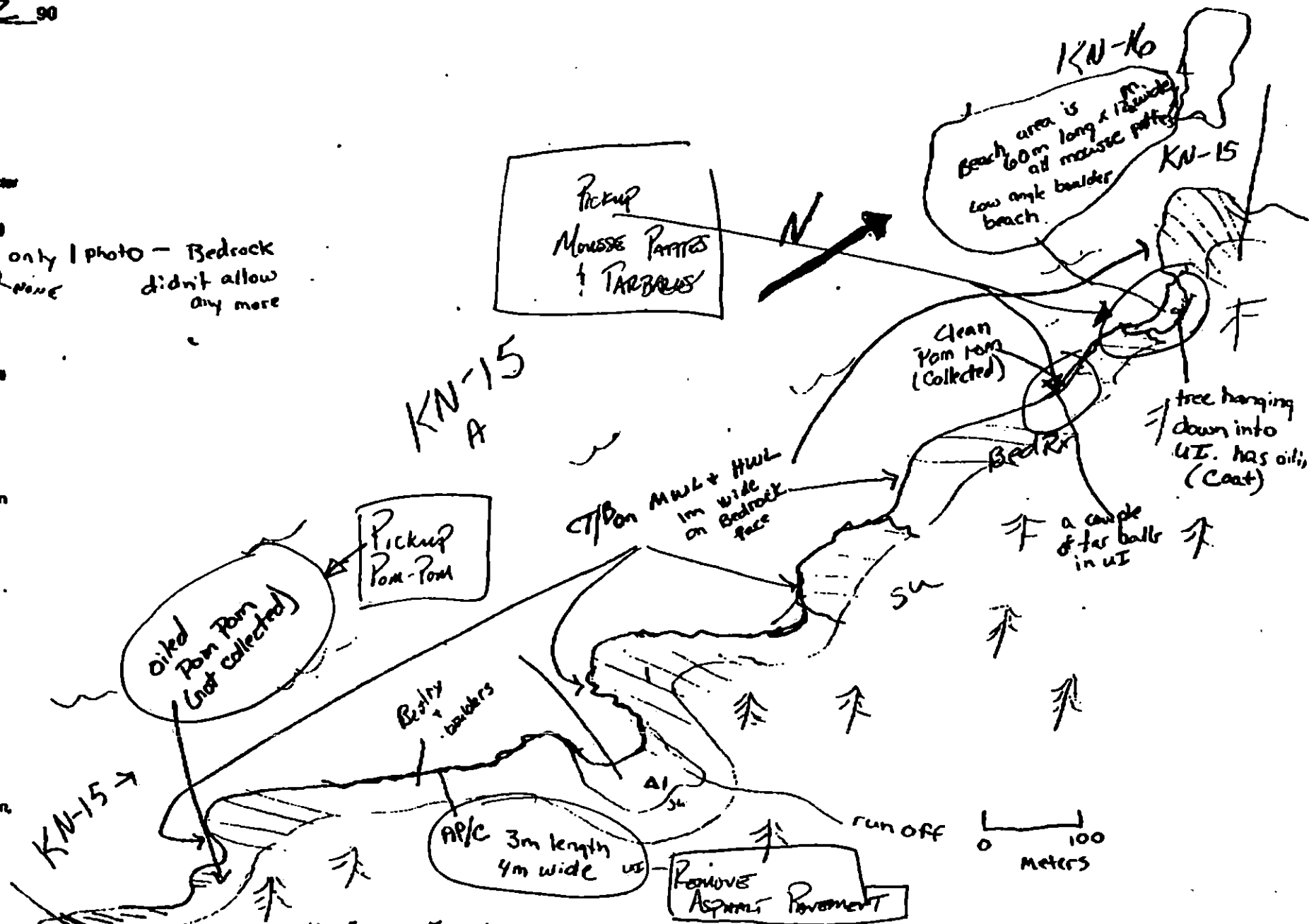
CT/S

Splashed Distribution

Oiled Vegetation

1 ●

Photo location, direction,
 and number



APR-03-1990 10:58 FROM NY BELLAH CANDLES

TO

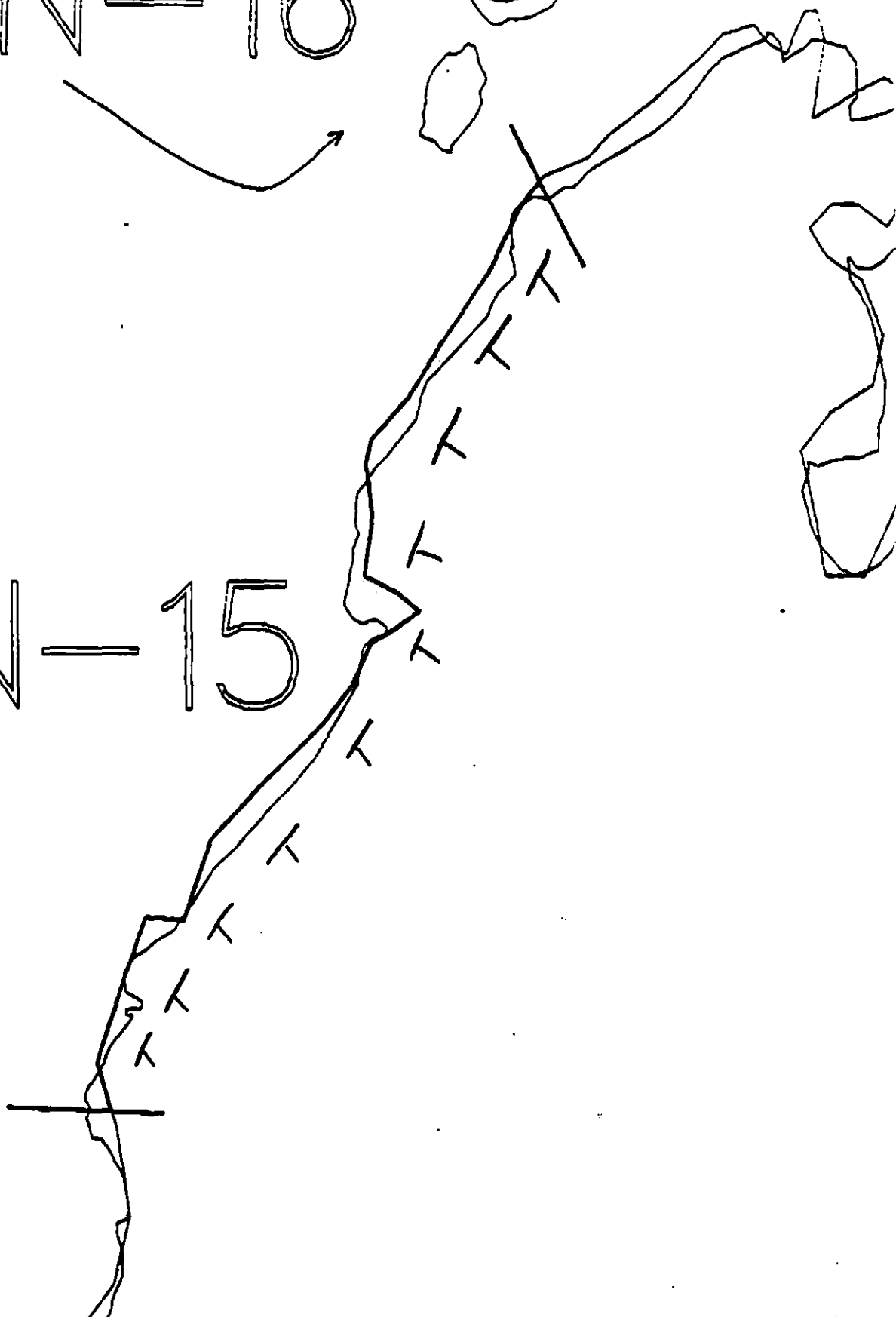
EXON SCAT

P.01

REVISION: 03/04/90

KN-10

KN-15



XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-15

Total Segment Length: 1180

0 100 200 300

METERS



Map Key: PWS-324

Name: K. Ramsey

Date: 4/2/90

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-15 SUBDIVISION A (1 of 1)

WORK WINDOW

Manual Pickup and Tarmat Removal More Than 400m From Active Nest	OPEN
Manual Pickup and Tarmat Removal Less Than 400m From Active Nest	CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

2M	Herring Spawning	NO CONSTRAINT. Authorized by Claudia Slater/ADF&G on 5/10/90 to Exxon/Tom Kelley.
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 eagle nest in the adjacent Segment KN-24. Closed to manual pickup and tarmat removal less than 400m from active nest. No constraint to manual pickup and tarmat removal more than 400m from nest.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict air traffic and all disturbance to essential minimum. No personnel or boat traffic within 400m of active nests. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from active nests. 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 6/04/90

ADEC Roy Morris

EXXON Amy

NOAA Joseph

USCG G.A. Kite

FOSC

Date

6/9/90

Prepared by

Date

6/2/90

SHORELINE EVALUATION

SEGMENT ST/ KN-16 SUBDIVISION A (1 OF 1) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Herring spawning (2M) - 4/1 to 6/15; Harbor seal and sea lion
pupping and molting area (3N, O, P, Q) - 5/15 to 7/1 and 8/15 to
9/15.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Restrict disturbance of dense
barnacle patches and uniled moderate fucus holdfasts in UITZ.

SHPO SIGNATURE: Charles E. Holmes DATE: April 9, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 26 m: Narrow 256 m: V.Light 0 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>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 manual pickup of mousse patties, and bioremedi-
ation of surface cover as indicated on the sketch map. All work
should be conducted after 7/1 and before 8/15 based on pinned
constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/9/90

ADEC JOHN BAKER

EXXON ANDY TEAL

NOAA Burl Westcott

USCG G.A. REITER

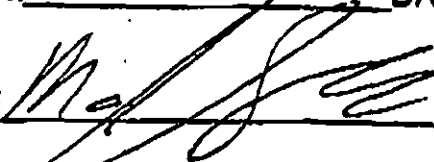
FOSC:

DATE: 4-19-90

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN-16 A SUBDIVISION: DATE 3/31/90

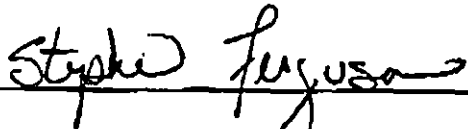
USCG

NAME MAURICIO J. SHAPIRO SIGNATURE 

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

ADEC

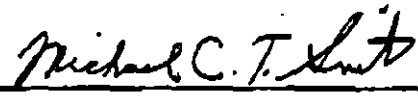
NAME S. FERGUSON SIGNATURE 

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

IN THE AREA DIRECTLY BELOW WHERE THE GRIFT IS SHOWN ON THE SKETCH MAP AN AREA OF MODERATE OILING WAS OBSERVED. IN MENTIONING THIS THERE WERE ALSO 3 OTHER AREAS OF CONCENTRATED (MODERATE) OILING → THE LARGEST OF THESE BEING 8 METERS IN LENGTH AND 1-2 METERS WIDE WITH PENETRATION DEPENDENT UPON THE DEPTH OF THE BOULDERS / CORALS / GRAVEL ATOP THE HORIZONTAL BEDROCK AT THE HITZ (UPPER-MID). FOR THESE 3 AREAS A HOT WATER FLUSH HOSE → DIRECTING THE FLUSH TOWARDS A PRIMARY BOOM → WITH A SHORE BOOM SITUATED INSIDE OF THAT → WITH MANUALLY HANDLED POM-POMS TO PICK UP EXCESS. IN THE CASE OF THE MODERATELY OILED AREA (SHOWN ON MAP) → SUGGEST PICKING UP THE MOOSSE RADDIES LOCATED THERE BEFORE FLUSHING.

LAND MANAGER

NAME M. C. T. SMITH SIGNATURE 

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

SHORELINE OILING SUMMARY

REVISION NO. 03/22/88

OG K. Ramsey USCG R. Sharpe SEGMENT ST/ KN-16A (1 of 1)
 BIO G. Penn LAND REP M. Smith SUBDIVISION _____
 EXXON S. Reid ADEC S. Ferguson TIME 2:10 to 2:40
 TEAM NO.: 4 TIDE LEVEL: 6' to 6.5' DATE 3/31/90
 EST. SUBDIVISION LENGTH: 282 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☐ Forest ☒ Rock ~10 SML (5/12') SPAVED SUP LINES
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: 10 Clockwise from N. Tip.
 SURFACE SEDIMENTS: R 75 % B 20 % C 2 % P 1 % G _____ % S _____ % M _____ % V _____ %
 SLOPE: Long 5 % Hang 20 % Vert 25 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W _____ m M _____ m N 282 m VL _____ m NO _____ m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR						IMPACTED ZONES				
	C	B	P	S	SP	OR	OL	OP	NO	TL	LSR	SU	UI	MS	U
ASPHALT PAVEMENT															
POOLED															
COVER	X					X							X		
COAT				X					X				X		
STAIN	X		•						X	•			X	•	
MOUSSE															
PATTIES			X								X	X	X	X	
TARBALLS															
FILM									X						X
NO OIL															X

PAVEMENT: H F S N/A by _____ cm

PATTIES / TARBALLS 1-2 BAGS

NEAR SHORE SHEEN? ☒ NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation	X		
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NO

TYPE _____

#BAGS _____

Photographs:

Roll No. ST-4-1

Frames 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	UC	20-30	30-40	40-50	50-60	60-70	70-80	SU	U	M	U				
1	5					X	.																C+G, Bedry
2	5					X	.																C+G, Bedry
							.																
							.																
							.																
							.																

COMMENTS

A narrow continuous ^(1m) of stain on ^{exposed} sheer rock face at the UI line. The rest of the shoreline had a (1m) discontinuous stain where it has had cracks & crevices. There were 4 areas of continuous cover. The largest being 8m in length and 1-2m wide, on ^{on} ^{bedrock} ^{bedrock} crevices on horizontal bedrock.

SHORELINE OILING SUMMARY

REVISION NO. 06/2000

OG K. Ramsey USCG R. Sharpe SEGMENT ST/ KN-16
 BIO G. Penn LAND REP M. Smith SUBDIVISION
 EXXON S. Reid ADEC S. Ferguson TIME 2:10 to 2:40
 TEAM NO.: 4 TIDE LEVEL: 10' to 6.5' DATE 3/31/90
 EST. SUBDIVISION LENGTH: 282 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☐ Forest ☒ Rock ~10 Small (5/12") Spruce Saplings
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: to Clockwise from N Tip.
 SURFACE SEDIMENTS: R 75 % B 20 % C 2 % P 1 % G 0 % S 0 % M 1 % V 0 %
 SLOPE: Lang 5 % Hang 20 % Vert 35 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 282 m VL 0 m NO 0 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	C	B	P	A	SP	OR	OL	OF	NO	SU	UI	ME	U
ASPHALT PAVEMENT													
POOLED													
COVER	X				X					X			
COAT				X				X		X			
STAIN	X							X		X			
MOUSSE													
PATTIES			X							X	X	X	X
TARBALLS													
FILM								X					X
NO OIL													X

PAVEMENT: H F S N/A sq m by 1-2 cm

PATTIES / TARBALLS 1-2 BAGS

NEAR SHORE SHEEN? ☒ NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation	X		
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NO

TYPE

#BAGS

Photographs:

Roll No. 1

Frames 12

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		UD	UC	SP	OR	OL	OF	NO	SU	UI	ME	U		

COMMENTS

A narrow continuous ^(1m) stain on ^{2 points} sheer rock face at the UZ line. The rest of the shoreline had a (1m) discontinuous stain where ex face had cracks & crevices. There were 4 areas of continuous cover. The largest being 8m in length and 1-2m wide on seams & crevices on horizontal bedrock.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 08/23/91

Segment ST / KN-16 Subdivision NONE Date (mo / day / yr) 03/31/90

Time (24 hr) 1410 Biologist PENN

(A) Substrate type and % of segments:
(1) Bedrock 75 (2) Boulder 20 (3) Cobble 2 (4) Pebble 1 (5) Sand (6) Silt 1

(B) Overall % cover of biota (% of segment): Dense 5 Moderate 15 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.

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 CORMORANT

Lower MITZ & LITZ not observed.
But a few observations.

Ecological Considerations:

OG RAY 2

SEGMENT ST/ KN-Kp

SUBDIVISION —

DATE 3/31/90

CHECKLIST

- ☒ N Arrow
- ☒ Approx. Scale
- ☒ Seg/Sub Entry
- ☒ Oil Dist.
- ☒ Width
- ☒ Length
- ☒ % Cover
- ☒ Substrate Character
- ☒ Est. HML/LYL
- ☒ 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

Oiled Vegetation

1 ●

Photo location, direction, and number

S CH MAP

KN-16

Pickup 2 ATTIES
HERE

Continuous Band (1m)
stain along rx face (solid rx face
rot broken with
cracks as the
rest of the
shoreline)

sm ledge with same cover oding

storm berm line

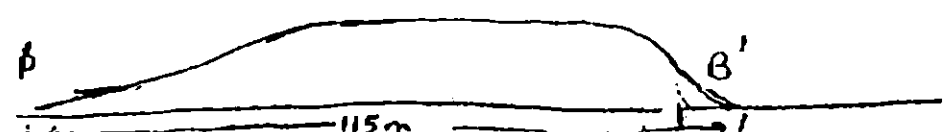
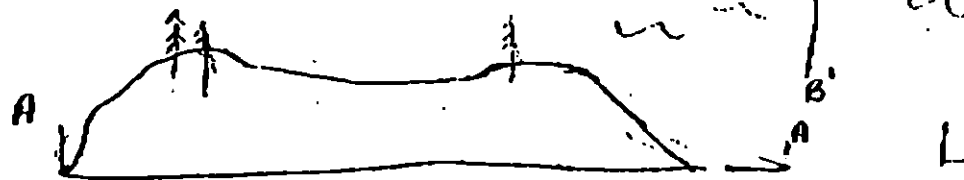
ledges - 8m length x 1-2m wide
5cm surface oil

probably 'birdsoak' ledges in UI
had 'surface oil' cover of 5cm deep
-R/O COVER IN 8 X 2 AREA
1m patchy stain in UI and another
one in MI line

N

≈ 50m

- for island drawing & not profiles



Oil Character Length (m): AP 0 PO 0 CV 8 CT 1 ST 282 MS 0 PT 15 TB 0 FL 1 NO 282

REVISION: 03/24/90

KN-17

KN-16

KN-16

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

Total Segment Length: 871

0 100 200 300

METERS

Map Key: PWS-325

Name: RAMSEY

Date: 3/31/90

Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-16 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup	CLOSED
Bioremediation	CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

2M	Herring Spawning	NO CONSTRAINT. Authorized by Claudia Slater/ADF&G on 5/10/90 to Exxon/Tom Kelley.
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 manual pickup and bioremediation within USFWS designated buffer zone per 5/22/90 survey conducted by Mike Lockhart.

OTHER ECOLOGICAL CONSIDERATIONS

If eagle nest constraint is removed, other ecological considerations will apply.

FOSC

DATE

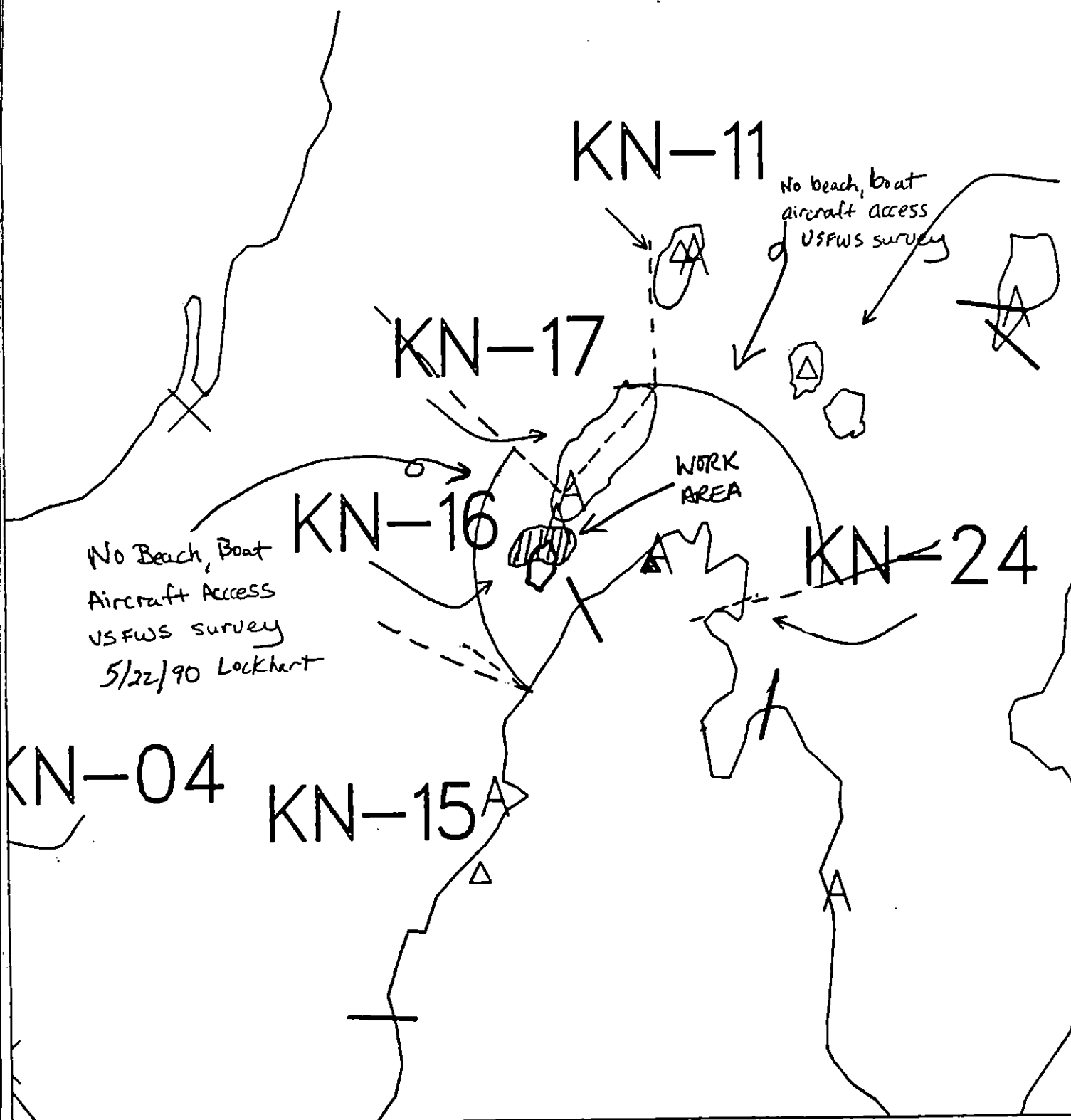
5-10-90

Prepared By:

W. Kelley

Date

6/9/90

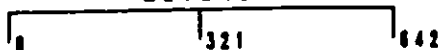


Exxon Company, USA
Map Key: PWS-KN-16
June 05, 1990



ECOLOGY MAP
SEGMENT KN-16
SUBDIVISION A (1 of 1)

METERS



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

1 inch = 1054 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-17 SUBDIVISION A (1 OF 1) DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Harbor seal and sea lion pupping (3N, P) - 5/15 to 7/1 and molting
(3O, O) - 8/15 to 9/15; Herring spawning area (2M) - 4/1 to 6/15;
Anchorage (6V) - 6/1 to 9/15. Restrict boat and air traffic to
essential minimum. Contact ADF&G Habitat Division re: seals/sea
lions and herring prior to treatment.

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

SHPO SIGNATURE: Charles E. Hines DATE: April 12, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V. Light 1 m: No Oil 870 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: 4/12/90
ADEC DAN BAUER
EXXON INDY TEAL
NOAA Burt Wescott
USCG M. J. HALL
FOSC: W L DATE: 5-6-90

FIELD SHORELINE COMMENT SHEET

SEGMENT ST 1 KN-17 SUBDIVISION: A DATE 31 MAR 90

USCG

NAME MAURICE J. STARR SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

DID NOT SEE LOG

ADEC

NAME S. FERGUSON SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

REMOVE OILED LOG

LAND MANAGER

NAME M. C. T. SMITH SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

SHORELINE OILING SUMMARY

REVISION NO. 03/23/88

OG K. Ramsey USCG R. Sharpe SEGMENT ST/ KN-17
 RIO G. Penn LAND REP M. Smith SUBDIVISION
 KXON S. Reid ADEC S. Ferguson TIME 1:46 to 2:42
 TEAM NO.: 4 TIDE LEVEL: 5' to 6' DATE 3/31/90
 EST. SUBDIVISION LENGTH: 953 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: to Clockwise from N. tip
 SURFACE SEDIMENTS: R 90 % B 8 % C 2 % P % G % S % M % V %
 SLOPE: Long 5 % Hang 5 % Vert 90 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W m M m N m VL 414 m NO 953 m

SURFACE OIL

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

PAVEMENT: H F S U/A eq. m by 414 cm

PATTIES / TARBALLS 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.

Frames

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	SU	U	M	L		

COMMENTS

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/31/90

Segment ST / KN-17 Subdivision NONE Date (mo / day / yr) 03/31/90
Time (24 hr) 1346 Biologist PENN

- (A) Substrate type and % of segments:
(1) Bedrock 90 (2) Boulder 8 (3) Cobble 2 (4) Pebble - (5) Sand - (6) Silt -
- (B) Overall % cover of biota (% of segment): Dense 5 Moderate 15 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. _____

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:

1 Cormorant

Lower MITZ & LITZ Not observed.

Ecological Considerations:

OG RAN -Y
SEGMENT ST/ RD-17
SUBDIVISION _____
DATE 3/3/90

SI CH MAP

CHECKLIST

- ☒ N Arrow
- ☒ Approx. Scale
- ☒ Seg/Sub Bdry
- ☒ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☒ Substrate Character
- ☐ Est. HW/LA/WL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☒ N/A PH Location(s)
- ☒ N/A 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

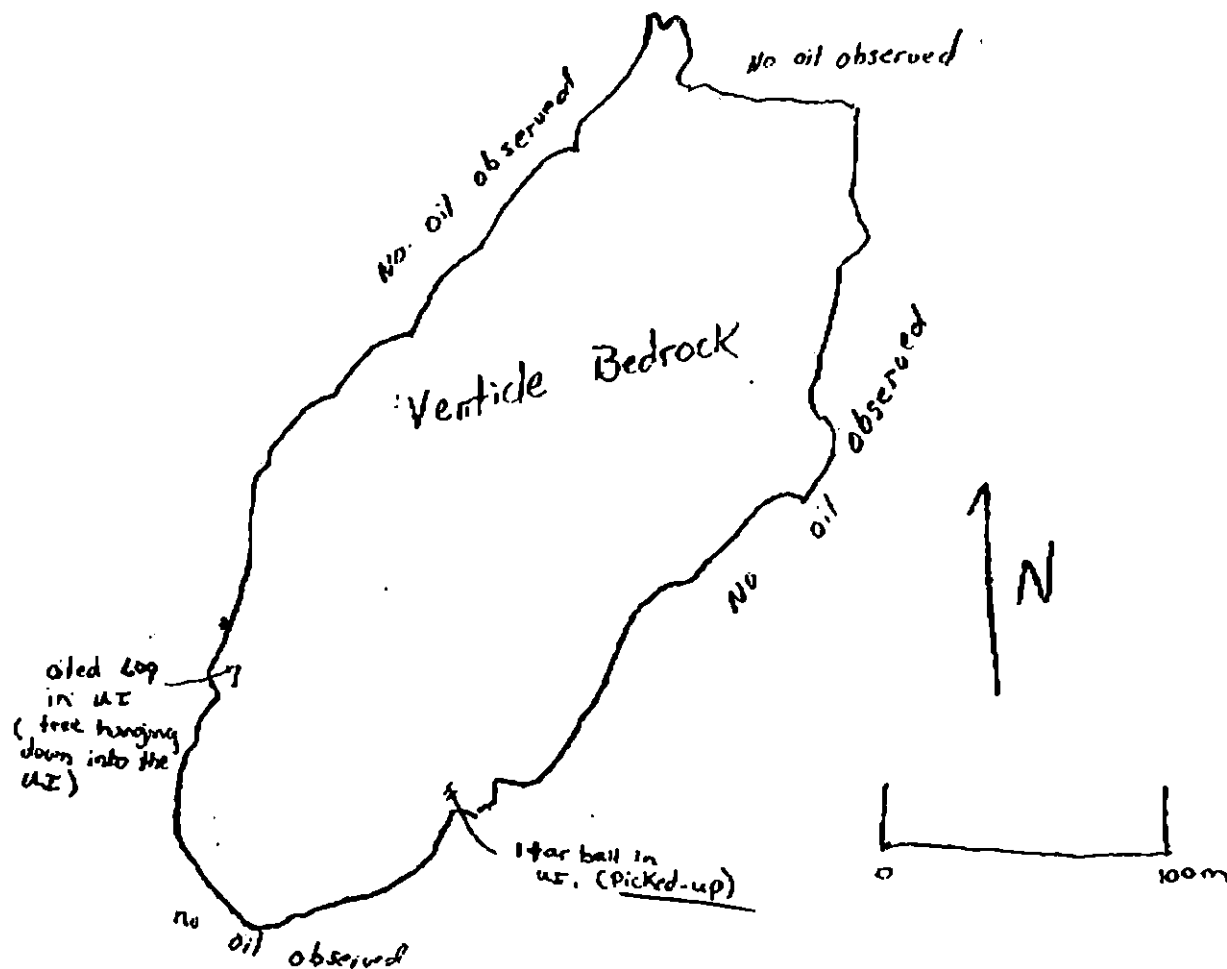
CT/S

Splashed Distribution

Oil of Vegetation

1 ➡

Photo location, direction,
and number



Oil Character Length (m): AP 0 PO 0 CV 0 CT 0 ST 3 MS 0 PT 0 TB 0 FL 0 NO 950

KN-17

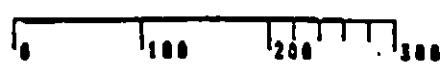
KN-16

KN-15

KN-17

871

ADEC Segment Length: 0000



METERS



Map Key: PWS-396

Name: RAMSEY

Date: 3/31/90

Data Entered:

XXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

SHORELINE EVALUATION

SEGMENT ST/ KN-018 SUBDIVISION A (1 of 1) DATE 04/08/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G stream #226-30-16880

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)

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)

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

6U Recreation: tent sites (6/1 to 9/15)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Avoid any unnecessary disturbance or damage to unoiled substrate and biota.

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 1042 m: No Oil 2760 m
Subsurface Oil Observed: Yes _____ No X Maximum Depth _____

RECOMMENDATIONS:

X No Treatment Recommended

_____ Treatment Recommended

_____ Manual Pickup

_____ Bioremediation

_____ Tarmat: _____ Breakup

_____ Removal

_____ Snare/Absorbent Booms

_____ Oil Snares (pom poms)

_____ Absorbents (pads, rolls, etc)

_____ Spot Washing: _____ Wands

_____ Beach Cleaner

_____ Other (see comments)

COMMENTS: _____

TAG COMMENTS: _____

TAG APPROVAL DATE: 4/21/90

ADEC Art Weiner Art Weiner

EXXON ANN TOL Ann Tol

NOAA Bud Wescott Bud Wescott

USCG KENNETH KEANE Kenneth Keane

FOSC: W L DATE: 4-27-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

1A
1B

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. 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 (5/7 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 (5/1 to 9/15)

6V

Anchorage (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 (5/15 to 2/28)

7JJ

Invertebrate harvesting

For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

SEGMENT ST KN-18 SUBDIVISION: A DATE 4-8-90

SCG
NAME SCOTT RAMSEY SIGNATURE Scott Ramsey

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

ADEC
NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

LAND MANAGER
NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

SHORELINE OILING SUMMARY

REVISION NO. 04/29/90

OG G. MACDONALD USCG S. RAINFORD SEGMENT ST/ KN-18
 BIO MA. SCOTT LAND REP NFS SUBDIVISION A (10+1)
 EXXON J. BUTLER ADEC W. GHORMLEY TIME 16:40 to 18:40
 TEAM NO.: 3 TIDE LEVEL: +5 1/2 to +1 1/2 FT DATE 4/10/90
 ST. SUBDIVISION LENGTH: 4250 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 80% B 10% C 5% P 0% G 5% S 0% M 0% V 0%
 SLOPE: Long 10% Hang 3% Vert 60% WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 920 m NO 3,330 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	10	15	20	25	30	35	40	45	50	55	60	65	BU	U	M	L
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT			X	X		X							X			
STAIN			X	X		X							X			
MOUSSE																
PATTIES																
TARBALLS																
FILM																
NO OIL													X	X	X	

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			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NO

TYPE 0

#BAGS 0

Photographs:

Roll No. ST-3-2

Frames 0

SUBSURFACE OIL - NO SEDIMENTS

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			BO	UG	30	35	40	45	50	55	BU	U	

COMMENTS low-mud. exposure, steep rocky shore.
 Surface oil as a trace ST/S and thin
 (< 5mm wide) drip line ST/S @ HTZ.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/20/88

Segment ST / KW-19 Subdivision A Date (mo / day / yr) 4/8/90

Time (24 hr) 1640-1940 Biologist M.A. SCOTT

(A) Substrate type and % of segments:
(1) Bedrock 90 (2) Boulder 10 (3) Cobble 5 (4) Pebble 5 (5) Sand — (6) Silt —

(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. Ø

Frames Ø

BARNACLES

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	X	2	2	2	X	2	Ø	Ø	X
3	3	3	X	3	3	3	X	3	Ø	Ø	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

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	Ø	X
3	3	3	3	3	3	3	3	3	Ø	Ø	Ø
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	X	Ø	X
3	3	3	3	3	3	3	3	3	Ø	Ø	Ø
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	X	Ø	X
3	3	3	3	3	3	3	3	3	Ø	Ø	Ø
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 dead deer
1 seal
1 eagle (immature)
1 bald eagle

crows

- in cobbles, high (75%) mytilus mortality

Ecological Considerations:

- patches of dense Mytilus beds throughout segment in M7B
- 2 anadromous streams (no visible oil)

OG E ACDONARD

SEGMENT ST/ KN-18

SUBDIVISION A

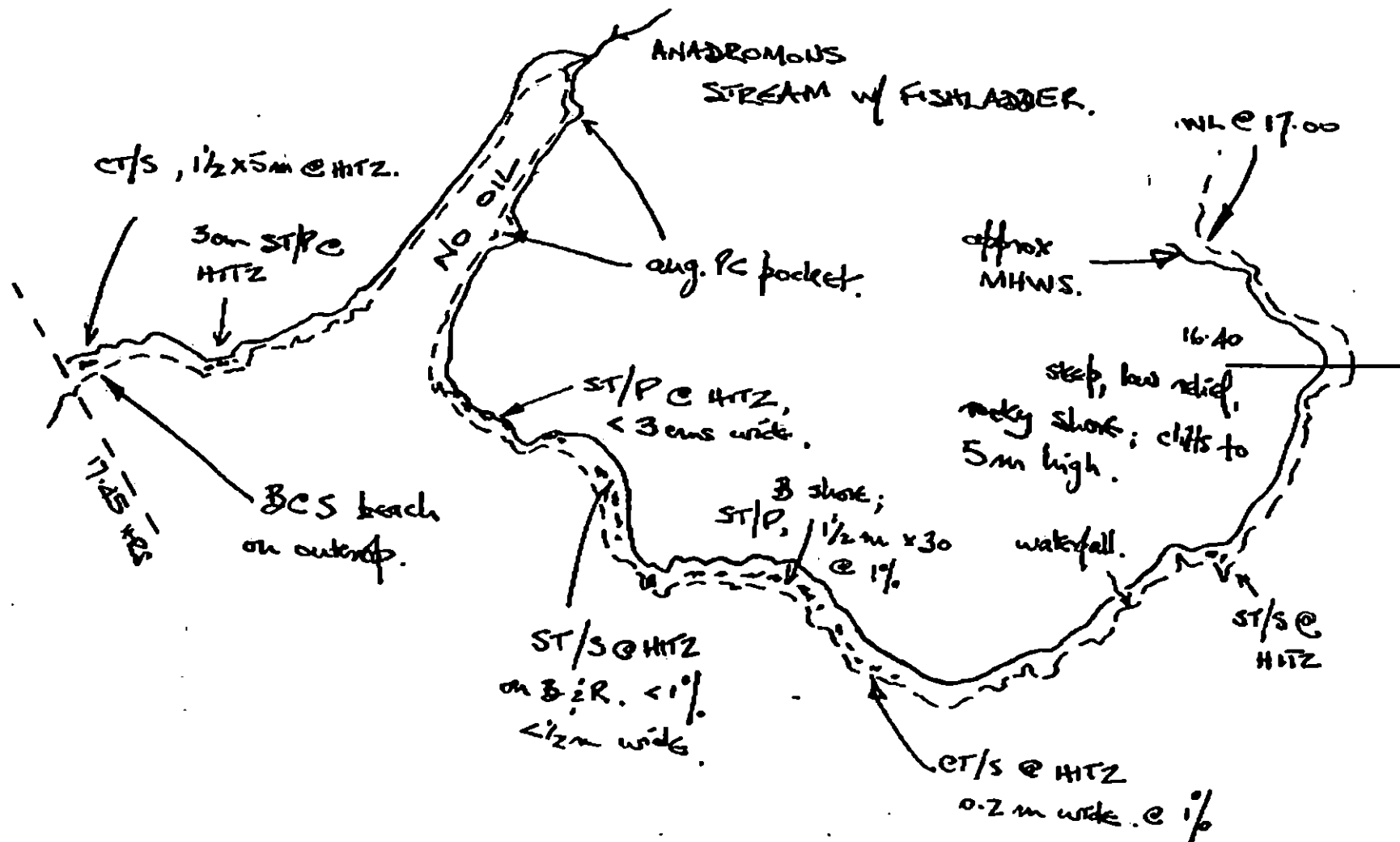
DATE 4 / 8 / 90

CHECKLIST

- ☐ M Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Bndry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HWR/LVL
- ☐ 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
Patchy Distribution
- CT/S
Splashed Distribution
- 1 $\Rightarrow$
Oiled Vegetation
- 1 $\Rightarrow$
Photo location, direction, and number



Oil Character Length (m): AP 0 PO 0 CV 0 CT 350 ST 570 MS 0 PT 0 TB 0 FL 0 NO 3330

REVISION: 02/2000

OGC MacDonald

SEGM ITI KN-18

SUBDIVISION A

DATE 4 / 3 90

KETCH MAP 2 of 2

CHECKLIST

- ☐ N Area
- ☐ Approx. Scale
- ☐ Seg/Sub Body
- ☐ Oil Det.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. MWLA/WL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Photo Location(s)
- ☐ Photo Location(s)

LEGEND

- 1 Δ
Pit - No Subsurface Oil
- 2 Δ
Pit - Subsurface Oil
- CT/C

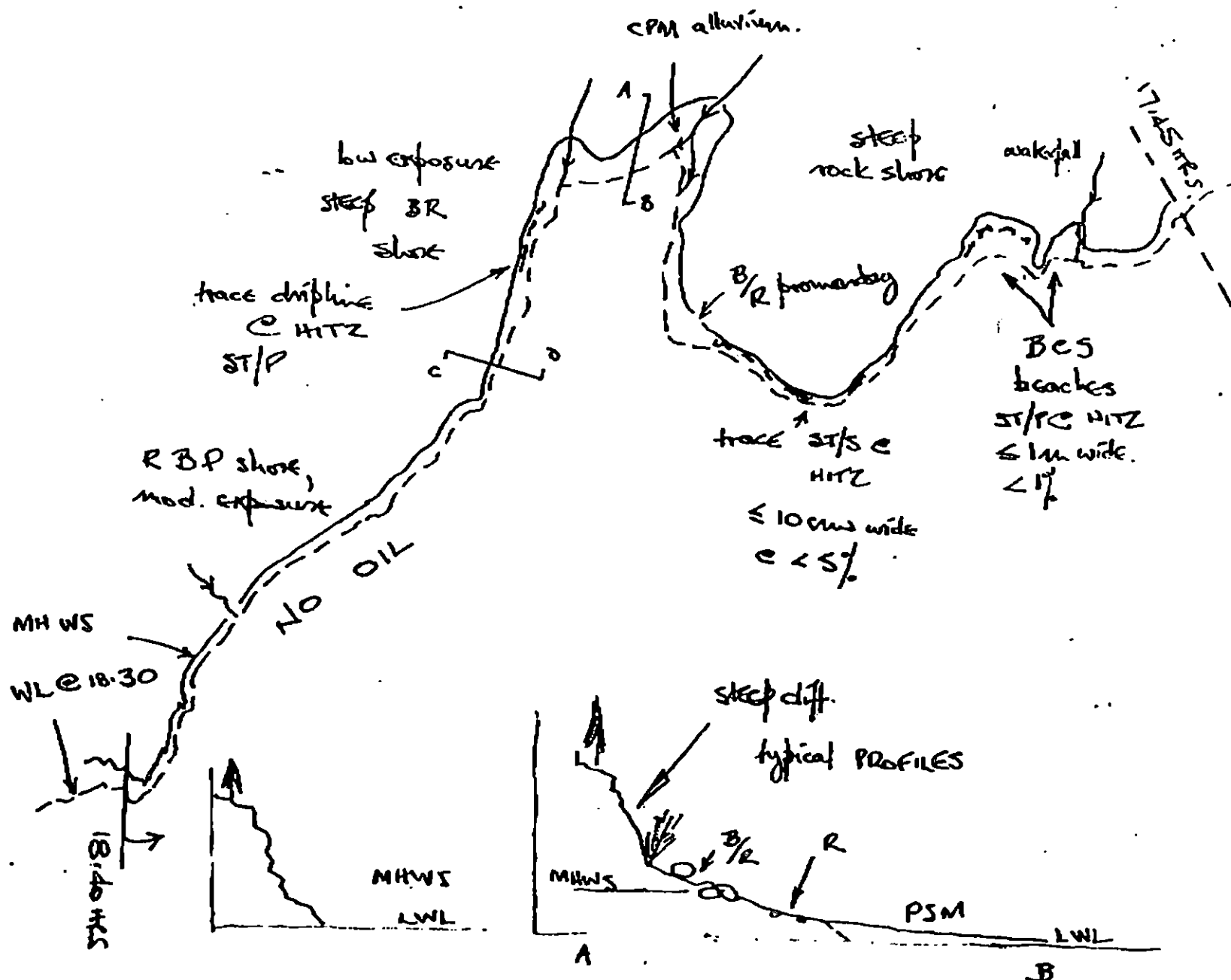
Continuous Distribution
- CT/B

Broken Distribution
- CT/P

Patchy Distribution
- CT/S

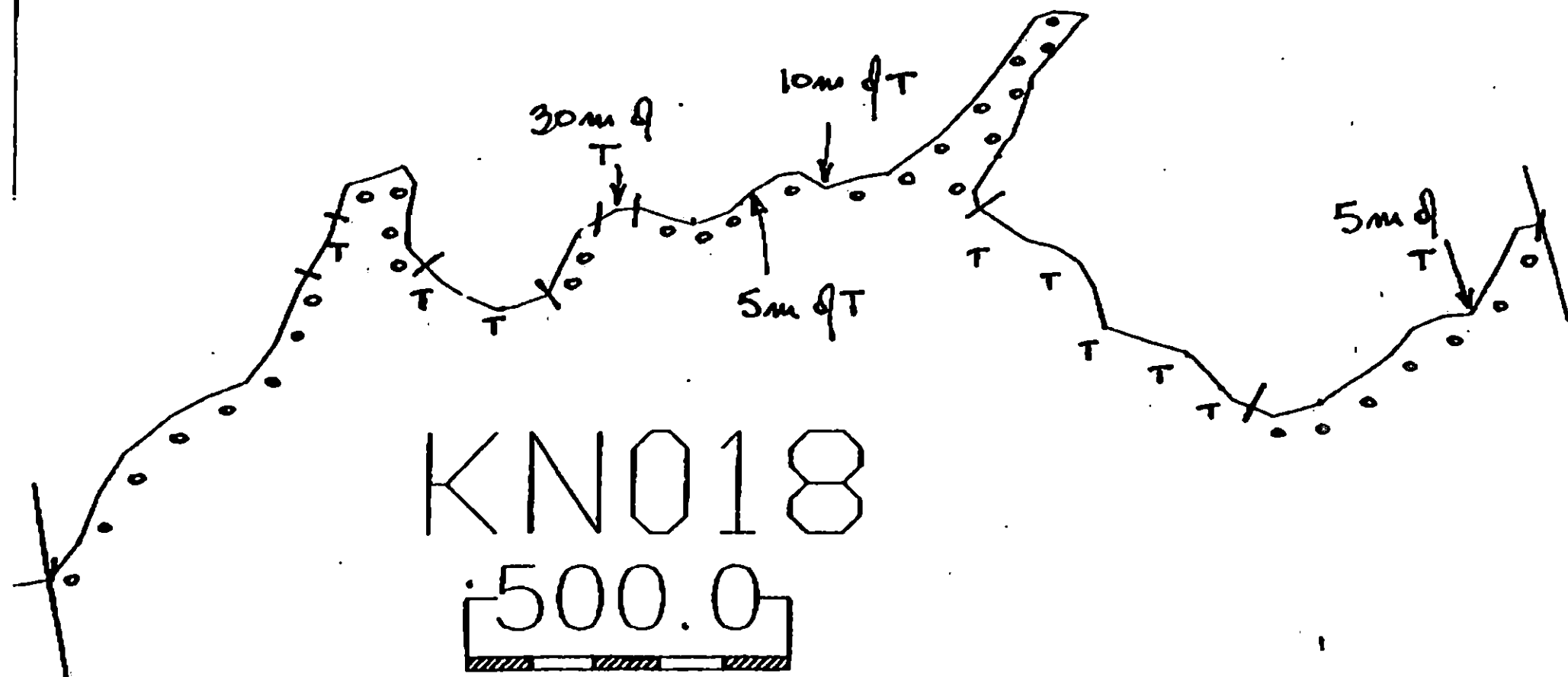
Spatched Distribution
- Oiled Vegetation
- 1 →
Photo location, direction, and number

→ stream



Oil Character Length (m): AP PO EV CT ET MS PT TB FL NO

REVISION: 03/2000



CT 350, ST 570, No 3330.

G. MACDONALD
4/8/90

Data Entered: _____



T =
O =

OILING	
T	Heavy
W	Medium
Q	Light
.	Very Light
-	None
NS	Not Surveyed
Distance In Meters	

SHORELINE EVALUATION

SEGMENT ST/ KN-20 SUBDIVISION A (1 OF 1) DATE 4/25/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

6Y Recreation: Special use destination

See attached-Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

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

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 43 m: V.Light 15 m: No Oil 1578 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

☒ 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: _____

TAG COMMENTS: _____

TAG APPROVAL DATE: 5/3/80
 ADEC ART WEINER Art Weiner
 EXXON AMMY ZAH Ammy Zah
 NOAA GARY PATRONE Gary Patrone
 USCG KENNETH KEANE Kenneth Keane

FOSC: WJL DATE: 5-8-90

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 6/15)
1E Main Bay Hatchery release (4/20 to 6/15)
1F Seawall 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 (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)
 Special use destination
- 7Z** Subsistence area: Salmon harvesting (5/1 to 9/30)
71H Finfish harvesting
 Deer harvesting (8/15 to 2/26)
 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 1 KN-020 SUBDIVISION: A DATE 4/25/90

USCG

NAME BM3 David A. Sylvestre SIGNATURE David A. Sylvestre☒ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

Speradic patches of coating very sparse

ADEC

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

- patchy and sporadic coats.
- No suburface oiling
- very little oil within this segment

LAND MANAGER

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

- Minimal oiling was noted in this segment. Continued natural cleaning.

SHORELINE OILING SUMMARY

REVISION NO. 04/13/88

OG Alan Pittenger USCG D. Sylvester SEGMENT ST/ KN020
 BIO John Benson LAND REP Steve Mandrella SUBDIVISION A (1 OF 1)
 T-XON Chris Katsimipalis ADEC Diane Munson TIME 7:20:10:40
 TEAM NO. #8 TIDE LEVEL -1 to +2 ft. DATE 4/25/90
 EST. SUBDIVISION LENGTH: 2056 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: South to North
 SURFACE SEDIMENTS: R 50 % B 20 % C 15 % P 15 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Lang 40 % Hang 40 % Vert 20 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 20 m VL 3 m NO 2033 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	10	15	17	18	20	25	30	35	40	SU	U	ME	U
ASPHALT PAVEMENT													
POOLED													
COVER													
COAT			X	X		X					X	X	
STAIN													
MOUSSE													
PATTIES													
TARBALLS													
ILM													
NO OIL										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			
Trash			
Debris	X		

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐TYPE Boom (oiled), Containers, Flots,#BAGS 5

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	~~20~~	~~25~~	~~30~~	~~35~~	~~40~~	~~45~~	SU	U	M	U				
1	20					X	.											X		N	15		C.P-P.G,S
2	35					X	.											X		N	>35		P.G-G,S
3	25					X	.										X			N	>25		P-G,S
4	40					X	.											X		N	>40		P-P.G,S
5	20					X	.											X		N	>20		P-C,B
6	25					X	.											X		N	>5		P-P

COMMENTS

REVIEWED 7WDATE 4/26/90

SHORELINE OILING SUMMARY (PAGE 2)

REVISION 04-1990

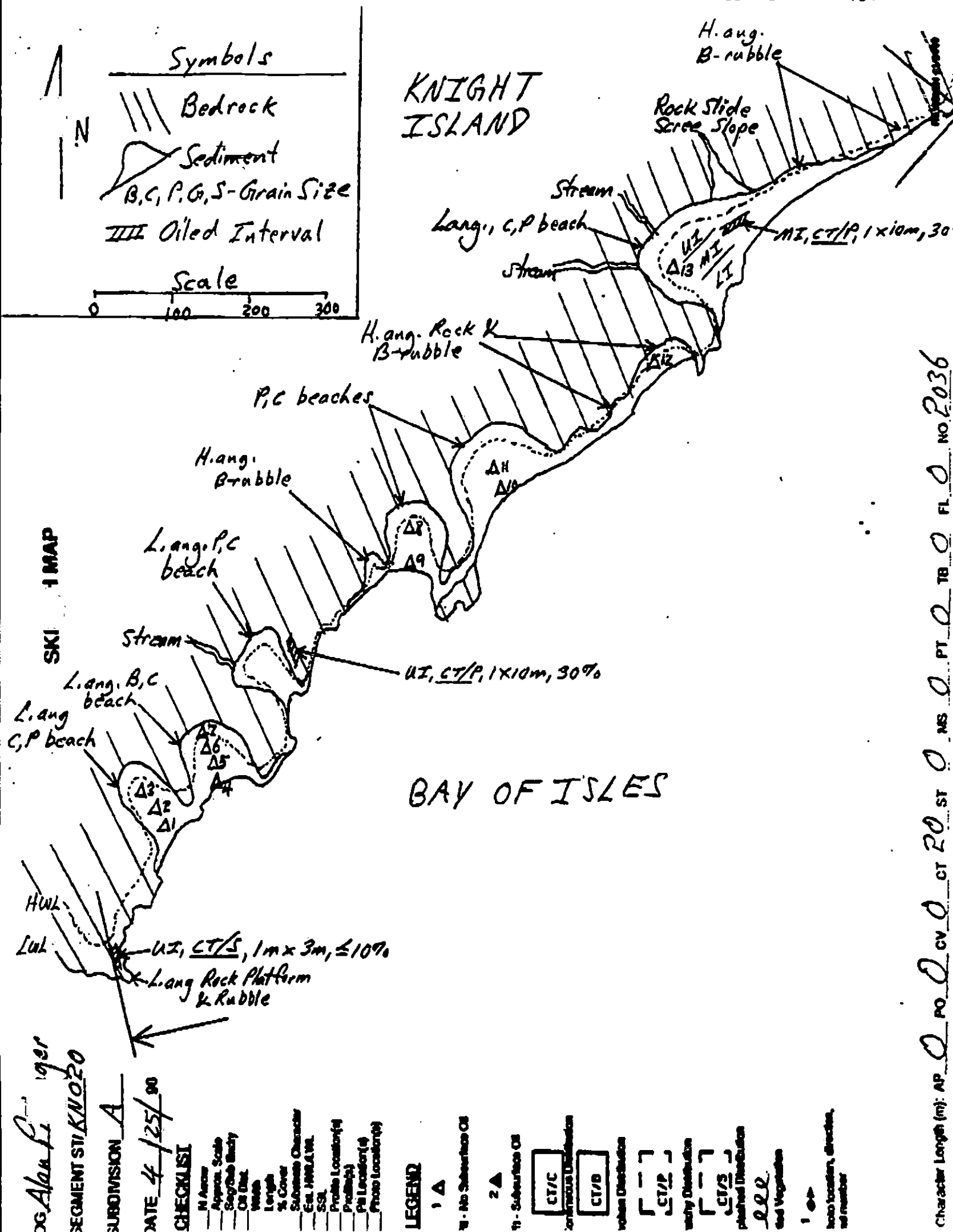
 SEGMENT ST/ KN020 SUBDIVISION 4 (1 OF 1)

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		UC	UC	1/2" / 1" / 2" / 1" / 2" / 1"	1/2" / 1" / 2" / 1" / 2" / 1"	1/2" / 1" / 2" / 1" / 2" / 1"	1/2" / 1" / 2" / 1" / 2" / 1"	1/2" / 1" / 2" / 1" / 2" / 1"	1/2" / 1" / 2" / 1" / 2" / 1"	SW	U	M	U				
7	40					X	.									X					N	>40	P-P
8	35					X	.										X				N	20	P-P, G, S
9	35					X	.												X		N	>35	P-P
10	35					X	.												X		N	>35	C-P, G
11	45					X	.											X			N	>45	P-P, G
12	40					X	.										X				N	>40	P-P
13	35					X	.										X				N	>35	P-P
							.																
							.																
							.																
							.																
							.																
							.																
							.																
							.																

COMMENTS

REVIEWED _____ DATE _____



Alan P. 1981
SEGMENT STIKNO20

SUBMISSION A

DATE 4/25/90

CHECKLIST

- ☐ M Area
- ☐ Approx. Scale
- ☐ Sediment Body
- ☐ Oil Dist.
- ☐ Waves
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HMLA Vol.
- ☐ SS
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ PI Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ

1 - No Subsurface Oil

2 Δ

2 - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Urban Distribution

CT/P

Urban Distribution

CT/S

planted Distribution

Sea Vegetation

1 $\odot$

Isot location, direction, and number

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / KNO20 Subdivision A Date (mo / day / yr) 4/25/90Time (24 hr) 0720-1040 Biologist Benson

(A) Substrate type and % of segments:

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

Sitka black tail deer (eating seaweed) // school of herring? (3" x 1/2"; blueish)
 mature bald eagle
 Steller jays & ravens sand hill cranes (*Grus canadensis*)

Ecological Considerations: No sensitivities (bald eagle nest within 400m of segment)

This segment is notable for the of total % cover.
 I found either high % cover (on bedrock and large boulders) or very low % cover (on small boulders and cobbles), but little substrate having moderate biotic % cover. Dense cover was dominated by Rhodanella, Odonthalia, Fucus, and Verrucaria. Gastropods were occa-

ECOLOGY MAP (1 OF 2)

RESOURCE CODES FOR ENTIRE SEGMENT:

6 Y

BALD EAGLE NEST $\leq$ 400m OF SEGMENT

KN-20

* relatively protected
cobble/pebble beach which
supports large gastropod populations *

saw 2 mature bald eagles PWS
but could not confirm nests 32.33 →

BALD EAGLE NEST

KN-2

XXX Wide

//// Medium

--- Narrow

TTTT Very Light

KN-20

ADEC Segment Length: 1836m

0 100 200 300

Map Key: PWS-328a

Name: BensonDate: April 25, 1990

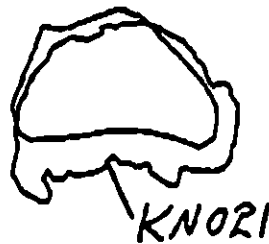
DATE Apr 25, 1990 TIME 0720-1040 TIDE HEIGHT -3' to +3'

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

ST. ST. KN030 SUBDIVISION A LENGTH 2056 m BIOLOGIST Benson

	SPECIES	UITZ	MITZ	LITZ	COMMENTS
FLORA:	<i>Agarum cribosum</i>			1,2	
	<i>Ataria</i>			1	
	<i>BOSSIELLA/CORALLINA</i> 2 erect				
	<i>CALLIARTHRON/CORALLINA</i>			1	
	<i>CLADOPHORA</i> SPP		2		
	<i>COSTARIA</i> SPP			1	
	<i>ENDOCLADIA MURICATA</i>				
	<i>FILMAENTOUS GREENS</i>	1	2	1,2,3	
	<i>FILAMENTOUS REDS</i>				
	<i>GLOIOPELTIS FURCATA</i>				
	<i>HALOSACCION OLANDIFORME</i>				
	<i>LAMINARIA</i> SPP			1	
	<i>LITHOTHAMNION encrusting</i>			1	
	<i>NEREOCYSTIS</i> SPP				drift
	<i>PORPHYRA</i> SPP				
	<i>RALPHSIA/HILDENBRANDIA</i>		2	1,2,3	
	<i>PHODOMELA LARX</i>				
	<i>RHOHOMENIA PALMATA</i>				
	<i>SCYTOSIPHON</i> SPP		2,3		
	<i>SLYA</i> SPP			1	
AUNA:	<i>OSTERA MARINA</i>			5	inshore of island protection
	<i>ENTOROMORPHA</i>				
	<i>Constantinea</i> sp.			1,2	
	<i>Verrucaria</i>	1,2			
	<i>Orange encrusting sponge</i>			1,2	also with sponge on 3
	<i>ANTHOPLEURA</i> SPP				
	(SEMI) <i>BALUNUS CARIOSUS</i>		1,2	1,2	
	<i>B. OLANDULA</i>	1	1,2		
	<i>BRYOZOANS</i>			1,2	encrusting
	<i>CHITONS</i> (other than <i>K. TUNICATA</i>)			1,2	<i>Tonicella lineata</i> , <i>T. insignis</i>
	<i>CLAMS</i>				rock jingle
	<i>CRABS</i>				<i>Telmoneus</i> sp.
	<i>DERMASTERIAS IMBRICATA</i>			1,2	
	<i>KATHARINA TUNICATA</i>		1	1,2	
	<i>LEPTASTERIAS HEXACTIS</i>			1	
	<i>LIMPETS</i>	1	1	1	<i>Notarctodesa persona</i> , <i>Onchidella boreal</i>
	<i>LITTORINA</i> SPP	1			<i>L. setikara</i> , <i>L. scutellata</i>
	<i>NUCELLA</i> SPP		1	1,2	common on vertical bedrock walls
	<i>PAGURUS</i> SPP hermit crabs		1	1	in tidepools
	<i>PISASTER OCHRACEUS</i>		2	1	
	<i>POLYCHAETES</i>		1	1	<i>Spirorchis</i> in 1, cream-colored in M
	<i>PYCNOPODIA HELIANTHOIDES</i>		2 (pool)	1,2,3	very common
	<i>SEARLESIA DIRA</i>				
	<i>SERPULIDS</i>			1,2	common under overhangs & in pools
	<i>SIPHONARIA THERSITES</i>				
	<i>TEALIA</i>		1 (pool)		<i>T. crassicornis</i>

KN-20

PWS
328B →

KN-2

● XXX Wide
//// Medium
--- Narrow
TTTT Very Light

KN-20

ADEC Segment Length: 1636m
Exxon Segment Length: 2056m

0 100 200 300



Map Key: PWS-328a

Name: Alan PittengerDate: 4/25/90

SHORELINE EVALUATION

SEGMENT ST/ KN-21 SUBDIVISION A (1 OF 1) DATE 4/8/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)
30,3Q Harbor seal and sea lion molting (8/15 to 9/15)
5T All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
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: 4/20/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 26 m: No Oil 413 m
Subsurface Oil Observed: Yes No X 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: <u> </u> Breakup	☐ <u> </u> Beach Cleaner
☐ <u> </u> Removal	☐ Other (see comments)

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 4/20/90
ADEC ART WEINER
EXXON ANDY TET
NOAA Burl Wescott
USCG KENNETH KEANE

FOSC: [Signature] DATE: 4-26-90

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 unopened 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.

SEGMENT ST 1 NV-21 SUBDIVISION: A DATE 4-8-90

ISCG

NAME SCOTT RAINSFORD SIGNATURE Scott Rainsford MS1

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

ADEC

NAME Wesley Ghorumley SIGNATURE Wesley Ghorumley

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

LAND MANAGER

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

SHORELINE OILING SUMMARY

REVISION NO. 002875

OG G. Macdonald USCG S. RAINSFORD SEGMENT ST/ KN-21
 BIO MA. SCOTT LAND REP NFS SUBDIVISION A / of /
 EXXON J. BUTLER ADEC W. G. HORMLEY TIME 10:00 to 10:20
 TEAM NO.: 3 TIDE LEVEL: 10 DATE 4 / 8 / 90
 EST. SUBDIVISION LENGTH: 566 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☐ Forest ☒ Rock
 SURVEYED FROM: ☐ Foot ☐ Boat ☐ Helo WORKING DIRECTION: to
 SURFACE SEDIMENTS: R 95 % B 0 % C 5 % P 0 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 0 % Hang 20 % Vert 80 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 20 m NO 566 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	NO	NS	PS	IS	1	2	3	4	5	6	7	8	SU	U	M	U
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT																
STAIN				X		X							X			
MOUSSE																
PATTIES																
TARBALLS																
FILM																
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			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NOTYPE 0#BAGS 0

Photographs:

Roll No. ST-3-2Frames —

SUBSURFACE OIL — NO PIT SUBSTRATE

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	VO	1	2	3	4	5	6	7	8	SU	U	M	U		
							—																
							—																
							—																
							—																
							—																
							—																
							—																

COMMENTS

Small rock island w/ 20m of IT @ SURZ.
 Steep rock walls.

03 G. MACDONALD

SEGMENT ST/ LN-21

SUBDIVISION A

DATE 1/8 90

CHECKLIST

- ☐ H Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HW/LWL
- ☐ SBL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ PR Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ
PR - No Subsurface Oil

2 Δ
PR - Subsurface Oil

$\square$ CT/C
Continuous Distribution

$\square$ CT/B
Broken Distribution

$\square$ CT/P
Patchy Distribution

$\square$ CT/S
Splashed Distribution

Oiled Vegetation

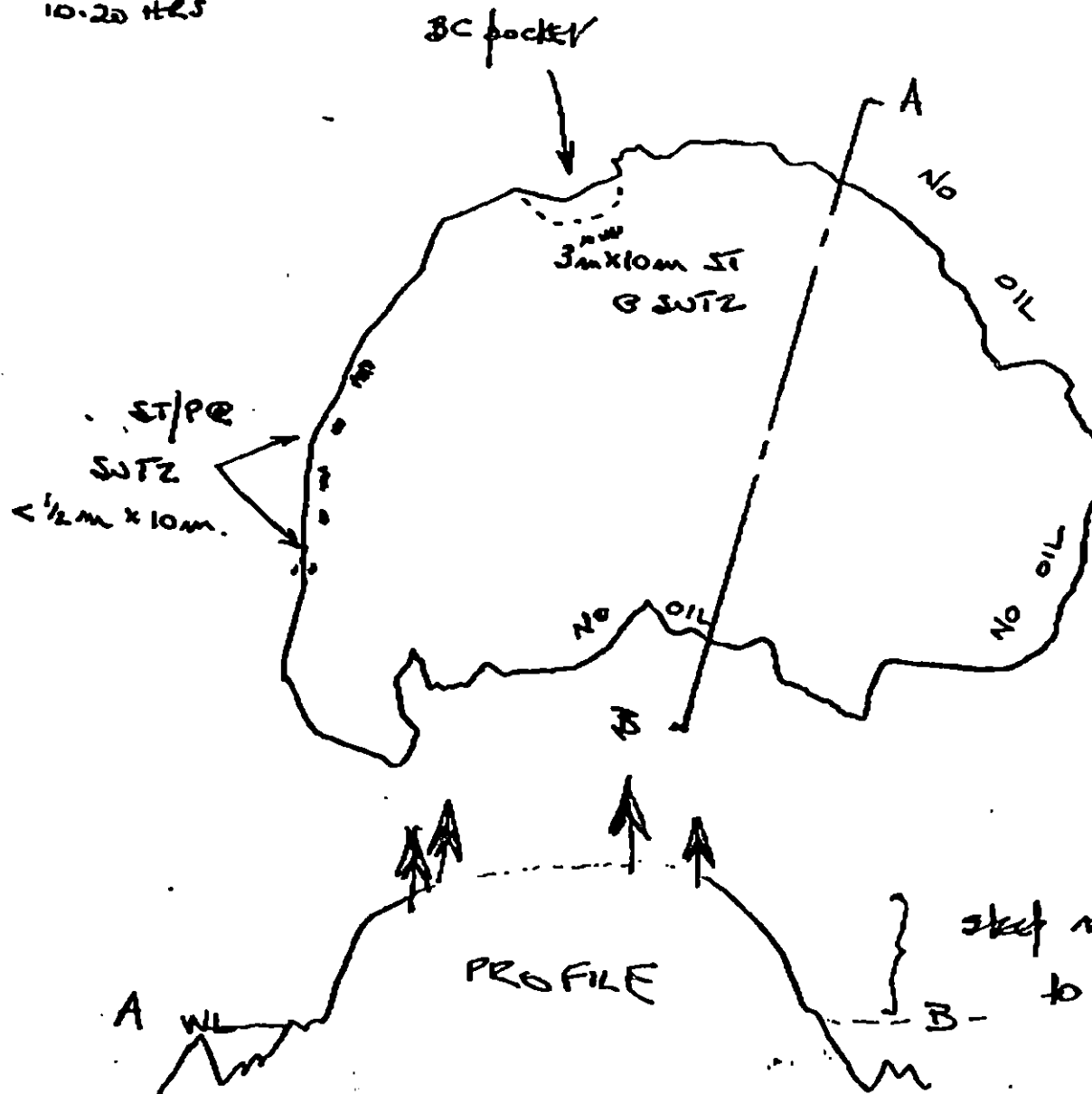
1 $\Rightarrow$
Photo location, direction, and number

SKETCH MAP

0 40 80m
1" = 80m



10.00 -
10.20 HRS



Oil Character Length (m): AP $\square$ PO $\square$ CV $\square$ CT $\square$ ST $\square$ MS $\square$ PT $\square$ TB $\square$ FL $\square$ NO 566

REVISION 030000

SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/07/90

Segment ST / KN 21 Subdivision A Date (mo / day / yr) 4/8/90ne (24 hr) 000-1020 Biologist MAScott

- (A) Substrate type and % of segments:
 (1) Bedrock 95 (2) Boulder - (3) Cobble 5 (4) Pebble - (5) Sand - (6) Silt -
- (B) Overall % cover of biota (% of segment): Dense 70 Moderate 20 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 (3)

 Photographs:
 Roll No. Ø
 Frames Ø

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	

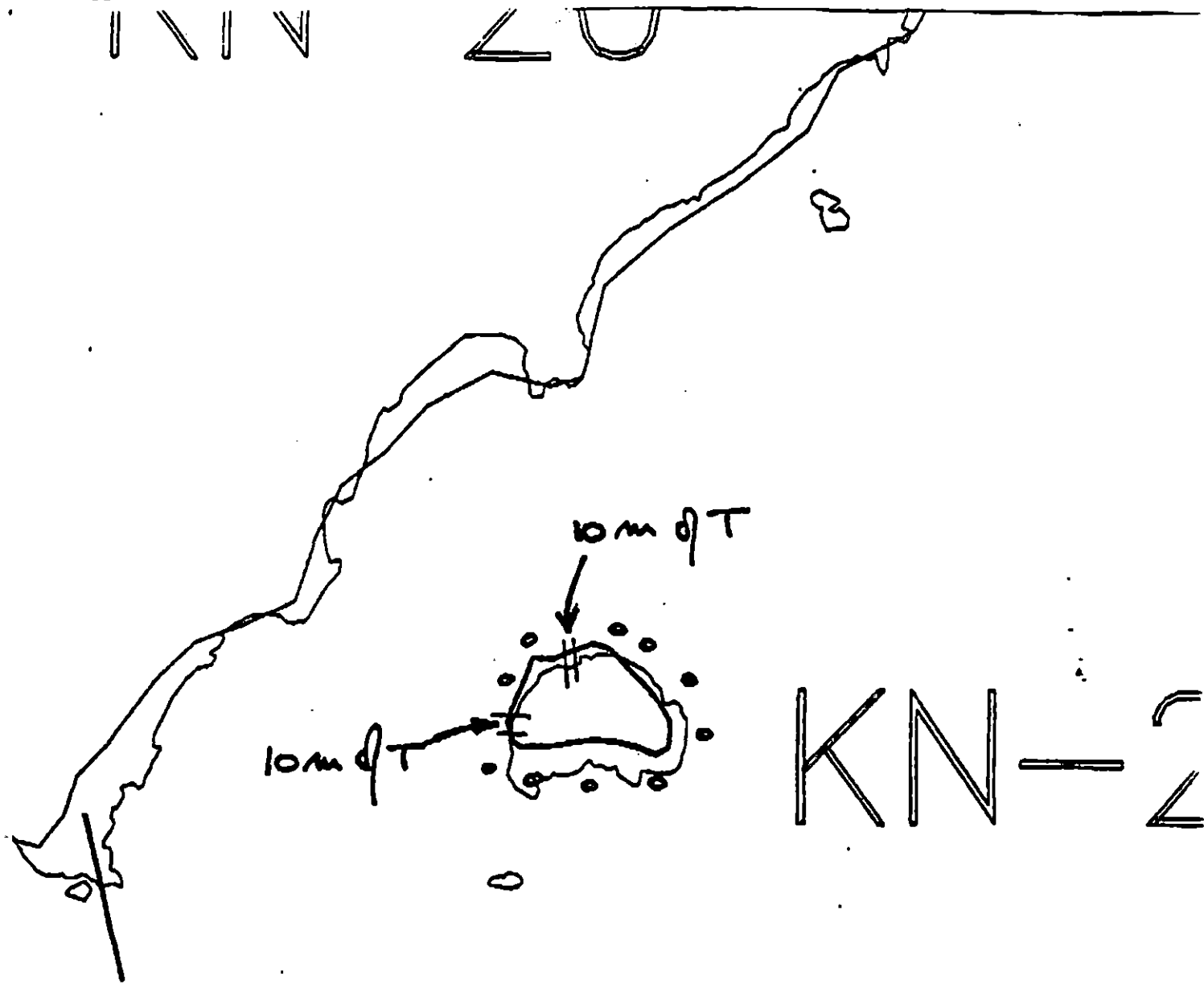
Wildlife Observations/ General Comments:

1 seal
 2 sea otters
 1 eagle
 2 oyster catchers
 ~200000 sandpipers (?)
 6 goldeneyes

1 pigeon guillemot
 (observations from boat; LTB not visible)

Ecological Considerations:

- intertidal biota dense (& appears diverse but observations limited from boat)
 - dense patches of mytilus found occasionally (sparse) around island



ST 20, No 566

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

KN-21

ADEC Segment Length: 440m
EXXON " " : 586m



Map Key: PWS-337

Name: G. MACDONALD

Date: 4/8/90

Date Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-23 SUBDIVISION A (1 OF 1) DATE 4/25/90

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)
5R Seabird colony (5/1 to 9/1)
5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
Eagle nest within 400 M of subject segment.
6U Recreation: Tent sites (6/1 to 9/15)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: J. Daniel McMahon DATE: 5/11/90

OILING CATEGORIZATION:

Wide 25 m: Medium 0 m: Narrow 471 m: V.Light 1347 m: No Oil 0 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> X </u> Tarmat Removal	<u> </u> Beach Cleaner
	<u> </u> Other (see comments)

COMMENTS: Recommended treatment includes 1) manual removal of tarmats as shown, 2) manual pickup of debris, and 3) bioremediation of areas indicated on attached sketch map. Work restricted 5/1 to 9/1 by seabird colony, consult with USFWS for 7/1 to 8/15 working period regarding seabird colony and eagle nest.

TAG COMMENTS: _____

TAG APPROVAL DATE: 5/11/90
 ADEC Art Weimer Art Weimer
 EXXON Andy Galt Andy Galt FOSC: W L DATE: 5-18-90
 NOAA Joseph J. Galt Joseph J. Galt
 USCG D. D. Rome D. D. Rome

"NOTIFY CAC 24 HRS. IN ADVANCE OF WORK"

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN-23 SUBDIVISION: A-1-f1 DATE 04/25/90

USCG

NAME David S. Thomas SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

ADEC

NAME Clara S. Crosby SIGNATURE Clara S. Crosby

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS - Pit site #1 & 2. Boulder armor over peat & mud - Bio site same Island.

On SE side CT/C, AP/P, 10x10m area needs manual removal of AP & wash - Near shore shear noted at this site.

Possible wash site @ 3m wide Band CT/P Southern most island.

Other areas piling concentrated under B/C - difficult to ^{thin CT (C)}

Minimal recovery Bio sites -
CSC rep. Peter Zolner was transferred before paperwork was completed.
Please refer to his comments.

LAND MANAGER

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

SHORELINE OILING SUMMARY

REVISION NO. 34-1-88

OG RICK GILLIE USCG DAVE THOMAS SEGMENT ST/ KN-23
 RIO DAVE LOHSE LAND REP PETER ZOLLAR SUBDIVISION A (1 OF 1)
 EXXON FRANK BOY ADEC CLARA CONDY TIME 073010 11:00
 TEAM NO. 13 TIDE LEVEL -1' to +4' DATE 04/25/90
 EST. SUBDIVISION LENGTH: 2211 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: W to E
 SURFACE SEDIMENTS: R 80 % B 15 % C 5 % P 0 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 5 % Hang 75 % Vert 25 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 20 m M 0 m N 550 m VL 1,641 m NO 0 m

SURFACE OIL

CHARACTER	DISTRIBUTION					OIL / FILM COLOR					IMPACTED ZONES			
	C	S	P	B	R	1	2	3	4	5	SU	U	M	U
ASPHALT PAVEMENT			✓	X		X					X			
POOLED														
COVER														
COAT	*	✓	0	X		*					*	✓		
STAIN														
MOUSSE														
PATTIES														
TARBALLS														
FILM				X		X								X
NO OIL											X			

PAVEMENT H F (S) 30 sq. m by 4 cmPATTIES / TARBALLS 0 BAGSNEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT			DID YOU COLLECT DEBRIS?
	SM	MD	LG	
Logs	X			YES ☐ .. NO ☒
Vegetation	X			
Trash	X			
Debris				

DID YOU COLLECT DEBRIS?

YES ☐.. NO ☒TYPE ..#BAGS ..

Photographs:

Roll No. ST-13-5Frames 23,24

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
		CP	OR	OL	CP	NO		UB	UC	1	2	3	4	5	SU	U	M	U				
1	25	X					5.10	X		X					X							B-P, M
2	25	X					5.10	X		X					X							C-P, M
							.															
							.															
							.															
							.															

COMMENTS

- ① CREOMORPHOLOGY: HIGH ANGLE TO VERTICAL BED ROCK WITH SMALL, NARROW BOULDER/COBBLE BEACHES
- ② OIL CHARACTER/CATEGORY: "WIDE OILING" (CT, AD) CONFINED TO TWO SHORT, NARROW BEACHES. OTHERWISE A RESIDUAL COAT (CT/P) TYPICAL.

REVIEWED .. DATE ..

OG KICK LILLIE
 SEGMENT ST/ KN-23
 SUBDIVISION A - 1 of 1
 DATE 04/25/90

CHECKLIST

- ☒ M Arrow
- ☒ Approx. Scale
- ☒ Seg/Sub Entry
- ☒ Oil Dist.
- Width
- Length
- % Cover
- Substrate Character
- Est. HMT/LAVL
- SSL
- Profile Location(s)
- Profile(s)
- Flt Location(s)
- Photo Location(s)

LEGEND

1 Δ
 Ph - No Subsurface Oil

2 Δ
 Ph - Subsurface Oil

CT/C
 Continuous Distribution

CT/B
 Broken Distribution

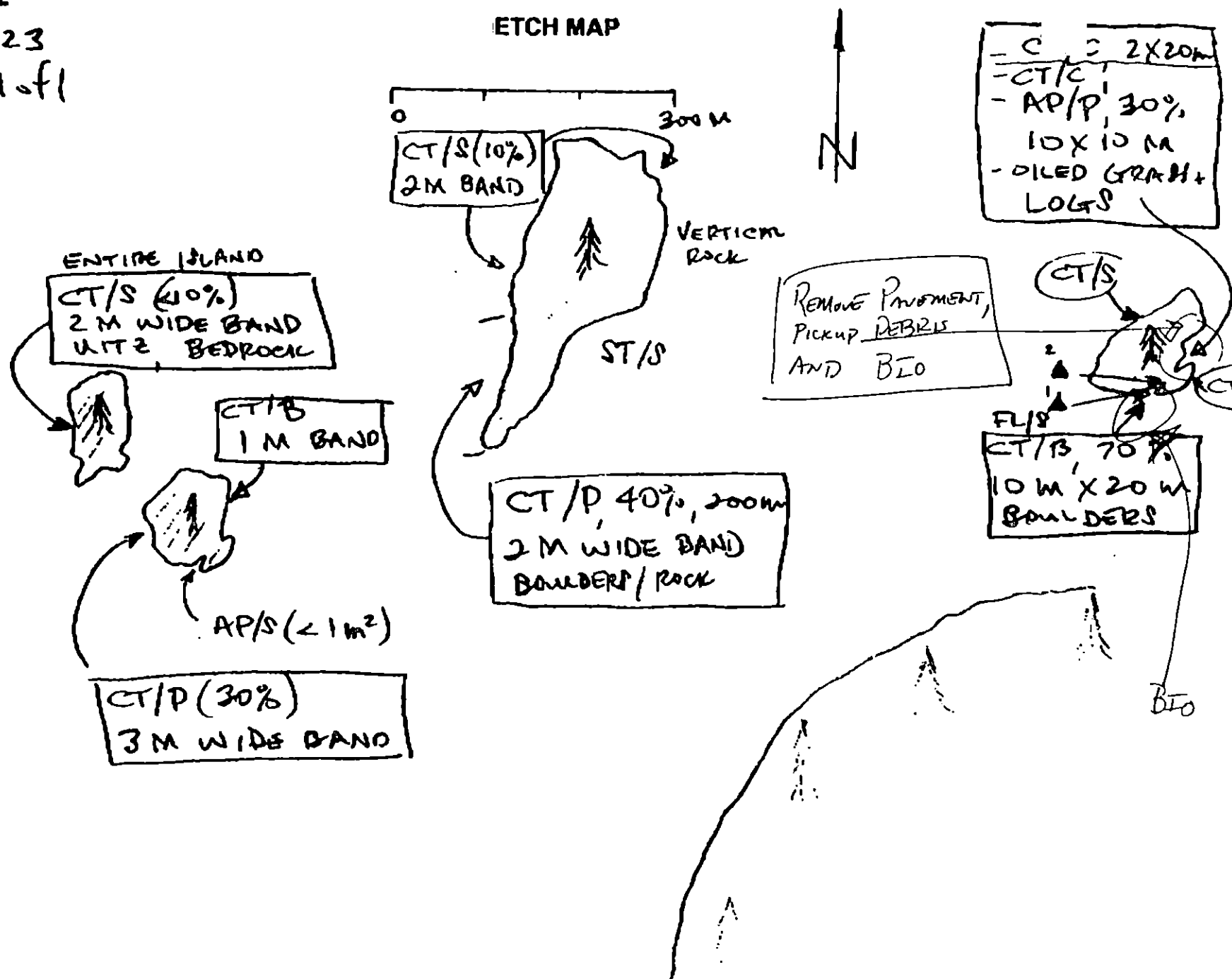
CT/P
 Patchy Distribution

CT/S
 Splashed Distribution

Oiled Vegetation

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

ETCH MAP



Oil Character Length (m): AP 5 PO 0 CV 0 CT 800 ST 0 MS 0 PT 0 TB 0 FL 2 NO 1,404

1042

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/23

Segment ST / KW023 Subdivision A Date (mo / day / yr) 4-25-90Time (24 hr) 9:30 Biologist David Lohr

(A) Substrate type and % of segments:

(1) Bedrock 80 (2) Boulder 15 (3) Cobble 5 (4) Pebble (5) Sand (6) Silt (B) Overall % cover of biota (% of segment): Dense 60 Moderate 25 Low 15

(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-13-5Frames 23, 24

BARNACLES

	Dense	
1U	~~X~~	~~X~~
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6

	Moderate	
1U	1M	1L
2	~~X~~	2
3	~~X~~	3
4	4	4
5	5	5
6	6	6

	Sparse	
~~X~~	1M	1L
~~X~~	2	~~X~~
3	3	~~X~~
4	4	4
5	5	5
6	6	6

	Rare	
1U	1M	1L
2	~~X~~	~~X~~
3	~~X~~	~~X~~
4	4	4
5	5	5
6	6	6

NOT PRESENT

MYTILUS

	Dense	
1U	1M	1L
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6

	Moderate	
1U	1M	1L
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6

	Sparse	
1U	1M	1L
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6

	Rare	
1U	~~X~~	1L
2	~~X~~	2
3	~~X~~	3
4	4	4
5	5	5
6	6	6

NOT PRESENT

GASTROPODS

	Dense	
1U	1M	1L
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6

	Moderate	
1U	1M	1L
2	~~X~~	2
3	3	3
4	4	4
5	5	5
6	6	6

	Sparse	
~~X~~	~~X~~	1L
~~X~~	2	2
3	~~X~~	3
4	4	4
5	5	5
6	6	6

	Rare	
~~X~~	1M	~~X~~
2	2	~~X~~
3	~~X~~	~~X~~
4	4	4
5	5	5
6	6	6

NOT PRESENT

FUCUS

	Dense	
1U	1M	1L
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6

	Moderate	
1U	~~X~~	~~X~~
2	2	~~X~~
3	3	3
4	4	4
5	5	5
6	6	6

	Sparse	
~~X~~	1M	1L
2	~~X~~	2
3	~~X~~	~~X~~
4	4	4
5	5	5
6	6	6

	Rare	
~~X~~	~~X~~	1L
2	~~X~~	2
3	~~X~~	3
4	4	4
5	5	5
6	6	6

NOT PRESENT

Wildlife Observations/ General Comments:

See page 2

Ecological Considerations:

WV, O, P, Q - Z seals spotted in area

ST - 1 mature bald eagle observed flying in area. No nest was observed

SR - no comment

6U - no comment

Shoreline Ecological Summary

2 of 2

Segment ST-KN023

Subdivision A

4-25-90

Biologist: David Lohse

Wildlife Observations / General Comments

1. Present in low intertidal: Enteromorpha, unidentified nemertean (orange in color), Scytosiphon, Rhodomenia, Pycnopodia, Ulva, Nereis, Dermasterias, Pisaster ochraceus, unidentified filamentous red algae, unidentified red "branch" (Rhodomenia?).
mid intertidal: Scytosiphon, Anthopleura, coralline algae, Endoulacia, unidentified red "branch" (Rhodomenia?).
high intertidal: Enteromorpha (dense in tidal pools)
2. 3 oystercatchers, 2 seals, 2 cormorants, and 1 raven spotted in the area
3. Algal cover in the low intertidal was 50% on cobble (2 sites estimated), 5% on bedrock (1 site), and 90% on boulders (1 site estimated).
4. Some oil covered barnacles found ~~at~~ in high intertidal. Mortality was ~60% (estimate of one site).
5. Bare ~~rock~~ Fucus strips were found in high intertidal in some areas.

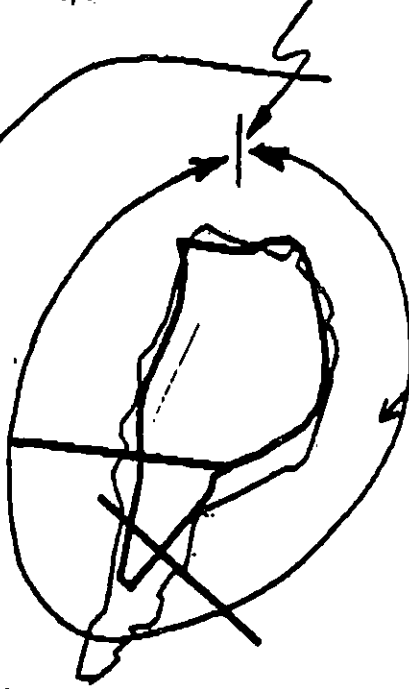
ECOLOGY MAP (1 OF 2)

RESOURCE CODES FOR
ENTIRE SEGMENT:

ET-11
3B, O, P, Q
5R-1
6U

PINNIPED HAULOUT

KN-23



BALD EAGLE
NEST

PWS
3-1-8

KN-24

KN 206

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

ADEC Segment Length: 1108m



KN-23



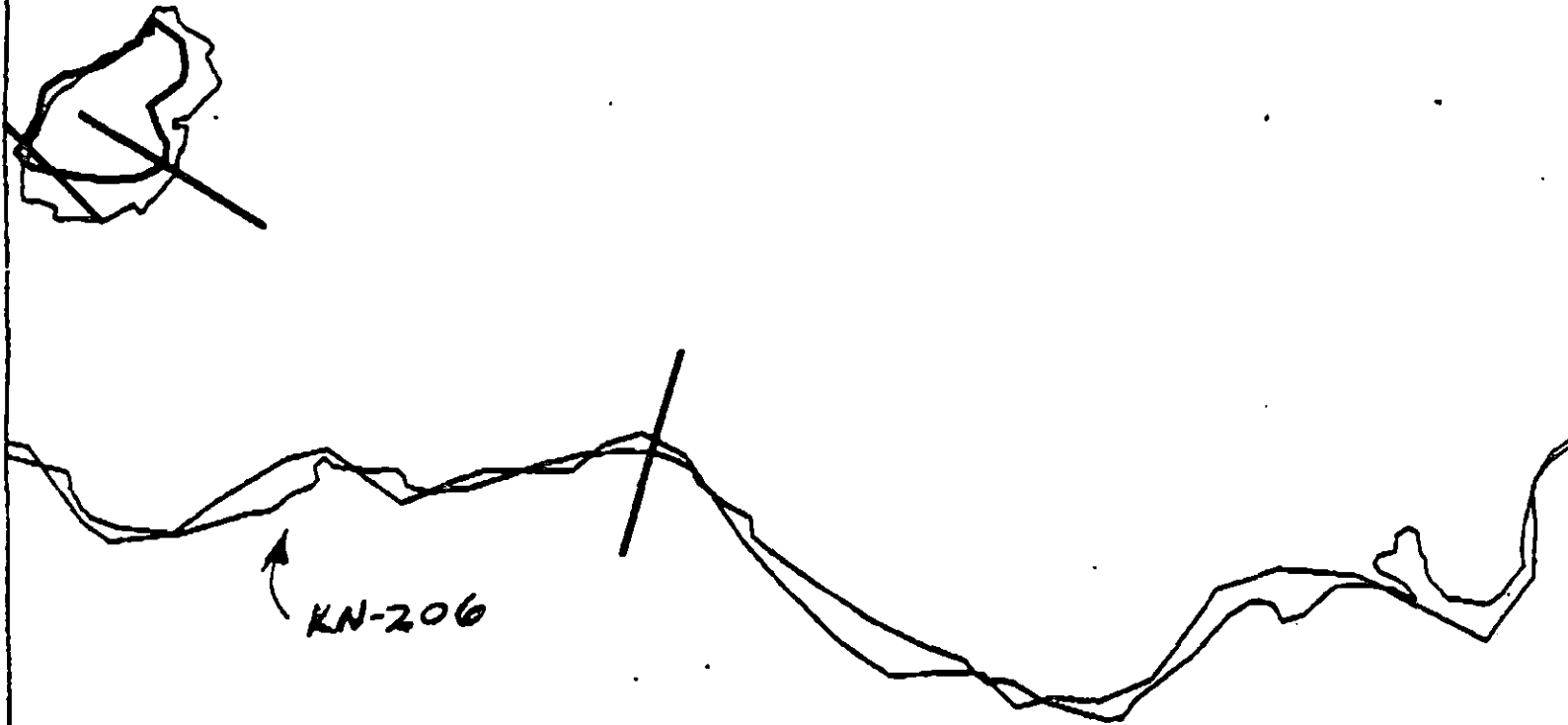
Map Key: PWS-344a

Name: _____

Date: _____

Date Entered: _____

1004 MAR 2 of 2



XXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-23

ADEC Segment Length: 1108m



Map Key: PWS-344b

Name: _____

Date: _____

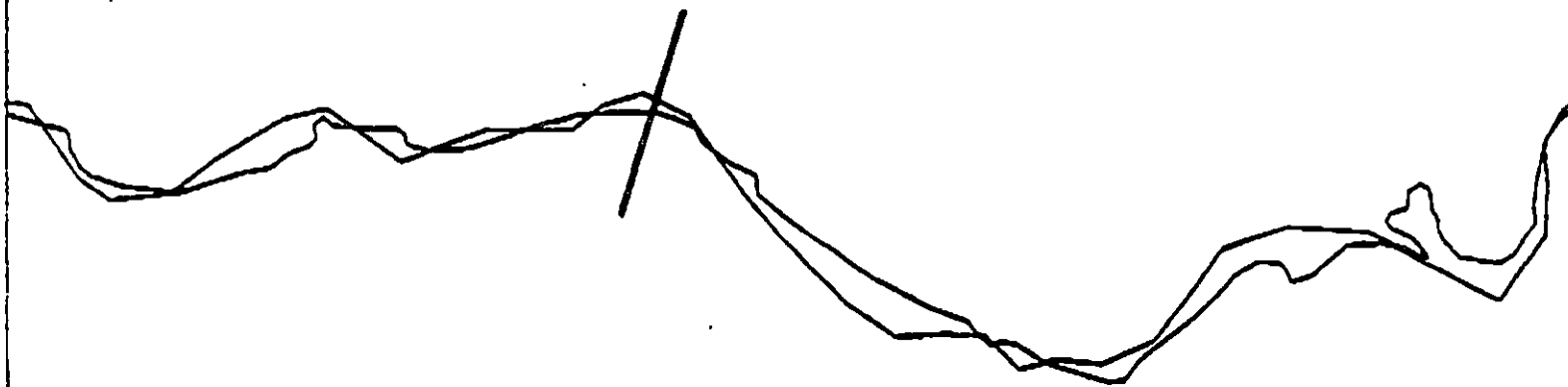
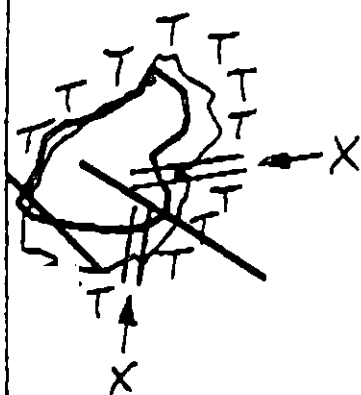
Date Entered: _____



ST (KN-23

SUBDIVISION: A - 10f1

EAST PORTWON



← PWS
34-A

XXX Wide

/// Medium

--- Narrow

TTTT Very Light

OOOO M - 0.1

KN-23A

ADEC Segment Length: 1108m

0 100 200 300



Map Key: PWS-344b

Name: RICK GILLIE

Date: 04/25/90

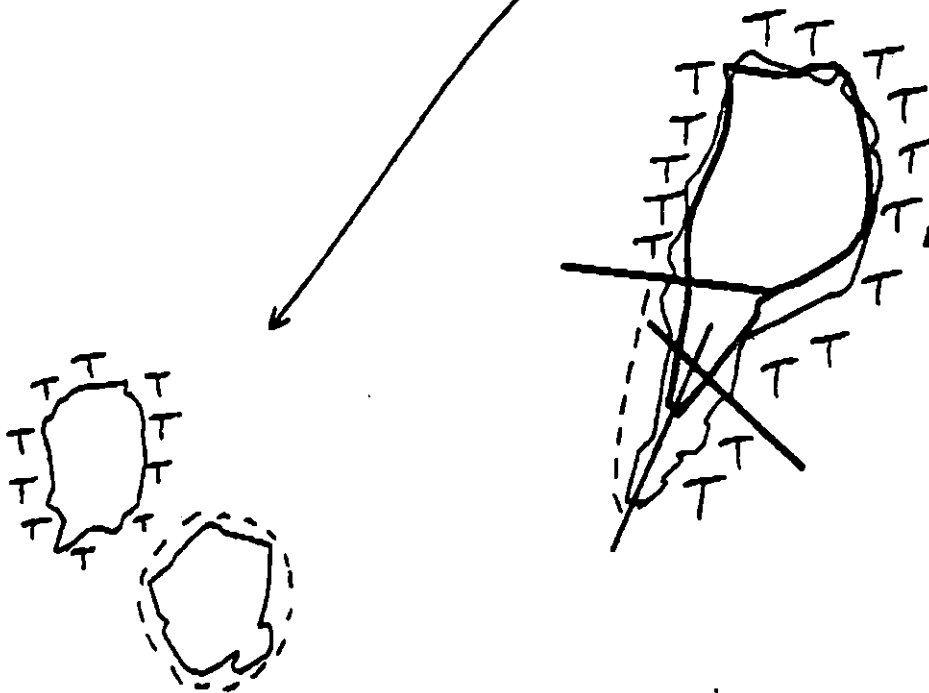
Data Entered:

ST/KN-23

SUBDIVISION: A - 1 of 1

WEST PORTION

KN-23

PWS
3443 →

KN-24

XXX Wide

/// Medium

--- Narrow

TTTT Very Light

OOOO No Oil

KN-23A

ADEC Segment Length: 1108m

0 100 200 300

Map Key: PWS-344a

Name: RICK GILLIEDate: 04/25/90

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-23 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup Tarmat Removal	OPEN
Bioremediation	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

3N,P Harbor Seal & Sea Lion
3O,Q 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

NO CONSTRAINT. USFWS bald eagle impact assessments completed on 5/22/90 and 5/27/90 by Mike Lockhart indicate no active nests within 400m of the work area.

5R Seabird Colony

NO CONSTRAINT. The work area is more than 800m from the nearest seabird colony.

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 uncolled biota and substrate.

TAG APPROVAL DATE 6/04/90

ADEC RAY MORRIS

EXXON ANDY TAYLOR

NOAA JOSEPH TULLOCH

USCG G.A. FLETCHER

FOSC

[Signature]

Date

6/4/90

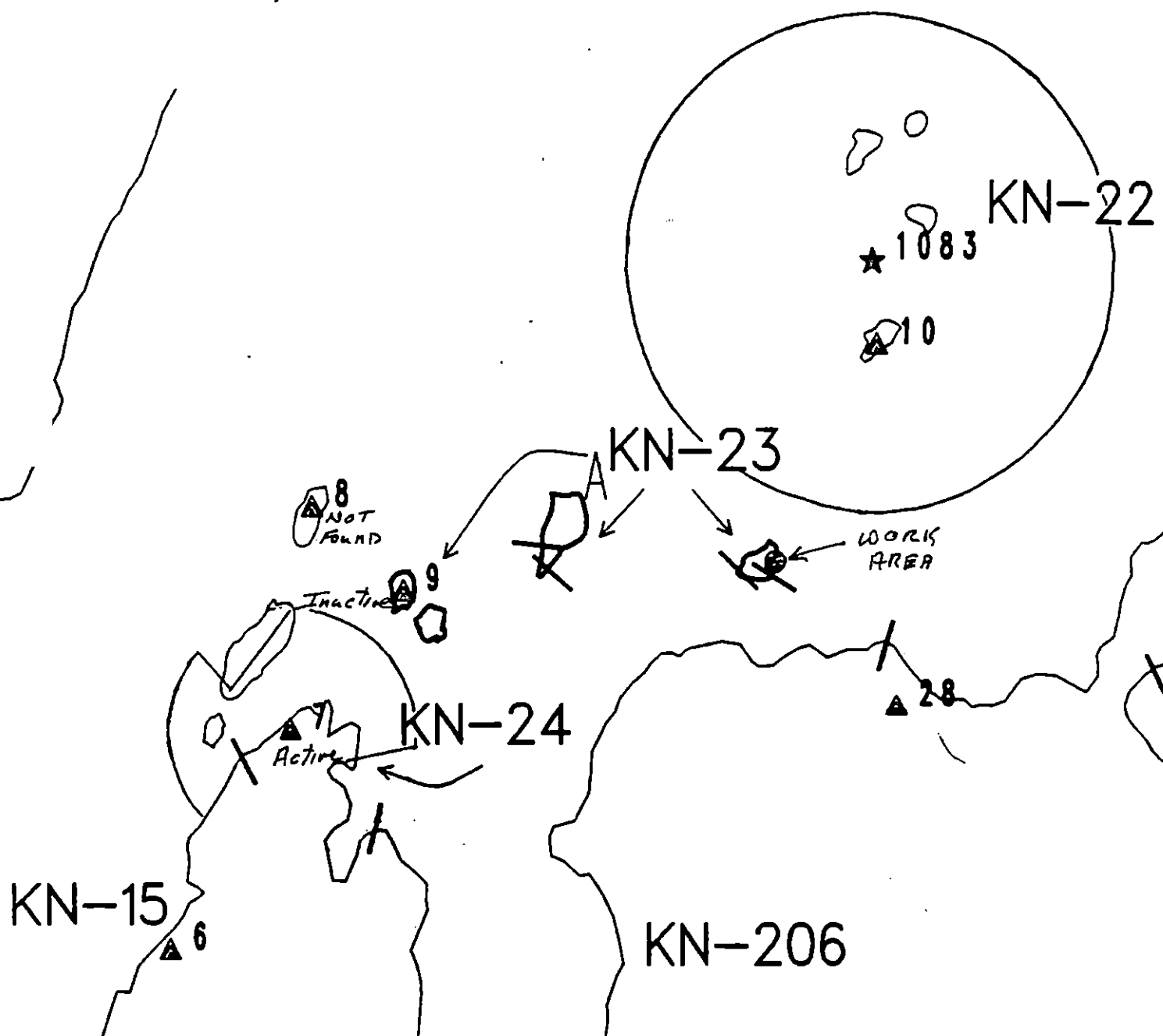
Prepared by

Anders Meyer

Date

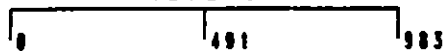
6/2/90

Incorporates information from
USFWS bald eagle survey 5/22 & 5/27/90



Exxon Company, USA
Map Key: KN1-KN-23
May 11, 1990

ECOLOGY MAP $\frac{1}{2}$
SEGMENT KN-23
SUBDIVISION A (1 of 1)
METERS



★ Seabird Colony
▲ Eagle Nest

1 inch = 1612 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-24 SUBDIVISION A (1 OF 1) DATE 4/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

2M Herring spawning (4/1 to 6/15)
3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)
30,3Q Harbor seal and sea lion molting (8/15 to 9/15)
5T All bald eagle nest (3/1 to 6/1)-Active eagle nest (3/1 to 9/1)
6U Recreation: Tent sites (6/1 to 9/15)
6Y Special use destination

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: 4/18/90

OILING CATEGORIZATION:

Wide 0 m: Medium 234 m: Narrow 0 m: V.Light 851 m: No Oil 417 m
Subsurface Oil Observed: Yes X No Maximum Depth 10 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: Recommend manual pick up of mousse patties and bioremediation of areas shown on attached sketch map. Work should be conducted between 7/1 to 8/15 based on pinned constraints and with approval from ADF&G and USFWS regarding eagle nests.

TAG COMMENTS: MONITORS TO ASSESS SVITZ DURING TREATMENT

TAG APPROVAL DATE:

ADEC JOHN BAUER
EXXON AMY TON
NOAA Burt Wernert
USCG G.A. REIER

FOSC: [Signature]

DATE: 5-6-90

Provide 24 hour notice to CAC prior to work
CG ~~perm~~ transport and berth CAC rep upon
request. Consider spot wash areas of oil collected
prior to bioremediation.

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 unholed 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)
 7H-H Finfish harvesting
 7I Deer harvesting (8/15 to 2/28)
 7J Invertebrate harvesting
 For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

SEGMENT ST/ KN-24 SUBDIVISION: A DATE 4/4/90

USCG

NAME

SCOTT RAINSFORD SIGNATURE Scott Rainford

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

ADEC

NAME

Wesley Ghormley SIGNATURE Wesley Ghormley

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

This segment needs both manual & mechanical applications. I recommend after pavement/asphalt is removed & mechanical methods are used (Hot H2O wands) that bioremediation be applied.

ONE method I observed in this area last summer while monitoring seemed to work fairly well. It simply consisted of rolling sorbent pads over a contaminated area & walking up & down on the pad to pick up the sticky oil. But if pavement/asphalt is to be retrieved in any of these segments by manual clean-up (shovels, rakes etc) it should be done early in the clean-up so as the oil won't be sticky & mobile when heated by the sun; get it while still frozen. Oiled debris on beach need removed.

LAND MANAGER

NAME LORA JOHNSON

SIGNATURE

Lora L. Johnson

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

SNOW IN HITZ & SITZ INHIBITED SURVEY.

SEE ALSO 1989-SCAT SURVEY.

SHORELINE OILING SUMMARY

REVISION NO. 08/28/88

OG G. MACDONALD USCG S. RAINFORD SEGMENT ST/ KJ-24
 BIO MA SCOTT LAND REP L. JOHNSON SUBDIVISION A
 EXXON T. BUTLER ADEC W. GHORMLEY TIME 12:30 to 15:20
 TEAM NO.: 3 TIDE LEVEL: +7 to +2 DATE 4/4/90
 EST. SUBDIVISION LENGTH: 440 m ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☒ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: SE to NW
 SURFACE SEDIMENTS: R 40 % B 15 % C 25 % P 10 % G 10 % S - % M - % V - %
 SLOPE: Long 15 % Hang 25 % Vert 20 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W - m M 170 m N - m VL 920 m NO 350 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				X			X		X			
COVER			X	X			X		X	X		
COAT		X	X	X			X	X	X	X	X	
STAIN		X							X	X		
MOUSSE												
PATTIES			X							X		
TARBALLS												
FILM		X					X		X	X		
NO OIL											X	

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	X		
Debris			

DEBRIS COLLECTED

☒ YES ☐ NOTYPE penform#BAGS 1

Photographs:

Roll No. ST-3-2Frames 11-16

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	IS		UO	UC	1	2	3	4	SU	U	M	V		
1	15					X	-									X		N	CGMR
2	20					X	-								X			N	GPMR
3	15					X	-							X				N	GSR
4	25		X		X		5-10	X			X			X				N	CGMR
5	25					X	-	X						X				N	CM Part.
6	20				X		-				X	X	X	X				N	PGR

7 10
COMMENTS

X

X

CS

Steep rocky shore and CPG cover w/ thin grassland by streams; oil as cr/cv/B-lc H/TZ-S/TZ. Subsurf. as cr/cv which has penetrated the CPG substrate to ~ 10 cm and limited in extent to pit #4 area.

OG C 1.

SEGMENT ST/ KW-24

SUBDIVISION A

DATE 4 / 4 90

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Bdry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HVL/LVL
- ☐ SOL
- ☐ 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

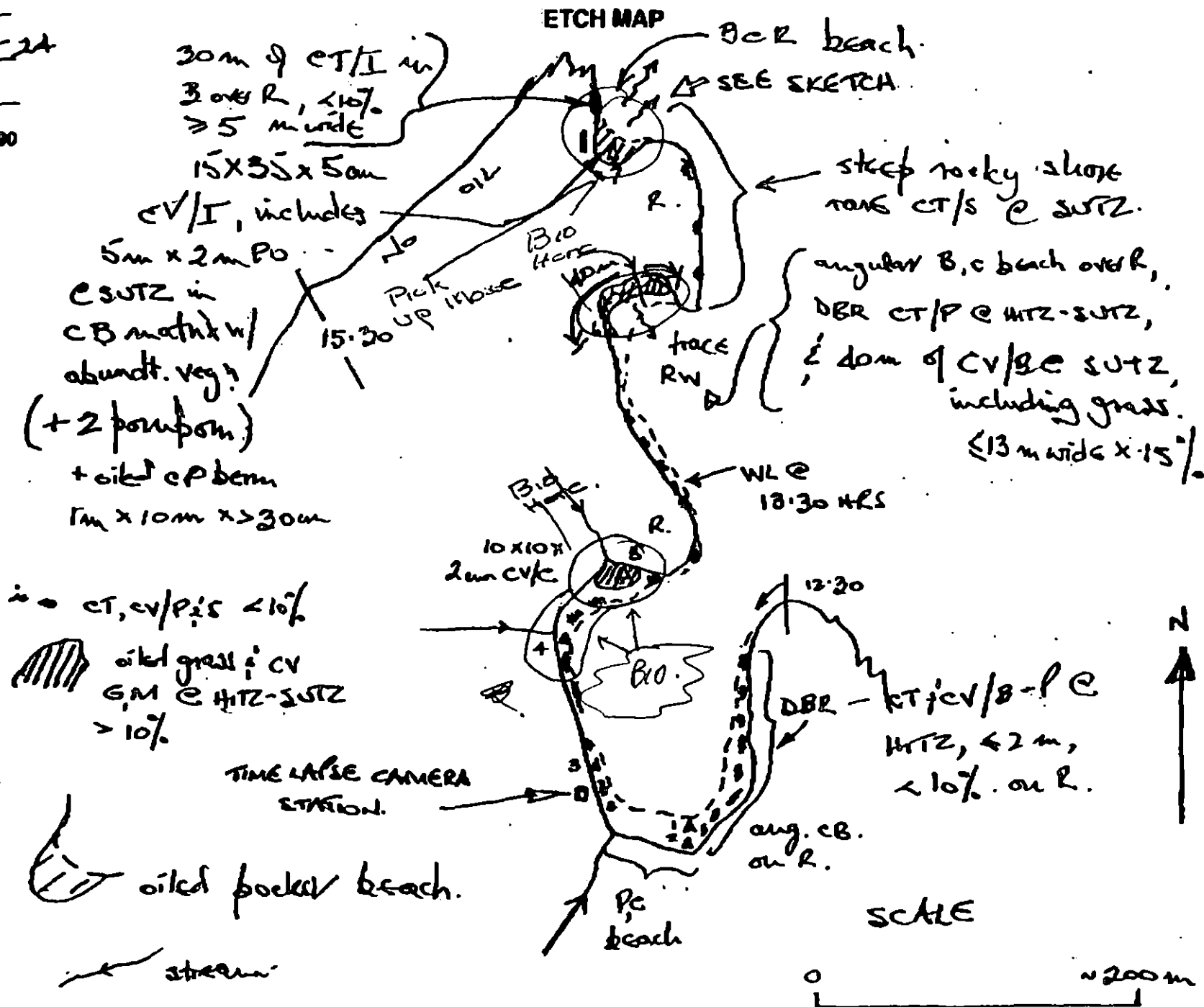
Concentrated Distribution
- CT/B

Broken Distribution
- CT/P

Patchy Distribution
- CT/S

Splashed Distribution
- Oiled Vegetation
- 1 $\rightarrow$
Photo location, direction, and number

ETCH MAP



Oil Character Length (m): AP - PO 15 CV 500 CT 1000 ST 50 MS - PT 10 TB - FL 20 NO 400

REVISIONS

294

DATE 4 / 4 90

CHECKLIST

- ☐ N Area
- ☐ Approx. Scale
- ☐ Seg/Sub Grid
- ☐ OS Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HRA/LYR
- ☐ SCI
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ FR Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ
Fit - No Subscription On

2A
PK - Submission On

CT/C
Confidential Distribution

CT/O
Broken Distribution

CT/P
Faculty Distribution

CT/S
Specialized Distribution

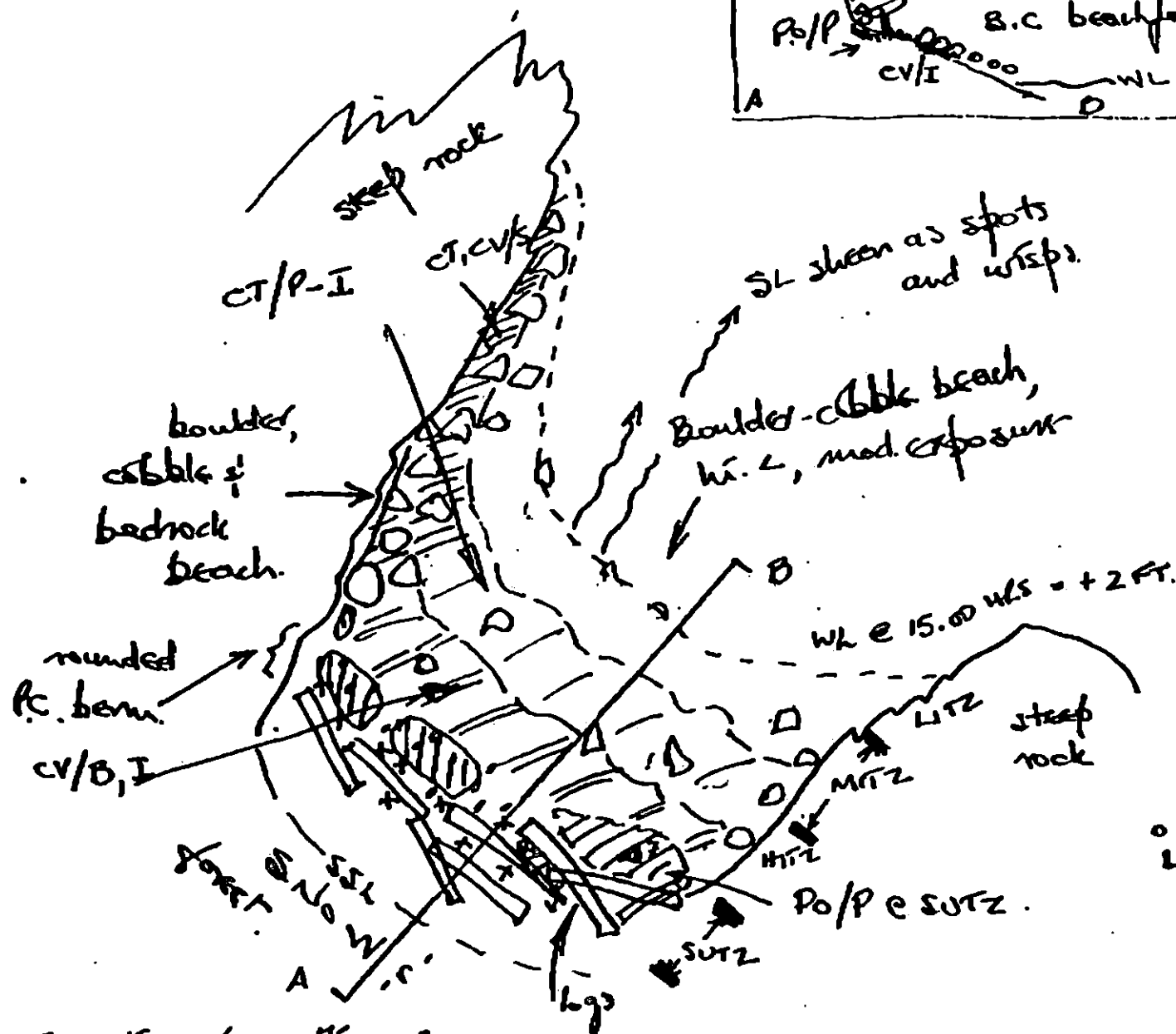
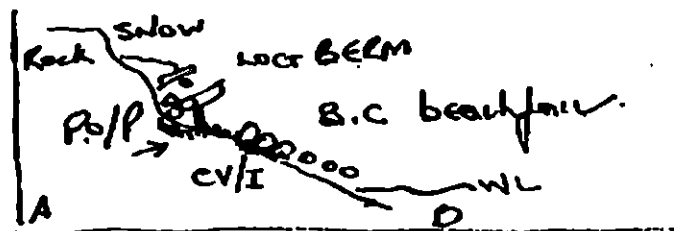
Onion Vegetation

1  **Photo location, direction, and number**

X SEAWEED

ATCH MAP

PROFILE



Oil Character Length (in): AP 1 PO 15 CV 60 CT 75 ST 30 MS - PT - TB - FL - NO 10 this sketch.

電話：02-2652-2222

294

SHORELINE ECOLOGICAL SUMMARY

REVISION 000000

Segment ST / KN024 Subdivision A Date (mo / day / yr) 4 / 7 / 90

Time (24 hr) 1230 - Biologist MA Scott

(A) Substrate type and % of segments:
(1) Bedrock 10 (2) Boulder 5 (3) Cobble 25 (4) Pebble 20 (5) Sand (6) Silt

(B) Overall % cover of biota (% of segment): Dense Moderate Low 1
190

(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 (S)

Photographs:
Roll No. ST-3-2

Frames 11-16

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

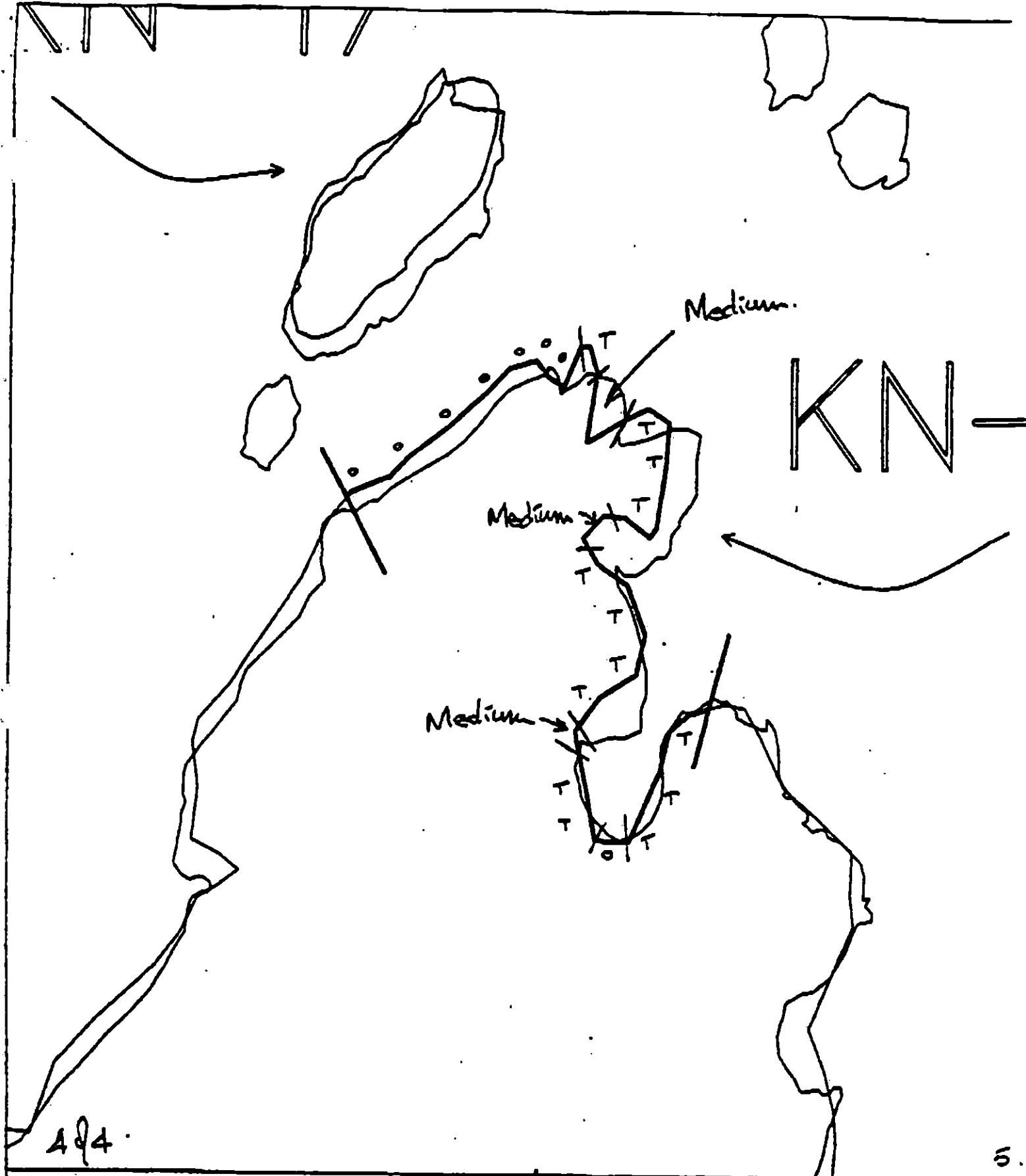
Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	~~2~~	2	~~2~~	~~2~~	2	
3	3	3	3	3	3	3	3	3	~~3~~	~~3~~	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

Wildlife Observations/ General Comments:

1 cormorant 2-300
1 eagle
5 gull
1 raven

note - some areas w/ barnacles covered in oil & mortality, overall w/ loose notes map for specific locations

Ecological Considerations:



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-24

ADEC Segment Length: 1502m



Map Key: PWS-345

Name: G. MACDONALD

Date: 4/4/90

Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-24 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup Outside Eagle Nest Buffer Zone	OPEN
Manual Pickup Inside Eagle Nest Buffer Zone	CLOSED
Bioremediation and Spot Washing Outside Eagle Nest Buffer Zone	OPEN
Bioremediation and Spot Washing Inside Eagle Nest Buffer Zone	CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

2M	Herring Spawning	NO CONSTRAINT. Authorized by Claudia Slater/ADF&G on 5/10/90 to Exxon/Tom Kelley.
3N,O,P,Q	Harbor Seal and 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 bald eagle impact assessments conducted on 5/22/90 and 5/27/90 by Mike Lockhart indicate an active nest in Subdivision A. Closed to manual pickup, bioremediation, and spot washing inside the eagle nest buffer zone established by USFWS. No constraint to manual pickup, bioremediation and spot washing outside the buffer zone.

OTHER ECOLOGICAL CONSIDERATIONS

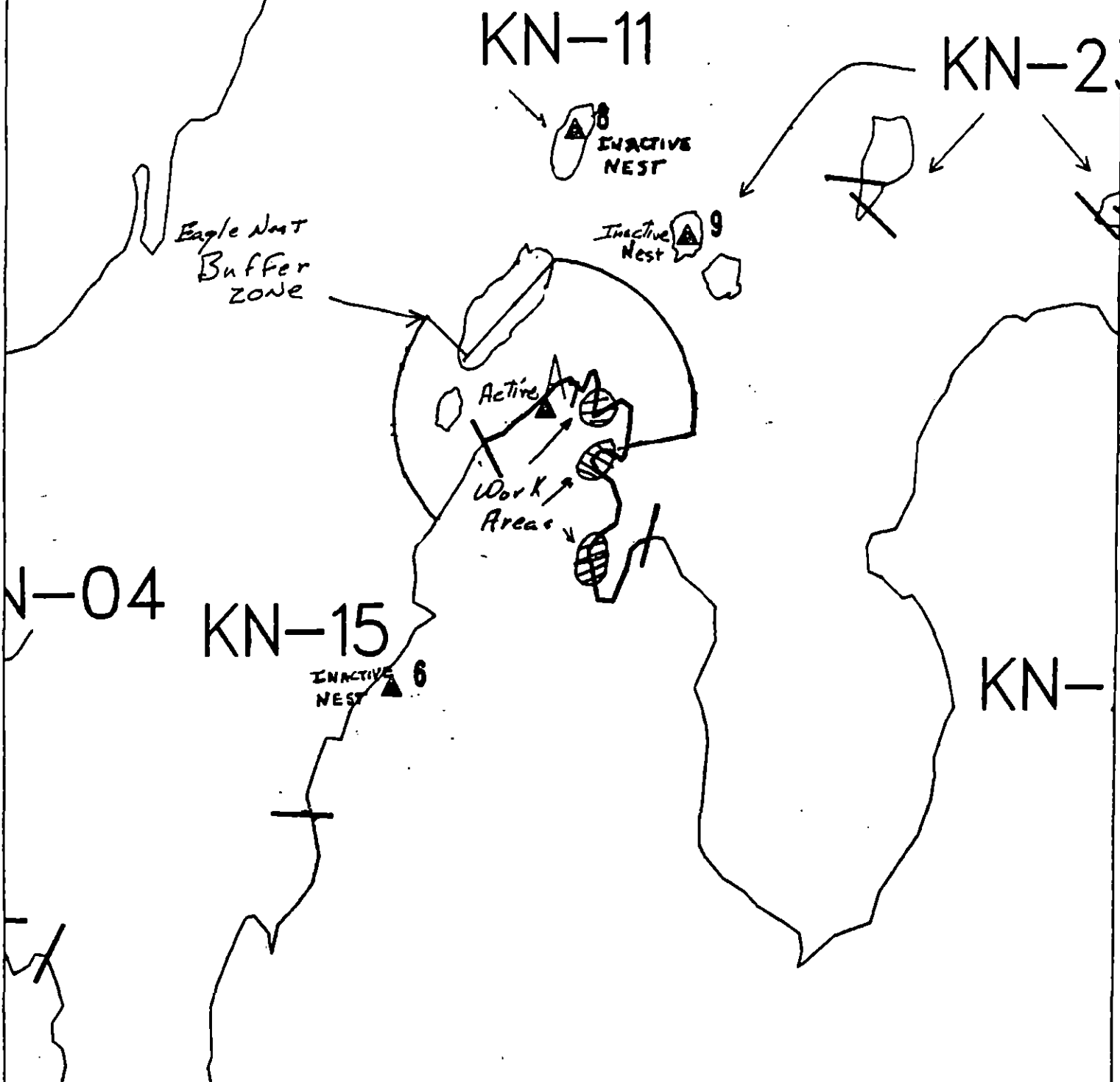
No personnel or boats within eagle nest buffer zone. Restrict air traffic and all disturbance to essential minimum. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from nests. Do not apply bioremediation to specific areas where seals are observed to 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 6/04/90
ADEC Ram Monney
EXXON Amy
NOAA John
USCG SA. Hester

FOSC Baumgartner Date 6/5/90

Prepared by Anden Monney Date 6/4/90

Incorporates information from
USFWS bald eagle survey 5/22
5/27/90. (6/1/90)



Exxon Company, USA

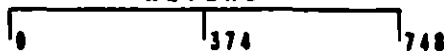
Map Key: KNI-KN-24

May 11, 1990

ECOLOGY MAP 6/1 SEGMENT KN-24

SUBDIVISION A (1 of 1)

METERS



Seabird Colony



Eagle Nest

1 inch = 1228 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-25 SUBDIVISION A (1 OF 3) DATE 4/20/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: J. David McManis DATE: 5/8/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 102 m: V.Light 0 m: No Oil 284 m
Subsurface Oil Observed: Yes No X 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:

TAG COMMENTS:

TAG APPROVAL DATE: 5/8/90

ADEC Art Weimer Art Weimer

EXXON Art Weimer

NOAA Gary Petras Gary Petras

USCG G.A. Reiter G.A. Reiter

FOSC: W L 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. 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 (8/11 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 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 (8/1 to 9/15)
6V	Anchorage (8/1 to 9/15)
6W	Forest Service cabins (8/1 to 9/15)
6X	Lodge (8/1 to 9/15)
	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 1 KN-D25 SUBDIVISION: A DATE 04-20-

USCG
NAME AEC Vandepels SIGNATURE AEC Vandepels

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

ADEC
NAME Michele Baer SIGNATURE M Baer

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

8/1 on headland observed. No other oil found.

LAND MANAGER
NAME Carol S Huber SIGNATURE Carol S Huber

☐ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS

Recommend continued natural cleanup.
Very little oil found on rocky headland and
that oil in a benign form (i.e. weathered/not
Oil difficult to distinguish from natural
present.

OG J. Springer USCG R. Vandepels SEGMENT ST/ HN-25
 BIO P. Crank LAND REP C. Huber SUBDIVISION A (1 OF 3)
 EXXON T. Tumbler ADEC M. Baer TIME 17:30 to 17:50
 TEAM NO. 5 TIDE LEVEL +2.70 +2 1/2 DATE 04/20/90
 EST. SUBDIVISION LENGTH: 500 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☐ Foot ☒ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 100 % B 0 % C 0 % P 0 % G 0 % S 0 % M 0 % V 0
 SLOPE: Long 0 % Hang 5 % Vert 95 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 100 m VL 0 m NO 400

SURFACE OIL

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

PAVEMENT H F S 0 sq. m by 0

PATTIES / TARBALLS 0 BAG

NEAR SHORE SHEEN? (NO) BR RW SL T

OILED DEBRIS	AMOUNT			DID YOU COLLECT DEBRIS?
	SM	MD	LG	
Logs				YES ☐ NO ☒
Vegetation				
Trash				
Debris				TYPE <u>0</u>
				#BAGS <u>0</u>

Photographs: No photos

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 SEDIMENT
		OP	OR	OL	OF	NO		DO	UC	1	2	3	4	SU	M	M	U				

COMMENTS No pits dug - rock face only.

26

REVIEWED 7W DATE 4/23/9

J. Springer

WENT ST/ KN-25

DIVISION A

E 04, 20/00

ECKLIST

1 Arrow
Approx. Scale
log/Sub Study
30 Dist.
Mish
Length
N. Cover
Substrate Character
Est. HAP/LAVL
SGL
Profile Location(s)
Profile(s)
PA Location(s)
Photo Location(s)

GEND

1 Δ

No Subsurface Oil

2 Δ

Subsurface Oil

CT/C

Surface Distribution

CT/B

Non Distribution

CT/P

Ischy Distribution

CT/S

Isched Distribution

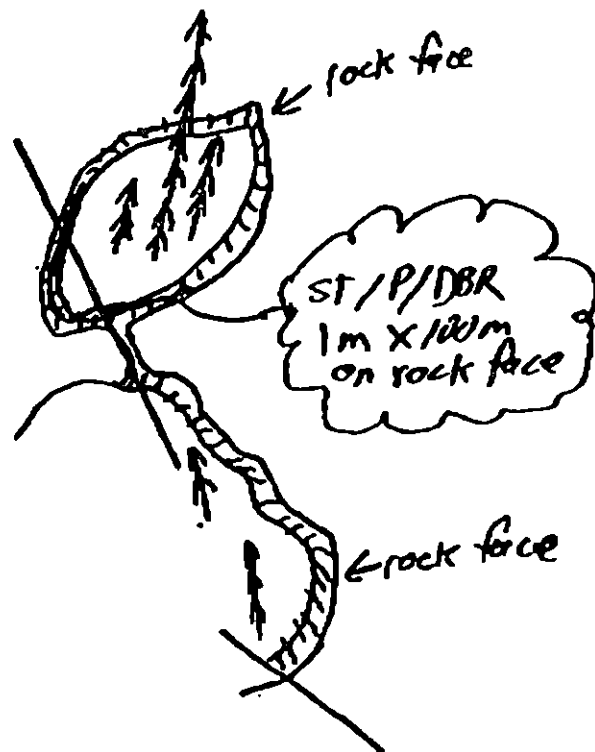
eee

Isd Vegetation

1 →

note location, direction,
id number

SKETCH MAP



SHORELINE ECOLOGICAL SUMMARY

pg 1 of 2

REVISION: 03/22/90

Segment ST/ KN 25 Subdivision A Date (mo / day / yr) 4/20/90

Time (24 hr) 1725-1745 Biologist Crank Tide Height: +2.5 to +2.5 ft

(A) Substrate type and % of segments:

(1) Bedrock 100 (2) Boulder — (3) Cobble — (4) Pebble — (5) Sand — (6) Silt —

Length: 500 m

(B) Overall % cover of biota (% of segment): Dense 100 Moderate 30 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 (3)

Photographs: No photos

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 PRESEN

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 PRESEI

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 PRESE

No information an

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 PRESE

26

Wildlife Observations/ General Comments:

3 Otter

Ecological Considerations:

67- Special Use Destination

- Subdivision was entirely vertical face around an isk and a headland. Survey by skiff.
- Fucus (mature plants) formed a dense ^{continuous} 2 m band with sparse sporlings.
- Barnacles also formed a dense continuous band. Dense recruitment in U17Z
- Mytilus were not observed.
- Gastropod distribution not given. Although there were observed Nucella congregations Littorina and L could not be looked for from skiff.
- Area appeared healthy, there was an

DATE 4/20/90 TIME 1725-1745 TIDE HEIGHT +2 → +2.5 ft

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

pg 2 of 2

FLORA:

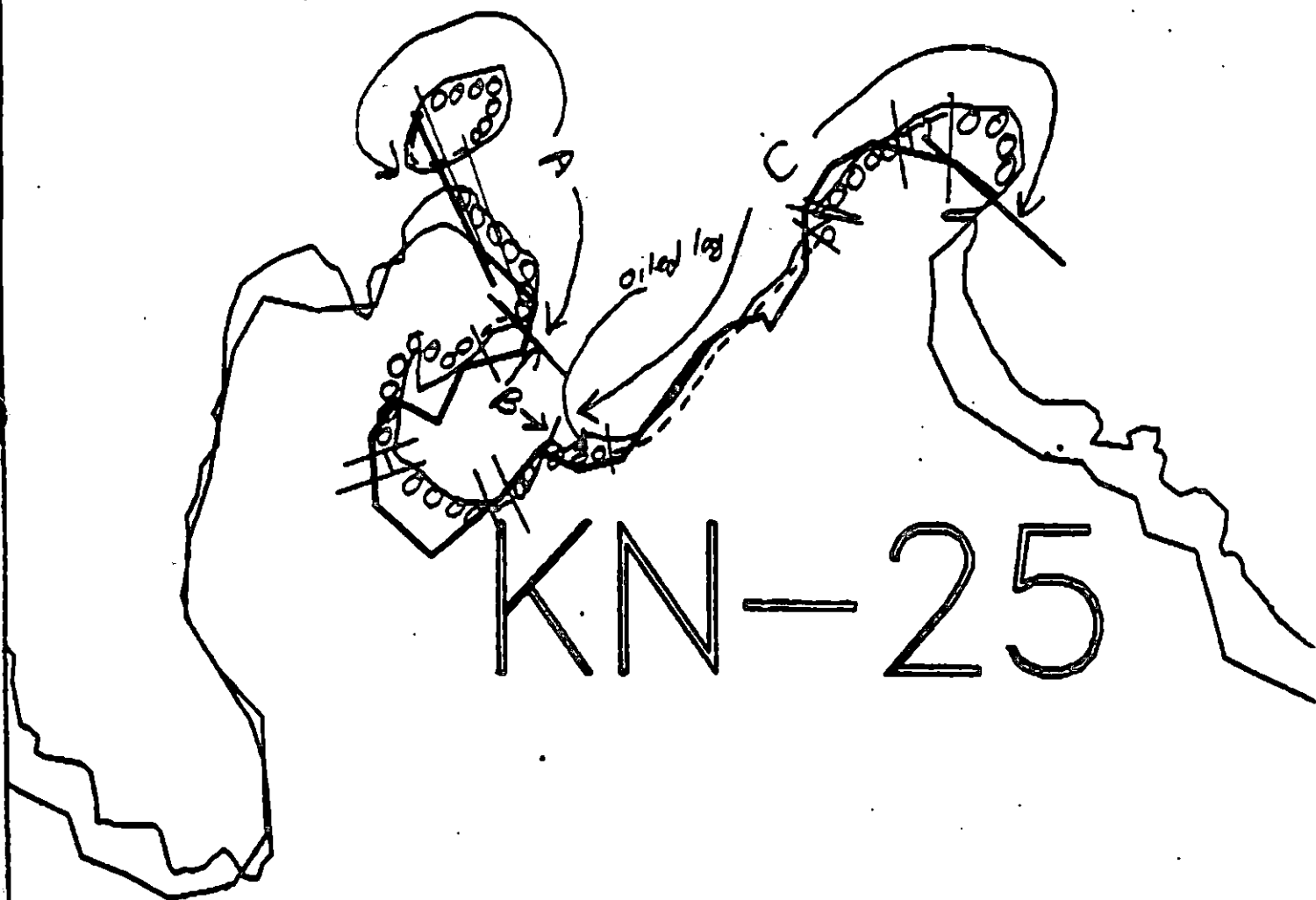
SPECIES	UTZ	MITZ	LITZ	COMMENTS
BOSSIELLA/CORALLINA				
CALLIARTHRON/CORALLINA				
CLADOPHORA SPP	1			
COSTARIA SPP				
ENDOCLADIA MURICATA				
FILAMENTOUS GREENS				
FILAMENTOUS REDS				
GLOIOPELTIS FURCATA				
HALOSACCION GLANDIFORME				
LAMINARIA SPP				
LITHOTHAMNION				
NEREOCYSTIS SPP				
PORPHYRA SPP				
RALPHSIA/HILDENBRANDIA			1	
PHODOMELA LARIX			1	
RHOHOMENIA PALMATA			1	
SCYTOSIPHON SPP				
ULVA SPP			1	
ZOSTERA MARINA				
ENTOROMORPHA				
<i>Iridia</i>			1	
<i>Maistracoepon</i>			1	
<i>Alaria</i>			1	

FAUNA:

ANTHOPLEURA SPP				
(SEMI) BALUNUS CARIOSUS				
B. GLANDULA	1	1	1	
BRYOZOANS				
CHITONS (other than K. TUNICATA)				
CLAMS				
CRABS				
DERMASTERIAS IMBRICATA				
KATHARINA TUNICATA				
LEPTASTERIAS HEXACTIS				
LIMPETS				
LITTORINA SPP				
NUCELLA SPP		1		
PAGURUS SPP				
PISASTER OCHRACEUS				
POLYCHAETES				
PYCNOPODIA HELIANTHOIDES			1	
SEARLESIA DIRA				
SERPULIDS				
SIPHONARIA THERSITES				
TEALIA				

29

X



KN-25

45

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

KN-25

ADEC Segment Length: 1242m



Map Key: PWS-420

Name: James Spring

Date: 4/20/90

SHORELINE EVALUATION

SEGMENT ST/ KN-25 SUBDIVISION B (2 OF 3) DATE 4/20/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: J. David McMillan DATE: 5/8/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 93 m: V.Light 0 m: No Oil 373 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:

TAG APPROVAL DATE: 5/8/90
ADEC Art Wagner
EXXON Andy TSH FOSC: W L DATE: 5-12-90
NOAA Gary Peluso
USCG G.A. BEITER

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 (8/11 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.
- 6J 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)
7JH 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-25 SUBDIVISION: B DATE 04-20-90

USCG

NAME AEC Vandepels SIGNATURE AEC Vandepels

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

ADEC

NAME Michelle Baer SIGNATURE mbaer

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

On the 1st beach, a band varied from ST/B to CV/B for 20' along the headland (by pit #1 + #2). By pit #5, the group picked up and bagged the occasional TB/3 and MS. No other oil was found.

LAND MANAGER

NAME Carol S. Huber SIGNATURE Carol S. Huber 35

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

Recommend continued natural cleanser. Very little oil found. Rare tar splatters were bagged and removed. Resource sensitivity - Special use destini

SHORELINE OILING SUMMARY

REVISION NO. 04.13

OG J. Springer USCG R. Vandepels SEGMENT ST/ KN-25
 BIO P. Cronk LAND REP C. Huber SUBDIVISION B (2 OF 3)
 EXXON T. Tenblin ADEC M. Baer TIME 17:15 to 18:35
 TEAM NO. 5 TIDE LEVEL 1 1/2 to 2 1/2 DATE 1 / 90
 EST. SUBDIVISION LENGTH: 400 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: _____ to _____
 SURFACE SEDIMENTS: R 35 % B 20 % C 30 % P 15 % G 0 % S 0 % M 5 % V 0
 SLOPE: Long 60 % Hang 15 % Vert. 25 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 70 m VLO 30 m NO 310 m
me

SURFACE OIL

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

PAVEMENT H F S 0 sq. m by 0PATTIES / TARBALLS 0 BAG

NEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐TYPE Tarballs#BAGS 1

Photographs:

Roll No. ST-5-6Frames 21

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SHEEN (Y/N)	↓	SURF SUBSURF SEDIMENT
		OP	OR	OL	OF	NO		US	UC	1	2	3	4	5	SU	U	M	U				
1	30					X	.		X						X					N	25	BC/PS
2	20					X	.		X								X			N	10	CP/PS
3	20					X	.		X						X							P/PM
4	30					X	.		X						X							P/SM
5	30					X	.		X						X					N	15	G/CP
6	30					X	.		X						X					N	10	P/PG

COMMENTS

Picked up tarballs from beach.

32

REVIEWED YWDATE 4/23/91

SHORELINE OILING SUMMARY (PAGE 2)
SEGMENT ST/ KN-25 SUBDIVISION B (2 OF 3)

SEGMENT ST/ KN-25 SUBDIVISION B (2 OF 3)

[illegible]

33

REVIEWED 7w DATE 4/23/90

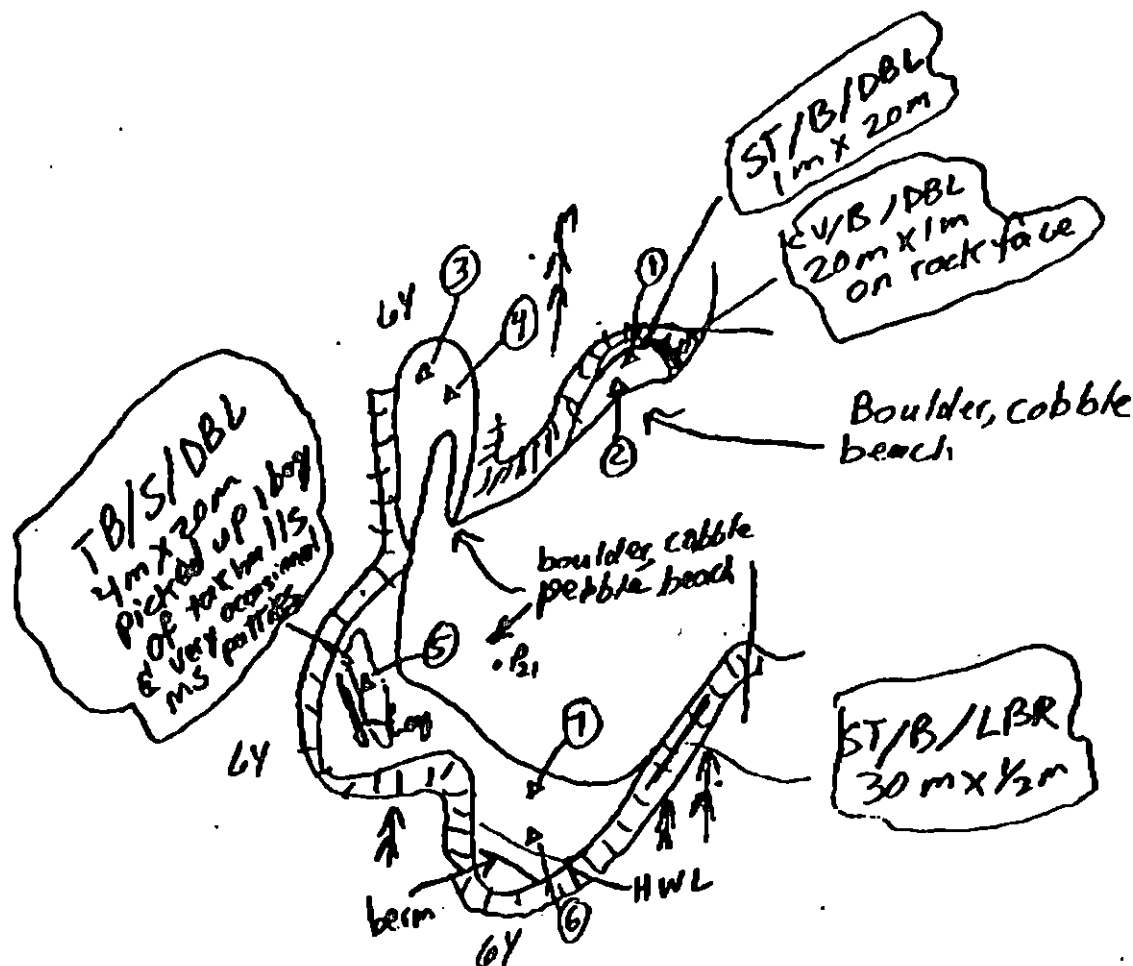
00 J. Springer
 SEGMENT ST/ KN-25
 SUBDIVISION B
 DATE 04 / 20 / 90

CHECKLIST

☐ N Area
☐ Approx. Scale
☐ Seg/Sub Endry
☐ Oil Dist.
☐ Width
☐ Length
☐ % Cover
☐ Substrate Character
☐ Est. HWA/VL
☐ SBL
☐ Profile Location(s)
☐ Profile(s)
☐ PE Location(s)
☐ Photo Location(s)

LEGEND

1 Δ
 PN - 100 Subsurface Oil
 2 Δ
 PE - Subsurface Oil
 CT/C
 Continuous Distribution
 CT/B
 Broken Distribution
 CT/P
 Patchy Distribution
 CT/S
 Splashed Distribution
 eee
 Obad Vegetation
 1 $\Rightarrow$
 Photo location, direction,
 and number



Oil Character Length (m): AP _____ PO _____ CV 20 CT _____ ST 50 MS _____ PT _____ TB 20 FL _____ NO 310

SHORELINE ECOLOGICAL SUMMARY

Revision: 03/23/90

Segment ST / KN 25 Subdivision B Date (mo / day / yr) 4/20/90

Time (24 hr) 1725-1840 Biologist Crank Tide Height 12.713 Length: 400m pg 101

(A) Substrate type and % of segments:
(1) Bedrock 30 (2) Boulder 20 (3) Cobble 30 (4) Pebble 15 (5) Sand (6) Silt

(B) Overall % cover of biota (% of segment): Dense 3 Moderate 17 Low 80

(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-5-4

Frames 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 PRESEN

4

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 PRESEI

4

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 PRESE

4

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 PRESE

4

Wildlife Observations/ General Comments:

2 Bald Eagle 1 - Rainbow Smelt? - appear unhealthy
1 Otter Bear Tracks
Heard a raven

Ecological Considerations:

LY - Special Use Destination

36

Segment: ST / KN 25

Subdivision: B

Length:

Bio: Crank

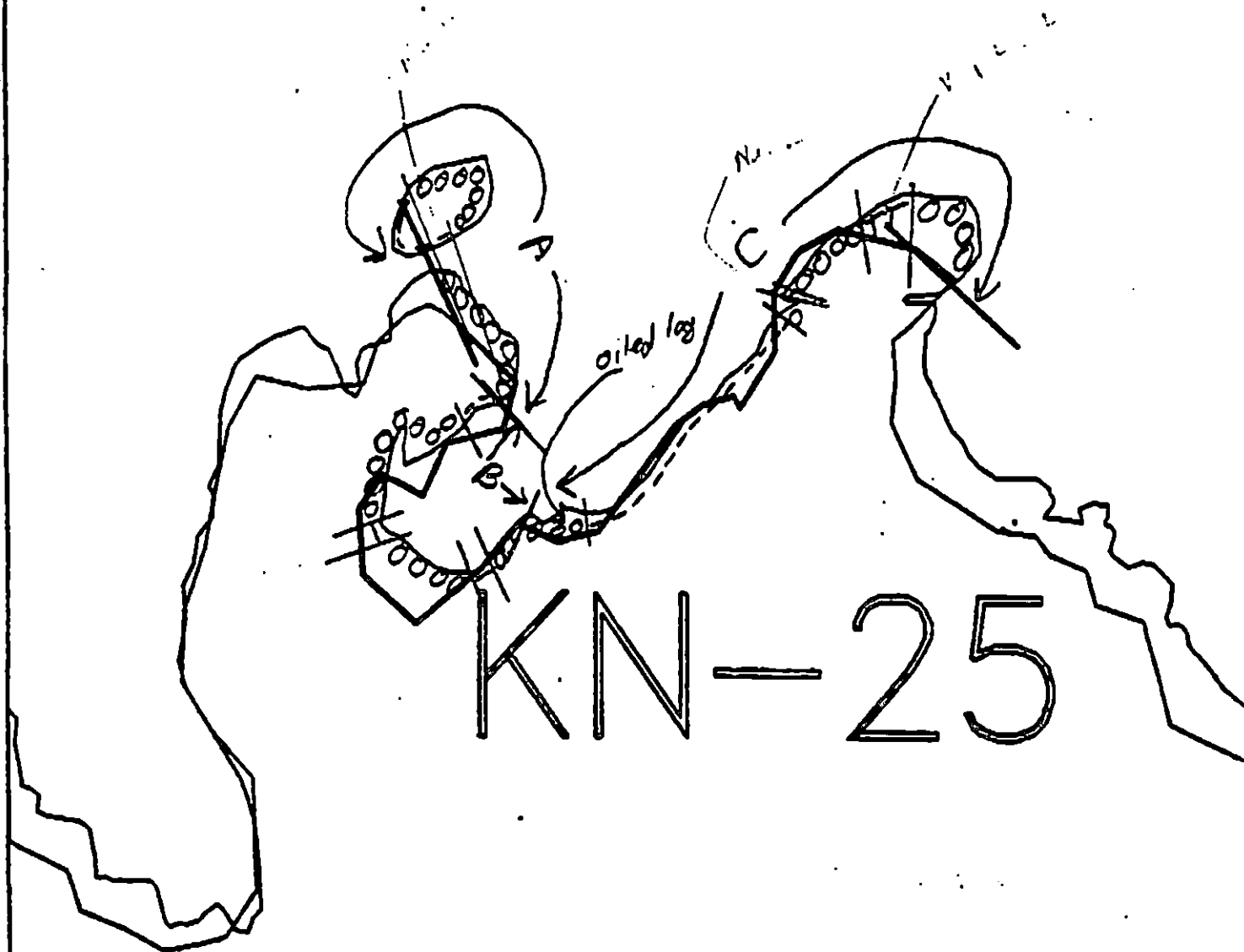
Date: 4/20/90 Time: 1725-1840 Tide Height: +2 → +3 ft

pg 2 of 2

General Comments

- Subdivision consists of steep angular boulder sides with ^{Reddy} ~~beaches~~ : 3 angular boulder/cobble beaches. • MEW COVE. Most of LITZ unexposed
- Area appears to have been hot H₂O washed. Sporadic oiled splashed surfaces. Mortality %'s did not appear to change from oiled to unoiled surfaces.
- 50% Barnacle mortality in UITZ : MITZ; 30% in LITZ. Recruitment and New Growth continuous throughout: Sparse in UITZ, Moderate in MITZ, dense in LITZ.
- Fucus stipes are sparse and sporadic in MITZ, 40% of stalks appear burnt.
- Back of Mew Cove on beach there is a moderate concentration of intercobble mussel bed 100m x 10m. 80% Mortality and rare recruitment and new growth.
- Gastropods have low mortality and dense recruitment and new growth.

32



KN-25

45

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

KN-25

ADEC Segment Length: 1242m



Map Key: PWS-420

Name: James Sprin

Date: 4/20/90

SHORELINE EVALUATION

SEGMENT ST/ KN-25 SUBDIVISION C (3 OF 3) DATE 4/20/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: J. David McManis DATE: 5/8/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 310 m: V.Light 46 m: No Oil 231 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 SIGNIFICANCE OF OILED LOG

TAG APPROVAL DATE: 5/8/90
ADEC Act Wenzel, Det Wenzel
EXXON Ann Ten FOSC: W L DATE: 5-12-90
NOAA Gary P. Jones, Gary P. Jones
USCG C. A. Butler, C. A. Butler

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 unholed 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)
 Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
- 7HH Finfish harvesting
- 7H Deer harvesting (6/15 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-025 SUBDIVISION: C DATE 04-20-

USCG

NAME

AEC Vandepels SIGNATURE AEC Vandepels☒ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

ADEC

NAME

Michele Baer SIGNATURE M Baer☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

1) on SW beach, remove oiled log and debris
 2) Group raked ms/p 1m x 5m, no ^{more} treatment recommended.

LAND MANAGER

NAME

Carol S. Huber SIGNATURE Carol S Huber☒ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

Only very light oil observed on about $\frac{1}{3}$ of this subdivision. See 1) comment of ADEC
 Continued natural cleansing recommended
 Resource sensitivity: Special Use Designation.
 44

SHORELINE OILING SUMMARY

OG J. Springer USCG R. Vandepels SEGMENT ST/ KN-25
 BIO P. Cronk LAND REP C. Huber SUBDIVISION C (3 OF 2)
 EXXON T. Tomblin ADEC M. Baer TIME 8:35 to 9:45
 TEAM NO. 5 TIDE LEVEL +3 to +5 DATE 04/20/90
 EST. SUBDIVISION LENGTH: 600 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: S to N
 SURFACE SEDIMENTS: R 5% B 40% C 5% P 3% G 2% S 0% M 0% V 0%
 SLOPE: Long 5% Hang 30% Ven 65% WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 245 m VL 50 m NO 305 m

SURFACE OIL

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

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

OILED DEBRIS	AMOUNT			DID YOU COLLECT DEBRIS?
	SM	MD	LG	
Logs	X			YES ☐ NO ☒
Vegetation				TYPE <u>0</u>
Trash				#BAGS <u>0</u>
Debris				

Photographs:

Roll No. ST-5-6Frames 19, 20, 22

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR								PIT ZONE	AN A	SEEN (Y/N)	SURFACE SUBSURF / SEDIMENT
		OP	OR	OL	OF	NO		SO	UC	1	2	3	4	5	6	7	8				
1	30					X	.		X									X			P/PM
2	20					X	.		X										X	N 10	P/GS
							.														
							.														
							.														
							.														

COMMENTS

40

REVIEWED 7W DATE 4/23/91

G. J. Springer

EGMENT ST/ NN-25

UBDIVISION C

ATE 04/20/90

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ On Dist.
- ☐ Width
- ☐ Length
- ☐ % Comp.
- ☐ Substrate Character
- ☐ Est. HPLA/M
- ☐ SGL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pit Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ
No Substrate Oil

2 Δ
Substrate Oil

CT/C
Natural Distribution

CT/B
Non Distribution

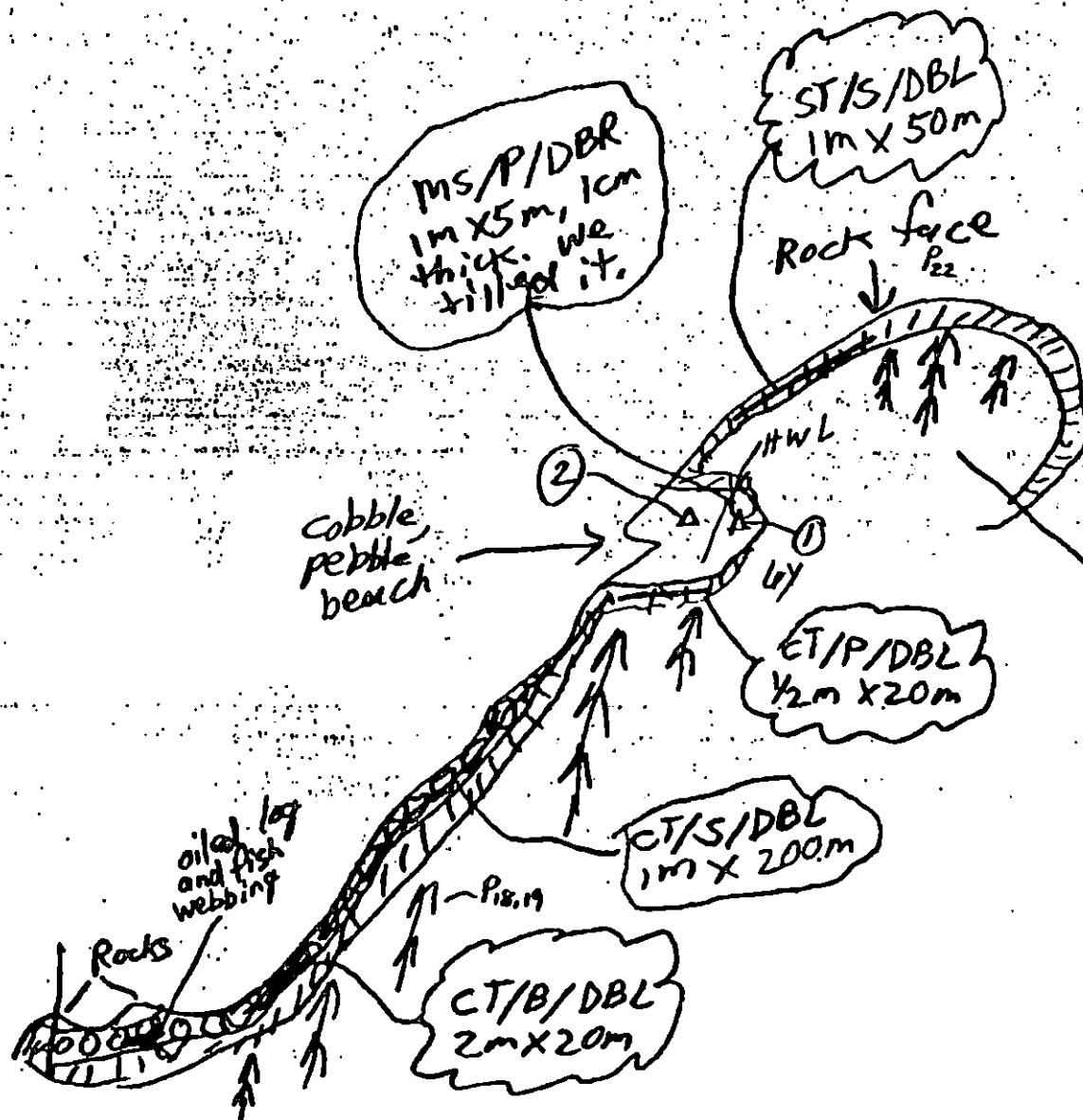
CT/P
Dry Distribution

CT/S
Wet Distribution

ree
of Vegetation

$\bullet \rightarrow$
no location, direction,
number

Sketch Map



0 100m
Approx

Character Length (m): AP _____ PO _____ CV _____ CT 240 ST 50 MS 5 PT _____ TB _____ FL _____ NO 305

SHORELINE ECOLOGICAL SUMMARY

REVISION: 002

Segment ST/KN 25 Subdivision C Date (mo/day/yr) 4/20/90
 Time (24 hr) 1840-1915 Biologist Crank Length 600m
 Tide Height 13 to 15 ft

- (A) Substrate type and % of segments:
 (1) Bedrock 50 (2) Boulder 40 (3) Cobble 5 (4) Pebble 3 (5) Sand 2 (6) SM
- (B) Overall % cover of biota (% of segment): Dense 30 Moderate 20 Low 50 pg 1 of
- (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-5-6

Frames 19, 20, 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

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 Golden Eagle

1 Bald Eagle (missing left primary feather)

2 Kittiwake

Ecological Considerations:

64 - Special Use Disturbance

Other Seabird - mostly murrelet shell
 Flock of Duck - ~20 individuals
 1 Cormorant
 1 Otter

• Most of LITZ and appeared to be rich floral community water.

• Barnacle spat on surfaces.

• 5% Barnacle scars MITZ headland 16

• 50% Barnacle mor on both oiled and un-oiled surfaces.

42

DATE 4/20/90 TIME 1840-1915 TIDE HEIGHT +2 → +3 ft

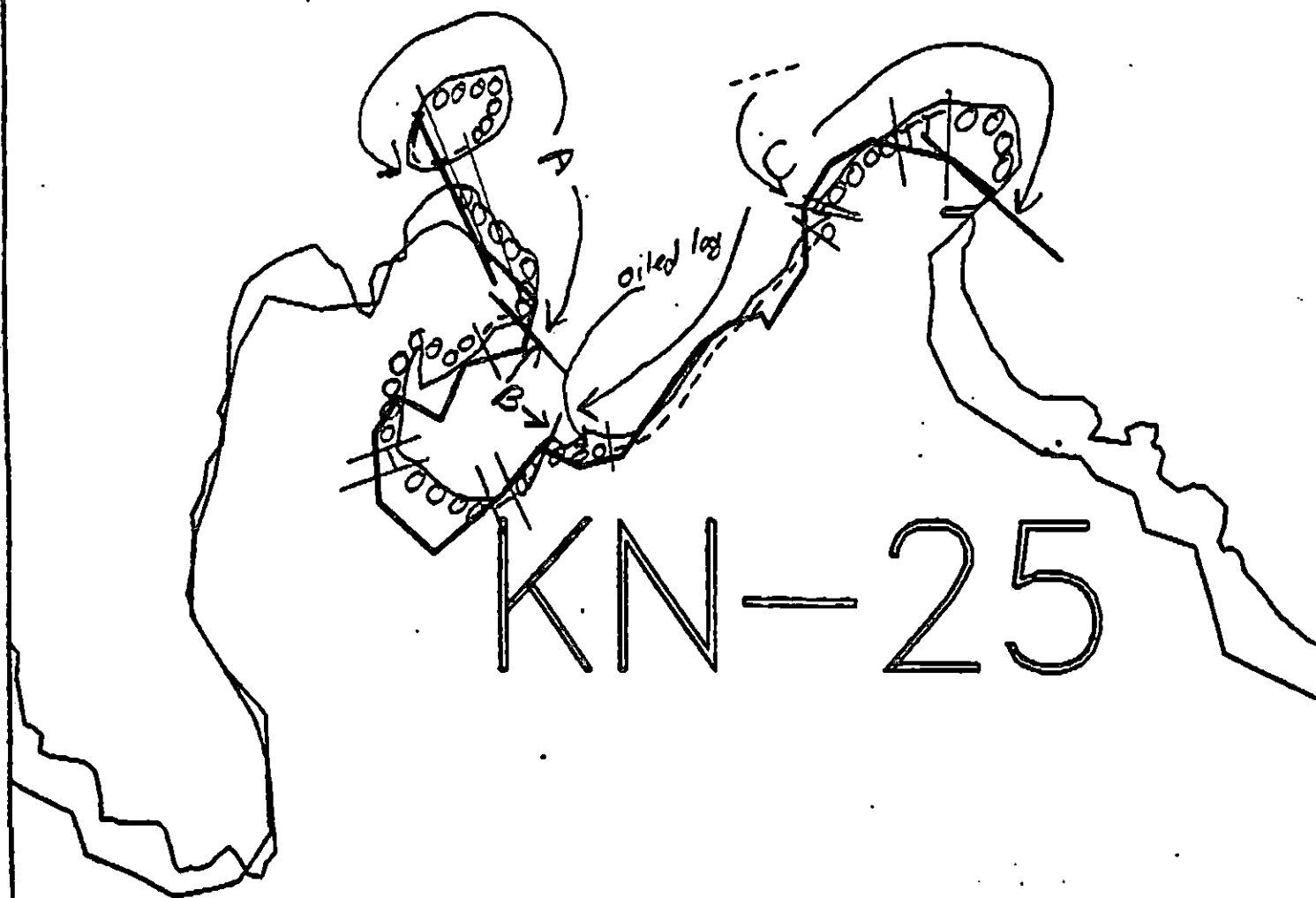
1-BEDROCK 2-BOULDER 3-COBBLE 5-SAND 6-SILT pg 2 of.

FLORA:

SPECIES	UITZ	MITZ	LITZ	COMMENTS
BOSSIELLA/CORALLINA				
CALLIARTHRON/CORALLINA				
CLADOPHORA SPP				
COSTARIA SPP				
ENDOCLADIA MURICATA				
FILMAENTOUS GREENS			23	sparse
FILAMENTOUS REDS				
OLOIOPELTIS FURCATA				
HALOSACCION GLANDIFORME				
LAMINARIA SPP				
LITHOTHAMNION				
NEREOCYSTIS SPP				
PORPHYRA SPP		12		
RALPHSIA/HILDENBRANDIA			12	
PHODOMELA LARIX				
RHOHOMENIA PALMATA			12	
SCYTOSIPHON SPP			12	
ULVA SPP			12	
ZOSTERA MARINA				
ENTOROMORPHA				
Mastocarpus			12	
Odonthalia			12	
Cryptosiphonia			12	

FAUNA:

ANTHOPLEURA SPP				
(SEMI) BALUNUS CARIOSUS		12		
B. GLANDULA	123	123	123	
BRYOZOANS				
CHITONS (other than K. TUNICATA)				
CLAMS				
CRABS				
DERMASTERIAS IMBRICATA			1	
KATHARINA TUNICATA				
LEPTASTERIAS HEXACTIS				
LIMPETS	12	123	123	
LITTORINA SPP	12	123	123	
NUCELLA SPP		1	12	small patches of dense concentration
PAGURUS SPP		34	34	
PISASTER OCHRACEUS				
POLYCHAETES			21	43
PYCNOPODIA HELIANTHOIDES			1	
SEARLESIA DIRA				
SERPULIDS				
SIPHONARIA THERSITES				
TEALIA				
Medusa			On H2O	Clear w/ Brown radial stripes
Fish - swimming about on side.				Ar. ... Sarcophag.



KN-25

45

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

KN-25

ADEC Segment Length: 1242m

0 100 200 300
 METERS



Map Key: PWS-420

Name: James Spring

Date: 4/20/90

Date Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-101 SUBDIVISION A (1 OF 1) DATE 4/8/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
6Y Recreation: Special use destination
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. Hume*

DATE: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 29 m: Narrow 298 m: V.Light 543 m: No Oil 36 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 oil-coated areas, avoid eel
grass during treatment. Work should be conducted after 6/1 and only
with permission of USFWS due to eagle nest constraint.

TAG COMMENTS: MONITORS TO ASSESS PRIOR TO BIOREMEDIATION
THE PRESENCE OF THE PATTERNS AND THE NEED FOR
PICKUP.

TAG APPROVAL DATE: 4/26/90

ADEC

ART WEINER Art Weiner

EXXON

AMY TAT Amy T

NOAA

Burl Weisheit Burl Weisheit

USCG

KENNETH KATZ Kenneth Katz

FOSC: *W L*

DATE: 4-27-90

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 unoiled 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
- 7B 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.

SEGMENT ST KN-101-A SUBDIVISION: A DATE 4/10/90

USCG NAME David A. Schneider SIGNATURE David A. Schneider

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

PSS/USCGR

I concur with ADEC's Land Manager's comments below.
This subdivision should have ^{its} various areas of impact
cleaned manually to remove concentrations of cover
and mousse & tar patties.

AS

ADEC NAME Peter Montesano SIGNATURE Peter J. Montesano

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS Comments as moving S along Subdivision:

At First Pocket beach, the large Rocks outcropping at shore
requires Scraping of Cover (thick, Black), especially on North
Side.

The few Tar/mousse patties on the 40x3m + 3x75 C/B beaches
should be removed and could use some additional
Scraping.

Spotty wiping/Scraping would be appropriate on the various bands
along this segment.

LAND MANAGER

NAME JANET Pritchard SIGNATURE Janet Pritchard

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Scrap heavy coating/cover on rock outcroppings.
Manually remove tar patties and mousse.

OG C. DILLON USCG D. SCHNEIDER SEGMENT ST/ KN-101
 BIO ST. BARRY LAND REP J. FRITCHARD SUBDIVISION A
 EXXON A. SNOOK ADEC P. MONTESANO TIME 18:30 to 19:30
 TEAM NO.: 6 TIDE LEVEL: 41 to 4.5 DATE 14/08/90
 EST. SUBDIVISION LENGTH: 1006 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 65 % B 34 % C 1 % P 0 % G 0 % S 0 % M 0 % V 0
 SLOPE: Long 2 % Hang 3.3 % Vert 65 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 6 m M 40 m N 280 m VL 656 m NO 30 m

SURFACE OIL

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

PAVEMENT: H F S 0 sq. m by 0

PATTIES/ TARBALLS 1 BAG

NEAR SHORE SHEEN? ☒ NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED ☒ YES ☐ NO

TYPE TRASH

#BAGS 1

Photographs: Debris collected

Roll No. NONE

Frames 0

SUBSURFACE OIL NO 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	OF	NO		NO	NO	NO	NO	NO	1	2	3	4	5	SU	M	W	U		

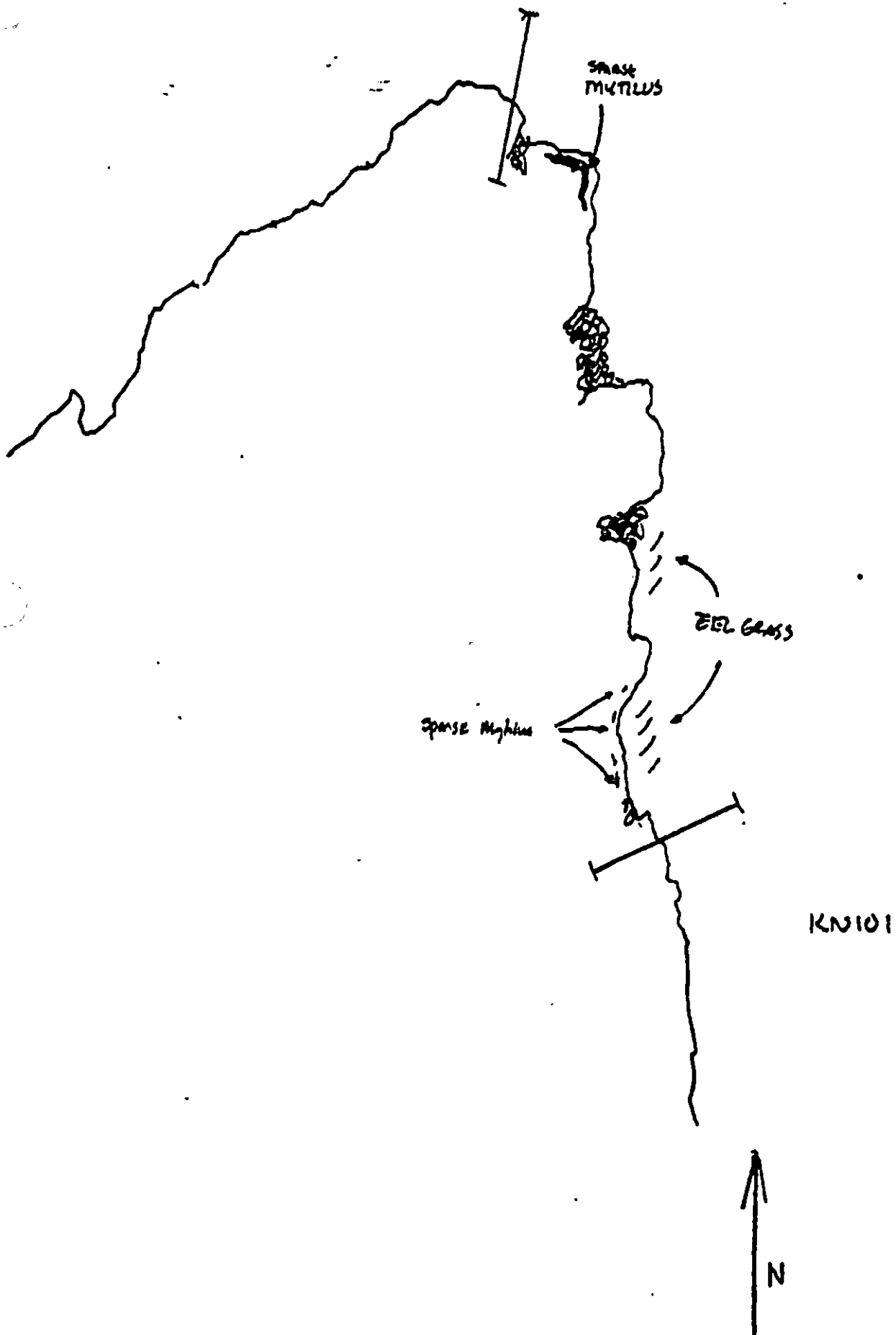
COMMENTS SUBDIVISION IS ENTIRELY VERTICAL AND HANG ROCK AND BOULDER SLOP. WITH A BROKEN DARKEN STAIN AND BROKEN, PATCHY OR SPORADIC COAT ALONG THE HIGH TIDE LINE UP TO 1m WIDE.

A SMALL LANG B/R/C AREA AT THE NORTH END OF THE SUBDIVISION HAS A NARROW PATCHY COAT ALONG 25m OF THE U12 WITH SPORADIC OIL COVER ON THE SIDES AND UNDERSIDES AND BETWEEN INTERSTICES OF SOME BOULDERS.

No sketch map attached due to lack of variation in geomorphology and oil characteristics and width. REVIEWED CBS DATE 4/11/90

KN101

APRIL 9 1990



SHORELINE ECOLOGICAL SUMMARY

REVISION: 00

Segment ST/ KN101 Subdivision A = all Date (mo/day/yr) 8 APRIL 1990

Time (24 hr) 1830-1930 Biologist J/m Barry Length - ?

- (A) Substrate type and % of segments:
 (1) Bedrock (2) Boulder (3) Cobble (4) Pebble (5) Sand (6) Silt
- (B) Overall % cover of biota (% of segment): Dense 45 Moderate 90 Low 5
- (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		
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:

Sea Otter - 2
 Pigeon guillemot chick

Ecological Considerations: ST - Eagle nest -

1 nest was observed ~~near~~ adjacent to KN103 in KN104 - This may be the nest on question. Eagles were observed several times during the survey. A small clean up crew should have no adverse effects on the eagle foraging activity.

KN101

APRIL 8 1990

START 1830
STOP 1930TIDE WINDOW - $+1 \rightarrow +0.5$

2/6

I General Comments.

- A. KN101 encompasses the NW coastline of Lewis Bay. The northern end of the segment is ^{highly} exposed to moderately exposed to swell. Most of the segment is vertical cliffs and boulder beaches. Cover of biota is moderate to dense. Mussels occur in exposed regions, and algae generally are dense below.
- B. Oil related patterns of biota are nearly undetectable, except for the cover of oil in the high upper zone, where oil cover may interfere with lichens. Low zone effects, if any, ~~may~~ will ~~be~~ likely recover with no additional treatment.

II Major Species.

- A. Barnacles - Moderate Cover by 3 species. Percentage of dead individuals is low for all 3 ~~sp~~ species.
- B. Mytilus. Dense beds of mussels characteristic of most headland areas were less evident at this ~~be~~ segment than in several others. This may be a consequence of oil-related activity, or a natural pattern.
- C. Gastropods - Littorine snails are moderate in density, but shells are dense in low intertidal and mid intertidal zones. Limpets are moderate.
- D. Pucus - Juveniles and sporlings are ~~are~~ more abundant than adults in the high zone.

III Other Species.

Several species of red algae, composed by a group of finely branched or filamentous species, cover the low zone. Sea stars, are dense in the upper low zone and subtidal. Kelps and other large brown algae are abundant in the subtidal. Eel grass beds are patchy and sparse in the sub-tidal zone.

APRIL 8 1990

III Species List

A. MARINE PLANTS

1) DIATOMS / BLUE GREEN ALGAE M-D 123

2) GREEN ALGAE - CHLOROPHYTA D

ACROSIPHONIA M 123

CLADOPHORA S12

ENTEROMORPHA M12

~~GREEN CROFT~~

ULVA M12

UROSPORA M23

3) RED ALGAE - RHODOPHYTA

BOSSIOLA S12

CALLIARTHRON S12

CORALLINA S12

CRYPTOSIPHONIA M-D 123

ENDOLASIA MURICATA S12

HALOSACCION GLANDIFORMIS M12

IRIDABA S12

MASTOCARPUS S12

MEMBRANOPTERA M123

MICROCLADIA M-D 123

LITHOTHAMNION PALIFICUM S12

PETROCELLIS MIDDENDORFFII S12

PORPHYRA spp. S-M 12

RHODOMELA LANGEI M123

RHODOMELA PALMATA M123

4) BROWN ALGAE - PHAEOPHYTA

ALARIA MARGINATA D U

AGARUM spp. D U

COSTARIA M U

FUCUS DISTICHS M 123

HEODOPHYLLUM SESSILE M-U

HILDENBRANDIA M 12

LAMINARIA M U

NERIOCHYSIS S U

RALPSIA S 12

SCYTOSIPHON COMENTARIA S123

★ SPAT OR JUVENILES
PRESENT

D DENSE

M MODERATE

S SPARSE

R RARE

1 BEDROCK

2 BOULDER

3 COBBLE

4 PEBBLE

U. SUBTIDAL

B MARINE INVERTEBRATES

1) ANEMONES

- EPIACTIS RITTERI ? S12 *
- URTICARIA CRASSICORNIS R1
- Anthopleura elegantissima R1
- A. artimisa S12
- ~~A. anthracina~~

2) Annelid Worms

- Polychaetes
- Nereidae S12
- Neptidae S12
- Serpulidae
- Serpula S1
- Crucifera S1
- Spirorbidae
- Spirorbis M-D23 *

3) Peanut Worms - Sipunculid

Phascolosoma thersites S23

4) MOLLUSCS

a) CHITONS

- CATHARINA TUCATA M12
- TONICELLA LINIATA S12
- NOTHIA spp. R1

b) Snails - GASTROPODS

- LITTORINA SCUTULATA M123 *
- L. SITKANA M123 *
- NUCULLA LAMELLOSA D12 *
- N. EMARGINATA D12 *
- SCUTISCA DINA S-M 23
- AMPHISSA COLUMBIANA R23
- TACHYRHYNCHUS spp. R23

c) Nudibranchs

- LAMELLIDORIS fusca S1

d) Limpets

- LOTIA DIGITALIS M1 *
- ACMAEA MITRA S1 R1
- LOTIA PERSONA S12 *

d) Limpets (cont)

- Tectura scutum M123 *
- T. persona S2
- Biphonaria thersites M12
- ~~Diadema capra~~

e) Mussels -

- Mytilus edulis R12 *

f) Clams

- Sigala - Doscoismus Sepio S12
- Hiatella spp. ?
- Prothaca staminea ?
- Macoma spp. ?

g) Crustaceans

1) BARNACLES

- Semibalanus cariosus M-D12
- Balanus glandula M-D12 *
- Chthamalus dalli M-D123 *

2) Crabs

- Haplogaster spp S-M 23 *
- Hemigrapsus oregonensis S23
- Pagurus spp. S-R23
- Hermit Crabs - Paguridae M123

3) Beach Hopper

- ISOPODA - S23 *
- AMPHIPODA
- Orchestra? M23 *

h) Bryozoans

- Schizoporella spp? D23 *

i. Echinoderms

- 1) Sea Stars
- * D23 U Pycnopoda helianthoides
- * D23 U Dermasterias imbricata
- * M23 Leptasterias hexactis
- S123 Evertsenia tracheli
- R23 Orthasterias koehleri
- * M12 Pisaster ochraceus.

SPECIES LIST (cont)

2. Echinoderms (cont)

2) Brittle Star

Ophiodon spp. ? ?

3) Sea Cucumber

Cucumaria miniata ?

3) Sea urchin

Strongylocentrotus droebachiensis R23

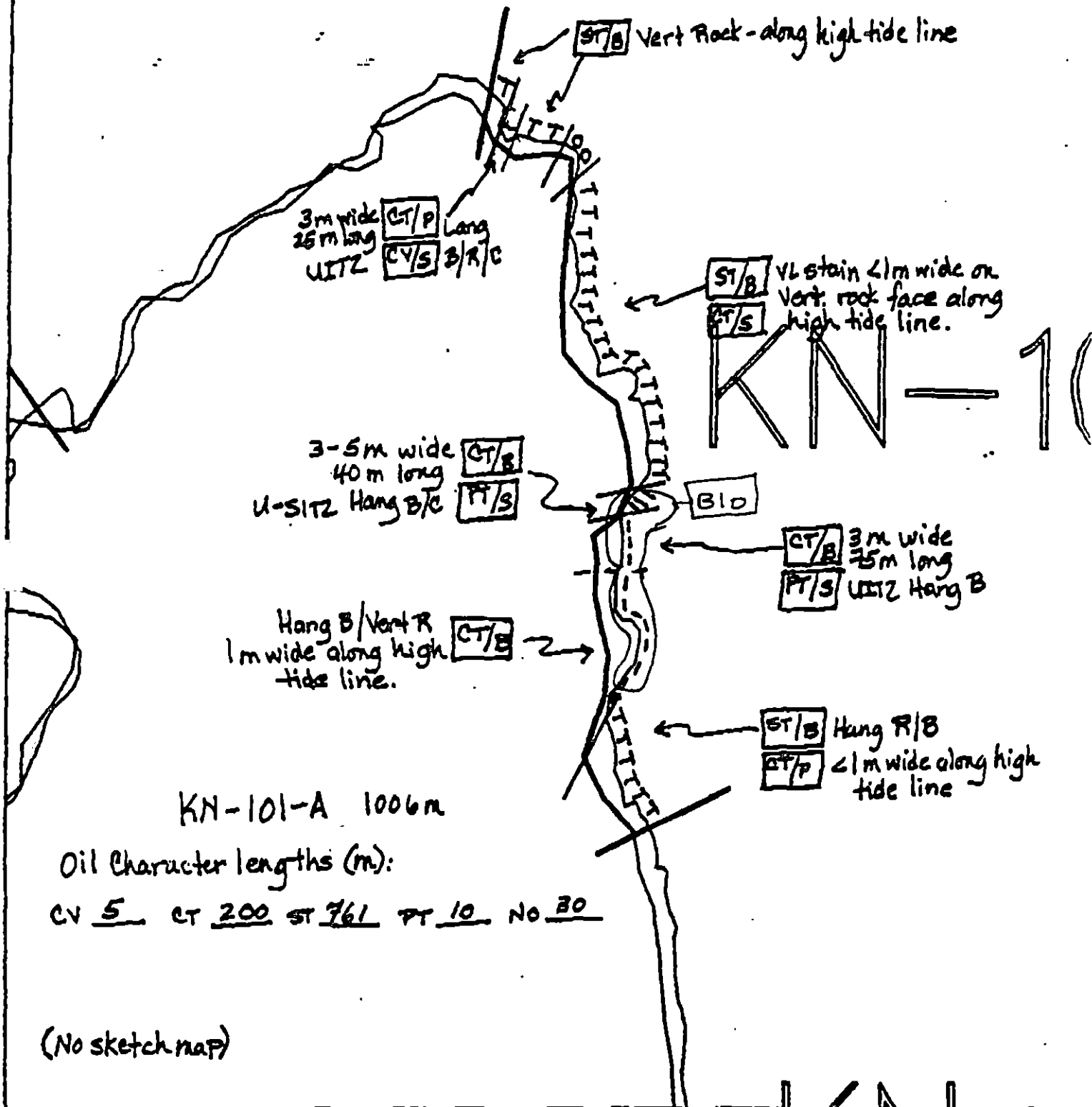
C. Marine Vertebrates

1) FISH: PHOLIDAE M 23

COTTIDAE S12

Other Species

Unknown Orange Sponge. - 1 R23



XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

KN-101

EXXON SEGMENT LENGTH: 1006

ADEC Segment Length: 906m



Map Key: PWS-281

Name: C. DILLON

Date: 4/8/90

Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-101 SUBDIVISION A (1 of 1)

WORK WINDOW	
Bioremediation	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T Bald Eagle Nest

NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision A work site.

OTHER ECOLOGICAL CONSTRAINTS

Restrict air traffic and all disturbance to essential minimum. No personnel or boat traffic within 400m of active nests. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from active nests. Avoid any unnecessary disturbance or damage to unrolled biota and substrate. Avoid eel grass beds.

FOSC

DATE

6-10-90

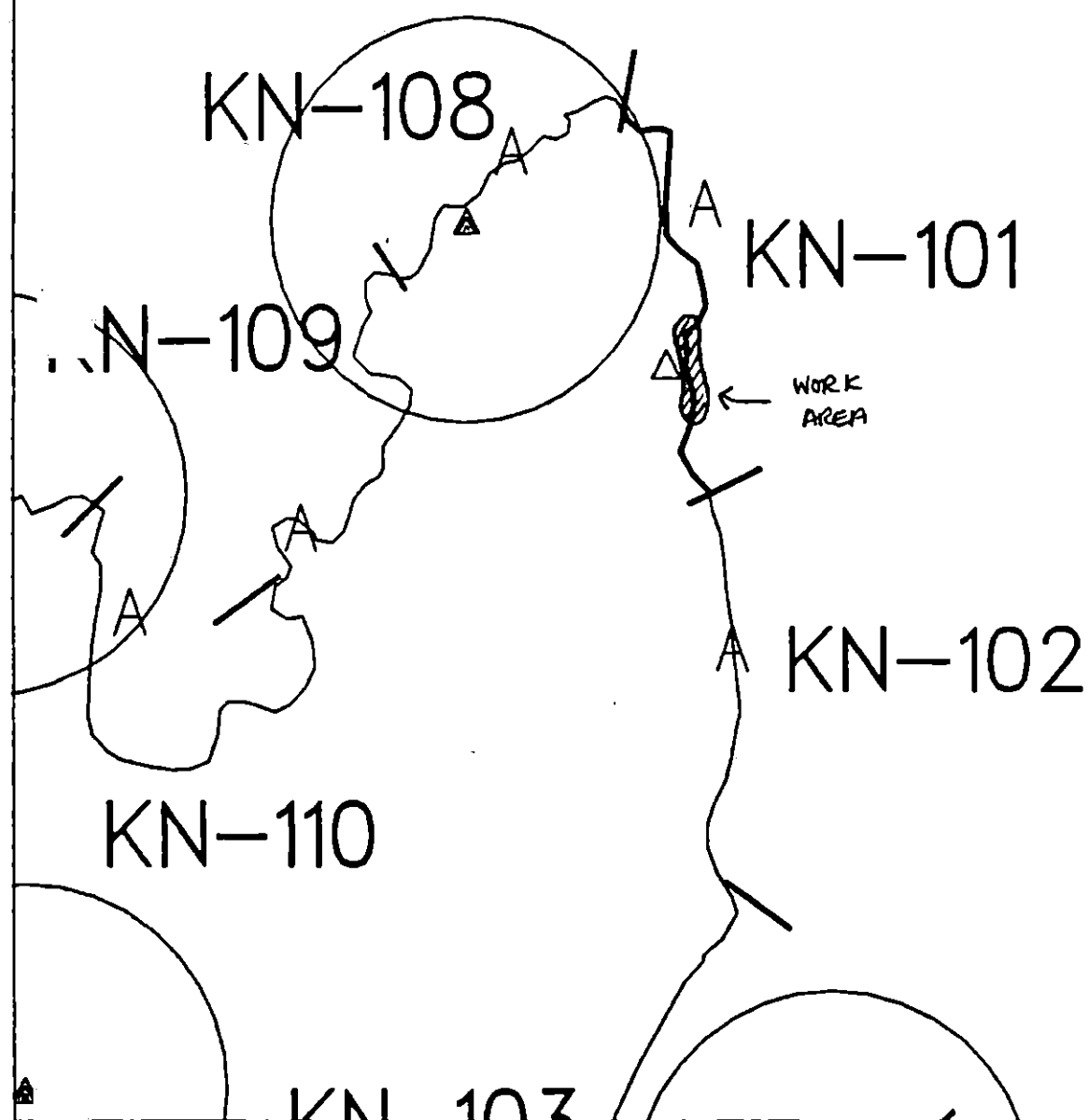
Prepared By:

John P. Phillips

Date

6/9/90

↑



D



Exxon Company, USA

ECOLOGY MAP SEGMENT KN-101

SUBDIVISION A (1 of 1)

METERS

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

SHORELINE EVALUATION

SEGMENT ST/ KN-102 SUBDIVISION A (1 OF 1) DATE 4/8/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

6Y Recreation: Special use destination

No specific constraints identified.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: [Signature] DATE: 4/20/90

OILING CATEGORIZATION:

Wide 13 m: Medium 0 m: Narrow 12 m: V.Light 830 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 18 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>X</u> Tarmat: <u> </u> Breakup	<u> </u> Beach Cleaner
<u> </u> <u>X</u> Removal	<u> </u> Other (see comments)

COMMENTS: Recommended treatment includes 1) manual removal of surface and subsurface tarmat, 2) manual pick up of mousse, 3) bioremediation of areas shown on attached sketch map. No specific work window constraints.

MANUAL RAKING IN AREA OF PIT 1+2 FOLLOWING TARMAT REMOVAL AND PRIOR TO BURENATION.

TAG COMMENTS: MONITORS TO ASSESS SUITZ DURING TREATMENT.

TAG APPROVAL DATE: 4/20/90.

ADEC [Signature]
EXXON [Signature]
NOAA [Signature]
USCG [Signature]

FOSC: [Signature] DATE: 4-26-90

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 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
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-102-A SUBDIVISION: A DATE 4/10/90

USCG

NAME

David A. Schneider

SIGNATURE

David A. Schneider

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

TS3/USCGR

I concur with both ADEC's & the Land Manager's comments below. Cobble/pebble beach at the southern end of the subdiv will require extensive manual clean up measures to remove ^{large} asphalt patch and scrapping of large boulders and rock faces. Band of coat on Hang. and vert ^{coat off} rock faces should be scrapped off by ^{using a skiff} (along rest of subdiv.)

ADEC

NAME

Peter Montesano

SIGNATURE

Peter Montesano

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Remove extensive (20x15m) soft Asphalt area which is illustrated on Sketch map. Note that the Asphalt continues under clean sediments to the north on beach as well as under the UITE berm. This is easily shoveled away and is in the process of continued hardening. Supratidal is snow covered above Asphalt and may cover part of oiling.

LAND MANAGER

NAME

JANET RITCHARD

SIGNATURE

Janet Ritchard

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Manual removal of tar patches! Scrap continuous coat off large boulders. Remove surface boulders, clean up large asphalt patch and replace rocks. Area is supratidal.

OG C. DILLON USCG D. SCHNEIDER SEGMENT ST/ KN-102
 BIO J. BARRY LAND REP J. PRITCHARD SUBDIVISION A
 EXXON A. SNOOK ADEC P. MONTESANO TIME 19:30 to 20:15
 TEAM NO.: 6 TIDE LEVEL: + .5 to + 1 DATE 04/02/90
 EST. SUBDIVISION LENGTH: 916 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 35 % B 60 % C 5 % P 0 % G 0 % S 0 % M 0 % V 0
 SLOPE: Lang 20 % Hang 65 % Vert 15 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 10 m M 0 m N 40 m VL 866 m NO 0

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	C	S	P	N	1	2	3	4	5	SW	U	M	V
ASPHALT PAVEMENT		X								X	X	X	X
POOLED													
COVER													
COAT	X	X		X	X						X		
STAIN		X	X					X			X		
MOUSSE				X				X			X		
PATTIES													
TARBALLS													
FILM													
NO OIL	Snow on beach only										S		X

PAVEMENT: H F 150 sq. m by 2-6

PATTIES / TARBALLS 0 BAC

NEAR SHORE SHEEN? NO BR RW SL TI

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECT: ☐ YES ☒ NO

TYPE 0

#BAGS 0

Photographs:

Roll No. ST-6-5

Frames 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		VO	UC	1	2	3	4	5	SW	M	M	U		
1	25			X			15-18	X					X		X					P/G (buried asphalt layer - soft)
2	12	X					5-10	X				X			X					P/G
							.													
							.													
							.													
							.													

COMMENTS SUBDIVISION IS ENTIRELY HANG AND VERT ROCK AND BOULDER WITH A PATCHY OR BROKEN STAIN AND SPORADIC COAT UP TO 1m WIDE ACROSS THE HIGH TIDE LINE.

A LANG COBBLE/PEBBLE BEACH, WITH LANG BOULDERS AT THE NORTH END AND A VERTICAL ROCK FACE AT THE SOUTH END, IS MORE HEAVILY OILED WITH A VARIETY OF OIL CHARACTERS. THIS BEACH IS SHOWN ON THE ATTACHED SKETCH MAP. 2 PITS ON THIS BEACH

DATE 04/08 90

CHECKLIST

- ☐ N Area
- ☐ Approx. Scale
- ☐ Seg/Side Entry
- ☐ CR Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HML/LWL
- ☐ SGL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ PH Location(s)
- ☐ Photo Location(s)

• LEGEND

1 Δ
FM - No Subsurface Oil

2A
Pr. Subsurface Oil

CT/C
Confidential Distribution

CT/B
Broken Distribution

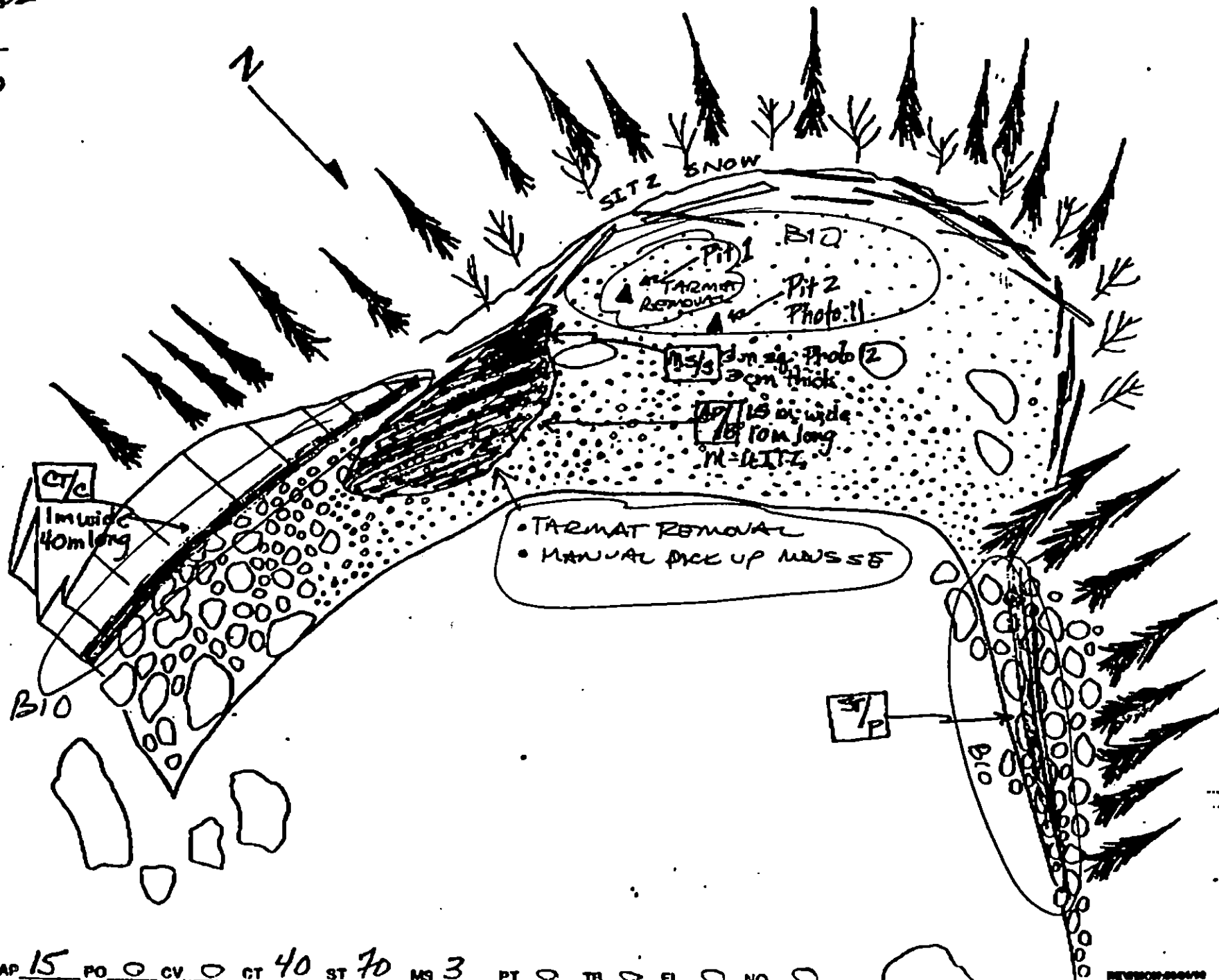
CT/P
Patchy Distribution

CT/S
Selected Distribution

Onset Vegetation

Photo location, direction,
and number

SKETCH MAP



Oil Character Length (m): AP 15 PO 0 CV 0 CT 40 ST 70 MS 3 PT 0 TR 0 FL 0 NO 0

RESEARCH DESIGN

SHORELINE ECOLOGICAL SUMMARY

REVISION: 882

Segment ST / KN 102 Subdivision A - ALL Date (mo / day / yr) 8 APRIL 1990

Time (24 hr) 1930 - 2045 Biologist JIM BARRY

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

(B) Overall % cover of biota (% of segment): Dense 10 Moderate 80 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 (3)

Photographs:
Roll No. NO PHOTO

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	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:

EAGLES - 3 Common Merganser - 2 Pigeon Guillemot
Seagull - 2

Ecological Considerations: b4 - Special Use designation

No special considerations relevant to cleaning operations

START 1930 TIDE WINDOW $\pm 0.5 \rightarrow 40$
 STOP 2045

I General Comments.

Segment includes a section of moderately exposed ~~coast~~ coastline with vertical cliffs and boulder beaches as the primary habitat types. Biota are generally moderate in abundance. This segment is typical of other segments with similar topography and exposure.

Oil related distributions of biota exist only in the high upper zone where oil is present as a cover that may inhibit broken & high intertidal organisms. Oil-related activities last summer may have impacted the intertidal to a minor degree. ~~However, the~~

See Major Species

- A. Barnacles - generally, "moderate to high abundance for 3 major species."
- B. Mussels. Mussels are moderate to sparse along most of the segment, and denser in small patches. This rarity may be caused by oil-related activity, but it is very unlikely unless clean oil contamination and cleaning operations were extensive. One beach and one headland at the south end of the segment has ~~seen~~ a moderate to dense ~~system~~ ^{system}.
- C. Gastropods - moderate periwinkles and limpets, but high densities ($\sim 40/m^2$) in some areas, of whelks (*Nucella lamellosa*) (This entire area has been this way)
- D. Fucus. Generally denser in the mid to low zone for juveniles adults, and sporlings.

III Other Species

"Slime-forming" algae ~~are~~ abundant in the low zone. Several species of red and green algae comprise this group including *Aerospira*, *Cryptosphaera*, *Diatoms*, *Enteromorpha*, *Ulva*, and others.

B MARINE INVERTEBRATES

1) ANEMONES

- EPIACTIS RITZELI ? S12*
- URTICARIA CRASSICORNIS ?
- Anthopleura elegantissima ?
- A. artemesia S12
- A. xanthogrammica?

2) Annelid Worms

- Polychaetes
- Nereidae ?
- Nephtyidae ?
- Serpulidae
- Serpula S12 *
- Cirratulus S12 *
- Spirorchiidae
- Spirorchiis M-D123 *

3) Peanut Worms - Sipunculid

Phascolosoma thersites ?

4) MOLLUSCS

a) CHITONS

- CATHARINA PUNCTATA S12*
- Tonicella lineata R12
- Mopalia spp. ?

b) Snails - Gastropods

- Littorina scutulata M123*
- L. sitkana M123 *
- Nucella lamellosa D123*
- N. emarginata D123
- Scutella dora M123
- Amplussa columbiana R12
- Tachychochus spp. R12

c) Nudibranchs

- Lamellidors fusca R12

d) Limpets

- Lottia digitalis S12 *
- Acmaea mitra R12*
- Lottia pumila M12*

d) Limpets (cont)

- Tectura scutum S12
- T. pumila S-R12
- Bipharos thersites R-S12
- Diadema aspera ?

e) Mussels -

- Mytilus edulis M-S12

f) Clams

- Sigala - Pseudosquilla lepto S12
- Hiatella spp. ?
- Prothaca staminea ?
- Macoma spp. ?

g) Crustaceans

1) Barnacles

- Semibalanus cariosus M-D123
- Balanus glandula M123*
- Chthamalus dalli M123*

2) Crabs

- Haplogaster spp S22
- Hemigrapsus oregonensis S
- Pagurus spp. R23
- Hermit Crabs - Paguridae M12

3) Beach Hopper

- ISOPODA ?
- AMPHIPODA
- Orchestoidea ? S23*

h) Bryozoans

- Schizoporella spp? M-D23

i. Schemodermis

- 1) Sea Stars
- u D23* Pycnopoda helianthoides
- u D23* Dermasterias imbricata
- M123* Leptasterias hexactis
- R23 Eudasterias trachelii
- R23 Orthasterias koehleri
- M12* Pisaster ochraceus.

KN102

April 8 1990

APRIL 8 1990

III Species List

A. MARINE PLANTS

1) DIATOMS / BLUE GREEN ALGAE M-D 123

2) GREEN ALGAE - CHLOROPHYTA

ACROSIPHONIA D123

CLADOPHORA S12

ENTEROMORPHA M123

GREEN CRUST. ?

ULVA M123

ULROSPORA M-D123

3) RED ALGAE - RHODOPHYTA

BOSSIOLA R12

CALLIARTHRON R12

CORALLINA R12

CRYPTOSIPHONIA D123

ENDOCLADIA MURICATA S12

HALOSACCION GLANDIFORME M123

IRIDASA M-D123

MASTOCARPUS S12

MEMBRANOPTERA D123

MICROCLADIA D123

LITHOTHAMNION PACIFICUM S12

PETROCELIS MIOENDORFII M12

PORPHYRA spp. S-M12

RHODOMELA M12

RHODOMELA PALMATA M-D12

4) BROWN ALGAE - PHAEOPHYTA

ALARIA MARGINATA M-D U

AGARUM spp. M-D U

COSTARIA S-M U

FUCUS DISTICHUS D123

HEDOPHYLLUM SESSILE M U

HILDONBRANDIA M12

LAMINARIA M U

NERIOCYSTIS S U

RALPSIA M12

SEXTOSIPHONIA COMENTARIA S12

★ SPAT OR JUVENILES
PRESENT

D DENSE

M MODERATE

S SPARSE

R RARE

1 BEDROCK

2 BOULDER

3 COBBLE

4 PEBBLE

U. SUBTIDAL

6/1

SPECIES LIST (cont)

i Echinoderms (cont)

2) Brittle Star

Ophiurus sp.?

3) Sea Cucumbers

Cucumora miniata?

3) Sea Urchins

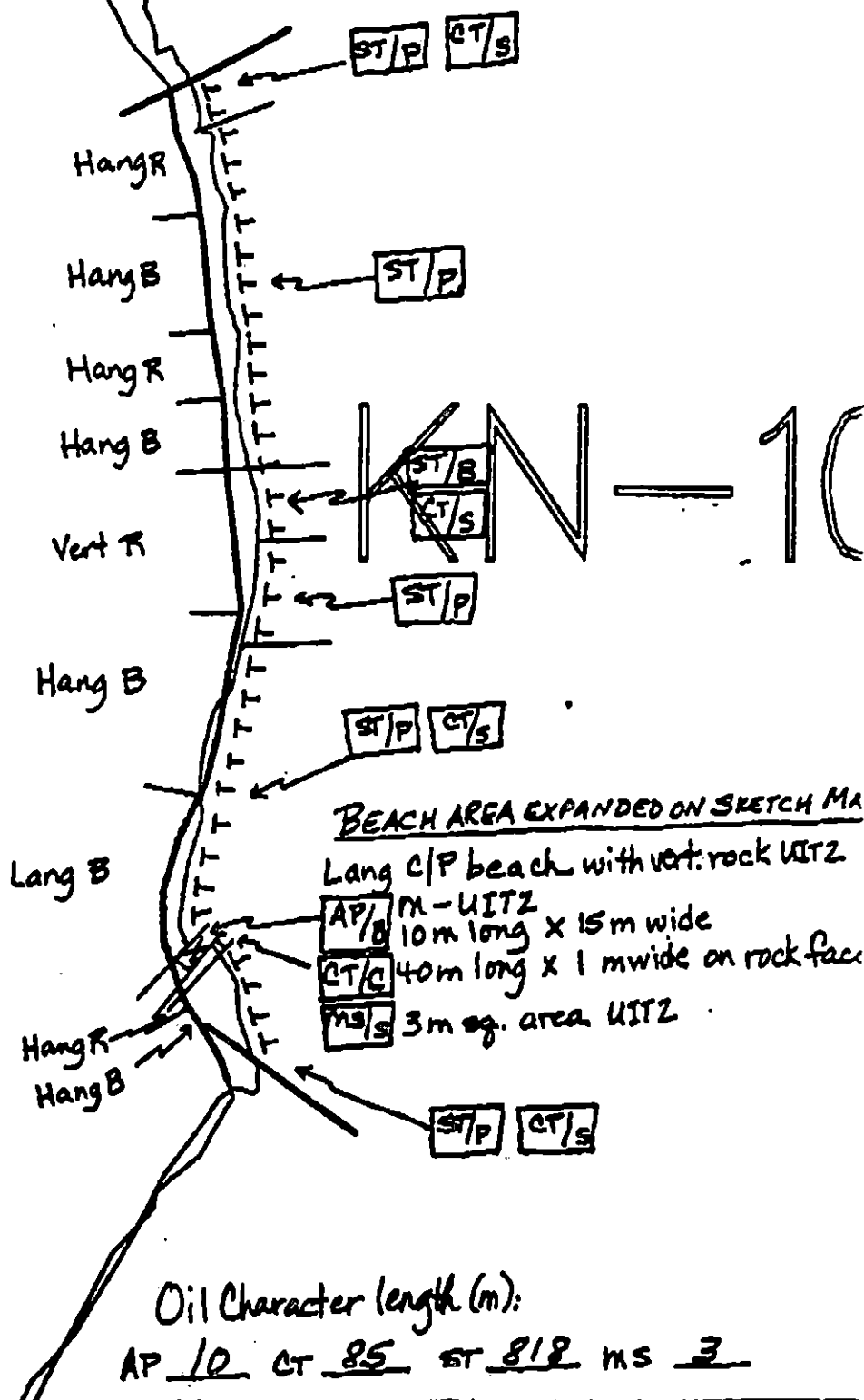
Strongyl. centratus droebachiensis R23+

C. Marine Vertebrates

D) FISH: PHOLIDAE M-023+

COTTIDAE S12+

KN-102-A →
916m



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

KN-102

EXXON Segment Length: 916m
 ADEC Segment Length: 916m



Map Key: PWS-353

Name: C. DILLON

Date: 4/8/90

Date Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-103 SUBDIVISION A (1 OF 1) DATE 4/9/90

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)

5T All bald eagle nest (3/1 to 6/1)-Active eagle nest (3/1 to 9/1)

6Y Recreation: Special use destination

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 Joan Oale DATE: 5/22/90

OILING CATEGORIZATION:

Wide 74 m: Medium 0 m: Narrow 744 m: V.Light 1044m: 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>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 and manual pick up of
patties and tarballs. Work should be conducted from 5/16 to 7/9 based
on salmon constraints and with approval from ADF&G and USFWS regarding
eagle nest.

TAG COMMENTS: DUE TO RICH LOWER INTERTIDAL NO BIORECOMMENDS
MONITORS TO REASSESS SITUATION DURING TREATMENT.

TAG APPROVAL DATE: 4/18/90

ADEC Art Weimer Art Weimer
EXXON Art Weimer
NOAA Bruce Weimer
USCG S.A. Reiter

FOSC [Signature]

MAY 25 1990
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. 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.
- 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 / KAL-103-A SUBDIVISION: A DATE 4/10/90USCG
NAME David A. Schneider SIGNATURE David A. Schneider☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

PSS/USCGR

Manual removal of asphalt matting, tar patties and tar balls throughout the MITZ & LITZ of the entire subdivision. Areas where boulders and rock faces are accessible to workers should be wire brushed/scrapped of coating. Area that borders the anadromous stream should be carefully cleaned prior to salmon runs. Supra LITZ reaccessed after the snow. ~~ADFS~~

ADEC
NAME Peter Montesano SIGNATURE Peter Montesano☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS IN Varying degrees, this entire segment has a soft asphalt lining the LITZ (some MITZ), which lessens past the stream area. ONLY the E side of this stream has the AP band extending back of the beach. This stream is anadromous and is above an extended fertile LITZ. ADF+G should examine the stream for specific treatment recommendations. All of the AP is easily shoveled and removed.

LAND MANAGER

NAME JANETIA Pritchard SIGNATURE Janetia Pritchard☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Manual removal of tar balls, matting and patties. There is an anadromous stream which has a coast adjacent to it and appears to never have been aggressively cleaned. This area should be addressed during the ADF+G survey. Now in the SUPRA this beach would be a nice recreational area.

OG C. DILLON USCG D. SCHNEIDER SEGMENT ST/ KN-103
 BIO T. BARRY LAND REP J. PRITCHARD (FS) SUBDIVISION A (1041)
 EXXON A. SNOOK ADEC P. MONTESANO TIME 07:45 to 09:15
 TEAM NO.: 6 TIDE LEVEL: -0.5 to +0.5 DATE 04/09/90
 EST. SUBDIVISION LENGTH: 2282 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock ANADROMOUS STREAM
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 5 % B 10 % C 45 % P 30 % G 5 % S 0 % M 0 % V 5
 SLOPE: Long 80 % Hang 30 % Vert 0 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 50 m M 0 m N 840 m VL 1392 m NO 0

SURFACE OIL

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

PAVEMENT: (H) F (S) 215 sq. m by 4PATTIES / TARBALLS 2 BAG:

NEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☒ YES ☐ NOTYPE Trash#BAGS 1

Photographs:

Roll No. NONE

Frames _____

SUBSURFACE OIL NO 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			1	2	3	4	5	SU	U	M	U		

COMMENTS MAJORITY OF SUBDIVISION IS A LONG, WIDE LANG COBBLE AND PEBBLE BEACH WITH SCATTERED SMALL AND LARGE BOULDERS. THE LITZ. HAS A NARROW TO VL BAND OF STAIN AND COAT AS WELL AS OCCASIONAL AREAS OF SPORADIC TB, TARPATTIES, AND ASPHALT PAVEMENT. THESE CONDITIONS EXIST HOMOGENEUSLY ALONG THE SUBDIVISION VARYING ONLY SLIGHTLY IN DISTRIBUTION.

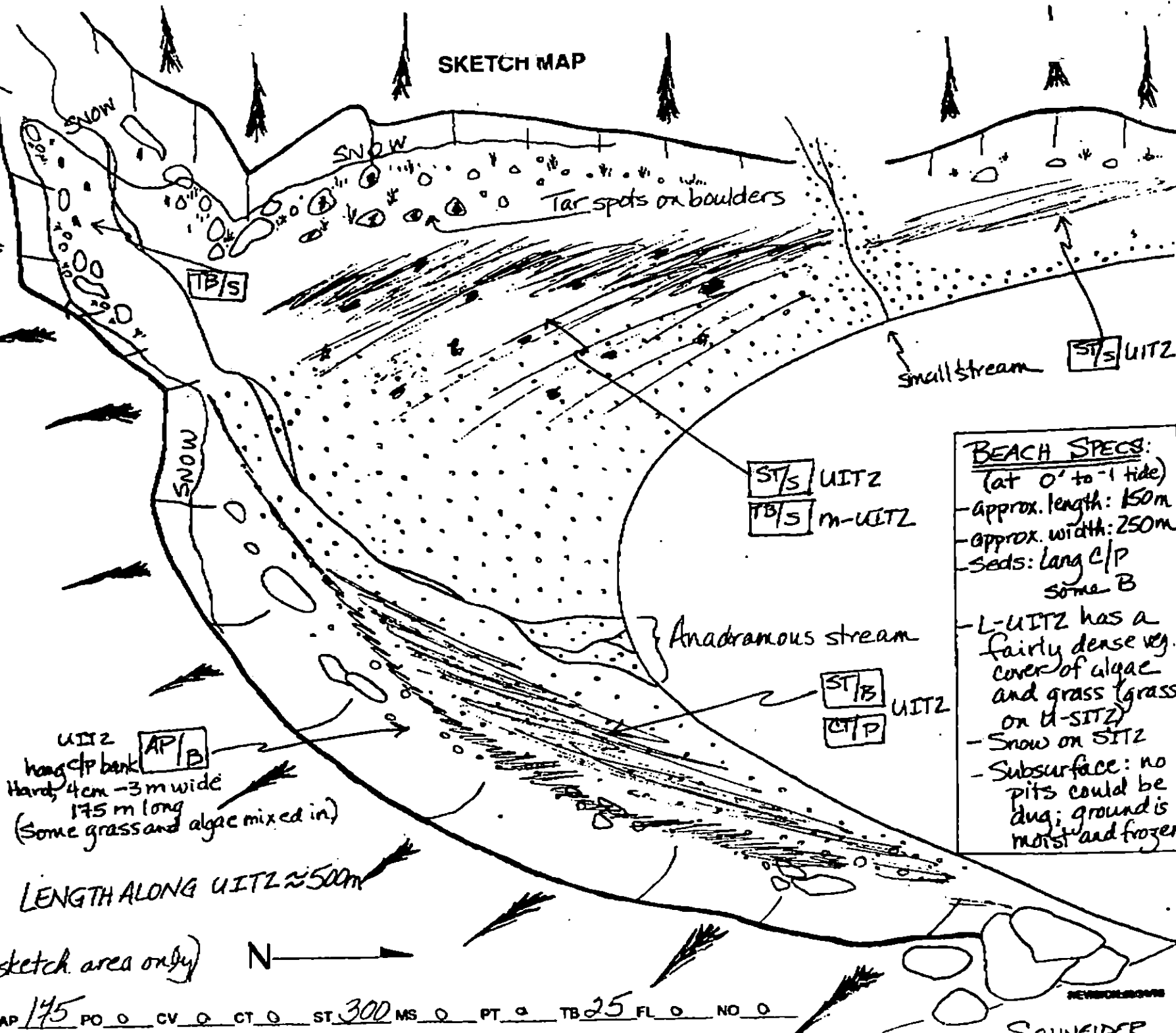
Page 1 of THE LONG, WIDE COVE WITH THE REVIEWED 7W DATE 4/11/90

APR-10-'90 TUE 17:22 ID:RHT WHIT 472-2301 H605 P41

(Dillon)
 MENT STIXN-103
 DIVISION A
 E 04/09 90

ECKLIST
 N Arrows
 Approx. Scale
 Seg/Sub Entry
 Oil Dist.
 Wash
 Length
 % Cover
 Substrate Character
 Est. HML/LWL
 SSL
 Profile Location(s)
 Pw/fo(s)
 Pt Location(s)
 Photo Location(s)

EGEND
 1 Δ
 - No Subsurface Oil
 2 Δ
 - Subsurface Oil
 CT/C
 Intermittent Distribution
 CT/B
 Even Distribution
 CT/P
 Patchy Distribution
 CT/S
 Patched Distribution
 Xed Vegetation
 1 $\bullet$
 Photo location, direction,
 and number



BEACH SPECS:
 (at 0' to -1 tide)
 - approx. length: 150m
 - approx. width: 250m
 - Seds: lang c/p
 some B
 - L-UITZ has a fairly dense veg. cover of algae and grass (grass on U-SITZ)
 - Snow on SITZ
 - Subsurface: no pits could be dug; ground is moist and frozen.

(Lengths for sketch area only)
 LENGTH ALONG UITZ $\approx$ 500m
 Character Length (m): AP 175 PO 0 CV 0 CT 0 ST 300 MS 0 PT 0 TB 25 FL 0 NO 0

SCHNEIDER

KN103 - A (ALL)

APRIL 9, 1990

2/8

 Sed Brass Beds

 RIVER OTTER
EXCAVATIONS
IN CLAM BED



Broad
Band
of Mytilus
Bed

PEBBLE DIACH

CLAM BEDS

COBBLE
PROFILE / SAND

ROCKS

STREAM
MOUTH

Headlands

COBBLE BLACH

Rocky
Headland

Eagle nest



Oil Character Lengths (m):

AP 215 CT 485 ST 215 TB 45 FL 5

PT 25

LANG C/P (some B/R)

UITZ 2-3m wide
ST on tops of sed.
CT on sides and
bottoms of sed.
AP to 50 cm
diameter, 4cm thick

Remove
Tarnish/Pattic
on whole
Subsection

KN-103-A

2282m

UITZ tops
of C/P
6-8m wide
50m long

On backsides
of large TB
on UITZ

SKETCH MAP AREA

UITZ ST/S
PT/S

UITZ ST/S
CT/S

UITZ Lang C/P
P/B C/B

ST/S
UITZ Lang C/P/B

UITZ ST/S
M-UITZ TB/S

Tar splatters on UITZ B
Tar balls at head of stream

TB/S
ST/B CT/B
Hang C/P/B
UITZ

ST/P UITZ
TB/S Hang R
R/C 5m long

ST/B Hang grassy
C/P bank
CT/P UITZ
AP/B 4cm-3m wide
175m long
Hard AP to 4cm thick

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

KN-103

EXXON SEGMENT LENGTH: 2282m

ADEC Segment Length: 1862m

Map Key: PWS-283

Name: C. DILLON

Date: 04/0/90

SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/22/90

Segment ST/1CN103 Subdivision A - ALL Date (mo/day/yr) 9 APRIL 1990
 Time (24 hr) 0750-0930 Biologist Jim Barry Length 1862m 1/6

- (A) Substrate type and % of segments:
 (1) Bedrock (2) Boulder (3) Cobble (4) Pebble (5) Sand (6) Silt
- (B) Overall % cover of biota (% of segment): Dense 50 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 (3)

Photographs:
 Roll No. ST-6-5

Frames 15-20

BARNACLES

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

NOT PRESENT

Wildlife Observations/ General Comments:

RIVER OTTER SURFBIRDS Pelagic Cummert
 SEA OTTER Common merganser
 BALD EAGLE Great Blue Heron or Crane?

Ecological Considerations: 64, 1B

64 - Special lease destination

1B - Stream mouth spawning - this is probably an important site for spawning as well as foraging for piscivorous predators.

KN103-A (all)

April 9 1990

Time 0750-0930

Tide

2/18

I General Comments.

- a. Habitat description. KN103 is an interesting segment. It includes 2 or 3 major habitat types. 1) Rocky headlands with mussels, and other algae, and barnacles. 2) Small cobble and pebble beaches that are flat and contain poorly sorted, but fine grained sediments. 3) Stream mouth with pebble/sand flats and peat deposits. All of these habitats contain a distinct fauna and flora that have important effects on the local environment.
- b. Oil pollution and removal activities have had minor effects relative to many other segments. The flat intertidal beach and stream outlet have been impacted, but appear to be recovering.
- c. Biotic Characteristics of major habitats.
 - 1) Rocky headlands - this habitat type is common on the Sound near Knight & Elson Island. Mineral beds are moderate to dense, with a ~~high~~ moderate to dense cover of *Pucus* and several other macroalgae.
 - 2) Cobble Pebble Beach. The flat intertidal beach ~~at the~~ begins as large cobble at the mouth end of the segment and grades into finer sediments towards the stream outlet. Several interesting biological features occur along this beach. ~~the beds~~ In the middle to high zone mussels form a ^{nearby} conspicuous band and on pebble beaches and on cobble and boulders. Although the ~~the~~ bed is broken, spat and juveniles appear to be replenishing damage caused by human and non-human disturbances. Lower in the beach a clam bed is present, with moderate to densities of clams and associated fauna (e.g. worm tubes; *Echeurus acherus*). ~~the~~ This clam bed is denser towards the SW portion. Still lower on the intertidal

KN103-A

April 9 1990

TIME 0750 → 930

TIDE -1 → +3

3/8

and into the subtidal zone, eel grass is abundant - I suspect the eel grass continues into slightly deeper water where it helps them begin to dominate. Eel grass beds are important for spawning herring.

- 3) Stream outlet. The stream outlet flows from out in an area with relatively fine sediments. Clam beds are present in this area. Biologically, this segment is significant due to the presence of these habitats. River otter activities are evident throughout the beach area where otters spearate clams and mussels. Sea otters also may utilize this as a feeding habitat. The outlet stream is probably used as a spawning habitat for Salmon. Thus, the high concentration of food serves as a foraging area for other species as well. Bald eagles nest on this segment (see map). Eagles, bears, and deer are likely to utilize the beach resources for food. Migratory shorebirds & resident birds also utilize this habitat.

II Wildlife Observations.

Deer - dead on beach

River otter - scat, feeding traces

Eagles - nest, 3-4 in air

Shorebirds - Surf-birds - foraging on rocky headlands and islands

Great Blue heron or some Crane species - foraging on beach.

Common merganser - 1 pair

Pelagic Cormorant.

KN103-A

APRIL 8 1990

IV Species List

A. MARINE PLANTS

- 1) DIATOMS / BLUE GREEN ALGAE M-D 123
 2) GREEN ALGAE - CHLOROPHYTA

ACROSIPHONIA D23 &
 CLADOPHORA R1
 ENTEROMORPHA M1234
 GREEN CRUST. ?
 ULVA D234
 UROSPORA D3

3) RED ALGAE - RHODOPHYTA

BOSSIOLA R1
 CALLIARTHRON R1
 CORALLINA R1
 CRYPTOSIPHONIA D23
 ENDOLADIA MURICATA R1
 HALOSACCION GLANDIFORME M123
 IRIDAEA M123
 MASTOCARPUS R-S 12
 MEMBRANOPTERA M123
 MICROCLADIA M123
 LITHOTHAMNION PALMIFOLIUM R1
 PETROCELLIS MIDENDORFFII R1
 PORPHYRA spp. S123
 RHODOMELA LAMINATA M12
 RHODOMELA PALMATA M123

4) BROWN ALGAE - PHAEOPHYTA

ALARIA MARGINATA M12
 AGARUM spp. M12
 COSTARIA S R12
 FUCUS DISTICHUS M123
 HEDOPHYLLUM SESSILE M12
 HILDONBRANDIA S12
 LAMINARIA M12
 NEROCYSTIS S12
 RALPSIA M12
 SCYTOSIPHON COMENTARIA R12

* SPAT OR JUVENILES
 PRESENT

D DENSE
 M MODERATE
 S SPARSE
 R RARE
 1 BEACH
 2 BOULDER
 3 COBBLE
 4 PEBBLE
 U. SUBTIDAL

26/

B MARINE INVERTEBRATES

1) ANEMONES

- EPIACTIS RITTERI* ? S12A
URTICINA CRASSICORNIS ?
Anthopleura elegantissima S-R12A
A. artimisa S12
A. xanthogrammica ?

2) Annelid Worms

- Polychaetes*
Nereidae 1234
Nephtyidae 234
Serpulidae
Serpula S12A
Crucigera S12A
Spirorbidae
Spirorbis M-1, 123

3) Peanut Worms - Sipunculid

- Phascolosoma thersites* S123A

4) MOLLUSCS

a) CHITONS

- CATHARINA PUNCTATA* S12A
Tonicella lineata R12A
MUTILLA spp. ?

b) Snails - GASTROPODS

- Littorina scutulata* M123A
L. sitkana M123A
Nucella lamellosa M12A
N. emarginata M12A
Scutissa dora M123A
Amphissa columbiana S-1234A
Tachydygaster spp. ?

c) Nudibranchs

- Lamellidoris fusca* ?

d) Limpets

- Lottia digitalis* S-M12A
Acmaea mitra R12A
Lottia pumila ?

d) Limpets (cont)

- Tectura scutum* M123A
T. pumila S12
Biphonaria thersites S12
Diadema aspera ?

e) Mussels -

- Mytilus edulis* D-M123A

f) Clams

- Single - PODOCYSTUS* spp. S-12A
Hyadella spp. S-M1234A
Protothaca staminea M123A
Macoma spp. M1234A

g) Crustaceans

1) Barnacles

- Semibalanus cariosus* M-1, 12A
Balanus glandula M-123A
Chthamalus dalli M123A

2) Crabs

- Haplogaster* spp. ?
Hemigrapsus oregonensis S3
Pagurus spp. S-M12A
Hermit Crabs - Paguridae D2

3) Beach Hopper

- ISOPODA* ?
AMPHIPODA
Orchestoidea ? M-1234

h) Bryozoans

- Schizoporella* spp. M-23A

i. Echinoderms

- 1) Sea Stars
 S-M123 *Pycnopoda helianthoid.*
 M-23 *Darmaturias imbricata*
 M123A *Leptasterias hexactis*
 R121 *Evasterias troscheli*
 R12 *Cottasterias kochleri*
 S12A *Pisaster ochraceus*.

8/8

SPECIES LIST (cont)

2. Echinoderms (cont)

2) Brittle Star
Ophiurus spp? R → S-12

3) Sea Cucumber

~~Cucumaria~~ ~~intertexta~~ ~~sp?~~

3) Sea urchin

Strongyl. centratus droebachiensis 12 12?
23, 4

C. Marine Vertebrates

1) Fish: PHOLIDAE - 11-23*
COTTIDAE 5 12*

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-103 STREAM NO: 226-10-16922 DATE 4/21/90

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)

5T-1 All bald eagle nests (3/1 to 6/1) within 400m

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Subject stream is located within subdivision A (1 of 1). No additional ecological constraints.

SHPO SIGNATURE: Rachel Ann O'm DATE: 5/22/90

Subsurface Oil Observed: Yes X No Maximum Depth 8cm

RECOMMENDATIONS:

 No Treatment Recommended

X Treatment Recommended

X Manual Pickup

X Bioremediation

X Tarmat Removal

 Snare/Absorbent Booms

 Oil Snares (pom poms)

 Absorbents (pads, rolls, etc)

 Spot Washing: Wands

 Beach Cleaner

 Other (see comments)

COMMENTS: Recommend manual removal of pavement in the UITZ and bark
from oiled log in the UITZ as indicated on the attached sketch map. Work
from 6/2 to 7/9 with approval of USFWS regarding eagle nest.

TAG COMMENTS: BIOREMEDIATE (CUSTOMER) IF REQUIRED FOLLOWING TARMAT
Removal

TAG APPROVAL DATE: 5/18/90

ADEC Art Weimer Art Weimer

EXXON Andy Tarr Andy Tarr

NOAA Gary Petros Gary Petros

USCG G.A. Reiter G.A. Reiter

FOSC

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 (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
- 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 267-2208
- ✓ 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 (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
- 77 Subsistence area: Salmon harvesting (5/1 to 9/30)
 Finfish harvesting
 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

50/51

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN-103 SUBDIVISION: ^{ASC#} 226-10-16922 DATE 4-21-90

USCG

NAME Kerwin L. Drahan SIGNATURE CWO 2 K. L. Drahan

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Agree

ADEG → ADFG

NAME Rick Gustin SIGNATURE Richard J. Gustin

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS We recommend removal + wiping of larger rocks in oiled band on the east side of the stream, followed by scraping up the thin oil layer with rake or shovel and remove.

Remove oiled parts of downed tree on east bank.

Remove sporadic tar patties + discontinuous oiled tar band on west side

The majority of work needs to be done on the east side.

Treat during window period.

LAND MANAGER → NONE

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

SHORELINE OILING SUMMARY (ANAO)

REVISION NO. 04/13/

OG CAL LARSON USCG DREHER, CWE SEGMENT ST/ KN103
 BIO KEN CRITCHLOW LAND REP STREAM 226-10-169221 OF 1A/C
 EXXON DARRELL YOE ADFG RAK GUSTIN-AIMEE WISEMAN TIME 12:55 to 1:00
 TEAM NO. 14 TIDE LEVEL +6 FT DATE 4/21/90
 EST. SUBDIVISION LENGTH: 230 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☐ Forest ☐ Rock
 SURVEYED FROM: ☐ Foot ☐ Boat ☐ Helo
 SURFACE SEDIMENTS: R 5 % B 55 % C 10 % P 20 % G 10 % S 10 % M 10 % V
 SLOPE: Long 50 % Hang 70 % Vert 10 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 120 m M 120 m N 110 m VL 110 m NO 110 m

SURFACE OIL

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

PAVEMENT H F @ 480 sq. m by .3 c

PATTIES / TARBALLS 1 BAGS

NEAR SHORE SHEEN? NO 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 (cm)	BELOW		OIL / FILM COLOR				PIT ZONE				AN A	REMARKS (Y/N)	V	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		DO	VO	1	2	3	4	SU	U	M	U				
1	30					✓	.							✓					N	✓	ASH/ASH
2	30					✓	.							✓					N	✓	GR/SO/GR/SO
3	20					✓	.							✓					N	✓	GR, GR/SO/GR/SO
4	28					✓	.							✓					N	✓	CB, PB/GR, S
5	28	✓	✓				5-8	✓	✓					✓					Y	✓	CB, PB/GR, PB
6	12					✓	.							✓					N	✓	CB, PB GR

COMMENTS WEST SIDE OF COVE OILED BAND EXTENDING BEYOND 120 METER
 NO SHEEN OBSERVED. VOLCANIC ASH OBSERVED UPPER LITZ.

REVIEWED

DATE 5-1-90

15/51
SEGMENT ST/EN LOS

STREAM 226-10-16922

DATE 4/21/90 2-1

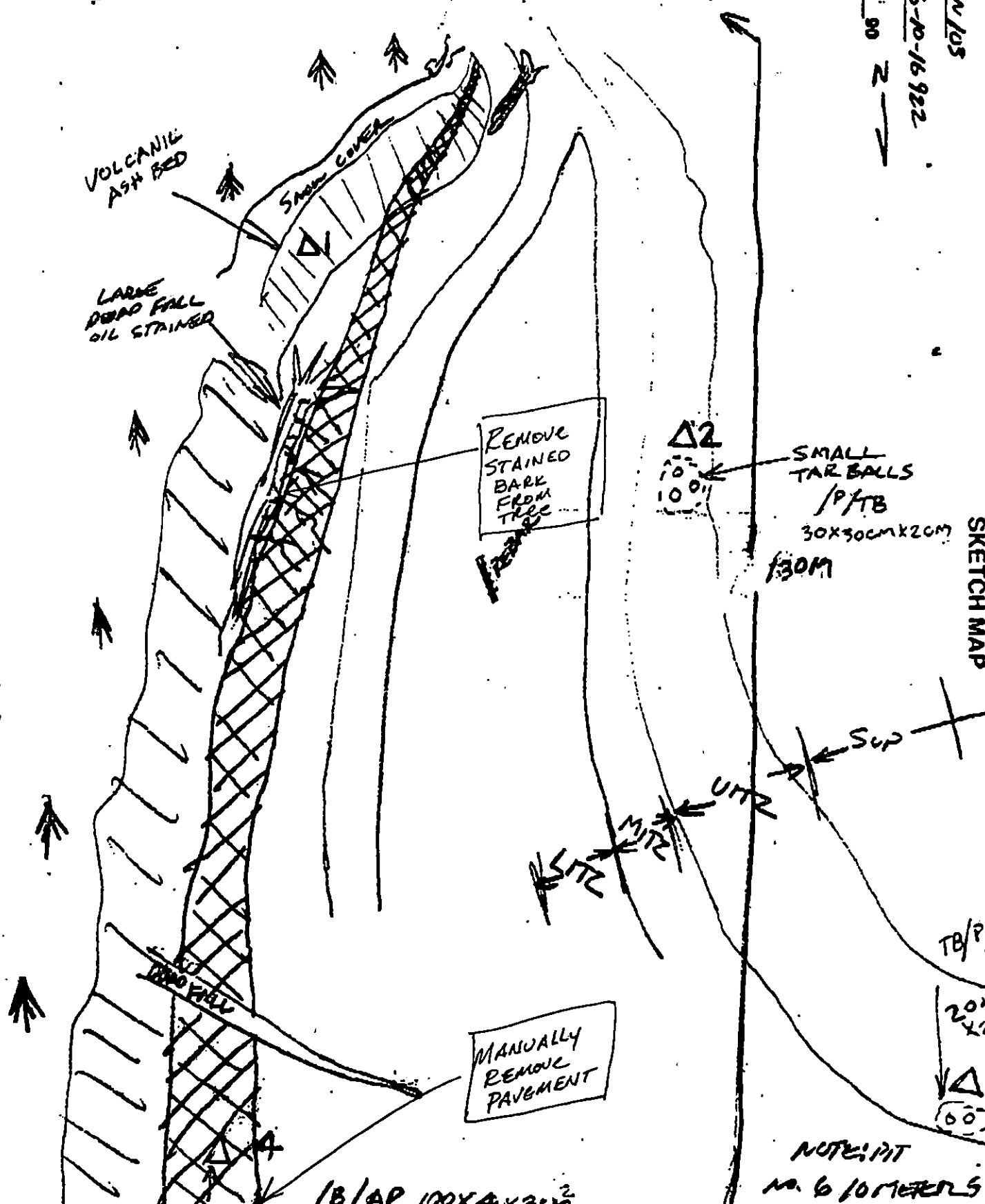
CHECKLIST

- ✓ N Area
- ✓ Approx. Scale
- ✓ Degree of Study
- ✓ On Data
- ✓ Width
- ✓ Length
- ✓ E. Cover
- ✓ Substrate Character
- ✓ Eel Traces
- ✓ S/L
- ✓ Profile Location(s)
- ✓ Profile(s)
- ✓ P/L Location(s)
- ✓ Photo Location(s)

LEGEND

- 1 A
- 2 A
- PI - Substrate Of
- CT/C
- CT/B
- Broken Distribution
- CT/E
- Patch Distribution
- CT/S
- Spaced Distribution
- 200
- Old Vegetation
- 1 4
- Photo Location, direction, and number

Of Character Length (m): AP PO CV CT/20 ST MS PT TB 6/10cm NO



SKETCH MAP

34/5

ADP&O MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: ES (S) DS TS AVS SCHA HWS PTA2 REGION: (PWS) KP, CI K, APMETHOD: Aerial (Ground) Boat3 DATE: 4-21-9015 HIGH TIDE TIMES: 121 TEAM RECORDER: Aimee Wesem4 START TIME: 130016 HIGH TIDE HTS: 122 OBSERVERS: Rick Gustin5 STOP TIME: 140517 LOW TIDE TIMES: 173023 AGENCY: ADFTG6 SEGMENT #: KN-10318 LOW TIDE HTS: 124 PHOTOS TAKEN: Y (N)

7 STATION #: _____

19 TIDE HT AT SURVEY: _____

Roll #: _____ Frames: _____

8 K-UNIT: _____

(End) Slack Flood Slack25 VIDEO TAKEN: (Y) N TAPES: 90RL601555

9 STAT AREA: _____

20 USCG QUAD: S B 2Starts: 1356 Ends: 1490

10 LAT: _____

11 LONG: _____

26 SAMPLES TAKEN: Y (N) Number12 SOURCE: (Map) Loran

Oil _____

13 LOCATION: Knight Island

Sediment _____

14 DESCRIPTION: NE tip south of passage pnt

Biological _____

Water _____

EXTENT OF OIL

	SHORELINE				STREAM			
	L	M	H	S	L	M	H	S
27 SURFACE COVERAGE								
28 SURFACE THICKNESS								
29 PENETRATION	5-8	2	1					

36 CATALOGED ANAD. FISH STREAM? (Y) N37 CATALOG #: 226-10-1692238 STREAM NAME: Opal Creek39 OIL IN STREAM BED? Y (N)40 OIL ON STREAM BANKS? (Y) N30 OVERALL OIL IMPACT: N YL (L) (M) H41 OIL ON BEACH ADJACENT TO MOUTH? (Y) N
(within 30 meters)42 OIL WITHIN 1 MILE OF STREAM? (Y) N31 OIL TYPE: Pooled House Tar (Asphalt) (Slack) (Stain)32 OILED DEBRIS? (Y) N treeWhere: East west banks33 SHORELINE TYPE: Headland Low-lying Rocks Beach (Cove)
Lagoon Marsh43 ANADROMOUS FISH PRESENT? (Y) N Presum.34 WAVE EXPOSURE: High (Moderate) (Low)44 ANADROMOUS FISH OBSERVATION
Species Aerial Ground35 SUBSTRATE TYPE: Bedrock Boulder 5 Cobble 55Gravel 30 Sand 15 Mud/silt

Species	Aerial	Ground

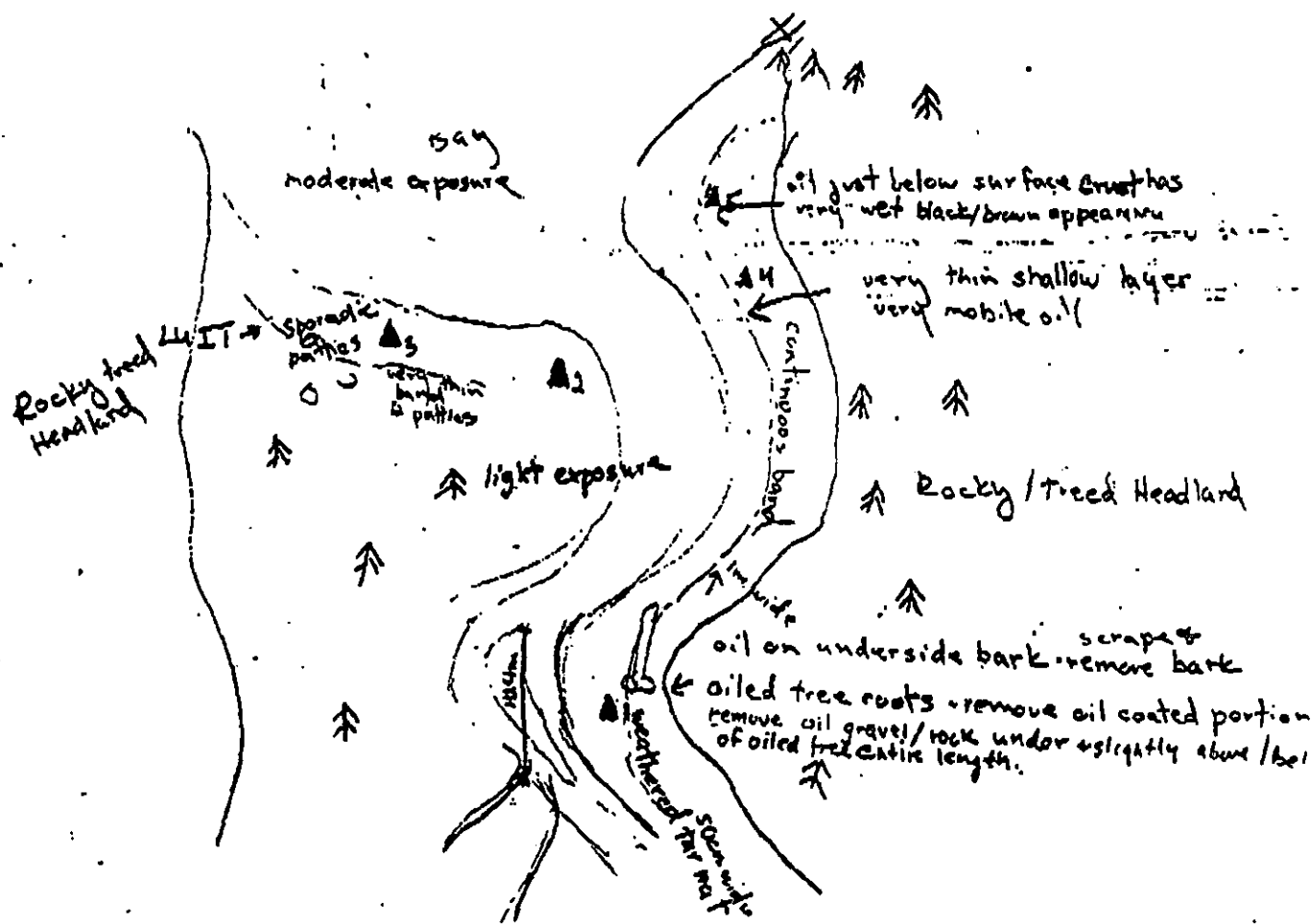
Comments: shallow surface 50cm-1m wide oiled band on east side of stream
in UTTZ. When crust is broken oil appears dark black/brown. Very mobile.
sporadic 30cm wide band running in UTTZ on west side - no penetration

KN-103 39/51

43 PHOTOLOG

LOC(S)	DESCRIPTION
Pit 1 - 28cm - no vis oil	Pit 2 - 20cm - no vis oil
Pit 3 - 20cm - no vis oil	Pit 4 - 2cm - no subsurface 2cm surface
Pit 5 - 28cm - 5-8 oil penetration - seen on pooled water	
Pit 6 - 20cm - 1cm oil penetration	
130 meters from X to dead fall	

48 OIL DISTRIBUTION DIAGRAM



Treatment Recommendations

remove & wipe larger rocks in oiled band on east side of stream then scrape up thin oil layer with rake or shovel & remove

Remove oiled parts of downed tree on east bank

remove sporadic tar patches & discontinuous oiled tar band on west side

The majority of work needs to be done on the east side

Treat during window period.

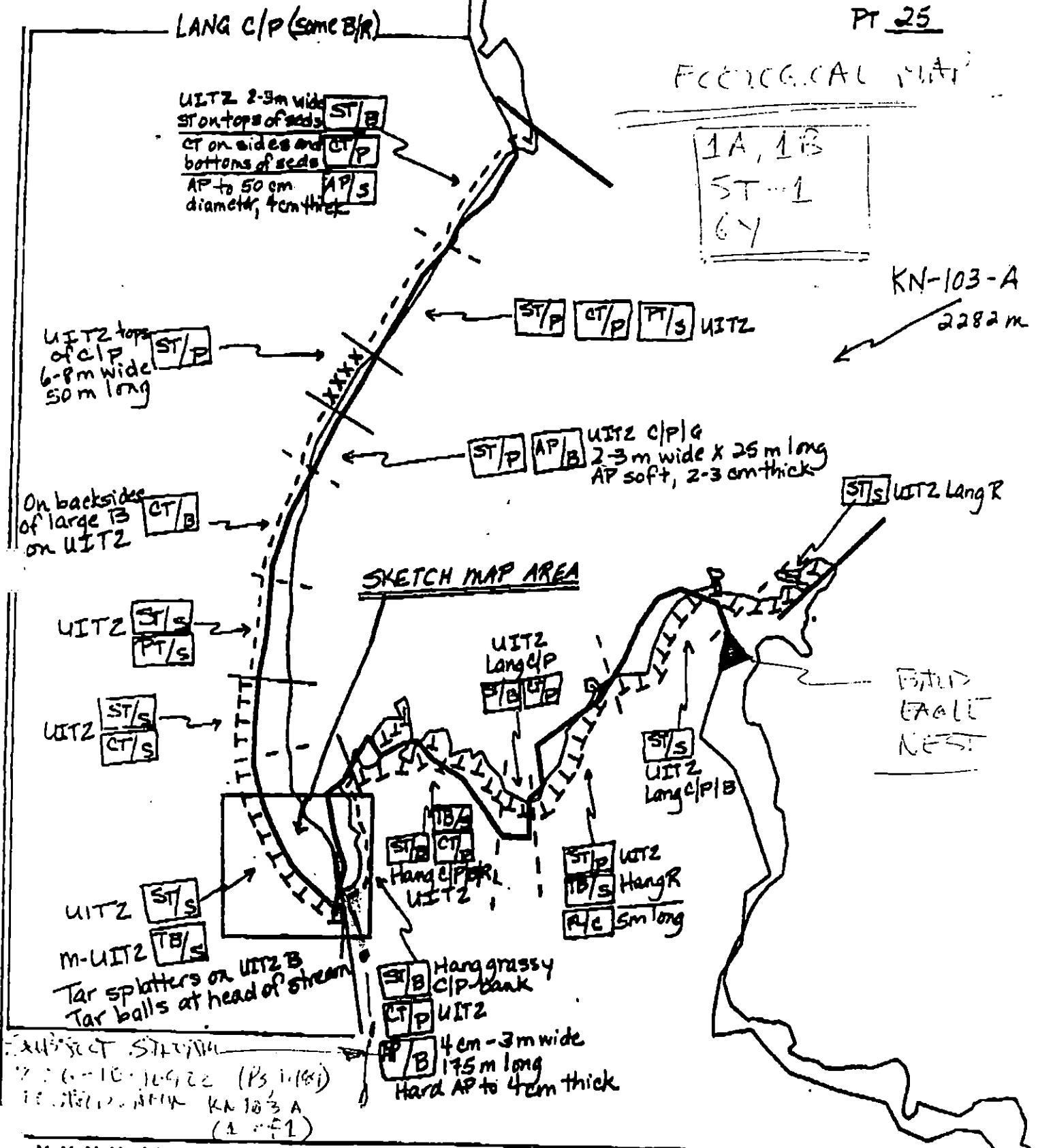
Done with ADFG recommendations

Oil Character Lengths (m):
 AP 215 CT 485 ST 215 TB 45 FL 5
 PT 25

ECOLOGICAL MAP

1A, 1B
 ST-1
 6Y

KN-103-A
 2282m



XXXX Wide

/// Medium

--- Narrow

TTTT Very thin

KN-103

EXON SEGMENT LENGTH: 2282m

ADEC Segment Length: 1862m

Map Key: PWS-283

Name: C. DILLON

Date: 04/09/90

ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 226-10-16922

SEGMENT KN-103 SUBDIVISION A

WORK WINDOW	
Manual Pickup Tarmat Removal	CLOSED (Eagle Nest Buffer Prevents Access)
Bioremediation More Than 100m From Stream	CLOSED (Eagle Nest Buffer Prevents Access)
Bioremediation Less Than 100m From Stream	CLOSED (Eagle Nest Buffer Prevents Access)

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream	ADF&G catalogued anadromous stream (226-10-16922) 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.
5T Bald Eagle Nest	USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to manual pickup, tarmat removal, and bioremediation. Eagle nest buffer zone prevents access to treatment area.

OTHER ECOLOGICAL CONSIDERATIONS

If eagle nest constraint is removed, other ecological considerations will apply.

SEE SUBDIVISION CONSTRAINT ADDENDUM KN-103A
FOR ADDITIONAL CONSTRAINT INFORMATION.

FOSC

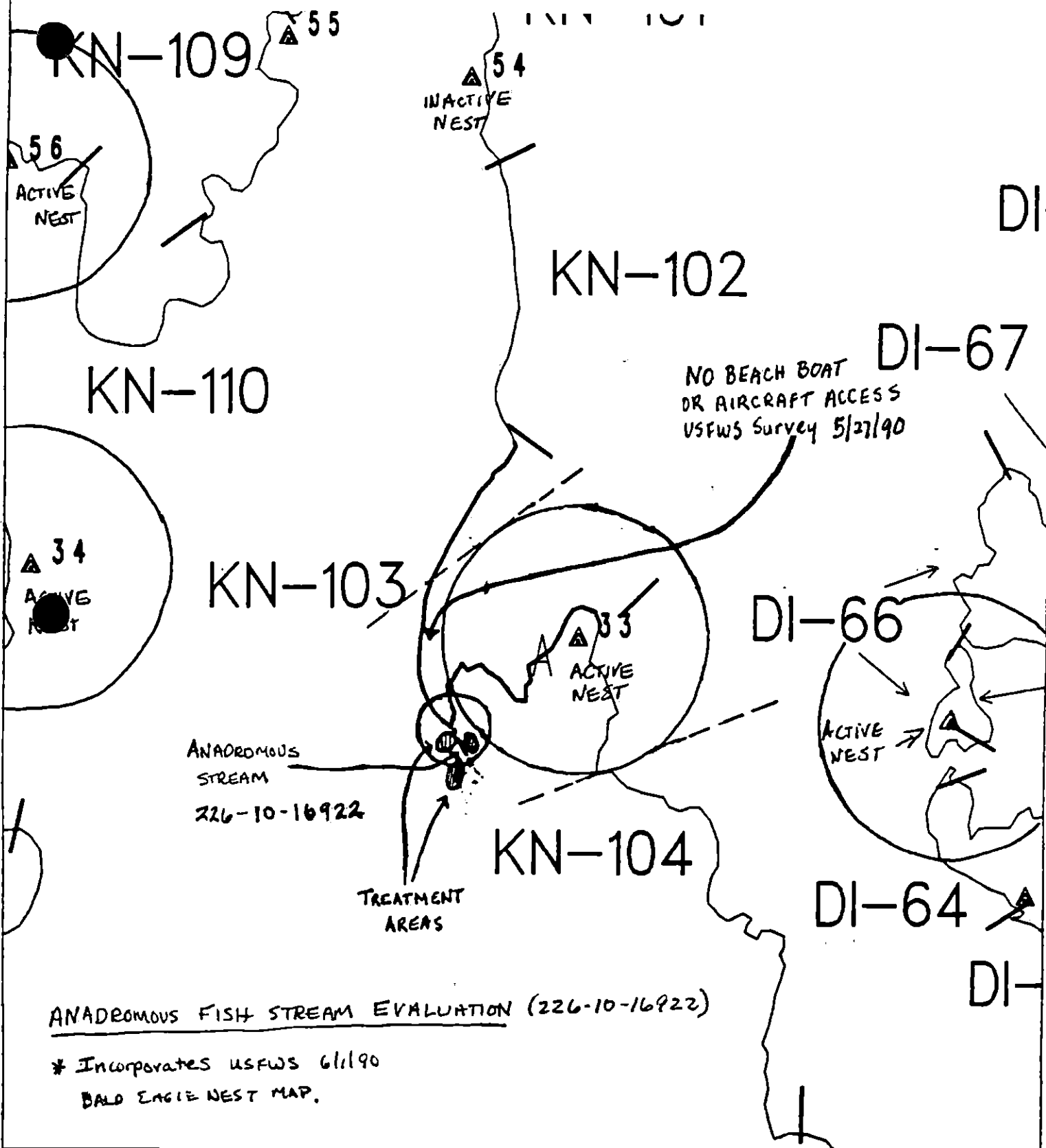
W L Date 6-10-90

Prepared by

W Kelly

Date

6/9/90



Exxon Company, USA
Map Key: KNI-KN-103
May 11, 1990



ECOLOGY MAP
SEGMENT KN-103
SUBDIVISION A (1 of 1)
METERS
0 407 814

★	Seabird Colony
▲	Eagle Nest

1 inch = 1336 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-104 SUBDIVISION A (1 OF 2) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)

6Y Recreation: Special use destination

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: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 118 m: Narrow 648 m: V.Light 285 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 10 cm

RECOMMENDATIONS:

 No Treatment Recommended

X Treatment Recommended

X Manual Pickup

X Bioremediation

X Tarmat: Breakup

 X Removal

 Snare/Absorbent Booms

 Oil Snares (pom poms)

 Absorbents (pads, rolls, etc)

 Spot Washing: Wands

 Beach Cleaner

 X Other (see comments)

COMMENTS: Recommend manual pick up of tarmats, tar balls and oiled debris. Bioremediate areas indicated in sketch map. Work should be conducted after 6/1 with ADF&G and USFWS approval regarding eagle nest constraint. RARE PRIOR TO BIO AT INDICATED ON SKETCH

TAG COMMENTS: MONITORS TO CHECK NE CORNER OF POCKET BEACH
SHOWN ON SKETCH 1 TO DETERMINE NEED TO EXTEND BIO
MONITORS ALSO TO ASSESS NEED FOR AVOIDANCE OF RICH LITZ

TAG APPROVAL DATE: 4/23/90

ADEC ART WEINER

EXXON ANDY TEAL

NOAA JOSEPH ALBERT

USCG KENNETH KILIAN

FOSC: [Signature]

DATE: 4-27-90

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.
- 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
- 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-104-A SUBDIVISION: A DATE 4/10/90

USCG NAME DAVID A. SCHNEIDER SIGNATURE David A. Schneider

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED PS3/USCSR

COMMENTS This subdiv will require extensive manual treatment and bioremed. Tar balls should be removed throughout the MITZ. Surface and subsurface oiled cobble and pebble should be removed. UITE should be tilled and bioremediated. Tar mats located throughout the subdiv in the UITE and MITZ should be broken up and removed. On the pocket beach ~~drawn~~ drawn on sketch #2, tar mat extends beneath the UITE berm. Top lying sediments should be moved, tar removed and then surface sediments replaced. Debris in SITE should be removed.

ADEC NAME Peter Montesano SIGNATURE Pete J. Montesano

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

See Attached

LAND MANAGER

NAME JANETTA Pritchard SIGNATURE Janetta Pritchard

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS Mainly remove coal on vertical rocks adjacent to the beach ~~that~~ the asphalt and tar material in the MITZ and UITE. Tar penetrates the subsurface. Tilling and bioremediation is recommended. Remove debris up to 100 yds. from the Super. Beach on Map 1 would provide access to the uplands.

KN 104-A Peter Montesano ADEC

Besides the areas to be described in detail, KN 104-A is best characterized as patchy stain / sporadic coat with random 2-3cm accumulations of oiled sediments trapped in boulders and bedrock.

On the map of the entire segment, the northernmost medium slash ("/") is a small pocket beach requiring some handwork. The majority of the scraping is to be done on the "covered" rock outcropping at the central shoreline - most oil on North Face.

Sketch map #1: Not shown is an area at the NE corner where a coat + surface penetration need some scraping and removal. Otherwise, soft asphalt extends either side of the central rock outcropping. Several of the large cobbles at the base of this bedrock showed SB oil when flipped. When the AP is removed, the large cobbles in the vicinity should be checked underneath or wiped accordingly.

Sketch Map #2: The N end of this beach has a coat which could use some minimal handwork. Toward the S half of this beach is an extensive AP area to be removed. The concentration and dimensions of this oiling are not evident by the sketch. It is important to note that the AP at its N end and under the berm, gravel/pebbles cover the AP. The snow-covered supratidal should be inspected for additional AP. Finally, remove the oiled snare and spill debris in the locations indicated on the sketch.

OG C. DILLON USCG D. SCHNEIDER SEGMENT ST/ KN-104
 BIO J. BARRY LAND REP J. PRITCHARD (FS) SUBDIVISION A (10F&A)
 EXXON A. SNOOK ADEC P. MONTESANO TIME 09:15 to 11:00
 TEAM NO.: 6 TIDE LEVEL: +0.5 to +5.5 DATE 04/09/90
 EST. SUBDIVISION LENGTH: 1375 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 85 % B 5 % C 5 % P 3 % G 1 % S 1 % M 6 % V 0
 SLOPE: Lang 15 % Hang 55 % Vert 30 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 100 m N 975 m VL 350 m NO 0 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	C	B	P	S	1	2	3	4	5	6	7	8	SU	M	E	U
ASPHALT PAVEMENT		X		✓						X			X	✓		
POOLED																
COVER			✓	X				X		X			X	X		
COAT		X	X	X		X		X		X			X			
STAIN			X	X				X		X			X			
MOUSSE																
PATTIES				X				X					X			
TARBALLS																
FILM																
NO OIL	Snow on S12 of beaches												S			X

PAVEMENT: H F B 225 sq. m by 4-6

PATTIES TARBALLS 1 BAGS

NEAR SHORE SHEEN? (NO) BR RW SL TL

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

DEBRIS COLLECTED
☒ YES ☐ NO

TYPE trash, pom-pom
#BAGS 1

Photographs:

Roll No. ST-6-6

Frames 20, 21, 23, 24

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (COLOR)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		NO	UC	1	2	3	4	5	6	7	8	SU	M	E	U		
1	25			X			7-10		X				X					X					P/G (soft AP layer)

COMMENTS MAJORITY OF SUBDIVISION IS HANG/VERT ROCK WITH NARROW
 AND VL COAT/STAIN BAND ACROSS THE HIGH TIDE LINE /UITZ.
 THERE ARE TWO LANG C/P/G/S BEACHES WITH MEDIUM WIDTH
 COVERAGE INCLUDING ASPHALT PAVEMENT AND COVER. THESE
 AREAS ARE SHOWN ON THE 2 ATTACHED SKETCHES.
 AN OTTER CARCASS WAS COLLECTED FROM THE NORTHERNMOST BEACH.
 OILING IS SUSPECTED BUT QUESTIONABLE.
 Page 1 of 1 PIT 1 AND TRASH/DEBRIS ARE ON THE SOUTHERNMOST BEACH
 REVIEWED W DATE 4/11/90

SHORELINE ECOLOGICAL SUMMARY

REVISION: 08/22

Segment ST/ KN104 Subdivision A Date (mo/day/yr) 9 APRIL 1990

Time (24 hr) 1000-1100 Biologist JIM BARRY Length = 1/7

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

(B) Overall % cover of biota (% of segment): Dense 20 Moderate 75 Low 5

(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: ST-6-5
Roll No. 22
Frames 22

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:

EAGLES, SHOREBIRDS (SURFBIRDS ~200)
PELAGIC COLONY BREAST
STELLAR'S JAY - 2

Ecological Considerations: ST- EAGLE NEST - 1 NEST SITED AT THE JUNCTION
OF KN103 and KN104 -

KN104-A

APRIL 9-1990

3/7

Time 1000-1100

TIDE +3 → +5.5

I General Comments -

A. Habitat types - 3 primary habitat types are found in this segment.

1) Rocky headland with patchy mussel cover, moderate barnacle and gastropod densities, and moderate to high cover of algae in the lower zones

2) Cobble/ Boulder shorelines with similar abundances of biota to (1).

3) Cobble/Pebble Beaches, some with mussel beds, and generally sparse algal cover.

B. Oil Effects - Vertical cliffs and rocky shores generally show only mild effects of oil in the upper zones. Pebble beaches have more severe oil effects, including asphalt pavement.

II Major Species

A. Barnacles - All 3 species present.

B. Mephitis - Patchy in abundance, particularly on vertical bedrock walls. 1 or 2 beaches have broken mussel beds in the middle to high zone, with some trampling damage evident - Recovery in progress as indicated by recruiting juveniles and spat.

C. Gastropods - Periwinkles (Littorines) moderate limpets and whelks are similarly moderate in abundance.

D. Eucius - Sparse in upper zone, though some juveniles are present. Moderate to sparse in the lower zones.

KN104-A

April 9 1990

4/7

III Other Species

Filamentous and finely branched ~~at~~ red algae are abundant in the lower zone. -Eel grass beds are present adjacent to some shores.

KN104-A

APRIL 9 1990

5/

IV Species List

A. MARINE PLANTS

1) DIATOMS / BLUE GREEN ALGAE M-D 123

2) GREEN ALGAE - CHLOROPHYTA

ACROSIOPHONIA D123

CLADOPHORA S12

ENTEROMORPHA M123

GREEN CRUST. ?

ULVA M123

ULVOSORA M123

3) RED ALGAE - RHODOPHYTA

BOSSIOLA R1

CALLIARTHRON R1

CORALLINA R1

CRYPTOSIPHONIA M-D 123

ENDOCALDIA MURICATA S12

HALOSACCION GLANDIFORME M123

IRIDABA M123

MASTOCARPUS S12

MEMBRANOPTERA M123

OMICROCALDIA D123

LITHOTHAMNION PALIFILUM S12

PETROCELLIS MIDDENDORFFII S12

PORPHYRA spp. S123

RHODOMELA LOEIX M123

RHOYMEIA PALMATA M-D 123

4) BROWN ALGAE - PHAEOPHYTA

ALARIA MARGINATA MU

AGARUM spp. MU

COSTARIA MU

FUCUS DISTICHISSIMUS M-D 123

HEODOPITYLLUM SESSILE MU

HILDEBRANDIA S12

LAMINARIA MU

NERIOCYSTIS SU

RALPSIA S12

SCYTOSIPHON COMENTARIA S12

* SPAT OR JUVENILES
PRESENT

D DENSE

M MODERATE

S SPARSE

R RARE

1 BEDROCK

2 BOULDER

3 COBBLE

4 PEBBLE

U. SUBTIDAL

KN 104-A

April 9 1990

B. MARINE INVERTEBRATES

1) ANEMONES

- EPIACTIS RITZELI ? S12
- UFFICINA CRASSICORNIS ?
- Anthopleura elegantissima ?
- A. artimisa ?
- A. xanthogrammica ?

2) Annelid Worms

- Polychaetes
- Nereidae ?
- Neptidae ?
- Serpulidae D23A
- Serpula S12A
- Crucifera S12A
- Spirorbidae
- Spirorbis D23A

3) Peanut Worms - Sipunculid

- Phascolosoma thersites ?

4) MOLLUSCS

a) CHITONS

- CATHARINA TUCATA S12A
- Tonicella LINATA R1
- MUTILLA spp. R1

b) Snails - GASTROPODS

- Littorina scutulata M123A
- L. sitkana M123A
- Nucella lamellosa M123A
- N. emarginata M123A
- Searlesia dira M123A
- Amphissa columbiana R12
- Tachyrrhynchus spp. R12

c) Nudibranchs

- Lamellidoris fusca S12A
- Melibe leonina S12A

d) Limpets

- Lottia digitalis M12A
- Acmaea mitra ?
- Lottia pumila ?

d) Limpets (cont)

- Tectura scutum M123A
- T. pumila ?
- Biphonaria thersites S12A
- Diadora aspera ?

e) Mussels -

- Mytilus edulis M123A

f) Clams

- Sigala - PODOCYSTUS cepus S12
- Hiatella spp. S12A
- Prothaca staminea ?
- Macoma spp. ?

g) Crustaceans

1) BARNACLES

- Semibalanus cariosus M-D123A
- Balanus glandula M-D123A
- Chthamalus dalli M-D123A

2) Crabs

- Haplogaster spp. ?
- Hemigrapsus oregonensis S23A
- Pagurus spp. ?
- Hermit Crabs - Paguridae M-D123A

3) Beach Hopper

- ISOPODA ?
- AMPHIPODA
- Orchestoidea ? M123A

h) Bryozoans

- Schizoporella spp. ? M123A

i) Echinoderms

- 1) Sea Stars
- * M123 Pycnopodia helianthoides
- * M12 Dermasterias imbricata
- * M123 Leptasterias hexactis
- ? Echinaster truesdelti
- ? Orthasterias koehleri
- S12A Pisaster ochraceus

6/7

KN104-A

April 9 1990

7/1

SPECIES LIST (cont)

2 Echinoderms (cont)

2) Brittle Star
Ophiurus sp? ?

3) Sea Cucumber
Cucumora miniata ?

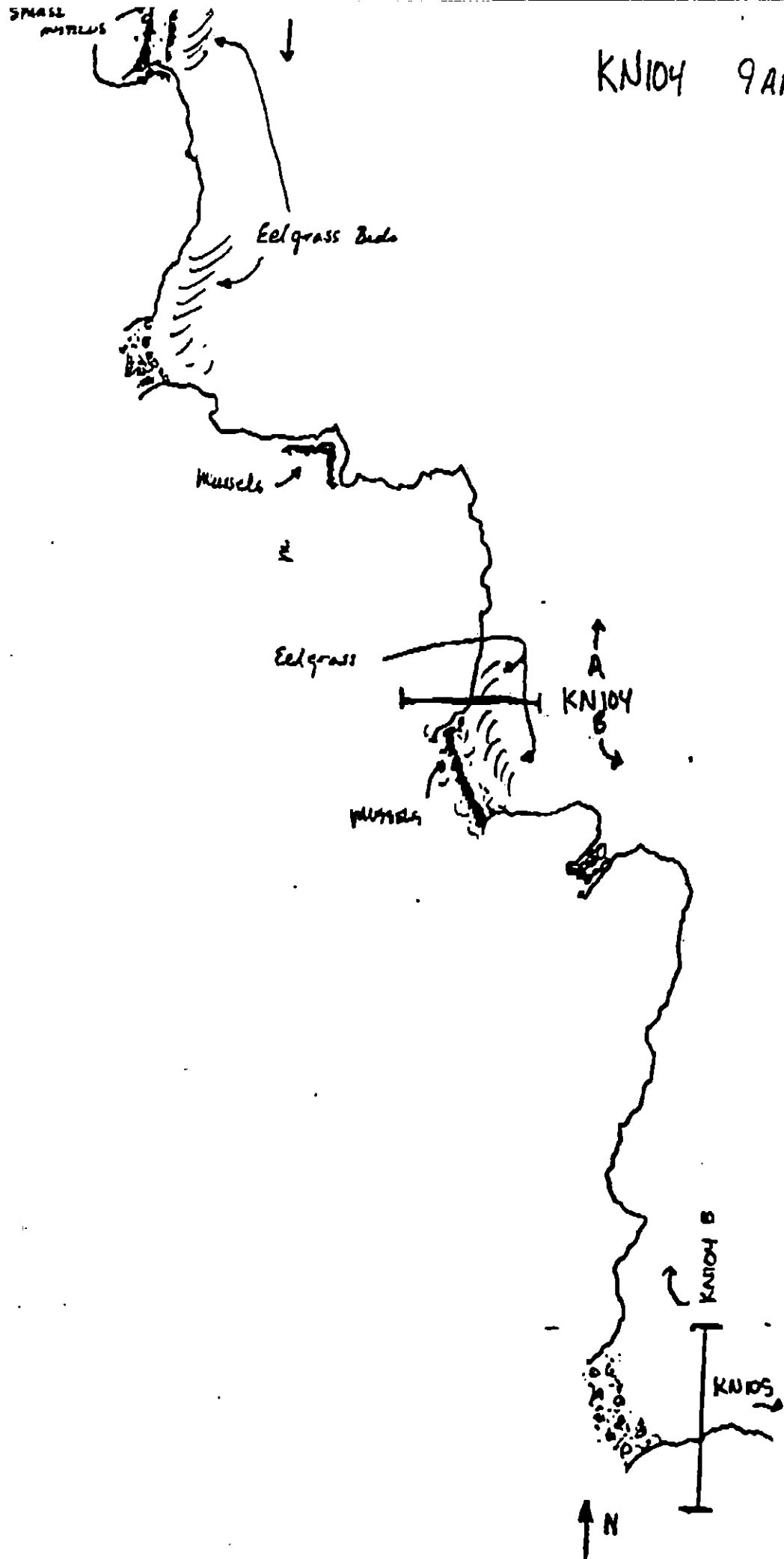
3) Sea Urchin
Strongylocentrotus droebachiensis ?

C. Marine Vertebrates

1) Fish: PNEUDAE M 23A
COTTIDAE S 12A

KN104 9 APRIL 1990

21



Remove
Tar Balls / Patties
UITZ / MITZ

OG C. Di...
 SEGMENT ST/KN-104
 SUBDIVISION A
 DATE 4, 9 90

SKETCH MAP #2

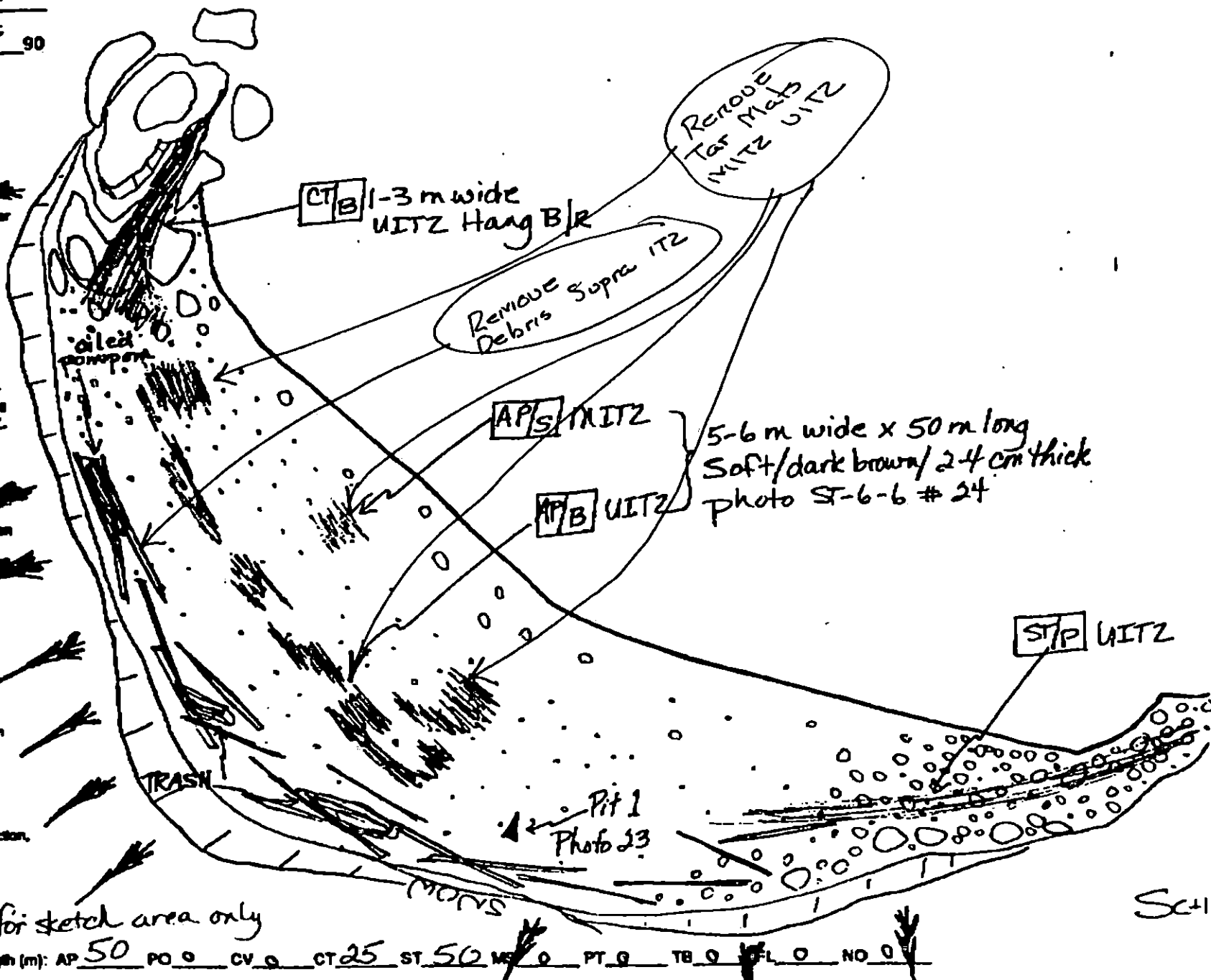


CHECKLIST

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

LEGEND

- No Substrate Oil
- Substrate Oil
- Continuous Distribution
- Broken Distribution
- Patchy Distribution
- Spotted Distribution
- Oil Vegetation
- Photo location, direction, and number



Oil lengths for sketch area only

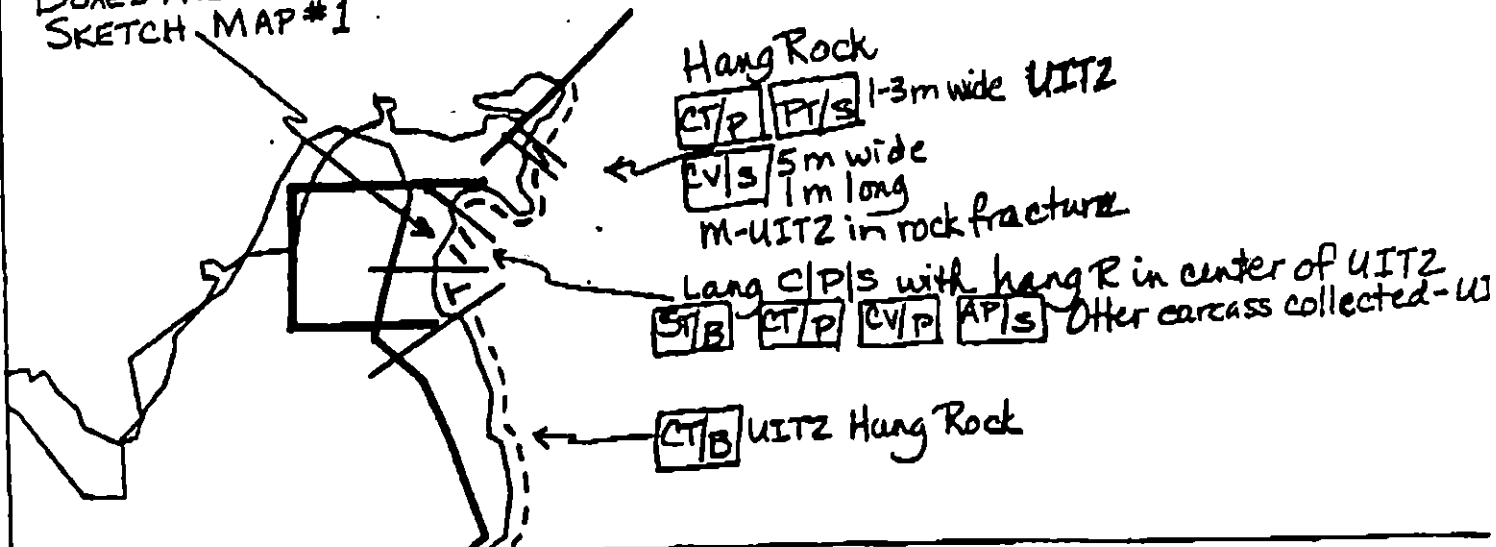
Oil Character Length (m): AP 50 PO 0 CV 0 CT 25 ST 50 MT 0 PT 0 TB 0 FL 0 NO 0

KN-102

KN-104-A Oil Character lengths (m)
AP 50 CV 50 CT 915 ST 350 PT 10

KN-104-A
1375 m

BOXED AREA ON
SKETCH MAP #1



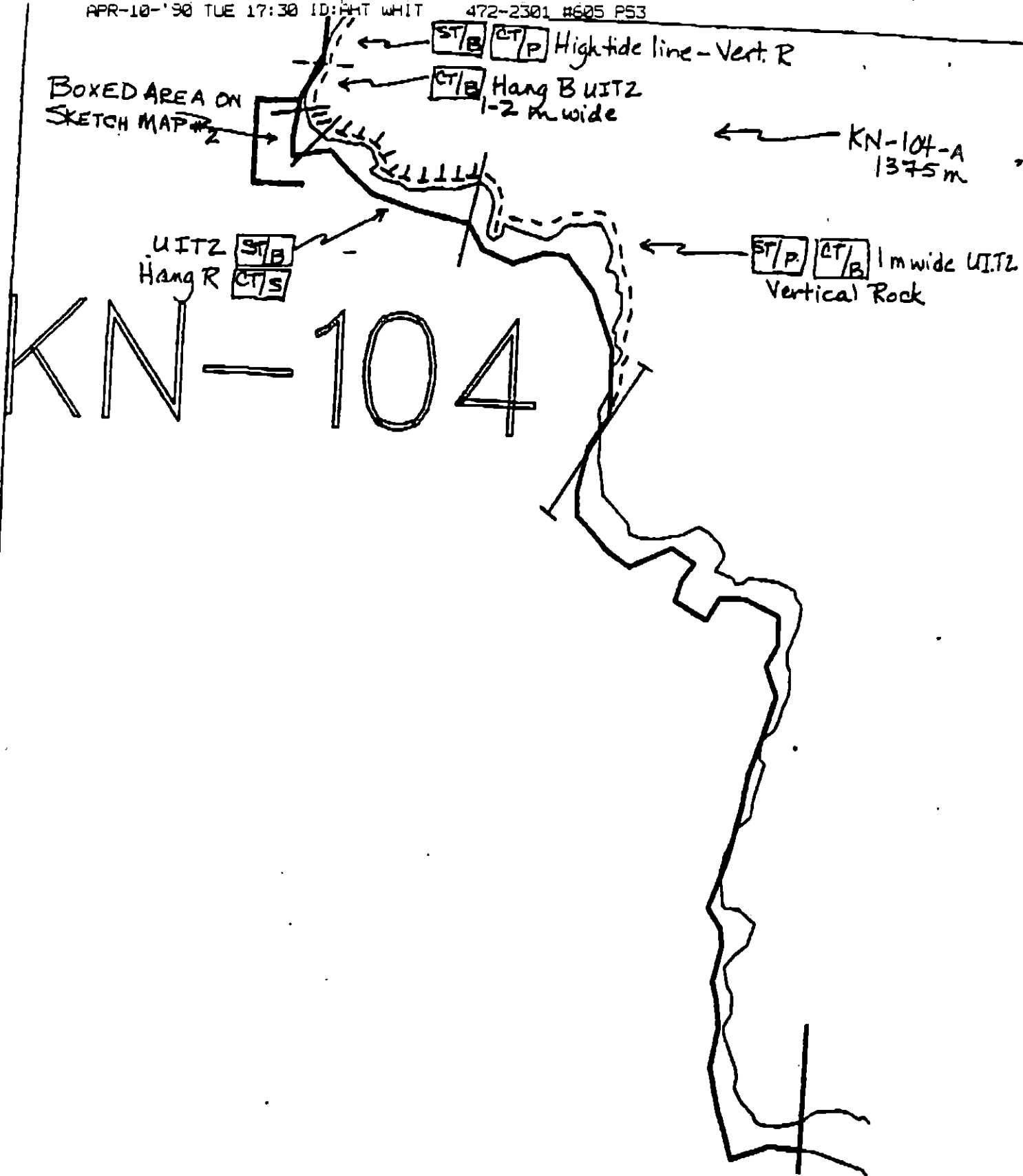
XXXX Wide
//// Medium
--- Narrow
TTTT Very Light
OOOO No Oil

KN-104

Exxon Segment Length: 2450m
ADEC Segment Length: 2211m



Map Key: PWS-284b
Name: C. Dillon
Date: 4/9-10/90
Data Entered:



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

AAAA H A'I

KN-104

EXXON SEGMENT LENGTH: 2450m

ADEC Segment Length: 2211m



Map Key: PWS-2840

Name: C. Dillon

Date: 4/9-10/90

Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-104 SUBDIVISION A (1 of 2)

WORK WINDOW	
Manual Pickup Tarmat Removal	CLOSED
Bioremediation Manual Raking	CLOSED

ARCHAEOLOGICAL MONITOR REQUIRED ON SITE.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T Bald Eagle Nest

USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to manual pickup, tarmat removal, bioremediation, and manual raking within USFWS designated buffer zone per 5/27/90 survey conducted by Mike Lockhart (see map).

OTHER ECOLOGICAL CONSIDERATIONS

Restrict air traffic and all disturbance to essential minimum. No personnel or boat traffic within 400m of active nests. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from active nests. Avoid any unnecessary disturbance or damage to uncollected biota and substrate.

FOSC

DATE

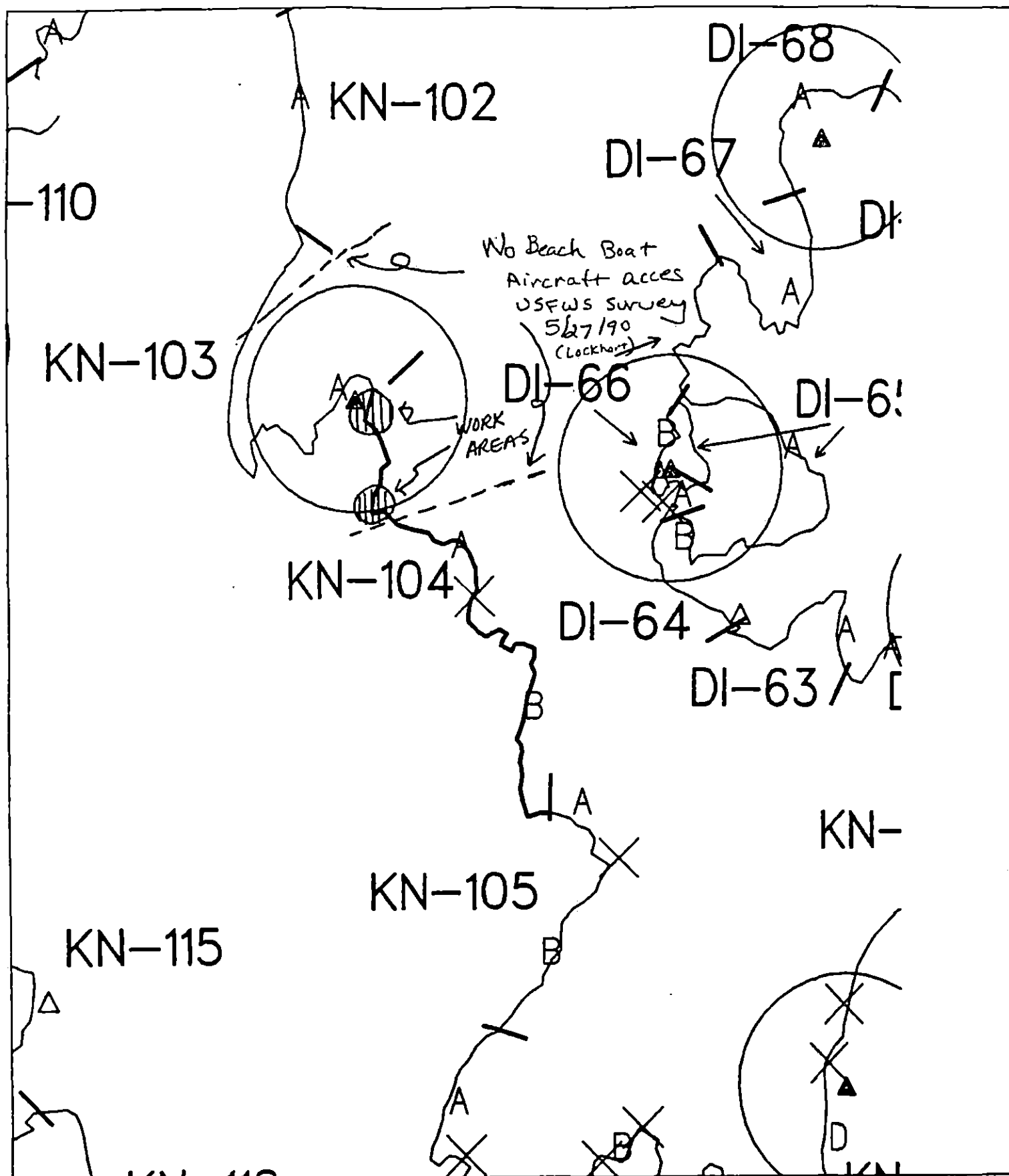
6-10-90

Prepared By:

W. Kelley

Date

6/9/90



Exxon Company, USA
Map Keys: P&S-KN-104

ECOLOGY MAP
SEGMENT KN-104
SUBDIVISION A (1 of 2)
METERS

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

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-104 SUBDIVISION B (2 of 2)

WORK WINDOW	
Manual Pickup Tarnat Removal	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T	Bald Eagle Nest	NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision ~~work~~ work site. WTK

OTHER ECOLOGICAL CONSIDERATIONS

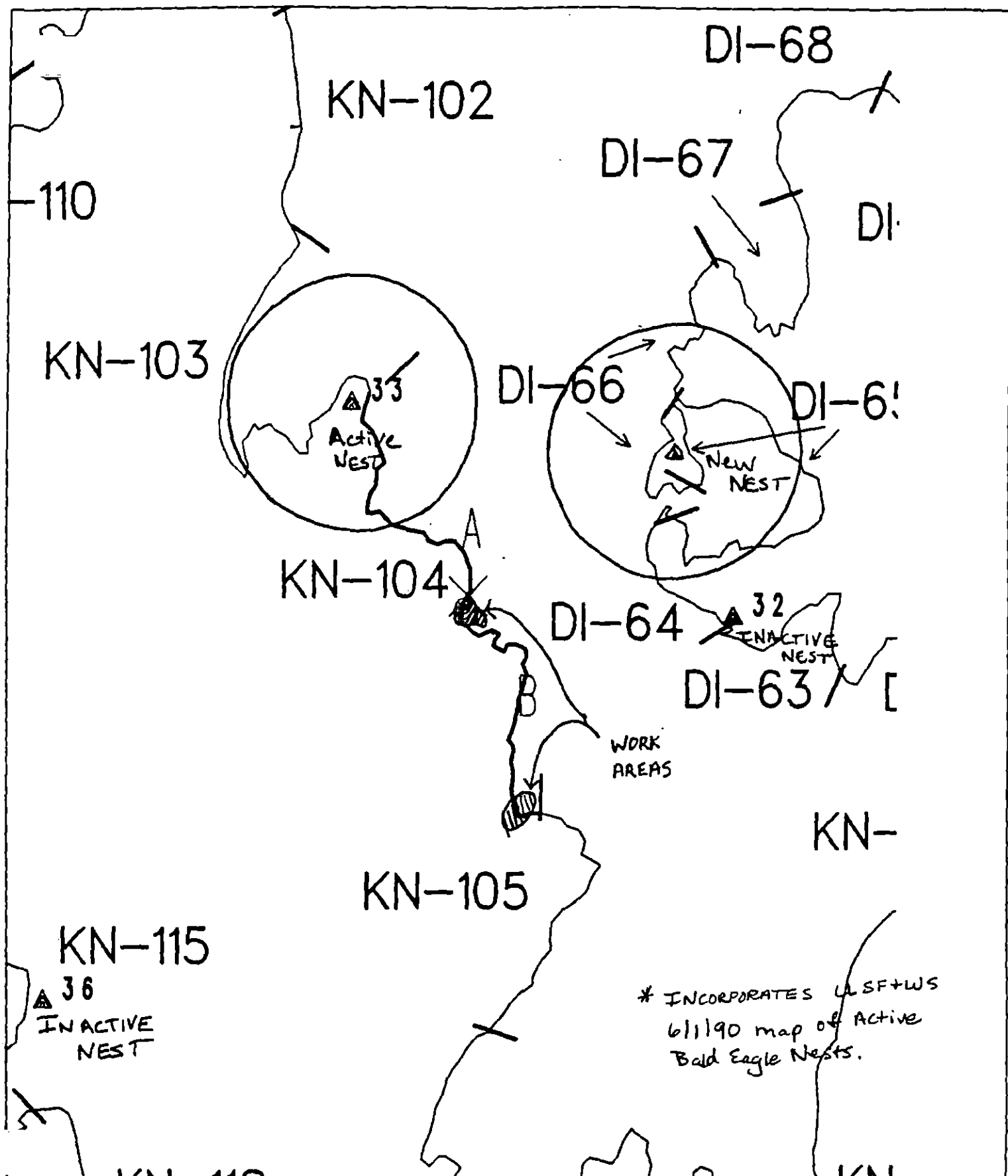
Avoid any unnecessary disturbance or damage to uncolled biota and substrate.

TAG APPROVAL DATE _____
ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC WTK DATE 6-10-90

Prepared By: WTK

Date 6/8/90



Exxon Company, USA

ECOLOGY MAP
SEGMENT KN-104
SUBDIVISION B (2 of 2)
METERS



Seabird Colony



Eagle Nest

SHORELINE EVALUATION

SEGMENT ST/ KN-105 SUBDIVISION A (1 OF 2) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

6U Recreation: Tent sites (6/1 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: 5/2/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 22 m: V.Light 290 m: No Oil 15 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS:

MANUAL PICKUP OF TARMATS AND BIOREMEDIATION OF COAT. MS
INDICATED ON SKETCH

TAG COMMENTS:

TAG APPROVAL DATE: 4/24/90.
ADEC ART WEINER
EXXON ANN TON
NOAA Joseph Telbott
USCG M. J. HALL

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

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 unholed 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 Subistence 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.

SEGMENT ST 1 KN105 SUBDIVISION: A (1 of 2) DATE 04-09-90

USCG

NAME AEC Vandepels SIGNATURE AEC Vandepels

☒ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS

I recommend no treatment. To labor intensive for such little gain.

ADEC

NAME Michele Baer SIGNATURE M Baer

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

- Manually removed asphalt splashes.*
- On SE part of section, the band of CT/s expands to 7m in width. Scrubbing of Bs is recommended.*
- No subsurface oil was found in between smaller shale.*

LAND MANAGER

NAME DAK LOGAN SIGNATURE Dak Logan

☐ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS

MANUALLY REMOVE ASPHALT SPLASHES AND SCRUB CT/S SECTIONS.

SHORELINE OILING SUMMARY

REVISION NO. 02/22/88

OG J. Springer USCG R. Vandepels SEGMENT ST/ KN-105
 BIO P. Crank LAND REP D. Logan SUBDIVISION A (1042)
 EXXON T. Tomblin ADEC M. Bager TIME 19:00 to 19:20
 TEAM NO.: 5 TIDE LEVEL: +1 to +1/2 DATE 04/09/90
 EST. SUBDIVISION LENGTH: 404 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☐ Foot ☒ Boat ☐ Helo WORKING DIRECTION: SE to NW
 SURFACE SEDIMENTS: R 70 % B 25 % C 5 % P 0 % G 0 % 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 0 m N 20 m VL 364 m NO 20 m

SURFACE OIL

CHARACTER	DISTRIBUTION					OIL / FILM COLOR					IMPACTED ZONES			
	IC	IR	IR	IR	IR	1	2	3	4	5	SU	U	M	U
ASPHALT PAVEMENT					X	X					X			
POOLED														
COVER														
COAT		X			✓	✓					X			
STAIN														
MOUSSE														
PATTIES														
TARBALLS														
FILM														
NO OIL											X	X	X	

PAVEMENT: H F (S) 40 sq. m by 2 cm

PATTIES / TARBALLS 0 BAGS

NEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NO

TYPE _____

#BAGS _____

Photographs:

Roll No. 57-5-5

Frames 9

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	OP	NO		UO	UC	1	2	3	4	5	SU	U	M	U		

COMMENTS

No pits dug boulders too big.

REVIEWED _____

DATE _____

OG J. Springer

SEGMENT KN-105

SUBDIVISION A

DATE 04/09/90

CHECKLIST

- ☒ All Areas
- ☒ Approx. Scale
- ☒ Map/Sub Entry
- ☒ Oil Dist.
- ☒ Width
- ☒ Length
- ☒ % Cover
- ☒ Substrate Character
- ☒ Est. HML/LWL
- ☒ SST
- ☒ Profile Location(s)
- ☒ Profile(s)
- ☒ Photo Location(s)
- ☒ Photo Location(s)

LEGEND

- 1 Δ
Pt - No Subsurface Oil
- 2 Δ
Pt - Subsurface Oil
- CT/C

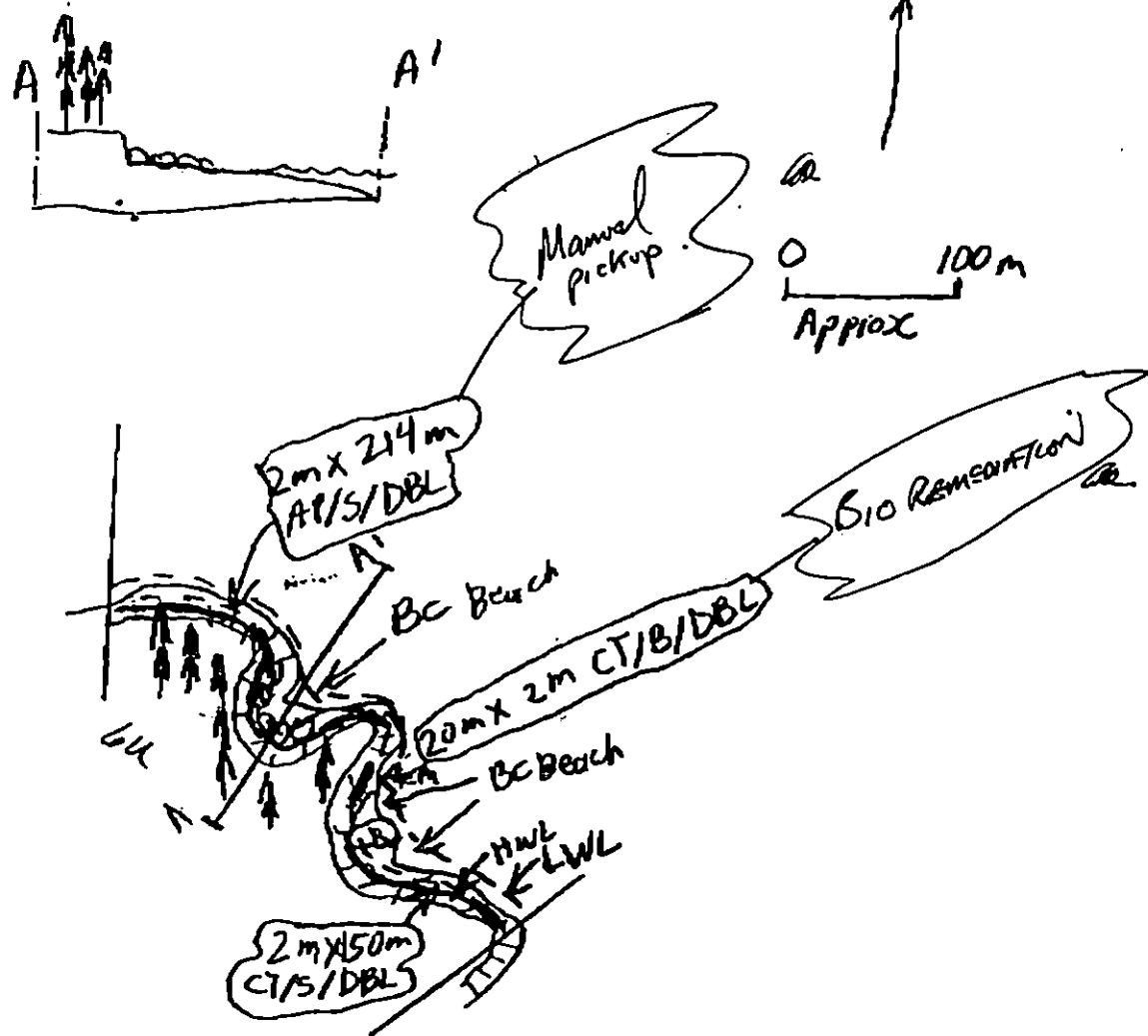
Continuous Distribution
- CT/B

Broken Distribution
- CT/P

Patchy Distribution
- CT/S

Splashed Distribution
- Oil Vegetation
- 1 $\Rightarrow$
Photo location, direction, and number

SKETCH MAP



Oil Character Length (m): AP 214 PO CV CT 170 ST MS PT TB FL NO 20

REVISION 02/04/90

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST/KN 105 Subdivision A Date (mo/day/yr) 4/9/90Time (24 hr) 1900-2020 Biologist Crank

pg 1 of 2

(A) Substrate type and % of segments:
(1) Bedrock 70 (2) Boulder 25 (3) Cobble 5 (4) Pebble (5) Sand (6) Silt (B) Overall % cover of biota (% of segment): Dense 30 Moderate 20 Low 50

(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-5-5Frames 9

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 - Otter Adult

4 - Alcids - unidentified

2 - Mergansers

Ecological Considerations:

6U - Tent Sites

- This subdivision has a high Fucus recruitment; gastropods are dense throughout zones.

- Agurris were in dense congregations under cobble in the LIT2 and MIT2 (see picture ST-5-5 #9).

- Mytilus are sparse throughout most of subdivision. There is a 50m x 5m discontinuous dense band on the steep boulder slope at the Northern end. (see OG map).

SEGMENT: ST/ KN 105 SUBDIVISION A LENGTH 404m BIOLOGIST Crank

DATE 7/9/90 TIME 1900-2020 TIDE HEIGHT 4.5 → +1

pg 2 of 2

1 - BEDROCK 2 - BOULDER 3 - COBBLE 4 - PEBBLE 5 - SAND 6 - SILT

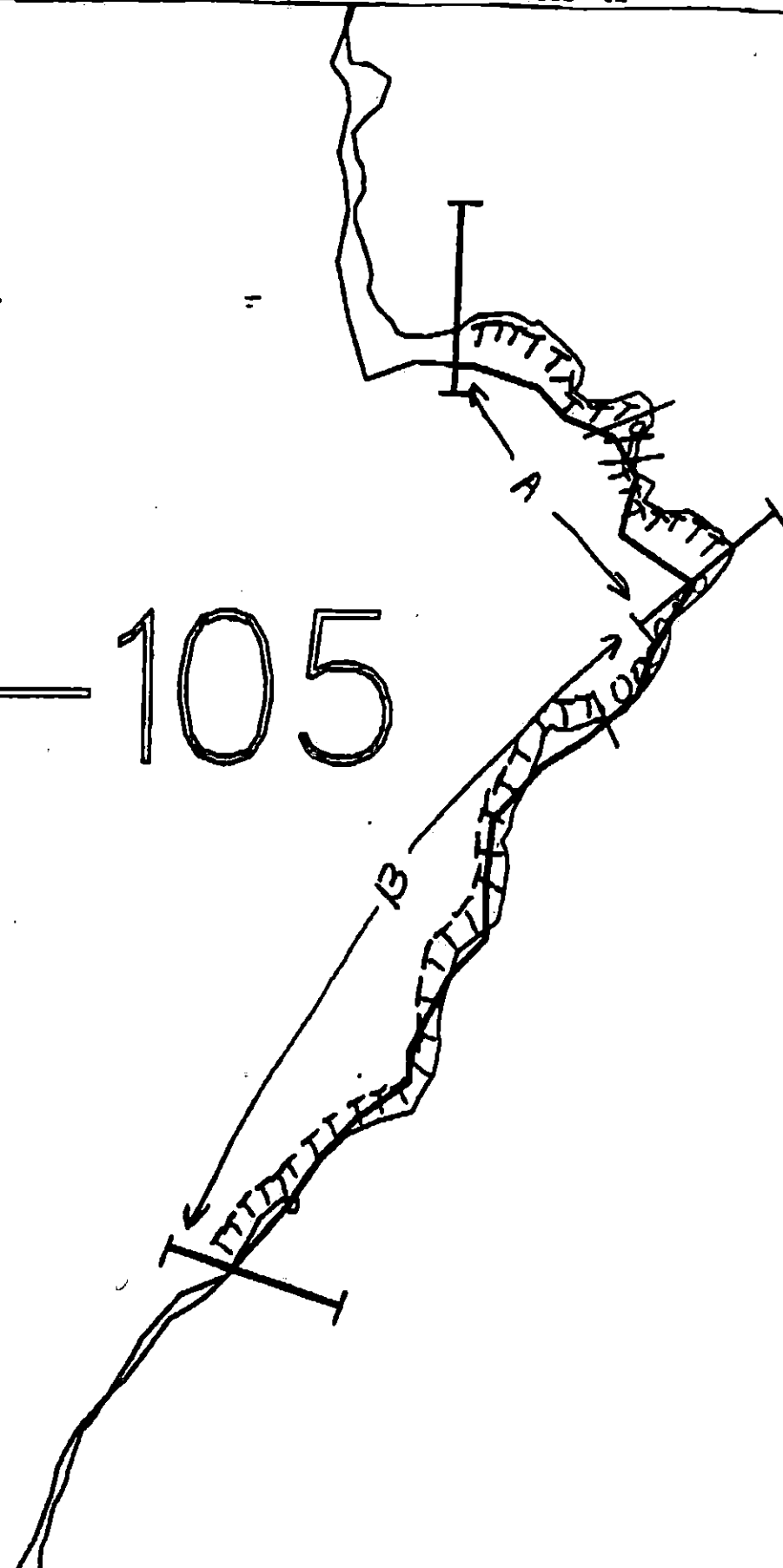
FLORA:

SPECIES	UTZ	MITZ	LITZ	COMMENTS
BOSSIELLA/CORALLINA				
CALLIARTHRON/CORALLINA				
CLADOPHORA SPP			23	
COSTARIA SPP				
ENDOCLADIA MURICATA				
FILAMENTOUS GREENS			123	
FILAMENTOUS REDS		1	123	
GLOIOPELTIS FURCATA				
HALOSACCION GLANDIFORME				
LAMINARIA SPP				
LITHOTHAMNION				
NEREOCYSTIS SPP				
PORPHYRA SPP		23	3	
RALPHSIA/HILDENBRANDIA				
RHODOMELA LARIX		1		
RHODOMENIA PALMATA		12		
SCYTOSIPHON SPP			23	
ULVA SPP			21	
ZOSTERA MARINA				
Enteromorpha			23	

FAUNA:

ANTHOPELURA SPP		1		
(SEM) BALUNUS CARIOSUS				
B. GLANDULA				
BRYOZOANS				
CHITONS (OTHER THAN K. TUNICATU)				
CLAMS				
CRABS				
DERMASTERIAS IMBRICATA				
KATHARINA TUNICATA				
LEPTASTERIAS HEXACTIS				
LIMPETS	127	123	231	
LITTORINA SPP	123	123	23	
NUCELLA SPP				
PAGURUS SPP			3	Dense
PISASTER OCHRACEUS				
POLYCHAETES				
PYRNOPODIA HELIANTHOIDES				
SEARLESIA DIRA				
SERPULIDS				
SIPHONARIA THERSITES				
TEALIA				
Hemiphyrsalis			3	

KN-105



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

KN-105

ADEC Segment Length: 1304

0 100 200 300

Map Key: PWS-285

Name: James Springer

Date: 4/9/90

SHORELINE EVALUATION

SEGMENT ST/ KN-105 SUBDIVISION B (2 OF 2) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Charles Z. H. Hines DATE: 4/25/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V. Light 611 m: No Oil 145 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>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: Recommended treatment includes 1) manual pick up of debris and mousse, 2) tarmat removal and 3) bioremediation of oil-coat and stain areas (see attached sketch map for locations).

TAG COMMENTS:

TAG APPROVAL DATE: 4/24/90
ADEC Art Weiner
EXXON Amy Tate
NOAA Joseph T. Bott
USCG M. J. Hall

FOSC: W L DATE: 5-8-90

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.
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
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 1 KN105 SUBDIVISION: B DATE 04-09-90

USCG

NAME AEC Vandepelt SIGNATURE AEC Vandepelt

☒ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS

I recommend no treatment. Too labor intensive for what would be gained.

ADEC

NAME Michele Paer SIGNATURE Michele Paer

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

KN105B is a low energy zone with B fields and E, C beach. A bathtub ring of ST₃ and ~~ST₂~~ continues throughout the segment. The ring is about 5 cm wide. Areas of AP/P were found in the Northern part of the segment. I recommend manual removal of the asphalt patches, scrubbing (with a wire brush) the areas of heavier coat on the boulders, and tar splashes. No subsurface oil was found.

LAND MANAGER

NAME DAN LOGAN SIGNATURE Dan Logan

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

MANUALLY REMOVE TAR SPLASHES / ASPHALT SPLASHES.

SHORELINE OILING SUMMARY

REVISION NO. 08/23/92

OG J. Springer USCG R. Vandepels SEGMENT ST/ KN-105
 BIO P. Crank LAND REP D. Logan SUBDIVISION B (2 of 2)
 EXXON T. Tomblin ADEC M. Beer TIME 17:45 to 19:00
 TEAM NO.: 5 TIDE LEVEL: +9 to +1 DATE 04/09/90
 EST. SUBDIVISION LENGTH: 900 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock metaconglomerate & pillow lava
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: SW to NE
 SURFACE SEDIMENTS: R 20 % B 50 % C 20 % P 10 % 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 690 m NO 210 m

SURFACE OIL

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

PAVEMENT: H F ② 4 sq. m by 2 crPATTIES / TARBALLS 10 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-5-5Frames 4-8

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	1	2	3	4	5	6	7	8	BU	U	M	V		
1	20					X	.		X												X		PGSM
							.																
							.																
							.																
							.																
							.																

COMMENTS Surveyed the first ~200 m of KN-106 during first ~1/2 hour.

OG J. Springer

SEGMENT KNJ05

SUBDIVISION B

DATE 04/09/90

CHECKLIST

- ☐ N Area
- ☐ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HWA/LWL
- ☐ SEL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pk Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ
Pk - No Subsurface Oil

2 Δ
Pk - Subsurface Oil

$\boxed{CT/C}$
Continuous Distribution

$\boxed{CT/B}$
Broken Distribution

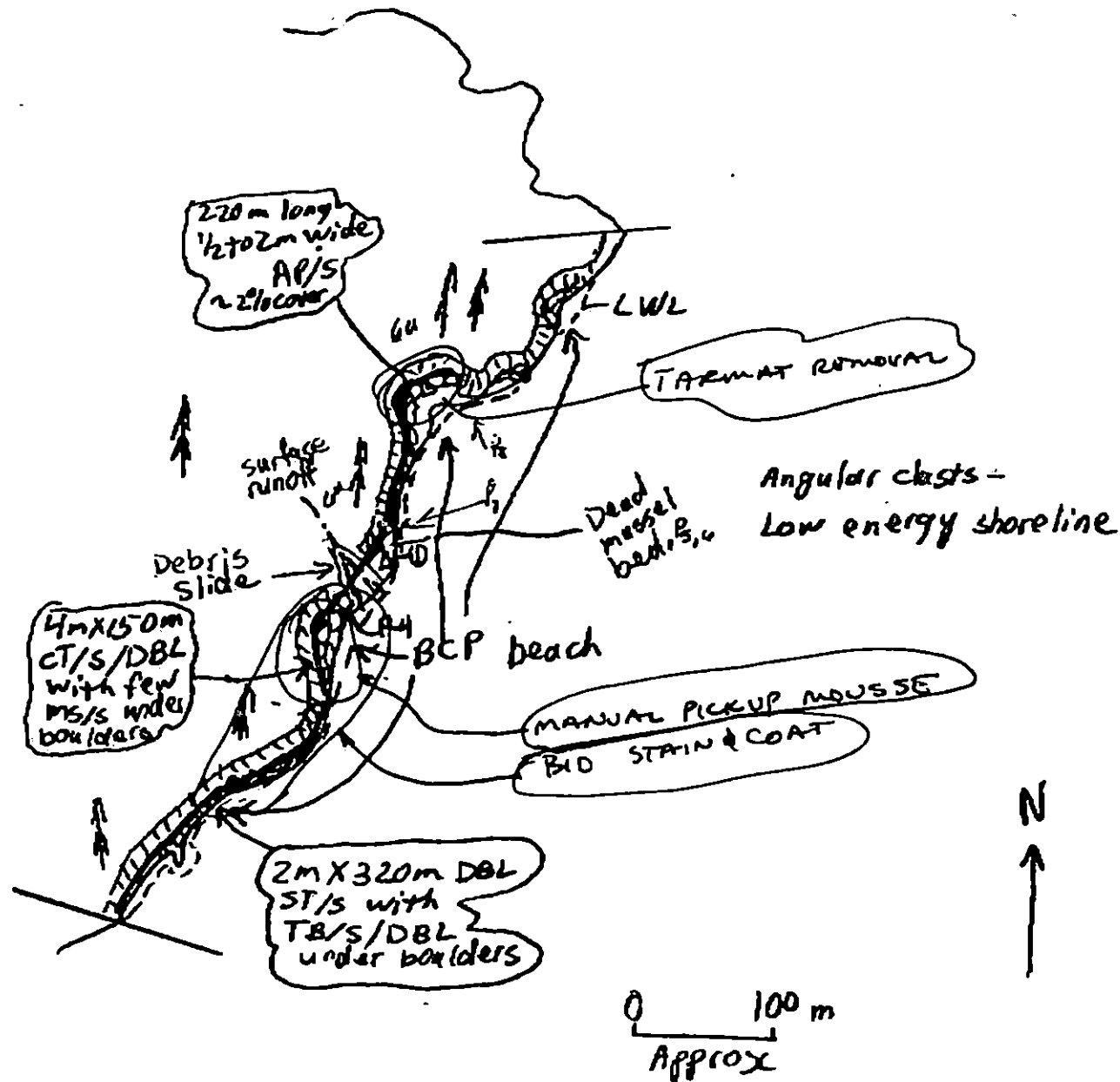
$\boxed{CT/P}$
Patchy Distribution

$\boxed{CT/S}$
Splashed Distribution

Oil Vegetation

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

ETCH MAP



Oil Character Length (m): AP 220 PO CV CT 150 ST 320 MS PT TB FL NO 210

REVISED 04/90

SEGMENT: ST/ KN105 SUBDIVISION B LENGTH 900 m BIOLOGIST Crank.

DATE 4/5/90 TIME 1750-1900 TIDE HEIGHT +3.5 → +1.5

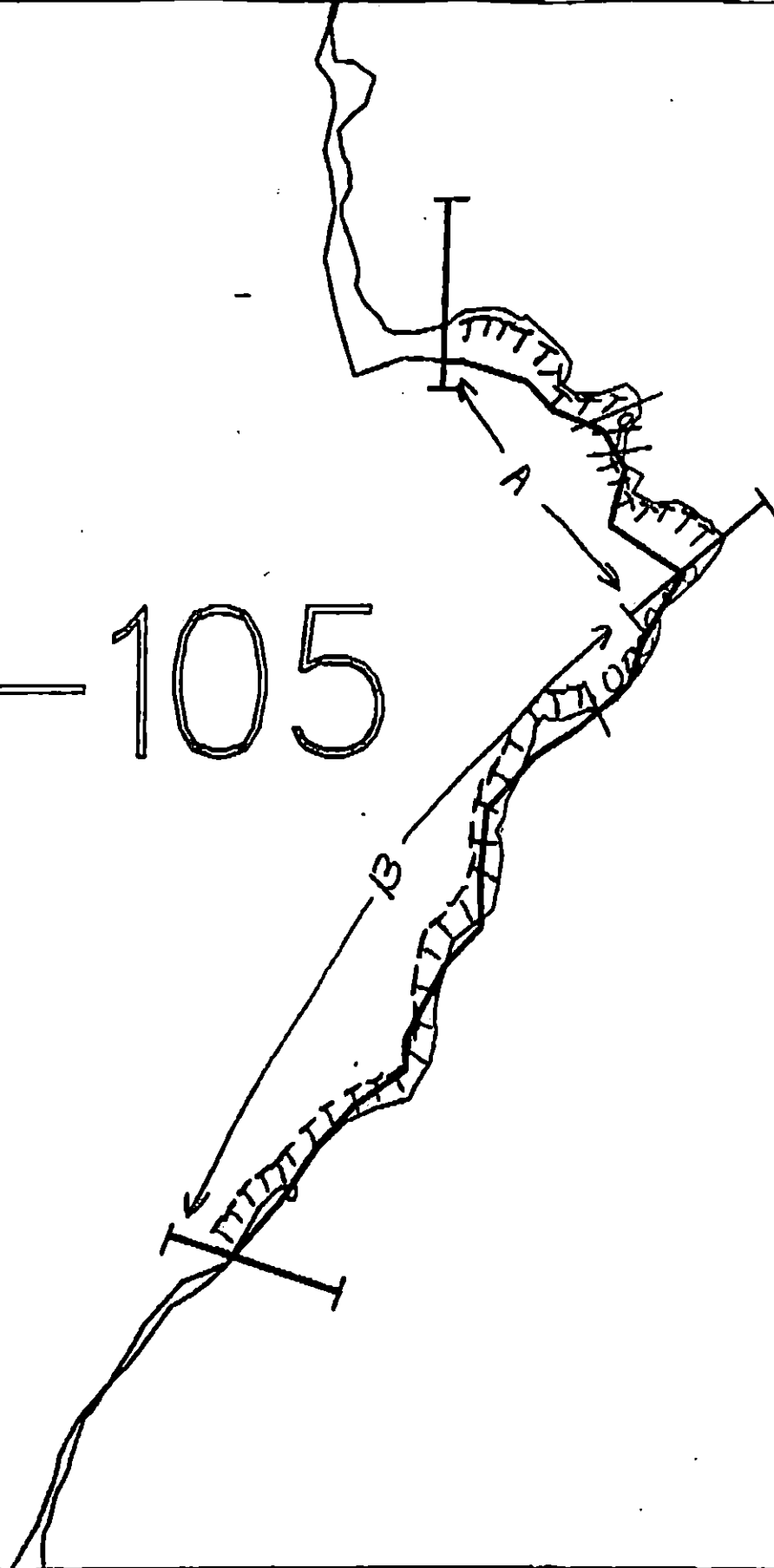
1-BEDROCK 2-BOULDER 3-COBBLE 4-PEBBLE 5-SAND 6-SILT

FLORA:

[illegible]

FAUNA:

KN-105



XXXX Wide

//// Medium

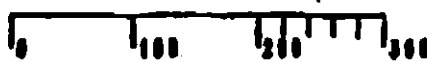
--- Narrow

TTTT Very Light

oooo No Data

KN-105

ADEC Segment Length: 1304



Map Key: PWS-285

Name: James Springs

Date: 4/9/90

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-106 SUBDIVISION A (1 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-10-16890

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)

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to uncoiled biota and substrate. Do not trample or otherwise damage mussel bed.

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

OILING CATEGORIZATION:

Wide 0 m: Medium 53 m: Narrow 23 m: V.Light 177 m: No Oil 435 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>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)

COMMENTS: Manual pick up of mousse followed by bioremediation as indicated on sketch map. Work should be conducted between 5/16 and 7/9 based on above salmon constraints. Contact ADF&G for salmon constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/23/90
ADEC Art Weiner
EXXON Andy T. H.
NOAA Joseph B. H.
USCG Kenneth Keane

FOSC: DATE: 5-6-90

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 uncultivated 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
- 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 / KN106 SUBDIVISION: A DATE 04-09-90

USCG

NAME

SIGNATURE

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

I suggest bio. sprayed around cobbles and boulders

ADEC

NAME

SIGNATURE

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

KN106 is in good condition. Sub-segment A + B has the heaviest coverage with ^{5-20cm} of mousse penetrating under the Bs. The mousse is only under the Bs, not in between or on top, so the fertilizer would have to be concentrated into the spaces rather than a coat on the surface of the Bs. Manual scrubbing is recommended on the 2m x 15m C/P band at the end of the sub-segment A. This area is low energy and had a wide band of coverage reported in fall. The only visible oil upon entering the beach is a 5cm drip of TAR and STAIN at the waterline. The tarballs and mousse patches are infrequent throughout the rest of KN10. With the exception of sub-segment A, I would consider the rest of the segment low priority.

LAND MANAGER

NAME

SIGNATURE

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

HAND REMOVE TAR BALLS AND SCUD BAND ON NORTH BEACH

THE MOUSSE ON THE SOUTHERN BEACH IS ON COBBLES UNDERNEATH CLEAN BOULDER AND ROCKS. THE COBBLES ARE WELL AERATED AND THE MOUSSE PENETRATES TO A DEPTH OF 5 CM. I THINK A FERTILIZER APPLICATION THAT IS CAREFULLY SPRAYED UNDER THE BOULDERS WILL BE ADEQUATE.

SHORELINE OILING SUMMARY

REVISION NO. 02/23/88

OG J. Springer USCG R. Vandepels SEGMENT STI KN-106
 BIO P. Clark LAND REP D. Logan SUBDIVISION A(1095)
 EXXON T. Tumbler ADEC M. Baer TIME 20:00 to 20:15
 TEAM NO.: 5 TIDE LEVEL: +1 to +1 DATE 04/09/80
 EST. SUBDIVISION LENGTH: 600 m ☐ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: NW to SE
 SURFACE SEDIMENTS: R 40 % B 30 % C 20 % P 10 % G % S % M % V %
 SLOPE: Long 50 % Hang 45 % Vert 5 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 3 m M 30 m N 15 m VL 200 m NO 355 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR				IMPACTED ZONES			
	C	B	P	M	W	Y	OR	BL	SU	U	M	N
ASPHALT PAVEMENT												
POOLED												
COVER												
COAT	X		V		X				X			
STAIN			X		X				X			
MOUSSE			X				X		X			
PATTIES												
TARBALLS												
FILM												
NO OIL									X		X	X

PAVEMENT: H F S sq. m by cmPATTIES / TARBALLS 3 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-5-5Frames 10

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			W	Y	OR	BL		SU	U	M	N		
1	20	X					5-20	X				X		X					BC

COMMENTS Surveyed north ~200 mi. from 17:45 to 18:15.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 6/22/91

Segment ST / KN 106 Subdivision A Date (mo / day / yr) 4/9/92

Time (24 hr) 2000-2020 Biologist Carl

pg 1 of 2

(A) 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 40 Moderate 20 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: 110 p.
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:

2 Grebes
2 Mergansers
1 pair Barrow's Goldeneye

- Dense intertidal mussel bed in and around fresh H₂O stream. Low recruitment.

- Much is a drift collection pocket. Many logs in SURF and dense drift fucus in U172.

- Moderate silt bed - Prototheca: Salinaria

Ecological Considerations:

64 - Special Use Designation

64 - Tentative

18 - Reported for Segment, Although Freshwater silt in site located on subdivision Salmon potential was low.

OG J, SP iER

TCH MAP

SEGMENT S11 KN-106

SUBDIVISION A

DATE 04 / 09 / 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

1 ▲

PH - No Subsurface Oil

2 ▲

PH - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

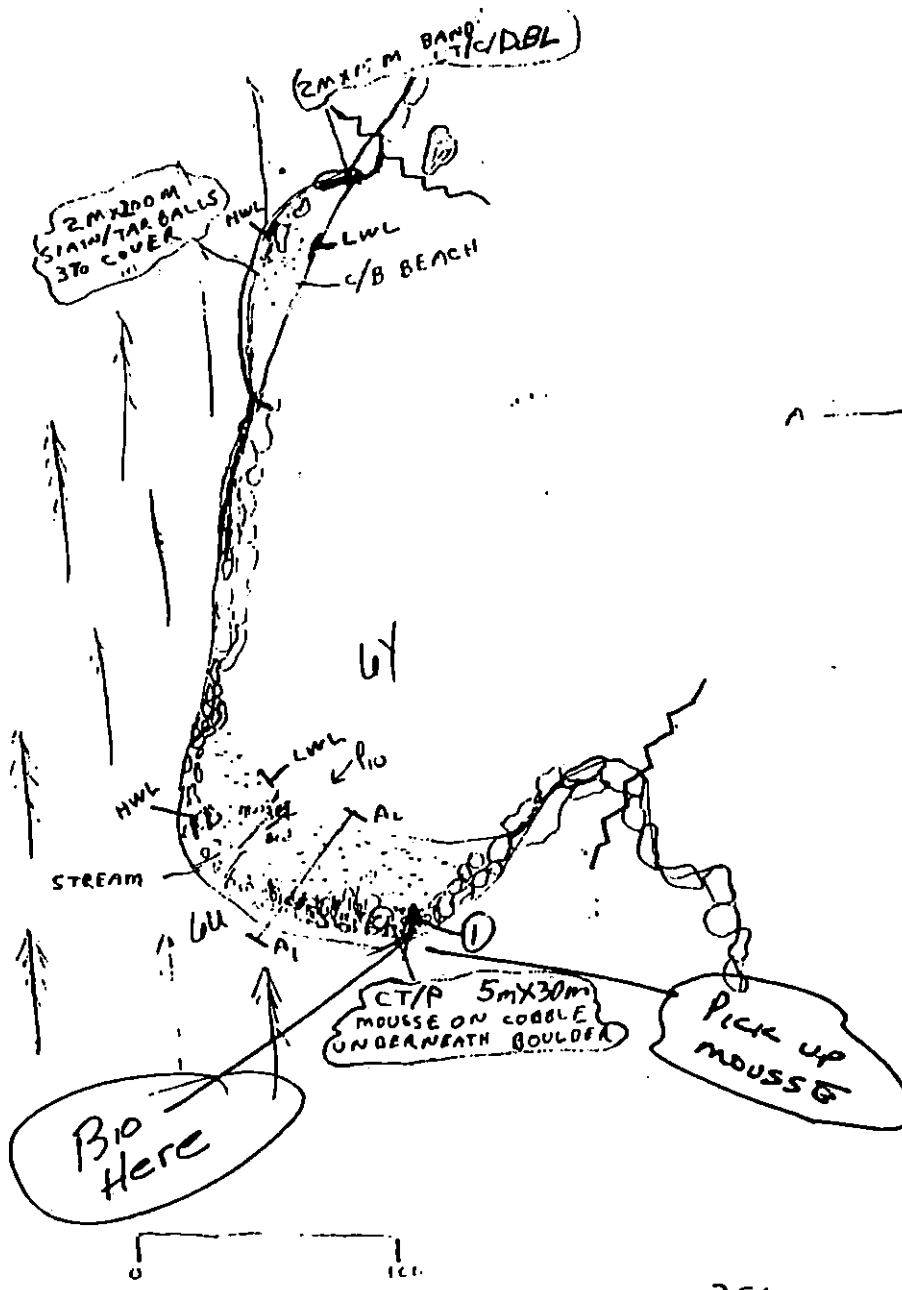
CT/S

Splashed Distribution

Oiled Vegetation

1 ➡

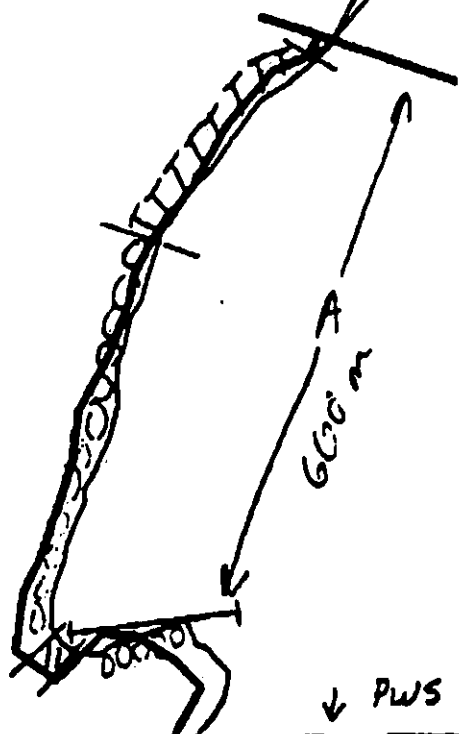
Photo location, direction,
and number



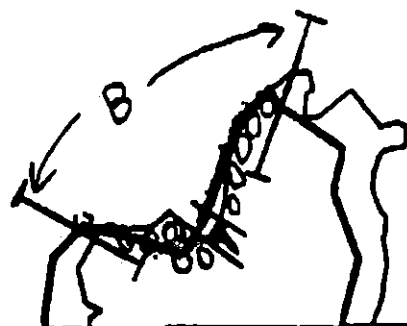
Oil Character Length (m): AP _____ PO _____ CV _____ CT 45 ST 200 MS _____ PT _____ TB _____ FL _____ NO 355

REVISION: 23/24/98

KN-105



↓ PWS 286A



PWS
286D -

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

KN-106

ADEC Segment Length: ¹⁰¹⁵²~~10152~~

0 100 200 300
 METERS



Map Key: PWS-286c
 Name: James Spring
 Date: 04/09/93
 Date Entered:

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-106 STREAM NO: 226-10-16890 DATE 4/27/90

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)
6Y Recreation: Special use destination
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 or damage to uncoiled biota and substrate. Subject stream is located within an unsurveyed subdivision (U, one of 4 unsurveyed subdivisions and 5 surveyed subdivisions).

SHPO SIGNATURE: Loche Jean O'Leary DATE: 5/15/90

Subsurface Oil Observed: Yes _____ No X Maximum Depth _____

RECOMMENDATIONS:

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

COMMENTS: _____

TAG COMMENTS: MANUAL PICKUP OF TARPATTIES/TARPALLS AS INDICATED ON SKETCH.

TAG APPROVAL DATE: 5/9/90
ADEC Art Weimer
EXXON Art Weimer
NOAA Burt Wescott
USCG D.D. Rome

FOSC: [Signature] DATE: 6 June 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 6/15)
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 (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 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, or 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 (8/1 to 9/15)
6V Anchorages (8/1 to 9/15)
6W Forest Service cabins (8/1 to 9/15)
6X Lodge (8/1 to 9/15)
6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
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 267-2350

17/5

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN-106 SUBDIVISION: ASC# 10 226-12-16890 DATE 27 APR 96

USCG

NAME Kerwin L. Drohan SIGNATURE CWO K. L. Drohan

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

ADEC → **ADPSC**

NAME Aimee Weseman SIGNATURE Aimee Weseman

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

LAND MANAGER → **NONE**

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

OG GAL LARSON USCG DRIVER, C.W.E SEGMENT STI KN/06
 BIO KEN LITCHELLOW LAND REP 3 PT STREAM 226-98-1621
 EXXC: AL-SUR ADFG 226-98-1621 WHESEMAN TIME 10:45 to 11:45
 TEAM NO. 74 TIDE LEVEL DATE 4/27/90
 EST. SUBDIVISION LENGTH: 70 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo
 SURFACE SEDIMENTS: R 10 % B 30 % C 20 % P 20 % G 10 % S 10 % M 0 % V 0
 SLOPE: Long 70 % Hang 30 % Vert 0 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ H
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 0 m NO 0

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	R	B	P	C	W	G	S	M	V	SW	SH	SL	U
ASPHALT PAVEMENT													
POOLED													
COVER													
COAT													
STAIN													
MOUSSE													
PATTIES													
TARBALLS													
FILM													
NO OIL													

PAVEMENT H F S 0 sq m by 0

PATTIES/TARBALLS 0

NEAR SHORE SHEEN? NO BR RW SL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

Did You Col DEBRIS
☐ YES ☐ NO

TYPE 0

#BAGS 0

Photographs:

Roll No. 10

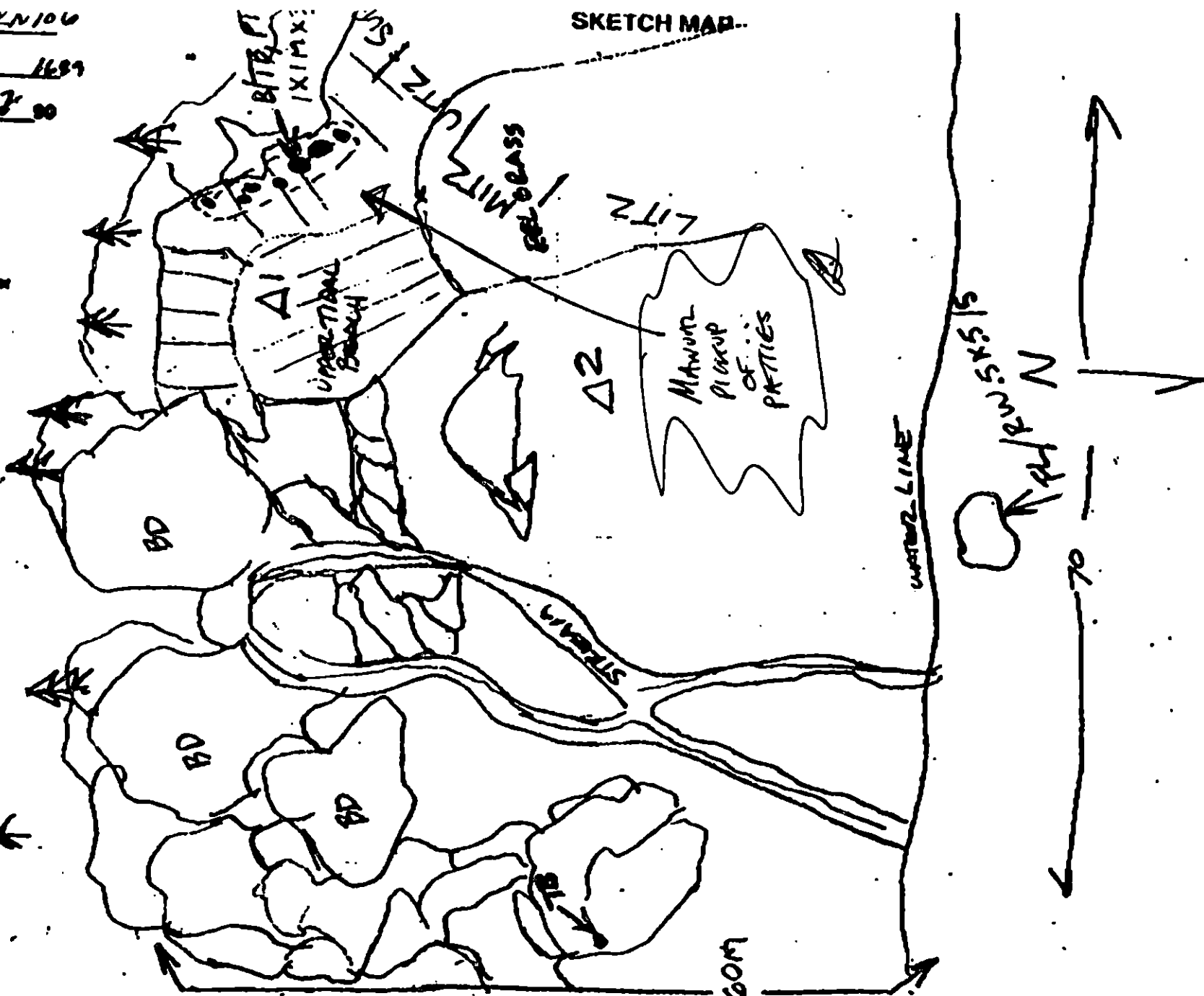
Frames 1-8

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 SUBSURF SEDIMENT
		OP	OR	OL	OF	NO		NO	NO	W	G	S	M	V	SW	SH	SL	U				
1	12																					AS 0.2, 3.0 PB 6.0, 5.0
2	15																					PB 5.0, 5.0 PB 3.0

COMMENTS OBSERVED 5 SUB OTTLES IN OTHER CORAL AREA.
 OBSERVED SMALL RAIN BOW SHEEN 30 METERS FROM SHORE
 .5X.5²

REVIEWED JW DATE 4-29-90



11/5,

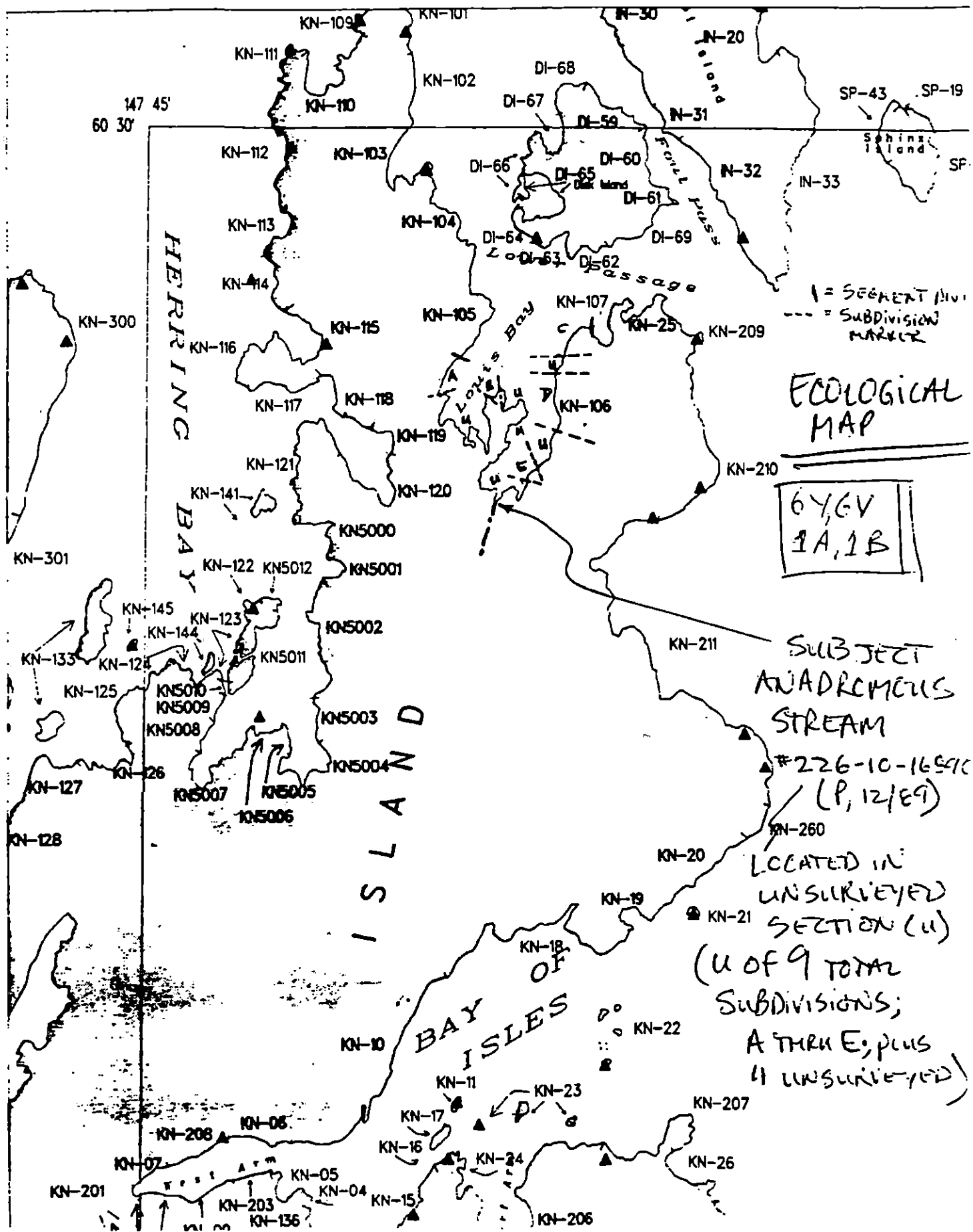
Seg ID: KN-106 Subdiv: 226-10-16890
Survey Date: 4/27/90
Comments by: Ken Critchlow

This stream site is characterized by a narrow band of broken patties and tarballs in the ST on the right side of the stream. The pocket beach containing the stream is a very productive and diverse intertidal area.

I suggest that no treatment be done; however, if the site is cleaned, a two person crew using shovels and trowels could accomplish the job in two hours.

KR Critchlow

SEWARD EAGLE NESTS AND



18
1/4

ADFCO MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: BS (S) DE TS AVS JCM NMS PTA2 REGION: (P) KP, CI K, APMETHOD: Aerial (Ground) Boats3 DATE: 4-27-9015 HIGH TIDE TIMES: 121 TEAM RECORDED: James Wesem4 START TIME: 105016 HIGH TIDE HTS: 122 OBSERVERS: Rick Gustin5 STOP TIME: 111517 LOW TIDE TIMES: 123 AGENCY: ADFCG6 SEGMENT #: KN-10618 LOW TIDE HTS: 124 PHOTOS TAKEN: Y (N)

7 STATION #: _____

19 TIDE HT AT SURVEY: _____

Roll #: _____ Frames: _____

8 K-UNIT: _____

Ebb Slack Flood Slack

25 VIDEO TAKEN: Y (N) TAPES: _____

9 STAT AREA: _____

20 USCG QUAD: S-B2

Starts: _____ Ends: _____

10 LAT: _____

11 LONG: _____

26 SAMPLES TAKEN: Y (N) NUMBER: _____12 SOURCE: (Map) Loran

Oil: _____

13 LOCATION: Knight I - southern arm Louis Bay

Sediment: _____

14 DESCRIPTION: _____

Biological: _____

Water: _____

EXTENT OF OIL

	SHORELINE				STREAM			
	L	V	N	S	L	V	N	S
27 SURFACE COVERAGE	.5-	.6-						

36 CATALOGED ANAD. FISH BREAST (P) N

28 SURFACE THICKNESS								
29 PENETRATION								

37 CATALOG #: 226-10-16890

38 STREAM NAME: _____

30 OVERALL OIL IMPACT: N (P) L N N39 OIL IN STREAM BED: Y (P)31 OIL TYPE: Pooled Mousse (TSP) Asphalt Sludge (Slate)40 OIL ON STREAM BANK: Y (N)32 OILED DEBRIS: Y (N)41 OIL ON BEACH ADJACENT TO MOUTH: (Y) N
(within 50 meters)42 OIL WITHIN 1 MILE OF STREAM: (Y) N33 SHORELINE TYPE: Hardened Low-lying Rocks (Beach) (Cave)
Lagoon Marsh

Shore: _____

43 ANADROMOUS FISH PRESENT: Y N

34 WAVE EXPOSURE: High Moderate Low

44 ANADROMOUS FISH OBSERVATION
Species Aerial Ground35 SUBSTRATE TYPE: Bedrock 40 Boulder 20 Cobble 15
Gravel 25 Sand _____ Mud/silt _____

COMMENTS: very rich intertidal zone
several small mussel patches were noted in the LITZ on west side of
stream & 1 patch on the east side

ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 226-10-16890

SEGMENT KN-106 SUBDIVISION A

WORK WINDOW	
Manual Pickup	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

ADF&G catalogued anadromous stream (226-10-16890) is in this Subdivision. No constraint to manual pickup.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or banks. Avoid any unnecessary disturbance or damage to uncolled biota and substrate.

SEE SUBDIVISION CONSTRAINT ADDENDUM KN-106A
FOR ADDITIONAL CONSTRAINT INFORMATION.

FOSC

[Signature]

Date

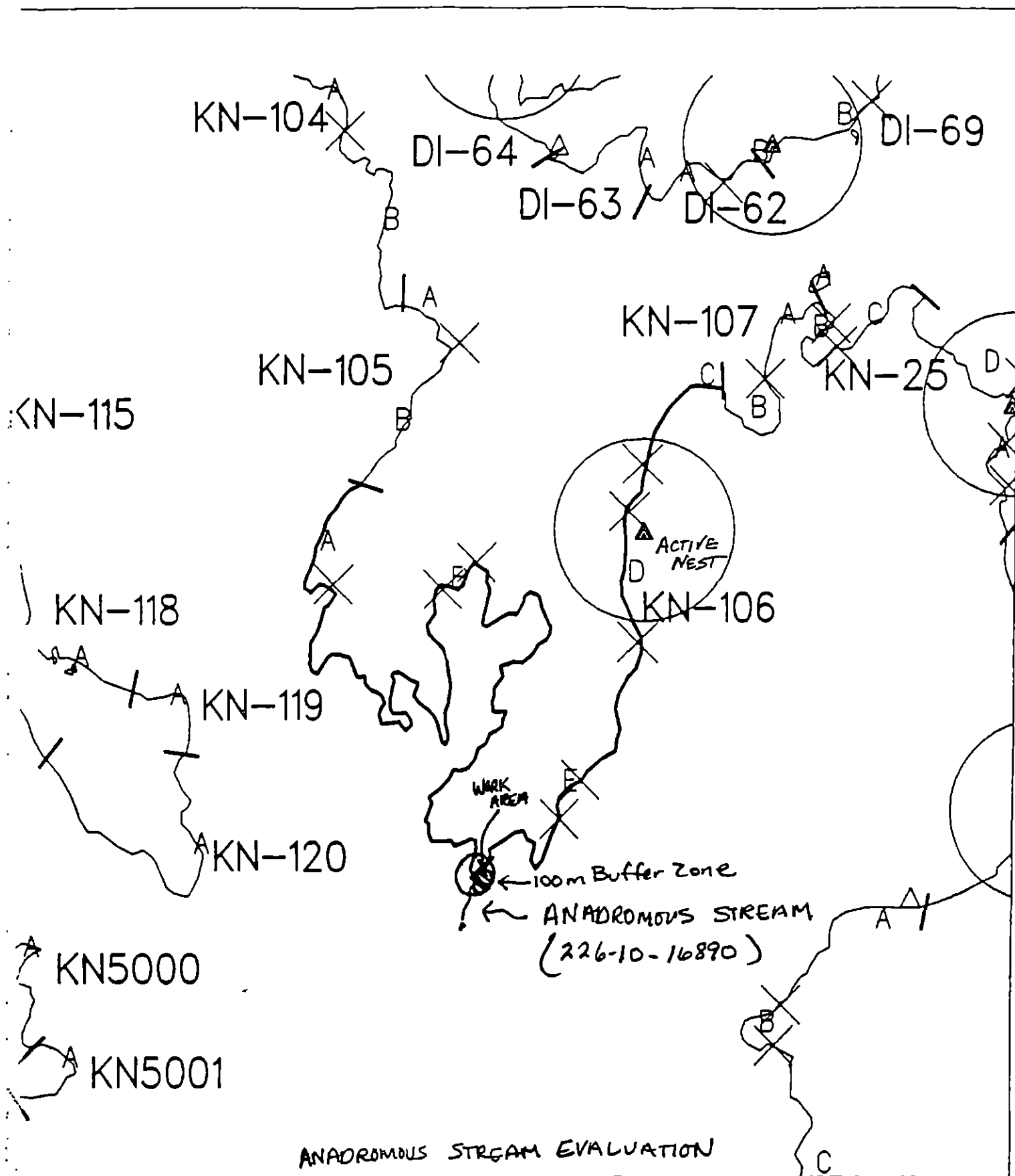
6/13/90

Prepared by

[Signature]

Date

6/12/90



Exxon Company, USA
Map Key: PMS-KN-106
June 09, 1990



ECOLOGY MAP
SEGMENT KN-106
SUBDIVISION *unsurveyed section*
METERS
0 500 1159

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

1 inch = 1902 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-106 SUBDIVISION B (2 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-10-16890

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)

6Y Recreation: Special use destination

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 Z. Holmes DATE: 5/3/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 25 m: No Oil 222 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)

+ TARBALLS.

COMMENTS: Manual pick up of mousse followed by bioremediation as indicated on sketch map. Work should be conducted between 5/16 and 7/9 based on constraints.

TAG COMMENTS: DELETE BIOREMEDIATION DUE TO LACK OF OIL AND DENSE BIOTA

TAG APPROVAL DATE: 4/23/90

ADEC ART WEINER

EXXON ANDY GIL

NOAA Joseph T. Kell

USCG KENNETH KEANE

FOSC: WJL DATE: 5-8-90

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.
- 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
- 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 106 SUBDIVISION: B DATE 10 April 90

USCG

NAME AEC Vandepels SIGNATURE AEC Vandepels

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Manual pickup of mousse patties and bio.

ADEC

NAME Michelle Fair SIGNATURE M Fair

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

- Manual pickup of mousse patties
- Breakup and pickup of tarballs
- In a few areas the tar drips to the underlying B's, but these areas are infrequent and small
- No subsurface oil was found

LAND MANAGER

NAME DAN LOREN SIGNATURE Dan L

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

THIS AREA IS LOCATED IN AN EXCELLENT ANCHORAGE AND MIERATE TO POOR TENT SITE.

I RECOMMEND REMOVING TAR BALLS AND MOUSSE OR APPLYING FERTILIZER

SHORELINE OILING SUMMARY

REVISION NO. 06/22/88

OG J. Springer USCG R. Vandepols SEGMENT ST/ KN-106
 BIO P. C. Cank LAND REP D. Lagan SUBDIVISION B (2 of 5)
 EXXON T. Tomblin ADEC M. Boer TIME 20:20 to 20:40
 TEAM NO.: 5 TIDE LEVEL: +1 to +2 DATE 04/09/80
 EST. SUBDIVISION LENGTH: 220 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: NE to SW
 SURFACE SEDIMENTS: R 75 % B 15 % C 5 % P 5 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 15 % Hang 15 % Vert 70 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 25 m NO 195 m

SURFACE OIL

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

PAVEMENT: H F S 0 sq. m by 0 cm

PATTIES / TARBALLS 3 BAGS

NEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT			DEBRIS COLLECTED ☐ YES ☒ NO
	SM	MD	LG	
Logs				TYPE <u>0</u> #BAGS <u>0</u>
Vegetation				
Trash				
Debris				

Photographs:

Roll No. _____

Frames _____

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		LO	UC		SU	U	M	L		
1	25					X	.		X		X					CPGSM
							.									
							.									
							.									
							.									
							.									

COMMENTS

SHORELINE ECOLOGICAL SUMMARY

REVISION: 00-21

Segment ST/KN106 Subdivision B Date (mo/day/yr) 4/9/90
 Time (24 hr) 2020-2040 Biologist Cramb pg 1 of 2

- (A) Substrate type and % of segments:
 (1) Bedrock 75 (2) Boulder 15 (3) Cobble 5 (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: No photos

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:

None

- LITZ has rich algal covering; MITZ^{high} is dominated by *Cryptosiphonia* and *Fucus*.

- Barnacle recruitment is moderate on bedrock; juveniles and sparse on the underside of cobble.

Ecological Considerations:

- Gastropods are dense with high recruitment.

LEY - Special Use Destination - *Fucus* recruitment was rare.
 LEU - Tenting

SEGMENT: ST/KN 104 SUBDIVISION B LENGTH 220 BIOLOGIST Crank

DATE 4/9/90 TIME 2020-2040 TIDE HEIGHT +1 ft - 2

1 - BEDROCK 2 - BOULDER 3 - COBBLE 4 - PEBBLE 5 - SAND 6 - SILT

pg 2 of 2

FLORA:

SPECIES	UTZ	MITZ	LITZ	COMMENTS
BOSSIELLA/CORALLINA -				
CALLIARTHRON/CORALLINA				
GLADOPHORA SPP				
COSTARIA SPP				
ENDOCLADIA MURICATA				
FILAMENTOUS GREENS			123	
FILAMENTOUS REDS			123	
GLOIOPELTIS FURCATA				
HALOSACCION GLANDIFORME			123	
LAMINARIA SPP				
LITHOTHAMNION				
NEREOCYSTIS SPP				
PORPHYRA SPP				
RALPHSIA/HILDENBRANDIA				
RHODOMELA LARIX				
RHODOMENIA PALMATA			231	
BOYTOSIPHON SPP			23	
ULVA SPP			123	
ZOSTERA MARINA				
<i>Cryptosiphonia</i>		231		Dense

FAUNA:

ANTHOPELURA SPP				
(SEMI) BALUNUS CARIOSUS				
B. GLANDULA	123	123	117	
BRYOZOANS				
CHITONS (OTHER THAN K. TUNICATU)				
CLAMS				
CRABS				
DERMASTERIAS IMBRICATA				
KATHARINA TUNICATA				
LEPTASTERIAS HEXACTIS				
LIMPETS	123	123	123	Dense
LITTORINA SPP	123	123	123	Dense
NUCELLA SPP		123	123	
PAGURUS SPP				
PISASTER OCHRACEUS				
POLYCHAETES			3	
PYGNOPODIA HELIANTHOIDES			12	
SEARLESIA DIRA		23	123	
SERPULIDS				
BIPHONARIA THERSITES				
TEALIA				
<i>Lucicutia</i> sp.			3	Dense
<i>Squilla</i> sp. 2 cm lg. worms	3			

OG J 5PA 2

SEGMENT ST/KN-106

SUBDIVISION B

DATE 04/09/90

CHECKLIST

- ☒ N Arrow
- ☒ Approx. Scale
- ☒ Seg/Sub Entry
- ☒ On Dist
- ☒ Width
- ☒ Length
- ☒ % Cover
- ☒ Substrate Character
- ☒ Est. HWL/LWL
- ☒ SSI
- ☒ Profile Location(s)
- ☒ Profile(s)
- ☒ Pit Location(s)
- ☒ Photo Location(s)

LEGEND

1 Δ
Pin - No Subsurface Cl

2 Δ
Pin - Subsurface Cl

CT/C
Continuous Distribution

CT/B
Broken Distribution

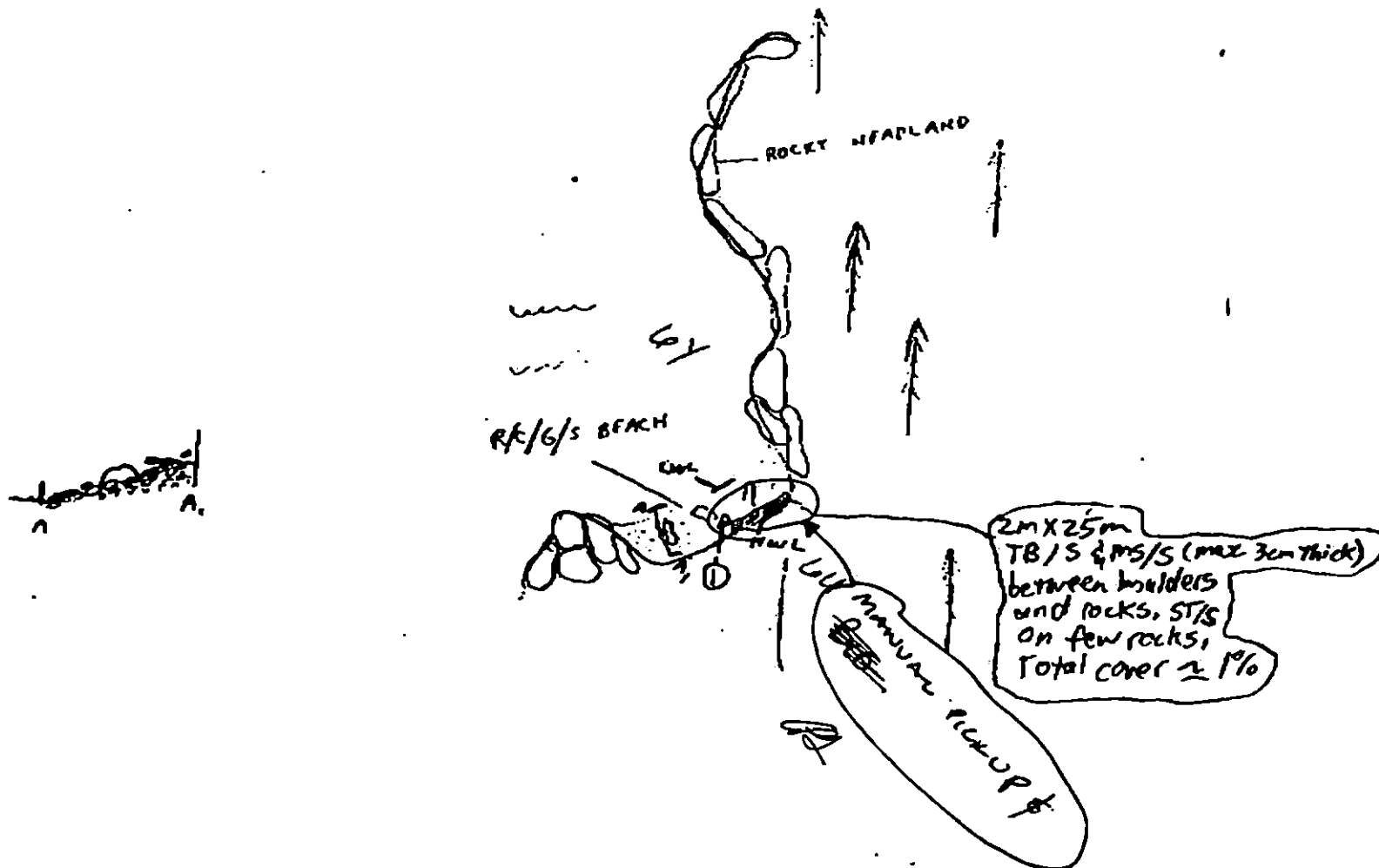
CT/P
Patchy Distribution

CT/S
Splashed Distribution

Dist Vegetation

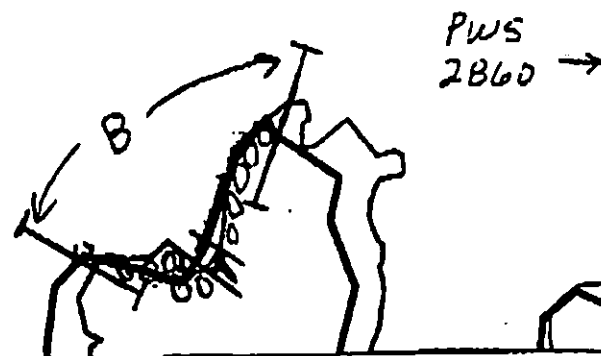
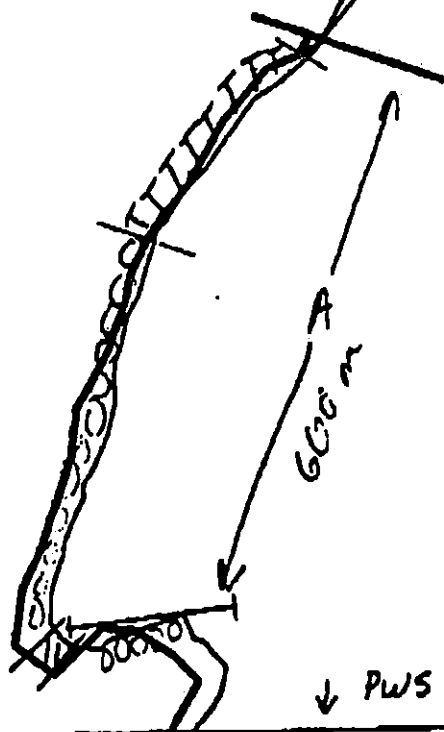
1 ●
Photo location, direction,
and number

SKETCH MAP



1 Character Length (m): AP _____ PO _____ CV _____ CT _____ ST _____ MS _____ PT _____ TB 25 FL _____ NO 195

KN-105



XXXX Wide

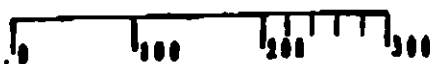
//// Medium

--- Narrow

TTTT Very Light

KN-106

ADEC Segment Length: 10152m



Map Key: PWS-286c

Name: James Springer

Date: 04/09/90

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-106 SUBDIVISION C (3 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-10-16890

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)

6Y Recreation: Special use destination

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: *Mike Z. Hume*

DATE: 4/25/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 13 m: V.Light 117 m: No Oil 418 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

☒ No Treatment Recommended	<u> </u> Snare/Absorbent Booms
☒ Treatment Recommended	<u> </u> Oil Snares (pom poms)
<u> </u> Manual Pickup	<u> </u> Absorbents (pads, rolls, etc)
☒ 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 indicated on sketch map.
Do not bioremediate within 100m of anadromous fish stream.

TAG COMMENTS: NTR RECOMMENDED DUE TO LACK OF SIGNIFICANT OIL +
DENSE BIOTA.

TAG APPROVAL DATE: 4/23/90.

ADEC ART WEINER

EXXON AMY COLE

NOAA JOHN TILLOT

USCG KENNETH KEANE

FOSC: *W L*

DATE: 5-6-90

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.
- 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 1 KN 106 SUBDIVISION: C DATE 10 April 90

USCG

NAME AEC Vanderpels SIGNATURE AEC Vanderpels

☒ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS

I recommend no treatment.

ADEC

NAME Michele Baer SIGNATURE M Baer

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Occasional CT/s and patches need manual scrubbing to a stain. No other treatment necessary. Low Priority segment.

LAND MANAGER

NAME DAN LOGAN SIGNATURE Dan Logan

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

*NO TREATMENT WERE ON BEACH, PATROL SOUTHERN HALF FOR SPLASHES.
I RANK THIS AS A VERY LOW PRIORITY*

SHORELINE OILING SUMMARY

REVISION NO. 02/22/90

OG J. Springer USCG R. Vandepels SEGMENT STI KN-106
 BIO P. Crank LAND REP D. Logan SUBDIVISION C(3 of 5)
 EXXON T. Tomblin ADEC M. Baet TIME 08:15 to 08:30
 TEAM NO.: 5 TIDE LEVEL: -1 to -1 DATE 04/10/1990
 EST. SUBDIVISION LENGTH: 500 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 40 % B 50 % C 10 % P 0 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 10 % Hang 70 % Vert 20 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 20 m VL 130 m NO 350 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	C	N	P	S	SP	BP	FW	GY	BL	TR	LB	LR	SU	U	M	U
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT			X	V		X							X			
STAIN																
MOUSSE																
PATTIES																
TARBALLS																
FILM																
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			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NOTYPE 0#BAGS 0Photographs: No photos

Roll No. _____

Frames _____

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	BP	FW	GY	BL	TR	LB	LR	SU	U	M	U		
							-																
							-																
							-																
							-																
							-																
							-																
							-																

COMMENTS

No pits dug. Boulders too large.

SHORELINE ECOLOGICAL SUMMARY

pg 1 of 2

REVISION: 08/98

Segment ST / KN104 Subdivision C Date (mo / day / yr) 4 / 10 / 90

Time (24 hr) 0810 - 0830 Biologist Crank

- (A) Substrate type and % of segments:
 (1) Bedrock 40 (2) Boulder 50 (3) Cobble 10 (4) Pebble (5) Sand (6) Silt
- (B) Overall % cover of biota (% of segment): Dense 30 Moderate 50 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: No photos
 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 PRESEN

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 PRESEN
LITZ

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 PRESEN

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 PRESEN

Wildlife Observations/ General Comments:

1. Gravel

Ecological Considerations:

LU-Tenting

by-Spinal Use Destination

1. E not in this subdivision

- Most of subdivision is a steep, rocky slope.
- The LITZ was a strong, diverse, and abundant.
- Gastropods are the dominant fauna with a high recruitment.
- Encrusting biota are abundant, but U. tenting is becoming sparse in LITZ. This may be due to increased competition or shading.
- Nereis are rare, found in small numbers.
- Bivalve species - healthy

SEGMENT: ST/ KN 101 SUBDIVISION C LENGTH 500m BIOLOGIST CrankDATE 4/10/90 TIME 0810-0830 TIDE HEIGHT -1.51

Pg 2 of 2

1 - BEDROCK 2 - BOULDER 3 - COBBLE 4 - PEBBLE 5 - SAND 6 - SILT

FLORA:

SPECIES	UTZ	MITZ	LITZ	COMMENTS
BOSSIELLA/CORALLINA -				
CALLIARTHRON/CORALLINA				
CLADOPHORA SPP			2	
COSTARIA SPP				
ENDOCLADIA MURICATA				
FILAMENTOUS GREENS	123	123	123	
FILAMENTOUS REDS			23	
GLOIOPELTIS FURCATA		23		
HALOSACCION GLANDIFORME		23	123	
LAMINARIA SPP			23	
LITHOTHAMNION			123	
NEREOCYSTIS SPP				
PORPHYRA SPP				
RALPHSIA/HILDENBRANDIA				
RHODOMELA LARIX			23	
RHODOMENIA PALMATA			123	
SCYTOSIPHON SPP				
ULVA SPP			123	
ZOSTERA MARINA				
<i>Peltia</i>	123	123		

FAUNA:

ANTHOPELURA SPP				
(SEMI) BALUNUS CARIOSUS		12	12	
B. GLANDULA	123	123	123	
BRYOZOANS				
CHITONS (OTHER THAN K. TUNICATU)				
CLAMS				
CRABS				
DERMASTERIAS IMBRICATA			123	Dense concentrations 3-5/m ²
KATHARINA TUNICATA				
LEPTASTERIAS HEXACTIS				
LIMPETS	123	123	123	Dense
LITTORINA SPP	123	123	123	Dense
NUCELLA SPP		123	123	Dense
PAGURUS SPP		3	23	
PISASTER OCHRACEUS				
POLYCHAETES				
PYRNOPODIA HELIANTHOIDES			3	
SEARLESIA DIFA				
SERPULIDS				
SIPHONARIA THERSITES		23		
TEALIA				
<i>Junonia Eels</i>			3	Dense

OG J 3 NGEA

SEGMENT ST/ KH-106

SUBDIVISION C

DATE 04/10/90

CHECKLIST

- ☒ M Area
- ☒ Approx. Scale
- ☒ Seg/Sub Binary
- ☒ Oil Out
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Eel. HW/LA/WL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ P1 Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ

P1 - No Subsurface Oil

2 Δ

P1 - Subsurface Oil

CT/C

Continuous Distribution

CT/S

Broken Distribution

CT/P

Patchy Distribution

CT/S

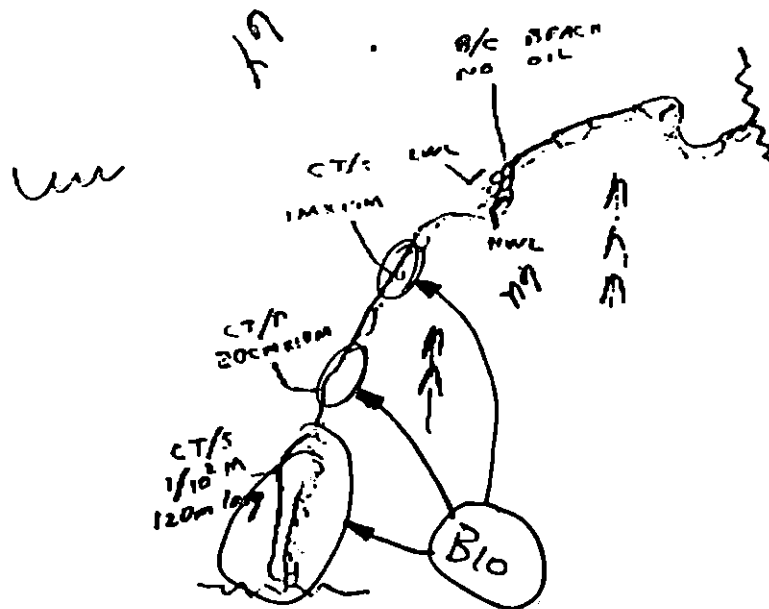
Scattered Distribution

Oil Vegetation

1 Δ

Photo location, direction,
and number

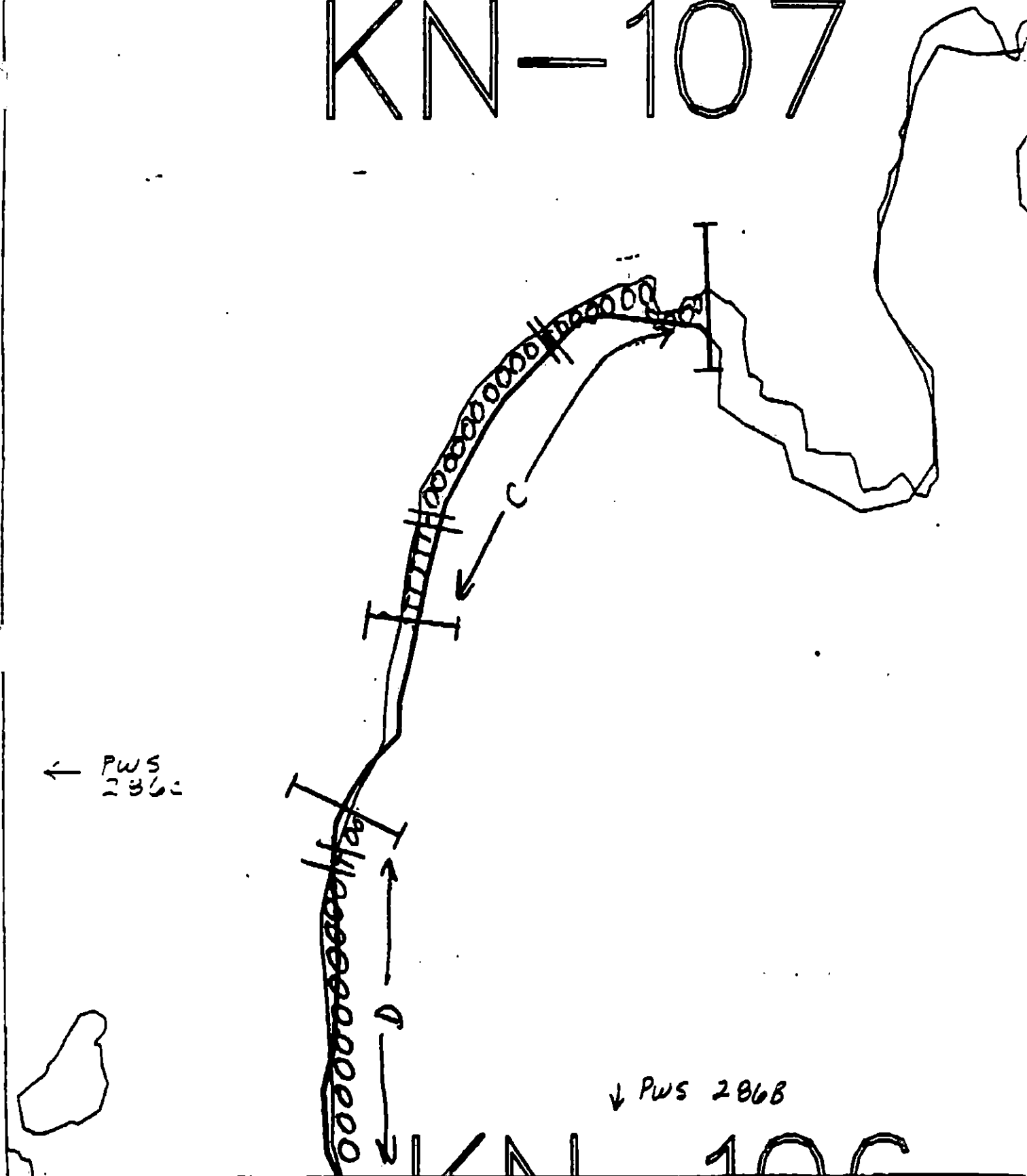
SKETCH MAP



Oil Character Length (m): AP _____ PO _____ CV _____ CT 150 ST _____ MS _____ PT _____ TB _____ FL _____ NO 350

REVISION: 10/1/90

KN-107



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

KN-106

ADEC Segment Length: 9214m



Map Key: PWS-286d
Name: James Springs
Date: 4/10/90
Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-106 SUBDIVISION D (4 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-10-16890

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)

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Charles E. Hume DATE: 5/9/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 12 m: V. Light 24 m: No Oil 550 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>X</u> Tarmat: <u> </u> Breakup	<u> </u> Beach Cleaner
<u> </u> <u>X</u> Removal	<u> </u> Other (see comments)

COMMENTS: Recommend asphalt removal. Work should be conducted between 5/16 and 7/9 based on salmon constraints if closer than 100m of to anadromous fish stream.

MANUAL PICKUP NOT TIME RESTRICTED

TAG COMMENTS:

TAG APPROVAL DATE: 4/23/90.
ADEC Art Wenzel
EXXON Amy Tol
NOAA Joseph Talbot
USCG Kenneth Kerne

FOSC: DATE: 5-8-90

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 (8/11 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 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
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 1 106 SUBDIVISION: D DATE 04-10-90

USCG

NAME AEC Vandepels SIGNATURE AEC Vandepels☒ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

I recommend no treatment in RN106
 Sub. D. To labor intensive to remove the
 few tar balls and ^{small} asphalt patch there.

ADEC

NAME Michelle Baer SIGNATURE MBaer☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

For this area, I recommend manual pick-up
 of ap/p & tb/p mentioned on the map. There are
 only a few in this area. No ^{sub-}surface oil was found
 and splashis did not penetrate the upper shale surface.
 This area is low priority.

LAND MANAGER

NAME DAN HOGAN SIGNATURE DHogan☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

REMOVE T.D. IN SOUTHERN PORTION OF SEGMENT SURVEILLANCE
 REMOVE ASPHALT IN 3X30M SECTION
 VERY LOW PRIORITY

SHORELINE OILING SUMMARY

REVISION NO. 00/02/90

OG J. Springer USCG R. Vandepels SEGMENT ST/ KN-106
 BIO P. Crank LAND REP D. Legan SUBDIVISION D (4 of 5)
 EXXON T. Tomblin ADEC M. Roer TIME 08:30 to 08:50
 TEAM NO.: 5 TIDE LEVEL: -1 to -1 DATE 04/10/90
 EST. SUBDIVISION LENGTH: 600 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 30 % B 60 % C 10 % P 0 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 20 % Hang 10 % Vert 70 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 7 m VL 30 m NO 563 m

SURFACE OIL

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

PAVEMENT: H F (S) 5 sq. m by 2 cm

PATTIES / TARBALLS 3 BAGS

NEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED

☐ YES ☒ NO

TYPE 0

#BAGS 0

Photographs:

Roll No. _____

Frames _____

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		UC	UD	~~1~~	~~2~~	~~3~~	~~4~~	~~5~~	~~6~~	~~7~~	~~8~~	SU	M	W	LI		
1	20					X	-		X											X		BCP	
							.																
							.																
							.																
							.																
							.																
							.																

COMMENTS

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/92

Segment ST / KN106 Subdivision D Date (mo / day / yr) 4/10/90Time (24 hr) 0830 - 0855 Biologist Crank

pg 1 of 2

(A) Substrate type and % of segments:
(1) Bedrock 30 (2) Boulder 40 (3) Cobble 10 (4) Pebble (5) Sand (6) Silt (B) Overall % cover of biota (% of segment): Dense 30 Moderate 50 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: No photos

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: - Subdivision approx. 150 m S of KN106 C. *Stellaria* species distribution remained constant from KN106 C through KN106 D, as do the algae. This is from *Thalassia* in KN106 C and *Thalassia* in KN106 D. - *Thalassia* *thalassia* and *Pyramopsis*. - *Pyramopsis* area is a *Pyramopsis* area of *Pyramopsis* and *Thalassia* area. - *Thalassia* and *Pyramopsis* are dense in 177 cells. - *Thalassia* *thalassia* *thalassia* *thalassia*.

Ecological Considerations:
1st. Third Set - *Thalassia* *thalassia*
Special Vel Dislocation

SEGMENT: ST/ KN 104 SUBDIVISION D LENGTH 400m BIOLOGIST Crank

DATE 4/10/90 TIME 0830-0855 TIDE HEIGHT -1 ft

1 - BEDROCK 2 - BOULDER 3 - COBBLE 4 - PEBBLE 5 - SAND 6 - SILT

FLORA:

SPECIES	UITZ	MITZ	LITZ	COMMENTS
BOSSIELLA/CORALLINA				
CALLIARTHRON/CORALLINA				
CLADOPHORA SPP			2	
COSTARIA SPP				
ENDOCLADIA MURICATA				
FILAMENTOUS GREENS	123	123	123	
FILAMENTOUS REDS			123	
GLOIOPELTIS FURCATA		23		
HALOSACCION GLANDIFORME		23	123	
LAMINARIA SPP			123	
LITHOTHAMNION			123	
NEREOCYSTIS SPP				
PORPHYRA SPP				
RALPHSIA/HILDENBRANDIA				
RHODOMELA LARIX			123	
RHODOMENIA PALMATA			123	
SCYTOSIPHON SPP				
ULVA SPP			123	
ZOSTERA MARINA				
Peltia	123	123		
ANTHOPELURA SPP				
(SEM) BALUNUS CARIOSUS		12	12	
B. GLANDULA	123	123	123	
BRYOZOANS		3	3	
CHITONS (OTHER THAN K. TUNICATU)				
CLAMS		2	3	Prosthera; Saniclorus
CRABS				
DERMASTERIAS IMBRICATA			123	Dense concentrations 9/m ²
KATHARINA TUNICATA				
LEPTASTERIAS HEXACTIS		23	23	Breeding
LIMPETS	123	123	123	Dense
LITTORINA SPP	123	123	123	Dense Spot
NUCELLA SPP		123	123	Dense
PAGURUS SPP		3	3	
PISASTEA OCHRACEUS				
POLYCHAETES				
PYRNOPODIA HELIANTHOIDES			3	
SEARLESIA DIRA				
SERPULIDS				
SIPHONARIA THERSITES		23		
TEALIA				
Juvenile Calo			5	Dense

FAUNA:

EGMENT ST N-106

S CH MAP

UBDIVISION D

ATE 04/10/90

CHECKLIST

- ☒ Approx. Scale
- ☒ Sub Boundary
- ☒ Oil Dist.
- ☒ Width
- ☒ Length
- ☒ Cover
- ☒ Substrate Character
- ☒ EEL HIN/LWL
- ☒ Profile Location(s)
- ☒ Photo Location(s)

LEGEND

1 Δ
- No Subsurface Oil

2 Δ
- Subsurface Oil

CT/C
Continuous Distribution

CT/B
Open Distribution

CT/P
Patchy Distribution

CT/S
Isolated Distribution

Red Vegetation

1 Δ
Location, direction,
number

Low energy
shoreline by

Boulder
bench

LWL
at shore

HWL

Rock
face

HNL

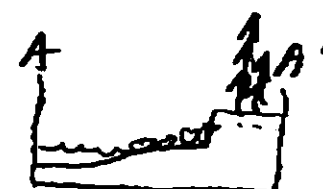
30mX3m
AP/S
~5% cover

TARMAT
REMOVAL

7mX2m
ST/B/LBR
w/few TB
between boulders.
(~ 1n² TB)



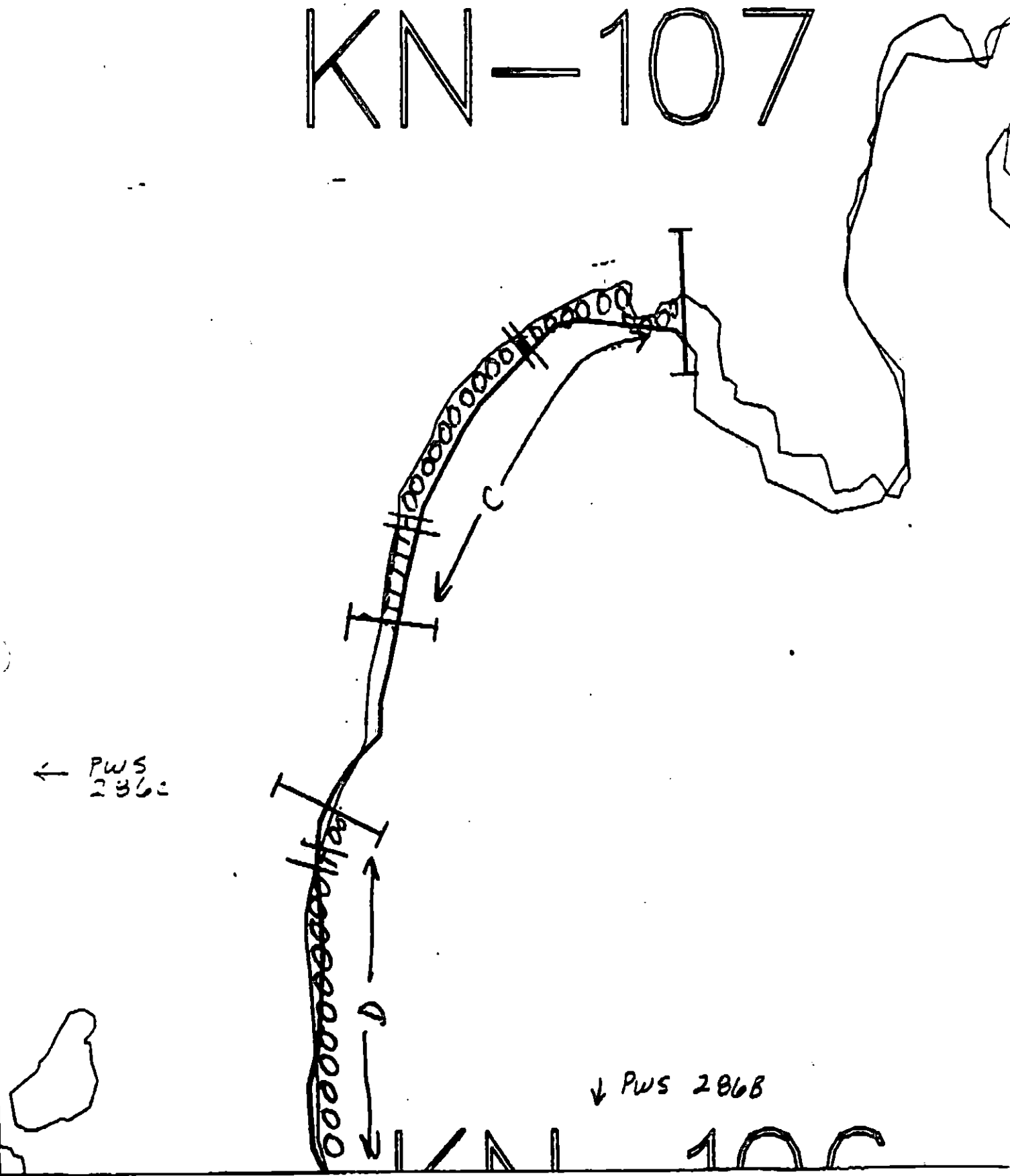
0 100m
APPROX



Character Length (m): AP 30 PO _____ CV _____ CT _____ ST 7 MS _____ PT _____ TB _____ FL _____ NO 563

REVISIONS

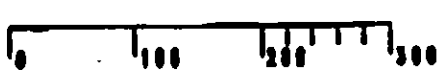
KN-107



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

KN-106

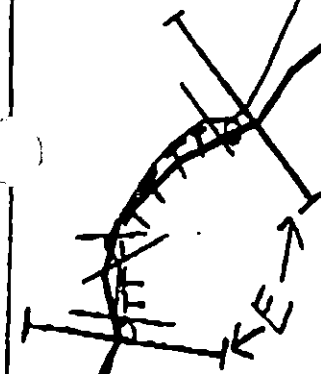
ADEC Segment Length: 9214m



Map Key: PWS-286d
Name: James Springe
Date: 4/10/90
Note: Entered.

PWS
286D

KN-106



← PWS
286A

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

KN-106

ADEC Segment Length: 9214m



Map Key: PWS-286b

Name: James Springer

Date: 4/10/90

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-106 SUBDIVISION D (4 of 5)

WORK WINDOW	
Manual Pickup Tarmat Removal	CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

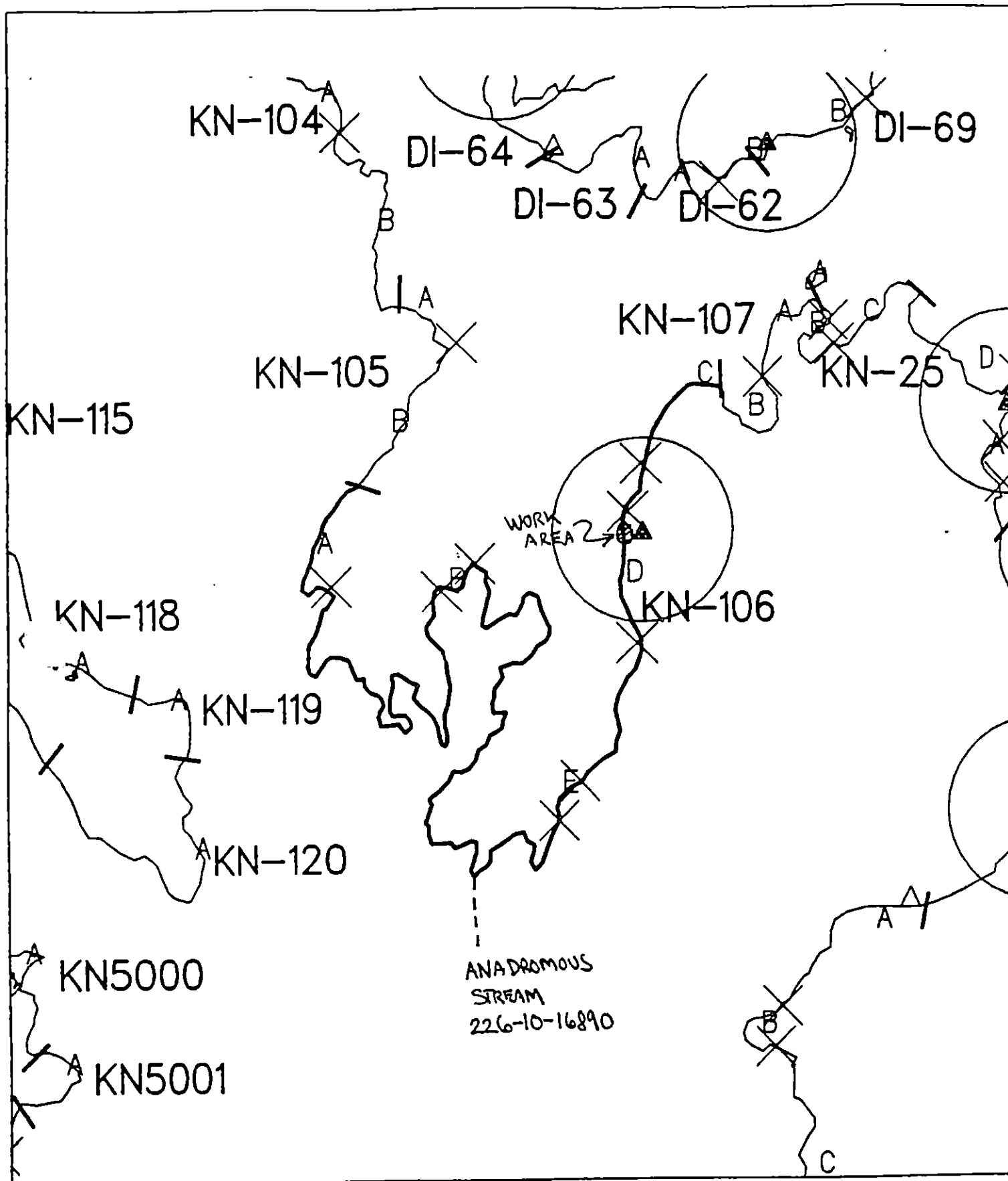
1A,1B Salmon Stream	ADF&G catalogued anadromous stream (226-10-16890) is located outside Subdivision D in an unsurveyed portion of Segment KN-106. No constraint to manual pickup or tarmat removal.
5T Bald Eagle Nest	USFWS 6/1/90 map indicates an active nest in Subdivision D. Closed to manual pickup and tarmat removal 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-106



ECOLOGY MAP
SEGMENT KN-106
SUBDIVISION D (4 of 5)
METERS

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

SHORELINE EVALUATION

SEGMENT ST/ KN-106 SUBDIVISION E (5 OF 5) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-10-16890

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)

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: [Signature] DATE: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 24 m: V.Light 151 m: No Oil 48 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: 4/23/90

ADEC [Signature]

EXXON [Signature]

NOAA [Signature]

USCG [Signature]

FOSC: [Signature] DATE: 4-27-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- ~~1A~~
~~1B~~ 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. 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 (8/11 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 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 (8/1 to 9/15)
- ~~6V~~ Anchorages (8/1 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)
- 7-HH 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 1 KN-106 SUBDIVISION: E DATE 24-10-90**USCG**NAME AEC Vandepels SIGNATURE AEC Vandepels☒ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED*I recommend no treatment.***ADEC**NAME Michelle Baer SIGNATURE MBaer☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED*Manual scrubbing on the coats/p and splashies to bring
until they are only a stain.
No other treatment required.***LAND MANAGER**NAME DAN NOGAN SIGNATURE Dan☒ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

SHORELINE OILING SUMMARY

REVISION NO. 034

OG J. Springer USCG R. Vandepels SEGMENT ST/ KN-106
 BIO P. Crank LAND REP M. Baer SUBDIVISION E(5045)
 EXXON T. Tomblin ADEC M. Baer TIME 09:00 to 09:15
 TEAM NO.: 5 TIDE LEVEL: -1 to 0 DATE 04/10/90
 EST. SUBDIVISION LENGTH: 240 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 30 % B 40 % C 25 % P 5 % G 0 % S 0 % M 0 % V 0
 SLOPE: Long 15 % Hang 85 % Vert 0 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 20 m VL 200 m NO 20 m

SURFACE OIL

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

PAVEMENT: H F S 0 sq. m by 0

PATTIES / TARBALLS 0 BAGS

NEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED ☐ YES ☒ NO

TYPE 0

#BAGS 0

Photographs: No photos

Roll No. _____

Frames _____

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	OF	NO		UO	UC		SU	U	M	U		
1	20					X	.		X					X		PGS
2	25					X	.		X					X		PGS
							.									
							.									
							.									
							.									
							.									

COMMENTS

OG I. 111 111

SEGMENT KN-106

SUBDIVISION E

DATE 04 / 10 / 90

CHECKLIST

- ☒ N Arrow
- ☒ Approx. Scale
- ☒ Seg/Sub Bdry
- ☒ Oil Dist.
- ☒ Width
- ☒ Length
- ☒ % Cover
- ☒ Substrate Character
- ☒ Est. NWEL, A, WL
- ☒ SSL
- ☒ Profile Location(s)
- ☒ Profile(s)
- ☒ PI Location(s)
- ☒ Photo Location(s)

LEGEND

1 Δ
PI - No Subsurface Oil

2 Δ
PI - Subsurface Oil

$\boxed{CT/C}$
Continuous Distribution

$\boxed{CT/B}$
Broken Distribution

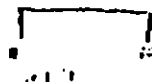
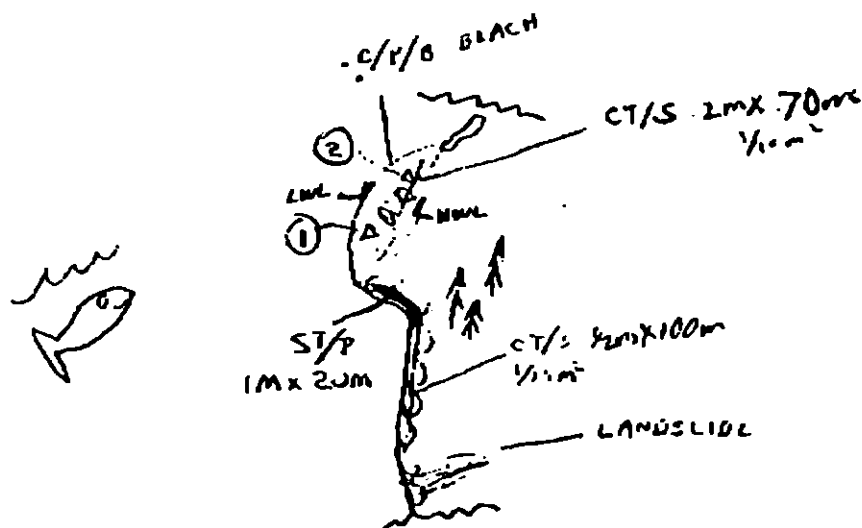
$\boxed{CT/P}$
Patchy Distribution

$\boxed{CT/S}$
Splashed Distribution

Oil Vegetation

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

ETCH MAP



Oil Character Length (m): AP _____ PO _____ CV _____ CT 170 ST 20 MS _____ PT _____ TB _____ FL _____ NO 50

SEGMENT: ST/KN 106 SUBDIVISION E LENGTH BIOLOGIST Cramer

DATE 4/10/40 TIME 0855-0920 TIDE HEIGHT

pg 2 of 2

1 - BEDROCK 2 - BOULDER 3 - COBBLE 4 - PEBBLE 5 - SAND 6 - SILT

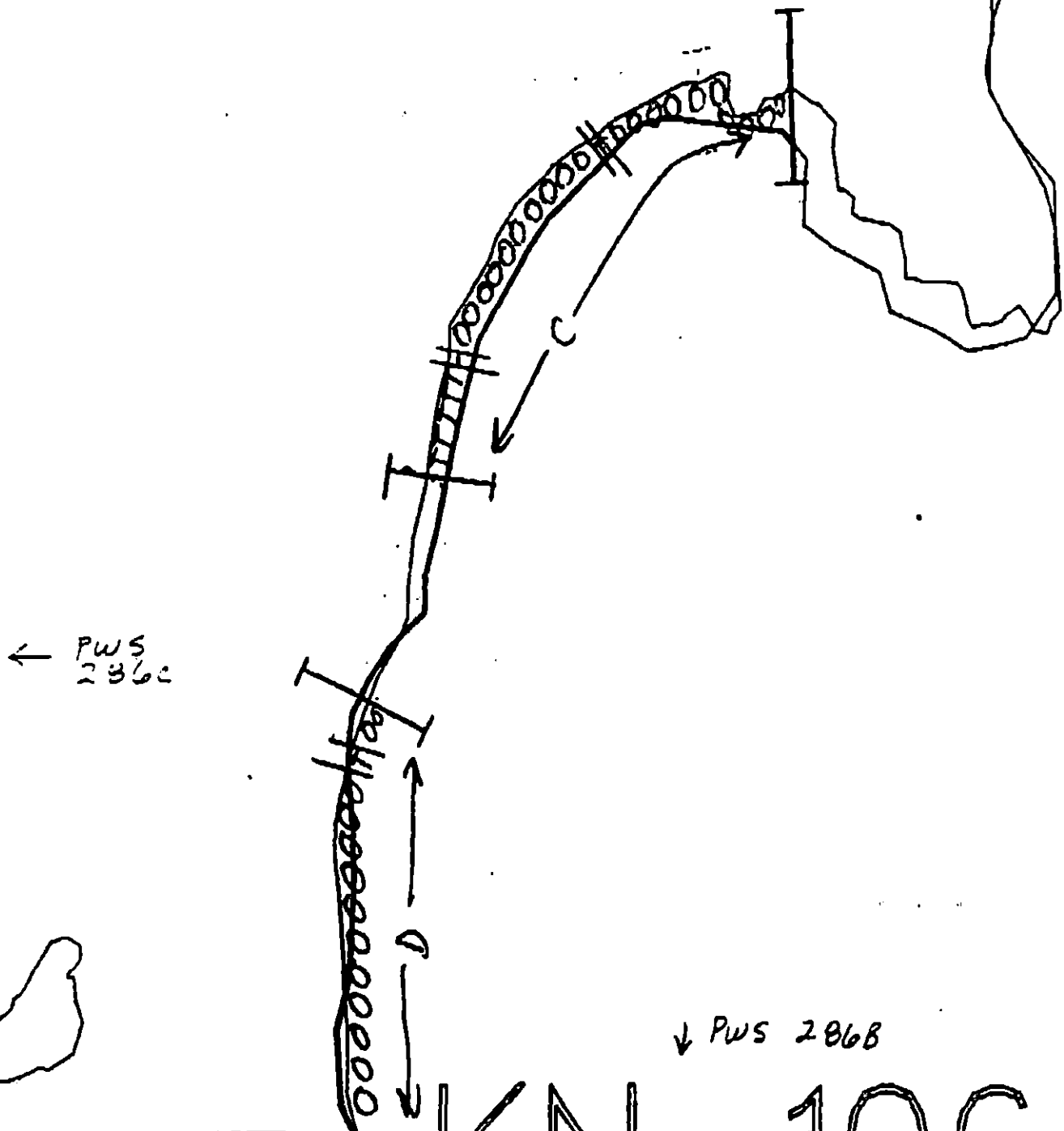
FLORA:

SPECIES	UNIT	MITZ	UNIT	COMMENT
BOSSIELLA/CORALLINA				
CALLIARTHRON/CORALLINA				
CLADOPHORA SPP				
COSTARIA SPP			2	
ENDOCLADIA MURICATA				
FILAMENTOUS GREENS	123	123	123	
FILAMENTOUS REDS			123	
GLOIOPELTIS PURGATA		23		
HALOSACCION GLANDIFORME			123	
LAMINARIA SPP			123	
LITHOTHAMNION			123	
NEREOCYSTIS SPP				
PORPHYRA SPP				
RALPHSIA/HILDENBRANDIA				
RHODOMELA LARIX			123	
RHODOMENIA PALMATA			123	
SCYTOSIPHON SPP				
ULVA SPP			123	
ZOSTERA MARINA				
Rel. 4.10	123	123		

FAUNA:

[illegible]

KN-107



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

KN-106

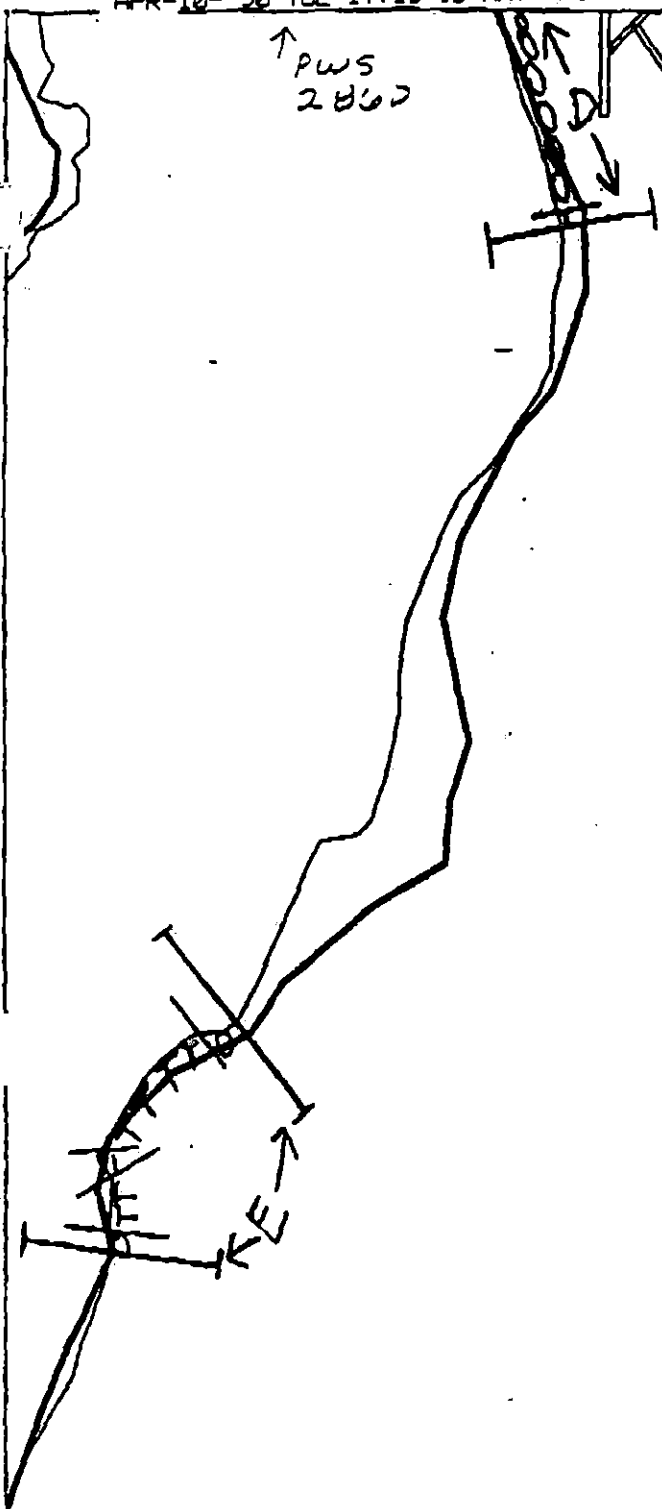
ADEC Segment Length: 9214m



Map Key: PWS-286d
 Name: James Springer
 Date: 4/10/90
 Data Entered:

KN-106

↑ PWS
2862

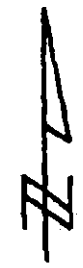


← PWS
286A

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

KN-106

ADEC Segment Length: 9214m



Map Key: PWS-286b
 Name: James Springer
 Date: 4/10/90
 Date Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-107 SUBDIVISION A (1 OF 2) DATE 4/22/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

6Y Recreation: Special use destination

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 Jan Doe DATE: 6/1/90

OILING CATEGORIZATION:

Wide 17 m: Medium 0 m: Narrow 207 m: V.Light 230 m: No Oil 58 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 Removal	<u> </u> Beach Cleaner
	<u> </u> Other (see comments)

COMMENTS: Recommend bioremediation of area shown on sketch map. No
specific ecological time constraints.

TAG COMMENTS:

TAG APPROVAL DATE: May 5 1990

ADEC Art Wenzel Art Wenzel

EXXON Mark N. Gilbert Mark N. Gilbert

NOAA Gary Petrus Gary Petrus

USCG G.A. Reiter G.A. Reiter

FOSC: My L DATE: 6-8-90

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 8/30)
1K Purse seine hook-off (7/20 to 8/30)
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
- 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 Anchorages (8/1 to 9/15)
6W Forest Service cabins (8/1 to 9/15)
6X Lodge (8/1 to 9/15)
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 / KN107 SUBDIVISION: A DATE 04-22-90USCGNAME AEC Vandepels SIGNATURE AEC Vandepels☒ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTEDADECNAME Michelle Baer SIGNATURE MBaer☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

On the cobble, pebble beach:

- 1) Remove cobble, till upper layer only in 25m x 25m area
- 2) Replace cobble leaving underside exposed and allow natural washing to occur
- 3) No treatment recommended for headlands

LAND MANAGERNAME Carol S Huber SIGNATURE Carol S Huber☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Oil on rocky headlands appears stable. Recommend continued natural cleansing for headlands. Use manual methods to expose oil for weathering to progress more efficiently (Cobble pebble beach see OG map). Resource sensitivity - Special Use Destination.

00 J. Springer USCG R. Vandepels SEGMENT ST/ KN-1:7
 BIO P. Crock LAND REP C. Huber SUBDIVISION A (1 OF 2)
 EXXON T. Tomblin ADEC M. Baer TIME 15:05 to 15:40
 TEAM NO. 5 TIDE LEVEL +6 TO +4 DATE 04/22/90
 EST. SUBDIVISION LENGTH: 590 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 70 % B 10 % C 15 % P 5 % G 0 % S 0 % M 0 % V
 SLOPE: Long 10 % Hang 20 % Vert 70 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 25 m M 0 m N 250 m VL 270 m NO 45

SURFACE OIL

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

PAVEMENT H F S 0 sq. m by 0

PATTIES / TARBALLS 0 BAG

NEAR SHORE SHEEN? NO BR RW SL T:

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☐ NO ☒

TYPE 0

#BAGS 0

Photographs:

Roll No. ST-5-10

Frames 28, 29

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR					PIT ZONE				A	N	SHEEN (Y/N)	↓	SURFAC SUBSURF. SEDIMENT
		OP	OR	OL	OF	NO		NO	UC	1	2	3	4	5	SU	U	M	U					

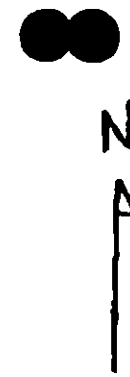
COMMENTS No pits dug - too many rocks.

REVIEWED 7W

DATE 4/24/90

00 J. C. inver
 SEGMENT ST/ KN-107
 SUBDIVISION A
 DATE 04/22/90

ATCH MAP

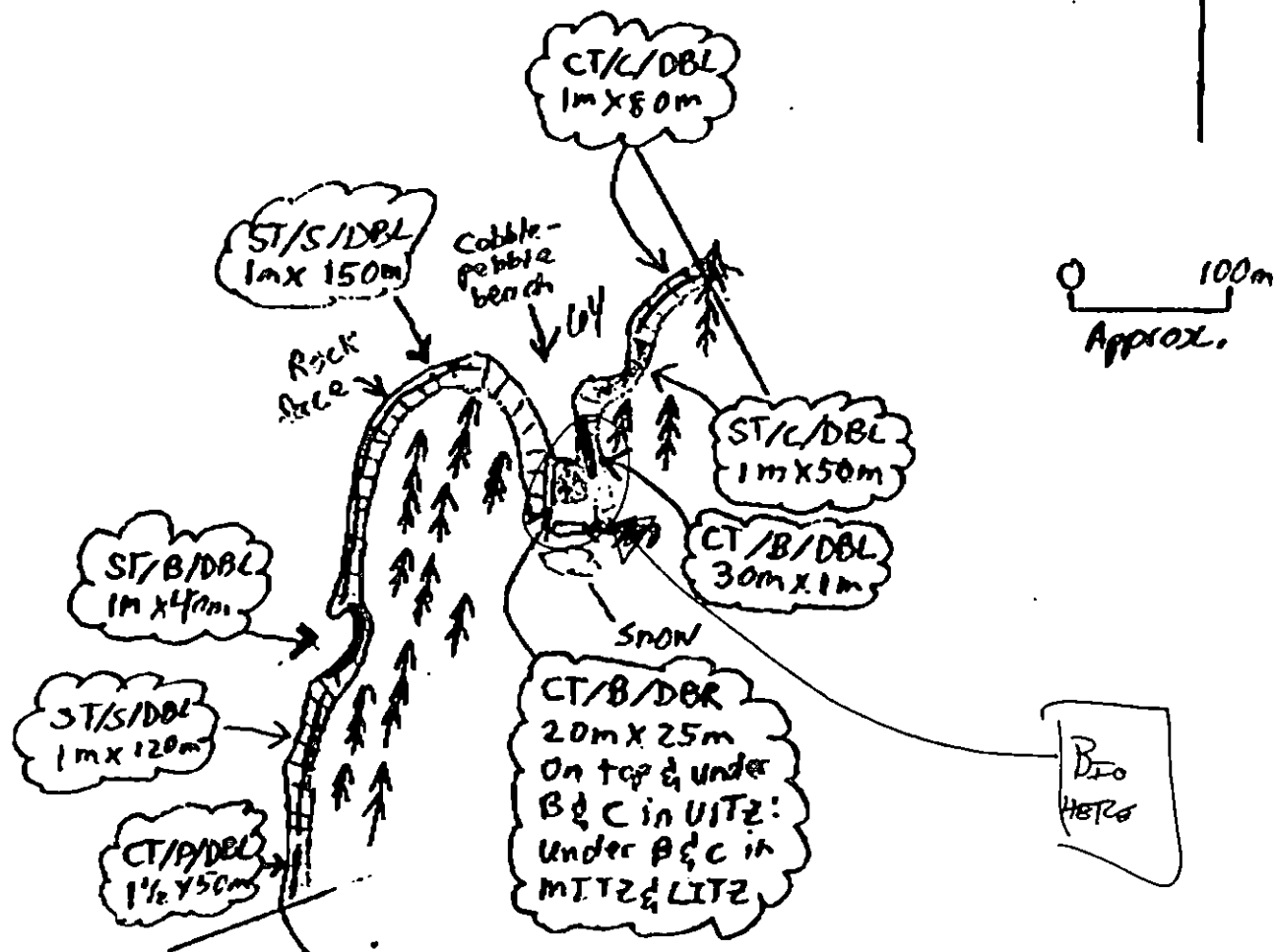


CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sec Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. NW/SE/NE
- ☐ S/S
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ PI Location(s)
- ☐ Photo Location(s)

LEGEND

- 1 ▲
PI - No Subsurface Oil
- 2 ▲
PI - Subsurface Oil
- CT/C
Continuous Distribution
- CT/B
Broken Distribution
- CT/P
Patchy Distribution
- CT/S
Spotted Distribution
- eee
Oiled Vegetation
- 1 ●
Photo location, direction, and number



Oil Character Length (m): AP _____ PO _____ CV _____ CT 185 ST 360 MS _____ PT _____ TB _____ FL _____ NO 45

REVISIONS

SHORELINE ECOLOGICAL SUMMARY

pg 1 of 1

REVISION: 0022.0

Segment ST / KN107 Subdivision A Date (mo / day / yr) 4/22/90

Time (24 hr) 1510-1540 Biologist Crunk Length 590
Tide Height +6 to +4

(A) Substrate type and % of segments:
(1) Bedrock 70 (2) Boulder 10 (3) Cobble 15 (4) Pebble 5 (5) Sand (6) Silt

(B) Overall % cover of biota (% of segment): Dense 0 Moderate 20 Low 80 - LITZ unexposed

(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	X	X	2	2	2	2	2	2	2
3	3	3	X	X	3	X	X	3	X	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

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	X	X	3	X	X	3	X	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

NOT PRESENT

GASTROPODS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	X	X	2	2	2	2	2	2	2
X	X	3	3	3	3	X	X	3	X	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

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- Otter Seal
Merganser - a pair

Ecological Considerations:

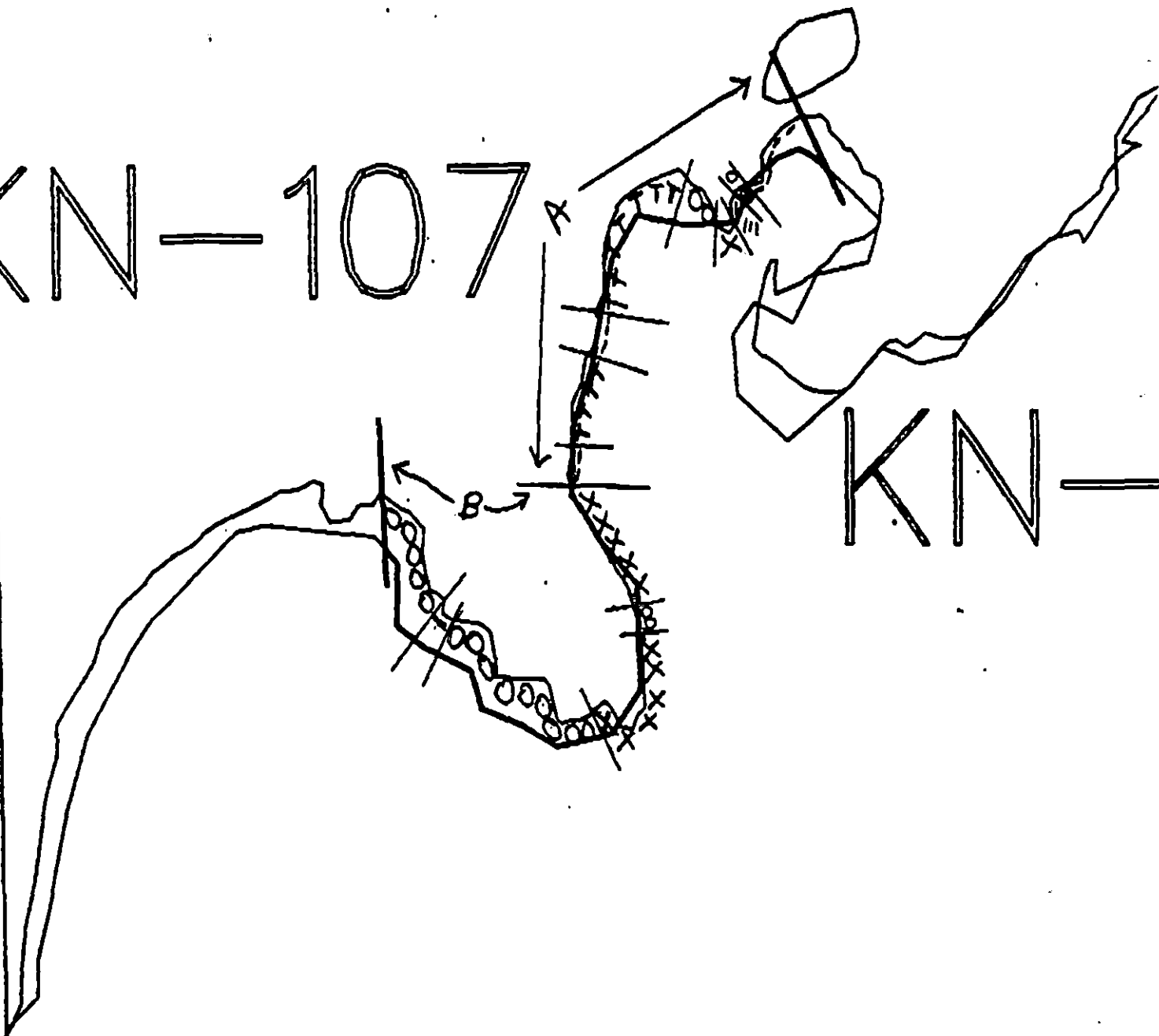
10% - Special Use Restriction

- Rare barnacle in oil band on rock.
- Rare mussel on rock, but recruitment in cracks.
- Moderate concentrated intertidal mussel bed up to the +8 ft tide line, for width of beach.
- Sparse growth and recruitment w/ 50% north.
- Small pockets on rocky MIZ of mod. Fucus both mature & young individuals. Dense eggs masses throughout w/ sides of LITZ cobble.
- Mostly in moderate patches.
- Barnacles: sparse recruitment: growth on cobble. 10% mortality of oil solvents: goes on both unaided: also surfaces.

DI-02

KN-107

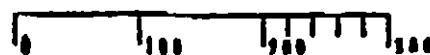
KN-



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

KN-107

ADEC Segment Length: 1289
442m



Map Key: PWS-287
Name: James Spring
Date: 4/22/90

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-107 SUBDIVISION A (1 of 2)

WORK WINDOW	
Bioremediation	WORK PRIOR TO 7/20

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1F	Sawmill Bay Hatchery Release	No constraint to bioremediation.
1K	Purse Seine Hookoff	Closed to bioremediation after 7/20.
7II	Subsistence: Deer Harvesting	Closed to bioremediation after 8/15.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic and beach disturbance to essential minimum after 7/20. Avoid any unnecessary disturbance or damage to uncolled biota and substrate.

FOSC

[Signature]

Date

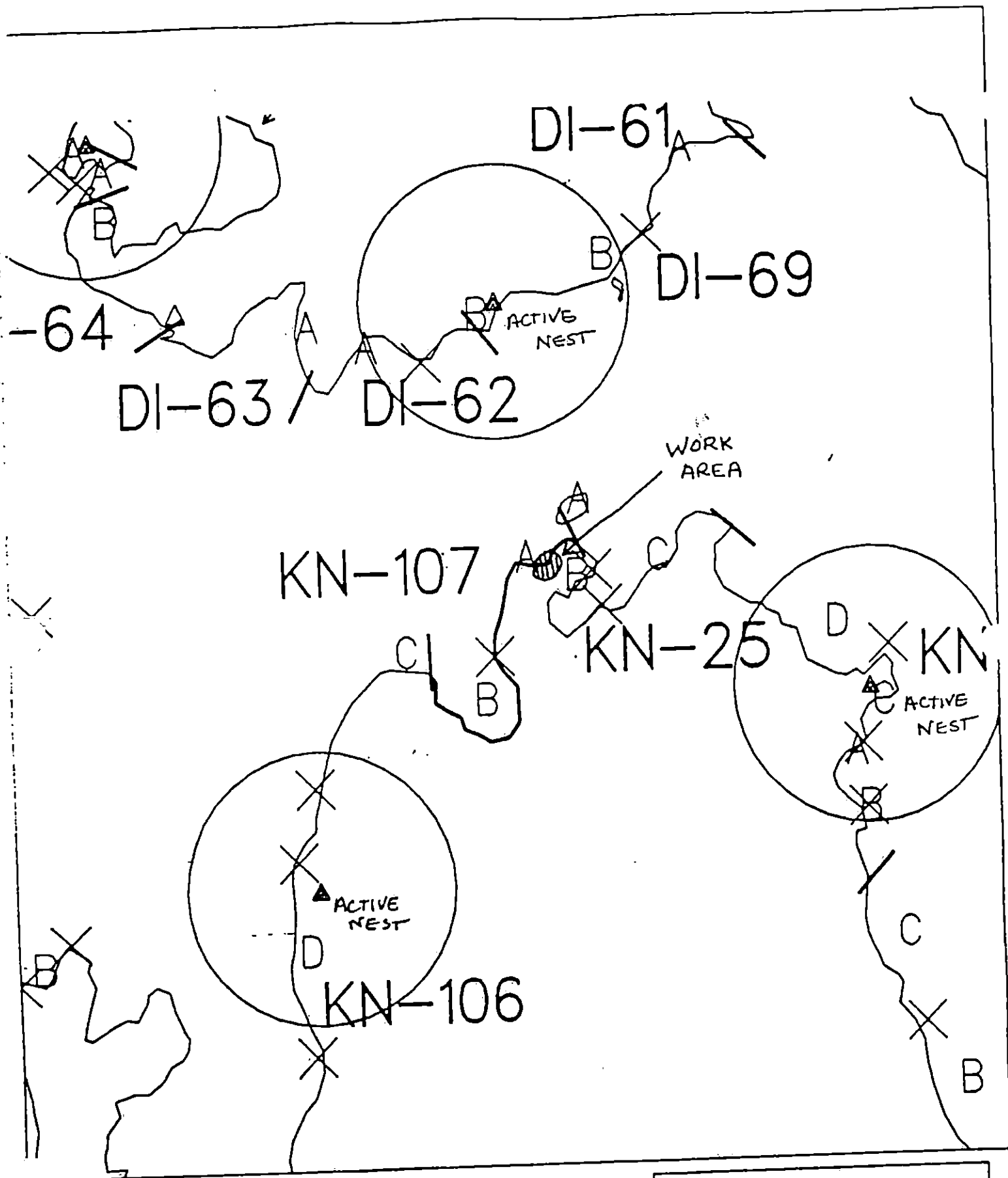
6/15/90

Prepared by

[Signature]

Date

6/14/90



Exxon Company, USA
Map Key: PMS-KN-107



ECOLOGY MAP SEGMENT KN-107 SUBDIVISION A (1 of 2)

METERS



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

1 inch = 1237 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-107 SUBDIVISION B (2 OF 2) DATE 4/22/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

6Y Recreation: Special use destination

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 Jan (Jan) DATE: 6/1/90

OILING CATEGORIZATION:

Wide 255 m: Medium 0 m: Narrow 27 m: V.Light 0 m: No Oil 338 m
Subsurface Oil Observed: Yes X No Maximum Depth 7 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 Removal	<u> </u> Beach Cleaner
	<u> </u> Other (see comments)

COMMENTS: Recommended treatment includes 1) manual removal of tarmat, and 2) bioremediation of areas shown on sketch map, avoid bioremediation of mussel beds. No specific ecological time constraints identified.

TAG COMMENTS: Rake in vicinity of pit #1 if necessary.

TAG APPROVAL DATE: May 5 1990

ADEC Art Weiner Ruth Weiner
EXXON Mark N. Silber Mark N. Silber FOSC: W DATE: 6-8-90
NOAA Gary Petro Gary Petro
USCG G.A. Reiter G.A. Reiter

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
- 3P Harbor seal and sea lion pupping (5/15 to 7/1)
 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
- 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 Rothly 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)
 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
 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 1 KN-107 SUBDIVISION: B DATE 4-23-90

USCG

NAME AEC Vandepelt SIGNATURE AEC Vandepelt☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

I suggest till & bio. of 20x30M area north of marsh.

ADEC

NAME Michele Eber SIGNATURE M Eber☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

- 1) area by pits #1 & #2, till and bio. 3x10M OR penetrating to 7cm
- 2) Rate ~~and~~ area between MITZ and LITZ, oil found in upper 5cm, ~~only~~ stay out of marsh area in and above W and SUTZ (area ~~by~~ pit #3)
- 3) At the SE portion of the cove, attention is on a 3cm OR layer (called a CTP on map) throughout the area w/stream. This area needs reassessment by the TAG team due to the sensitive and resources (anchorage, clam beds, special use destination) in the area.

LAND MANAGER

NAME Carol S Huber SIGNATURE Carol S Huber☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Eastern half heavily oiled. Mobil oil, leaching out of oiled sediments. Recommended tilling affected area to allow natural weathering to progress.
Resource sensitivity: Special Use Destination.

OG J. Springer USCG R. Vandepels SEGMENT ST/ KN-107
 BIO P. Crook LAND REP C. Huber SUBDIVISION B (2 OF 2)
 EXXON T. Temblin ADEC M. Baer TIME 15:42 to 17:53
 TEAM NO. 5 TIDE LEVEL +5 TO +1/2 DATE 04/22/90
 EST. SUBDIVISION LENGTH: 699 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 45 % B 20 % C 15 % P 8 % G 12 % S 0 % M 0 % V 0
 SLOPE: Long 40 % Hang 20 % Vert 40 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 235 m M 0 m N 21 m VL 10 m NO 454 m

SURFACE OIL

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

PAVEMENT H (F) S 30 sq. m by 1/2

PATTIES / TARBALLS 0 BAG

NEAR SHORE SHEEN? NO BR RW SL (TL)

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
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	TYPE	↓	SURFACE SUBSURFA SEDIMENT
		OP	OR	OL	OF	NO			1	2	3	4	5	SU	M	M	L					
1	25	X					0-7	X				X		X					BR	20		P/PMV
2	25					X	.	X						X								P/GSM
3	15					X	.	X								X						P/PM
4	30					X	.	X								X						P/PM
							.															
							.															

COMMENTS

REVIEWED 7W DATE 4/24/90

00 J. S. Singer
 SEGMENT ST/ MN-107
 SUBDIVISION B
 DATE 04/22/00

CHECKLIST

☐ N Arrow
☐ Approx. Scale
☐ Seg/Sub Body
☐ Oil Dht.
☐ Width
☐ Length
☐ % Cover
☐ Substrate Character
☐ Est. HWA/LWL
☐ SSL
☐ Profile Location(s)
☐ Profile(s)
☐ Pit Location(s)
☐ Photo Location(s)

LEGEND

1 ▲
 Pit - No Subsurface Oil

2 ▲
 Pit - Subsurface Oil

CT/C
 Continuous Distribution

CT/B
 Broken Distribution

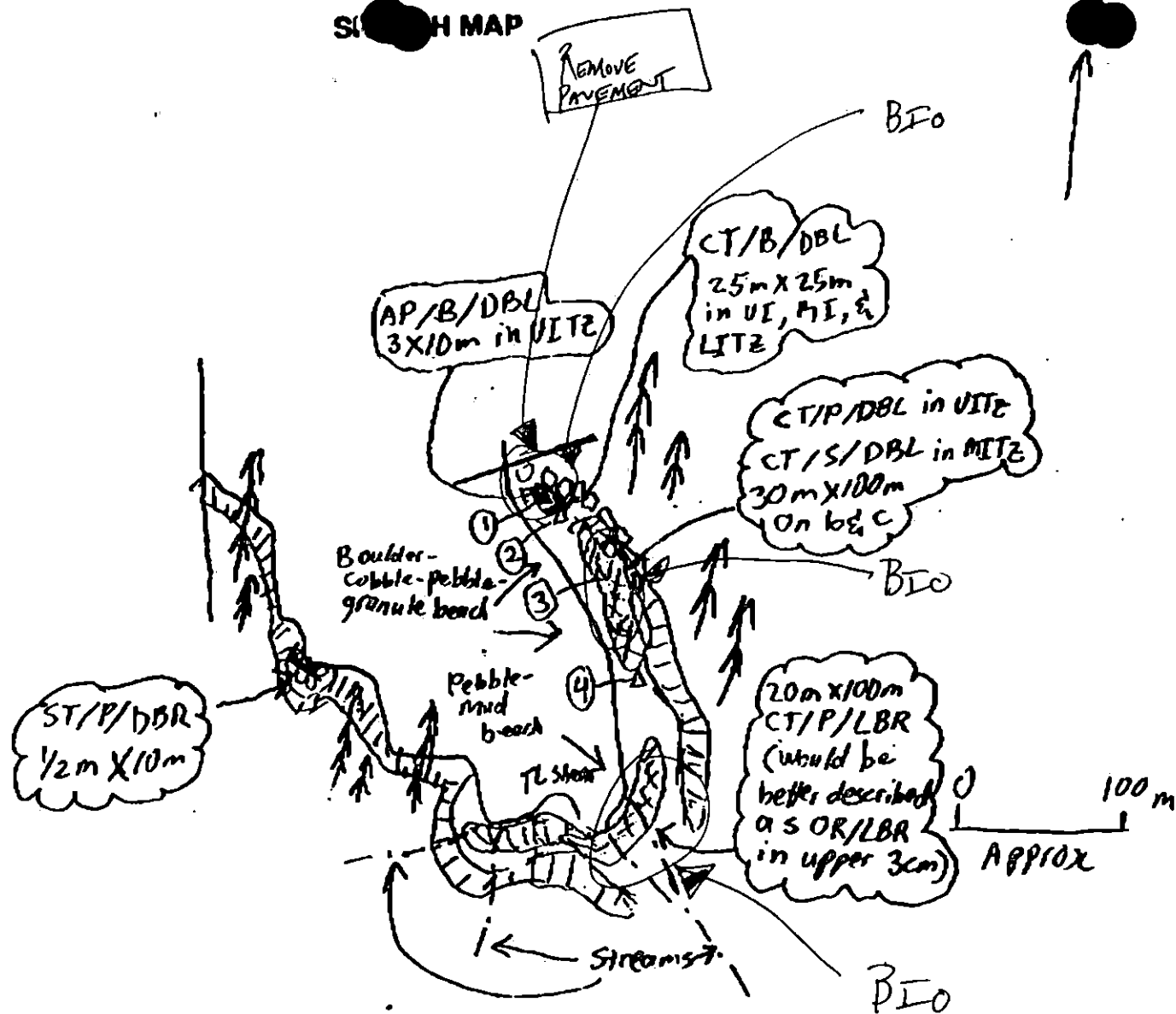
CT/P
 Patchy Distribution

CT/S
 Splashed Distribution

lll
 Oiled Vegetation

1 ●→
 Photo location, direction,
 and number

SITING MAP



Oil Character Length (m): AP 10 PO CV CT 225 ST 10 MS PT TB FL NO 454

SHORELINE ECOLOGICAL SUMMARY pg 1 of 3

REVISION: 08/22/9

Segment ST KN107 Subdivision B Date (mo/day/yr) 4/22/90Time (24 hr) 1540-1720 Biologist Crank Length 69m
Tide Height +5 → 0.5 ft(A) Substrate type and % of segments:
(1) Bedrock 45 (2) Boulder 20 (3) Cobble 15 (4) Pebble 8 (5) Sand 12 (6) Silt(B) Overall % cover of biota (% of segment): Dense 10 Moderate 70 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		
1U	1M	1L
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6

Moderate		
1U	1M	1L
~~2~~	~~2~~	2
~~3~~	~~3~~	3
4	4	4
5	5	5
6	6	6

Sparse		
1U	1M	1L
~~2~~	~~2~~	2
~~3~~	~~3~~	3
4	4	4
5	5	5
6	6	6

Rare		
1U	1M	1L
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6

NOT PRESENT

MYTILUS

Dense		
1U	1M	1L
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6

Moderate		
1U	1M	1L
~~2~~	~~2~~	2
~~3~~	~~3~~	3
4	4	4
5	5	5
6	6	6

Sparse		
1U	1M	1L
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6

Rare		
1U	1M	1L
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6

NOT PRESENT

GASTROPODS

Dense		
1U	1M	1L
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6

Moderate		
1U	1M	1L
~~2~~	~~2~~	2
~~3~~	~~3~~	3
4	4	4
5	5	5
6	6	6

Sparse		
1U	1M	1L
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6

Rare		
1U	1M	1L
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6

NOT PRESENT

FUCUS

Dense		
1U	1M	1L
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6

Moderate		
1U	1M	1L
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6

Sparse		
1U	1M	1L
~~2~~	~~2~~	2
~~3~~	~~3~~	3
4	4	4
5	5	5
6	6	6

Rare		
1U	1M	1L
2	~~2~~	2
3	~~3~~	3
4	4	4
5	5	5
6	6	6

NOT PRESENT

Wildlife Observations/ General Comments:

Other
Pair of Morgansers

Ecological Considerations:

64-Special Use Designation

- 12m x 5m Marsh area - Restrict Access.
- Area Between Streams has frequent other digs = high other use area.

KN 107 ^B
 DATE 4/22/90 TIME 1540-1720 TIDE HEIGHT +5 → +0.5 ft ^{Orange}

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

6=SILT pg 2 of 3

FLORA:

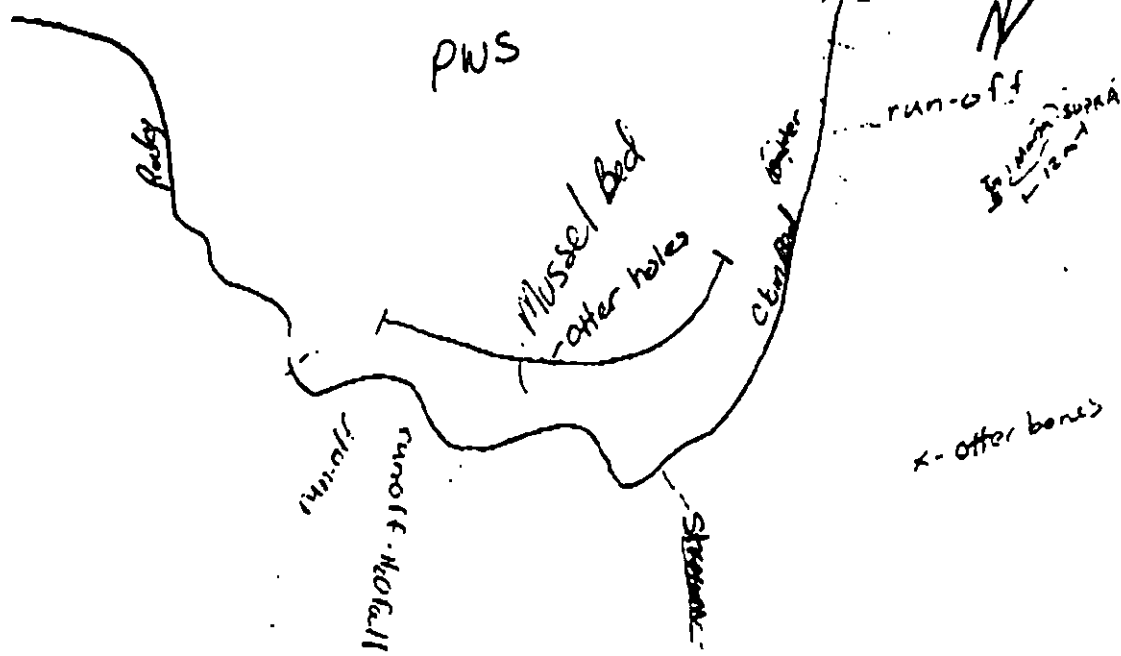
SPECIES	UITZ	MITZ	LITZ	COMMENTS
BOSSIELLA/CORALLINA				
CALLIARTHRON/CORALLINA				
CLADOPHORA SPP				
COSTARIA SPP				
ENDOCLADIA MURICATA	2	2		
FILMAENTOUS GREENS				
FILAMENTOUS REDS				
GLOIOPELTIS FURCATA	23	123		
HALOSACCION GLANDIFORME				
LAMINARIA SPP				
LITHOTHAMNION				
NEREOCYSTIS SPP				
PORPHYRA SPP				
RALPHSIA/HILDENBRANDIA				
PHODOMELA LARIX		32		
RHOHOMENTIA PALMATA		1		
SCYTOSIPHON SPP		32		
ULVA SPP				
ZOSTERA MARINA		1		
ENTOROMORPHA				
<i>Adiantum-like</i>		1		

FAUNA:

ANTHOPELEURA SPP				
(SEMI) BALUNUS CARIOSUS				
B. GLANDULA	123	123		
BRYOZOANS				
CHITONS (other than K. TUNICATA)				
CLAMS		3		Portulaca & Saxidomus
CRABS				
DERMASTERIAS IMBRICATA			1	
KATHARINA TUNICATA				
LEPTASTERIAS HEXACTIS				
LIMPETS		123		
LITTORINA SPP		123		Denar sand soft masses in cobble
NUCELLA SPP		123		
PAGURUS SPP		3		
PISASTER OCHRACEUS				
POLYCHAETES		6		under cobble 2cm long, pale yellow
PYCNOPODIA HELIANTHOIDES			1	
SEARLESIA DIRA				
SERPULIDS				
SIPHONARIA THERSITES				
TEALIA				
<i>Tedus miltaria</i>		2		small lobes, black

५५ =

1964



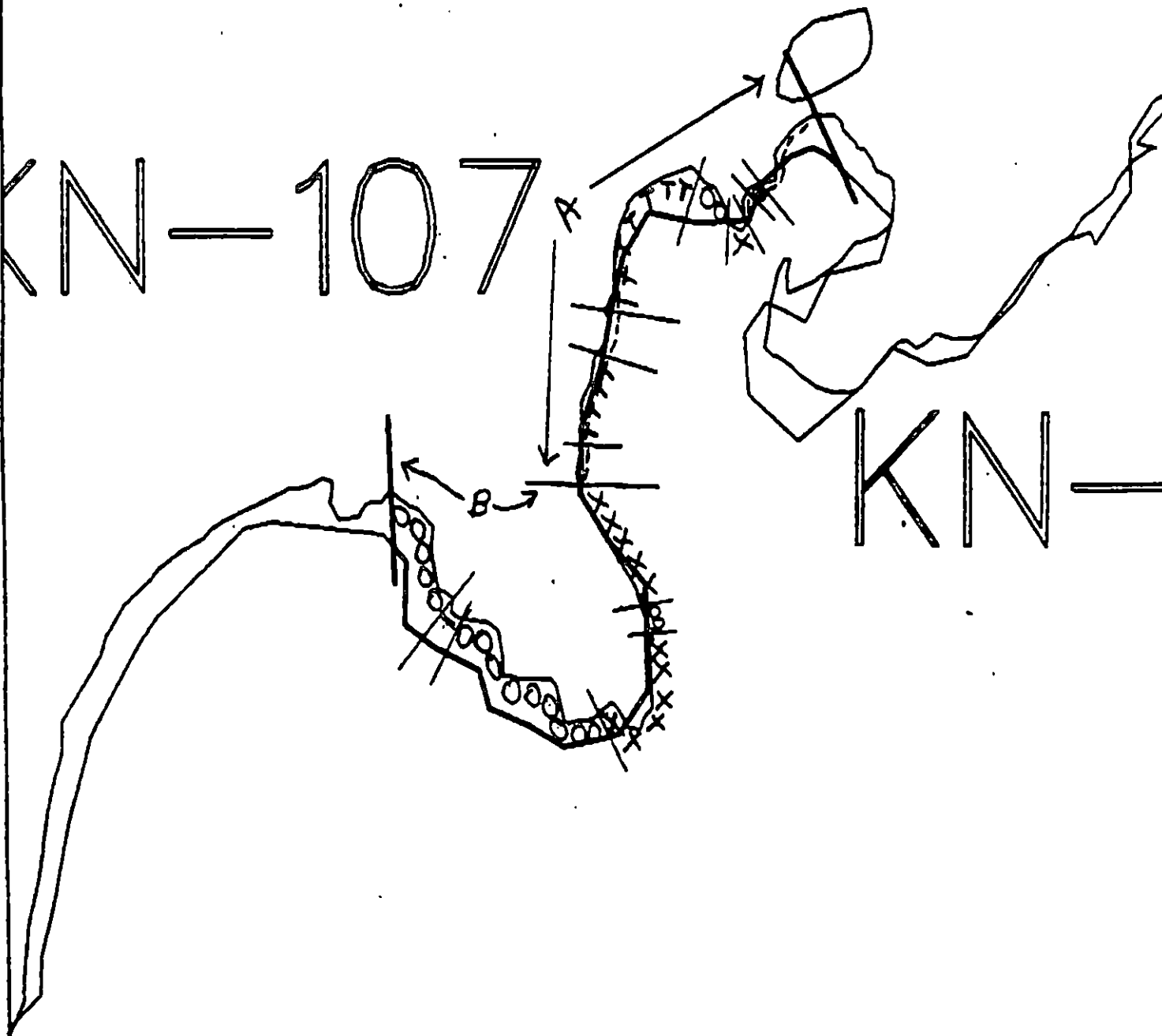
- Subdivision is a cove with one stream that appears to be yearn. Stream is not listed as Salmon although there is some potential habitat for Pinks. Stream takes a sharp inc. immediately past SUPRA.
- Most of subdivision is an angular cobble field with a moderate mussel bed. 40% Mortality — 95% of the shell have been drilled. There are living mussels w/o oil droplets on st.
- Moderate $\Rightarrow$ Sparse Clam bed — both *Prothothoe*; *Saxidom*
- Otter digs present from Boulder on East side to West of runoffs. Frequent # of digs between stream and ^{western} runoffs = heavy otter. There was a otter swimming in the cove throughout survey. Otter hip bones; vertebrae were found in SUPRA.
- On headlands 30% of *Fucus* fronds were reproductive, Light Brinack scarring on U12 headlands.
- One marsh patch in SUPRA $\approx 12m \times 5m$. Obae patch is grass — this area should have restricted access.

- Subdivision is a cove with one stream that appears to be year-round. Stream is not listed as Salmon although there is some potential habitat for Pinks. Stream takes a sharp inc. immediately past SUPRA.
- Most of subdivision is an angular cobble field with a moderate mussel bed. 40% Mortality — 95% of the shell have been drilled. There are living mussels w/oil droplets on st.
- Moderate $\Rightarrow$ Sparse Clam bed — both *Prothothoe* & *Saxidom*
- Otter digs present from Boulder on East side to west of runoffs. Frequent # of digs between stream and ^{western} runoffs = heavy otter. There was a otter swimming in the cove throughout survey. Otter hip bones & vertebrae were found in SUPRA.
- On headlands 30% of *Fucus* fronds were reproductive.
- Light Drift scarring on U12 headlands.
- One marsh patch in SUPRA $\approx 12m \times 5m$. Above patch is grass — this area should have restricted access.

DT 02

KN-107

KN-



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

KN-107

ADEC Segment Length: 1289
~~4422m~~



Map Key: PWS-287

Name: James Spring

Date: 4/22/90

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-107 SUBDIVISION B (2 of 2)

WORK WINDOW	
Tarmat Removal	OPEN
Bioremediation Other Approved Treatment	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

No applicable ecological time constraints.

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC

[Signature]

Date

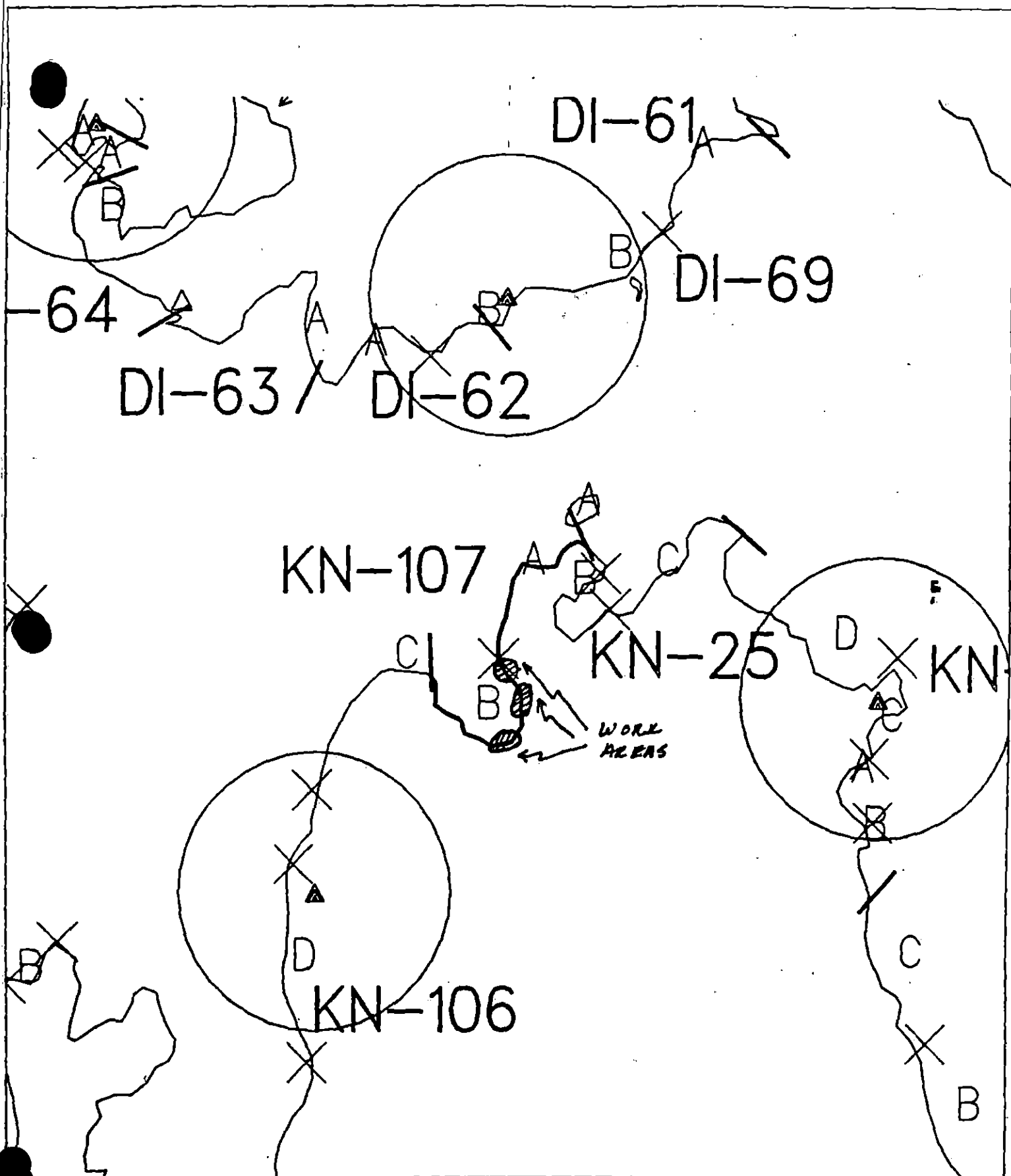
7/3/90

Prepared by

W. Kelly

Date

7/3/90



Exxon Company, USA
Map Keys PMS-KN-107

ECOLOGY MAP SEGMENT KN-107

SUBDIVISION B (2 of 2)

METERS

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

SHORELINE EVALUATION

SEGMENT ST/ KN-108 SUBDIVISION A (1 OF 1) DATE 4/24/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T (1) All Bald Eagle nests (3/1 to 6/1) within 400m in adjacent segment
5T Active Bald Eagle nests (3/1 to 9/1)
See attached Ecological sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to uncoiled biota and substrate. (See above)

SHPO SIGNATURE: Rachel Dan Dine DATE: 6/1/90

OILING CATEGORIZATION:

Wide 0 m: Medium 283 m: Narrow 0 m: V.Light 411 m: No Oil 0 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> </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: 1) Manual movement of logs from upper ITZ in area indicated on sketch map, 2)* manual raking of upper ITZ into mid ITZ, and 3) bioremediation of raked area as indicated on sketch map. Work should be conducted after 6/1 with approval of USFWS due to eagle nest constraint.

TAG COMMENTS: MANUAL PICKUP OF OILED DEBRIS, MONITOR TO
ADDRESS THE LOGS

TAG APPROVAL DATE: 5/21/90
ADEC ART WILSON
EXXON ANDY TAYLOR FOSC: [Signature] DATE: 6-8-90
NOAA JOHN TALBOT
USCG P.A. DETER

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 (5/7 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 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

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

O, 3Q 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. 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

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

Finfish harvesting

Deer harvesting (2/15 to 2/26)

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-108 SUBDIVISION: A DATE 4-24-90

USCG

NAME BM3 David A. S. Jester SIGNATURE BM3 David A. S. Jester

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

There is oil on the surface and subsurface on one of the beaches in this segment. Composed of cobbles boulders and pebbles. There is residual oil in uppertidal zone. There is a number of large trees that will have to be removed in order to get to the oil on part of this beach.

ADEC

NAME Dianne Munson SIGNATURE Dianne Munson

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Primarily bedrock cliff w/ pocket beaches.

Surface coats and tarballs.

Subsurface o.r. / o.p. oil, at pit areas #6,7.

oiled logs and debris

Recommend removal of oiled logs/debris, manual tilling, warm water flooding, steam washing and bioremediation at pit areas #6,7.

LAND MANAGER

NAME David Mandrella SIGNATURE David Mandrella

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Primarily vertical high ^{angle} bedrock and rock rubble with high angle pocket beach.

Priority area within segment, which warrants treatment occurs in the upper intertidal in the vicinity of pits 6 and 7. This 40 m. x 4 m. area is susceptible to oiling due to presence of op sediments. Remove oiled logs and debris.

Recommend manual tilling, spot washing and flooding, followed by bioremediation.

SHORELINE OILING SUMMARY

REVISION NO. 04-13-90

OG A. Pittenger USCG D. Sylvester SEGMENT ST/ KN108
 BIO J. Benson LAND REP D. Mandrella SUBDIVISION A (1 OF 1)
 EXXON C. Katsimpalis ADEC D. Munson TIME 17:03 to 19:20
 TEAM NO. #8 TIDE LEVEL 5 → 1 → 2 ft DATE 4 / 24 / 90
 EST. SUBDIVISION LENGTH: 728 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 20 % C 15 % P 15 % G 0 % 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 200 m N 0 m VL 528 m NO 0 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	N	E	S	W	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
STAIN			X									X	X
MOUSSE													
PATTIES													
TARBALLS													
FILM													
NO OIL										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	X		
Vegetation			
Trash			
Debris	X		

DID YOU COLLECT DEBRIS? Unaffected
Nothing
 YES ☒ NO ☒

TYPE Float/Repe#BAGS 1

Photographs:

Roll No. 54-8-4Frames 35

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)	T	SURFACE - SUBSURFACE SEDIMENTS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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COMMENTS

44

4-76-40

SHORELINE OILING SUMMARY (PAGE 2)

REVISION 00-1300

SEGMENT ST/ KN108 SUBDIVISION A (1 OF 1)

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR							PIT ZONE				A N A	SCREEN (Y/N)	↓	SURFACE SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		VO	VC	~~SP~~	~~BP~~	~~GR~~	~~BL~~	~~BR~~	~~TR~~	BU	U	M	U					
7	40	X					0-20		X	X						X						Y	15	P-P
8	30					X	.											X				N	10	P-P
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COMMENTS

REVIEWED MM

DATE 4-26-90

SKETCH MAP

N

HERING BAY

- Scale
- Sub Body
- Dist.
- Width
- Length
- % Cover
- Substrate Character
- Est. HVR/LVR
- SSL
- Profile Location(s)
- Profile(s)
- PH Location(s)
- Photo Location(s)

LEGEND

- 1 Δ
- PH - No Subsurface Oil
- 2 Δ
- PH - Subsurface Oil
- CT/C
- Coastline Distribution
- CT/B
- Broken Distribution
- CT/P
- Patchy Distribution
- CT/S
- Spotted Distribution
- Oil Vegetation
- 1 00
- Photo location, direction, and number

MANUALLY MOVE
OILED LOGS OUT OF
WAY, RAKE UPPER ITZ
INTO MID ITZ AND
BIOREMEDIATE
RAKED AREA

Vertical/H. ang. Bedrock
and rock rubble
with H. ang. Pocket
brackets

UI, CT/P, 1/2 x 20m, 50%

MI, LI, CT/P, 7 x 20m, 40%

PASSAGE POINT
L. ang B bench/Rock
platform

LOWER PASSAGE

ST/S & UI, CT/S

MI, SOT, 4 x 25m, ~30%

UI, CT/S

Stream

Falls

Forest/Rock

Uncollected Debris
(Net)

UI, CT/P, 4 x 12m, 50%
B. Shear in
rock pools

100

100

100

100

100

100

100

100

100

100

100

100

100

100

100

UI, CT/C, 3m x 15m, 100%

- Symbols
- Oiled Interval
- Bedrock
- Sediment
- B, C, P-Grain Size
- Eagles Nest
- Scale

0m 100m 200m 300m

REVISION: 000000

AP 0 PO 0 CV 0 CT 728 ST 10 MS 0 PT 0 TB 0 FL 0 NO 0

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / KN108 Subdivision A Date (mo / day / yr) 4/24/90

Time (24 hr) 1705-1915 Biologist Benson

- (A) Substrate type and % of segments:
 (1) Bedrock 50 (2) Boulder 20 (3) Cobble 15 (4) Pebble 15 (5) Sand 0 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense 60 Moderate 10 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-4

Frames 33-35

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 mature bald eagle. (*Haliaeetus leucorhynchus*)
 1 eagle nest within segment - it is not known if the nest is active (sketch map)
 3" long stenophore: just offshore
 Ecological Considerations: No sensitivities (eagle nest within 400 m of south boundary)

Wave exposure here is high. This is reflected in the presence of *Alaria*, the predominance of "weedy" species of algae (green & red filamentous spp., *Rhodomythra*, *Ulva*), the absence of organisms on cobbles, and the presence of algae on the bottoms, as well as the tops, of boulders. The number of species is moderate and the standing stock on stable substrates is high. Evidence

ECOLOGY MAP

RESOURCE CODES FOR
ENTIRE SEGMENT:

NONE

BALD EAGLE NEST $\leq$ 400m OF
SEGMENT (KN-109)

KN-108

▲ new? eagle's nest
[I could not determine
whether it is an
active nest]

K

XXXX Wide

//// Medium

--- Narrow

TTTT Very light

KN-108

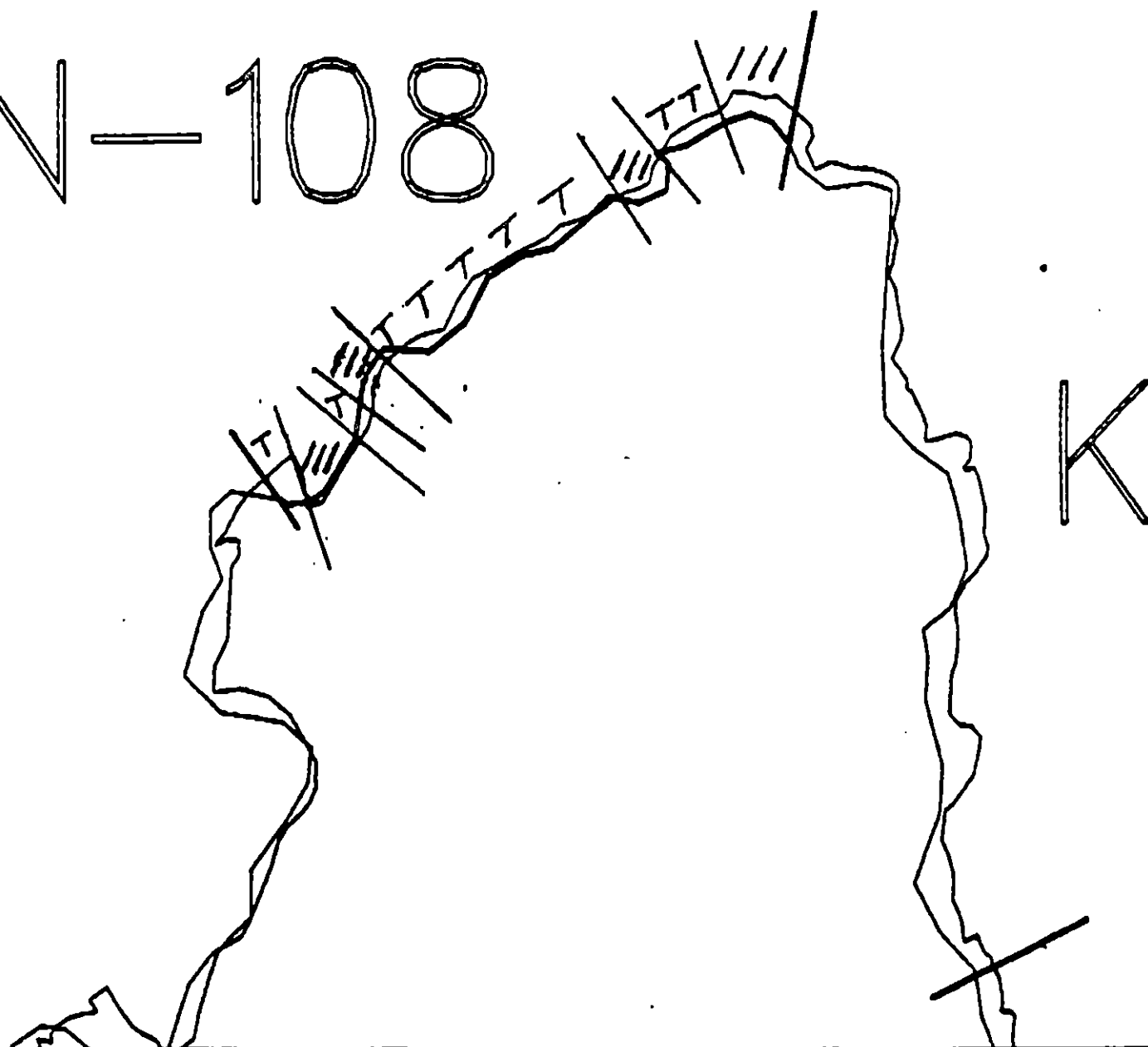
ADEC Segment Length: 694m

Map Key: PWS-288

Name: Benson

Date: 4/24/90

KN-108



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

KN-108

ADEC Segment Length: 694m

Exxon Segment Length: 728m

Map Key: PWS-288

Name: Pittenger

Date: 4/24/90

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-108 SUBDIVISION A (1 of 1)

WORK WINDOW

Manual Pickup

CLOSED

Bioremediation
Manual Raking

CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T Bald Eagle Nest

USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to bioremediation, manual raking and manual pickup within 400m of active nest. No constraint to bioremediation, manual raking and manual pickup more than 400m from active nest.

OTHER ECOLOGICAL CONSIDERATIONS

If eagle nest constraint is removed, other ecological considerations will apply.

FOSC

D. G. Sarno

Date

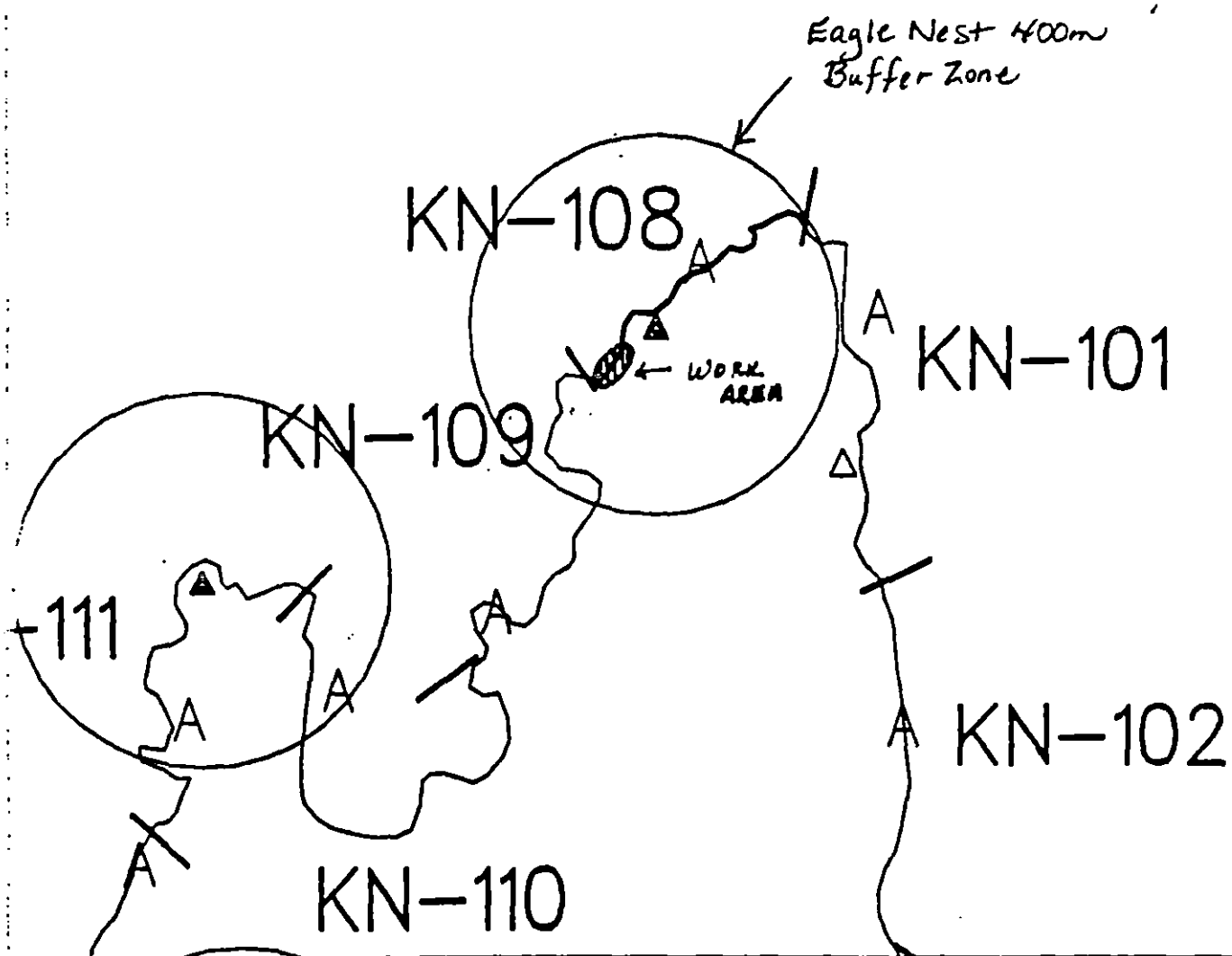
6/14/90

Prepared by

J. P. Pauls

Date

6/14/90



Exxon Company, USA
Map Key: P&S-KN-108
June 09, 1990



ECOLOGY MAP
SEGMENT KN-108
SUBDIVISION A (1 of 1)
METERS
0 301 701

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

1 inch = 1249 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-109 SUBDIVISION A (1 OF 1) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Active bald eagle nest (5T) - 3/1 to 9/1.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

(5T) Restrict air traffic to essential minimum. Air approach and takeoff from and to seaward only. Contact USFWS prior to treatment for confirmation of dates and avoidance minimums.

SHPO SIGNATURE: *Mark E. Jones*

DATE: 4/17/90

OILING CATEGORIZATION:

Wide 0 m: Medium 668m: Narrow 369 m: V.Light 0 m: No Oil 0 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>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)

COMMENTS: Recommend manual pick up of oiled debris and bioremediation of areas where subsurface oil found, as shown on attached sketch map. Contact USFWS prior to treatment per above constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/16/90

ADEC *AL KELLER*

EXXON *ANDY TEAL*

NOAA *Burt Wescott*

USCG *G.A. REITER*

FOSC: *[Signature]*

DATE: 4-20-90

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN 109 SUBDIVISION: None DATE 4-2-90

USCG

NAME

W.E. White

SIGNATURE

William E. White☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED.

COMMENTS

Manual Removal surface oil - washing and tilling
of bedrock's. (Surface cobbles)

ADEC

NAME

Dianne Munson

SIGNATURE

Dianne Munson☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Residual oil in subsurface sediments. Subsurface clearly shows mobile brown/black oil, free floating in interstitial water. Coats on cobbles and bedrock outcroppings, oiled vegetation in supratidal. It appears that the cobbles act as a glue over an oiled sand gravel substrate. This does not allow natural wave cleansing. Where surface terrain is sand and gravel there is very little subsurface oiling. Recommended treatment includes removal of oiled vegetation, manual removal of surface cobbles and tilling and washing to remove the subsurface mobile oil.

LAND MANAGER

NAME

David Mandrella

SIGNATURE

David Mandrella☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Thin coating on ^{surface} boulder, cobble areas in small pockets in upper intertidal zones requires manual tilling and bioremediation. Small patch of cobble, boulder cover in intertidal zone in northwest cove may require spot washing followed by bioremediation.

SHORELINE OILING SUMMARY

REVISION NO. 02/22/90

OG Sawyer USCG White SEGMENT ST/ KN109
 BIO Benson LAND REP Mandrella SUBDIVISION none 4 (10 ft)
 XXON Katsimpalis ADEC Munson TIME 13:00 to 14:30
 TEAM NO.: 8 TIDE LEVEL: +1 to +1 DATE Apr 1 2 1990
 EST. SUBDIVISION LENGTH: 1168 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☒ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: S to N
 SURFACE SEDIMENTS: R 50 % B 25 % C 15 % P 10 % G - % S - % M - % V - %
 SLOPE: Long 0 % Hang 10 % Vert 50 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W - m M 800 m N 368 m VL - m NO - m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	C	R	P	B	SP	OR	OL	OF	NO	SU	U	M	U			
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 Rock, bony#BAGS 1

Photographs:

Roll No. St-8-1Frames 32

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	VO	SP	OR	OL	OF	NO	SU	U	M	U					
1*	30																					N	G, P, G, wt
2	45																					N	P, G, C
3*	20						0.5															N	B, P, G
4	25																					N	P
5	30																					N	P, C
6*	25						5-15															N	C, G, P, wt

COMMENTS ST/KN109 has three cobble and boulder beaches separated by bedrock (pillow basalt) headlands. Oil at pit 6 was apparently buried and not infiltrated. * Films were observed on water in Pits 1 and 3 only [ie: not on sediment]. (Comment from T.S. on 4-6-90, YH).

SHORELINE ECOLOGICAL SUMMARY

REVISION: 09/22/90

Segment ST / KN109 Subdivision None Date (mo / day / yr) 4/2/90

Time (24 hr) 1250-1415 Biologist J. Benson

(A) Substrate type and % of segments:
(1) Bedrock 50 (2) Boulder 25 (3) Cobble 15 (4) Pebble 10 (5) Sand 0 (6) Silt 0

(B) Overall % cover of biota (% of segment): Dense 50 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-8-1

Frames 32

BARNACLES

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

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	X	X	X	
3	3	3	3	3	3	3	3	3	X	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	

GASTROPODS

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

1 ^{adult} Bald Eagle (*Haliaeetus leucocephalus*); seal/sea lion (in water far away)
This site is characterized by a high productivity: the % cover overall is high due to abundant *Fucus*, barnacles and green filamentous algae.

Ecological Considerations:

sensitivity: 5T

The diversity of species was not as high as KN 133 yesterday, probably because there are fewer tidepools & other habitat types. The high productivity may result in part from the direct exposure to the N & NW.

OG Saw

SWITCH MAP

SEGMENT ST KN109

SUBDIVISION NONE

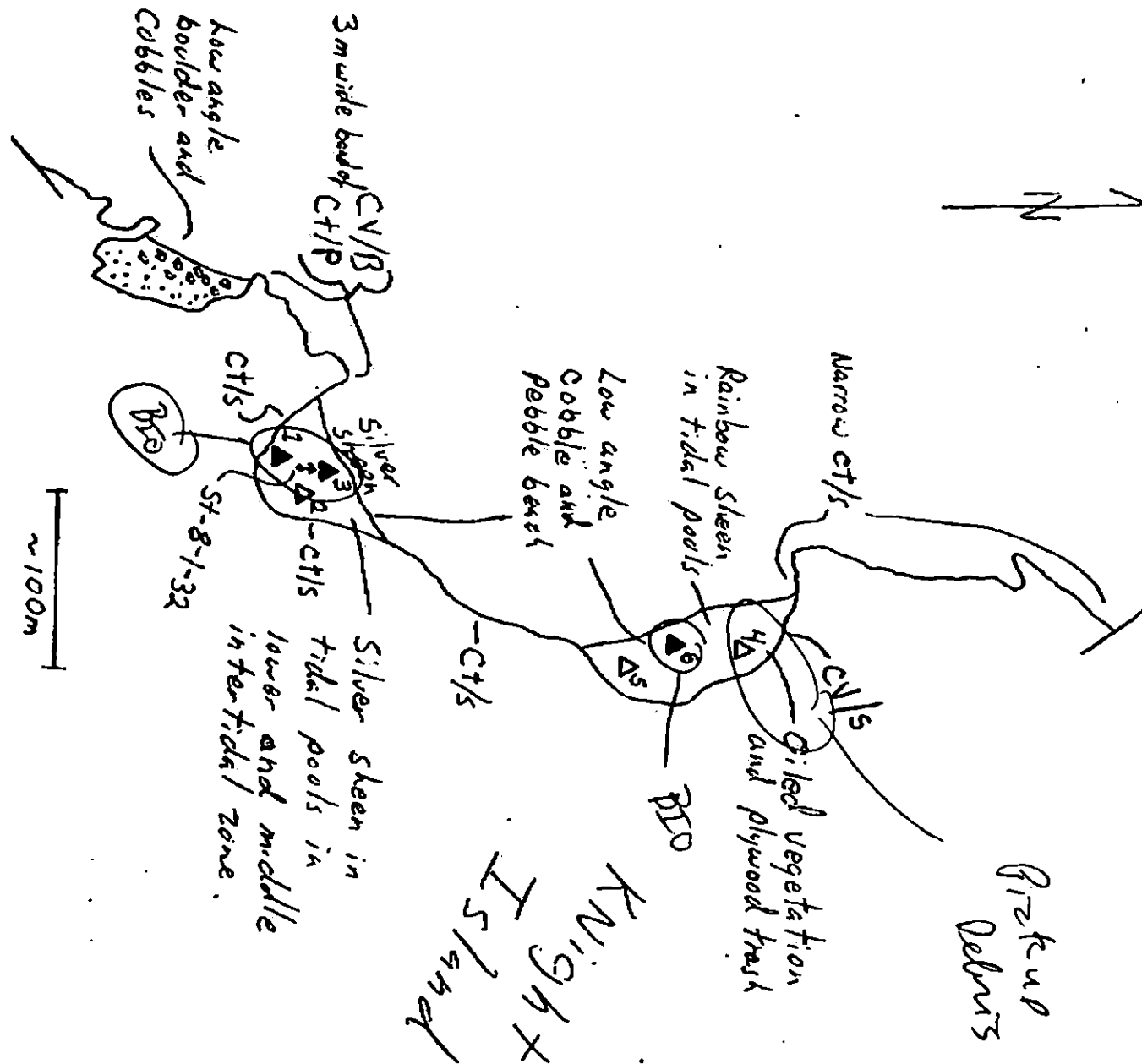
DATE Apr 12 90

CHECKLIST

- ☐ N Area
- ☐ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HAV/L/VIL
- ☐ 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
- $\odot$
Oiled Vegetation
- $\odot$
Photo location, direction, and number

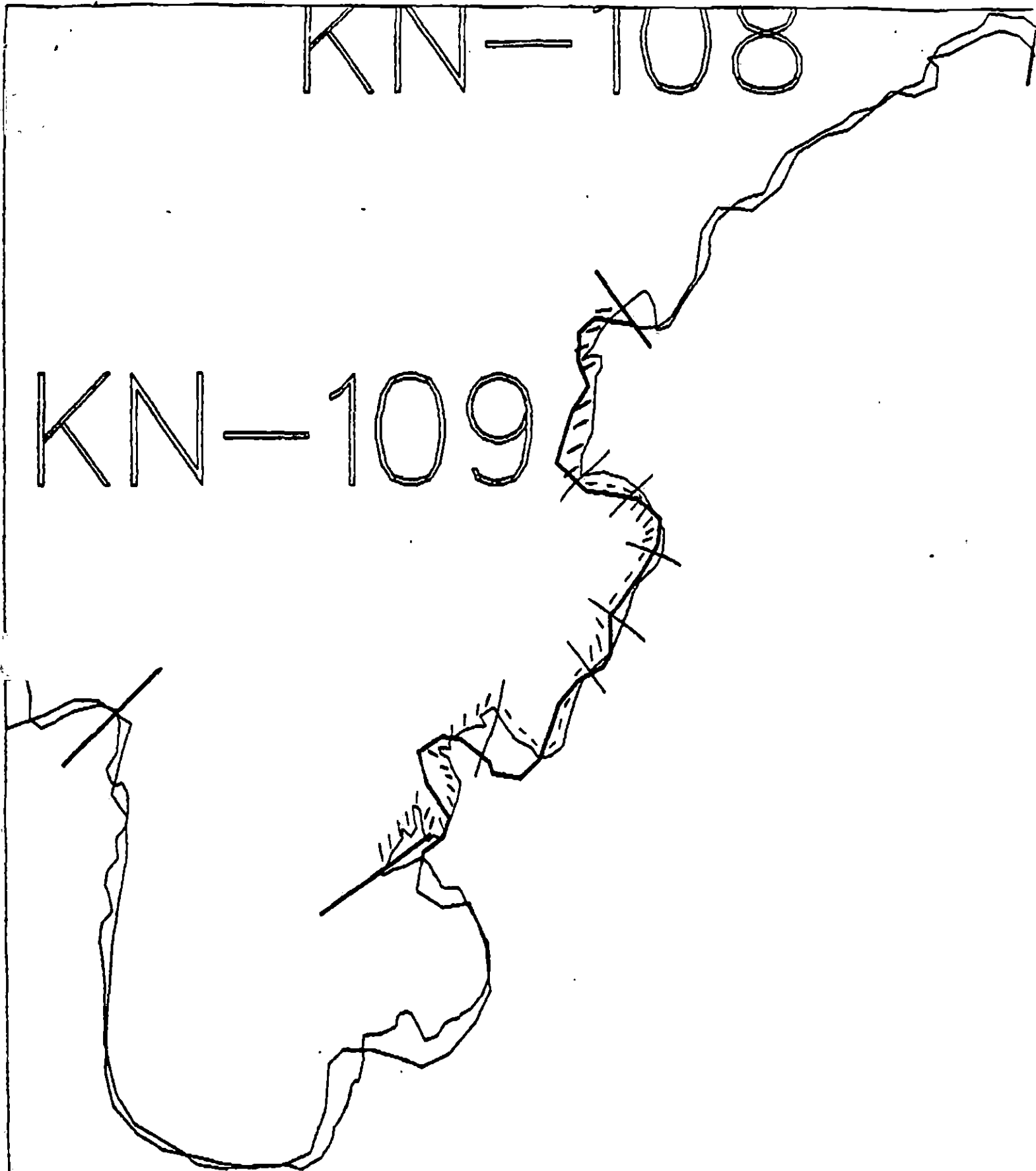


Oil Character Length (m): AP — PO — CV 90 CT 1100 ST — MS — PT — TB — FL — NO —

REVISION 000000

KN-108

KN-109



XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-109

ADEC Segment Length: 1037m



METERS

Map Key: PWS-289

Name: SawyerDate: Apr. 2, 1990

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-109 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup	OPEN
Bioremediation	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T **Bald Eagle Nest** NO CONSTRAINT. USFWS 6/1/90 map indicates an active nest within 400m of Subdivision A work site, however, USFWS has granted access to work site per 5/27/90 survey conducted by Mike Lockhart (see map). No constraint to manual pickup and bioremediation.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict air traffic and all disturbance to essential minimum. No personnel or boat traffic within USFWS designated buffer zone. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from active nests. Avoid any unnecessary disturbance or damage to uncoiled biota and substrate.

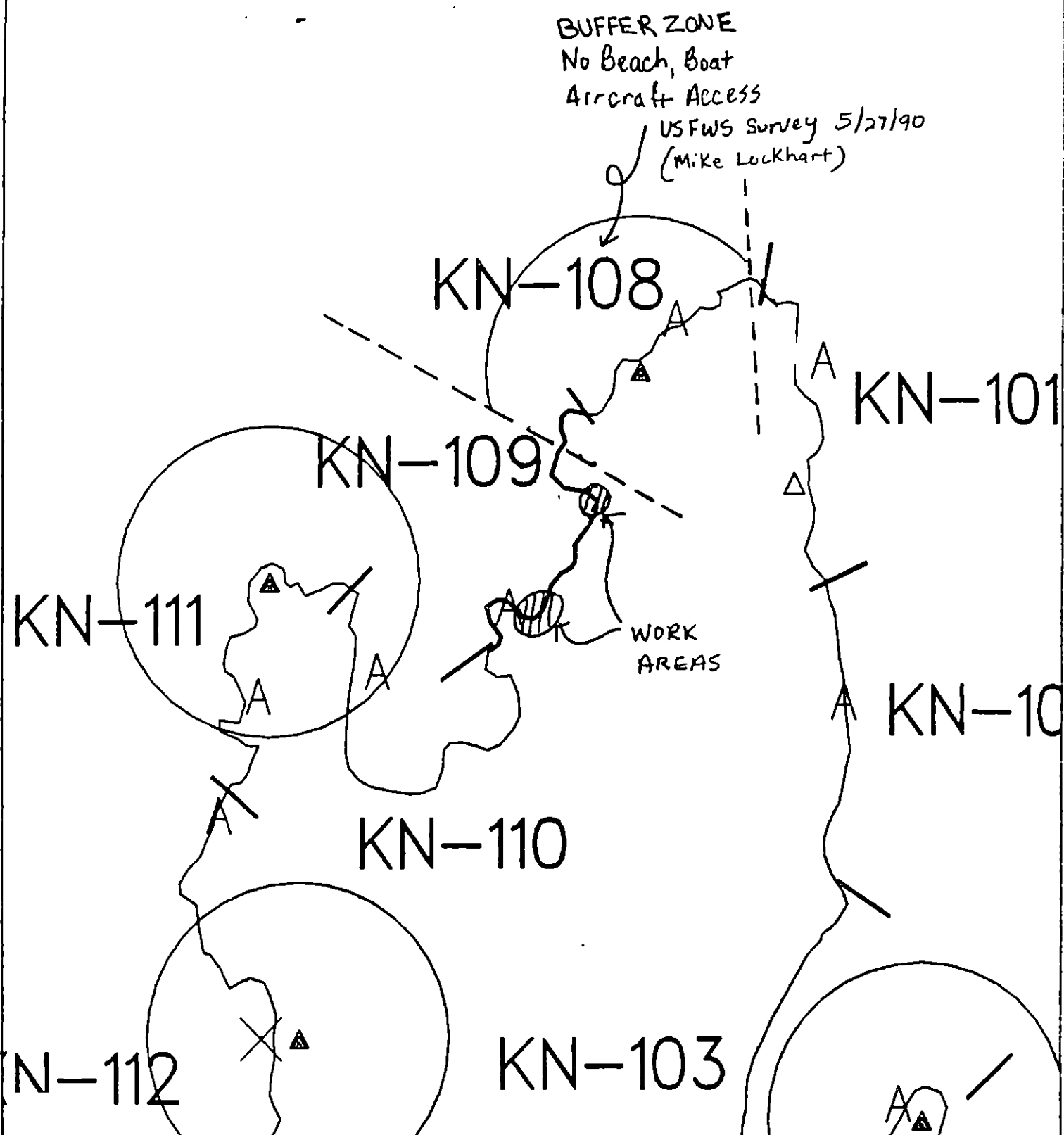
OSC W L DATE 6-10-90

Prepared By:

V. P. Phillips

Date

6/9/90



Exxon Company, USA
M. V. 1, P. 100-100



ECOLOGY MAP
SEGMENT KN-109
SUBDIVISION A (L of I)
METERS

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

SHORELINE EVALUATION

SEGMENT ST/ KN-110 SUBDIVISION A (1 OF 1) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-10-16928.

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. Do not trample or otherwise damage mussel beds.

SHPO SIGNATURE: Charles E. Johnson DATE: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 844 m: Narrow 209 m: V.Light 251 m: No Oil 0 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>X</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: Recommended treatment includes 1) manual removal of asphalt
2) manual removal of logs if oil coverage exceeds 10%, 3) bioremediate
areas as indicated on sketch map. Work should be conducted between
5/15 and 7/10 based on salmon constraints.

TAG COMMENTS: _____

TAG APPROVAL DATE: 4/21/90.
ADEC ART WEINERT
EXXON BOB TOL
NOAA Burt Worcester
USCG KENNETH KEANE

FOSC: W L DATE: 5-6-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A
1B
1C
1D
1E
1F
1G
1H
1I
1J
1K
1L
2M
3N, 3P
3O, 3Q
5R
5S
5T
6U
6V
6W
6X
6Y
7Z
7HH
7H
7JJ
- 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. Contact ADF&G Habitat Division prior to treatment for permits.
- Salmon fry nursery area (4/31 to 7/31)
- Esther Hatchery release (4/15 to 6/1)
- Main Bay Hatchery release (4/20 to 5/10)
- Sawmill Bay Hatchery release (4/15 to 6/1)
- Cannery Creek Hatchery release (4/21 to 6/1)
- Remote release site
- Gill net area (8/7 to 8/31)
- Purse seine area (7/20 to 9/30)
- Purse seine hook-off (7/20 to 9/30)
- Set net sites (6/11 to 7/25)
For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
- 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.
- 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.
- 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.
- Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic.
- 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.
- Recreation: Tent sites (8/1 to 9/15)
- Anchorage (8/1 to 9/15)
- Forest Service cabins (6/1 to 9/15)
- Lodge (8/1 to 9/15)
- Special use destination
- Subsistence area: Salmon harvesting (5/1 to 9/30)
- Finfish harvesting
- Deer harvesting (8/15 to 2/28)
- 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 110 SUBDIVISION: None DATE 4-2-90

USCG

NAME

W.F. White

SIGNATURE

William E. White☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Manual Removal of coats on bedrock and surface oil by dredging / tilling and washing also logs 50% oiled.

ADEC

NAME

Dianne Munson

SIGNATURE

Dianne Munson☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Residual oil in subsurface sediments. Subsurface clearly shows mobile brown/black free floating oil in interstitial water. Coats on cobbles and bedrock outcroppings. Large log 50% oiled.

Recommend removal of oiled log, manual removal of coats on bedrock and remove subsurface oil by dredging / tilling and washing.

Note: Tested a wire brush on the bedrock coats. This worked very well and resulted in complete removal of the coat.

LAND MANAGER

NAME

David Mandrella

SIGNATURE

David Mandrella☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Anadromous stream located in southeast cove of segment adjacent to an apparent bioremediation study site. Three tier band of coated cobble and boulder in upper tidal areas of ~~sub~~ cove should be treated by manually scraping and absorbing coats of oil using oil wicking needles. Subsurface layer in pit no. 3 may require manual tilling and continued

SHORELINE OILING SUMMARY

REVISION NO. 03/23/90

OG Sawyer USCG white SEGMENT ST/ KN110
 BIO Benson LAND REP Mandrella SUBDIVISION AREA A (ref)
 EXXON Katsimpalis ADEC Munson TIME 10:30 to 13:45
 TEAM NO.: 8 TIDE LEVEL: +6 to +1 DATE Apr 12 / 190
 EST. SUBDIVISION LENGTH: 1383 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☒ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 50 % B 30 % C 10 % P 10 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 70 % Hang 10 % Vert 20 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 950 m N 210 m VL 223 m NO 0 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	N	NE	E	SE	1	2	3	4	5	6	7	8	BU	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 / BAGSNEAR SHORE SHEEN? NO BR RW (SL) TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☒ YES ☐ NOTYPE Styrofoam#BAGS

Photographs:

Roll No. ST-8-1Frames 28-31

SUBSURFACE OIL * oiled interval < 5cm in pit #6 does not constitute 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			1	2	3	4	5	6	7	8			
1	30						---										N		C, P, G
2	30						---										N		P, G
3	25						2-20										N		B, C, P, wt
4	30						---										N		P, G, P
5	25						---										N		P, G
6	30						0-5										N		P, G, P

COMMENTS ST/KN110: Large cove with several ^(low angle) pebble and cobble beaches. Splash and few broken coats in upper and middle intertidal occur throughout most of segment. Pit 6 was excavated in a 1-2 m² pavement in the upper intertidal zone. Pit 3: Film observed on water in pit, but oil interval not observed.

OG Saw —
 SEGMENT ST/ KN110
 SUBDIVISION None
 DATE Apr 12 90

CHECKLIST

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

LEGEND

1 Δ
 Pt - No Subsurface Oil

2 Δ
 Pt - Subsurface Oil

CT/C
 Continuous Distribution

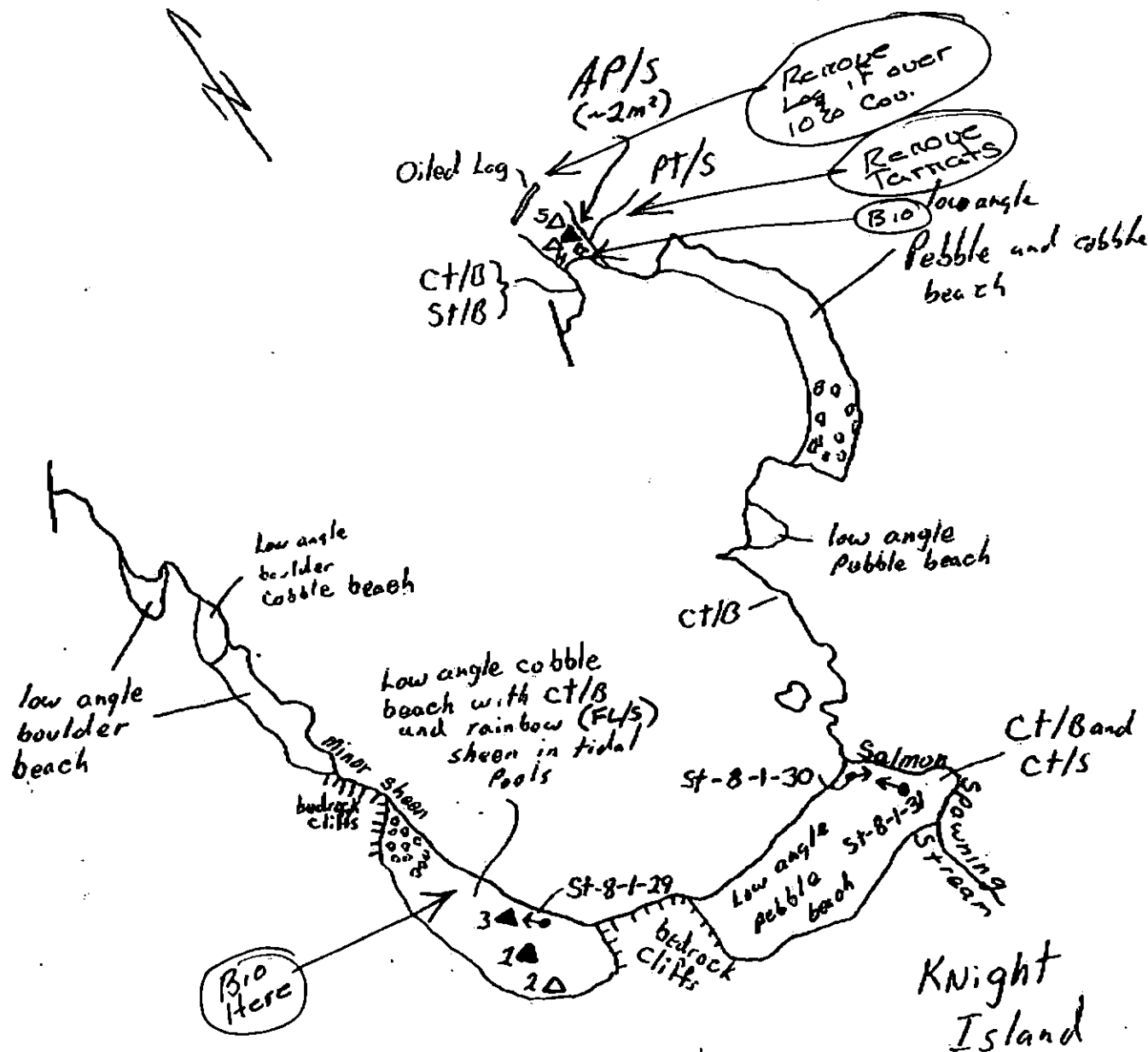
CT/B
 Broken Distribution

CT/P
 Patchy Distribution

CT/S
 Splashed Distribution

Oiled Vegetation

1 ●
 Photo location, direction, and number



Oil Character Length (m): AP — PO — CV — CT 1200 ST 400 MS — PT 50 TB — FL 300 NO —

REVISIONS

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/23/90

Segment ST / KN 110 Subdivision None Date (mo / day / yr) 4/2/90Time (24 hr) 1040-1230 Biologist J. Benson

(A) Substrate type and % of segments:

(1) Bedrock 5 (2) Boulder 30 (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 (O)

Photographs:

Roll No. ST-8-1Frames 28-31

BARNACLES

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

Wildlife Observations/ General Comments:

Adult (2) bald eagles (*Haliaeetus leucocephalus*); cormorants

The overall % cover was much lower here than in KN109, primarily because the cover of green filamentous algae was low. The moths.

Ecological Considerations:

Sensitivity: 1B

The stream contains a cobble/pebble substrate (as at KN132) in which there is an abundant bed of small (1"-3" long) *Mytilus*. These mussels are easily damaged by boat traffic.

KN-109

KN-110

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

KN-110

ADEC Segment Length: 1303m



Map Key: PWS-291

Name: SawyerDate: Apr. 2, 1990

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS**SEGMENT KN-110 SUBDIVISION A (1 of 1)****WORK WINDOW**Manual Pickup
Tarmat 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 MONITOR REQUIRED ON SITE.**

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

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

ADF&G catalogued anadromous stream (226-10-16928) is present 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.

5T**Bald Eagle Nest**

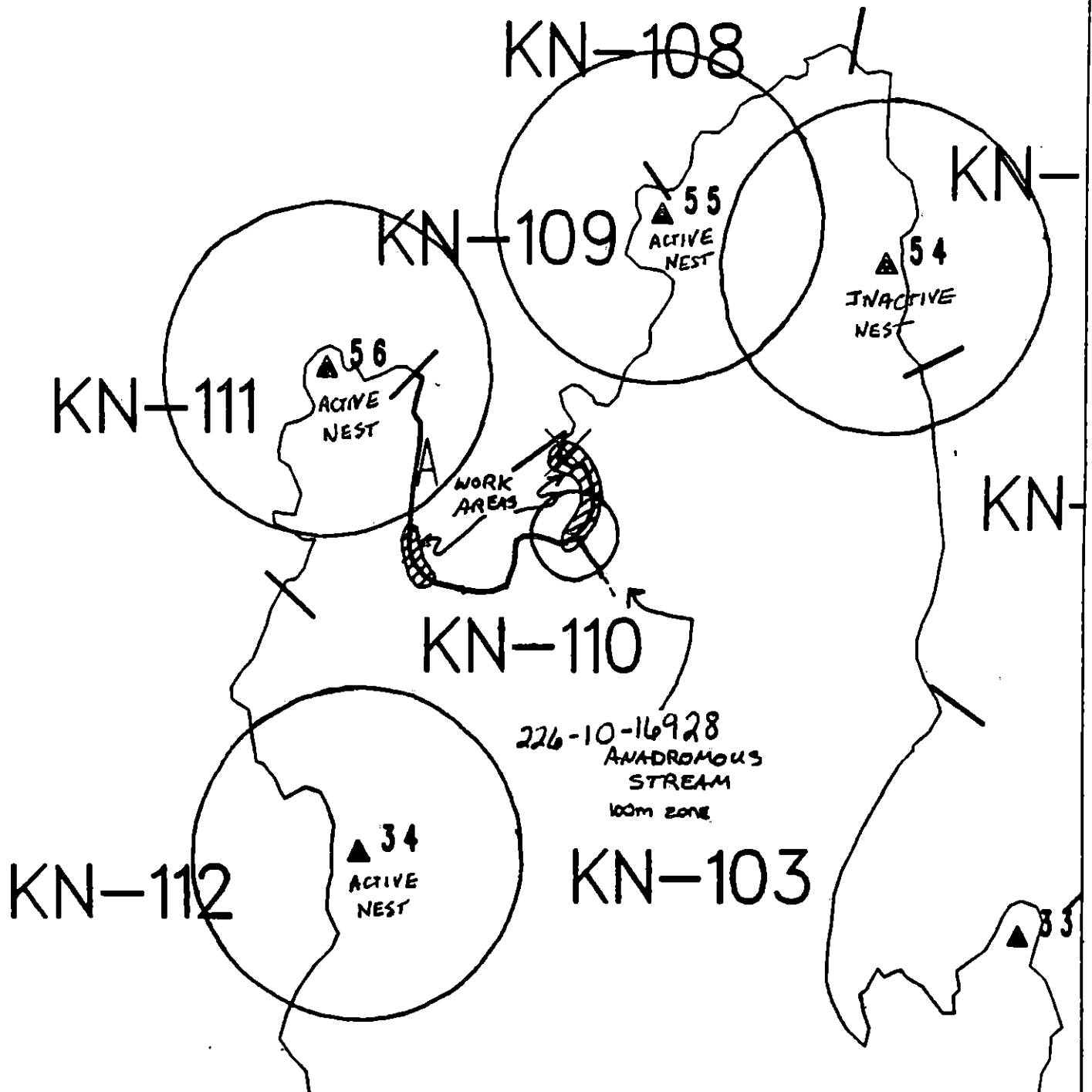
NO CONSTRAINT. Recommended treatment areas are more than 400m from eagle nest site.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or banks. No flushing of pollutants or sediments into stream drainage. Avoid any unnecessary disturbance or damage to uncolled biota and substrate. Do not trample or otherwise damage mussel beds.

**SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM (STREAM NO. 226-10-16928)
FOR ADDITIONAL CONSTRAINT INFORMATION**TAG ADDENDUM DATE 6/04/90ADEC Ray MorrisEXXON Ray MorrisNOAA Joseph TallentUSCG Edy MeierFOSC [Signature]DATE 6/5/90Prepared by: [Signature]Date: 6/4/90

* INCORPORATES FWS 6/11/90 BALD
EAGLE NEST SURVEY MAP.



Exxon Company, USA
Map Keys KN1-KN-110
May 11, 1990

ECOLOGY MAP
SEGMENT KN-110
SUBDIVISION A (1 of 1)
METERS
0 377 755

★ Seabird Colony
▲ Eagle Nest

1 inch = 1238 feet

ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 226-10-16928

SEGMENT KN-110 SUBDIVISION A

WORK WINDOW

NO TREATMENT RECOMMENDED

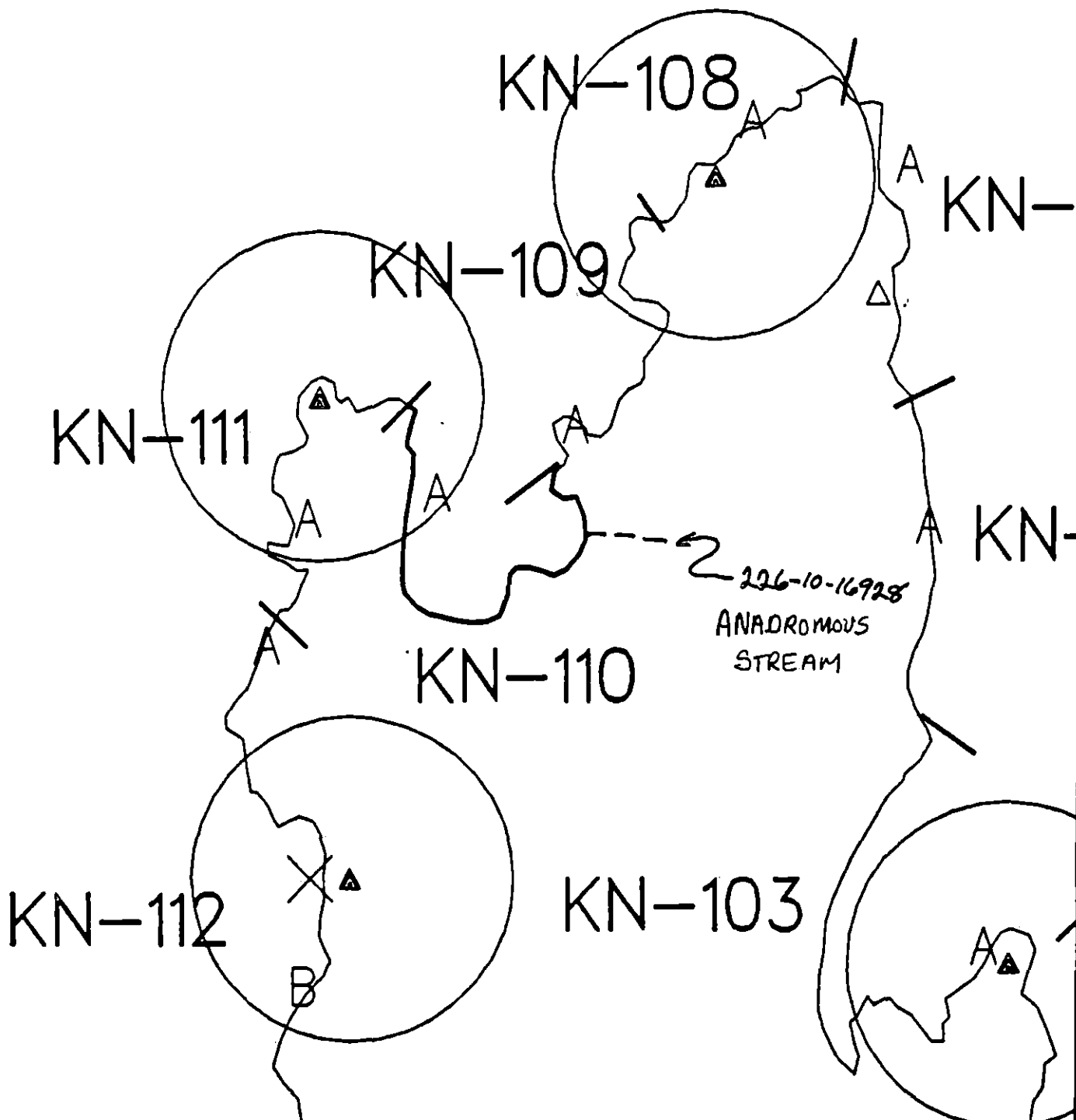
ARCHAEOLOGICAL STANDARD CONSTRAINT

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

OTHER ECOLOGICAL CONSIDERATIONS

SEE SUBDIVISION CONSTRAINT ADDENDUM KN-110A
FOR ADDITIONAL CONSTRAINT INFORMATION.

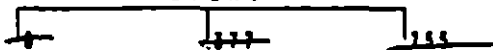
FOSC W L Date 6-12-90
Prepared by J. Phillips Date 6/11/90



Exxon Company, USA

Map Key: PWS-KN-110

June 05, 1990



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

SHORELINE EVALUATION

SEGMENT ST/ KN-111 SUBDIVISION A (1 OF 1) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)

6Y Recreation: Special use destination

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. Hume

DATE: 4/25/90

OILING CATEGORIZATION:

Wide 19 m: Medium 216 m: Narrow 216 m: V. Light 26 m: No Oil 674 m
Subsurface Oil Observed: Yes X No Maximum Depth 40+ cm

RECOMMENDATIONS:

 No Treatment Recommended

X Treatment Recommended

X Manual Pickup

X Bioremediation

X Tarmat: Breakup

X Removal

X Snare/Absorbent Booms

 Oil Snares (pom poms)

 Absorbents (pads, rolls, etc)

X Spot Washing: Wands

 Beach Cleaner

X Other (see comments)

COMMENTS: Recommend manual pick up of debris and trash, removal of
tarmats, spot washing and bioremediation of areas indicated on sketch
map. Reassessment of oiling prior to treatment is recommended because
the snow cover limited the Phase I SSAT evaluation. Treatment should
be conducted after 6/1 and with permission of USFWS due to eagle nest-
ing constraint.

TAG COMMENTS: PRIOR TO BIOREMEDIATION MANUAL/MECHANICAL IN
AREAS OF TEST PITS 7, 8, +9 AND TEST PIT 3.
USE SNARE BOOMS + ABSORBENT BOOMS TO RECOVER OIL AND
MINIMIZING SHEENING.
MONITORS TO ASSESS THE CONDITION OF LOGS AND DETERMINE SIGNIFICANCE

TAG APPROVAL DATE: 4/17/90

ADEC ART WEINER
EXXON AMY GIL
NOAA Bruce Wescott
USCG KENNETH KEANE

FOSC: W L

DATE: 4-27-90

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.
- 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 birds except those listed in 5S
Active bird nesting areas (5/1 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 ~~Recreation: Boat use destination~~
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
7H-H 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 III SUBDIVISION: A DATE 4-2-90

USCG

NAME Patrick Malay SIGNATURE Patrick Malay☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

The segment is a good candidate for further tag team evaluation due to the amount of subsurface oil present. It is probably a recurrent bleeder but I don't have access to that info. The continuous and broken areas of cover may need to be spotwashed then bioremediated. Manual cleaning is the best treatment for the stain and lightly coated (weathered) areas. The surface and substrate were oiled up to the snowline. There was a large amount of heavily oiled logs in the supratidal zone that should be manually removed.

ADEC

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

Spot wash w/hot H₂O during incoming tide (to avoid excess contamination of lower tidal areas) area nr pit #7. Dredge w/back hoe upper intertidal areas nr sites 8, 9 using boom (sorb) to expose subsurface mobile oil + tar lens to wave action. Bioremediate several times if method proves effective. Biorem. reaches sites 1-5. Debris pickup + inspection all beaches. Leave headland "coat" to continue weathering. Note: this part of the coast has been respon. for numerous winter sheens observed by overflight teams - there is still a significant quantity of hardening oil in mid to supra tide areas.

LAND MANAGER

NAME Steven Phillips SIGNATURE _____☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

This segment needs TAG review.

Scout storm berm for debris. Some logs need removal. Pocket beaches on west side still show extensive surface and subsurface oil. Most areas are above previously washed beaches so they could be treated again without much harm to the biota. Hot/cold water flush, dredging etc can be applied. Suggest booming with absorbant boom during high tide cycles because of mobile oil.

SHORELINE OILING SUMMARY

REVISION NO. 03/88/88

G Greg Chaney USCG Patrick Malay SEGMENT ST/KN III
 IO Jpn Roth LAND REP Steve Phillips SUBDIVISION None Allied
 EXXON Bay Sotelo ADEC Mike Cunningham TIME 10:15 to 10:13:45
 TEAM NO.: 7 TIDE LEVEL: 6.0 ft to 1.0 ft DATE April 12 / 90
 EST. SUBDIVISION LENGTH: 1285 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 70 % B 20 % C 5 % P 5 % G - % S - % M - % V - %
 SLOPE: Long 10 % Hang 30 % Vert 60 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 17 m M 250 m N 200 m VL 350 m NO 468 m

SURFACE OIL

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

PAVEMENT: H F 15 sq. m by 5 cmPATTIES / TARBALLS - BAGSNEAR SHORE SHEEN? NO BR RW SL TL

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

DEBRIS COLLECTED
☒ YES ☐ NOTYPE Pom Pom, Rope
Net, Padlock
#BAGS 2

Photographs:

Roll No. ST-7-1Frames 23, 24, 25, 26, 27

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	BU	U	M	V		
1	35			X			20-35	X		X					X					PC Brown Sheen on water
2	30			X			10-30	X								X				PC "
3	20	X					5-10		X			X				X				PC
4	35					X	0-20	X									X			PC
				X			20-35	GL	X			X								PC
5	35					X	0-25	X												CB CONTINUED

COMMENTS

Significant quantities of mobile oil are still present on the surface of sediments near pit #7.

33

SHORELINE OILING SUMMARY (PAGE 2 of)

REVISION 09/23/93

SEGMENT ST/ 111 SUBDIVISION NONE

SUBSURFACE OIL (CONTINUED)

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		UO	UC	1	2	3	4	5	6	7	8	9	10	11	12		
5	35				X		25-35	X	X									X					CB
6	25					X	0-25	X										X					PG
7	25	X					0-5	X					X					X					CGS
					X		0-25	X	X									X					CGS
8	40	X					0-20	X				X						X					CG
					X		20-40	X	X									X					CG
9	30		X				0-10	X				X						X					CG
10	25				X		0-25	X	X										X				CG
11	20				X		0-20	X	X										X				CG
12	20					X	0-20	X											X				CG
							.																
							.																
							.																
							.																

COMMENTS

ROUGH 1 METER BAND OF
COATED TAR APPROXIMATELY
30% COVERAGE ON
BEDROCK WALL
SHOWN BY
HEXAGONS
○○○○○○○○○○

100 METERS

Bio Here

Bio Here

NORTH EDGE
OF KN-III

SILVER SHEEN

COAT BROWN OIL ON SEDIMENTS IN
HIGH INTERTIDAL ZONE
EXTENDS UNDER
SNOW

Remove
Pavement

PHOTOS 23, 24, 25, 26

Bio Here

OIL STILL MOBILE. SHEEN OBSERVED
ALONG SHORE. OIL ON SURFACE
COBBLES. OIL EXTENDS TO
SUPRA TIDAL ZONE WHICH IS
SNOW COVERED.

PHOTO 27

POCKET OF FREE OIL ON
NORTHERN THIRD OF POCKET
BEACH.

Bio Here

CLEAN SURFACE

50% COVERAGE OF COATED
TAR ON BOULDERS UP TO
SNOW LINE

SOUTH EDGE OF KN-III

KNIGHT ISLAND

HERRING
BAY

SMALL POCKET BOULDER BEACH.
7x12 METER CONTINUOUS COVER
INCLUDING A PATCH OF 3x5
METER PAVEMENT. VERY OILY
POMPOM RECOVERED AT
THIS SITE

SKETCH MAP



GREG CHANEY

SEGMENT ST/KN-III

SUBDIVISION NONE

DATE April 2 90

CHECKLIST

- ☐ N Area
- ☐ Approx. Scale
- ☐ Map/GIS Data
- ☐ CB Data
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. H/W/L Area
- ☐ S/L
- ☐ Photo Location(s)
- ☐ Photo Location(s)
- ☐ Photo Location(s)

LEGEND

- 1 A
- 2 A
- 3 A
- 4 A
- 5 A
- 6 A
- 7 A
- 8 A
- 9 A
- 10 A
- 11 A
- 12 A
- 13 A
- 14 A
- 15 A
- 16 A
- 17 A
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- 98 A
- 99 A
- 100 A

SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/23/88

Segment ST / KN 111 Subdivision _____ Date (mo / day / yr) Apr 2, '90
 (24 hr) ARR 1050 LV 1345 Biologist ROTH

- (A) Substrate type and % of segments:
 (1) Bedrock 60 (2) Boulder 25 (3) Cobble 10 (4) Pebble 5 (5) Sand — (6) Silt —
- (B) Overall % cover of biota (% of segment): Dense 50 Moderate 30 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-7.1

Frames 23-27

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:

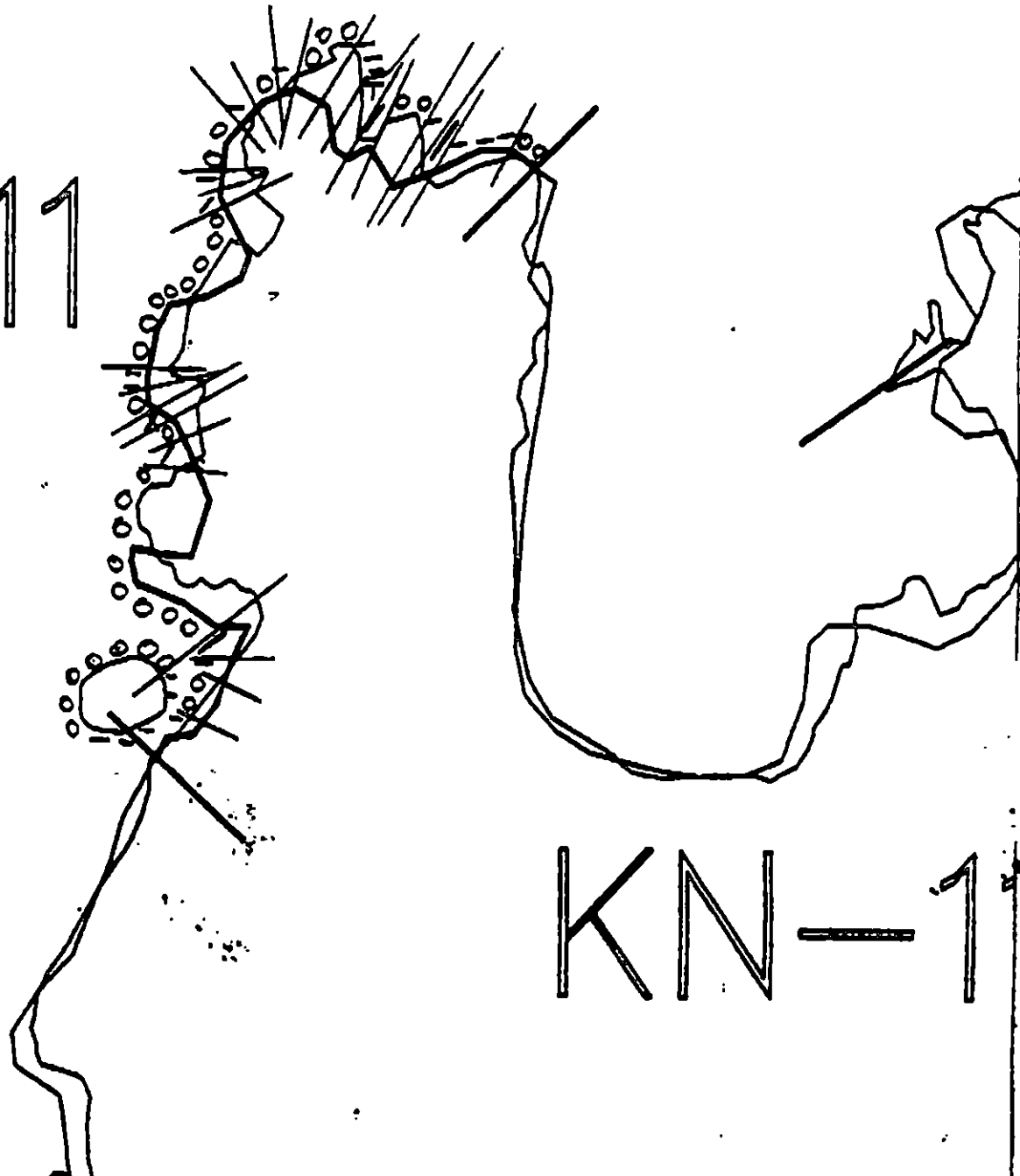
EN ROUTE TO SEGMENT SAW 1 SEA OTTER, AND ONE BALD EAGLE PERCHED ON ROCKY ISLET.
 3 BALD EAGLES ON WING SEEN OVER SEGMENT KN111.

THIS SITE IS A MODERATE IMPACT SITE, MORE EXPOSED TO WAVE ENERGY THAN THOSE
 EXAMINED DURING THE LAST TWO DAYS (E.G. KN141, 144). LARGE BARNACLES (*Balanus cariosus*)
 Ecological Considerations: MORE CONSPICUOUS HERE, AS WERE LIMNETS (3 spp.) AND WHELMS

5T - ACTIVE BALD EAGLE NESTS (*Nucella lamellosa*). SMALL COBBLE BEACHES EVIDENTLY
 6Y - RECREATION - SPECIAL USE DESIGNATION WERE HOT-WATER WASHED DURING 1989; THESE
 CONTAINED LITTLE BIOTA IN THE UPPER AND MIDDLE INTERTIDAL ZONES.

KN-109

N-111



KN-111

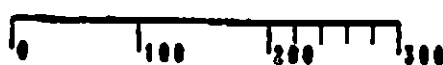
XXX Wide
 //// Medium

--- Narrow

TTTT Very Light

KN-111

ADEC Segment Length: 1150m
 EXXON SEGMENT LENGTH 1285



Map Key: PWS-292

Name: Grog Chaney

Date: April 2 1990

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-111 SUBDIVISION A (1 of 1)

WORK WINDOW

Manual Pickup & Tarmat Removal
Outside Eagle Nest Buffer Zone

OPEN

Manual Pickup & Tarmat Removal
Inside Eagle Nest Buffer Zone

CLOSED

Bioremediation, Manual/Mechanical Raking/Tilling
Spot Washing, and Snare/Absorbent Booms
Outside Eagle Nest Buffer Zone

OPEN

Bioremediation, Manual/Mechanical Raking/Tilling
Spot Washing, and Snare/Absorbent Booms
Inside Eagle Nest Buffer Zone

CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T Bald Eagle Nest

USFWS 6/1/90 map indicates an active nest in Subdivision B. Closed to bioremediation, manual pickup, tarmat removal, manual/mechanical raking/tilling, spot washing, and snare/absorbent booms within 400m of active nest. No constraint to all treatments outside eagle nest buffer zone.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict air traffic and all disturbance to essential minimum. No personnel or boat traffic within 400m of active nests. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from active nests. Avoid any unnecessary disturbance or damage to uncolled biota and substrate.

FOSC

Date

6-10-90

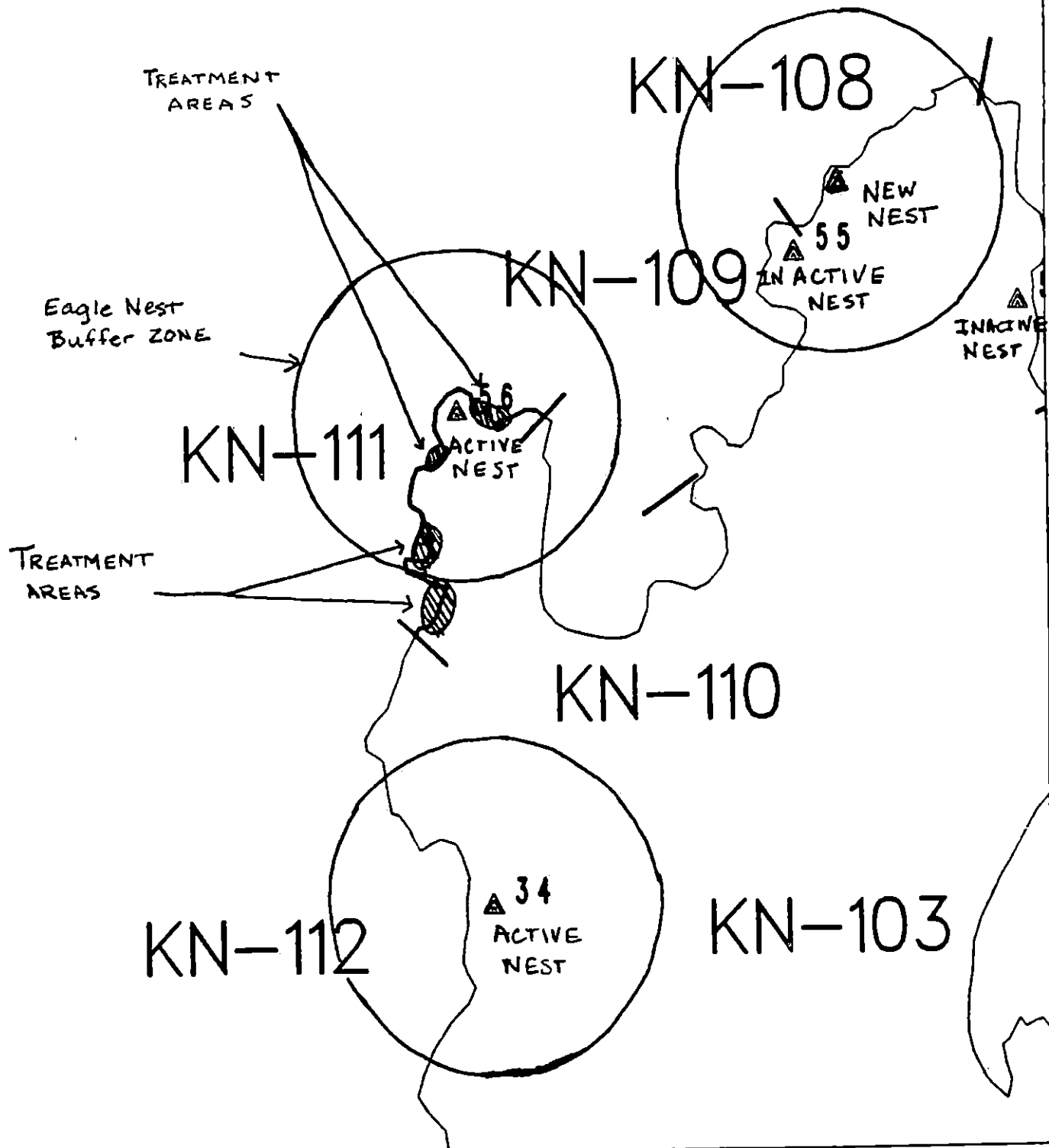
Prepared by

WTK

Date

6/8/90

INCORPORATES 1961/90 map
of bald eagle nests.
Active



Exxon Company, USA
Map Key: KNI-KN-111



ECOLOGY MAP
SEGMENT KN-111
SUBDIVISION A (1 of 1)
METERS

★	Seabird Colony
▲	Eagle Nest

1:25,000 - 1:62,500

SHORELINE EVALUATION

SEGMENT ST/ KN-112 SUBDIVISION A (1 OF 2) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
Eagle nest in subdivision A.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE *Charles E. H. Jones*

DATE: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 223 m: Narrow 140 m: V.Light 49 m: No Oil 435 m
Subsurface Oil Observed: Yes X No Maximum Depth 25+ 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: Recommend bioremediation of areas shown on sketch map. Work should be conducted after 6/1 with the approval of USFWS and ADF&G regarding eagle nest constraint.

TAG COMMENTS: MONITORS TO ASSESS THE SITUATION AT TIME OF TREATMENT AND DETERMINE THE NEED FOR DEBRIS PICK UP

TAG APPROVAL DATE: 4/21/90

ADEC *Art Weiner*
EXXON *Art Weiner*
NOAA *Bruce Wescott*
USCG *Kenneth Keane*

FOSC: *WGL*

DATE: 4-27-90

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)
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- 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.
- 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 300m 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
- 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 112 SUBDIVISION: A DATE 02 APR 90

USCG

NAME

Patrick Malay

SIGNATURE

Patrick Malay

☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Recommend bioremediation in area where pit 1 was dug. The other areas of stain and weathered ^{coat} (corals) would be impractical to remove. This segment is located on the outer fringes of Herring Bay and is exposed to more wave action than some of the more secluded segments in the bay therefore natural sea action would be the best treatment for the coated & stained areas.

ADEC

NAME

M. Cunningham

SIGNATURE

M. Cunningham

☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Bioremediate upper intertidal areas near site 1 ck storm berm for trash/debris. Coat/stain on headlands weathering nicely in low-mod exposure areas.

LAND MANAGER

NAME

Steven Phillips

SIGNATURE

Steven Phillips

☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Scout storm berm for debris as it was snow covered. Oil on vertical not very thick so just monitor. In small concentrated pockets, roll boulders and remove tarry debris. Bioremediate on beaches with surface and subsurface oil

SHORELINE OILING SUMMARY

REVISION NO. 03/23/90

OG Greg Chaney USCG Patrick Malay SEGMENT ST/ 112
 BIO Jim Rath LAND REP Steve Phillips SUBDIVISION A (1062)
 EXXON Rey Setelo ADEC Mike Cunningham TIME 13:50 to 15:20
 TEAM NO.: 7 TIDE LEVEL: 1 ft to 3 ft DATE April 12 / 190
 EST. SUBDIVISION LENGTH: 850 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 80 % B 10 % C 5 % P 5 % G — % S — % M — % V — %
 SLOPE: Long 15 % Hang 10 % Vert 75 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W — m M 100 m N 150 m VL 40 m NO 650 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	C	N	P	S	1	2	3	4	5	SU	U	M	U
ASPHALT PAVEMENT													
POOLED													
COVER													
COAT													
STAIN	X												
MOUSSE													
PATTIES													
TARBALLS													
FILM	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	X		
Debris	X		

 DEBRIS COLLECTED
☒ YES ☐ NO
Yellow Rope, lock,
TYPE net, copper tub
#BAGS 1

Photographs:

Roll No. ST-7-1Frames 28

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		UG	UG	1	2	3	4	5	SU	U	M	U		
1	25		X				0.25	X	YU							X				BCP
2	40						0.40	X								X				CP
3	35						0.35	X								X				PG
							.													
							.													
							.													

COMMENTS

SKE MAP

HERRING BAY

ROUGH ONE METER
BAND OF COATED TAR
APPROXIMATELY 30%
COVERAGE ON ROCK WALL
SHOWN BY HEXAGONS

KNIGHT
ISLAND

TRACE
STAIN

100 METERS

10% COAT ON
BOULDERS
6 METERS WIDE

Low Rock

FOREST

OIL 9 METERS WIDE
20% TAR COAT
FILM ON SEDIMENTS
AT BASE OF BOULDERS

TREES

OG Greg - 1 away

SEGMENT ST/ ~~TV~~ -112

SUBDIVISION A

DATE ~~April~~ 2 90

Isobutyl

NAIRWAY	
APPROX. SIZE	
SEGMENT NUMBER	
CR DIAL	
WIDTH	
LENGTH	
% COVER	
SUBSTRATE CHARACTER	
EST. HRR/LWM	
SSL	
FIXTURE LOCATION(N)	
FEEDBACK	
PH LOCATOR(G)	
PHOTO LOCATOR(A)	

Legend

! A
PH - No Substitution On

24

Fig. - Subfigure C1

CT/C

CT/B

CT/P

✓✓✓
✓✓✓✓✓

2/15

University of Michigan

104
from bottom, direction,
and number

01 Character Length (in): AP - PO - CV - CT 400 ST 30 MS - PT - TB - FL 70 NO 350

ECOLOGY
MAP.

↑ PWS
2935

KN-112

South
Boundary
Subsegment
A

* Eagle Nest
SWS

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-112A

Segment length A 850

ADEC Segment Length: 1786m

Exxon Segment Length 1788



Map Key: PWS-2930

Name: Greg Chaney

Date: April 2 1990

Date Entered:

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/28/90

Segment ST / KN112 Subdivision A Date (mo / day / yr) APR 2, '90
 Time (24 hr) ARR 1350 LV 1520 Biologist ROTH

- (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 50 Moderate 30 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 28

BARNACLES

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	X	X	2	2	2	X	2	2	2
3	3	3	X	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	X	X	2	X	2	2	2	2	X
3	3	3	X	3	3	X	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

GASTROPODS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	X	X	2	X	2	2	2	2	2
3	3	3	X	3	3	X	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

NOT PRESENT

FUCUS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	X	X	2	2	2	2	X	2	2
3	3	3	X	3	3	3	X	3	X	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

NOT PRESENT

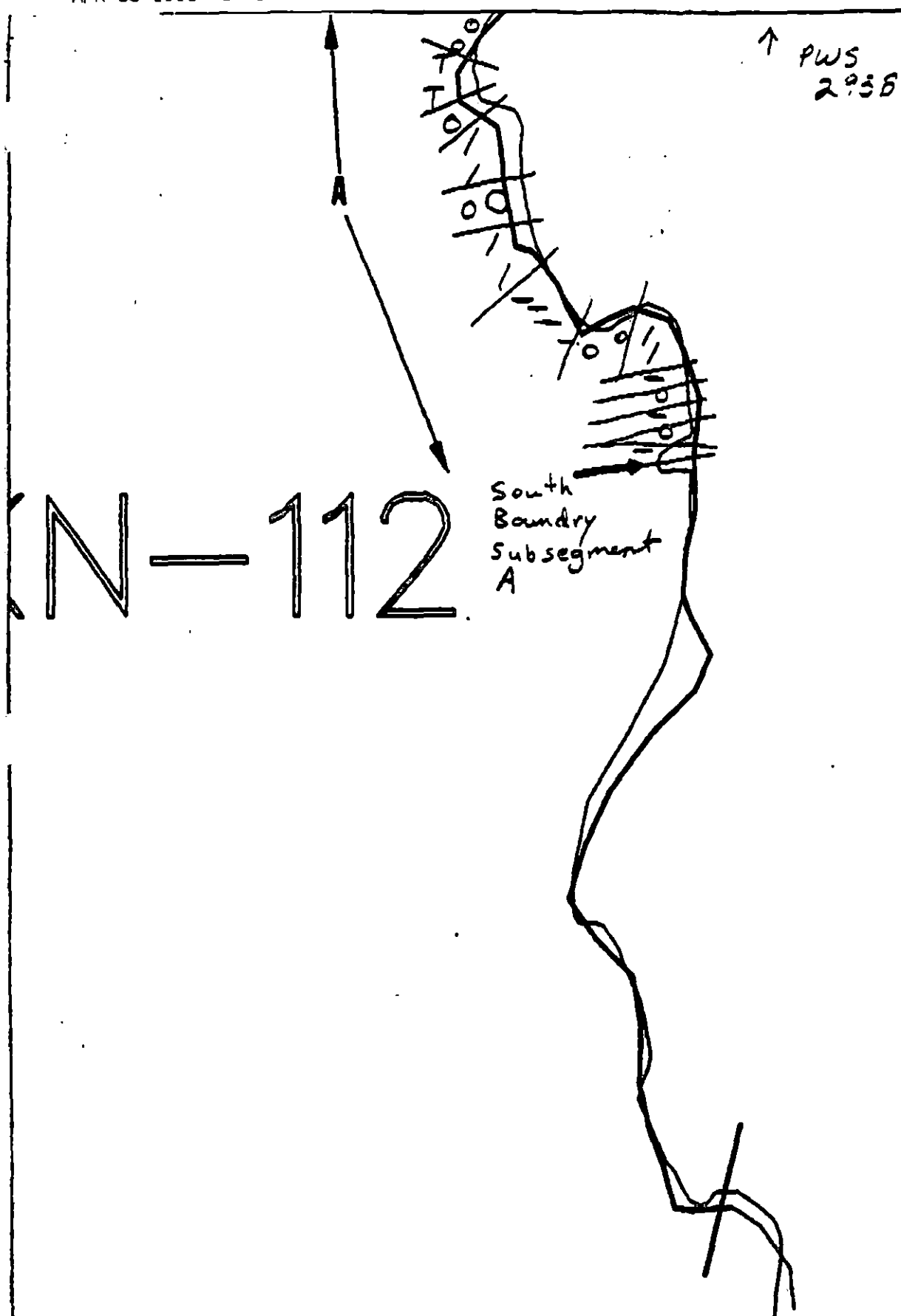
Wildlife Observations/ General Comments:

THIS SITE IS SIMILAR IN EXPOSURE AND DEGREE OF COVER OF BIOTA TO KN111.
 MYTILUS LOCALLY DENSE ON MID-INTERTIDAL BEDROCK + BOULDERS, AND IN UPPER INTERTIDAL
 DESPITE EXTENSIVE OIL (WEATHERED "COAT") ON ROCKS. COBBLE POCKET SPACIES AND ADJACENT

Ecological Considerations:

T - ACTIVE BALD EAGLE NESTS.

BEDROCK + BOULDER OUTCROPPINGS EVIDENTLY
 HOT-WATER WASHED DURING 1989. EXAMINATION
 OF THIS SEGMENT WAS INTERRUPTED DUE TO
 WORSENING WEATHER CONDITIONS AT 1520 HR;
 EXAMINED PORTION OF SEGMENT DESIGNATED KN112A.



XXX Wide

//// Medium

--- Narrow

TTTT Very Light

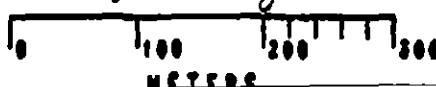
0000 No Oil

KN-112A

Segment Length A 850

ADEC Segment Length: 1766m

EXXON Segment Length 1788

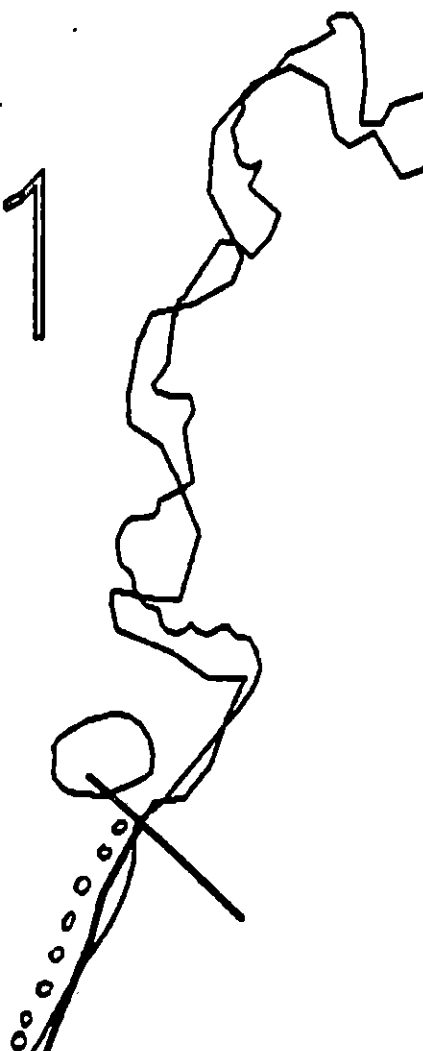


Map Key: PWS-2936

Name: Greg ChaneyDate: April 2 1990

Data Entered:

KN-111



↓ PWS
293A

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

KN-112A

Segment Length A 850
 ADEC Segment Length: 1788m
 Exxon Segment Length 1788

0 100 200 300



Map Key: PWS-293b

Name: Greg ChaneyDate: April 2 1990

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-112 SUBDIVISION A (1 of 2)

WORK WINDOW	
Bioremediation	CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T Bald Eagle Nest USFWS 6/1/90 map indicates an active nest in Subdivision B.
Closed to bioremediation within 400m of active nest.

OTHER ECOLOGICAL CONSIDERATIONS

If eagle nest constraint is removed, other ecological considerations will apply.

FOSC

[Signature]

DATE

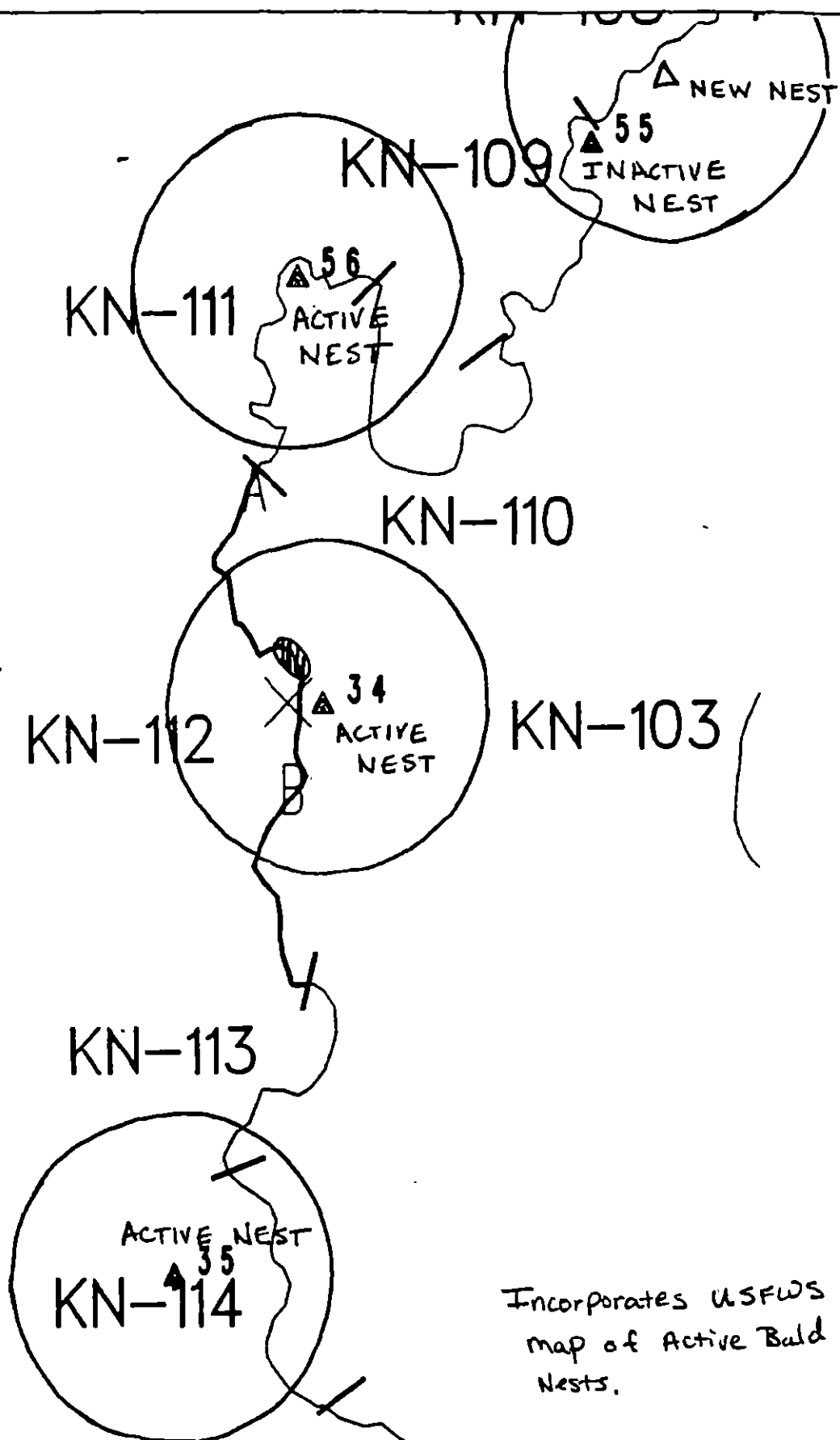
6-10-90

Prepared By:

W. Allen

Date

6/9/90



Exxon Company, USA
Map No. KN-112



ECOLOGY MAP
SEGMENT KN-112
SUBDIVISION A (1 of 2)
METERS

- ★ Seabird Colony
- ▲ Eagle Nest

SHORELINE EVALUATION

SEGMENT ST/ KN-112 SUBDIVISION B (2 OF 2) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
Eagle nest in subdivision A, but close to border with B.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Charles E. Hines DATE: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 40 m: Narrow 346 m: V.Light 485 m: No Oil 0 m
Subsurface Oil Observed: Yes ☒ No ☐ Maximum Depth 30+ cm

RECOMMENDATIONS:

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

COMMENTS: Recommend bioremediation of areas shown on sketch map. Work should be conducted after 6/1 with the approval of USFWS and ADF&G regarding eagle nest constraint.

TAG COMMENTS: _____

TAG APPROVAL DATE: 4/21/90.

ADEC	Art Weiler	Art Weiler
EXXON	AMY TEH	AMY TEH
NOAA	Burl Wescott	Burl Wescott
USCG	Kenneth Kiene	Kenneth Kiene

FOSC: hpl 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. 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 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
 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 / 112 SUBDIVISION: B DATE 4/5/90

USCG

NAME

David Sylvester

SIGNATURE

David Sylvester☒ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

Due to the nature of the area it would do more harm to use bioremediation than the good that would be obtained. The majority of the area was steep and not very accessible. We did pick-up some oiled pom poms. Approximately 3 bags weighing about 40 lbs. each. We also picked up other assorted debris. approximately 10 lbs. Most of the area was inhabited by large numbers of marine life that appear to be doing well. The weather is having a positive impact on the oil.

ADEC

NAME

M. Cunningham

SIGNATURE

M. Cunningham☒ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

↳ other than debris... we picked up all we saw arear nr pits 1 & 2. contained subsurface oil however rich biological communities in area could be harmed by invasive techniques. Bioremediation inappropriate due to high angle nature of headland boulders.

LAND MANAGER

NAME

Steven Phillips

SIGNATURE

Steven J Phillips☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Check storm berms for debris
Bioremediation in "Medium" band to North and South
Scrape or otherwise remove tar on rock faces where
Coat exceeds 2mm thickness.

Try to find a method to treat tar coats on bedrock
faces which are between 1mm and 2mm thick

SHORELINE OILING SUMMARY

REVISION NO. 002090

OG Greg Chaney USCG Dave Sylvester SEGMENT ST/ KM 12
 O Jim Rath LAND REP Steve Phillips SUBDIVISION B
 AXON Reg Satele ADEC Mike Cunningham TIME 14:15 to 15:50
 TEAM NO.: 7 TIDE LEVEL: 6 ft. to 2 ft. DATE April 15 190
 EST. SUBDIVISION LENGTH: 438 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 70 % B 20 % C 5 % P 5 % G — % S — % M — % V — %
 SLOPE: Long 10 % Hang 60 % Vert 40 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W — m M 10 m N 120 m VL 150 m NO 158 m
80 360 498 0 G.C.

SURFACE OIL

CHARACTER	DISTRIBUTION					OIL / FILM COLOR					IMPACTED ZONES			
	C	S	P	B	W	Y	OR	GR	BL	BR	SU	U	M	U
ASPHALT PAVEMENT														
POOLED														
COVER														
COAT	X	✓	0	□	X			0			X	✓		
STAIN				X		X					X	X		
MOUSSE														
PATTIES														
TARBALLS														
FILM			X			X								X
NO OIL														

PAVEMENT: H F 8 — sq. m by — cmPATTIES / TARBALLS — BAGSNEAR SHORE SHEEN? NO BR RW SL TL

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

DEBRIS COLLECTED

☒ YES ☐ NO

Yellow Rope

TYPE Pump#BAGS 3 (full)

Photographs:

Roll No. ST-7-2Frames 2

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	OM	OL	OF	NO			UB	UC	Y	OR	GR	BL	BR	U	M		
1	30					X	0-15	X								X			CPB
			X				15-30	X					X			X			CPB
2	35					X	—		X							X			CPB
3	25					X	—		X							X			CG
4	40					X	—		X							X			CG

COMMENTS

Pit #1: couldn't get to bottom of oil layer due to boulders in the area.

SEGMENT ST/KA-112

SUBDIVISION B

DATE April 5 90

CHECKLIST

- ☐ M. Area
- ☐ Approx. Scale
- ☐ Sediment Body
- ☐ Oil Duct
- ☐ Length
- ☐ % Cover
- ☐ Sediment Character
- ☐ E. 1984/1985
- ☐ Sediment Location
- ☐ Profile
- ☐ Photo Location

LEGEND

- ☐ 1 A
- ☐ 2 A
- ☐ PI - Subsurface Oil
- ☐ PI - no Subsurface Oil
- ☐ CT/C
- ☐ Confined Distribution
- ☐ CT/B
- ☐ Broken Distribution
- ☐ CT/P
- ☐ Patchy Distribution
- ☐ CT/S
- ☐ Spotted Distribution
- ☐ Dead Vegetation
- ☐ Photo location, direction, and number

SKETCH MAP



130 CM HIGH, 80% COVERAGE. BAND OF COATED TAR.

COAT TAR SPLATTERED ON ROCKS, SHEEN IN TIDE POOLS (RAINBOW)

DISTINCTIVE BRIGHT GREEN BAND ALONG FORMER HIGH TIDE LINE. POSSIBLY RELATED TO BIOREMEDIATION EFFORTS IN THE VICINITY.

COAT 80 CM. HIGH & 6 METERS LONG BEHIND LARGE BOULDER.

100 METERS

AVAILANCHE AREA

ROUGH BAND OF PATCHY COAT TAR ON BEDROCK FACE. VERY DIFFICULT TO QUANTIFY DUE TO CLOSE ASSOCIATION WITH BLACK LICHEN BAND. AVERAGE PROBABLY CLOSE TO 40% COVERAGE AND 40 CM. HIGH. LOCALLY HEAVIER COATS BEHIND BOULDERS.

BOULDER POCKET 9x3 METER 80% COAT

SMALL POCKET BEACH ~20 METERS

LONG. SMALL AMOUNT OF MOBILE OIL LOCATED ALONG EDGE OF POCKET BEACH IN COBBLES. LOCALIZED RAINBOW SHEEN IN SEDIMENTS.

TAR CONCENTRATION INCREASING TO 1-2 METERS HIGH, 50% COVERAGE THICKER BEHIND BOULDERS AND IN BED ROCK CRACKS.

SOUTH KN-112-B

NORTH KN-112 B

PROFILE LOOKING NORTH

HERRING BAY

ON C R Length (m): AP FO CV CT 400 ST 200 MS PT TB R 100 NO 400

ECOLOGY
IAP

↑ PWS
2935

N-112

South
Boundary
Subsegment
A

* Eagle Nest
SWS

^ XXX Wide

//// Medium

--- Narrow

TTTT Very Light

KN-112A

Segment Length A 850

ADEC Segment Length: 1768m

Exxon Segment Length 1788



Map Key: PWS-2930

Name: Greg Chaney

Date: April 2 1990

SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/25/90

Segment ST / KN 112 Subdivision B Date (mo / day / yr) APR 5, 90
 me (24 hr) ARR 1420 LV 1340 Biologist ROTH

- (A) Substrate type and % of segments:
 (1) Bedrock 70 (2) Boulder 20 (3) Cobble 5 (4) Pebble 5 (5) Sand — (6) Gr —
- (B) Overall % cover of biota (% of segment): Dense 20 Moderate 40 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 (O)

Photographs:
 Roll No. ST-7-2

Frames 2-3

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	

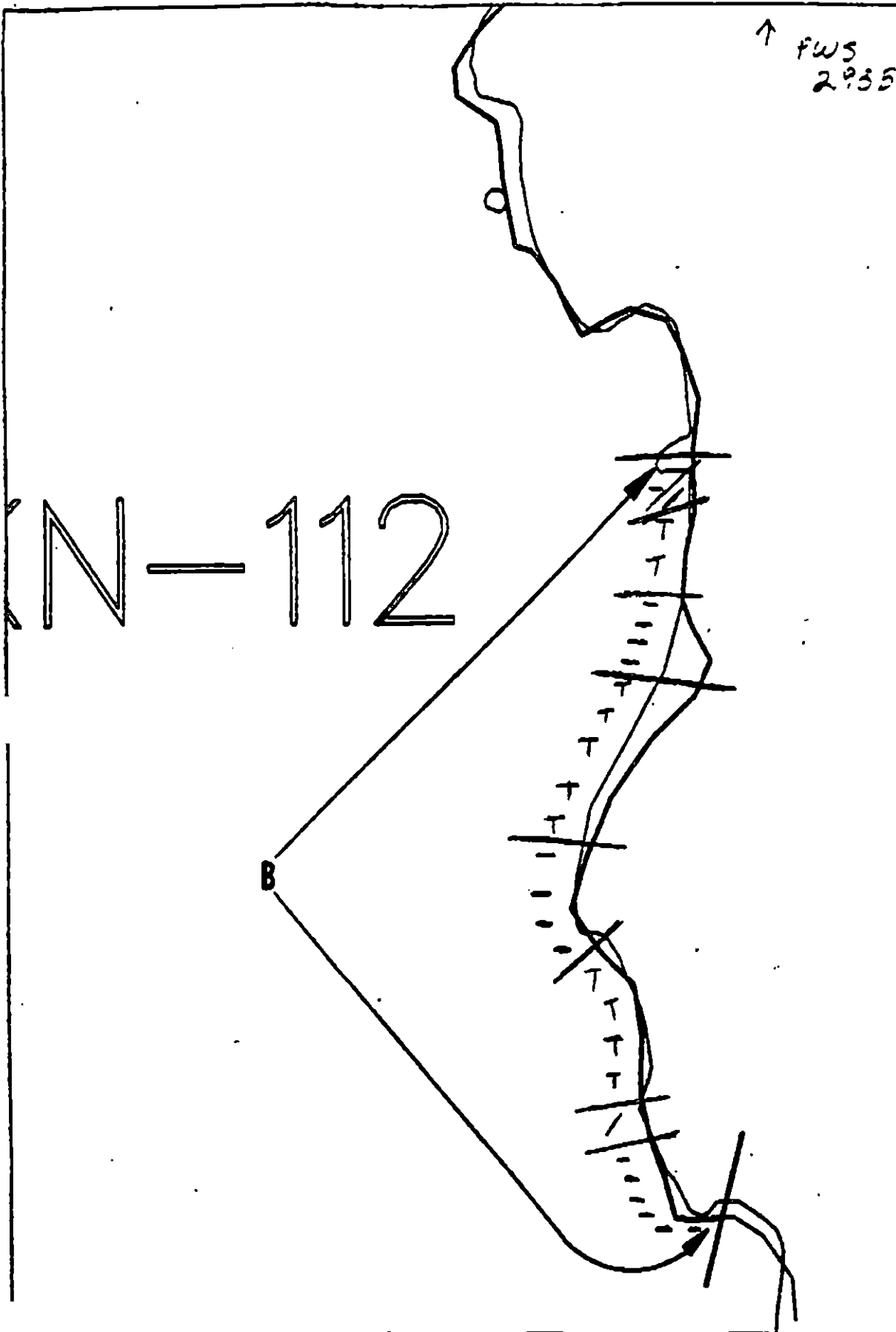
Wildlife Observations/ General Comments:

1 SEA OTTER SEEN EN ROUTE; 1 DEER ON SHORE; 1 MINK ON MID-INTERTIDAL BOULDERS.
 MITZ ROCKS: WHIRLS (*NUCCIA* SP.), *SEMIBALANUS CARIOSUS*, *ARTHROPLEURA KANTHOGAMICA*, *TEALIA CRASSICORNIS*. MUSSELS AND LITORINES IN MITZ VERY SMALL. LITZ NOT VISIBLE YET;

Ecological Considerations:

ST- ACTIVE BALD EAGLE NESTS

ONLY *FUCUS* ESTIMATES MADE. SMALL COBBLE/PEBBLE BEACH AT SOUTH END OF SEGMENT WAS DEGRADED.



XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

KN-112B

Segment Length B

ADEC Segment Length: 1768m

Exxon Segment Length: 1788m

Map Key: PWS-2930

Name: Greg Chaney

Date: April 5 1990

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-112 SUBDIVISION B (2 of 2)

WORK WINDOW

Bioremediation Inside Eagle Nest Buffer Zone

CLOSED

Bioremediation Outside Eagle Nest Buffer Zone

OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T Bald Eagle Nest

USFWS 6/1/90 map indicates an active nest in Subdivision B. Closed to bioremediation within 400m of active nest. No constraint outside bald eagle nest buffer zone.

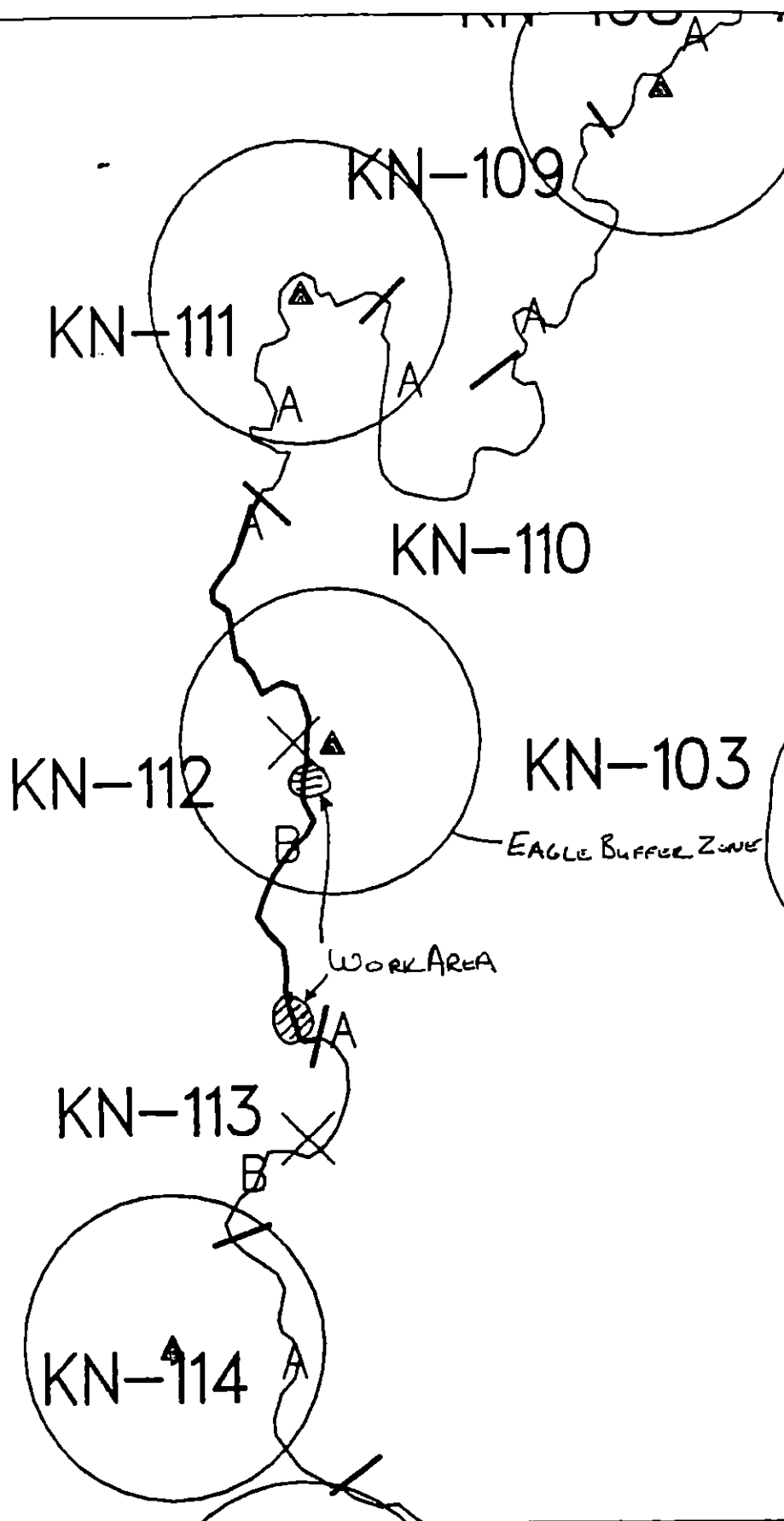
OTHER ECOLOGICAL CONSIDERATIONS

Restrict air traffic and all disturbance to essential minimum. No personnel or boat traffic within 400m of active nests. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from active nests. Avoid any unnecessary disturbance or damage to uncollected biota and substrate.

FOSC DATE 6-10-90

Prepared By: W. H. Olan

Date 6/8/90



Exxon Company, USA

ECOLOGY MAP SEGMENT KN-112

SUBDIVISION B (2 of 2)

METERS

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

SHORELINE EVALUATION

SEGMENT ST/ KN-113 SUBDIVISION A (1 OF 2) DATE 4/5/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

6Y Recreation: Special use destination
No specific Ecological constraints.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: [Signature] DATE: 5/2/90

OILING CATEGORIZATION:

Wide 210 m: Medium 70 m: Narrow 23 m: V.Light 89 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 65+ cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual pick up of oiled debris, 2) spot wash with wands, using pom poms and boom to control sheen, 3) bioremediation of surface and subsurface oil remaining after wash. No specific working time constraints.

TAG COMMENTS: MECHANICALLY TILL PRIOR TO BIOREMEDIATION, CONTROL SHEENS WITH NEARDRORE BOOMING, USE SNARE STRINGERS ALONG SHORELINE. MANUALLY RAKE WITH RISING TIDE TO ENHANCE LIBERATION OF OIL FROM SEDIMENTS AFTER MECHANICALLY TILLING.

TAG APPROVAL DATE: 4/24/
ADEC ART WENGER
EXXON JOYCE
NOAA JOSEPH TABBOTT
USCG M.J. HALL

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. 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 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 (8/1 to 9/15)
6V	Anchorage (8/1 to 9/15)
6W	Forest Service cabins (8/1 to 9/15)
6X	Lodge (8/1 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 2/26)
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/ 113 SUBDIVISION: A DATE 4/5/90

USCG B013
NAME David A. Spuesh SIGNATURE David A. Spuesh

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

This area has a thick band of oil in the subsurface in the upper and middle tidal zone. The oil is still sheening and there is a tacky consistency to the oil on the surface. There is also a band of oil on the Boulder Wall that is approximately 60 meters from the NOAA site. Bio remediation ~~is being~~ should be considered for this area. There should also be some hand removal as well.

ADEC M. Cunningham SIGNATURE M. Cunningham

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Surface coat: Bioremediation; Storm berm; debris removal; oiled logs; burn/reme
Subsurface oil: Yes there was a near continuous layer thru out beach... but what to do about it? My biological instincts tell me to leave it alone, with non-invasive cleaning techniques only (ie bioremediation) however these same instincts also tell me to question the efficacy of bioremediation on oil buried over 15cm even if still aerobic. This segment is notorious for sheens (in part due to NOAA site) but there is a significant amount of oil here. There is a part of me which suggests washing a moderately large section of beach (from pnts 4-6) with H₂O (TT, TP) but I'm honestly unsure if the recoverable oil is amount to anything significant to warrant such an approach. Mid section of beach is of type and size which may accommodate heavy equipment operations.

LAND MANAGER Steven Phillips SIGNATURE Steven Phillips

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

This beach would support heavy equipment operations. Subsurface oil is thick enough that bioremediation would be ineffective. Chronic sheens should be eliminated through clean up and absorbant booms. Oiled logs extensive enough for burning or removal. Vegetation, trash, debris in supertidal is well oiled. Till or rock wash. * NOAA study site #10 is very gross. Suggest TAG at least control sheens. When

SHORELINE OILING SUMMARY

REVISION NO. 06-88-90

OG Greg Chaney USCG Dave Sylvester SEGMENT ST/ KN713
 BIO John Roth LAND REP Steve Phillips SUBDIVISION A (122)
 EXXON Reg Satela ADEC Mike Cunningham TIME 15:50 to 17:30
 TEAM NO.: 7 TIDE LEVEL: 2 ft to 1 ft DATE April 15 / 90
 EST. SUBDIVISION LENGTH: 320 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 25 % C 25 % P 25 % G 10 % S 10 % M — % V — %
 SLOPE: Long 80 % Hang 20 % Vert — % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 200 m M 115 m N 20 m VL 25 m NO — m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	N	E	S	W	1	2	3	4	5	6	7	8	SU	U	M	U
ASPHALT PAVEMENT																
POOLED																
COVER	X				X								X	X	X	X
COAT		X							X				X	X	X	X
STAIN			X			X							X	X		
MOUSSE																
PATTIES																
TARBALLS																
FILM		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	X		
Trash	X		
Debris	X		

DEBRIS COLLECTED
☒ YES ☐ NOTYPE rope#BAGS 1

Photographs:

Roll No. ST-7-2Frames 3, 4, 5, 6, 7, 8, 9, 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		UD	UG	1	2	3	4	5	6	7	8	SU	U	M	U		
1	15				X		0-15	X		X	X							X					BPC
2	15	X					0-15	X										X					BCP
	-				X		0-15	X		X								X					BCP
3	25						~~0-25~~																GS
"	"				X		20-25	X		X	X							X					GS
4	35				X		0-20	X										X					SGP

COMMENTS

Pit #1 - shallow due to large number of boulders in substrate. Brown oil floating on top of water in pit
 Oiled debris located in supra tidal but it was impossible to determine the quantity due to snow cover
 Pit #6 - hard pan made further digging impractical.

REVIEWED

DATE

SEGMENT ST/ KN13 SUBDIVISION A

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm-0m)	BELOW		OIL / FILM COLOR						PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		VO	VO	1/2	3/4	5/8	1/2	3/4	5/8	BU	U	M	U		
4	35		X				20-30		X	X						X					BPC
						X	30-35		X							X					"
5	45					X	0-40	X									X				GPC
		X					40-45	X				X					X				"
6	45					X	0-5	X									X				GS
		X					5-30	X				X					X				"
		X					30-40	X		X							X				"
		X					40-45	X		X							X		X		"
7	60					X	0-60		X							X					GS
8	50					X	0-20	X									X				CGSM
		X					20-45	X		X							X				"
						X	45-50		X								X				"
9	30					X	0-30		X	X								X			CGS
10	65					X	0-5	X		X								X			CGS
		X					5-65	X		X								X			"

COMMENTS

Pit #5: Impossible to dig beyond 45 cm. due to buried logs.

Pit #6: at bottom of this pit (40 to 45 cm). a layer of clay & pebble was observed which smelled like sulfur.

Oiled debris is probably in supratidal snow bank.

In general the northern & southern portions of this ^{sub}segment did not appear very different from oiled sites I visited last year. Mobile brown & black oil was observed in pits and the beach smells like an old gas station grease pit.

REVIEWED

DATE

SHORELINE ECOLOGICAL SUMMARY

REVISION: 08/25/90

Segment ST/ KN 113 Subdivision A Date (mo/day/yr) Apr 5, '90
 ARR 1550
 Time (24 hr) LV 1730 Biologist ROTH

- (A) Substrate type and % of segments:
 (1) Bedrock 5 (2) Boulder 25 (3) Cobble 25 (4) Pebble 25 (5) Sand 20 (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 4-7, 9

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	2	2	2	NOT PRESENT
3	3	3	3	3	3	X	X	X	X	X	X	
4	4	4	4	4	4	4	4	4	X	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	

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	X	X	
4	4	4	4	4	4	4	4	4	X	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	

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	X	NOT PRESENT
3	3	3	3	X	3	3	3	3	X	3	X	
4	4	4	4	4	4	4	4	4	X	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			
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	X	X	2	2	X	X	2	X	NOT PRESENT
3	3	3	3	X	3	3	3	X	X	3	X	
4	4	4	4	4	4	4	4	4	X	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:

LOTS OF HERMIT CRAB IN LITTORINA SHELLS, LITZ/COBBLE; SEMIBALANUS CARIOSUS MITE BED
 NUCLEA COMMON IN MITE/BOULDER; SOME MYTILUS VERY SMALL IN MITE/COBBLE/PEBBLE
 BEACH HOPPERS (AMPHIPOD) IN LITZ/COBBLE/PEBBLE; MYTILUS LOCALLY DENSE ON MITE/BOULDER

Ecological Considerations:

OIL IN LITZ (S. END OF SUBDIVISION)

GY- SPECIAL USE DESIGNATION

SIGN NEAR SOUTH END OF SUBDIVISION: "NOAA HAZMAT STUDY SITE #10"
 YELLOW RE-BAR STAKES IN BEACH COBBLE AND BUDY OFFSHORE: DEC STUDY SITE?

KN-113

B

KN-114

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

OOOO No Oil

KN-113A

KN-113A 370 meters

ADEC Segment Length: 770m

EXXON Segment Length 773m

0 100 200 300

Map Key: PWS-294

Name: Greg Chaney

Date: April 5 1990



ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-113 SUBDIVISION A (1 of 2)

WORK WINDOW	
Manual Pickup	OPEN
Bioremediation	OPEN
Manual Raking	
Mechanical Tilling	
Spot Washing	
Other Approved Treatment	

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

No ecological time constraints.

OTHER ECOLOGICAL CONSIDERATIONS

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

TAG APPROVAL DATE 5/29/90.
ADEC ART WEINER
EXXON ANDY TOL
NOAA B. Wescott
USCG G.A. REITER

FOSC [Signature] DATE MAY 29 1990

Prepared By: [Signature] WK

Date 5/28/90

KN-112

▲ 34

KN-103

KN-113

WORK
AREA

▲ 35
KN-114

KN-115

▲ 36

KN-116



Exxon Company, USA
Map Key: KN-113
May 11, 1990



ECOLOGY MAP
SEGMENT KN-113
SUBDIVISION *A* (1 of 2)
METERS

0 361 721

★ Seabird Colony
▲ Eagle Nest

1 inch = 1183 feet

WORK PLAN MODIFICATION RECOMMENDATION

SEGMENT KN113SUBDIVISION ADATED 30 MAY 90

MODIFICATION

1. REASON FOR MODIFICATION

AREA WAS INDICATED AS A NOAA TEST SITE WHEN THE WORK ORDER WAS COMPLETED THEREFORE IT WAS NOT ADDRESSED. A CLARIFICATION HAS BEEN MADE WHICH ALLOWS WORK IN THIS AREA.

2. SUGGESTED ADJUSTMENT TO WORK PLAN

- A. REMOVE HEAVILY OILED GRAVEL TO ABOUT 4 INCH DEPTH.
- B. RELOCATE REMAINING OILED GRAVEL TO MITZ. APPLY CEMENT/CLAY TO GRAVEL REMAINING IN POCKET.
- C. BIO REMEDIATE GRAVEL RELOCATED TO MITZ WITHIN 10 DAYS.
- D. REMOVE OILED DEBRIS/VEGETATION

3. TIMING ISSUES

- A. NONE FOR SENSITIVITIES.
- B. REQUEST WORK AUTHORIZATION IMMEDIATELY TO AVOID UNNECESSARY RETURN AFTER SQUAD RELOCATES

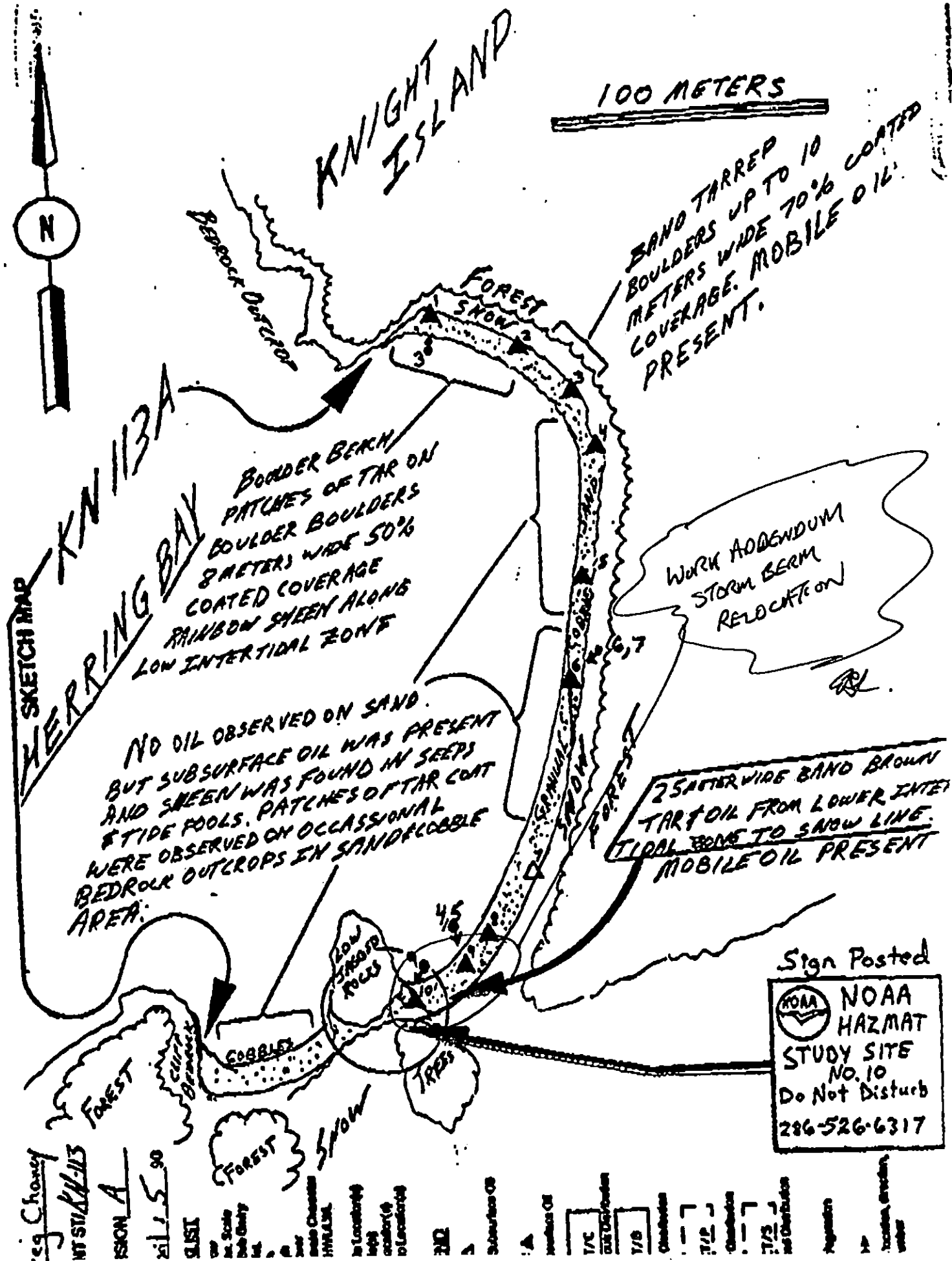
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To	CDR ROME	From	LCDR KEANE
Co.	FOSC-ANCHORAGE	Co.	USCG ICP PWS
Dept.	OPERATIONS	Phone #	0018721500656
Fax #	263-1736	Fax #	0018721501526

ADEC Richard McKim ADEC 5/30/90EXXON John Steer 5/30/90USCG L. Keane CDR, USCG 5/30LAND MANAGER Marsha Martin (If field rep is on scene)

FOSC SIGNATURE _____ Date _____



WORK PLAN ADDENDUM

Segment PWS
KN113

Subdivision A

Dated 6/04/90

MODIFICATION

1. REASON FOR MODIFICATION

REQUEST MADE JOINTLY BY ALL THREE FIELD REPRESENTATIVES
AS PER ATTACHED.

2. ADJUSTMENT TO WORK PLAN

1. REMOVE HEAVILY OILED SEDIMENTS (MUDSSE + SEDIMENT MIX) APPROX
4 INCH. DEPTH.
2. RELOCATE REMAINING OILED GRAVELS TO MITE
3. BIOREMEDIATE RELOCATED + REMAINING OILED GRAVELS
4. REMOVE OILED DEBRIS/VEGETATION
5. SPOT WASH OILED LOGS IF REQUIRED.

SHPO APPROVAL NEEDED YES ☒ NO ☐

SHPO SIGNATURE Charles E. Adams 6/6/90
Inspection constraint applies.

TAG APPROVAL DATE 6/04/90

ADEC Ray Morris

EXXON Andy Tera

NOAA Joseph Talbott

USCG G.A. REITER

FOSC

[Signature]

DATE 07 June 90

SHORELINE EVALUATION

SEGMENT ST/ KN-113 SUBDIVISION B (2 OF 2) DATE 4/5/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

6Y Recreation: Special use destination
No specific Ecological constraints.

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 105 m: V.Light 218 m: No Oil 56 m
Subsurface Oil Observed: Yes X No Maximum Depth 35+ cm

RECOMMENDATIONS:

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

COMMENTS: The recommended treatment is bioremediation of surface and subsurface oil in area shown on attached sketch map. No specific time constraints.

TAG COMMENTS: DUE TO ENVIRONMENTAL SENSITIVITIES, RICH INTERTIDAL BIOTA, DISTURBANCE SHOULD BE MINIMIZED. THEREFORE NTR RECOMMENDED.

TAG APPROVAL DATE: 4/24/90

ADEC [Signature]
EXXON [Signature]
NOAA Joseph Tabotti
USCG M. J. Hall

FOSC: [Signature]

DATE: 5-8-90

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / 113 SUBDIVISION: B DATE 4/5/90

USCG ²⁴¹³

NAME David Sylvester SIGNATURE BM3 David Sylvester

☒ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS

The marine life appears to be recovering. The oil is visible in a ~~bathtub~~ bathtub ring. The ring is primarily in the upper and middle tidal zone. There is sub surface oil present as well as oil in the upper tidal zone. ^{Adjacent} here is a NOAA site #10 where oil is on the surface and sheening is present. As in the areas around this one there is definite progress with the weathering process. Due to the geography of the land there would be little progress with hand cleaning.

ADEC

NAME M. Cunningham SIGNATURE Michael Cunningham

☒ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS

Yes there was oil in sediments however the boulder/cobble/gravel beach nr sites 1-3 was perhaps the most biologically rich (in numbers + diversity) as i've noticed anywhere. I flipped over one rock to count 2 eel blennies, dozens of Hermit crabs, limpets, chitons, snails etc. etc. & w/sub surface oil present. I question even bioremediation unless someone shows me evidence that it is now toxic to nursery areas such as this. (no surface oil)

LAND MANAGER

NAME Steven Phillips SIGNATURE Steven Phillips

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Check for debris

Pocket beach needs ~~ent~~ bio remediation or other subsurface treatment. Not much room for equipment. Rock faces with "Narrow" bands of tar need scraping and any further removal of coats 1+mm thick.

* Is the northern most rock face part of NOAA study site #10 ?

SHORELINE OILING SUMMARY

REVISION NO. 03/25/90

OG Greg Chaney USCG Dave Sylvester SEGMENT ST/KN/13
 ID Jim Rath LAND REP Steve Phillips SUBDIVISION B (272)
 ION Reg Setele ADEC Mike Cunningham TIME 17:30 to 18:25
 TEAM NO.: 7 TIDE LEVEL: 1 ft. to 3 ft. DATE April 15 1990
 EST. SUBDIVISION LENGTH: 403 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 85 % B 10 % C 5 % P — % G — % S — % M — % V — %
 SLOPE: Long 20 % Hang 30 % Vert 50 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W — m M — m N 180 m VL 00 m NO 263 m

G.C.

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	N	S	E	W	1	2	3	4	5	6	7	8	SU	U	M	U
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT	X	O	✓	□	1	2	3	4	5	6	7	8	1	2	3	4
STAIN		X														
MOUSSE																
PATTIES																
TARBALLS																
FILM			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			

DEBRIS COLLECTED
☒ YES ☐ NOTYPE Circuit board#BAGS less than 1

Photographs:

Roll No. ST-7-2Frames 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	VC	1	2	3	4	5	6	7	8			
1	35		X				0-35	X		X								X		CG
2	50					X	0-50		X									X		GP
3	20					X	0-10	X											X	CPG
		X					10-20		X	X										
							.													
							.													

COMMENTS

Pit #1: Cobbles were cemented together and further digging became impossible.

Actual surface of small pocket beach has very little oil present. However some free oil is still present at depth

SHORELINE ECOLOGICAL SUMMARY

REVISION: 00/22/78

Segment ST/ KN 113 Subdivision B Date (mo / day / yr) Apr 5, '90
 Time (24 hr) ARR 1230 LV 1322 Biologist ROTH

- (A) Substrate type and % of segments:
 (1) Bedrock 40 (2) Boulder 20 (3) Cobble 20 (4) Pebble 20 (5) Sand — (6) Silt —
- (B) Overall % cover of biota (% of segment): Dense 50 Moderate 30 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-7-2
 Frames 10-11

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: A DIVERSE SITE; LOTS OF LIMPETS (NOTACMA SEPTUM) ON MITZ/BEDE; KATHREWIA VERY COMMON (CA. 5/M) MITZ BEDE; IN MITZ POOLS: LITNOTHAL 3 PYCNOBODIA, 1 EVASTRELA, ANTHOPLURA XANTH, NUCCIA 30, TEALIA CRASSICORNIS, CALLINER SEMIBALANUS CARINOSUS ON MITZ BOULD/BEDE. LOCALLY DENSE MYTILUS ON MITZ/BEDE.

Ecological Considerations: GY - SPECIAL USE DESIGNATION [DOES THIS APPLY ONLY TO KN113A?] DESOITE 0 ON SHELLS (SEE PHOTO)

BLENNY EGGS, HERMIT CRABS OBSERVED UNDER ROCKS BY DEC REP. M. CUNNINGHAM; EXAMINATION OF THIS INTERESTING SITE INTERRUPTED BY DEPARTURE FOR SHIP DUE TO WORSENING WEATHER (WIND/SNOW/FOG).

OG Gre Shany
 SEGMENT ST/ KN-113

SUBDIVISION B

DATE April 5 90

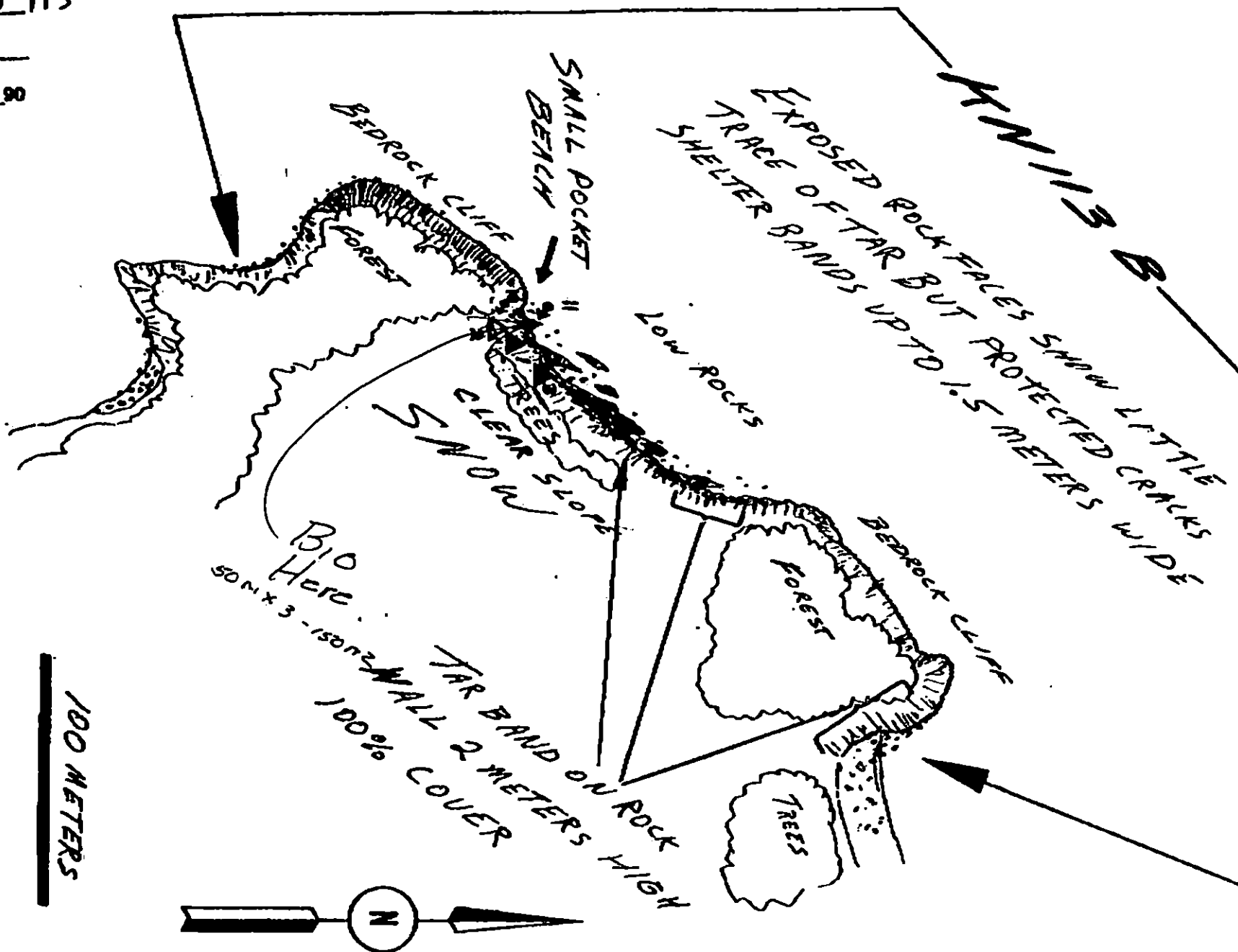
CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ Oil Det.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HML/LML
- ☐ SCL
- ☐ 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
- $\bullet$
Oiled Vegetation
- $\bullet$
Photo location, direction, and number

SKETCH MAP



Oil Character Length (m): AP — PO — CV 5 CT 75 ST 50 NS — PT — TB — FL 10 NO 270

KN-113

B

KN-114

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

OOOO No Oil

KN-113B

KN-113B 403 METERS

ADEC Segment Length: 770m

EXXON Segment Length 773m

0 100 200 300



Map Key: PWS-294

Name: Greg Chaney

Date: April 5 1990

DATA CONTINUED

WORK PLAN ADDENDUM

Segment KN113

Subdivision B

Dated 6/26/90

MODIFICATION

1. REASON FOR MODIFICATION

DNR's REQUEST FOR MODIFICATION DUE TO HIGH HUMAN USE

2. ADJUSTMENT TO WORK PLAN

CHANGE FROM AN NTR TO BIOREMEDIATION AS INITIALLY INDICATED ON SKETCH (ATTACHED).

SHPO APPROVAL NEEDED YES X
NO

SHPO SIGNATURE Chuck Homan June 29 '90

TAG APPROVAL DATE 6/26/90

ADEC Ray Morris, R. Hoffman

EXXON Andreas

NOAA Joseph C. Talbot

USCG G.A. Deiter G.A. Deiter

FOSC D. J. Murphy DATE 6/30/90

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KWH13 SUBDIVISION B (2 of 2)

WORK WINDOW

BIOREMEDIATION

OPEN

ARCHAEOLOGICAL CONSTRAINTS: If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

NO APPLICABLE ECOLOGICAL TIME CONSTRAINTS

OTHER ECOLOGICAL CONSTRAINTS

AVOID ANY UNNECESSARY DISTURBANCE OR DAMAGE TO UNBOILED BIOTA AND SUBSTRATE.

FOSC

DATE

7-27-90

Prepared By:

Date

7/27/90

WORK PLAN ADDENDUM

Segment KN113

Subdivision B

Dated 6/26/90

MODIFICATION

1. REASON FOR MODIFICATION

DNR's REQUEST FOR MODIFICATION DUE TO HIGH HUMAN USE

2. ADJUSTMENT TO WORK PLAN

CHANGE FROM AN NTR TO BIOREMEDIATION AS INITIALLY
INDICATED ON SKETCH (ATTACHED).

SHPO APPROVAL NEEDED YES X
NO

SHPO SIGNATURE Chuck Homan June 29 '90

TAG APPROVAL DATE 6/26/90

ADEC Ray Morris, R. H. Homan

EXXON AMT TEAL

NOAA Joseph C. Talbot

USCG G.A. Deiter G.A. DEITER

FOSC D. J. Joseph DATE 6/30/90

KN-112

KN-103

KN-113

work
area

KN-114

KN-115

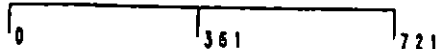
KN-116



Exxon Company, USA
Map Key: PWS-KN-113
June 09, 1990



ECOLOGY MAP
SEGMENT KN-113
SUBDIVISION --- (--- of ---)
METERS



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

1 inch = 1183 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-114 SUBDIVISION A (1 OF 1) DATE 4/6/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T All bald eagle nest (3/1 to 6/1)-Active eagle nest (3/1 to 9/1)

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: [Signature]

DATE: 4/25/90

OILING CATEGORIZATION:

Wide 65 m: Medium 332 m: Narrow 277 m: V.Light 51 m: No Oil 122 m
Subsurface Oil Observed: Yes X No Maximum Depth 25 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: Recommend removal of oil debris and bioremediation of areas
indicated on sketch map. Work should be conducted after 6/1 and with
approval from ADF&G and USFWS regarding eagle nests.

TAG COMMENTS: MONITORS TO ASSESS SCUM BERM TO DETERMINE
THE NEED FOR EXTENSION OF TREATMENT TO THIS AREA.

NOTE: THE NORTH POCKET BEACH MAY BE A BIOREMEDIATION STUDY SITE
MONITORS TO CLARIFY PRIOR TO TREATMENT.

TAG APPROVAL DATE: 4/23/90

ADEC ART WERNER

EXXON AMOTON

NOAA Joseph Telbott

USCG M. J. HALL

FOSC: [Signature]

DATE: 5-3-90

NFS Comments noted.

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 unholed 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 / KN 114 SUBDIVISION: DATE 4/6/90USCG BW3
NAME David A. Sylvester SIGNATURE David A. Sylvester☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

Oil still in thick bands in the sub surface as well as on the bedrock face in the upper tidal zone. When we dug our pit, often there would be sheens as well as sticky or tacky oil residue. Most of the oil in the bedrock is baked on tar. Bioremediation would be a good choice in this section. Someth. should be done for the sub surface as well.

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

Bioremediate Low angle boulders along entire segment w/ special repeated coverage on beach faces, where pits dug. Leave island alone inspite of subsurface oil - but if you must do something there - biorem. only area near pit #. Extensive biota. Check storm berm for debris. One could till sections of beach betwn pts 3 + 4(+) to S. end beach

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

Check storm berm for debris.
Beaches: Disturb (till or rip) areas with surface & subsurface oil. use absorbant booms and or skimmers (get the mobile oil up), bioremediate after flushing.
Rock faces: scrape tars over 2mm thick, extend treatment to 1mm thickness if techniques developed (remove dried surface, underside is softer). Remove heavily oiled logs - Leave those when they dry a while.

SHORELINE OILING SUMMARY

REVISION NO. 06/25/90

OG Greg Chaney USCG Dave Sylvester SEGMENT ST/ KN-114
 JIM Jim Roth LAND REP Steve Phillips (PS) SUBDIVISION NAF A (1041)
 XON Ray Sotelo ADEC Mike Cunningham TIME 15:15 to 18:10
 TEAM NO.: 7 TIDE LEVEL: 5.0 ft to 10 ft DATE April 16 / 90
 EST. SUBDIVISION LENGTH: 988 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 60 % B 20 % C 10 % P 5 % G 5 % S 0 % M 0 % V 0 %
 SLOPE: Lang 40 % Hang 30 % Vert 30 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 90 m M 305 m N 463 m VL 40 m NO 90 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR						IMPACTED ZONES			
	C	S	P	B	SP	OR	OL	OF	NO	BU	U	M	U	
ASPHALT PAVEMENT														
POOLED														
COVER	X							X				X		
COAT	X	D	✓	□							X	X	X	
STAIN	X	✓						✓			✓			
MOUSSE														
PATTIES														
TARBALLS														
FILM		X				X	X						X	
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		X	
Vegetation			
Trash			
Debris	X		

DEBRIS COLLECTED
☒ YES ☐ NOTYPE Yellow ROPE#BAGS 1 /

Photographs:

Roll No. ST-7-2Frames 12, 13, 14, 15, 16, 17, 18

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			BU	U	M	U	BU	U	M	U			
1	15				X		0-15	X	X	X	X	X					X		BPG
2	15		X				0-2	X	X	X	X	X					X		BPG
			X				2-10	X	X	X	X	X					X		" Mobile Oil
						X	10-15	X	X	X	X	X					X		"
3	30		X				0-5	X	X	X	X	X					X		CPG
						X	5-30	X	X	X	X	X					X		CPG

COMMENTS Mobile oil was still present on the beaches in this segment. Many of the pits had black and brown floating on top of the water which filled the pits as they were dug. In some places thin mobile oil was found on the under sides of large boulders.

SHORELINE OILING SUMMARY (PAGE 2 of 2)

REVISION 08/22/90

SEGMENT ST/ KN-114 SUBDIVISION NONE

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		BU	U	M	U		
4	15				X		0.5	X	X					X		BCG
						X	5.15		X					X		BCG
5	25				X		0.15	X						X		PG
					X		15.25		X	X				X		PG
6	25	X					0.25	X	X					X		PG
7	25				X		0.25	X					X			BPG
8	30				X		0.30	X					X			BPG
9	25				X		0.5	X						X		BPG
					X		5.25	X	X	X				X		BPG
10	40	X					0.15	X		X	X					CPG
					X		15.40	X								CPG
11	30				X		0.5	X						X		CG
		X					5.15	X	X					X		CG
12	25				X		0.25							X		BG

COMMENTS

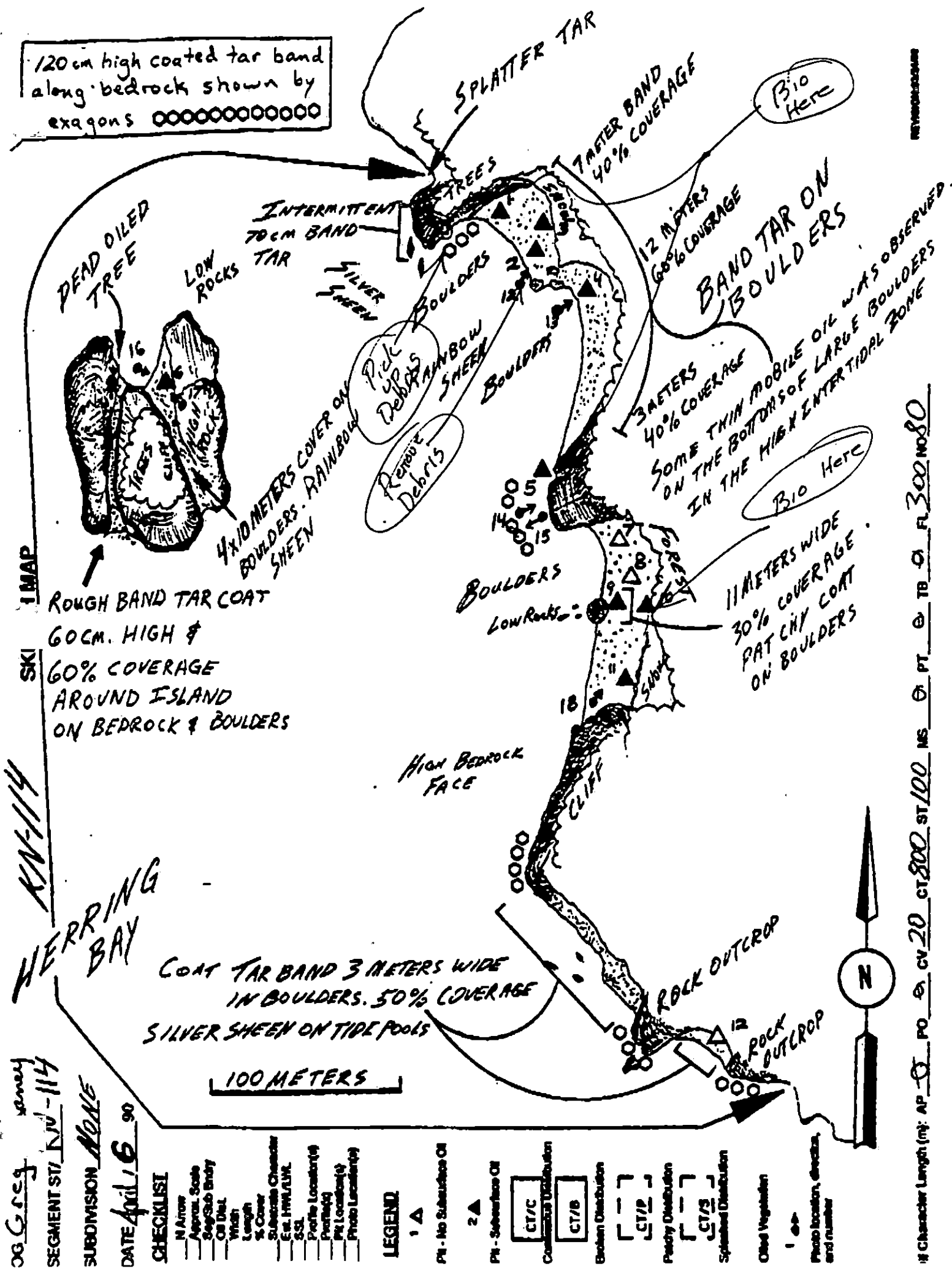
#9 Pit has brown droplets of oil in water in pit. Very little oil could be seen in sediments, ^{pit was} impossible to dig deeper due to large boulders.

REVIEWED

/W

DATE

4/10/90



Character Length (m): AP 0 PO 0 CV 20 CT 800 ST 100 MS 0 PT 0 TB 0 FL 300 NO 80

SHORELINE ECOLOGICAL SUMMARY

REVISION: 08/22/90

Segment ST/ KN114 Subdivision — Date (mo / day / yr) Apr 6, 90
 me (24 hr) Apr 1310 LV 1805 Biologist Roth

- (A) Substrate type and % of segments:
 (1) Bedrock 60 (2) Boulder 20 (3) Cobble 10 (4) Pebble 5 (5) Sand 5 (6) Silt —
- (B) Overall % cover of biota (% of segment): Dense 30 Moderate 50 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-7-2
 Frames 12-18

BARNACLES

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

MYTILUS

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

GASTROPODS

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

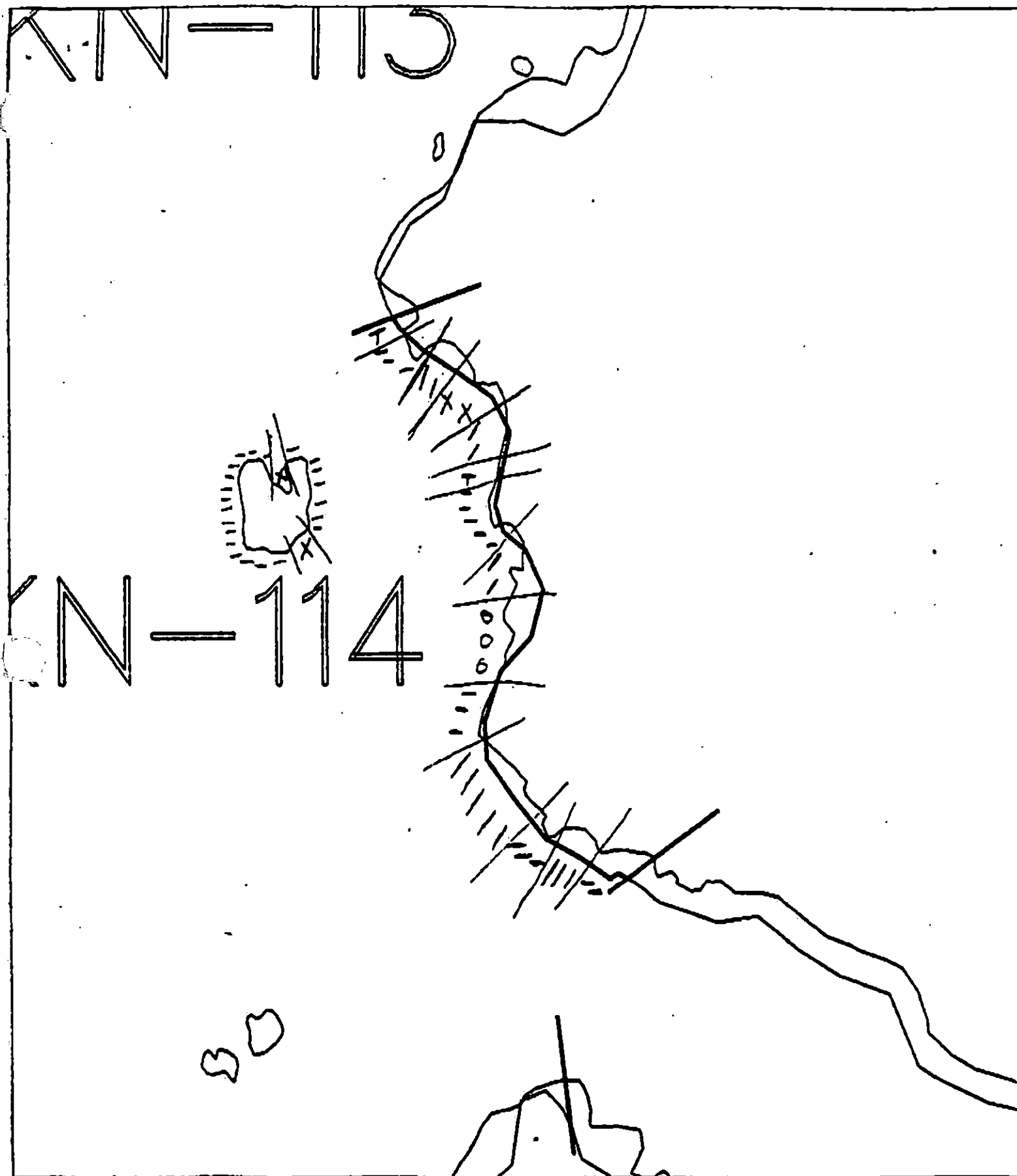
FUCUS

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

Wildlife Observations/ General Comments: A RICH AND VARIED INTERTIDAL FAUNA DESPITE CONSIDERABLE OIL. IN MITE COBBLE: NUMEROUS 1" ANNELED WORMS (OLIGOCHAETES?) UNDER ROCKS; LOTS OF *NOTAEMEA SCUTUM*; *LITTORINA SITKANENSIS* WITH EGGMASSSES; ABUNDANT HERMIT CRABS IN *LITTORINA* SHELLS; *IDOTEA* sp. IN LITZ TIDEPools: COBIES; SLIMY CELLS; *IDOTEA* 5

Ecological Considerations: *GASTROPODA*; HERMIT CRABS VERY ABUNDANT; LIMBES; *BRACHIOPODA*; EELGRASS (*ZOSTERA*), *AGARUM* IN LITZ COBBLE UNDERWATER. *PSYCHROBIA* IN LITZ.

CY- SPECIAL USE DESIGNATION



XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

KN-114

ADEC Segment Length: 848m
Exxon Segment Length 988

0 100 200 300

Map Key: PWS-295

Name: Greg Chaney

Date: April 6 1990

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-114 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup	CLOSED
Bioremediation	CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T Bald Eagle Nest

USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to manual pickup and bioremediation within 400m of active nest.

OTHER ECOLOGICAL CONSIDERATIONS

If eagle nest constraint is removed, other ecological considerations will apply.

FOSC

Date

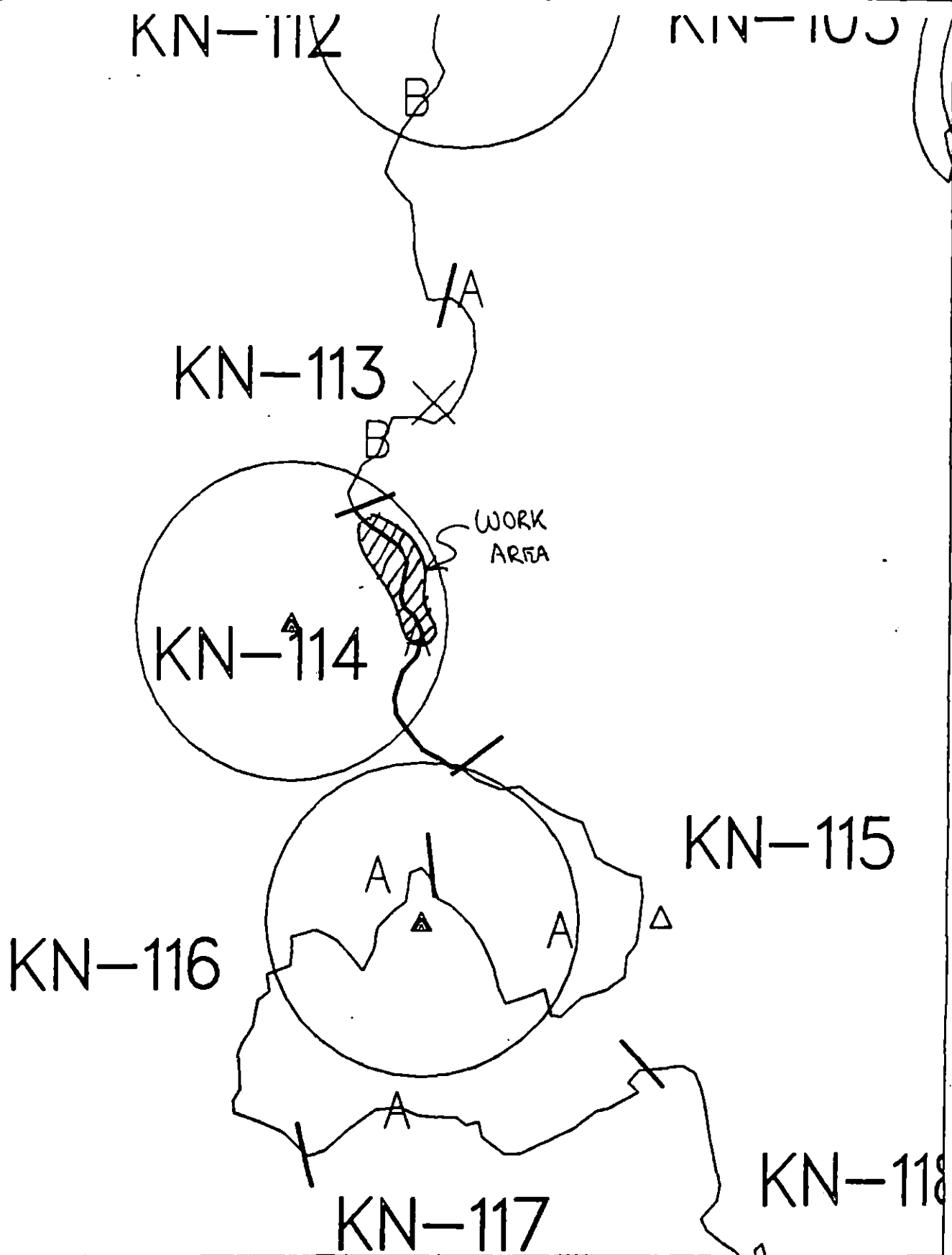
6-10-90

Prepared by

J.P. Phillips, 6-10-90

Date

6/10/90



Exxon Company, USA
Map Key: PMS-KN-114

SHORELINE EVALUATION

SEGMENT ST/ KN-115 SUBDIVISION A (1 OF 1) DATE 4/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)

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 or damage to unoiled biota and substrate.

SHPO SIGNATURE: Charles E. H. H. H. DATE: 4/20/90

OILING CATEGORIZATION:

Wide 254m: Medium 329 m: Narrow 1037m: V.Light 0 m: No Oil 0 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>X</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 removal of oiled debris, vegetation, and logs if
oiled > 10%. Remove tarmat; Bioremediate areas indicated on sketch map.
Work should be conducted after 6/1 and with permission of USFWS due to
eagle nesting constraint.

TAG COMMENTS:

TAG APPROVAL DATE: 4/19/90.

ADEC Art Weiner

EXXON Arroyo

NOAA Burt Wescott

USCG Kenneth K. K.

FOSC:

DATE: 4-26-90

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 unholed 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
- 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-115 SUBDIVISION: None DATE 4/4/90

USCG

NAME

W. E. WHITE

SIGNATURE

William E. White☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Manual pick up - Removal of oil logs also
tilling and washing.

ADEC

NAME

Dianne Munson

SIGNATURE

Dianne Munson☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Strongly suggest further treatment. In pit #4, black mobile oil surfaces in interstitial water. I measured the free floating oil's thickness at 2-3 mm. There is a strong smell of crude. The segments surface contains asphalt, pavements, coats and covers. Debris include oiled logs from 30% to 50% and oiled vegetation in the hita. Recommended treatment includes tilling and washing to remove subsurface oil, spot washing to remove surface coats, removal of oiled logs and vegetation and manual removal of asphalt and pavements. Note: Bald Eagles Nest

LAND MANAGER

NAME

David Mandrella

SIGNATURE

David Mandrella☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Upper and mid tidal zones^{in cover} have heavily impacted zones with different characters of surface and sub-surface oil. Residuals exist in the vicinity of pits 1 and 4. Translucent sheens in tidal pools and pits. Suggested cleanup techniques include: Manual pickup of asphalt pavement patches. Placement of sorbents where sheens are forming, and to collect oil after mechanical and/or manual tilling and sea water flushing.

SHORELINE OILING SUMMARY

REVISION NO. 08/28/90

OG Sawyer USCG White SEGMENT ST/ KN115
 BIO Benson LAND REP Mandrella (PS) SUBDIVISION A (1041)
 XON Natsimpalis ADEC Munson TIME 16:15 to 17:45
 TEAM NO.: 9 TIDE LEVEL: +1 to +2 DATE Apr. 14 / 90
 EST. SUBDIVISION LENGTH: 1789 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 15 % C 15 % P 10 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 40 % Hang 0 % Vert 60 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 270 m M 520 m N 999 m VL 0 m NO 0 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR										IMPACTED ZONES			
	C	B	P	R	1	2	3	4	5	6	7	8	9	10	SU	U	M	V
ASPHALT PAVEMENT																		
POOLED																		
COVER																		
COAT																		
STAIN																		
MOUSSE																		
PATTIES																		
TARBALLS																		
FILM																		
NO OIL																		

PAVEMENT: H F (S) 15 sq. m by 8 cmPATTIES / TARBALLS 0 BAGSNEAR SHORE SHEEN? NO BR (RW) SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☒ YES ☐ NOTYPE pom-pom/rope#BAGS 1

Photographs:

Roll No. 5f-8-2Frames 10-13

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		US	UC	1	2	3	4	5	6	7	8	9	10			
1	20				✓		0-10														N	B, C
2	20				✓		5-10														N	P, G, wt
3	30				✓		- - -														N	C, P
4	20				✓		0-15				✓	✓									N	B, C, wt
							.															
							.															

COMMENTS ST/KN115: Translucent sheen in tidal pool. Beaches small of crude oil. Oiled vegetation and logs along north side of cove. Both pits land ^{have} residual oil, and sheens on water in pit.

OG Saw

SEGMENT ST/AN/IS

SUBDIVISION none

DATE Apr 14 90

CHECKLIST

- ☐ H Arrow
- ☐ Approx. Scale
- ☐ Seg/Site Body
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HML/LVL
- ☐ SSI
- ☐ 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

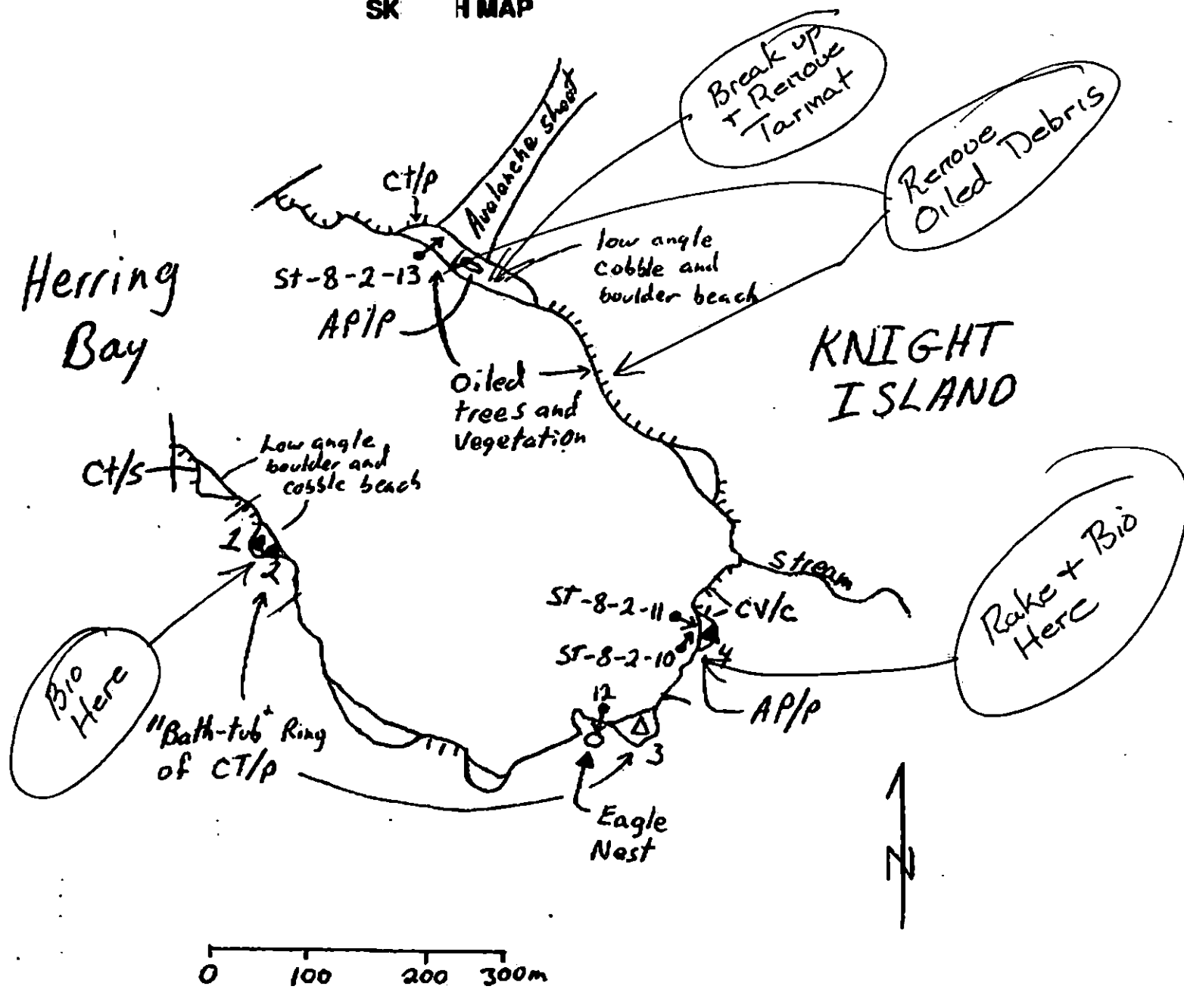
Splashed Distribution

Oil on Vegetation

1 ●

Photo location, direction,
and number

SK H MAP



Oil Character Length (m): AP 10 PO 0 CV 29 CT 700 ST 0 MS 0 PT 0 TB 0 FL 80 NO 0

REVISIONS

SHORELINE ECOLOGICAL SUMMARY

REVISION: 08/22/90

Segment ST / KN115 Subdivision None Date (mo / day / yr) 4/4/90me (24 hr) 1625-1745 Biologist John Benson

- (A) Substrate type and % of segments:
 (1) Bedrock 60 (2) Boulder 15 (3) Cobble 15 (4) Pebble 10 (5) Sand (6) Silt
- (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-8-2Frames 9-13

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	X	X	X	X	X	
3	3	3	3	3	3	3	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	

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	X	X	X	
3	3	3	3	3	3	3	3	3	X	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	X	X	X	X	X	
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	

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	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:

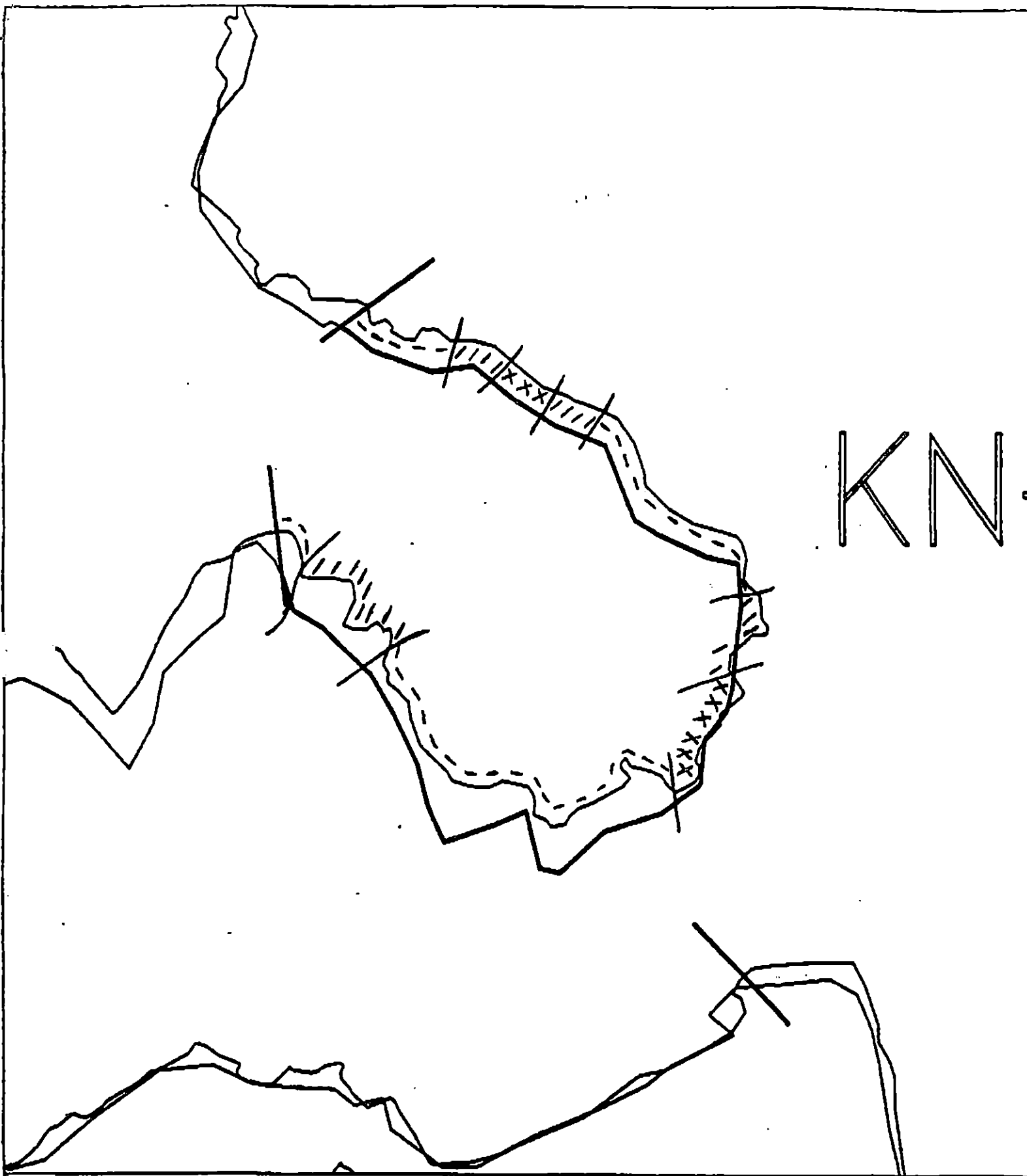
2 Mergansers

The overall % cover of biota was higher than suggested by the 4 major categories due to the presence of green filamentous algae (especially where freshwater runoff falls into the intertidal). This segment is biologically very heterogeneous. The southwest shore supports a fairly diverse & productive community, but the east & northeast shores have very low % cover of everything but green filamentous algae above the low intertidal zone.

Ecological Considerations:

Sensitivities: 6V (recr. anch.)

5T (eagle nest)



KN

XXX Wide

//// Medium

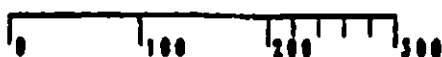
--- Narrow

TTTT Very Light

OOOO " " " "

KN-115

ADEC Segment Length: 1619m



Map Key: PWS-296

Name: Sawyer

Date: Apr 4, 1990

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-115 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup & Tarmat Removal Outside USFWS Established Buffer Zone	OPEN
Manual Pickup & Tarmat Removal Inside USFWS Established Buffer Zone	CLOSED
Bioremediation Outside USFWS Established Buffer Zone	OPEN
Bioremediation Inside USFWS Established Buffer Zone	CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T Bald Eagle Nest

USFWS 6/1/90 map indicates an active nest in adjacent subdivision. Closed to manual pickup, tarmat removal and bioremediation within USFWS buffer zone identified 5/10/90 by Mike Lockhart (see map). No constraints to manual pickup, tarmat removal, and bioremediation in areas outside USFWS established buffer zone.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict air traffic and all disturbance to essential minimum. No personnel or boat traffic within 400m of active nests. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from active nests. Avoid any unnecessary disturbance or damage to uncolled biota and substrate.

FOSC _____

Date _____

6-10-90

Prepared by _____

Date _____

6/10/90

KN-113

KN-

KN-114

WORK AREAS

USFWS Survey
5/27/90 (Lockhart)
ACCESS GRANT
Small boat
Passage only
No stopping in
buffer zone

KN-115

KN-116

KN-117

KN-118

KN-

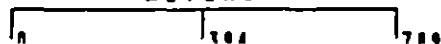
KN 121



ECOLOGY MAP
SEGMENT KN-115

SUBDIVISION A (1 of 1)

METERS



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

1 inch = 1200 feet

Exxon Company, USA
Map Key: PMS-KN-115
Line 05, 1990 ✓

SHORELINE EVALUATION

SEGMENT ST/ KN-116 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 any unnecessary disturbance or damage to unoiled biota and substrate.

SHPO SIGNATURE: Charles J. [Signature] DATE: 4/20/90

OILING CATEGORIZATION:

Wide 0 m: Medium 132 m: Narrow 1127 m: V.Light 78 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 12 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)

COMMENTS: Recommend bioremediation of pocket beach as indicated on
sketch map and removal of plywood and oiled debris.

TAG COMMENTS:

TAG APPROVAL DATE: 4/19/90
ADEC ART WEINER
EXXON AMY [Signature]
NOAA Burl Wescott
USCG KENNETH KIRBY

FOSC: [Signature] DATE: 4-25-90

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 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
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 116 SUBDIVISION: None DATE 4-3-90

USCG
NAME

W. E. WHITE

SIGNATURE

[Signature]

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Treatment SUGGESTED - Water flushing in the pocket beach and washing in the crevice.

ADEC

NAME

Dianne Munson

SIGNATURE

Dianne Munson

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

The heaviest oil within this segment is in a crevice in the bedrock outcropping (broken cover). There is one pocket beach with residual subsurface oil to 12cm. Primarily the segment is coated bedrock cliff from 1-3 meters. Recommended treatment includes water flushing in the pocket beach and spot washing in the crevice.

LAND MANAGER

NAME

David Mandrella

SIGNATURE

David Mandrella

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Majority of segment consists of vertical bedrock cliff with narrow band of sporadic coasts in upper intertidal zone. Priority areas which warrant treatment include a heavily covered crevice on bedrock about meters northwest of south boundary of segment. Spot washing of crevice should be conducted in a manner that will minimize impacts on a productive and diverse biotic community. The small beach cove could benefit from selected washing to

SHORELINE OILING SUMMARY

REVISION NO. 08/23/88

OG Sawyer USCG White SEGMENT ST/ KN116
 BIO Benson LAND REP Mandrella (FS) SUBDIVISION Wate A-1 of 1
 EXXON Natsimpelis ADEC Munson TIME 14:45 to 16:00
 TAM NO.: 8 TIDE LEVEL: +2.0 to +1.0 DATE Apr 14 / 90
 EST. SUBDIVISION LENGTH: 1262 m ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☐ Forest ☒ Rock Drivings
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: S to N
 SURFACE SEDIMENTS: R 85 % B 5 % C 5 % P 5 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 10 % Hang 0 % Vert 90 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 145 m N 880 m VL 237 m NO 0 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	10	15	20	25	30	35	40	45	50	55	60	65	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 rope#BAGS 1

Photographs:

Roll No. St-8-2Frames 7-8

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	30	35	40	45	50	SU	U	M	U			
1	20					/	- - -		/	/	/	/	/	/	/	/			N	P		
2	40		/				0-12		/	/							/		N	C, P, G		
							.															
							.															
							.															
							.															

COMMENTS ST/KN116: Translucent sheen in tidal pools. Broken covers and patchy and occasional coats in upper tidal zone - mostly on south facing cliffs. Residual oil discolors upper 12cm of pit 2.

OG Saw
SEGMENT ST/ KN116

SEGMENT ST/ KN/16

SUBDIVISION None

DATE Apr. 14 90

CHECKLIST

- ___ M Answer
 ___ Approx. Scale
 ___ Say/Seb Body
 ___ On Dec.
 ___ Width
 ___ Length
 ___ % Cover
 ___ Substrate Character
 ___ Est. HORIZ. VEL.
 ___ SSI
 ___ Profile Location(s)
 ___ Profile(s)
 ___ Pz Location(s)
 ___ Photo Location(s)

LEGEND

1. A

Fig - No Submission On

24

FIG. 3. Substrate Oxidation

CT/C

Continuous Distribution

CT/B

European Distribution

CT/P

Part 1: Observation

CT/S

Systematic Club Growth

Cold Vegetation

1.

**Photo location, direction,
and number**

TTTTT Bedrock Cliffs

KNIGHT ISLAND

low angle
cobble bench / FHS

Clear horiz. Ct/S
upper boundary

2 Sheets
of plywood

~~Packet~~
Packet B₁₀

~~Remove Plywood Debris~~

low angle
boulder
beach

ct/p
3m wide
or less

Herring Bay

A horizontal number line with tick marks at 0, 100, 200, and 300m.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 08/28/79

Segment ST / KN 116 Subdivision None Date (mo / day / yr) 4/4/90

Time (24 hr) 1455-1600 Biologist John Benson

- A) Substrate type and % of segments:
 (1) Bedrock 85 (2) Boulder 5 (3) Cobble 5 (4) Pebble 5 (5) Sand (6) Silt
- (B) Overall % cover of biota (% of segment): Dense 80 Moderate 15 Low 5
- (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: ST-B-2
 Roll No. ST-B-2

Frames 7-8

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:

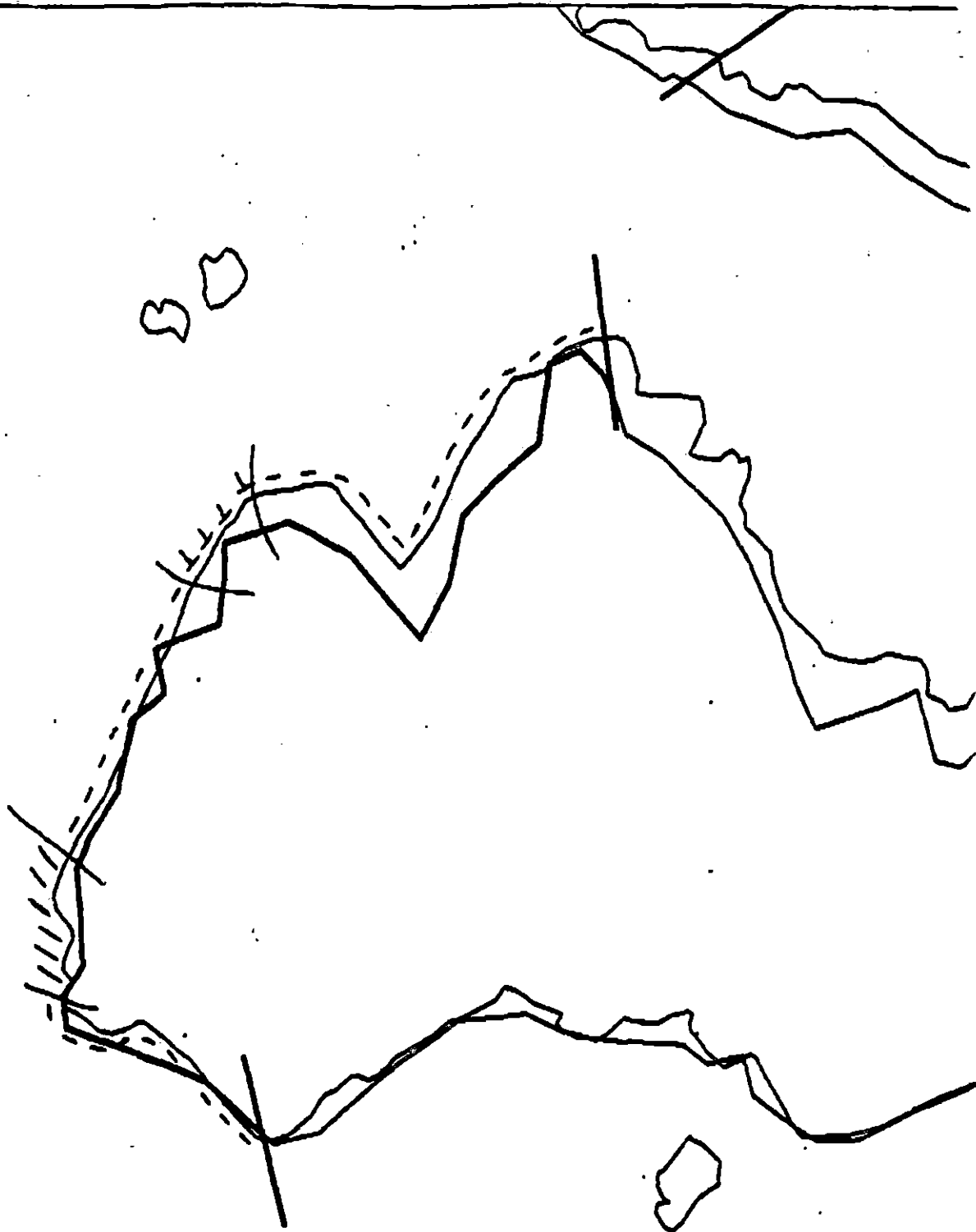
one male & one female goldeneye duck

This entire segment is highly productive and moderately diverse (# species), due, probably, to its increased exposure to wave action from the N & NW.

Ecological Considerations:

Sensitivities: 6V (recreational anchorages)

and to substrate heterogeneity (crevices & tidepools).



KN-117

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-116

ADEC Segment Length: 1338m



Map Key: PWS-297

Name: Sawyer

Date: Apr. 4, 1990

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-117 SUBDIVISION A (1 OF 1) DATE 4/6/90

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 any unnecessary disturbance or damage to uncoiled biota and substrate.

SHPO SIGNATURE: [Signature] DATE: 4/8/90

OILING CATEGORIZATION:

Wide 81 m: Medium 198 m: Narrow 627 m: V.Light 198 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 40 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) removal of tarmats and asphalt, 2) raking followed by bioremediation of area indicated on attached sketch map and 3) bioremediation only of area shown on sketch map.

TAG COMMENTS: _____

TAG APPROVAL DATE: 7/10/90
 ADEC JOHN BAUER
 EXXON ANDY TATE FOSC: My L DATE: 4-22-90
 NOAA Bert Warrick
 USCG G.A. Reiter

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.

SHORELINE EVALUATION

SEGMENT ST/ KN-117 ✓ SUBDIVISION A (1 of 1) ✓ DATE 4/6/90 ✓

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Sensitivity code and general time constraints. See attached ^{ECOLOGICAL CONSTRAINT} sheet for specific constraints and contacts. 6V (6/1-9/15) ✓

SUBDIVISION ECOLOGICAL CONSTRAINTS: Avoid any unnecessary disturbance or damage to unoiled substrate and biota. ✓

ARCHAEOLOGICAL CONSTRAINTS: If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276). ✓

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 81 m: Medium 198 m: Narrow 627 m: V. Light 198 m: No Oil 0 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: _____ Wands
☒ Tarmat: _____ Breakup	☐ Beach Cleaner
☒ Removal	☐ Other (see comments)

COMMENTS: ^{Recommend} Removal of Tarmat & Asphalt. ^{ALSO RECOMMEND} ~~Removal of~~ ^{remediation areas} ~~oil~~ ^{Work Level Class 1} ~~areas~~ ^{indicated on the first sketch.} ~~areas~~ ^{Sketch Map.}

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON Wm. Skelton
NOAA _____
USCG _____

FOSC: _____ DATE: _____

FIELD SHORELINE COMMENT SHEET

MENT ST / KN117 SUBDIVISION: — DATE 4-6-90

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

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

There is definite bands along the Super tidal zone. Bio-remediation would be a good choice of attack in this area. There was subsurface oil in places as much as 30 cm in depth. There was some mousse in the small streams created by the snow melting, there was also light sheens in some of the tidal pools in the lower and intermediate tidal zones. The bands in the super tidal zone were approximate 1-2 mm thick. They ranged from 1/2 a meter to 1 meter wide and almost continuously.

ADEC M. Cunningham NAME M. Cunningham SIGNATURE M. Cunningham

NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Bioremediate low angle boulders and pocket beaches. Manual tilling of beach where pits 1-3 deep ie flip over boulders, aerate sediments, bio remediate, rework. "lambda unit would work at the scale of these beaches. We probably removed all the trash as there was little snow cover. It's too bad Exxon doesn't design a substantial piece of equipment which would remove the tar coats on vertical surfaces... like cones.

LAND MANAGER
NAME Steven Phillips SIGNATURE Steven Phillips

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Remove Asphalt sections
Scrape covers of tar on vertical and high angle beaches when thickness is 2mm or more. Disturb and wash "wide" bands of oil to depth (10-20cm deep).
Remove mobile bands of oil.
If technology developed, remove tar on vertical faces and boulders which exceed 1mm thickness.
... have visible tar coats.

cont:
a high pressure cold water omni barge with a highly
mobile articulating arm. The pressure would have to be
on the order of 12-1500 PSI but it would remove the tars.
just as I believe the smaller lamda units will do.

SHORELINE OILING SUMMARY

REVISION NO. 03/23/88

OG Greg Chaney USCG Dave Sylvester SEGMENT ST/ KN-117
 BIN Jim Roth LAND REP Steve Phillips (FS) SUBDIVISION 4 (lot 1)
 (ON Ray Sotelo ADEC Mike Cunningham TIME 18:15 to 19:35
 IM NO.: 7 TIDE LEVEL: 1.0 ft to 3.0 ft DATE April 16 1990
 EST. SUBDIVISION LENGTH: 1152 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 60 % B 20 % C 15 % P 5 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 35 % Hang 30 % Vert 35 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 58 m M 161 m N 112 m VL 161 m NO 0 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	10	15	20	25	30 35	35 40	40 45	45 50	50 55	SU	U	M	L
ASPHALT PAVEMENT	X				X							X	
POOLED													
COVER		X			X						X		
COAT	X	✓	0	□	X 0		X 0			0 X	0 X	0 X	0 X
STAIN		✓	X		X					✓	X		
MOUSSE													
PATTIES													
RBALLS													
M		X	✓		✓	X	X				✓	✓	X
NO OIL													

PAVEMENT: H P 3 sq. m by 10 cmPATTIES / TARBALLS 0 BAGSNEAR SHORE SHEEN? NO BR RW SL TL

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

DEBRIS COLLECTED
☒ YES ☐ NOTYPE Yellow Rope#BAGS less than 1

Photographs:

Roll No. ST-7-2Frames 19, 20

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	UO	UC	UO	UC	UO	UC	UO	UC		
1	10				X		0-10	X							X					BP
2	40		X				0-10	X					X		X					BP
						X	10-40	X							X					BP
3	30	X					0-20	X	X						X					BP
						X	20-30	X							X					BP
4	25					X	0-25	X							X					GBP

COMMENTS

Mobile oil was observed along this segment. It seemed to be found primarily in breaks in the rock cliffs. In these areas it collected at the base of large boulders.

OG Greg Chaney

SEGMENT SI 117

SUBDIVISION NONE

DATE April 6 90

CHECKLIST

- ☐ N Area
- ☐ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Ec. HML/LWL
- ☐ SSI
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pit Location(s)
- ☐ Photo Location(s)

LEGEND

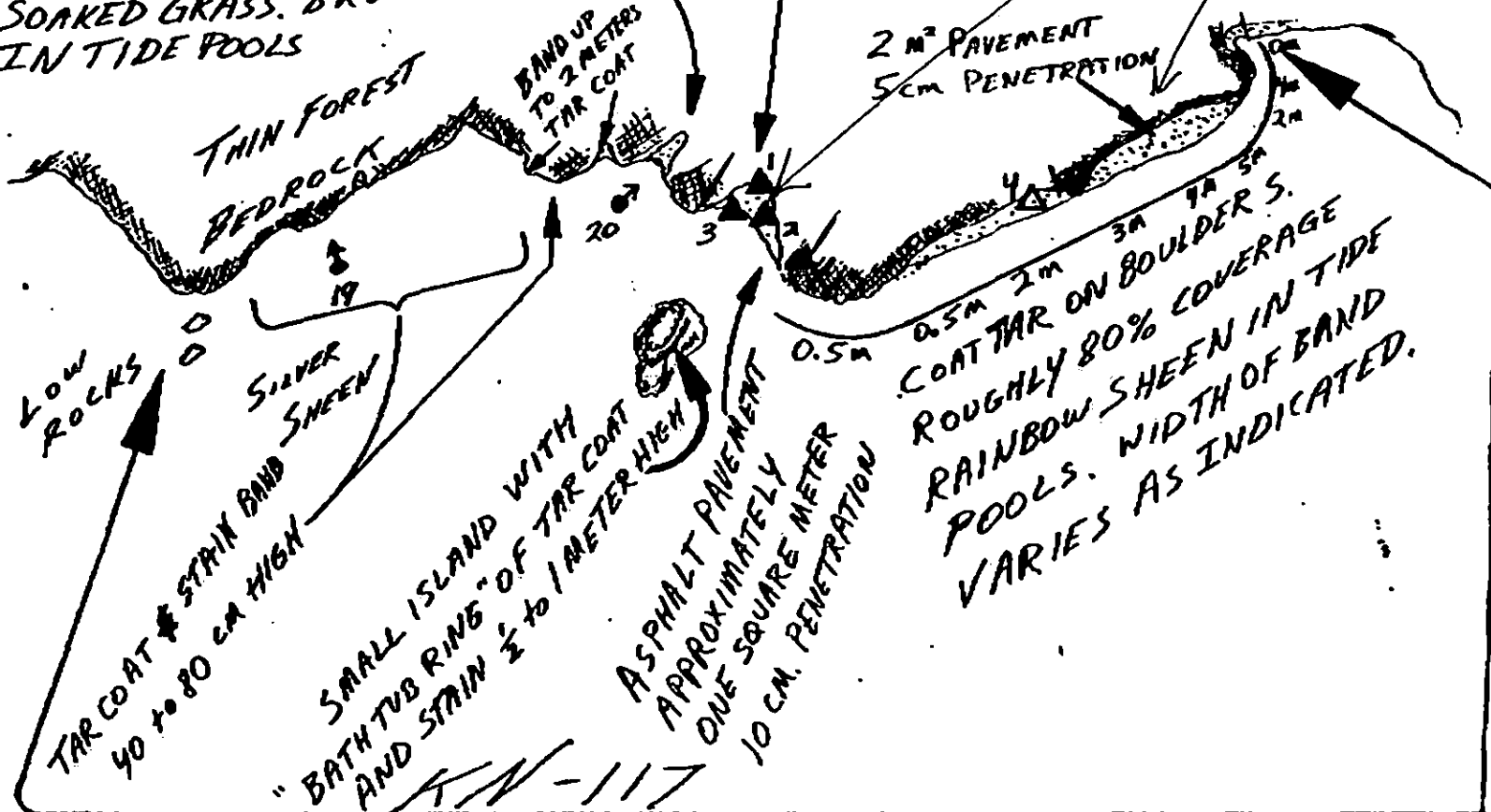
- 1 Δ
- Pit - No Subsurface Oil
- 2 Δ
- Pit - Subsurface Oil
- CT/C
- Continuous Distribution
- CT/B
- Broken Distribution
- CT/P
- Patchy Distribution
- CT/S
- Splashed Distribution
- Oiled Vegetation
- 1 $\Rightarrow$
- Photo location, direction, and number

SI CH MAP

KNIGHT ISLAND



TAR COAT AT BOULDER BASES
5x10 METER AREA. SOME OIL
STILL MOBILE. PATCHES OF TAR
SOAKED GRASS. BROWN SHEEN
IN TIDE POOLS



Oil Character Length (m): AP 3 PO 0 CV 8 CT 990 ST 200 MS 0 PT 0 TB 0 FL 100 NO 0

REVISION 02/04/90

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/98

Segment ST/KN 117 Subdivision --- Date (mo / day / yr) Apr 6, '90
 Time (24 hr) 1910 Biologist ROTH

- (A) Substrate type and % of segments:
 (1) Bedrock 60 (2) Boulder 20 (3) Cobble 15 (4) Pebble 5 (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-7.2
 Frames 19-20

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	X	X	2	2	2	X	
3	3	3	3	X	3	3	3	X	3	3	X	
4	4	4	4	X	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	

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	2	2	2	X	2	X	
3	3	3	3	X	3	3	3	X	3	3	X	
4	4	4	4	X	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	X	2	X	
3	3	3	3	X	3	3	3	X	3	3	X	
4	4	4	4	X	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

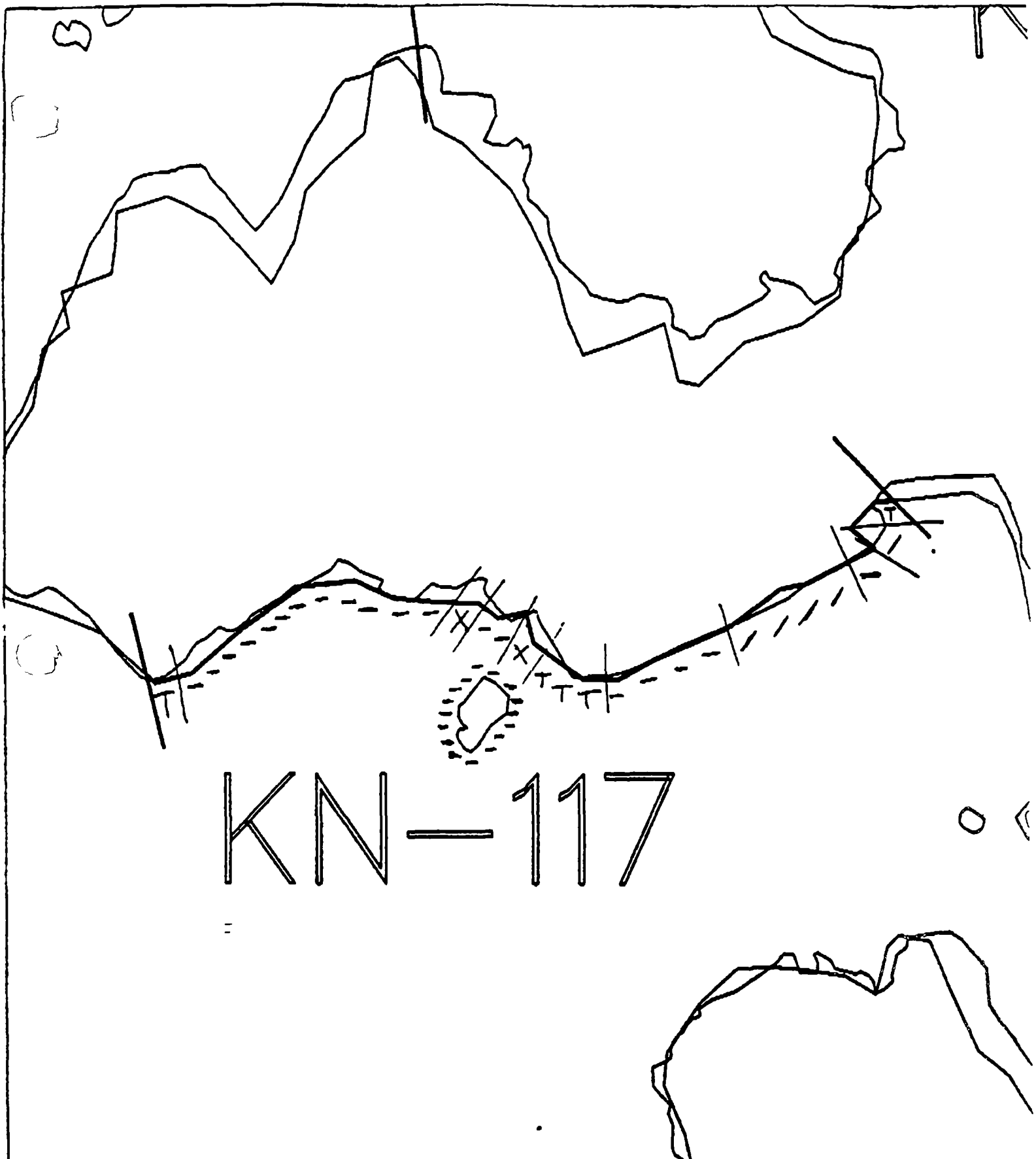
Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	X	2	X	2	X	2	2	
3	3	3	3	3	X	3	X	3	3	3	3	
4	4	4	4	4	4	4	X	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

Wildlife Observations/ General Comments:

1 SEA OTTER SEEN IN WATER; 1 ADULT BALD EAGLE FLEW FROM PERCH IN SEGMENT
 1 OYSTERCATCHER ON BEDROCK ISLET. OIL SHEEN IN LITZ, MITZ (SEE OG REPORT).
 STARFISH: PYCNOGONIA, DEEPMATERIAS, HENICIA; SMALL PEANUT WORM; NEMERTAN

Ecological Considerations: (PARANEMERTES); BLUNNY EEL; TEALIA CRASSICORNIS;

V- RECREATION ANCHORAGES NUCELLA.

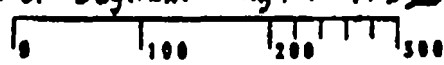


KN-117

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

KN-117

ADEC Segment Length 1104m
 Exxon Segment Length 1152



Map Key: PWS-298
 Name: Greg Chaney
 Date: April 6 1996