

OIL SPILL PUBLIC INFO. CENTER



3 6653 00006375 4

EVOS
GC
1552
.P75
S42
1990
v.16

[Shoreline evaluations, 1990].

KN-300 – KN-578

Title supplied by cataloger. This title page is supplied by Alaska Resources Library and Information Services (ARLIS).

ARLIS
Alaska Resources Library & Information Services
Library Building, Suite 111
3211 Providence Drive
Anchorage, AK 99508-4614

SHORELINE EVALUATION

SEGMENT ST/ KN-300 SUBDIVISION A (1 OF 1) DATE 4/5/90

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 2/28)
5T All bald eagle nest(3/1 to 6/1)-Active eagle nest (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 uncoiled biota and substrate.

SHPO SIGNATURE: Charles E. Hume DATE: 4/20/90

OILING CATEGORIZATION:

Wide 0 m: Medium 1250 m: Narrow 1881 m: V.Light 209 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
☒ X Removal	☐ Other (see comments)

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

REMOVE / PICKUP DEBRIS + TRASH + TARBALLS

TAG COMMENTS: _____

TAG APPROVAL DATE: 7/11/70
ADEC ART WELLS
EXXON ANDY TAYLOR
NOAA BURL WESCOTT
USCG KENNETH KEANE

FOSC: KL DATE: 5-12-90

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
 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

MENT ST/ KN 300 SUBDIVISION: None DATE 4/5/90

USCG
NAME W. E. White SIGNATURE William E. White

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

Treatment pending restrictions to
environmental sensitivities. Free floating oil.
Manual tilling and washing.

ADEC
NAME Dianne Munson SIGNATURE Dianne Munson

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS This is a harbor seal pupping and sea lion molting area. The segment contains primarily bedrock cliffs with pocket beaches. Surface oiling includes asphalt/pavement, coats and covers. At pocket beaches there is subsurface residual free floating oil. Recommended treatment includes tilling, washing and flooding and bioremediation of pocket beaches with residual/mobile subsurface oil. Remove trash and clean-up debris (50 meters of sorbent boom found hit). Treatment pending restrictions to environmental sensitivities.

LAND MANAGER
NAME David Mandrella SIGNATURE David Mandrella

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

This segment is an important marine mammal pupping and molting area. Major oiling occurs primarily in mid and upper intertidal as a narrow band consisting of sporadic and patchy coats of and sub-surface oil on selected low angle beach cohes. Recommended treatment includes manual tilling in areas where high subsurface oil concentration exists followed by washing and flushing techniques and bioremediation application. Treatment should be conducted to minimize impacts on eagle nesting area located near Smith Island. REVISION NO. 02/87/88

SHORELINE OILING SUMMARY

REVISION NO. 00/25/90

OG Sawyer USCG White SEGMENT ST/ KN300
 BO Benson LAND REP Mandrella (FS) SUBDIVISION A 1 of 1
 (ON Katsimpalis ADEC Munson TIME 14:00 to 18:30
 TAM NO.: 8 TIDE LEVEL: +6 to +1.5 DATE Apr. 15 /90
 EST. SUBDIVISION LENGTH: 3827 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 10 % C 5 % P 5 % 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 1370 m N 2240 m VL 217 m NO 0 m

SURFACE OIL

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

PAVEMENT: H F (8) 166 sq. m by 8 cm

PATTIES / 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 Rope, Ampers

#BAGS 1

Photographs:

↑ about 20 bags - see Map "B"

Roll No. ST-8-2Frames 14-20

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			1	2	3	4	5	6	7	8			
1	15		✓				0-10											N	C, P, wt
2	25						- - -											N	B, C, P
3	25				✓		5-12				✓							N	C, P
4	10				✓		0-10			✓								N	B, C, P, wt
5	15						- - -											N	C, G, wt
6	30						- - -											N	C, G, wt

COMMENTS ST/KN-300: Pits 1 and 4 were dug to bedrock or boulders.
 Near shore sheen (rainbow) observed only at Northern end of this segment.

SEGMENT ST/ KN-300 SUBDIVISION _____

SUBSURFACE OIL (CONTINUED)

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		
7	25						- - -															N	P, G
8	15				✓		0 - 15			✓	✓											N	B, P, G, wt
9	20						- - -															N	B, C, P
10	25						- - -															N	C, P
11	20				✓		0 - 15			✓												N	B, P
12	20				✓		10 - 20			✓												N	B, P
13	30						10 - 20															N	P, G, S
14	25						- - -															N	P, S
15	25						- - -															N	C, P
16	20						- - -															N	B, C, P, S
17	25						- - -															N	B, C, P
18	15						- - -															N	B, C, P
							.																
							.																

COMMENTS ST/KN-300: Pits 8, 12, 17, and 18 were dug to bedrock or boulders.

REVIEWED ✓WDATE 4/10/90

RESEARCH DESIGN

06 Sawy

SK HMAP B

SEGMENT ST/KN300

SUBDIVISION none

DATE Apr 15 90

CHECKLIST

- ☐ H Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HW/LA/VL
- ☐ SSI
- ☐ Profile 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
Patched Distribution

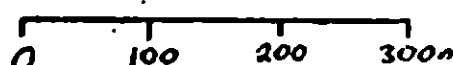
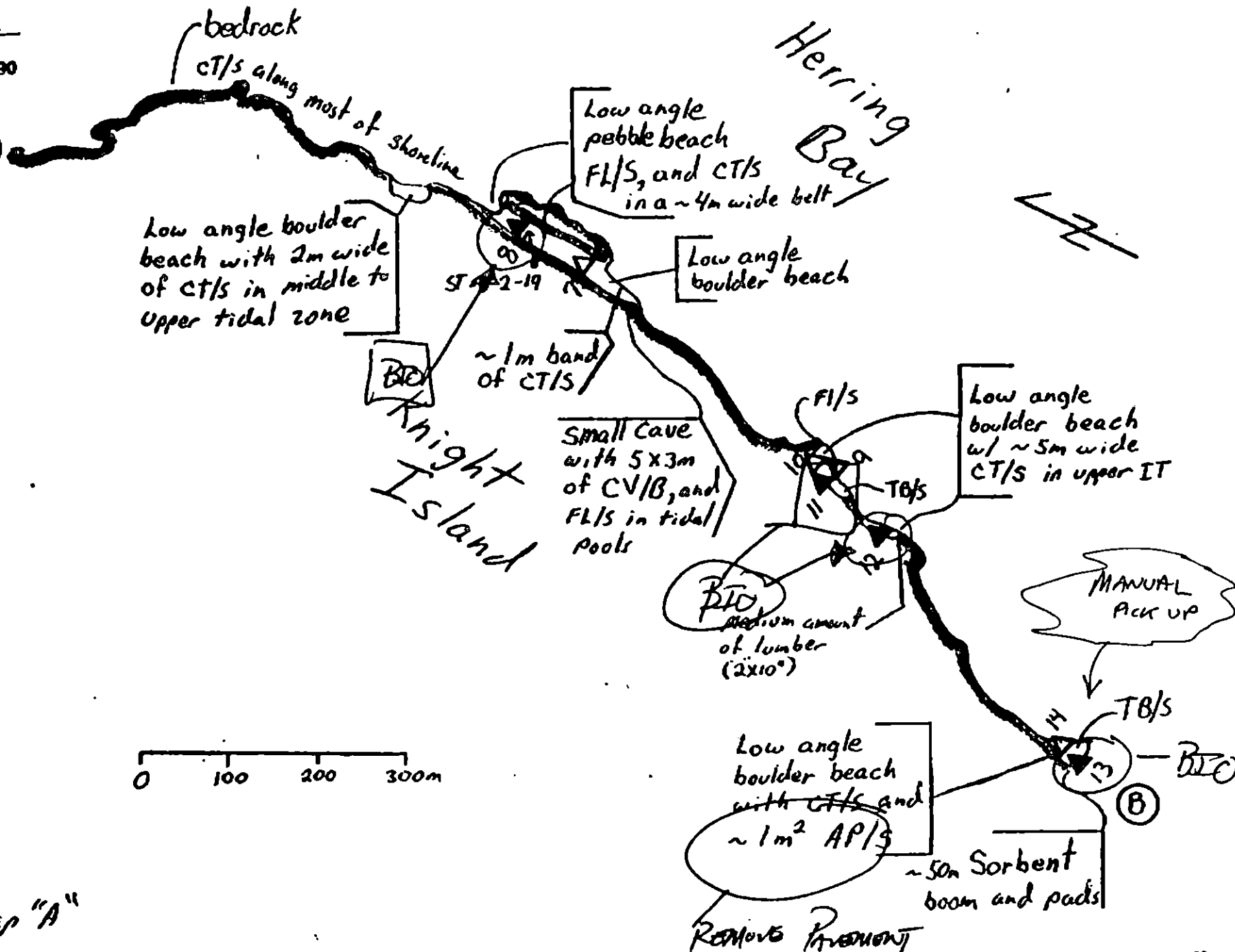
CT/S
Splashed Distribution

Oil on Vegetation

Photo location, direction, and number

See Map "A"

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



REVISION 223499

APR-06-1990 14:53 FROM UKON RIVER SENT DATE 1.06

00 Sauye

SEGMENT ST/KN300

SUBDIVISION None

DATE Apr 15 90

CHECKLIST

- ☐ M Area
- ☐ Apprx. Scale
- ☐ Seg/Sub Body
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HW/LA/WL
- ☐ SCL
- ☐ 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
Spashed Distribution

Oil Vegetation

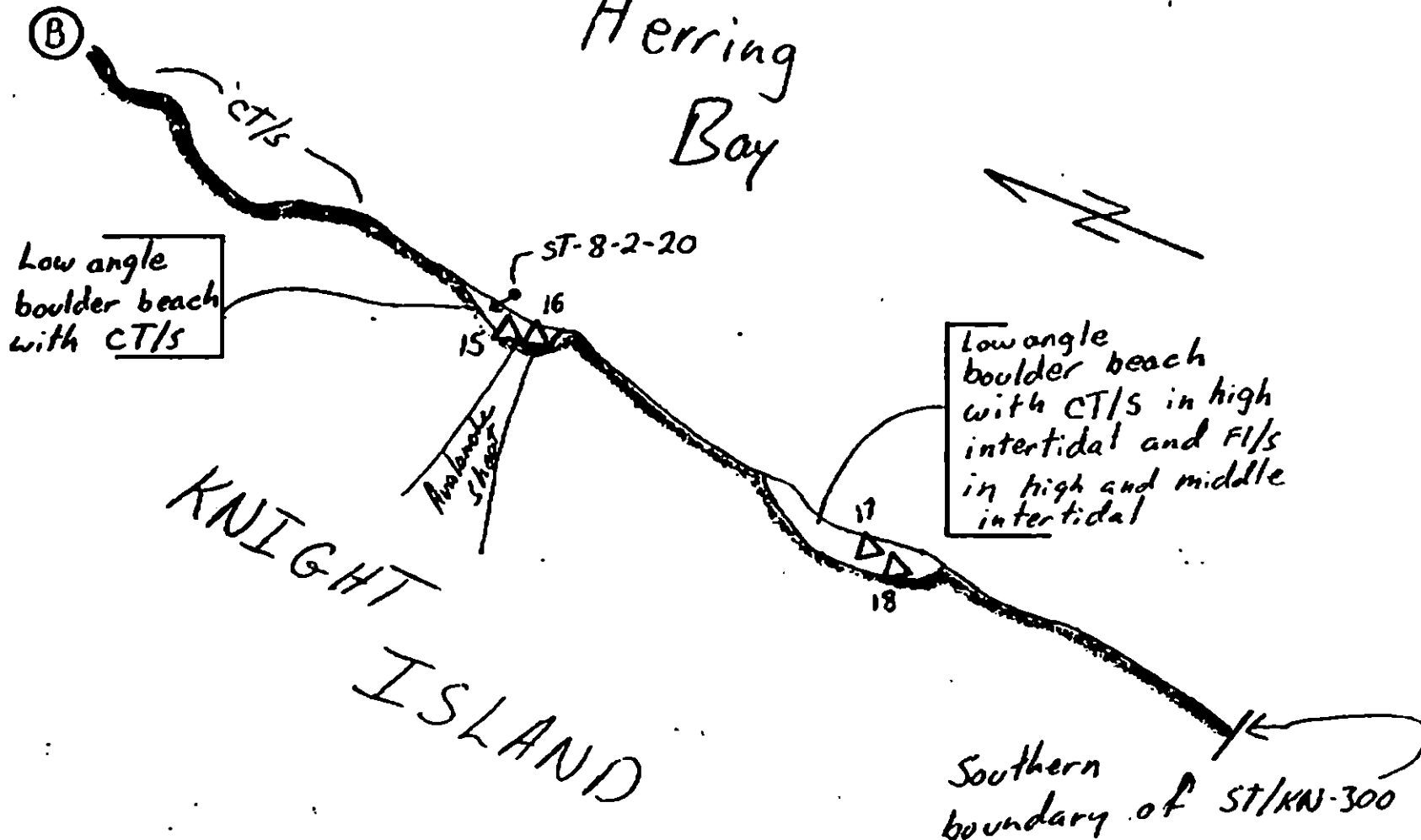
1 →
Photo location, direction,
and number

0 100 200 300 m

SK H MAP C

bedrock
cliff

Herring
Bay



KNIGHT
ISLAND

See Map "A"

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

REVISION: 000000

100-00-1000 4:153 FRI 1000 RIVER 10 1000 1000

SHORELINE ECOLOGICAL SUMMARY

REVISION: 09/22/90

Segment ST / KN300 Subdivision None Date (mo / day / yr) 4/5/90

(24 hr) 1400 Biologist John Benson

(A) Substrate type and % of segments:
(1) Bedrock 80 (2) Boulder 10 (3) Cobble 5 (4) Pebble 5 (5) Sand 0 (6) Silt 0

(B) Overall % cover of biota (% of segment): Dense 10 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. ST-8-2

Frames 14-20

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 other (Enhydra lutris) bald eagle (2? : Haliaeetus leucocapillus) & eagle n. at the southern end of the segment

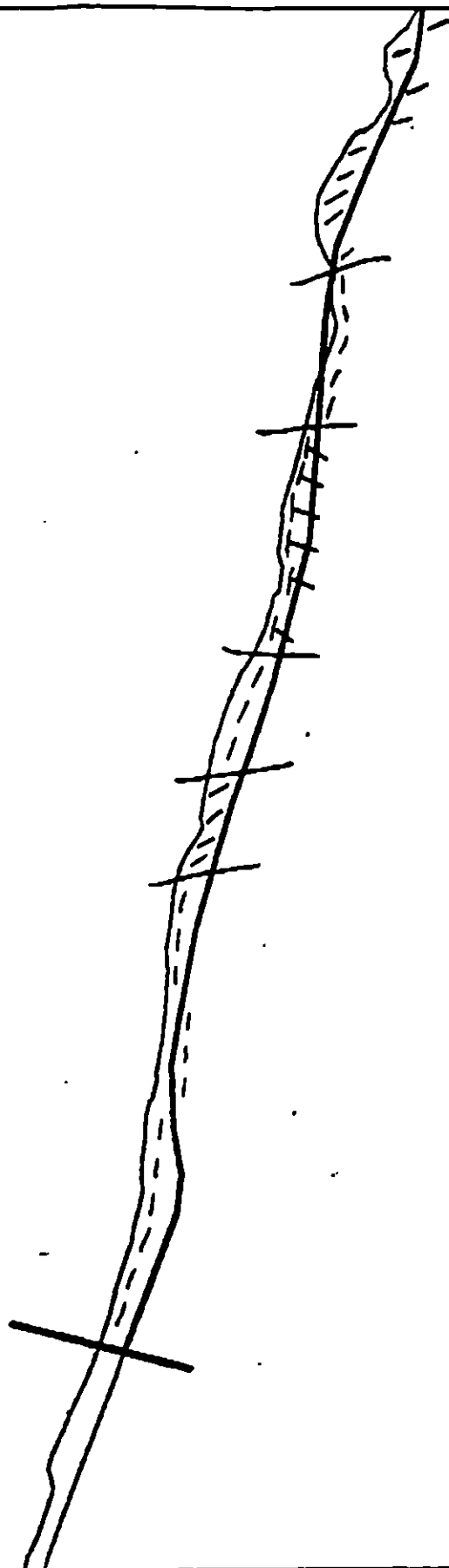
This segment is characterized by bedrock with numerous tidepools and crevices. The tidepools that contained cobbles

Ecological Considerations:

3 N₂P harbor seal & sea lion pupping
30,000 " " " " molting

seemed to have the highest # species, probably due to increased substrate area,

moderation of temperature, collection of detritus & # habitat types. It is possible that shoreline treatments using hot water would differentially harm organisms in tidepools (eg. anemones), since the water collecting there would remain warm for a longer time than where the water runs off.



← PWS
3496

XXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Data

KN-300

ADEC Segment Length: 3340m



Map Key: PWS-3490

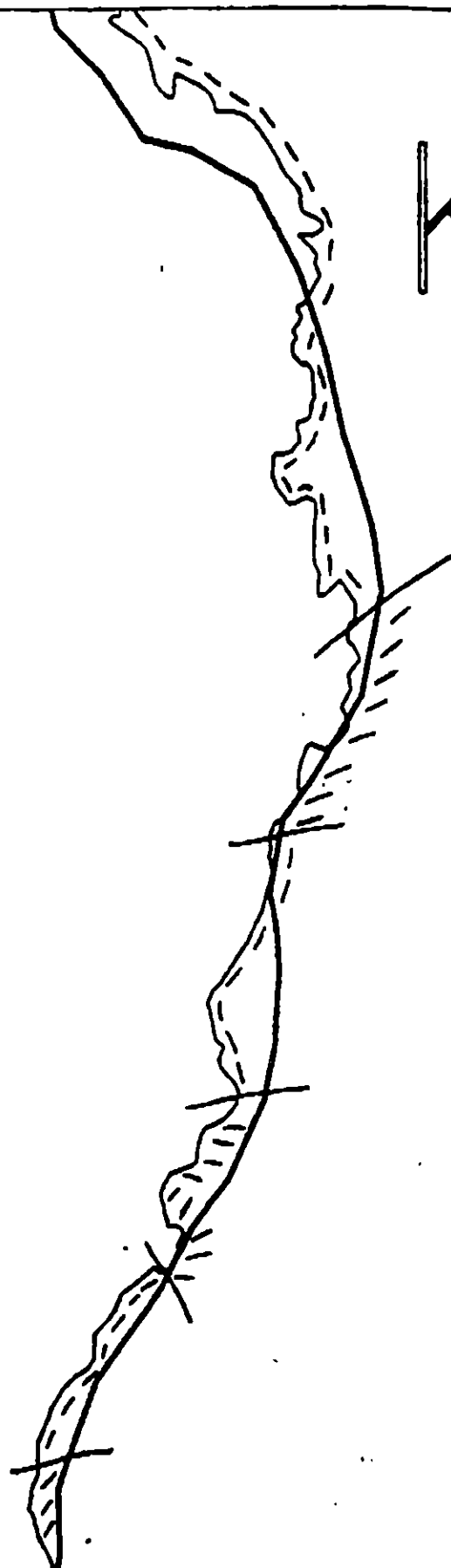
Name: Sawyer

Date: Apr. 6, 1990

Data Entered:

↑ PWS 344C

KI



PWS
349A →

XX Wide
/// Medium
--- Narrow

KN-300

ADEC Segment Length: 3340m

TTTT Very Light
OOOO No Oil

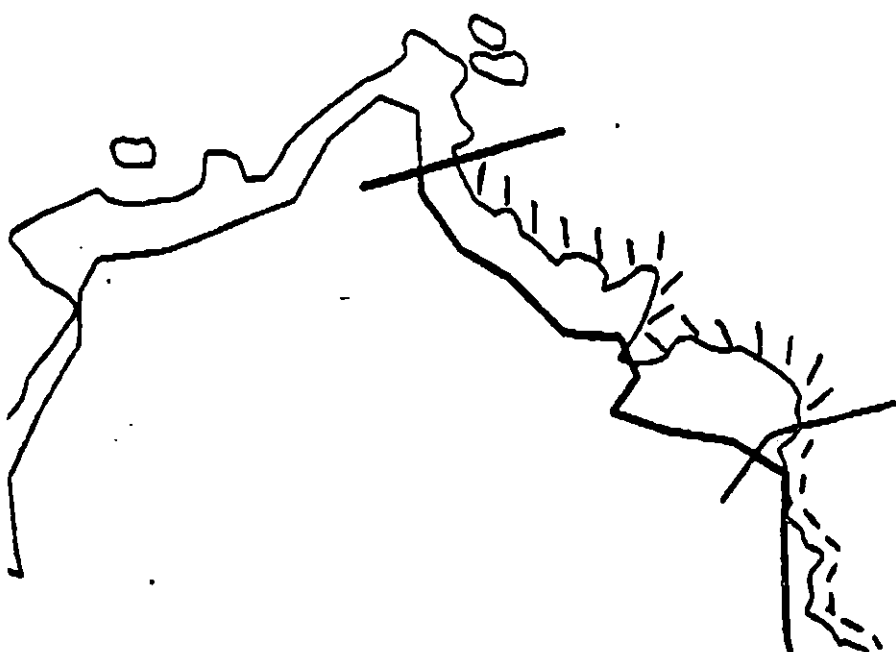


Map Key: PWS-349b

Name: Sawyer

Date: Apr. 6, 1990

Date Entered:



↓ PWS 3495

\XX Wide
 //// Medium
 --- Narrow
 TTTT Very Light
 ^^^^ " "

KN-300

ADEC Segment Length: 3340m



Map Key: PWS-349c

Name: Sawyer

Date: Apr. 6 1990

...

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-300 SUBDIVISION A (1 of 1)

WORK WINDOW	
Tarmat Removal	OPEN
Bioremediation	OPEN

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

3N,O,P,Q Harbor Seal & Sea Lion
Pupping and Molting

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

5T Bald Eagle Nest

NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision A 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. Avoid any unnecessary disturbance or damage to unaltered biota and substrate.

TAG APPROVAL DATE _____
ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC [Signature] DATE 7 June 1990

Prepared By: WTK

Date 6/7/90

Incorporates USF+WS 6/1/90
map of active bald eagle
nests.

A hand-drawn map showing the locations of bald eagle nests and treatment areas. The map includes several labeled areas and nests:

- KN-500**: A large area at the top left containing a **NEW NEST ACTIVE** (marked with a triangle) and **99 ACTIVE NEST** (marked with a triangle).
- KN-300**: An area at the top right containing an **INACTIVE NEST** (marked with a circle) and **501 INACTIVE NEST** (marked with a circle).
- 501**: An area on the left side containing **98 INACTIVE NEST** (marked with a triangle).
- KN-301**: An area at the bottom left containing **102 ACTIVE NEST** (marked with a triangle).
- KN-503**: An area at the bottom left, below KN-301.
- KN-145**: An area at the bottom right.

Two arrows labeled **TREATMENT AREAS** point to specific locations on the map: one points to the area around KN-500 and KN-300, and the other points to the area around KN-300 and 501.

TREATMENT AREAS

KN-300

99
ACTIVE
NEST

98
INACTIVE
NEST

ACTIVE
NEST

KN-145

SEGMENT KN-300

SUBDIVISION A (1 of 1)

METERS



★

Seabird Colony



Eagle Nest

SHORELINE EVALUATION

SEGMENT ST/ KN-301 SUBDIVISION A (1 OF 2) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Harbor seal and sea lion pupping (3N, 3P) - 5/15 to 7/1 and molting (3O, 3Q) - 8/15 to 9/15; Bald eagle nest (5T) - 3/1 to 6/1; Recreation anchorage (6V) - 6/1 to 9/15.

SUBDIVISION ECOLOGICAL CONSTRAINTS: (3N, 3P, 3O, 3Q) Restrict boat and air traffic to essential minimum. Contact ADF&G and USFWS prior to treatment. Treatment to be completed prior to 5/15 or between 7/1 and 8/15 unless otherwise approved by ADF&G and/or USFWS. (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: Charles Ziff DATE: April 14, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 934 m: No Oil 0 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: Bioremediate area shown on sketch map. Work 7/1 to 8/15 based on constraints.

MANUAL PICKUP OF TARPATTIES

TAG COMMENTS:

TAG APPROVAL DATE: 4/13/90
ADEC [Signature]
EXXON ANDY TATE FOSC: D. S. L. DATE: 4-20-90
NOAA Burl Wescott
USCG G.A. REITER G.H. Dexter

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ KN 301 SUBDIVISION: A DATE 3/31/90

USCG

NAME W.F. White SIGNATURE W.F. White

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

REMOVE OIL COATS, SCRAPE ROCKS - MANUALLY

ADEC

NAME Dianne Munson SIGNATURE Dianne Munson

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Not mobile, does not produce sheen. Sporadic coats and stains on undersurface of boulders and cobbles. Sporadic Patties. Manually remove Patties. Manually turn rocks over to scrape and remove oil coats.

Note: Harbor seal and Sea lion pupping.

LAND MANAGER

NAME David Mandrella SIGNATURE David Mandrella

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Sporadic coats of oil primarily in upper and middle intertidal zones. Suggested treatment consists of scraping and scrubbing coating on underside of cobble and boulders. Safety considerations would limit work to areas of moderate slope. Remove debris scattered throughout subsegment.

Exon Length of 382m must be in correct, a length is undetermined

SHORELINE OILING SUMMARY

REVISION NO. 03/25/88

OG Sawyer USCG White SEGMENT ST/ KN301
BIO Benson LAND REP Mandrella SUBDIVISION A (1 of 2)
EXXON Katsimpelis ADEC Munson TIME 13:45 to 14:45
TEAM NO.: 8 TIDE LEVEL: +5 to +6 DATE Mar 13 / 90
EST. SUBDIVISION LENGTH: 960 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 70 % C 10 % P - % G - % S - % M - % V - %
SLOPE: Long 80 % Hang - % Vert 20 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
OIL CATEGORY LENGTH: W - m M - m N - m VL 960 m NO - 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	U
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT																
STAIN																
MOUSSE																
PATTIES																
TARBALLS																
FILM																
NO OIL																

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

PATTIES / TARBALLS 1 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. St-8-1

Frames NONE

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		VO	UC	30	35	40	45	50	55	60	65	SU	U	M	U		
							.																
							.																
							.																
							.																
							.																
							.																

COMMENTS ST/KN301 A: Boulder + cobble beach with near vertical cliffs at upper to supra tidal zone. In frequent patties in mid tidal zone and coats on the bottoms of boulders in upper to lower tidal zone. Pits were not excavated because of the amount of boulders.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/23/90

Segment ST / KN 301 Subdivision A Date (mo / day / yr) 3/31/90Time (24 hr) 1330 Biologist J. BensonA) Substrate type and % of segments:
(1) Bedrock 20 (2) Boulder 70 (3) Cobble 10 (4) Pebble 0 (5) Sand 0 (6) Silt 0(B) Overall % cover of biota (% of segment): Dense 40 Moderate 30 Low 30

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

Photographs:
Roll No. no pictures

Frames _____

BARNACLES

LOW TIDAL ZONE NOT OBSERVED

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

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	X	2	2	2	2	2
3	3	3	3	X	3	X	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	X	2	2	2	2	X	2	2	2	2	2
3	3	3	3	X	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

Wildlife Observations/ General Comments:

LOW TIDAL ZONE NOT OBSERVED
ferret/weasel?

Ecological Considerations:

Sensitivities: 3 N, P (Harbor seal & sea lion pupping)
3 O, Q (" " " " molting)

OG.T.S. ver

SEGMENT ST/KN301

SUBDIVISION A

DATE Mar 13/ 90

CHECKLIST

- ☐ H Area
- ☐ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HW/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

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

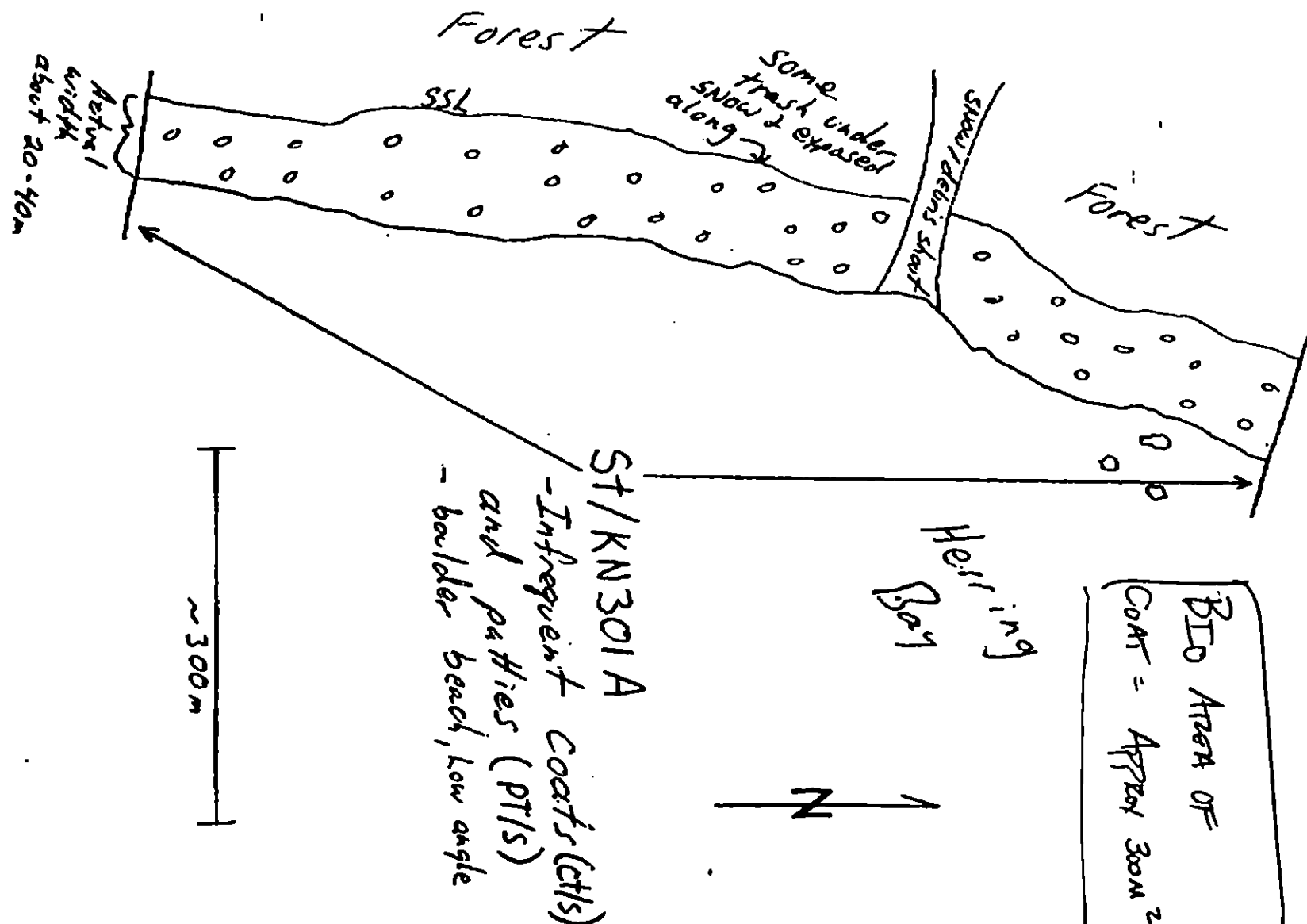
Splashed Distribution

Oiled Vegetation

1 →

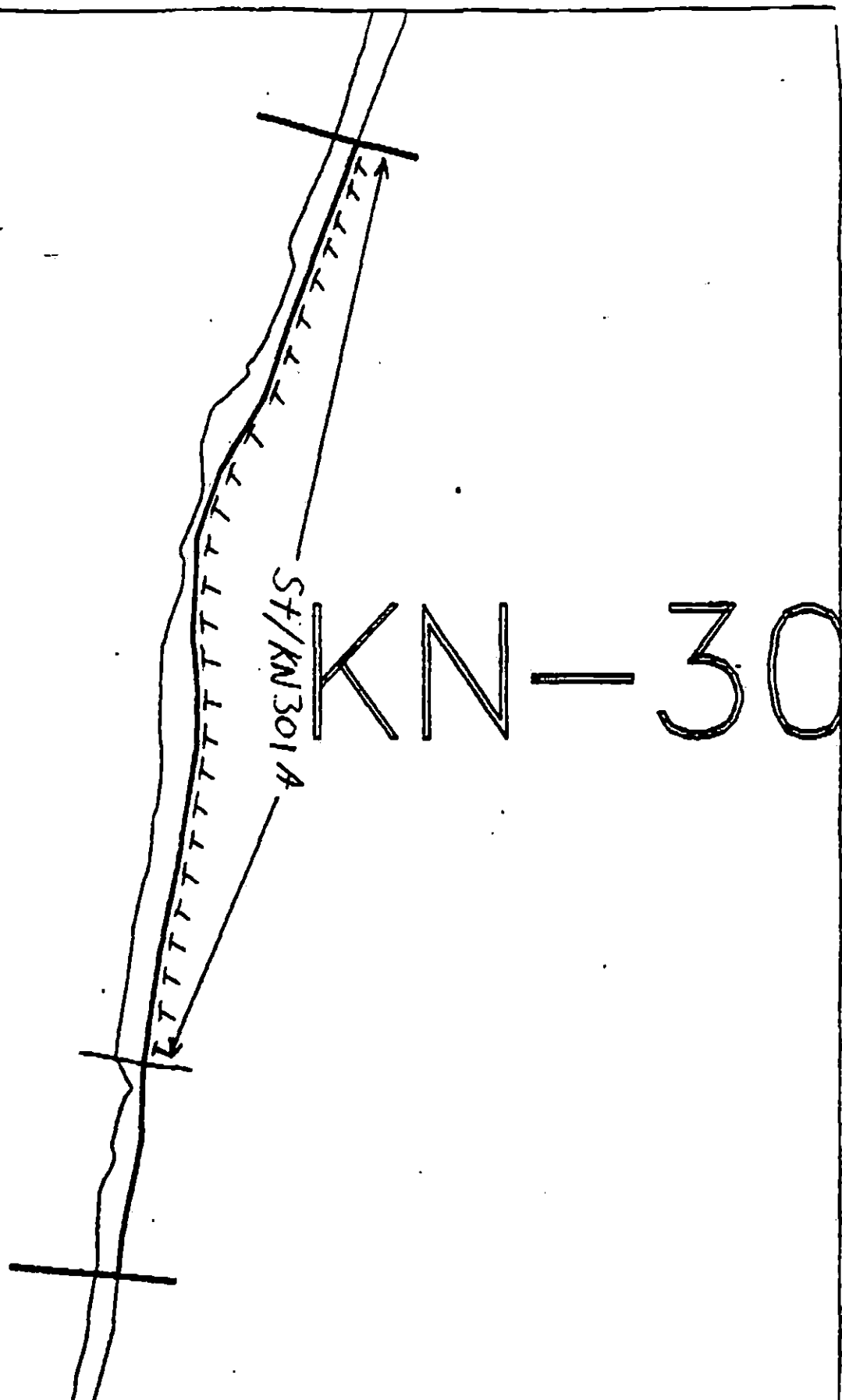
Photo location, direction, and number

1. TCH MAP



Oil Character Length (m): AP — PO — CV — CT 750 ST — MS — PT 30 TB — FL — NO —

REVISION 03/24/90



XXXX Wide

// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-301A

ADEC Segment Length: 1152m



Map Key: PWS-350

Name: T. Sawyer

Date: March 31, 1990

Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-301 SUBDIVISION A (1 of 2)

WORK WINDOW	
Manual Pickup More Than 400m From Active Nest	OPEN
Manual Pickup Less Than 400m From Active Nest	CLOSED
Bioremediation More Than 400m From Active Nest	OPEN
Bioremediation Less Than 400m From Active Nest	CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

3N,O,P,Q	Harbor Seal & Sea Lion Pupping and Molting	NO TIME CONSTRAINT. Authorized per memorandum dated 5/14/90 from Kathryn Frost/ADF&G to Mark Kuwada/ADF&G.
5T	Bald Eagle Nest	USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to manual pickup and bioremediation within 400m of active nest. No constraint to manual pickup and bioremediation more than 400m from active eagle nest.

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 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 uncoiled biota and substrate.

FOSC

Date

6/15/90

6/14/90

N-501

KN-503

-505

KN-132

KN-301

KN-133

KN-125

TREATMENT
AREA



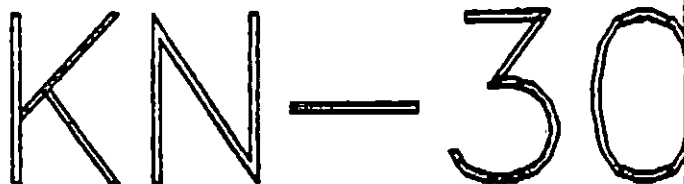
Exxon Company, USA
Map Key: PMS-KN-301
1000



ECOLOGY MAP
SEGMENT KN-301
SUBDIVISION A (1 of 2)
METERS
0 100 200

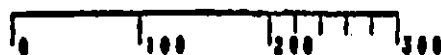
- ★ Seabird Colony
- ▲ Active Eagle Nest
- △ Inactive Eagle Nest

1 inch = 1170 feet



0000 No. 001

ADEC Segment Length: 1152m



Date Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-301 SUBDIVISION B (2 OF 2) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Harbor seal and sea lion pupping (3N, 3P) - 5/15 to 7/1 and molting (3Q, 3Q) - 8/15 to 9/15; Bald eagle nest (5T) - 3/1 to 6/1; Recreation anchorage (6V) - 6/1 to 9/15.

SUBDIVISION ECOLOGICAL CONSTRAINTS: (3N, 3P, 3Q, 3Q) Restrict boat and air traffic to essential minimum. Contact ADF&G and USFWS prior to treatment. Treatment to be completed prior to 5/15 or between 7/1 and 8/15 unless otherwise approved by ADF&G and/or USFWS. (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: Charles E. Holman DATE: April 14, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 114 m: V.Light 104 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: Manual pickup of debris and bioremediation of area of surface coat. Work before 5/15 or 7/1 to 8/15 based on constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/13/90
ADEC JOHN BAUER
EXXON ANDY TGAZ FOSC: My L DATE: 4-20-90
NOAA Burt W. Scott
USCG G.A. BEITER

FIELD SHORELINE COMMENT SHEET

SEGMENT ST KN-301 SUBDIVISION: B DATE 31 MAR. 90

USCG

NAME W.E. WHITE SIGNATURE William E. White

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

HOT WATER/HIGH PRESSURE STEAM, SPOT WASHING AND
FLUSH, DEBRIS AND TRASH REMOVAL AT SUPRATIDAL.
MANUALLY TURN OVER OF BOULDERS.

ADEC

NAME Dianne Munson SIGNATURE Dianne Munson

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

BROKEN and continuous black, tarry, weathered coats and
covers on cobbles and boulders. Also less weathered
brown coats and covers on undersides of rocks.
Recommend shore crew with hot water/high pressure/
steam/spot washing and water flush. Debris and trash
removal at supratidal.

LAND MANAGER

NAME David Mandrella SIGNATURE David Mandrella

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Coats and covers scattered on cobbles and
boulders. Manually turn over boulders and
utilize spot washing techniques.
Remove debris in supratidal

SHORELINE OILING SUMMARY

REVISION NO. 00/25/90

OG Sawyer USCG White SEGMENT ST/ KN301
 BIO Benson LAND REP Masdrella SUBDIVISION B (2 of 2)
 EXXON Katsimpalis ADEC Munson TIME 14:45 to 15:00
 TEAM NO.: 8 TIDE LEVEL: +6 to +7.5 DATE Mar 1 31 / 90
 EST. SUBDIVISION LENGTH: 220 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 80 % C 5 % P 5 % G - % S - % M - % V - %
 SLOPE: Long 100 % Hang - % Vert - % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W - m M - m N 110 m VL 110 m NO - m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	10	15	20	25	30	35	40	45	50	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	X		
Debris			

DEBRIS COLLECTED
☐ YES ☒ NOTYPE -#BAGS -

Photographs:

Roll No. ST-8-1Frames 17

Under water

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-OS)	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		CP	OR	OL	CP	NO		UC	UC	30	35	40	45	50	SU	U	M	U		

COMMENTS ST/KN301B: Boulder beach with cover and coats on the side and bottom of boulders. Oil forms sharp horizontal line throughout much of subdivision. No pits were excavated because of the amount of boulders.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 09/23/90

Segment ST / KN 301 Subdivision B Date (mo / day / yr) 3/31/90

Time (24 hr) 1430 Biologist J. Benson

- (A) Substrate type and % of segments:
 (1) Bedrock 10 (2) Boulder 80 (3) Cobble 5 (4) Pebble 5 (5) Sand 0 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense 40 Moderate 30 Low 30
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (O)

Photographs:
 Roll No. ST-B-1
 Frames 17

BARNACLES

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

NOT PRESENT

ASTROPODS

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments:

Ecological Considerations:

Sensitivities: 3 N₁P (Harbor seal & sea lion pupping)
 3 O₁Q (" " " " " molting)

OG 1. Sawyer

SEGMENT ST/ KN301

SUBDIVISION B (2 of 2)

DATE Mar 13/90

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Site Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. H/W/L/V/L
- ☐ 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

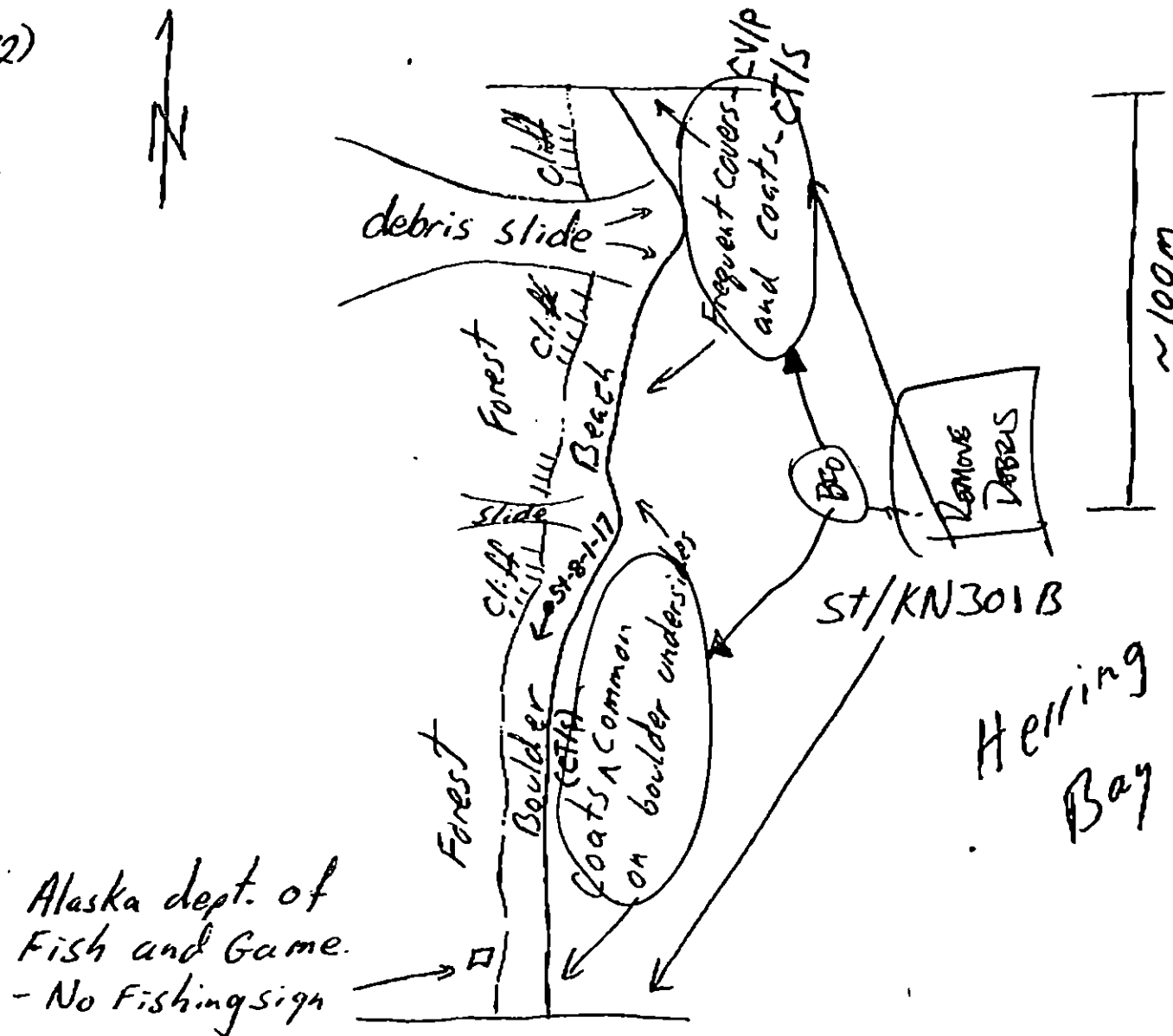
Spotted Distribution

Oil on Vegetation

1 $\leftrightarrow$

Photo location, direction,
and number

SKETCH MAP



Oil Charact: jth (m): AP — PO — CV 100 CT 220 ST — MS — TB — FL — NO —

REVISION: 200408

KN-30

ST/KN30/B

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

KN-301

ADEC Segment Length: 1152m



Map Key: PWS-350

Name: T. Sawyer

Date: 3-31-90

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-400 SUBDIVISION A (1 OF 1) DATE 3/29/90

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 E. Hume

DATE: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 113 m: Narrow 1051 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> </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 break up of tarmat, 2) bioremediation of areas shown on attached sketch map. No specific working constraints. ^{REMOVAL OF TARMAT.} AG.

TAG COMMENTS:

TAG APPROVAL DATE: 4/21/90.

ADEC Art Weiner Art Weiner

EXXON AMY TEAL Bea

NOAA Burl Wescott Burl Wescott

USCG KENNETH KEANE 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 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

KN-400 PAGE 9 of 10

SEGMENT ST/ KN-400 SUBDIVISION: NO SUBDIVISION DATE MARCH 29/1990

USCG

NAME Robert Jensen SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Three areas asphalt pavement
See sketch map KN400

ADEC

NAME Rowann Hudnall SIGNATURE Rowann T. Hudnall

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Asphalt in mid to upper intertidal in 3 places.
Needs to be broken up + removed. Stain + Tar cover
on vertical rock face. There is an area in this
segment where the contamination is more severe, but it
looks like it might be a set-aside. (There a survey quadrats
staked out.) This area would require more than manual
treatment if it is supposed to be cleaned.

LAND MANAGER

NAME Leo Keeler - U.S.F.S. SIGNATURE Leo Keeler

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Patches asphalt needs removal
(Question of cleaning around 3 test/sample
blocks mid segment.
Band on vertical faces could be left.

SHORELINE OILING SUMMARY

REVISION NO. 002

OGT J. M. Simpson USCGC R. Jensen SEGMENT ST/ KN-400
 BIOV T. M. Dixon LAND REP See Section SUBDIVISION No. SUBDIVISION
 EXXON T. M. Ellison ADEC R. W. Ann Hudson TIME 08:00 10/2:30
 TEAM NO.: 182 TIDE LEVEL: 0' to +6' DATE MARCH 29 / 80
 EST. SUBDIVISION LENGTH: 1200 m ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: SOUTH to NORTH
 SURFACE SEDIMENTS: R 20 % B 20 % C 20 % P 30 % G 5 % S 5 % M — % V —
 SLOPE: Long 100 % Hang 0 % Vert 0 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W — m M 130 m N 1070 m VL — m NO — m

SURFACE OIL

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

PAVEMENT: H ☒ S 234 sq. m by 4

PATTIES / TARBALLS 0 BAGS

NEAR SHORE SHEEN? ☒ BR RW SL TL

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

DEBRIS COLLECTED
☐ YES ☐ NO

TYPE

#BAGS

Photographs:

Roll No. SST-2-1

Frames 1-7

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM/CM)	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	1	2	3	4	5	SU	U	M	L		
1	30					X	-									X			N ₀	C / P / S
2	30					X	-										X		"	C / P / S
3	20					X	-											X	"	C / P / S
4	50					X	-									X			"	C / P / S
5	30					X	-									X			"	C / P / S
6	30					X	-										X		"	C / P / S

COMMENTS

SHORELINE OILING SUMMARY (PAGE 2 of 9)

REVISION 03/20/99

SEGMENT ST/ KN-4AD SUBDIVISION Na Subdivision

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-OR)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UC	UC	BR	BR	BR	BR	BR	BR	BR	BR	SU	UI	ME	LI		
7	30					X	.														X	No	C/P/S
8	30					X	.											X				"	C/P/S
9	20					X	.														X	"	C/P/S
10	20					X	.														X	"	C/P/S
							.																
							.																
							.																
							.																
							.																
							.																
							.																
							.																
							.																
							.																
							.																
							.																

COMMENTS

REVIEWED D/H DATE 4/3/90

OG Team Team Seagulls / Bengt

SEGMENT ST/KN-400

SUBDIVISION

DATE March 27/1990

CHECKLIST

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

LEGEND

1 Δ
P1 - No Subsurface Oil

2 Δ
P1 - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

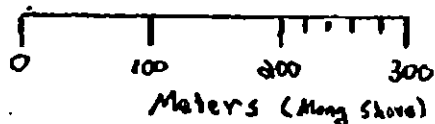
CT/P
Patchy Distribution

CT/S
Splashed Distribution

Oiled Vegetation

1 →

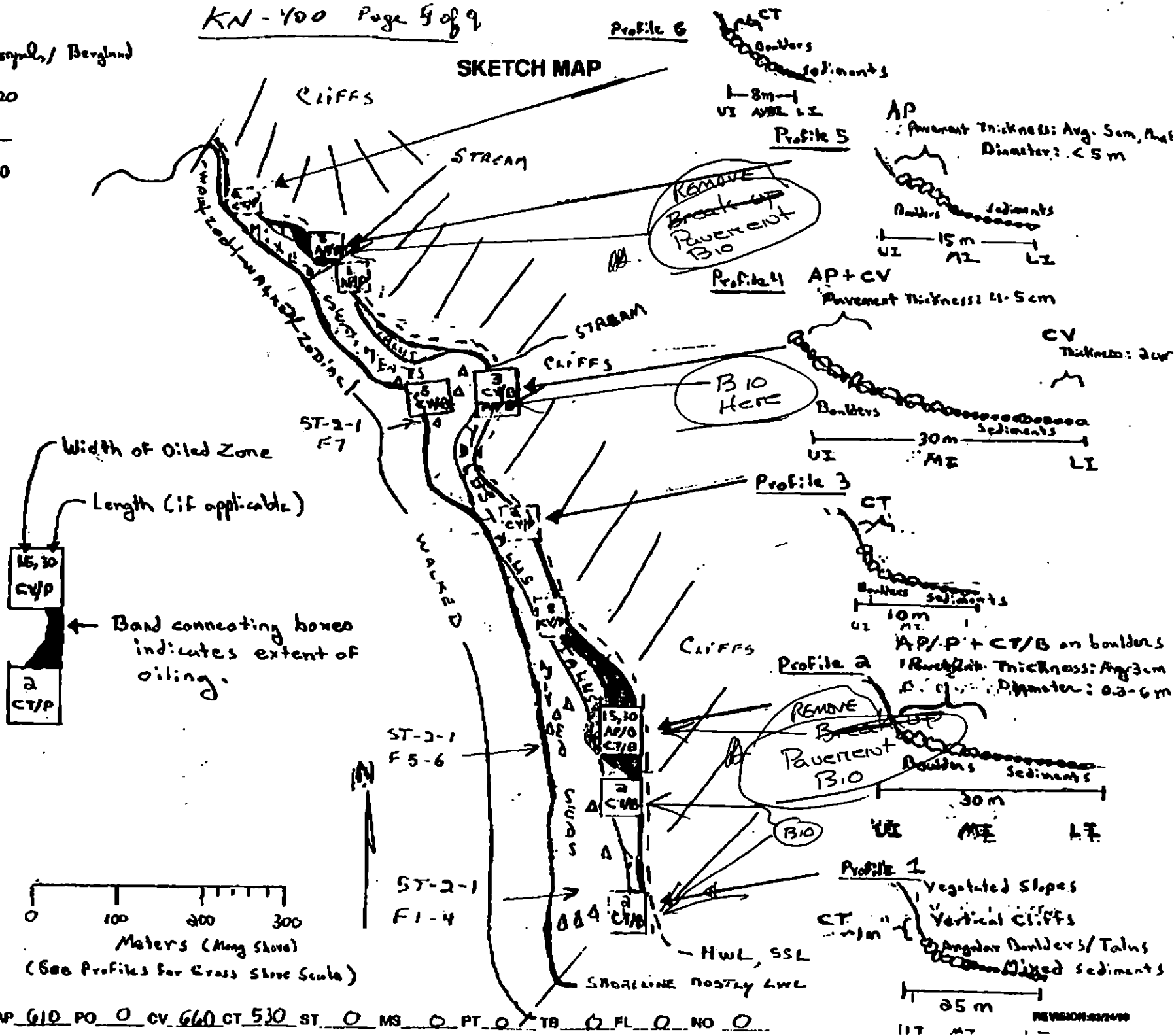
Photo location, direction, and number



(See Profiles for Cross Shore Scale)

Character Length (m): AP 610 PO 0 CV 660 CT 530 ST 0 MS 0 PT 0 TB 0 FL 0 NO 0

SKETCH MAP



SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / KN 400 Subdivision _____ Date (mo / day / yr) 03/29/90

Time (24 hr) 0755- 1200 Biologist S.C. Schroeter & J.D. Dixon

- (A) Substrate type and % of segments:
 (1) Bedrock 20 (2) Boulder 20 (3) Cobble 20 (4) Pebble 30 (5) Sand 10 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense 20 Moderate 30 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 (⊙)

Photographs: ST-1-1
 Roll No. ST-1-1

Frames 1-12

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	2	2	2	X
3	3	3	3	3	3	X	X	3	3	3	X
4	4	4	4	4	4	4	4	4	4	4	X
5	5	5	5	5	5	5	5	5	5	5	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
3	3	3	3	3	3	⊙	⊙	3	3	3	X
4	4	4	4	4	4	4	4	4	4	4	X
5	5	5	5	5	5	5	5	5	5	5	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	X
3	3	3	3	3	3	3	X	3	3	3	X
4	4	4	4	4	4	4	4	4	4	4	X
5	5	5	5	5	5	5	5	5	5	5	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	X	X	X	2	2	2	2
3	3	3	3	3	X	X	X	3	3	3	3
4	4	4	4	4	X	X	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

Wildlife Observations/ General Comments:

Many juvenile *Pycnospidia* in low intertidal; many adult *Dormasteria* around -2.5 ft.; juvenile *Crossostoma* & *Evasteria* present; *Phyllospadix* below -2.5 ft.; Tests of scissor arms (c. 12cm L.) scattered along segment & Ecological Considerations: Abundant in patches.

Moderate to dense algal cover in large patches in low intertidal (mostly *Fucus* & filamentous reds & greens - probably *Odonthalia* & *Urospora*) decreasing along pebble beaches with fresh water runoff. Abundant *Polinices* egg cases in low intertidal but no *Polinices* seen. About 10% of *Balanus* in upper intertidal dead tests; within oiled band, about 50% dead tests. Gastropods generally scarce but occasional patches of *Littorina* & *Littorina* along cobble with moderate densities.

Kilmer p. 7 3/4

KN-400, Snug Harbor, March 28, 1990

KN-104 is a 1,200 m segment located on the northeastern shore of the inner part of Snug Harbor, on the eastern coast of Knight Island. This segment was observed by both teams 1 and 2 on March 28, 1990, between 0800h and 1230h and corresponding 0' to +6' tidal height. It was selected as a calibration test case for all subsequent work to be performed by both teams.

This segment is relatively linear and trends northwest, with a fetch of less than 500 m, the width of Snug Harbor at that point. Being linear, its exposure window is large (~180 degrees). The indented nature of this harbor makes this segment a very sheltered environment which can nevertheless receive some energy by wave refraction from Montague Strait adjacent to the east.

At the southern extremity of this segment, the shoreline consists of gently sloping lower and middle intertidal zones, approximately 20 m wide, made up of moderately sorted angular pebble/sand/cobble backed by low bedrock cliffs. At several locations, the bedrock cliff upper intertidal and backshore zones have narrow (~5 m wide) discontinuous talus of angular boulders at their base. At this location oil occurs within a 2 m wide band in the upper intertidal zone (on the lower part of bedrock cliffs). The oil forms a dull brown coat with a broken distribution (60% coverage). A few small pools of a few square centimeters and about 1 cm depth occur among coarse sediments at the base of the bedrock cliffs and in bedrock fracture zones. No subsurface oil was found in test pits dug throughout the middle and lower intertidal zones.

This type of shoreline and oil extend for 225 meters to the north where a film of oil was detected in the surface sediments at the base of the bedrock cliffs. This film was not observed in test pits located 2 m seaward of the bedrock surfaces.

100 100 100 100

Fifty meters to the north, a patch of broken cover and pavement, 15 m wide and 30 m long, occurs in the upper intertidal zone, over an area of low lying angular bedrock ramp. The pavement forms patches varying between 20 cm and 8 m in diameter with a 50% coverage, 3 cm average and 8 cm maximum thickness.

The next 125 m to the north consist of a steep and narrow (20 m) intertidal zone made up of angular cobbles and pebbles, with patches of angular boulders and low-lying bedrock. A 10% oil cover band occurs at the base and around coarse sediments in a 8 m wide band of the upper intertidal zone. The oil forms a patchy cover with an average and maximum thickness of 0.5 and 2 cm respectively. The top of coarse surface sediments are nearly invariably clean giving the impression that no oil is present. No subsurface oil was found in test excavations.

The next 300 m to the north consist of steep narrow (~10 - 15 m) talus of angular boulders backed by bedrock cliffs. The oil extends along this section in a 2 m wide band of patchy 20% cover, with average thickness less than 1 cm, around the base of coarse sediments. No subsurface oil was found in test excavations.

A 40 m long pocket beach is present immediately to the north. The beach consists of angular cobbles, pebble, sand and some boulders. Oil occurs mostly in a 3 m wide band at the upper intertidal zone where it forms a broken 80% cover with average and maximum thickness of 3 and 5 cm respectively. A narrow band (~0.5 m) of 2 cm thick oil occurs in the top 5 cm surface sediments at the +1.5' water level along the southern half of the cove. The reason for having this oil in the upper and lower intertidal zone and clean sediments between is not clear but could result from more than one impact or re-oiling. The oil band becomes more narrow (~ 2 m) as it continues towards the north.

KN. 400 1.2 5, 2

A small pocket beach with a small stream occurs to the north of this last location. These sediments are poorly sorted and angular and the oil band increases in thickness to form a 1 m wide patchy (20% coverage) pavement (2 to 4 cm thick) on the south side of the stream, and an 8 m wide broken (50% coverage) pavement 5 to 8 cm thick, immediately to the north of the stream. Both patches are located in the upper intertidal zone.

Between this pocket cove and the northern end of the segment, the shoreline becomes narrow and steep, and consists mostly of a talus of angular boulders. Oil is present in this area in a 2 m wide band of patchy (20% coverage) coat around the base of coarse sediments, in the upper intertidal zone.

Along the entire segment, the backshore and hinterland areas were covered with snow and observations of oiling that could be present in the backshore could not be made.

[illegible]

Small lumps among other stones
Upper E

Summary:

KN 400 is a segment
within Sang harbor that is
c. 1 km. long. We walked
about 75% of it & examined
the remaining, steeper sections
by boat. The back shore
is vertical cliff interposed
with talus.

that for a large is mostly
rubble & pebbles mixed with
sand. There is an alternation
of gently sloping rubble pebbles
beveled with a steeper
sections of bedrock D.P. 2
a boulder cobbles overburden

1000 KN400 - 7/8
 At this the land into which
 there is now a several m
 wide algal band made
 up of contiguous patches
 of Enter & Filamentosa reds
 & greens. There are
 occasional laminaria &
 several patches of Phlo-
phylla, Acetabularia etc
 etc. Pyropodia are common
 several adult Reinachia
more present. Polinices
egg cases more abundant.
 This algal band extends
 from below - 2.5 ft to
 around 10 ft.

M.d- In Te Tida / (G. + R. + 3)

Fucus & barroetes (Balanus
glandula & B. cariosus) dominant
organisms. Balanus locally
doing on stable vertical

DPS

DIXON3/29/90

NI	0500	+140 FT
LO	0700	+2.5
NI	1500	+80
LO	2100	+1.0

KN 400 '18

Rocky Headland at S end. v.
 Rock on Trenches slope back ch.
 with base at ~ +3 FT.
 Forcosea, cobble, gravel, black s.
 Adult & juvenile stars along
 water's edge (~ +2 FT) Adult
 demersal invertebrates, juvenile
 Pycnogonids, also crabs, etc.,
 Eucyprid

on Boulder with base at ~ 0
 80-100% Algal cover (Cladophora)
 of adult Eucyprid, etc., etc.,
 seeds. Eucyprid red & green

On mudstone rock cliff from
 ~ +5' to

JDD KN 400 7/8

Old land of Palau
 of land in area
 1.6-7' to 11'
 Total Bannock 90-100% cany
 as 50 dead zone
 Morland for 1.5' 50 a cloth
 Rubble 2nd out 30 in
 mid + upper
 upper Span Bannock
 mid. Math Bannock space
 garden, mostly, mid-space
 algae (Sphaerocapsa)
 Long Phylloporid, many eggs
 and for numerous
 (Sphaerocapsa) & saccalina shell
 Punctaria common
 Further into Bay we find water
 covered by algae & rubble

JDD KN 400 7/8

Shallow Beach - Southern
 Facing - more rubble cobbles
 & boulders
 ↑ ↑ ↑ ↑ ↑
 (Sketch of a beach profile with arrows pointing up)

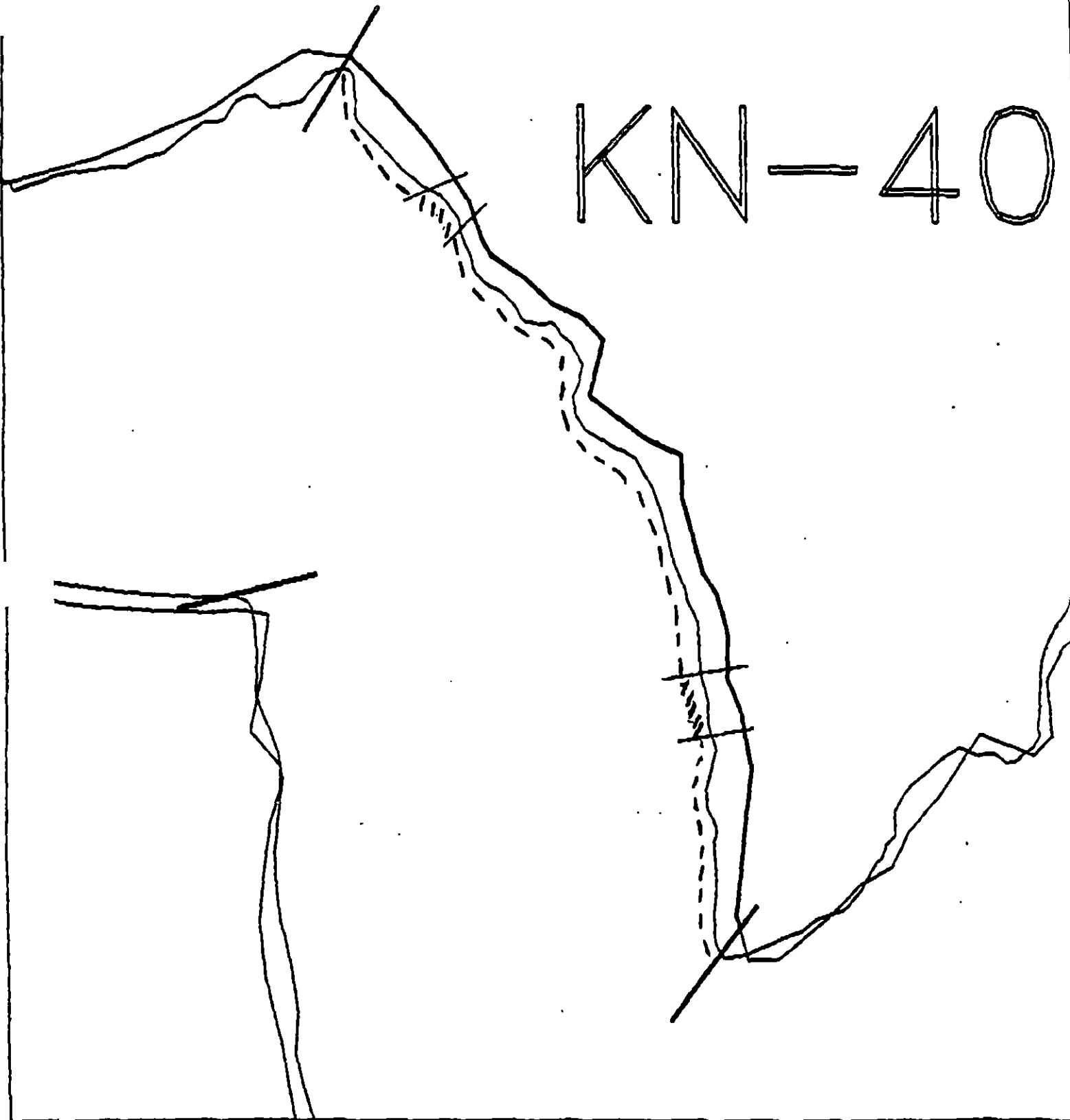
Disturbed Furan Band in
 down to mid intertidal
 upper - in ruins with
 larger rubble space
 mid Bannock & space
 spaces
 No beach 500m to 1000m
 mid point at 500m
 In area 14 to 16 m
 cover - Mod rubble &

302 old Bannock
 305 Green Bannock

(Sketch of a beach profile with arrows pointing up)
 and pocket (50m)
 beach, Furan band
 less sand to be h
 30m, 205
 The Furan space between
 upper rubble space. Older
 picks up again
 smaller all
 50 angled rock
 overlying bedrock
 but this is under
 of space Bannock
 100% algae cover
 has fragments

KN-400 Page 6 of 9

KN-40



XXX Wide

Medium

Narrow

TTTT Very Light

0000 No Oil

KN-400

ADEC Segment Length: 1164m



Map: Key PWS-352

Name: Don BollingerDate: April 29, 1990

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-400 SUBDIVISION A (1 of 1)

WORK WINDOW	
Tarmat Removal Less Than 400m From Active Nest	CLOSED
Tarmat Removal More Than 400m From Active Nest	OPEN
Bioremediation Less Than 400m From Active Nest	CLOSED
Bioremediation More Than 400m From Active Nest	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T **Bald Eagle Nests** USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to bioremediation and tarmat removal within 400m of active nest. No constraint to tarmat removal and bioremediation 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. Avoid any unnecessary disturbance or damage to uncollected biota and substrate.

FOSC

DATE

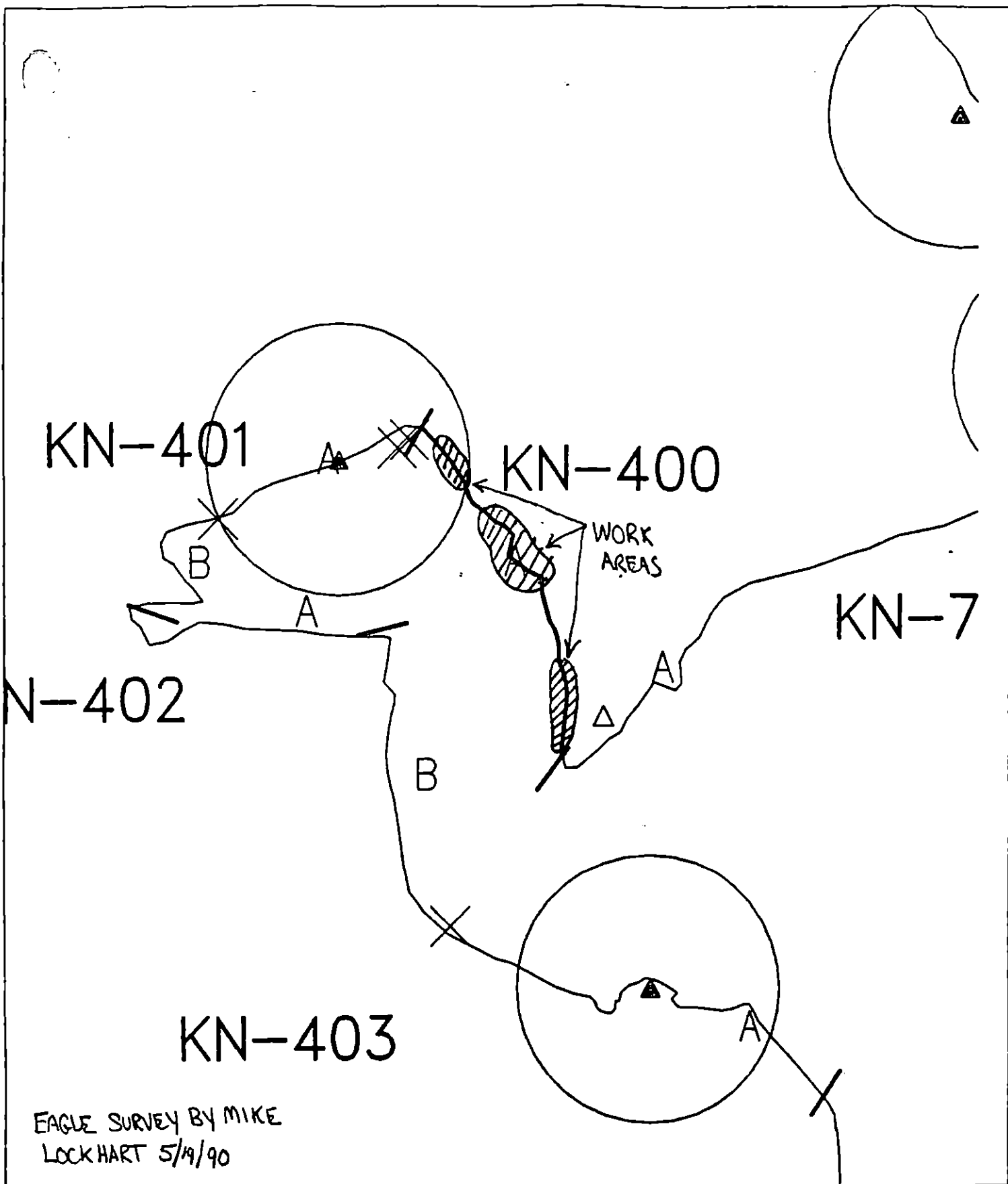
6-10-90

Prepared By:

Jim P. Phillips 6-10-90

Date

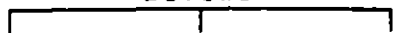
6/10/90



Exxon Company, USA
Map Key: PMS-KN-400



ECOLOGY MAP
SEGMENT KN-400
SUBDIVISION A (1 of 1)
METERS



★	Seabird Colony
▲	Active Eagle Nest
△	Inactive Eagle Nest

WORK PLAN MODIFICATION RECOMMENDATION

SEGMENT KN 400

SUBDIVISION A/Site #1

DATE 8-2-90

MODIFICATION

1. REASON FOR MODIFICATION

REMAINING, ACCESSIBLE ASPHALT PAVEMENT AND SURFACE OIL RESIDUE [SOR] ON SURFACE. ACCESSIBLE SOR BENEATH LARGE COBBLES AND IN INTERSTICES BETWEEN COBBLES.

* REFER TO MAP FOR LOCATION DETAIL.

SNUG HARBOR IS A "HIGH HUMAN USE" AREA.

2. SUGGESTED ADJUSTMENT TO WORK PLAN

- a) MANUALLY REMOVE ALL ACCESSIBLE AP + SOR.
- b) MANUALLY TILL ENTIRE AREA FROM WHICH AP + SOR WAS REMOVED + FROM WHERE IT HAD BEEN REMOVED IN THE SPRING.
- c) APPLY CUSTOMBLEND TO ALL AREAS THAT CONTAINED AP + SOR.

3. TIMING ISSUES

NONE

ADRC

Wesley Shumley

LEAD

Ray Gith

NSC

Art Wier

LAND MANAGER

John Ethel

(if field rep is on scene)

SEGMENT AS/KN 400 SUBDIVISION: A SITE: 1 DATE 8-2-90

USCG/NOAA PSI Leo Bersaloni, USCG Leo Bersaloni

NAME ART WEINER SIGNATURE Art Weiner☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

TO DETERMINE EFFICACY OF CUSTOM BLEND TREATMENT.
 TO ASSESS CONDITION OF COATED VERTICAL FACES THAT DID NOT RECEIVE TREATMENT
 AND WHICH WILL NOT BE SUBJECT TO SEVERE WEATHERING BECAUSE OF THEIR
 PROTECTED LOCATION.

ADEC

NAME Wesley GhormleySIGNATURE Wesley Ghormley☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Reassessment will be needed to determine the efficiency of treatment
 recommended in work modification.

- Also Coat/Cover is present in quite a large amount and if
 winter storms do not improve condition then manual or mechanical
 methods should be applied to remove remainder of oil.

LAND MANAGER

NAME John EbelSIGNATURE John Ebel☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

To evaluate custom-blend treatment.

To assess condition of coat/cover on vertical rock faces, especially Rock
 walls in shadow effect of waves.

EXXON

NAME Ray SoteloSIGNATURE Ray Sotelo☐ YES☒ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

If the work is completed as stated on work modification plan
 there is no need for further reassessment in '91.

WORK PLAN MODIFICATION RECOMMENDATION

SEGMENT KN 400 SUBDIVISION A / Site #2 DATE 8-2-90

MODIFICATION

1. REASON FOR MODIFICATION

ACCESSIBLE ASPHALT PAVEMENT AND SURFACE OIL RESIDUE ON SURFACE.
SOR BENEATH LARGE COBBLES AND IN INTERSTICES BETWEEN COBBLES.

* REFER TO MAP FOR LOCATION DETAIL.

SNUG HARBOR IS A "HIGH HUMAN USE" AREA.

2. SUGGESTED ADJUSTMENT TO WORK PLAN

a) MANUALLY REMOVE ALL ACCESSIBLE AP + SOR.

b) MANUALLY TILL AREAS FROM WHICH AP + SOR ARE REMOVED + FROM WHERE IT HAD BEEN REMOVED PREVIOUSLY.

3. TIMING ISSUES

NONE

ADDC Whisper G. Hummel

REGION Ray Selt

NOAA USCG

LAND MANAGER John Ebel

(if field rep is on scene)

SEGMENT AS/ KN400 SUBDIVISION: A SITE: 2 DATE 8-2-90

SCG/NOAA PSI Leo Berrigione, USCG Leo Berrigione

NAME ART WEINER SIGNATURE Art Weiner

☐ YES

☒ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

1990 FOLLOW-UP TREATMENT SHOULD REMOVE ALL REMAINING OIL.

ADEC

NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☐ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: ADEC Monitor to determine need for Reassessment upon Completion of additional work.

LAND MANAGER

NAME John Ebel SIGNATURE John Ebel

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

After work modification is completed, cobbles should be rolled back to remove oil residue. Reassessment will determine the effects of winter wave activity on rock beams.

EXXON

NAME Ray Sotelo SIGNATURE Ray Sotelo

☐ YES

☒ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Completion of work modification plan for '90 will be satisfactory with no reassessment in '91.

8/2/90

KN-400-A (site #2)

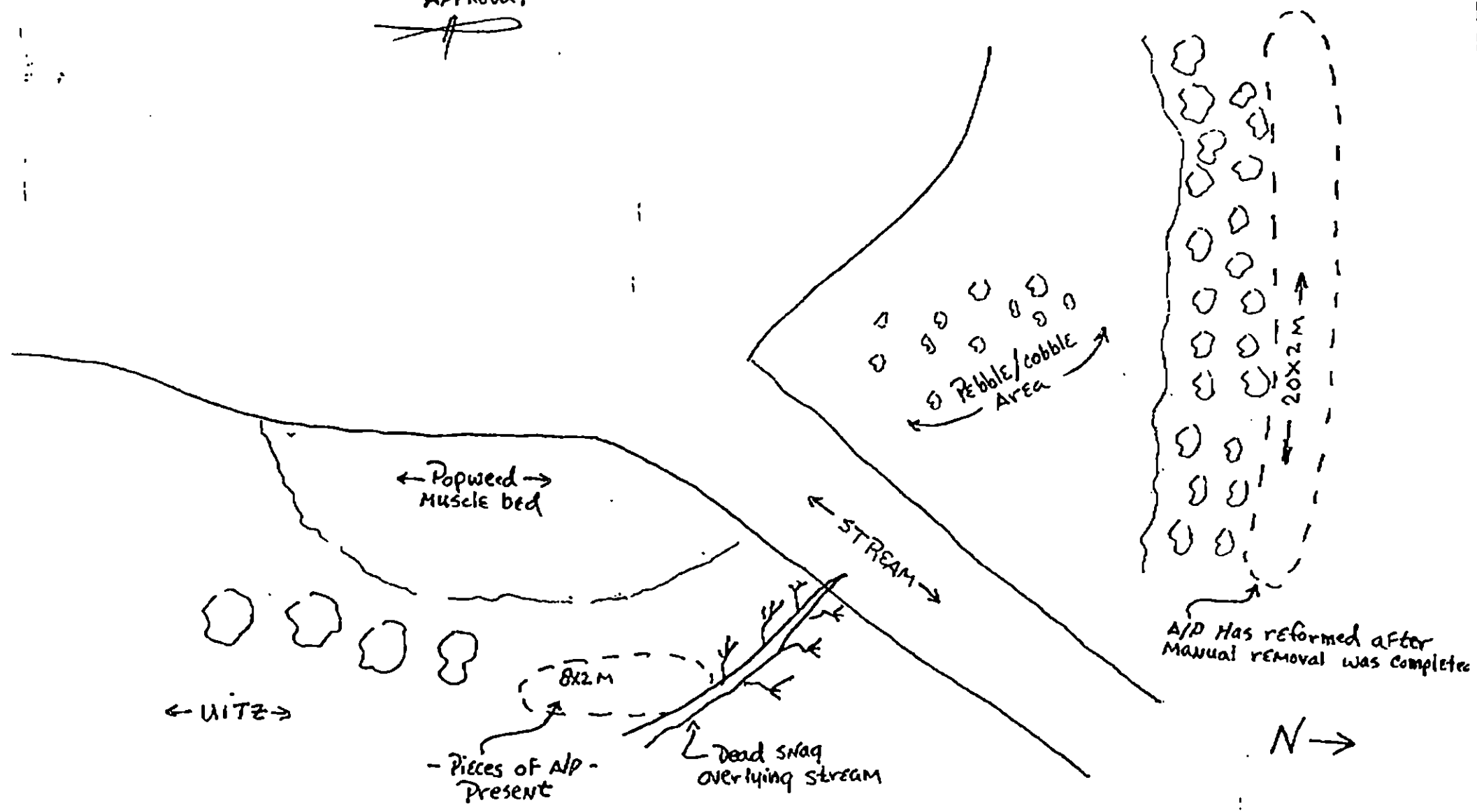
WES LARSEN
ADE

Work Modification MAP

Recommended work MANUAL Removal of Remaining A/P and OR sediment
MANUAL Tilling and Application of Custom blend with ADF/G

Approval

[Signature]



RUG-02-1550 22:28 FROM NY BEULAH CANDLES 10 18-----0015072666450# P.08

SEGMENT AS/KN400 SUBDIVISION: A SITE: 3 DATE 8-2-90

USCG/NOAA PSI Leo Bersalona, USCG Leo Bersalona
NAME ART WEINER SIGNATURE Art Weiner☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:

WINTER WEATHERING SHOULD REMOVE REMAINING OIL.

ADEC
NAME Wesley Ghormley SIGNATURE Wesley Ghormley☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: AREA is acceptable, winter storms should remove any remaining oil.

LAND MANAGER

NAME John Ebel SIGNATURE John Ebel

☒ YES ☐ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:winter storm waves should disperse all traces of remaining oil.
Reassessment should be considered on sites where cobbles are rolled forming linear features.

EXXON

NAME Rey Soto SIGNATURE Rey Soto

☐ YES ☒ NO PRIORITY SITE FOR REASSESSMENT IN 1991
REASON:

No reassessment is necessary in '91.

EAKNO ADP-2 EAKON SOTELO, RAY SEGMENTAS KN 400
 OG CHANEY, GREG USGS NEHER, ART SUBDIVISION A
 ADEC GHORMLEY, WES LAND REP EDEL, JOHN TOTAL NO. SITES 3
 DATE AUG 2 190 TIME 07:00:08:30 TIDE LEVEL 2 to 3.5 ft
 TOTAL EST LENGTH OF SHORELINE SURVEYED: 410 m
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WEATHER: ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☐ Snow
 OIL CATEGORY LENGTH: W 25 m M 40 m N 175 m VL 100 m NO 30 m US 75 m

SITE 3

DISTRIBUTION				OILED ZONES			
/C	/B	/P	/S	SU	UH	MI	LI
		X	X		X		
		X			X		
				X		X	X

50m

[illegible]

Roll No. ASAP2
Roll # 1
Frames 18, 19, 20

Original survey
was good and
oiling condition
has not changed
greatly since that
time.

REVIEWED
8/7/90 T/W

COMMENTS Manual removal had taken place at site / however aerial extent of SOR/AP/MS patches still approximates original SSAT survey. Measured size 25x12 m.

OG: Jena, Maine, Seaport, Bingham

SEGMENT ST/ 400

SUBDIVISION -

DATE: March 21/1990

CHECKLIST

- ☒ M Area
- ☒ Approx. Scale
- ☒ Seg/Sub Study
- ☒ Oil Dist.
- ☒ Width
- ☒ Length
- ☒ % Cover
- ☒ Substrate Character
- ☒ Est. HULL/WL
- ☒ SBL
- ☒ Profile Location(s)
- ☒ Profile(s)
- ☒ Pit Location(s)
- ☒ Photo Location(s)

LEGEND

1 Δ
PI - No Subsurface Oil

2 Δ
PI - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Continuous Distribution

Broken Distribution

CT/P
Patchy Distribution

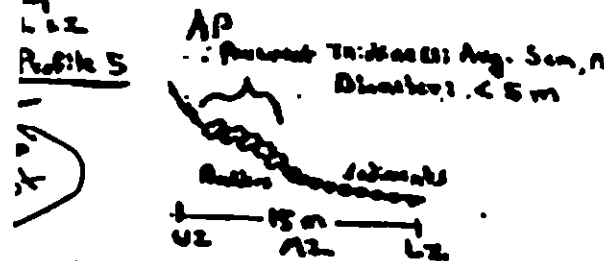
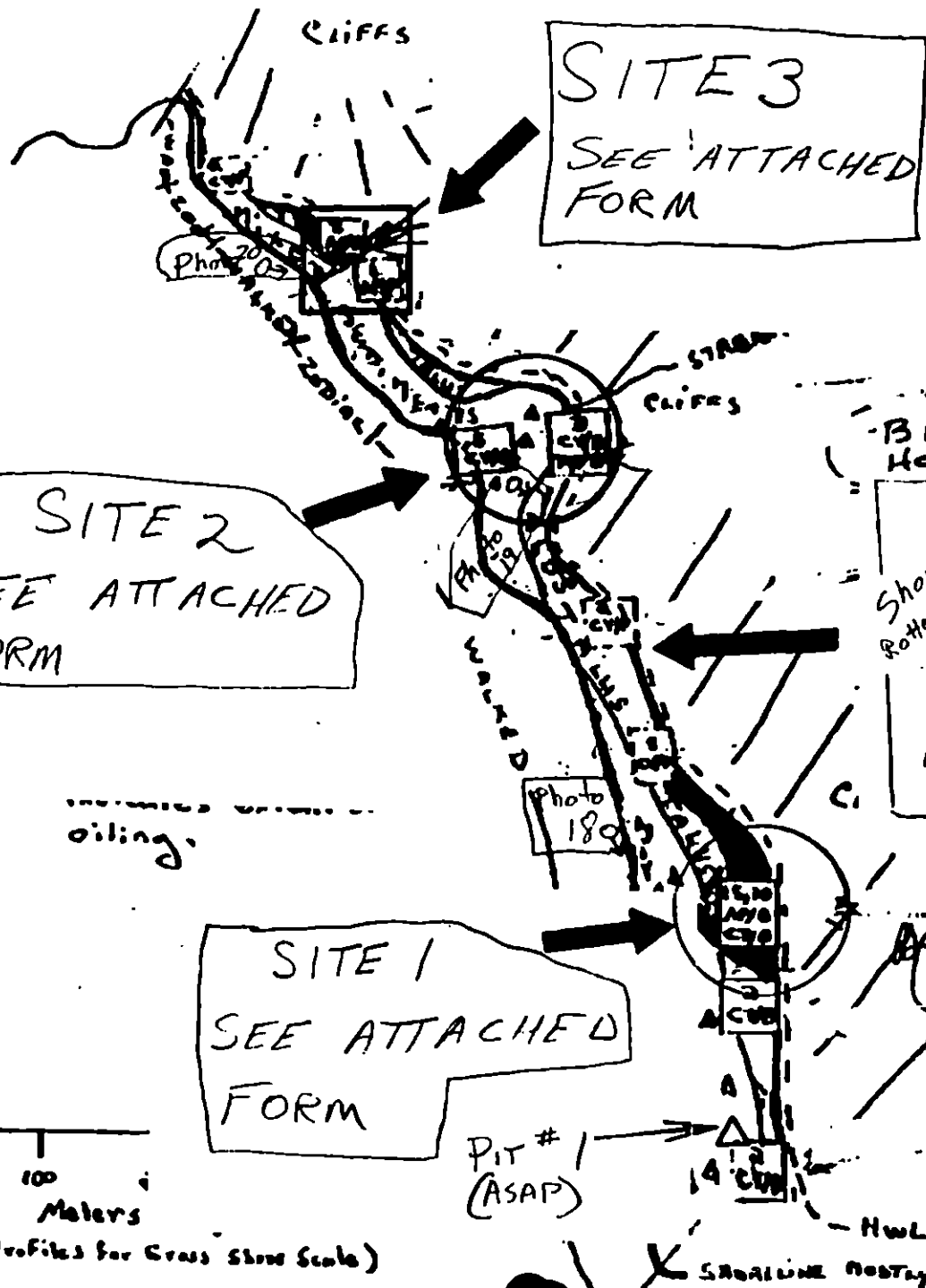
CT/S
Optimized Distribution

Clad Vegetation

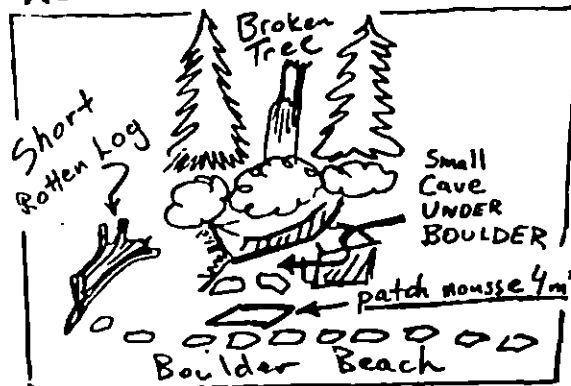
1 ●
Photo location, direction, and number

0 100
Meters

(See Profiles for Cross Shore Scale)



AP+CV
Permanent Thickness: 4-8 cm
NEWLY LOCATED CV
Thickness: 2-4 cm



EXPLORE on... Thickness: Avg 3-4 cm
D. of... Diameter: 0.2-0.6 m

REMOVE
ASAP ADAPTATION
OF SSAT MAP
AUG. 2 1992
CHANEY
ASAP #2

CHANEY

SKETCH MAP

SEGMENT ST/ KN/400

SUBDIVISION A SITE 1

DATE Aug 1 2 90

CHECKLIST

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

LEGEND

1 Δ
No Subsurface Oil

2 Δ
Subsurface Oil

CT/C
Continuous Distribution

CT/D
Broken Distribution

CT/P
Patchy Distribution

CT/S
Splashed Distribution

rrr
Mixed Vegetation

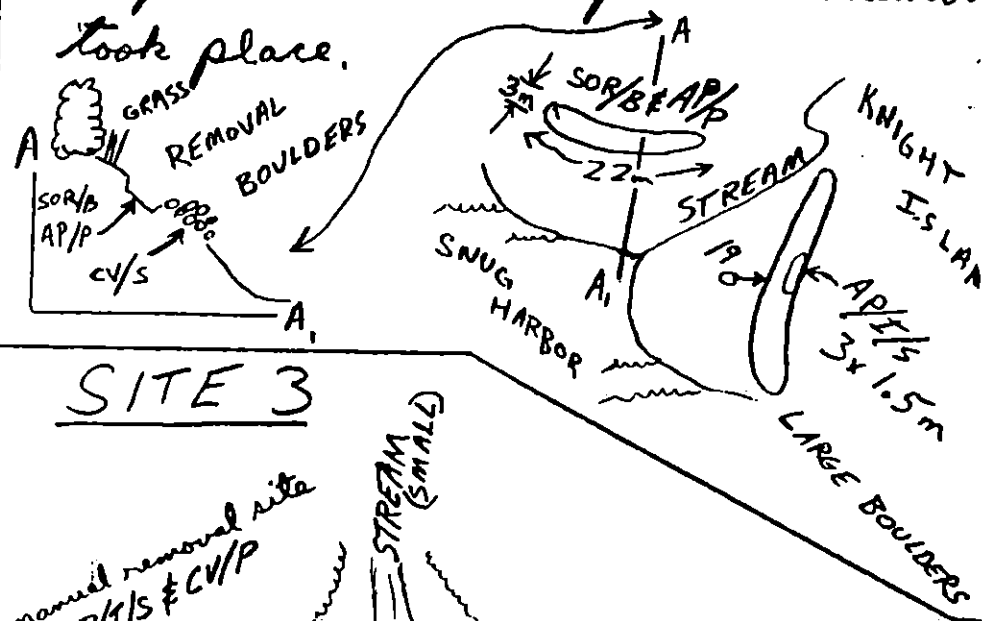
Photo location, direction,
and number

Basically the original SSAT survey was accurate and is still a workable document. Evidence of manual removal but OP/SOR conditions still exist. It is likely that the majority of oil was manually removed however, when all oiling types are considered together a broken coverage exists.

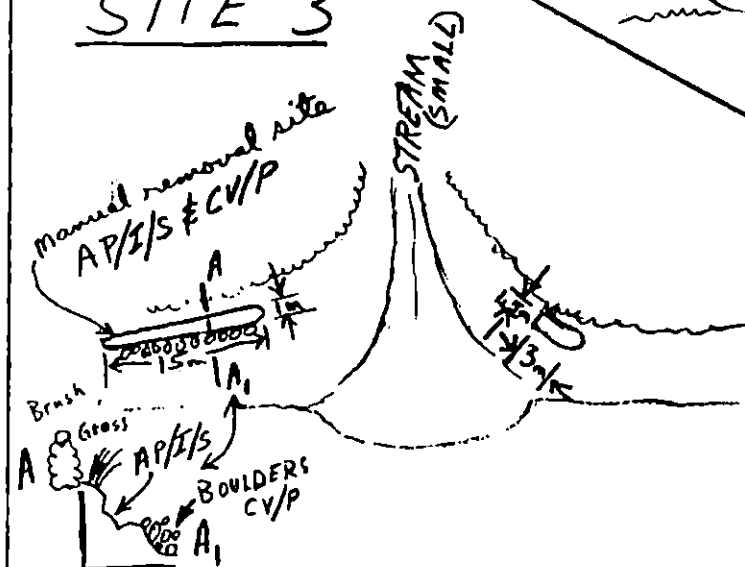
OP/S + SOR/S + AP/S + CV/P = Oil Broken
(OG MATH)

SITE 2

Manual removal was conducted in upper UITE near grass line. Thin layer of mousse 1 to 2 cm. (Av. deep remains where pavement removal took place.



SITE 3



ASAP TAG REVIEW SHEET

Segment: KN400 Subd: A Site: 1 Date PRE-Review //

Priority For Addressing In 1990

 HIGH X MEDIUM LOW NTR

Treatment
Recommended:

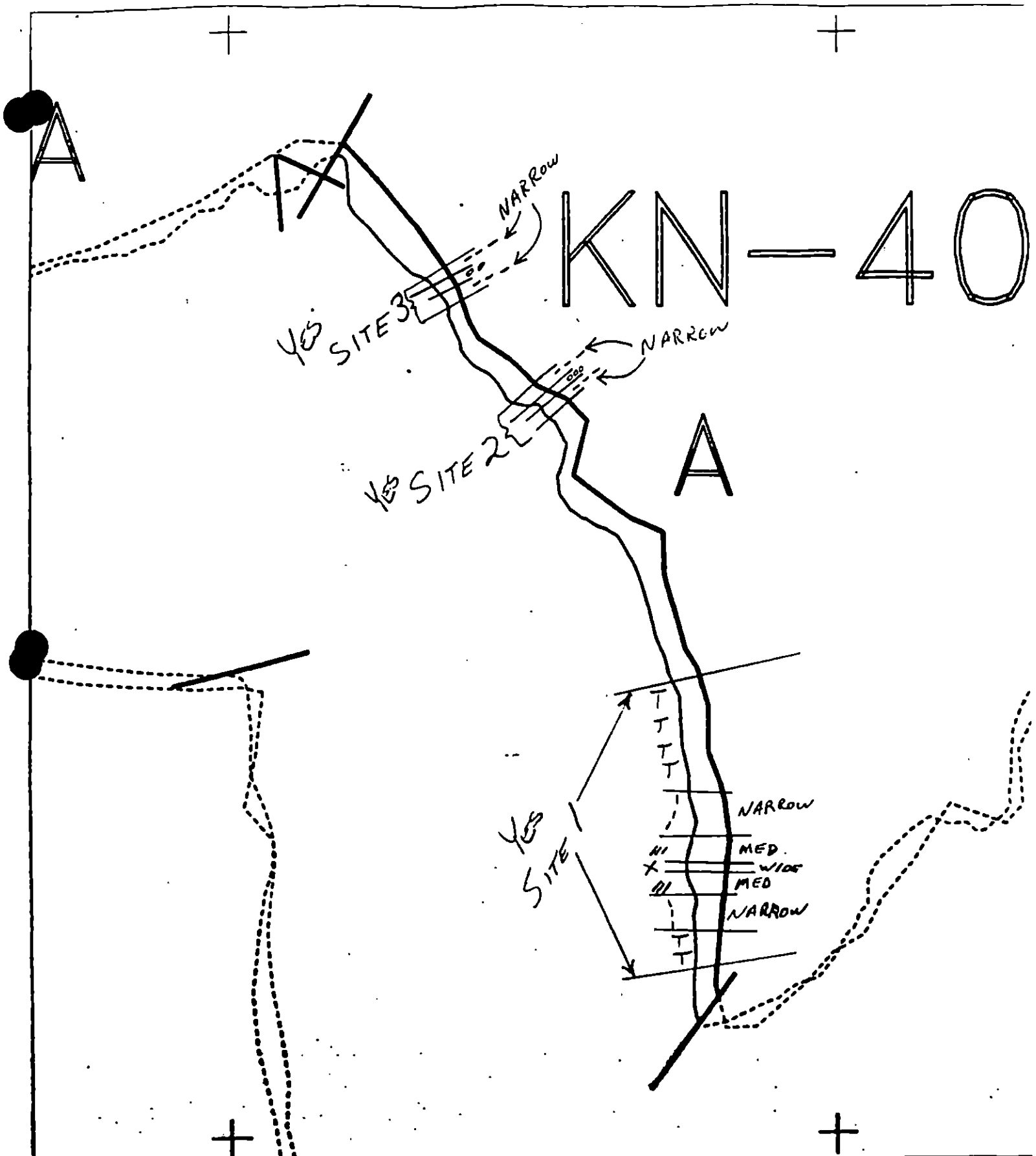
REBIO

Priority Site For Reassessment In 1991

YES X NO YES X NO YES NO X YES X NO
CG ADEC EXXON LAND MGR

TAG 13 AUG 90
MANUAL REMOVE Accessable AP
& SOR Manual Lake & BIO

LOW PRIORITY



XXXX Wide
 //// Medium
 --- Narrow
 Very Light
 o o o o No Oil

KN-400 A
 ADEC Subsegment Length: 1164m
 METERS
 0 400 800
 AK State Plane Zone 6 1:5742

Subdivision Field Map
 Map Key: KNKN-400A
 Name: CHANEY
 Date: Aug 2 1990
 Data Entered:

KN-40

SITE 3

SITE 2

A

NEW
DISCOVERY

MS/P

SITE 1

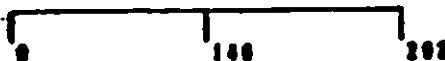
SEGMENT KN-400

Segment Location Map
Map Key: KNIK-400

July 10, 1990

1:5747

METERS



GENERAL DATA

SEG ID: KN400 SBDV: A SITE: 1 TEAM: 2 DATE: 8/2/90
SITE LGTH 300 OIL CATEGORIES: W 25 M 80 N 125 VL 160 NO 30 U 754
1991 REASSESSMENT: USCG: X ADEC: X LDMGR: X EXXON: N
NOAA

SURFACE DATA

CHAR #: 1 OIL CHAR: AP OIL DIST: CONT — BRKN — PTCH — SPLH ✓
TIDAL ZONE: SU — UI ✓ MI — LI —

CHAR #: 2 OIL CHAR: SOR OIL DIST: CONT — BRKN — PTCH — SPLH ✓
TIDAL ZONE: SU — UI ✓ MI — LI —

CHAR #: 3 OIL CHAR: CU OIL DIST: CONT — BRKN — PTCH ✓ SPLH ✓
TIDAL ZONE: SU — UI ✓ MI — LI —

CHAR #: 4 OIL CHAR: CT OIL DIST: CONT — BRKN — PTCH ✓ SPLH ✓
TIDAL ZONE: SU — UI ✓ MI — LI —

CHAR #: 5 OIL CHAR: MS OIL DIST: CONT — BRKN — PTCH — SPLH ✓
TIDAL ZONE: SU — UI ✓ MI — LI —

CHAR #: 6 OIL CHAR: NO OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU X UI — MI X LI X

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

GENERAL DATA

SEG ID: KN400 SBOV: A SITE: 2 TEAM: 2 DATE: 8/2/90
SITE LGTH 60 OIL CATEGORIES: W 25 M 80 N 175 VL 100 NO 30 U 754
1991 REASSESSMENT: USEG: N ADEC: ? LDMGR: Y EXXON: N
NOAA

SURFACE DATA

NO PITZ

CHAR #: 1 OIL CHAR: AP OIL DIST: CONT — BRKN — PTCH ✓ SPLH ✓
TIDAL ZONE: SU — UI ✓ MI — LI —

CHAR #: 2 OIL CHAR: SOR OIL DIST: CONT — BRKN ✓ PTCH — SPLH —
TIDAL ZONE: SU — UI ✓ MI — LI —

CHAR #: 3 OIL CHAR: NO OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU X UI — MI X LI X

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

ASAP DATA ENTRY FORM

SUBSURFACE DATA

PAGE 1 OF 1SEGMENT ID: KN400 SUBDIV: A SITE: 1PIT # 1 PIT DEPTH 35 OIL CHARACTER NO OIL INTVAL: FROM TO
CLEAN BELOW: Y PIT ZONE: SU UI MI LI SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG ~~PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO~~~~CLEAN BELOW: PIT ZONE: SU UI MI LI~~~~SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG~~~~PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO~~~~CLEAN BELOW: PIT ZONE: SU UI MI LI~~~~SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG~~~~PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO~~~~CLEAN BELOW: PIT ZONE: SU UI MI LI~~~~SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG~~~~PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO~~~~CLEAN BELOW: PIT ZONE: SU UI MI LI~~~~SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG~~~~PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO~~~~CLEAN BELOW: PIT ZONE: SU UI MI LI~~~~SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG~~~~PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO~~~~CLEAN BELOW: PIT ZONE: SU UI MI LI~~~~SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG~~~~PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO~~~~CLEAN BELOW: PIT ZONE: SU UI MI LI~~~~SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG~~~~PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO~~~~CLEAN BELOW: PIT ZONE: SU UI MI LI~~~~SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG~~

GENERAL DATA

SEG ID: KN400 SBOV: A SITE: 3 TEAM: 2 DATE: 8/2/90
SITE LGTH 50 OIL CATEGORIES: W 25 M 80 N 175 VL 100 NO 30 U 754
1991 REASSESSMENT: USCG: N ADEC: N LDMGR: X EXXON: X
NOAA

SURFACE DATANO PITZ

CHAR #: 1 OIL CHAR: AP OIL DIST: CONT — BRKN — PTCH ✓ SPLH ✓
TIDAL ZONE: SU — UI ✓ MI — LI —

CHAR #: 2 OIL CHAR: CU OIL DIST: CONT — BRKN — PTCH ✓ SPLH —
TIDAL ZONE: SU — UI ✓ MI — LI —

CHAR #: 3 OIL CHAR: NO OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU X UI — MI X LI X

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

SEGMENT ST/ KN-401 SUBDIVISION A (1 OF 2) DATE 4/7/90

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 nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
6V Recreation: Anchorages (6/1 to 9/15)
9EE Set aside area

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:

DATE:

OILING CATEGORIZATION:

Wide 0 m: Medium 59 m: Narrow 12 m: V.Light 563 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> </u> X Treatment Recommended	<u> </u> X Oil Snares (pom poms)
<u> </u> X Manual Pickup	<u> </u> X Absorbents (pads, rolls, etc)
<u> </u> X Bioremediation	<u> </u> Spot Washing: <u> </u> Wands
<u> </u> Tarmat: <u> </u> Breakup	<u> </u> <u> </u> Beach Cleaner
<u> </u> <u> </u> Removal	<u> </u> Other (see comments)

COMMENTS: Recommend treatment includes 1) manual removal of pooled oil
2) bioremediation of areas shown on attached sketch map. *Avoid SET
ASIDE AREAS #3 and 4 also shown on map. Work should be conducted be-
tween 6/1 and 7/10 based on eagle nest and salmon constraints after
consultation with ADF&G and USFWS regarding eagle nest.

TAG COMMENTS:

TAG APPROVAL DATE:

ADEC

EXXON

NOAA

USCG

FOSC:

DATE: 9-25-90

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ KN-401 SUBDIVISION: A DATE 4-7-10

USCG

NAME SCOTT RAMSEY SIGNATURE Scott Ramsey MST1

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

CAUTION: THIS SEGMENT CONTAINS DAMES + MOORE TEST SITE #4 AND NOAA HAZMAT STUDY #5.

ADEC

NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

THIS segment contains an area 3x60m x 50m that is a pooled brown mousse. The day this area was surveyed was a very hot day & you could actually see the oil flaring on the grass. Some of the area is covered by an avalanche and oil is visible on both sides of it. So is almost certain the avalanche covers up some. The pooled oil is stuck in a grassy area and I recommend excavating the grass & shovels to remove the oil. IF this oil is allowed to stay it will eventually get in the water & cause a threat to the anadromous stream. THERE is also 2 test sites on this segment, NOAA & Dames. Both areas need cleaning with hot H₂O whenever the test is thru. I recommend entire subdivision be treated with bioremediation after as much surface oil is removed by using manual clean-up & mechanical.

LAND MANAGER

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS

SHORELINE OILING SUMMARY

REVISION NO. 02/25/90

OG G. MACDONALD USCG S. RAINSFORD SEGMENT ST/ KN-401
 BIO MA. SCOTT LAND REP HFS SUBDIVISION A (1042)
 EXXON J. BUTLER ADEC W. GORMLEY TIME 16:05 to 18:00
 TEAM NO.: 3 TIDE LEVEL: +4 to +1 DATE 4/7/90
 EST. SUBDIVISION LENGTH: 770 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 15 % B 40 % C 20 % P 10 % G 10 % S 5 % M 5 % V 0 %
 SLOPE: Long 30 % Hang 10 % Vert 0 % WAVE EXPOSURE: ☐ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 60 m N 10 m VL 650 m NO 0 m

SURFACE OIL * Amalanche → 20TZ UNSURVEYED 50m

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	N	S	P	R	1	2	3	4	5	6	7	8	BU	U	ME	U
ASPHALT PAVEMENT																
POOLED			X	X		X		X	X	X	X	X				
COVER																
COAT			X	X		X							X	X		
STAIN																
MOUSSE																
PATTIES																
TARBALLS																
FILM																
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			

DEBRIS COLLECTED
☐ YES ☒ NOTYPE 0#BAGS 0

Photographs:

Roll No. ST-3-2Frames 20-32

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		UO	UO	1	2	3	4	5	6	7	8	BU	U	ME	U		
1	15					X	-											X				N	CP
2	20					X	-											X				N	CP
3	10					X	-											X				N	PG
4	25					X	-												X			N	PM
5	30					X	-												X			N	PGS
							-																

COMMENTS Steep, low energy BCR shore. Surface oil only, as
CT/P-S @ up. HITZ-SUTZ w/ occas. PO/P @ SUTZ to
5cm thick. A sample of the pooled oil was collected.
this oil was recently exposed from below deep snow.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 08/23/90

Segment ST 401 Subdivision A Date (mo / day / yr) 7/7/90
 Time (24 hr) 1610-1730 Biologist M. ASCHT

- (A) Substrate type and % of segments:
 (1) Bedrock 15 (2) Boulder 40 (3) Cobble 20 (4) Pebble 20 (5) Sand 5 (6) Silt —
- (B) Overall % cover of biota (% of segment): Dense 5 Moderate 15 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-3-2

Frames 30-32

BARNACLES

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

NOT PRESENT

MYTILUS

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

NOT PRESENT

GASTROPODS

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments:

1 bald eagle
 1 seal

- high mussel mortality in cobbles (250%); mortality seemed greater in low/mid than high/mid zone; also, *Mytilus* mortality was high (~90%); barnacle mortality ~10-20% (typical of other areas)

Ecological Considerations:

- in vicinity of an anadromous stream (see segment 402A)
- dry stream mouth - possible anadromous stream
- mussel bed in cobble/pebble matrix in MTE

AVAILANCE CHUTE:

THIS INTERVAL
UNSURVEYED AT THIS
TIME.

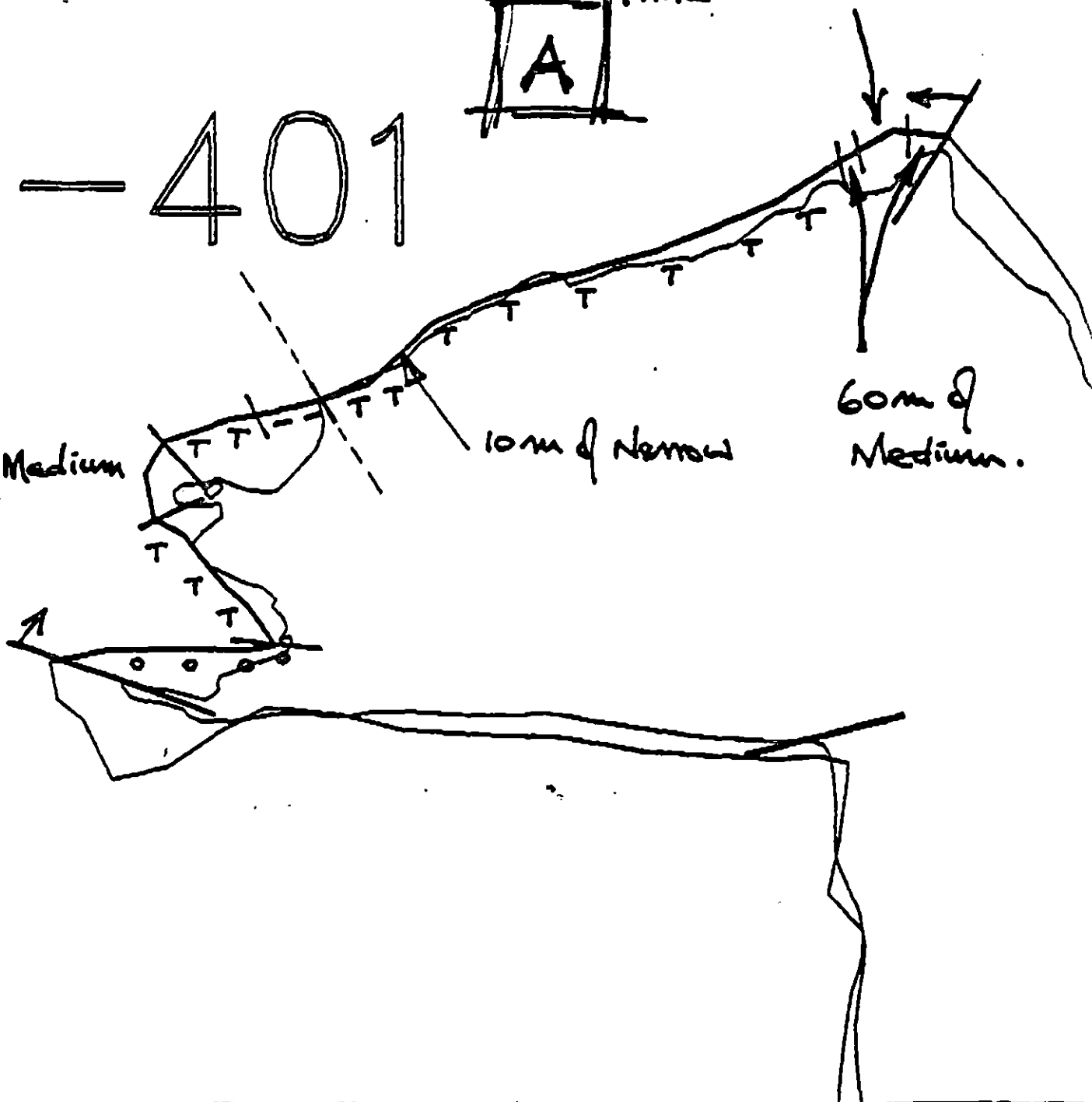


N-401

B Medium

10m of Narrow

60m of Medium.



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-401

ADEC Segment Length: 1326m
EXXON " " 1396m



Map Key: PWS-353

Name: G. MACDONALD

Date: 4/7/90

Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-401 SUBDIVISION A (1 of 1)

WORK WINDOW	
* Manual Pickup	CLOSED
Bioremediation Other Approved Treatment	CLOSED

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

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

* EXXON SET ASIDE SITE # SA-3 - DO NOT REMOVE STAKES FROM BACK OF WETTED ZONE.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream	ADF&G catalogued anadromous stream (226-30-16820) is more than 100m from work site. No constraint to manual pickup, bioremediation and other approved treatment.
5T Bald Eagle Nest	USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to manual pickup, bioremediation and other approved treatment within 400m of active nest. No constraint to manual pickup, bioremediation and other approved treatment more than 400m from active nest.

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC

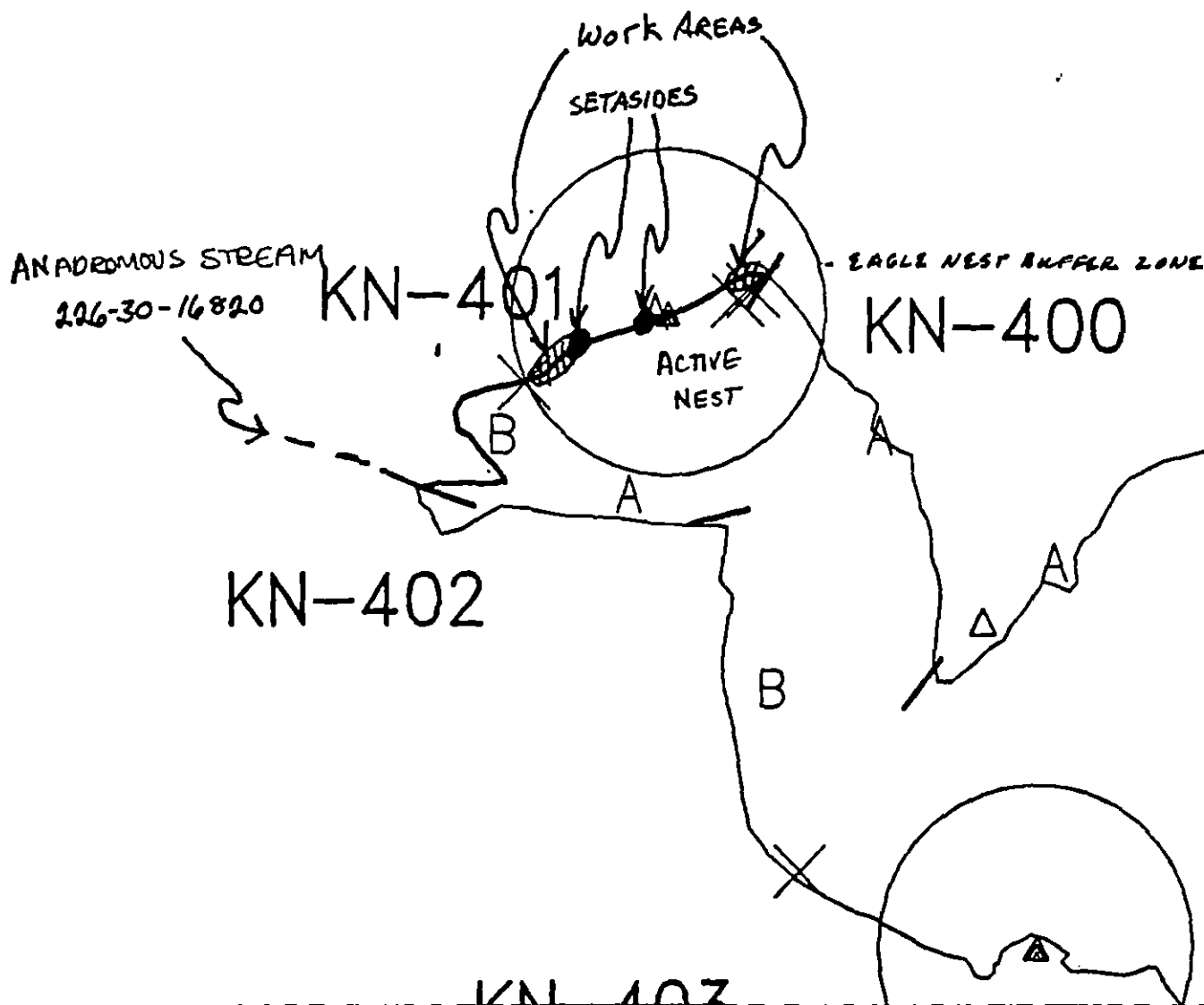
Date

Prepared by

Date

6/13/90

6/13/90



Exxon Company, USA
Map Key: PWS-101-401
June 05, 1990

ECOLOGY MAP
SEGMENT KN-401
SUBDIVISION A (1-1-2)
METERS
0 454 908

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

0 1000 1000

ASAP

WORK PLAN MODIFICATION RECOMMENDATION

SEGMENT KN 401 SUBDIVISION A/site #1 DATE 8-2-90

MODIFICATION

1. REASON FOR MODIFICATION

THICK DEPOSITS OF MOUSSE IN GRASS [SUTZ]
PATCHES OF SOR in LITZ.

*REFER TO MAP FOR LOCATION DETAIL.

SNUG HARBOR IS A "HIGH HUMAN USE" AREA.

2. SUGGESTED ADJUSTMENT TO WORK PLAN

REMOVE ALL MOUSSE FROM SUTZ
REMOVE ALL SOR FROM LITZ.

3. TIMING ISSUES

NONE

BOEC

FROM

NOAM

USCG

LAND MANAGER

(if field rep is on scene)

WORK PLAN MODIFICATION RECOMMENDATION

SEGMENT KN401 SUBDIVISION A/SITE #2 DATE 8-2-90

MODIFICATION

1. REASON FOR MODIFICATION

ASPHALT PAVEMENT AND SOR (ACCESSIBLE) REMAIN IN SUTZ + LITZ
IN TWO BANDS THAT HAD BEEN PREVIOUSLY WORKED.

* REFER TO MAP FOR LOCATION DETAIL.

SNUG HARBOR IS A "HIGH HUMAN USE" AREA.

2. SUGGESTED ADJUSTMENT TO WORK PLAN

- a) MANUALLY REMOVE ALL ACCESSIBLE AP + SOR.
- b) MANUALLY TILL AREAS FROM WHICH AP + SOR HAVE BEEN REMOVED THIS YEAR.
- c) APPLY CUSTOM BLEND TO ALL AREAS THAT CONTAINED AP + SOR.

3. TIMING ISSUES

NONE

BOEC

Wesley Lohmeyer

EIDON

Ray Gittel

NORA

USCG

Art Weimer

LAND MANAGER

John Ebel

(if field rep is on scene)

DATE 4-7-80

[illegible]

1 A
Fb - 200-200-0000-00

2A
 7. ~~XXXXXXXXXX~~



CTA
Technical Publications

55

ST/2

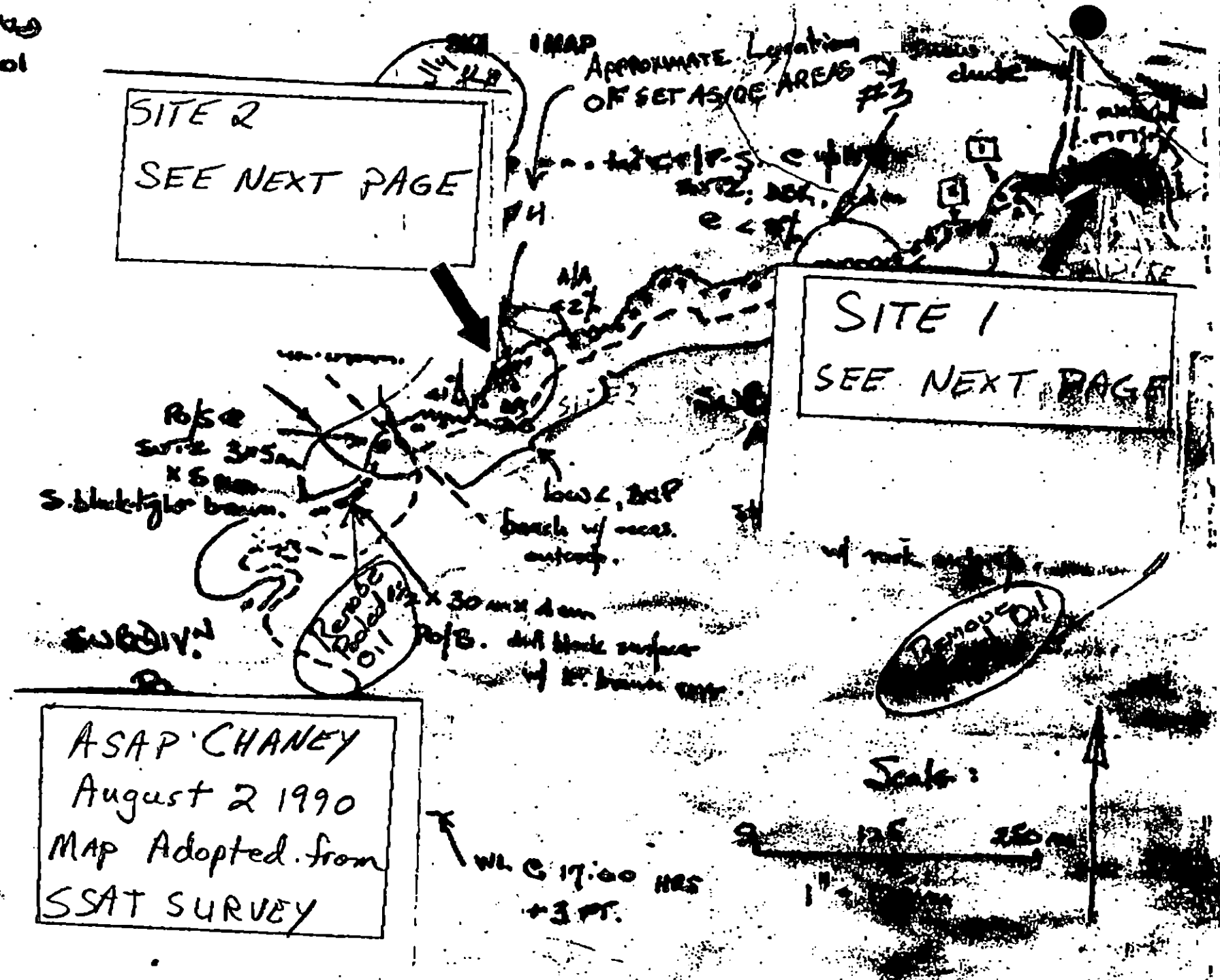
Student Information

**Form location, drawing,
or number**

77 CUFF

Character Length (ok): AP 10 PD 60 CV 10 CT 110 ST 5 MS 5 PT 5 TR 5 FL 5 NO 5 subiv: A

SECRET



FIELD SHORELINE COMMENT SHEET

SEGMENT AS/401 SUBDIVISION: A SITE: 1 DATE 8-2-90

USCG/NOAA PSI Leo Bersalona, USCG Leo Bersalona

NAME ART WEINER SIGNATURE Art Weiner

☐ YES

☒ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

1990 FOLLOW-UP TREATMENT SHOULD REMOVE ALL REMAINING OIL.

ADEC

NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☐ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON: ADEC Monitor to determine reassessment needs upon completion of additional work.

LAND MANAGER

NAME John Ebel SIGNATURE John Ebel

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Reassessment to remove (if oil remains) all traces of oil / insect features (cobbles Relocated) at this site. Exceptionally high standards should be imposed in recreational areas, at the base of waterfalls. Also, LITZ has scoured out depression from the prop-wash of landing craft. The sub-tidal erosion / depositional effects should be observed.

EXXON

NAME Roy Sotelo SIGNATURE Roy Sotelo

☐ YES

☒ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

No reassessment should be necessary for '91 if work is completed for work modification plan in '90.

FIELD SHORELINE COMMENT SHEET

SEGMENT AS/KN401 SUBDIVISION: A SITE: 2 DATE 8-2-90

USCG/NOAA PSI Leo Bersalona, USCG Leo Bersalona

NAME ART WEINER SIGNATURE Art Weiner

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

EVALUATE EFFICACY OF CUSTOMBLEND.

ADEC

NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Reassessment will be needed to determine the effectiveness of Custom blend. If no improvement appears in 1991 then additional manual work may be warranted.

LAND MANAGER

NAME John Ebel SIGNATURE John Ebel

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

To evaluate effects of Customblend, work details as needed in '91.

XXON

NAME REY SOTERO SIGNATURE Rey Sotero

☐ YES

☒ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Recommend no reassessment in '91.

BEACHING: FCPP 2 TAXON: SOTELLO, RAY SEGMENT: AS KN 401
 OG: CHANEY GREG USGS: WELINE, JART SUBDIVISION: A
 ADEC: GHORMLEY, WES LAND REP: EBEL, JOHN TOTAL NO. SITES: 2
 DATE: AUG 12 190 TIME: 08:10 to 09:45 TIDE LEVEL: 3.5 to 5.5
 TOTAL EST LENGTH OF SHORELINE SURVEYED: 180 m
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WEATHER: ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☐ Snow
 OIL CATEGORY LENGTH: W 14 m M 0 m N 80 m VL 10 m NO 76 m US 455 m

SURFACE OIL **SITE 1** Not Observed

SITE 2 Not Observed

SITE 3

CHARACTER	DISTRIBUTION				OILED ZONES			
	/C	/B	/P	/S	SUM	MI	LI	
ASPHALT		X	X		X	X		
S.O.R.								
POOLED								
COVER								
COAT			X			X		
STAIN								
MOUSSE		X			X			
PATTIES/T.B.								
FILM								
NO OIL						X		
EST. SITE LENGTH					130			

DISTRIBUTION				OILED ZONES			
/C	/B	/P	/S	SU	U	MI	LI
		-		-		-	✓
	X	-			X		
				X		X	

50

[illegible][illegible]

Roll No. ASAP-2
Roll #1

Frames 21, 22, 23

REVIEWED
8/7/90 Y/W

COMMENTS

COMMENTS Broken mouse was observed in Site 1 in the
SITE. This mouse is in tall grass and difficult
to find unless you walk through it.

OG L HANEY, GREG

SEGMENT STI KN401

SUBDIVISION A

DATE Aug 12 90

SKETCH MAP

SITE 1

Note: this region was poorly surveyed during SSAT due to snow.

SITE 2

CHECKLIST

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

LEGEND

1 Δ
Pit - No Subsurface Oil

2 Δ Photo 21
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

5x1 meters
SUTZ AP/I/B

Avalanche
Channel

13x1
AP/P U/TZ

Broken
Brush
Branches

Majority of mousse is located at the base of grass 1 to 2 feet tall.

MS/B SITZ

35m x 1 to 2 meters
Average Depth 3 to 5 cm.
Maximum Depth 10 cm.

GRASS

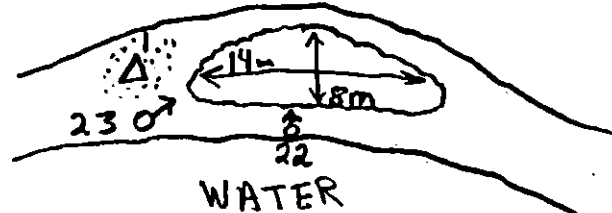
CT/P in
UITZ

LARGE
WATER
FALL

BEDROCK
CLIFF

Small Pocket Beach

AP/B still remains Ave Depth ~4.
Max depth 6 cm. U/TZ



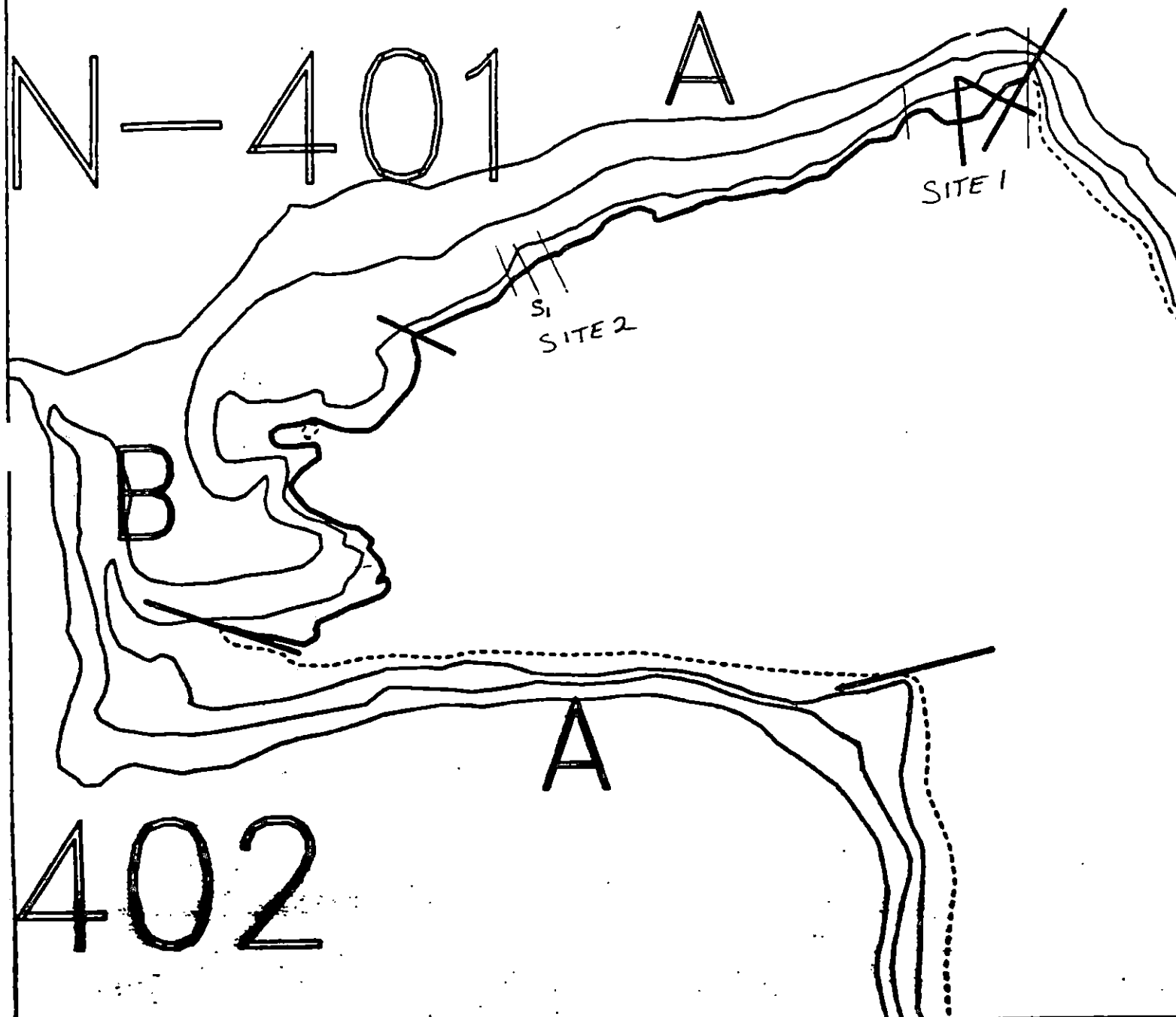
Custom bln was very evident in the area where work took place.

Although manual removal was conducted at this site, the oil seems to have "melted" into the remaining sediments and formed a thin broken pavement. An area of locally buried mousse was located at pit #1 in angular pebbles.

Although manual removal has taken place in U/TZ, Broken Mousse was observed at the base of grass growing up to 2 ft. tall. Difficult to find unless you walk through it.

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

REVISION: 02/24/90



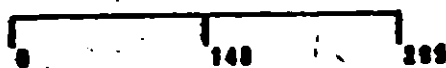
SEGMENT KN-401

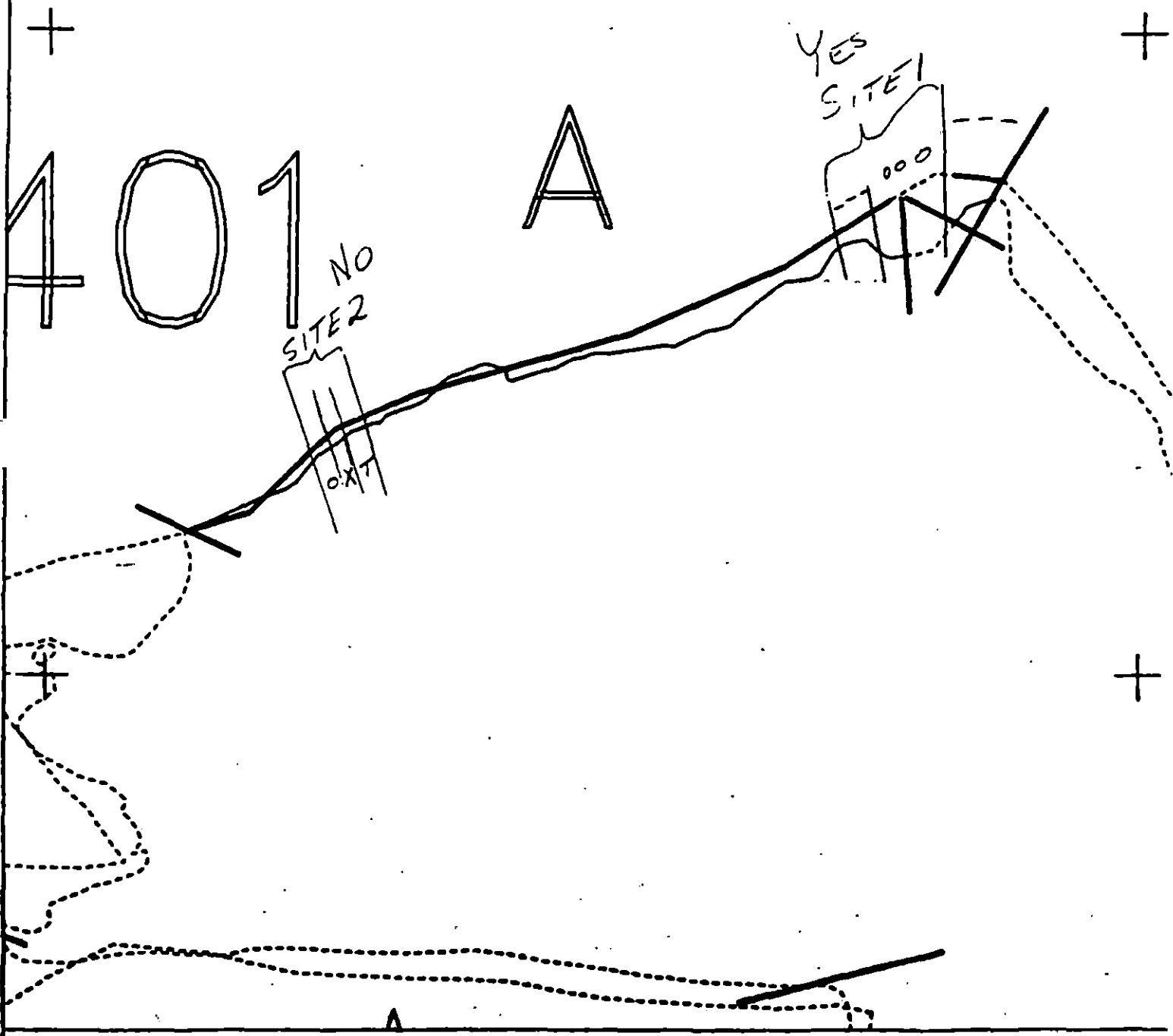
Segment Location Map
Map Key: KNKN-401

July 19, 1990

4:5817

METERS





XXXX Wide
 //// Medium
 --- Narrow
 XXXX Very Light
 0000 No 011

KN-401 A
 ADEC Subsegment Length: 639m
 METERS
 0 112 224
 AK State Plane Zone 4 1:4418
 kn-401a

Subdivision Field Map
 Map Key: KNKN-401A
 Name: CHANEY
 Date: Aug 2 1990
 Date Entered:

GENERAL DATA

SEG ID: KN401 SBOV: A SITE: 1 TEAM: 2 DATE: 8/2/97
SITE LGTH 130 OIL CATEGORIES: W 14 M N VL 10 NO 76 U 45
1991 REASSESSMENT: USCG: N ADEC: ? LONGR: Y EXXON: N
NOX

SURFACE DATA

CHAR #: 1 OIL CHAR: AP OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI LI

CHAR #: 2 OIL CHAR: CT OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI LI

CHAR #: 3 OIL CHAR: MS OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI LI

CHAR #: 4 OIL CHAR: NO OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI X LI

CHAR #: OIL CHAR: OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI LI

CHAR #: OIL CHAR: OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI LI

CHAR #: OIL CHAR: OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI LI

CHAR #: OIL CHAR: OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI LI

CHAR #: OIL CHAR: OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI LI

CHAR #: OIL CHAR: OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI LI

ASAP DATA ENTRY FORM

SUBSURFACE DATA

PAGE 1 OF 1SEGMENT ID: KN401 SUBDIV: A SITE: 2PIT # 1 PIT DEPTH 20 OIL CHARACTER OP OIL INTVAL: FROM 1 TO 10
CLEAN BELOW: Y PIT ZONE: SU UI MI LISUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEGPIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO
CLEAN BELOW: PIT ZONE: SU UI MI LI SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO
CLEAN BELOW: PIT ZONE: SU UI MI LI SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO
CLEAN BELOW: PIT ZONE: SU UI MI LI SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO
CLEAN BELOW: PIT ZONE: SU UI MI LI SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO
CLEAN BELOW: PIT ZONE: SU UI MI LI SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO
CLEAN BELOW: PIT ZONE: SU UI MI LI SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO
CLEAN BELOW: PIT ZONE: SU UI MI LI SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG PIT # PIT DEPTH OIL CHARACTER OIL INTVAL: FROM TO
CLEAN BELOW: PIT ZONE: SU UI MI LI SUBSURF SEDIMENT: BRK BLD COB PEB GRN SAN MUD VEG

GENERAL DATA

SEG ID: KN401 SBOV: A SITE: 2 TEAM: 2 DATE: 8/2/90
SITE LGTH 50 OIL CATEGORIES: W 14 M 80 VL 10 NO 76 U 455
1991 REASSESSMENT: USCG: Y ADEC: Y LONGR: Y EXXON: N
NOAA

SURFACE DATA

CHAR #: 1 OIL CHAR: SOR OIL DIST: CONT BRKN ☒ PTCH SPLH
TIDAL ZONE: SU UI ☒ MI LI

CHAR #: 2 OIL CHAR: NO OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU X UI MI X LI

CHAR #: OIL CHAR: OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI LI

CHAR #: OIL CHAR: OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI LI

CHAR #: OIL CHAR: OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI LI

CHAR #: OIL CHAR: OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI LI

CHAR #: OIL CHAR: OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI LI

CHAR #: OIL CHAR: OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI LI

CHAR #: OIL CHAR: OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI LI

CHAR #: OIL CHAR: OIL DIST: CONT BRKN PTCH SPLH
TIDAL ZONE: SU UI MI LI

SHORELINE EVALUATION

SEGMENT ST/ KN-401 SUBDIVISION B (2 OF 2) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-30-16820

- 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 nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
- 6V Recreation: Anchorages (6/1 to 9/15)
- 9EE Set aside area

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. Jones DATE: 4/20/90

OILING CATEGORIZATION:

Wide 0 m: Medium 86 m: Narrow 74 m: V.Light 226 m: No Oil 211 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>X</u> Oil Snares (pom poms)
<u>X</u> Manual Pickup	<u>X</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 treatment includes 1) manual removal of tarmat, 2) manual pick up of pooled oil, mousse patties, and oiled debris, 3) bio-remediation of areas shown on attached sketch map. SET ASIDE AREAS in Subdivision A. Work should be conducted between 6/1 and 7/10 based on eagle nest and salmon constraints after consultation with ADF&G and USFWS regarding eagle nest.

TAG COMMENTS:

TAG APPROVAL DATE: 4/19/90
ADEC ART WEINER
EXXON ANDY TEN
NOAA Bruce Wescott
USCG KENNETH KEENE

FOSC: W L DATE: 5-12-90

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 (8/7 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 (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 (5/1 to 9/15)
 6V Anchorages (5/1 to 9/15)
 6W Forest Service cabins (5/1 to 9/15)
 6X Lodge (5/1 to 9/15)
 6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
 7HH Finfish harvesting
 7H Deer harvesting (8/15 to 2/28)
 7JJ Invertebrate harvesting
 For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ KN-401 SUBDIVISION: B DATE 4-7-90NAME SCOTT RAINSFORD SIGNATURE Scott Rainsford MSJ1☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

NOTE: THIS SEGMENT CONTAINS DEBRIS BELIEVED TO BE FROM AN ABANDONED MINE ON OR NEAR AN AREA BETWEEN PITS #3 AND #4.

ADEC

NAME Wesley Ghormley SIGNATURE Wesley Ghormley☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Asphalt/Pavement needs to be manually removed using shovels, it is scattered thru-out Subdivision & is starting to flow with the hot weather. Mechanical methods should also be a consideration (Hot H₂O) because there is a lot of oil visible. An anadromous stream is near by so clean-up should be early. Debris are visible on Segment & need to be removed manually. Another consideration might be to string pump-pumps across lagoon to catch any moving oil before clean-up is applied.

- There is also a small wooden barge left in snug harbor with a lot of debris on it that should be towed away before it ends up on the beach spilling its cargo.

LAND MANAGER

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

SHORELINE OILING SUMMARY

REVISION NO. 02/89/90

OG G. MACDONALD USCG S. RAINSFORD SEGMENT ST/ KH-401
 BIO MA. SCOTT LAND REP NFS SUBDIVISION B 2042
 EXXON J. BUTLER ADEC W. GORMLEY TIME 18:00 to 18:25
 TEAM NO.: 3 TIDE LEVEL: +1 to +1/2 ft DATE 4/7/90
 EST. SUBDIVISION LENGTH: 630 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 10 % B 5 % C 30 % P 25 % G 10 % S 10 % M 10 % V 0 %
 SLOPE: Long 75 % Hang 20 % Vert 5 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 70 m N 70 m VL 370 m NO 120 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR				IMPACTED ZONES			
	C	B	P	N	SP	BP	OP	NP	SU	U	M	U
ASPHALT PAVEMENT			X					X	X			
POOLED			X	X				X	X			
COVER				X				X	X			
COAT				X	X				X	X		
STAIN												
MOUSSE				X				X	X			
PATTIES				X				X	X	X		
TARBALLS												
FILM												
NO OIL										X	X	

PAVEMENT: H F (S) 300 sq. m by 4 cm

(PATTIES) TARBALLS 10 BAGS

NEAR SHORE SHEEN? (NO) BR RW SL TL

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

DEBRIS COLLECTED
☒ YES ☐ NO
 TYPE small bottle
 #BAGS 1

Photographs:

Roll No. ST-3-2

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		DO	UG	SP	BP	OP	NP	SU	U	M	U		
1	15					X	-							X				N	CP
2	20					X	-									X		N	PGM
3	15					X	-								X			N	GS
4	25					X	-								X			Y	MP Peat.
5	20					X	-							X				N	GM
6	25					X	-										X	Y	PM Peat

COMMENTS Low L, low energy shore of angular cl over GM.
 Cove is underlain by peat. Surface oil only as CT-CV/s
 @ up. HITZ-SUTZ and some P/s to 4cms thick @ SUTZ
 on grass. Anadromous stream @ west boundary is
 clean throughout.

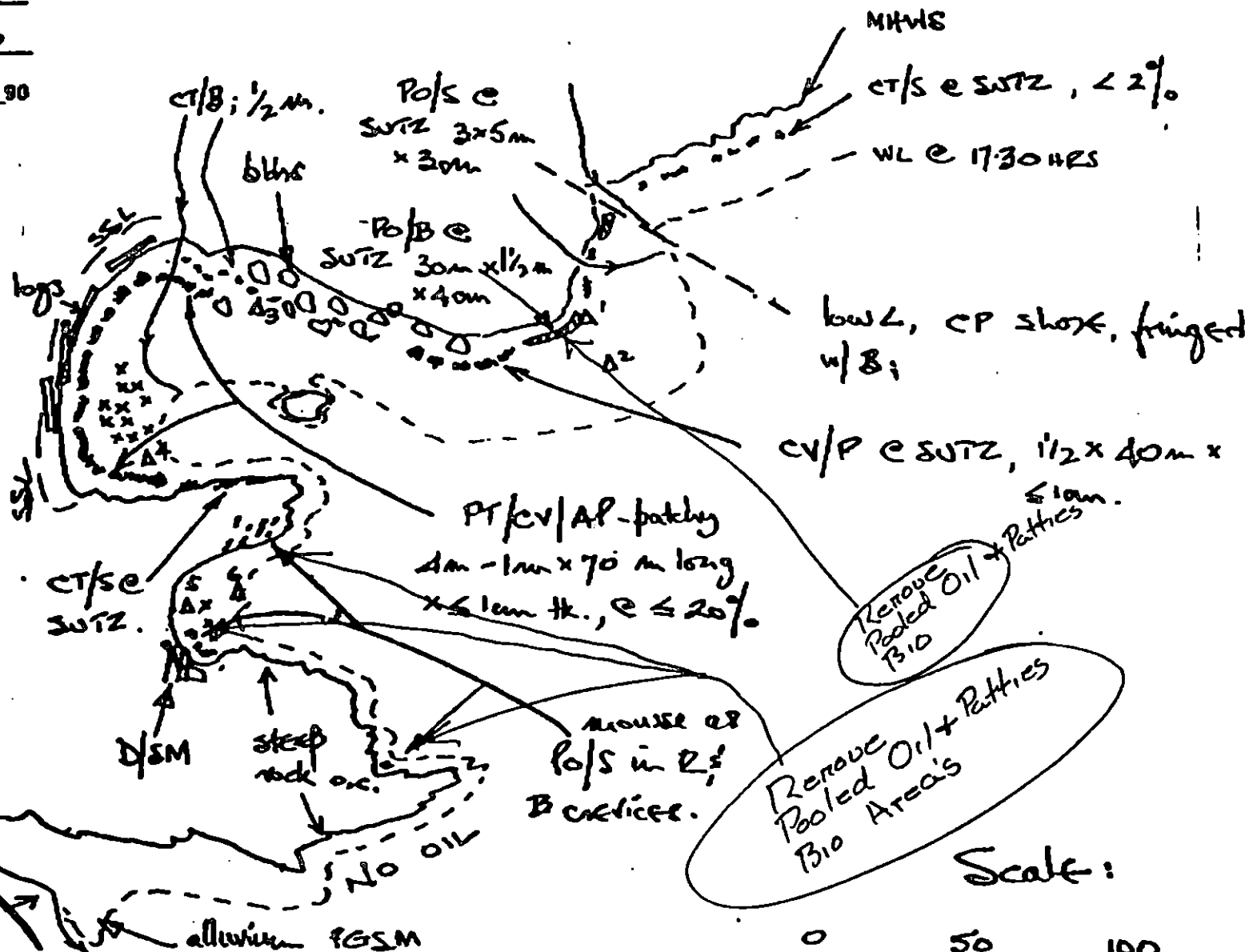
CHECKLIST

- N Arrow
- Approx. Scale
- Seg/Sub Entry
- Oil Dist.
- Width
- Length
- % Cover
- Substrate Character
- Est. HYPOLAME
- GSI
- Profile Location(s)
- Photo 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 ●
- Photo location, direction, and number

- * scoured.
- stream



End of Segment V
18.25 HRS.

Scale:
0 50 100
1" = 50m approx

Oil Character Length (m): AP 70 PO 40 CV 60 CT 300 ST 0 MS 5 PT 20 TB 0 FL 0 NO 120 - subdiv B.

SHORELINE ECOLOGICAL SUMMARY

REVISION 09-23-90

Segment ST 401 Subdivision B Date (mo / day / yr) 7/7/90Time (24 hr) 1730-1825 Biologist M A SCATT(A) Substrate type and % of segments:
(1) Bedrock 10 (2) Boulder 5 (3) Cobble 30 (4) Pebble 35 (5) Sand 10 (6) Silt 10(B) Overall % cover of biota (% of segment): Dense 10 Moderate 25 Low 65

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

Photographs:
Roll No. ST-3-2Frames 0

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 eagle
6 golden eyes
ravens- as in Segment 401A, high (>50%) Mytilus mortality in cobbles, Mytilus on rock face, no apparent mortality
- western part of segment, small cove seems to collect debris:

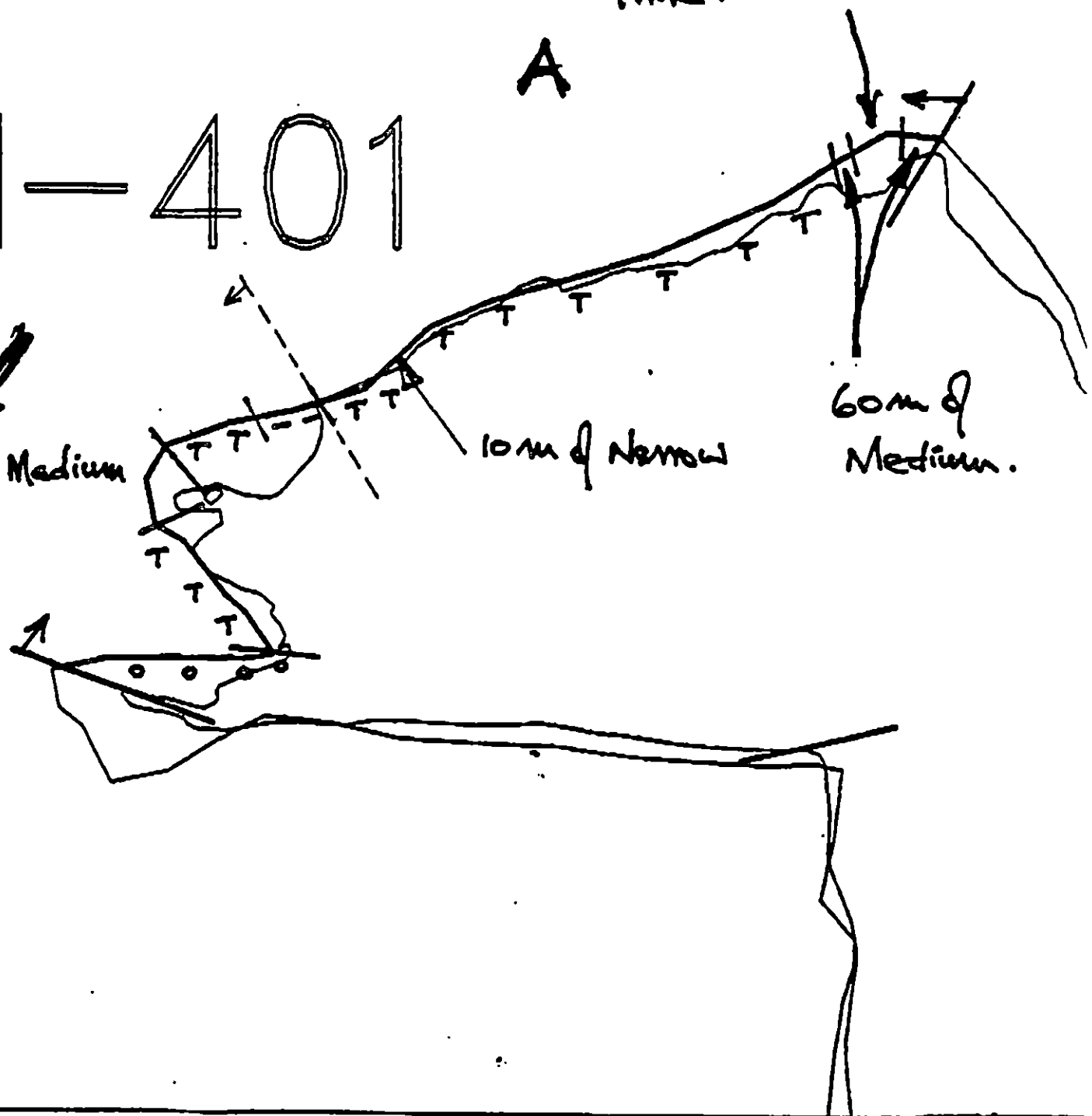
Ecological Considerations:

- anachronous stream (see segment 402A)
- subtidally - eelgrass bed
- rock L2 - dense algal covering
- western part of segment, small cove - cobble/pebble over mud, probably numerous clams; this area appears to collect debris

AVALANCHE CHUTE:
THIS INTERVAL
UNSURVEYED AT THIS
TIME.

N-401

A



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

KN-401

ADEC Segment Length: 1326m
EXON " " 1396m

Map Key: PWS-353

Name: G. MACDONALD

Date: 2/7/90

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-401 SUBDIVISION B (2 of 2)

WORK WINDOW	
Manual Pickup Tarmat Removal	OPEN*
Bioremediation & Other Approved Treatment More Than 100m From Stream	OPEN*
Bioremediation & Other Approved Treatment Less Than 100m From Stream	WORK BEFORE 7/10* (ADF&G MONITOR REQ.)

*Set Aside Site SA-4 located in KN-401B. Do not treat between signs.

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,B	Salmon Stream	This subdivision is closed to bioremediation less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation and other approved treatment are permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation and other approved treatment more than 100m from stream. No constraint to manual pickup and tarmat removal.
5T	Bald Eagle Nest	Work area is more than 400m from eagle nest. No constraint to manual pickup, tarmat removal, bioremediation and other approved treatment.

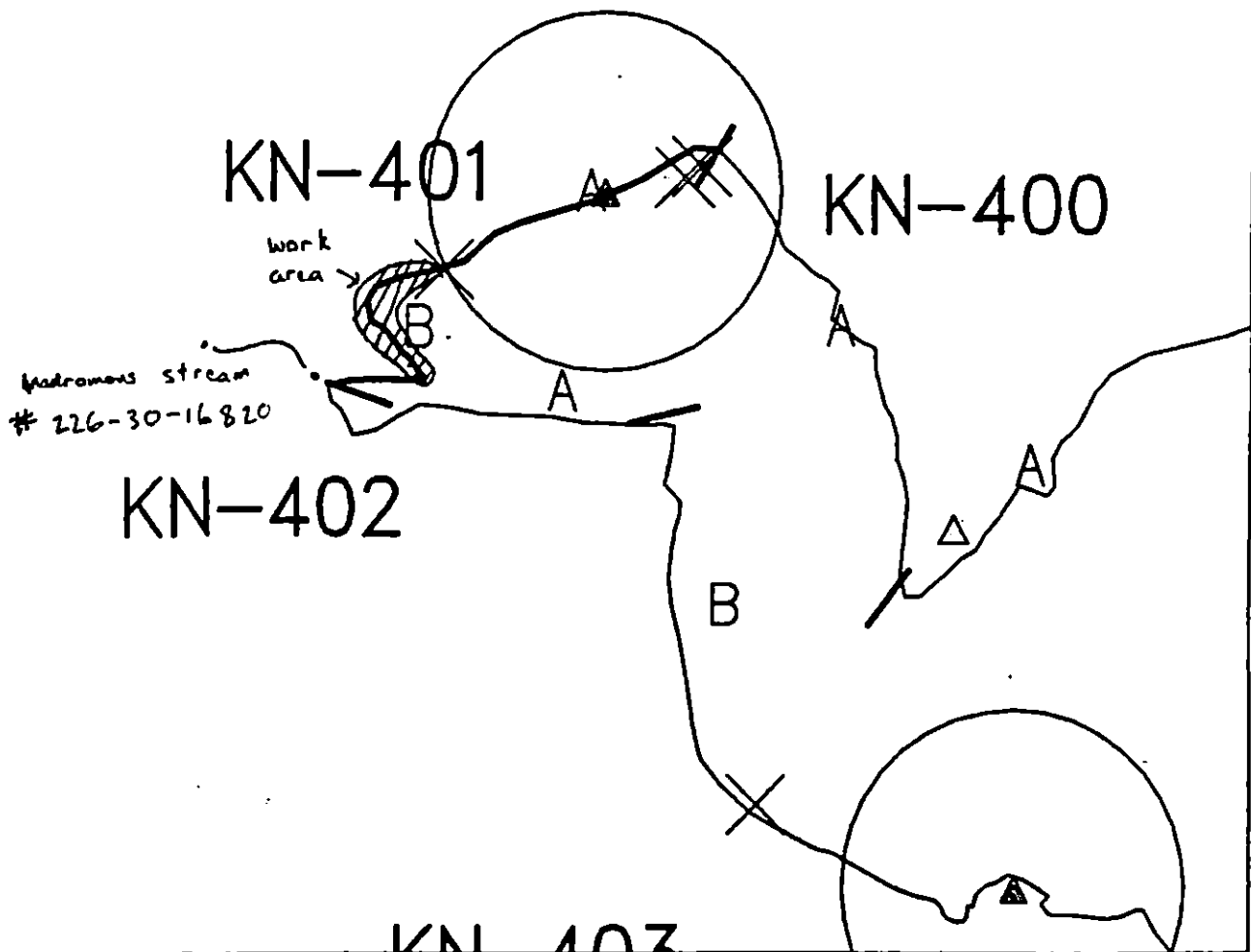
OTHER ECOLOGICAL CONSIDERATIONS

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

SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM (STREAM NO. 226-30-16820)
FOR ADDITIONAL CONSTRAINT INFORMATION

FOSC *[Signature]* Date 7/2/90

Prepared by *[Signature]* Date 7/2/90



Exxon Company, USA
Map Key: PMS-KN-401
June 09, 1990



ECOLOGY MAP
SEGMENT KN-401
SUBDIVISION B (2 of 2)
METERS
0 438 872

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

1 inch = 1430 feet

ANADROMOUS FISH STREAM EVALUATION

SEGMENT ST/ KN-401B STREAM NO: 226-30-16820 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)

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

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

9EE Other: Set aside

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Subject stream exists at boundary of KN-401B and KN-402A (subdivision 2 of 2 and 1 of 2, respectively). No additional ecological constraints.

SHPO SIGNATURE: Rachel Don Date DATE: 5/22/90

Subsurface Oil Observed: Yes _____ No X Maximum Depth _____

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, patties and oil
vegetation. 2) Set aside site No.'s 3 and 4 are located in KN-401 and
are closed to work. Identify these sites prior to work. Work from 6/2
to 7/9 with approval of USFWS regarding eagle nest.

TAG COMMENTS: Bioremediation (CUSTOMER) AS REQUIRED FOLLOWING TARMAT
Removal
MONITORS TO ASSESS SUITZ

TAG APPROVAL DATE: 5/18/90

ADEC Art Weiner Art Weiner

EXXON Andy Bar Deal

NOAA Gary Petrac Gary Petrac

USCG SA. REITER G.A. Petrac

FOSC: [Signature]

DATE: MAY 25 1990

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

18/1

SEGMENT ST KN 402/401 SUBDIVISION: 16820 DATE 9/27/90

USCG

NAME

Cub McMAHON

SIGNATURE

[Signature]

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

1. MANUAL CLEAN-UP: REMOVE MOUSSE AND TAR PATTIES
2. Bioremediate left side (looking inshore)

ADP+G

ADEC

NAME

TOM CROWE

SIGNATURE

[Signature]

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

MANUALLY REMOVE TAR MATS AND PATTIES FROM UPPER
INTERSTITIAL ZONE. NO INITIAL SHOULD BE USED. BIOREMEDIATION
SHOULD BE IN THE FORM OF SOLID PELLET FERTILIZER THAT
IS BURIED AT +12 FT TIDE LINE. (SEE MAP)

LAND MANAGER

NAME

SIGNATURE

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

3/63

ASC # 226-30-16820

Segment KN-402/KN-401

Observations Tar mats and patties (ranging locally from sporadic to continuous) ring the high tide line south of the channel. No oil was observed north of the channel. No subsurface of oil was observed.

Treatment Recommendations Manually remove all tar mats and patties.

ASC # 226-40-16851

Segment KN-602

Observations Sporadic stains dot boulders along the high tide line. Immediately adjacent to one of the stream channels running through the upper-intertidal zone, a tar mat has penetrated several centimeters into the gravel.

Treatment Recommendations Manually remove tar mats.

ASC # 226-40-16853

Segment KN-602

Observations Sporadically stained rocks are distributed north of the channel within the upper-intertidal zone.

Treatment Recommendations No treatment is required.

ASC # 226-40-16855

Segment KN-601

Observations No surface or subsurface oil was observed.

Treatment Recommendations No treatment is required.

SHORELINE OILING SUMMARY (ANAD.)

REVISION NO. 06-11

OG WILLIAM LEID USCG McMAHON SEGMENT ST/ KN401A02
 BIO MICHAEL FAWCETT LAND REP TOM CROWE ADFG STREAM 22630-16820 OF 5
 EXXON GUS GARCIA ADFG MIKE VIEDNER TIME 9:15:10
 TEAM NO. 15 TIDE LEVEL -3 FT DATE 27 APR 1990
 EST. SUBDIVISION LENGTH: 60 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo
 SURFACE SEDIMENTS: R 0 % B 15 % C 50 % P 30 % G 5 % S 0 % M 0 % V 0
 SLOPE: Long 80 % Hang 20 % Vert 0 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 4 m N 0 m VL 0 m NO 56 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	NO	NR	PR	NR	SP	BR	OR	GR	BL	PK	LT	DR	SU	U	M	U
ASPHALT PAVEMENT	X											X	X			
POOLED																
COVER																
COAT																
STAIN																
MOUSSE																
PATTIES	X		X									X	X			
TARBALLS																
FILM																
NO OIL													X	X	X	

PAVEMENT H F S 240 sq. m by 3PATTIES / TARBALLS 50 BAGNEAR 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 0#BAGS 0

Photographs:

Roll No. A5-15-6Frames 32-37

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 SEDIMENT
		OP	OR	OL	OF	NO		UC	UC	SP	BR	OR	GR	BL	PK	LT	DR	SU	U	M	U				
1	35					X	.													X			N		G/P/C
2	35					X	.												X				N		G/P/C
3	35					X	.														X		N		G/P/C
							.																		
							.																		
							.																		
							.																		

COMMENTS

REVIEWED 7W DATE 5/2/90

SEGMENT ST/ KN 901, 902

STREAM 226-30-16820

CHECKLIST

- ___ M Ancr
 ___ Approx. Bands
 ___ Septate Body
 ___ On Dist.
 ___ Width
 ___ Length
 ___ % Cover
 ___ Substrate Character
 ___ Est. HUMA/PWL
 ___ SSL
 ___ Profile Location(s)
 ___ Porosity
 ___ Fil Location(s)
 ___ Photo Location(s)

LEGEND

- 1 
 PR - The Subsurface CD
 2 
 PR - Subsurface CD

CTAC

CT/B
Engine Distribution

CT/P
Product Distribution

CT/S
Special Distribution

Old Vegetation

Photo location, direction,
and number

Film AS-15-6

On Character: (Int: AP PO CV CT ST MS TB FL NO)

Abstract

ADFG MULTI-ASSESSMENT DATA FORM

1 SURVEY TYPE: SS SP DS TS AVS SCM MPB PTA

2 REGION: PSE NP CI KAP

METHOD: Aerial Ground Boat

3 DATE: April 27 1990

15 HIGH TIDE TIMES: 1

21 TEAM RECORDER: TOM CROWE

4 START TIME: 0900

16 HIGH TIDE HTS: 1

22 OBSERVERS: MIKE WILSON

5 STOP TIME: 0958

17 LOW TIDE TIMES: 1

23 AGENCY: ADFG CANADIAN

6 SEGMENT #: KN402/401

18 LOW TIDE HTS: 1

24 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: SEW 8-3

Starts: Ends:

10 LAT:

11 LONG:

26 SAMPLES TAKEN: Y (N) Number

12 SOURCE: Map Loran

Oil:

13 LOCATION: SNUG HARBOR

Sediment:

14 DESCRIPTION: KNIGHT ISLAND

Biological:

EXTENT OF OIL

27 SURFACE COVERAGE

SHORELINE				STREAM			
L	V	H	S	L	V	H	S

28 SURFACE THICKNESS

		(SEE MAP)					

29 PENETRATION

30 OVERALL OIL IMPACT: N VL (L) N N

35 CATALOGED ANAD. FISH STREAM: Y N

37 CATALOG #: 226-30-16820

38 STREAM NAME:

31 OIL TYPE: Pooled House (Tar) Asphalt Sticky Stain

39 OIL IN STREAM BED: Y (N)

40 OIL ON STREAM BANKS: 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 N

Where: SEE MAP

33 SHORELINE TYPE: Headland Low-lying Rocks Beach (Cave)
Lagoon Marsh

43 ANADROMOUS FISH PRESENT: Y N

34 WAVE EXPOSURE: High Moderate (Low)

44 ANADROMOUS FISH OBSERVATION

35 SUBSTRATE TYPE: Bedrock Boulder (X) Cobble (X)

Gravel Sand Mud/silt

Species	Aerial	Ground

COMMENTS:

20/6

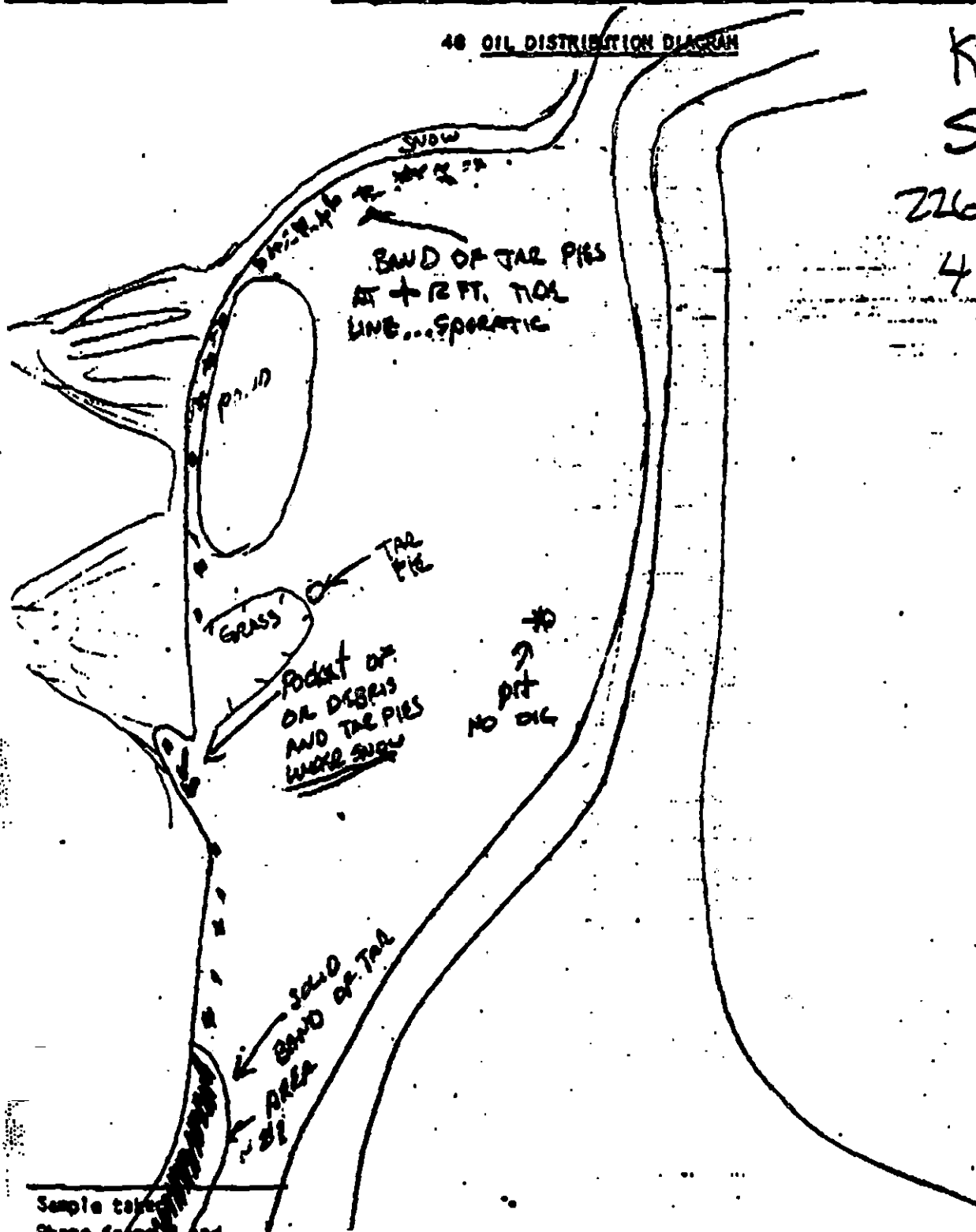
48 PHOTOLOG

ANE(S)

DESCRIPTION

RECOMMEND: MANUAL REMOVAL OF TAR AT
(STORM) +12 FT. TIDE LINE AND TARMAT SAND. CHECK
THE AREA NOW COVERED BY SNOW. DO NOT USE
UNIFOL. IF BIODEGRADATION IS TO BE USED IN
ARSA 4 IT SHOULD BE IN THE FORM OF SOLID
PELLETS BURIED AT STORM BERM LINE.
I AGREE WITH RECOMMENDATIONS. M. H. FANCO

48 OIL DISTRIBUTION DIAGRAM



KN 401/402

SNUG HARBO

226-30-1682C

4/27/90

ANADSCAT

TWC

25/63

KN 402/401

4/27/90

Stream 226-30-16820

Michael Fawcett

Ecological Summary

This medium-size stream passes through a large cobble/pobble/gravel/sand floodplain with a steep bank on the south side at the seaward end. Boulders in the UTZ on the south bank have abundant barnacles and littorines. The flatter areas of the delta have a very dense infauna of clams, worms, etc., which has recently been heavily utilized by sea otters. Fucus, barnacles, and mussels are also abundant. A water ouzel foraging in the stream was twice observed catching salmon fry.

Remaining oil consists of a band of tar mats in the UTZ on the south side of the stream. There are no ecological constraints re: intertidal biota.

M Fawcett



1A, 1B
ST(1)
6V
9CE

▲ = BALD EAGLE NEST

KN-401

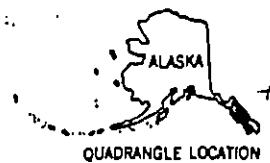
KN-402

KH

3/62
RR

INTERIOR GEOLOGICAL SURVEY, WASHINGTON, D. C. - 1963
M R-4821
R. 10 E.

ROAD CLASSIFICATION
No roads or trails in this area



QUADRANGLE LOCATION

SUBJECT SALMON STREAM
226-30-16E20 (P, 2/90)
SEWARD (B-3), ALASKA
N6015-W14745/15X22.5

1950
MINOR REVISIONS 1963

AWC63 05323 SEND B-3

ANC-H

ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 226-30-16820

SEGMENT KN-401 SUBDIVISION B

WORK WINDOW

* Manual Pickup
Tarmat Removal

OPEN*

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

Bioremediation More Than 100m From Stream **OPEN**

*Set Aside Sites - ~~DO NOT~~ DO NOT REMOVE STAKES FROM BACK OF INTERTIDAL ZONE.

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

ADF&G catalogued anadromous stream (226-30-16820) is in Subdivision B. 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. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision B work site.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or banks. No flushing of pollutants or sediments into stream drainage; do not allow In1p01 to enter stream flow. On-site examination and consultation by ADF&G monitor is required prior to bioremediation in order to authorize a setback distance from the stream during chemical application; if ADF&G monitor's presence is impossible, authorization may be given by the ADEC monitor. Avoid any unnecessary disturbance or damage to uncollected biota and substrate.

SEE SUBDIVISION CONSTRAINT ADDENDUM KN-401B
FOR ADDITIONAL CONSTRAINT INFORMATION.

FOSC

Prepared by

Date

Date

6/13/90

6/12/90

SHORELINE EVALUATION

SEGMENT ST/ KN-402 SUBDIVISION A (1 OF 1) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G catalogue no. 226-30-16820

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 uncoiled biota and substrate.

SHPO SIGNATURE: Charles J. Hume DATE: 4/20/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V. Light 418 m: No Oil 478 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 patties/tarmats. Work should be
conducted between 5/16 and 7/9 or after 8/31 due to above listed
constraints.

TAG COMMENTS: DUE TO SENSITIVE BIOLOGICAL RESOURCE IN CLOSE
PROXIMITY - TREATMENT PICKUP WARRANTED.

TAG APPROVAL DATE: 4/20/90.
ADEC ART WEINER Art Weiner
EXXON AMDY TCH AMDY TCH FOSC: My L DATE: 4-26-90
NOAA Burl Wescott Burl Wescott
USCG KENNETH KEANE Kenneth Keane

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-402 SUBDIVISION: A DATE 4-7-90

USCG
NAME SCOTT RAMSFORD SIGNATURE Scott Ramsford MST

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

ADEC
NAME Wesley Ghermley SIGNATURE Wesley Ghermley

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Due to a sensitive area being in this segment (anadromous stream), I recommend manual removal of mussel patties. A small crew using shovels & trowels could pick up patties in a short period of time. IF mussel patties are left in place I believe once the weather warms up they could become mobile & cause a threat to the anadromous stream.

LAND MANAGER

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

SHORELINE OILING SUMMARY

REVISION NO. 000000

OG G. MACDONALD USCG S RAINSFORD SEGMENT ST/ KN-402
 BIO MA. SCOTT LAND REP — NFS SUBDIVISION A (1041) 17
 XXON J. BUTLER ADEC W. GHORMLEY TIME 09:00 to 09:30
 EAM NO.: 3 TIDE LEVEL: +4 1/2 to +5 1/2 FT DATE 4/7/90
 EST. SUBDIVISION LENGTH: 695 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 20 % B 30 % C 20 % P 5 % G 10 % S 10 % M 5 % V — %
 SLOPE: Long 20 % Hang 70 % Vert 10 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 370 m NO 325 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	L
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT				X		X								X		
STAIN																
MOUSSE																
PATTIES				X				X						X		
TARBALLS																
FILM																
NO OIL													X		X	X

PAVEMENT: H F S 2 sq. m by 0 cmPATTIES TARBALLS 2 BAGSNEAR SHORE SHEEN? ☒ NO BR RW SL TL

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

Photographs:

Roll No. SI-3-2Frames —

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	9	10			
1	15					X	.											X			N	BGS
2	30					X	.												X		N	GSM
3	30					X	.											X			N	CSG
4	20					X	.											X			N	BGSM
							.															
							.															

COMMENTS Steep rocky shore & cove w/ anadromous stream. Surface oil as CT/S & PT/S @ HRTZ only. No oil in stream channel sed. or stream banks.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/25/88

Segment ST/ 402 Subdivision A Date (mo / day / yr) 4/7/90

Time (24 hr) 100-930 Biologist MA Scott

- (A) Substrate type and % of segments:
 (1) Bedrock 20 (2) Boulder 30 (3) Cobble 20 (4) Pebble 15 (5) Sand 10 (6) Silt 5
- (B) Overall % cover of biota (% of segment): Dense — Moderate 40 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

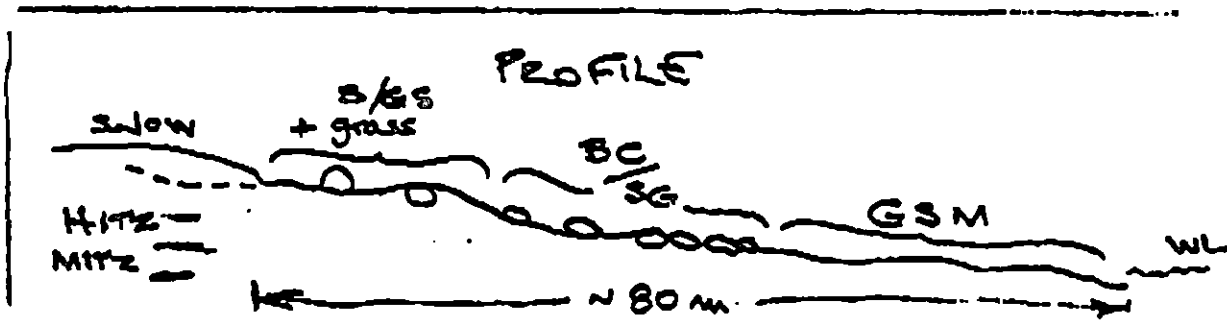
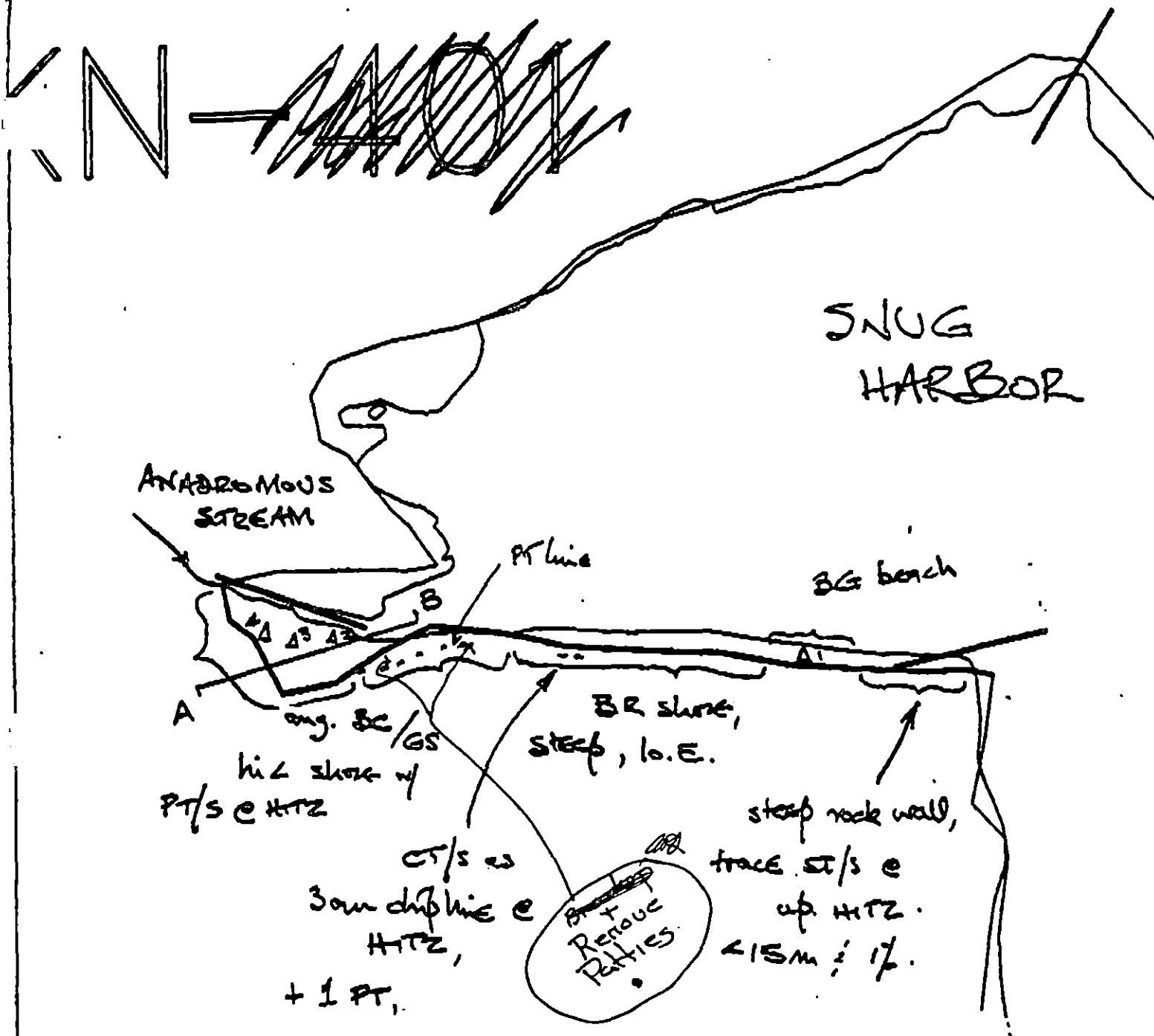
Wildlife Observations/ General Comments:

2 bald eagles
 6 goldeneyes
 2 sea otters

- no visible oil in vicinity of stream
 - observation of roach (eastern part of segment) by boat
 - mussels in cobbles ~10-20% mortality

Ecological Considerations:

- anadromous stream at western edge of segment
 - mussels in cobble matrix between boulders



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-402

Exxon 693m
ADEC Segment Length: 897m

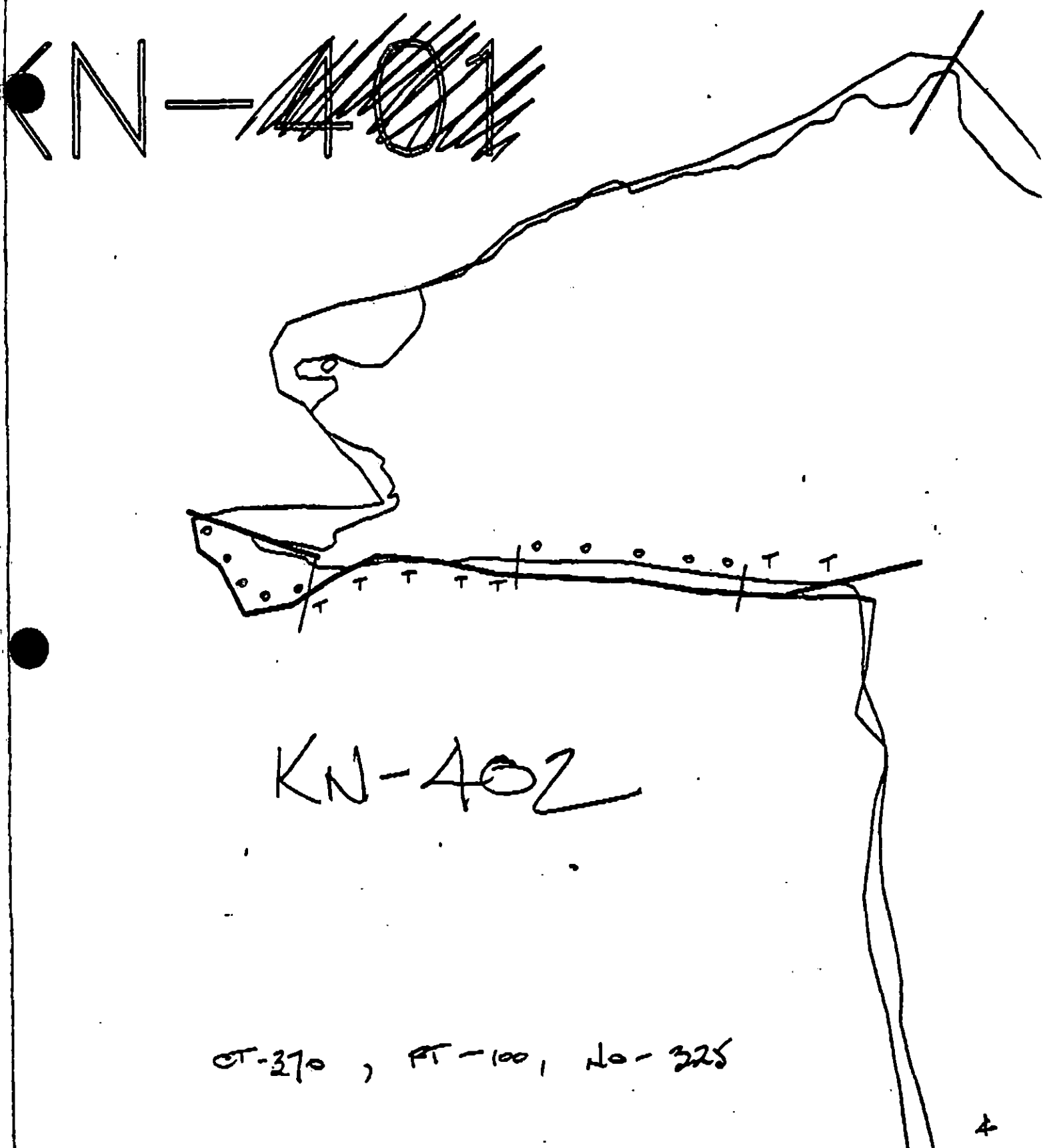


Map Key: PWS-354

Name: G. MACDONALD

Date: 4/7/96

Date Entered:



XXXX Wide	KN-402		Map Key: PWS-354
//// Medium	ADEC Segment Length: 897m		Name: <u>G. Macdonald</u>
--- Narrow	Error : 698		Date: <u>4/7/90</u>
TTTT Very Light	0 100 200 300 METERS		Data Entered:
0000 No Oil			

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-402 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup Tarmat Removal	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,B Salmon Stream No constraint to manual pickup and tarmat removal.

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC *Al Janofski* Date *7/8/90*

Prepared by *W. Kelley* Date *7/2/90*

KN-401

KN-400

Andromous
Stream # 226-30-
16820

KN-402

KN-403



Exxon Company, USA
Map Key: PLS-KN-402
June 09, 1990



ECOLOGY MAP
SEGMENT KN-402
SUBDIVISION A (1 of 1)
METERS
0 424 847

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

1 inch = 1390 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-403 SUBDIVISION A (1 OF 2) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

6U Recreation: Tent sites (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 E. Hume DATE: 5/2/90

OILING CATEGORIZATION:

Wide 770 m: Medium 0 m: Narrow 0 m: V.Light 725 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 tarmat and mousse, 2) manual pick up of oiled debris, 3) bioremediation of areas shown on attached sketch map.

TAG COMMENTS: MONITORS TO ASSESS SUITZ IN AREA OF AVALANCHE SHUTES

TAG APPROVAL DATE: 4/24/90
ADEC ART WEAVER
EXXON ANDY TEAL
NOAA JOSEPH KILBATT
USCG M.J. HALL
FOSC: KL 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 (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 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

MENT ST / KN-403 SUBDIVISION: 77 DATE 4/7/90

USCG

NAME M J SHARPA SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

ADEC

NAME S. FERGUSON SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

* PAVEMENT AREA NEEDS TO BE BETTER ASSESSED DUE TO THE
PAVEMENT
3 SEPARATE AVALANCHE SHOTS COVERING UP HITZ +
STORM BERM. MANUAL REMOVAL OF PAVEMENT + MOUSSE PADDIES
THAT WERE VISIBLE AT HITZ. 4 SNARE BOOMS AT
HITZ AND ONE HIGH PRESSURE HOSE FOR DEBRIS PICKUP
→ NOTE ALL 4 SNARE BOOMS ARE OILED (SATURATED).

LAND MANAGER

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

SHORELINE OILING SUMMARY

REVISION NO. 05/22/90

OG K. Ramsey USCG R. Sharpe SEGMENT ST/ KN-403
 IO G. Penn LAND REP NOVE (FS) SUBDIVISION A 102
 XXON S. Reid ADEC S. Ferguson TIME 4:05 to 6:00
 TEAM NO.: 4 TIDE LEVEL: 5.5 to 1 DATE 4/17 /90
 EST. SUBDIVISION LENGTH: 1439 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: SE to NW
 SURFACE SEDIMENTS: R 11 % B 25 % C 4 % P 1 % G 2 % S 2 % M 0 % V 0 %
 SLOPE: Long 63 % Hang 25 % Vert 12 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 299 m M 0 m N 0 m VL 65 m NO 0 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	10	15	20	25	25	25	25	25	25	25	25	25	SU	UI	ME	LI
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT																
STAIN																
MOUSSE																
PATTIES																
TARBALLS																
FILM																
NO OIL																

PAVEMENT: H F S 0 sq. m by 0 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 Pom Poms#BAGS 1Photographs: 6 Pom Poms (oiled)Roll No. 3T-4-14 snare boomsFrames 29, 30

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	25	25	25	25	25	25	25	25			
1	10					X	0-3		X									N		B, C
2	10	X					0-10	X										N		B, C
3	25					X	.		X									N		G
4	20					X	.		X									N		B, P
5	20			X			10-17.5	X										N		P, S, M.
6	30					X	5-9	X										N		P, G

COMMENTS This segment began with vertical bedrock for — m. Afterwards it was boulder + cobble beach. Three large avalanches coming in the mtn. valleys covered a lot of the SU with snow + debris coat + splatters of cover on boulders with 2-3 cm thick of mousse under-betw boulders. Between the two valleys the mousse was about 10m wide. Due to amt. of boulders, I'd say it was about 80% cover.
 (See page 2)



SHORELINE ECOLOGICAL SUMMARY

REVISION: 00-0000

Segment ST, KN-403 Subdivision A Date (mo / day / yr) 04/07/90
 # (24 hr) 1605 Biologist PENN

- (A) Substrate type and % of segments:
 (1) Bedrock 12 (2) Boulder 75 (3) Cobble 4 (4) Pebble 8 (5) Sand 2 (6) SM _____
- (B) Overall % cover of biota (% of segment): Dense 60 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. _____

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

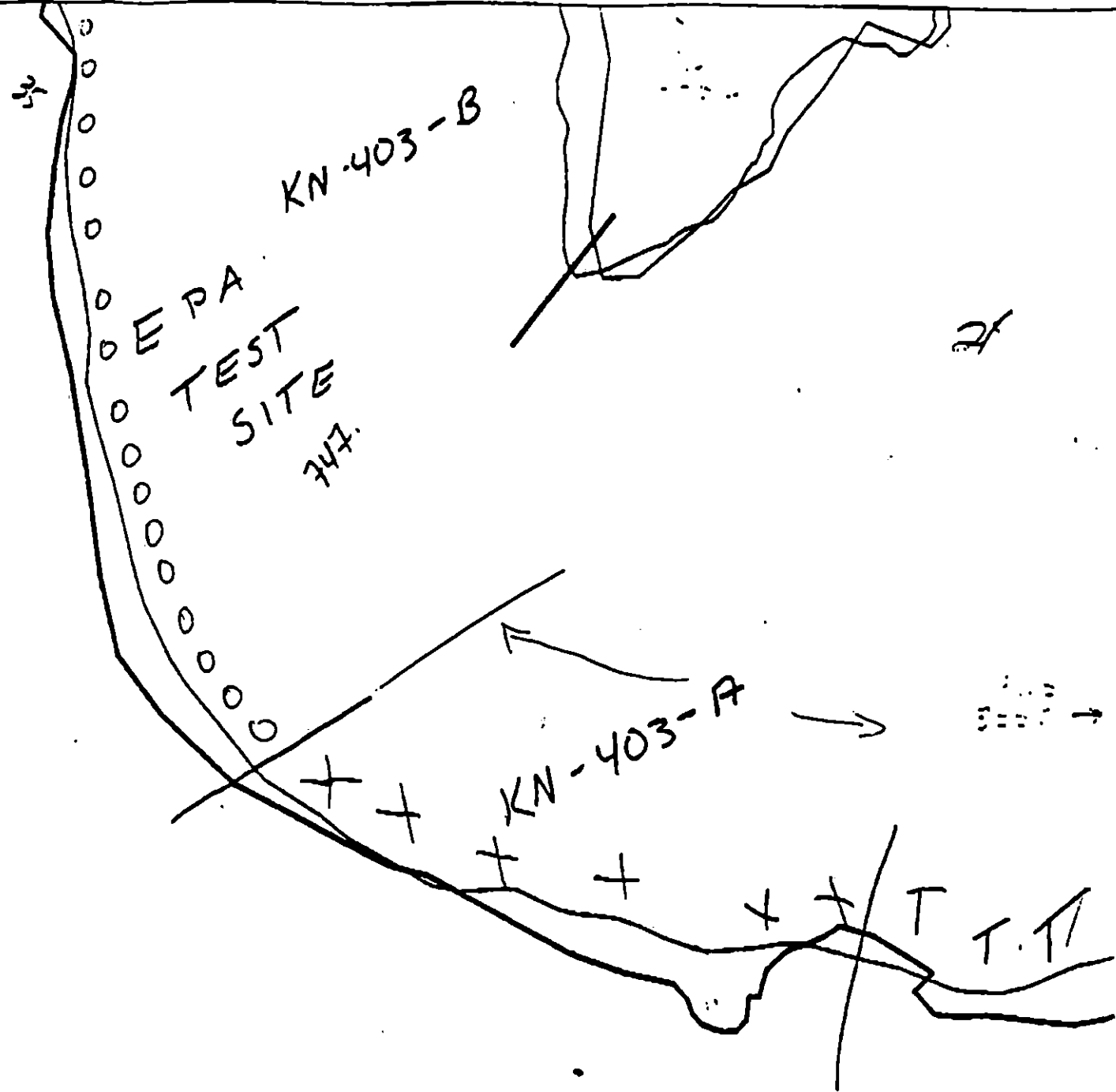
Wildlife Observations/ General Comments:

1 Seal

1 Dead Deer - no vis oiling

3 Otter

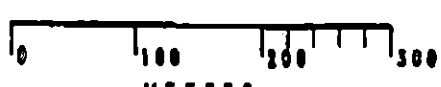
Ecological Considerations:



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

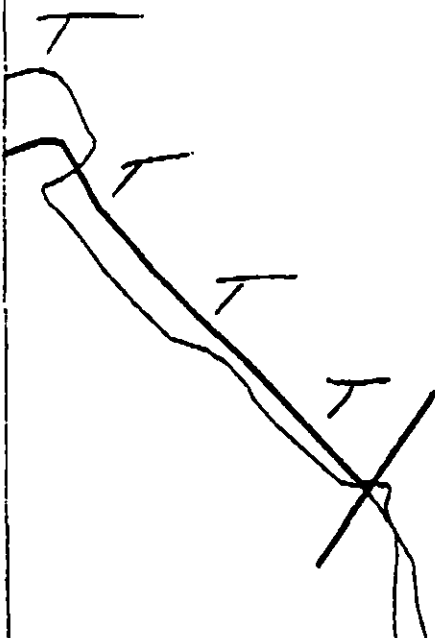
KN-403

ADEC Segment Length: 2434m



Map Key: PWS-355a
Name: K. RAMSEY
Date: 4/7/90
Data Entered:

1.3



XXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-403

ADEC Segment Length: 2434m



Map Key: PWS-355b

Name: K. RAMSEYDate: 4/7/90

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-403 SUBDIVISION A (1 of 2)

WORK WINDOW	
* Manual Pickup and Tarmat Removal Less Than 400m From Active Nest	CLOSED
* Manual Pickup and Tarmat Removal More Than 400m From Active Nest	OPEN
Bioremediation Less Than 400m From Active Nest	CLOSED
Bioremediation More Than 400m From Active Nest	OPEN

* EXXON SET ASIDE SITE SA-5 - DO NOT REMOVE STAKES FROM BACK OF INTERTIDAL ZONE.

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, tarmat removal, and bioremediation within 400m of active nest. No constraint to manual pickup, tarmat removal, and bioremediation more than 400m from active 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 400m horizontal, 300m vertical distance from active nests. Avoid any unnecessary disturbance or damage to unopened biota and substrate.

FOSC

[Signature]

Date

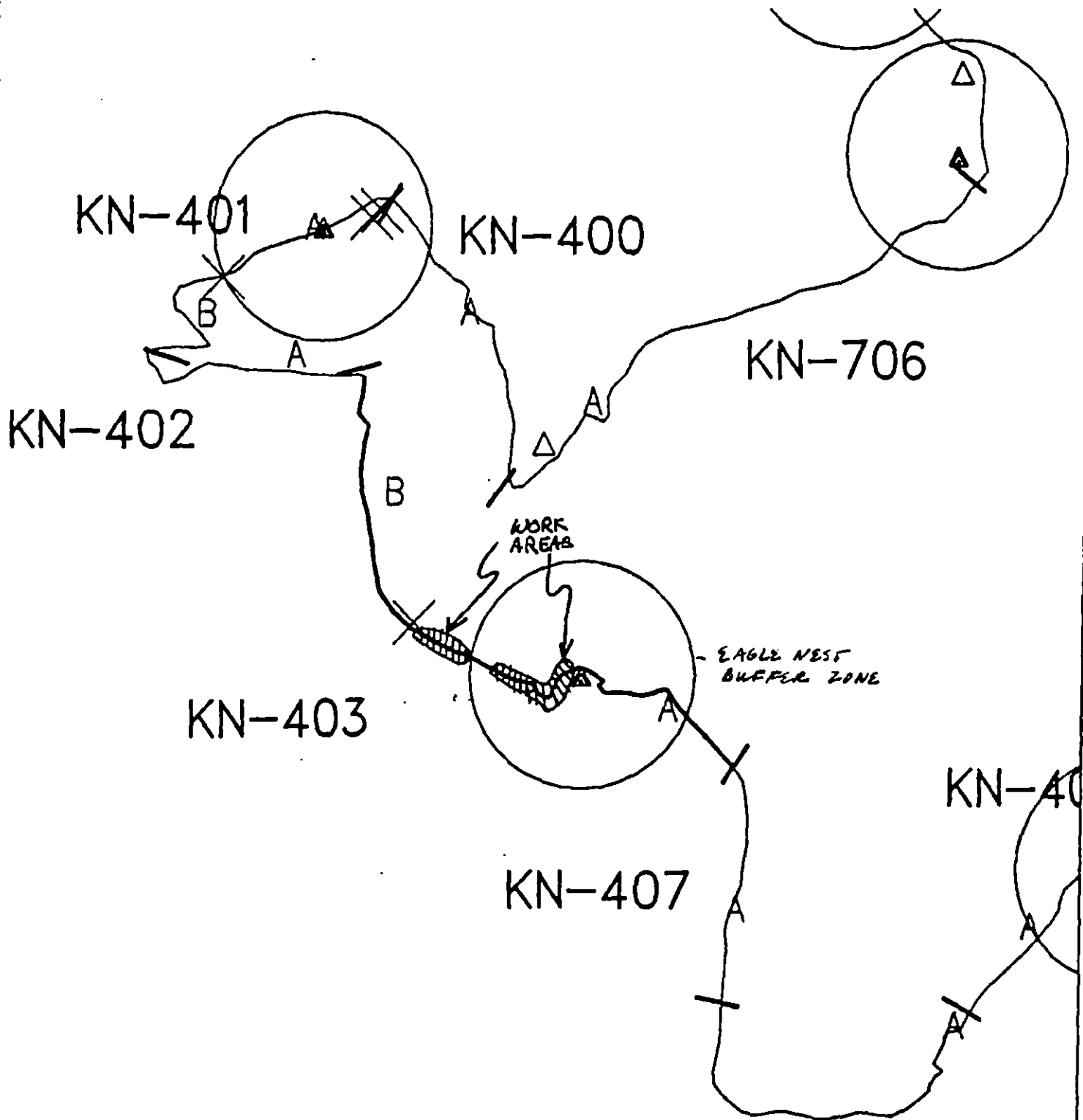
6/12/90

Prepared by

[Signature]

Date

6/12/90



Exxon Company, USA
Map Key: PMS-KN-403
June 05, 1990



ECOLOGY MAP
SEGMENT KN-403
SUBDIVISION A (1 of 2)
METERS



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



SHORELINE EVALUATION

SEGMENT ST/ KN-403 SUBDIVISION B (2 OF 2) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

6Y Recreation: Special use destination

9EE Set aside area

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

000000

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

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 43 m: No Oil 896 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: Recommend manual pick up of oiled absorbent boom with EPA approval. Otherwise no treatment. This is an EPA test site.

TAG COMMENTS: MINIMAL BAND OF COAT ON BEACH THEREFORE NO BIO

TAG APPROVAL DATE: 4/24/90

ADEC JOHN BAUER

EXXON Bruce T. ...

NOAA Joseph ...

USCG M. J. HALL

FOSC:

DATE: 5-3-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
 1B Salmon stream mouth - spawning (7/10 to 8/31)
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
- 1C Salmon fry nursery area (4/31 to 7/31)
 1D Esther Hatchery release (4/15 to 6/1)
 1E Main Bay Hatchery release (4/20 to 5/10)
 1F Sawmill Bay Hatchery release (4/15 to 6/1)
 1G Cannery Creek Hatchery release (4/21 to 6/1)
 1H Remote release site
 1I Gill net area (6/7 to 8/31)
 1J Purse seine area (7/20 to 9/30)
 1K Purse seine hook-off (7/20 to 9/30)
 1L Set net sites (6/11 to 7/25)
 For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
- 2M Herring spawning (4/1 to 6/15)
 Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
- 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

MENT ST / KN-403 SUBDIVISION: B DATE 4/7/90**USCG**NAME MAURICE J. S. HARRIS SIGNATURE [Signature]☐ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED**ADEC**NAME S. FERGUSON SIGNATURE [Signature]☐ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

NO COMMENT ON THIS AREA / DUE TO EPA ALREADY
CONDUCTING STUDIES / WHICH I DON'T FULLY COMPREHEND.
OILED DEBRIS PICKUP

LAND MANAGER

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

SHORELINE OILING SUMMARY

REVISION NO. 000000

OG K. Ramsey USCG R. Sharpe SEGMENT ST/ KN-403
 BIO: G. PENN LAND REP - SUBDIVISION B 232
 EXXON S. K&D ADEC S. FERTUSON TIME 10:10 AM 6:30 PM
 TEAM NO.: 4 TIDE LEVEL: 1' to 1' DATE 4/17/90
 EST. SUBDIVISION LENGTH: 460 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: SW to NE
 SURFACE SEDIMENTS: R 1 % B 2 % C 26 % P 26 % G 45 % S 0 % M 0 % V 0 %
 SLOPE: Long 99 % Hang 0 % Vert 1 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 5 m NO 9.55 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	R	B	P	S	ST	OR	OL	OF	NO	SU	U	ME	U
ASPHALT PAVEMENT													
POOLED													
COVER													
COAT	X					X				X			
STAIN	X					X				X			
MOUSSE													
PATTIES													
TARBALLS													
FILM													
NO OIL										X		X	X

PAYEMENT: 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	

DEBRIS COLLECTED
☒ YES ☐ NOTYPE High Pressure
hose + Pom Pom
#BAGS 1

Photographs:

Roll No. 0Frames 0

SUBSURFACE OIL NO DITS in EPA TEST SITE

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	UO	ST	OR	OL	OF	NO	SU	U	ME	U		
1	70					X	.	X							X				N	G
							.													
							.													
							.													
							.													
							.													
							.													

Just visually scanned the EPA TEST SITE AREA

as we walked by. There was an oiled sausage boom
 + oiled wobbling buried in snow in the SU. There was a
 continuous coat + stain line 2-3cm wide on the vertical bedrock
 at the end of the segment. Other wise, no oil was observed.
 TW 4/12/90

OG K. RAMSEY
 SEGMENT SN-403
 SUBDIVISION B
 DATE 4/7/90

SKETCH MAP

CHECKLIST

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

LEGEND

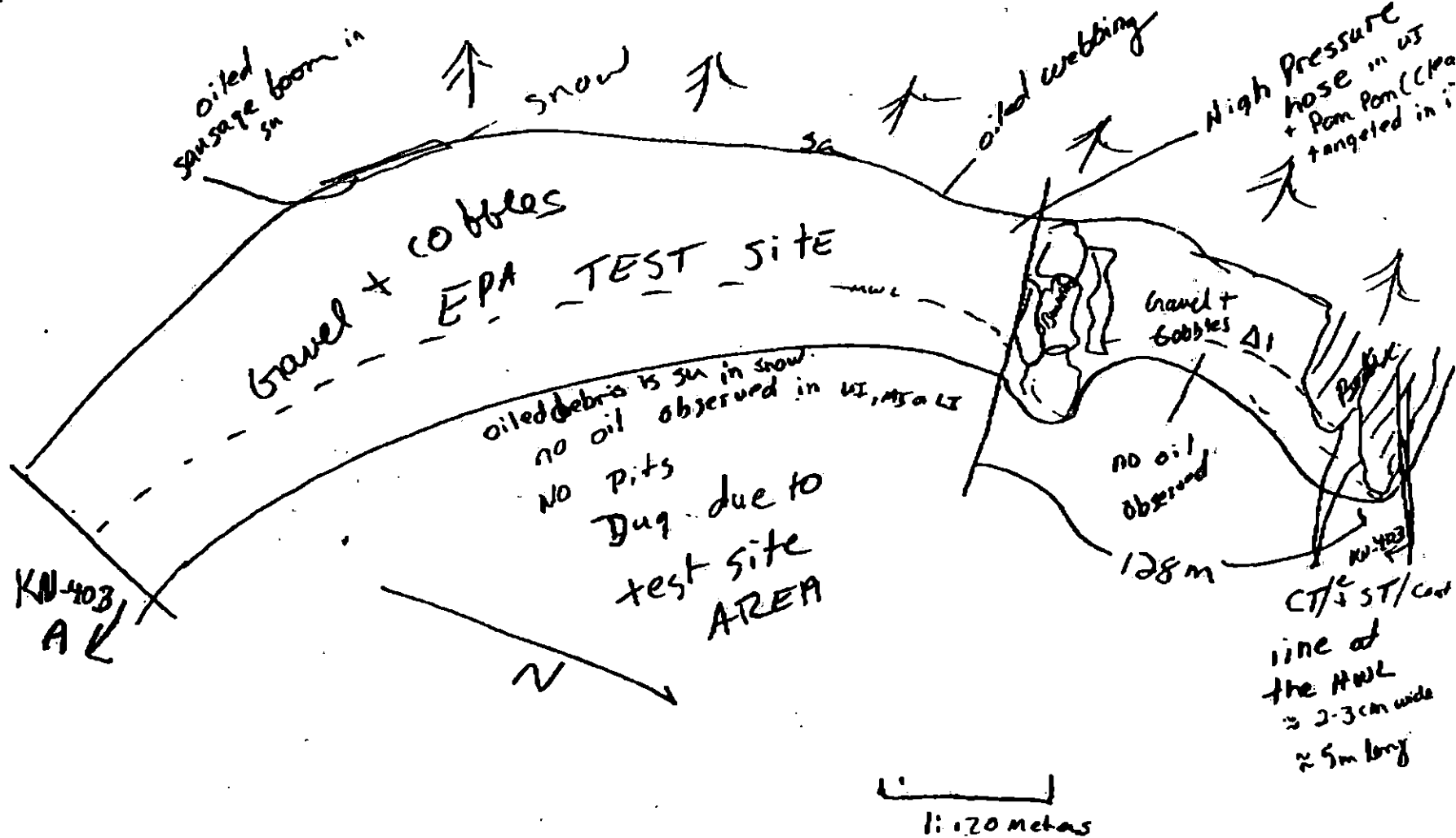
- 1 Δ
 PH - No Subsurface Oil
- 2 Δ
 PB - Subsurface Oil
- CT/C

 Continuous Distribution
- CT/B

 Broken Distribution
- CT/P

 Patchy Distribution
- CT/S

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



Oil Character Length (m): AP 2 PO 2 CV 2 CT 2 ST 2 MS 2 PT 2 TB 2 FL 2 NO 958

160
 22

REVISION: 000000

SHORELINE ECOLOGICAL SUMMARY

REVISION: 00/0000

Segment ST-1 KN-403 Subdivision 0 Date (mo/day/yr) 4/07/90
 no (24 hr) 1600 Biologist PENN

- (A) Substrate type and % of segments:
 (1) Bedrock 1 (2) Boulder 2 (3) Cobble — (4) Pebble 45 (5) Sand — (6) SM —
- (B) Overall % cover of biota (% of segment): Dense — Moderate — 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. —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

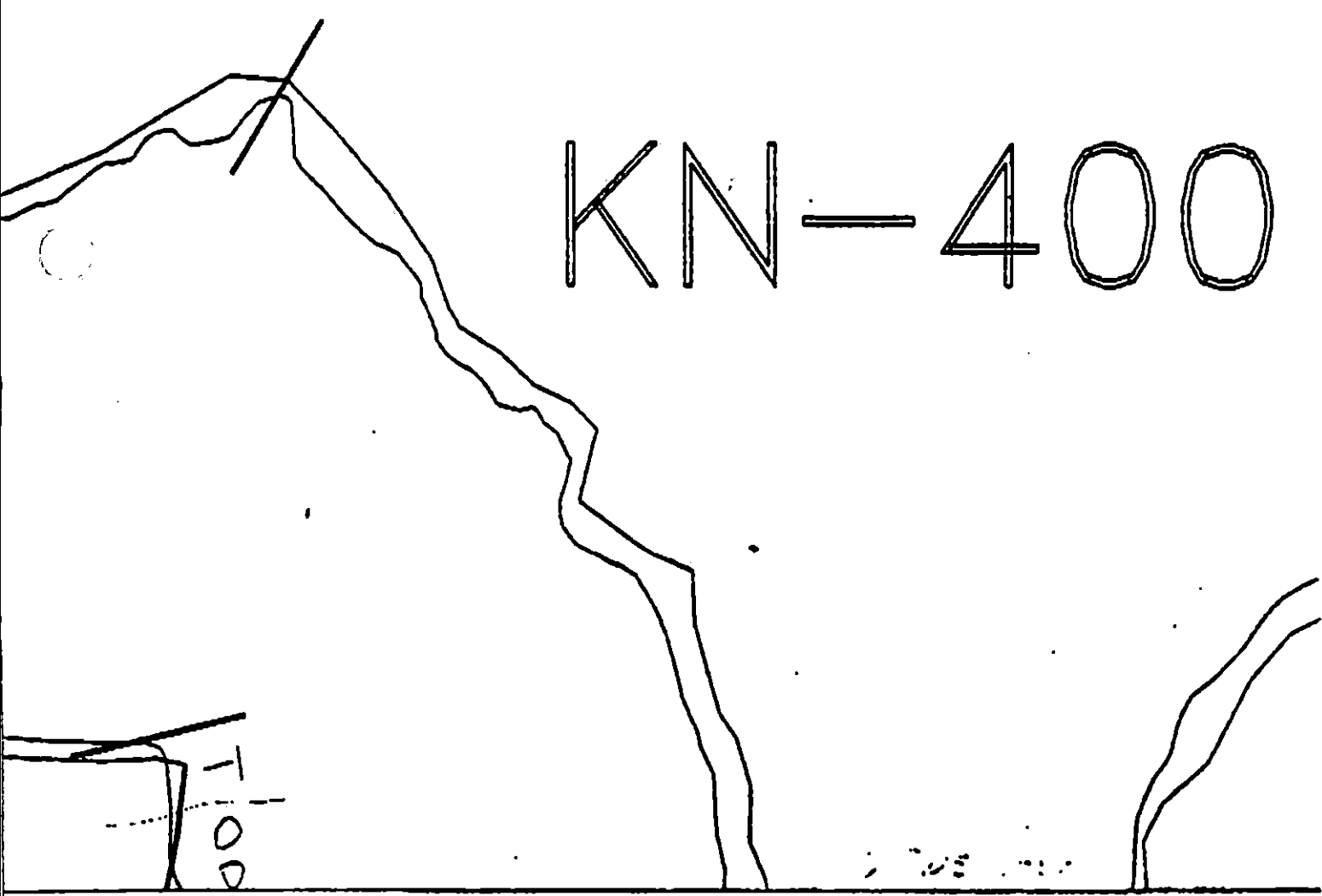
Wildlife Observations/ General Comments:

8 Golden eye

1 Dead River Otter - no vis. oiling

Ecological Considerations:

mostly LEPA Test Area



KN-400

XXXX Wide

// Medium

---- Narrow

TTTT Very Light

0000 No Oil

KN-403

ADEC Segment Length: 2434m

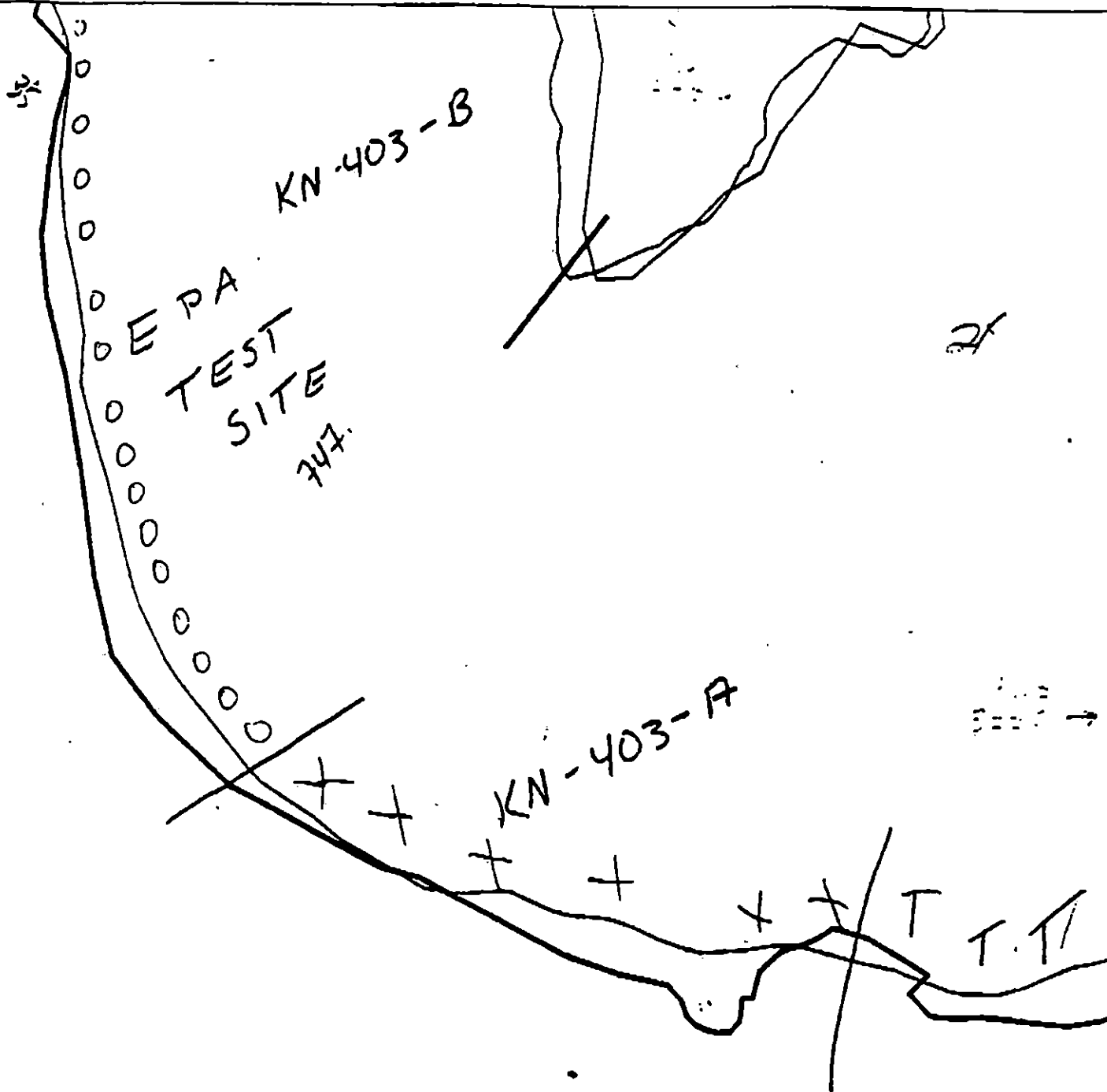
0 100 200 300
METERS

Map Key: PWS-355c

Name: K Ramsey

Date: 4/7/90

Data Entered:



XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-403

ADEC Segment Length: 2434m



Map Key: PWS-3550

Name: K. RAMSEY

Date: 4/7/90

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-403 SUBDIVISION B (2 of 2)

WORK WINDOW	
Manual Pickup	OPEN*

*Exxon Set Aside site SA-5 present. Do not clean between signs.

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

No ecological time constraints.

OTHER ECOLOGICAL CONSIDERATIONS

Avoid any unnecessary disturbance or damage to unrolled biota and substrate. Pick up boom only.

FOSC

Al. Zarofski

Date

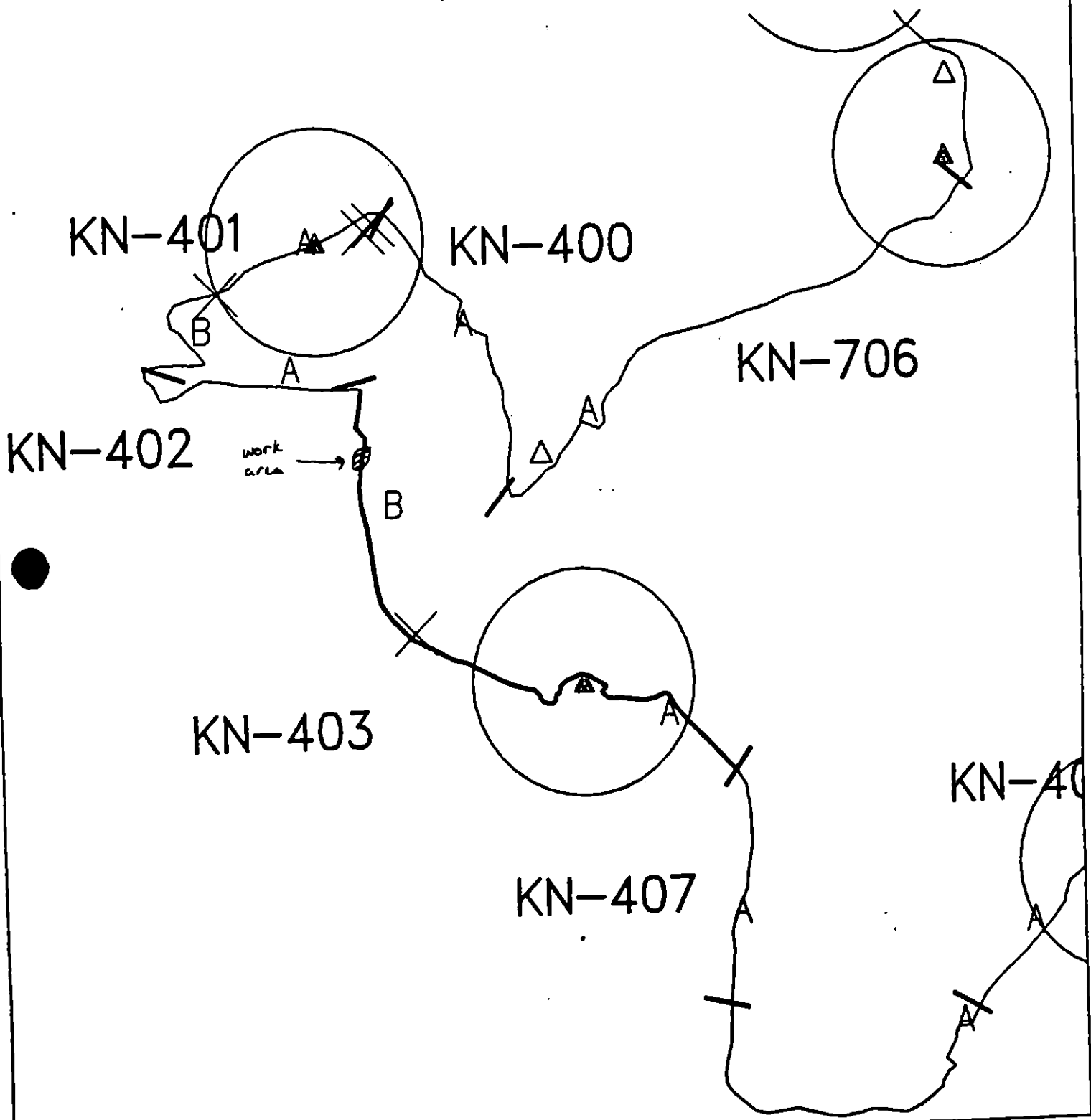
7/2/90

Prepared by

W. Kelley

Date

7/2/90



Exxon Company, USA
 Map Key: PMS-KN-403
 June 09, 1990



ECOLOGY MAP
 SEGMENT KN-403
 SUBDIVISION B (2 of 2)
 METERS
 0 500 1018

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

1 inch = 1667 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-404 SUBDIVISION A (1 OF 2) DATE 4/19/90

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:

DATE:

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 226 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 50+ cm

RECOMMENDATIONS:

No Treatment Recommended

X Treatment Recommended

X Manual Pickup

X Bioremediation

Tarmat Removal

Snare/Absorbent Booms

Oil Snares (pom poms)

 Absorbents (pads, rolls, etc)

Spot Washing: _____ Wands

Beach Cleaner

 Other (see comments)

COMMENTS: Recommended treatment includes 1) manual removal of mousse patches in area indicated on sketch map, and 2) bioremediation of area indicated on sketch map. Work should be conducted after 5/1.

TAG COMMENTS:

TAG APPROVAL DATE:

ADEC

EXXON

NOAA

USCG

FOSC:

DATE:

a cnc job will be present during cleanup

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 (5/1 to 9/15)
 6V Anchorages (5/1 to 9/15)
 6W Forest Service cabins (5/1 to 9/15)
 6X Lodge (5/1 to 9/15)
 6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
 7HH Finfish harvesting
 7H Deer harvesting (8/15 to 2/28)
 7JJ Invertebrate harvesting
 For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN 404 SUBDIVISION: A DATE 4/19/90

USCG

NAME

Robert Jensen

SIGNATURE

Robert Jensen

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Residual oil on some sediments observed in pits dug in this subdivision. This high energy beach area appears to be well weathered and sheering probably won't be a problem.

ADEC

NAME

Rowann T. Hudnall

SIGNATURE

Rowann T. Hudnall

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

- Surface oil is wide band of stain + tar coats on cobble/boulder beach from MITZ to berm. There are some tarry coats on the backsides of boulders.
- Subsurface oil; residual; light brown up in berm.
- Well aerated substrate; suggest bioremediation

LAND MANAGER

NAME

ALEX Kemptoff

SIGNATURE

Alex Kemptoff

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

~~THESE~~ PITS BETWEEN 6 up to 12 IS THE HEAVIEST OILED AREA THE SECTOR AFTER THAT IS VERY LIGHT. A

SHORELINE OILING SUMMARY

REVISION NO. 04-13

OG HARPER USCG JENSEN SEGMENT ST/ KY-404
 BIO DIXON LAND REP KMPKIDFF SUBDIVISION A (1 OF 2)
 EXXON ELLISON ADEC HYDNALL TIME 13 04 10 14 00
 TEAM NO. 2 TIDE LEVEL 4.1 to 2.8 DATE 4/19/90
 EST. SUBDIVISION LENGTH: ~200 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: S to N
 SURFACE SEDIMENTS: R 0 % B 50 % C 40 % P 10 % G 0 % S 0 % M 0 % 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 200 m NO 0 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	•	•	•	•	•	•	•	•	•	SW	W	M	U
ASPHALT PAVEMENT													
POOLED													
COVER													
COAT			✓		✓					✓	✓		
STAIN				✓						✓	✓	✓	✓
MOUSSE			✓		✓					✓			
PATTIES													
TARBALLS													
FILM													
NO OIL													

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

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☐ NO ☒TYPE 3#BAGS 0

Photographs:

Roll No. ST-2-201Frames 1-6

SUBSURFACE OIL (SEE G.I.S. MAP FOR DISTRIBUTION OF SUBSURFACE OILING 10X100m)

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	OR		US	US	•	•	•	•	•	SW	W	M	U				
1	15					X	•										X			N		B/G,S
2	20					X	•										X			N		P,C
3	20					X	•										X			N		C,B/P,C
4	90					X	•										X			N		C,B/P,G
5	20					X	•										X			N		C,B/S,G,B
6	30	X					0-7	X		X					X					N		P,G

COMMENTS This is a high energy beach which was formerly heavily oiled (ADEC Walcott) and which has now weathered to a very light (<10% cover) surface staining. STRAINING IS PRESENT IN SURFACE GRAV AND CRACKS OF COBBLE & BOULDERS. Subsurface oiling was found in the HW and storm zones - the oil is primarily a weathered mousse coating surfaces of pebbles and cobbles; the subsurface area is approximately 10m wide and 100m long.

REVIEWED 7WDATE 4/21/901/16

SHORELINE OILING SUMMARY (PAGE 2)

REVISION 06/13/90

SEGMENT ST/ KV-404 SUBDIVISION A (1 OF 2)

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR						PIT ZONE				A N A	SHEER (Y/N)	!	SURFACE SUBSURFACE SEDIMENT
		OP	OR	OL	OF	NO		US	UC	~~1~~	~~2~~	~~3~~	~~4~~	~~5~~	~~6~~	N	U	M	U				
7	45		X				0-45	X						X		X					N		P
8	50		X				20-50	X						X	X						N		C,P,G
9	15		X				0-7		X	X						X					N		P,C/S
10	50		X				30-50	X						X		X					N		P/Pong
11	30					X	.										X				N		PC/GC
12	30					X	.										X				N		C,P,B
13	20					X	.									X					N		P
							.																
							.																
							.																
							.																
							.																
							.																
							.																

COMMENTS

REVIEWED 7W DATE 4/21/90
2/16

00

HARPER

SEGMENT ST/ KN-404.

#1 SURFACE
0-15N.O. B E TCH MAP
N.O. G/S#2A PCH 0-20
C/S N.O.

SUBDIVISION A

DATE 4/19/90

CHECKLIST

☐ M Area
☐ Approx. Scale
☐ Seg/Sub Grid
☐ Oil Dist
☐ Width
☐ Length
☐ % Cover
☐ Substrate Character
☐ Est. HPA/LVL
☐ SCL
☐ Profile Location(s)
☐ Profile(s)
☐ Pin Location(s)
☐ Photo Location(s)

LEGEND

1 A
P1 - No Subsurface Oil2 A
P1 - Subsurface OilCT/C
Continuous DistributionCT/B
Broken DistributionCT/P
Patchy DistributionCT/S
Sporadic Distributionlll
Oiled Vegetation1
Photo location, direction,
and number

11/15 B, C
 0-40 DRIPS
 OR.

Oil Character Length (m): AP PO CV CT ST/S MS PT TB FL

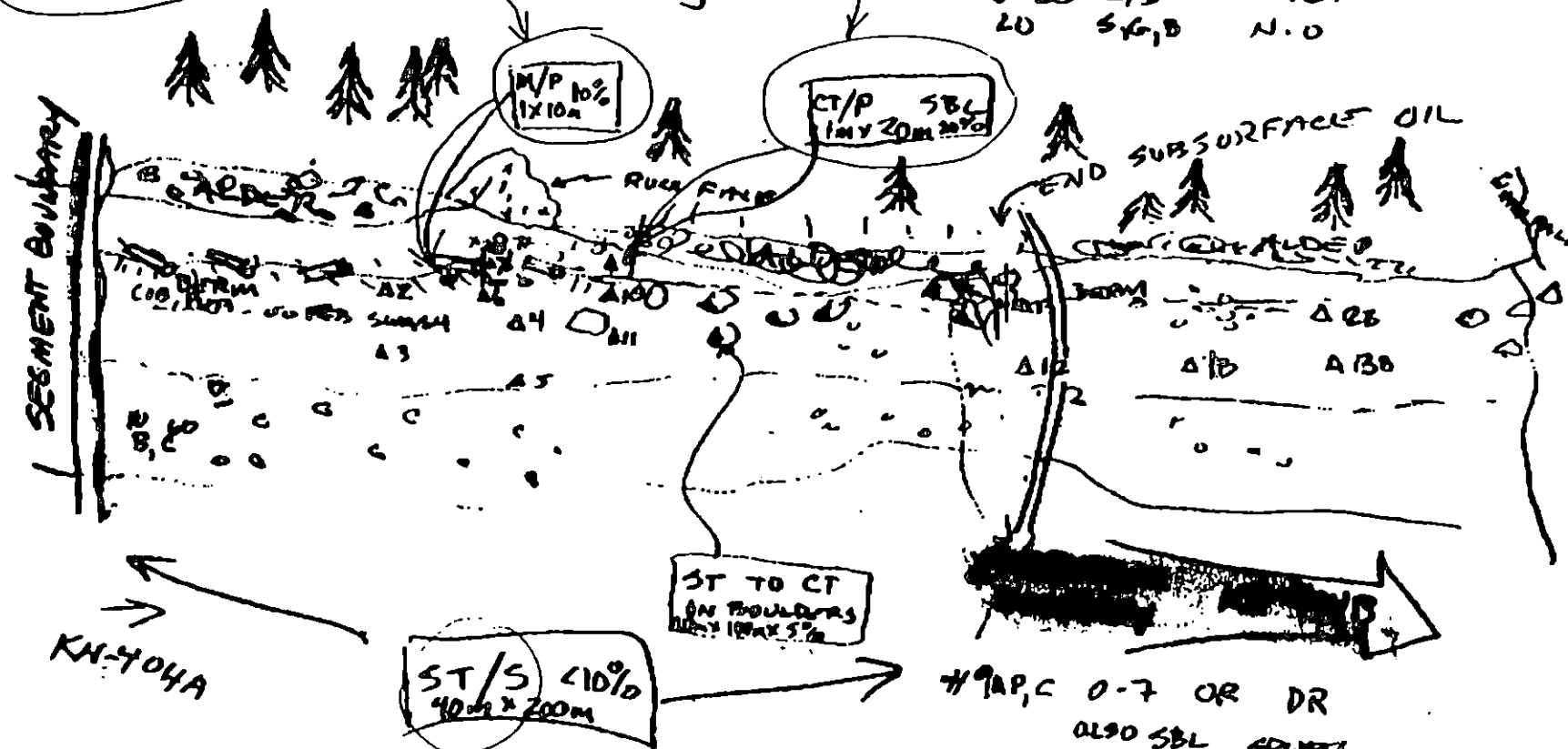
MANUALLY REMOVE
 MOUSSE PATCHES IN
 10m x 1m AREA

BIOREMEDIATE
 20m x 1m AREA
 NIGHT
 ISLAND

#3A C, B SURFACE <10% ST/S
 0-20 P, C N.O.

#4A C, B Surface
 0-20 N.O.
 20-40 N.O. P, C

1.5A C, B SURFACE
 0-20 C, B N.O.
 20 S/G, B N.O.



#12A C, P, B
 0-30 N.O.

#13A P
 0-20 N.O.

#10A P 0-30
 30-50+ DR LBR W ORGANICS
 NO

#11A P, C N.O. 0-20
 G, C N.O. 20-30

A2B P 0-40 N.O.

A2B P, C 0-30 N.O.

RECEIVED

ATCH MAP

DATE 4.19 80

KN-404A

Width _____
Length _____
% Cr _____
Substrate _____
Est. HMR/LWR _____
PS _____
Fiber (Laminated) _____
Fiber (Laminated) _____
PS (Laminated) _____
Fiber (Laminated) _____

Fig. 16. Submarine 02

17

Pending Distribution

CTA

eee

1 00

Photo number, direction,
and number

PROFILE OF TRENCH
→ AT PIT LOCATIONS
#6, #7, #8

MHWL

- MWL

PIT#7

45+cm
OR
NEUTRAL
MOVES

87 #6

30cm ..
OR, OP 0-7cm } P, G
7-30 N.O. }

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

100

SHORELINE ECOLOGICAL SUMMARY

REVISION: 08/28/90

Segment ST / KH-404 Subdivision A Date (mo / day / yr) 09/19/90

Time (24 hr) 1304-1400 Biologist John Dixon

- (1) Substrate type and % of segments:
 (1) Bedrock 0 (2) Boulder 50 (3) Cobble 40 (4) Pebble 10 (5) Sand 0 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense 0 Moderate 20 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-2-201

Frames 1-6

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	
3	3	3	3	3	3	3	3	3			3	
4	4	4	4	4	4	4	4	4			4	
5	5	5	5	5	5	5	5	5			5	
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	
3	3	3	3	3	3	3	3	3			3	
4	4	4	4	4	4	4	4	4			4	
5	5	5	5	5	5	5	5	5			5	
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	
3	3	3	3	3	3	3		3		3	3	
4	4	4	4	4	4	4		4		4	4	
5	5	5	5	5	5	5		5		5	5	
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	
3	3	3	3	3	3	3	3	3	3		3	
4	4	4	4	4	4	4	4	4	4		4	
5	5	5	5	5	5	5	5	5	5		5	
6	6	6	6	6	6	6	6	6	6		6	

Wildlife Observations/ General Comments: Waterline during survey: + 2.8' - + 4.1'
1 bald eagle overhead.

Ecological Considerations: listed sensitive: GU, TEE.

Depauperate boulder/cobble beach. Large stable
Talus boulders uncommon and also with
very low cover of biota

10/16

Thursday 04/19/90 1304-1400 +2.8 - +4.1 ft

KN-404 "A"

This 200-m long subdivision is a beach composed of angular boulders and cobbles that are extremely scoured and depauperate. The boulders increase in size toward the north end where there are scattered large talus boulders.

Macro algae and mussels were extremely rare throughout the subdivision. From about +3 to +7 feet there was a thin and discontinuous band of green filamentous algae. The overall impression one received when looking down the beach was of bare, sterile rock. Barnacles were rare. *Balanus glandula* could be found here and there in cracks and crevices. One mm and 2-3 mm individuals were present in the same micro habitats. The only gastropods observed were limpets and littorines. Limpets were rare, small, and eroded - probably *A. persona*. *Littorina sitkana* were rare to sparse and generally small. No egg masses were observed. However, 1 mm and 2-3 mm *L. sitkana* were common in cracks and crevices.

Under boulders and cobbles there were rare amphipods, *Spirorbis*, nemertean (a blue & a black type), bryozoans, flatworms, and, in the upper intertidal, oligochaetes.

11/16

DATE 4/19/90 TIME 1304 - 1400 TIDE HEIGHT +4.2 - +2.8

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

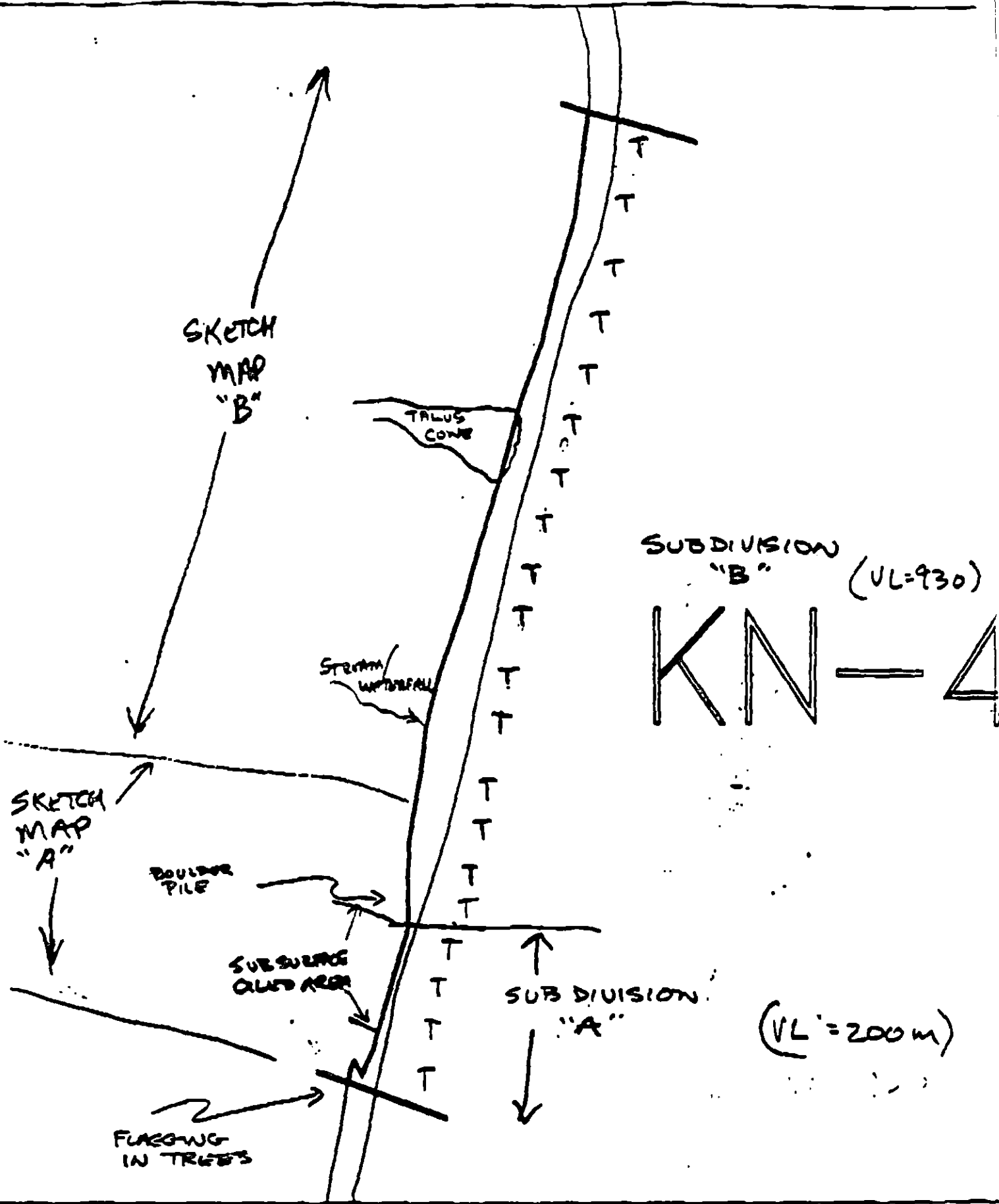
FLORA:

SPECIES	UTZ	MITZ	LITZ	COMMENTS
BOSSIELLA/CORALLINA				
CALLIARTHRON/CORALLINA				
CLADOPHORA SPP				
COSTARIA SPP				
ENDOCLADIA MURICATA				
FILAMENTOUS GREENS	2,3	2,3		
FILAMENTOUS REDS				
GLOIOPELTIS FURCATA				
HALOSACCION GLANDIFORME				
LAMINARIA SPP				
LITHOTHAMNION				
NEREOCYSTIS SPP				
PORPHYRA SPP				
RALPHSIA/HILDENBRANDIA				
RHODOMELA LARIX				
RHODOMENIA PALMATA				
SCYTOSIPHON SPP				
ULVA SPP				
ZOSTERA MARINA				
ENTOMORPHA				
<i>Fucus</i>		2		

FAUNA:

ANTHOPELURA SPP				
(SENT) BALUNUS CARIOSUS				
B. GLANDULA	2,3	2,3		
BRYOZOANS	2,3	2,3		
CHITONS (other than E. TUNICATA)				
CLAMS				
CRABS				
DERMASTERIAS IMBRICATA				
KATHARINA TUNICATA				
LEPTASTERIAS HEXACTES				
LIMPETS	2,3	2,3		
LITTORINA SPP	2,3	2,3		
NUCELLA SPP				
PAGURUS SPP				
PISASTER OCHRACEUS				
POLYCHASTES				
PYGNOPODIA HELIANTHOIDES				
SEARLESIA DIRA				
SERPULIDS				
SIPHONARIA THERSITES				
TEALIA				
<i>Fucus</i>	2,3	2,3		

12/116



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

ST-KN-404A

ADEC Segment Length: 1187m

0 100 200 300

Map Key: PWS-356

Name: HARPER

Date: 19 APR 90

Date entered: 5/11

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-404 SUBDIVISION A (1 of 2)

WORK WINDOW	
Manual Pickup	OPEN
Bioremediation	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

No ecological time constraints.

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC

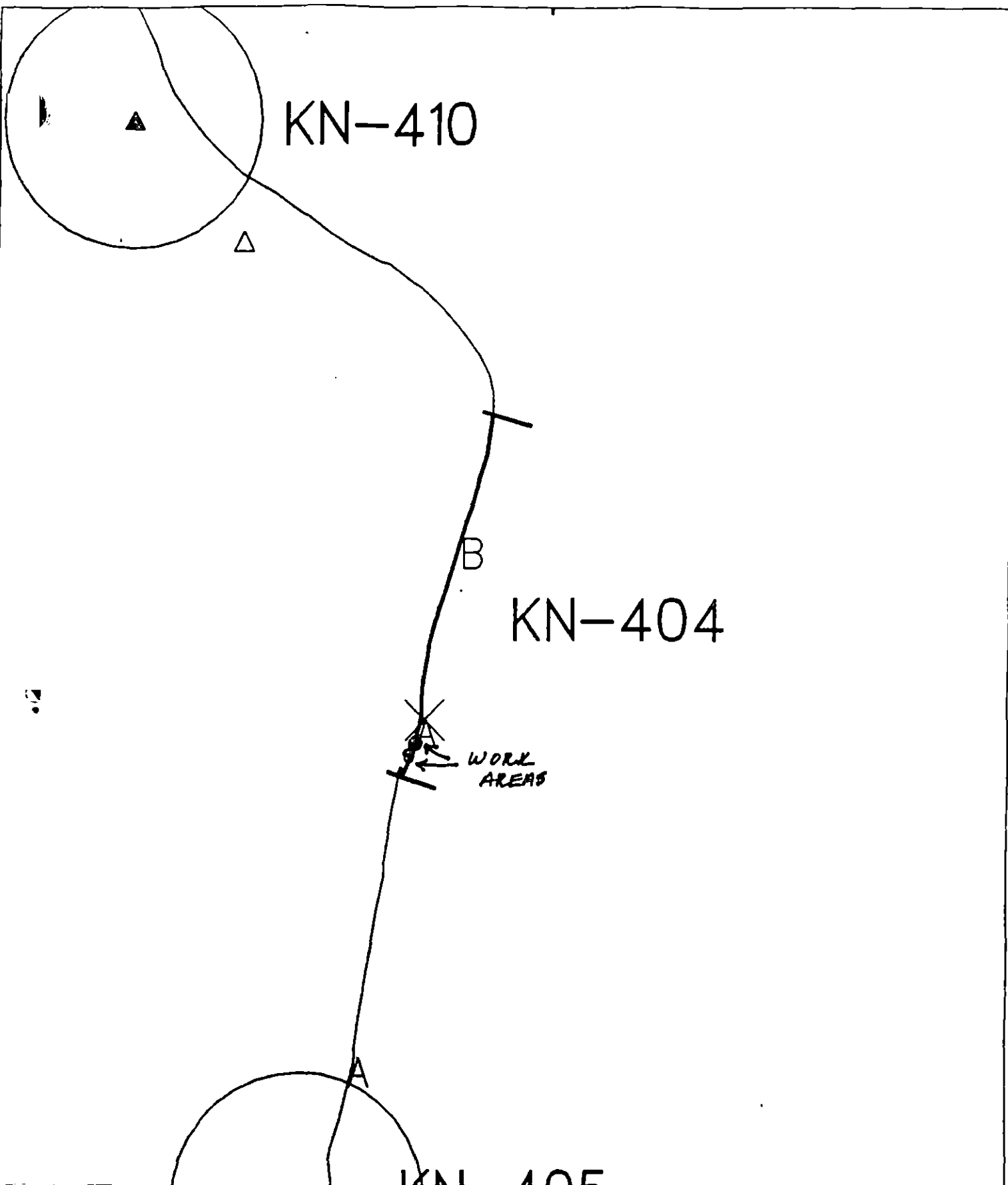
Date

6-25-90

Prepared by

Date

6/25/90



EXXON
 Exxon Company, USA
 Map Key: PMS-KN-404
 June 09, 1990



ECOLOGY MAP
 SEGMENT KN-404
 SUBDIVISION A (1 of 2)
 METERS
 0 411 821

★	Seabird Colony
△ (with dot)	Active Eagle Nest
△ (empty)	Inactive Eagle Nest
- 1 inch = 1347 feet

ASAP FOLLOWUP RECOMMENDATIONS

3-1-

Item: ASV KN-404 Subd.: A Site: _____ Date: 8-8-90 1990

Conditions Observed: Subsurface oil located in the form of
lenses at the base of a large slide area approx. 100-150m
from South end of segment.

Followup Recommendations: Mechanically relocate oiled sediments
in storm berm, VITZ, and VITZ access beach face and
permeable.

Completed by Pickup Crew: ☐ YES ☒ NO

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

ABC

Bob M. Ceraay
(name)

Robert B. M.C.
(signature)

Comments: Agree with above recommendations which should
occur in 1990.

Exxon

John Dean
(name)

[Signature]
(signature)

Comments: I Agree w/ Needs. My Recommendation is to Request
A Class III TPE Evaluation in Construction w/ KN-405

USCG

Don Davis
(name)

[Signature]
(signature)

Comments: Agree w/ above comments.

Land Rep.

Alvin CUC
(name)

Steve WARD
(signature)

Comments: Agree with Recommendations as long as Sub Surface oil
is not Cosmetic Surface Cleaning Area the priority.

SEGMENT AS KN. 404 SUBDIVISION: A SITE: 1 DATE 8 AUG - 90

CG

NAME David S. NOAA SIGNATURE David S. NOAASan David, Com, USCG☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Subsurface oiling extent is unknown, but this segment may have a buried lens similar to, & possibly extending from, KN-405 to the south. Would recommend further delineation of subsurface oil, 1990 treatment and 1991 reassessment.

ADEC

NAME Bob McCready SIGNATURE Robert B. McCready☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

At base of large slide area ~100m north of south segment boundary is an area where OP and OR subsurface oil was located. However, ASAP was not able to determine complete extent of a lens of oil ~17-25m. However, area was recommended for further work by ASAP/Summary crew. Mechanical relocation of the stern beam is necessary. However, prior work area needs to be assessed in order to determine extent of the lens of oil.

LAND MANAGER

NAME Steve Woods CVC SIGNATURE Steve Woods☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Agree with ADEC - Great Comments! Extensive Surface and Sub Surface oil - High Priority Chenega Use

EXXON

NAME John Dean SIGNATURE John Dean☒ YES☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Extent of Oiling Justifies Reassessment - Also Follow Recommendation Submitted

SPACE OIL	SITE 1	SITE 2	SITE 3

CHARACTER	DISTRIBUTION				OILED ZONES			
	/C	/B	/P	/S	SU	UI	MI	LI
ASPHALT								
S.O.R.								
POOLED								
COVER								
COAT								
STAIN				F		X		
MOUSSE								
PATTIES/T.B.								
FILM								
NO OIL					X	X	X	
EST. SITE LENGTH					70			

SUBSURFACE OIL

[illegible]

Photographs.

Roll No 6

Frames 6

COMMENTS

COMMENTS

SURFACE OILING RESTRICTED TO VERY SPORADIC (DRIPS/SPLASHES) OF STAIN, BUT THE SUBSURFACE EXHIBITED OIL AS OR/OF IN PEBBLES/COBBLES/BOULGERS IN THE UPPER INTERTIDAL ZONE - OCCURRENCE IN THE VICINITY OF A ROCK OUTCROP/ROCK FALL

REVISION NO. 1/27/78

SEGMENT STI KN-404

SKETCH MAP

SUBDIVISION A

DATE 4/19/90

CHECKLIST

- ☐ N Area
- ☐ Approx. Scale
- ☐ Seg/Sub Study
- ☐ Ch Dist
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ C or HILL/VAL
- ☐ PBL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ PL Location(s)
- ☐ Photo Location(s)

MANI
MOUS;
10m

8/8/90
20 KLM

ST/E

LEGEND

1 Δ
PL - No Substrate Ch

2 Δ
PL - Substrate Ch

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/P
Patchy Distribution

CT/S
Sporadic Distribution

eee
Clad Vegetation

Photo location, sketch
and number

8/8/90
ST 20
NU 50
US 156

PIT 3
PIT 2
PIT 1

8/8/90

~100m

B, C
10-118 143
OR

On Character Length PO CV CT ST/S MS PL TO FL NO

ASAP FOLLOWUP RECOMMENDATIONS

Segment: AS/ KN-404 Subd.: A Site: _____ Date: 8-8-90 1990

Conditions Observed: Subsurface oil located in the form of lenses at the base of a large slide area approx 100-150' from South end of segment.

Followup Recommendations: Mechanically relocate oil/sediment in storm basin, VITZ, and MITZ access beach face and immediate.

Completed by Pickup Crew: ☐ YES ☒ NO

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

ADEC Bob McCreary (name)

Robert B. McCreary (signature)

Comments: Agree with above recommendations which should occur in 1990.

Exxon John Dean (name)

[Signature] (signature)

Comments: I Agree w/ Needs. My Recommendation is to Request A Class III The Evaluation in Construction of KN-405

USCG Don Davis (name)

[Signature] (signature)

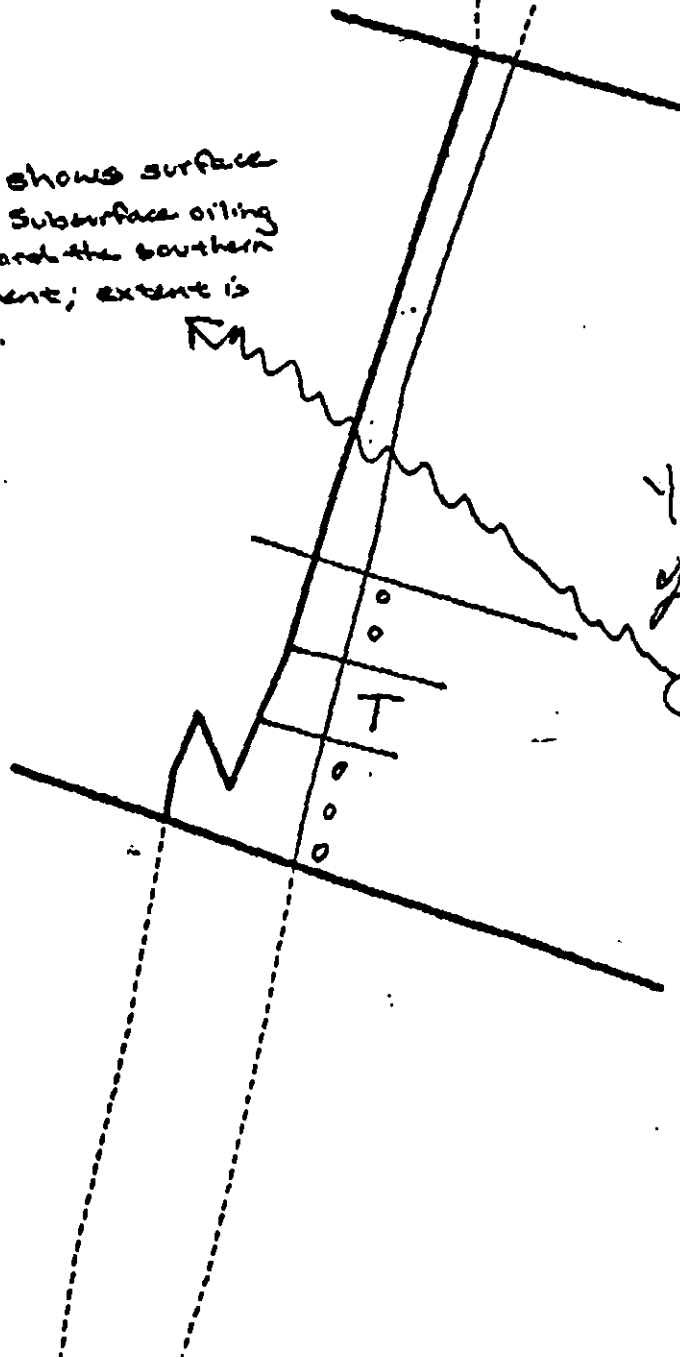
Comments: Agree w/ above comments.

Land Rep. Al Lul CUC (name)

Steve LARIN (signature)

Comments: Agree with Recommendations as long as Sub Surface oil is not Cosmetic Surface Cleaning and the Priority

Note: Map shows surface oiling only. Subsurface oiling is heavy toward the southern end of segment; extent is not known.



XX Wide
 -- Medium
 TT Narrow
 00 Very Light
 00 No Oil

KN-404 A
 ADEC Subsegment Length: 226m
 METERS

0 47 84
 AR State Plane Zone 4 1:1000



Subdivision Field Map
 Map Key: KNIKW-404A
 Name: NAKASHIMA
 Date: 8/8/90

GENERAL DATA

SEG ID: KN404 SBOV: A SITE: 1 TEAM: 3 DATE: 8/8/90
SITE LGTH 70 OIL CATEGORIES: W — M — N — VL 20 NO 50 U 156
1991 REASSESSMENT: USCG: Y ADEC: Y LDMGR: Y EXXON: Y

SURFACE DATA

CHAR #: 1 OIL CHAR: ST OIL DIST: CONT — BRKN — PTCH — SPLH 20
TIDAL ZONE: SU — UI X MI — LI —

CHAR #: 2 OIL CHAR: NO OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU X UI — MI X LI X

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

SUBSURFACE DATA

PAGE 2 OF 2SEGMENT ID: KN404 SUBDIV: A SITE: 1PIT # 1 PIT DEPTH 25 OIL CHARACTER OR OIL INTVAL: FROM 17 TO 25
CLEAN BELOW: N PIT ZONE: SU — UI X MI — LI —SUBSURF SEDIMENT: BRK — BLD X COB X PEB X GRN — SAN — MUD — VEG —PIT # 2 PIT DEPTH 15 OIL CHARACTER NO OIL INTVAL: FROM — TO —CLEAN BELOW: — PIT ZONE: SU — UI X MI — LI —SUBSURF SEDIMENT: BRK — BLD X COB X PEB X GRN — SAN — MUD — VEG —PIT # 3 PIT DEPTH 20 OIL CHARACTER OF OIL INTVAL: FROM 0 TO 10CLEAN BELOW: Y PIT ZONE: SU — UI X MI — LI —SUBSURF SEDIMENT: BRK — BLD X COB X PEB X GRN — SAN — MUD — VEG —PIT # — PIT DEPTH — OIL CHARACTER — OIL INTVAL: FROM — TO —CLEAN BELOW: — PIT ZONE: SU — UI — MI — LI —SUBSURF SEDIMENT: BRK — BLD — COB — PEB — GRN — SAN — MUD — VEG —PIT # — PIT DEPTH — OIL CHARACTER — OIL INTVAL: FROM — TO —CLEAN BELOW: — PIT ZONE: SU — UI — MI — LI —SUBSURF SEDIMENT: BRK — BLD — COB — PEB — GRN — SAN — MUD — VEG —PIT # — PIT DEPTH — OIL CHARACTER — OIL INTVAL: FROM — TO —CLEAN BELOW: — PIT ZONE: SU — UI — MI — LI —SUBSURF SEDIMENT: BRK — BLD — COB — PEB — GRN — SAN — MUD — VEG —PIT # — PIT DEPTH — OIL CHARACTER — OIL INTVAL: FROM — TO —CLEAN BELOW: — PIT ZONE: SU — UI — MI — LI —SUBSURF SEDIMENT: BRK — BLD — COB — PEB — GRN — SAN — MUD — VEG —PIT # — PIT DEPTH — OIL CHARACTER — OIL INTVAL: FROM — TO —CLEAN BELOW: — PIT ZONE: SU — UI — MI — LI —SUBSURF SEDIMENT: BRK — BLD — COB — PEB — GRN — SAN — MUD — VEG —PIT # — PIT DEPTH — OIL CHARACTER — OIL INTVAL: FROM — TO —CLEAN BELOW: — PIT ZONE: SU — UI — MI — LI —SUBSURF SEDIMENT: BRK — BLD — COB — PEB — GRN — SAN — MUD — VEG —

ASAP TAG REVIEW SHEET

Segment: KN404

Subd: A

Site: L

Date
PRE-Review 11 AUG 90

Priority For Addressing In 1990

 HIGH

 MEDIUM

 LOW

X NTR

Treatment
Recommended:

NTR - Reassess Next Yr

Recommendation Page Caus
For Storm BERM Relocation.
.... indicates subsurface oiling.

Priority Site For Reassessment In 1991

YES ✓ NO
✓ CG

YES ✓ NO
✓ ADEC

YES ✓ NO
✓ EXXON

YES ✓ NO
✓ LAND MGR

13 AUG 90 TAG
Mech. Relocation of Oiled Sediments
Medium ~~Low~~ Priority

SHORELINE EVALUATION

SEGMENT ST/ KN-404 SUBDIVISION B (2 OF 2) DATE 4/19/90

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

OILING CATEGORIZATION:

Wide_0_m: Medium_0_m: Narrow_0_m: V.Light_960_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 Removal	☐ Beach Cleaner
	☐ Other (see comments)

COMMENTS: _____

TAG COMMENTS: _____

TAG APPROVAL DATE: 7/28/00
 ADEC Art Weimer Art Weimer
 EXXON Amy Tate Amy Tate
 NOAA Gary Petron Gary Petron
 USCG Kenneth Keane Kenneth Keane

FOSC: DATE: 5-9-90

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ KN 404 SUBDIVISION: B DATE 4/19/80

CG NAME Robert Jansen SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS High energy beach < 5% stains on
boulders & cobbles

ADEC

NAME Roxann T. Hudnall SIGNATURE Roxann T. Hudnall

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS Very light oiling / (stains) on boulder & cobble.
Subsurface oil is trace drips in storm berm

LAND MANAGER

NAME ALEX Korpkeff SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

SHORELINE OILING SUMMARY

REVISION NO. 04/13/90

OG HARRIS USCG VIEWSEAN SEGMENT ST/ KN-404
 BIO DIXON LAND REP KOMPROFF (EUC) SUBDIVISION B (2 OF 2)
 EXXON ELISON ADEC HUDNALL TIME 14:00 to 15:50
 TEAM NO. 2 TIDE LEVEL 2.8 TO 2.1 DATE 4/19/90
 EST. SUBDIVISION LENGTH: 930 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☐ Foot ☐ Boat ☐ Helo WORKING DIRECTION: S to N
 SURFACE SEDIMENTS: R 0 % B 10 % C 50 % P 10 % G 0 % S 0 % M 0 % 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 930 m NO 0 m

SURFACE OIL

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

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

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☐ NO ☒TYPE 0#BAGS 0

Photographs:

Roll No. NONEFrames

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR				PIT ZONE				A N A	GREEN SHEEN (Y/N)	↓	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		SO	UC	1	2	3	4	SU	U	M	N				
1.	40				X		0-40	X					X		X				N		B, C (DRIVE)
2	40				X		-							X					N		P
3	30				X		-								X				N		P, C
4	20				X		-									X			N		C, P
5	30			X			20-30	X					X		X				N		G, P, C (TRACE)
6	40			X			30-40	X					X	X					N		P (TRACE)

COMMENTS This beach has high wave exposure and was formerly categorized as "heavily oiled" (ADEC File 89). The oil has weathered to residual stain of <5% on boulders and cobbles.

Some very small amounts of residual subsurface oil were noted in the pebble berm; in 3 OF THE 10 pits this consisted of a few drops (<5% cover) on a few subsurface cobbles.

REVIEWED 7WDATE 4/21/901/16

SHORELINE OILING SUMMARY (PAGE 2)
 SEGMENT ST/ 404 SUBDIVISION B (2 OF 2)

REVISION 06/15/88

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		SO	SS	~~1~~	~~2~~	~~3~~	~~4~~	~~5~~	SW	U	M	U				
7	35					X	.								X					N		P.
8	20					X	.								X					N		P.C
9	20					X	.										X			N		C, B
10	30					X	.								X					N		C, P
							.															
							.															
							.															
							.															
							.															
							.															
							.															
							.															
							.															
							.															
							.															
							.															

COMMENTS

REVIEWED 7a DATE 4/21/90
 2/16

SEGMENT S

N-404.

#1

SURFACE

N.O. B

SKETCH MAP

0-15

N.O. G/S

#2A P/C 0-20

C/S

N.O.

#3A C, B SURFACE <10% ST/S

0-20 P, C

N.O.

#4A C, B Surface

0-20

N.O.

20-40

N.O. P, C

15A C, B SURFACE

0-20 C, B

N.O.

20 S, G, B

N.O.

SUBDIVISION

B

DATE 4, 1990

CHECKLIST

- ☐ N Area
- ☐ Approx. Scale
- ☐ Segment Entry
- ☐ Oil Out
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HMA/LVA
- ☐ SCL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ P/L Location(s)
- ☐ Photo Location(s)

LEGEND

1 A

P/L - No Subsurface Oil

2 A

P/L - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Spatched Distribution

O O O

Clad Vegetation

1 00

P/L Location, direction, and number

#1 B, C
0-40 OR 15
OR.

#3A P

0-20 N.O.

#11A P, C

N.O.

0-20

G, C

N.O.

20-30

#2B P 0-40 N.O.

#3B P, C 0-30 N.O.

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

KNIGHT ISLAND

SEGMENT BOUNDARY

RIVER FILL

CT/S SBL

END SUBSURFACE OIL

CONTINUED ON NEXT MAP

SUB-DIVISION BOUNDARY KN-404B

#9A P, C 0-7 OR DR
ALSO SBL SCLATS
7-15 P, S N.O.

#10A P 0-20
30-50 OR LBA
NO

J ORGANICS

→ Z

SEGMENT ST/ KN-404
 SUBDIVISION B (2 of 2)
 DATE 4/19/90

CHECKLIST

- ☒ Area
- ☒ Approx. Scale
- ☒ Seg/Sub Entry
- ☐ Off Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HW/LA/WL
- ☐ Soil
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pit Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ
 P1 - No Subsurface Cl

2 Δ
 P1 - Subsurface Cl

CT/C
 Continuous Distribution

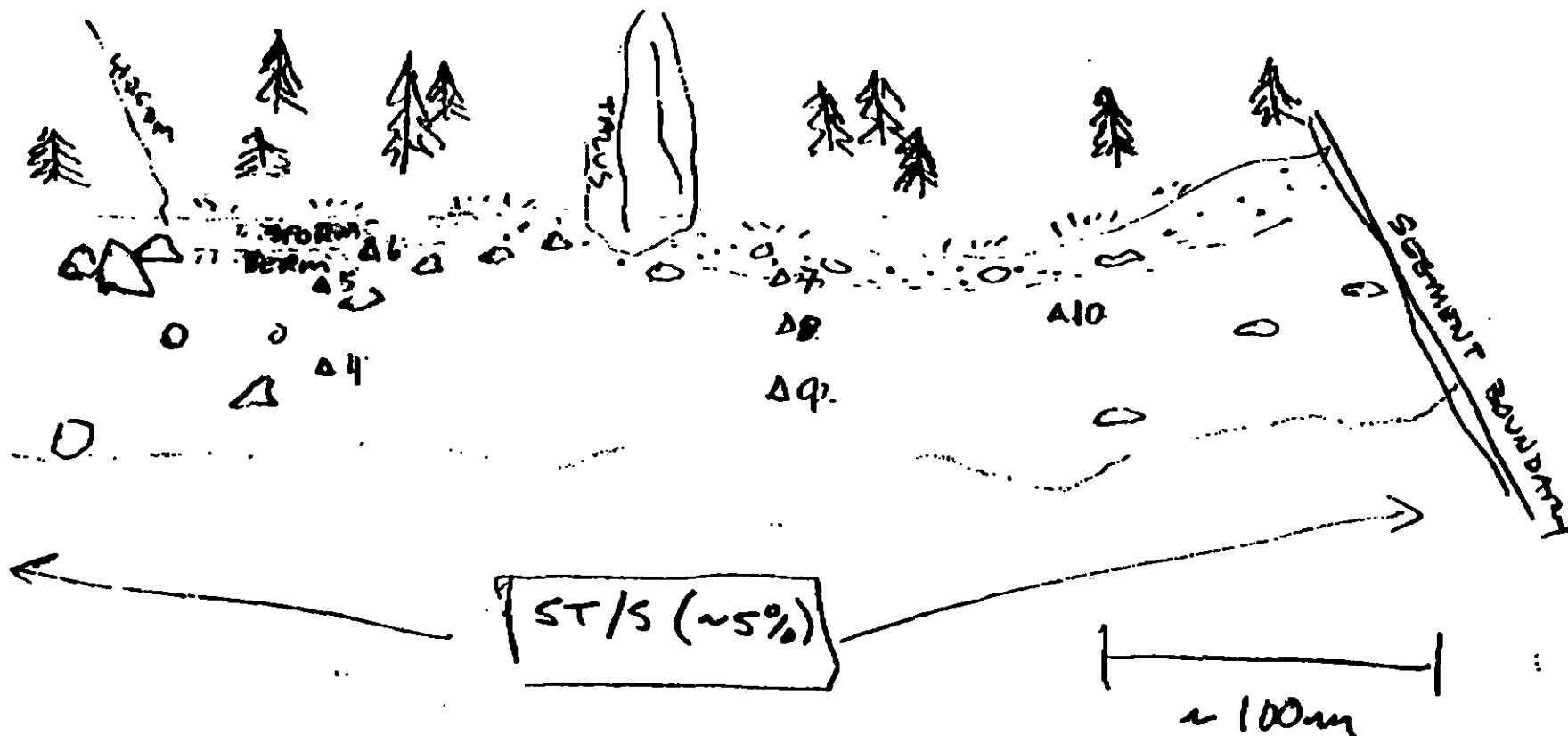
CT/B
 Broken Distribution

CT/P
 Patchy Distribution

CT/S
 Splashed Distribution

lll
 Old Vegetation

1 00
 Photo location, direction,
 and number



Δ4: C, P 20 N.O.
 Δ5: G, P 0-20 N.O.
 20-30 OR (TRACE)
 Δ6: P 0-30 N.O.
 30-40 OR (TRACE) DBR

Δ7: P 0-35 N.O. VITZ
 Δ8: P, C 20 N.O. VITZ
 Δ9: C, P 20 N.O. MITZ
 Δ10: C, P 30 N.O. VITZ

→ Z

SHORELINE ECOLOGICAL SUMMARY

REVISION: 10/2/80

Segment ST KN-404 Subdivision "B" Date (mo / day / yr) 09/19/90

Time (24 hr) 1400-1550 Biologist John Dixon

(A) Substrate type and % of segments:
(1) Bedrock 2 (2) Boulder 40 (3) Cobble 50 (4) Pebble 10 (5) Sand 0 (6) Silt 0

(B) Overall % cover of biota (% of segment): Dense 2 Moderate 23 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. None

Frames

BARNACLES

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

MYTILUS

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

GASTROPODS

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

FUCUS

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

Wildlife Observations/ General Comments: Waterline during survey +2.1' - +2.8'

Ecological Considerations: limited sensitivities: GU, 9EE This high energy beach of boulders & cobbles is extremely depauperate, except for the large talus blocks in the northernmost 100m which support sparse to moderate populations of barnacles, Fucus & mussels.

in/16

DATE 04/19/90 TIME 1400 - 1550 TIDE HEIGHT +2.1 - +2.8'

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

SPECIES	UITZ	MITZ	LITZ	COMMENTS
FLORA: BOSSIELLA/CORALLINA				
CALLIARTHRON/CORALLINA				
CLADOPHORA SPP				
COSTARIA SPP				
ENDOCLADIA MURICATA				
FILAMENTOUS GREENS	2,3	2,3		
FILAMENTOUS REDS				
GLOIOPELTIS PURGATA				
HALOSACCION GLANDIFORME				
LAMINARIA SPP				
LITHOTHAMNION				
NEREOCYSTIS SPP				
PORPHYRA SPP				
RALPHSIA/HILDENBRANDIA				
PHODOMELA LARIX				
RHOHOMENTIA PALMATA				
SCYTOSIPHON SPP				
ULVA SPP				
ZOSTERA MARINA				
ENTOROMORPHA				
Fucus	2	2		
FAUNA: ANTHOPLEURA SPP				
(SEM) BALUNUS CARIOSUS	2	2		
B. GLANDULA	2,3	2,3		
BRYOZOANS	2,3	2,3		
CHITONS (other than K. TUNICATA)				
CLAMS				
CRABS				
DERMASTERIAS IMBRICATA				
KATHARINA TUNICATA				
LEPTASTERIAS HEXACTIS				
LIMPETS	2,3	2,3		
LITTORINA SPP	2,3	2,3		
NUCELLA SPP				
PAGURUS SPP				
PISASTER OCHRACEUS				
POLYCHAETES				
PYCNOPODIA HELIANTHOIDES				
SEARLESIA DIRA				
SERPULIDS				
SIPHONARIA THERSITES				
TEALIA				
NemerTeoas	2,3	2,3		

Thursday

04/18/90

1400-1550

+2.1 - +2.8 ft

KN-404 "B"

This 930-m long subdivision is very similar in substrate composition to subdivision A. The beach is composed mostly of angular boulders and cobbles that are scoured and depauperate. There are scattered large talus blocks throughout the subdivision, particularly beneath a large slide at about the half-way point and in the northern-most 100 m.

Macro algae and mussels were extremely rare throughout the subdivision. From about +3 to +7 feet there was a thin and discontinuous band of green filamentous algae. As in subdivision "A", the overall impression was of bare, sterile rock. Barnacles were rare. *Balanus glandula* could be found here and there in cracks and crevices. One mm and 2-3 mm individuals were present in the same micro habitats. The only gastropods observed were limpets and littorines. Limpets were rare, small, and eroded - probably ~~all~~ persons. *Littorina sitkana* were rare to sparse and generally small. No egg masses were observed. However, 1 mm and 2-3 mm *L. sitkana* were common in cracks and crevices. Unlike most other areas, the proportion of limpets among the gastropods was higher in upper areas than in the middle intertidal. Perhaps this was related to the fact that depth of large cobbles was greater higher on the shore.

Under boulders and cobbles there were rare amphipods, *Spirorbis*, nemerteans (a blue & a black type), bryozoans, flatworms, and, in the upper intertidal, oligochaetes.

In the northern-most 100 m of the subdivision there was a striking increase in biomass, particularly on the talus blocks, suggesting a change in wave-exposure. *Fucus* and *Mytilus* were common in both the middle and upper intertidal. *B. cariosus* was common from about +2 to +3 feet on talus blocks.

SHORELINE EVALUATION

SEGMENT ST/ KN-405 SUBDIVISION A (1 OF 1) DATE 4/5/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T-2 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
1I Gill net area (6/7 to 8/31)
1J Purse seine area (7/20 to 9/30)
6Y Recreation: Special use destination
7II Subsistence area: Deer harvesting (8/15 to 2/28)
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: J. David McManis DATE: 5/1/90

OILING CATEGORIZATION:

Wide 2528 m : Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 105 cm

RECOMMENDATIONS:

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

COMMENTS: The recommended treatment includes: 1) manual pick up of oiled debris and trash, and tarmat removal near profile #3 (see sketch map), and 2) relocation of berm sediments from UITZ to MITZ near profile #1 (see sketch map), and 3) Bioremediation of storm berm area after relocation of materials. Treatment should be conducted after 6/1 and with approval of USFWS due to eagle constraint and ADF&G due to set-net and seining constraint. Do not remove survey stakes near profile #1 on sketch map; this is Exxon study site AP-10.

TAG COMMENTS: USE SPOT WASH WITH ABSORBENTS DURING RISING TIDES FOLLOWING RELOCATION.

TAG APPROVAL DATE: 5/10/90
ADEC JOHN BAUER
EXXON ANDY TAYLOR
NOAA GARY PETERSON
USCG KENNETH KEENE

FOSC: ML DATE: 5-18-90

NOTIFY EVE 24 HRS. IN ADVANCE OF WORK

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

(172)

SEGMENT ST / KN-405 SUBDIVISION: A DATE 4/5/90USCGNAME SCOTT RAINSFORD SIGNATURE Scott Rainsford☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTEDADECNAME Wesley Ghormley SIGNATURE Wesley Ghormley☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Recommend both manual & mechanical clean-up. IF EVER there was an area that using a trommel or a gravel washing process could be used, this is it. The cobble, boulders actually look fairly good on the surface but once you roll them to the side, oil is present. Sub surface oil is present consistently thru-out segment at the SUTZ & HITZ. The deepest penetration we found was 105 cm. with the first twelve inches showing the effect of bioremediation by ways of color & texture of oil present. But below the twelve inches the oil is blacker in color, more visible in terms of pockets of mousse & has a very strong petroleum odor. Free floating, black mobile oil was present in pits dug at the HITZ when it filled back up with water. So much oil was present that

LAND MANAGERNAME _____ SIGNATURE Donald J. Kump (see attached sheet)☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

When you dipped an object into it you got a heavily stained dripping object. All along this beach is a heavy accumulation of logs & debris above the storm berm. Underneath the logs is heavy, black oil that definitely needs attention. I believe to clean this area you would have to roll the logs out of the area & possibly peel the storm berm down & wash the oil towards the beach, then replace the logs back to their original location. Also manual pick-up needs to be applied thru-out storm berm picking up the numerous strands of boom-pom boom (4) & single pom-pom at least a dozen. Also a clean-up hose present by the NOAA test site. This area needs a lot of attention with a large work force if the oil is to be removed. Hopefully clean up operations will start early at this area so a thorough job can done.

Wesley Ghomlay

Wesley Ghomlay
A.D.E.C.

(24/2)

SHORELINE OILING SUMMARY

REVISION NO. 02/28/90

OG G. MACDONALD USCG S. RAINSFORD SEGMENT ST/ KN-405
 BIO MA. SCOTT LAND REP D. KAMKOFF (CAC) SUBDIVISION A (1 of 1)
 EXXON J. BUTLER ADEC W. GORMLEY TIME 14:5 to 17:00
 TEAM NO.: 3 TIDE LEVEL: +5 to +1 DATE 4/5/90
 ST. SUBDIVISION LENGTH: 2535 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 25 % C 40 % P 15 % G 10 % S 5 % M 0 % V 0 %
 SLOPE: Long 95 % Hang 5 % Vert 0 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 2535 m M 0 m N 0 m VL 0 m NO 0 m

SURFACE OIL

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

PAVEMENT: H F 50 sq. m by 2 cmPATTIES / TARBALLS 0 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 0#BAGS 0

Photographs:

Roll No. ST-3-2Frames 21-29

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		BO	UC	1	2	3	4	BU	U	M	U		
1	40		X				0-40	X				X			X			N	C B P
2	110		X				0-105		X			X		X				N	C P G
3	20					X			X						X			N	C P over S+M
4	25		X				0-25	X				X			X			N	C, P, S, M
5	35		X				0-35	X				X			X			N	C, P, G
6	20		X				0-20	X		X					X			N	C, P, G

COMMENTS Broad, low L, h.E coarse grained beach over bedrock
 Very light surface oiling as CT, CV. Extensive subsurface
 oil e SURZ - HTZ. Bioturbation evident in top 25 cm
 DBR, "wet" OR; > 25 cm, oil is SBK and more viscous.
 All oiled pits produced DBR oil film on water

REVISION 05/2019

SUBSURFACE OIL (CONTINUED)

[illegible]

COMMENTS

REVIEWED

DATE _____

OG G. N

SEGMENT ST/ KN-108

SUBDIVISION A

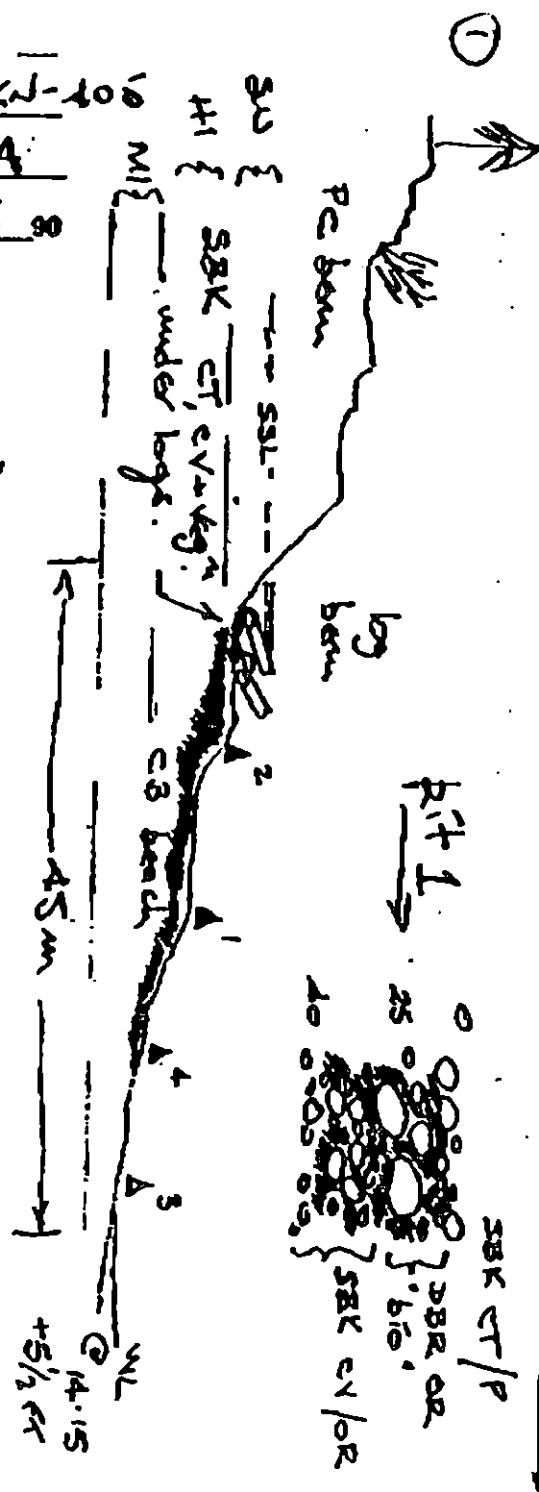
DATE 4 / 5 90

CHECKLIST

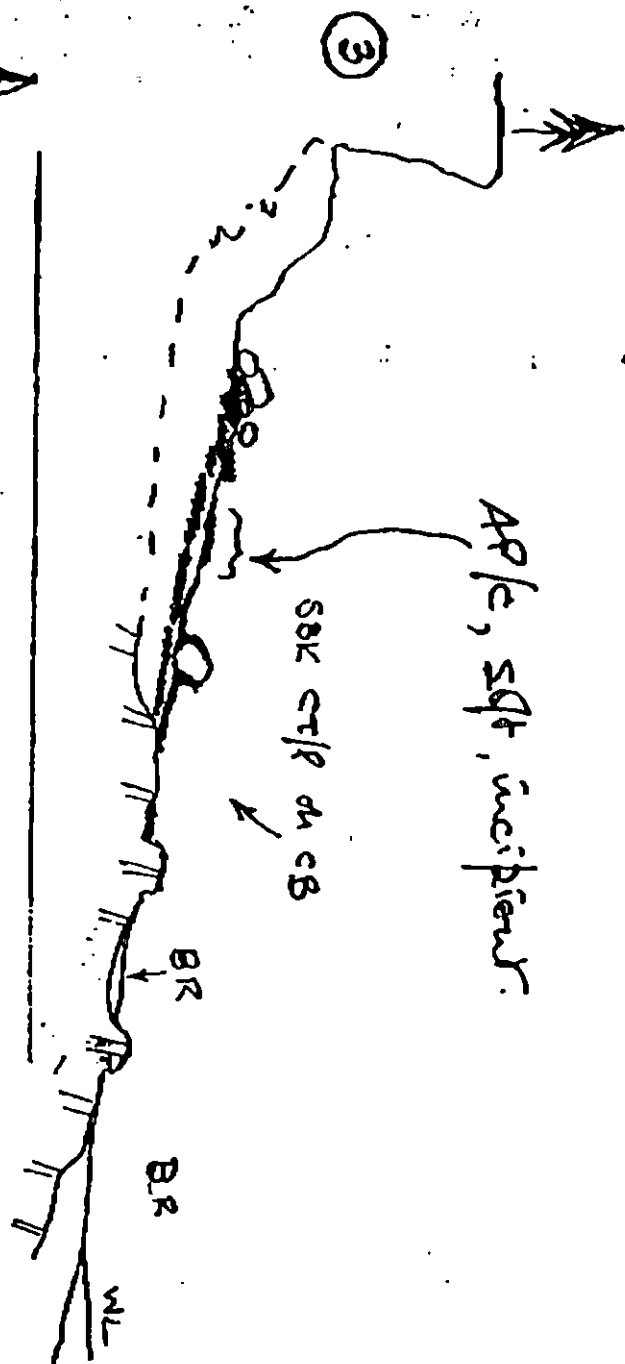
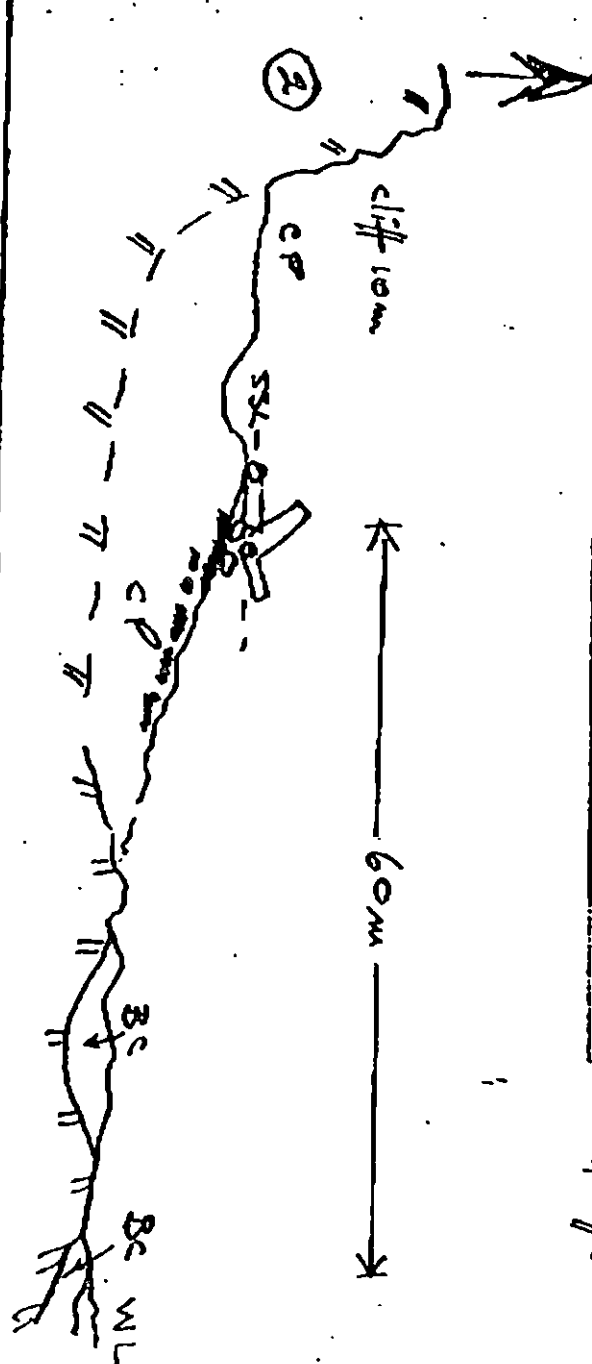
- Area
- Approx. Scale
- Seg/Sub Entry
- Oil Det.
- Width
- Length
- % Cover
- Substrate Character
- Est. HVR/LVR
- SSL
- Profile Location(s)
- Profile(s)
- PR Location(s)
- Photo Location(s)

LEGEND

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



SI...CH MAP



AP/c, SGT, incipient.

General Profiles

Oil Character: AP 6 PO 4r CV 45 CT 15 ST 15 MS 10 PT - TB - FL 10 NO -

REVISION 03/24/90

SHORELINE ECOLOGICAL SUMMARY

REVISION: 12/23/98

Segment ST/ KN405 Subdivision 11 Date (mo / day / yr) 4/5/90

Time (24 hr) 1405-1620 Biologist MA SCOTT

- (A) Substrate type and % of segments:
 (1) Bedrock 5 (2) Boulder 25 (3) Cobble 70 (4) Pebble 25 (5) Sand 5 (6) Silt —
- (B) Overall % cover of biota (% of segment): Dense — Moderate — Low <1%
- (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. 57-3-2

Frames 21-29

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:

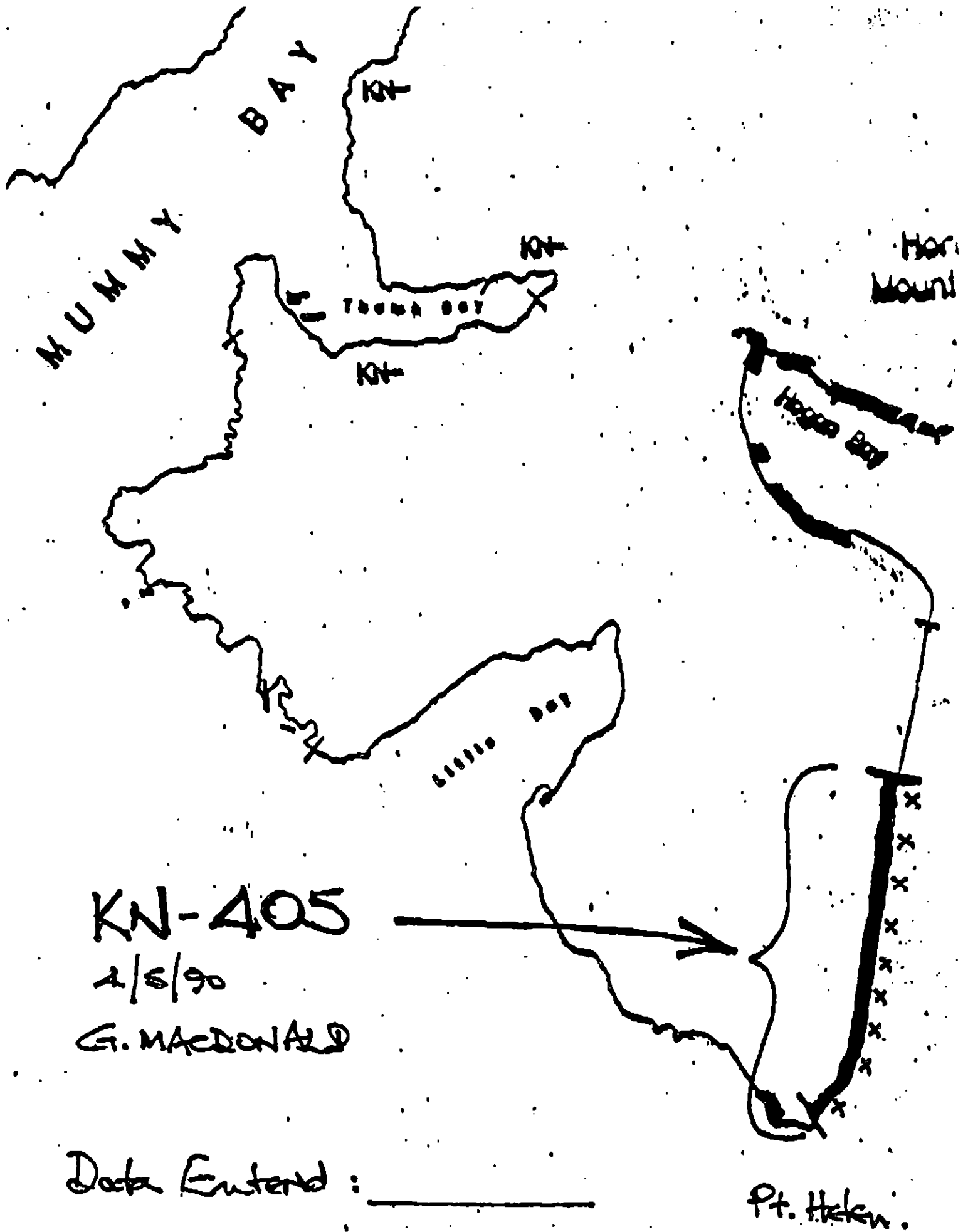
3 bald eagles
 2 pelagic cormorants
 2 sea otter
 1 sea lion

1 deer skeleton
 2 sea urchins

12K-observed only HT2 + HT2

Ecological Considerations:

bald eagle nests



KN-405

2/6/90

G. MACDONALD

Data Entered : _____

Pt. Helen.

oil as
CT/B HTZ -
SUZ

PG

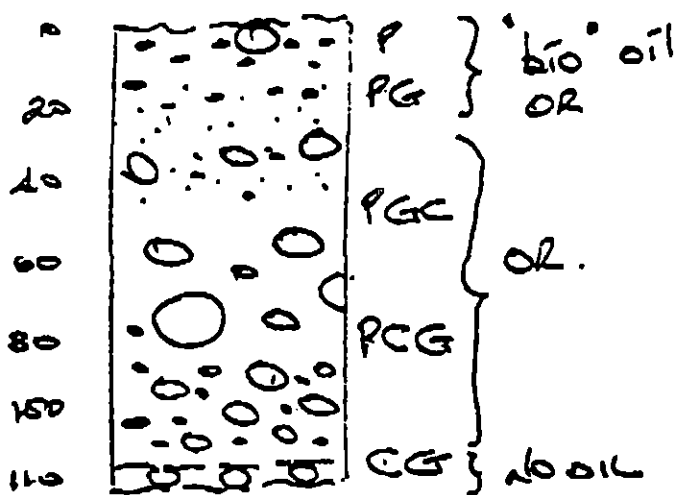
QC

7

17.00 HRS =
41 FT

B e over
G

Kit # 2 profile



NOAA
TEST SITE

RWS 357A

XXXX Wide

//// Medium

Narrow

TTTT Very Light

0000 No Oil

KN-405

ADEC Segment Length: 2528m



Map Key: PWS-357b

Name: G. MEDONALDO

Date: 4/5/90

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-405 SUBDIVISION A (1 of 1)

WORK WINDOW

* Manual Pickup and Tarmat Removal Less Than 400m From Active Nest	CLOSED
* Manual Pickup and Tarmat Removal More Than 400m From Active Nest	OPEN
Bioremediation, Spot Washing, Mechanical Relocation, and Other Approved Treatment Less Than 400m From Active Nest	CLOSED
Bioremediation, Spot Washing, Mechanical Relocation, and Other Approved Treatment More Than 400m From Active Nest	CLOSED

* EXXON STUDY SITE AP-10 - DO NOT REMOVE STAKES FROM BACK OF WIREFENCE ZONE.
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, tarmat removal, bioremediation, spot washing, mechanical relocation, and other approved treatment within 400m of active nest. No constraint to manual pickup, tarmat removal, bioremediation, spot washing, mechanical relocation, and other approved treatment more than 400m from active nest.
1I	Gill Net Area	Closed to bioremediation, spot washing, mechanical relocation, and other approved treatment after 6/7. No constraint to manual pickup and tarmat removal.
1J	Purse Seine Area	Closed to bioremediation, spot washing, mechanical relocation, and other approved treatment after 7/20. No constraint to manual pickup and tarmat removal.
1K	Purse Seine Hook-off	Closed to bioremediation, spot washing, mechanical relocation, and other approved treatment after 7/20. No constraint to manual pickup and tarmat removal.
7II	Subsistence: Deer Harvesting	Closed to bioremediation, spot washing, mechanical relocation, and other approved treatment after 8/15. No constraint to manual pickup and tarmat removal.

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. Restrict boat traffic and beach disturbance to essential minimum after 7/20. Avoid any unnecessary disturbance or damage to unrolled biota and substrate.

FOSC

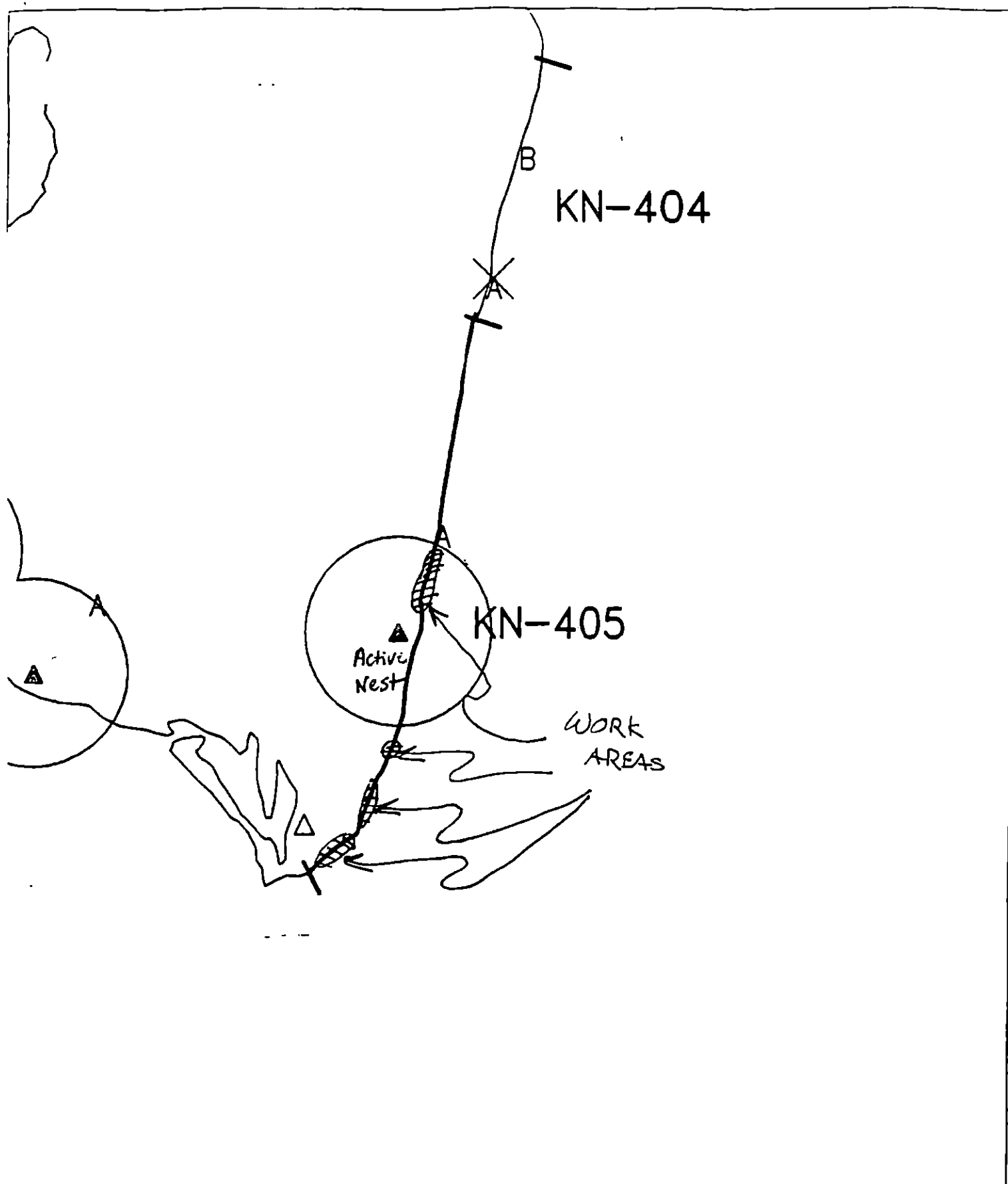
Date

6/16/90

Prepared by

Date

6/14/90



Exxon Company, USA
Map Key: PUS-KN-405



ECOLOGY MAP
SEGMENT KN-405
SUBDIVISION A (1 of 1)
METERS

★	Seabird Colony
▲	Active Eagle Nest
△	Inactive Eagle Nest

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-405 SUBDIVISION A (1 of 1)

REVISION 1

WORK WINDOW

* Manual Pickup and Tarmat Removal
Less Than 400m From Active Nest

CLOSED

* Manual Pickup and Tarmat Removal
More Than 400m From Active Nest

OPEN

Bioremediation, Spot Washing, Mechanical Relocation, and
Other Approved Treatment
Less Than 400m From Active Nest

CLOSED

Bioremediation, Spot Washing, Mechanical Relocation, and
Other Approved Treatment
More Than 400m From Active Nest

WORK PRIOR TO 7/20

CLOSED

WIK

6/22/90

* EXHIBIT STUDY SITE AP-16 - DO NOT REMOVE STAKES FROM BACK OF WIRELESS ZONE.
ARCHAEOLOGICAL STANDARD CONSTRAINT

CA. Ranta
for FSC
6/22/90

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, tarmat removal, bioremediation, spot washing, mechanical relocation, and other approved treatment within 400m of active nest. No constraint to manual pickup, tarmat removal, bioremediation, spot washing, mechanical relocation, and other approved treatment more than 400m from active nest.

~~11 Gill Net Area~~

~~Closed to bioremediation, spot washing, mechanical relocation, and other approved treatment after 6/7. No constraint to manual pickup and tarmat removal.~~ KN-405 is not a Gill Net Area per map of fishing areas from James Brady ADP&G.

1J Purse Seine Area

Closed to bioremediation, spot washing, mechanical relocation, and other approved treatment after 7/20. No constraint to manual pickup and tarmat removal.

WIK

6/22/90

1K Purse Seine
Hook-off

Closed to bioremediation, spot washing, mechanical relocation, and other approved treatment after 7/20. No constraint to manual pickup and tarmat removal.

7II Subsistence: Deer
Harvesting

Closed to bioremediation, spot washing, mechanical relocation, and other approved treatment after 8/15. No constraint to manual pickup and tarmat removal.

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. Restrict boat traffic and beach disturbance to essential minimum after 7/20. Avoid any unnecessary disturbance or damage to unrolled biota and substrate.

FOSC

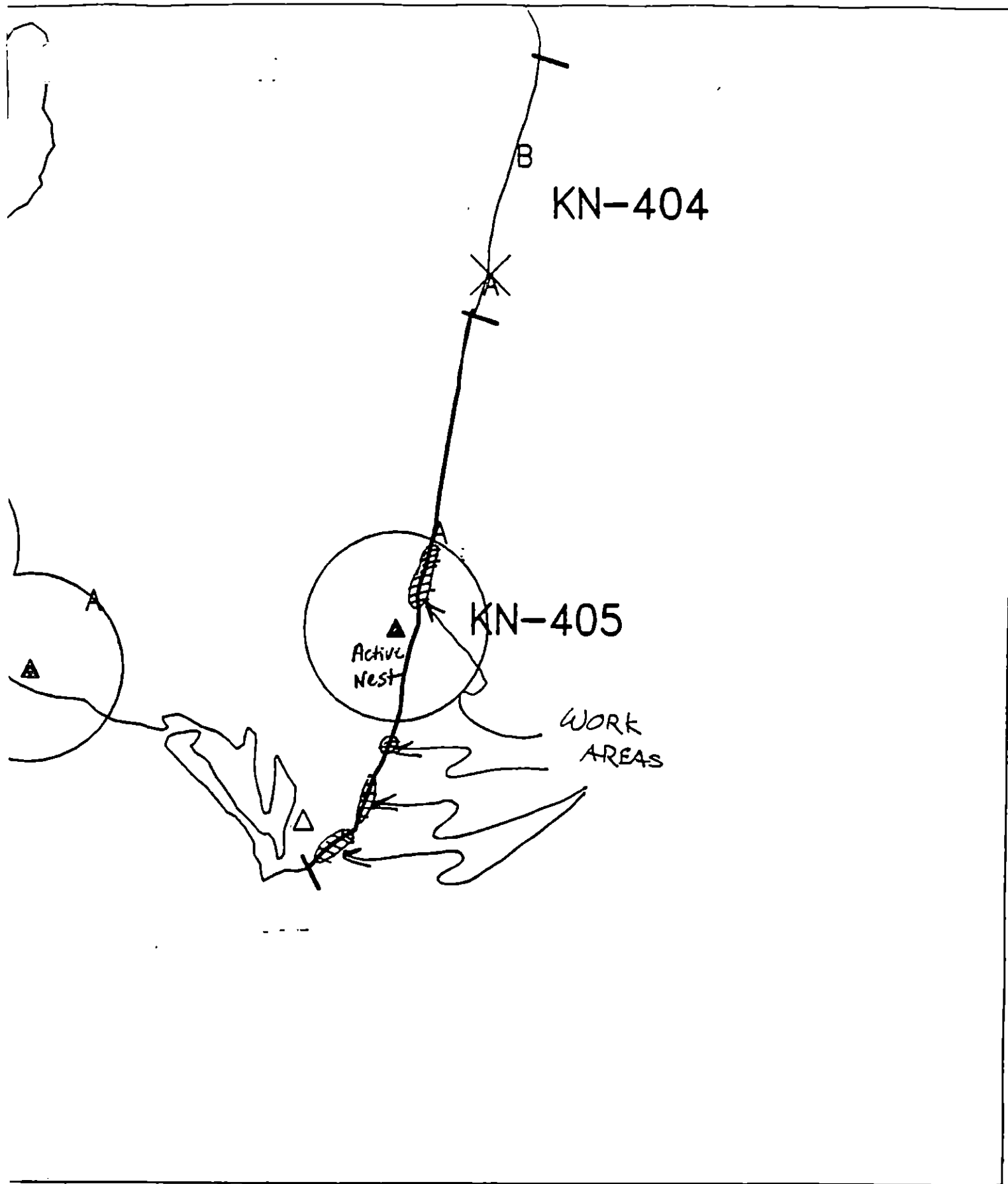
[Signature]

Date

6/16/90

[Signature]

[Signature]



Exxon Company, USA

Map Key: PG-101-405



ECOLOGY MAP
SEGMENT KN-405
SUBDIVISION A (1 of 2)
METERS

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

WORK PLAN ADDENDUM

Segment KN 405

Subdivision A

Dated 7/24/90

MODIFICATION

1. REASON FOR MODIFICATION

REQUEST FROM FIELD TO EXPAND BIO. BEYOND (LANDWARD)
THE STORM BERM.

2. ADJUSTMENT TO WORK PLAN

ADD CUSTOMER TO
ATTACHED DOCUMENT.
BIO. ALREADY APPROVED.

DOJ

SHPO APPROVAL NEEDED YES _____
NO X

SHPO SIGNATURE _____

TAG APPROVAL DATE 7-24-90

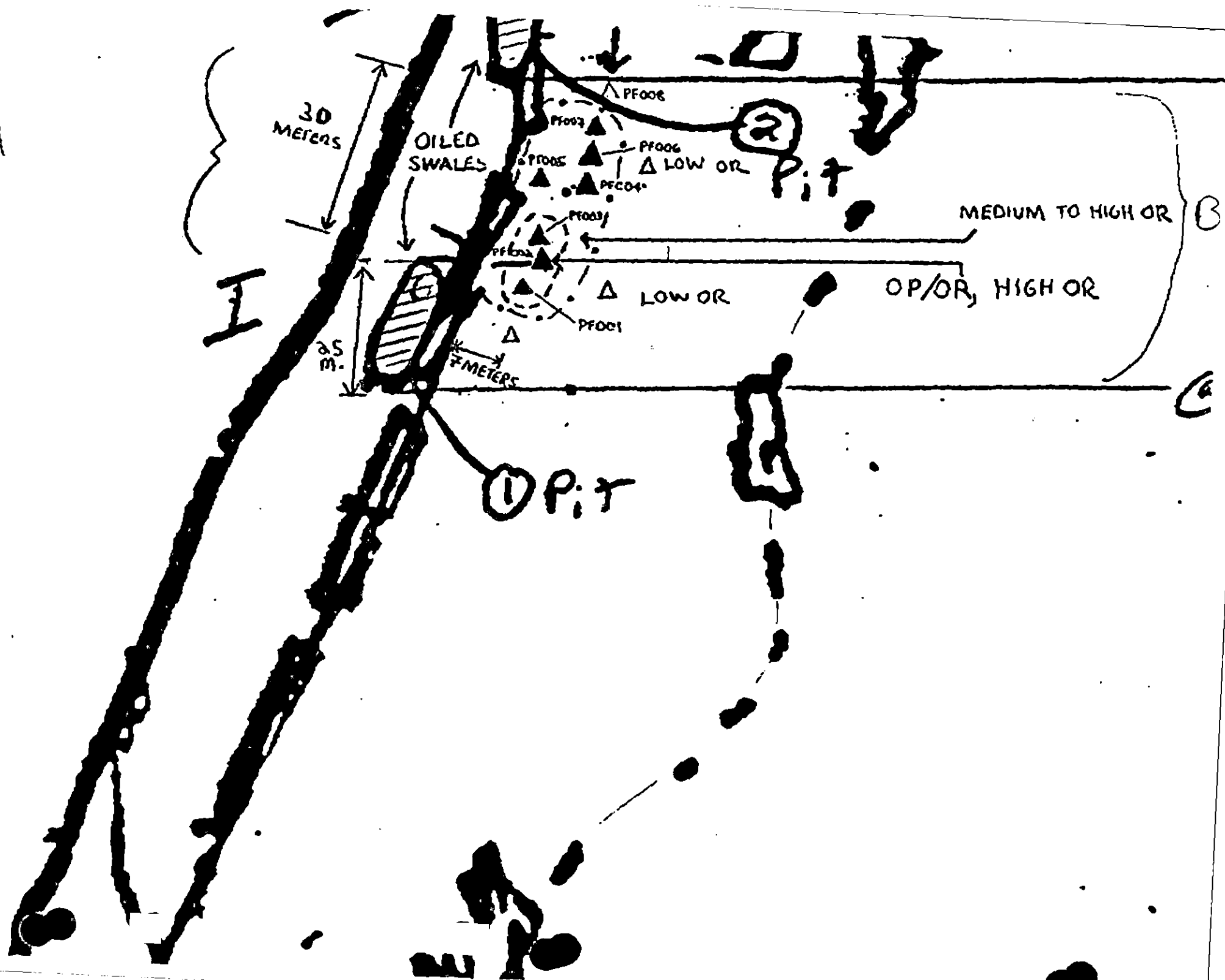
ADEC JOHN BAUER

EXXON ANDY TEAL

NOAA Drew Wasscott

USCG G.A. Reiter

FOSC [Signature] DATE 7-26-90



TO: TAG

FROM: CWO K.L. DREHER, USCG MONITOR, M/V COLUMBIA

DATE: 20 JUL 90

SUBJ: KN-405A

I did not observe "OP" at the sites described by ADEC monitor Brian Fitzsimmons. I did observe "OP" at several locations in the swale of the SUTZ and that the quantifier for those pockets was "UC". These pockets were manually cleaned per the work order for segment KN-405A. I did observe an area approximately at the location in the UXTZ-MXTZ depicted by the blow up sketch presented by Mr. Fitzsimmons. I did observe stain (ST) and coat (CT) in this area of about 400 m². I did not observe OP/OR, high OR in this area. The pits identified by the prefix PF in the sketches were not observed by me and were unknown to me until 2220/20 JUL 90. These drawings and Mr. Fitzsimmons' observations were not brought to my attention until Squad 2 had completed work on KN-405A, 410A, and 411A and Columbia was departing area of Hogen Bay enroute to ER-20C at 2220/20 JUL 90.

Based on my observations of KN-405A during the three days of clean up, I recommend the application of bioremediation agents in the SUTZ at this time. I also recommend application of bio agents to the area located in the UXTZ-MXTZ after ADEC concurrence due to the abundance of salmon (jumpers), sea lions, and sea otters.

CWO K. L. Dreher USCGR
21 JUL 90

PAGE 4 of 5PIT #PF001

0
 -20cm B, C → STAIN
 -25cm P, G, S ± C → NO.
 -30cm P, G, S ± C → O.P. OIL
 -30cm G, S ± C → LIGHT O.R.
 -47cm - ? - ? - ? - DID NOT REACH THE END

PIT #PF002

PIT CONTAINED OP/OR OIL
 CROSS SECTION AS PF001

PIT #PF003

-10cm C, P
 -27cm P, G, S → OP/OR OIL
 -27cm G, S - ? - ? - ? → NO OIL

PIT #PF004

-10cm C, P
 -17cm P, G, S → NO OIL
 -30cm - ? - ? - ? - ? → HIGH O.R. OIL
 -30cm - ? - ? - ? - ? → U.O.

PIT #PF005

HIGH O.R. OIL

PIT #PF006

-10cm C, B
 -20cm C, P, G - ? - ? - ? → MEDIUM O.R. OIL

PIT #PF007

-10cm C, B
 -18cm P, C, G → LIGHT O.R. OIL
 -22cm P, C, G → MED. - MED HEAVY O.R. OIL
 -32cm - ? - ? - ? - ? → LIGHT O.R. OIL
 -32cm - ? - ? - ? - ? → U.O.

IV. Pits 8+9

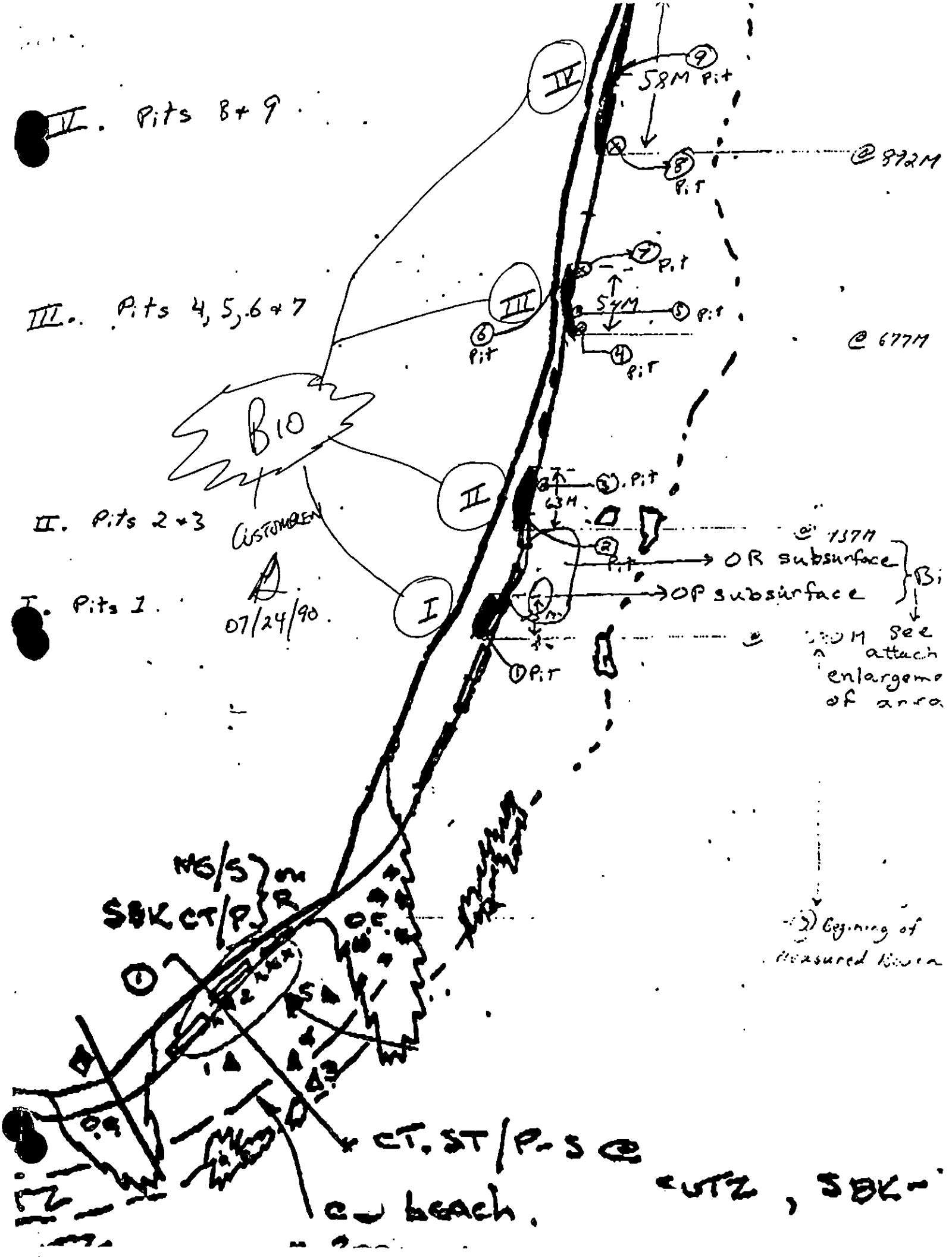
III. Pits 4, 5, 6+7

II. Pits 2+3

I. Pits 1

BIO
CUSTOMER

07/24/90



@ 872M

@ 677M

@ 137M

OR subsurface
OP subsurface
See attach enlargeme of area

Beginning of Measured Run

NO/S
SBK CT/P

CT. ST/P-S @

beach

UTZ, SBK-

ASAP FOLLOWUP RECOMMENDATIONS

Segment: ASI KN-405 Subd.: A Site: _____ Date: 8-8-90 1990

Conditions Observed: Extremely heavily oiled segment with deep submergence OR and OR from supratidal intertidal down to MITZ. North 1/2 of segment is a little more lightly oiled with the severity increasing at a point approx 400m north of NOAA study site. Area 400m North of NOAA site to end of segment with heavy oiling is approx 1500m long.

Followup Recommendations: Treatment of the above described area will require extensive mechanical treatment. This might include the relocation of oil on surface vessels to expose OR and OR oiled sediments in the MITZ and tilling (mech.) of these areas. It is recommended this be done in the Fall of '90. In 1991, the storm surge can be relocated with oiled sediments being spread down beach back and bioremediated.

Completed by Pickup Crew: ☐ YES ☒ NO

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

ADEC Bob M. Cress (name)

Robert B. McLaughlin (signature)

Comments: An extensive commitment to mechanical relocation and tilling of approx. 1500m of the MITZ - 2.5U will be required to adequately treat this area.

Exxon John Dean (name)

[Signature] (signature)

Comments: WHILE I AGREE WITH THE NEED FOR FOLLOWUP AND REASSESSMENT, I FEEL A CLASS III OIL EVALUATION SHOULD DETERMINE TECHNIQUE(S)

USCG Don Davis (name)

[Signature] (signature)

Comments: MITZ oiling appears to be contained on extensive low grounds in the (1) current beach dunes exposed by rising tide which spread to north (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (16) (17) (18) (19) (20) (21) (22) (23) (24) (25) (26) (27) (28) (29) (30) (31) (32) (33) (34) (35) (36) (37) (38) (39) (40) (41) (42) (43) (44) (45) (46) (47) (48) (49) (50) (51) (52) (53) (54) (55) (56) (57) (58) (59) (60) (61) (62) (63) (64) (65) (66) (67) (68) (69) (70) (71) (72) (73) (74) (75) (76) (77) (78) (79) (80) (81) (82) (83) (84) (85) (86) (87) (88) (89) (90) (91) (92) (93) (94) (95) (96) (97) (98) (99) (100) (101) (102) (103) (104) (105) (106) (107) (108) (109) (110) (111) (112) (113) (114) (115) (116) (117) (118) (119) (120) (121) (122) (123) (124) (125) (126) (127) (128) (129) (130) (131) (132) (133) (134) (135) (136) (137) (138) (139) (140) (141) (142) (143) (144) (145) (146) (147) (148) (149) (150) (151) (152) (153) (154) (155) (156) (157) (158) (159) (160) (161) (162) (163) (164) (165) (166) (167) (168) (169) (170) (171) (172) (173) (174) (175) (176) (177) (178) (179) (180) (181) (182) (183) (184) (185) (186) (187) (188) (189) (190) (191) (192) (193) (194) (195) (196) (197) (198) (199) (200) (201) (202) (203) (204) (205) (206) (207) (208) (209) (210) (211) (212) (213) (214) (215) (216) (217) (218) (219) (220) (221) (222) (223) (224) (225) (226) (227) (228) (229) (230) (231) (232) (233) (234) (235) (236) (237) (238) (239) (240) (241) (242) (243) (244) (245) (246) (247) (248) (249) (250) (251) (252) (253) (254) (255) (256) (257) (258) (259) (260) (261) (262) (263) (264) (265) (266) (267) (268) (269) (270) (271) (272) (273) (274) (275) (276) (277) (278) (279) (280) (281) (282) (283) (284) (285) (286) (287) (288) (289) (290) (291) (292) (293) (294) (295) (296) (297) (298) (299) (300) (301) (302) (303) (304) (305) (306) (307) (308) (309) (310) (311) (312) (313) (314) (315) (316) (317) (318) (319) (320) (321) (322) (323) (324) (325) (326) (327) (328) (329) (330) (331) (332) (333) (334) (335) (336) (337) (338) (339) (340) (341) (342) (343) (344) (345) (346) (347) (348) (349) (350) (351) (352) (353) (354) (355) (356) (357) (358) (359) (360) (361) (362) (363) (364) (365) (366) (367) (368) (369) (370) (371) (372) (373) (374) (375) (376) (377) (378) (379) (380) (381) (382) (383) (384) (385) (386) (387) (388) (389) (390) (391) (392) (393) (394) (395) (396) (397) (398) (399) (400) (401) (402) (403) (404) (405) (406) (407) (408) (409) (410) (411) (412) (413) (414) (415) (416) (417) (418) (419) (420) (421) (422) (423) (424) (425) (426) (427) (428) (429) (430) (431) (432) (433) (434) (435) (436) (437) (438) (439) (440) (441) (442) (443) (444) (445) (446) (447) (448) (449) (450) (451) (452) (453) (454) (455) (456) (457) (458) (459) (460) (461) (462) (463) (464) (465) (466) (467) (468) (469) (470) (471) (472) (473) (474) (475) (476) (477) (478) (479) (480) (481) (482) (483) (484) (485) (486) (487) (488) (489) (490) (491) (492) (493) (494) (495) (496) (497) (498) (499) (500) (501) (502) (503) (504) (505) (506) (507) (508) (509) (510) (511) (512) (513) (514) (515) (516) (517) (518) (519) (520) (521) (522) (523) (524) (525) (526) (527) (528) (529) (530) (531) (532) (533) (534) (535) (536) (537) (538) (539) (540) (541) (542) (543) (544) (545) (546) (547) (548) (549) (550) (551) (552) (553) (554) (555) (556) (557) (558) (559) (560) (561) (562) (563) (564) (565) (566) (567) (568) (569) (570) (571) (572) (573) (574) (575) (576) (577) (578) (579) (580) (581) (582) (583) (584) (585) (586) (587) (588) (589) (590) (591) (592) (593) (594) (595) (596) (597) (598) (599) (600) (601) (602) (603) (604) (605) (606) (607) (608) (609) (610) (611) (612) (613) (614) (615) (616) (617) (618) (619) (620) (621) (622) (623) (624) (625) (626) (627) (628) (629) (630) (631) (632) (633) (634) (635) (636) (637) (638) (639) (640) (641) (642) (643) (644) (645) (646) (647) (648) (649) (650) (651) (652) (653) (654) (655) (656) (657) (658) (659) (660) (661) (662) (663) (664) (665) (666) (667) (668) (669) (670) (671) (672) (673) (674) (675) (676) (677) (678) (679) (680) (681) (682) (683) (684) (685) (686) (687) (688) (689) (690) (691) (692) (693) (694) (695) (696) (697) (698) (699) (700) (701) (702) (703) (704) (705) (706) (707) (708) (709) (710) (711) (712) (713) (714) (715) (716) (717) (718) (719) (720) (721) (722) (723) (724) (725) (726) (727) (728) (729) (730) (731) (732) (733) (734) (735) (736) (737) (738) (739) (740) (741) (742) (743) (744) (745) (746) (747) (748) (749) (750) (751) (752) (753) (754) (755) (756) (757) (758) (759) (760) (761) (762) (763) (764) (765) (766) (767) (768) (769) (770) (771) (772) (773) (774) (775) (776) (777) (778) (779) (780) (781) (782) (783) (784) (785) (786) (787) (788) (789) (790) (791) (792) (793) (794) (795) (796) (797) (798) (799) (800) (801) (802) (803) (804) (805) (806) (807) (808) (809) (810) (811) (812) (813) (814) (815) (816) (817) (818) (819) (820) (821) (822) (823) (824) (825) (826) (827) (828) (829) (830) (831) (832) (833) (834) (835) (836) (837) (838) (839) (840) (841) (842) (843) (844) (845) (846) (847) (848) (849) (850) (851) (852) (853) (854) (855) (856) (857) (858) (859) (860) (861) (862) (863) (864) (865) (866) (867) (868) (869) (870) (871) (872) (873) (874) (875) (876) (877) (878) (879) (880) (881) (882) (883) (884) (885) (886) (887) (888) (889) (890) (891) (892) (893) (894) (895) (896) (897) (898) (899) (900) (901) (902) (903) (904) (905) (906) (907) (908) (909) (910) (911) (912) (913) (914) (915) (916) (917) (918) (919) (920) (921) (922) (923) (924) (925) (926) (927) (928) (929) (930) (931) (932) (933) (934) (935) (936) (937) (938) (939) (940) (941) (942) (943) (944) (945) (946) (947) (948) (949) (950) (951) (952) (953) (954) (955) (956) (957) (958) (959) (960) (961) (962) (963) (964) (965) (966) (967) (968) (969) (970) (971) (972) (973) (974) (975) (976) (977) (978) (979) (980) (981) (982) (983) (984) (985) (986) (987) (988) (989) (990) (991) (992) (993) (994) (995) (996) (997) (998) (999) (1000) (1001) (1002) (1003) (1004) (1005) (1006) (1007) (1008) (1009) (1010) (1011) (1012) (1013) (1014) (1015) (1016) (1017) (1018) (1019) (1020) (1021) (1022) (1023) (1024) (1025) (1026) (1027) (1028) (1029) (1030) (1031) (1032) (1033) (1034) (1035) (1036) (1037) (1038) (1039) (1040) (1041) (1042) (1043) (1044) (1045) (1046) (1047) (1048) (1049) (1050) (1051) (1052) (1053) (1054) (1055) (1056) (1057) (1058) (1059) (1060) (1061) (1062) (1063) (1064) (1065) (1066) (1067) (1068) (1069) (1070) (1071) (1072) (1073) (1074) (1075) (1076) (1077) (1078) (1079) (1080) (1081) (1082) (1083) (1084) (1085) (1086) (1087) (1088) (1089) (1090) (1091) (1092) (1093) (1094) (1095) (1096) (1097) (1098) (1099) (1100) (1101) (1102) (1103) (1104) (1105) (1106) (1107) (1108) (1109) (1110) (1111) (1112) (1113) (1114) (1115) (1116) (1117) (1118) (1119) (1120) (1121) (1122) (1123) (1124) (1125) (1126) (1127) (1128) (1129) (1130) (1131) (1132) (1133) (1134) (1135) (1136) (1137) (1138) (1139) (1140) (1141) (1142) (1143) (1144) (1145) (1146) (1147) (1148) (1149) (1150) (1151) (1152) (1153) (1154) (1155) (1156) (1157) (1158) (1159) (1160) (1161) (1162) (1163) (1164) (1165) (1166) (1167) (1168) (1169) (1170) (1171) (1172) (1173) (1174) (1175) (1176) (1177) (1178) (1179) (1180) (1181) (1182) (1183) (1184) (1185) (1186) (1187) (1188) (1189) (1190) (1191) (1192) (1193) (1194) (1195) (1196) (1197) (1198) (1199) (1200) (1201) (1202) (1203) (1204) (1205) (1206) (1207) (1208) (1209) (1210) (1211) (1212) (1213) (1214) (1215) (1216) (1217) (1218) (1219) (1220) (1221) (1222) (1223) (1224) (1225) (1226) (1227) (1228) (1229) (1230) (1231) (1232) (1233) (1234) (1235) (1236) (1237) (1238) (1239) (1240) (1241) (1242) (1243) (1244) (1245) (1246) (1247) (1248) (1249) (1250) (1251) (1252) (1253) (1254) (1255) (1256) (1257) (1258) (1259) (1260) (1261) (1262) (1263) (1264) (1265) (1266) (1267) (1268) (1269) (1270) (1271) (1272) (1273) (1274) (1275) (1276) (1277) (1278) (1279) (1280) (1281) (1282) (1283) (1284) (1285) (1286) (1287) (1288) (1289) (1290) (1291) (1292) (1293) (1294) (1295) (1296) (1297) (1298) (1299) (1300) (1301) (1302) (1303) (1304) (1305) (1306) (1307) (1308) (1309) (1310) (1311) (1312) (1313) (1314) (1315) (1316) (1317) (1318) (1319) (1320) (1321) (1322) (1323) (1324) (1325) (1326) (1327) (1328) (1329) (1330) (1331) (1332) (1333) (1334) (1335) (1336) (1337) (1338) (1339) (1340) (1341) (1342) (1343) (1344) (1345) (1346) (1347) (1348) (1349) (1350) (1351) (1352) (1353) (1354) (1355) (1356) (1357) (1358) (1359) (1360) (1361) (1362) (1363) (1364) (1365) (1366) (1367) (1368) (1369) (1370) (1371) (1372) (1373) (1374) (1375) (1376) (1377) (1378) (1379) (1380) (1381) (1382) (1383) (1384) (1385) (1386) (1387) (1388) (1389) (1390) (1391) (1392) (1393) (1394) (1395) (1396) (1397) (1398) (1399) (1400) (1401) (1402) (1403) (1404) (1405) (1406) (1407) (1408) (1409) (1410) (1411) (1412) (1413) (1414) (1415) (1416) (1417) (1418) (1419) (1420) (1421) (1422) (1423) (1424) (1425) (1426) (1427) (1428) (1429) (1430) (1431) (1432) (1433) (1434) (1435) (1436) (1437) (1438) (1439) (1440) (1441) (1442) (1443) (1444) (1445) (1446) (1447) (1448) (1449) (1450) (1451) (1452) (1453) (1454) (1455) (1456) (1457) (1458) (1459) (1460) (1461) (1462) (1463) (1464) (1465) (1466) (1467) (1468) (1469) (1470) (1471) (1472) (1473) (1474) (1475) (1476) (1477) (1478) (1479) (1480) (1481) (1482) (1483) (1484) (1485) (1486) (1487) (1488) (1489) (1490) (1491) (1492) (1493) (1494) (1495) (1496) (1497) (1498) (1499) (1500) (1501) (1502) (1503) (1504) (1505) (1506) (1507) (1508) (1509) (1510) (1511) (1512) (1513) (1514) (1515) (1516) (1517) (1518) (1519) (1520) (1521) (1522) (1523) (1524) (1525) (1526) (1527) (1528) (1529) (1530) (1531) (1532) (1533) (1534) (1535) (1536) (1537) (1538) (1539) (1540) (1541) (1542) (1543) (1544) (1545) (1546) (1547) (1548) (1549) (1550) (1551) (1552) (1553) (1554) (1555) (1556) (1557) (1558) (1559) (1560) (1561) (1562) (1563) (1564) (1565) (1566) (1567) (1568) (1569) (1570) (1571) (1572) (1573) (1574) (1575) (1576) (1577) (1578) (1579) (1580) (1581) (1582) (1583) (1584) (1585) (1586) (1587) (1588) (1589) (1590) (1591) (1592) (1593) (1594) (1595) (1596) (1597) (1598) (1599) (1600) (1601) (1602) (1603) (1604) (1605) (1606) (1607) (1608) (1609) (1610) (1611) (1612) (1613) (1614) (1615) (1616) (1617) (1618) (1619) (1620) (1621) (1622) (1623) (1624) (1625) (1626) (1627) (1628) (1629) (1630) (1631) (1632) (1633) (1634) (1635) (1636) (1637) (1638) (1639) (1640) (1641) (1642) (1643) (1644) (1645) (1646) (1647) (1648) (1649) (1650) (1651) (1652) (1653) (1654) (1655) (1656) (1657) (1658) (1659) (1660) (1661) (1662) (1663) (1664) (1665) (1666) (1667) (1668) (1669) (1670) (1671) (1672) (1673) (1674) (1675) (1676) (1677) (1678) (1679) (1680) (1681) (1682) (1683) (1684) (1685) (1686) (1687) (1688) (1689) (1690) (1691) (1692) (1693) (1694) (1695) (1696) (1697) (1698) (1699) (1700) (1701) (1702) (1703) (1704) (1705) (1706) (1707) (1708) (1709) (1710) (1711) (1712) (1713) (1714) (1715) (1716) (1717) (1718) (1719) (1720) (1721) (1722) (1723) (1724) (1725) (1726) (1727) (1728) (1729) (1730) (1731) (1732) (1733) (1734) (1735) (1736) (1737) (1738) (1739) (1740) (1741) (1742) (1743) (1744) (1745) (1746) (1747) (1748) (1749) (1750) (1751) (1752) (1753) (1754) (1755) (1756) (1757) (1758) (1759) (1760) (1761) (1762) (1763) (1764) (1765) (1766) (1767) (1768) (1769) (1770) (1771) (1772) (1773) (1774) (1775) (1776) (1777) (1778) (1779) (1780) (1781) (1782) (1783) (1784) (1785) (1786) (1787) (1788) (1789) (1790) (1791) (1792) (1793) (1794) (1795) (1796) (1797) (1798) (1799) (1800) (1801) (1802) (1803) (1804) (1805) (1806) (1807) (1808) (1809) (1810) (1811) (1812) (1813) (1814) (1815) (1816) (1817) (1818) (1819) (1820) (1821) (1822) (1823) (1824) (1825) (1826) (1827) (1828) (1829) (1830) (1831) (1832) (1833) (1834) (1835) (1836) (1837) (1838) (1839) (1840) (1841) (1842) (1843) (1844) (1845) (1846) (1847) (1848) (1849) (1850) (1851) (1852) (1853) (1854) (1855) (1856) (1857) (1858) (1859) (1860) (1861) (1862) (1863) (1864) (1865) (1866) (1867) (1868) (1869) (1870) (1871) (1872) (1873) (1874) (1875) (1876) (1877) (1878) (1879) (1880) (1881) (1882) (1883) (1884) (1885) (1886) (1887) (1888) (1889) (1890) (1891) (1892) (1893) (1894) (1895) (1896) (1897) (1898) (1899) (1900) (1901) (1902) (1903) (1904) (1905) (1906) (1907) (1908) (1909) (1910) (1911) (1912) (1913) (1914) (1915) (1916) (1917) (1918) (1919) (1920) (1921) (1922) (1923) (1924) (1925) (1926) (1927) (1928) (1929) (1930) (1931) (1932) (1933) (1934) (1935) (1936) (1937) (1938) (1939) (1940) (1941) (1942) (1943) (1944) (1945) (1946) (1947) (1948) (1949) (1950) (1951) (1952) (1953) (1954) (1955) (1956) (1957) (1958) (1959) (1960) (1961) (1962) (1963) (1964) (1965) (1966) (1967) (1968) (1969) (1970) (1971) (1972) (1973) (1974) (1975) (1976) (1977) (1978) (1979) (1980) (1981) (1982) (1983) (1984) (1985) (1986) (1987) (1988) (1989) (1990) (1991) (1992) (1993) (1994) (1995) (1996) (1997) (1998) (1999) (2000) (2001) (2002) (2003) (2004) (2005) (2006) (2007) (2008) (2009) (2010) (2011) (2012) (2013) (2014) (2015) (2016) (2017) (2018) (2019) (2020) (2021) (2022) (2023) (2024) (2025) (2026) (2027) (2028) (2029) (2030) (2031) (2032) (2033) (2034) (2035) (2036) (2037) (2038) (2039) (2040) (2041) (2042) (2043) (2044) (2045) (2046) (2047) (2048) (2049) (2050) (2051) (2052) (2053) (2054) (2055) (2056) (2057) (2058) (2059) (2060) (2061) (2062) (2063) (2064) (2065) (2066) (2067) (2068) (2069) (2070) (2071) (2072) (2073) (2074) (2075) (2076) (2077) (2078) (

CG LINDSAY NARRAGANSETT

ADEC BOB MCCREARY

DATE 8/8/90

TOTAL EST LENGTH OF SHORELINE SURVEYED: 1570 m

SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WEATHER: ☐ Sun ☐ Clouds ☐ Fog ☒ Rain ☐ Snow

OIL CATEGORY LENGTH: W m M 520 m N 630 m VL m NO 420 m US 958 m

SAFARI JOHN DEAN

USGS USGS - DON DAVIS / NOAA

LAND REP STEVE WARD

TIME 11:40 to 12:05

SUBDIVISION KN 405

SUBDIVISION A

TOTAL NO. SITES 1

TIDE LEVEL +4.9 10 +4.0

SURFACE OIL

SITE 1

CHARACTER	DISTRIBUTION				OILED ZONES			
	/C	/B	/P	/S	SU	UI	MI	LI
ASPHALT								
S.O.R.								
POOLED								
COVER			X			X		
COAT		X	X			X		
STAIN		X	X	X		X		
MOUSSE								
PATTIES/T.B.								
FILM								
NO OIL					X	X	X	
EST. SITE LENGTH					1570 m			

SITE 2

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

SITE 3

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

SUBSURFACE OIL

SITE NO.	PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER				OILED INTERVAL (cm)	CLEAN BELOW (Y/N)	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS
			OP	OR	OF	NO			SU	UI	MI	LI	
1	1	10			X		0-10	N		X			P/C/B
1	2	20		X			0-20	N		X			P/C/B
1	3	30			X		0-30	N		X			P/C/B
1	4	35			X		0-30	Y		X			P/C/B
1	5	40		X			0-40	N		X			P/C/B
1	6	30		X			0-40	N		X			P/C/B
1	7	30				X	.			X			P/C/B
							.						
							.						
							.						
							.						
							.						
							.						

Photographs

Roll No. 6

Frames 6

COMMENTS

OIL IS LOCATED AT THE UPPER INTERTIDAL ZONE BEHIND HIGH BERMS
 AGAIN THE SUBSURFACE SEDIMENTS - A CONSIDERABLE AMOUNT
 OF LOGS/TIMBERS OCCUR IN THE UPPER IT. ZONE ABOVE THE OIL.

REVISION NO. 7/87/90

SEGMENT A9 / KN-405 SUBDIVISION: A SITE: 1 DATE 8-8-90

USCG

NAME David Nae, NOAA
Don Davis, USCG

SIGNATURE David C. Nae

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Surface oil is locally heavy, especially landward of the present storm berm. Also, a major subsurface oil body exists in the site, & can be followed north of the site, through the rest of the segment & into KN-404. Recommend major work effort here in 1990 and full delineation of remaining oil in 1991. Area north of marked "site" should be included for cleanup.

ADEC

NAME Bob McCready

SIGNATURE Robert B. McCready

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

Extremely heavily oiled segment will require a major commitment of manpower as well as heavy equipment. Diking begins approx. 400m north of test site and continues to end of segment. This entire portion of the segment is approx. 1500m long and will require mechanical relocation of the entire storm berm as well as mechanically expose, tilting, and spreading out subsurface oil in the M-UT2 areas. These recommendations have been submitted by ASAP/Survey crew and are calling for treatment in both the Fall of '90 and summer '91. Also recommend full TAG review and suggest work start as soon as possible.

LAND MANAGER

NAME Steve Laro

SIGNATURE Steve Laro

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

This Area is AS Extensively oiled AS Steery Bay. It's been ignored too long - major sub surface and surface oil plus extremely heavy oil pooled up above storm berm. MASSIVE 90 clean-up - massive 91 - clean-up - MECHANICAL

XXON

NAME John Dean

SIGNATURE John Dean

☒ YES

☐ NO

PRIORITY SITE FOR REASSESSMENT IN 1991

REASON:

1. Agree with NOAA/USCG comments above. ASAP follow-up recommendation has been submitted, requesting class III TAG review.

PLEASE NOTE: LAND MGR. REP. STATES THAT "NOAA TEST SITE" IS

NOT RECOGNIZED / AUTHORIZED BY CHENECA VILLAGE CORP. REVISION NO. 7/1990

KNIGHT
ISLAND

8/240 520x24
CT/BIP
CVP
ST/B/P/S

8/8/90

PIT 1

PIT 2

PIT 3

PIT 4

630m x 24

ST/B/P/S
CT/BIP

PWS

8/8/90

CU 520
CT 2300
NO 420
US 958
ST 3450

PIT 5

PIT 6

PIT 7

442

MTZ

LITZ

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

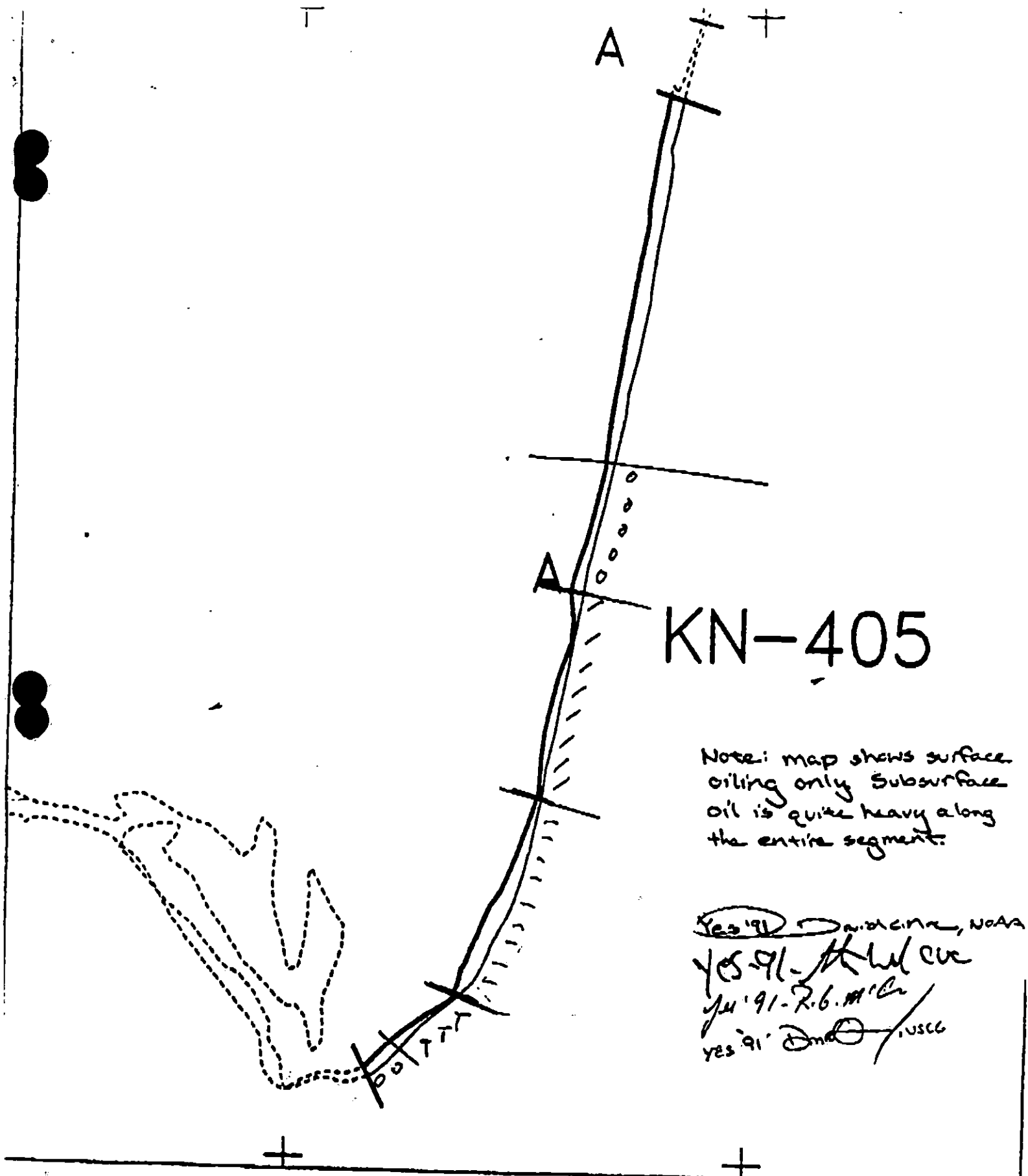
KN-405

ADEC Segment Length: 2528m

Map Key: PWS-3570

Name: G. MACDONALD

Date: 1/5/90

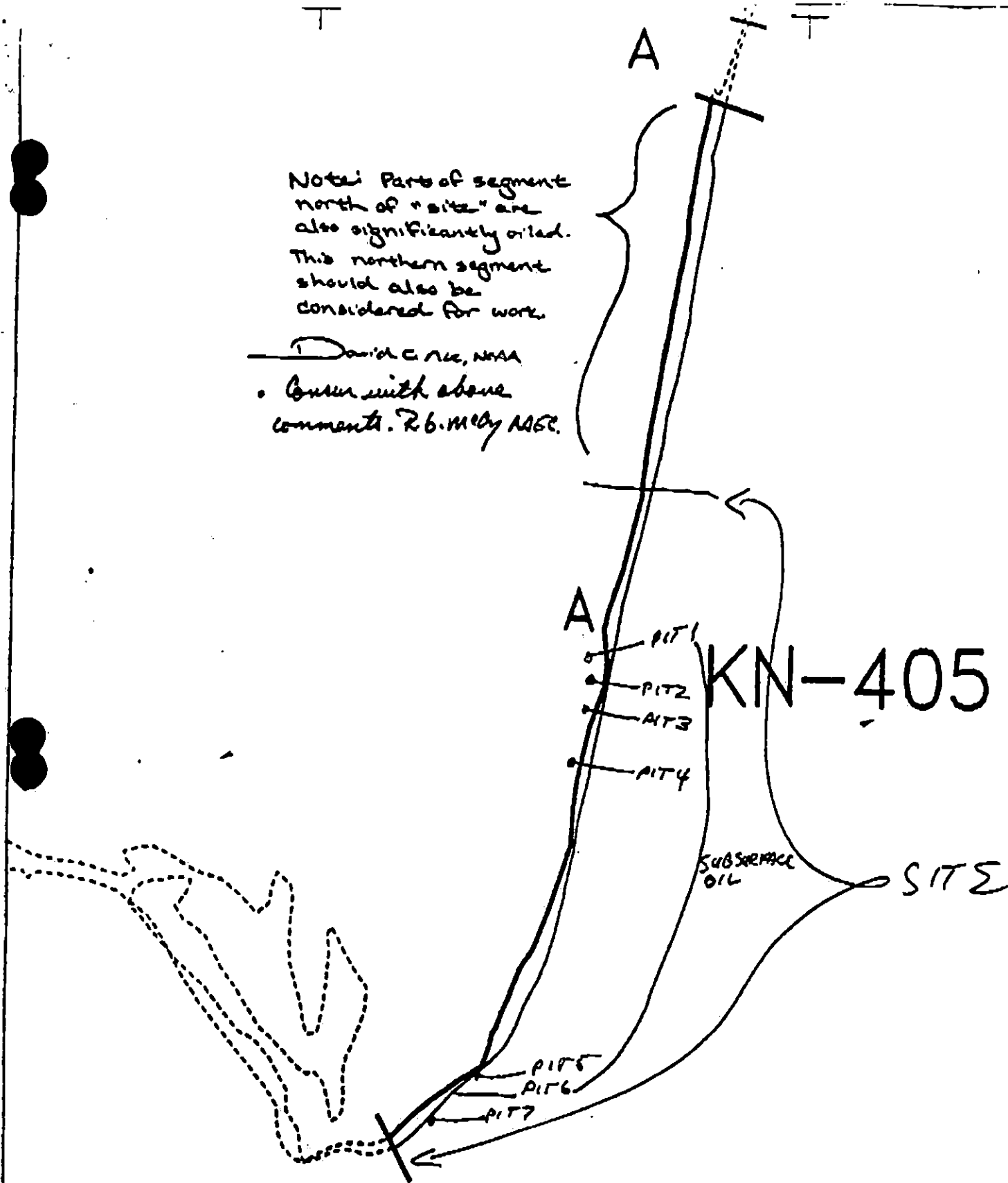


XXXX	Wide	KN-405 A ADEC Subsegment Length: 2528m METERS 0 516 628 AK State Plane Zone 4 1:12360 KN-405a	Subdivision Field Map
///	Medium		Map Key: KNIK-405A
-	Narrow		Name: <u>NAKASHIMA</u>
TTTT	Very Light		Date: <u>8/8/90</u>
0000	No Oil		Date Entered:

Note: Part of segment north of "site" are also significantly oiled. This northern segment should also be considered for work.

David C. Rice, NOAA

Consistent with above comments. R. B. M. by ASG.



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

KN-405 A
 ADEC Subsegment Length: 2528m
 METERS

0 314 628
 AK State Plane Zone 4 1:12300
 kn-405a



Subdivision Field Map
 Map Key: KNKN-405A
 Name: NAKASHIMA
 Date: 8/8/90
 Date Entered:

GENERAL DATA

SEG ID: KN405 SDV: A SITE: 1 TEAM: 3 DATE: 8/8
SITE LGTH 1570 OIL CATEGORIES: W — M 520 N 630 VL — NO 420 U 958
1991 REASSESSMENT: USCG: Y ADEC: Y LONGR: Y EXXON: —

SURFACE DATA

CHAR #: 1 OIL CHAR: CV OIL DIST: CONT — BRKN — PTCH 520 SPLH —
TIDAL ZONE: SU — UI X MI — LI —

CHAR #: 2 OIL CHAR: CT OIL DIST: CONT — BRKN 1150 PTCH 1150 SPLH —
TIDAL ZONE: SU — UI X MI — LI —

CHAR #: 3 OIL CHAR: ST OIL DIST: CONT — BRKN 1150 PTCH 1150 SPLH 1150
TIDAL ZONE: SU — UI X MI — LI —

CHAR #: 4 OIL CHAR: NO OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU X UI — MI X LI X

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

CHAR #: — OIL CHAR: — OIL DIST: CONT — BRKN — PTCH — SPLH —
TIDAL ZONE: SU — UI — MI — LI —

ASAP DATA ENTRY FORM

SUBSURFACE DATA

PAGE 2 OF 2SEGMENT ID: K1405 SUBDIV: A SITE: 1

PIT # 1 PIT DEPTH 10 OIL CHARACTER OF OIL INTVAL: FROM 0 TO 10
CLEAN BELOW: N PIT ZONE: SU — UI X MI — LI —
SUBSURF SEDIMENT: BRK — BLD X COB X PEB X GRN — SAN — MUD — VEG —

PIT # 2 PIT DEPTH 20 OIL CHARACTER OR OIL INTVAL: FROM 0 TO 20
CLEAN BELOW: N PIT ZONE: SU — UI X MI — LI —
SUBSURF SEDIMENT: BRK — BLD X COB X PEB X GRN — SAN — MUD — VEG —

PIT # 3 PIT DEPTH 30 OIL CHARACTER OF OIL INTVAL: FROM 0 TO 30
CLEAN BELOW: N PIT ZONE: SU — UI X MI — LI —
SUBSURF SEDIMENT: BRK — BLD X COB X PEB X GRN — SAN — MUD — VEG —

PIT # 4 PIT DEPTH 35 OIL CHARACTER OF OIL INTVAL: FROM 0 TO 30
CLEAN BELOW: Y PIT ZONE: SU — UI X MI — LI —
SUBSURF SEDIMENT: BRK — BLD X COB X PEB X GRN — SAN — MUD — VEG —

PIT # 5 PIT DEPTH 40 OIL CHARACTER OR OIL INTVAL: FROM 0 TO 30
CLEAN BELOW: N PIT ZONE: SU — UI X MI — LI —
SUBSURF SEDIMENT: BRK — BLD X COB X PEB X GRN — SAN — MUD — VEG —

PIT # 6 PIT DEPTH 30 OIL CHARACTER OR OIL INTVAL: FROM 0 TO 40
CLEAN BELOW: N PIT ZONE: SU — UI X MI — LI —
SUBSURF SEDIMENT: BRK — BLD X COB X PEB X GRN — SAN — MUD — VEG —

PIT # 7 PIT DEPTH 30 OIL CHARACTER NO OIL INTVAL: FROM — TO —
CLEAN BELOW: — PIT ZONE: SU — UI X MI — LI —
SUBSURF SEDIMENT: BRK — BLD X COB X PEB X GRN — SAN — MUD — VEG —

PIT # — PIT DEPTH — OIL CHARACTER — OIL INTVAL: FROM — TO —
CLEAN BELOW: — PIT ZONE: SU — UI — MI — LI —
SUBSURF SEDIMENT: BRK — BLD — COB — PEB — GRN — SAN — MUD — VEG —

PIT # — PIT DEPTH — OIL CHARACTER — OIL INTVAL: FROM — TO —
CLEAN BELOW: — PIT ZONE: SU — UI — MI — LI —
SUBSURF SEDIMENT: BRK — BLD — COB — PEB — GRN — SAN — MUD — VEG —

ASAP TAG REVIEW SHEET

Segment: KN405 Subd: A Site: L Date
PRE-Review 11 AUG 90

Priority For Addressing In 1990

 HIGH MEDIUM LOW X NTR

Treatment
Recommended:

NTR

OG SHEET & COMMENTS
INDICATE SIGNIFICANT SUBSURFACE
OILING.

Recommendation Page - asks
for a TAG CLASS III EVAL.

Priority Site For Reassessment In 1991

YES NO YES NO YES NO YES NO
CG ADEC EXXON LAND MGR

13 AUG 90 TAG

TAG VISIT

(Look @ Storm B-
Relocation)

SHORELINE EVALUATION

SEGMENT ST/ KN-406 SUBDIVISION A (1 OF 1) DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Active bald eagle nest (5T) - 3/1 to 6/1; Recreation anchorage
(6V) - 6/1 to 9/15. Limit air traffic to essential minimum. Air
approach and takeoff from and to seaward only.

SUBDIVISION ECOLOGICAL CONSTRAINTS: Restrict disturbance of unopened
moderate fucus, mytilus and barnacles in lower ITZ.

SHPO SIGNATURE: Charles J. Hume DATE: April 12, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 5389m: No Oil 1342 m
Subsurface Oil Observed: Yes X No Maximum Depth 30 + cm

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 JOHN BAUER John Bauer
EXXON ANDY TELL Andy Tell FOSC: DATE: 4-26-90
NOAA Burt Wescott Burt Wescott
USCG M. J. Hall M. J. Hall

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN-406 SUBDIVISION: A DATE 4/1/90

USCG

NAME MAURICE J. SHARP SIGNATURE [Signature]☒ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

ADEC

NAME S. FERGUSON SIGNATURE [Signature]☒ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED(7) WALKED ENTIRE SHORELINE, CHECKED INTERTIDAL
THROUGHOUT WALK.

LAND MANAGER

(STAND IN S.R. U.S. FOREST SERVICE)
NAME M.C.T. SMITH SIGNATURE [Signature]☐ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

SHORELINE OILING SUMMARY

REVISION NO. 03/02/90

K. Ramsey USCG R. Sharpe SEGMENT ST/ KN-406
 BIO G. Penn LAND REP M. Smith SUBDIVISION A 191
 EXXON S. Reid ADEC S. Ferguson TIME 9:00 to 3:00
 TEAM NO.: 4 TIDE LEVEL: 7 to 4.5' DATE 4/2/90
 EST. SUBDIVISION LENGTH: 6839 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 75 % B 20 % C 3 % P 2 % G - % S - % M - % V - %
 SLOPE: Long 10 % Hang 40 % Vert 50 % WAVE EXPOSURE: ☐ Low ☒ Med ☒ High
 OIL CATEGORY LENGTH: W - m M - m N - m VL 3639 m NO 3200 m

SURFACE OIL

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

PAVEMENT: H (F) S 21 sq. m by 1 cm

PATTIES / TARBALLS: 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. ST-4-1

Frames 15, 16, 17

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm-cm)	BELOW	OIL / FILM COLOR							PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO			VO	UC	SP	OR	OL	OF	NO	SU	UI	ME	U		
4	30		X				0 - 30	X			X					X				N	C, P, Bedrx.
1	15					X	.		X							X				N	C, P
2	15					X	.		X							X				N	C, P
3	15					X	.		X							X				N	C, P
							.														
							.														

COMMENTS

This entire segment can be labeled as very light. There
 as coat, stain, + cover! ^(very patchy) found in UI + SU where the tide came
 in + trapped it behind lg. bedrx + in areas where there was
 lg. crevices. Cobble, Pebble beaches in Li were all clear.
 No oil along slip mtn. side; Friable asphalt v. sporadic. (2 or 3 places) < 5cm in US between
 crevices. one isolated oiling spot
 Done 1 M 1

REVIEWED

DATE 4/3/90

SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/22/88

Segment ST/ 406 Subdivision A Date (mo / day / yr) 4/1/90
 Time (24 hr) 0840 Biologist Penn & Scott

- (A) Substrate type and % of segments:
 (1) Bedrock 80 (2) Boulder 5 (3) Cobble 15 (4) Pebble — (5) Sand — (6) Silt —
- (B) Overall % cover of biota (% of segment): Dense 20 Moderate 5 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-3-2Frames 1

BARNACLES

ST-4-1

Frames 13 & 14

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:

6 sea otters

1 raven

8 bald eagles

1 Cormorant

23 seals

13 crows

5 mergansers

2 sea lions

3 song sparrows

2 Stellar's Jays

10 Bonaparte's Gulls

18 Scoters

2 Deer

3 Herring Gulls

Ecological Considerations:

eagles nest

OG K. RA EV

SEGMENT ST/ RA-406

SUBDIVISION A

DATE 4/1/90

CHECKLIST

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

LEGEND

1 Δ
Pit - No Subsurface Oil

2 Δ
Pit - Subsurface Oil

$\square$ CT/C
Continuous Distribution

$\square$ CT/B
Broken Distribution

$\square$ CT/P
Patchy Distribution

$\square$ CT/S
Splashed Distribution

Oil'd Vegetation

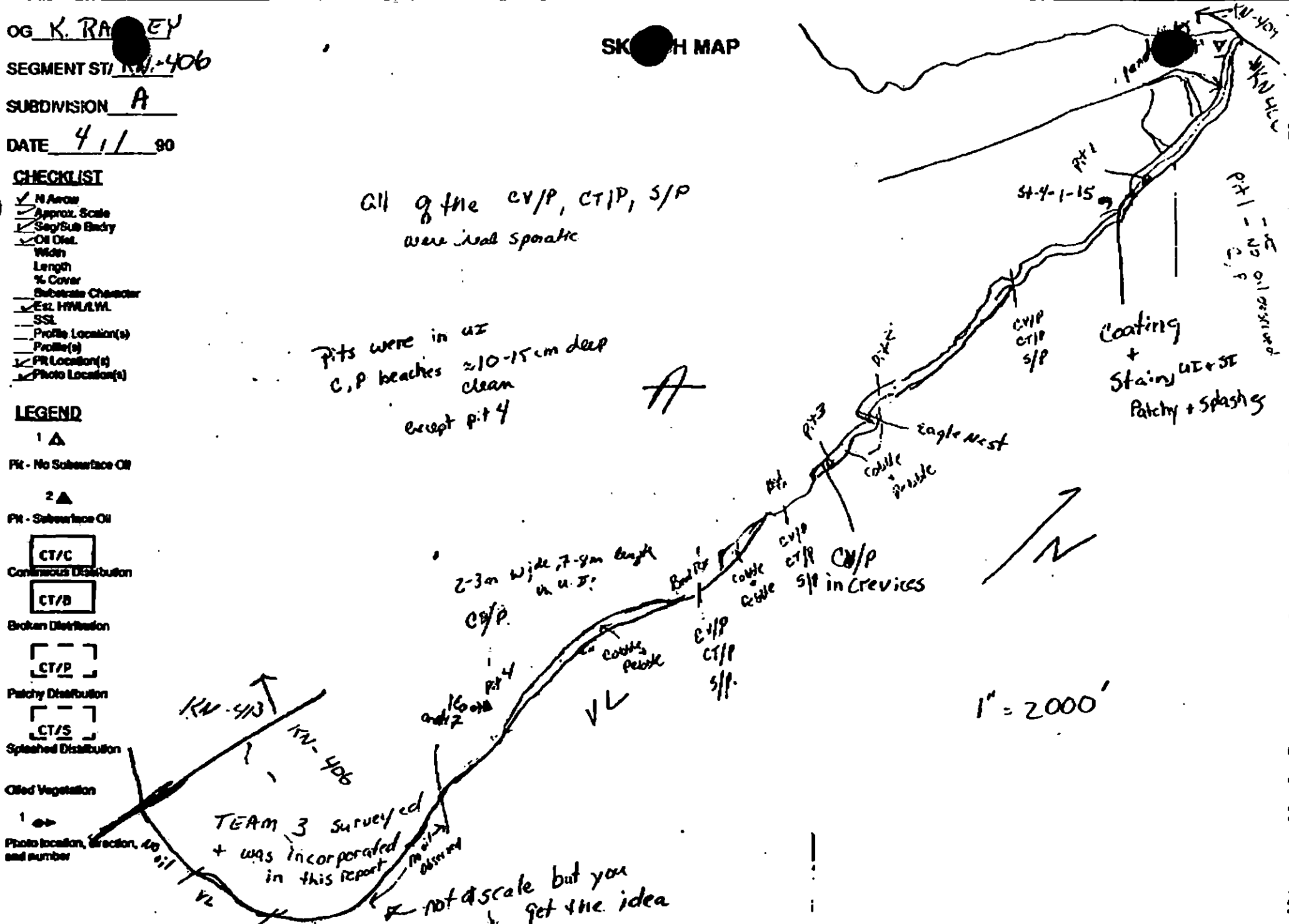
1 $\bullet$
Photo location, direction, no. and number

SKETCH MAP

All of the CV/P, CT/P, S/P
were real sporadic

Pits were in uZ
C.P beaches $\approx$ 10-15 cm deep
clean
except pit 4

A



Oil Character Length (m): AP 3 PO 0 CV 100 CT 100 ST 100 MS 0 PT 0 TB 0 FL 100 NO 6739

SKETCH MAP

CHECKLIST

- ☒ N Arrow
- ☒ Approx. Scale
- ☒ Seg/Sub Bndry
- ☒ Oil Out.
- Width
- Length
- % Cover
- Substrate Character
- ☒ Est. HW/LA/LVL
- SSL
- Profile Location(s)
- Profile(s)
- ☒ Pin Location(s)
- ☒ Photo Location(s)

LEGEND

1 Δ
24 - No Subsurface Oil

2A
2A - Subsurface On

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/P

Patchy Distribution


Splashed Distribution

Cited Vegetation

1 →

Photo location, direction, etc.
and number

all of the CV/P, CT/P, S/P
were dead sporadic

Pits were in US.
C.P. beaches $\approx 10-15$ cm deep
clean
except pit 4

2-3m wide, 7-8m length
in U.S.

CM/P
CT/P
S/P in crevices

Coating
+
Staining ^{UE+SE}
Patchy + Splashing

oil desired.
No. 1 - 20 C, 9

$$1'' = 2000'$$

TEAM 3 surveyed
+ was incorporated
in this report

not a scale but you get the idea

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

PREVIEW: CLASH

APR-01-1990 21:43 FROM MU BEULAH CANDIES

10

EXXON SCAT

2.53

RN: 406

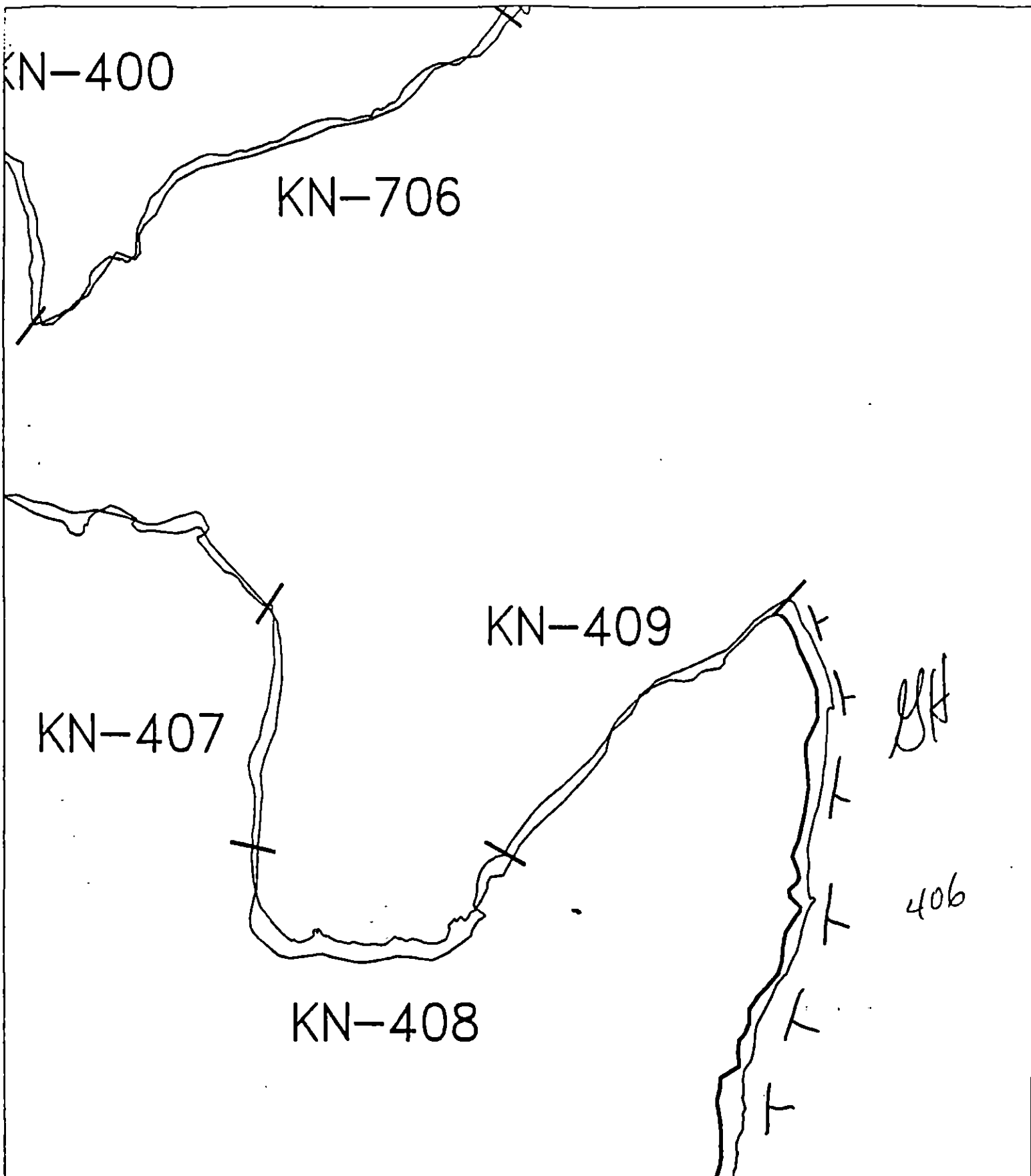
ADEC
Map

500.0

OILING

H	=	Heavy
M	=	Moderate
L	=	Light
VL	=	Very Light
N	=	None
NS	=	Not Surveyed

Distance In Meters



SH

406

XXXX Wide

/// Medium

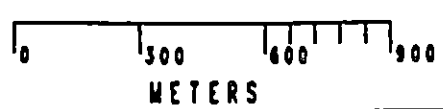
--- Narrow

TTTT Very Light

0000 No Oil

KN-406

ADEC Segment Length: 6839m

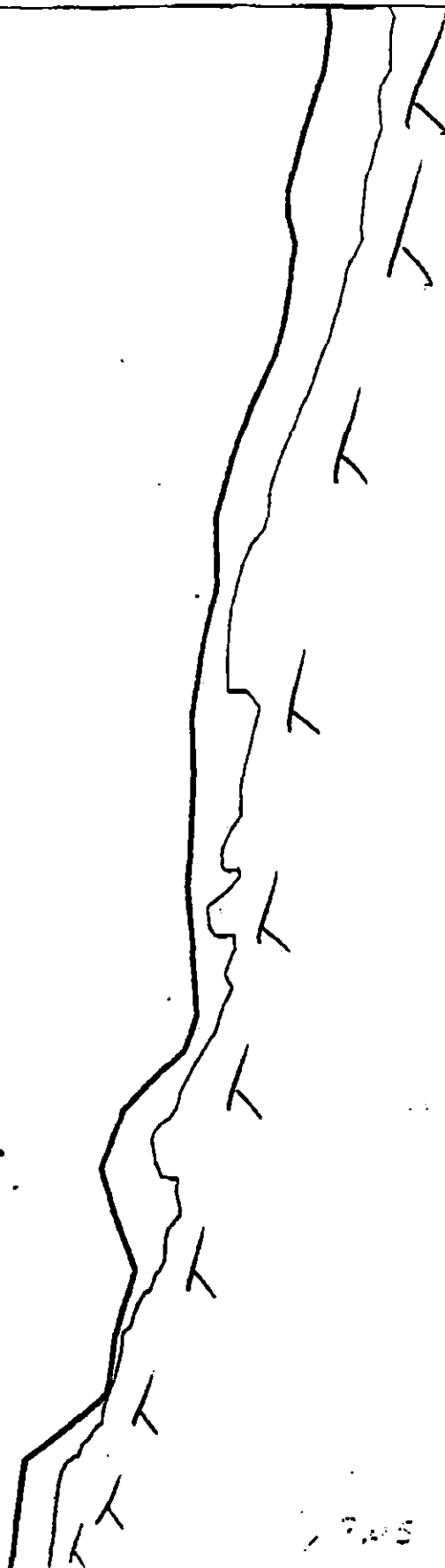


Map Key: PWS-432b

Name: _____

Date: _____

Data Entered: _____



XXXX Wide

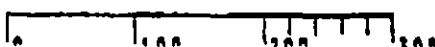
//// Medium

---- Narrow

TTTT Very Light

KN-406

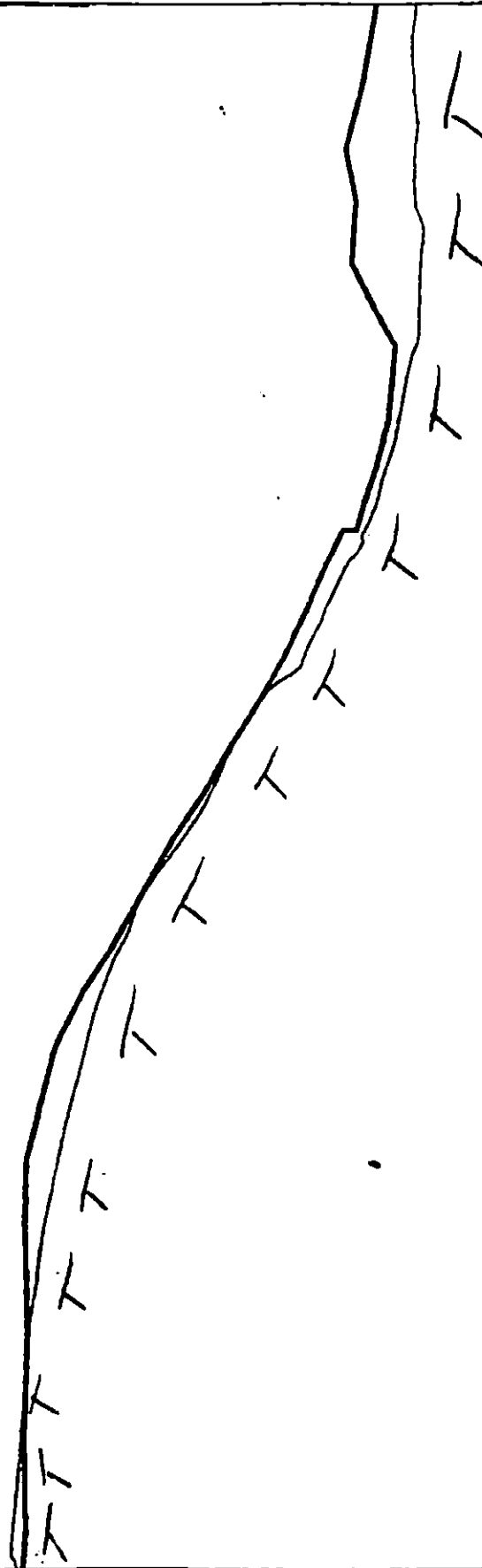
ADEC Segment Length: 6730m



Map Key: PWS-358h

Name: RAMSEYDate: 4/1/90

KN



XXX Wide

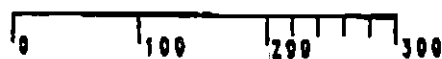
//// Medium

--- Narrow

TTTT Very Light

KN-406

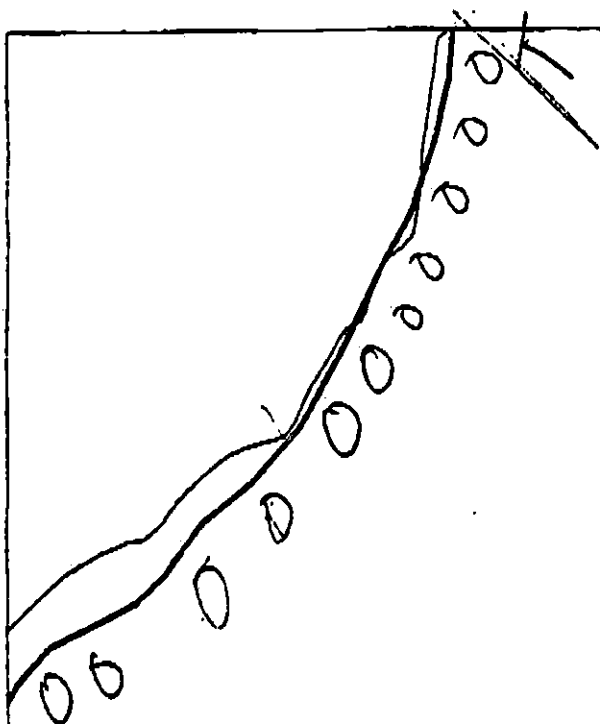
ADEC Segment Length: 6730m



Map Key: PWS-358e

Name: RAMSEY

Date: 4/1/90



XXXX Wide

//// Medium

---- Narrow

KN-406

ADEC Segment Length: 6730m

Map Key: PWS-358b

Name: Ramsey

- 11.10 -

KN-413



XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

KN-406

ADEC Segment Length: 6730m

0 100 200 300

Map Key: PWS-358a

Name: RAMSEYDate: 4/1/90

SHORELINE EVALUATION

SEGMENT ST/ KN-407 SUBDIVISION A (1 OF 1) DATE 4/26/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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 unoiled biota and substrate.

SHPO SIGNATURE: [Signature] DATE: 5/11/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 108 m: V.Light 759 m: No Oil 0 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: 5/11/90
ADEC Art Weinert
EXXON Andy Gear
NOAA Joseph Tuller II
USCG D.D. Rome

FOSC: [Signature] 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 6/15)

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, 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 (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)

7H-H Finfish harvesting

7I Deer harvesting (8/15 to 2/28)

7J Invertebrate harvesting

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

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ KN 407 SUBDIVISION: A DATE 4-26-90

USCG

NAME B113 David A. Sylvester SIGNATURE David A. Sylvester☒ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

Primarily large angular boulders with bedrock outcropping
No subsurface oil
Sporadic patchy coats in upper & supertidal zone
Weathering is having a very positive effect.

ADEC

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

COMMENTS

- Primarily large angular boulder beach with bedrock outcropping.
- sporadic / patchy coats observed throughout segment.
- No subsurface oil observed.
- Very little oil within this segment.

LAND MANAGER

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

COMMENTS

- Primarily large angular boulders with bedrock outcroppings.
- sporadic / patchy coats in upper intertidal.
- No subsurface oil observed.
- Continued Natural Cleaning.

SHORELINE OILING SUMMARY

REVISION NO. 04/13/90

OG Alan Pittenger USCG Dave Sylvester SEGMENT ST/ KN 407
 BIO John Benson LAND REP Dave Mandrella SUBDIVISION A (1 OF 1)
 EXXON Chris Katsimpalis ADEC Diane Munson TIME 07:17 to 09:15
 TEAM NO. #2 TIDE LEVEL 0 → -4 → 0 DATE 4/26/90
 EST. SUBDIVISION LENGTH: 877 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: South to North
 SURFACE SEDIMENTS: R 20 % B 70 % C 10 % P 0 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Lang 90 % Hang 10 % Vert 0 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 5.3 m VL 824 m NO 0 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	10	15	20	25	30	35	40	45	50	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 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 None#BAGS 0

Photographs:

Roll No. 0Frames 0

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	30	35	40	45	50	SU	U	M	U				
1	25																			N	>25	P-P
2	20																			N	>20	C-C
3	30																			N	>30	C-C

COMMENTS

REVIEWED

DATE

Alan P. Fritinger
 GMENT STI KUL407

DIVISION A

TE 4 / 26 / 90

HECKLIST

M Area
 Approx. Scale
 Segments Study
 OS Data
 Width
 Length
 % Cover
 Substrate Character
 Est. Percent LVI
 SSI
 Profile Location(s)
 Profile(s)
 PG Location(s)
 Photo Location(s)

LEGEND

1 Δ No Subsurface Oil
 2 Δ Subsurface Oil
 CT/C Visible Distribution
 CT/S Sub Distribution
 CT/P dy Distribution
 CT/S Sub Distribution
 R.R. of Vegetation
 No location, direction, number
 Bedrock
 Oiled Interval

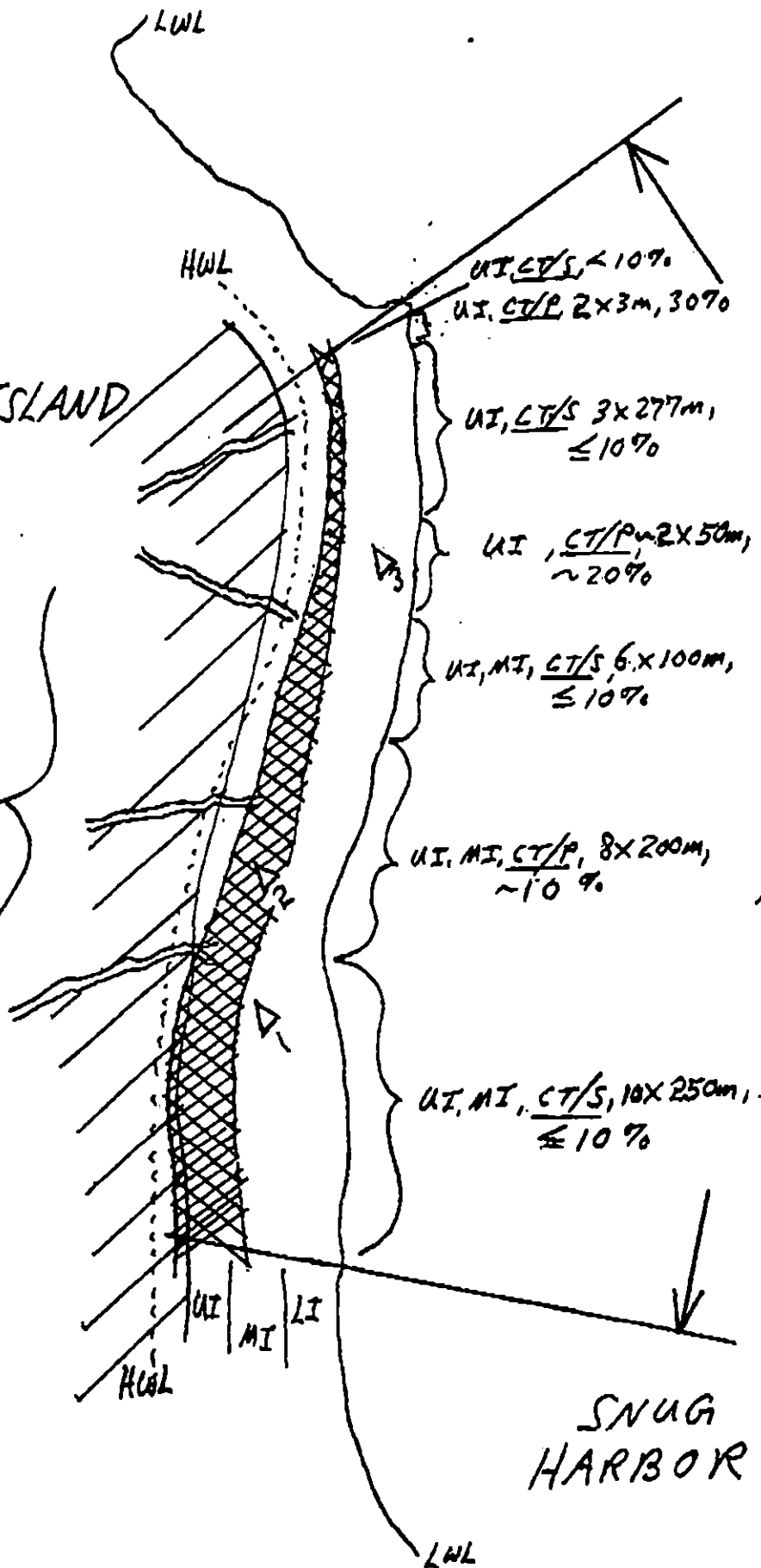
Character Length (m): AP 0 PO 0 CV 0 CT 377 ST 0 MS 0 PT 0 TB 0 FL 0 NO 0

SKETCH MAP

KNIGHT ISLAND

Forest / Steeply dipping Bedrock

Streams



Lang.; boulder rubble & bedrock throughout Segment

Scale
 0 100 200 300
 METERS

Bedrock

Oiled Interval

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/25/90

Segment ST/KN407 Subdivision A Date (mo/day/yr) 4/26/90
 Time (24 hr) 0715-0915 Biologist Benson

- (A) Substrate type and % of segments:
 (1) Bedrock 20 (2) Boulder 70 (3) Cobble 10 (4) Pebble 0 (5) Sand 0 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense 30 Moderate 30 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		
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	3	3	3	X
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

MYTILUS

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

NOT PRESENT

GASTROPODS

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

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	X	X	X	X	2
3	3	3	3	X	3	3	3	3	3	3	X
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

Wildlife Observations/ General Comments:

goldeneye (*Bucephala* sp.)
 fish fry (unidentified)

Ecological Considerations: Resource Codes: 6Y, 6V

The number of species here is moderate. The boulder beach has a low total % cover in the mid and upper intertidal zone, but the low intertidal zone was supported a diverse community of algae. *Rhodomela*, *Laminaria* spp., *Alaria*, *Costaria* and *Porphyra* were very dense on the low intertidal zone boulders. Large boulders in the mid-zone were also covered.

ECOLOGY MAP (1 OF 1)RESOURCE CODES FOR ENTIRE
SEGMENT:

Y, V:

high intertidal tidepools

XXXX Wide

//// Medium

---- Narrow

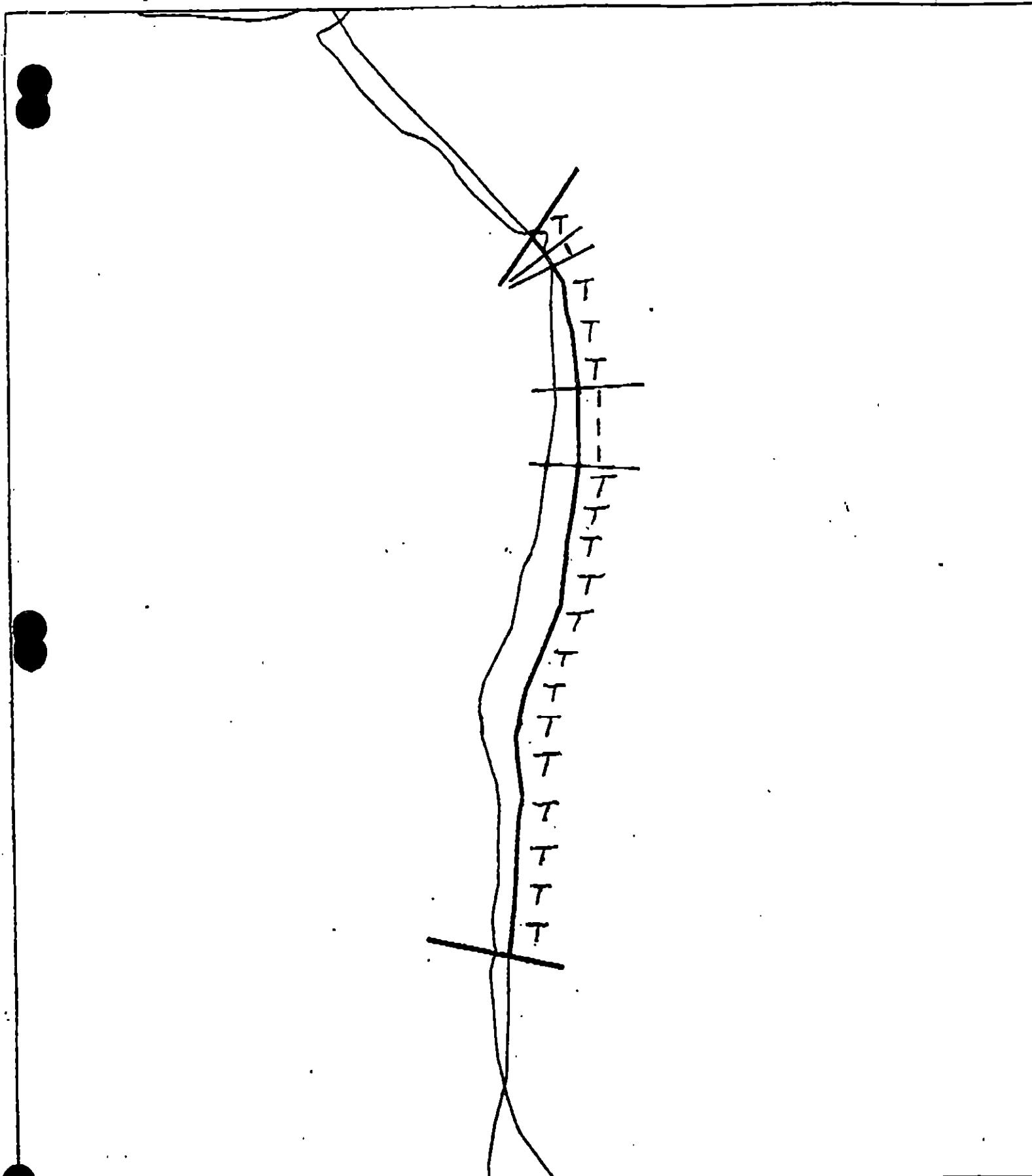
TTTT Very Light

KN-407

ADEC Segment Length: 866m

Map Key: PWS-359

Name: BensonDate: 4/26/90



XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

KN-407

ADEC Segment Length: 866m
Exxon Segment Length: 877m

Map Key: PWS-359

Name: Alan PittengerDate: 4/26/90

SHORELINE EVALUATION

SEGMENT ST/ KN-408 SUBDIVISION A (1 OF 1) DATE 4/26/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

6Y Recreation: Special use destination

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

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: Michael Ostrogorsky DATE: 5/15/90

OILING CATEGORIZATION:

Wide 0 m: Medium 223 m: Narrow 820 m: V.Light 323 m: No Oil 164 m
Subsurface Oil Observed: Yes X No Maximum Depth 45 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual pickup of mousse and oiled debris, 2) manual removal of tarmats, 3) manual relocation of SUTZ to MITZ and 4) bioremediation of areas shown on attached sketch map. NO specific ecological time constraints identified.

TAG COMMENTS: MONITORS TO ASSESS LOGS SPOT WASH IN AREA
OF PIT 10 ONLY IF FEASIBLE AND DEEMED BENEFICIAL TO
REMOVAL OF OIL

TAG APPROVAL DATE: 5/15/90

ADEC Art Weiner

EXXON Andy GHL

NOAA John H. Clayton

USCG G.A. Reiter

FOSC: W L

DATE: 5-18-90

- 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 (6/7 to 8/31)
1J Purse seine area (7/20 to 9/30)
1K Purse seine hook-off (7/20 to 9/30)
1L Set net sites (6/11 to 7/25)
Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
AGENCY CONTACT PERSON: ADF&G James Brady 424-3212
- 2M Herring spawning (4/1 to 6/15)
Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
- 30, 3Q Harbor seal and sea lion pupping (5/15 to 7/1)
Harbor seal and sea lion molting (8/15 to 9/15)
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.
AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235
ADF&G Don Calkins 267-2403
- 5R Seabird colony (5/1 to 9/1)
Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
ADF&G Tom Rothy 267-2206
- 5T All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 6U Recreation: Tent sites (5/1 to 9/15)
6V Anchorages (5/1 to 9/15)
6W Forest Service cabins (5/1 to 9/15)
6X Lodge (5/1 to 9/15)
6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
7-H Finfish harvesting
7I Deer harvesting (5/15 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-408 SUBDIVISION: A DATE 4-26-90

SCG

NAME

Patrick May

SIGNATURE

Patrick May☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

This complex segment varies greatly in terrain and degree of oiling and is a good candidate for further TAG team review in order to establish a cleanup game plan. Major considerations will be the subsurface debris in the storm berm. The area of huge boulders on the western portion of the segment which had tar coats and oil in the sediments at their bases. The considerable amount of subsurface oil in the MITZ in the vicinity of pit 10 can be bioremediated; this area may be a sheener this summer. The asphalt patches north of pit 10 should be broken up. The stained and coated areas of the beach and boulders along the southern and eastern portions of the segment are weathering well.

ADEC

NAME

M. Cunningham

SIGNATURE

M. Cunningham☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Scrape back storm berm w/ dozer to expose gravel to weathering & to expose buried debris. Spread storm berm over width of upper intertidal. Bioremediate + collect debris (est 30+ bags). Spot wash, break up, remove patches of murre/asphalt as in map. Bioremediate. Manual pickup of soft murre when encountered. Subsurface oil in evidence at several locations however interlocking rocky substrate will make removal difficult/imp.

LAND MANAGER

NAME

Steven Phillips

SIGNATURE

Steven Phillips☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

- ★ TAG review: Storm berm has significant oil/debris. Recommend it be spread down the U.I.T.Z. and debris collected, and oil bioremediated.
- ★ TAG review: Slate is vertical grain so it contains substantial oil in fractures. Remove asphalt and evaluate for washing. Bioremediate after cleanup activities. This area is a sheen problem.
- Bioremediate where oil has sunk into sediments between large boulders to west and pocket beaches to east.
- A large effort is needed to clean oiled debris especially pom-poms.
- Mobile oil in eastside MITZ needs disturbing, absorbents, and bioremediation after cleanup.
- Good luck on this segment.

SHORELINE OILING SUMMARY

REVISION NO. 34-13-90

OG Greg Chaney USCG Pat Malay SEGMENT ST/ KN 408
 BIO Jim Roth LAND REP/DNR Don Phillips SUBDIVISION A (1 OF 1)
 EXXON Ray Kite ADEC Mike Cunningham TIME 07:15 to
 TEAM NO. 07 TIDE LEVEL -3.8 to 0 FT DATE April 26 190
 EST. SUBDIVISION LENGTH: 1485 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☐ Rock Snow on Storm Berm
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: West to East
 SURFACE SEDIMENTS: R 30 % B 35 % C 10 % P 10 % G 5 % S 5 % M 5 % V 0 %
 SLOPE: Lang 30 % Hang 60 % Vert 10 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 267 m N 802 m VL 297 m NO 119 m

SURFACE OIL

This pavement was found in small patches Mar. Observ.

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

PAVEMENT (H) F S 100 sq. m by 15 cmPATTIES / TARBALLS collected BAGSNEAR SHORE SHEEN? NO BR RW (S) TL

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

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐
 Net, Plastic Bottle,
 TYPE Pumps, Rope

#BAGS 7

Photographs:

Roll No. ST-7-4Frames 28, 29, 30, 31, 32, 33, 34

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	UC	SP	BR	GY	BL	TR	LR		SU	U	M	L				
1	25				X		0-10		X	X							X				N	Y	20	B-BP
2	30		X				0-10		X	X							X				N	N	0	B-BGP
3	45				X		0-10		X	X							X				N	N	0	B-BGM
4	35		X				0-20		X	X							X				N	N	0	BC-LP
5	30				X		0-0		X								X				N	N	0	PG-PG
6	35				X		0-0		X								X				N	N	0	PG-PG

COMMENTS

REVIEWED YHDATE 4-29-90

SHORELINE OILING SUMMARY (PAGE 2)

REVISION 04.13.90

SEGMENT ST/ KN-408 SUBDIVISION A (1 OF 1)

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR							PIT ZONE				A N A	SHEEN (Y/N)	▼	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	SP BR	OR RW	GY SL	DR TL	LR	SU	U	M	L						
7	35					X	0-0		X						X					N	N	20	PG-PG	
8	70					X	0-0		X						X					N	N	65	PG-GS	
9	30					X	0-0		X							X				N	N	20	CG-BL	
10	50	X					0-45		X	X						X				N	Y	40	B-BCG	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	

COMMENTS

REVIEWED MA DATE 4-21-90

OG *Greg Honey*
 SEGMENT STI *KN-408*
 SUBDIVISION *A*

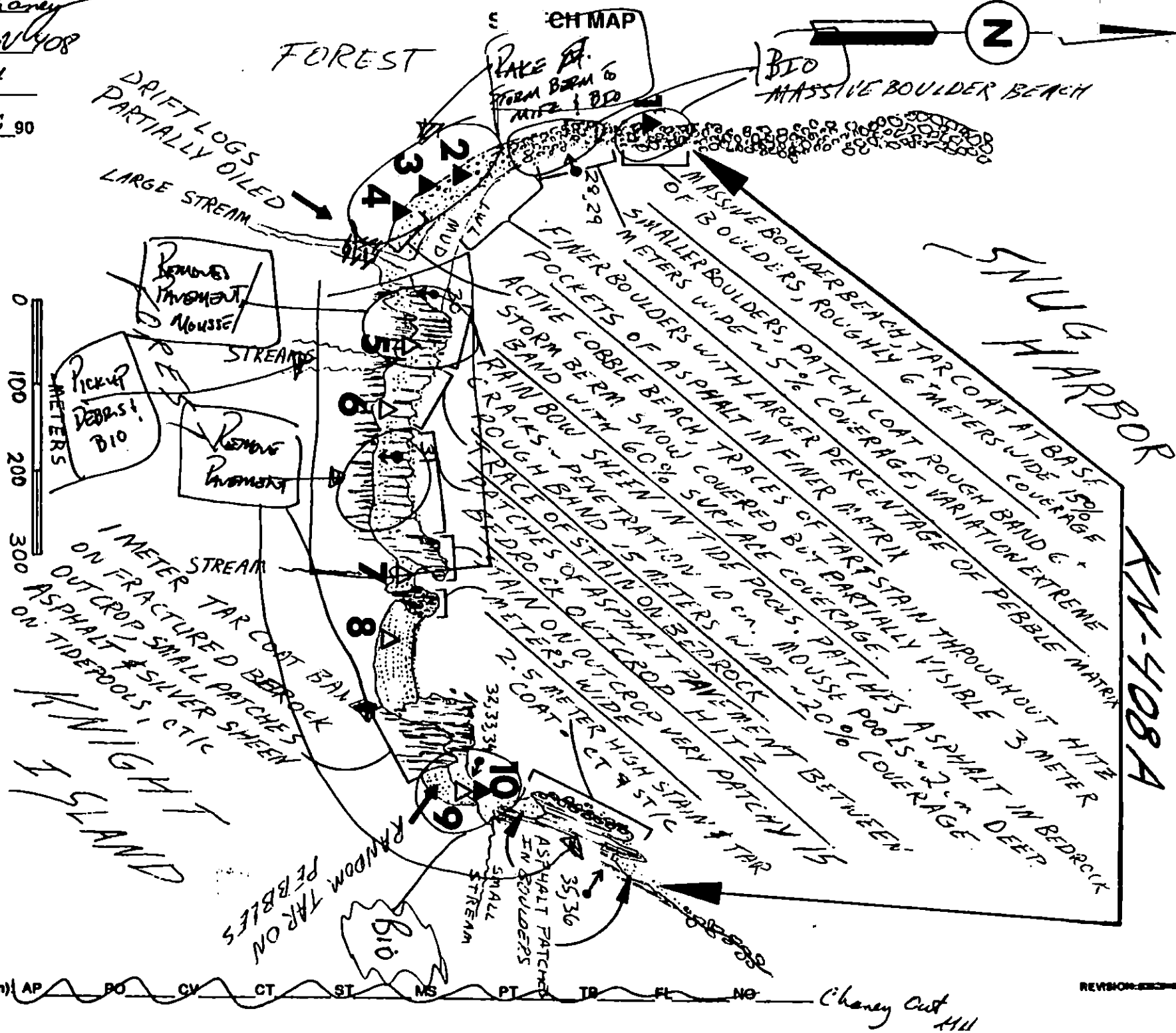
DATE *April 26 90*

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Bndry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HWL/LWL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ 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
Patched Distribution
- CT/S
Splashed Distribution
- Oiled Vegetation
- 1 $\rightarrow$
Photo location, direction, and number



COMMENTS
SEGMENT ST-KN-408-A

Greg Chaney
April 26 1990

The survey of KN-408-A was conducted after dawn under clear skies. Dew remained on the littoral sediments even though the sun was shining. Black shale composed a large portion of the segment's beach material. With the dew, the black color of the shale made identification of oil difficult. In many regions black tar coats graded into black wet shale. Any future treatment effort needs to exercise caution when attempting to locate oil in the segment. Variation of oil concentration within the segment was intense. The segment's western edge was composed primarily of massive boulders. While the exposed portions of these boulders retained little oil, the bases of the boulders retained patchy coats and stains. Where the boulders were smaller, patches of pavement often composed the interstitial sediments. In these areas, asphalt made up less than 10% of the total surface area due to the dominance of clean boulders. The storm berm throughout the segment was largely snow covered, however six bags of oiled trash and debris were recovered from it. Two to three times this amount of debris still remain on the storm berm but this number may be higher because the storm berm is still partially snow covered. A thorough search of the entire segment for oiled debris is recommended after the snow has melted. The stream mouth near pit #4 contains a number of partially oiled logs. The center of the segment consists of a rugged wave cut platform composed of vertical shale bedding planes. Patches of asphalt pavement and small pools of mousse are trapped between these bedding planes. Although the area was not classified as "WIDE" oil due to the clean shale, significant mobile oil was retained in the cracks and pockets between the bedding planes. Pit #10 revealed a portion of the beach which still retained mobile oil in the pore spaces of the sediment. Fresh looking black oil flowed into the pit as it was being dug. Although the area affected did not appear extensive, it was significant. This segment appears to have been heavily oiled in the past but now mobile oil only remains in localized areas.

SHORELINE ECOLOGICAL SUMMARY

REVISION. 3322

Segment ST / KN-429 Subdivision A Date (mo / day / yr) Apr 26 70Time (24 hr) 0745 - 0830 Biologist ROTH(A) Substrate type and % of segments:
(1) Bedrock 30 (2) Boulder 35 (3) Cobble 10 (4) Pebble 15 (5) Sand 5 (6) Silt 5(B) Overall % cover of biota (% of segment): Dense 20 Moderate 15 Low 65

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

Photographs:
Roll No. ST-7-4Frames 23-36

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
3	3	3	3	3	3	X	X	X	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

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	X	X	X	X	X	X
3	3	3	3	3	3	X	X	X	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

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	X	X	X	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

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	X	X	X	X	X	X
3	3	3	3	3	3	X	X	X	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

NOT PRESENT

Wildlife Observations/ General Comments:

A MODERATE-ENERGY SITE WHICH IS SOMEWHAT DIFFICULT TO CATEGORIZE;
THE OVERALL COVER OF BIOTA IS LOW, BUT SOME AREAS HAVE DENSE COVER.

Ecological Considerations:

SPECIAL USE DESIGNATION
ANCHORAGES
TENT SITES

IT IS SPECULATED THAT SOME OF THE RELATIVELY
BARE MITZ BOULDER AND COBBLE AREAS WERE
DENuded BY CLEAN-UP OPERATIONS DURING 1969.
THESE AREAS HAVE A THIN COAT OF FILAMINOUS
GREEN ALGAE AND A SPARSE COAT OF BARNACLE SPAT.

IN CONTRAST, SOME OTHER BOULDER / COBBLE AREAS IN THE MIDDLE ZONE O
SIMILAR EXPOSURE HAD MODERATE DENSITIES OF FUCUS, LITTORINES, AND MYTILUS.
THERE WAS EVIDENCE OF RECRUITMENT / RECENT GROWTH IN ALL 4 PLOTTED CATEGORIES.
THE RELATIVELY LONG SPECIES LIST REFLECTS THE SUPER TIDE WHICH PERMITTED

ECOLOGY MAP (1 OF 1)

RESOURCE CODES FOR ENTIRE
SEGMENT:

6 Y, U, V

SPECIAL USE DESIGNATION

ANCHORAGES

TENT SITES

KN-408

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

KN-408

ADEC Segment Length: 1485m

0 100 200 300
METERS

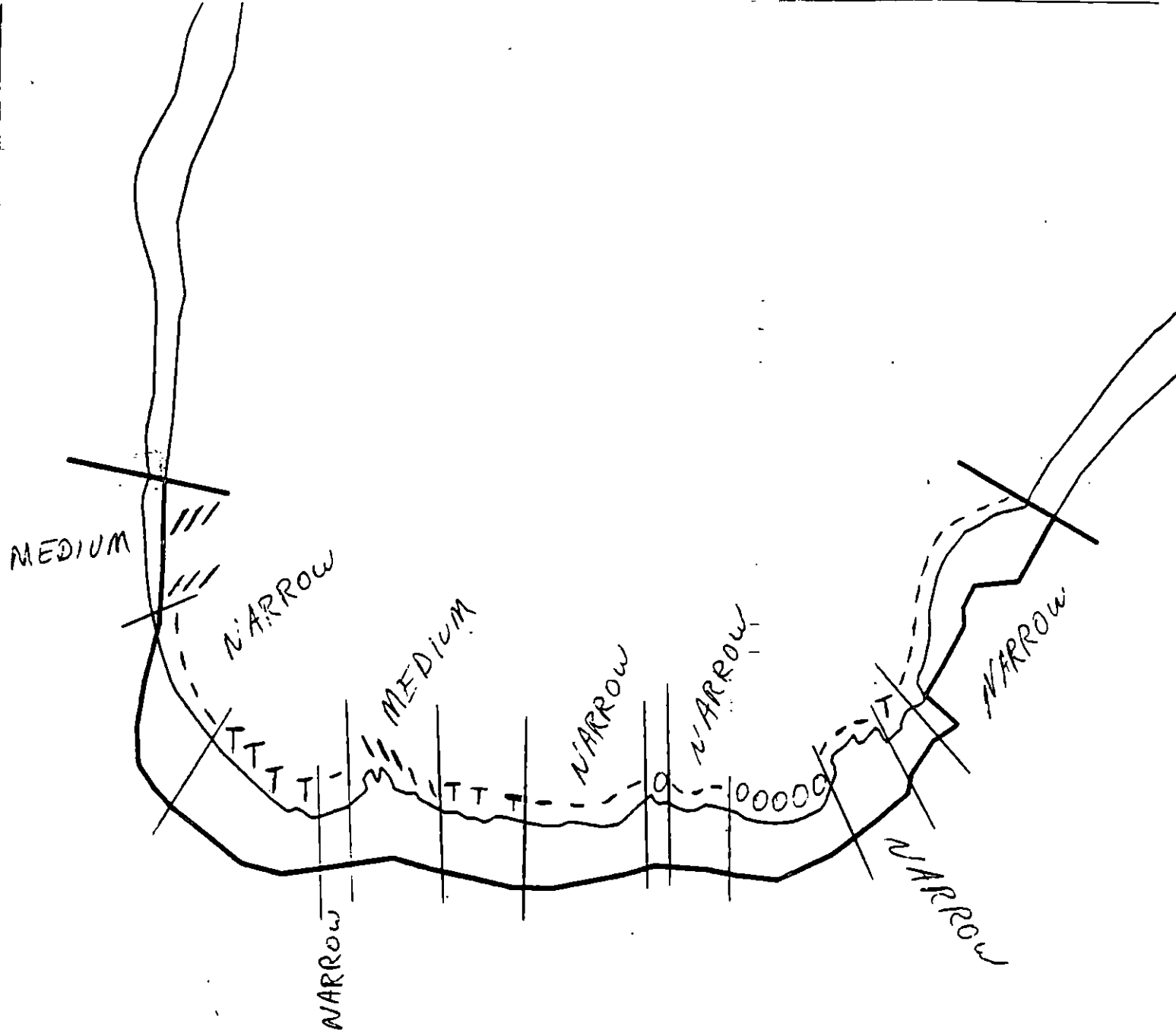


Map Key: PWS-434

Name: _____

Date: _____

Data Entered: _____



KN-408

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

OOOO No Oil

KN-408

ADEC Segment Length: 1485m



Map Key: PWS-434

Name: Greg Chaney

Date: April 26/1990

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-408 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup Tarnat Removal	OPEN
Bioremediation Spot Washing Manual Relocation	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

No ecological time constraints.

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC

[Signature]

Date

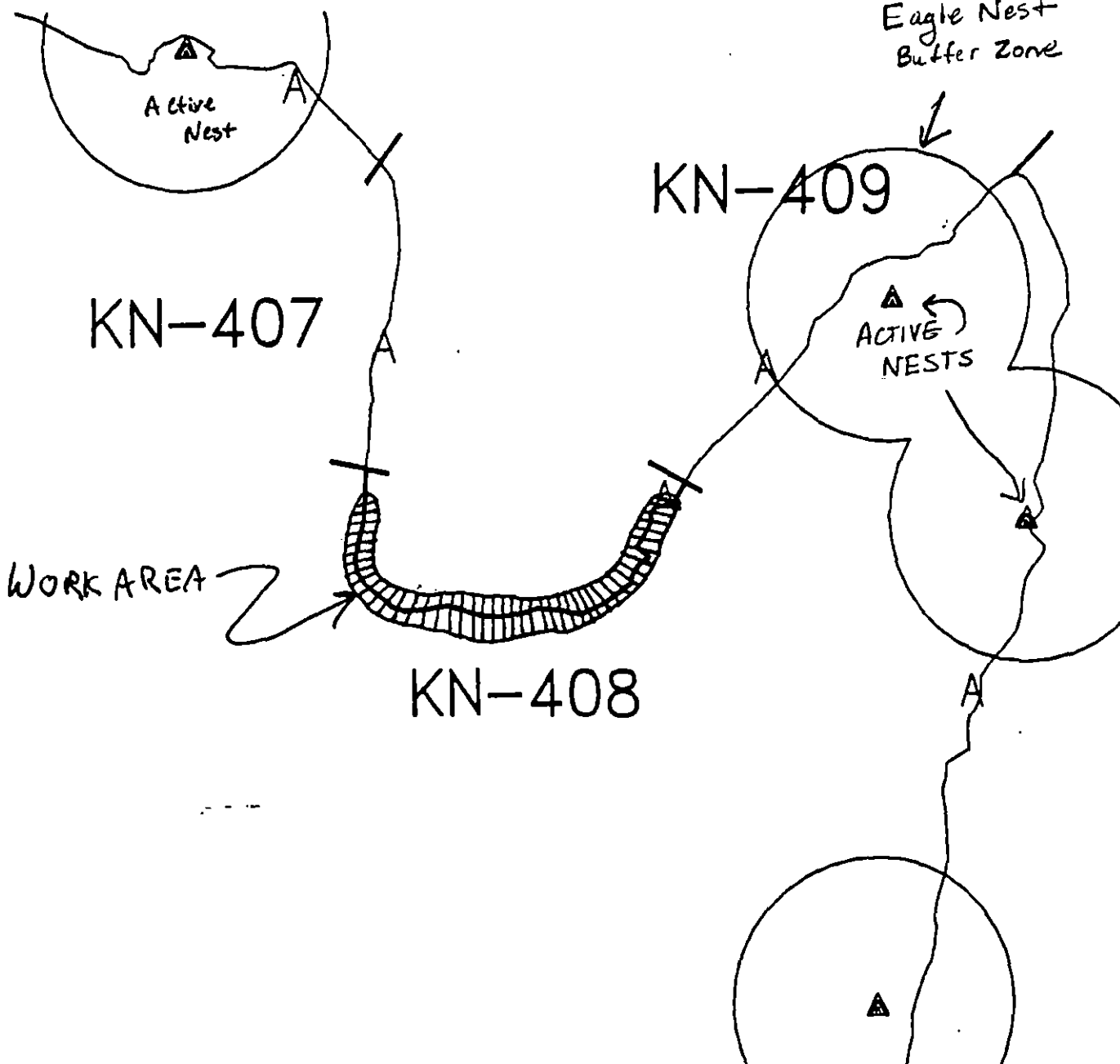
6/12/90

Prepared by

[Signature]

Date

6/14/90



Exxon Company, USA
 Map Key: PWS-KN-408
 June 05, 1990



ECOLOGY MAP
 SEGMENT KN-408
 SUBDIVISION A (1 of 1)



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



WORK PLAN ADDENDUM

Segment KN-408

Subdivision A

Dated 6/21/90

MODIFICATION

1. REASON FOR MODIFICATION

- Request from Exxon.

2. ADJUSTMENT TO WORK PLAN

- Add mechanical relocation of SUTZ to MITZ
(manual relocation was previously approved)

SHPO APPROVAL NEEDED YES X
NO

SHPO SIGNATURE Chad E. H. 6/22/90

TAG APPROVAL DATE 6/20/90

ADEC R. J. 7/10/90 R. J. 7/10/90

EXXON ANDY TSAI Real

NOAA Joseph Tibbott

USCG G.A. REITER G.A. Reiter

FOSC W L DATE 7-10-90

SHORELINE EVALUATION

SEGMENT ST/ KN-409 SUBDIVISION A (1 OF 1) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ST-1 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)
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 McMan

DATE: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 564 m: No Oil 776 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 ART WEAVER
EXXON ANDY TOL
NOAA Joseph Labot
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 (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 (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-409 SUBDIVISION: A DATE 4/7/90

USCG

NAME MAURICE J. SAARPII 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

NONE

PRESENT

SHORELINE OILING SUMMARY

REVISION NO. 03/22/90

OG K. RAMSEY USCG R. Sharpe SEGMENT ST/ KN-409
 BIO G. Penn LAND REP _____ SUBDIVISION A 191
 EXXON S. Reid ADEC S. Ferguson TIME 7:00 to 8:45
 TEAM NO.: 4 TIDE LEVEL: 3' to 6' DATE 4/7/90
 EST. SUBDIVISION LENGTH: 1365 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: NE to SW
 SURFACE SEDIMENTS: R 20 % B 80 % C 0 % P 0 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 2 % Hang 97 % Vert 1 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 428 m NO 937 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR						IMPACTED ZONES			
	C	B	P	S	SB/BR	DBL/RW	GY/SL	DBR/TL	LR		SU	U	M	U
ASPHALT PAVEMENT														
POOLED														
COVER			X		X						X			
COAT			X	X	X		X				X			
STAIN			X		X		X				X			
MOUSSE														
PATTIES														
TARBALLS														
FILM														
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			

DEBRIS COLLECTED

☐ YES ☒ NOTYPE 0#BAGS 0

Photographs:

Roll No. ST-4-1Frames 28SUBSURFACE OIL All Boulder & Bedrock Horizontal - No pits

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	SB/BR	DBL/RW	GY/SL	DBR/TL	LR		SU	U	M	U		

COMMENTS

This was a boulder + bedrock beach. There was a shiny black ^{coat} ^{with some staining} ^{about 40m} ^{down} the beach which was roughly 2-3m wide extending up in the SU. The Amount of boulder ^{snow} made it hard to fill the boundary of oiling. This oiling was real patchy, due to boulder. Towards the end of the segment, there was a band of stain ^{coat} at the HWL on bedrock. Otherwise very little to no oil was observed. A few splatters + dribbles around the band.

OG K. 15E4
SEGMENT W-409
SUBDIVISION A
DATE 4, 7 90

CHECKLIST

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

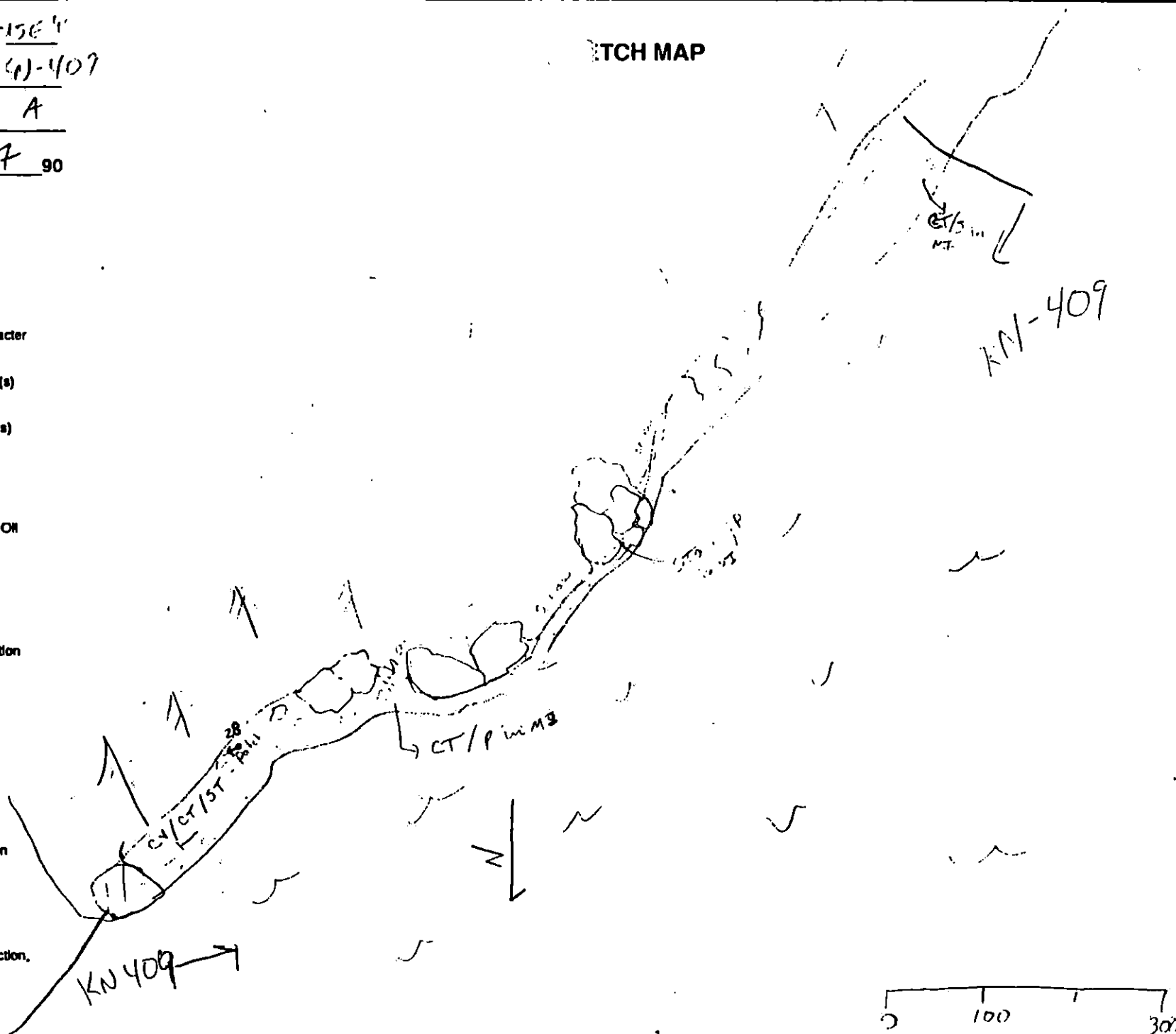
Splashed Distribution

Oiled Vegetation

1 $\Rightarrow$

Photo location, direction,
and number

ATCH MAP



Oil Character Length (m): AP — PO — CV 182 CT 178 ST 178 MS — PT — TB — FL — NO 937

REVISION: 03/24/90

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / KN-409 Subdivision A Date (mo / day / yr) 04/07/90
Time (24 hr) 0700 Biologist PENN

- (A) Substrate type and % of segments:
(1) Bedrock 20 (2) Boulder 80 (3) Cobble — (4) Pebble — (5) Sand — (6) Silt —
- (B) Overall % cover of biota (% of segment): Dense 5 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. —
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 eagle

1 Seal (Harbor)

Ecological Considerations:

KN-409

$\frac{1.2}{4}$
 $\times \frac{8.2}{1740}$

80

15

10

304m

12

121

102

20

22

5

182

Shore of 8/10/100m wide

100m wide

2

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

KN-409

ADEC Segment Length: 1340m



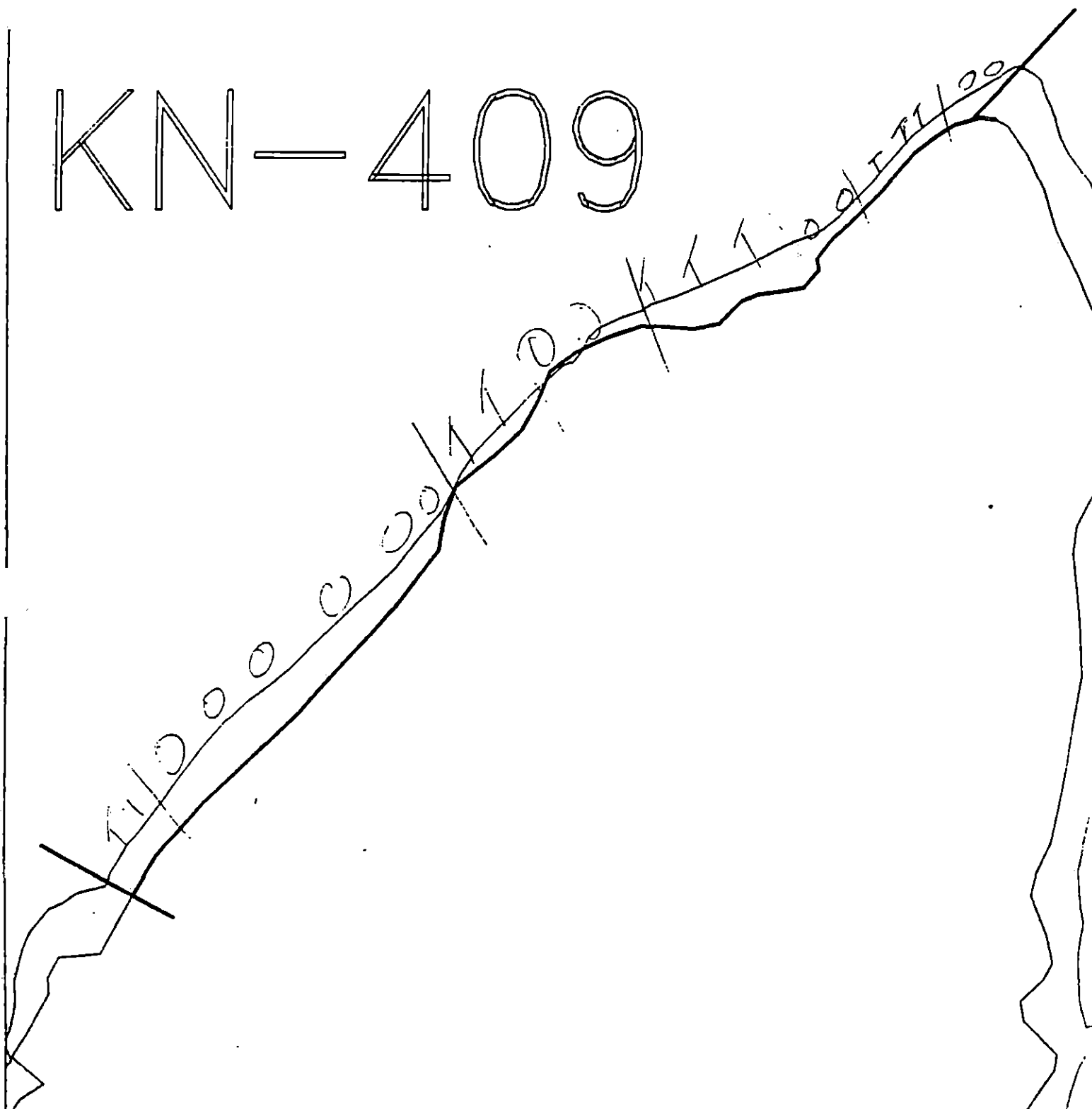
Map Key: PWS-361

Name: _____

Date: _____

Data Entered: _____

KN-409



XXXX Wide

/// Medium

---- Narrow

TTTT Very Light

OOOO No Oil

KN-409

ADEC Segment Length: 1340m



Map Key: PWS-361

Name: K. Ramsey

Date: 4/7/95

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-410 SUBDIVISION A (1 OF 1) DATE 4/5/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T-2 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
6U Recreation: Tent sites (6/1 to 9/15)
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. Jones DATE: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 1816 m: Narrow 0 m: V. Light 706 m: No Oil 425 m
Subsurface Oil Observed: Yes X No Maximum Depth 30+ cm

RECOMMENDATIONS:

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

COMMENTS: Recommend manual pick up of mousse, oiled debris and oiled
logs if >10% coverage and splash impact. Bioremediate coat, cover,
stain and subsurface oil. Work should be conducted after 6/1 with
approval of ADF&G and USFWS regarding eagle nest constraint.
SPOT WASH IN AREA OF AT 1 PRIOR TO BIO.

TAG COMMENTS: MONITORS TO ASSESS SUITZ DURING TREATMENT

TAG APPROVAL DATE: 4/21/90.
ADEC ART WEINER
EXXON MARY TEAL
NOAA Burl Wescott
USCG KENNETH KEANE

FOSC: WJL DATE: 5-9-90

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 (6/15 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 6/1)~~ Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
6U	Recreation: Tent sites (6/1 to 9/15)
6V	~~Recreation: Campsites (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 (6/15 to 2/28)
7J-J	Invertebrate harvesting For Codes 7Z through 7J-J contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

FIELD SHORELINE COMMENT SHEET

MENT ST / KN-410 SUBDIVISION: A DATE 4/5/90

USCG

NAME MAURICE J. SHARP SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

ADEC

NAME S. FERGUSON SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED
MENTS

☒ TREATMENT SUGGESTED

* OILING NOTED ALONG SNOW LINE AT (SU). DUE TO SNOW COVER OF (SU) UNABLE TO PROPERLY ASSESS DEGREE OF ACTUAL OILING. RECOMMEND MANUAL PICK-UP OF MOUSE PATTIES IN HITZ, MAY NEED TO THINK OF MECH. WASH IN SU AFTER SNOW MELTS IF DEGREE OF OILING IS SUFFICIENT.

LAND MANAGER

NAME ALEX KAMPKOFF SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

SHORELINE OILING SUMMARY

REVISION NO. 02/2010

OG K Ramsey USCG R. Sharpe SEGMENT ST/ KN-410
 BIO G. Penn LAND REP A. Kampkoff SUBDIVISION A 191
 ION S. Reid ADEC S. Ferguson TIME 2:05 to 4:47
 IAN NO.: 4 TIDE LEVEL: 6' to 1' DATE 4/5/90
 EST. SUBDIVISION LENGTH: 2345 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 40 % C 30 % P 10 % G — % S — % M — % V — %
 SLOPE: Long 90 % Hang 10 % Vert — % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W — m M 1757 m N — m VL 658 m NO 330 m

SURFACE OIL

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

DEBRIS COLLECTED
☒ YES ☐ NOTYPE Webbing#BAGS 1

Photographs:

Roll No. —Frames —

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm-08)	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	30	X					0-30	X		X					X				N	C, Bdx
2	35					X	.		X						X				N	C, Bdx
3	30					X	.		X						X				N	C, Bdx
4	25					X	.		X							X			N	C, Bdx
5	30					X	.		X						X				N	C, Bdx
6	25	X					14-19	X		X					X				N	C, Bdx

COMMENTS

see next page.

RAYMOND SUTZ

COMMENTS

This area was a cobble, boulder beach. There was a splash of cover in the tidal pool area (north side of segment) which was about 3m in diameter. ^{lower} Only area, not even splash. As you come out of the tidal pool onto the beach there is real sporadic splash. Then no oil was observed for roughly 440 m. Storm berm in uppermost portion of U.I. was covered in snow. ^{a 4" oil over sediments occurred in U.I. (330 m) length 2-3 m wide going into storm berm} The outcrops of bedrock had coat + stain dribbles on them with an occasional HWL. Halfway down the segment is an area of broken coat + stain on rocks. ^(mainly 1100 m long) The oiling + into the snow line, therefore it was hard to determine distribution or dimensions. A few mousse patties were found between the landslide areas. (very sporadic). at the south end of the segment where the beach is more boulder than cobble + not as reworked you find more patchy coat + stain in U.I.

REVIEWED YH DATE 4-8-70

(7)

SHORELINE ECOLOGICAL SUMMARY

REVISION: 08/23/88

Segment ST, KN-410 Subdivision A Date (mo/day/yr) 04/05/90

Time (24 hr) 1400 Biologist PENN

(A) Substrate type and % of segments:
(1) Bedrock 20 (2) Boulder 46 (3) Cobble 36 (4) Pebble 10 (5) Sand — (6) Silt —

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

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
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
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

ASTROPODS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	2	2	2	2	2			2
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
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:

High energy beach with tumbled boulders - fairly barren of biota.

Ecological Considerations:

00_K amsey
SEGMENT ST/ KN-410
SUBDIVISION A
DATE 4/ 80

CHECKLIST

- ☒ M Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HAWAII
- ☐ SBL
- ☐ Profile Location(s)
- ☐ Photo(s)
- ☐ Photo Location(s)

LEGEND

1 Δ
P1 - No Subsurface Oil

2 Δ
P1 - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

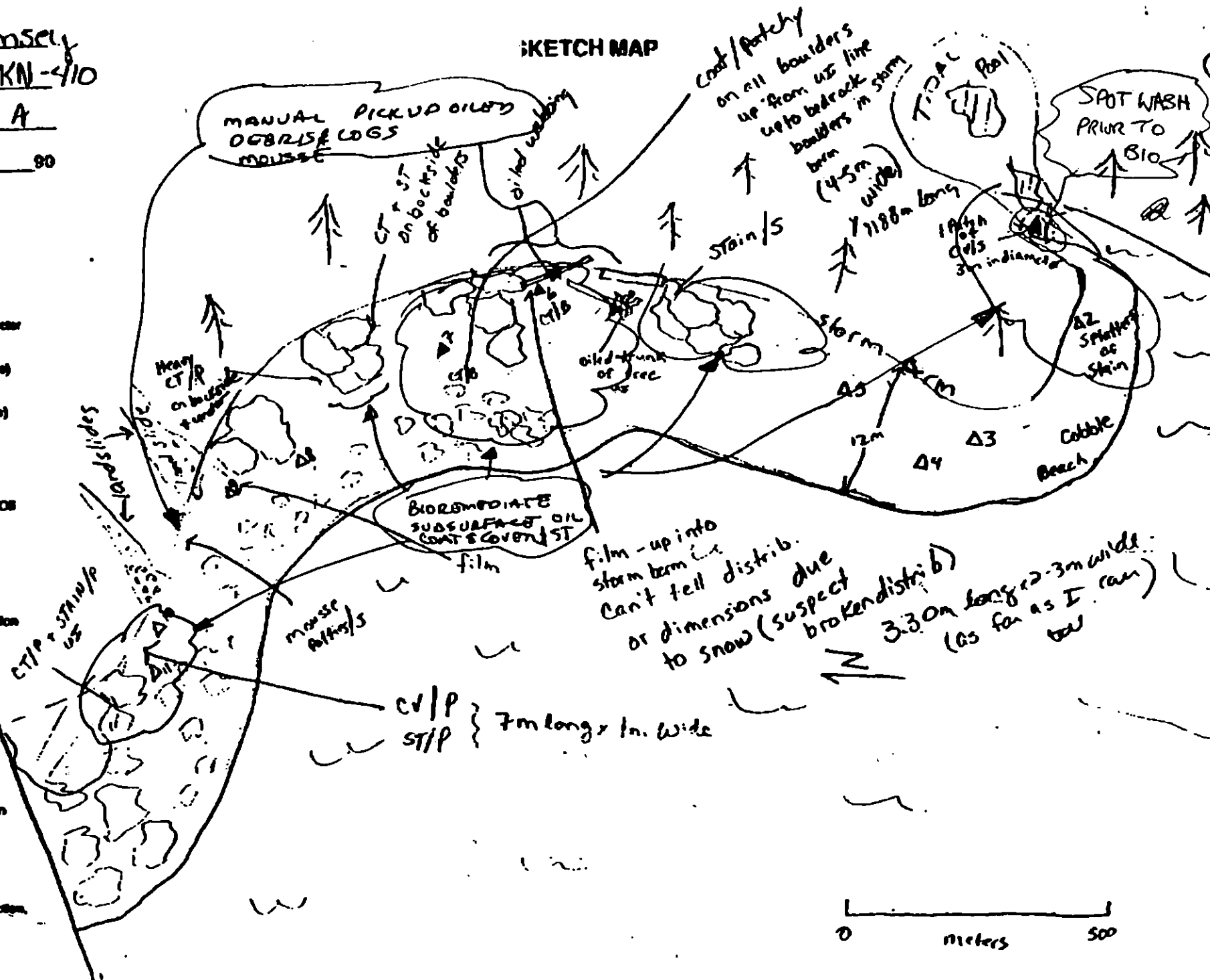
CT/P
Patchy Distribution

CT/S
Splashed Distribution

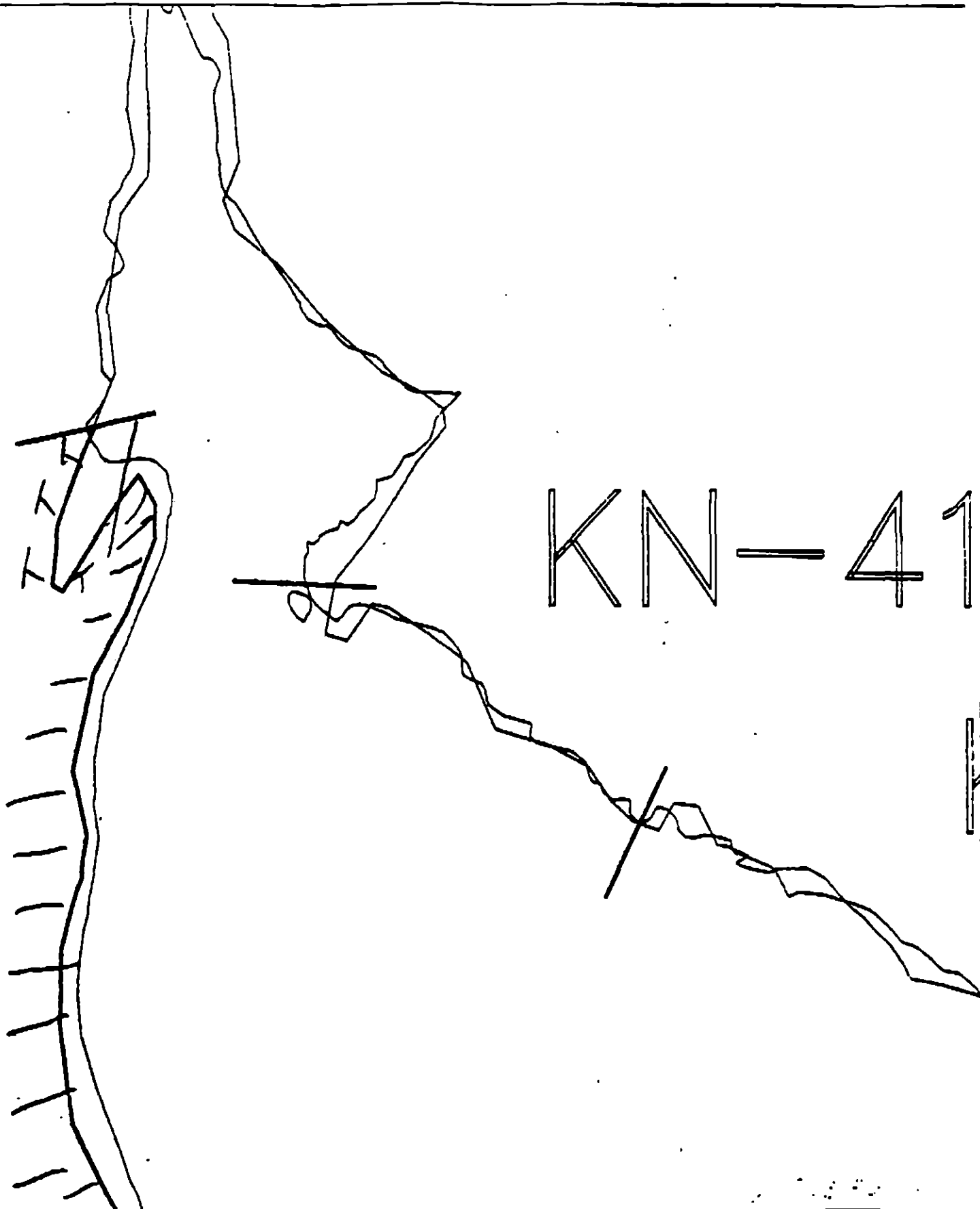
Oiled Vegetation

1 ●
Photo location, direction, and number

SKETCH MAP



Oil Character Length (m): AP 0 PO 0 CV 7 CT 1188 ST 1188 MS 0 PT 2 TB 0 FL 330 NO 450



KN-41

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-410

ADEC Segment Length: 2946m

0 100 200 300
METERS



Map Key: PWS-362c

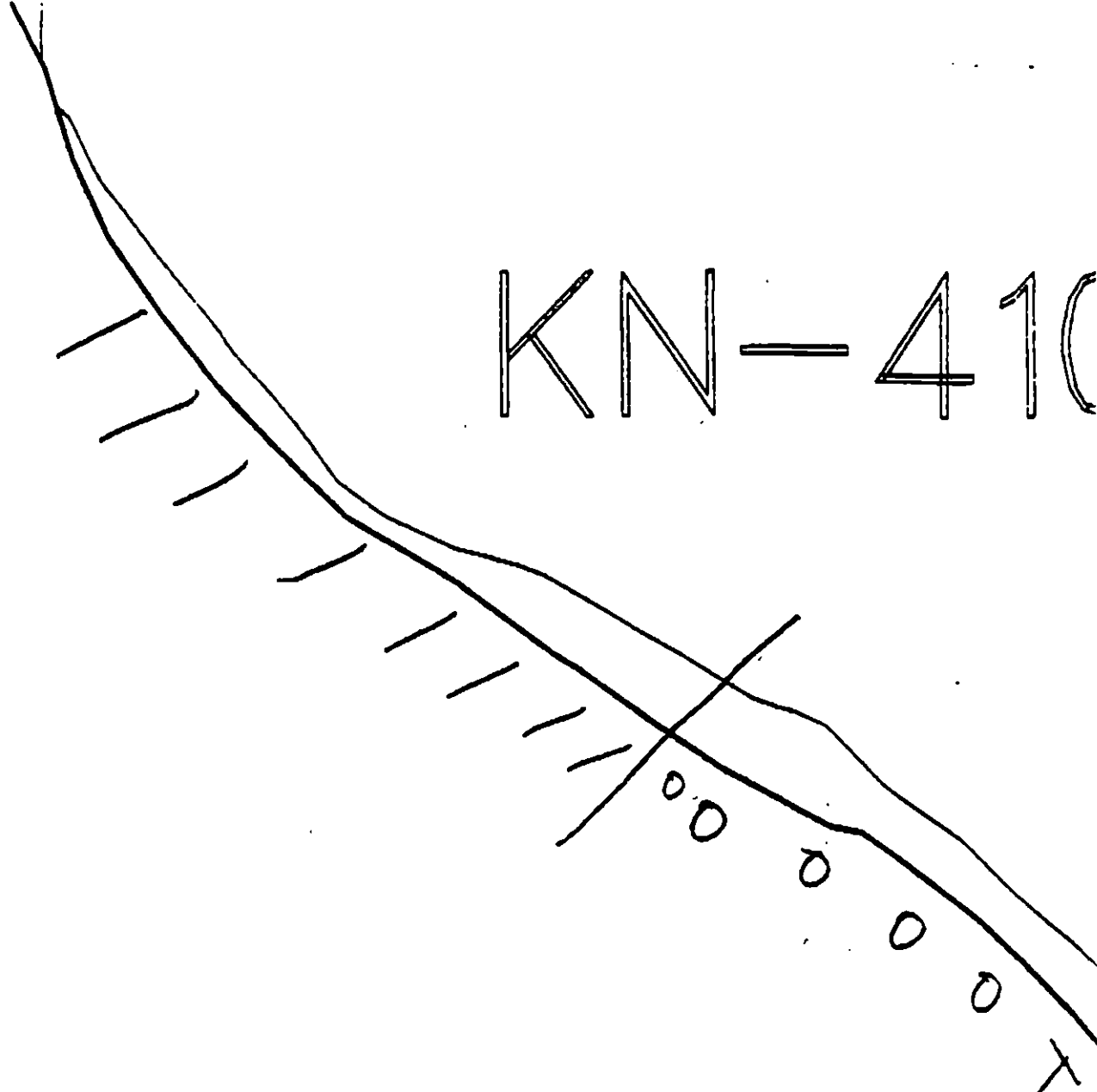
Name: K. Ramsey

Date: 4/5/90

Data Entered:

(6)

KN-410



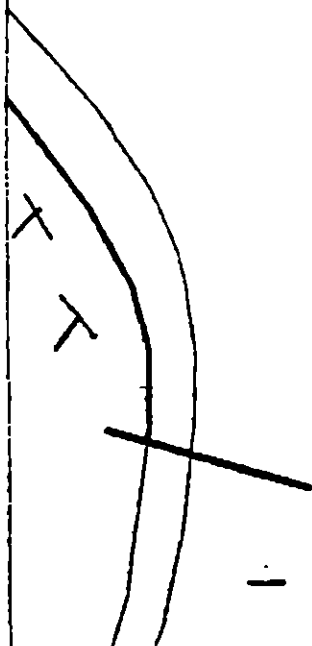
XXXX Wide
//// Medium
---- Narrow
TTTT Very Light
0000 No Oil

KN-410

ADEC Segment Length: 2946m



Map Key: PWS-3620
Name: K. Ramsey
Date: 4/5/90
Date Entered:



XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

KN-410

ADEC Segment Length: 2946m



Map Key: PWS-362b

Name: K. Ramsey

Date: 4/5/90

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-410 SUBDIVISION A (1 of 1)

WORK WINDOW

Manual Pickup Less Than 400m From Active Nest	CLOSED
Manual Pickup More Than 400m From Active Nest	OPEN
Bioremediation & Spot Washing Less Than 400m From Active Nest	CLOSED
Bioremediation & Spot Washing More Than 400m From Active Nest	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 A. Closed to manual pickup, spot washing, and bioremediation within 400m of active nest. No constraint to manual pickup, spot washing, and bioremediation more than 400m from active nest. °

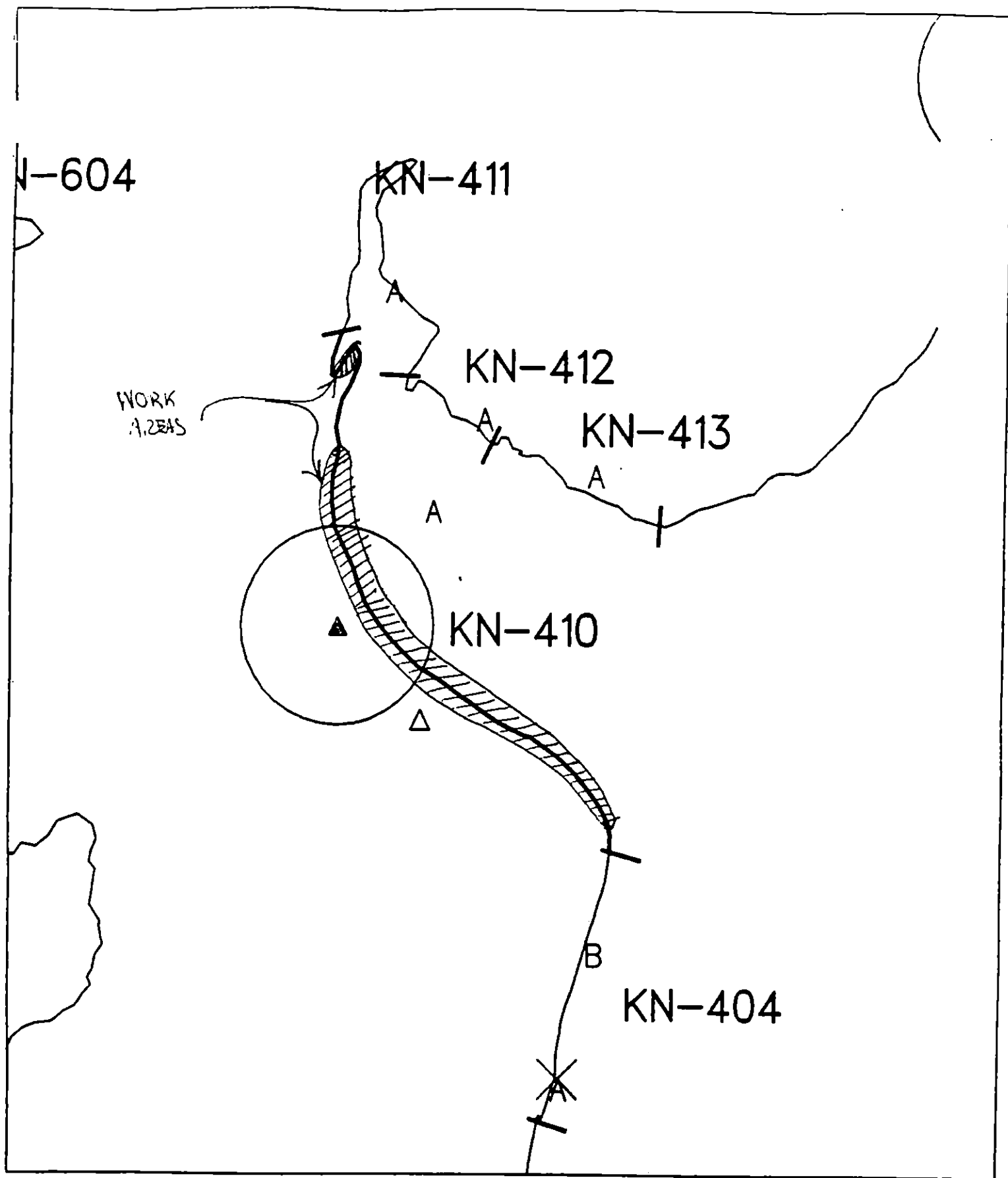
OTHER ECOLOGICAL CONSIDERATIONS

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 400m horizontal, 300m vertical distance from active nests. Avoid any unnecessary disturbance or damage to unrolled biota and substrate.

FOSC W L DATE 6-12-90

Prepared By: John P Phillips

Date 6/11/90



Exxon Company, USA
Map Key: P&S-KN-410
June 09, 1990



ECOLOGY MAP
SEGMENT KN-410
SUBDIVISION --- (--- of ---)
METERS
0 534 1067

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

1 inch = 1750 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-411 SUBDIVISION A (1 OF 1) DATE 4/19/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-30-16810

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

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

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

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: Rachel Don Dahn DATE: 5/25/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 761 m: V.Light 45 m: No Oil 1174 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 Removal	<u> </u> Beach Cleaner
	<u> </u> Other (see comments)

COMMENTS: Recommended treatment includes manual pick up of oiled logs
and vegetation. Work should be conducted between 5/15 and 7/10 based
on salmon constraints.

TAG COMMENTS: MONITOR TO ASSESS SIGNIFICANCE OF OILED LOGS.

TAG APPROVAL DATE: 4/28/90.

ADEC ART WEINER

EXXON ANNY TOL

NOAA GARY PETROE

USCG KENNETH KEANE

FOSC: W L DATE: 6-8-90

Notify CVC 24 hrs prior to cleanup.

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
7II
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 (8/11 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)
Anchorages (8/1 to 9/15)
Forest Service cabins (8/1 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 2/26)
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 411 SUBDIVISION: None DATE 4-19-90

USCG

NAME James P. Gambrell SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

South East side of The segment needs Treatment: (manually) for fine needle in Coast Pat. Also needs To monitor This summer for Leaky To keep it from Getting into The 2 salmon stream.

ADEC

NAME Brian K. FitzSimons SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS Remove oiled vegetation located at HITZ in 1st Pocket car to southeast of Anadramous stream.

Monitor very closely during summer - As temperature rise oil may become mobile and threaten salmon streams Have adequate shore line to prevent oil from escaping.

I concur with O G's sketch Map.

LAND MANAGER

NAME Steve Waco-Chenega Corp. SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Some treatment is necessary and could be cleaned up this Area should be monitored closely because of the salmon streams in the Bay

Final Reports to be Forwarded to Chenega Corp office

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN-411 SUBDIVISION: _____ DATE 4/19/90

USCG

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

ADEC

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

LAND MANAGER

NAME Don Cronshaw (DNR) SIGNATURE Don Cronshaw

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

300m Southeast of salmon stream at head of bay is a 80m long sticky coast with abundant spruce needles along storm tide line which can be manually removed with shovel & gloves.

Small ^{to} asphalt patches, each less than 100 sq cm x 1-2mm thick, on boulders & cobbles along southeast shoreline within 1st 200 & last 200m.

SHORELINE OILING SUMMARY

Also Ren Crenshaw (DNR) REVISION NO. 04-12-90

OG B. Benglund USCG J. Gamble (SEGMENT ST/ KN-411)
 BIO S. Schuster LAND REP S. WARD (Chenega C) SUBDIVISION A (1 OF 1)
 EX N. C. Levine ADEC D. Fritz Simons TIME 1:05:10 4 / 19 / 90
 TID NO. 2 TIDE LEVEL +1.2 to +2.4 DATE 4 / 19 / 90
 EST. SUBDIVISION LENGTH: 1561 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: W to E
 SURFACE SEDIMENTS: R 35 % B 50 % C 10 % P 5 % 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 410 m VL 30 m NO 1691 m

SURFACE OIL

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

PAVEMENT ☒ F S 1 sq. m by 1 cmPATTIES / TARBALLS 0 BAGSNEAR SHORE SHEEN? ☒ BR RW SL TL

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

DID YOU COLLECT DEBRIS?

YES ☐ NO ☒TYPE 0#BAGS 0

Photographs:

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

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
		OF	OR	OL	OF	NO		UO	UO	1	2	3	4	SW	U	M	U				
1	30					X	.	X						X					N		C/G/S
2	30					X	.	X						X					N		C/G/S
3	10				X		0.2	X		X				X					Y	S	C/G
							.														
							.														
							.														

COMMENTS

Most of the segment consists of high angle bedrock headlands with Talus boulders and occasional pocket benches. The oiling is located on the eastern side of the bay. It generally consists of a band (patchy to broken coat) along the HWL. In the NE end it forms a thick mat of pine needles and moss. Additionally, there are occasional small (2-5 cm²) tarry patches of asphalt splashed on boulders and bedrock (Very isolated <2% cover).

REVIEWED 7/4 DATE 4/20/90

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / KN-411 Subdivision A Date (mo / day / yr) 4-19-90
 Time (24 hr) 1300-1630 Biologist S. Schroeter Tidal Range 71 +2.0

- (A) Substrate type and % of segments:
 (1) Bedrock 35 (2) Boulder 50 (3) Cobble 10 (4) Pebble 5 (5) Sand 0 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense 15 Moderate 40 Low 45
- (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-1-4
 Frames 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	
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: Sensitivities: 1A, B; 6U, V. The anadromous stream is at the head of embayment comprising KN-411.

Ecological Considerations: LITZ NOT observable for Taxa above; some observations of sea stars, Zostera / Phyllospadix were possible, however.

(1) Most strikingly, there was a heavy diatom mat covering most other biota in LITZ except at mouth of embayment. (2) dense aggregations of *Melike lemane* (100's up to 1,000) along the interior of the embayment.

(3) Barnacles inside the embayment portion of the segment were mainly (>95%) *Biglandula*. On exposed head lands at mouth of embayment, *S. carolinensis* also

DATE 4/9/90 TIME 1300-1640 TIDE HEIGHT 21 + 2.0

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

ORA:

SPECIES	UITZ	MITZ	LITZ	COMMENTS
BOSSIELLA/CORALLINA				
CALLIARTHRON/CORALLINA		1		In Pools
CLADOPHORA SPP	1,2	1,2		
COSTARIA SPP				
ENDOCLADIA MURICATA	1,2	1,2		
FILAMENTOUS GREENS	1,2	1,2,3		
FILAMENTOUS REDS				
GLOIOPELTIS FURCATA				
HALOSACCION GLANDIFORME		1,2,3		
LAMINARIA SPP				
LITHOTHAMNION				
NEREOCYSTIS SPP				
PORPHYRA SPP		1		
RALPHSIA/HILDENBRANDIA				
RHODOMELA LARIX		1		
RHOHOMENIA PALMATA				
SCYTOSIPHON SPP				
ULVA SPP		1,2		
ZOSTERA MARINA			1,2,3	
ENTEROMORPHA				
P. Scaevola		1		In Pools

JNA:

ANTHOPLEURA SPP				
(SEMI) BALUNUS CARIOSUS		1,2		
B. GLANDULA	1,2,3	1,2,3		
BRYOZOANS		2		
CHITONS (other than K. TUNICATA)				
CLAMS				
CRABS		2		Hemigrapsus
DERMASTRIAS IMBRICATA				
KATHARINA TUNICATA				
LEPTASTERIAS HEXACTIS		2		
LIMPETS	1,2	1,2,3		
LITTORINA SPP	1,2,3	1,2,3		
NUCELLA SPP		1,2		
PAGURUS SPP		2,3		
PISASTER OCHRACEUS		2		
POLYCHAETES				
PYCNOPODIA HELIANTHOIDES				
SEARLESIA DIRA				
SERPULIDS		2		
SIPHONARIA THERSITES				
TEALIA		1		In Pools
Mc - medium Scaevola		1		"

Segment:KN-411 Subdivision:A

Date:April 19, 1990

Time:1300-1630 Tide:>2.0,

Biologist:S. Schroeter

Except for observations made through the water, the LITZ was not observed in detail. In the LITZ, I was able to note the presence or absence of : *Zostera*, most large laminarians, exposed large sea stars (e.g. *Dermasterias*, *Pycnopodia*, *Easterias*, and the nudibranch, *Maliba lacina*).

KN-411 is at the head of Hogan Bay, and the most important biological feature of the segment is the large anadromous stream that lies mid-segment at the head of the bay. Possibly because of the considerable freshwater supply to the segment, there was a nearly continuous mat of colonial diatoms that covered substrate and biota in most of the MITZ. The major biota in the UITZ and MITZ were barnacles, gastropods (littorines, limpets, and *Mucella* ~~lines~~ in decreasing order of abundance), and *Fucus*. Mussels were present but rare, and most individuals were < 3 cm in length.

Sea stars (*Pycnopodia* and *Dermasterias* in order of abundance) were abundant at the bottom of the MITZ (2.0 to 2.5) and in the LITZ and subtidal. *Easterias* were also observed in the open and under boulders in the low MITZ.

A total of 47 boulders were overturned and searched in the MITZ (3.0 to 6.0) on the segment. Littorine egg masses were rarely found (8/47 or 17% of the boulders), and the brooding sea star, *Leptasterias hexactis* were found under only 1 (2%). Pricklebacks (black or rock and ribbon) were found under about 25% of the boulders.

Important observations through the water of the LITZ include: (1) phenomenally high densities of the nudibranch *Melibe leonina* along most of the interior of the segment (several aggregations of about 1000 individuals were observed, and 1 to 10 individuals were found per meter of shoreline. (2) No laminarians. (3) Moderate to dense concentrations of *Pycnopodia* and sparse densities of *Dermasterias*. (4) *Zostera* beds along most of the interior of the segment. (5) Barnacles in the interior of the segment were mainly *B. glandula*, those on the ends of the segments were mainly *S. carinatus*.

ECOLOGY MAP (1 OF 1)

RESOURCE CODES FOR ENTIRE
SEGMENT:

1 A, B

6 U, V

ANADROMOUS STREAM
226-30-16810

KN-411

KN-

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 " " " "

KN-411

ADEC Segment Length: 1980m

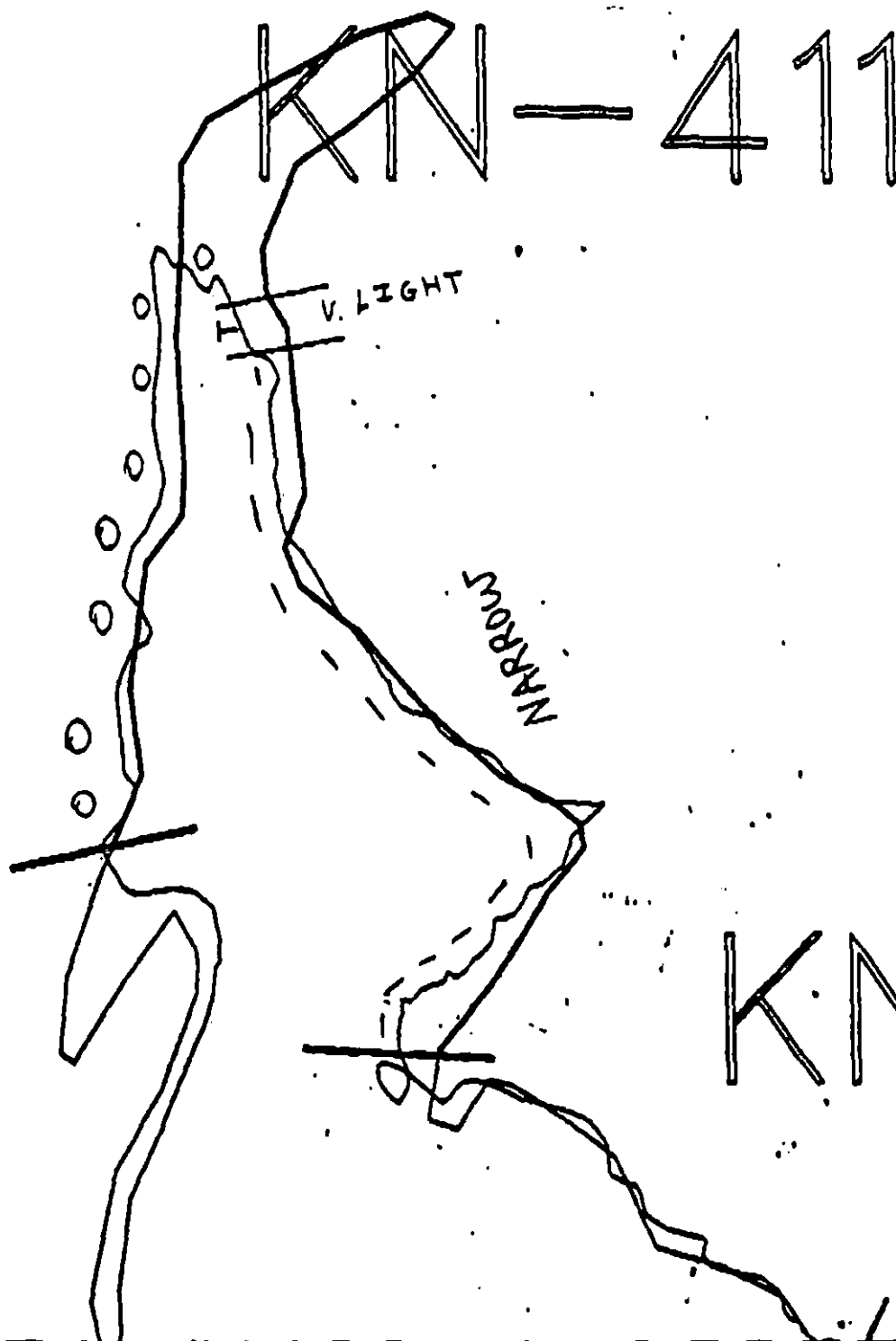
0 100 200 300

Map Key: PWS-363

Name: _____

Date: _____





XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-411

ADEC Segment Length: 1980m



Map Key: PWS-363

Name: B. Berglund

Date: 5/19/90

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-411 SUBDIVISION A (1 of 1)

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 (226-30-16810) is more than 100m from work site. No constraint to manual pickup.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or banks. Avoid any unnecessary disturbance or damage to unrolled biota and substrate.

FOSC

[Signature]

Date

6/14/90

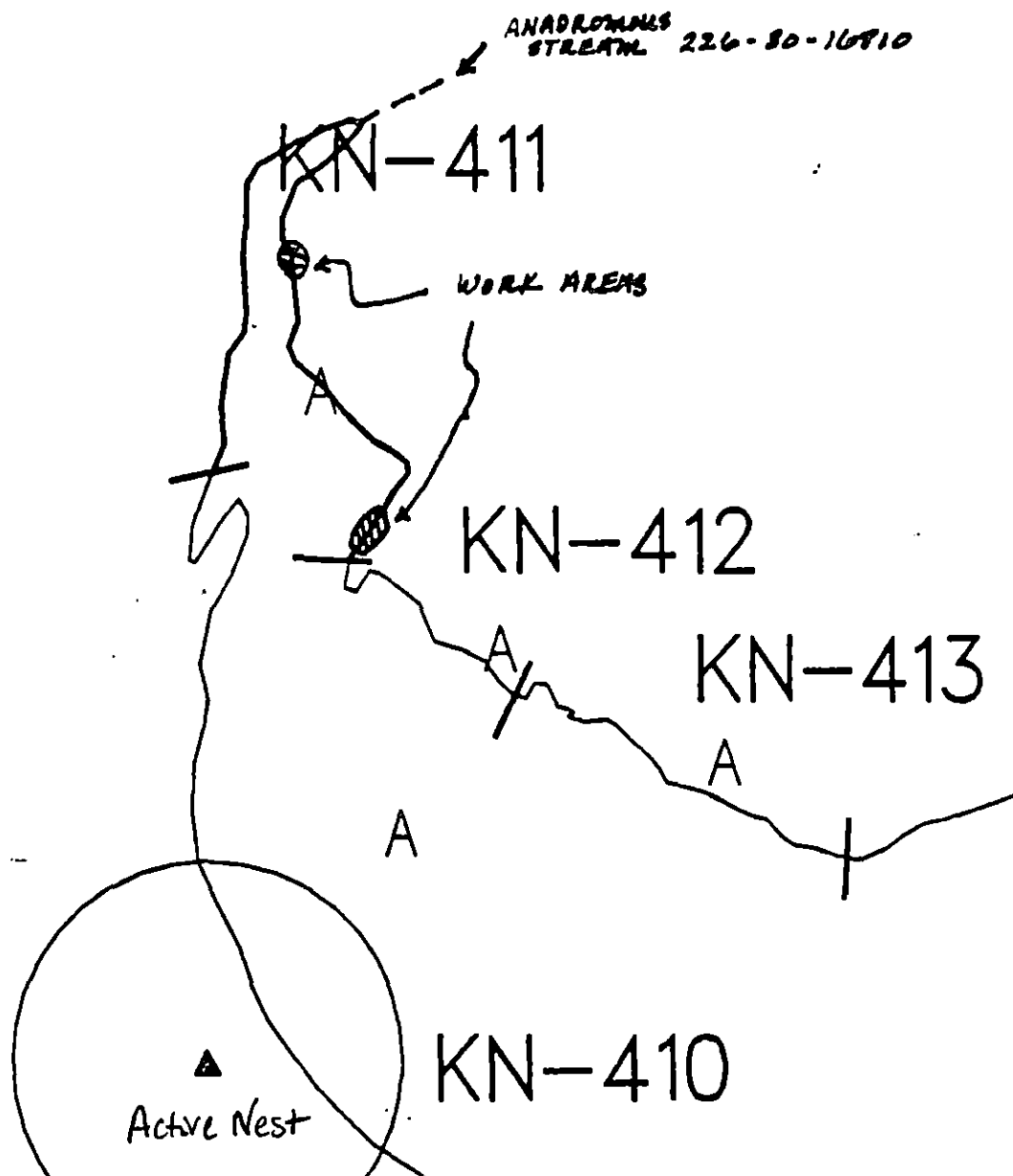
Prepared by

[Signature]

Date

6/14/90

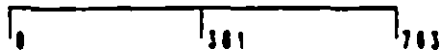
-604



Exxon Company, USA
Map Key: PMS-101-411
June 09, 1990



ECOLOGY MAP
SEGMENT KN-411
SUBDIVISION A (1 of 1)
METERS



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

1 inch = 1252 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-412 SUBDIVISION A (1 OF 1) DATE 4/19/90

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: Rehl Jan Dan DATE: 5/25/90

OILING CATEGORIZATION:

Wide 167 m: Medium 0 m: Narrow 379 m: V.Light 0 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> </u> Tarmat Removal	<u> </u> Beach Cleaner
	<u> </u> Other (see comments)

COMMENTS: Recommended treatment includes bioremediation of areas indicated on attached sketch map. Work should be conducted after 5/1. No specific restrictions.

TAG COMMENTS:

TAG APPROVAL DATE: 4/28/90
ADEC ART WETTER
EXXON ANDY TEAZ
NOAA GARY PETRAE
USCG KENNETH KOANE

FOSC: DATE: 6-8-90
Notify Verc 24 hrs prior to 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. 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
 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 412 SUBDIVISION: NONE DATE 4-19-90

USCG

NAME James C. Gambell SIGNATURE James C. Gambell

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

SEVERAL Pocket Beaches need To have some Type Treatment Done.
(manually), and need To be monitor closely for when it get hot
it will start leaking, and poss. bitly make it's way To 2 salmon stream
in KN 411

ADEC

NAME Brian K. FitzSimons SIGNATURE Brian K. FitzSimons

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Hand removal of heavy concentrations of tarry
asphalt on B & BR/Headlands.

Monitor closely for warm weather leaching - have shore
lines available - Salmon Str. runs close by.

I concur with OG's sketch map 5.

LAND MANAGER

NAME Steve Wren-Chenega Corp. SIGNATURE Steve Wren

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Some treatment is necessary and could be cleaned up.
I think this area should be monitored closely because of the
salmon streams in the Bay.

Complete Reports to be forwarded to Chenega Corp. office

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN-412 SUBDIVISION: _____ DATE 4/19/90

USCG

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

ADEC

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

LAND MANAGER

NAME Paul Crenshaw (DNR) SIGNATURE Paul Crenshaw

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Coast along south facing headlands in upper tidal area will likely soften with worse weather & drip or wash into water during high tides.

Very small occasional gray sheens in tidepools & mid intertidal area shown on sketch map.

SHORELINE OILING SUMMARY

Also: R. Crenshaw (CVA)

REVISION NO. 26/13/90

OG B. Berglund USCG J. Gamble SEGMENT ST/ KN-412
 PO S. Schreiner LAND REP S. Ward (Cheney) SUBDIVISION A (1 OF 1)
 CXON C. Leyland ADEC B. Fritzsimons TIME 4:30 to 5:15
 TEAM NO. 1 TIDE LEVEL +2.4 to +3 DATE 4/19/90
 EST. SUBDIVISION LENGTH: 544 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: W to E
 SURFACE SEDIMENTS: R 40 % B 50 % C 10 % P 0 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 20 % Hang 50 % Vert 30 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 132 m M 0 m N 412 m VL 0 m NO 0 m

SURFACE OIL

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

PAVEMENT H F S None sq. m by 0 cm

PATTIES / TARBALLS None 0 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. ST-1-4

Frames 5-6

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		NO	US	1	2	3	4	SU	U	M	U			
1	25		X				0-10		X	X				X				N		B/G
2	30					X	.		X					X				N		B/G/S
3	30					X	.		X					X				N		C/P/G/S
							.													
							.													
							.													

COMMENTS

The segment consists of bedrock headlands (cliffs) with a few pocket beaches. The oiling consists of a band (patchy to broken coat) located along the HWL. It is 1-2 m wide along the vertical headlands and widens to 3-6 m in pocket beaches. It is continuous along the entire length of the segment.

REVIEWED 7W DATE 4/20/90

SHORELINE ECOLOGICAL SUMMARY

REVISED: 02/22/91

Segment ST / KN-412 Subdivision A Date (mo / day / yr) 4/19/90
 Time (24 hr) 1632-1715 Biologist S. Schroeter Tide: +2.4

- (A) Substrate type and % of segments:
 (1) Bedrock 40 (2) Boulder 45 (3) Cobble 10 (4) Pebble 5 (5) Sand 0 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense 20 Moderate 25 Low 55
- (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-1-4

Frames 5

BARNACLES

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

MYTILUS

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

GASTROPODS

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

FUCUS

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

Wildlife Observations/ General Comments: Resource code: 6V / low in terrestrial not observed

Ecological Considerations:

- (1) With exception of Fucus, the 4 major taxonomic groups were sparse or rare.
- (2) Toward the end of the segment, there were patches of high densities of Nucella hemionus.
- (3) pricklebacks were common under boulders in low-mid intertidal.
- (4) Littorina eggs were not observed under boulders in MIZ.
- (5) based on Nucella densities, it appeared that the intertidal zone was not heavily colonized.

SUBMIT A

DATE 4 / 19 90

CHECKLIST

- ☐ N Area
- ☐ Approx. Scale
- ☐ Seg/Bd Body
- ☐ CR Dist
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. PPM/AVL
- ☐ SBL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pt Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ
Pt - No Substrate CR

2 Δ
Pt - Substrate CR

CT/C
Condition Distribution

CT/B
Broken Distribution

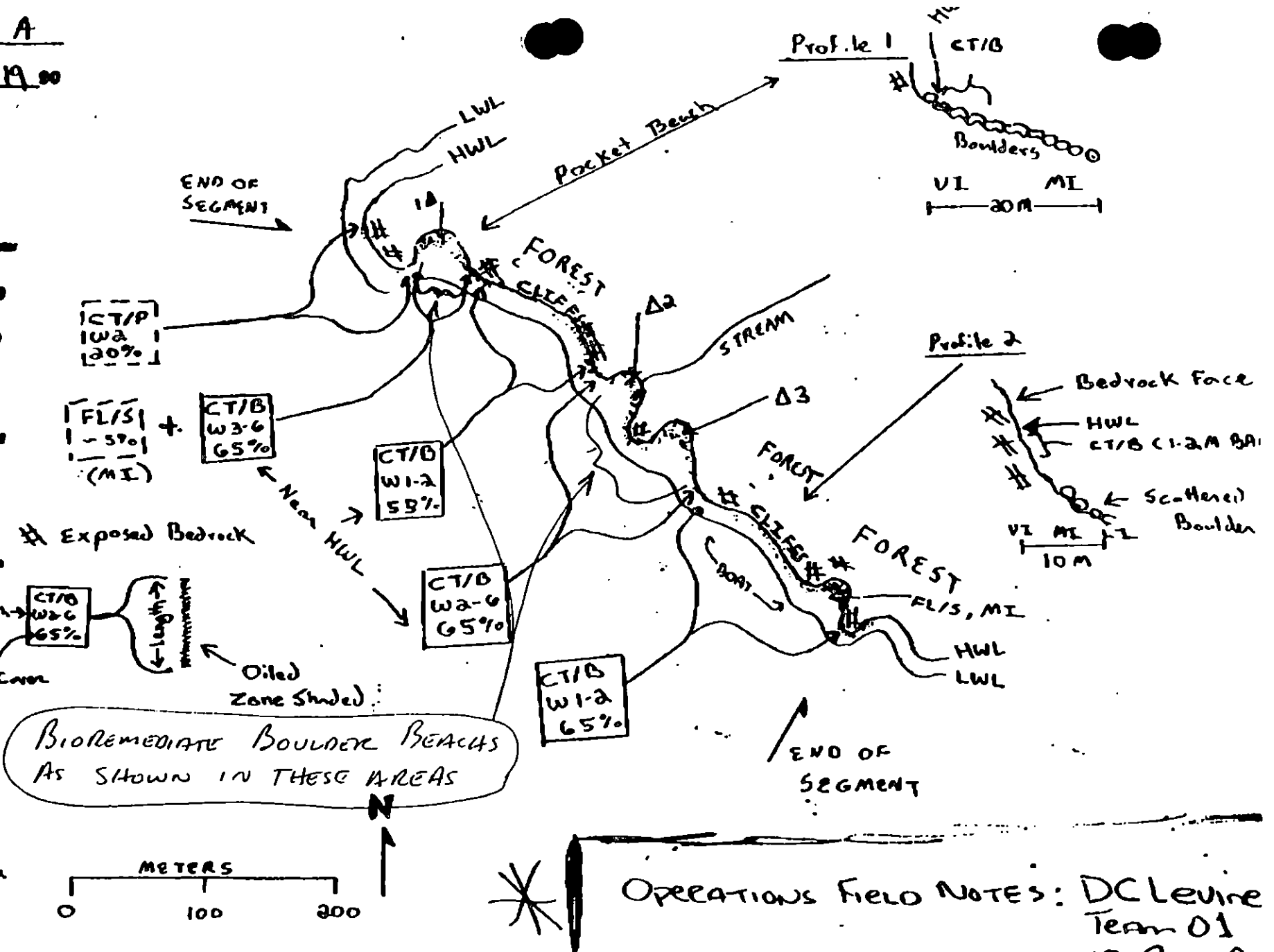
CT/P
% Cover

CT/S
Pebble Distribution

CT/S
Splashed Distribution

eee
Oiled Vegetation

1 ee
Photo location, direction, and number



OR Character Length (m): AP PO CV CT SH ST MS PT TB FL 30 NO

DATE 4/19/90 TIME 1630-1715 TIDE HEIGHT 71 +2.4

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

FLORA:

SPECIES	UTZ	MTZ	LITZ	COMMENTS
BOSSIELLA/CORALLINA				
CALLIARTHRON/CORALLINA				
CLADOPHORA SPP		3		Pocket Branches
COSTARIA SPP				
ENDOCLADIA MURICATA	1, 2	1, 2	1, 2	
FILAMENTOUS GREENS	1, 2, 3	1, 2, 3	1, 2, 3	
FILAMENTOUS REDS		2, 3	2, 3	
GLOIOPELTIS FURCATA	—	—	—	
HALOSACCION GLANDIFORME				
LAMINARIA SPP				
LITHOTHAMNION				
NEREOCYSTIS SPP				
PORPHYRA SPP		1, 2		
RALPHSIA/HILDENBRANDIA				
RHODOMELA LARX		1, 2, 3		
RHOHOMENTIA PALMATA				
SCYTOSIPHON SPP				
ULVA SPP	1, 2, 3	1, 2		
ZOSTERA MARINA				
ENTOROMORPHA		1, 2, 3		

FAUNA:

ANTHOPELURA SPP				
(SEMI) BALUNUS CARIOSUS	1	1, 2		
B. GLANDULA	1, 2	1, 2, 3		
BRYOZOANS		2		
CHITONS (other than K. TUNICATA)				
CLAMS				
CRABS				
DERMASTERIAS IMBRICATA				
KATHARINA TUNICATA				
LEPTASTERIAS HEXACTIS		2		
LIMPETS	1, 2, 3	1, 2, 3		
LITTORINA SPP	1, 2, 3	1, 2, 3		
NUCELLA SPP		1, 2, 3		
PAGURUS SPP		2, 3		
PISASTER OCHRACEUS				
POLYCHAETES				
PYCNOPODIA HELIANTHOIDES				
SEARLESIA DIRA	1	1, 2, 3		
SERPULIDS		2, 3		
SIPHONARIA THERSITES				
TEALIA				

Segment:KN-412 Subdivision:A

Date: April 19, 1960

Time:1630-1715 Tide:>= +2.4

Biologist: S. Schroeter

This segment is contiguous with the southeast end of KN-411A. The substrate is primarily bedrock and boulders and there is little fresh water along the segment. With the exception of *Eucos* the 4 major taxonomic groups were sparse to rare. Toward the southeast end of the segment, there were dense aggregations of *Mucella lanellosa* on bedrock and large boulders in the MITZ. There was rare recruitment of barnacles and *Eucos*. No mussel or gastropod recruits were observed. Live adult *B. glandula* were observed in the upper MITZ and lower UITZ to be partially covered with oil. There was no recruitment or growth of barnacles or mussels in the oiled areas (which consisted mainly of patchy coat at tide levels $> +8.0$). The major difference from KN-411A was the much higher density and frequency of occurrence of *Leptasterias*, and the higher density of *N. lanellosa*, the absence of diatom mats in the MITZ, and the absence of *Zostera* beds in the LITZ and subtidal, the absence of *Pycnopodia* and *Dermasterias* in the LITZ and subtidal, and the absence of *Maliba laonias*.

A total of 19 boulders were overturned and searched along the segment. Black and ribbon prickelbacks were commonly observed under boulders in the MITZ (under 25 to 30 % of the boulders). No littorine egg masses were observed. *Leptasterias hexactis* were observed under 9 boulders (37%) and 37% were brooding eggs. No *Pycnopodia* or *Dermasterias* were observed in either the MITZ or LITZ. A single *Eustasterias* was observed at the end of the segment in the MITZ.

KN-41

ECOLOGICAL MAP (10F1)

RESOURCE CODES FOR ENTIRE
SEGMENT:

GV

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

KN-412

ADEC Segment Length: 546m



Map Key: PWS-364

Name: _____

Date: _____



KN-412

Narrow

NARROW

NARROW

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

OOOO No Oil

KN-412

ADEC Segment Length: 546m

0 100 200 300

Map Key: PWS-364

Name: B. Berglund

Date: 4/19/90

Note entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-412 SUBDIVISION A (1 of 1)

WORK WINDOW	
Bioremediation	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

No ecological time constraints.

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC

[Signature]

Date

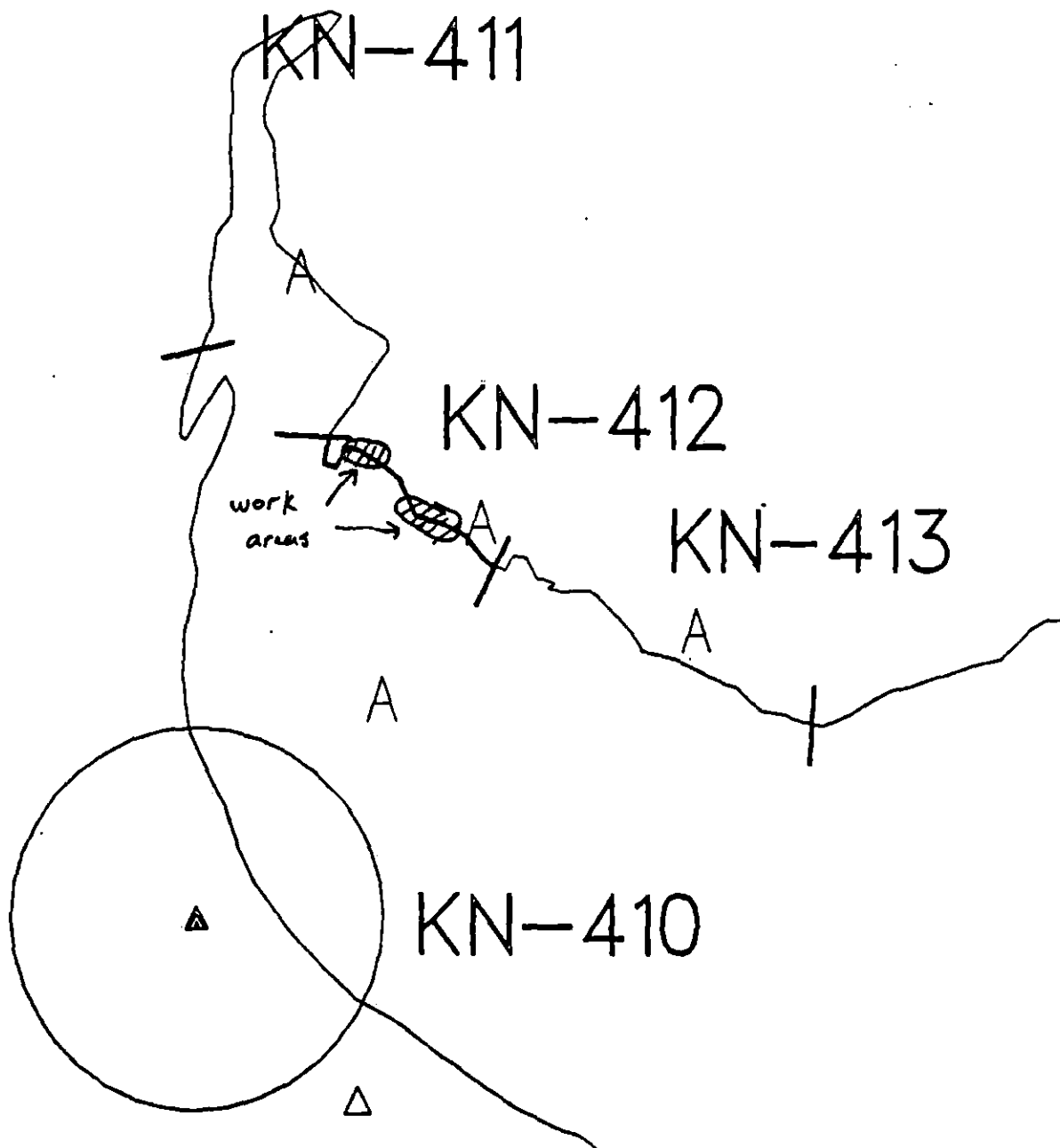
7/8/90

Prepared by

W. Kelley

Date

7/2/90



Exxon Company, USA

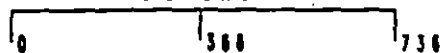
Map Key: PWS-KN-412

June 09, 1990



ECOLOGY MAP SEGMENT KN-412 SUBDIVISION A (1 of 1)

METERS



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

1 inch = 1208 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-413 SUBDIVISION A (1 OF 1) DATE 4/19/90

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 J. Williams DATE: 5/3/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 447 m: V.Light 0 m: No Oil 417 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

☒ No Treatment Recommended
☐ Treatment Recommended
☐ Manual Pickup
☐ Bioremediation
☐ Tarmat Removal

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

COMMENTS:

TAG COMMENTS: DUE TO HIGH HUMAN USE SPOT WASH OF COVER (INDICATED ON SKETCH)

TAG APPROVAL DATE: 4/28/90
ADEC ART WENGER
EXXON ANDY TERN
NOAA GARY PETRO
USCG KENNETH K. HANE

FOSC: ML DATE: 5-9-90

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)
- 7H-H Finfish harvesting
- 7I Deer harvesting (6/15 to 2/28)
- 7J Invertebrate harvesting
 For Codes 7Z through 7J contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ KN 413 SUBDIVISION: _____ DATE 4/19/98

USCG NAME Robert Jensen SIGNATURE Robert Jensen

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Most of segment runs no oil to
Coat/Broken (C/T), However the very
west end has one spot which is
Cover/Continuous Distribution (CV/C) and
spot washing might be considered.

ADEC NAME Rowann T. Hudnall SIGNATURE Rowann T. Hudnall

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Pocket cobble beaches interspersed w/ headlands.
No subsurface oil.

Surface oil is tarry band on headlands; west
end the oil is a continuous coat/cover on vertical
faces - needs treatment - spot washing.

LAND MANAGER

NAME ALEX KOMPKEFF SIGNATURE Alex Kompkeff

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

~~WEST~~ END OF 413 IS THE ONLY AREA
THAT NEEDS TREATMENT.

SHORELINE OILING SUMMARY

REVISION NO. 04/12/90

OG HARPER USCG JENSEN SEGMENT ST/ KN-413
 BIO DIXON LAND REPAIR KUMPROFF (OK) SUBDIVISION A (LOFT)
 FXXON WILSON ADEC HUDNALL TIME 16:00 to 17:30
 EAM NO. 2 TIDE LEVEL 1.6' TO 3.26' DATE 4/19/90
 ST. SUBDIVISION LENGTH: 740 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☐ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 40 % B 20 % C 20 % P 20 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 50 % Hang 30 % Vert 20 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 480 m VL 0 m NO 360 m
 x 1m x 50%

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR				IMPACTED ZONES			
	C	S	P	R	1	2	3	4	SW	U	M	U
ASPHALT PAVEMENT												
POOLED												
COVER	X				X					X		
COAT		X			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			

DID YOU COLLECT DEBRIS?

YES ☐ NO ☒TYPE 0#BAGS 0

Photographs:

Roll No. ST-2-201Frames 7-17

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR				PIT ZONE				AN A	SHEEN (N/A)	↓	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		VS	VS	1	2	3	4	SW	U	M	U				
1	15					X	-								X				N	7	C,P
2	20					X	-								X				N		P
3	20					X	-								X				N		P,S
4	30					X	-									X			N		P
5	30					X	-							X					N		P
6	40					X	-								X				N		P

COMMENTS

This is a moderate exposure segment with a series of pebble pocket beaches and rock headlands.

Oiling consists of a 1-m wide broken coat of dark brown oil on bedrock and boulders at the HWL (i.e. bath tub ring). The thickness and % cover increased to the west with the western-most 30m classified as CV/C on a vertical bedrock face. No subsurface.

REVIEWED WDATE 4/21/90

1.114

OG _____) 7/10/90

SEGMENT ST/ 13

SUBDIVISION A

DATE 4/19/90

S CH MAP

"A"

(EAST PART OF SEGMENT KN-413A)

CHECKLIST

- ☒ N Area
- ☒ Approx. Scale
- ☒ Seg/Sub Entry
- ☒ Y or Dist
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HWA/LWR
- ☐ SBL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☒ P/L Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ
FH - No Substrate Oil

2 Δ
FH - Subsurface Oil

CT/C
Continuous Distribution

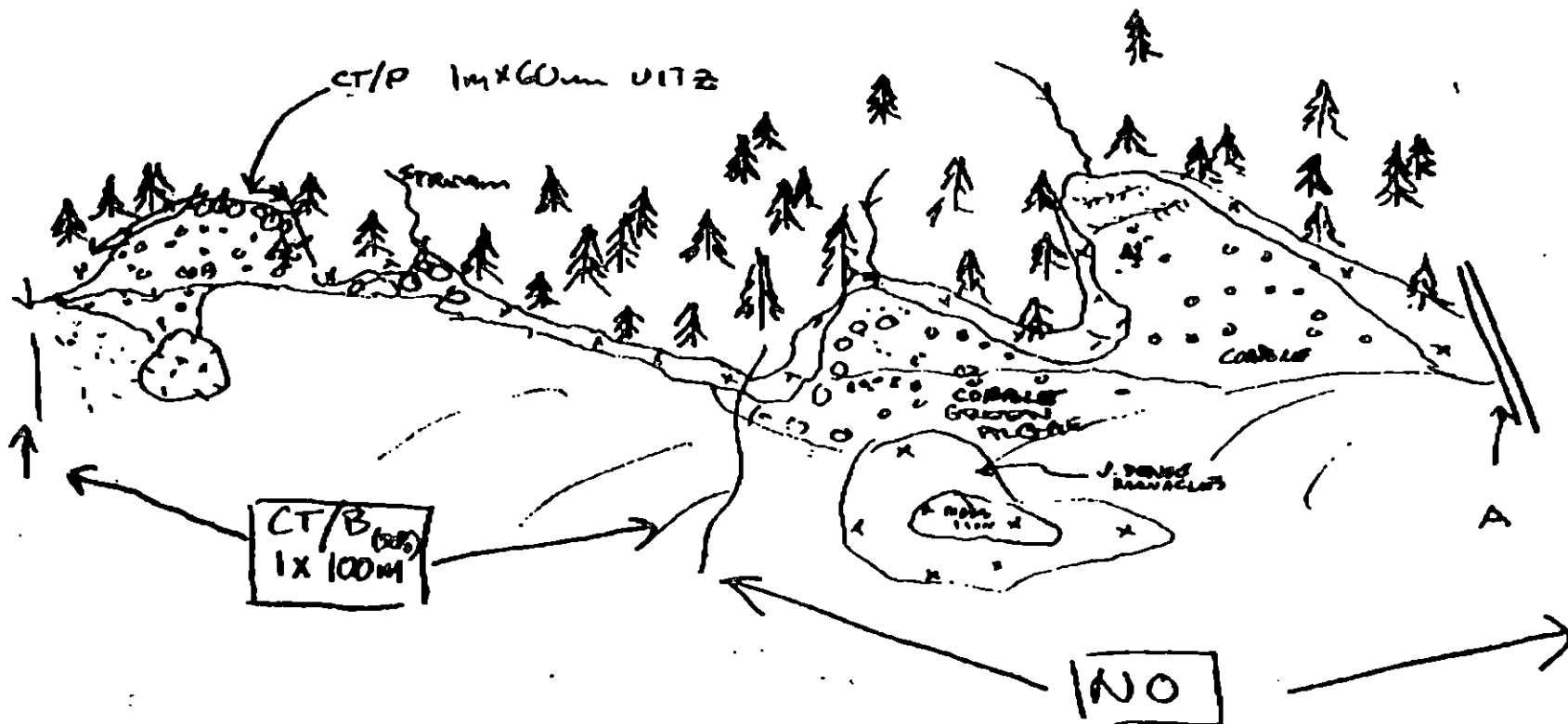
CT/D
Broken Distribution

CT/P
Peculiar Distribution

CT/S
Splashed Distribution

lll
Old Vegetation

1 ●●
Photo location, direction, and number



Δ1 N.O. COB 15cm
WATER TRACE → NO SEEDS

Δ2 N.O. EV-PUB 20cm

~100m

Oil Character Length (m): AP 0 PO 0 CV 20 CT 460 ST 0 MS 0 PT 0 TB 0 FL 0 NO 360
X/m X/m

00 _____ 2 KPEK
 SEGMENT ST/ KN-412
 SUBDIVISION A

DATE 4/19/90

CHECKLIST

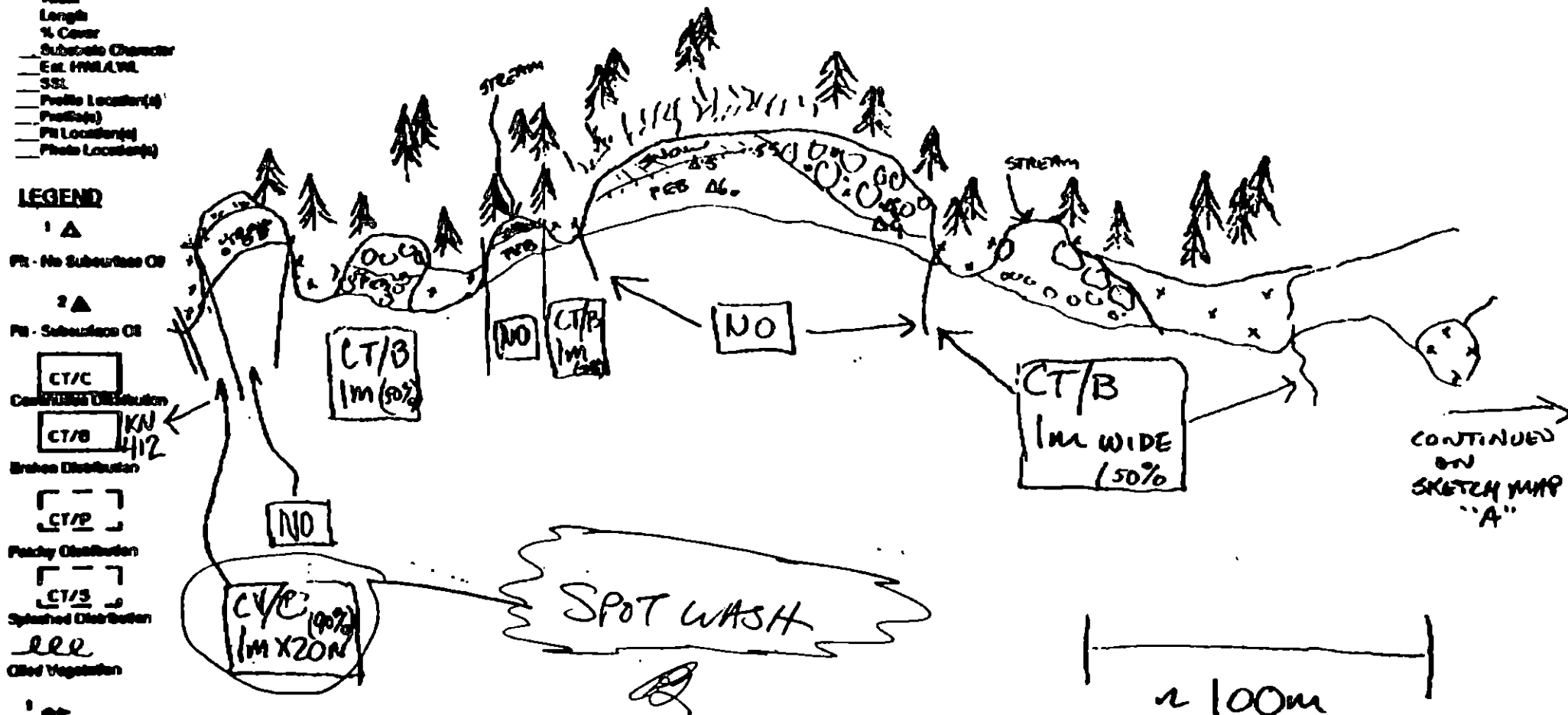
- ☒ N Arrows
- ☒ Approx. Scale
- ☒ Seg/Sub Entry
- ☒ On Dist.
- ☒ Width
- ☒ Length
- ☒ % Cover
- ☒ Substrate Character
- ☒ Est. HMLA/VL
- ☒ SSI
- ☒ Profile Location(s)
- ☒ Profile(s)
- ☒ Pit Location(s)
- ☒ Photo Location(s)

LEGEND

- 1 Δ
Pit - No Substrate Obs
- 2 Δ
Pit - Substrate Obs
- CT/C
Continuous Distribution
- CT/B KN 412
Broken Distribution
- CT/P
Patchy Distribution
- CT/S
Splashed Distribution
- eee
Oiled Vegetation
- 1 ●
Photo location, direction, and number

S. HMAP
 "B"

(WEST PART OF
 SEGMENT KN-413A)



PAGE 1 OF 2 (see #1 for summary).

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

REVISIONS

14-00-1570 00:00 FROM JUN BILLINER 4102

10

SCHT

F.03

SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/25/90

Segment ST 1 KN-413 Subdivision N/A Date (mo / day / yr) 04/19/90

Time (24 hr) 1603-1730 Biologist Leah Dixon

- (A) Substrate type and % of segments:
 (1) Bedrock 45 (2) Boulder 20 (3) Cobble 25 (4) Pebble 10 (5) Sand 0 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense 15 Moderate 40 Low 45
- (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-2-201

Frames 7-17

BARNACLES

Dense		L	Moderate		L	Sparse		L	Rare	L	NOT PRESENT
1U	1M		1U	1M		1U	1M				
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~~	

MYTILUS

Dense		L	Moderate		L	Sparse		L	Rare	L	NOT PRESENT
1U	1M		1U	1M		1U	1M				
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~~	

GASTROPODS

Dense		L	Moderate		L	Sparse		L	Rare	L	NOT PRESENT
1U	1M		1U	1M		1U	1M				
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~~	

FUCUS

Dense		L	Moderate		L	Sparse		L	Rare	L	NOT PRESENT
1U	1M		1U	1M		1U	1M				
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~~	

Wildlife Observations/ General Comments: Waterline during survey: +2.1' - +3.3'
Bald eagle overhead.

Ecological Considerations: Distal sensitivity: 6U. Pocket beaches
relatively depauperate, but bed rock cliffs
& pinnacles support a moderately dense
& diverse biota.

SEGMENT: ST/ KN 7/5 SUBDIVISION 11/11 LENGTH 067m DIVERSITY 10.22.185

DATE 4/19 TIME 1603-1730 TIDE HEIGHT +2.1 - +3.3

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

FLORA:

SPECIES	UITZ	MITZ	LITZ	COMMENTS
BOSSIELLA/CORALLINA				
CALLIARTHRON/CORALLINA				
CLADOPHORA SPP				
COSTARIA SPP				
ENDOCLADIA MURICATA				
FILAMENTOUS GREENS	1,2,3	1,2,3		
FILAMENTOUS REDS		1		
GLOIOPELTIS FURCATA				
HALOSACCION GLANDIFORME	7	1		
LAMINARIA SPP				
LITHOTHAMNION				
NEREOCYSTIS SPP				
PORPHYRA SPP		1		
RALPHSIA/HILDENBRANDIA				
RHODOMELA LARIX		1		
RHODOMENIA PALMATA				
SCYTOSIPHON SPP				
ULVA SPP	1	1		
ZOSTERA MARINA				
ENTOMORPHA	2,3	2,3		

FAUNA:

ANTHOPLEURA SPP		1		
(SEMI) BALANUS CARIOSUS	1	1,2		
B. GLANDULA	1,2,3	1,2,3		
BRYOZOANS				
CHITONS (other than K. TUNICATA)				
CLAMS				
CRABS				
DERMASTIERIAS IMBRICATA				
KATHARINA TUNICATA				
LEPTASTERIAS HEXACTIS				
LIMPETS	1,2,3	1,2,3		
LITTORINA SPP	1,2,3	1,2,3		
NUCELLA SPP	1	1		N. lamellosa - very abundant in U. T. pools
PAGURUS SPP	1			
PISASTER OCHRACEUS				
POLYCHAETES				
PYCNOPODIA HELIANTHOIDES		3		8-10 cm d. ray T.p. - ray T.p
SEARLESIA DIRA				
SERPULIDS				
SIPHONARIA THERSITES	1	1,2,3		very abundant
TEALIA				

Thursday 04/19/80 1603-1730 +2.1 - +3.3 ft

KN-413

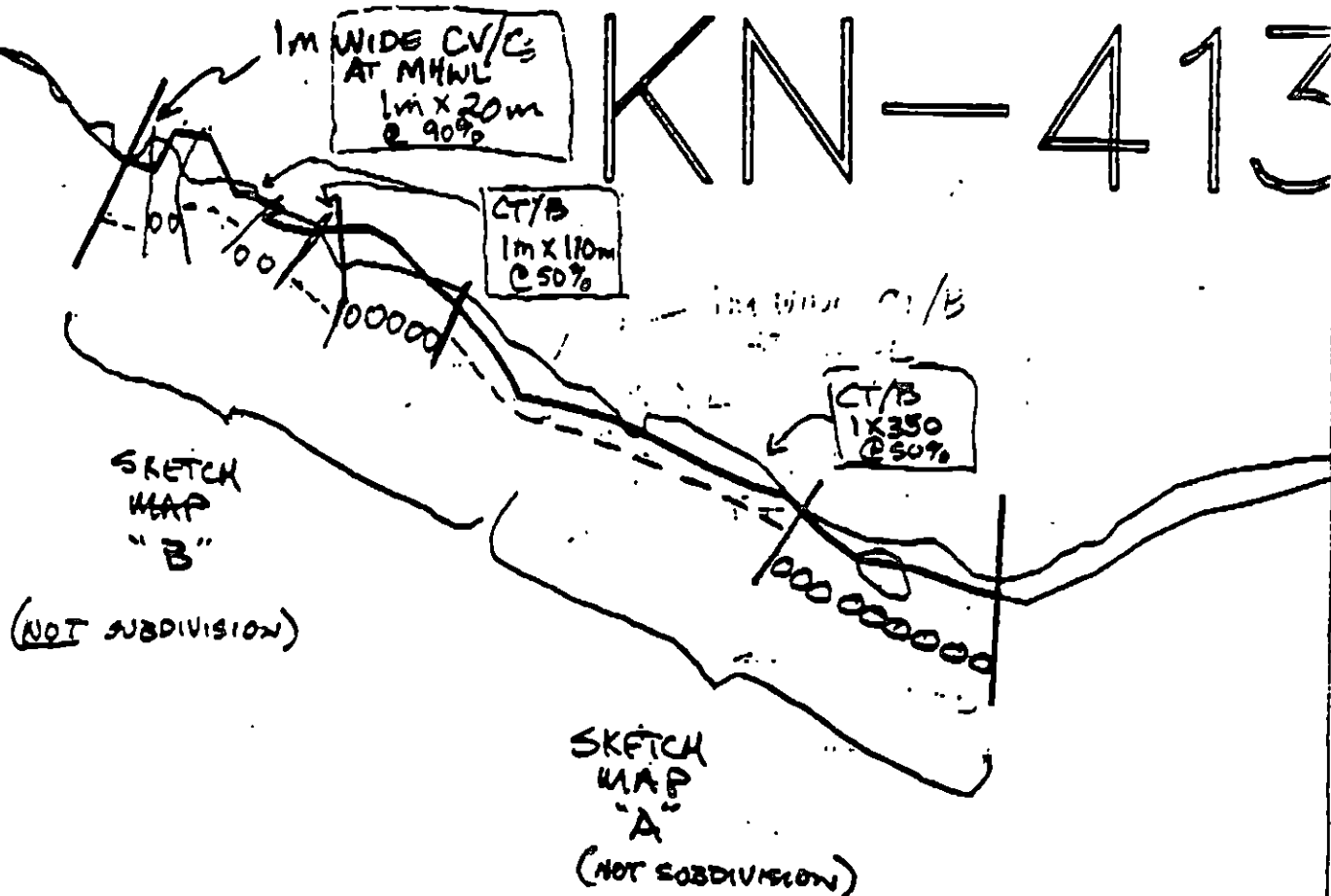
This segment forms part of the north shore of Hogan Bay. The east boundary lies in a small pocket cove of scoured and rounded cobbles. Just offshore is a large bedrock pinnacle which is connected to the rest of the shore by a spit at about +4 feet. The remainder of the segment is an alternation of boulder/cobble/pebble pocket beaches with steep bedrock cliffs. The average size of the substrate within the pocket beaches decreases as one proceeds west into the bay.

The pocket beaches were all extremely depauperate. From about +6 feet to the water line there was a light, discontinuous band of filamentous green algae. Barnacles (*B. glandula*) were rare and *Fucus* and *Mytilus* were absent, except in the protected area behind the pinnacle at the beginning of the segment where both barnacles and mussels were moderately abundant. *Litorina sitkana* was present but nowhere abundant. Under the cobbles amphipods were common and pricklybacks occasionally were found. A few small (c. 10 cm d.) *Pycnopodia* were present on cobbles at about +4 feet.

Unlike the cobble beaches, the bedrock cliffs and pinnacles supported an abundant fauna. The large pinnacle at the east end of the segment had a particularly rich biota, with abundance varying from dense to moderate throughout the middle and upper intertidal. The vertical cliffs separating the pocket beaches had more open space, but the biota was still dense enough to produce a clear banding pattern. At the top of the shore there was a band of black lichen (*Verrucaria*) and below that another patchy, irregular dark band produced by a discontinuous coat of oil. Within and below the oil band the main holder of space was *Balanus glandula*. About 25 % were dead tests. Recruits (1-3 mm) were present, but only on unoiled patches. The middle zone was dominated by a patchy band of mussels at the top and *Balanus cariosus* and *Fucus* below. Throughout the segment *Nucella lamellosa* were extremely abundant on bedrock surfaces. Densities of 20 / sq m were common with much higher densities in pools and moist crevices. *Siponaria thersites*, a pulmonate snail, was also very numerous. No sea stars were observed. Most of the algal cover was provided by a few species: *Fucus*, *Ulva*, *Halosaccion*, *Rhodoclela larix*, and filamentous greens and reds.

KN-412

30
66



KN-410

NO 360m } APPROX
NARROW 480m }
740

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

ST-KN-413A

ADEC Segment Length: 864m



Map Key: PWS-365

Name: J. HARPER

Date: 19 April 90

Date Entered: 4/14

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-413 SUBDIVISION A (1 of 1)

WORK WINDOW	
Spot Washing	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

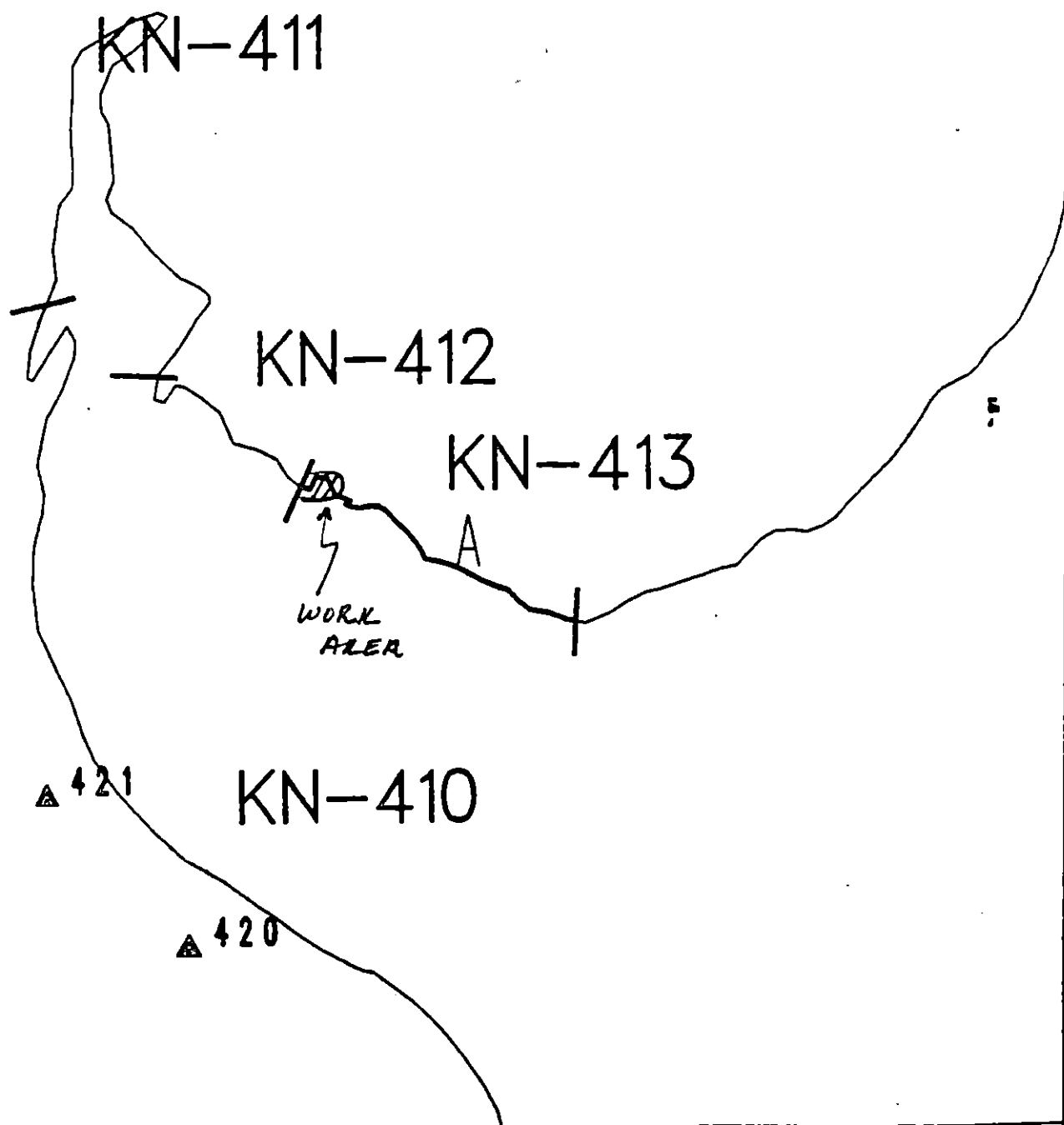
APPLICABLE ECOLOGICAL TIME CONSTRAINTS

No applicable ecological time constraints.

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC *J. J. J. J.* Date 7/3/90
Prepared by *W. Kelley* Date 7/3/90



Exxon Company, USA

Map Key: KN1-KN-413

May 11, 1990



ECOLOGY MAP
SEGMENT KN-413
SUBDIVISION A (1 of 1)
METERS



- ★ Seabird Colony
- △ Eagle Nest

1 inch = 1341 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-500 SUBDIVISION A (1 OF 2) DATE 4/7-8/90

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 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: 4/20/90

OILING CATEGORIZATION:

Wide 55 m: Medium 210 m: Narrow 1433 m: V.Light 478 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 50+ cm

RECOMMENDATIONS:

 No Treatment Recommended

X Treatment Recommended

X Manual Pickup

X Bioremediation

X Tarmat: X Breakup

X Removal

 Snare/Absorbent Booms

 Oil Snares (pom poms)

 Absorbents (pads, rolls, etc)

 Spot Washing: Wands

 Beach Cleaner

X Other (see comments) A

COMMENTS: Recommended treatment includes 1) manual removal of tarmat, 2) manual pick up of oiled debris and logs, 3) bioremediation of areas shown on attached sketch map. Work should be conducted between 6/1 and 7/10 based on eagle nest and salmon constraints after consultation with ADF&G and USFWS regarding eagle nest.

TAG COMMENTS: MANUAL TILL/PACK, OR SMALL MECHANICAL
ENHANCED TILLING, AS NECESSARY PRIOR TO BIOREMEDIATION.

TAG APPROVAL DATE: 4/20/90.

ADEC ART WEINER

EXXON ANDY TETZ

NOAA Burt Wescott

USCG KEVIN KEANE

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 (6/7 to 8/31)
 1J Purse seine area (7/20 to 9/30)
 1K Purse seine hook-off (7/20 to 9/30)
 1L Set net sites (6/11 to 7/25)
 For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
- 2M Herring spawning (4/1 to 6/15)
 Restrict boat traffic to essential minimum. Avoid damage to unopened intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
- 3N, 3P 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 500 SUBDIVISION: A DATE 4/7-9/90

USCG

NAME

A. E. WHITE

SIGNATURE

A. E. White☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Recommended treatment includes mechanically tilling and washing or other approved method as needed to remove the surface oil, Also manual pickup of broken asphalt pavement.

ADEC

NAME

Dianne Munson

SIGNATURE

Dianne Munson☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS Primarily bedrock cliff with many pebble, cobble boulder beaches. Substrate of beaches was primarily granule. In all beaches but two, residual subsurface oil was observed. (black oil surfaced in pits interstitial water. The oil was most often buried with pebble / granule from 10-20 cm. The oil got increasingly thicker with increased depth. The subsurface oil smelled like "crude". Surface oiling consisted of coats, asphalt./pavement and tar balls. The beaches contain large amounts of potentially mobile oil if beach unbuilds. Recommended treatment includes mechanically tilling and washing or other approved method as needed to remove the subsurface oil.

LAND MANAGER

NAME

David Mandrella

SIGNATURE

David Mandrella☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Impacted areas in this segment include a consistent band of broken, patchy and sporadic coats along bedrock and boulder shoreline. Heavy subsurface oiling exists in majority of low angle cobble and pebble beaches. Pits 4 and 5 have oil layers that have been broken by pebble and granule layers. Asphalt pavement exists near pits 11, 15 and just north of 19. Recommended treatments include manual pickup of broken asphalt pavement and tarballs. Beach covers with heavily affected subsurface layers may benefit by manual or mechanical disruption.

SHORELINE OILING SUMMARY

REVISION NO. 02/89/00

OG Sawyer USCG White SEGMENT ST/KN500
 BIO Benson LAND REP Mandrella (FS) SUBDIVISION A (1042)
 XXON Katsimpealis ADEC Munson TIME 16:00 to 09:30
 EAM NO.: 8 TIDE LEVEL: see comments DATE Apr. 17+8, 190
 EST. SUBDIVISION LENGTH: 2409 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock snow
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 60 % B 10 % C 20 % P 10 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 30 % Hang 10 % Vert 60 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 50 m M 189 m N 1565 m VL 605 m NO 0 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	C	S	P	B	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) 30 sq. m by 10 cmPATTIES / 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 rope#BAGS 1

Photographs:

Roll No. ST-8-2Frames 25-34

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-IN)	BELOW		OIL / FILM COLOR						PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		10	15	20	25	30	35	40	45	50	U	M	L		
1	20		/		✓		10-20	/		/							/			N	B, C, G
2	30					/	- - -	/									/			N	P, G
3	20				/		- - -	/									/			N	C, P, G
4	35		/				20-35	/		/							/			N	P, G
5	40		/				15-40	/		/							/			N	P, G
6	35					/	- - -	/									/			N	P, G, B

COMMENTS ST/KN-500A: Pits 4+5 have oil layers that have been buried by "sheets" of pebbles and granules.

- This ^(Sub-)Segment was examined from 16:00 to 19:30 on Apr. 7 and from 08:30 to 10:30, Apr. 8. The tide levels ⁺5.5 to ⁺0.5 of ⁺0.1 to ⁺6.0, respectively.

SHORELINE OILING SUMMARY (PAGE 2 of 7)

REVISION 03/22/90

SEGMENT ST/KN500 SUBDIVISION A

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR										PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	1	2	3	4	5	6	7	8	9	10	SU	U	M	U		
7	35		/				10-35	/		/										/				N	P, C, G
8	60					/	- - -	/												/				N	P, B
9	35					/	- - -	/		/										/				N	P, wt
10	50		/		/		10-50	/		/										/				N	C, P, G
11	50		/				0-10	/		/										/				N	P
12	50		/				15-30	/		/										/				Y	C, P, G, wt
13	30					/	- - -	/		/										/				N	P, G, wt
14	25					/	- - -	/		/										/				N	P, C
15	35		/		/		0-35	/		/										/				N	P, G, wt
16	30					/	- - -	/		/										/				N	P, G
17	20					/	- - -	/		/										/				N	C, P, G
18	30					/	- - -	/		/										/				N	P, G
19	60		/		/		10-50	/		/										/				N	P, G, wt
20	55		/		/		10-25	/		/										/				N	P, G

COMMENTS ST/KN-500A: Pit 12 had a peat layer buried by about 40cm of pebbles and granules. The base of the peat layer extends below the bottom of the pit (50+cm). H₂S smell was noted.

— Pits 15 and 16 were dug on either side of a small anadromous (?) stream. A clean shovel was used to disrupted the stream bed and no sheens were observed.

— Pit 20 had a peat layer about 15cm thick and buried to a depth of 35cm. It's possible that the layer was a log.

REVIEWED 7W DATE 4/11/90

00 Saur

SEGMENT ST/KN500

SUBDIVISION A

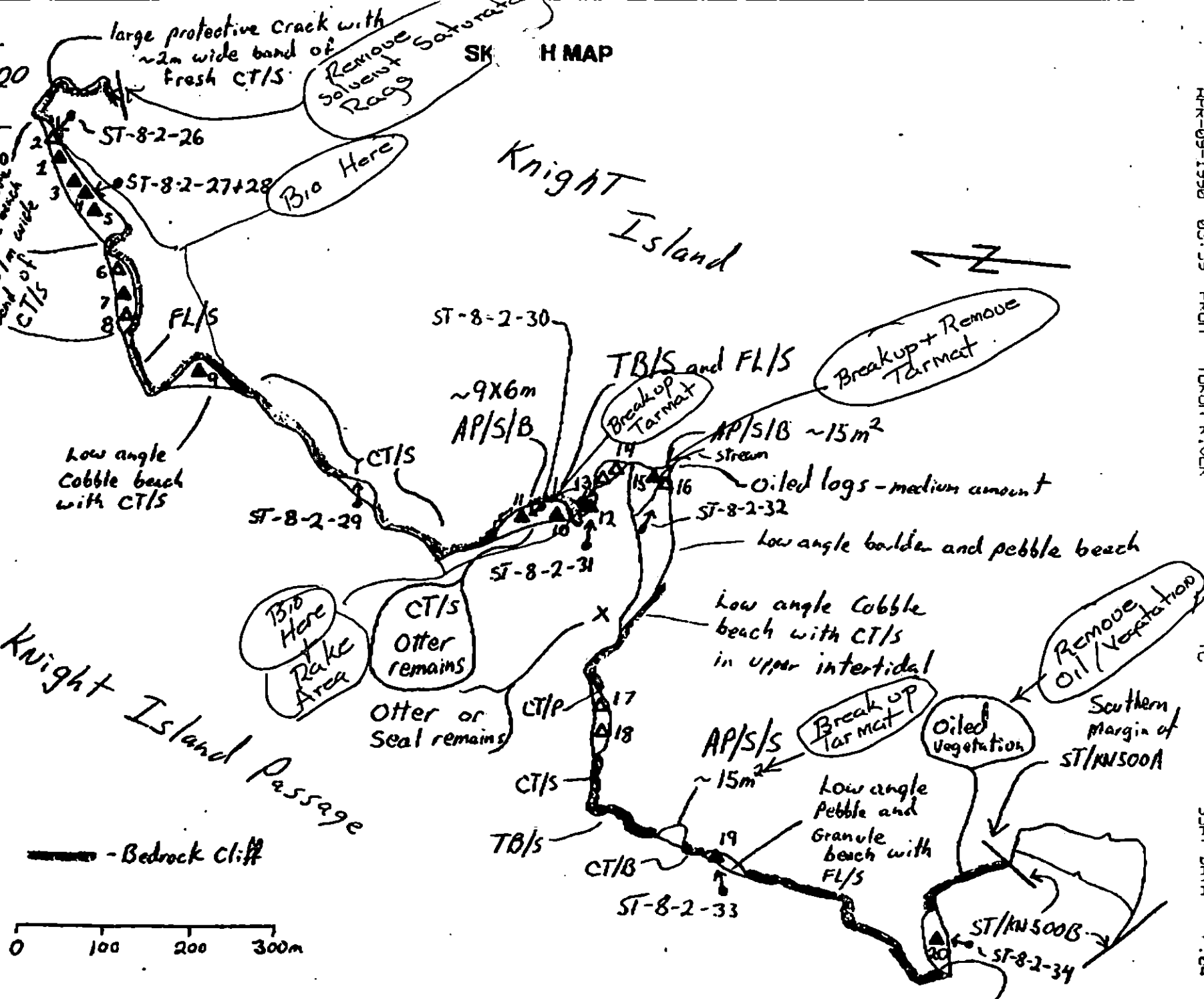
DATE Apr. 18

CHECKLIST

- ☐ M Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Body
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. MW/L/V/L
- ☐ SSI
- ☐ Profile 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
- Photo location, direction, and number



Oil Character Length (m): AP 20 PO - CV - CT 1750 ST - MS - PT - TB 10 FL 300 NO -

CT/B REVISION: 02/04/99

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST/KN500 Subdivision A (1 of 2) Date (mo / day / yr) 4/7-4/8/90
 4/7: 1610-1945
 ne (24 hr) 0835-0930 Biologist John Benson

- (A) Substrate type and % of segments:
 (1) Bedrock 60 (2) Boulder 10 (3) Cobble 20 (4) Pebble 10 (5) Sand 0 (6) Silt 0
- (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-8-2
25-32:4/7
 Frames 33-34:4/8

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:

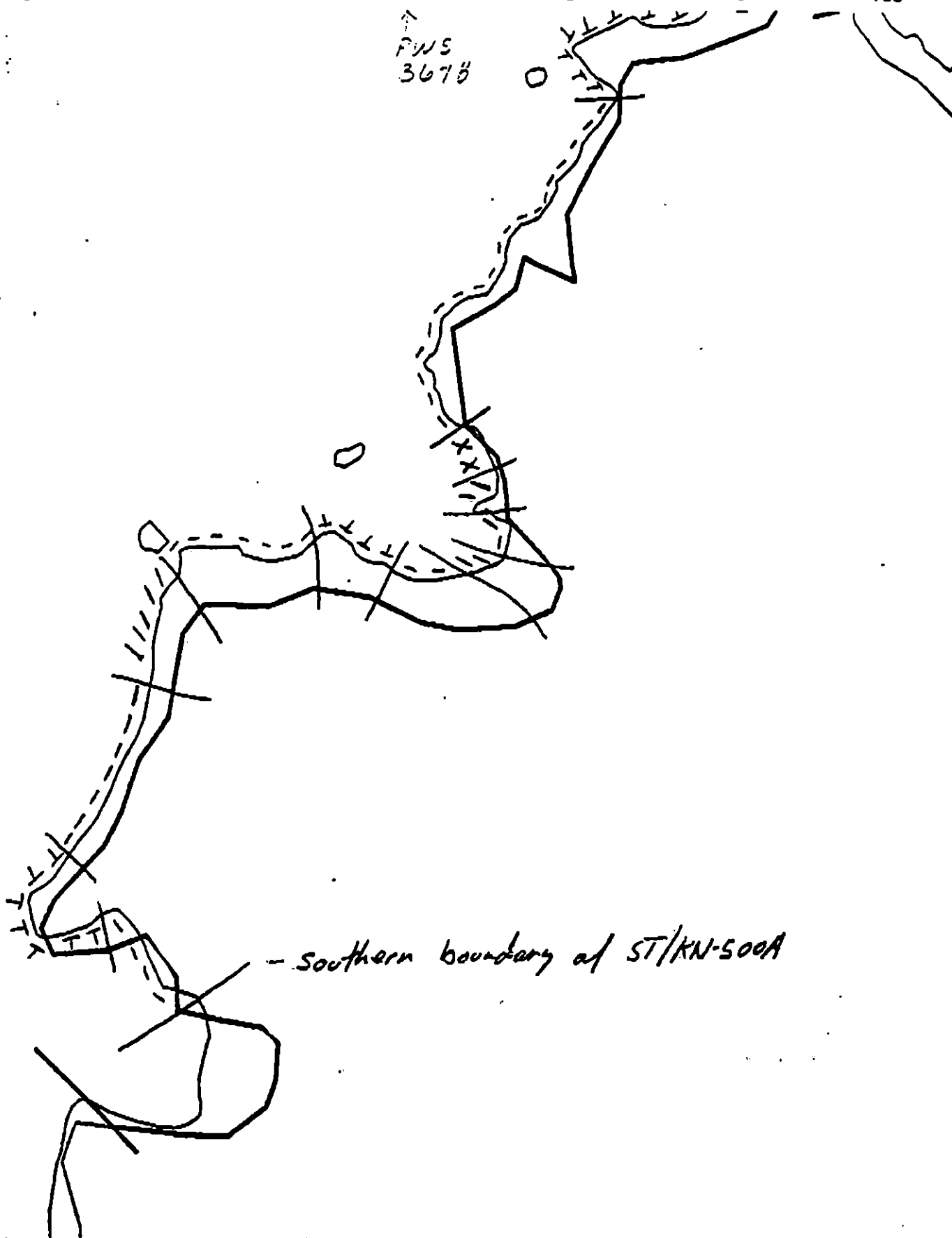
cormorants
 dead sea otter (uncoiled)

Ecological Considerations:

Sensitivities: ST-2 (eagle-nests)
 6Y (special use.)
 1B (salmon stream)

High gastropod densities were observed primarily in the tidepools, which are abundant in this subdivision. Mytilus and Fucus together form a complete cover of the mid-tide level bedrock substrate in many areas.

PWS
3678



XXXX Wide

KN-500A

/// Medium

--- Narrow ADEC Segment Length: 2554m

TTTT Very Light

0000 No Oil



Map Key: PWS-367a

Name: SawyerDate: Apr 8, 1990

Data Entered:

↓ 367A



XXXX Wide

///// Medium

---- Narrow

TTTT Very Light

OOOO M. 0:1

KN-500

ADEC Segment Length: 2554m

Map Key: PWS-387b

Name: SawyerDate: Apr. 8, 1990

note continued.

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-500 SUBDIVISION A (1 of 2)

WORK WINDOW	
Manual Pickup and Tarmat Removal	
More Than 400m From Eagle Nest	OPEN
Less Than 400m From Eagle Nest	CLOSED
More Than 100m From Stream	OPEN
Less Than 100m From Stream	CLOSED
Bioremediation, Manual Tilling/Raking & Mechanical Tilling/Raking	
More Than 400m From Eagle Nest	OPEN
Less Than 400m From Eagle Nest	CLOSED
More Than 100m From Eagle Nest	OPEN
Less Than 100m From Eagle Nest	CLOSED

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

ADF&G catalogued anadromous stream (226-10-16992) is in Subdivision A. This subdivision is closed to bioremediation less than 100m from stream 7/10 to 8/31. Prior to 7/10, bioremediation is permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation, manual tilling/raking, and mechanical tilling/raking more than 100m from stream. No constraint to manual pickup and tarmat removal.

5T Bald Eagle Nest

USFWS 6/1/90 map indicates 2 active nests in Subdivision A. Closed to manual pickup, tarmat removal, bioremediation, manual tilling/raking, and mechanical tilling/raking within 400m of active nest. No constraint to all recommended treatments in areas more than 400m from active nest.

OTHER ECOLOGICAL CONSIDERATIONS

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

SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM (STREAM NO. 226-10-16992)
FOR ADDITIONAL CONSTRAINT INFORMATION

TAG APPROVAL DATE _____
ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC

Date 7 June 1990

SHORELINE EVALUATION

SEGMENT ST/ KN-500 SUBDIVISION A (1 OF 2) DATE 4/7-8/90

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 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.

ARCHAEOLOGICAL CONSTRAINTS:

Consultation and inspection with an Exxon archaeologist is required prior to treatment. Specific on-site monitoring requirements will be determined at that time. *ent, stop work if a member of the 403658 or 564-3276).*

SHPO SIGNATURE *Charles E. Adams* DATE: 4/20/90

DILLING CATEGORIZATION:

Wide 55 m: Medium 210 m: Narrow 1433 m: V.Light 478 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 50+ 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) <i>B</i>

COMMENTS: Recommended treatment includes 1) manual removal of tarmat, 2) manual pick up of oiled debris and logs, 3) bioremediation of areas shown on attached sketch map. Work should be conducted between (6/1) and (7/10) based on eagle nest and salmon constraints after consultation with ADF&G and USFWS regarding eagle nest. *See Addendum dated 6/1/90 with*

TAG COMMENTS: MANUAL TILL/RAKE OR SMALL MECHANICAL
ENHANCED TILLING, AS NECESSARY PRIOR TO BIOREMEDIATION.

TAG APPROVAL DATE: 4/20/90

ADEC ART WEINER *Art Weiner*

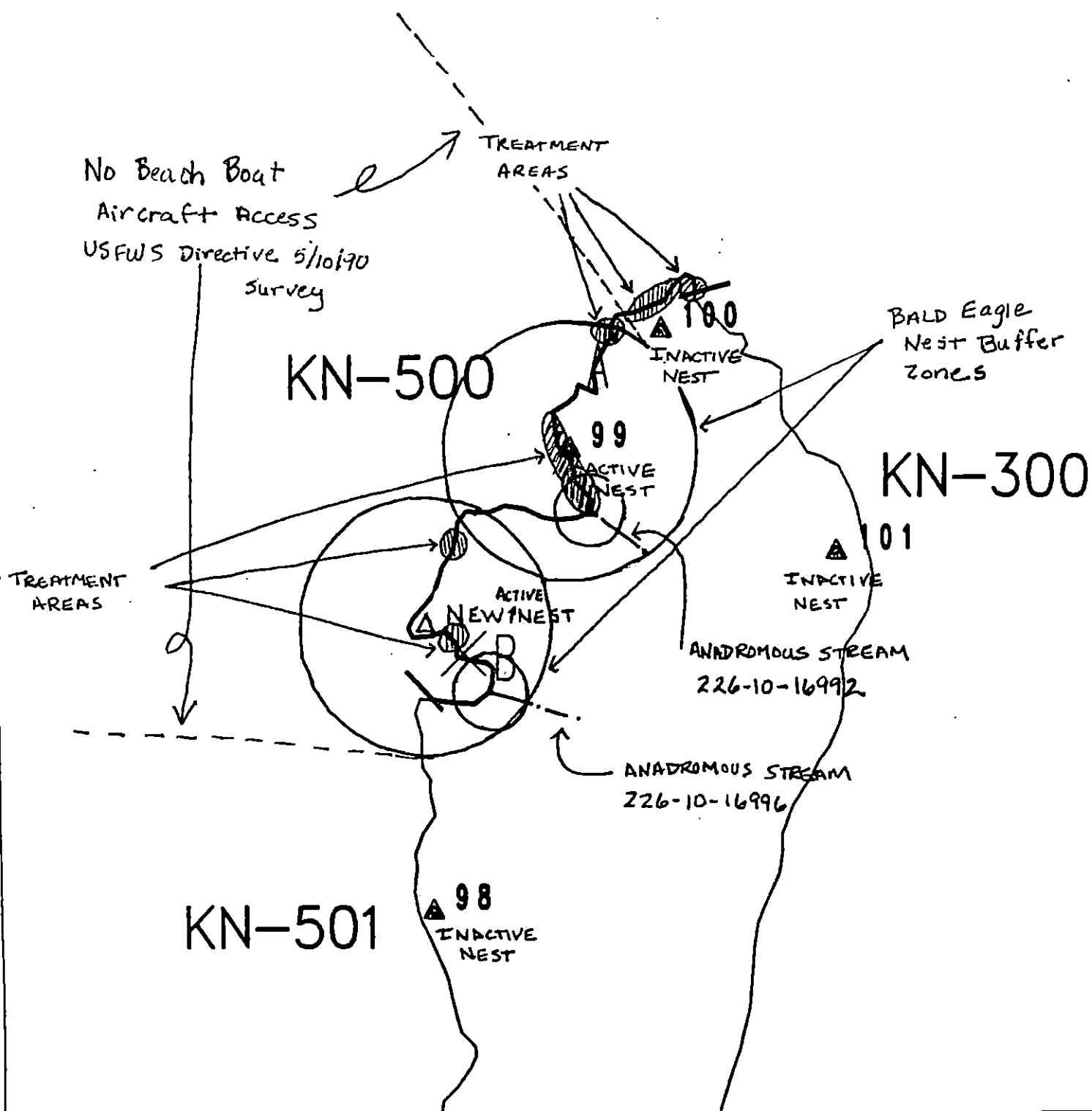
EXXON ANDY TEE *Andy Tee*

NOAA Burt Wasscott *Burt Wasscott*

USCG KENNETH KEMME *Kenneth Kemme*

FOSC: *h L* DATE: 4-26-90

INCORPORATES USFWS 6/1/90 map
of Active Bald Eagle Nests.



Exxon Company, USA
Map Key: KN-500



ECOLOGY MAP
SEGMENT KN-500
SUBDIVISION A (1-12)
METERS

- ★ Seabird Colony
- ▲ Eagle Nest

ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 226-10-16992

SEGMENT KN-500 SUBDIVISION A

WORK WINDOW	
Manual Pickup Tarmat Removal	CLOSED
Bioremediation	CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,B	Salmon Stream	ADF&G catalogued anadromous streams (226-10-16992 and 226-10-16996) are 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	USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to manual pickup, tarmat removal, and bioremediation within 400m of active nest. No constraint to manual pickup, tarmat removal, and bioremediation more than 400m from active nest.

OTHER ECOLOGICAL CONSIDERATIONS

No flushing of pollutants or sediments into stream drainage; do not allow Inipol to enter stream flow. On-site examination and consultation by ADF&G monitor is required prior to bioremediation in order to authorize a setback distance from the stream during chemical application; if ADF&G monitor's presence is impossible, authorization may be given by the ADEC monitor. If eagle nest constraint is removed, other ecological considerations will apply.

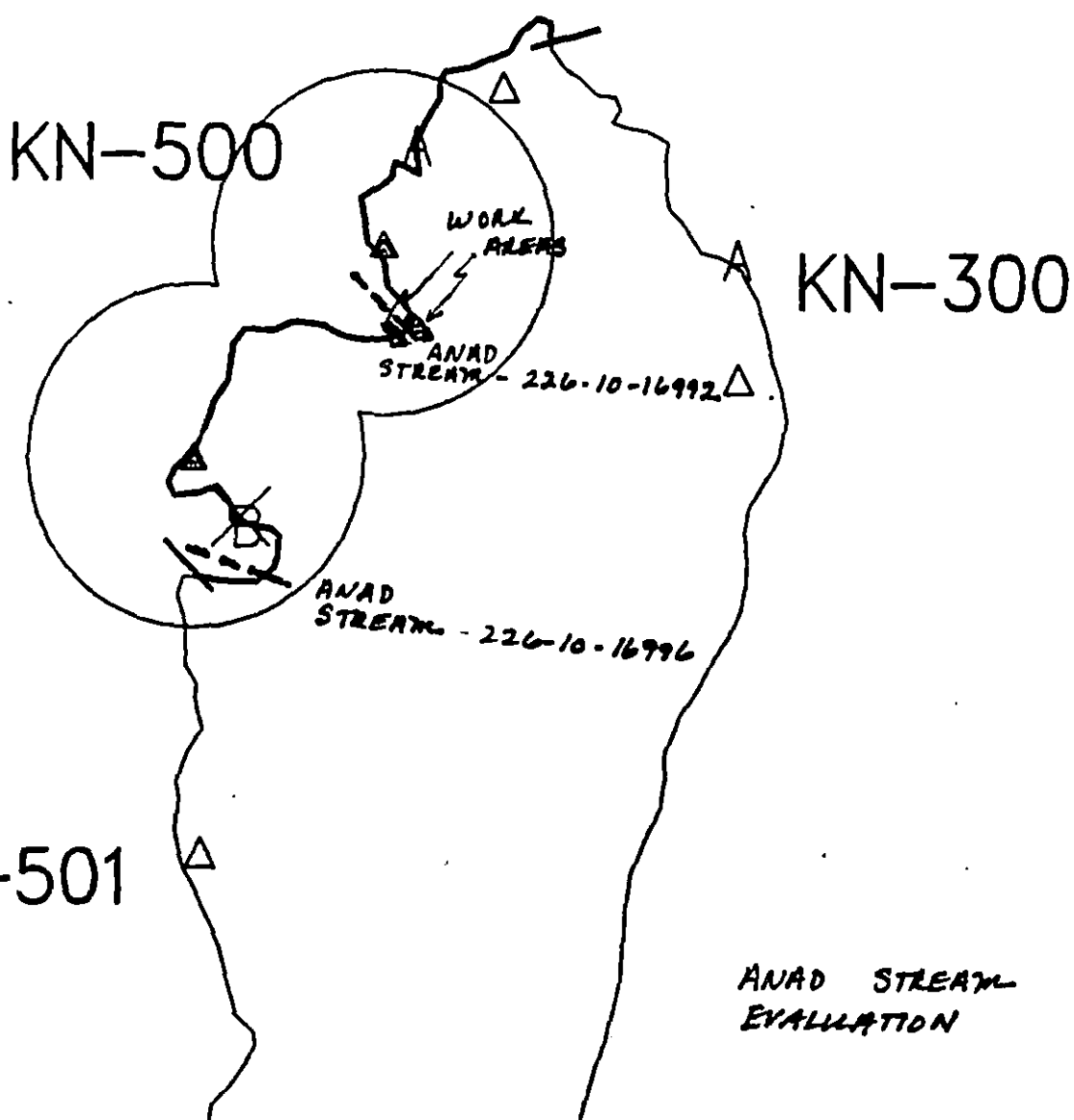
SEE SUBDIVISION CONSTRAINT ADDENDUM KN-500A
FOR ADDITIONAL CONSTRAINT INFORMATION.

FOSC *D. Zarnoff*

Date 7/3/90

Prepared by W. Kellen

Date 7/3/90



Exxon Company, USA
Map Key: PWS-KN-500
1:50,000



ECOLOGY MAP
SEGMENT KN-500
SUBDIVISION A (1 of 2)
METERS
0 452 903

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

1 inch = 1482 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-500 SUBDIVISION B (2 OF 2) DATE 4/8/90

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 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: *Paul E. Horman*

DATE: 4/20/90

OILING CATEGORIZATION:

Wide 306 m: Medium 72 m: Narrow 0 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 25+ cm

RECOMMENDATIONS:

<u> </u> No Treatment Recommended	<u>X</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>X</u> Breakup	<u> </u> Beach Cleaner
<u> </u> <u>X</u> Removal	<u> </u> Other (see comments)

COMMENTS: Recommended manual pick up of tarmats, oiled debris, trash and oiled logs (>10% coverage). Bioremediation of areas indicated on sketch map. Treatment should be conducted after 5/15 due to fry outmigration and USFWS must be contacted prior to treatment due to eagle nesting constraints in area.

TAG COMMENTS:

MANUAL AND/OR MECHANICAL ENHANCED TILLING/RAKING PRIOR TO BIOREMEDIATION. USE SNARE/ABSORBENT BOOMS IN CONJUNCTION WITH THE WORK EFFORT TO MINIMIZE SHEENS AND RECOVER AS MUCH OIL AS POSSIBLE.

TAG APPROVAL DATE: 4/20/90.

ADEC ART WEAVER
EXXON ANDY TEN
NOAA Burt WATCOFF
USCG KENNETH KERR

FOSC: *[Signature]*

DATE: 4-26-90

FIELD SHORELINE COMMENT SHEET

MENT ST / KN-500 SUBDIVISION: B DATE 4-8-90

USCG

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

COMMENTS

Treatment suggested: Removal of oiled log's -
debris/trash - dredge and wash also manual removal
of oil - tilling and flushing of heavily impacted area.

ADEC

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

COMMENTS Primarily sand, pebble, cobble beach. The beaches surface (500 sq. meters) is continuous asphalt/pavement. The subsurface has continuous residual oil. Oiling occurs on both sides of the anadromous stream. A clean shovel was used to dig into the stream, oil sheen was observed. An oiled log is in the stream. Debris and trash observed. An observation noted on the included map suggests that sediments are being deposited from low i.t.z. upwards and burying the asphalt/pavement. Strongly suggest further treatment. Further T.A.G. evaluation suggested. Recommended treatment includes removal of oiled log, remove debris/trash, till and wash or dredge and wash.

LAND MANAGER

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

COMMENTS

an anadromous stream flows through the central portion of this subdivision. Extremely large areas of asphalt pavement exists in mid, upper, and lower intertidal zones. Subsurface oil exists up to 25 cm. Residual oil exists in pits excavated adjacent to stream and digging within stream bed created a sheen. Treatments recommended include manual and/or mechanical tilling and flushing of heavily impacted areas along with placement of sorbent boom to intercept sheens. Ecologically important area. REVISION NO. 001100

SHORELINE OILING SUMMARY

REVISION NO. 03/22/90

OG Sawyer USCG White SEGMENT ST/ KN500
 O Benson LAND REP Mandrella (FS) SUBDIVISION B (2 of 2)
 XON Katsimpalis ADEC Munson TIME 08:00 to 10:30
 TEAM NO.: 8 TIDE LEVEL: +1.0 to +6.0 DATE Apr 18 / 90
 EST. SUBDIVISION LENGTH: 300 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock SNOW
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 30 % B 20 % C 20 % P 30 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 70 % Hang 0 % Vert 30 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 200 m M 100 m N 0 m VL 0 m NO 25 m

SURFACE OIL

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

PAVEMENT: H F S 500 sq. m by 15 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 rope#BAGS 1

Photographs:

Roll No. ST-8-2Frames 35-36

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	VC	SP	BR	OR	GR	BL	LT	SU	U	M	L		
* 1	25		/		/		0-25	/		/										N	P, G, S, wt
2	20		/		/		0-20	/		/										N	C, P, G, wt
3	25		/		/		0-15		/			/								N	C, P, G, wt
* 4	30		/		/		0-15		/			/								N	P, G
5	35		/		/		0-10		/											N	C, P, G
6	25		/		/		0-5		/	/	/	/								N	C, P, G, S, wt

COMMENTS

* oiled interval < 5cm does not constitute subsurface oil in pits #1 & 4

OG Saw

SEGMENT 1-500

SUBDIVISION B

DATE Apr 18 90

CHECKLIST

- ☐ M Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Body
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HWA/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/S
Broken Distribution

CT/P
Patchy Distribution

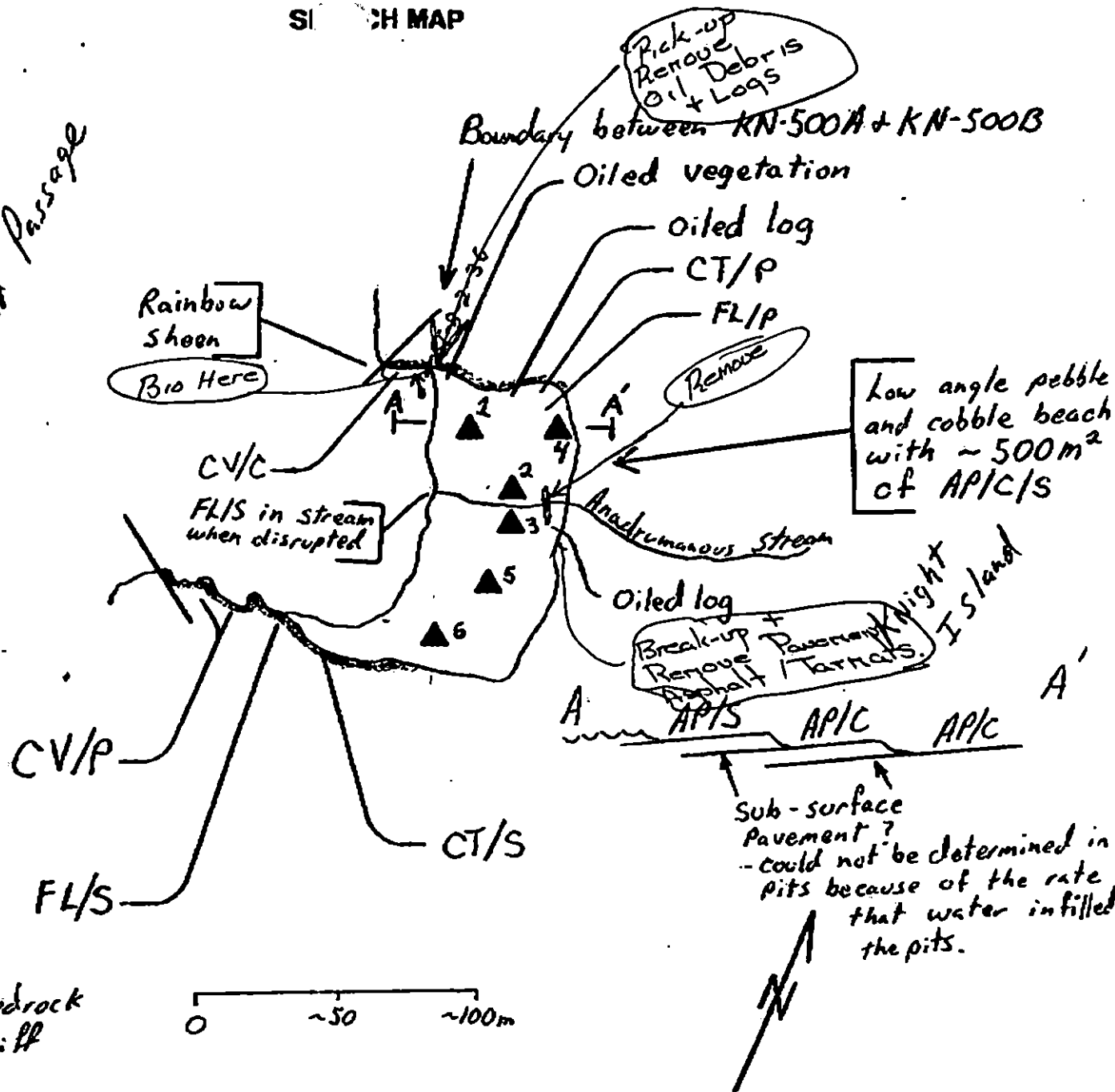
CT/S
Splashed Distribution

Oiled Vegetation

1 ●●
Photo location, direction, and number

SI CH MAP

Knight Island Passage



Oil Character Length (m): AP 100 PO CV 30 CT 80 ST MS PT TB FL 60 NO

REVIEWED

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/28/90

Segment ST/ KN500 Subdivision B (2 of 2) Date (mo / day / yr) 4/8/90re (24 hr) 0930-1045 Biologist John Benson(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 50 Low 30

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

Photographs:

Roll No. ST-8-2Frames 35-36

BARNACLES

LOW INTERTIDAL COULD NOT BE OBSERVED

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	2
3	3	3	3	3	3	3	X	3	X	3	3
4	4	4	4	4	4	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

NOT PRESENT

MYTILUS

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

NOT PRESENT

GASTROPODS

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

NOT PRESENT

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	2	X	2	2
3	3	3	3	3	3	3	3	3	3	X	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

Wildlife Observations/ General Comments:

harbor seal (*Phoca vitulina*)bald eagle (adult) - *Haliaeetus leucocephalus*

LOW INTERTIDAL COULD NOT BE OBSERVED

Ecological Considerations:

Sensitivities: ST-2 (eagle nests)

6Y (special use)

1B (salmon stream)

Any potential plan for oil removal/treatment in this subdivision should consider the effects of the treatment on the mussels in the cobble-pebble beach and

on the gastropods in the cobble-boulder beds. The species diversity here was moderate (perhaps due to the paucity of tidepools), but the abundance of molluscs is high (in the mid-tide level).

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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 6/31)
- 1J Purse seine area (7/20 to 9/30)
- 1K Purse seine hook-off (7/20 to 9/30)
- 1L Set net sites (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.

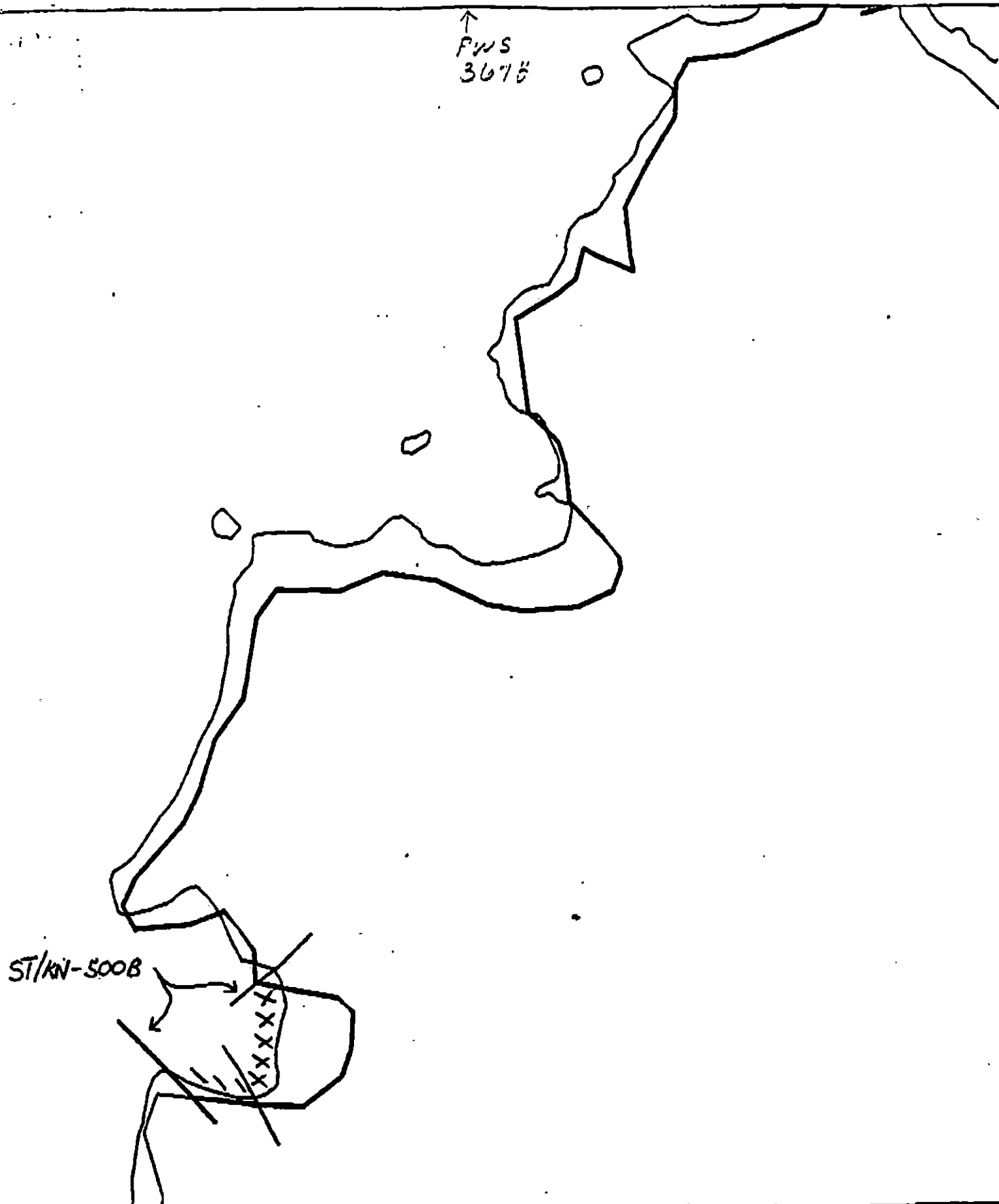
- 5R Seabird colony (5/1 to 9/1)
Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.

- 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
- 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.



XXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-500B

ADEC Segment Length: 2554m



Map Key: PWS-367a

Name: SawyerDate: Apr. 8, 1990

Data Entered:

segment KN 500

Subdivision B

Dated 7/11/90.

1. REASON FOR MODIFICATION

- TAG: RECOMMENDATION FOR SECONDARY TREATMENT

2. ADJUSTMENT TO WORK PLAN

- REAPPLICATION OF BIOREMEDIATION RECOMMENDED FOR THE AREA WITH REMAINING DIL AS INDICATED ON ATTACHED SKETCH. ADFTC HAVE APPROVED INIPOL APPLICATION FOR THE ENTIRE BEACH AREA PRIOR TO SALMON SPAWNING (PERMIT REQ'D). IN PREPARATION FOR THE INIPOL APPLICATION, MECHANICALLY TILL THE ENTIRE AREA WHERE APPLICATION TO OCCUR. DURING TILLING REAPPLY CUSTOMBLEN. LOCATE SNARE BOOM ON THE BEACH TO RECOVER ANY FREE OIL. (SEE ATTACHED SKETCH)

SHPO APPROVAL NEEDED YES _____
NO X

SHPO SIGNATURE

TAG APPROVAL DATE 7/11/90 0

ADEC JOHN BAUER John Bauer

EXXON Andy Taz ~~_____~~

NOAA Burl Wescott Burl Wescott

USCG G.A. REITER G.A. Reiter

FOSC

DATE 7-11-80

UPLANDS

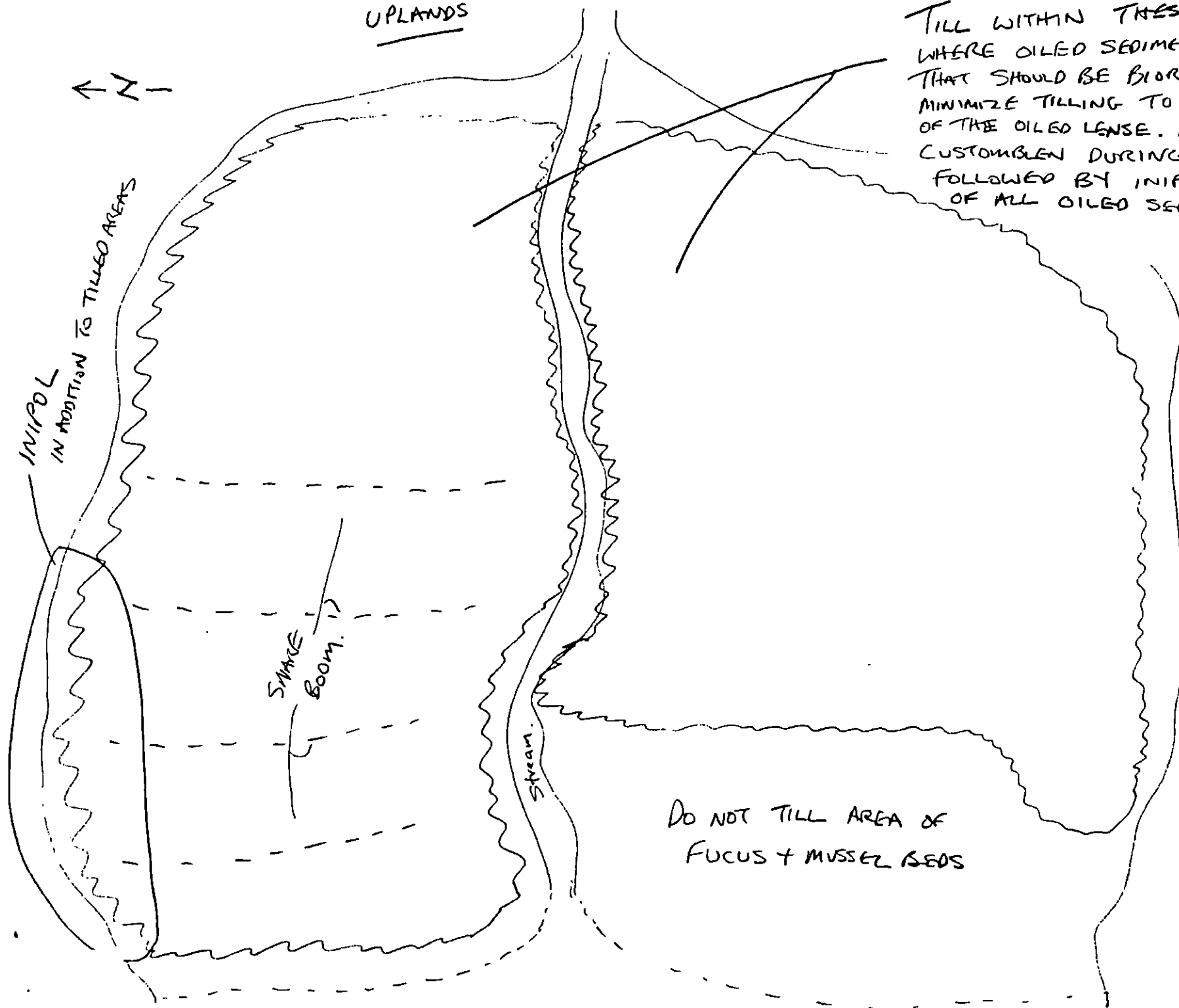
TILL WITHIN THESE AREAS
WHERE OILED SEDIMENTS EXIST
THAT SHOULD BE BIOREMEDIATED.
MINIMIZE TILLING TO THE DEPTH
OF THE OILED LENSE. APPLY
CUSTOMBLEN DURING TILLING
FOLLOWED BY INIPOL APPLICATION
OF ALL OILED SEDIMENTS EXPOSED

INIPOL
IN ADDITION TO TILLED AREAS

SNARE
BOOM

Stream

DO NOT TILL AREA OF
FUCUS + MUSSEL BEDS



ANADROMOUS FISH STREAM EVALUATION ADDENDUM

CONSTRAINTS FOR STREAM NO. 226-10-16996

SEGMENT KN-500 SUBDIVISION B

WORK WINDOW

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

CLOSED

Bioremediation, Manual Tilling, and Manual Raking
Less Than 400m From Nest and
Less Than 100m From Stream

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 (226-10-16996) is in Subdivision B. This subdivision is closed to bioremediation, manual tilling and manual raking less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation, manual tilling, and manual raking are permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation, manual tilling, and manual raking more than 100m from stream. No constraint to manual pickup and tarmat removal.

5T Bald Eagle Nest

USFWS 6/1/90 map indicates an active nest in Subdivision B. Closed to manual pickup, tarmat removal, bioremediation, manual tilling, and manual raking within 400m of active nest. No constraint to manual pickup, tarmat removal, bioremediation, manual tilling, and manual raking more than 400m from active nest.

OTHER ECOLOGICAL CONSIDERATIONS

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

**SEE SUBDIVISION CONSTRAINT ADDENDUM KN-500B
FOR ADDITIONAL CONSTRAINT INFORMATION.**

FOSC

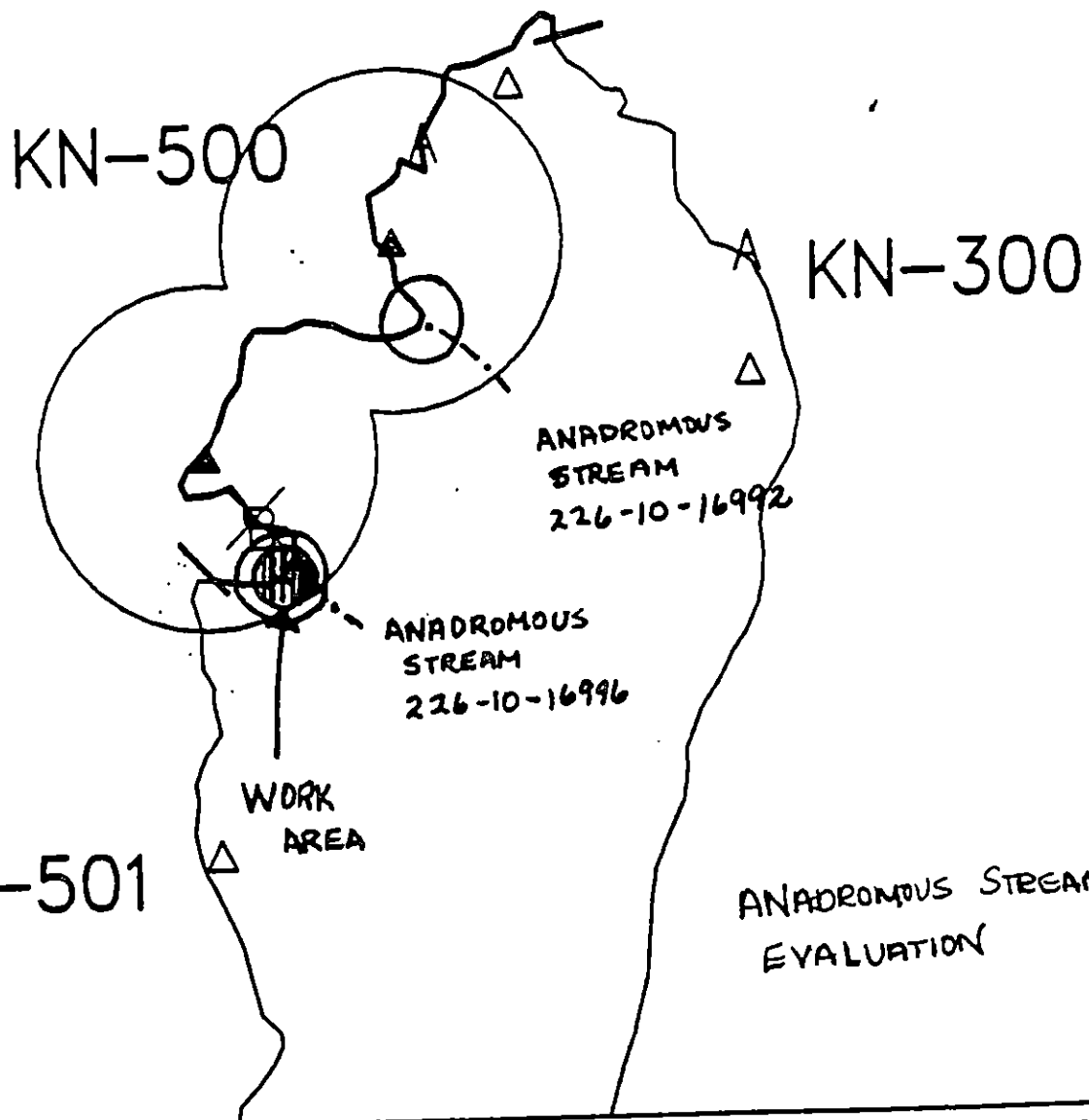
Date

6-12-90

Prepared by

Date

6/11/90



Exxon Company, USA
 Map Key: P-5-KN-500
 June 09, 1990



ECOLOGY MAP
 SEGMENT KN-500
 SUBDIVISION B (1 of 2)
 METERS
 0 452 903

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

1 inch = 1482 feet

SEGMENT ST/ KN-501 SUBDIVISION A (1 OF 1) DATE 4/7/90

SEGMENT ST/ KN-501 SUBDIVISION A (1 OF 1) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and
contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to uncoiled biota and substrate. Avoid bioremediation around mussel beds near pit 11.

SHPO SIGNATURE: Charles E. Jones DATE: 4/23/90

OILING CATEGORIZATION:

Wide_0_m: Medium_222_m: Narrow_332_m: V.Light_1288_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) manual pick up of oiled debris and logs, 2) bioremediation of subsurface oil shown on attached sketch map. Work should be conducted after 6/1 and after approval of ADP&G and USFWS regarding eagle nest.

TAG COMMENTS: _____

TAG APPROVAL DATE: 4/21/90
 ADEC ART WEINER Art Weiner
 EXXON ARMY EARL Army Earl FOSC: WGL DATE: 4-27-90
 NOAA BILL WESCOTT Bill Wescott
 USCG KENNETH KEANE Kenneth Keane

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 (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 / KN501 SUBDIVISION: — DATE 4-7-90

USCG

NAME David A. Sylvester SIGNATURE David A. Sylvester☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

There are several small segments that bioremediation would be a good choice in using. There was a lot of debris on the shoreline in this section. There was also traces of oil in the sub-surface in this section. The amounts of oil in this section was not as heavy as that in the section that we walked yesterday. For the most part of this section the surface looks really good. There were only a few places where surface oil was visible.

ADEC

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

COMMENTS

Bioremediate the North half of this segment only. Leave area nr pit 11 alone - Rich Biological communities incl clam bed + gastropod nursery which needs not to be disturbed. Most of segment looks oil free on surface and oil in sediments is in relatively low volume thick-out.

LAND MANAGER

NAME Steven Phillips SIGNATURE Steven Phillips☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Scout storm berm for debris, this segment collects a fair amount. Bioremediate pockets with surface and near surface oil. Low angle beach has deep oil but relatively clean surface. Large boulders would inhibit intrusive methods. Scrape any tar coats exceeding 2mm thick on boulders and vertical faces.

SHORELINE OILING SUMMARY

REVISION NO. 03/23/90

OG Greg Chaney USCG Dave Sylvester SEGMENT ST/ KN-501
 RIO Jim Rath LAND REP Steve Phillips SUBDIVISION NONE
 EXXON Ray Setelo ADEC Mike Cunningham TIME 16:10 to 19:15
 TEAM NO.: 7 TIDE LEVEL: 5.5 ft to 0.5 ft DATE April 7, 1990
 EST. SUBDIVISION LENGTH: 1800 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 35 % B 35 % C 20 % P 5 % G 5 % S — % M — % V — %
 SLOPE: Long 10 % Hang 45 % Vert 45 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 200 m N 500 m VL 1100 m NO — m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	R	B	P	S	%	%	%	%	%	%	%	%	SU	U	M	L
ASPHALT PAVEMENT																
POOLED																
COVER			X												X	
COAT	X	✓	□										X	✓	□	
STAIN	X	✓	□										X	✓	□	
MOUSSE																
PATTIES																
TARBALLS																
FILM		X	✓												X	X
NO OIL																

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

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

DEBRIS COLLECTED
☒ YES ☐ NO
 Yellow rope
 TYPE pom-pom
8 BAGS / bag

Photographs:

Roll No. ST-7-2Frames 21, 22

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-IN)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UG	VS	50% BR	25% PB	10% BL	5% BL	1% BL	SU	U	M	U					
1	15				X		0-3		X	X							X						B P G B
2	25		X				15-25	X					X						X				B P B
3	30		X				20-30	X		X							X						B P B
4	30		X				15-30		X	X									X				B P B
5	15		X				5-15	X		X									X				B P B
6	40		X				35-40	X		X								X					B P B

COMMENTS Pits numbers 2, 3, 5 and 6 oil in sediments at the base of the pits. Boulders were too tough to dig deeper. Mobile oil was still present in these sediment

SEGMENT ST/ KN-501 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	1	2	3	4	5	6	7	8	9	10	BU	U	M	U		
7	25					X	0- ~~15~~		X												X				BPB
8	30					X	0- ~~15~~		X													X			BPB
9	20					X	0- ~~15~~		X													X			BPB
10	25					X	0- ~~15~~		X													X			BGB
11	40	X					10-35	X	X											X					BGB <u>MISSG</u>
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		

COMMENTS

This segment was dominated by discontinuous patches of tar coated boulders. It appears that the segment was once thoroughly oiled but that most has weathered away. The resulting tar is commonly found on the protected faces of boulders and in bedrock cracks. Silver & Rainbow sheens were commonly observed in tide pools. In the northern portion of the segment, sediments often contain mobile brown & black oil.

REVIEWED _____ DATE _____

00 Greg (may)
SEGMENT ST/KN-501

SUBDIVISION None

DATE April 17 90

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Body
- ☐ Oil Dia.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. MW/LA/WL
- ☐ 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

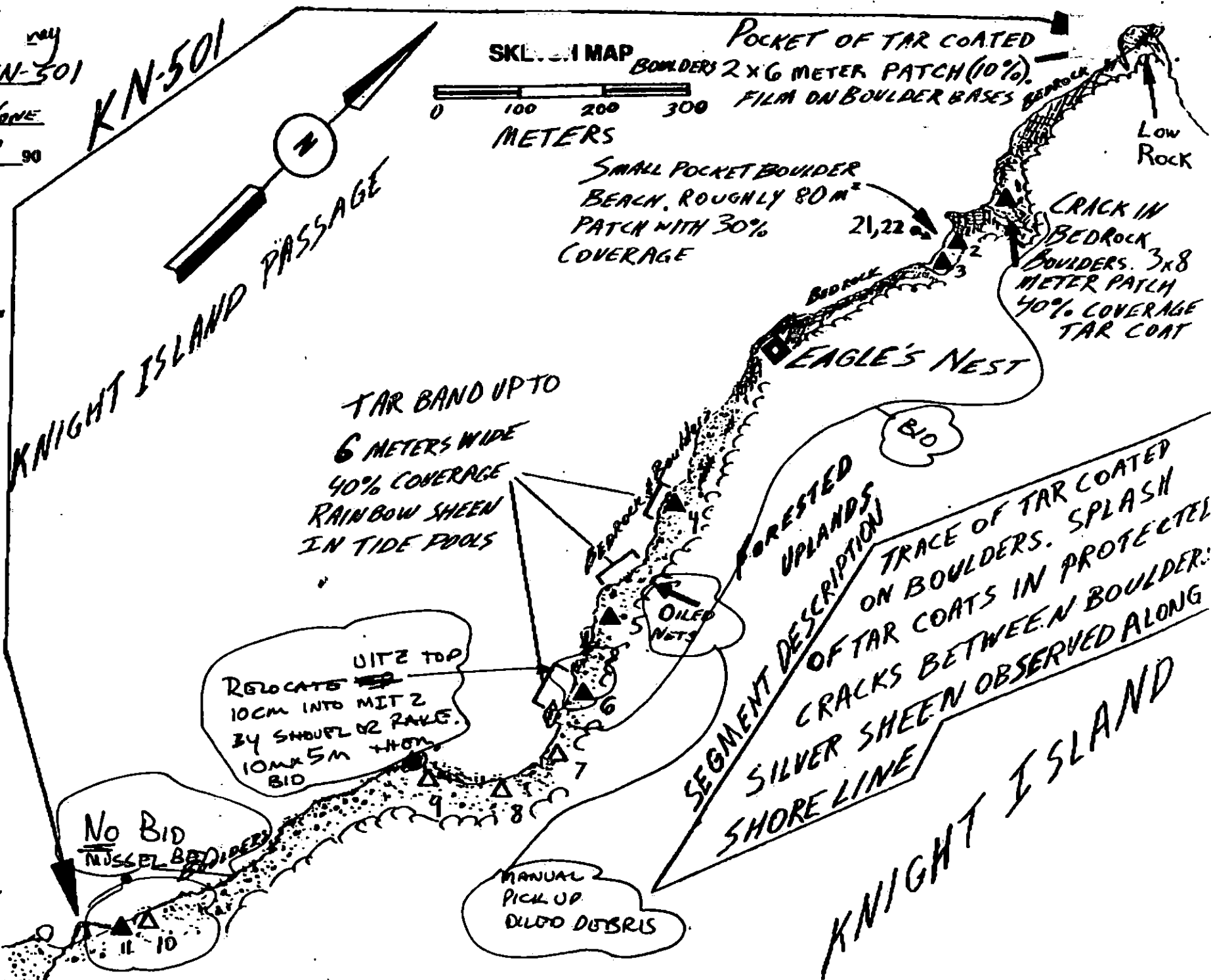
CT/B
Broken Distribution

CT/P
Patched Distribution

CT/S
Splashed Distribution

Oil Vegetation

1 →
Photo location, direction,
and number



Segment ST / KN 501 Subdivision Date (mo / day / yr) Apr 7, '90
 Time (24 hr) 1915 Biologist ROTH

A) Substrate type and % of segments:
 (1) Bedrock 35 (2) Boulder 35 (3) Cobble 20 (4) Pebble 5 (5) Sand 5 (6) Grt -

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

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

Photographs:
 Roll No. ST-7-2

Frames 21-22

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

ISTROPODS

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments:

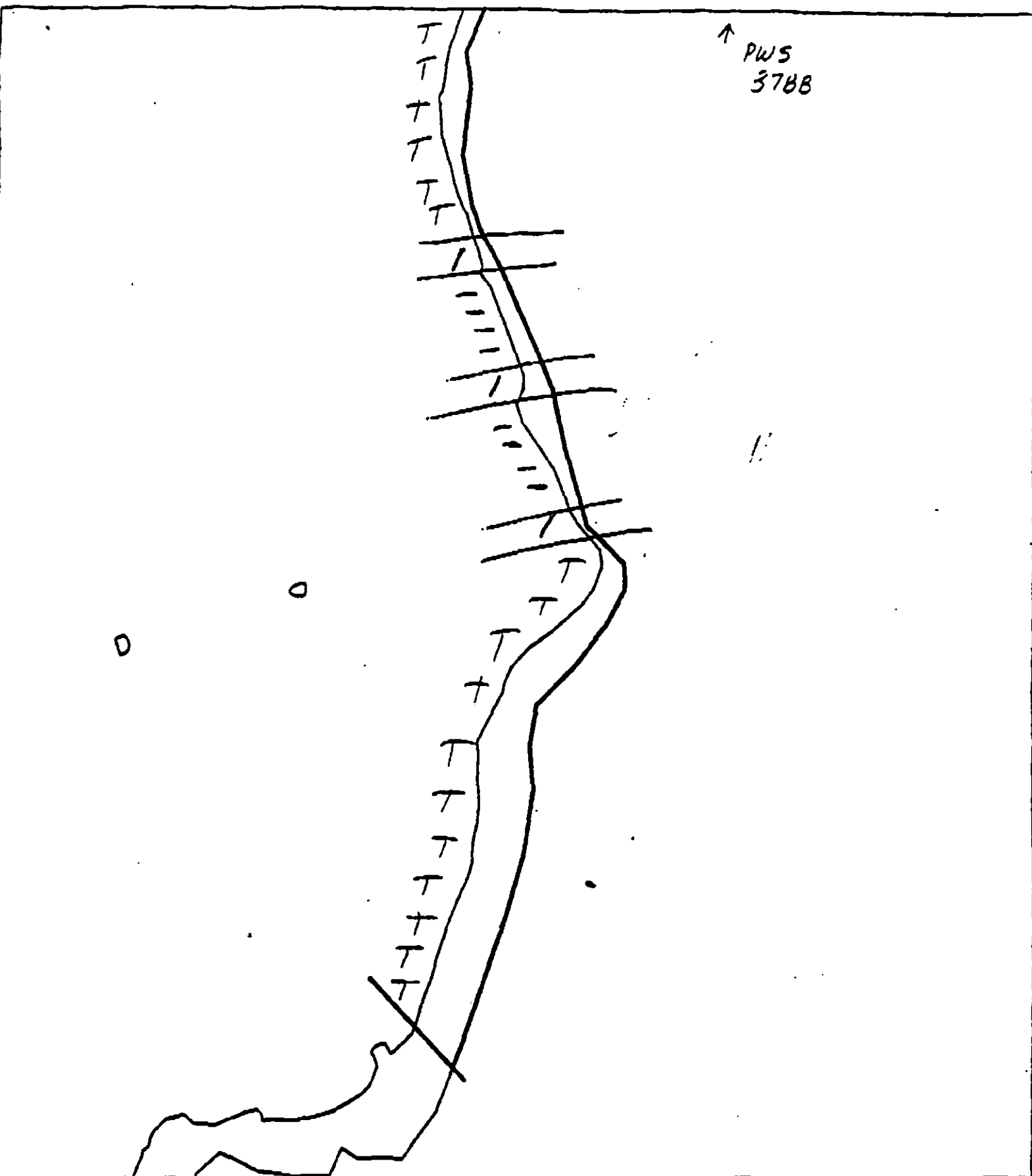
BALD EAGLE NEST OBSERVED (SEE OG MAP); 2 IMMATURE, 3 ADULT EAGLES SEEN.

ALTHOUGH THE OVERALL PERCENT COVER OF BIOTA WAS UNEXCEPTIONAL IN THIS SEGMENT, IT CONTAINED A VERY DIVERSE INTERTIDAL FAUNA, INCLUDING SEVERAL SPECIES NOT OBSERVED

Ecological Considerations: INSIDE HERRING BAY. SPECIES OBSERVED IN MITZ ROCKS AND POOLS:

ST - ACTIVE BALD EAGLE NESTS

GUMBOOT CUTTON (CRYPTOCHITON STELLERI), HENRICIA, NOTACMA SELTUM, NUCULA, KATHARINA, DERMASTERIA, Pseudodrom. ON A LITE COBBLE/SAND FLAT NEAR S. END OF SEGMENT: BRYOZOITES, LARGER AMPHIPODS, PSEUDOSCHISTUS, LEPTASTEREAS, BRYAN EELS, LITTORINES w/ EGG MASSES, KATHARINA, SCALE-WORMS (HARMONIE), TONICELLA LINEATA, MORALIA LIGULOSA, DIODORA, POLYCHAETES, MOON SNAIL EGGS, URECHIS (STRONG. PURPURATA).



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

KN-501

ADEC Segment Length: 1842m

0 100 200 300
METERS

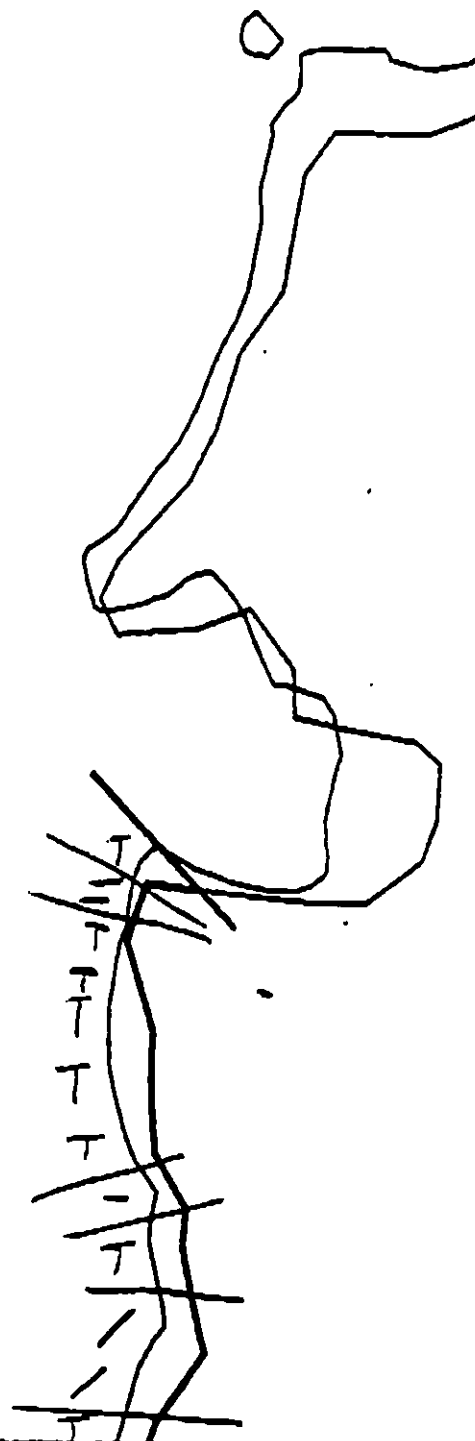


Map Key: PWS-378e

Name: Greg Chaney

Date: April 7 1990

Data Entered:



↓ PWS
378A

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-501

ADEC Segment Length: 1842m



Map Key: PWS-378b

Name: Greg Chaney

Date: April 7 1990

Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-501 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 no active nest within 400m of Subdivision A work site.

OTHER ECOLOGICAL CONSIDERATIONS

Avoid bioremediation around mussel beds near pit 11. Avoid any unnecessary disturbance or damage to uncolled biota and substrate.

FOSC

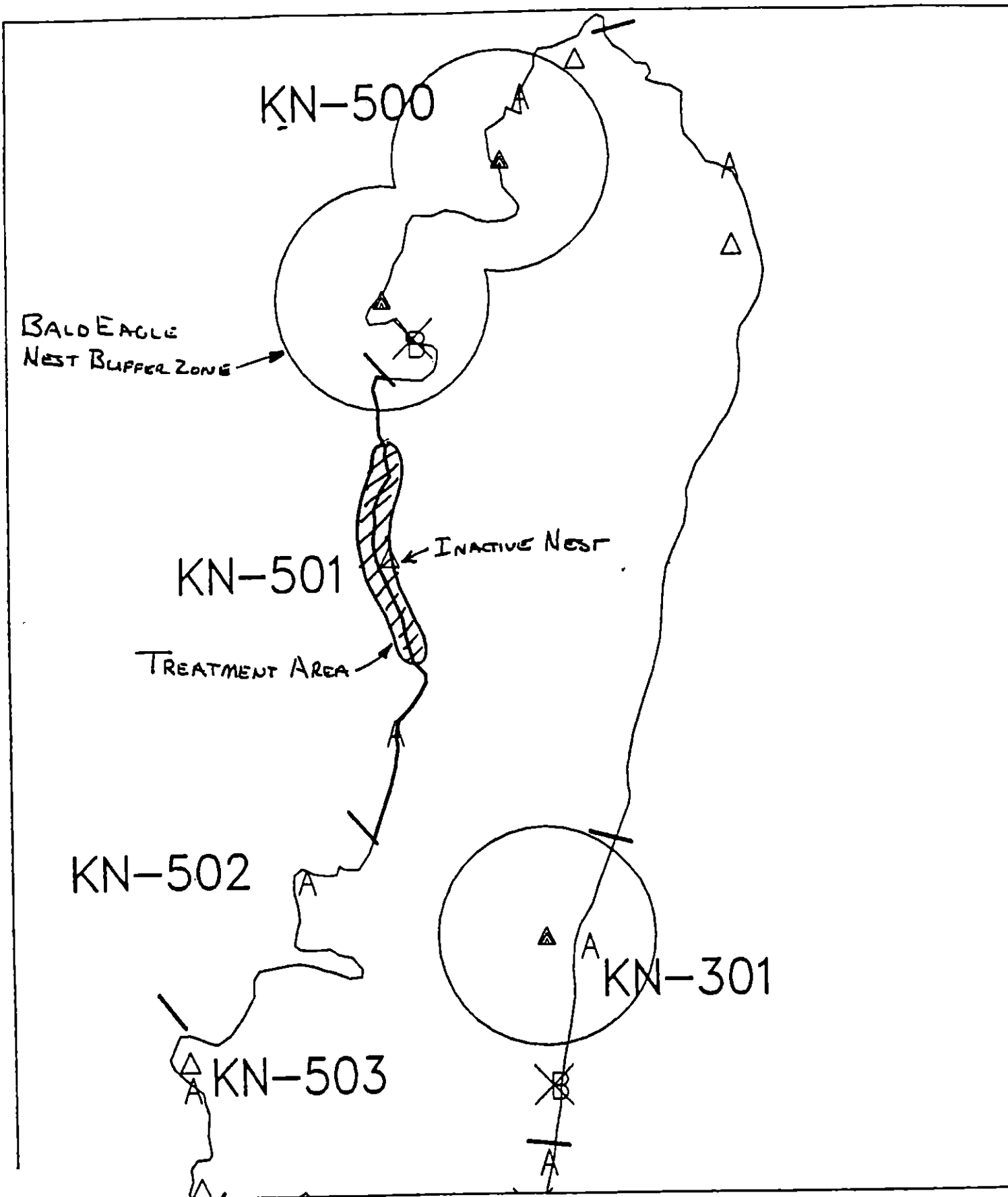
DATE 6-10-90

Prepared By:

wk

Date

6/8/90



Exxon Company, USA
Map Key: PWS-KN-501

ECOLOGY MAP
SEGMENT KN-501
SUBDIVISION A (1 of 1)
METERS

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

SHORELINE EVALUATION

SEGMENT ST/ KN-502 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)-Active eagle nests (3/1 to 9/1)
Eagle nest in adjacent segment.
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: 5/5/90

OILING CATEGORIZATION:

Wide 221 m: Medium 7 m: Narrow 612 m: V.Light 395 m: No Oil 609 m
Subsurface Oil Observed: Yes X No Maximum Depth 40+ cm

RECOMMENDATIONS:

<u> </u> No Treatment Recommended	<u> </u> Snare/Absorbent Booms
<u> X </u> Treatment Recommended	<u> </u> Oil Snares (pom poms)
<u> X </u> Manual Pickup	<u> </u> Absorbents (pads, rolls, etc)
<u> X </u> Bioremediation	<u> </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 removal of oiled vegetation on 5 beaches as indicated on sketch map, and 2) *manual tilling and bioremediation of intertidal areas on 5 beaches as indicated on sketch map. Work should be conducted after 6/1 with approval of USFWS regarding eagle nest in adjacent segment.

TAG COMMENTS: Monitors to assess logs.

TAG APPROVAL DATE: May 5 1990

ADEC Art Weikert DATE: 5-9-90
EXXON Mark N. Silbert FOSC: [Signature]
NOAA Gary Petras
USCG G.A. Reiter

PWS, SEWARD and HOMER OIL 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 257-2324
- 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 unrolled intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
- 30, 3Q Harbor seal and sea lion pupping (5/15 to 7/1)
Harbor seal and sea lion molting (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 257-2403
- 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 257-2208
- 5T All Bald Eagle nests (3/1 to 6/1)
Active Bald Eagle nests (3/1 to 9/1)
Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 6U Recreation: Tent sites (5/1 to 9/15)
6V Anchorages (5/1 to 9/15)
6W Forest Service cabins (5/1 to 9/15)
6X Lodge (5/1 to 9/15)
6Y Special use destination
- 7Z Subistence area: Salmon harvesting (5/1 to 9/30)
7-H Finfish harvesting
I Deer harvesting (5/15 to 2/25)
J Invertebrate harvesting
Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.
AGENCY CONTACT PERSON: ADF&G Jim Fall 257-2359

USCG

NAME BM3 David A. Sylvestre SIGNATURE BM3 David A. Sylvestre

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

This segment contained oiling in the form of Sheens in the bedrock in the northern most part of the segment. There was also sporadic patches of coating. There was also a pocket bay approx. 250^{long} yds by 50-60 yds wide that contained oiled cobbles and sheen in the water in an area of 15-20 m. Farther down this segment there are two beaches that need further Tag Team Evaluation these two beaches →

ADEC

NAME Dianne Munson SIGNATURE Dianne Munson

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

Area with pit #'s 6-10 has surface coats and subsurface residual oil in pebble / sand sediment. Rainbow sheen observed on small pools of water. recommend manual/mechanical tilling and bioremediation.

Area with pit #'s 12, 13 has surface coats, subsurface residual oil with active sheening. oiled grass and tree at hit 2. surface is armored with angular boulders. Recommend removal of oiled grass/tree and bioremediation. Continued →

LAND MANAGER

NAME David Mandrella SIGNATURE David Mandrella

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

- Recommended treatments for pebble cobble beaches in the vicinity of pits 6-10 include manual/mechanical tilling and bioremediation.
- Treatments in beech cove with pits 12, 13 include bioremediation and manual removal of oiled log, vegetation and large debris.
- Adjacent beech coves near pits 15, 16 and 19, 20 are heavily impacted with residual and porous oil in subsurface to a depth of 25 cm. Active sheening occurs from these beaches. Sediments beneath cobble substrate comprised of sand and organic material. These characteristics may create difficulties using traditional treatment techniques. continued →

SEGMENT ST 1 KN-502 SUBDIVISION: A DATE 4-24-90JSCGNAME BM3 David R. Sylvester SIGNATURE BM3 David R. Sylvester☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Contain residual oil in the subsurface as well as on the surface. There is also Decaying wood approx. 35-40 cm down in the sub surface. The oil did not appear to have seeped through the peat layer in the pits we dug. There was a couple of fishing nets that we tagged for later pick-up.

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

COMMENTS

- Area with pit #'s 15-20 is heavily oiled. coats on cobbles from low to high itz. Subsurface O.R. and O.P. oil. Actively sheening. Recommend mechanical/manual tilling, warm water flush, hot water steam washing (shore crew) and bioremediation.
- Debris removal is needed throughout segment.

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

COMMENTS

- Recommended treatment includes mechanical/manual tilling in selected areas where high subsurface concentrations exist. Followed by washing and flushing and bioremediation.
- Additional debris pickup is needed throughout segment.

SHORELINE OILING SUMMARY

REVISED NO. 02-13-90

OG Alan Pittenger USCG Dave Sylvester SEGMENT ST/ KN502
 BIO John (Sandy) Benson LAND REP Dave Mordreha SUBDIVISION A (1 of 1)
 EXXON Chris Katsimpalis ADEC Piane Munsen TIME 07:42 to 11:00
 TEAM NO. #8 TIDE LEVEL -2.25 + 6 DATE 4/24/90
 EST. SUBDIVISION LENGTH: 2049 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 40 % B 10 % C 20 % P 20 % G 10 % S 0 % M 0 % V 0 %
 SLOPE: Lang 60 % Hang 30 % Vert 10 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 72 m M 12 m N 1145 m VL 400 m NO 420 m

SURFACE OIL

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

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

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

DID YOU COLLECT DEBRIS? Not allYES ☒ NO ☒TYPE Flots Not Rags#BAGS 2

Photographs:

Roll No. 4-8-4Frames 17, 18, 25, 29, 31

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR				PIT ZONE				A N A	SHEER (Y/N)	T	SURFACE - SUBSURFACE SEDIMENTS
		OF	OR	OL	OP	NO		US	UC	1	2	3	4	SU	U	M	L				
1	45					X	.								X				N	>45	P-P
2	45					X	.									X			N	>45	P-P
3	40					X	.									X			N	10	P-P
4	40					X	.									X			N	>40	P-P
5	40					X	.									X			N	35	C-P
6	30	X					0-20	X		X					X				N	>30	C-P

COMMENTS

REVIEWED YHDATE 4-26-90

SHORELINE OILING SUMMARY (PAGE 2)

REVISION 64-12-93

SEGMENT ST/ K11502 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 SEDIMENT
		OP	OR	OL	OF	NO		VO	UC	W	B	Y	GR	BL	BR	SU	U	M	LI				
7	40					X	.											X			N	>40	C-P
8	40		X				0-70	X		X								X			Y	>40	C-P
9	25		X				0-75	X		X								X			Y	20	P-P
10	35				X		0-35	X		X								X			Y	20	P-P
11	35					X	.									X					N	>35	P-P
12	30		X				0-30	X		X								X			Y	10	B,C,P-C, I
13	40		X				0-10		X	X							X				Y	15	C,P-P
14	40					X	.											X			N	30	P-P
15	45	X					5-10		X	X								X			Y	30	C,P-P, S
16	40				X		0-10		X		X							X			Y	10	C,P-C, F
17	40					X	.											X			N	>40	P-P, C
18	40					X	.									X					N	>40	P, G-S
19	35		X				0-35	X		X								X			Y	15	C-C, P
20	35		X				0-35	X		X								X			Y	10	C-C, P

COMMENTS

REVIEWED

MHDATE 4-26-10

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST/ KN502 Subdivision A Date (mo / day / yr) 4/24/90

Time (24 hr) 0730-1055 Biologist Benson

(A) Substrate type and % of segments:
(1) Bedrock 40 (2) Boulder 10 (3) Cobble 20 (4) Pebble 20 (5) Sand 10 (6) Silt 0

(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-B-4

Frames 17-32

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:

1 mature & 1 immature bald eagle (Haliaeetus leucocephalus)
4 oyster catchers (Haematopus sp.)
sea stars are diverse and abundant in the low intertidal zone
Ecological Considerations: No sensitivities (bald eagle nest within 400m of south bounds)

The number of species in this segment is moderate to high. Substrate types are heterogeneous, tidepools are present, and the exposure to wave action is probably substantially higher than for segments in Herring Bay. The narrow (~60m wide) cove in this segment undoubtedly receives less wave action, and low total % cover of biota there reduces the segment average % cover. Fucus, Verrucaria & green filamentous algae comprise most of

ECOLOGY MAP (1 OF 1)

RESOURCE CODES FOR
ENTIRE SEGMENT:

NONE

BALD EAGLE NEST $\leq 400m$
OF SEGMENT.

diverse flora and
fauna in tide pools

lower % cover
than on outer
coast

sparse
mussel bed in
cobble & pebble.

KN-503

BALD EAGLE NEST

did not verify this

KXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-502

ADEC Segment Length: 2049m



Map Key: PWS-447

Name: Benson

Date: 4/24/90

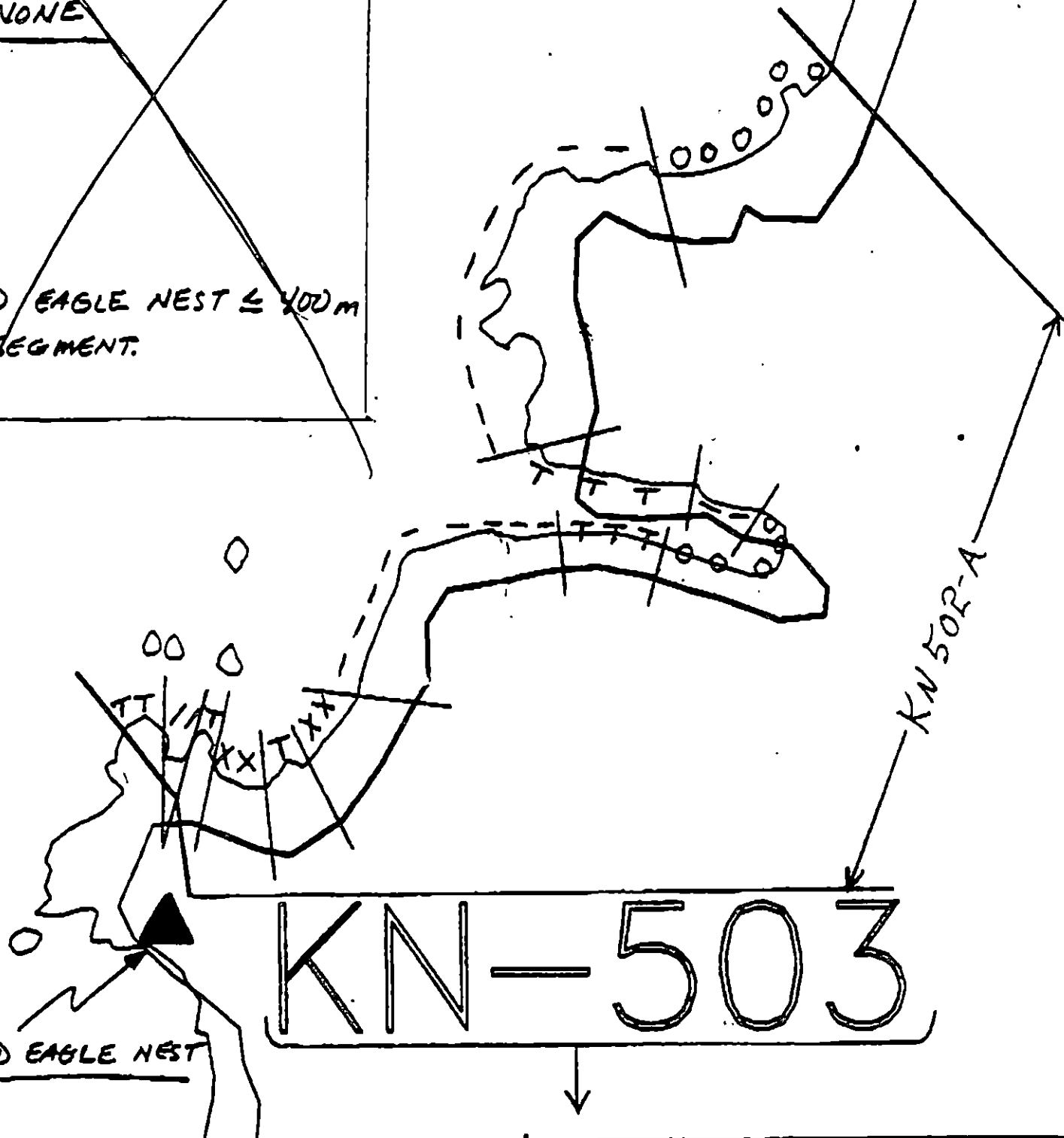
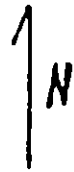
Date Entered:

ECOLOGY MAP (1 OF 1)

RESOURCE BASES FOR
ENTIRE SEGMENT:

NONE

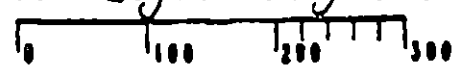
BALD EAGLE NEST $\leq$ 400m
OF SEGMENT.



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

KN-502

ADEC Segment Length: 2049m
Exxon Segment Length: 2049m



Map Key: PWS-447
Name: Pittenger
Date: 4/24/90
Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-502 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup	OPEN
Bioremediation Manual Tilling	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 CONSIDERATIONS

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

FOSC

DATE

6-10-90

Prepared By:

WTK

Date

6/8/90

KN-501

KN-502

WORK
AREAS

KN-503

KN-504

KN-132

KN-505

KN-3

KN-



Exxon Company, USA
Map Key: PWS-KN-502



ECOLOGY MAP
SEGMENT KN-502
SUBDIVISION A (1 of 1)
METERS

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

SEGMENT ST/ KN-503 SUBDIVISION A (1 OF 1) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T-2 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 uncoiled biota and substrate.

SHPO SIGNATURE: Charles E. Johnson DATE: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 233 m: Narrow 112 m: V.Light 195 m: No Oil 278 m
Subsurface Oil Observed: Yes X No Maximum Depth 25+ cm

Subsurface Oil Observed: Yes X No **Maximum Depth** 25+ 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

 Other (see comments)

COMMENTS: Recommended treatment includes 1) manual removal of tarmat, 2) bioremediation of areas shown on attached sketch map. Work should be conducted after 6/1 and after approval of ADF&G and USFWS regarding eagle nests.

TAG COMMENTS: _____

TAG APPROVAL DATE: 4/21/90.

ADEC ART WENGE Art Weiner

EXXON ANDY TEAL Real C

NOAA Bur/Wescott Bur/Wescott

USCG KENNETH KEANE

FOSC: W 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
- 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 503 SUBDIVISION: None DATE 4-9-90

USCG

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

Manual Removal of asphalt pavement -
fill and wash - pick up trash.

ADEC

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

Primarily coats, patties and tarballs on bedrock, cobble and pebble beach. Two beach areas (pit # 12, 13) had residual subsurface oil and asphalt/pavement. Recommended treatment includes manual removal of asphalt pavement and fill and wash where there is subsurface oil. Debris and trash pickup. Bioremediation may follow removal of mobile oil.

LAND MANAGER

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

Segment consists of primarily high angle bedrock beach with minimal amount of oiling. Priority area within segment which warrants treatment occurs in the vicinity of pit 12 where a 50 m² patch of asphalt pavement exists. Recommended treatment includes bioremediation in impacted areas.

SHORELINE OILING SUMMARY

REVISION NO. 03/28/90

OG Sawyer USCG White SEGMENT ST/ KN-503
 PIO Benson LAND REP Mandrella SUBDIVISION Area A (1081)
 XXON Katsimialis ADEC Munson TIME 17:00 to 20:00
 EAM NO.: 8 TIDE LEVEL: +4.0 to +1.0 DATE Apr 1 9 / 90
 EST. SUBDIVISION LENGTH: 1238 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock Snow
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: S to N
 SURFACE SEDIMENTS: R 40 % B 25 % C 20 % P 15 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 50 % Hang 40 % Vert 10 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 240 m N 320 m VL 388 m NO 290 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	C	B	P	N	W	Y	OR	GR	BL	PK	LT	DR	SU	U	M	L
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT																
STAIN																
MOUSSE																
PATTIES																
TARBALLS																
FILM																
NO OIL																

PAVEMENT: H F 6 50 sq. m by 25 cmPATTIES / 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 Plastic bag + bottle#BAGS 1

Photographs:

Roll No. ST-8-3Frames 1-5

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	W	Y	OR	GR	BL	PK	LT	DR			
1	35						---												N	P, G, S, wt
2	30						---												N	P, G, S, wt
3	25						---												N	P, G, S, wt
4	30						---												N	P, G, S, wt
5	25						---												N	P, G, S, wt
6	30						---												Y	P, G, wt

COMMENTS ST/KN-503: Peat layer 15cm below surface and extended to bottom of Pit #6, which was located near a drainage.

SHORELINE OILING SUMMARY (PAGE 2 of 6)

REVISION 03/23/90

SEGMENT ST/ KN503 SUBDIVISION NONE

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CH)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		VO	UC	SP	BP	OP	BP	ST	ST	ST	ST	SU	UI	MI	U		
7	30	/			✓		0-3	/				✓						/				N	B, C, P, wt
8	15					/	---	/										/				N	B, C, P
9	35					/	---	/										/				N	P, G, S
10	35					/	---	/										/				N	C, S
11	35					/	---	/										/				N	C, G, S
12	25	/			✓		0-25	/		✓								/				N	B, C, S
13	25	/			✓		0-25	/		✓								/				N	B, C, G
							.																
							.																
							.																
							.																
							.																
							.																
							.																
							.																

COMMENTS ST/KN-503: Pit 8 had a boulder at base of pit.Pits 7, 12, and 13: oil sheen observed on water in pit,
but oiled interval was not observed.

REVIEWED

JS

DATE

4/11/90

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/23/90

Segment ST/KN503 Subdivision None Date (mo / day / yr) 4/8/90Time (24 hr) 1700-1945 Biologist John Benson

- (A) Substrate type and % of segments:
 (1) Bedrock 40 (2) Boulder 25 (3) Cobble 20 (4) Pebble 15 (5) Sand 0 (6) Silt 0
- (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-8-3Frames 1-5

BARNACLES

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

MYTILUS

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

FUCUS

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

Wildlife Observations/ General Comments:

bald eagle (*Haliaeetus leucocephalus*)

This area supports a dense population of young Littorines on many of the cobble beds. These snails are out on the tops of the cobbles as well as on the sides and bases of the cobbles, and thus are susceptible to damage from foot traffic.

Ecological Considerations:

Sensitivities: ST-2 (eagle nests)
 6Y (special use)

OG Sawy

SEGMENT ST/KN-503

SUBDIVISION NAME

DATE Apr 18 90

CHECKLIST

M Area
 Approx. Scale
 Seg/Sub Entry
 Ch Dist.
 Width
 Length
 % Cover
 Substrate Character
 Est. HWT/LA WL
 SCL
 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

Bedrock Distribution

CT/P

Pebble Distribution

CT/S

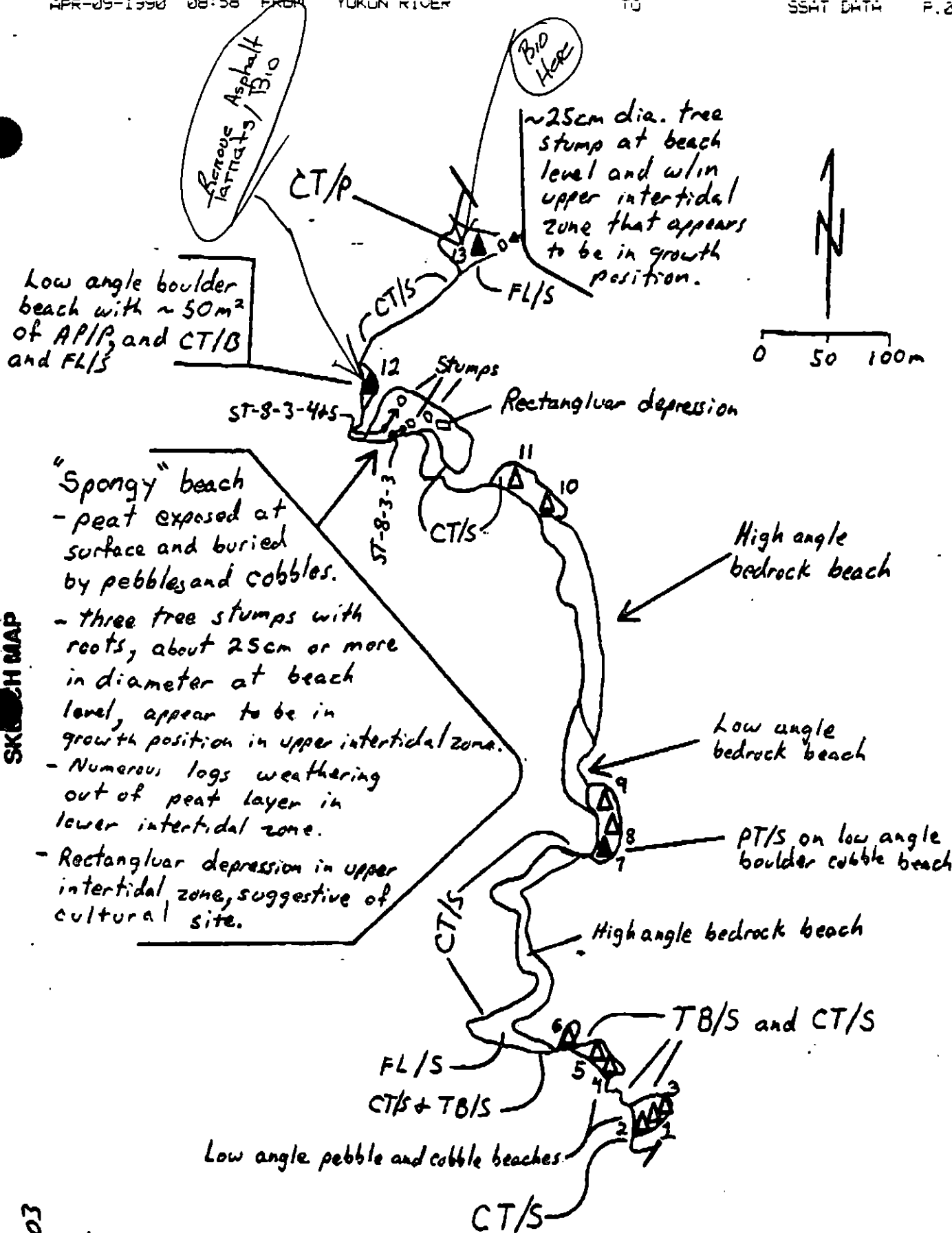
Sphered Distribution

Cliff Vegetation

1

Photo location, direction, and number

SKETCH MAP



KN-50

KN-503

AOEC Segment Length: 1238m



Map Key: PWS-448

Name: SawyerDate: Apr. 8, 1990

Data Entered:

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

ADDENDUM: SUBDIVISION CONSTRAINTS

~SEGMENT KN-503 SUBDIVISION A (1 of 1)

WORK WINDOW

Manual Pickup
Tarmat Removal

OPEN

Bioremediation

OPEN

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

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

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 CONSIDERATIONS

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

FOSC

DATE

6-10-90

Prepared By:

W. Kellan

Date

6/9/90

KN-502

Treatment
Areas

KN-503

KN-504

KN-132

-506

KN-505

KN-13



Exxon Company, USA
Map Key: PMS-KN-503



ECOLOGY MAP
SEGMENT KN-503
SUBDIVISION A (1 of 1)
METERS

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

SHORELINE EVALUATION

SEGMENT ST/ KN-504 SUBDIVISION A (1 OF 1) DATE 4/8/90

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: *Mark E. Hume*

DATE: 4/20/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V. Light 928 m: No Oil 453 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: 4/20/90

ADEC ART WEINER *Art Weiner*

EXXON ANDY TEAL *Andy Teal*

NOAA Bruce Weis *Bruce Weis*

USCG KENNETH KEANE *Kenneth Keane*

FOSC: *W L*

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 (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 (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-504 SUBDIVISION: A DATE 4/8/90

P.000

1000

NAME

Jeffrey Nathan

SIGNATURE

Jeffrey Nathan☒ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

Oil splash was found throughout the segment. Oil was most common on the bedrock. It was intermittent sections of thin oil bands. There were also a few patches of oil on the coffee boulder beach at the head of the bay.

ADEC

NAME

Lori Stratton

SIGNATURE

Lori Stratton☒ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

The segment consisted of oil coat on boulders (UI) and tar splashes on boulders. No treatment is recommended due to lack of significant oiling. Tarball splashes were observed on boulders at Salmon stream.

LAND MANAGER

NAME

SIGNATURE

☐ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

SHORELINE OILING SUMMARY

REVISION NO. 03/22/90

K. DEBUSSCHERE ~~0000~~ Jeffrey Rahlin SEGMENT ST/ KH-504
 D. Reed LAND REP SUBDIVISION R (1 OF 1)
 EXXON Tony Diaz ADEC Lori Stratton TIME 18:40 to 19:30
 TEAM NO.: 9 TIDE LEVEL: 1 to 1/2 DATE 4/8/90
 EST. SUBDIVISION LENGTH: 1254 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: S to N
 SURFACE SEDIMENTS: R 20% B 30% C 30% P 20% G <1% S <1% M <1% V <1%
 SLOPE: Lang 50% Hang 35% Vert 15% WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 774 m NO 480 m

SURFACE OIL

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

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

PATTIES / TARBALLS _____ BAGS

NEAR SHORE SHEEN? ☒ NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NO

TYPE _____

#BAGS _____

Photographs:

Roll No. _____

Frames HONE

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	U		
1	15					X	.									X				P/G & S
							.													
							.													
							.													
							.													
							.													
							.													

COMMENTS

SUBDIVISION IS A LOW ENERGY ENVIRONMENT - SHORELINE IS
 DOMINATED BY LOW ANGLE P-BERCHES
 - VERY LIGHT TO NO OIL.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/22/90

Segment ST / KU504 Subdivision A Date (mo / day / yr) 04/08/90
 e (24 hr) 1840-1930 Biologist D. REED

- (A) Substrate type and % of segments:
 (1) Bedrock 20 (2) Boulder 30 (3) Cobble 30 (4) Pebble 20 (5) Sand — (6) Silt —
- (B) Overall % cover of biota (% of segment): Dense 25 Moderate 40 Low 35
- (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 NONE

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:

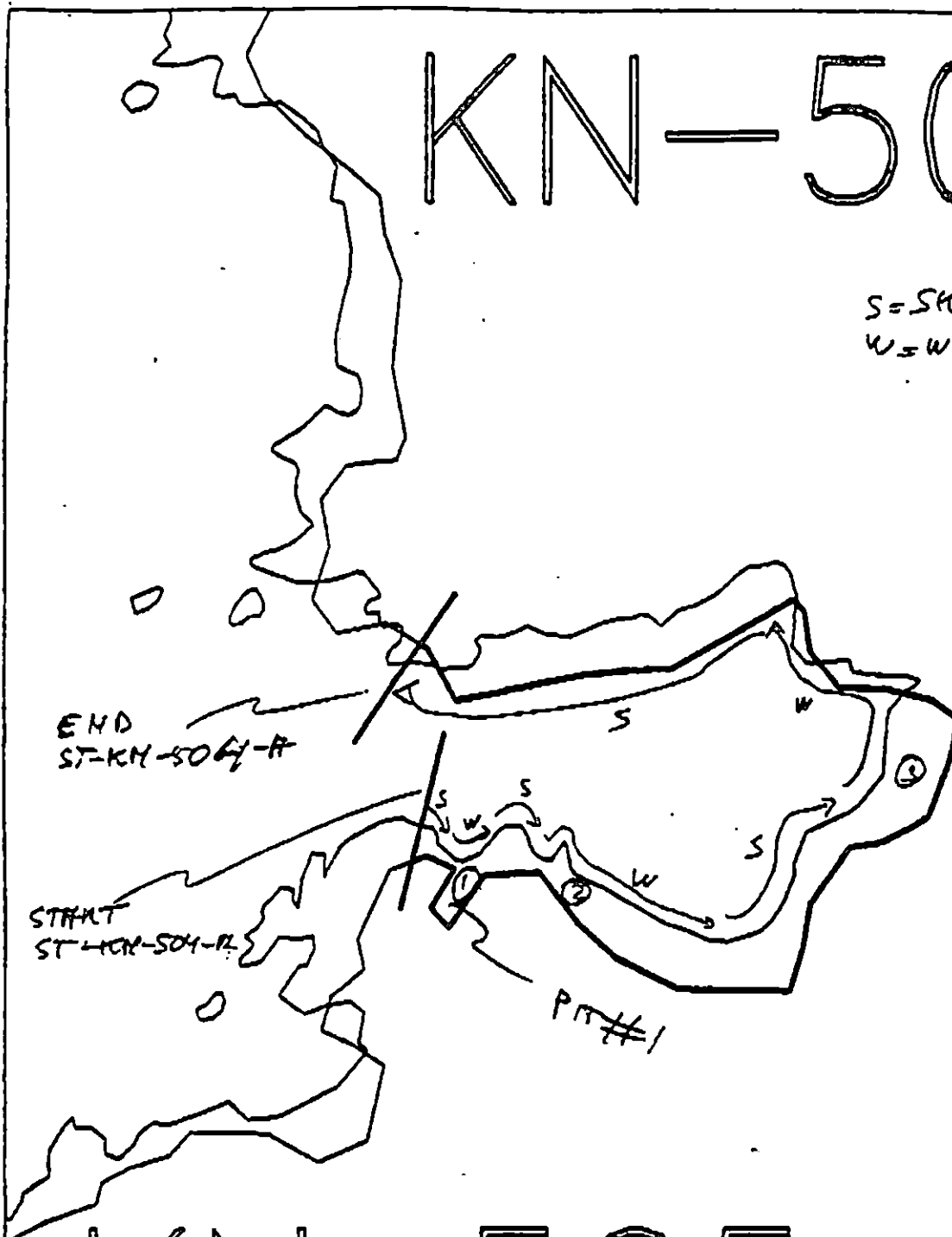
Little oil in this section. No wildlife observed.

Ecological Considerations:

NONE

KN-503

S = SKIFF
W = WALK



KN-

KN-505

XXX Wide

//// Medium

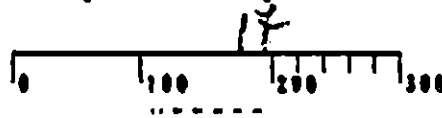
--- Narrow

TTTT Very Light

OOOO No Oil

ST-KN-504-A

ADEC Segment Length: 1254m



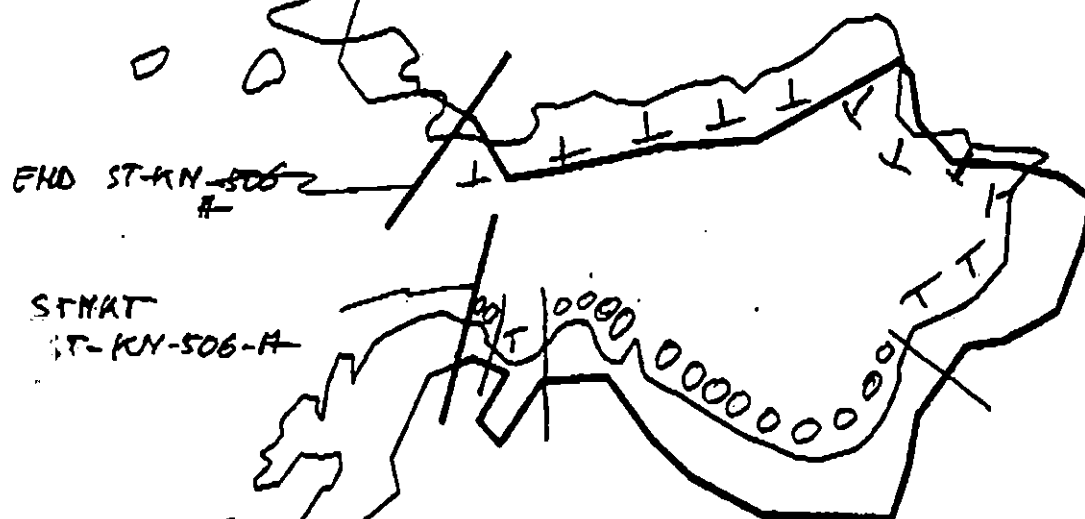
Map Key: PWS-449

Name: K. DEBUSSCHERE

Date: 4/8/90

Data Entered:

KN-503



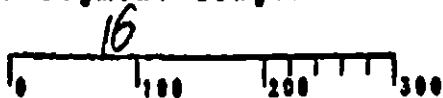
KN-

KN-505

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

ST-KN-504-A

ADEC Segment Length: 1254m



Map Key: PWS-449

Name: K. DEBOSSCHER

Date: 4/8/90

Not a Channel

SHORELINE EVALUATION

SEGMENT ST/ KN-505 SUBDIVISION A (1 OF 1) DATE 4/8/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Possible eagle nest in Subdivision.

SHPO SIGNATURE: Charles E. Stone DATE: 4/23/90

OILING CATEGORIZATION:

Wide 38 m: Medium 67 m: Narrow 769 m: V.Light 41 m: No Oil 249 m
Subsurface Oil Observed: Yes X No Maximum Depth 30+ cm

RECOMMENDATIONS:

<u> </u> No Treatment Recommended	<u> </u> Snare/Absorbent Booms
<u>X</u> Treatment Recommended	<u>X</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 1) blotting of oil with pom poms, 2) manual re-
moval of all oiled debris, and 3) manual raking as shown on sketch map,
and 4) bioremediation of areas indicated on sketch map. Work should be
conducted after 6/1 with USFWS permission due to possible eagle nest.

SPOT WASH PRIOR TO BIO IN AREAS INDICATED ON SKETCH

TAG COMMENTS:

TAG APPROVAL DATE: 4/21/90

ADEC ART WEINER Art Weiner

EXXON ANDY TSA Andy TSA

NOAA Bruce Waselett Bruce Waselett

USCG KENNETH KEANE 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 (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 3Q, 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.

SHORELINE OILING SUMMARY

REVISION NO. 05/20/90

OG Greg Chaney USCG Dave Sylvester SEGMENT ST/ KN-505
 BIO Jim Roth LAND REP Steve Phillips SUBDIVISION STATE A (1d2)
 KXON Ray Sotelo ADEC Mike Cunningham TIME See Comments
 EAM NO.: 7 TIDE LEVEL: 0.5 to 6.0 DATE April 18 / 90
 EST. SUBDIVISION LENGTH: 1915 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock SNOW
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: East to West
 SURFACE SEDIMENTS: R 35 % B 25 % C 15 % P 15 % G 10 % S — % M — % V — %
 SLOPE: Long 10 % Hang 45 % Vert 45 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 38 m M 77 m N 1223 m VL 38 m NO 479 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	R	B	P	S	W	Y	OR	BR	BL	GR	PK	SL	SU	U	M	V
ASPHALT PAVEMENT																
POOLED																
COVER	X	✓				X							X		X	
COAT	X	✓	Δ	O		X							X		X	
STAIN			X	✓		X							X		X	
MOUSSE																
PATTIES																
TARBALLS				✓	✓									✓		
ILM	O					O										O
NO OIL																

PAVEMENT: H F S — sq. m by — cmPATTIES / TARBALLS ~1 BAGSNEAR SHORE SHEEN? NO ☒ SW ☒ TL

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

DEBRIS COLLECTED
☐ YES ☒ NOTYPE yellow rope
Pompons
#BAGS 3

Photographs:

Roll No. ST-Z-2Frames 22, 23, 24

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			W	Y	OR	BR	BL	GR	PK	SL	SU	U	M	V		
1	30				X		10-20												X			BG
2	35				X		0-5												X			BG
3	35					X	0-0												X			CPG
4	15	X					0-10												X			BGMB
5	30		X				0-30	X											X			BCPM
6	40					X	0-10	X											X			PGC

COMMENTS This segment was completed during two tide cycles. The morning tide cycle was from 08:30 to 10:30, the evening tide window was from 17:10 to 20:00.

a relatively large amount of black mobile oil was still present in the substrate of the many micro pocket beaches

Page 1 of — in this segment.

REVIEWED April 11 90 DATE GC ☒ 4/17/90

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN505 SUBDIVISION: _____ DATE 4-8-90

USCG

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

COMMENTS

This area could use bioremediation and hand cleaning of debris. We sighted 2 dead sea otters with only the skeleton remains. There was quite a bit of oily debris. There was Nesting Eagles in this area as well. There was some sub-surface oil in the upper and middle tidal zones. Most of the oil on the surface was in a tar state. The surface oil appeared very weathered the elements have definitely had a positive effect.

ADEC

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

COMMENTS

Lambda wash sites 17+18 then biorem. Subsurface oil requires severe applications of bug juice (biorem) w/ attention paid to low intertidal communities to avoid overspray. I would like to think the two nesting Mergansers ("common") one at site 16 one @ site 6 will not be disturbed. (Video ID) Check storm berm for debris incl. those are listed herein. Heavy Equip not appropriate for this segment. Max tilling perhaps. Mobile oil present (subsurface) tho in relatively reduced quantities. W/ few exceptions surface looks clean. (except high ang bedrock is pl

LAND MANAGER

NAME Steven Phillips SIGNATURE Steven Phillips☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Scout storm berm for debris, pickup oily pompoms (see map) and Scout for tarballs. Scrape vertical faces and boulders where tar exceeds 2mm thick, extend to 1mm thick covers if you have technology. Note: subsurface oil distribution exceeds visible oil. Bioremediate shallow oil sections < 20cm. Disturb sediments where oil is deeper and exceeds is mobile (OR + OP) and bioremediate.

SEGMENT ST/ KN-505 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	SU	U	ME	U		
7	25	X					5-20		X	X												X			BPC
8	30		X				20-25		X					X						X					BPG
9	15		X				0-10		X					X								X			BPM
10	35		X				5-30		X	X												X			CGM
11	30		X				5-10		X						X				X						PG
12	15	X					2-5		X	X												X		X	GCM
13	20			X			10-15		X	X										X					SP
* 14	30				X		5-20 ^{6"}		X				X									X			PG
15	25					X	0- ~~5~~ ¹⁵		X													X			PG
16	35					X	0- ~~50~~ ^{6"}		X													X			G
17	30	X					5-25		X	X												X			BP
18	30	X					10-30	X		X												X			BPM
							.																		
							.																		

COMMENTS

The sediments from pit #12 smelled like hydrogen sulfide.

Unable to dig deeper on pit #18 due to ^{the} high density of boulders in substrate.

Pit #17 has 2 distinct oil horizons. 5 to 10 cm residual oil in sediments - dark brown. 15 to 25 cm oil filled the pore spaces and ran into the pit. It was shiny black.

* oil depths ≤ 50 cm in PG do not constitute subsurface oil.

REVIEWED GM DATE 4/2/90

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/70

Segment ST / KN 505 Subdivision Date (mo / day / yr) Apr 8, 70
 Time (24 hr) ARR 0830 LV 1030 Biologist Roth
LV 1710
LV 2000
 (A) Substrate type and % of segments:
 (1) Bedrock 35 (2) Boulder 25 (3) Cobble 15 (4) Pebble 15 (5) Sand 10 (6) Silt
 (B) Overall % cover of biota (% of segment): Dense 15 Moderate 40 Low 45
 (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-7-2
 Roll No.
 Frames 23-26

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:

A MODERATE TO LOW DENSITY ZONE WITH FAIRLY DIVERSE BIOTA. THE EXPOSURE TO WIND + WAVE ENERGY IS MODERATE. LOW AND MID-INTERTIDAL ZONE ORGANISMS INCLUDED Pycnopodia, Leptasterias, Euaeterias, Nucella, Littorina, Hermit crabs, Mytilus lignosa; Ecological Considerations: ST - Active Bald Eagle Nests No. acmea scutum, Tonicella insignis, Anthopleura spp. CRUCIGERA?, Blenny eggs, sculpins, Lithothamnium, an Callinectes, Ulva, Enteromorpha, and Pododermis.

KN-505

KN-50

✓ XXX Wide

, , , Medium

- - - Narrow

TTTT Very Light

0000 No Oil

KN-505

ADEC Segment Length: 1915m
Exxon Segment Length: 1915

0 100 200 300
METERS

Map Key: PWS-450

Name: Greg Chancy

Date: April 9 1990

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-505 SUBDIVISION A (1 of 1)

WORK WINDOW

Manual Pickup Outside USFWS Eagle Nest Buffer Zone	OPEN
Manual Pickup Inside USFWS Eagle Nest Buffer Zone	CLOSED
Bioremediation, Manual Tilling, Spot Washing, & Other Approved Treatment Outside USFWS Eagle Nest Buffer Zone	OPEN
Bioremediation, Manual Tilling, Spot Washing, & Other Approved Treatment Inside USFWS Eagle Nest Buffer Zone	CLOSED

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

>>> 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 KN-506. Closed to manual pickup, bioremediation, manual raking, spot washing, and other approved treatment inside USFWS designated eagle nest buffer zone. No constraint to manual pickup, bioremediation, manual raking, spot washing, and other approved treatment outside USFWS designated eagle nest buffer zone (Lockhart, 5/10/90 survey).

OTHER ECOLOGICAL CONSIDERATIONS

Restrict air traffic and all disturbance to essential minimum. No personnel or boat traffic inside USFWS eagle nest buffer zone. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from nests. Avoid any unnecessary disturbance or damage to unrolled blots and substrate.

FOSC

Date

6-12-90

Prepared by

Date

6/11/90

LD-KN-505
4 of 4

SURVED BOUNDARY

NO BEACH, BOAT, AIRCRAFT ACCESS

KN-503-1
INACTIVE

KN-503-2
NOT FOUND

KN-506-1
ACTIVE

KN-503

96

KN-504

KN-132

KN-506

KN-505

Work Areas

KN-13

KN-507

SURVED BOUNDARY

Includes data from 5/10/90 Mike Lockhart
Survey plus 6/1/90 USFWS Map.

KN-508



Exxon Company, USA

Map Key: KN1-KN-505

June 1, 1990
May 11, 1990

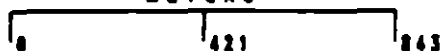


ECOLOGY MAP

SEGMENT KN-505

SUBDIVISION A (1 of 1)

METERS



Seabird Colony



Eagle Nest

1 inch = 1383 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-506 SUBDIVISION A (1 OF 1) DATE 4/8/90

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 uncoiled biota and substrate. Do not trample or otherwise damage mussel beds.

SHPO SIGNATURE: [Signature] DATE: 4/20/90

OILING CATEGORIZATION:

Wide 119 m: Medium 31 m: Narrow 0 m: V.Light 721 m: No Oil 76 m
Subsurface Oil Observed: Yes X No _____ Maximum Depth 30+ cm

RECOMMENDATIONS:

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

COMMENTS: Recommend manual pick up of pooled oil and bioremediation of subsurface oil, coat, cover and pooled oil areas as indicated on sketch map. Work should be conducted after 6/1 and with permission of USFWS as a result of eagle nest constraint.

TAG COMMENTS: _____

TAG APPROVAL DATE: 4/20/90
 ADEC ART WEINER Art Weiner
 EXXON ANDY TEAL Andy Teal
 NOAA Burl Wescott Burl Wescott
 USCG KENNETH KEANE Kenneth Keane

FOSC: DATE: 8-26-90

Concure with NFS - Consider use of
snags + sorbents -

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 Esthor Hatchery release (4/15 to 6/1)
- 1E Main Bay Hatchery release (4/20 to 5/10)
- 1F Sawmill Bay Hatchery release (4/15 to 6/1)
- 1G Cannery Creek Hatchery release (4/21 to 6/1)
- 1H Remote release site
- 1I Gill net area (6/7 to 8/31)
- 1J Purse seine area (7/20 to 9/30)
- 1K Purse seine hook-off (7/20 to 9/30)
- 1L Set net sites (6/11 to 7/25)
 For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
- 2M Herring spawning (4/1 to 6/15)
 Restrict boat traffic to essential minimum. Avoid damage to unopened intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
- 3N, 3P 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

MENT ST / KN-506 SUBDIVISION: A DATE 4/8/90

NAME

NAME

Jeffrey Dahlia

SIGNATURE

Jeffrey Dahlia☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

The Bedrock areas were coated with oil. There was a subsurface oil on the beach, however it was sporadic. The oil area was patchy. At the Bedrock point was chain of oil.

ADEC

NAME

Lori Stratton

SIGNATURE

Lori Stratton☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Throughout most of the segment, oil penetrated sediments and/or was subsurface. Subsurface oil was not significantly weathered and pooled at bottom of pits as black liquid, sometimes containing black oil globules (slick).

Saturated surface sediments emit strong hydrocarbon odors. Surface coats and cover vary from medium to wide on boulders and sides of bedrock over the segment. The mobile nature of the oil produces sheen in pools of water.

This segment should definitely be treated. Hot water wash, spot-treatment would be a feasible method of treatment with adequate booming.

Approximately 50% of the segment is low angle and 10% is vertical, high energy exposure.

LAND MANAGER

NAME

SIGNATURE

Surrounding bedrock and boulder act as wave barrier to the saturated sediments. Dense mussel populations are present.

☐ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

SHORELINE OILING SUMMARY

REVISION NO. 00/00/90

ON K. D. BRUSCHKE ^{MON} Jeffrey Oaklin SEGMENT ST/KN-506
Di Reed LAND REP UNAVAIL SUBDIVISION A (LOFI)
XON Tony Diaz ADEC Lori Stratton TIME 16:40 to 18:20
TEAM NO.: 9 TIDE LEVEL: 6 to 1 FT DATE 4/18/90
EST. SUBDIVISION LENGTH: 1151 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: S to N
SURFACE SEDIMENTS: R 35 % B 20 % C 30 % P 10 % G 3 % S 1 % M 1 % V — %
SLOPE: Long 50 % Hang 40 % Vert 10 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
OIL CATEGORY LENGTH: W 163 m M 41 m N 0 m VL 266 m NO 81 m

SURFACE OIL

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

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 —#BAGS —

Photographs:

Roll No. ST-9-2Frames 28-33

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	SU	U	M	V		
LOC ① 1	20	X					15-20	X				X		X					C&B(15cm)/K(5cm)/R
2	25				X		15-20	X	X						X				C&B(15cm)/B(10cm)/(-
3	30					X	.							X					P/P&L
4	40					X	.							X					K/P
LOC ③ 5	30		X				15-20	X				X		X					C&B(15cm)/G&P(15cm)
		X					20-25	X				X		X					(R&D)

COMMENTS

- fw per KO
- SEGMENT IS A RELATIVELY HIGH ENERGY ENVIRONMENT. ROCKOUTCH WITH GULLS AND BOULDER/COBBLER AREAS (MAINLY IN UE) DOMINATE THE SHORELINE.
- OILING IS MOST CONCENTRATED IN LOCATION ③ & ④. IN LOCATION ③: CONTINUOUS COVER OVER BOULDERS & COBBLES. - SPORADIC POOLING & SUBSURFACE OIL (PIT #5)

SHORELINE OILING SUMMARY (PAGE 1 of 1)

REVISION 02/20/15

SEGMENT ST/ KN-50 SUBDIVISION F

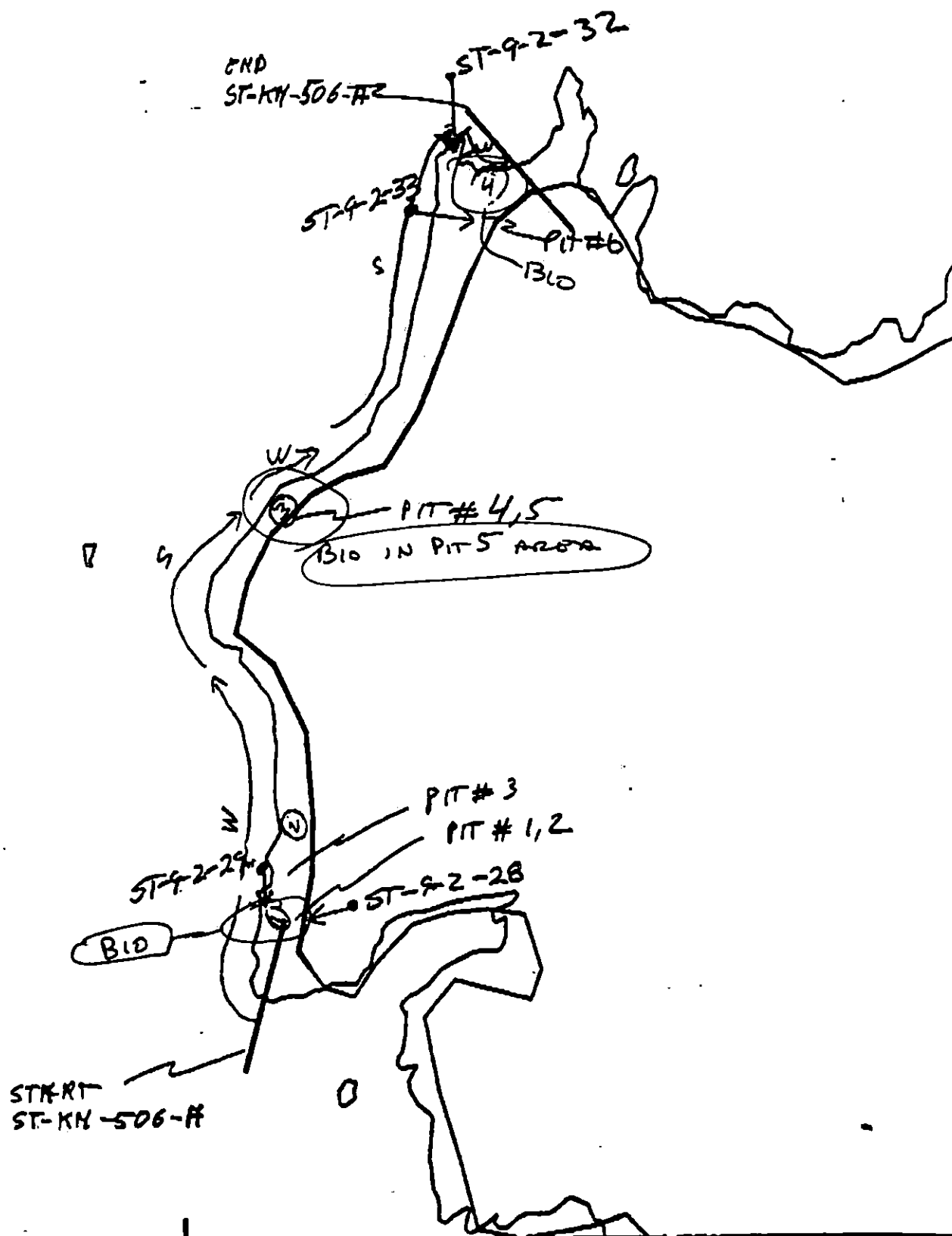
SUBSURFACE OIL (CONTINUED)

[illegible]

COMMENTS

IN LOCATION (6): MID-INTERTIDAL AREA - PROTECTED
BEHIND BEDROCK OUTCROPS. : STAIN ON SEDIMENTS & OIL
PENETRATION TO AT LEAST 25 CM (PIT #6)

KN-50



XXX Wide

//// Medium

--- Narrow

TTTT Very Light

ST-KN-506-H

ADEG Segment Length: 1151m

0 100 200 300

Map Key: PWS-451

Name: K. DEBUSCHERE

Date: 4/8/90

OG K DEF ICHERF

SEGMENT ST/KN 506

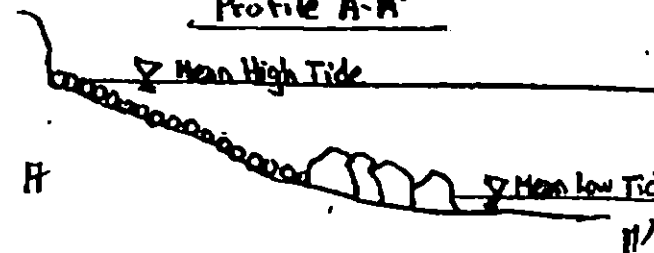
SUBDIVISION A

DATE 4 15/ 90

SKE I MAP

Location #3

Profile A-A'

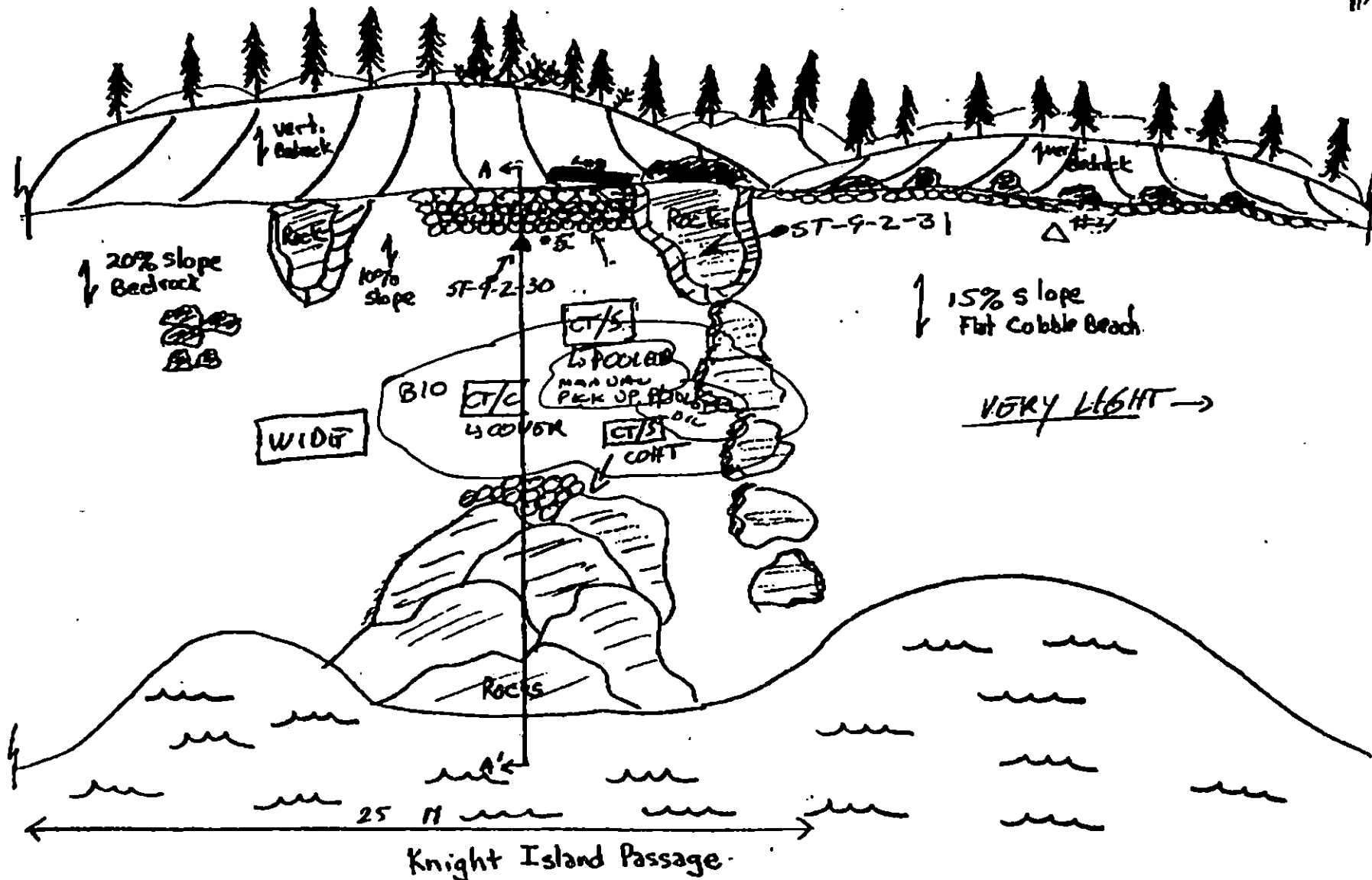


CHECKLIST

- ☐ M Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Bndy
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HYDRAUL.
- ☐ SCL
- ☐ Profile Location(s)
- ☐ Photo(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
Patched Distribution
- CT/S
Splashed Distribution
- Oil Vegetation
- 1 ●
Photo location, direction, and number



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

REVISED 03/01/90

11K-05-1350 00:47 FROM HERBIE TIDE

TO

EXON 304T INC P.11

OG K. BUSSCHER

SEGMENT ST/ KN-506

SUBDIVISION A

DATE 4, 8/90

CHECKLIST

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

LEGEND

1 Δ
Pli - No Subsurface Oil

2 Δ
Pli - Subsurface Oil

$\boxed{CT/C}$
Continuous Distribution

$\boxed{CT/B}$
Broken Distribution

$\boxed{CT/P}$
Patchy Distribution

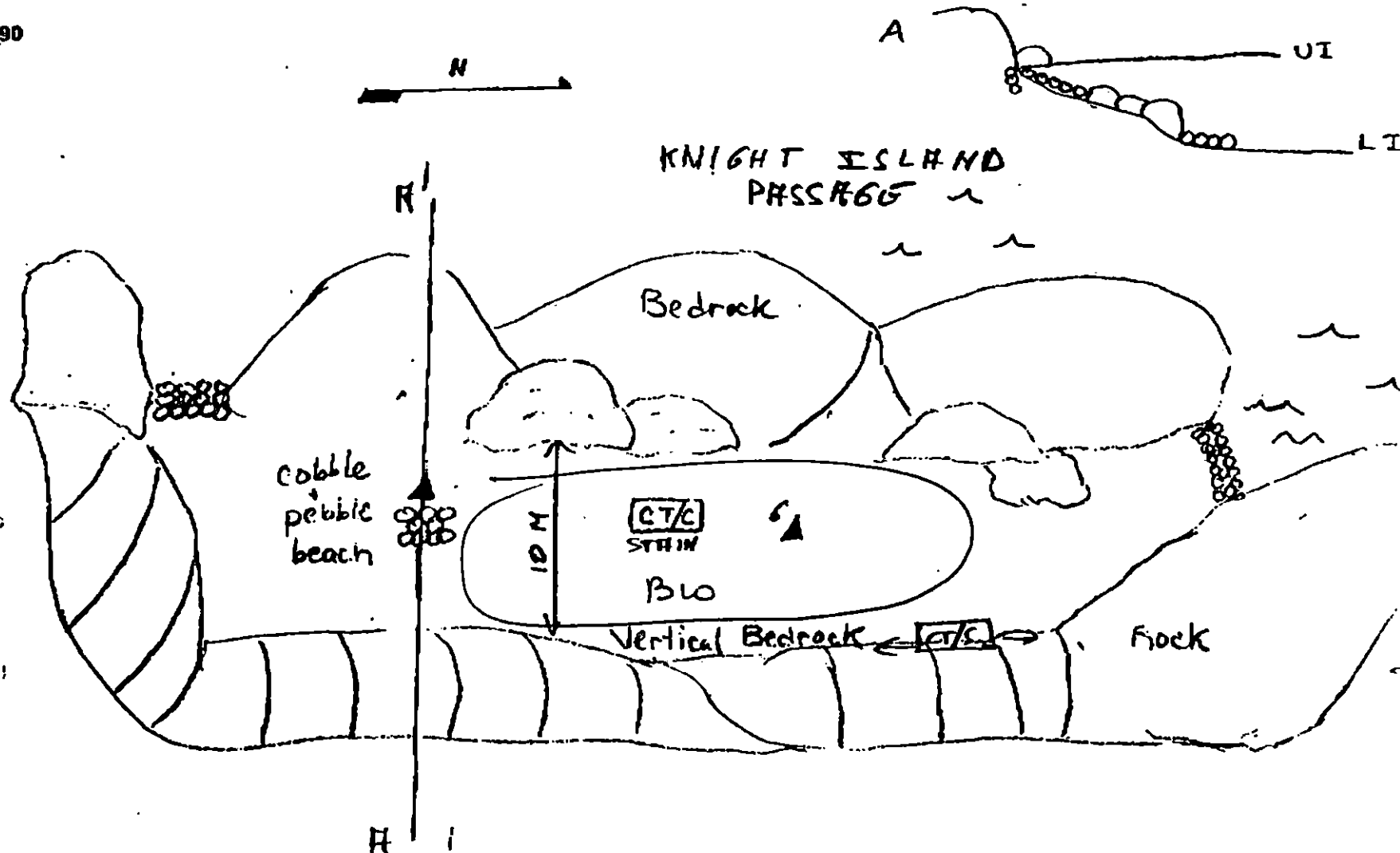
$\boxed{CT/S}$
Splashed Distribution

$\bullet \rightarrow$
Oil Vegetation

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

ETCH MAP (Location H 4)

Profile A-A'



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

REVISION: 1/1/90

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/88

Segment ST1 KN 506 Subdivision A Date (mo / day / yr) 04/08/90
 (24 hr) 1640-1820 Biologist D. REED

- (A) Substrate type and % of segments:
 (1) Bedrock 35 (2) Boulder 20 (3) Cobble 30 (4) Pebble 10 (5) Sand 5 (6) Silt ✓
- (B) Overall % cover of biota (% of segment): Dense 45 Moderate 25 Low 35
- (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-9-2
 Roll No. 28-33
 Frames 28-33

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:

2 HARBOR SEALS, 2 EAGLES, 1 MARTEN

Ecological Considerations:

MUCH SUBSURFACE OIL
 Dense mussel beds ARE COMMON ON BOTH BEDROCK AND
 cobble/pebble in the mid & low zones. MAY BE SENSITIVE
 to foot traffic OR RUNOFF FROM HOT WATER WASTEWATER.

OIL MAP

KN-50

810 ST-KH-506-A

START
ST-KH-506-A

XXX Wide

/// Medium

--- Narrow

TTTT Very Light

ST-KH-506-A

ADEC Segment Length: 1151m

0 100 200 300

Map Key: PWS-451

Name: K. DEBUSSCHEREDate: 4/8/90

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-506 SUBDIVISION A (1 of 1)

WORK WINDOW

Manual Pickup Inside USFWS Eagle Nest Buffer Zone	CLOSED
Manual Pickup Outside USFWS Eagle Nest Buffer Zone	OPEN
Bioremediation Inside USFWS Eagle Nest Buffer Zone	CLOSED
Bioremediation Outside USFWS 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 A. Closed to manual pickup and bioremediation inside USFWS eagle nest buffer zone. No constraint to manual pickup and bioremediation outside USFWS designated eagle nest buffer zone (Lockhart, 5/10/90 survey).

OTHER ECOLOGICAL CONSIDERATIONS

Restrict air traffic and all disturbance to essential minimum. No personnel or boat traffic within USFWS eagle nest 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 uncollected biota and substrate. Avoid damage to mussel beds.

FOSC

Date

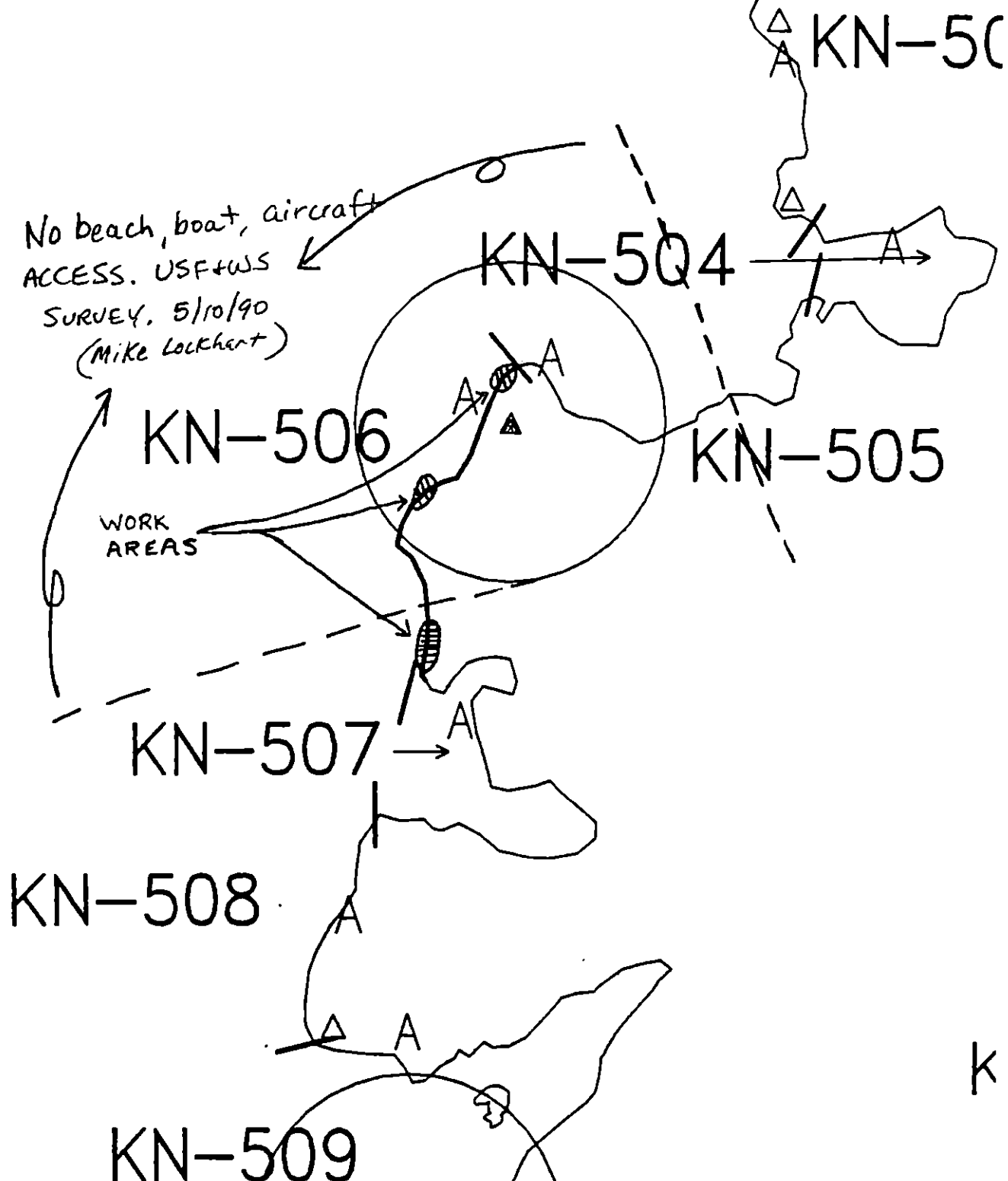
6-10-90

Prepared by

Date

6/10/90

No beach, boat, aircraft
ACCESS. USF&WS
SURVEY, 5/10/90
(Mike Lockhart)



Exxon Company, USA

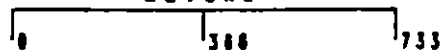
Map Key: PWS-KN-506

June 05, 1990

ECOLOGY MAP SEGMENT KN-506

SUBDIVISION A (1 of 1)

METERS



Seabird Colony



Active Eagle Nest



Inactive Eagle Nest

1 inch = 1202 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-507 SUBDIVISION A (1 OF 1) DATE 4/7/90

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 unoiled biota and substrate.

SHPO SIGNATURE: *Shirley Ziffman*

DATE: 4/20/90

OILING CATEGORIZATION:

Wide 0 m: Medium 48 m: Narrow 56 m: V.Light 1519 m: No Oil 91 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: 4/20/90

ADEC ART WEINER
EXXON ANDY TATE
NOAA Burl Wescott
USCG KENNETH KEANE

FOSC: 1 2

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 (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 / KA1-507 SUBDIVISION: A DATE 4/8/90~~NAME~~NAME Jeffrey Ahl:1 SIGNATURE Jeffrey Ahl:1☒ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

The oil on this section was very light and sporadic. There were some light beads of oil on the bedrock. At the head of the bay were splatters of tarballs on the cobble and boulders. At the entrance to the bay there is coating of oil on the high intertidal zone. Almost all the oil was heavily weathered.

ADEC

NAME Lori Stratton SIGNATURE Lori J. Stratton☒ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

Surface oil consists of narrow continuous coat, broken cover and coat along boulders, and tarball splashes on cobbles and boulders. Sheen was released where melted snow ran over substrate. Oil was otherwise significantly weathered and immobile. Treatment is not recommended.

LAND MANAGER

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

SHORELINE OILING SUMMARY

REVISION NO. 02/23/90

OG K. DEBUSSCHPARE ^{NORA} J. DALLIN SEGMENT ST/ KN-507
D. REED LAND REP NONE SUBDIVISION B (10+1)
XON TOAY DIAZ ADEC (Lori Straton) TIME 9:00 to 10:30
 TEAM NO.: 2 TIDE LEVEL: 2 to 6 Ft DATE 4/7/90
 EST. SUBDIVISION LENGTH: 1893 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☐ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: S to N
 SURFACE SEDIMENTS: R 40 % B 30 % C 15 % P 10 % G 5 % S 0 % M 0 % V 0 %
 SLOPE: Long 35 % Hang 50 % Vert 15 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 50 m N 50 m VL 1693 m NO 100 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	NO	FB	FP	FS	1	2	3	4	5	6	7	8	SU	U	M	U
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT	X	V				V		X		X	V					
STAIN																
MOUSSE																
PATTIES																
TARBALLS					X	X							X	X		
FILM																
NO OIL																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. _____

Frames NONE

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	~~1~~	~~2~~	~~3~~	~~4~~	~~5~~	~~6~~	SU	U	M	U		
1	±30					X	.									X				B/G&S	
2	20					X	.										X			P	
3	30					X	.									X				P/P&S	
4	15					X	.									X				P&C/S&P	
							.														
							.														

COMMENTS

- SUBDIVISION CONSISTS OF ± 50% ROCK OUTCROPS & ± 50% BEACH (MOSTLY BOULDERS & COBBLE)
 - OILING IS PREDOMINANTLY VERY LIGHT. OIL SHEEN (SILVER) DUE ON H₂O GENERATION BY SNOWMELT
 MOST SIGNIFICANT OILING IS IN LOCATION ③: COAT IN U.
 → VERY WETTERED - NO PENETRATION!

SHORELINE ECOLOGICAL SUMMARY

REVISION: 08/22/90

Segment ST / KN507 Subdivision A Date (mo / day / yr) 04/08/90
 Time (24 hr) 0900-1630 Biologist D. REED

- (A) Substrate type and % of segments:
 (1) Bedrock 40 (2) Boulder 30 (3) Cobble 15 (4) Pebble 10 (5) Sand 5 (6) Silt —
- (B) Overall % cover of biota (% of segment): Dense 35 Moderate 50 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. —Frames NONE

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

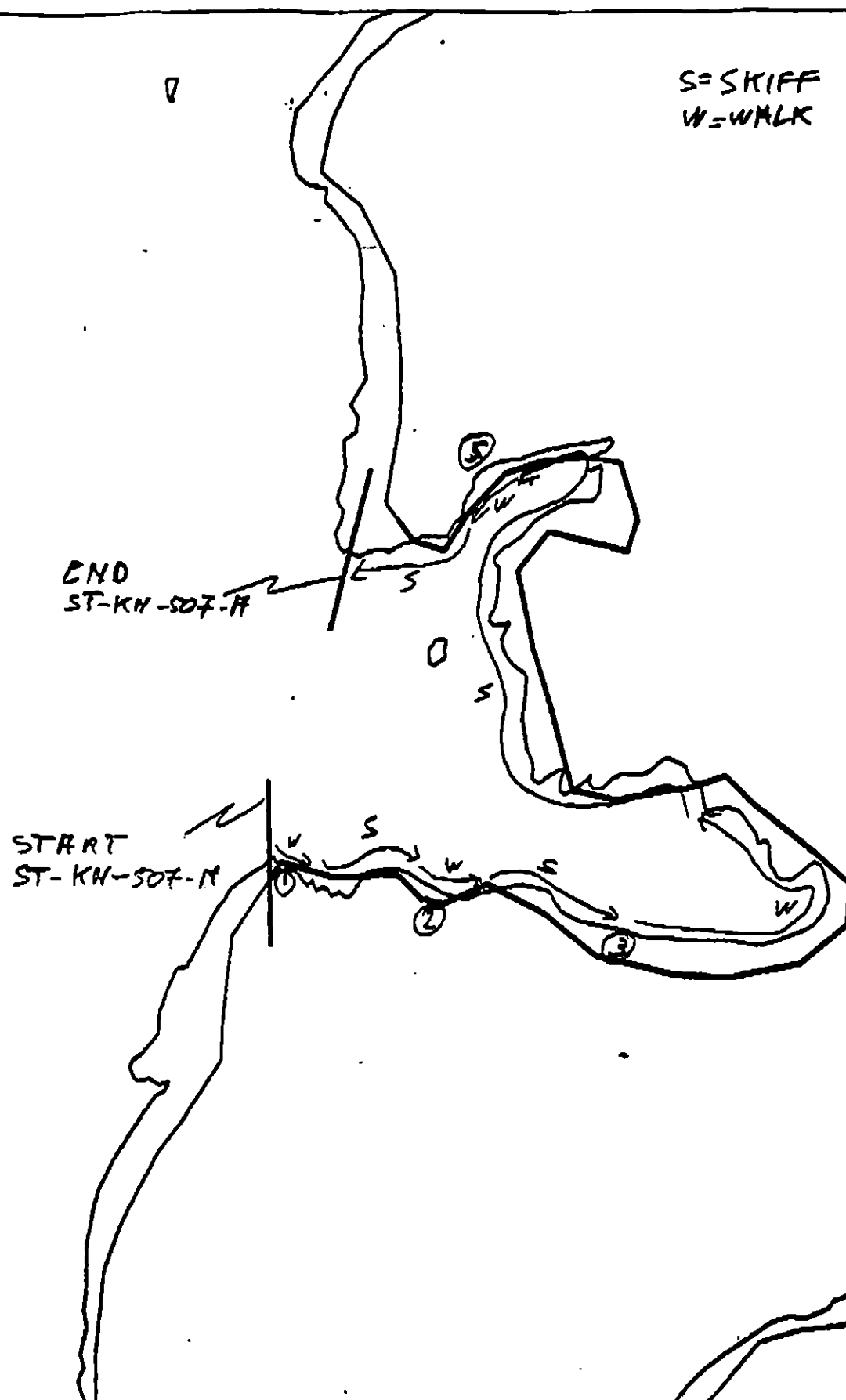
NOT PRESENT

Wildlife Observations/ General Comments:

2 EAGLES, 6 OTHER DUCKS

Ecological Considerations:

NONE, Light oil



XXX Wide
 /// Medium
 --- Narrow
 TTTT Very Light
 0000 M. 0:1

ST-KN-507-H

ADEC Segment Length: 1893m



Map Key: PWS-452

Name: K. DEBUSSCHEREDate: 4/7/90

Date Entered:

OIL MAP

ST-KN-507-A

START
ST-KN-507-A

ST-KN-507-A

ADEC Segment Length: 1893m

XXX Wide

//// Medium

--- Narrow

TTTT Very Light

OOOO No Oil



Map Key: PWS-452

Name: K. DEBUSSCHE

Date: 4/7/90

Date Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-508 SUBDIVISION A (1 OF 1) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

NOTE - Eagle nest located in adjacent segment.

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 J. Holden DATE: 4/29/90

OILING CATEGORIZATION:

Wide 586m: Medium 0 m: Narrow 34 m: V.Light 0 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> </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>	<u> </u> Other (see comments)

COMMENTS: Recommend break up of asphalt on beach. bioremediate as indicated on sketch map. Eagle nest in adjacent segment may be within 1/4 mile of treatment areas. Check with USFWS regarding precise location and status of nest prior to treatment.

IN AREAS OF PIT 2 + 3 WHERE FEASIBLE - MANUALLY TILL PRIOR TO BIOREMEDIATION

TAG COMMENTS:

TAG APPROVAL DATE: 4/19/90.

ADEC Art Wengert
EXXON AND T&E
NOAA Bul Wescott
USCG Kenneth H. Hines

FOSC: DATE: 4-25-90

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

SEGMENT ST / KM-508 SUBDIVISION: A DATE 4/7/90

NAME Jeffrey Dahlin SIGNATURE Jeffrey Dahlin

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS The beach had wide oiling on both the surface and subsurface sediments. The surface oiling was mostly northwest oil. The subsurface oil extended more than 20 cm below the surface, within the heaviest layer of the 10-15 cm range. There were many stars continuing from the beach. Almost the entire segment was thus oiled.

ADEC
NAME Lori Stratton SIGNATURE Lori L. Stratton

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Surface oil consisted of friable pavement (continuous) at UI, coat and stain on MI, mousse patties, oil film on cobbles at LI, VL cover (weathered) on boulders. Cobble beach is at 5-10% slope. The surface oil is well weathered and does not need treatment except the pavement area (approx. 20 m x 3 m) which can be manually removed by with shovels. (Loc. #3).

Subsurface oil included saturated sediments and apparently unweathered ~~not~~ liquid oil seeping from sides of pits dug which extended faster than 20 cm. A heavy layer appears at 10-15 cm. Pools of water among cobbles contain rainbow silver sheen. The subsurface oil is evidently mobile and needs to be treated. →

LAND MANAGER

LAND MANAGER _____ **OVER**
NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

KN-508A

(ADEC comments cont.)

Due to highly porous substrate, hot water wash may force more oil farther subsurface. The oil is not weathered ^{located} at subsurface. Tilling the area of ~~worst~~ ^{heaviest} oil (about 30 m) could bring oil to the surface and expose it to weathering.

Since it is very mobile, sufficient booming should be in place simultaneously. Tilling and washing the area may remove a significant amount of oil.

The beach has high energy wave exposure.

SHORELINE OILING SUMMARY

REVISION NO. 03/23/98

OG K. DEBUSSCHERE ^{NRAA} ~~1000~~ Jeff Dahlin SEGMENT ST/ KH-508
 BIO D. REED LAND REP None SUBDIVISION A (1041)
 EXXON Tony Diaz ADEC Lori Stratton TIME 18:50 to 20:30
 TEAM NO.: 9 TIDE LEVEL: 1 to 3 DATE 9/1/90
 EST. SUBDIVISION LENGTH: 717 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: S to N
 SURFACE SEDIMENTS: R 35 % B 15 % C 30 % P 20 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 40 % Hang 55 % Vert 5 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 697 m M 0 m N 20 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	SU	U	M	U
ASPHALT PAVEMENT	X				X						X		
POOLED													
COVER		X			X					X	X		
COAT			X		X					X	X		
STAIN	X				X					X	X		
MOUSSE			X			X				X			
PATTIES													
TARBALLS													
FILM				X	X								X
NO OIL													

PAVEMENT: H F S 9 sq. m by 2 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-9-2Frames 24-27

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CH)	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	US	1	2	3	4	5	SU	U	M	U		
1	50					X										X				P
2	20		X				0-10	X		X					X					C&P/P&G
"	"	X					10-15	X		X					X					P&G
"	"		X				15-20	X		X					X					P&G (H ₂ O)
3	15	X					0-2		X			X			X					C&B/G&S&C
4	10		X				0-10	X		X						X				C&P/G&S (H ₂ O)

COMMENTS

- SEGMENT IS IN A RELATIVELY HIGH ENERGY ENVIRONMENT.
- SHORELINE CONSISTS OF ROCK OUTCROPS WITH PEBBLE AND BOULDER / COBBLE SURFACES CONCENTRATED IN UI.
- OILING IS EXTENSIVE. SURFACE LAYER IS RELATIVELY CLEAN BUT OIL PENETRATION IS AT LEAST 20 CM.
- IN LOCATION ①, PIT ② AN OIL-SATURATED SEDIMENT LAYER

SHORELINE OILING SUMMARY (PAGE ___ of ___)

REVISION 03/22/90

SEGMENT ST/KH-508 SUBDIVISION H

SUBSURFACE OIL (CONTINUED)

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	1	2	3	4	5	6	BU	U	M	U		
LOC ③ { 5	20		X				2-20	X		X							X				PdC / PdCaS
							6-AP 0			-2 CM											
LOC ④ { 6	30					X	.										X				CaP
							.														
							.														
							.														
							.														
							.														
							.														
							.														
							.														
							.														
							.														
							.														
							.														
							.														
							.														
							.														

COMMENTS

WAS OBSERVED BETWEEN 10 & 15 CM. OIL WAS NOT VERY WEATHERED.

- OIL PENETRATION WAS OBSERVED THROUGHOUT THE SEGMENT EXCEPT FOR THE NORTHERN PART (INDICATED AS VERY LIGHT)
- NO NEAR SHORE SHEEN WAS OBSERVED BUT RAINBOW SHEENS WERE PRESENT IN TIDAL POOLS.
- SEGMENT SHOWS EVIDENCE OF PREVIOUS TREATMENT

REVIEWED 7W DATE 4/12/90

OG K. DERUSSCHERG

SEGMENTS 1-508

SUBDIVISION A

DATE 4/7/90

CHECKLIST

- ☐ M Area
- ☐ Approx. Scale
- ☐ Seg/Sub Bndry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. MWLAWL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pt 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
Patched Distribution
- CT/S
Splashed Distribution
- Oilad Vegetation
- 1 $\Rightarrow$
Photo location, direction, and number

CH MAP

Location #3

Profile A-A'

HSPAL

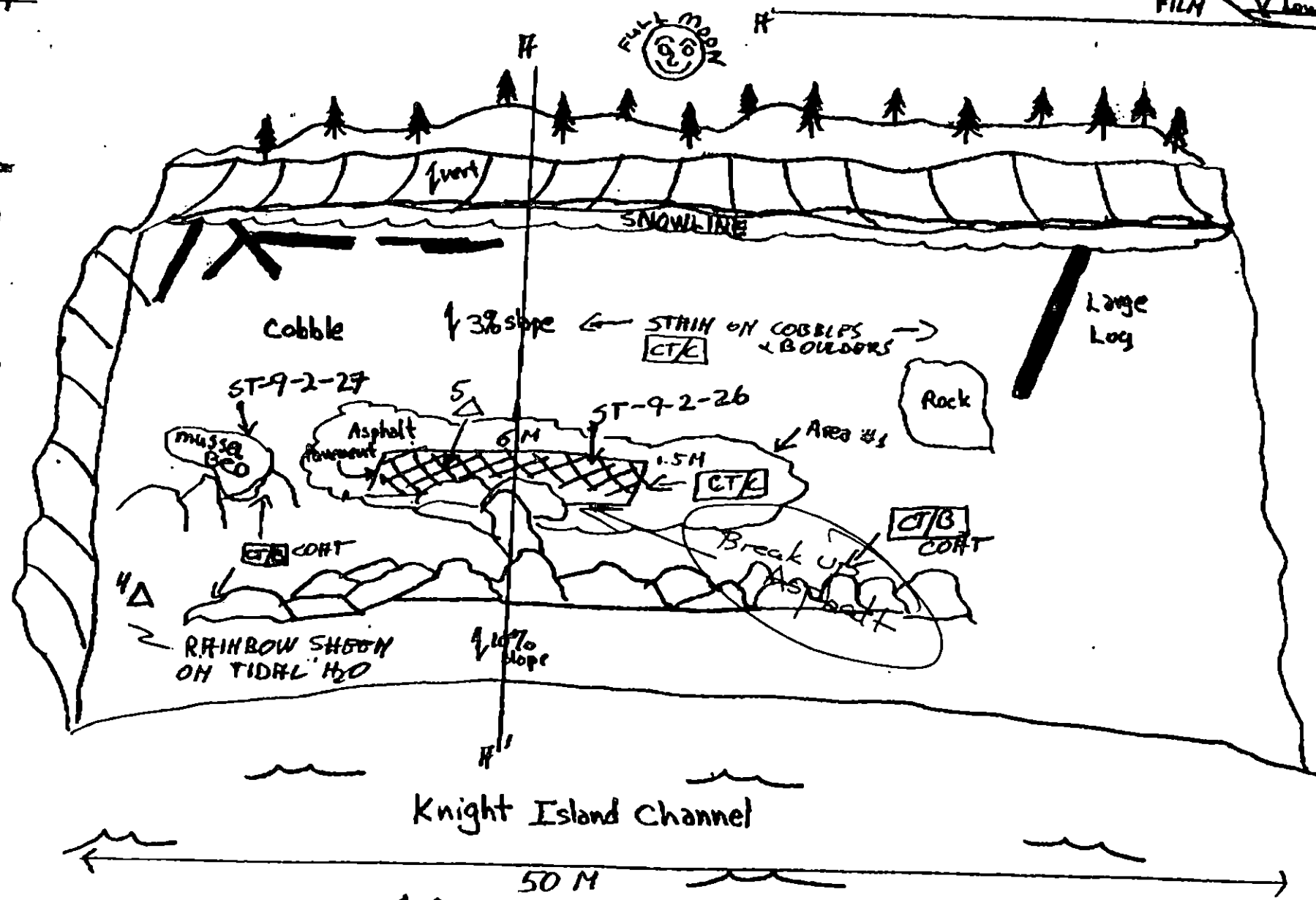
IVGREN

Mean High Tide

STNH

FILN

Low T



Knight Island Channel

50 M

Oil Character Length (m): AP 6 PO 0 CV 0 CT 30 ST 30 MS 0 PT 0 TB 0 FL 10 NO 0

REVISION 2/24/90

OG K. DEBUSSCHE

SEGMENT KN-508

SUBDIVISION A

DATE 4/7/90

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Grid
- ☐ Off Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HW/LA/WL
- ☐ SSL
- ☐ 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

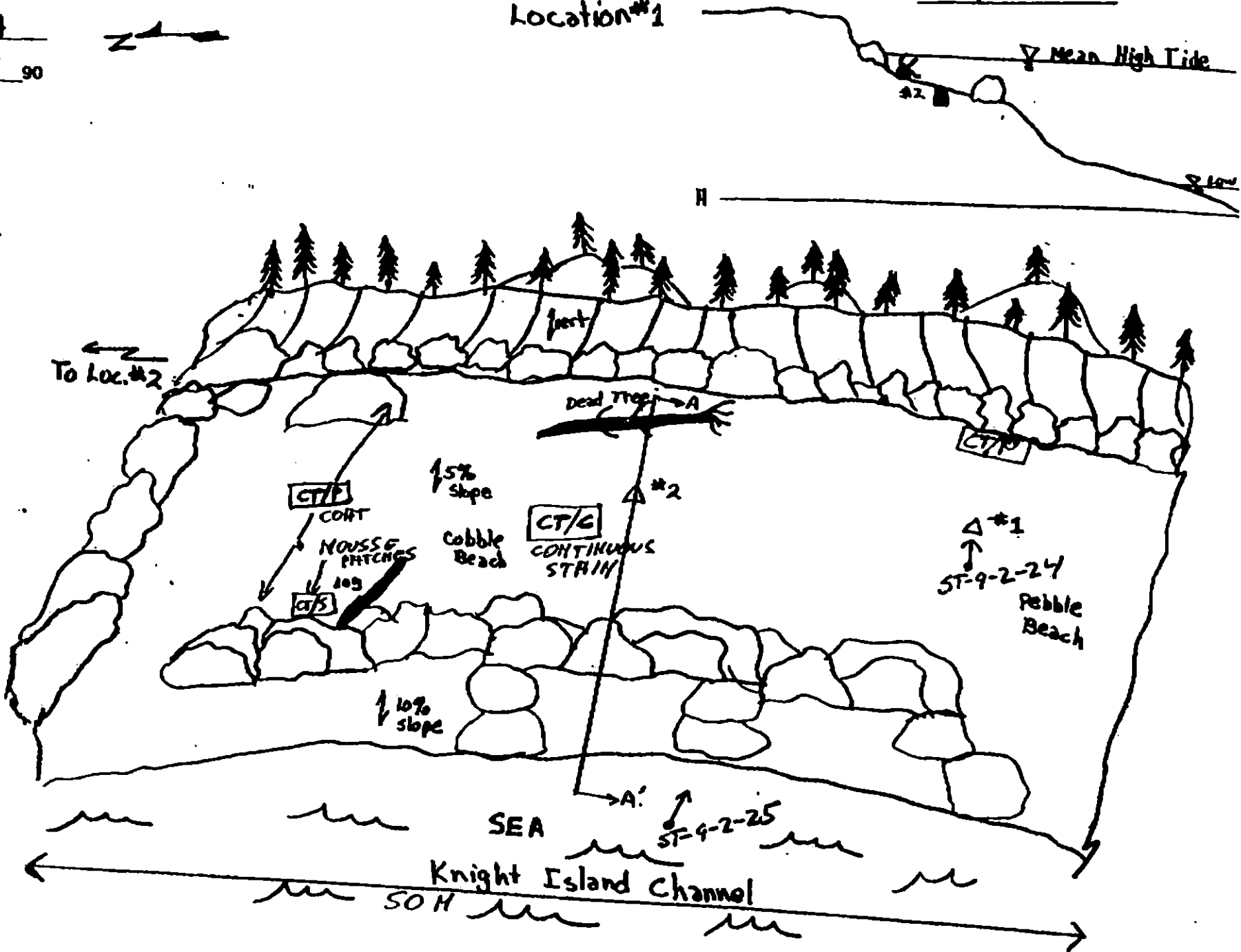
$\boxed{CT/S}$
Splashed Distribution

Oil Vegetation

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

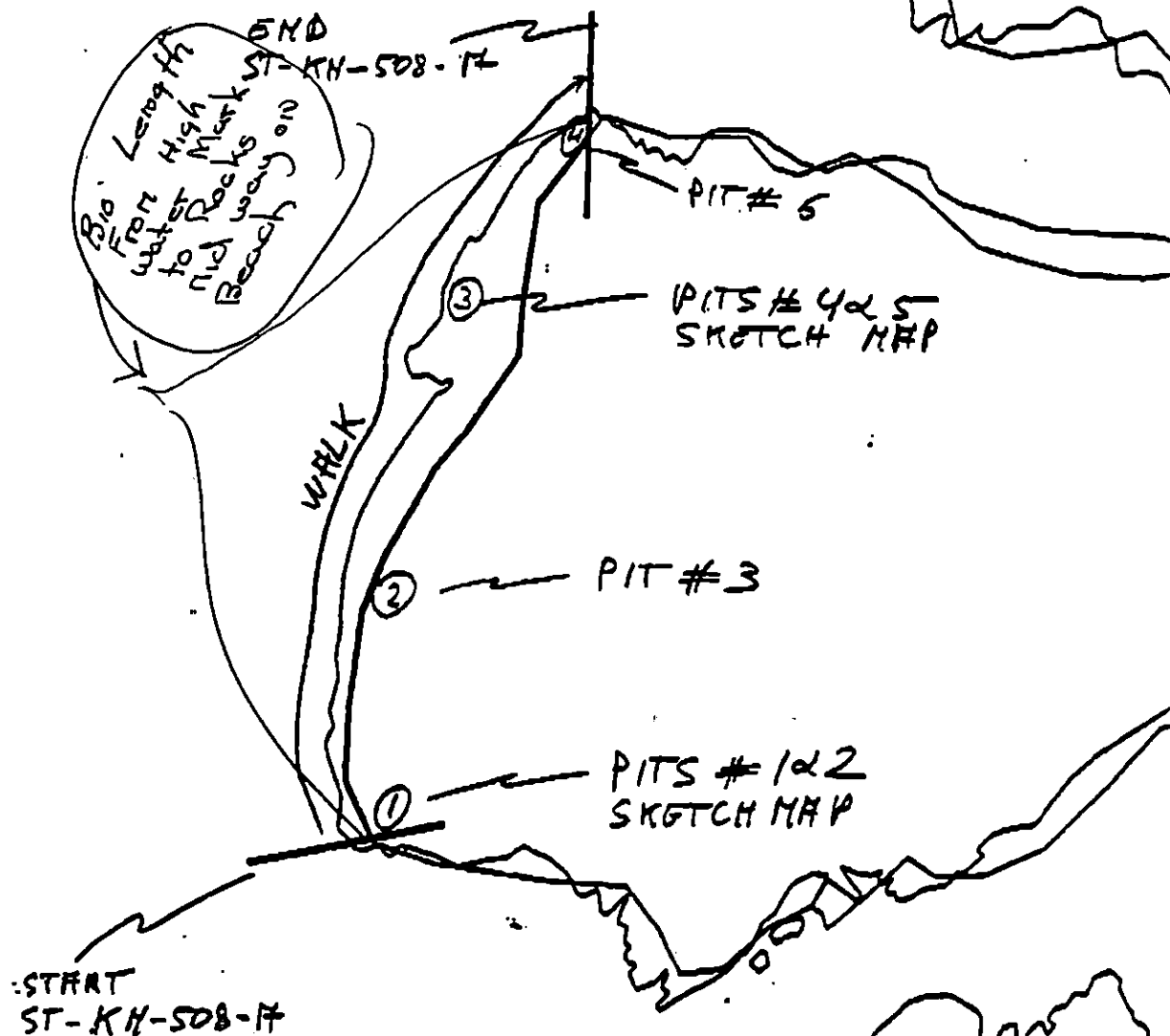
ETCH MAP
Location #1

Profile A-A



Oil Character Length (m): AP 0 PO 0 CV 0 CT 40 ST 50 MS 2 PT 0 TB 0 FL 10 NO 0

KN-507



KN-509

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ST-KN-508-17

ADEC Segment Length: 717m



Map Key: PWS-453

Name: K. DEBUSSCHE

Date: 4/7/90

Date Entered:

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / KN508 Subdivision A Date (mo / day / yr) 04/07/90
 ne (24 hr) 1950-2030 Biologist D. Reed

- (A) Substrate type and % of segments:
 (1) Bedrock 35 (2) Boulder 15 (3) Cobble 30 (4) Pebble 20 (5) Sand (6) Silt
- (B) Overall % cover of biota (% of segment): Dense 20 Moderate 30 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-9-2
 Frames 24, 25, 26, 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:

OCCASSIONAL DENSE PATCHES OF mussels in heavily oiled pebble.

Ecological Considerations:

WIDELY OILED BEACH WITH DENSE BUT PATCHY mussels beds that may be sensitive to foot TRAFFIC AND cleaning

KN-507

OIL MAP

END
ST-KN-508-ASTART
ST-KN-508-A

KN-509

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

OOOO No Oil

ST-KN-508-A

ADEC Segment Length: 717m


 0 100 200 300
METERS

Map Key: PWS-453

Name: K. DEBUCCHEKDate: 4/7/90

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-508 SUBDIVISION A (1 of 1)

WORK WINDOW	
Bioremediation	OPEN
Other Recommended Treatment	OPEN

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T Bald Eagle Nest

NO CONSTRAINT. Verbal authorization given by Mike Lockhart, USFWS, to Exxon/John Wilkinson on 5/11/90; eagle nest is falling apart and not in use.

OTHER ECOLOGICAL CONSIDERATIONS

Avoid any unnecessary disturbance or damage to uncolled biota and substrate. Do not trample or otherwise damage mussel beds.

TAG APPROVAL DATE 5/12/90
ADEC Art Weimer Don Weimer
EXXON Andy TGM Paul FOSC D.D. Rome DATE 5/12/90
NOAA Gary Petrac Gary Petrac
USCG D.D. Rome D.D. Rome By direction

Prepared by: Anda May

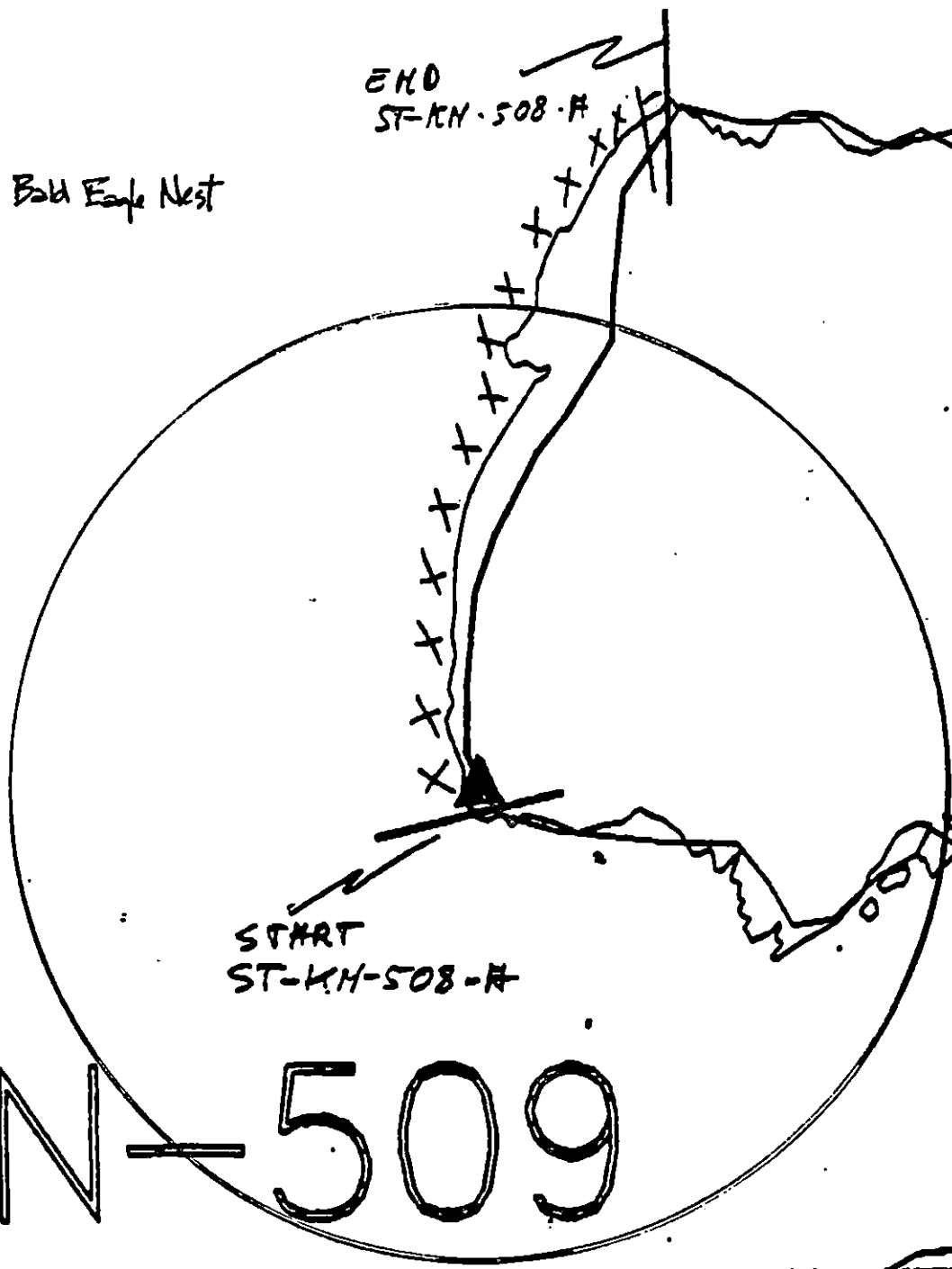
Date: 5/11/90

KN-507



END
ST-KN-508-A

▲ Bald Eagle Nest



KN-509

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

OOOO No Oil

ST-KN-508-A

ADEC Segment Length: 717m



Map Key: PWS-453

Name: K. DERUCCHEK

Date: 4/7/90

Date Entered: _____

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-509 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup	OPEN (USFWS MONITOR REQ.)

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. Access allowed by Mike Luke/USFWS 6/15/90 using small boat with USFWS Monitor.

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC

[Signature]

Date

6/21/90

Prepared by

[Signature]

Date

6/20/90

KN-507

KN-508

Access w. th small boat
and USFWS Monitor
per Mike Luke
USFWS Survey
6/15/90

KN-509

ACTIVE
NEST

WORK
AREA

KN-13

KN-

511

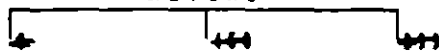


Exxon Company, USA
Map Key: PWS-KN-509
June 05, 1990

ECOLOGY MAP SEGMENT KN-509

SUBDIVISION A (1 of 1)

METERS



Seabird Colony



Active Eagle Nest



Inactive Eagle Nest



SHORELINE EVALUATION

SEGMENT ST/ KN-510 SUBDIVISION A (1 OF 4) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T-4 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: Charles E. Hoffman DATE: 4/25/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 1083 m: No Oil 964 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)
<u> </u> Bioremediation	<u> </u> Spot Washing: <u> </u> Wands
<u> </u> Tarmat: <u> </u> Breakup	<u> </u> Beach Cleaner
<u> </u> Removal	<u> </u> Other (see comments)

COMMENTS: MANUAL PICKUP OF TANGLES, DEBRIS, + TRASH AS INDICATED
ON SKETCH

TAG COMMENTS:

TAG APPROVAL DATE: 4/23/90.
ADEC Art Winters Det. Winters
EXXON Andy Tene
NOAA Joseph Talbot
USCG Kenneth Korman

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 (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.
- SR 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.
- SS Shorebird/waterfowl concentration (4/1 to 5/15)
Restrict all activity to essential minimum, especially air traffic.
- ST 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)
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

DRAFT

SEGMENT ST/ KN 510 SUBDIVISION: A DATE 4/9/90

USCG

NAME W. E. WHITE SIGNATURE William E. White☒ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

No Subsurface oil observed - No treatment recommended.

Debris and trash has been removed.

ADEC

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

COMMENTS

Primarily bedrock cliff with pocket beaches. No subsurface oil was observed. Sporadic tar balls and coats were infrequently observed. Debris and trash observed.

LAND MANAGER

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

COMMENTS

Majority of segment consists of vertical bedrock cliff with isolated bands of splashed coats in protected areas in upper tidal zone. A few tarballs were also noted. Subsurface oil is not present. Check areas in supratidal zone for debris after snowmelt.

SHORELINE OILING SUMMARY

REVISION NO. 02/89

OG Sawyer USCG White SEGMENT ST/ KN-510
 BIO Benson LAND REP Mandrella, USFS SUBDIVISION A
 EXXON Katsimpelis ADEC Munson TIME 09:20 to 11:15
 TEAM NO.: 8 TIDE LEVEL: +1.5 to +6.0 DATE Apr 19 / 90
 EST. SUBDIVISION LENGTH: 2115 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock Snow
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 75 % B 10 % C 5 % P 10 % 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 0 m VL 600 m NO 1515 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR				IMPACTED ZONES			
	R	B	P	S	1	2	3	4	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 1 BAGSNEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NOTYPE ---#BAGS 0

Photographs:

Roll No. ST-8-3Frames 6

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
		OF	OR	OL	OP	NO		UO	UO	1	2	3	4	SU	U	M	L		
1	30						---											N	C, P, G
2	25						---											N	B, P, G
3	40						---											N	P, G
4	25						---											N	P, G
5	35						---											N	C, G
6	30						---											N	P, G

COMMENTS ST/KN-500A: No subsurface oil observed. Splashed coals form isolated, 41m wide bands in protected areas in the upper intertidal zone.

SHORELINE OILING SUMMARY (PAGE 2 of 6)

REVISION 02/22/90

SEGMENT ST/ KN510 SUBDIVISION A

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	SP	BP	WP	GT	SL	DR	TL	LC	SU	U	M	L		
7	25					/	---		X													N	P, G, wt
8	25					/	---		X													N	P, G, wt
9	20					/	---		X													N	P, wt
10	25					/	---		X													N	P, G, wt
11	30					/	---		X													N	P, G, wt
12	25					/	---		X													N	P, C, P, wt
13	30					/	---		X													N	P, G, wt
14	25					/	---		X													N	C, P, G
15	25					/	---		X													N	C, P, G
16	45					/	---		X													N	C, P, G, wt
							.																
							.																
							.																
							.																

COMMENTS

REVIEWED _____ DATE _____

00 Saw ⁵¹⁰
 SEGMENT ST/KN-500
 SUBDIVISION A
 DATE Apr 19 90

CHECKLIST

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

LEGEND

1 Δ
 P1 - No Subsurface Oil

2 Δ
 P1 - Subsurface Oil

CT/C
 Continuous Distribution

CT/B
 Broken Distribution

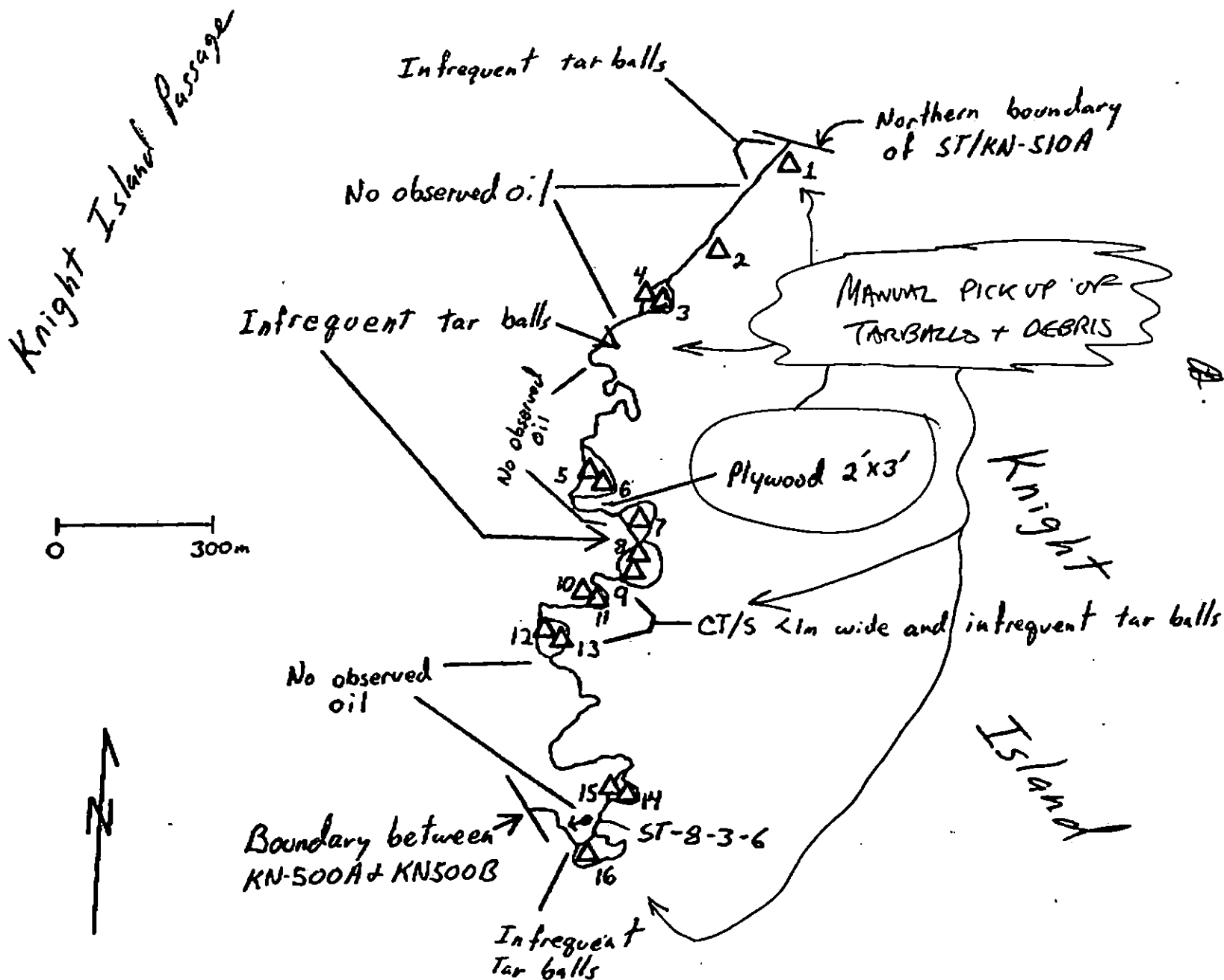
CT/P
 Patchy Distribution

CT/S
 Splashed Distribution

Oiled Vegetation

1 ●
 Photo location, direction,
 and number

SKETCH MAP



Oil Character Length (m): AP - PO - CV - CT 300 ST - MS - PT - TB 300 FL - NO 1515

REVISED 02/27/88

SHORELINE ECOLOGICAL SUMMARY

REVISION: 08/22/90

Segment ST / KN510 Subdivision A Date (mo / day / yr) 4/9/90by (24 hr) 0920-1115 Biologist John Benson

- (A) Substrate type and % of segments:
 (1) Bedrock 75 (2) Boulder 10 (3) Cobble 5 (4) Pebble 10 (5) Sand 0 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense 60 Moderate 20 Low 20
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs:

Roll No. ST-B-3Frames 6

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:

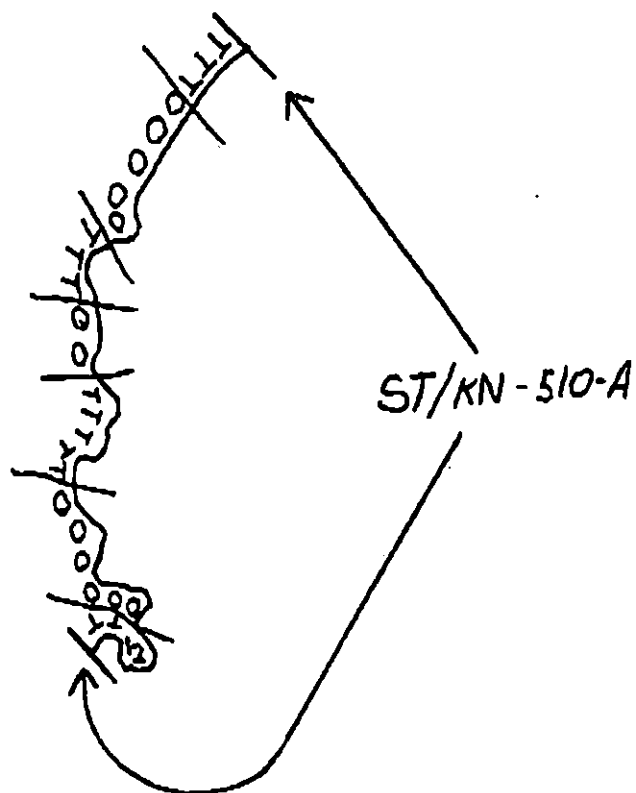
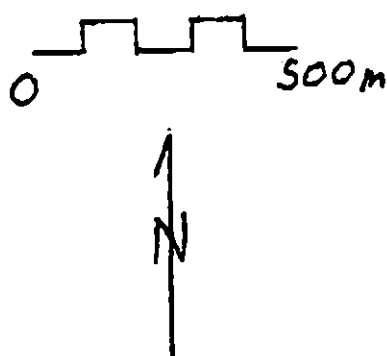
immature bald eagle (*Haliaeetus leucocephalus*)
 cormorants (*Phalacrocorax* sp.)
 harbor seal (*Phoca vitulina*)

Ecological Considerations:

Sensitivities: ST-2 (eagle nests)

This subsegment is characterized by high total % cover of biota. *Verrucaria* (lichen) is particularly abundant in the upper intertidal and an unidentified red alga is the most abundant species in the low intertidal. ~~Enigmodonta was observed 2~~
~~times in the low intertidal. This is a new record for the Yukon River.~~

Team 8 nor Team 7
have the computer
map for this section
of ST/KN-510. Thus, we
are using the ADEC
shoreline to denote
the oil character
length.



VL 600 No 1515

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-510 SUBDIVISION A (1 of 4)

WORK WINDOW

Manual Pickup Less Than 400m From Active Nest **CLOSED**

Manual Pickup More Than 400m From Active Nest **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 A. Closed to manual pickup within 400m of active nest. No constraint to manual pickup more than 400m from active 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 400m horizontal, 300m vertical distance from active nests. Avoid any unnecessary disturbance or damage to uncollected biota and substrate.

FOSC

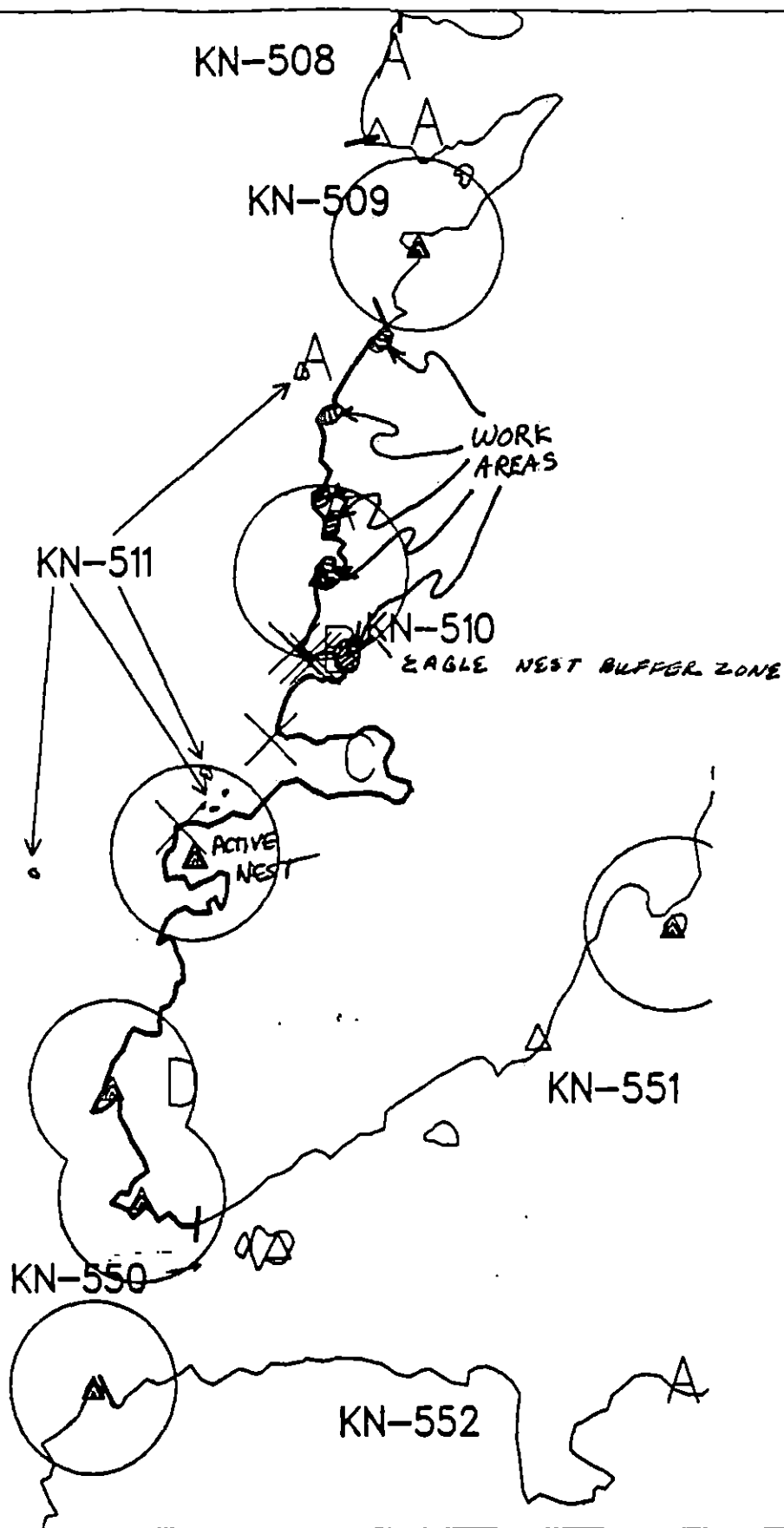
Date

Prepared by

Date

6/15/90

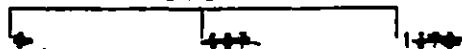
6/14/90



Exxon Company, USA
Map Key: PWS-KN-510
June 05, 1990



ECOLOGY MAP
SEGMENT KN-510
SUBDIVISION A (1-014)
METERS



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

1 inch = 2283 feet

SEGMENT ST/ KN-510 SUBDIVISION B (2 OF 4) DATE 4/9/90

SEGMENT ST/ KN-510 SUBDIVISION B (2 OF 4) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T-4 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 uncoiled biota and substrate.

SHPO SIGNATURE: D. Karim M. Maham DATE: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 420 m: No Oil 396 m
Subsurface Oil Observed: Yes X No Maximum Depth 20 cm

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> <u> </u> Beach Cleaner
<u> </u> <u> </u> Removal	<u> </u> other (see comments)

COMMENTS: _____

TAG COMMENTS:_____

TAG APPROVAL DATE: 4/23/10.

ADEC Arzt Weinger Det Weinger

EXXON Andy Tate OK

NOAA Joseph Talbot VCM

USCG KENNETH KEANE

FOSC: 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 (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 unloiled 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

DRAFTSEGMENT ST / KN510 SUBDIVISION: B DATE 4-09-90SCGNAME BM3 David A. Sykes SIGNATURE BM3 David A. Sykes☒ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

The area was very clean compared to other areas the oil that was present was very weathered Tar. There was very little sub surface oil. Bio remediation would not be a good idea in this area due to the wild life as well as the marine life.

ADECNAME M. Cunningham SIGNATURE M. Cunningham☒ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

Insignificant quantities oil found.
We checked 80% upper intertidal for debris.

LAND MANAGERNAME Steven Phillips SIGNATURE Steven Phillips☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Scout storm berm for debris.

Tarballs were picked up or destroyed

Balance of area looks fine

SHORELINE OILING SUMMARY

REVISION NO. 02/28/90

OG Greg Chaney USCG Dave Sulvester SEGMENT ST/ KN-510
 BIO Jim Roth LAND REP Steve Phillips SUBDIVISION B
 EXXON Ray Intelo ADEC Mike Cunningham TIME 09:00 to 11:15
 TEAM NO.: 7 TIDE LEVEL: 0.5 to 6.0 DATE April 9 1990
 EST. SUBDIVISION LENGTH: 1750 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock SNOW
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: South to North
 SURFACE SEDIMENTS: R 80 % B 10 % C 5 % P 5 % G — % S — % M — % V — %
 SLOPE: Long 10 % Hang 45 % Vert 45 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W — m M — m N — m VL 850 m NO 900 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	C	N	E	S	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 — 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 NET & TAR
BALLS#BAGS 1

Photographs:

Roll No. NONEFrames —

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-IN)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS	
		OF	OR	OL	OP	NO		UO	UC	1	2	3	4	5	6	7	8	SU	U	M	L			
1	30				X		0 - 20		X						X				X					BP
2	40					X	0 - 10		X									X						BPG
3	50					X	0 - 10		X										X					GP
4	35					X	0 - 10		X									X						PG
5	25					X	0 - 10		X									X						PG
6	30					X	0 - 10		X										X					PG

COMMENTS

G.C.

OG Greg Choney
 SEGI STI KN-510
 SUBDIVISION B

DATE April 9 90

CHECKLIST

- ☐ H Arrow
- ☐ Approx. Scale
- ☐ Sep/Sub Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HWA/LVA
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pit Location(s)
- ☐ Photo Location(s)

LEGEND

1 ▲
 Pt - No Subsurface Oil

2 ▲
 Pt - Subsurface Oil

CT/C
 Continuous Distribution

CT/B
 Broken Distribution

CT/P
 Patchy Distribution

CT/S
 Splashed Distribution

Oil Vegetation

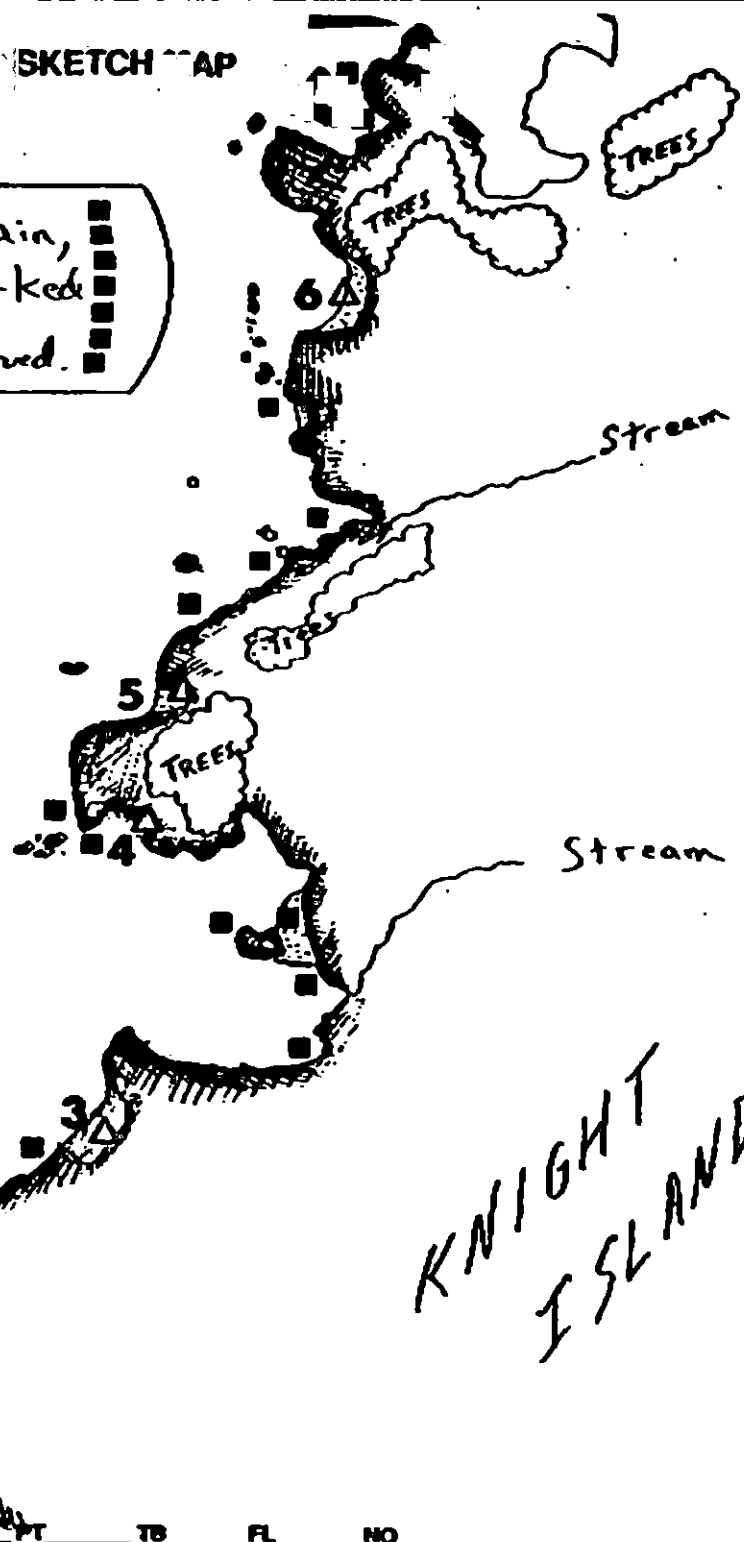
1 ●
 Photo location, direction, and number

SKETCH MAP

Splattered coat, dark stain, occasional tar balls. Marked with dark square where observed.

KN-510-B
 KNIGHT ISLAND
 PASSAGE

200 METERS



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

SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/23/90

Segment ST/ KN 510 Subdivision B Date (mo / day / yr) Apr. 9, '90
 Time (24 hr) Arr 0900 LV 1105 Biologist ROTH

- (A) Substrate type and % of segments:
 (1) Bedrock 20 (2) Boulder 10 (3) Cobble 5 (4) Pebble 5 (5) Sand (6) Silt
- (B) Overall % cover of biota (% of segment): Dense 20 Moderate 50 Low 30
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs:
 Roll No.
 Frames

BARNACLES

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

MYTILUS

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

IASTROPODS

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

FUCUS

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

Wildlife Observations/ General Comments:

A SITE WITH MODERATE TO DENSE COVER OF BIOTA, AND A GOOD VARIETY OF INTERTIDAL SPECIES. THE SPECIES LIST WOULD PROBABLY BE LONGER HAD MORE TIME BEEN AVAILABLE TO OBSERVE THE SITE. LOWER ZONE INVERTEBRATES:

Ecological Considerations:

ST2 - ACTIVE BALD

EAGLE NESTS (2)

OBSERVED INCLUDED: ACHRODIA, NOTACMEA spp., LITTORINA, DREMASTELIAS, AMPHIPODS, LEPTASTELIAS, GNORMOSPHEROMA, STICHOPIUS (? JUV.), MORPHA LENGUA, EVAETERIAS.

ADDITIONAL INVERTEBRATES SEEN IN THE MIDDLE INTERTIDAL ZONE: TEALIA, ANTHOOLEURA XANTHOGRAMMICA, A. ARTEZIA, SEMIGALANUS CARIOSUS, KATHARINA, SERPULA (?), IGOTA, HERMIT (CRAB).

Note: This is the only
Computer map of the
Northern half of 510
that we have on board.

Greg Chaney

April 9 1990 KN510

0 meters 500

KN-510 B

VL 850 NO 900

OILING	
H	Heavy
M	Moderate
L	Light
VL	Very Light
N	None
NS	Not Surveyed
Dist	In Meters

ADEC Sep/Oct 1989 Survey

SHORELINE EVALUATION

SEGMENT ST/ KN-510 SUBDIVISION C (3 OF 4) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T-4 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: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 23 m: V.Light 399 m: No Oil 1706 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 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.
- 6T 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.

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ KN 510 SUBDIVISION: C DATE 4.9.90

USCG

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

☒ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS

There were very few places where oil was present. The oil that was spotted was very weathered and in a tar state. Bioremediation in this area would be detrimental to the wild life as well as the abundant marine life. The only oil we found was very sparse small tar splatters and very little sub surface oil.

ADEC

NAME M. Cunningham SIGNATURE M. Cunningham

☒ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS

Few traces of oil found.
all debris observed. removed.

LAND MANAGER

NAME Steven Phillips SIGNATURE Steven Phillips

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Scout storm berms for debris.

Tarballs have been collected.

Note Anadromous stream at back of cove.

SHORELINE OILING SUMMARY

REVISION NO. 03/28/88

OG Greg Chaney USOG Dave Sylvester SEGMENT ST/ KN-510
 BIO Jim Roth LAND REP Steve Phillips SUBDIVISION C 1412
 EXXON Ray Sotelo ADEC Mike Cunningham TIME 16:45 to 19:25
 TEAM NO.: 7 TIDE LEVEL: 6.5 to 1.5 DATE April 9 1990
 EST. SUBDIVISION LENGTH: 3300 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 50 % B 15 % C 20 % P 10 % G 5 % S - % M - % V - %
 SLOPE: Long 40 % Hang 30 % Vert 30 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W - m M - m N 14 m VL 500 m NO 2786 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	U
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT		X			✓	✓	✓						X			
STAIN		X			✓	✓	✓						X			
MOUSSE																
PATTIES																
TARBALLS					✓	✓									✓	
FILM																
NO OIL															X	X

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	X		

DEBRIS COLLECTED

☒ YES ☐ NO

yellow rope.

TYPE Pompons#BAGS 1

Photographs:

Roll No. NONEFrames -

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM) ^{GC}	BELOW	OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS			
		OP	OR	OL	OF	NO			UO	UC	30/35	35/40	40/45	45/50	50/55	55/60	SU	U	M	U					
1	25					X	0.0		X									X							PGM
2	30					X	0.0		X									X							PGM
3	20					X	0.0		X									X							PGM
4	15					X	0.0		X										X						PGM
5	30					X	0.0		X										X						PM
6	20					X	0.0		X										X						PG

COMMENTS

Many of the tarballs noted on the mgs were collected. No free oil was observed. Tar balls were black and friable.

SHORELINE OILING SUMMARY (PAGE 2 of 2)

REVISION 05/25/88

SEGMENT ST/ KA/SIO SUBDIVISION C

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	SP	BR	OR	GR	BL	LP	SU	U	M	U		
7	30					X	0-0	X											X		GS
8	25					X	0-0	X											X		GS
9	25					X	0-0	X								X					PGS
							.														
							.														
							.														
							.														
							.														
							.														
							.														
							.														
							.														
							.														
							.														
							.														

COMMENTS

REVIEWED GC DATE 4/1/90

OG Reg Chaney
SEGMENT TI KN-510

SUBDIVISION C

DATE April 9 90

CHECKLIST

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

LEGEND

1 ▲
Pn - No Subsurface Oil

2 ▲
Pn - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/P
Patched Distribution

CT/S
Splashed Distribution

Oil on Vegetation

1 ●
Photo location, direction,
and number

SPLATTER OF TAR COAT
SYMBOLIZED BY BLACK
DIAMONDS ♦♦♦

TAR BALL SYMBOLIZED
BY BLACK CIRCLES ●●

INTERMITTENT TAR
BAND 30 CM. HIGH
14 METERS LONG.

LOW ROCK

5cm tar band
TAR BAND UP
TO 20m

FOREST

EAGLE'S
NEST

0 100 200 300
METERS

SKETCH MAP

SEA OTTER SKELETON

LOW
ROCK

Low
Rock

SEA OTTER SKELETON

STEEP FORESTED
BEDROCK

N

Oil Character Length (m): AP — PO — CV — OT 50 ST 200 MB — PT — TB 400 FL — NO 2786

REVISIONS

SHORELINE ECOLOGICAL SUMMARY

REVISION: 08/23/84

Segment ST / KN 501 Subdivision C Date (mo / day / yr) Apr 9, '90
 Time (24 hr) 1645 Biologist ROTH

- (A) Substrate type and % of segments:
 (1) Bedrock 50 (2) Boulder 15 (3) Cobble 20 (4) Pebble 10 (5) Sand 5 (6) Silt _____
- (B) Overall % cover of biota (% of segment): Dense 10 Moderate 40 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. _____
 Frames _____

BARNACLES

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

GASTROPODS

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

Wildlife Observations/ General Comments:

SEVEN (7) BIRD EAGLES NOTED IN SUBDIVISION; ONE EAGLE NEST LOCATED (SEE OG'S REPORT).

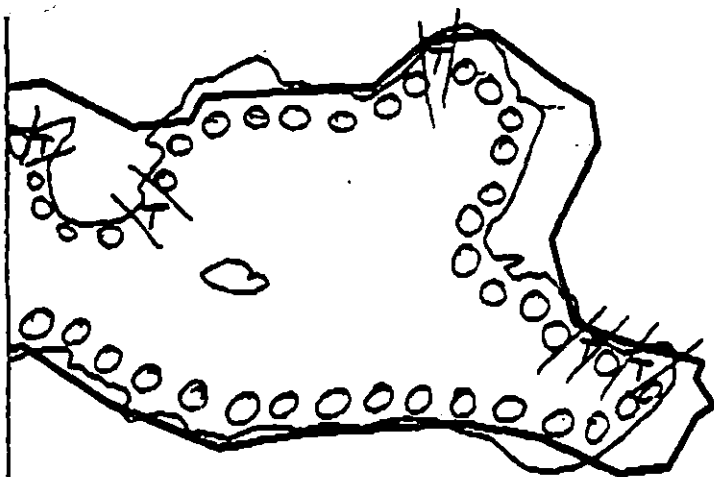
A SITE WITH MODERATELY DENSE COVER OF BIOTA, AND A DIVERSE FAUNA. OBSERVATIONS IN THE LOWER INTERTIDAL ZONE WERE LIMITED DUE TO TIDE. EVIDENCE OF NEW GROWTH/

Ecological Considerations:

ST - ACTIVE BIRD EAGLE NESTS

COLONIZATION INCLUDED FUCUS, SPONGES, GASTROPODS AND NUCLEA EGGS, VERY YOUNG MYTILUS, AND BARNACLES. THIS IS A VERY LIGHTLY USED SITE (SEE OG'S REPORT) WITH VARIABLE EXPOSURE — MODERATE TO LOW ENERGY.

ANIMALS OBSERVED IN THE LOWER INTERTIDAL ZONE INCLUDED LEPTASTERIAS, DERMASTERIAS, PACHYDORA, LITTORINA UREOUS, BULANUS PELS, HERMIT CRABS, IDOTPA, HEMIGRAPHS OREGONENSIS, NOTORHA SOUTUM, N. PRESONA, SPERULA, PISASTER, CORONAL TULCATES, SEMICALANUS CARY. ADDITIONAL ANIMALS OBSERVED IN THE MIDDLE INTERTIDAL ZONE INCLUDED AMONIA, PARANEMPTES, JUVENILE STICHODUS, KATHARINA.



XXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

KN-510C

ADEC Segment Length: 11838m



Map Key: PWS-455d

Name: Greg ChaneyDate: April 9 1990

Data Entered:

KN 510 C

(XXX Wide
 /// Medium
 --- Narrow
 TTTT Very Light
 0000 No Oil

KN-510C

ADEC Segment Length: 11838m

0 100 200 300
 METERS

Map Key: PWS-455c

Name: Greg ChancyDate: April 9 1990

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-510 SUBDIVISION D (4 OF 4) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T-4 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: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 49 m: No Oil 3719 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 Art Wenger

EXXON Andy Galt

NOAA Joseph Tabett

USCG Kenneth Keane

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 (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.
- 6T 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 Anchorages (5/1 to 9/15)
6W Forest Service cabins (5/1 to 9/15)
6X Lodge (5/1 to 9/15)
6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
7HH Finfish harvesting
7H Deer harvesting (8/15 to 2/28)
7JJ Invertebrate harvesting
For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ KN 510 SUBDIVISION: D DATE 4/9/90

USCG

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

No Subsurface oil observed, Debris and trash
to be removed beaches

ADEC

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

COMMENTS

Primarily Bedrock cliffs with pocket beaches and
small islands. No subsurface oiling observed. Very
sporadic tar balls were observed. Debris and
trash observed.

LAND MANAGER

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

COMMENTS

No oil was observed in subsurface sediments or on bedrock
and boulder cliffs. High amounts of biological activity
was noted in southern portion of subsegment. Many bald
gles, shore birds, river otters and a seal were noted.

SHORELINE OILING SUMMARY

REVISION NO. 03/28/90

OG Sawyer USCG White SEGMENT ST/ KN510
 RIO Benson LAND REP Mandrella, USFS SUBDIVISION D
 EXXON Katsimpalis ADEC Munson TIME 17:00 to 19:30
 TEAM NO.: 8 TIDE LEVEL: +6.0 to +1.0 DATE Apr. 19 /90
 EST. SUBDIVISION LENGTH: 4673 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock SNOW
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: S to N
 SURFACE SEDIMENTS: R 70 % B 10 % C 10 % P 10 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 10 % Hang 30 % Vert 60 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 30 m NO 4643 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	C	A	P	R	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 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 Plastic tarp & cr:
rope#BAGS 2

Photographs:

Roll No. ST-8-3Frames 7

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		UG	UC	1	2	3	4	5	6	7	8			
1	25						---											N		P, G, S, wt
2	25						---											N		P, G, S, wt
3	25						---											N		C, P, m, wt
4	30						---											N		P, G, wt
5	40						---											N		P, G, V, wt
6	30						---											N		P, C, G

COMMENTS ST/KN-510 D: No subsurface oil was observed. Only very few tar balls were observed along this segment, otherwise no oil was observed.

SKETCH MAP

OG Savage
SEGMENT STI/KN-510SUBMISSION DDATE Apr 19 90

CHECKLIST

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

LEGEND

1 Δ

PI - No Subsurface Oil

2 Δ

PI - Subsurface Oil

CT/C
 Continuous Distribution

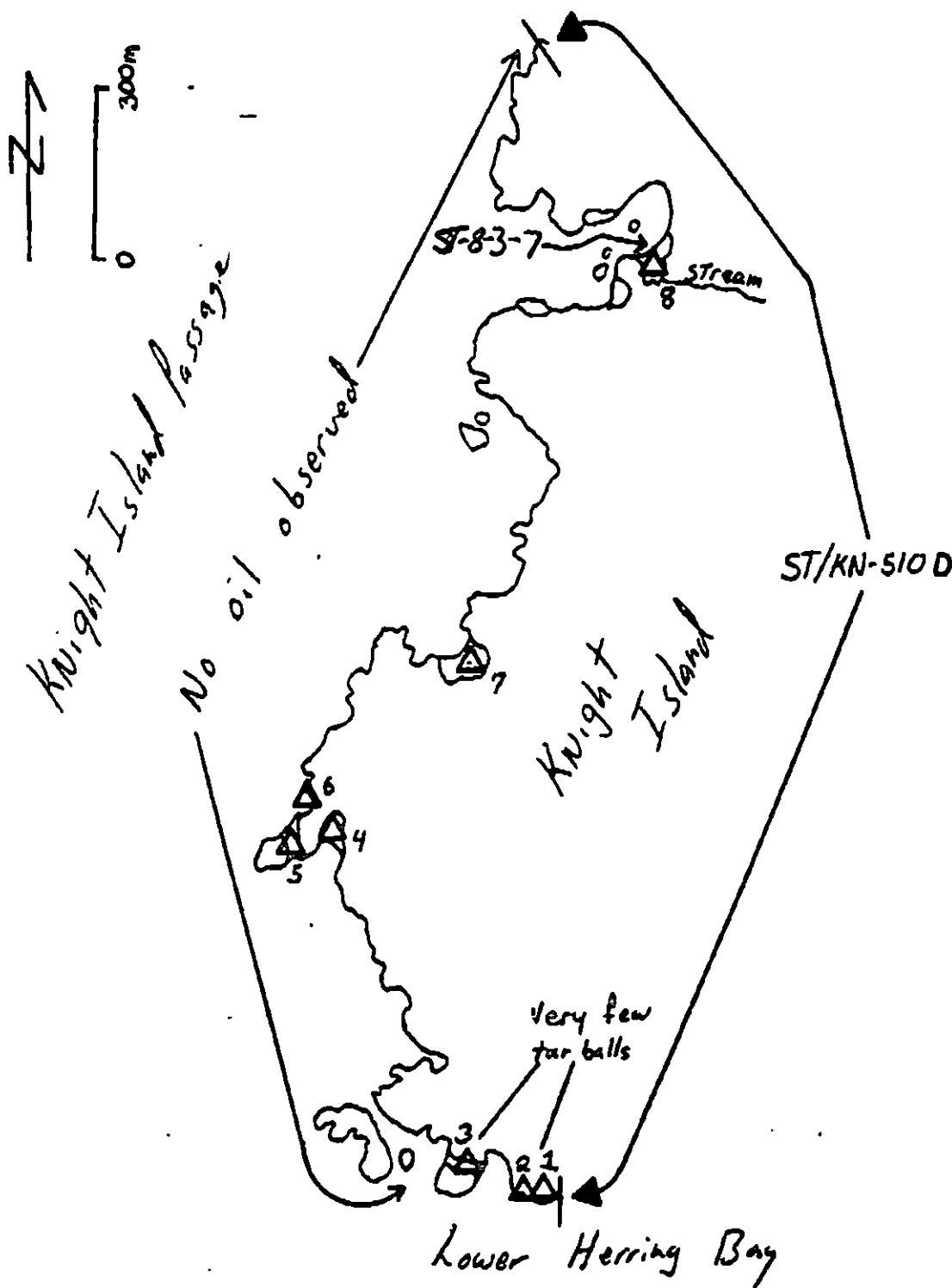
CT/B
 Broken Distribution

CT/P
 Patchy Distribution

CT/S
 Spotted Distribution

CT/V
 Other Vegetation

1 Δ
 Photo location, direction, and number



Oil Character Length (m): AP - PO - CV - CT - ST - MS - PT - TB 30 FL - NO 4643

REVISION: 000000

SHORELINE ECOLOGICAL SUMMARY

REVISION: 05/20/90

Segment ST/ KN510 Subdivision D Date (mo / day / yr) 4/9/90Time (24 hr) 1700-1930 Biologist John Benson

- (A) Substrate type and % of segments:
 (1) Bedrock 70 (2) Boulder 10 (3) Cobble 10 (4) Pebble 10 (5) Sand 0 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense 60 Moderate 20 Low 20
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs:
Roll No. ST-B-3Frames 7

BARNACLES

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

FUCUS

Dense			Moderate			Sparse			Rare			NOT PRESENT
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	X	2	2	2	X	X	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:

seagulls (Phalacrocorax sp.) sea otter (Enhydra lutra)
 black oyster catcher (Pipilo bachmani)
 3 adult bald eagles (Haliaeetus leucocephalus)
 2 river otters (Lutra canadensis)

Ecological Considerations:

Sensitivities: ST-2 (active bald eagle nests)

Like ^{sub-}segment KN510 A, this subsegment is characterized by the highest total % cover observed during Phase I. The diversity is relatively high, but ~~that~~ not ~~remarkable~~ remarkable, since we observed such a large section of shoreline here. This segment is very lightly oiled (see OG report).

Boundary between
ST/KN-510C+D



XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

KN-510

ADEC Segment Length: 11838m

0 100 200 300
METERS

Map Key: PWS-455c

Name: Sawyer

Date: Apr. 9, 1990

Data Entered:



XXXX Wide

//// Medium

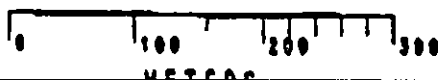
---- Narrow

TTTT Very Light

0000 No Oil

KN-510

ADEC Segment Length: 11838m



Map Key: PWS-455a

Name: SawyerDate: Apr. 9, 1990

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-511 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)

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. [Signature] DATE: 5/3/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 668 m: No Oil 263 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: 5/3/90
ADEC ART WEINER Art Weiner
EXXON ANDY TOL Andy Tol
NOAA Gary Petree Gary Petree
USCG Katherine Deane Katherine Deane

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 without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inpol 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 287-2324

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 Inpol 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 Inpol 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 Inpol 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 Inpol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.

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

Harbor seal and sea lion pupping (5/15 to 7/1)

Harbor seal and sea lion molting (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 Inpol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.

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

ADF&G Don Calkins 267-2403

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

SS Shorebird/waterfowl concentration (4/1 to 5/15)

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

ADF&G Tom Roth 267-2206

ST All Bald Eagle nests (3/1 to 6/1)

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

6U Recreation: Tent sites (5/1 to 9/15)

6V Anchorages (5/1 to 9/15)

6W Forest Service cabins (5/1 to 9/15)

6X Lodge (5/1 to 9/15)

6Y Special use destination

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

7H-1 Finfish harvesting

7H-2 Deer harvesting (5/15 to 2/25)

7H-3 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 Inpol 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-511 SUBDIVISION: 4 DATE 4-25-90

NAME STEPHEN STUAM SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS THIS SEGMENT IS COMPOSED OF A NUMBER OF VERY SMALL, ROCKY ISLANDS WITH EXTREMELY DENSE BLUE-POINT MUSSEL / FUCUS / BARNACLE COMMUNITIES. OIL COAT IS PRESENT ON VERTICAL AND OVERHANGING ROCK SURFACES AT AND ABOVE THE TIDE ON LOCATIONS 1, 2 AND 6. TAR BALLS WERE REMOVED IN THE TIDE ON LOCATION 6.

THESE OIL COATED SURFACES ARE NOT READILY VISIBLE FROM SEA-LEVEL, NOR ARE THEY APPARENTLY DETRIMENTAL TO THE BIOTA IN THE IMMEDIATE AREA. TREATMENT OF THESE ISLANDS DOES NOT OFFER ANY BENEFITS - AND CAN ONLY RESULT IN SHORT TERM DAMAGE TO THE INTERTIDAL COMMUNITY.

ADEC NAME Wesley Ghormley SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS
- Small amount of very light oil seems to be extremely weathered.
- Large amount of healthy mussels on these small islands / some appear to be submerged during high tide.
- Tar balls were removed from Location #6.

LAND MANAGER NAME Ray Burger BNR SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS
Coat is very weathered & should pose no threat of remobilizing - best left untreated -
These islets offer no real landing areas.

SHORELINE OILING SUMMARY

REVISION NO. 04-12-90

OGK. DERUSSCHERE ^{NAME} STEPHEN STUM SEGMENT ST/ KN-511
 BIO D. REED ^{LAND REP} Ray Burger AOR SUBDIVISION H (1 OF 1)
 EXXON T. DIRZ ^{ADEC} Wesley Ghormley TIME 15:00 to 20:10
 TEAM NO. 9 TIDE LEVEL 2 TO 1 FT DATE 4/25/90
 SUBDIVISION LENGTH: 931 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 LANDS DESCRIPTION: ☐ Grass ☐ Forest ☒ Rock NO UPLAND - ROCKY ISLANDS
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 95 % B 1 % C 1 % P 3 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 5 % Hang 90 % Vert 5 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 620 m NO 311 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	N	S	E	W	1	2	3	4	5	SU	U	M	U
ASPHALT PAVEMENT													
POOLED													
COVER													
COAT	V				X					X			
STAIN													
MOUSSE													
PATTIES													
TARBALLS													
IL										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 TARBALLS#BAGS 1

Photographs:

Roll No. NONEFrames NONE

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR					PIT ZONE				AN A	GREEN SHEEN (Y/N)	↓	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UO	1	2	3	4	5	SU	U	M	U				
1	25					X	.									X				H	-	P-P
2	25					X	.									X				N	-	P-P
							.															
							.															
							.															
							.															

COMMENTS

- SUBDIVISION CONSISTS OF ROCKY ISLANDS WITH A COUPLE PEBBLE BEACHES
- OILING IS VERY LIGHT TO NO OIL. OILING CONSISTS OF OIL CONCENTRATED IN PROTECTED GULLIES / CRACKS ON ROCK FACES. OIL IS VERY WEATHERED
- NOTE: TARBALLS WERE FOUND IN LOC ⑥ AND PICKED UP.

REVIEWED MA DATE 4-26-90



W = WALK.

Oil Character Length

CT 620m ; No 311

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

ST-KN-511-A

Approx. Segment Length: 931



Map Key: KN1-KN-511d

Name: K. DERUSSCHER

Date: 4/25/90

APR 21-1990 16:31 FROM EXXON SCOT

TO

ALBERTA TIDE
Yukon River

P.02
P.05

KN-510



CONNECTING
IRGE

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

ST-KN-511-A

Approx. Segment Length: 951

0 100 200 300

Map Key: KN1-KN-5116
Name: K. DEBUSSCHERE
Date: 4/25/90

W = WALK

W
 6 THRBALLS (REMOVED)
 COAT/S



XYY Wide

/, Medium

--- Narrow

TTT Very Light

000 No Oil

ST-KN-511-A

931

Approx. Segment Length: 400m

0 100 200 300
 METERS 5/12

Map Key: KN1-KN-511a

Name: K. DEBUSSCHERE

Date: 4/25/90

Data:

⊕ = location number in
Field NOTES

⊕ #6

⊕ #2

⊕ #3

⊕ #5

⊕ #4



X X Wide
/// Medium
--- Narrow
TTTT Very Light
NNNN

KN-511

Approx. Segment Length: 400m

0 100 200 300

Map Key: KN-511a
Name: D. REED
Date: 04/25/90

SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/22/90

Site ST KN 511 Subdivision A Date (mo / day / yr) 04/25/90

Time (24 hr) 1900-2010 Biologist D. REED

(A) Substrate type and % of segments:
(1) Bedrock 95 (2) Boulder 1 (3) Cobble 1 (4) Pebble 3 (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. —

Frames NONE

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:

5 SEA OTTERS, 230 UNIDENTIFIED DUCKS, 2 EAGLES
DENSE ALGAL COVER FOUND IN THE LOW ZONE OF all islets. #5
completely submerged at high tide.

Ecological Considerations:

DENSE mussel beds are found on all islets except #3.
AND ARE SENSITIVE TO EXCESSIVE FOOT TRAFFIC.

ECOLOGY MAP

Resource Codes for
Segment

NONE

= location number - IN
Field NOTES



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

KN-511

Approx. Segment Length: 466m

0 100 200 300

Map Key: KN-KN-511d

Name: D. Reed

Date: 04/25/90

OIL MAP



XXX Wide
 // Medium
 --- Narrow
 TTTT Very Light
 000 No Oil

ST-KN-511-A

Approx. Segment Length: 931



Map Key: KN1-KN-511a

Name: K. DEBUSSCHERE

Date: 4/25/90

Data Entered:

ALBERTA TIDE P.02
YUKON RIVER P.05
KN-21-1990 16:31 FROM EXON SCAT

TO
TO

ALBERTA TIDE
Yukon River

P.02
P.05

KN-510

OIL MAP

CONNECTING
PAGE

X - Wide
/ / Medium
- - - Narrow
TTT Very Light
000 No Oil

ST-KN-511-A

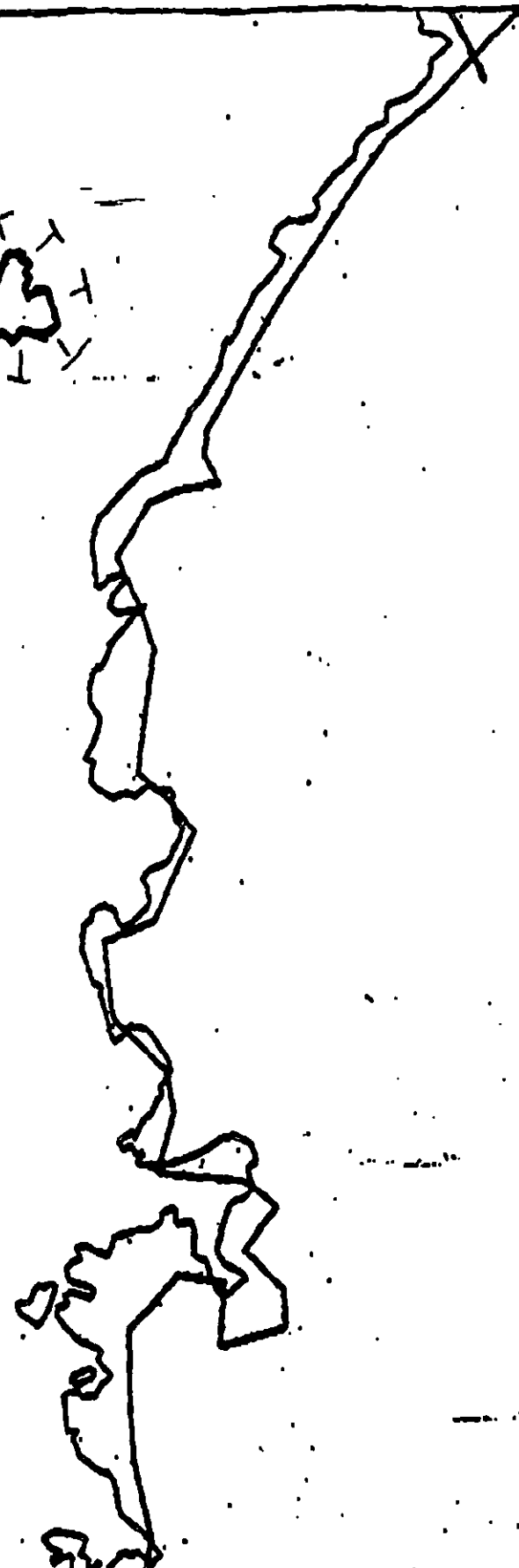
Approx. Segment Length: 931 m



Map Key: KN1-KN-511b
Name: K. DEBUSSCHERE
Date: 4/25/90



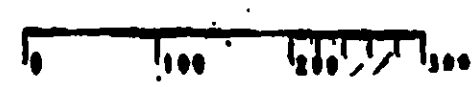
OIL MAP



X / / / Medium
- - - - - Narrow
TTTTT Very Light
0000 No Oil

ST-KN-511-A

Approx. Segment Length: 931



Map Key: KN1-KN-511
Name: K. DEBUSSCHER
Date: 4/25/90

SHORELINE EVALUATION

SEGMENT ST/ KN-551 SUBDIVISION A (1 OF 1) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-20-16835, 16863, 16868, 16844, 16878, 16848, 16881, 16862, 16889, 16864, 16842, 16850, 16846, 16866.

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

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

5T-4 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)

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

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: Charles Hoffman DATE: 4/25/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 220 m: No Oil 16742 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: 4/24/88

ADEC ART WEINER Art Weiner

EXXON *Andy Tate*

NOAA Joseph Tallant VT

USCG Mr. J. Hall

FOSC: KFL DATE: 8-3-90

FOSC: KFL DATE: 8-3-90

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 (6/7 to 8/31)

1J

Purse seine area (7/20 to 9/30)

1K

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

1L

Set net sites (6/11 to 7/25)

For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.

2M

Herring spawning (4/1 to 6/15)

Restrict boat traffic to essential minimum. Avoid damage to unopened intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.

3N, 3P
3O, 3Q

Harbor seal and sea lion pupping (5/15 to 7/1)

Harbor seal and sea lion molting (8/15 to 9/15)

Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

5R

Seabird colony (5/1 to 9/1)

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

5S

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

Restrict all activity to essential minimum, especially air traffic.

6T

All Bald Eagle nests (3/1 to 6/1)

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

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

6U

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

6V

Anchorage (6/1 to 9/15)

6W

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

6X

Lodge (6/1 to 9/15)

6Y

Special use destination

7Z

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

7HH

Finfish harvesting

7I

Deer harvesting (8/15 to 2/28)

7JJ

Invertebrate harvesting

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / RM-551 SUBDIVISION: A DATE 4/7/90

NAME Jeffrey Doherty SIGNATURE Jeffrey Doherty

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS There was no oil on this segment except a very light splash on in 2 places on the entire shoreline segment

ADEC NAME Lori Stratton SIGNATURE Lori Stratton

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS Very light oil was observed in this segment which consisted of splashes of coat in two locations. The head of the eastern arm of the bay was iced in, so it was not surveyed (see GIS maps #2 + #3).

LAND MANAGER NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

SHORELINE OILING SUMMARY

REVISION NO. 10/20/88

OG K. DEBUSSCHERE ^{NAME} Jeffrey G. H. H. SEGMENT ST/ KN-551
 BIO D. REED LAND REP NONE SUBDIVISION A 10F 1
 EXXON TONY DIRZ ADEC LoRi Stratton TIME 7:40:23 to 16:00:18:25
 TEAM NO.: 9 TIDE LEVEL: 2-6 to 6-1 DATE 7/17/90
 ST. SUBDIVISION LENGTH: 23279 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 75 % B 17 % C 5 % P 3 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Lang 10 % Hang 70 % Vert 20 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 80 m NO 20699 m
US 2500

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	IC	IS	IP	IR	1	2	3	4	5	6	7	8	SU	U	M	U
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT					X	X									X	
STAIN																
MOUSSE																
PATTIES																
TARBALLS																
ILM																
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-9-2Frames 23

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	1	2	3	4	5	6	7	8	SU	U	M	U		
1	20					X	-													X			P & C / G & S

COMMENTS

- SUBDIVISION IS A LOW ENERGY ENVIRONMENT - SHORELINE IS DOMINATED BY BEDROCK
 THE HEAD OF THE EASTERN ARM WAS NOT SURVEYED BECAUSE OF ICE!!
 ONLY OILING OBSERVED WAS IN LOC'S 3 & 4 - VERY LIGHT

SHORELINE ECOLOGICAL SUMMARY

Segment ST / KN 551 Subdivision A Date (mo / day / yr) 04/07/90
 Time (24 hr) 0745-0930 Biologist D. Reed

- (A) Substrate type and % of segments:
 (1) Bedrock 75 (2) Boulder 17 (3) Cobble 5 (4) Pebble 3 (5) Sand — (6) Silt —
 (B) Overall % cover of biota (% of segment): Dense 25 Moderate 50 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-9-2

Frames 23

BARNACLES

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

NOT PRESENT

MYTILUS

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

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	X	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	X	2	2	X	X	2	2	2
3	3	3	3	3	3	3	X	X	3	3	X
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

Wildlife Observations/ General Comments:

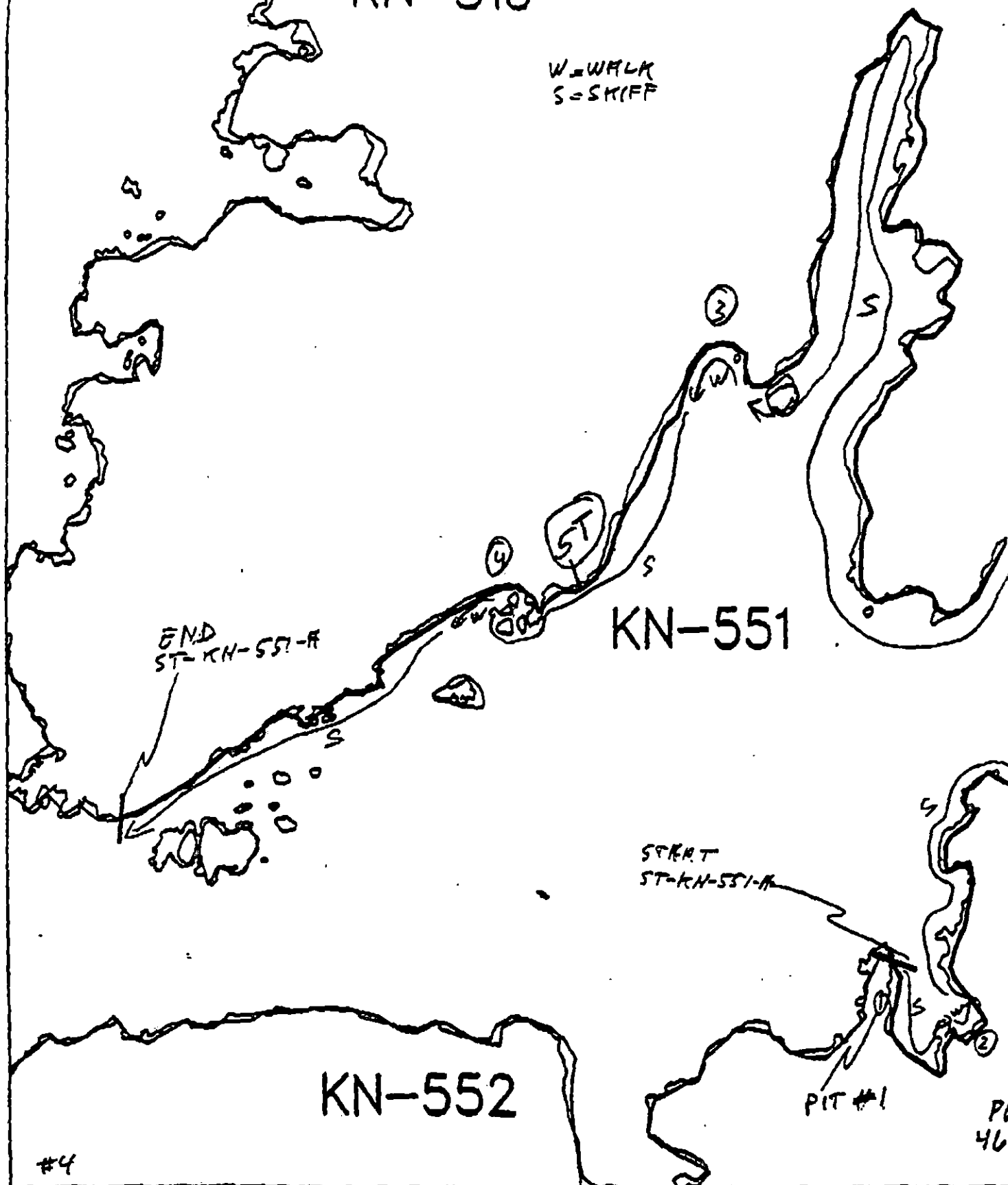
1 SEA OTTER, 4 EAGLES, 1 EAGLE NEST (POSSIBLY ABANDONED)
 2100 DUCKS. (MORE THAN ANY OTHER LOCATION SO FAR)
 1 HARBOR SEAL, 1 OYSTER CATCHER. MANY DEER TRACKS

Ecological Considerations:

NONE - NO OIL

KN-510

W=WALK
S=SHIFF



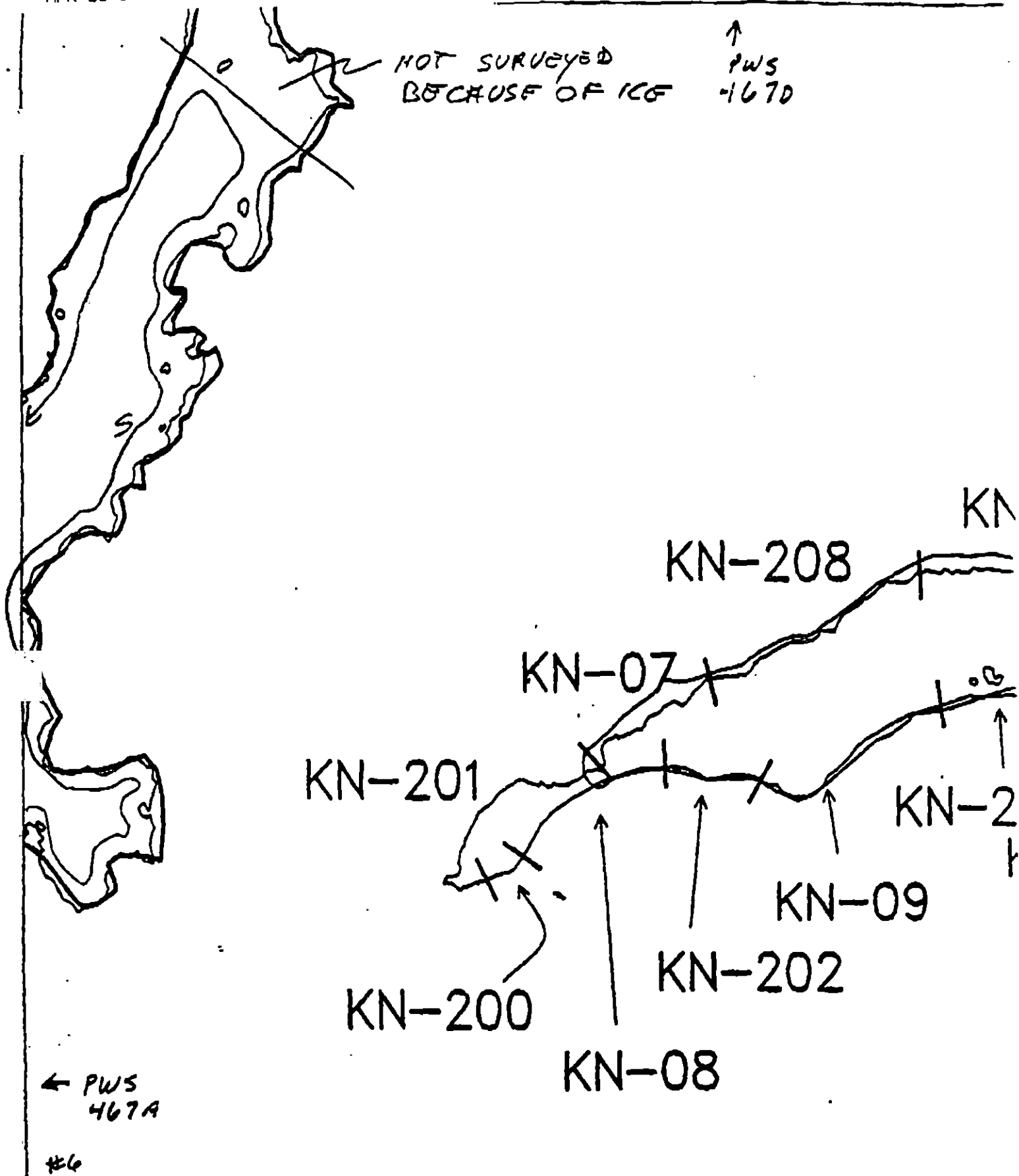
XXXX Wide
//// Medium
---- Narrow
TTTT Very Light
0000 No Oil

ST-KN-551-A

ADEC Segment Length: 23278m

6 METERS

Map Key: PWS-4670
Name: K. DEBUSSCHERE
Date: 4/7/90
Data Entered:

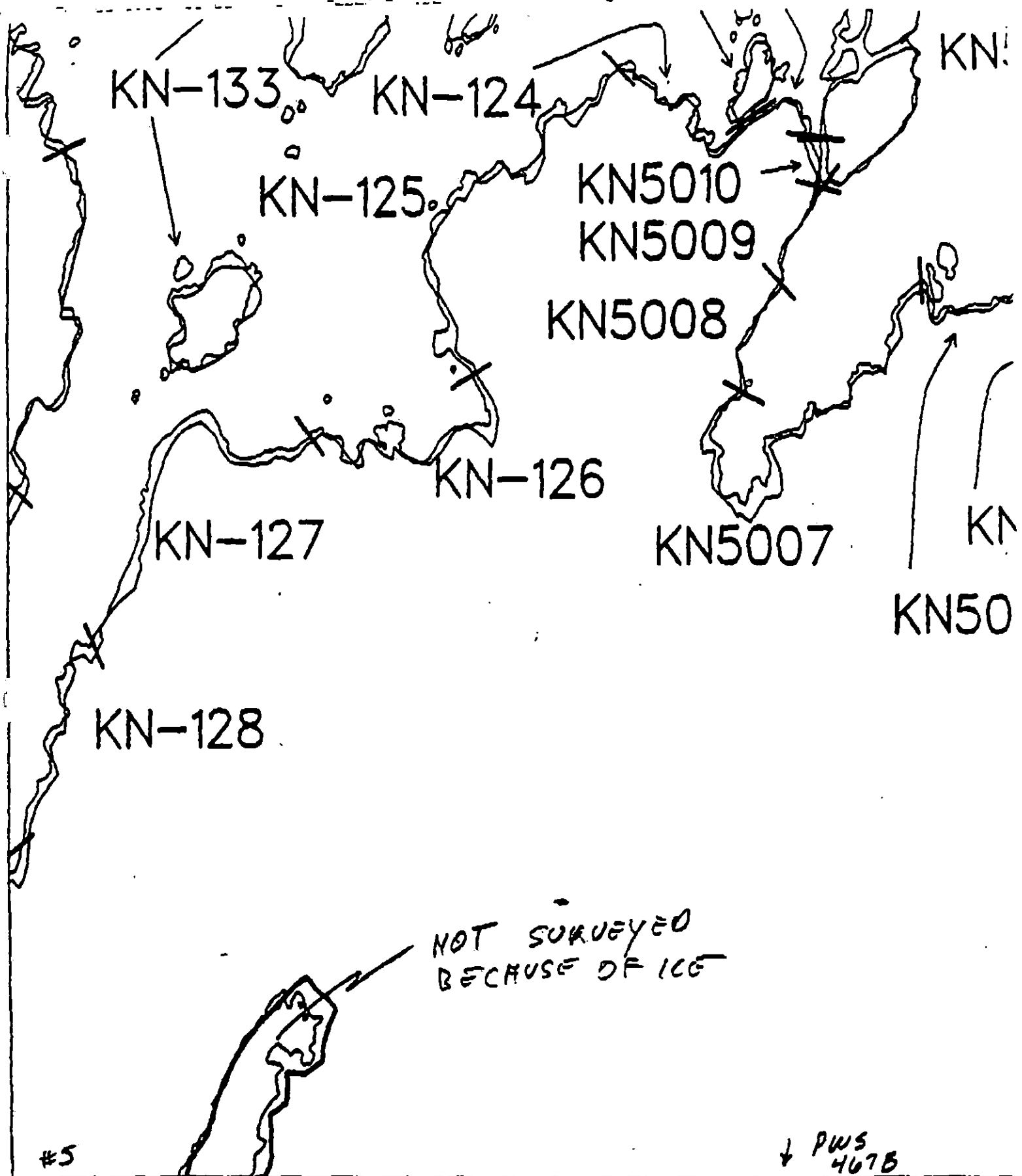


XXXX Wide
 /// Medium
 --- Narrow
 TTTT Very Light
 0000 No Oil

ST-KN-551-A
 ADEC Segment Length: 23279m



Map Key: PWS-467b
 Name: K. DEBUSSCHE
 Date: 4/7/90
 Date Entered:



XXXX Wide

/// Medium

---- Narrow

TTTT Very Light

0000 No Oil

ST-KN-551-A

ADEC Segment Length: 23279m

0 100 200 300
METERS

Map Key: PWS-467d

Name: H. DEBUSSCHE

Date: 4/7/90

Date Entered:

KN-510

OIL MAP

END
ST-KN-551-A

KN-551

START
ST-KN-551-A

KN-552

map #1 :

PW
467.

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ST-KN-551-A

ADSC Segment Length: 83279m

3

1000 500 000
METERS

Map Key: PWS-4670

Name: K. D. RUSSCHOFF

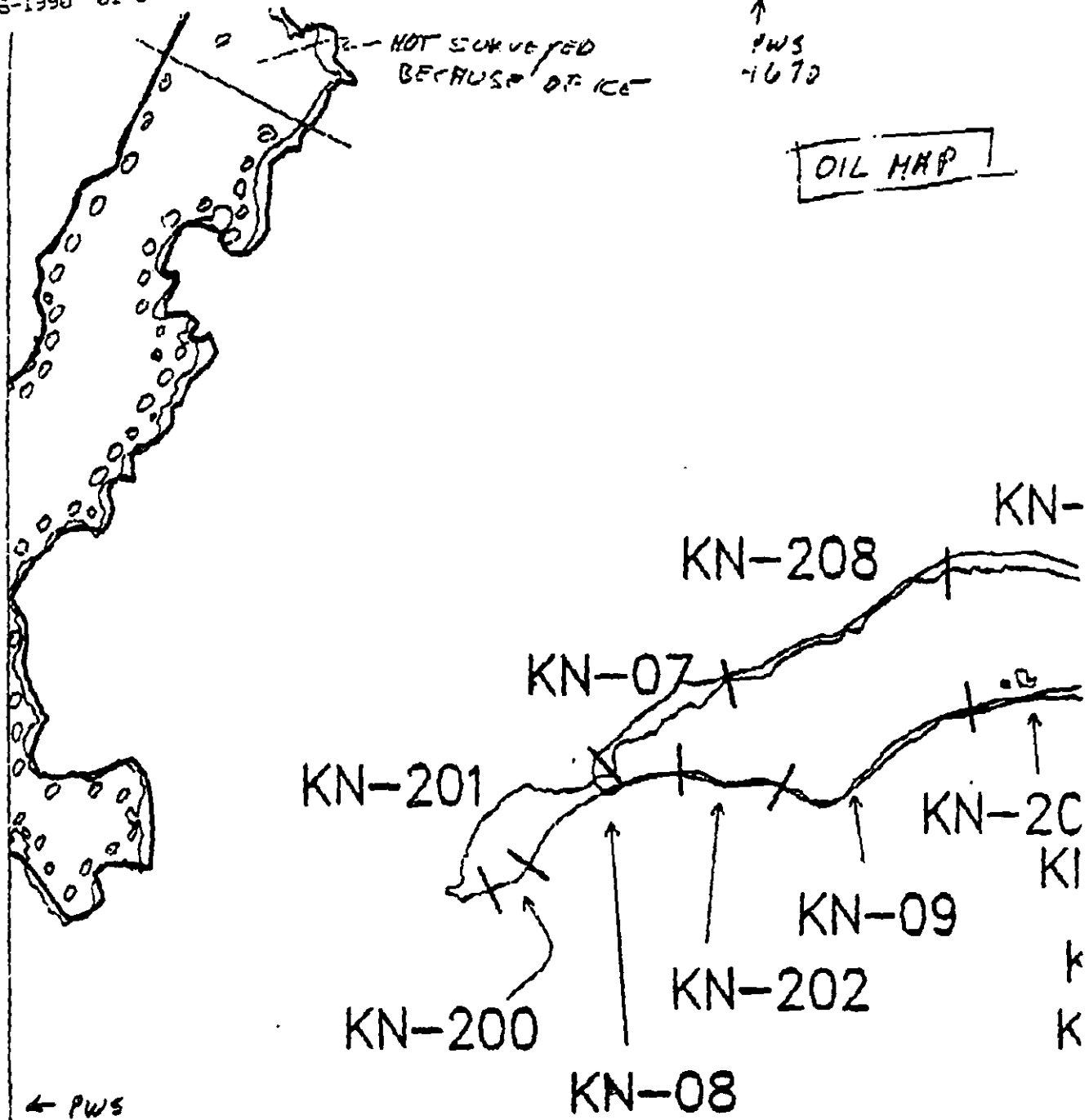
Date: 4/4/90

Date Entered:

NOT SURVEYED
BECAUSE OF ICE

↑
PWS
4670

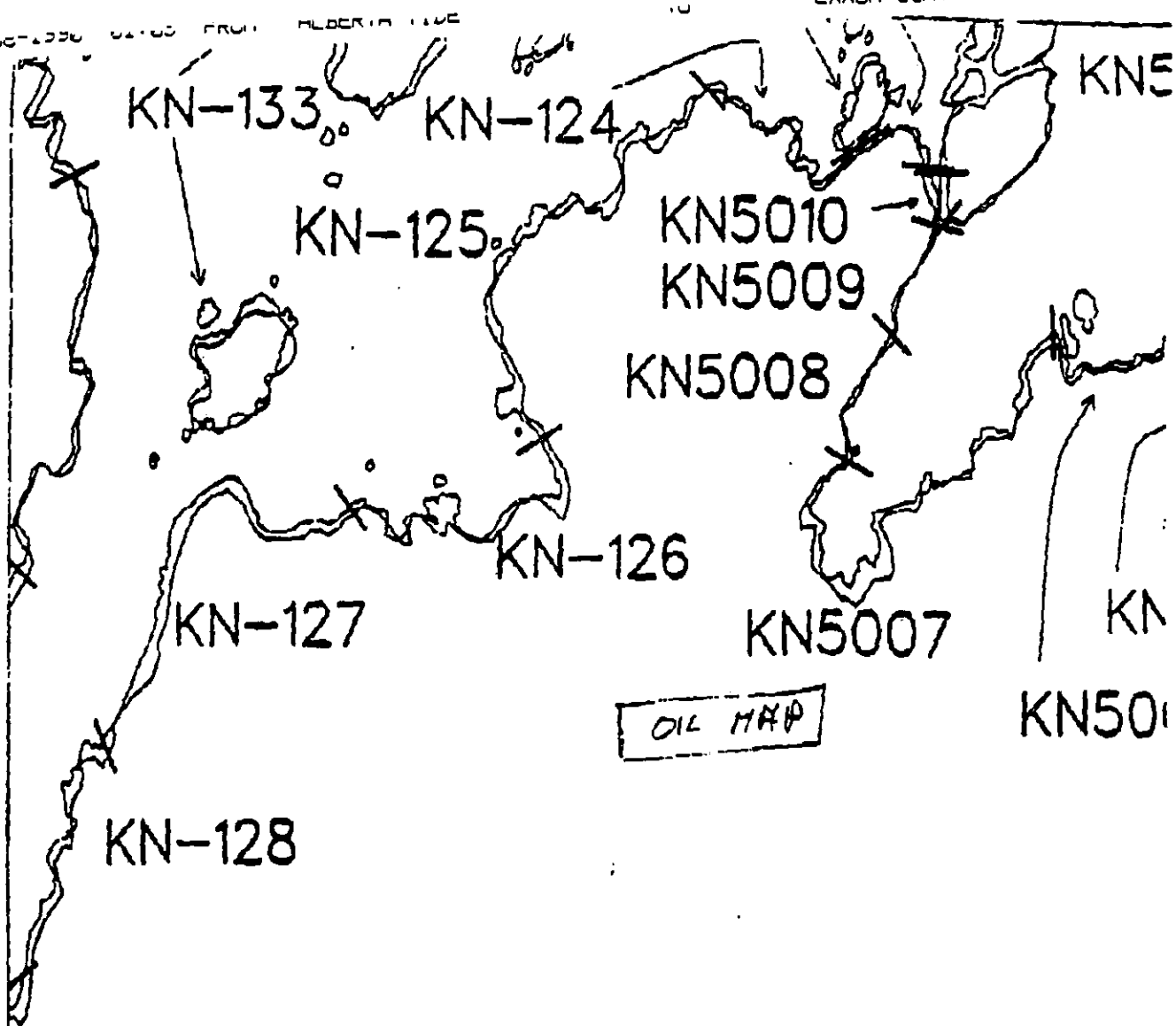
OIL MAP



← PWS
467A

map #2

XXXX Wide	ST-KN-551-A	Map Key: PWS-4676
//// Medium		Name: <u>K. DEBUKSCHEM</u>
---- Narrow	ADEC Segment Length: 23279m	Date: <u>4/7/92</u>
TTTT Very Light		Date Entered:
0000 No Oil	4 METERS	



map #3
 ST-9-2-23
 NOT SURVEYED
 → ICE

↓ PWS 4675

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

ST-KN-551-R

ABEC Segment Length: 25278m



Map Key: PWS-4874
 Name: K. DEBUSSCHERE
 Date: 4/2/90
 Date Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-552 SUBDIVISION A (1 OF 1) DATE 4/6/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G stream no. 226-20-16895 and 16893

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 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. Eagle nests at both ends of segment.

SHPO SIGNATURE: J. David McManis

DATE: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 55 m: V.Light 420 m: No Oil 4394 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

No Treatment Recommended

X Treatment Recommended

X 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: PICKUP MOUSSE PATTIES AS INDICATED ON SKETCH.

TAG COMMENTS:

TAG APPROVAL DATE: 4/19/90

ADEC ART WELSH

EXXON ANDY TAYLOR

NOAA BILL WARRATT

USCG KENNETH KEANE

FOSC: DE WY L

DATE: 4-27-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

Salmon fry release - by outmigration (3/1 to 5/15)
Salmon fry release - spawning (7/15 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 Bird Concentration Areas**
Active Bird Concentration 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 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 (21 of 22)

SEGMENT ST / KN-552 SUBDIVISION: A DATE 4/6/90~~NAME~~NAME Jeffrey BeklinSIGNATURE Jeffrey Beklin☒ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS ~~The only~~ Most of the segment had very light oil as into sporadic boulders along the bedrock. The only exception was a small patch of oil at the east end of the segment. ~~This patch was at the base of bedrock wall in boulders. It is light brown and soaked into the substrate a few centimeters.~~

ADEC

NAME

Lori Stratton

SIGNATURE

Lori Stratton☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

Although most of this segment contained very light oil coat and stain on high angle and vertical bedrock and boulder, one ~~area~~ beach ^(loc. #1) had mousse (very light) patches (dark brown) observed when cobbles were overturned. It penetrated to 8 cm and covered 15 cm. Sporadic areas contained similar characteristics. These areas should be spot-cleaned by manually removing mousse + oiled sediments with shovels. It was not enough to have a large crew spend a lot of time on this beach. A rapid response team (1 person?) could accomplish this. Matt

LAND MANAGER

NAME

SIGNATURE

☐ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

No Land Manager.

SHORELINE OILING SUMMARY (13 of 22)

REVISION NO. 03/23/90

OG K-DEBUSSCHER ^{MAN} Jeffrey Aditya SEGMENT ST/ KN-552
 BIO D. REED LAND REP NONE SUBDIVISION H
 EXXON Tony Diaz ADEC Lori Stratten TIME 19:00 to 20:20
 TEAM NO.: 9 TIDE LEVEL: 1 to 3 DATE 4/16/90
 EST. SUBDIVISION LENGTH: 5558 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: W to E
 SURFACE SEDIMENTS: R 85 % B 5 % C 5 % P 5 % G 0 % S 0 % M — % V — %
 SLOPE: Long 10 % Hang 50 % Vert 40 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 20 m VL 400 m NO 5138 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	U
ASPHALT PAVEMENT																
POOLED																
COVER		X							X					X		
COAT			X					X						X		
STAIN																
MOUSSE		X						X						X		
PATTIES																
TARBALLS																
FILM																
NO OIL													X	X	X	

PAVEMENT: H F S — sq. m by — cm

PATTIES / TARBALLS — BAGS

NEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NO

TYPE —

#BAGS —

Photographs:

Roll No. —

Frames NONE

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-GM)	BELOW		OIL / FILM COLOR								PIT ZONE	A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	30	35	40	45	50	55	60	65			
1	10					X	.											X		P/GLS (H2O)
							.													
							.													
							.													
							.													
							.													

COMMENTS

MOSTLY BEDROCK NO TO. VERY LIGHT OL

SHORELINE ECOLOGICAL SUMMARY (20 of 22)

REVISION: 03/22/90

Segment ST / KN 552 Subdivision A Date (mo / day / yr) 04/06/90

Time (24 hr) 1900-2020 Biologist D. Reed

(A) Substrate type and % of segments:
(1) Bedrock 55 (2) Boulder 5 (3) Cobble 5 (4) Pebble 5 (5) Sand 7 (6) Silt 7

(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.

Frames NONE

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	X	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	X	3	3	3	3	3	X	X
4	4	4	4	X	4	4	4	4	4	X	X
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

GASTROPODS

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

NOT PRESENT

FUCUS

Dense			Moderate			Sparse			Rare		
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L
2	2	2	2	X	2	2	2	X	2	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 Eagle, 2 Ravens, 1 Harbor Seal

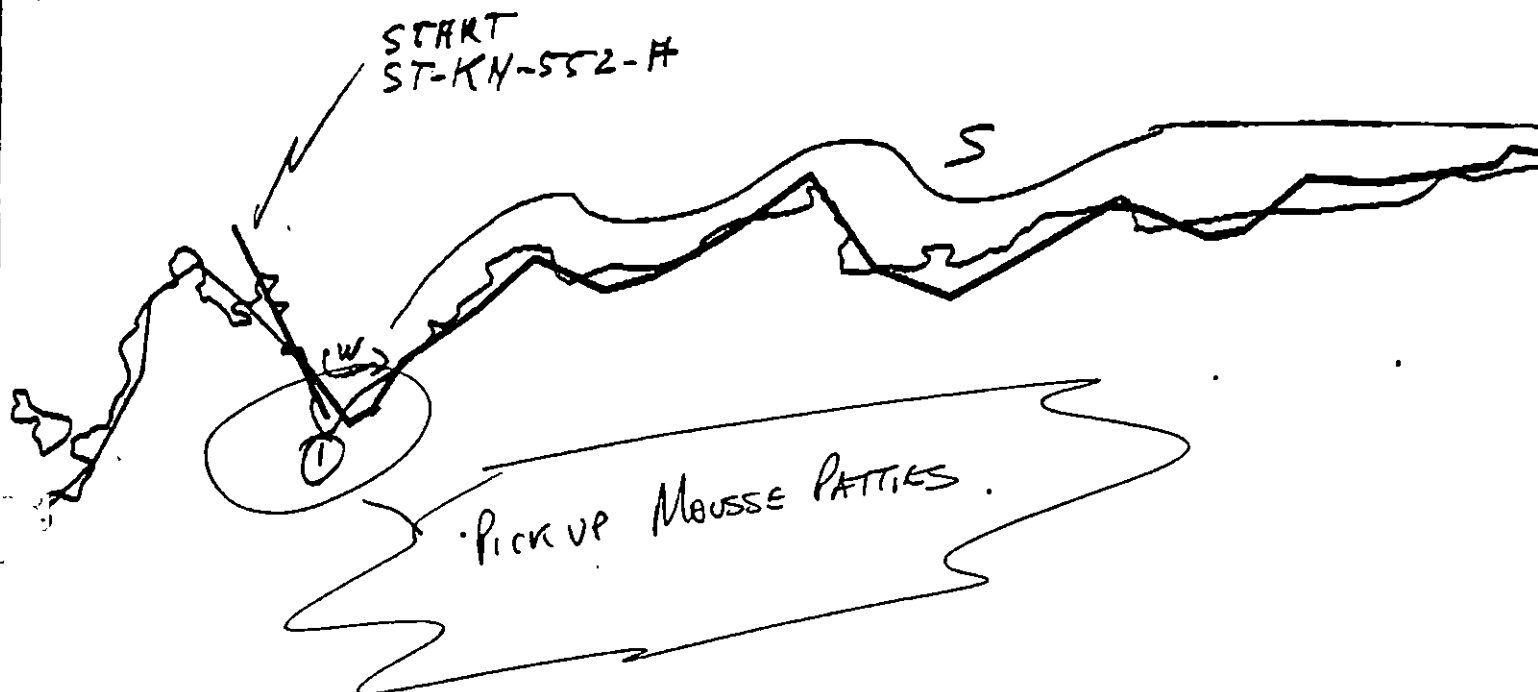
Ecological Considerations:

NONE - LIGHT OIL

S = SKIFF
W = WALK

(14 of 22)

START
ST-KN-552-H



PWS
459B →

(XXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

ST-KN-552-H

ADEC Segment Length: 5558m



Map Key: PWS-459a

Name: K. DEBUSSCHERE

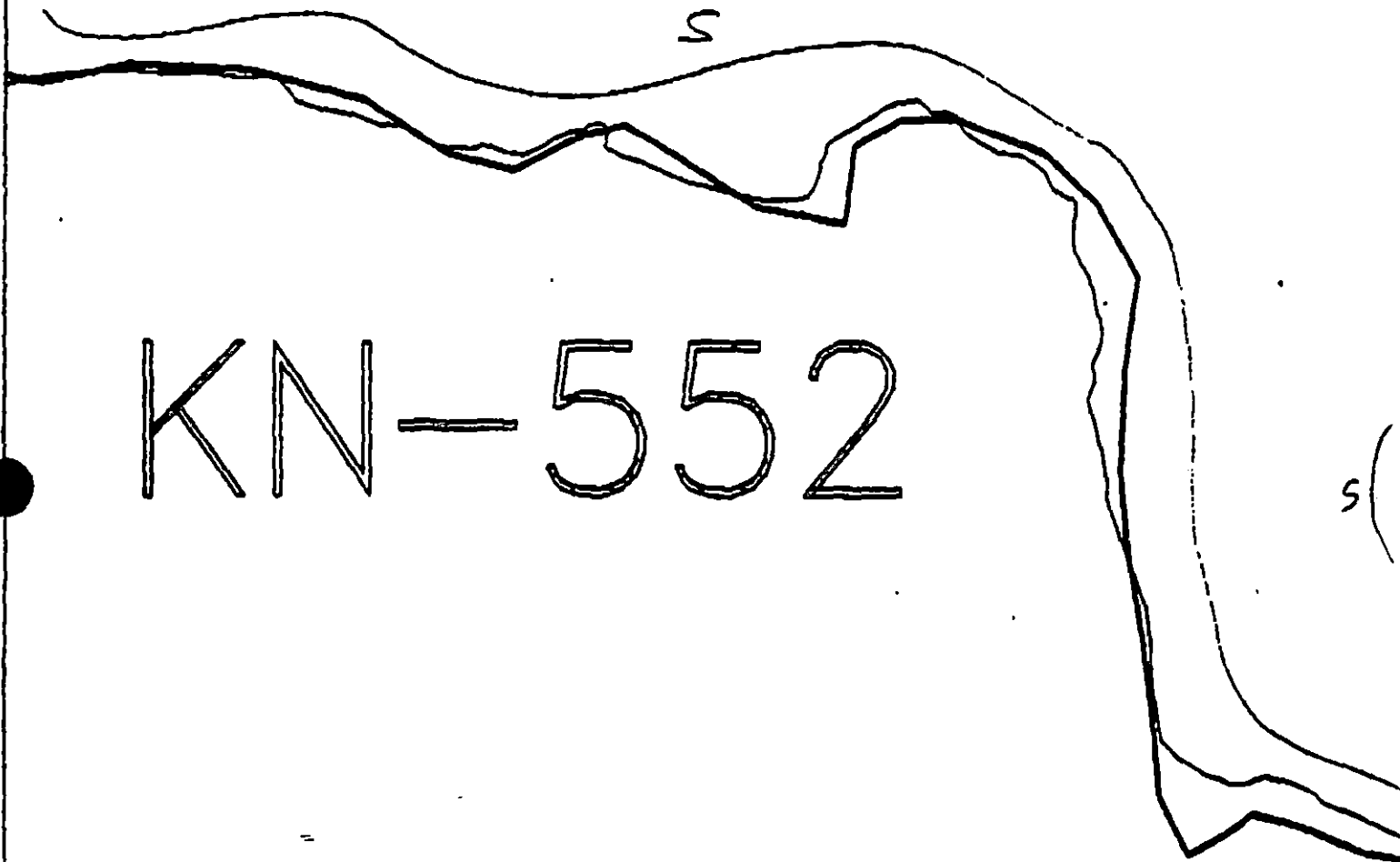
Date: 4/6/90

Data Entered:

S = SKIFF

W = WALK

(15 of 22)



PWS
459A

PWS
459A

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ST-~~KN~~-552-R

ADEC Segment Length: 5598m



Map Key: PWS-458b

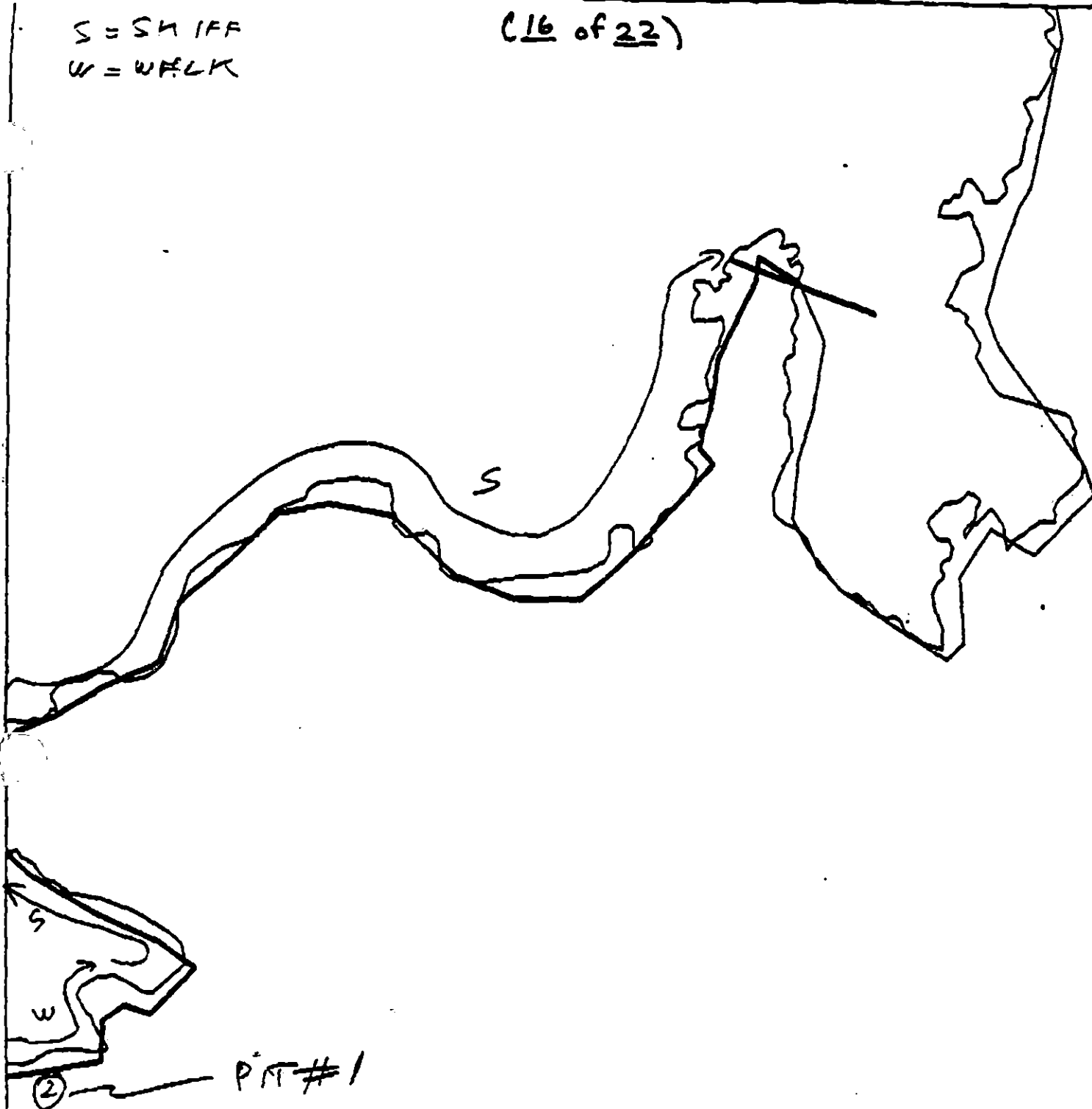
Name: K. DEBUSSCHE

Date: 4/6/90

Data Entered:

S = SHIP
W = WALK

(16 of 22)



PWS
4596

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ST- KN-552-A

ADEC Segment Length: 5538m



Map Key: PWS-459c

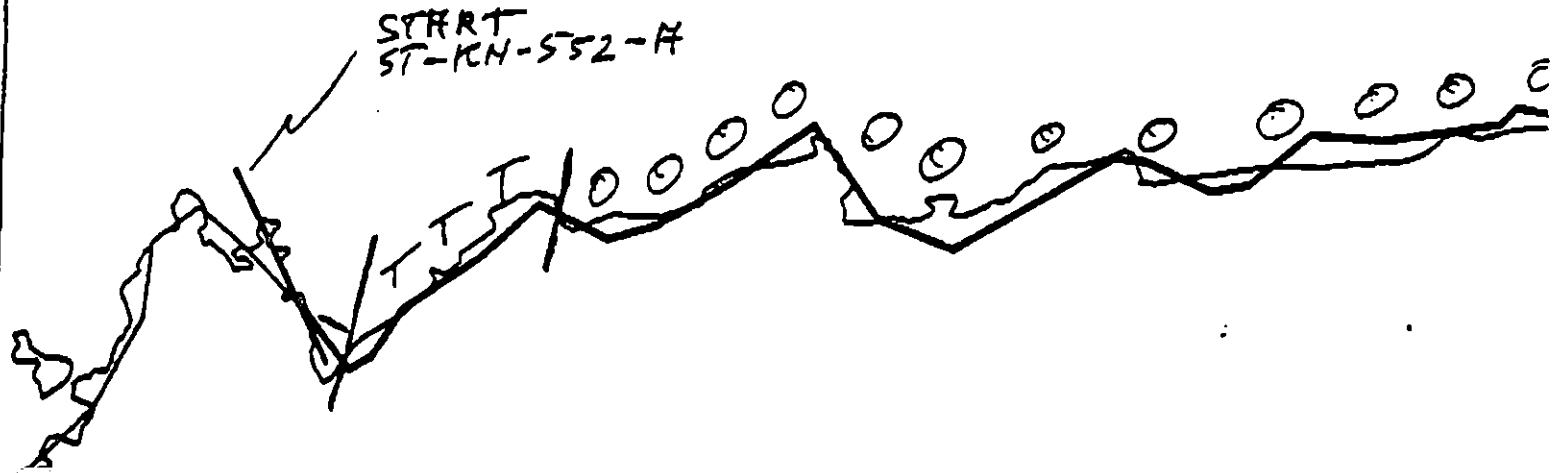
Name: K. DEBUSSCHERE

Date: 4/6/90

Date Entered:

OIL MAP

(12 of 22)



PWS
41598 →

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ST-KN-552-A

ADEC Segment Length: 5538m



Map Key: PWS-439a

Name: K. DEBUSSCHE

Date: 4/6/90

Date Entered:



← PWS
4/5/90

PWS
4/5/90 →

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

ST-KN-552-H

ABEC Segment Length: 5588m

0 100 200 300
METERS

Map Key: PWS-4590

Name: K. DEBUSSCHERE

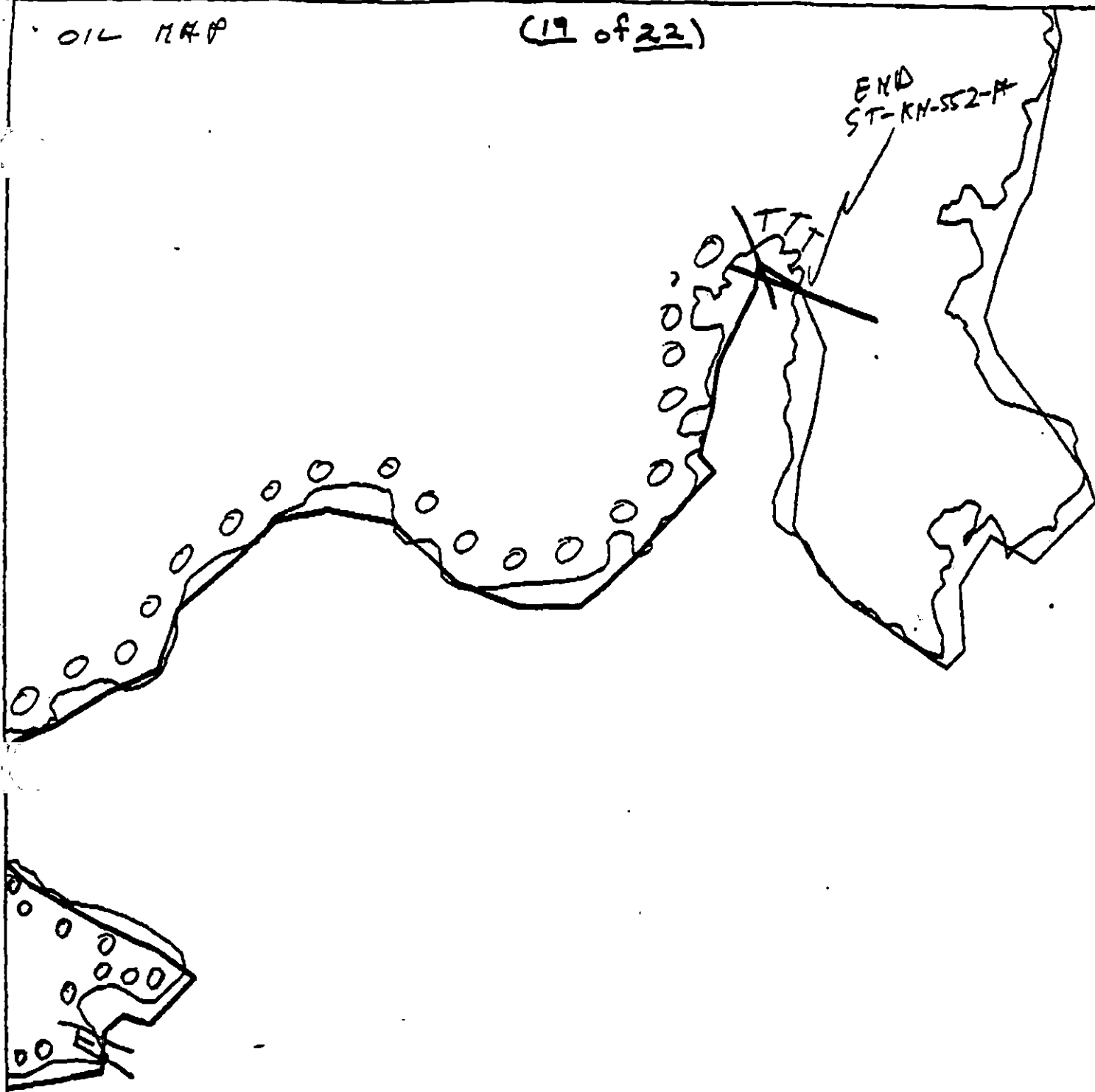
Date: 4/6/90

Date Entered:

OIL MAP

(19 of 22)

END
ST-KN-552-A



PWS
459b

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ST-KN-552-A

ADEC Segment Length: 5558m



Map Key: PWS-459c

Name: K. DEBUSSCHERE

Date: 6/4/90

Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-552 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup	CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

ADF&G catalogued anadromous streams (226-20-16893 and (226-20-16895) are in Subdivision A. No constraints to manual pickup.

5T Bald Eagle Nest

USFWS 6/1/90 map indicates an active nest in KN-553. Closed to manual pickup within 400m of active nest.

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC

DATE

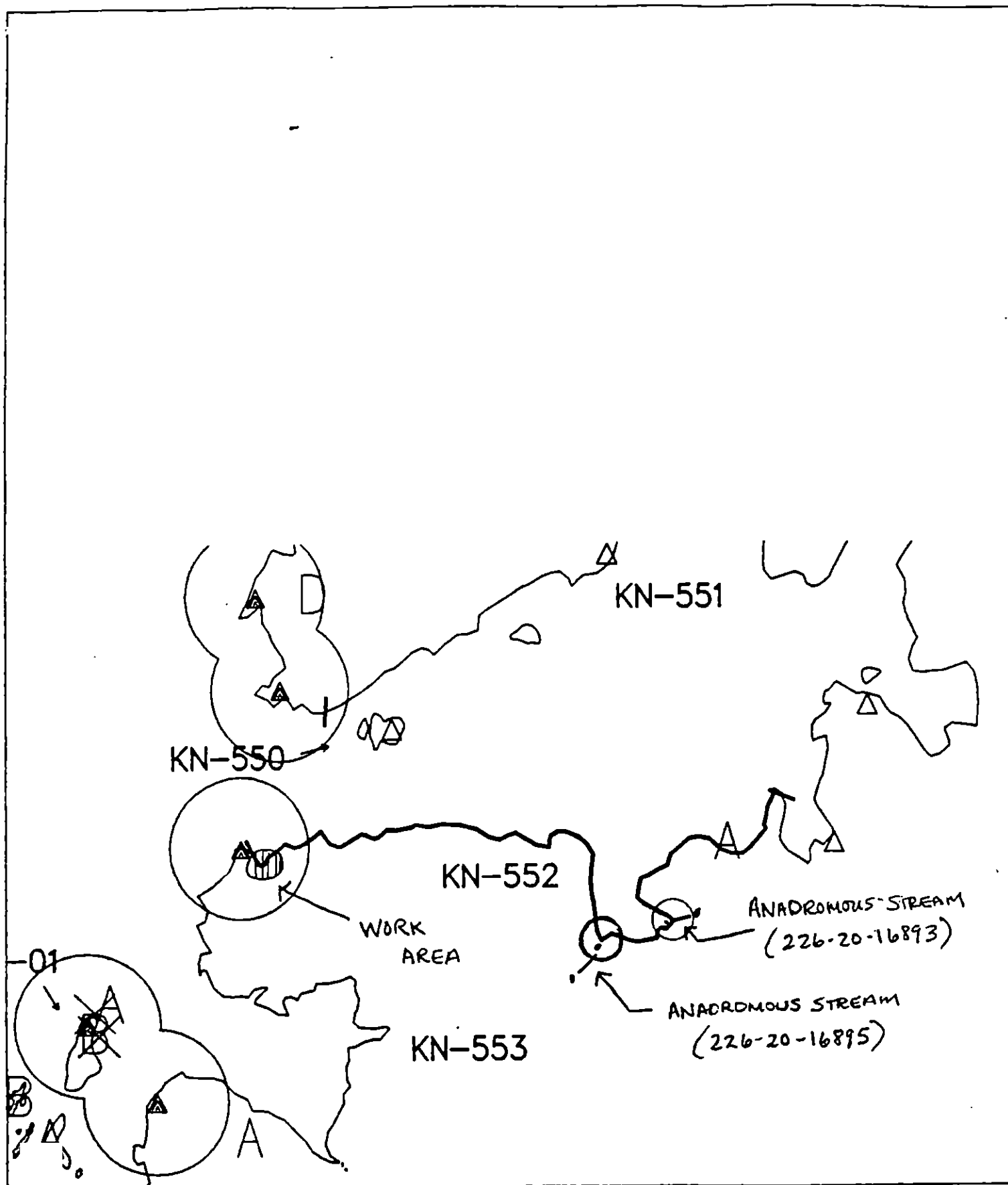
6-10-90

Prepared By:

W. J. Gellay

Date

6/9/90



Exxon Company, USA
Map Key PWS-KN-552

ECOLOGY MAP
SEGMENT KN-552
SUBDIVISION A (1 of 1)
METERS

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

SHORELINE EVALUATION

SEGMENT ST/ KN-553 SUBDIVISION A (1 OF 1) DATE 4/6/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
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. Holmes DATE: 4/20/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 37 m: V.Light 2890m: No Oil 4235 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: 4/19/90

ADEC ART WEINER Art Weiner

TXXON ANDY TCR Andy TCR

IOAA Burt Wescott Burt Wescott

JSCG CORINNE KERR Corinne Kerr

FOSC: 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 8/1)
 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.
- 6T All Bald Eagle nests (5/1 to 8/1)
 Active Bald Eagle nests (5/1 to 8/1)
 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 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-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.

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / KN-553 SUBDIVISION: A DATE 4/6/90

~~NOAA~~
~~USCG~~
NAME Jeffrey Mahlin SIGNATURE Jeffrey Mahlin

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS The shoreline was ~~mostly~~ a mix of high angle bedrock / ~~bed~~ ^{pebbles} and low angle pebbles / ~~bed~~ ^{beds}.
Where there was oil it was light and ~~inconsistent~~ ^{patchy}.

ADEC
NAME Lori Stratton SIGNATURE Lori J. Stratton

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Most of this segment had very light or narrow cover of oil on bedrock. In location #2, hot water / steam flush spot-washing may be appropriate since the oil was continuous and extended about 50 meters, approximately 30 cm in width.

LAND MANAGER

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

SHORELINE ECOLOGICAL SUMMARY

REVISION: 09/22/90

Segment ST / KN553 Subdivision A Date (mo / day / yr) 04/06/90Line (24 hr) 1500-1715 Biologist D. REED

- (A) Substrate type and % of segments:
 (1) Bedrock 0.5 (2) Boulder 5 (3) Cobble 5 (4) Pebble 5 (5) Sand (6) SM
- (B) Overall % cover of biota (% of segment): Dense 40 Moderate 4.0 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. Frames None

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	X	2	2	2	2	
3	3	3	3	X	3	3	X	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

MYTILUS

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

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	X	2	
3	3	3	3	3	3	3	3	3	X	X	3	
4	4	4	4	4	4	4	4	4	X	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	X	2	2	2	2	2	X	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 DEER, lots of DEER tracks, 4 EAGLES, 1 EAGLE NEST (AT LOCATION ②)
 (Eiders, scoters, golden eyes) ~ 250 TOTAL, 2 OYSTER CATCHERS, 1 SEA OTTE
 hauled out on mussel bed.

Ecological Considerations:

None very little oil.

SHORELINE OILING SUMMARY

REVISION NO. 03/07/90

OG K. DEBUSSCHERE ^{NAME} USCG Jeffrey A. 4/1/90 SEGMENT ST/ KM 553
 BIO D. REED LAND REP Name SUBDIVISION B
 EXXON Y DIAZ ADEC Lori Stratton TIME 15:00 to 17:10
 TEAM NO.: 9 TIDE LEVEL: 6 to 1 DATE 4/16/90
 EST. SUBDIVISION LENGTH: 9804 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: S to N
 SURFACE SEDIMENTS: R XS % B 5 % C 5 % P 5 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 5 % Hang 50 % Vert 45 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 20 m VL 3234 m NO 5850 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					X								X		
STAIN		X				X								X		
MOUSSE																
PATTIES																
TARBALLS				X		X								X		
FILM																
NO OIL															X	X

SNOW

PAVEMENT: H F S sq. m by cm

PATTIES / TARBALLS 1 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.

Frames NONE

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-DM)	BELOW		OIL / FILM COLOR								PIT ZONE	A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		VO	VO	1	2	3	4	5	6	7	8			
1	35					X	.											X		G/S
2	30					X	.											X		P/G/260. C (H2O)
							.													
							.													
							.													
							.													

COMMENTS

- SEGMENT IS VERY UNIFORM - MOSTLY BEDROCK
- LING: IN MOST OF SEGMENT - NO OIL OBSERVED
- VERY LIGHT OILING: STAIN
- LOC ② HAS A CONTINUOUS COAT IN UI
- MOST OF SU IS OIL FREE; FOR SOME SECTIONS SU COULD NOT BE EVALUATED B/C OF SNOW

ADEC - Lori Stratton

SEGMENT ST/ ST-KW-553

SUBDIVISION A

DATE 4/6/90

SKETCH MAP (Location #2)

CHECKLIST

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

LEGEND

1 Δ
PI - No Subsurface Oil

2 Δ
PI - Subsurface Oil

CT/C
Continuous Distribution

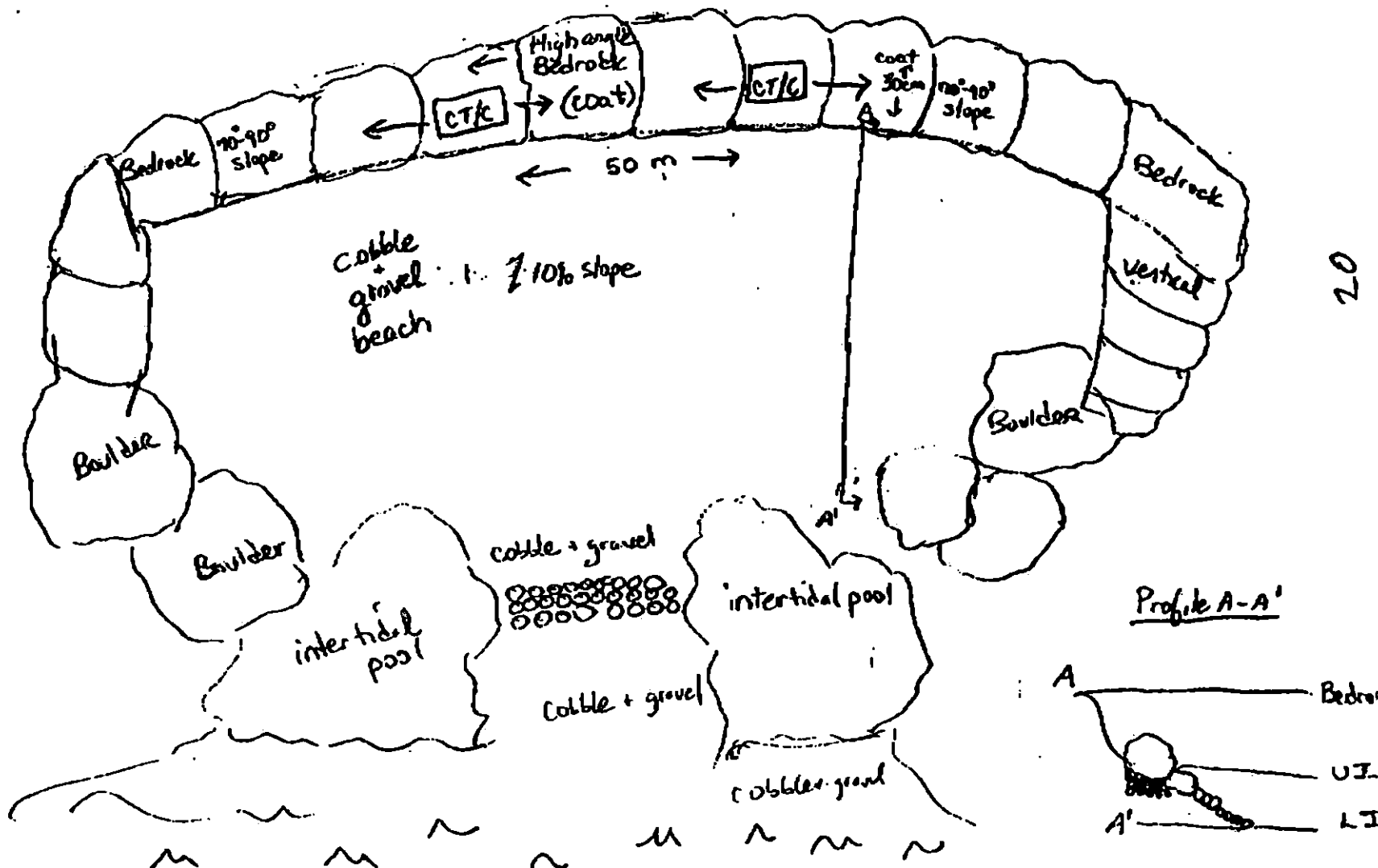
CT/B
Broken Distribution

CT/P
Patched Distribution

CT/S
Splashed Distribution

Oiled Vegetation

1 →
Photo location, direction,
and number



Profile A-A'

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

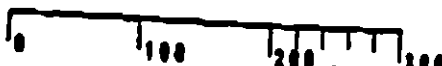
REVISION 000000



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

ST-KN-553-H

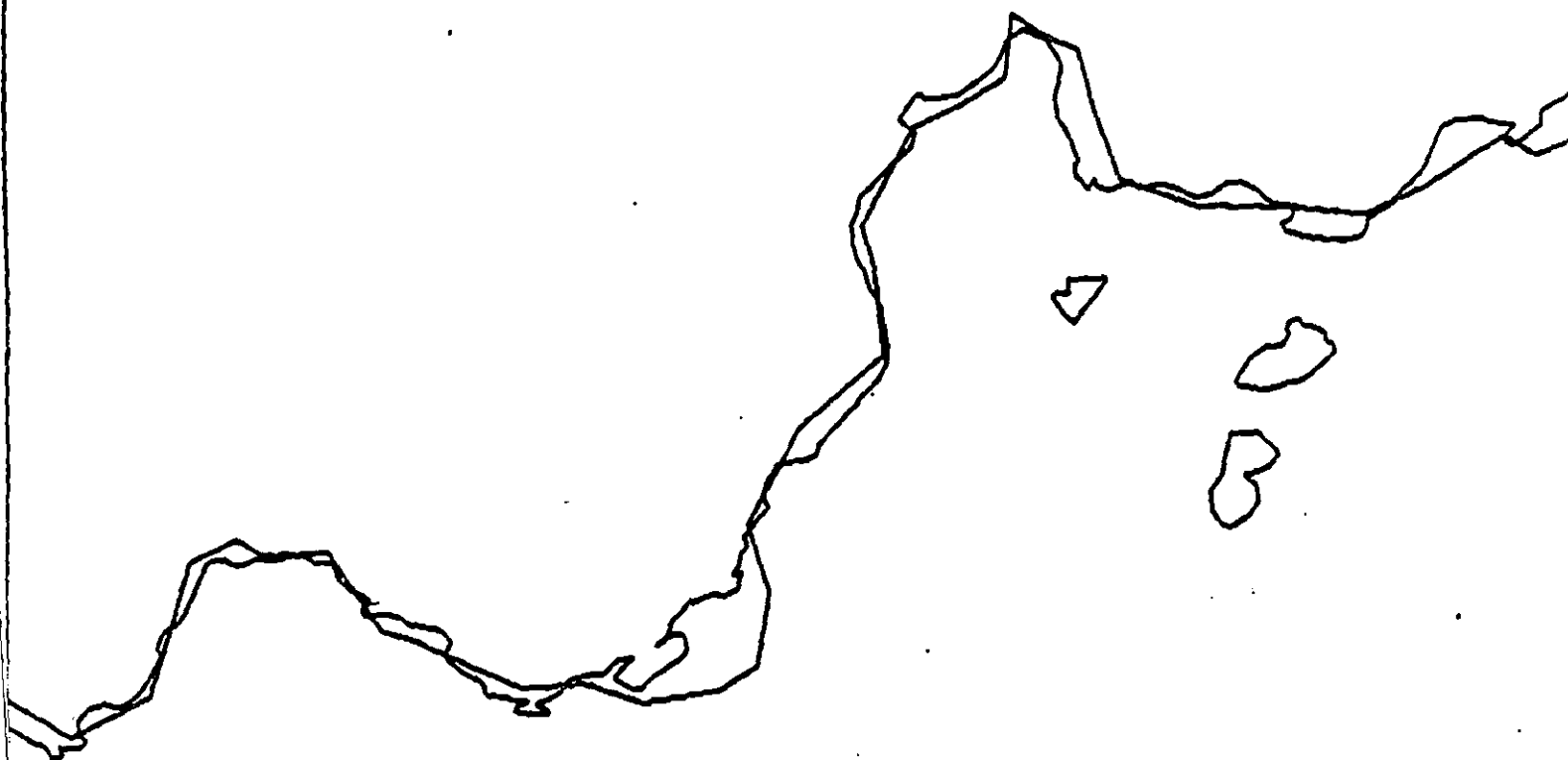
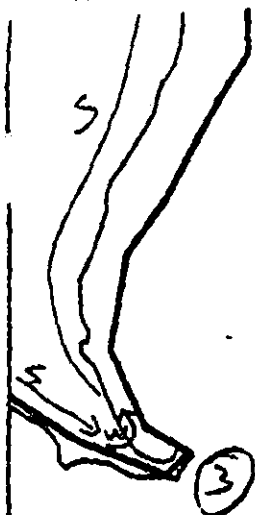
ADEC Segment Length: 9804m



Map Key: PWS-460e

Name: K. DEBUSSCHE

Date: 4/6/90



KN-554

XX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ST-KN-553-H

ADEC Segment Length: 9804m



Map Key: PWS-460b

Name: K. DEBUSSCHERE

Date: 4/6/90



KN-550

GND
ST-KH 553-R



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

ST-KN-553-H

ABEC Segment Length: 200m



Map Key: PWS-4800

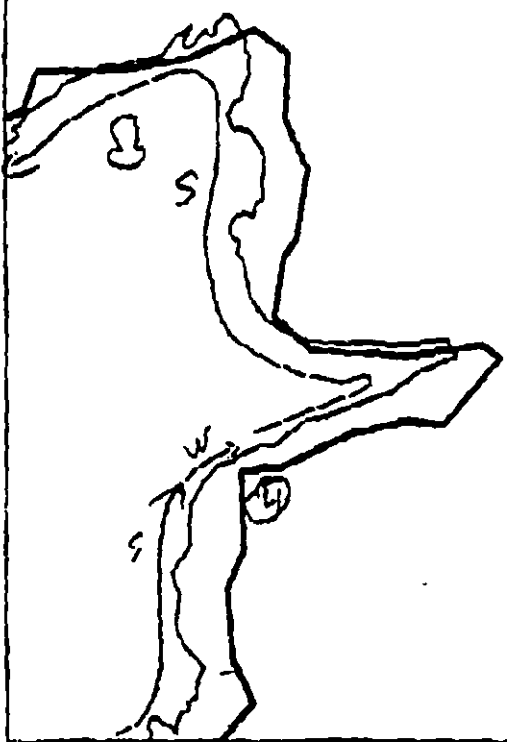
Name: K DEB VSSCHER

Date: 4/6/9

Data Entered:



KN-5

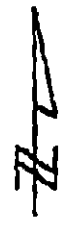


KN-553

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

ST-KN-553-H

ADEC Segment Length: 800m



Map Key: PWS-4000
Name: K. DEBUSSCHER
Date: 4/6/90
Data Entered:



XXXX Wide	ST- KN-553-ff	Map Key: PWS-400c	
//// Medium			Name: <u>K. DEBUSSCHERE</u>
--- Narrow			Date: <u>4/6/90</u>
TTTT Very Light			Data Entered:
0000 No Oil			

ABEC Segment Length: 9804m

100 200 300
METERS

OIL MAP



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ST-KN-553-H

ADEC Segment Length: 9804m

0 100 200 300
METERS 13

Map Key: PWS-4000

Name: K. DEBUSCHING

Date: 4/6/90

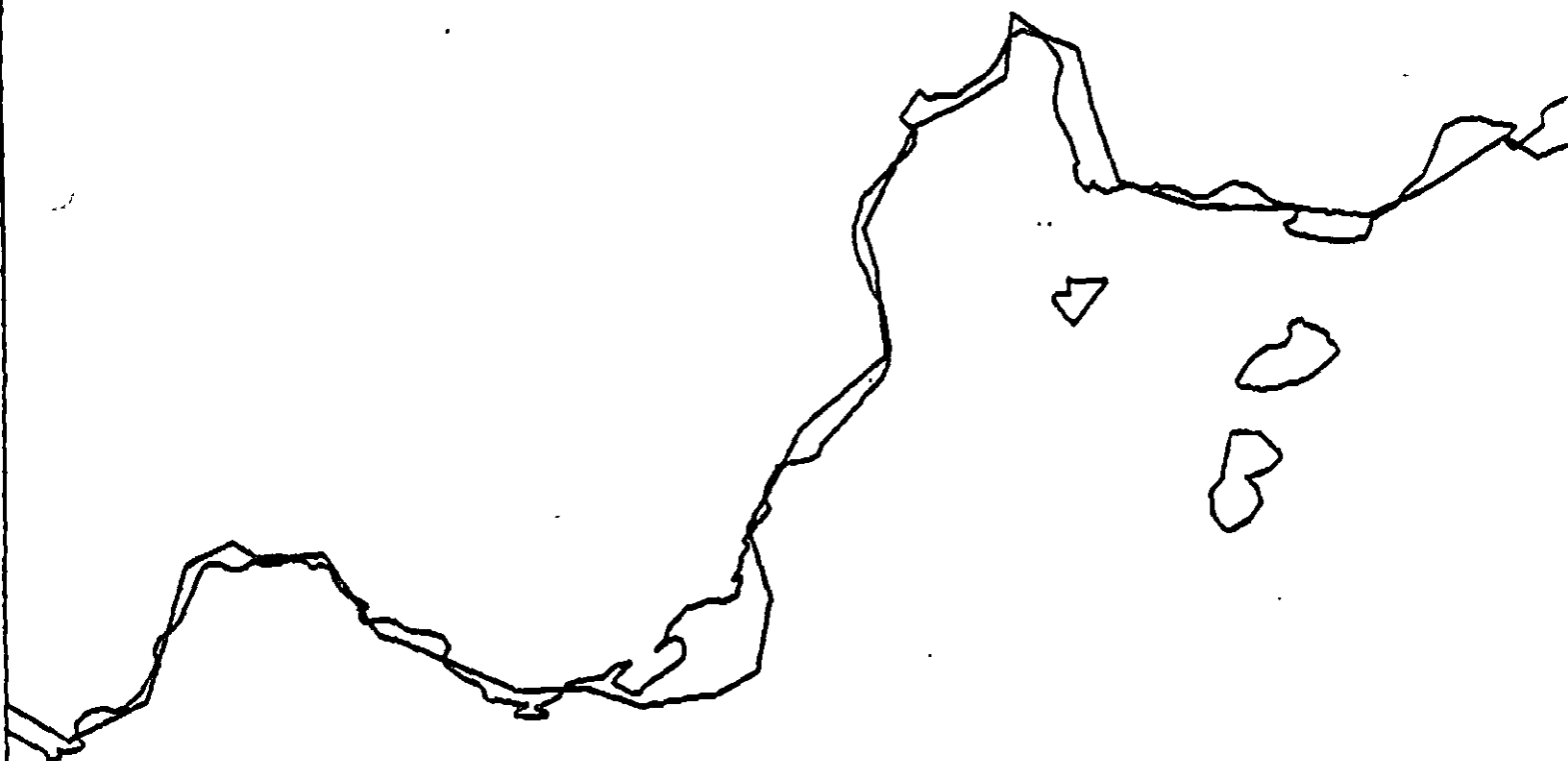
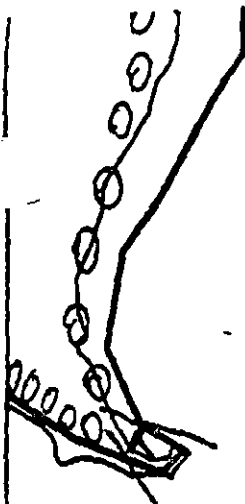
Date Entered:

APR-07-1990 06:23 FROM ALBERTA TIDE

TO

EMMONS BOAT AND P.14

OIL MAP



KN-554

VVXX Wide

/// Medium

---- Narrow

TTTT Very Light

0000 No Oil

ST-KN-553-A

ADEC Segment Length: 9804m



Map Key: PWS-460b

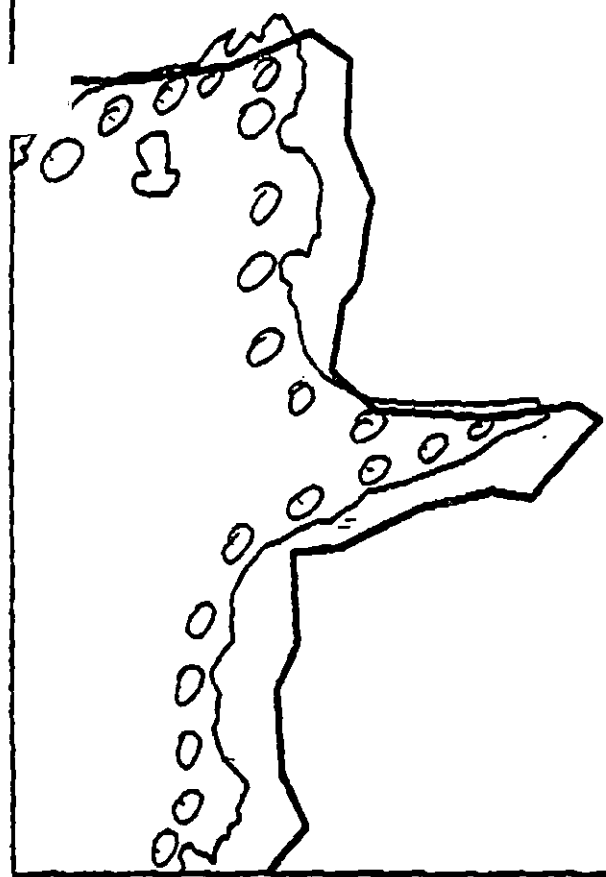
Name: K. DEBUSSCHE

Date: 4/6/90

Date Entered:

OIL MAP

KN-5

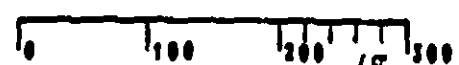


KN-553

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

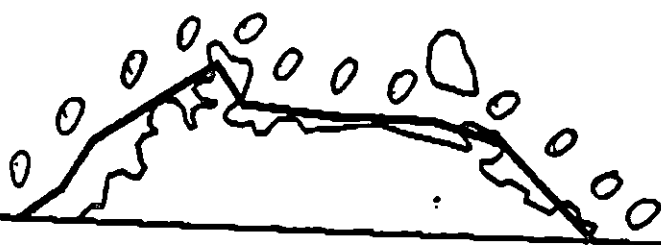
ST-KN-553-A

ADEC Segment Length: 9804m



Map Key: PWS-4806
Name: K. DEBOSSCHER
Date: 4/6/90

OIL MAP



XX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ST-KN-553-A

ADEC Segment Length: 9804m

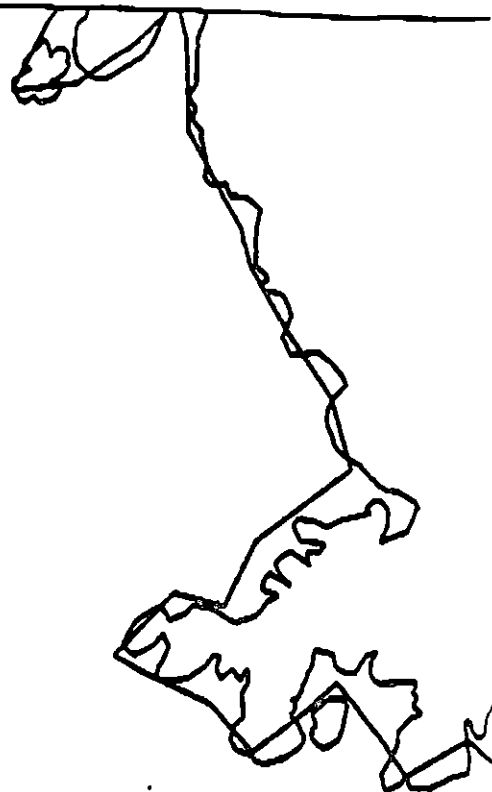


Map Key: PWS-460c

Name: K. DEBUSSCHERE

Date: 4/6/90

012 MAP



KN-550

GND
ST-KN-553-A

TTT

ST-KN-553-A

ADEC Segment Length: 9804m



Map Key: PWS-4600

Name: K. DEBUSSCHERE

Date: 4/6/90

Note: ...

XXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-574 SUBDIVISION A (1 of 1)

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 (226-20-16944) is located in Subdivision A. No constraint to manual pickup.
5T	Bald Eagle Nest	NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision A work site.

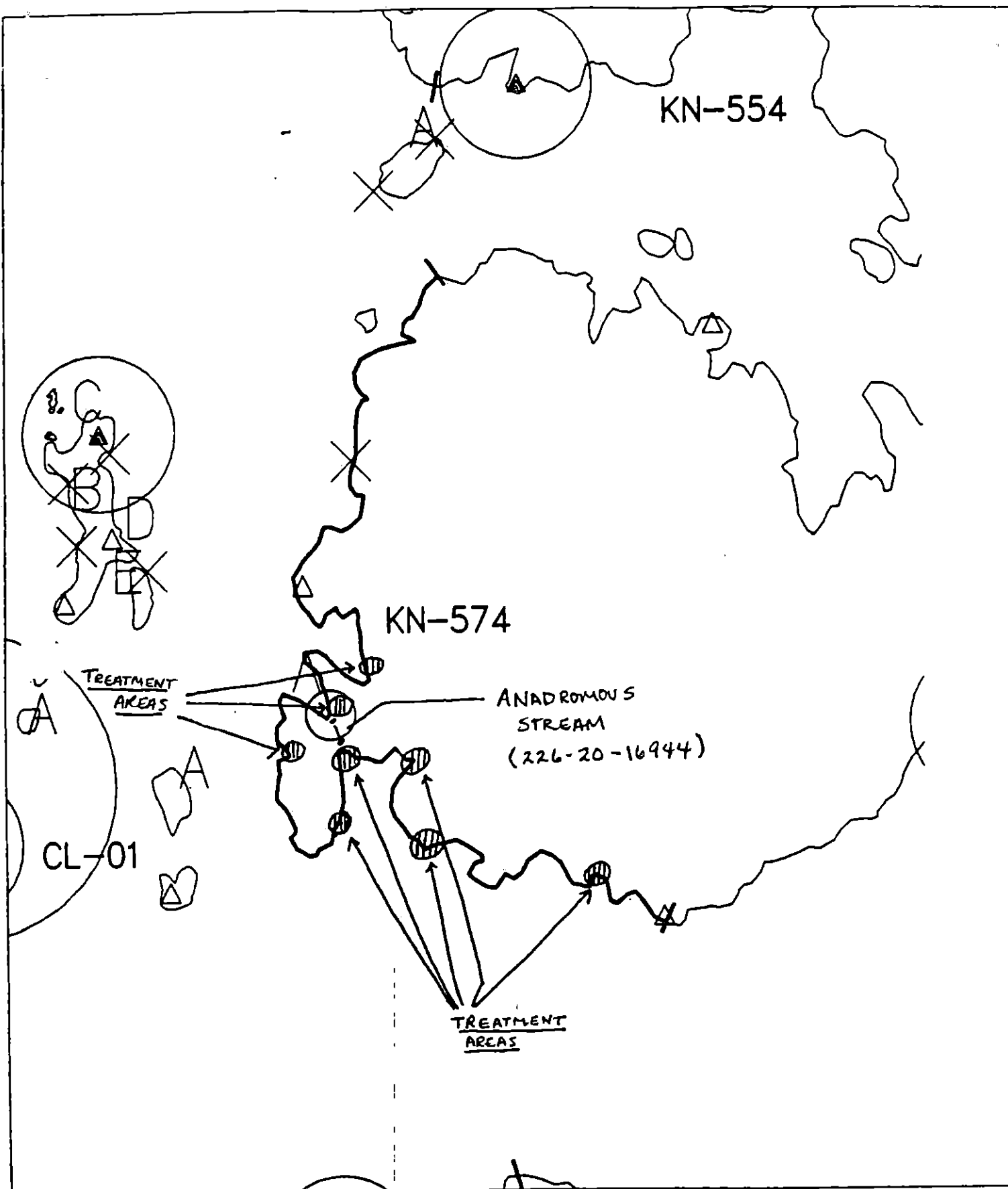
OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or banks. Avoid any unnecessary disturbance or damage to unrolled biota and substrate.

FOSC DATE 6-10-90

Prepared By: W. Kelley

Date 6/9/90



Exxon Company, USA

Map Key: PMS-KN-574

1:25,000



ECOLOGY MAP
SEGMENT KN-574
SUBDIVISION A (1 of 2)
METERS



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

1 inch = 2052 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-575 SUBDIVISION A (1 of 1) DATE 4/22/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 226-20-16947 Rev. 2/90 Ps, 226-20-16961 Rev. 2/90 Ps, 226-20-16952 Rev. 2/90 Ps, 226-20-16990 Rev. 2/90 Ps, 226-20-16970 Rev. 2/90 Ps, 226-20-16965 Rev. 2/90 Ps, 226-20-16964, Rev. 2/90 Ps, 226-20-16963, Rev. 2/90 Ps, 226-20-16950 Rev. 2/90 Ps, 226-20-16949 Rev. 2/90 Ps, 226-20-16980 Rev. 2/90 P.

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

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

5T-8 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: 5/1/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 661 m: No Oil 31586 m

Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

X No Treatment Recommended

 Treatment Recommended

 Manual Pickup

 Bioremediation

 Tarmat Removal

 Snare/Absorbent Booms

 Oil Snares (pom poms)

 Absorbents (pads, rolls, etc)

 Spot Washing: Wands

 Beach Cleaner

 Other (see comments)

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 5/1/90

ADEC ART WENNER *[Signature]*

EXXON ANDY TOL *[Signature]*

NOAA GARY PETER *[Signature]*

USCG KENNETH KOTHE *[Signature]*

FOSC: *[Signature]*

DATE: 5-9-90

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

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

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

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

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

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

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

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

1E Main Bay Hatchery release (4/20 to 6/10)

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

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

1H Remote release site

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

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

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

1I Gill net area (5/7 to 8/31)

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

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

1L Set net sites (5/11 to 7/25)

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

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

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

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

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

30, 32 Harbor seal and sea lion pupping (5/15 to 7/1)
Harbor seal and sea lion molting (5/15 to 9/15)

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

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

ADF&G Don Calkins 267-2403

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

ADF&G Tom Roth 267-2206

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

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

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

AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377

6U Recreation:

Tent sites (5/1 to 9/15)

6V Anchorages (5/1 to 9/15)

6W Forest Service cabins (5/1 to 9/15)

6X Lodge (5/1 to 9/15)

6Y Special use destination

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

7H-H Finfish harvesting

Deer harvesting (2/15 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

SEGMENT ST/ KN-575 SUBDIVISION: A DATE 4/22/90

NAME STEPHEN STURM SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS
OTHER THAN THE PRESENCE OF RARE TAR BALLS (FOUND IN EASTERN DRILL BAY) AND SOME CLEAN-UP DEBRIS, THIS AREA APPEARS NOT TO HAVE BEEN IMPACTED BY EDSON VALDEZ OIL.
* SEE KN-574 AS NARROW BROKEN COAT TO STRAIN OF OIL AT HWML EXTENDS INTO THE BEGINNING NORTH-WEST END OF KN-575 SEGMENT.

ADEC
NAME Wesley Ghormley SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS
THIS segment had only 3 locations that oil was present. Tar balls were removed by survey team from 2 locations. The segment is 34.5 K in length & overall appears to be an extremely healthy environment. Numerous species of waterfowl were observed in large numbers & numerous anadromous streams are located in the bay. ADF&G has a transect study area in a stream located in Port Audrey. Also 2 ADF&G personnel have a fish weir & survey under way in Cathed Bay. A Dead otter that I believed might possibly be oiled due to sticky / tacky fur was bagged & brought back to our vessel. I placed a call to Mary Lynn Nation concerning the carcass & we were instructed to collect all otters oiled or not for aging research. Two clean sorbant pads & one pom-pom were also retrieved along with numerous pieces of non-cleanup debris. Overall I was very pleased to see a healthy productive environment.

LAND MANAGER
NAME Ray Burger ADNR SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS
- Very light oiling.
- Tarballs removed where encountered.
- While many beaches were easy to land on, only 2 good campsites were found.
- ~1 mile from mouth on east side of Cathed Bay is an abandoned skiff tied up @ RAHW with barnacles inside & out.

SHORELINE OILING SUMMARY

REVISION NO. 04-12-90

OG K. DEBUSSCHERE ^{NCAA} STEPHEN STUM SEGMENT ST/ KH-575
 BIO D. REED LAND REP Kay Buge ADNR SUBDIVISION H (1 OF 1)
 EXXON T D H 2 ADEC Wesley Chormley TIME 6:35 AM 15/5-21:00
 TEAM NO. 9 TIDE LEVEL 1-6 / 6-6 / -0.5-6 DATE 4/22/90 ^{26:50} 4/23/90
 1ST SUBDIVISION LENGTH: 34573 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 5 % G 3 % S 0 % M 2 % V 0 %
 SLOPE: Long 20 % Hang 30 % Vert 10 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 600 m NO 33973 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR				IMPACTED ZONES			
	C	S	P	R	1	2	3	4	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 1 BAGSNEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐TYPE SORBENT P
PORFUR#BAGS 1

Photographs:

Roll No. ST-9-3Frames 21

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR					PIT ZONE				A	N	SHEEN (Y/N)	↓	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	1	2	3	4	5	SU	U	M	L					
1040	1	15				X	.										X				N	-	P-G/S
205	2	5				X	.										X				N	2	P-S
	3	20				X	.										X				N	-	P-P
406	4	15				X	.										X				N	15	P-PaG/L
	5	15				X	.										X				N	-	P-G/S
	6	15				X	.										X				N	-	P-G/S

COMMENTS

- SUBDIVISION IS A LOW ENERGY ENVIRONMENT DOMINATED BY COBBLE/BOULDER SHOREFACES INTERSPERSED WITH CLIFFS AND LOW ANGLE DELTA AREAS AT (RARE) STRAIGHT MOUTHS.

- NO OIL WAS OBSERVED FOR MOST OF THE SHORELINE VERY LIGHT OILING WAS OBSERVED AT LOCATIONS ①, ②, ③ AND THE END OF THE SEGMENT.

REVIEWED W DATE 4/24/90

SHORELINE OILING SUMMARY (PAGE 2)

REVISION 02/1992

SEGMENT ST/ KN-575 SUBDIVISION M (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	S H E E R	C Y A N	↓	SURFACE SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UG	UC	1/2	3/4	1/2	3/4	1/2	3/4	BU	U	M	U					
7	20					X	.										X				N	-		V/V & S/S
8	20					X	.										X				N	-		P/P & G/S
9	20					X	.										X				N	-		C/P & G/L
10	20					X	.										X				N	-		P & S/S & G
11	20					X	.										X				N	-		P & S/S & G
12	20					X	.										X				N	15		G & S
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	
							.																	

COMMENTS

REVIEWED 7W DATE 4/24/90

3/30

STRT
ST-KN-575-H

CORT/S
PIT #1

W=WALK
S=SKIFF

END
ST-KN-575-H

CORT/P

THRBW/S

-576

4/23/90
6:50

3RD OTTER

PIT #11,12

PWS
4720 →

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ST-KN-575-H

ADEC Segment Length: 34573m



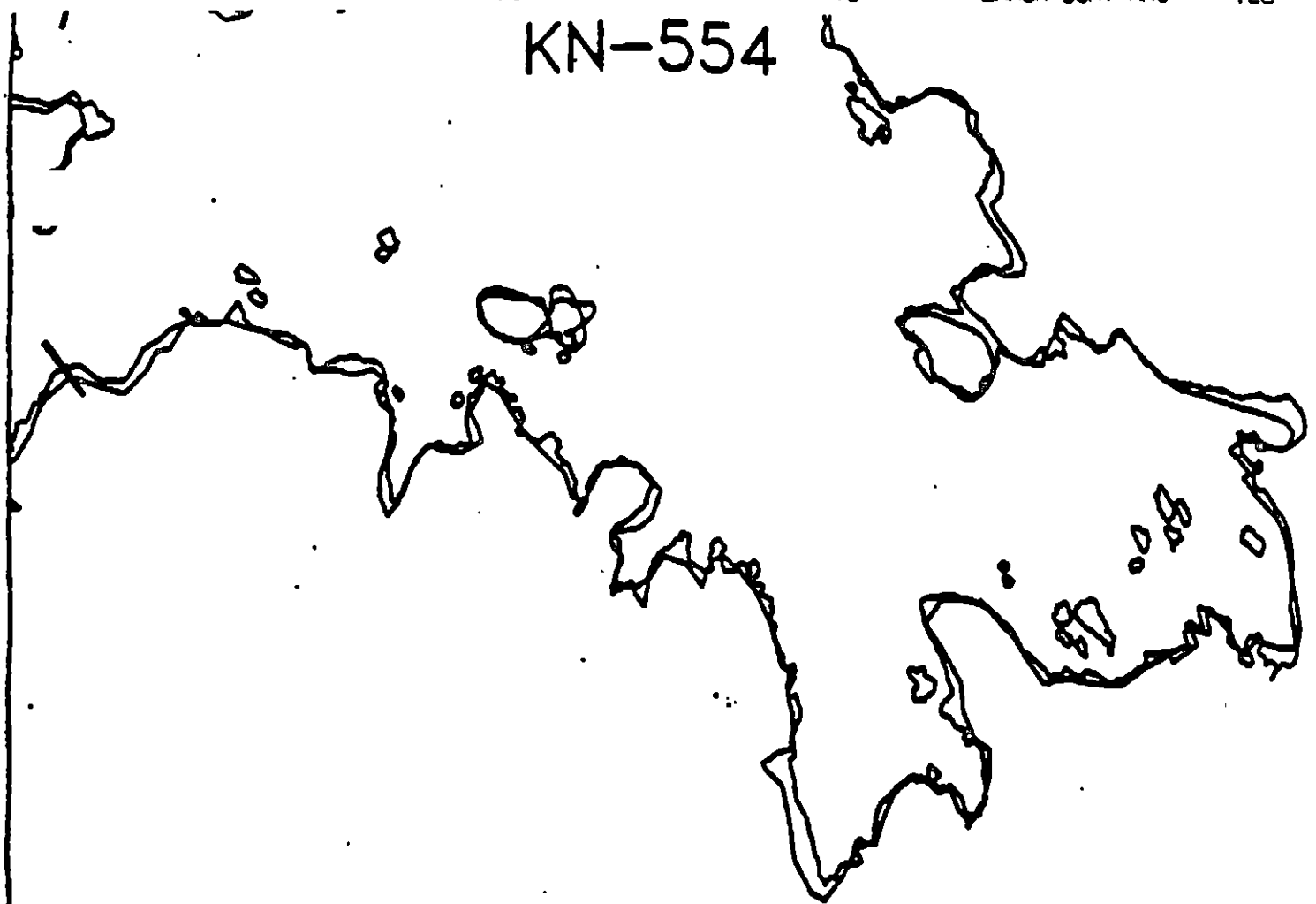
Map Key: PWS-4720

Name: K. DEBUSCHERE

Date: 4/22/90

Date Entered: _____

KN-554



W = WALK
S = SKIFF

N-574



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

ST-KN-575-A

ADEC Segment Length: 34573m



Map Key: PWS-472d
Name: K. DEBUSSCHE
Date: 4/22/90
Data Entered:

UNIT 4,5

W = WALK

S = SKIP

PIT #2,3

PIT #6,7

KN-575

PATTIES/S
THERBALL/S

← PWS 472D

PWS 472F →

PWS 472B

XXXX Wide

//// Medium

--- Narrow

TTT Very Light

0000 No Oil

ST-KN-575-A

ADEC Segment Length: 34573m

7/30 1000 500 0 METERS

Map Key: PWS-4720

Name: K. DEBUSSCHERE

Date: 4/22/90

Date Entered:

W=WALK

S=SKIFF

KN-703

KN-70

KN-701

KN-700

PIT # 8,9

← PWS
472E

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ST-KN-575-A

ADEC Segment Length: 34573m

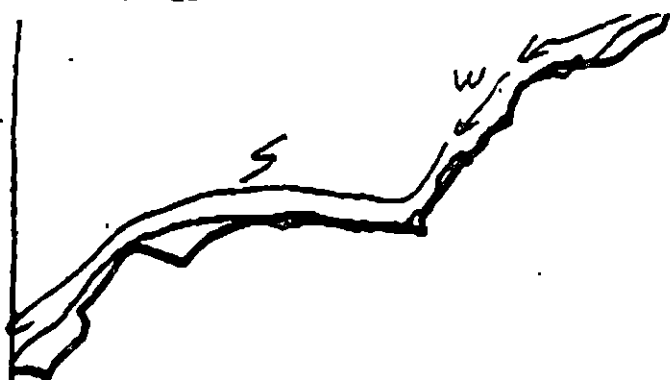
8/30 500 1000 1500
METERS

Map Key: PWS-4721

Name: K. D. BUSSCHER

Date: 4/22/90

Date Entered:



PIT #10

T
PWS
472E

W = WALIK
S = SKIFF

← PWS
472A

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

ST-KN-575-17

ADEC Segment Length: 34573m



Map Key: PWS-472b
Name: K. DEBUSCHERE
Date: 4/22/90
Data Entered:

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / KN575 Subdivision A Date (mo / day / yr) 04/22/90
0635-075
1515-2100
0650-1000 Time (24 hr) 0650-1000 Biologist D. REED
04/23/90

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

(B) Overall % cover of biota (% of segment): Dense Moderate 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: ST-9-3
 Roll No.

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 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:
 6 EAGLES, 1 IMMATURE BALD EAGLE, 2 EAGLE NESTS, 6 HARBOR SEALS, 2200 GOLDEN EYES
 4 BUFFLEHEADS, 6 PIGEON GUILLMOTS, 3 COMMON Mergansers, 2 BLACK SCOTTERS,
 4 CANADA GEESE, 5 HARKYIN DUCKS, 1 GREAT BLUE HERON, 3 PELAGIC CORMORANTS
 Ecological Considerations: 2 OYSTER CATCHERS, 4 GLAUCOUS WING GULLS, 10 KITTIWAKES,
 1 SHELLFISH HARVESTING AREA, 2 TENT SITES

→ LONG segment (.34 km) almost no oil.
 see attached sheet.

KN-575-A

DRIER BAY

04/23/90

Very little oil and Patchy in this long (34 km) SEGMENT

GENERAL COMMENTS ON BIOLOGY.

VERY DENSE AND UNIFORM BARNACLE RECRUITMENT along the entire 34 km of shore in DRIER BAY. Recruits all 1-2 mm in diameter and were classified as juveniles. Settlement over a broad tidal zonation, ranging from 0 to +11 feet.

Fucus moderate to dense on boulders and bedrock in mid zone except on north facing, or vertical shores where it was sparse. Starfish common at mallowd high.

MANY ANADROMOUS STREAMS IN THIS BAY AND all had dense eel grass beds in shallow subtidal at the stream mouth. MUSSEL BEDS common in tidal flats at the stream mouth.

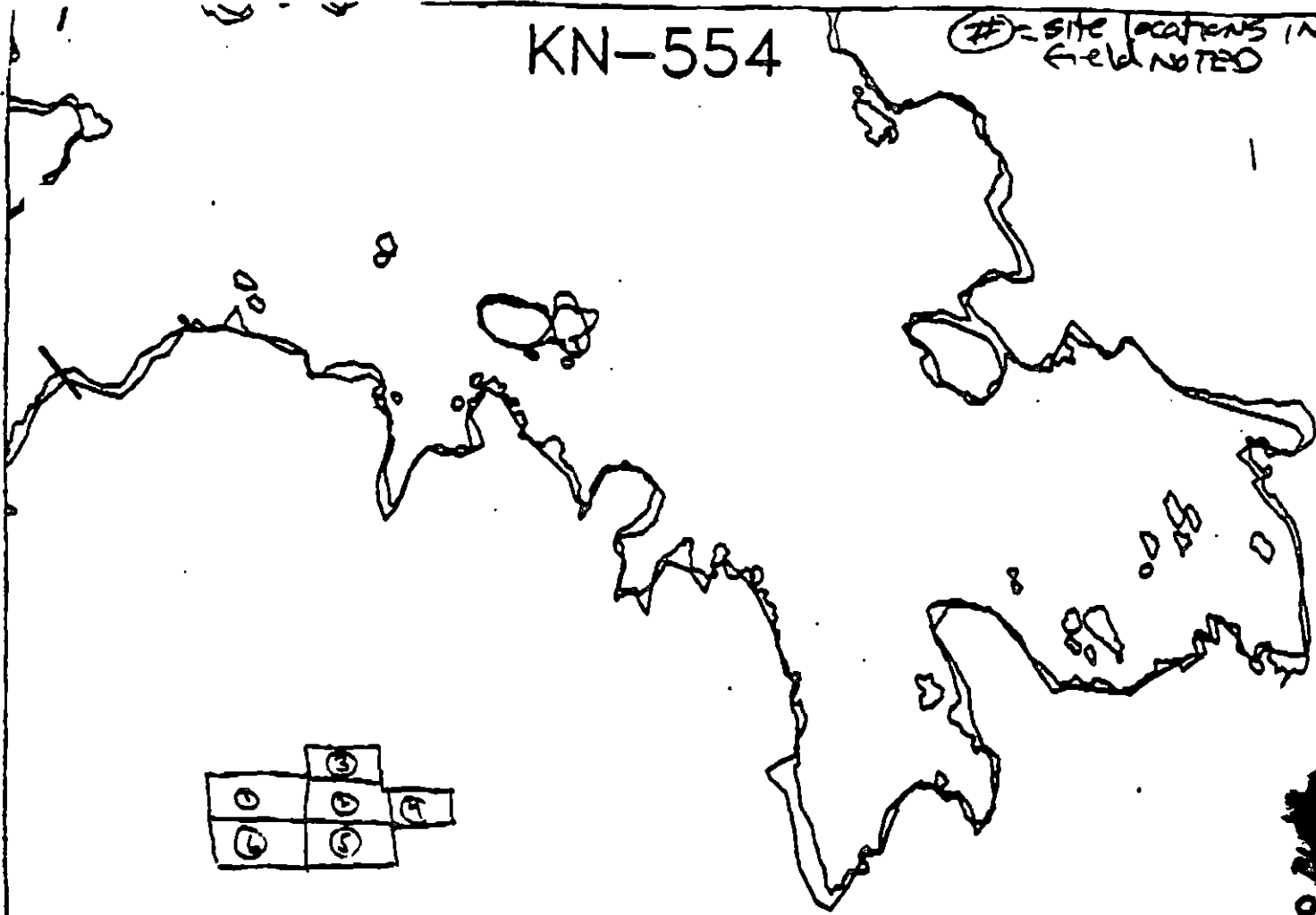
WILDLIFE OBSERVATIONS.

WATER FOUL ABUNDANT IN THIS SEGMENT especially in Northeast Cove where >100 golden eyes as well as other ducks were observed.

BALD EAGLES were relatively sparse. Given that NINE EAGLE NESTS were previously reported for this segment. After extensive searching I located ONLY 2 of the 9 nests and neither of these two appeared to be occupied by eagles.

KN-554

#- SITE LOCATIONS IN FIELD NOTED



1	2	3
4	5	6

N-574

ELONGATED MAP 1 of 6

RESOURCE CODES FOR ENTIRE SEGMENT

1A, B

226-20-16947

226-20-16949

226-20-16963

226-20-16990

226-20-16960

226-20-16952

226-20-16955

226-20-16964

226-20-16965

226-20-16980

226-20-16970

226-20-16961

ST-8 IN SEGMENT; ONE NEST ON ADJACENT ISLAND NORTH OF SEGMENT

6.V
7JJ

ARE LOCATED IN ADJACENT ISLANDS

PWS 472E →

TENT SITE

↓ PWS 472A

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

ST-KN-575-A

ADEC Segment Length: 34573m



Map Key: PWS-472d
 Name: D. Reed
 Date: 4/23/90
 Date Entered:

$$\Delta = \rho \pi \text{ NO oil}$$


/// Medium

--- Narrow

TTTT Very Light

STKN - 575-A

ADEC Segment Length: 34573m



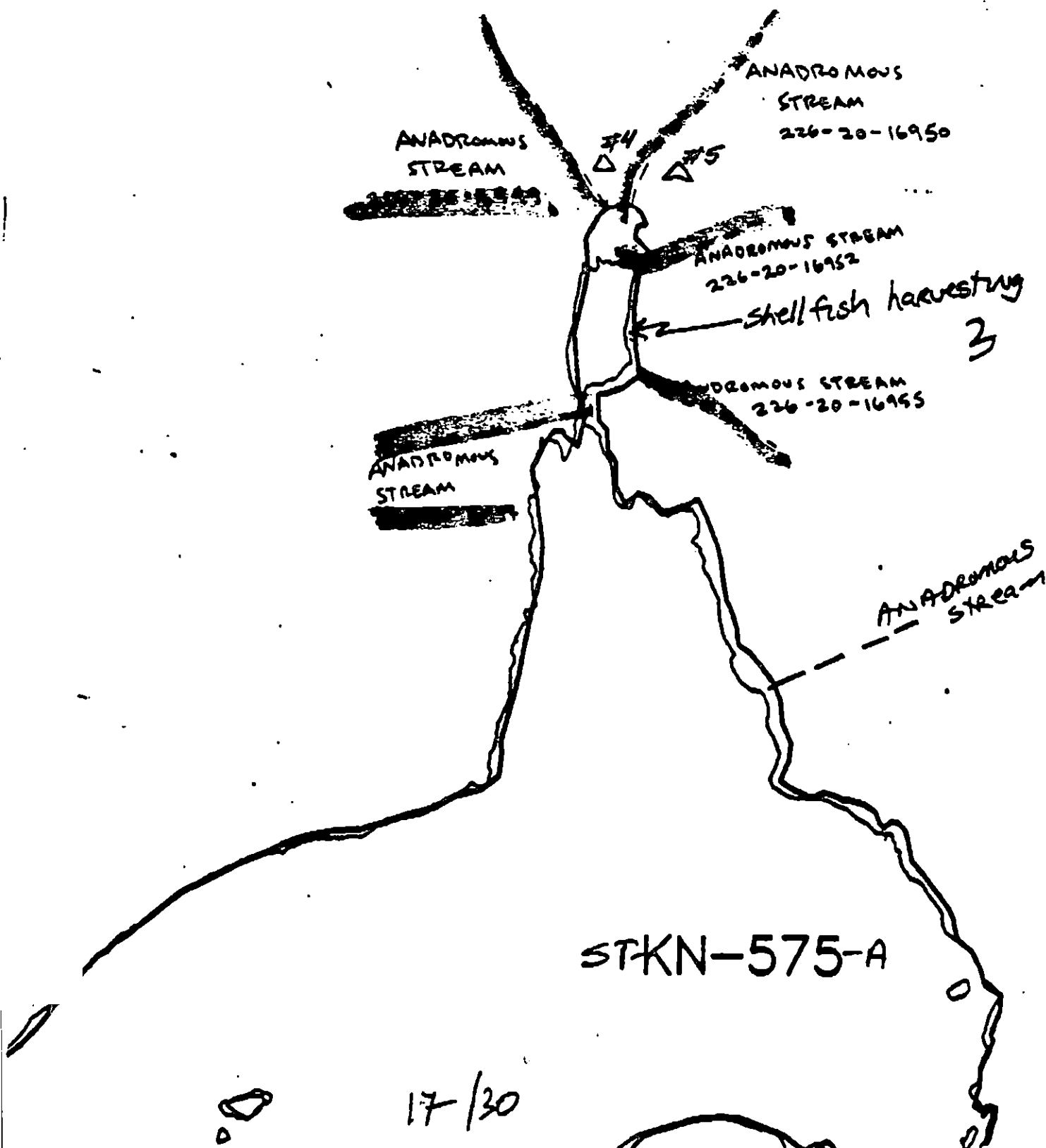
Map Key: PWS-4720

Name: D. REED

Date: 04/23/90

Date Entered:

ECOLOGY MAP 3 of 6

 Δ = pit NO oil

Ecology Map 4 of 6

— = pit no oil

KN-703

KN-70

KN-701

KN-700



XXXX Wide

ST-KN-575-A

.. // Medium

---- Narrow

ADEC Segment Length: 34573m

TTTT Very Light

0000 No Oil

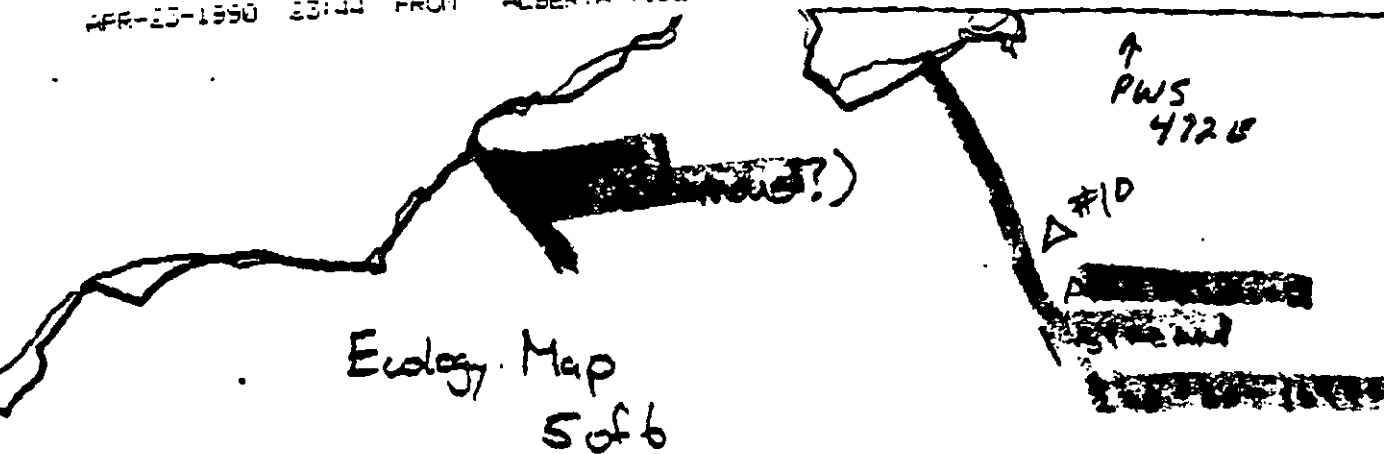


Map Key: PWS-4721

Name: D. REED

Date: 14/23/90

Date Entered:



PWS
472A

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

ST-KN-575-A

ADEC Segment Length: 34573m

19/90 500 600 700
METERS

Map Key: PWS-472B

Name: D. Reel

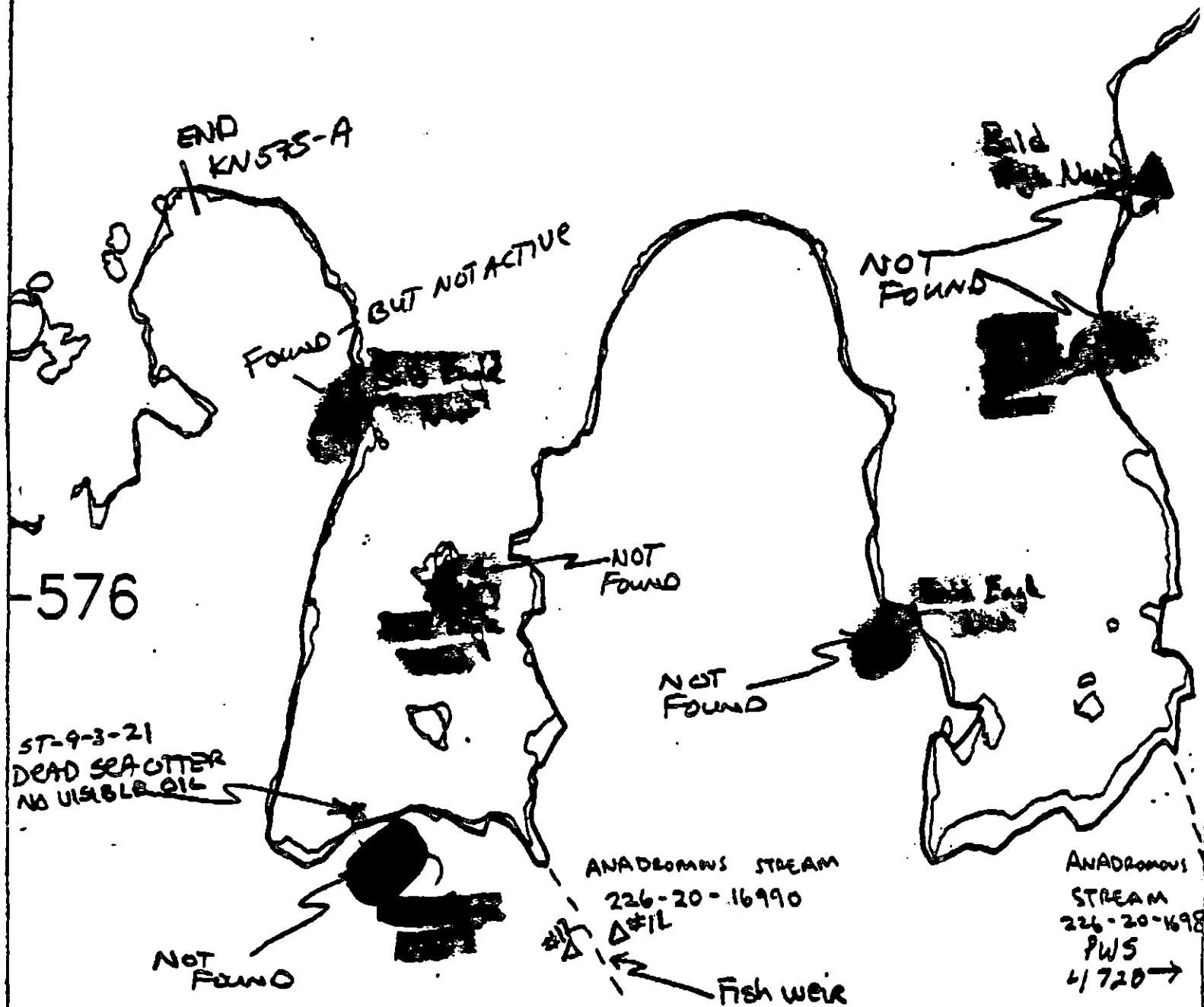
Date: 04/23/90

Date Entered:

START
KN 575-A

PWS
4720

ECOLOGY MAP 6 of 6



XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ST-KN-575-A

ADEC Segment Length: 34573m

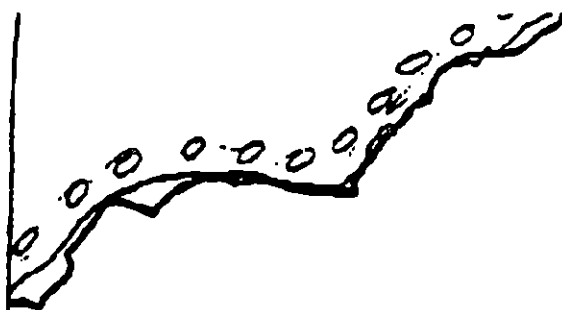
14/30 500 1000 1500
METERS

Map Key: PWS-4720

Name: D. REED

Date: 04/23/90

Date Entered:



T
PWS
472C

OIL MAP

← PWS
472A

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

ST-KN-575-H

ADEC Segment Length: 34573m

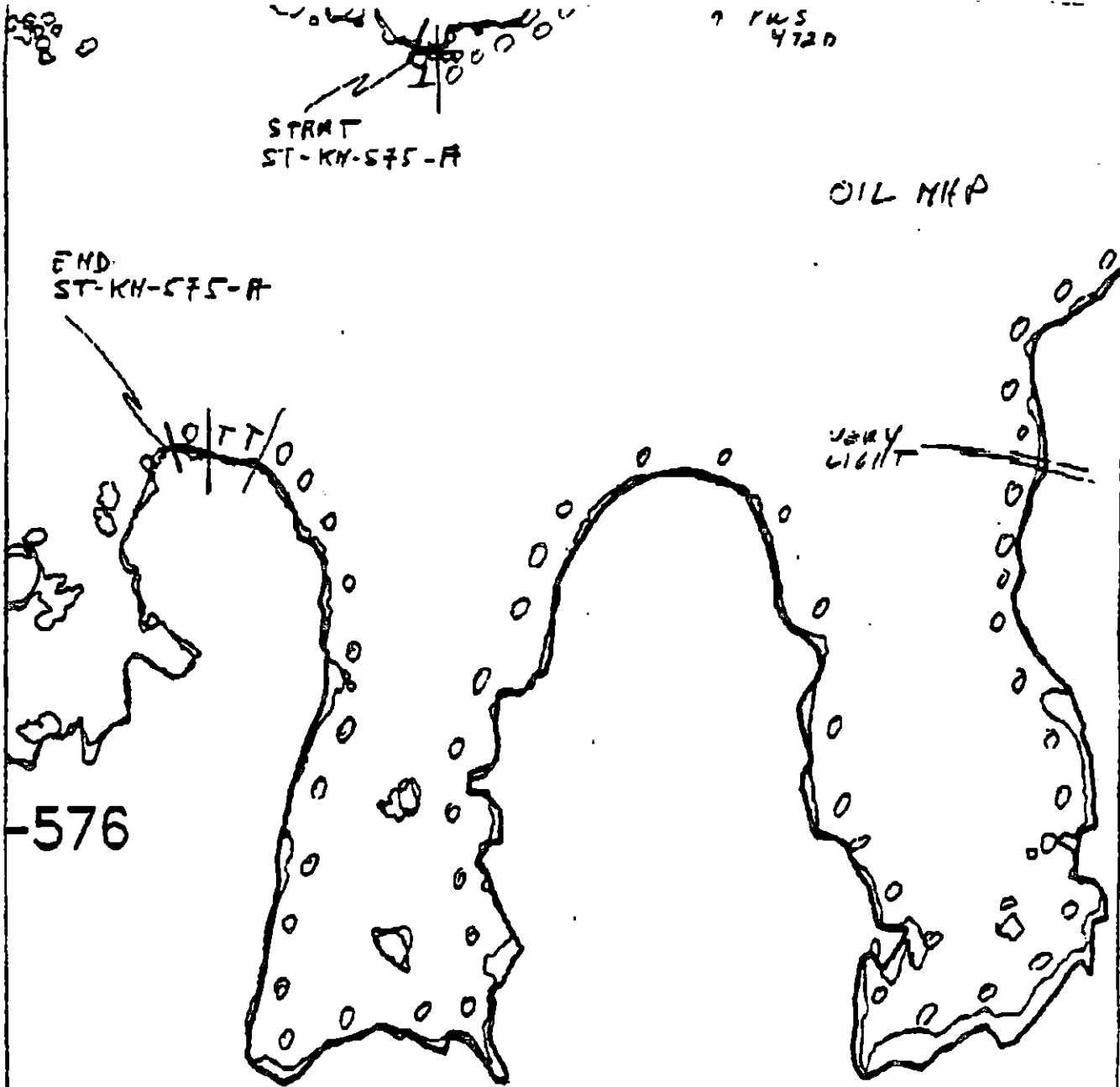
25730 METERS

Map Key: PWS-472b

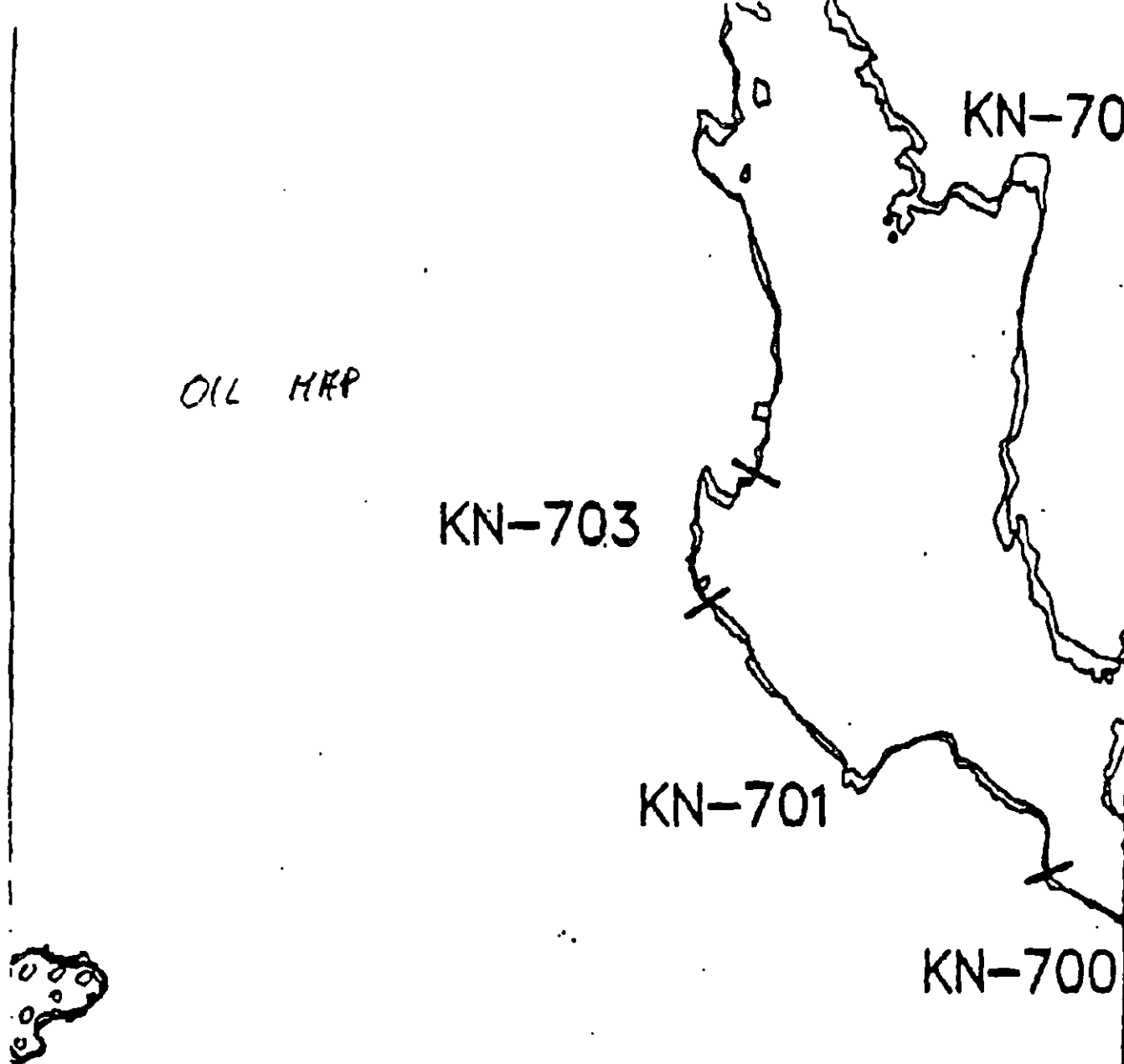
Name: K. DEBESCH-RT

Date: 4/24/90

Date Entered:

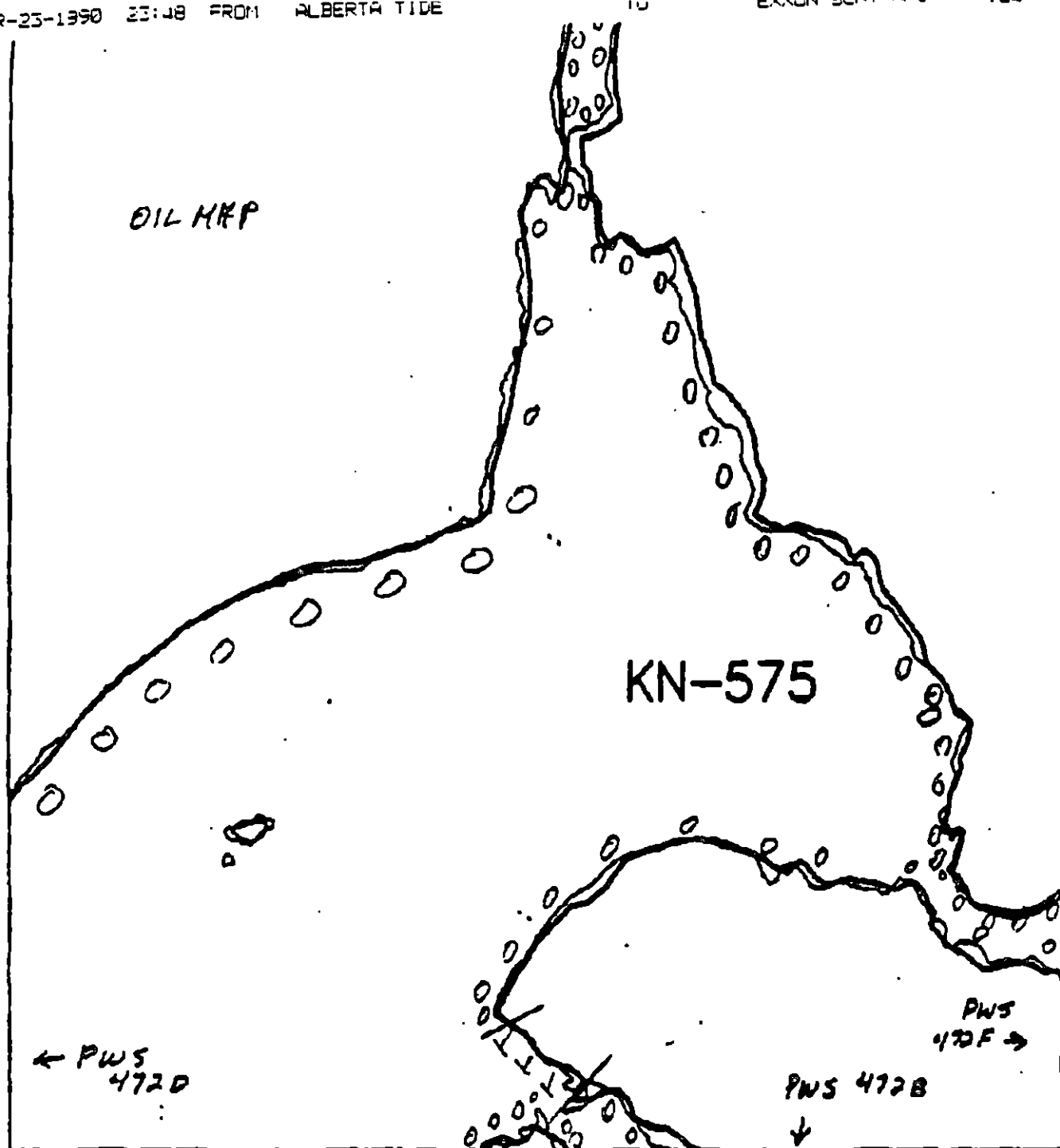


XXXX Wide	ST-KN-575-A	Map Key: PWS-4720
//// Medium	ABEC Segment Length: 34573m	Name: <u>K. DEB. ISSCHAE</u>
--- Narrow		Date: <u>4/22/90</u>
TTTT Very Light		Date Entered:
0000 No Oil	21/30 METERS	



← PWS
472E

XXXX Wide	ST-KN-575-H	Map Key: PWS-6721
//// Medium	ADEC Segment Length: 54573m	Name: <u>K. DERUSSCHENKO</u>
--- Narrow		Date: <u>4/22/90</u>
TTTT Very Light		Date Entered:
0000 No Oil	24/30 METERS	



XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

ST-KN-575-R

ADEC Segment Length: 34573m

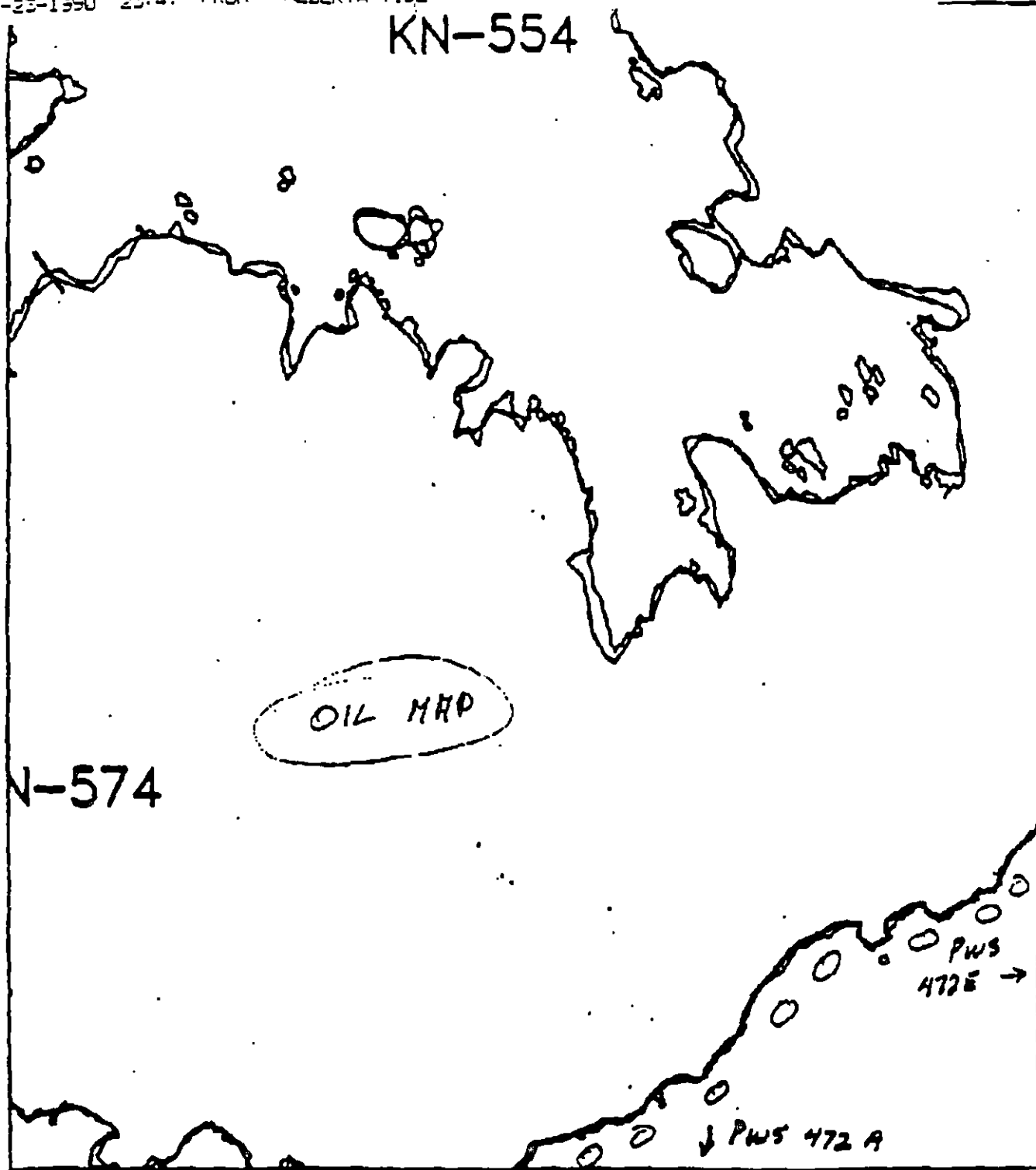
23/30 METERS

Map Key: PWS-4720

Name: K. DEBUSSCHERDate: 4/24/90

Date Entered:

KN-554



N-574

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

ST- KN-575-A

ADCC Segment Length: 34573m



Map Key: PWS-4726

Name: K. DEBRUSCHKE

Date: 4/22/90

Date Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-576 SUBDIVISION A (1 OF 2) DATE 4/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T All bald eagle nests (3/1 to 6/1)-Active eagle nest (3/1 to 9/1)
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: 4/18/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 345 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 4/18/90.

ADEC Art Weiner

EXXON Andy Galt

NOAA Bruce Wescott

USCG G.A. Reiter

FOSC: [Signature] DATE: 4-22-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
 1B Salmon stream mouth - spawning (7/10 to 8/31)
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage.
 No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior
 to treatment for permits.
- 1C Salmon fry nursery area (4/31 to 7/31)
- 1D Esther Hatchery release (4/15 to 6/1)
- 1E Main Bay Hatchery release (4/20 to 5/10)
- 1F Sawmill Bay Hatchery release (4/15 to 6/1)
- 1G Cannery Creek Hatchery release (4/21 to 6/1)
- 1H Remote release site
- 1I Gill net area (8/7 to 8/31)
- 1J Purse seine area (7/20 to 9/30)
- 1K Purse seine hook-off (7/20 to 9/30)
- 1L Set net sites (6/11 to 7/25)
 For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
- 2M Herring spawning (4/1 to 6/15)
 Restrict boat traffic to essential minimum. Avoid damage to 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 6/1)
 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-576 SUBDIVISION: A DATE 4/4/90

~~NOAA~~
~~FOUO~~

NAME Jeffrey Rakhi SIGNATURE Jeffrey Rakhi

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

No oil was observed

ADEC

NAME Lori Stratton SIGNATURE Lori J. Stratton

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

No oil was observed.

LAND MANAGER

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

No Land Manager

REVISION NO. 05/20/90

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	C	S	P	B	100% WH	100% PW	50% PW	100% TL	100% LOR	SU	U	M	U
ASPHALT PAVEMENT													
POOLED													
COVER													
COAT													
STAIN													
MOUSSE													
PATTIES													
TARBALLS													
FILM													
NO OIL										X	X	X	X

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

#BAGS -

Frames NONE

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		UC	UC	BL	BR	BY	GR	TR	LR	SU	U	M	U		
							.														NO PITS: INACCESSIBLE
							.														
							.														
							.														
							.														

REVIEWED DIV 4/9/90 DATE

START
ST-KN-576-A

END
ST-KN-576-A

KN

PWS
4/4/90 →

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

447000 No Oil

ST-KN-576-A

ADEC Segment Length: 5117m



Map Key: PWS-464a

Name: K. DEBUSSCHERE

Date: 4/4/90

Data Entered:

START
ST-KN-576-A

END
ST-KN-576-A

KN

PWS
4/4/90 →

Y Y X X Wide

, , / / Medium

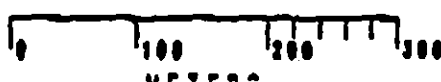
--- Narrow

T T T T Very Light

147000 No Oil

ST-KN-576-A

ADEC Segment Length: 5117m



Map Key: PWS-4640

Name: K. DEBUSSCHEPE

Date: 4/4/90

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-576 SUBDIVISION B (2 OF 2) DATE 4/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T All bald eagle nests (3/1 to 6/1)-Active eagle nest (3/1 to 9/1)
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: Charles J. Adams DATE: 4/18/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 106 m: V.Light 0 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> </u> Manual Pickup	<u> </u> Absorbents (pads, rolls, etc)
<u>X</u> Bioremediation	<u> </u> Spot Washing: <u> </u> Wands
<u> </u> Tarmat: <u> </u> Breakup	<u> </u> Beach Cleaner
<u> </u> Removal	<u> </u> Other (see comments)

COMMENTS: Recommend bioremediation of areas shown on attached sketch map.
Work should be conducted after 6/1 based on above constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/18/90.
ADEC ART WEINER Art Weiner
EXXON AMY TEN Amy Ten FOSC: My L DATE: 4-22-90
NOAA Bar/Wescott Bar/Wescott
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. 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 unloiled 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 (5/1 to 6/1)~~
~~Active Bald Eagle nests (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 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-576 SUBDIVISION: B DATE 4/4/90NAME Jeffrey Dahlin SIGNATURE Jeffrey Dahlin☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

There appears to be a fair amount of oil in the subsurface sediments that may be resuspended and cause subsequent resiliing of other segments sections of the beach. The oil is in pebble size substrate and can easily migrate to the surface.

ADEC NAME Lori Stratton SIGNATURE Lori Stratton☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

At Location #1, surface coat is soft and refloatable. This could be manually removed by wiping off oil from cobbles and removing gravel over the 20-30 cm area (M I zone). Since the subsurface oil is 14 cm below the surface, the area could be spot-treated with dredge and wash. An alternative method would be to shovel up gravel and attempt to remove oiled sediments underneath.

LAND MANAGER NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

No LAND MANAGER

SHORELINE OILING SUMMARY

REVISION NO. 03/23/88

OG K. DEBUSSCHERE ^{HARR} JEFFREY DRILLIN SEGMENT ST/ KN-576
 BIO D. REED LAND REP JEFFREY DRILLIN SUBDIVISION B
 EXXON Tony Diez ADEC Lori Stratton TIME 17:25 to 17:55
 TEAM NO.: 4 TIDE LEVEL: 2.0 to 2.5 DATE 4/14/90
 EST. SUBDIVISION LENGTH: 60 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: W to E
 SURFACE SEDIMENTS: R 10 % B 10 % C 30 % P 50 % G <1 % S <1 % M - % V - %
 SLOPE: Long 100 % Hang 0 % Vert 0 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m NE 25 m VL 0 m NO 350 m
MC

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR				IMPACTED ZONES			
	10	15	10	15	10	15	10	15	SU	U	M	U
ASPHALT PAVEMENT												
POOLED												
COVER												
COAT		X					X			X		
STAIN												
MOUSSE												
PATTIES												
TARBALLS												
FILM												
NO OIL									X	X	X	

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 -#BAGS -

Photographs:

Roll No. ST-9-2Frames 5,6

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	10	15	10	15	10	SU	U	M	U		
1	35		X				14-18	X				X			X					P/P&S/C
2	40					X	.								X					P/P&S/C&S
3	40		X				10-14	X				X			X					P/P&S
4	40				X		H ₂ O					X			X					P(H ₂ O)
5	40				X		H ₂ O					X			X					P(H ₂ O)
6	30					X	.									X				P/S&P

COMMENTS

- SUBDIVISION CONSISTS OF PEBBLE BEACH FLANKED BY C/B & R
 - SURFACE OIL IS PRESENT ON EAST AND WEST SIDE OF COVE ON THE C/B & R. TOTAL LENGTH FOR SURFACE OIL IS 25 M
 SUBSURFACE OIL IS PRESENT THROUGHOUT THE PEBBLE BEACH U/L AREA. PIT#1&3 SHOW A 4 CM LAYER. PIT#4&5 SHOWS SURFACE OIL WITH A SHEEN. PIT#4&5 ARE SUBJECT TO HIGH DRAINAGE WHICH MIGHT HAVE INDUCED NATURAL CLEANING IN

SHORELINE OILING SUMMARY (PAGE 1 of 1)

SEGMENT ST/ KH-576 SUBDIVISION B

DRAFT

SUBSURFACE OIL (CONTINUED)

[illegible]

COMMENTS

· THAT REF.

!! OIL CATEGORY LENGTH IS BASED ON SURFACE
OIL NOT SUBSURFACE.

SUBSURFACE BAND EXTENDS $\pm 35 \times 2 \text{ M}$.

!! ON GIS MAP SUBDIVISION IS SHOWN AS HAVING
NARROW OIL ALONG THE WHOLE SUBDIVISION B/C
THERE IS OIL ALL ALONG.

2/6

7

REVIEWED _____ DATE _____

OG K. DEBUSSCHERE

SEGMENT KN-576

SUBDIVISION B

DATE 4, 4 90

CHECKLIST

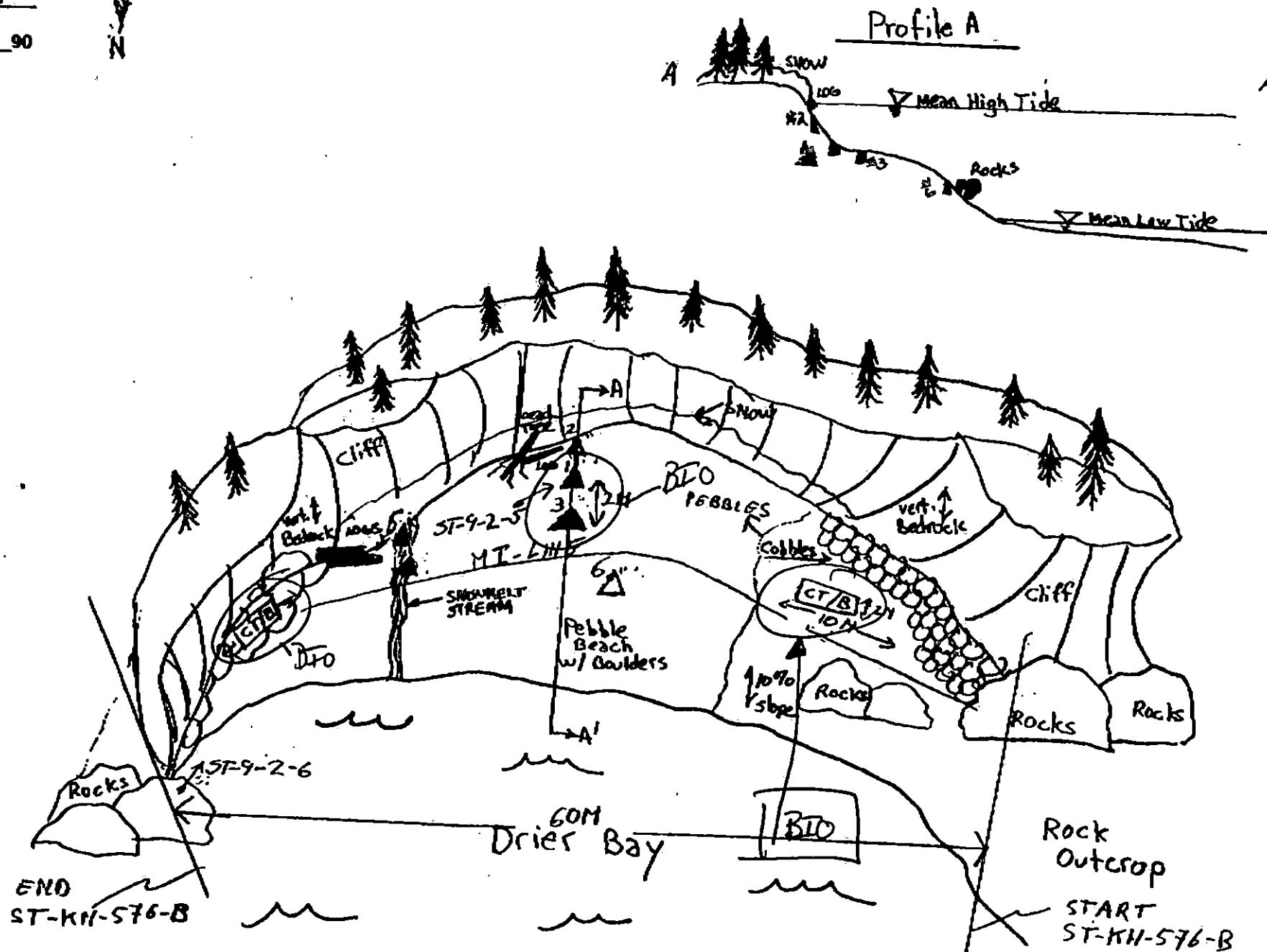
- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ Off Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HML/LWL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ PR Location(s)
- ☐ Photo Location(s)

LEGEND

- 1 Δ
Rt - 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
Saturated Distribution
- $\square$ Cited Vegetation
- 1 $\Rightarrow$
Photo location, direction, and number

ST-KN-576-B

TCH MAP



Oil Character Length (m): AP 0 PO 0 CV 0 CT 25 ST 0 MS 0 PT 0 TB 0 FL 0 NO 35

REVISION: 03/24/00

SHORELINE ECOLOGICAL SUMMARY

REVISION: 08/22/90

Segment ST / KN576 Subdivision B Date (mo / day / yr) 04/04/90

Time (24 hr) 1725-1755 Biologist D. REED

- (A) Substrate type and % of segments:
 (1) Bedrock 10 (2) Boulder 10 (3) Cobble 30 (4) Pebble 50 (5) Sand — (6) Silt —
- (B) Overall % cover of biota (% of segment): Dense 10 Moderate 20 Low 70
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs:
 Roll No. ST-9-2
 Frames 5, 6

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	

STROPODS

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:

SUBDIVISION IS A SMALL COBBLE/ PEBBLE BEACH WITH SOME SUBSURFACE OIL.

Ecological Considerations:

LOW COVER OF MUSSELS & FUCUS. IMPACTS OF CLEANING ON BIOTA WOULD PROBABLY BE MINOR.

START
ST-KN-576-B

END
ST-KN-576-B

KN

Pipe
4045 →

XXXX Wide

/// Medium

- - - Narrow

TTTT Very Light

OOO No Oil

ST-KN-576-B

ADEC Segment Length: 9117m



Map Key: PWS-4640

Name: K. DEBUSSCHERE

Date: 4/4/90

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-576 SUBDIVISION C (3 OF 3) DATE 4/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T All bald eagle nest (3/1 to 6/1)-Active eagle nest (3/1 to 9/1)
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

John E. Dine

DATE:

4/13/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 782 m: V. Light 1350 m: No Oil 1805 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: ☐ Breakup	☐ Beach Cleaner
☐ Removal	☐ Other (see comments)

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE:

4/18/90.

ADEC

JOHN BAUER

EXXON

ANDY TEAR

NOAA

Burl Wescott

USCG

G.A. REITER

FOSC:

[Signature]

DATE: 4-22-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
 1B Salmon stream mouth - spawning (7/10 to 8/31)
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
- 1C Salmon fry nursery area (4/31 to 7/31)
- 1D Esther Hatchery release (4/15 to 6/1)
- 1E Main Bay Hatchery release (4/20 to 5/10)
- 1F Sawmill Bay Hatchery release (4/15 to 6/1)
- 1G Cannery Creek Hatchery release (4/21 to 6/1)
- 1H Remote release site
- 1I Gill net area (6/7 to 8/31)
- 1J Purse seine area (7/20 to 9/30)
- 1K Purse seine hook-off (7/20 to 9/30)
- 1L Set net sites (6/11 to 7/25)
 For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
- 2M Herring spawning (4/1 to 6/15)
 Restrict boat traffic to essential minimum. Avoid damage to unopened intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
- 3N, 3P 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

S IENT ST / KN-576 SUBDIVISION: C DATE 4/4/90

NAME

Terry Doherty

SIGNATURE

Terry Doherty☒ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

~~Some as far as~~ mostly vertical rocky shores and boulders. Oil was not visible through the area with no heavy or surface oil. ~~There does not seem to be any chance of the oil the floating, or we would clean up be easy.~~ There does not seem to be any chance of the oil the floating, or we would clean up be easy.

NAME

Lori Stratton

SIGNATURE

Lori Stratton☒ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

Due to high angle bedrock in most of the subdivision, it would not be very accessible for treatment. Oil is well weathered overall and has a low potential for reoiling other areas; Therefore, treatment is not recommended.

LAND MANAGER

NAME

SIGNATURE

☐ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

9/9

SHORELINE OILING SUMMARY

REVISION NO. 08/22/90

OG K. DEBUSSCHERE ^{NOAA} JEFFREY DEHLIN SEGMENT ST/ KN-576
 BIO DEH REED LAND REP --- SUBDIVISION ---
 EXXON TINY DIRT ADEC Lori J. Stratton TIME 17:55 to 19:55
 TEAM NO.: 91 TIDE LEVEL: 2.5 to 6 FT DATE 4/14/90
 EST. SUBDIVISION LENGTH: 4697 m ☐ Sun ☐ Clouds ☐ Fog ☒ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: W to E
 SURFACE SEDIMENTS: R 40 % B 40 % C 10 % P 10 % G 0 % S --- % M --- % V --- %
 SLOPE: Long 20 % Hang 40 % Vert 40 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 564 m VL 2442 m NO 1691 m

SURFACE OIL

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

DEBRIS COLLECTED
☐ YES ☒ NOTYPE ---#BAGS ---

Photographs:

Roll No. ---Frames NONE

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	2 3	3 4	4 5	5 6	6 7	7 8	SU	U	M	L				
1	20					X	-										X							P
2	30					X	-										X							C/P/S & P
							-																	
							-																	
							-																	
							-																	

COMMENTS

- SUBDIVISION IS DOMINATED BY VERTICAL CLIFF AND HIGH ANGLE BOULDER BEACHES -> RELATIVELY INACCESSIBLE.
 MOST EXTENSIVE OILING OBSERVED IS IN LOCATION 1, 2 AND 3 WHERE A BROKEN RING OF COAT ± 500

DIL 4/9/90

K T T

H

1110

B

SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/22/90

Segment ST / KN576 Subdivision C Date (mo / day / yr) 04/04/95

Time (24 hr) 755-1955 Biologist D. REED

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

(B) Overall % cover of biota (% of segment): Dense 40 Moderate 30 Low 30

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

Photographs: ---

Roll No. ---

Frames NONE

BARNACLES

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

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

TROPODS

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	X	X	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 MATURE EAGLES. These were the only EAGLES seen in all of KN576. 8 EAGLE NESTS were previously reported in this segment. WE OBSERVED ZERO NESTS.

Ecological Considerations:

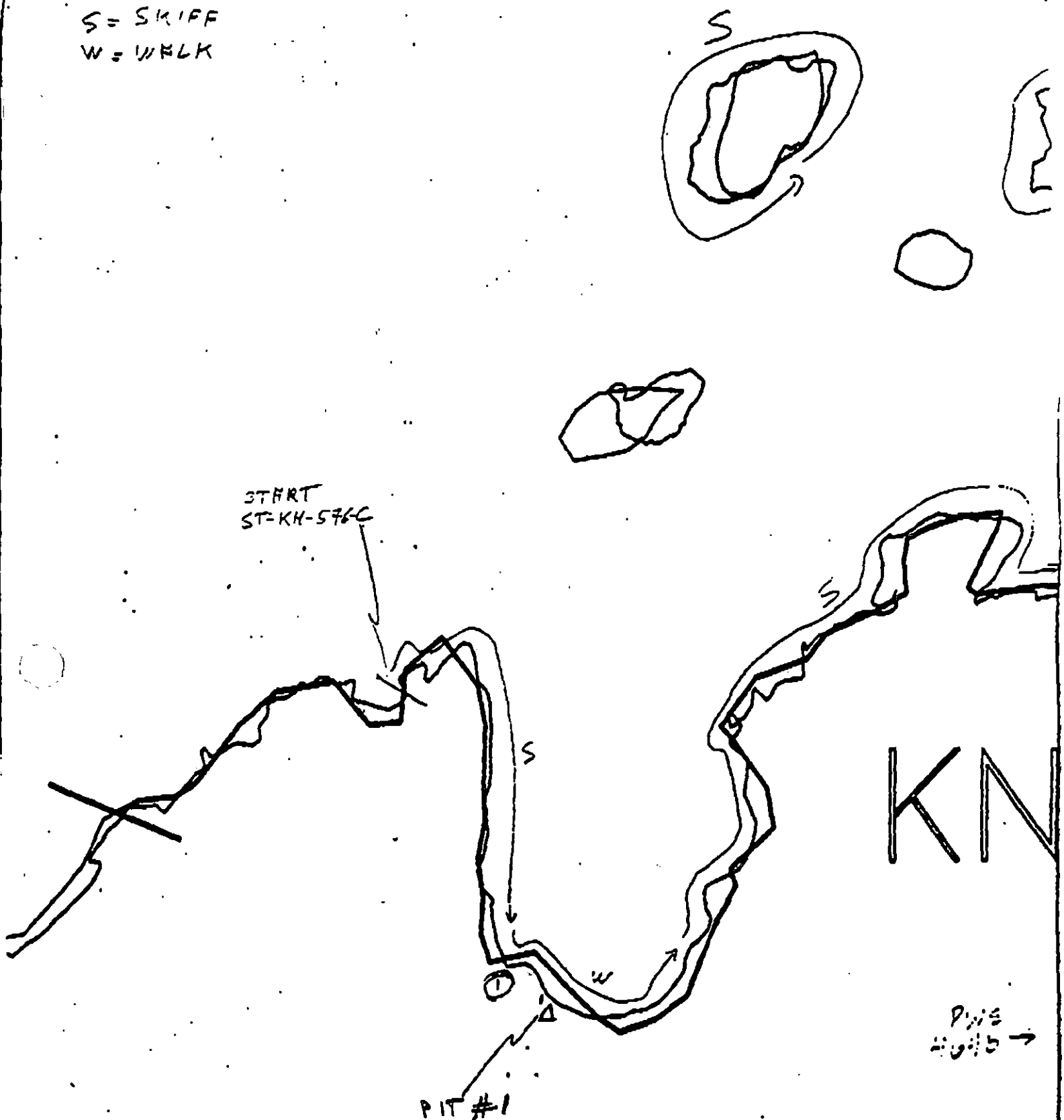
NONE

3 MARTENS OBSERVED IN BOULDERS OF INTERTIDAL.

8/9

29

S = SKIFF
W = WALK



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

ST-KN-576-C

ADEC Segment Length: 5117m

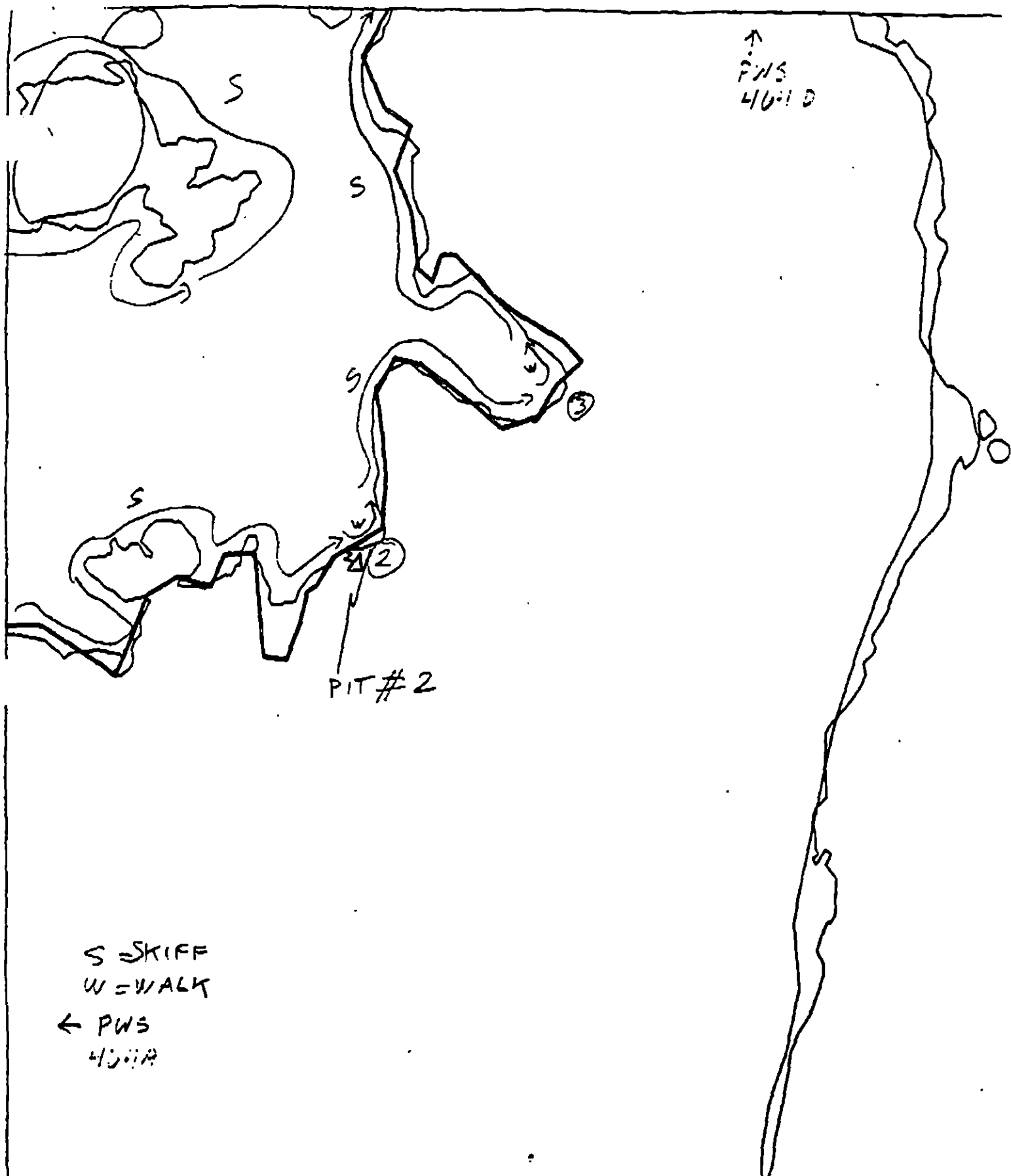


Map Key: PWS-4040

Name: K. DEBUSCHER

Date: 4-4-90

Date Entered:



S = SKIFF
 W = WALK
 ← PWS
 4/5/90

✓ XXX Wide

, /// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ST-KN-576-C

ADEC Segment Length: 5117m

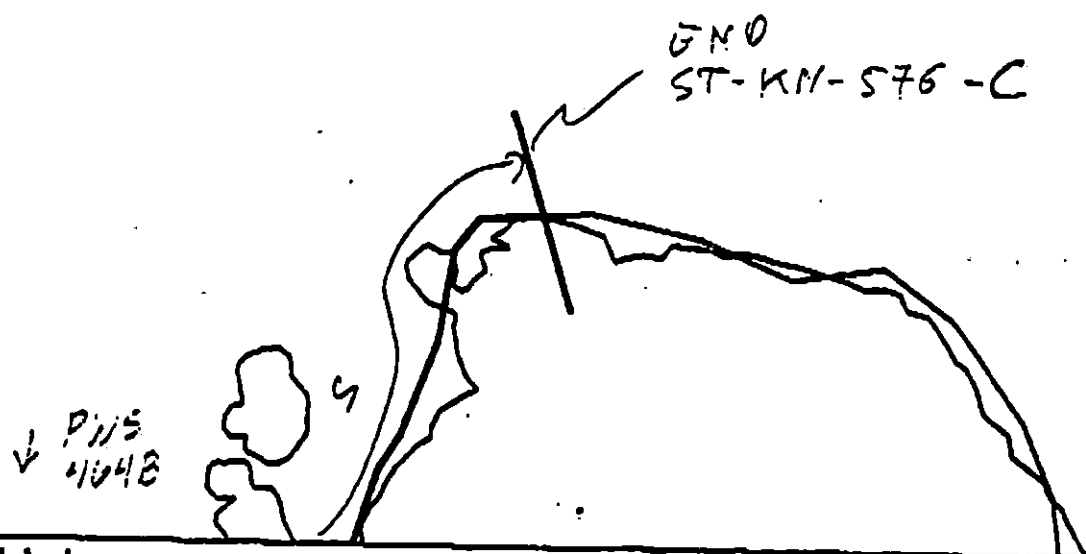


Map Key: PWS-4846

Name: K. DERUSSCHERF

Date: 4/4/90

Date Entered:



✓ XXX Wide

, /// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ST-KN-576-C

ADEC Segment Length: 5117m



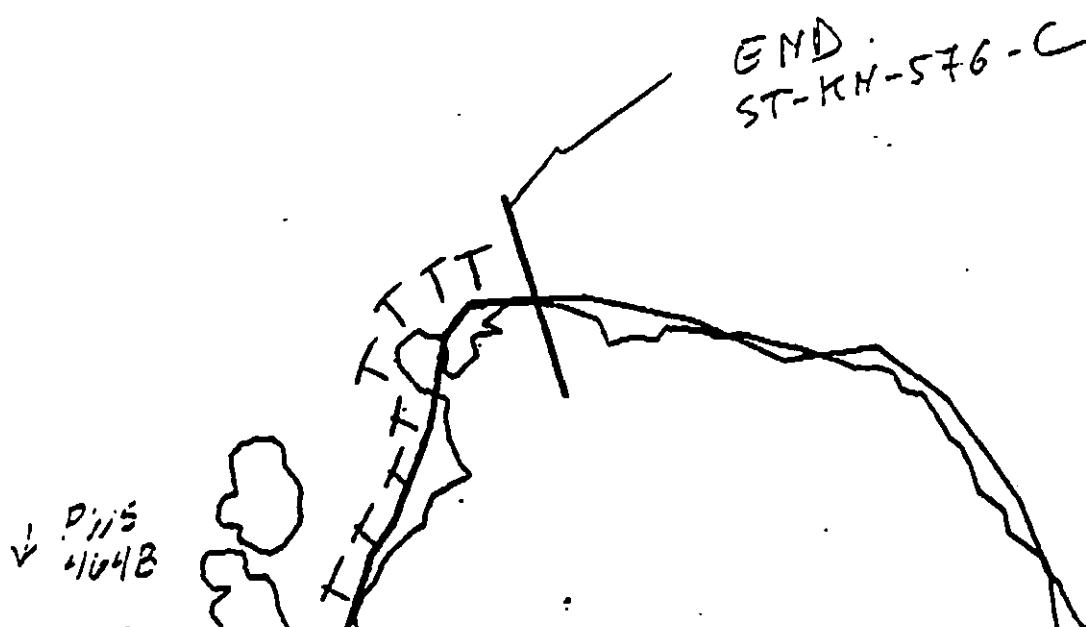
Map Key: PWS-464d

Name: K. DEBUSSCHER

Date: 4/4/90

Data Entered:

012 111P



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ST-KN-576-C

ADEC Segment Length: 5117m

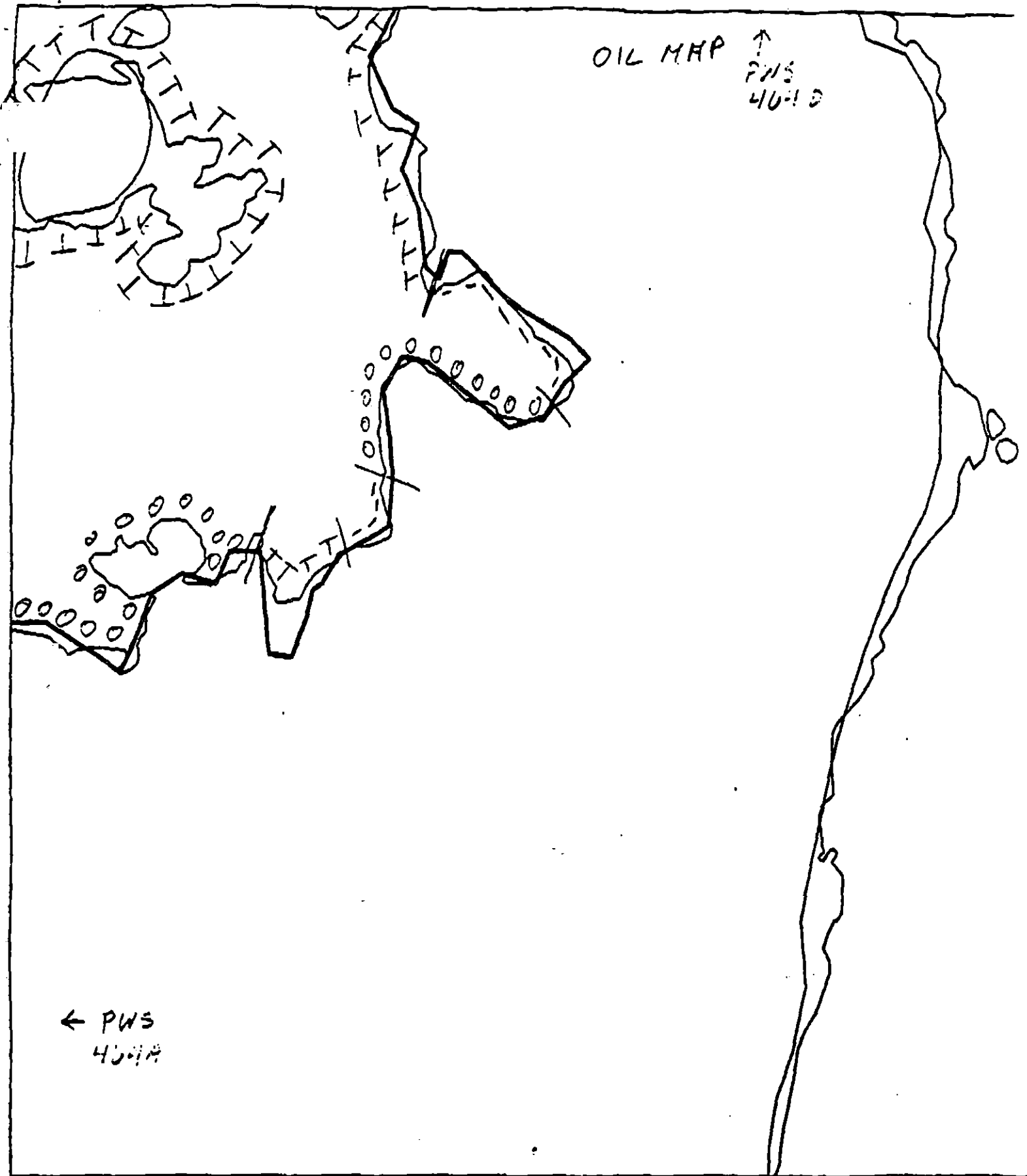


Map Key: PWS-464d

Name: _____

Date: _____

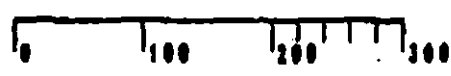
Data Entered: _____



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

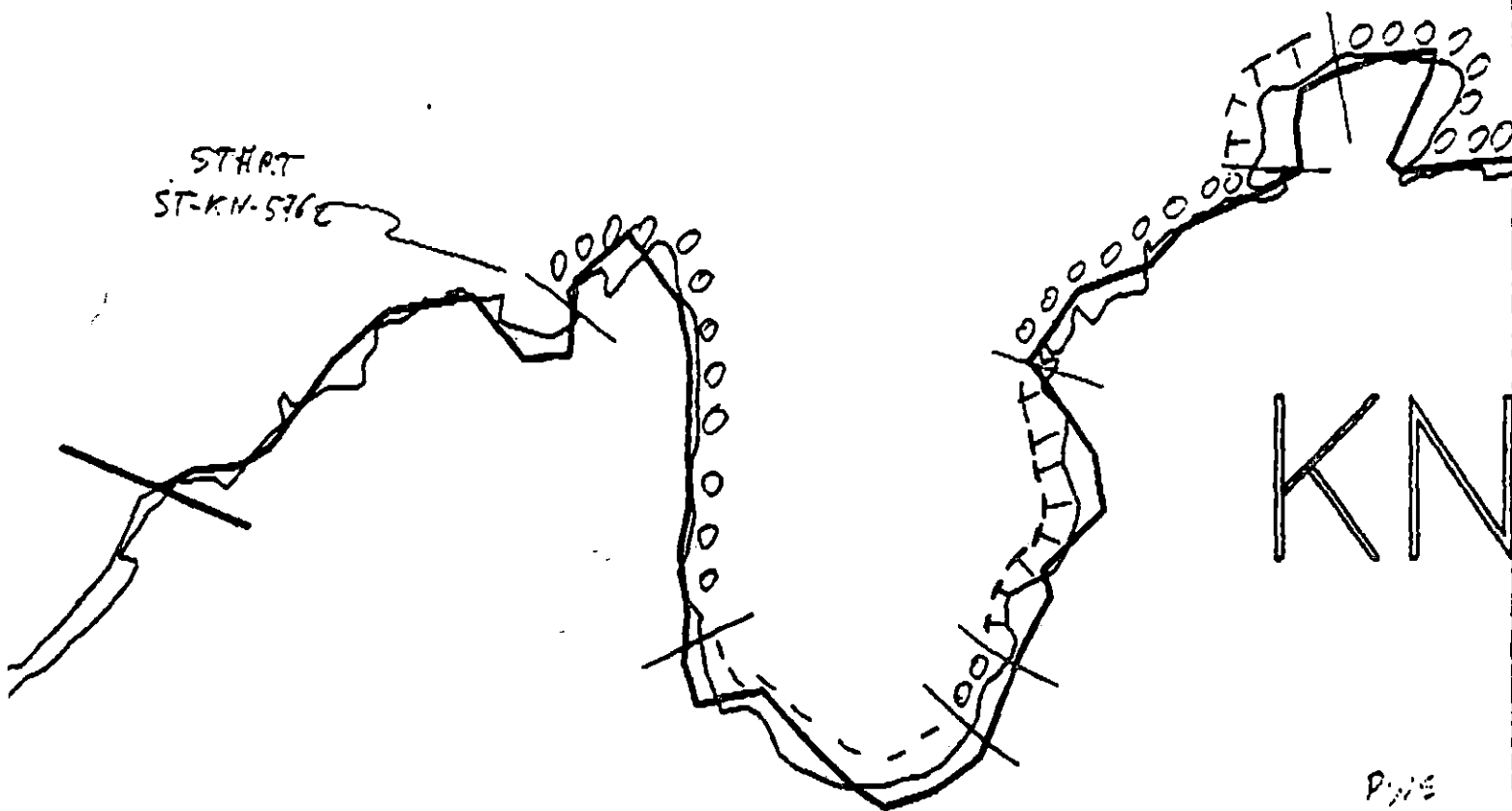
ST-KN-576-C

ADEC Segment Length: 5117m



Map Key: PWS-4646
 Name: K. DEBOSSCHERE
 Date: 4/4/90
 Date Released:

OIL MAP



PWS
20-15-7

XXXX Wide
/ / / Medium
- - - Narrow

ST-KN-576-C

ADEC Segment Length: 5117m

TTTT Very Light
0000 No Oil



Map Key: PWS-464a

Name: K. DEBUSSCHERE

Date: 4/4/90

Date Entered:

SHORELINE EVALUATION

SEGMENT ST/ KN-577 SUBDIVISION A (1 OF 2) DATE 4/19/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T-2 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
6U Recreation: Tent sites (6/1 to 9/15)
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. Confirmed eagle nest near border with Subdivision B. Several streams described by biologist but not listed by ADF&G.

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

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 8685 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: 4/28/90
ADEC Art Williams
EXXON Art Williams
NOAA Gary Peterson
USCG Kenneth Keane

FOSC: KL 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 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 (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.
- 6T 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

 GMENT ST / KN-577 SUBDIVISION: A DATE 4-19-90

 NOAA
 USCG

 NAME STEPHEN STURM SIGNATURE Stephen Sturm
☒ NO TREATMENT RECOMMENDED
 COMMENTS

☐ TREATMENT SUGGESTED

Copper Bay - No Oil Observed;

NOTE: ABAND. HOUSE BOAT IN EAST COPPER BAY SHOULD BE REMOVED. DEBRIS (STYROFOAM INSULATION) WAS FOUND IN ALL PARTS OF COPPER BAY.

ADEC

 NAME Wesley Ghormley SIGNATURE Wesley Ghormley
☒ NO TREATMENT RECOMMENDED
 COMMENTS

☐ TREATMENT SUGGESTED

- No oil was observed in this subdivision. -

House boat that was previously moored in Long Channel is presently beached on North End of Copper bay. Possibly the boat owner could be located & ordered to remove this eyesore. The boat has styrofoam floats & bits & pieces were removed from various locations in Copper Bay.

- THE boat has NO AFFILIATION with CLEAN-up operations & was observed vacant & floating on outside of Copper bay by ADEC rep. last summer.

LAND MANAGER

 NAME Ray Burger AONR SIGNATURE Ray Burger
☒ NO TREATMENT RECOMMENDED
 COMMENTS

☐ TREATMENT SUGGESTED

- No oil

- While there are several landable beaches & well protected anchorages here, the uplands are not conducive to camping.

- Houseboat had no identification of owner - would need work prior to refloating - an eyesore from all parts of bay
 - will be releasing styrofoam for many seasons

SHORELINE OILING SUMMARY

REVISION NO. 04.13.90

OG K. DERUSSCHERE ^{NOAA} ~~USCG~~ STEPHEN STURM SEGMENT ST/ KN-577
 BIO D. REED LAND REP Roy Burger DNR SUBDIVISION A (1 OF 2)
 EXXON Tony Diaz ADEC Wes Ghermley TIME 13:45 to 17:00
 TEAM NO. 8 TIDE LEVEL +3 FT - +2.5 FT DATE 4/19/90
 EST. SUBDIVISION LENGTH: 10 000 m ☒ Sun ☒ Clouds ☐ Fog ☒ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: W to E
 SURFACE SEDIMENTS: R 75 % B 15 % C 5 % P 3 % G 2 % 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 0 m N 0 m VL 0 m NO 10 000 m

SURFACE OIL

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

Snow

PAVEMENT H F S 0 sq. m by 0 crPATTIES / 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 STYROFOAM
FROM MOUS.#BAGS 1

Photographs:

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

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~~	SU	U	M	V				
1	20					X	.									X				N	—	C&G-G&S/C	
2	20					X	.									X				N	—	C&G-G&S/C	
							.																
							.																
							.																
							.																

COMMENTS

- SUBDIVISION IS DOMINATED BY BEDROCK

- NO OIL OBSERVED

DASH IN SU STANDS FOR: MOSTLY NO OIL ON ROCK IN SU
 - SNOW IN SU IN LOCATIONS WITH
 LOW ANGLE BEACHES (AT STRAINS)

REVIEWED 7W DATE 4/20/90

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / KN 577 Subdivision A Date (mo / day / yr) 04/19/90Time (24 hr) 1350-1700 Biologist DAN REED

- (A) Substrate type and % of segments:
 (1) Bedrock 75 (2) Boulder 15 (3) Cobble 5 (4) Pebble 3 (5) Sand 2 (6) Silt —
- (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 (3)

Photographs:

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

BARNACLES

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

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	X	2	2	2	2
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

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	2	2	2
3	3	3	3	3	3	X	X	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6

NOT PRESENT

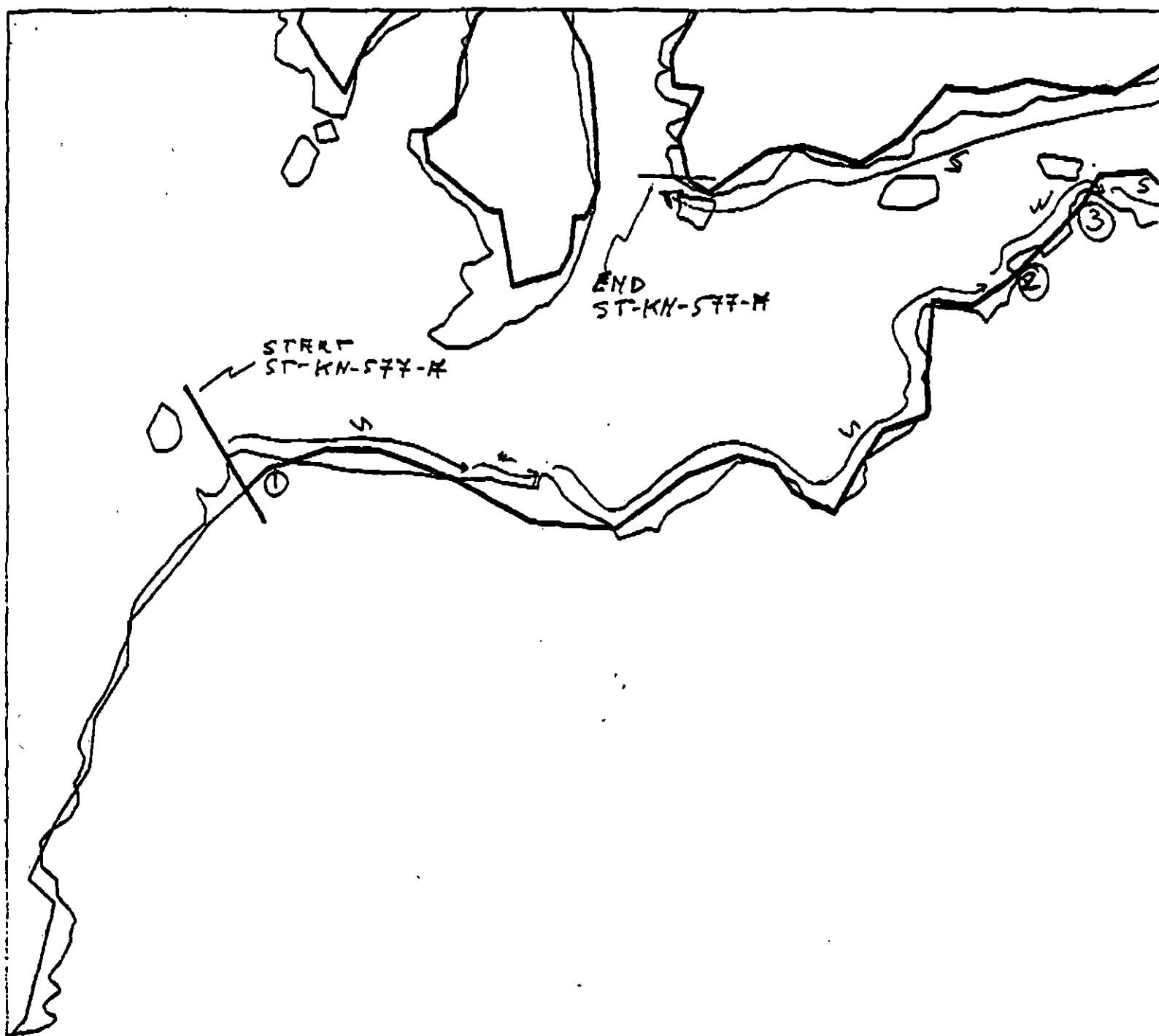
Wildlife Observations/ General Comments:

11 common mergansers, 13 golden eyes, 4 harlequin ducks, 1 Raven
 1 Bald eagle, 1 River Otter, 1 Harbor Seal, 2 salmon stream
 * COMMUNITY DESCRIPTION OF EACH LOCATION GIVEN IN FIELD NOTES

Ecological Considerations:

NONE - NO oil in this subdivision

Zero sea otters observed. Several were routinely observed in Copper Bay last summer by ADER representative.



W=WALK
S=SKIFF

XXX Wide

//// Medium

--- Narrow

TTTT Very Light

ST-KN-577-A

ADEC Segment Length: 17045m

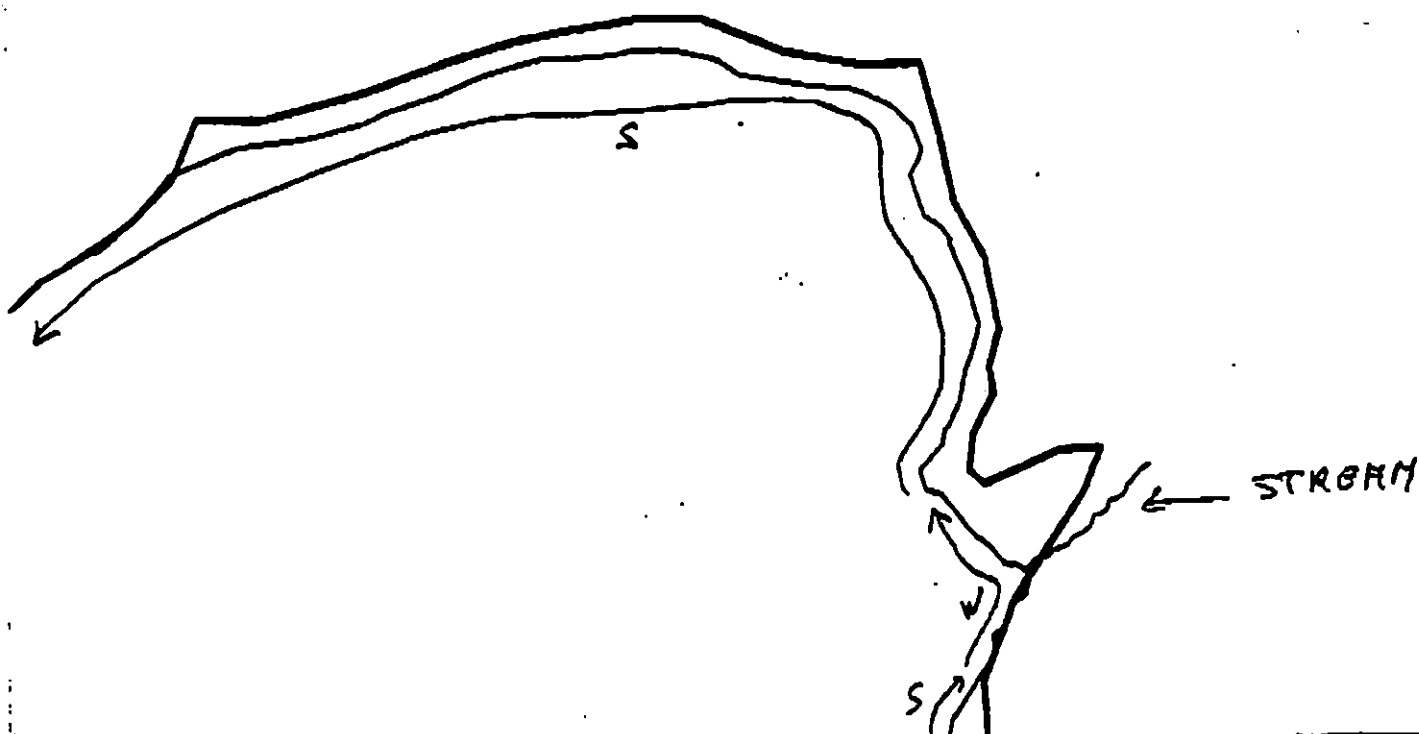
0 100 200 300

Map Key: PWS-4650

Name: K. DEBUSSCHERE

Date: 4/19/90

W = WALK
S = SKIFF



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

ST-KN-577-A

ADEC Segment Length: 17045m

0 100 200 300

Map Key: PWS-4651

Name: K. DEBUSSCHERE

Date: 4/19/90

Ecology Map 3 of 7

KN-577



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

ST-KN-577-A

ADEC Segment Length: 17045m

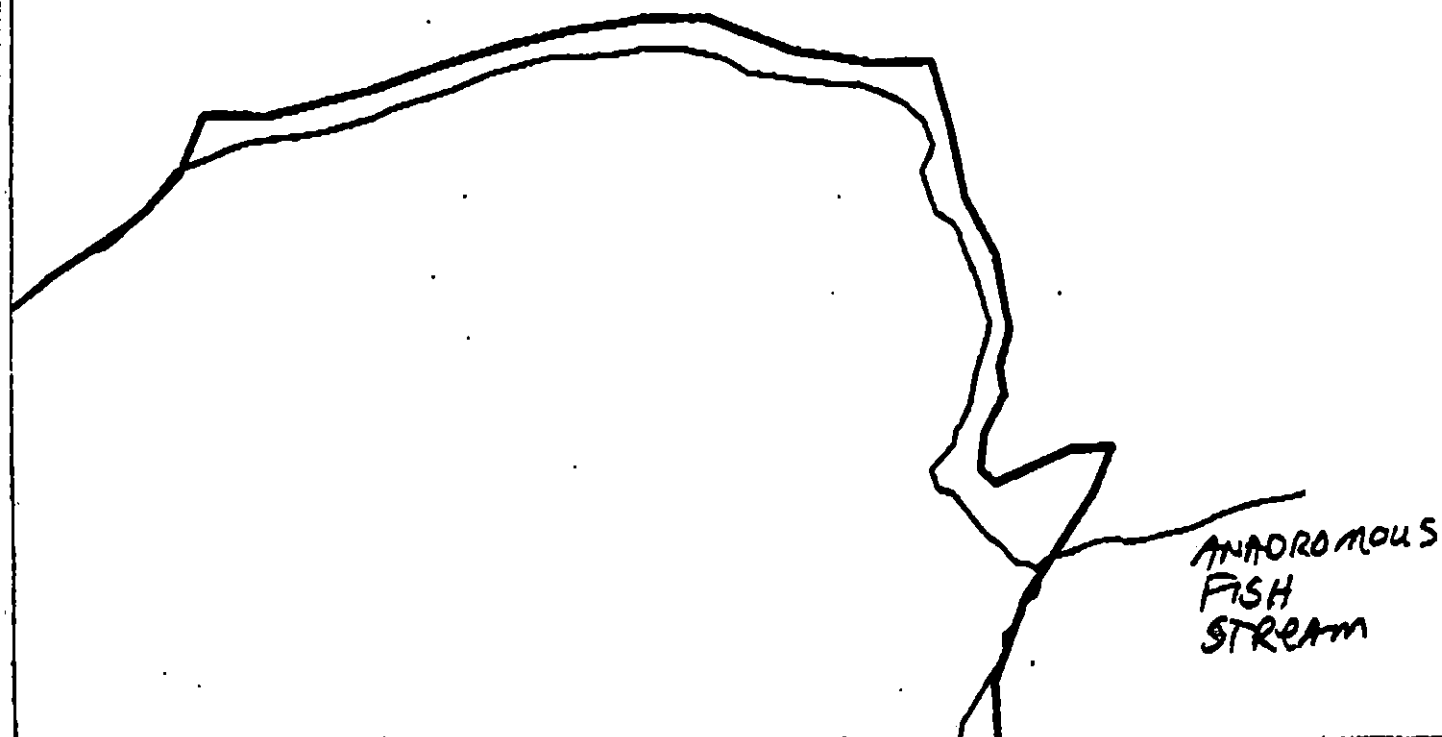
0 100 200 300

Map Key: PWS-4650

Name: D. REED

Date: 4/19/90

Endog Map 4 of 7



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

ST-KN-577-R

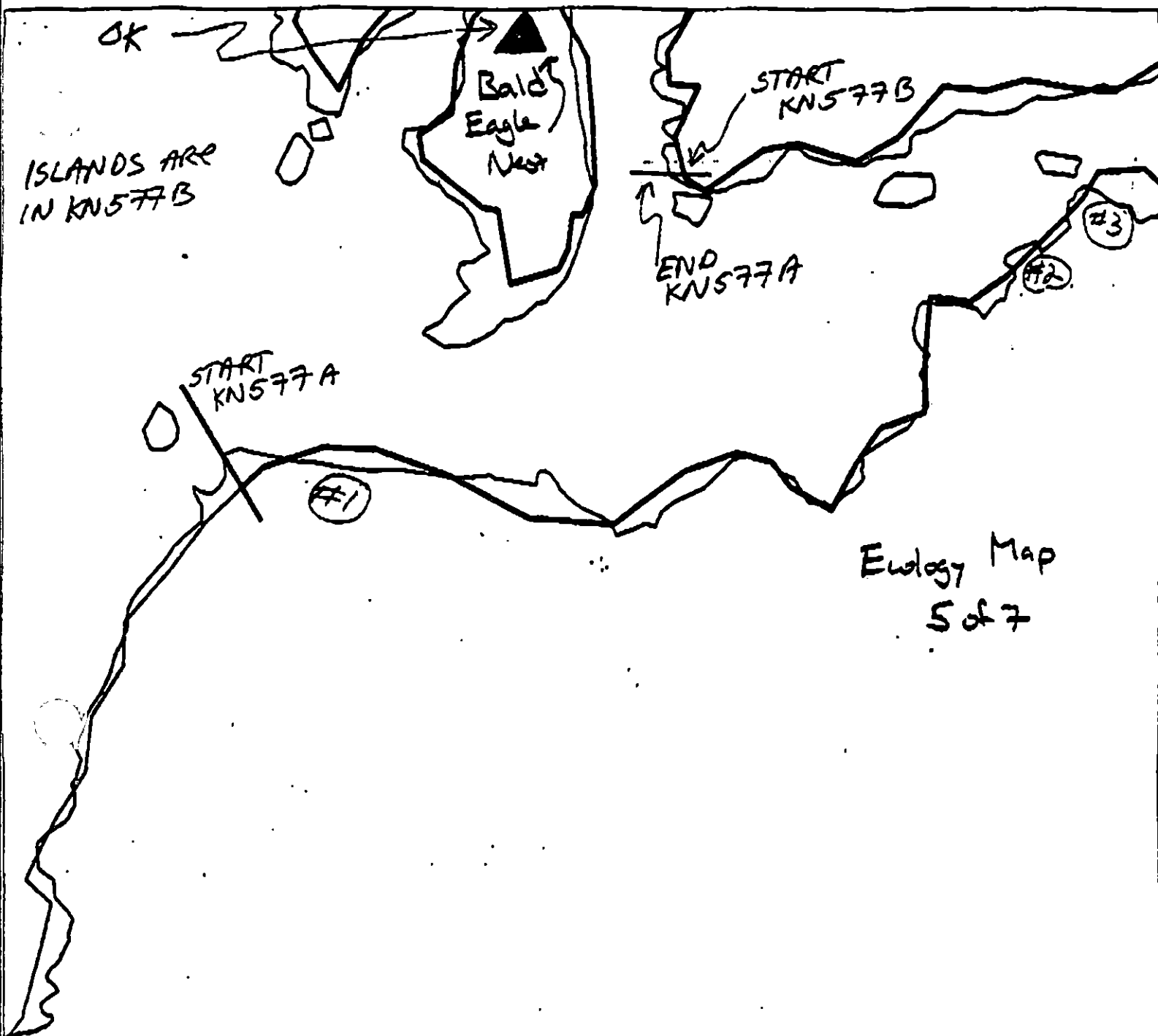
ADEC Segment Length: 17045m

0 100 200 300

Map Key: PWS-4651

Name: D. R. GED

Date: 4/19/90



Ⓢ = Location number in FIELD NOTES

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

ST-KN-577-A

ADEC Segment Length: 17045m



Map Key: PWS-465a

Name: D. REED

Date: 4/19/90

Ecology Map
6 of 7

ST-9-3-1

#4

ANADROMOUS
Fish stream

⊕ = LOCATION NUMBER IN FIELD
NOTES

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

ST-KN-577-H

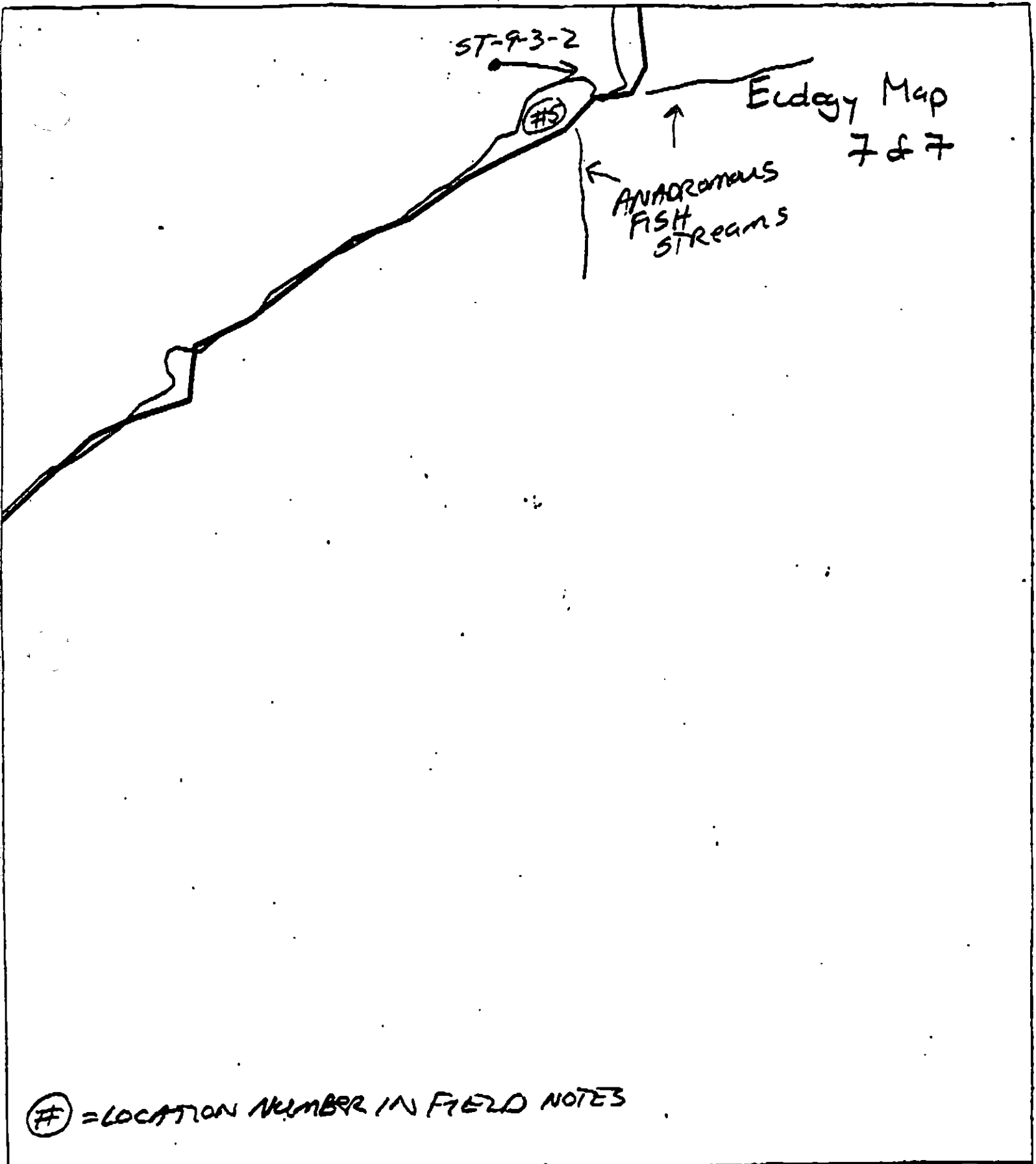
ADEC Segment Length: 17045m

0 1,000 2,000 3,000

Map Key: PWS-465b

Name: D. K. FRED

Date: 4/19/90



Ⓢ = LOCATION NUMBER IN FIELD NOTES

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

ST-KN-577-A

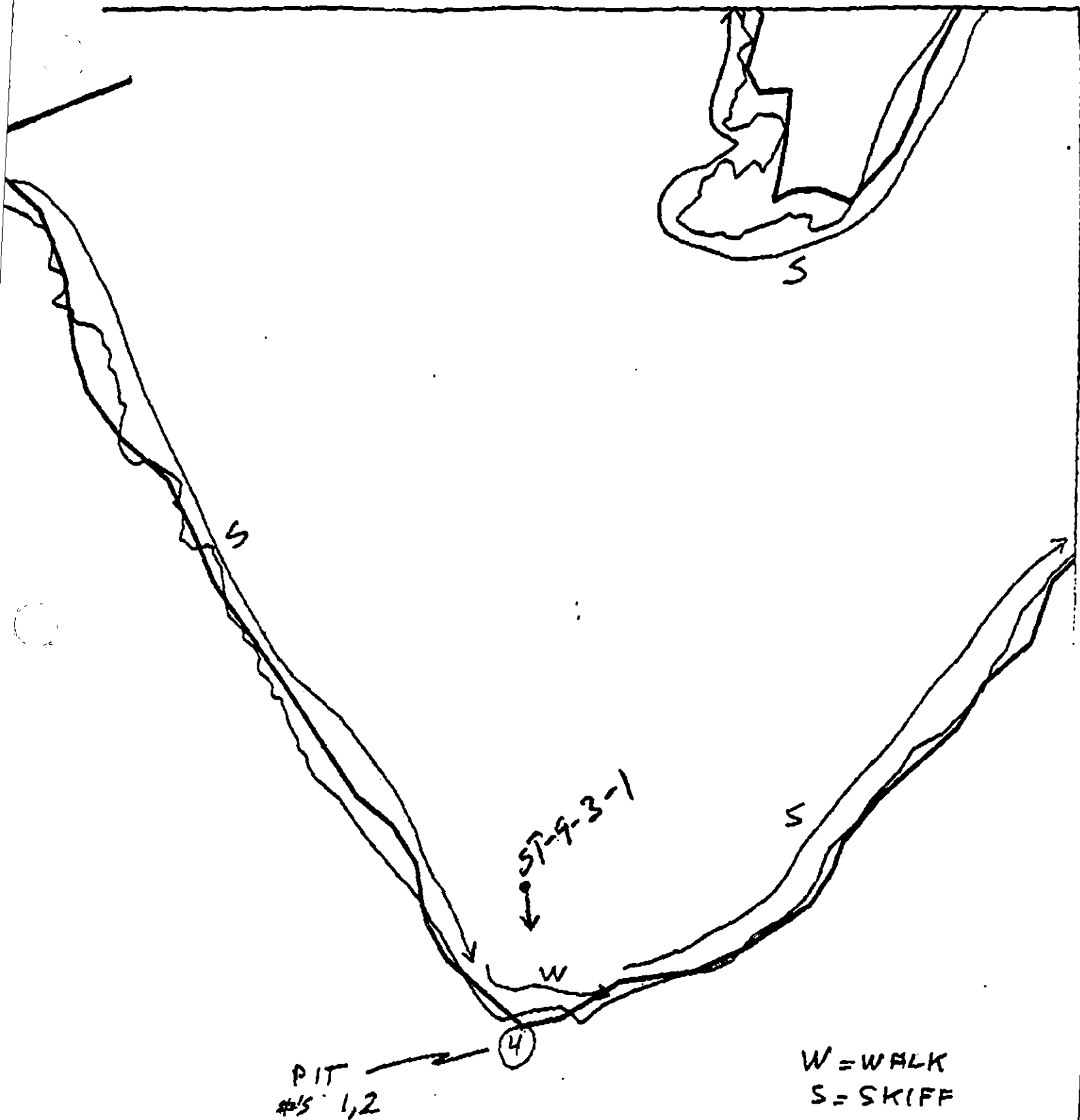
ADEC Segment Length: 17045m

0 100 200 300

Map Key: PWS-465c

Name: D. REED

Date: 4/19/90



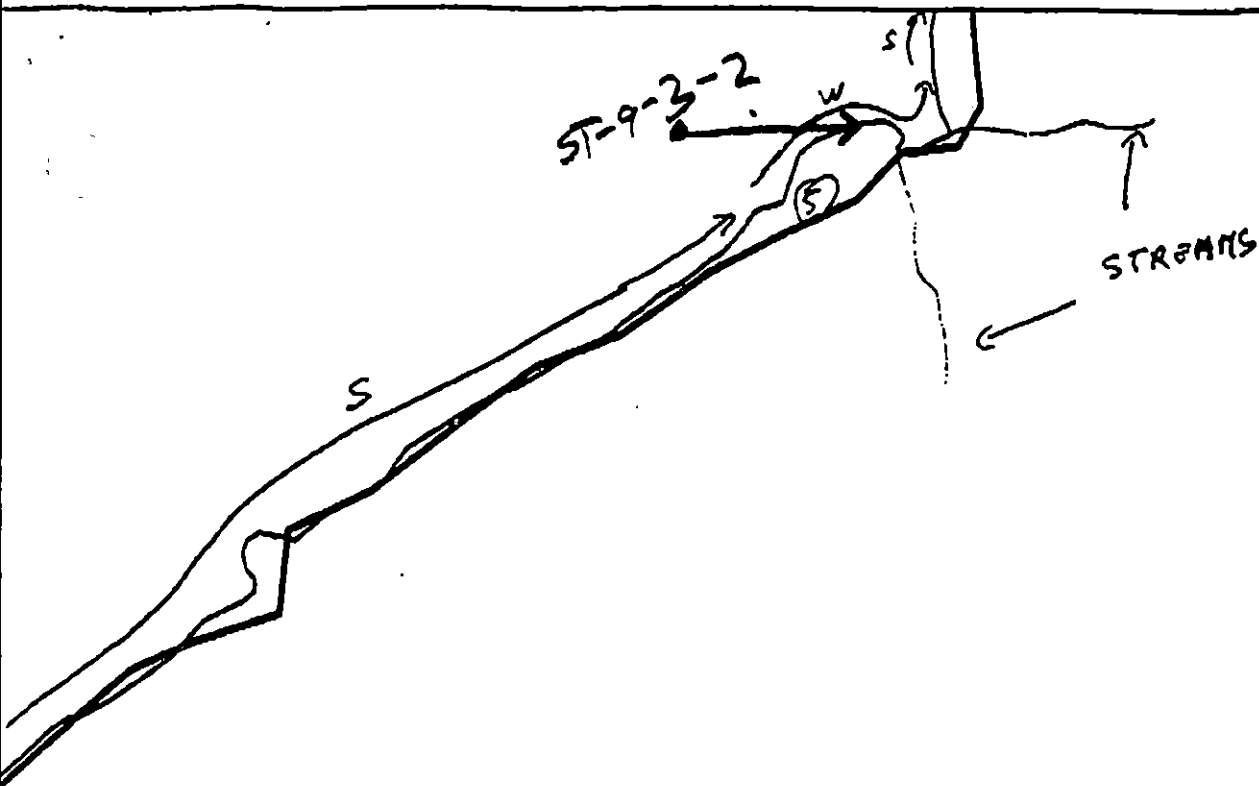
XXXX Wide
 /// Medium
 --- Narrow

ST-KN-577-A

ADEC Segment Length: 17045m



Map Key: PWS-465b
 Name: K. DERUSSCHER
 Date: 4/19/90



W = WALK
S = SKIFF

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

ST-KN-577-A

ADEC Segment Length: 17045m

0 100 200 300

Map Key: PWS-465c

Name: K. DERUSSCHERDate: 4/19/90

START
ST-KN-577-A

END
ST-KN-577-H

OIL MAP

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

ST-KN-577-H

ADEC Segment Length: 17045m

0 100 200 300
16/25 METERS

Map Key: PWS-463a

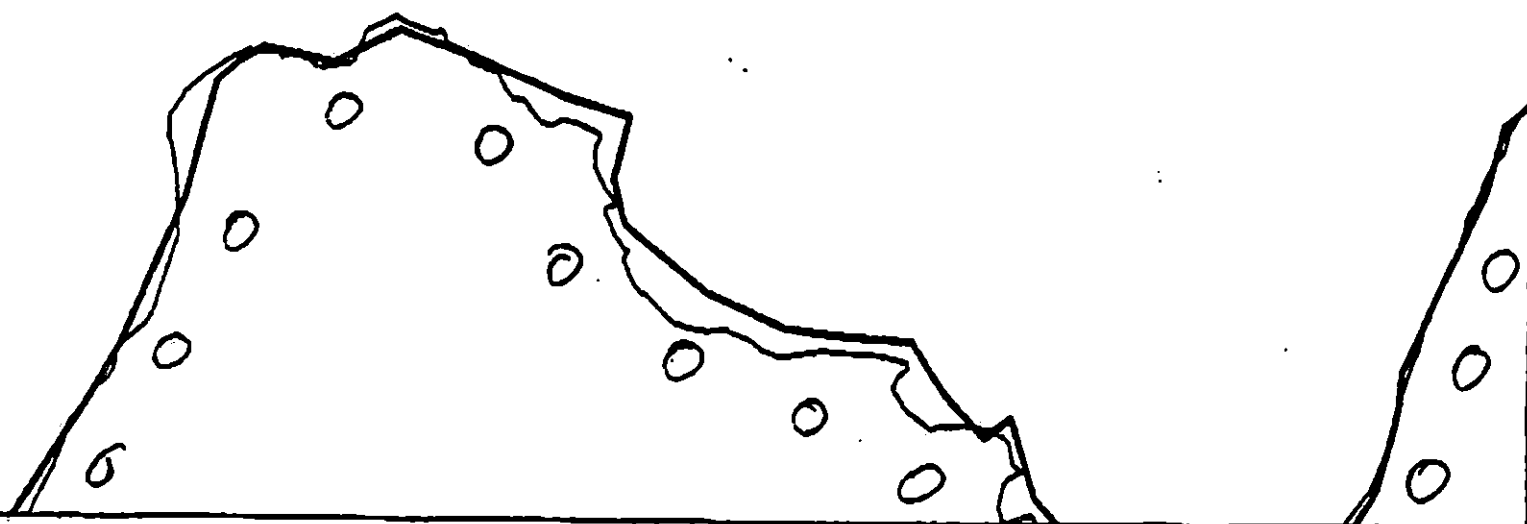
Name: K. DEBUSSCHERE

Date: 4/19

Data Entered:

OIL
MAP

KN-577

XX Wide
/// Medium

--- Narrow

TTTT Very Light

oooo " . . .

ST-KN-577-A

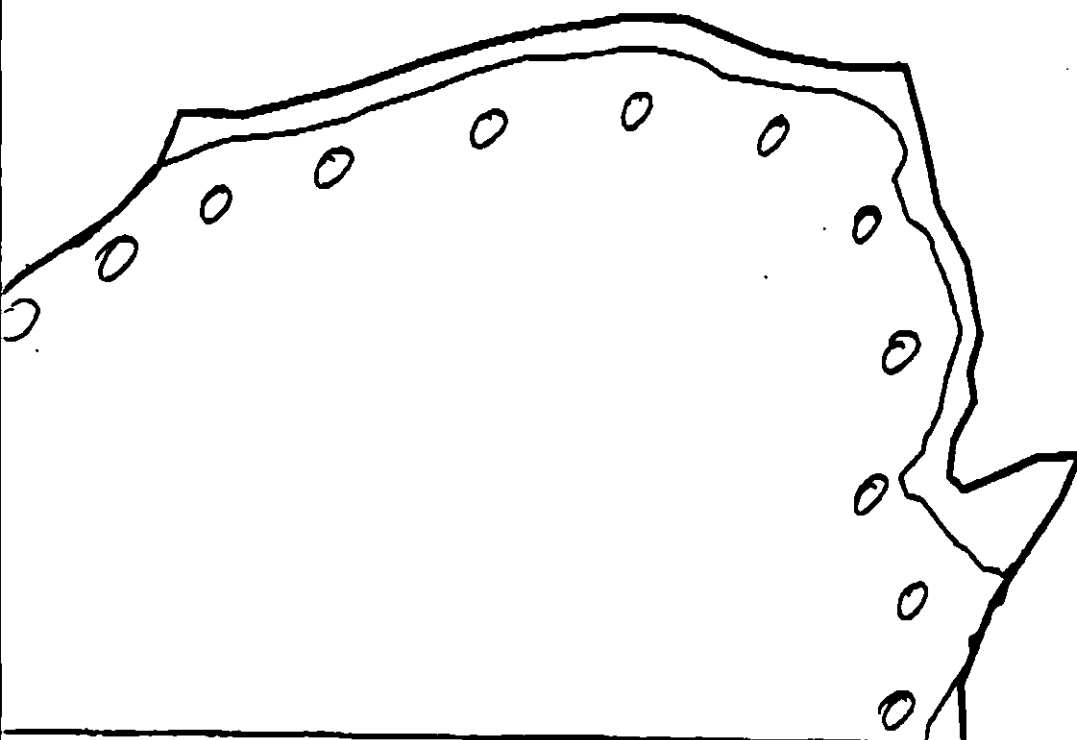
ADEC Segment Length: 17045m

0 100 200 300

Map Key: PWS-4630

Name: K. DEBUSSCHERDate: 4/19/90

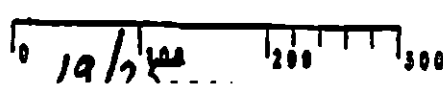
OIL MAP



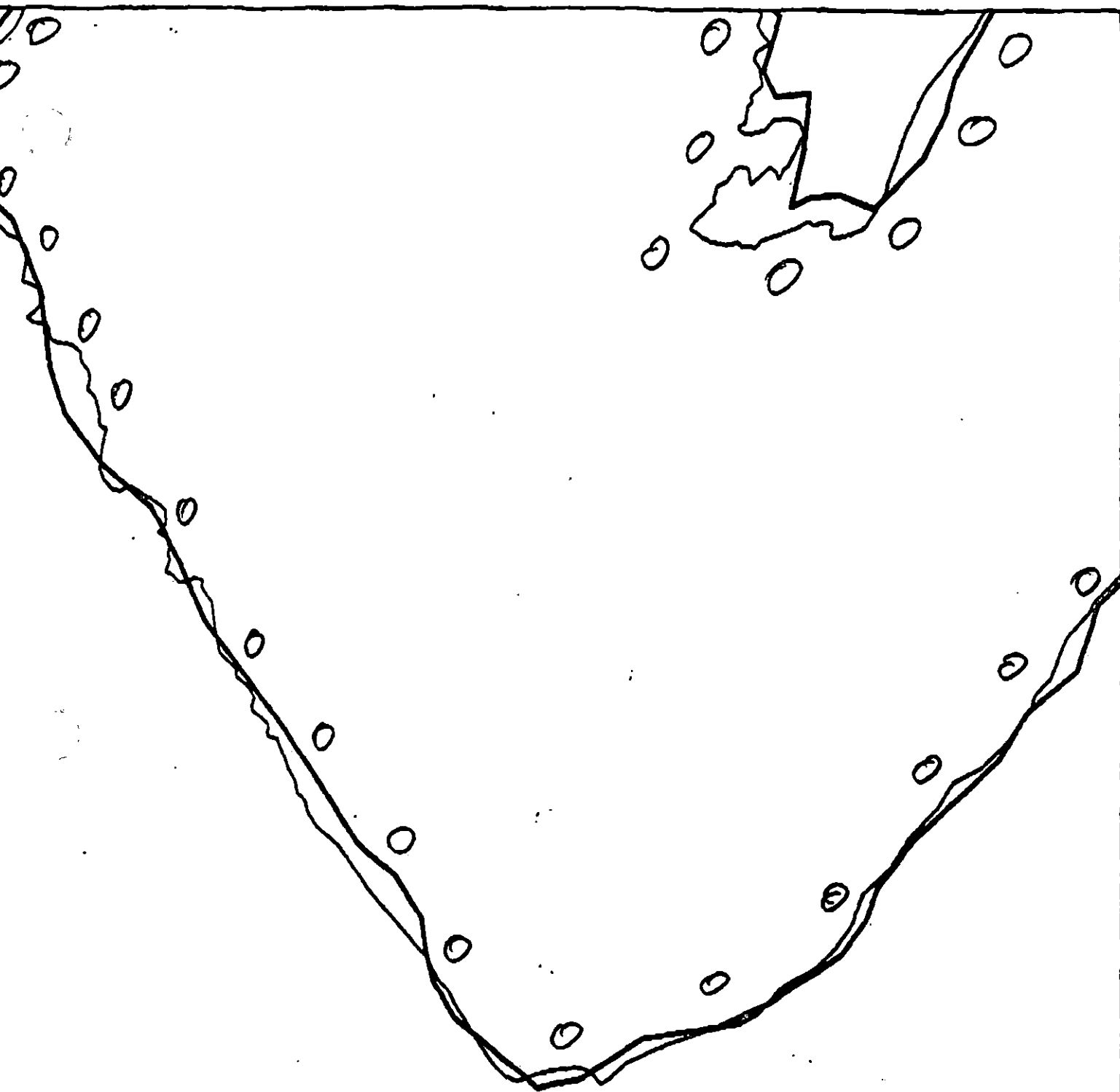
XX Wide
 /// Medium
 --- Narrow
 TTTT Very Light
 OOOO No Oil

ST-KN-577-A

ADEC Segment Length: 17045m



Map Key: PWS-465f
 Name: K. DEBUSSCHER
 Date: 4/19/90
 Note:

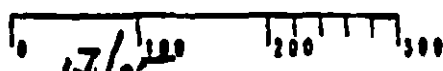


OIL
MAP

X X Wide
 / / / Medium
 - - - Narrow
 T T T T Very Light
 O O O O No Oil

ST-KN-577-17

ADEC Segment Length: 17045m

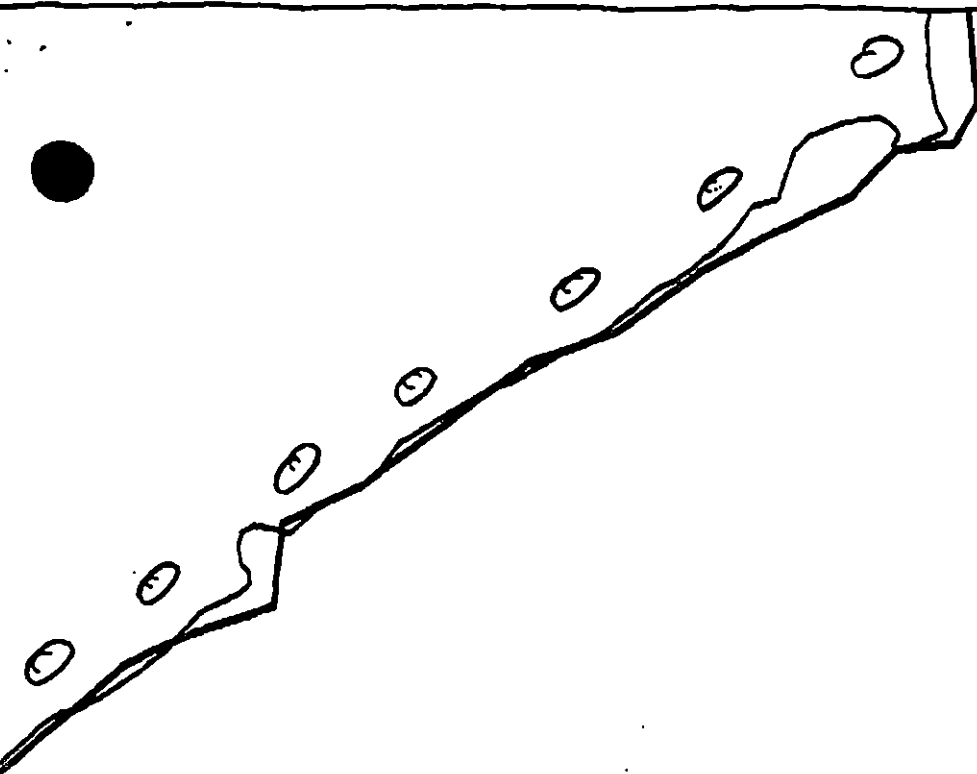


Map Key: PWS-465b

Name: K. DEBUSSCHE

Date: 4/19/90

NOT FOR RELEASE



OIL MAP

X X Wide

/// Medium

--- Narrow

TTTT Very Light

OOOO

ST-KN-577-A

ADEC Segment Length: 17045m

0 100 200 300

Map Key: PWS-465c

Name: K. DEBUSSCHER

Date: 4/19/90

SHORELINE EVALUATION

SEGMENT ST/ KN-577 SUBDIVISION B (2 OF 2) DATE 4/19/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T-2 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
6U Recreation: Tent sites (6/1 to 9/15)
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. 1 eagle nest located in Subdivision B and confirmed. Other listed nest not found.

SHPO SIGNATURE: Rachel Jan Dore DATE: 6/20/90

OILING CATEGORIZATION:

Wide 58 m: Medium 12 m: Narrow 677 m: V.Light 985 m: No Oil 4226 m
Subsurface Oil Observed: Yes X No Maximum Depth 25 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes, 1) manual removal of tarmats,
2) bioremediation of areas shown on attached sketch maps. Work should
be conducted after 6/1, with approval of USFWS regarding eagle nest.

TAG COMMENTS:

TAG APPROVAL DATE: 4/28/90
ADEC Art Wiener
EXXON Andy Eatz
NOAA Gary Petroe
USCG Kenneth Kenner

FOSC: [Signature] DATE: 7/3/90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
 1B Salmon stream mouth - spawning (7/10 to 8/31)
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
- 1C Salmon fry nursery area (4/31 to 7/31)
 1D Esther Hatchery release (4/15 to 6/1)
 1E Main Bay Hatchery release (4/20 to 5/10)
 1F Sawmill Bay Hatchery release (4/15 to 6/1)
 1G Cannery Creek Hatchery release (4/21 to 6/1)
 1H Remote release site
 1I Gill net area (6/7 to 8/31)
 1J Purse seine area (7/20 to 9/30)
 1K Purse seine hook-off (7/20 to 9/30)
 1L Set net sites (6/11 to 7/25)
 For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
- 2M Herring spawning (4/1 to 6/15)
 Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
- 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 (3/15 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-577 SUBDIVISION: B DATE 4-19-90NAME STEPHEN SPURN SIGNATURE Stephen Spurn☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

LOCATION 6 - 3 METERS x 5 METERS AREA; OIL SATURATION OF MIXED GRAVEL, SAND, PEBBLE, UP TO 20 CM BENEATH COBBLE-BOULDER VENEER. RECOMMEND SPOT WASHING - MANUAL CLEANING (PICK-UP / RAKING) AS MUCH AS POSSIBLE FOLLOWED BY BIO-REMEDIATION.

LOCATION 8: MANUAL REMOVAL OF ASPHALT MAT PARTLY COVERED BY CLEAN PEBBLE VENEER. RAKING UPPER 15-20 CM OF PEBBLE / ASPHALT MAT TO EXPOSE OILED SUBSTRATE TO NATURAL WEATHERING. SPOT WASHING OF VERTICAL SURFACES (SOUTHERN AND (EASTERN) EXPOSURES IN FOCUS ZONE.

NAME Wesley Ghermley SIGNATURE Wesley Ghermley☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

— Location #6 in this segment requires treatment consisting of spot washing & possible tilling of oiled area to bring subsurface oil to the surface. After washing is completed recommend bioremediation.

— Location #8 - Recommended clean up for oiled area.

1. Manual removal of asphalt/pavement.
2. Spot washing on bedrock to remove coat/cover, also spot washing of oiled gravel beach. Raking & agitating of sediments should be applied while spot washing to bring oiled sediments to the surface. Small boom should be deployed at mouth of pocket beach to prohibit the spread of recovered oil. Retrieve oil with pom-poms. Possible bioremediation after first method.

LAND MANAGER

NAME Ray Burger ADNR SIGNATURE Ray Burger☐ NO TREATMENT RECOMMENDED☒ TREATMENT SUGGESTED

COMMENTS

— Concur w DEC treatment as above in locations #6 + 8.

— While this channel receives a lot of boat traffic, the coat found splattered @ MHW is unobtrusive

— Only one cove allows landing/camping (2 tarballs removed here - no other oiling)

18/24

SHORELINE OILING SUMMARY

REVISION NO. 04/12/90

OGK. DEBUSSCHERE ^{NOAA} ~~USGS~~ STEPHEN STURN SEGMENT ST/ KH-577
 RID D. REED LAND REP Ray Burger ADNR SUBDIVISION B (2 OF 2)
 ON TONY DIAZ ADEC Wes Ghormley TIME 17:00 to 20:00
 TEAM NO. 9 TIDE LEVEL ±2.5 - 6.0 FT DATE 4/1/90
 EST. SUBDIVISION LENGTH: 70.45 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: S to N
 SURFACE SEDIMENTS: R 80 % B 15 % C 3 % P 1 % G 1 % S 0 % M 0 % V 0 %
 SLOPE: Long 40 % Hang 30 % Vert 30 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 15 m M 10 m N 900 m VL 1060 m NO 6060 m

SURFACE OIL

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

PAVEMENT H E S 3 sq. m by 3 cmPATTIES (TARBALLS) 1 BAGSNEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐TYPE POMPOUS
NOT OILED#BAGS 1

Photographs:

Roll No. ST-9-3Frames 3-8

SUBSURFACE OIL

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

COMMENTS

- SUBDIVISION IS PREDOMINANTLY BEDROCK WITH SOME B-BEACHES & SMALL P-POCKET BEACHES

- OILING IS OVERALL: NO OIL TO HARROW (COAT / S / P / B); ALSO CONTINUOUS FILM IN LOC (3) OVER ± 2 X 1 M; AND 2 TARBALLS THAT WERE PICKED UP (SEE GIS - MAP)

REVIEWED Y/W NEXT PAGE
DATE 4/20/90

SHORELINE OILING SUMMARY (PAGE 2)

REVISION 04-13-90

SEGMENT ST/ KM-577 SUBDIVISION B (2 OF 2)

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-OM)	BELOW		OIL / FILM COLOR						PIT ZONE				A	N	A	SHEEN (Y/N)	↓	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	SP	BP	OT	OP	LT	LT	SU	U	M	U						
7	15	X					10-12		X					X		X							N	-	B/C(10)-P/G
8	25	X					10-20		X					X		X						Y	15	B/C(10)-P/G	
9	20	X					2-10		X					X		X						N	-	P- P/G/S	
10	5					X	0-3		X	X						X						N	-	HP- G/S	
							L-PAVEMENT																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		</

COMMENTS

- MOST SIGNIFICANT OILING IS PRESENT IN LOC'S ⑥ & ⑧

→ OILING IN LOC ⑥: COVER/C OVER 2X3 M ON B&C IN UI

PIT: OILING 10-25 CM STARTING FROM TOP OF SURFACE SED

OR 0-15 CM " " BOTTOM " " "

- COAT/P ON A & B ON WALLS OF COVE IN UI

→ OILING IN LOC ⑧: PAVEMENT/P ± 3X1 M ± 3CM THICK (PIT 10)-UI

- COVER/C ± 10X1 M ON B&C -UI

- COAT/P ± 10X2 M " " -UI & ME

- COAT/C ± 15 ON P -UI

AT 2-5 CM IN PIT #9

→ OILING IS WIDE OVER ± 15 M IN THIS LOCATION; SUBSURFACE OIL EXTENDS TO 20 CM COUNTING FROM TOP OF BOULDER (PIT #8)

REVIEWED YCW DATE 4/20/90

OG K. F. VSSCHER

SEGMENT ST-KN-577

SUBDIVISION B

DATE 4/19/90

ETCH MAP

Location # 8

ST-KN-577-B

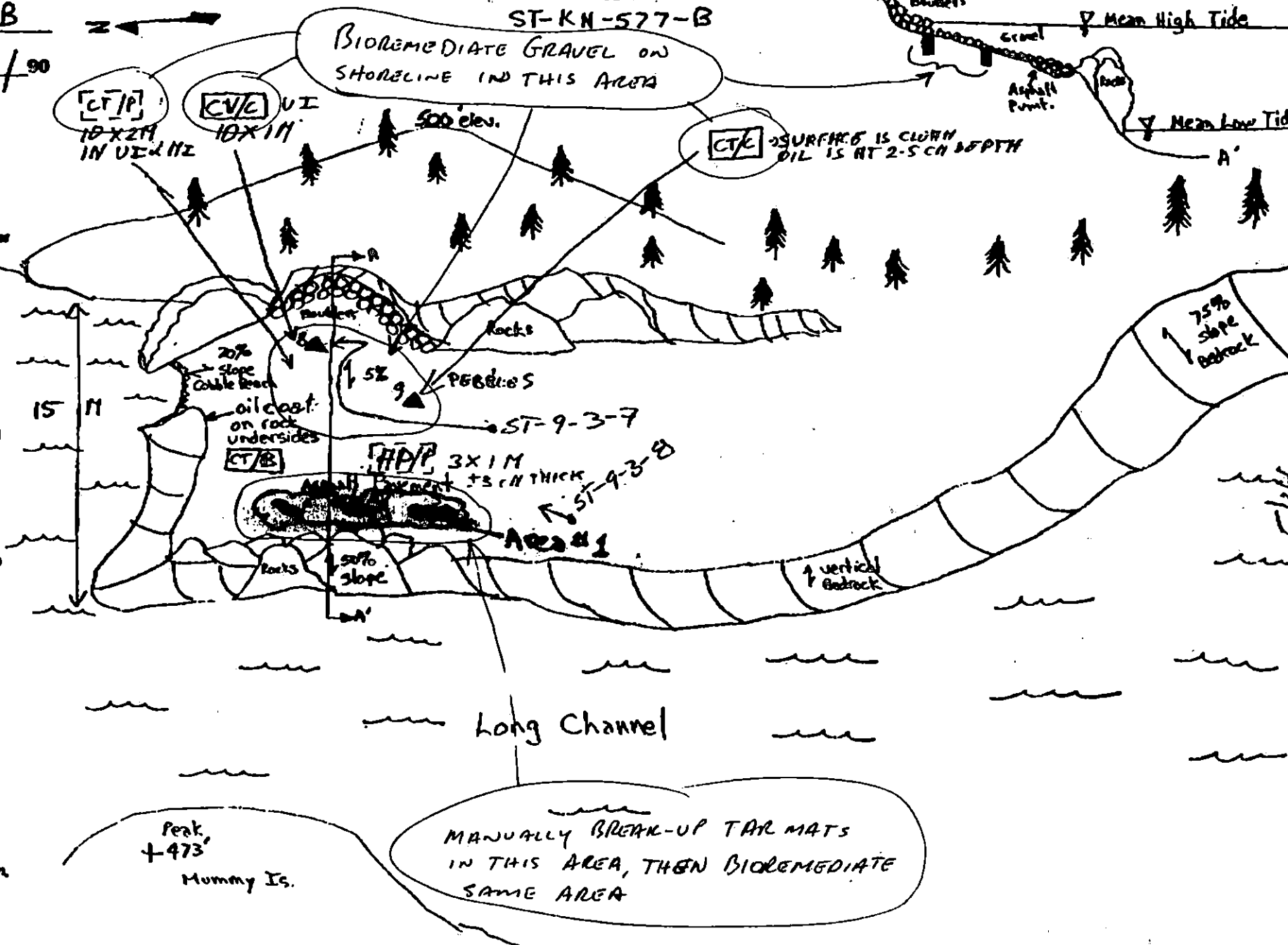
Profile A-A'

CHECKLIST

- N Arrow
- Approx. Scale
- Seg/Sub Entry
- Oil Dist.
- Width
- Length
- % Cover
- Substrate Character
- Est. HAWAII
- 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/D
- Broken Distribution
- CT/P
- Patchy Distribution
- CT/S
- Splashed Distribution
- lll
- Oiled Vegetation
- 1 ●
- Photo location, direction, and number



Oil Character Length (m): AP 3 PO 0 CV 10 CT 20 ST 0 MS 0 PT 0 TB 0 FL 0 NO 0

REVISION 200600

DATE 4 / 19 90

CHECKLIST

- H Arrow
 Apprx. Scale
 Seg/Sub Entry
 Oil Dist.
 Wash
 Length
 % Cover
 Substrate Character
 Est #FW/LYR
 SSL
 Profile Location(s)
 Profile(s)
 PS Location(s)
 Photo Location(s)

LEGEND

- PA - No Subsurface Oil

- 2 ▲**
Pt - Subsurface Off

CT/C
Continuous Distribution

CT/D
Broken Distribution

CT/P

Party Distribution

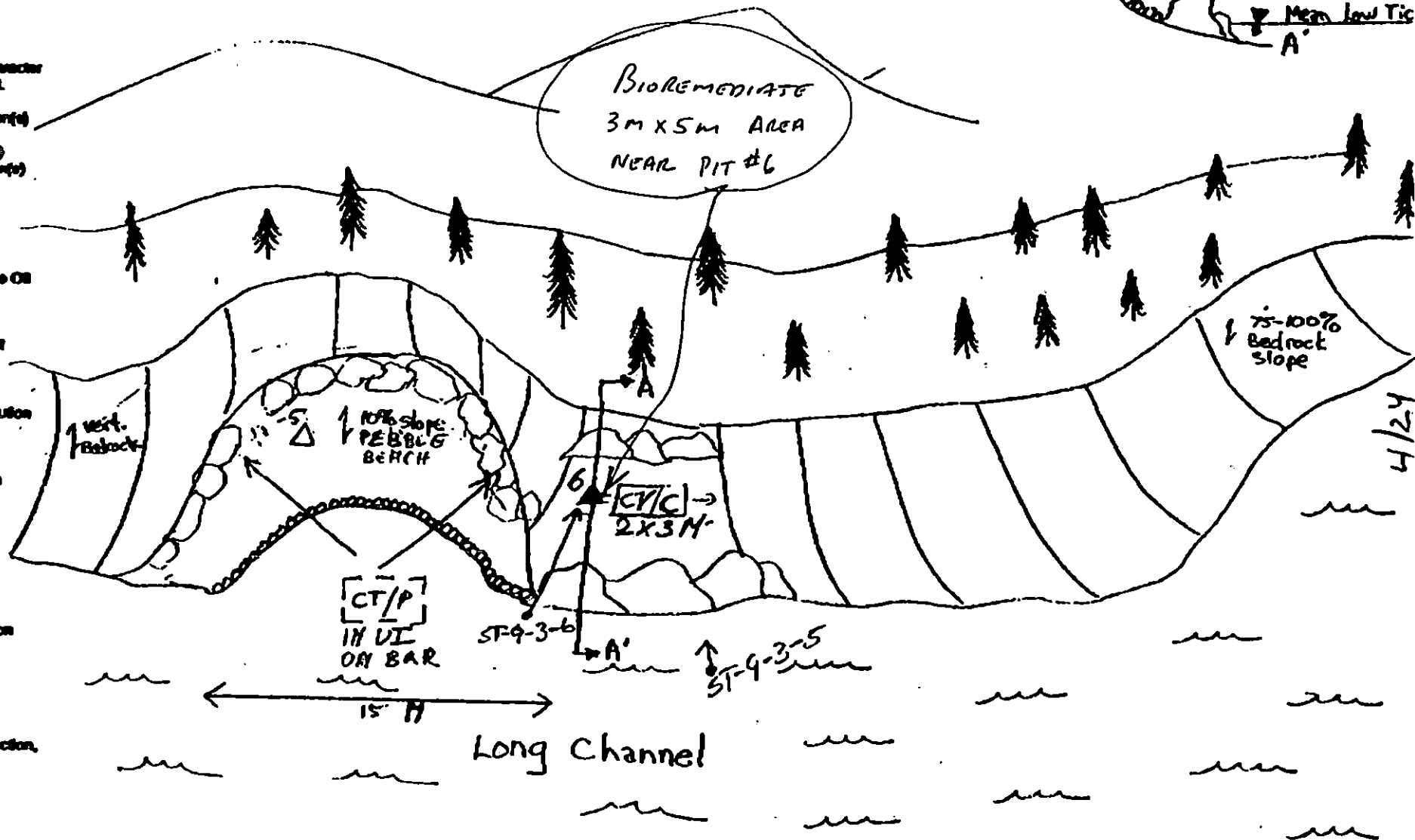
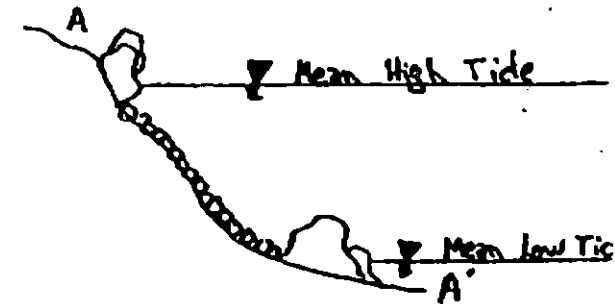
Splashed Distribution

Old Vegetation

- Photo location, direction,
and number

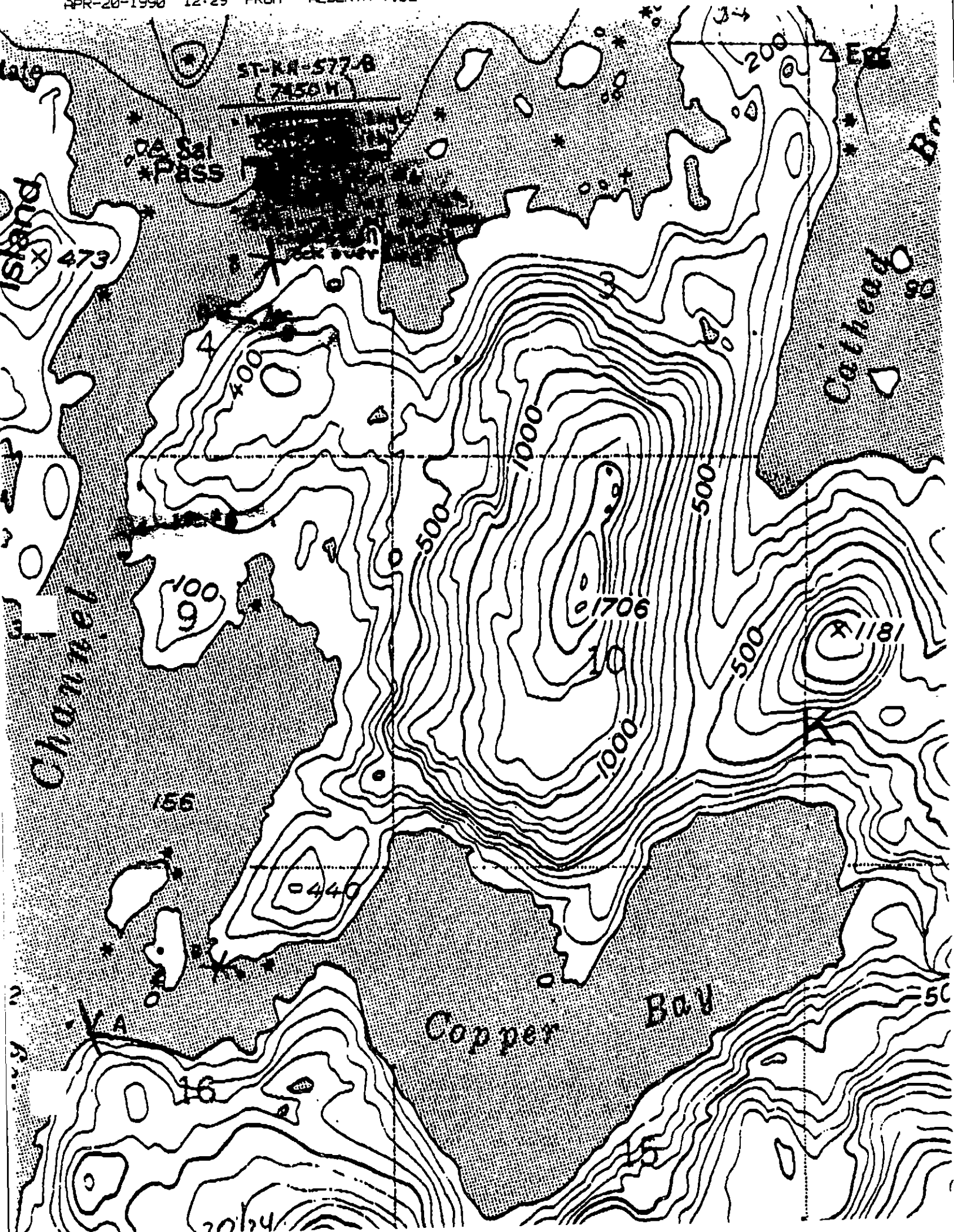
KETCH MAP
ST-KN-577-B
Location #16

Profile $h-n'$



Oil Character Length (in): AP 0 PO 0 CV 3 CT 15 ST 0 MS 0 PT 0 TB 0 FL 0 NO 7

THE WINDING ROAD



SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/22/90

Segment ST / KN577 Subdivision B3 Date (mo / day / yr) 04/19/90
Time (24 hr) 1700-1945 Biologist D. REED

- (A) Substrate type and % of segments:
(1) Bedrock 80 (2) Boulder 15 (3) Cobble 3 (4) Pebble 2 (5) Sand (6) Silt
- (B) Overall % cover of biota (% of segment): Dense 25 Moderate 45 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: ST-9-3
Roll No. ST-9-3

Frames 3 → 8

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

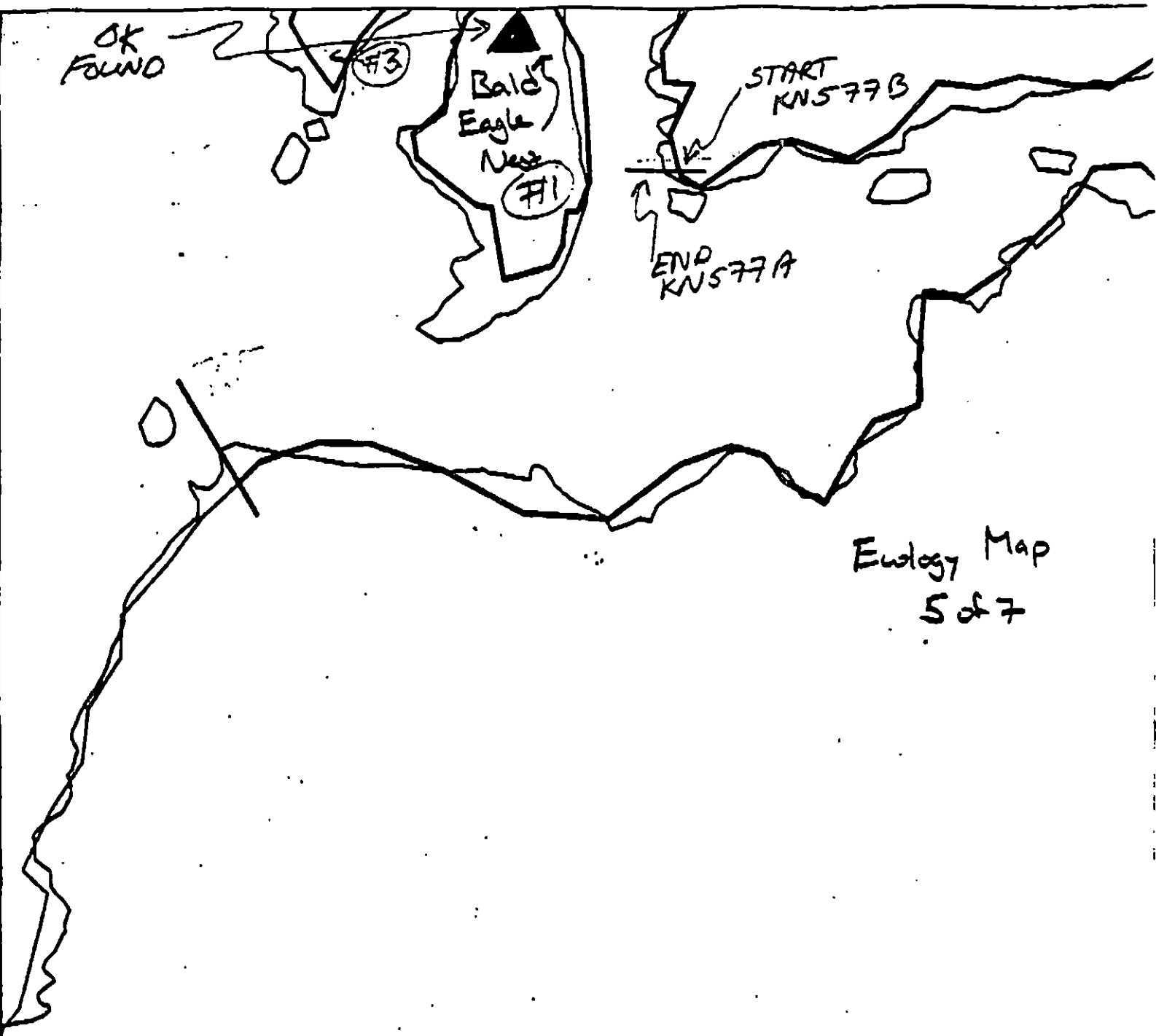
Wildlife Observations/ General Comments:

1 EAGLE NEST, ZERO EAGLES, 1 CORMORANT, 4 HARLEQUIN DUCKS, 3 GULLS,
2 RED NECK GREBS. 1 HARBOR SEAL, ZERO SEA OTTERS.

(*) - COMMUNITY DESCRIPTION OF NUMBERED LOCATIONS WITHIN SUBDIVISION
Ecological Considerations: GIVEN IN FIELD NOTES.

DID NOT LOCATE EAGLE NEST ON N.W. ISLAND (LOCATIONS 2 & 3); NEST OBSERVED WAS FOUND ON S.E. ISLAND (LOCATION #1)

2/7/11



(#) = Location number in FIELD NOTES

XXX Wide
 /// Medium
 --- Narrow
 TTTT Very Light
 0000 No ~~ail~~

ST-KN-577-B

ADEC Segment Length: 17045m

0 100 200 300
 6/24 METERS

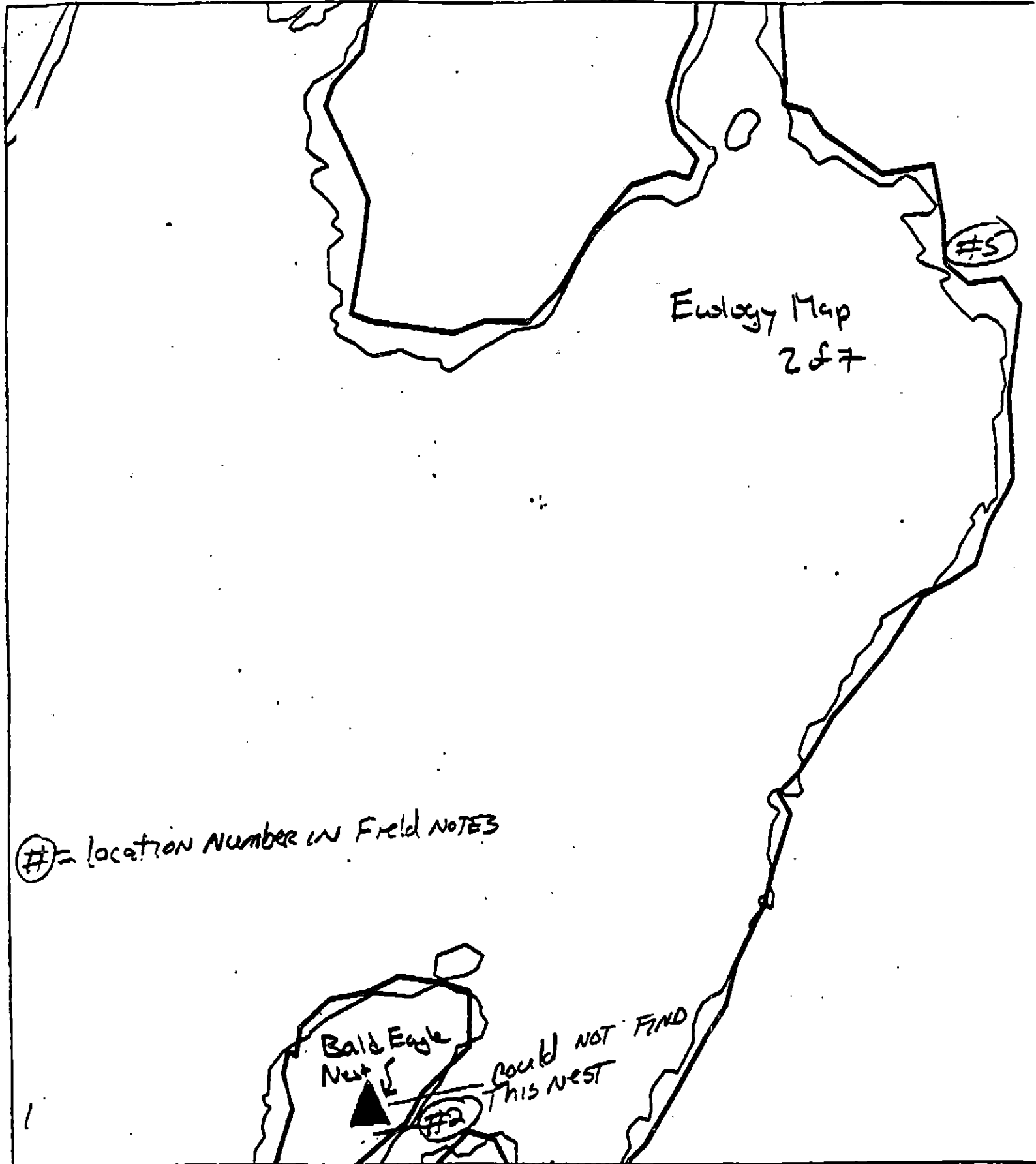


Map Key: PWS-465a

Name: D. REED

Date: 4/19/90

Date Entered:



= location Number in Field Notes

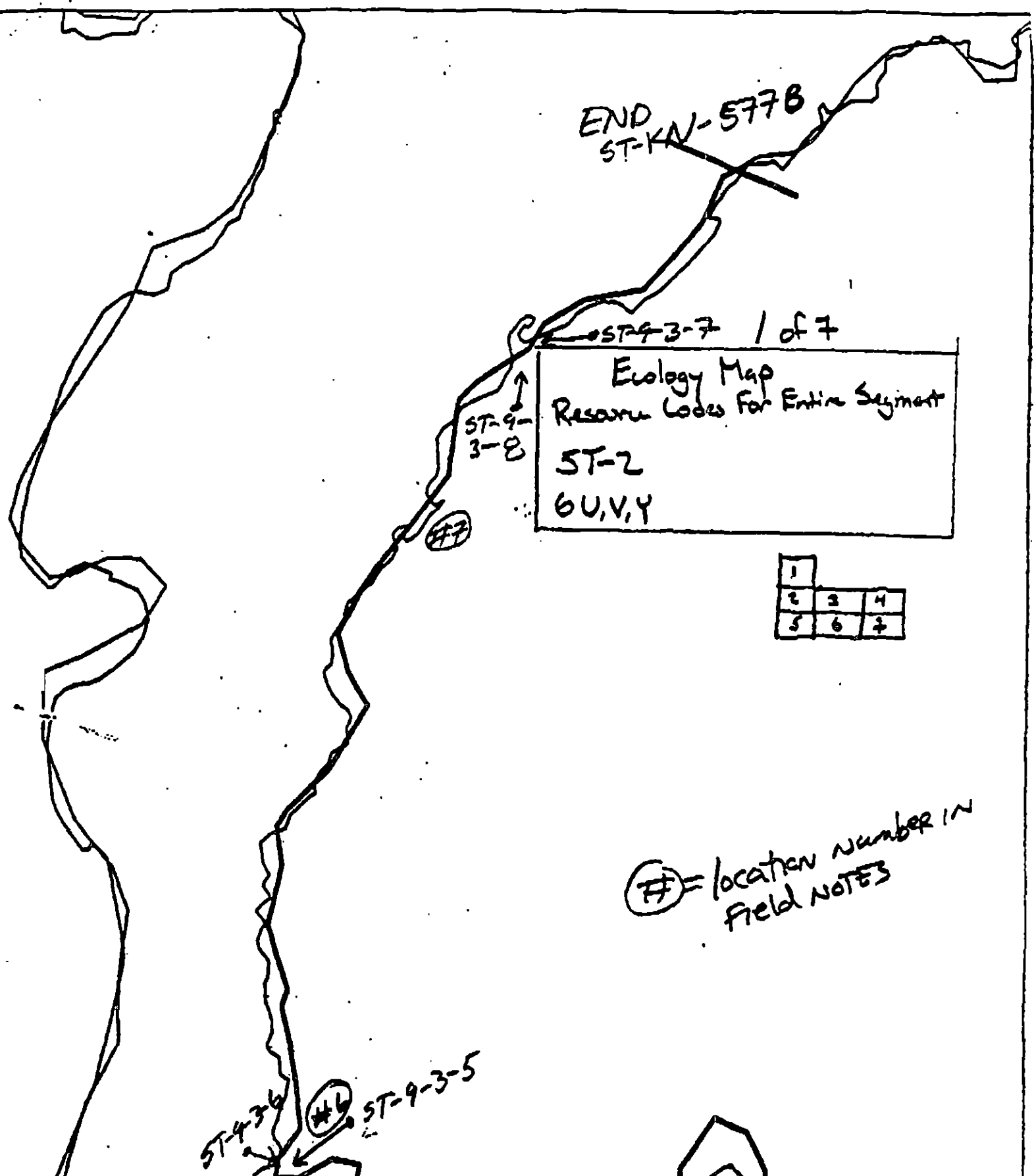
XXXX Wide
//// Medium
---- Narrow
TTTT Very Light
0000 No Oil

ST-KN-577-13

ADEC Segment Length: 17045m



Map Key: PWS-465d
Name: D. REED
Date: 04/19/90
Data Entered:



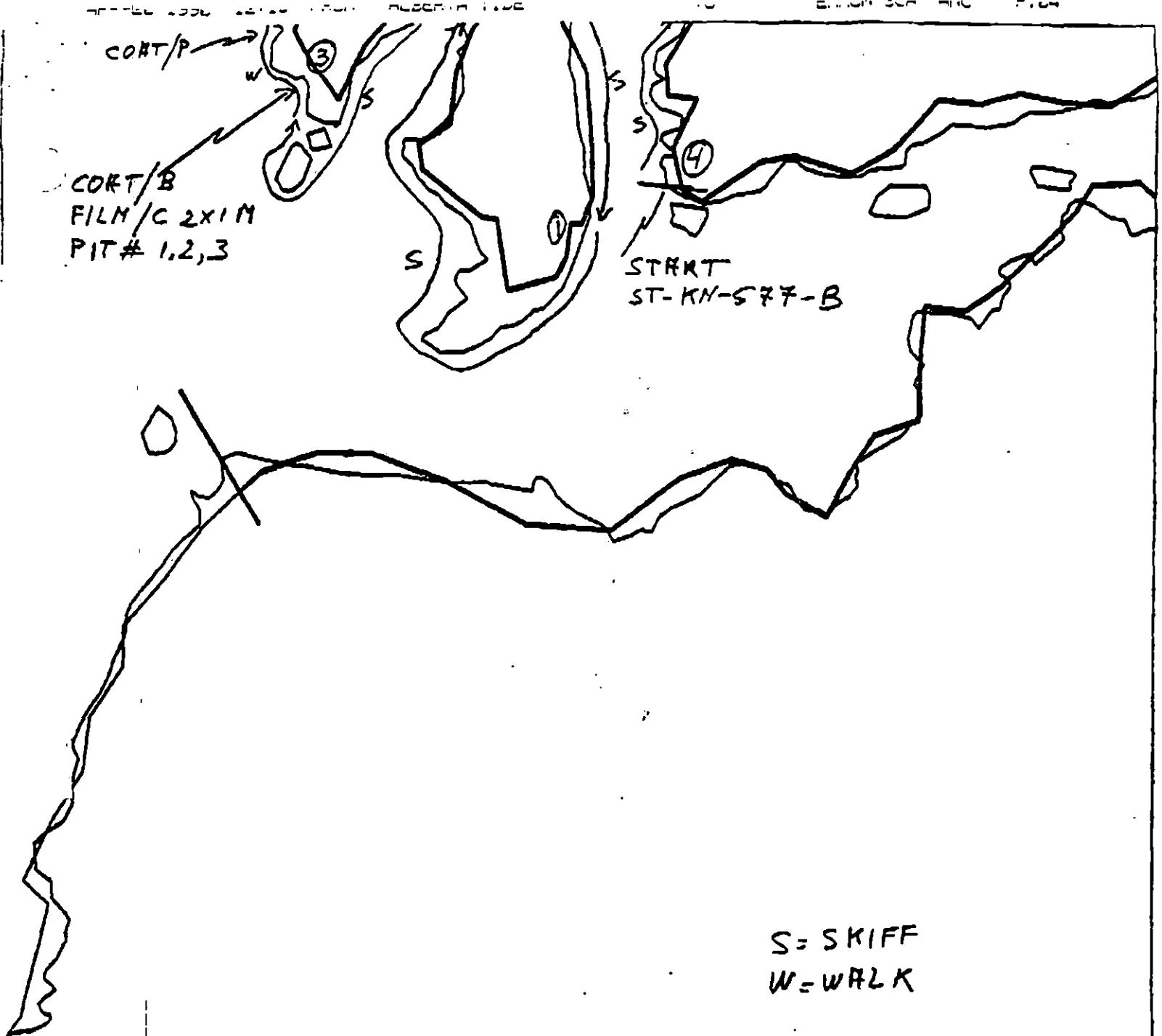
Ecology Map
Resource Codes For Entire Segment
ST-2
6U,V,Y

1		
2	3	4
5	6	7

= location number in field notes

XXX Wide
 /// Medium
 --- Narrow
 TTTT Very Light
 ST-KN-577-B
 ADEC Segment Length: 17045m
 0 1400 200 300

Map Key: PWS-465g
 Name: D. Reed
 Date: 04/19/90
 Date Entered:



YXXX Wide

,,/, Medium

---- Narrow

TTTT Very Light

0000 No Oil

ST-KN-577-B

ADEC Segment Length: 17045m

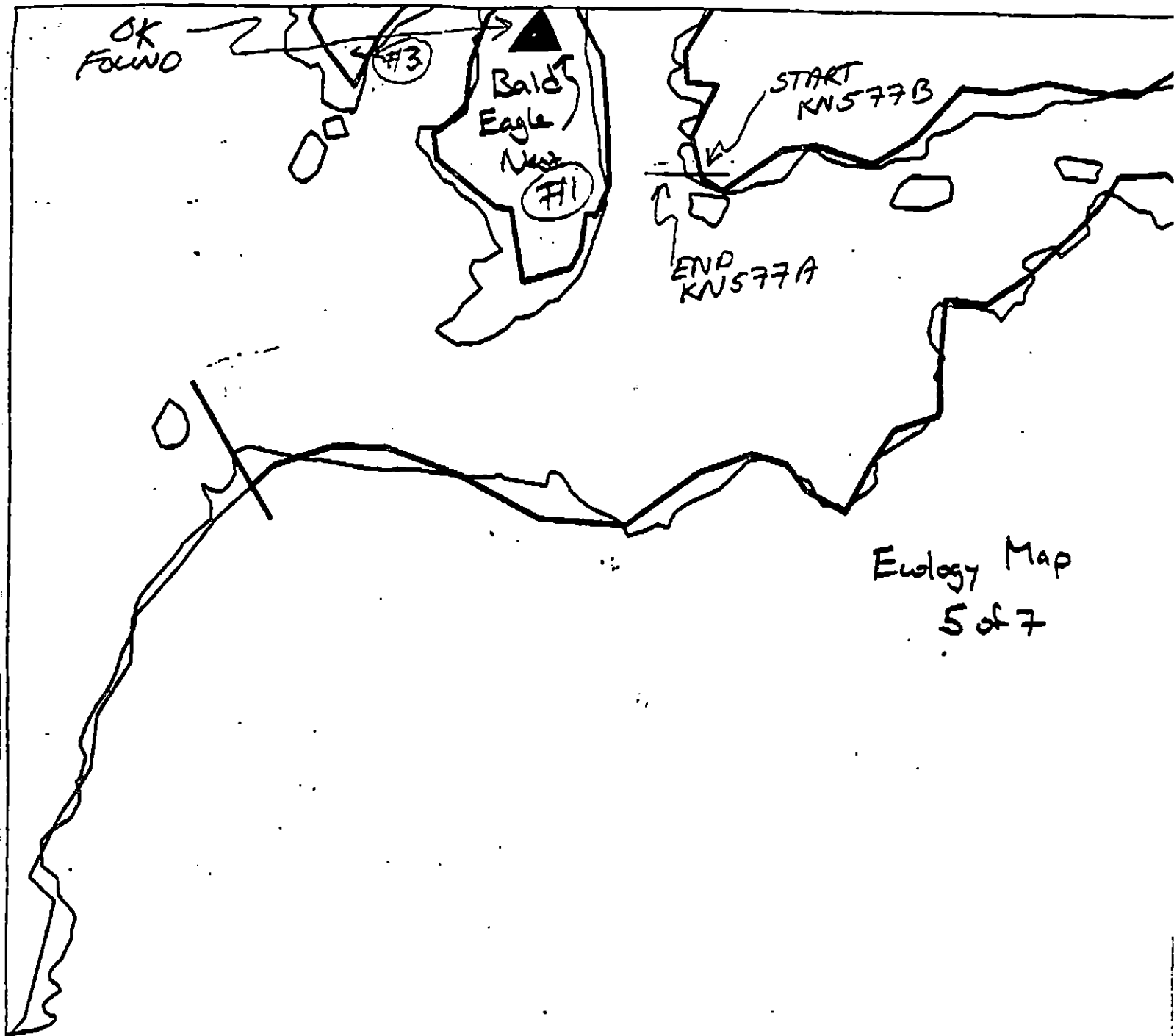
6/24 100 200 300
METERS

Map Key: PWS-4650

Name: K. DEBUSSCHERF

Date: 4/19/90

Date Entered:



= Location number in FIELD NOTES

XXX Wide
 /// Medium
 --- Narrow
 TTTT Very Light
 0000 No Soil

ST-KN-577-B

ADEC Segment Length: 17045m

12/24 400 200 500



Map Key: PWS-465a

Name: D. REED

Date: 4/19/90

Date Entered:

Ewlogy Map
2 of 7

#5

= location number in Field NOTES

Bald Eagle
Nest

could NOT FIND
THIS NEST

#2

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

ST-KN-577-B

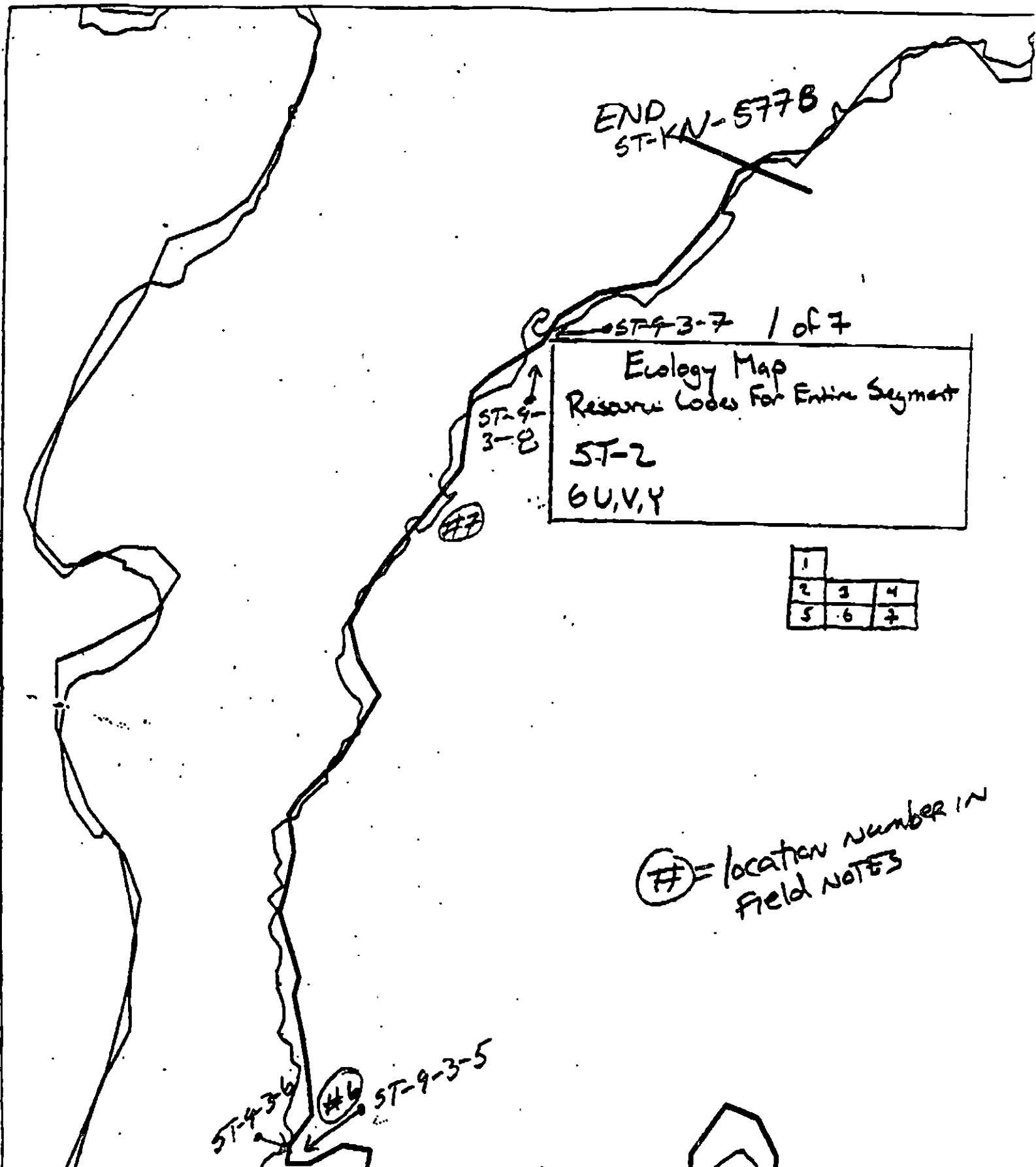
ADEC Segment Length: 17045m

0 13/24 100 200 300
METERS

Map Key: PWS-465d

Name: D. REEDDate: 04/19/90

Data Entered:



XXX Wide
 / / / Medium
 - - - Narrow
 T T T T Very Light
 O O O O No Oil

ST-KN-577-B

ADEC Segment Length: 17045m

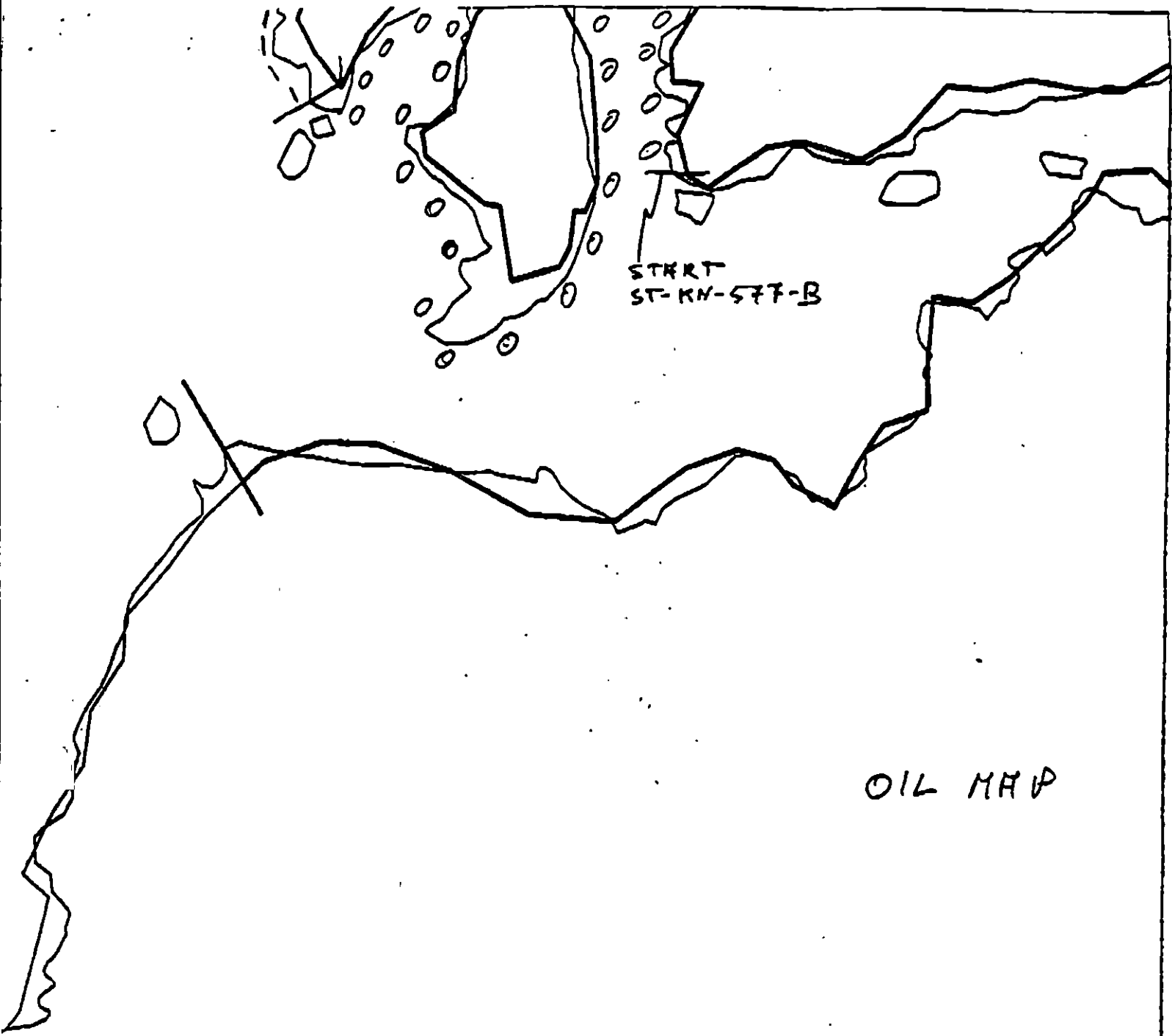
14/24 100 200 300

Map Key: PWS-4659

Name: D. Reed

Date: 04/19/90

Date Entered:



OIL MAP

VXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ST-KN-577-B

ADEC Segment Length: 17045m



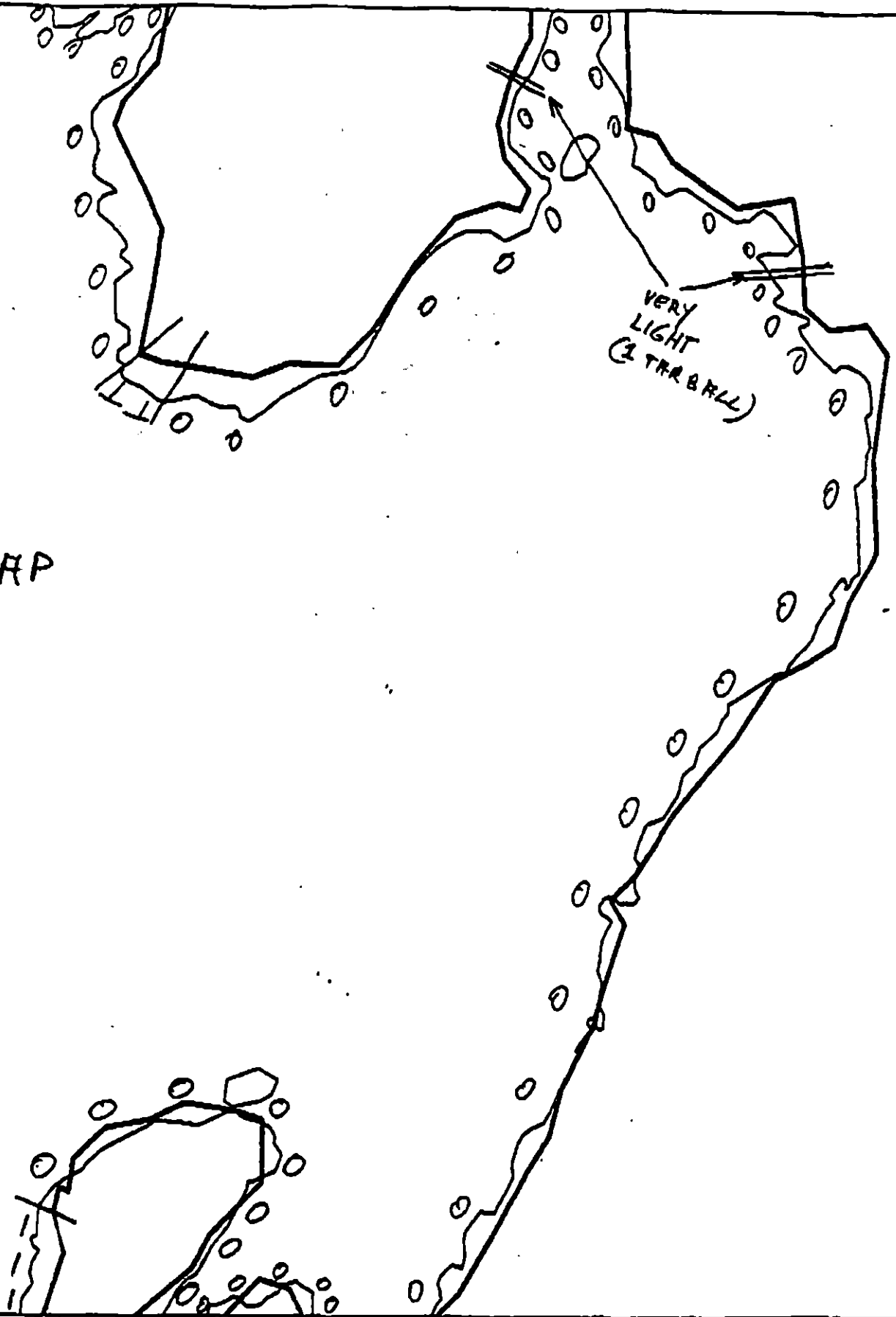
Map Key: PWS-4650

Name: K. DEBUSSCHERE

Date: 4/19/90

Date Entered:

OIL MAP



XXX Wide

/// Medium

--- Narrow

TTTT Very Light

OOOO No Oil

ST-KN-577-B

ADEC Segment Length: 17045m

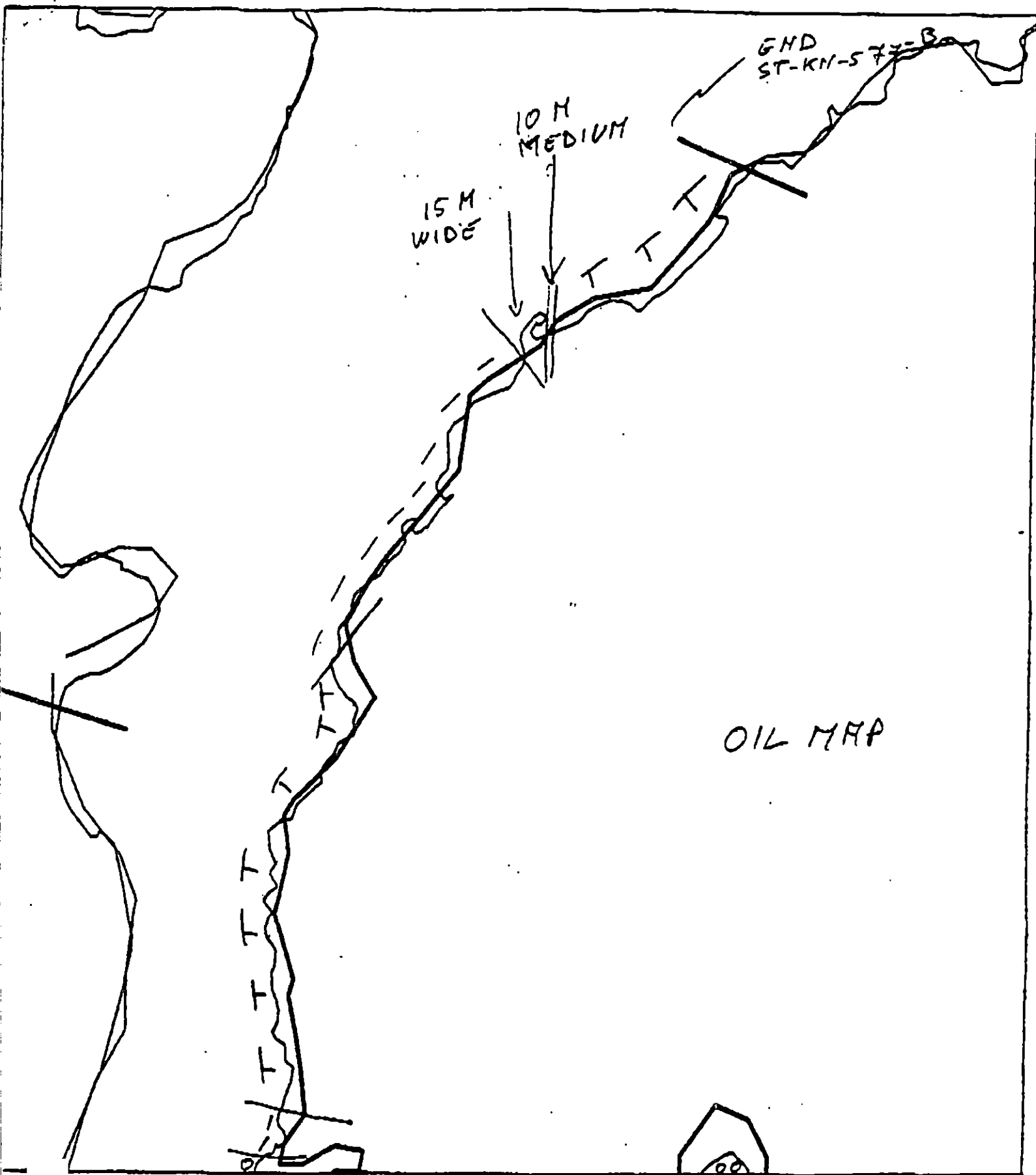


Map Key: PWS-465d

Name: K. DEBUSSCHERE

Date: 4/19/90

Date Entered:



OIL MAP

XX Wide
 /// Medium
 --- Narrow
 TTTT Very Light
 o o o o " " " "

ST-KN-577-B

ADEC Segment Length: 17045m

0 100 200 300

Map Key: PWS-465g

Name: K. DEBOSSCHER

Date: 4/19/90



ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-577 SUBDIVISION B (2 of 2)

WORK WINDOW	
Tarmat Removal	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 no active nest within 400m of Subdivision A work site.

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC

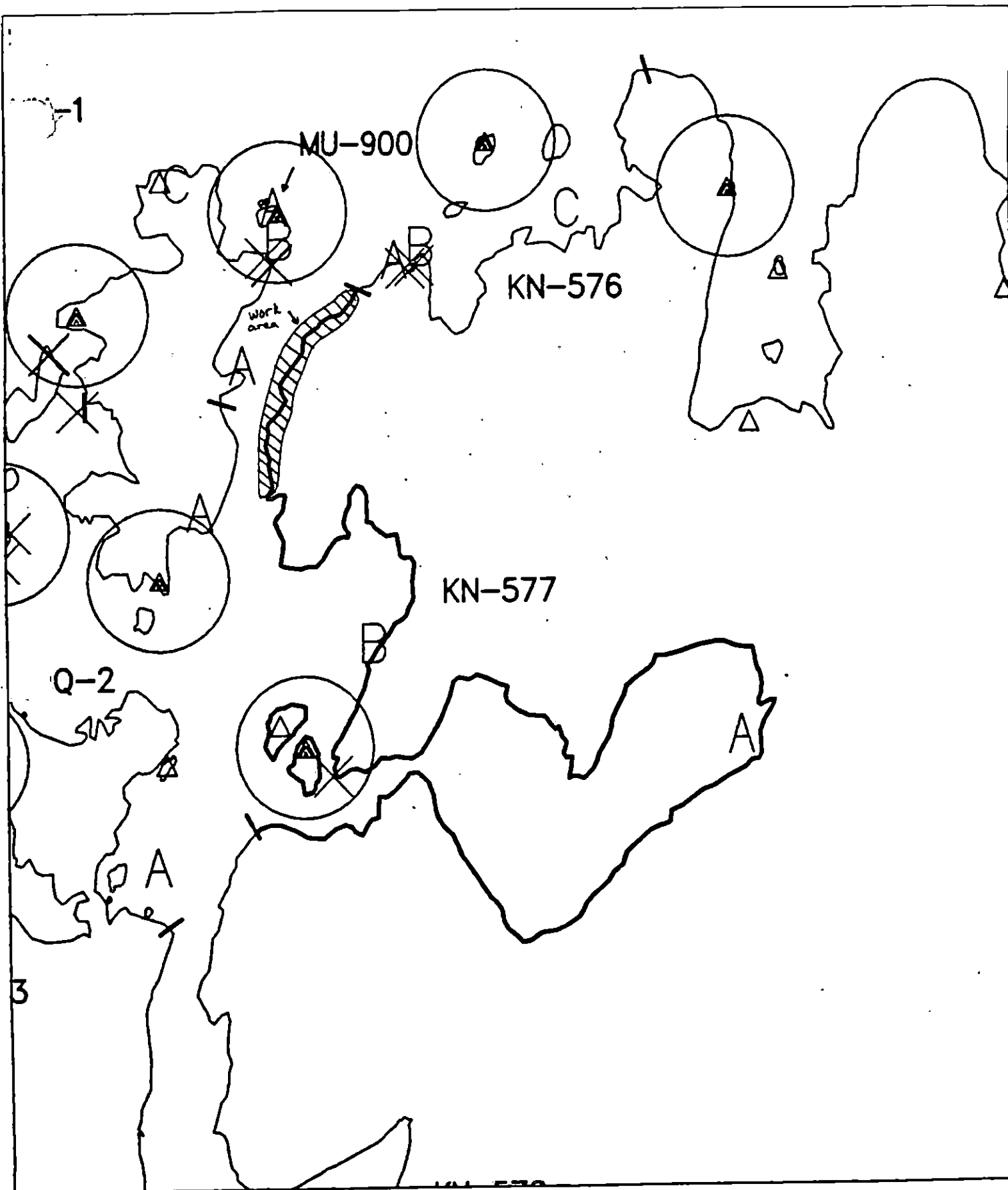
Date

7 Jul 90

Prepared by

Date

7/5/90



Exxon Company, USA
 Map Key: PMS-KN-577
 June 09, 1990



ECOLOGY MAP
 SEGMENT KN-577
 SUBDIVISION 6 (2 of 2)
 METERS
 0 752 1504

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

1 inch = 2466 feet

SHORELINE EVALUATION

SEGMENT ST/ KN-578 SUBDIVISION A (1 OF 1) DATE 4/4/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5T-5 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
6U Recreation: Tent sites (6/1 to 9/15)
6Y Recreation: Special use destination
7II Subsistence area: Deer harvesting (8/15 to 2/28)

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. Adams DATE: 5/2/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 214 m: V.Light 418 m: No Oil 9013 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	☐ Beach Cleaner
☐ Removal	☐ Other (see comments)

COMMENTS: BIOREMEDIATION IN AREAS OF PIT 3+4

TAG COMMENTS:

TAG APPROVAL DATE: 4/24/90

ADEC Art Weiner
EXXON ANDY TEA
NOAA Joseph Talbot
USCG M. J. Hall

FOSC: 7 L DATE: 5-9-90

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 (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 (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: Tentative (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
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-578 SUBDIVISION: A DATE 4/4/90

¹⁹⁸¹
~~BOG~~
NAME Jeffrey Dublin SIGNATURE Jeffrey Dublin

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

At location 3 and 5 ~~there are some surface oil~~ there are some surface oil. It is possible for this oil to be reflected. The oil is that thick 1-2 cm intense red-brown, and covers fairly well (see page 1). The sediments are mostly pebbles and coarse cobbles. The remainder of the oil is heavily weathered and fairly attached attached to boulders and bedrock.

ADEC
NAME Lori Stratton SIGNATURE Lori F. Stratton

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

At location #3, the narrow patchy cover is an area approximately 10 m x 3 m, penetrated 3 cm into sediments. A narrow coat on bedrock to the right could be spot washed with Hambda units. Populations of mytilus and barnacles were not dense. The area with penetration should be removed manually with shovels since it is in a localized area. The VL oil coat on bedrock is weathered enough not to warrant treatment.

At location #5, the narrow coat on gravel penetrating to 1 cm a

LAND MANAGER
NAME _____ SIGNATURE _____ L
OVER

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

?

(cont comments from ADEC)

KN-578-A

extending 4m x 0.3m diameter, as well as the narrow
coat across the stream on cobbles extending approx. 3 meters,
should be treated. The oiled gravel sediments can
be manually removed with shovels. Cobbles could be
dredged + washed (over 3 meters) or bioremediation
utilized. Stream appeared to be due to snowmelt and
is a sensitive area for fish.

L. J. Stratton

10/10

11

SHORELINE OILING SUMMARY

REVISION NO. 03/2001

OG K. DERUSSCHER ^{MMR} ~~0000~~ Jeffrey Bohlin SEGMENT ST/ KN-578
 BIO D. Reed LAND REP ? SUBDIVISION A 101
 EXXON Tony Diaz ADEC Lori Stratton TIME 13:00 to 17:00
 TEAM NO.: 13 TIDE LEVEL: 6 to 1.5 Ft DATE 4/14/90
 EST. SUBDIVISION LENGTH: 10301 m ☐ Sun ☐ Clouds ☐ Fog ☐ Rain ☒ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: S to N
 SURFACE SEDIMENTS: R 45 % B 45 % C 5 % P 3 % G 1 % S 1 % M 1 % V 1 %
 SLOPE: Long 25 % Hang 60 % Vert 15 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 50 m VL 350 m NO 10501 m

SURFACE OIL

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

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

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NOTYPE —#BAGS —

Photographs:

Roll No. ST-9-2Frames 1-4

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	SU	U	M	L		
LOC ①	1					X	.												P/G/C&S
LOC ②	2					X	.												P/S (H ₂ O)
LOC ③	3		X				0-37	X			X			X					P/P&S
	4		X				0-15	X			X			X					B/P&S
LOC ⑤	5					X	.												P/S&P
							.												

* oiled interval < 5cm does not constitute subsurface.

COMMENTS

- SEGMENT DOMINATED BY ROCK AND BOULDER BEACHES (HIGH FRICTION). SOME SMALL POCKET BEACHES.
- TWO POCKET BEACHES HAVE OILING ON SURFACE SEDIMENTS IN LOCATION 3: OILING CONSISTS OF PATCHY COVER OVER A TO OF 20 M X 3 M. OIL PENETRATION IS UP TO 3
- IN LOCATION 5: OILING CONSISTS OF PATCHY COATING OVER A TOTAL OF 37 X 0.5 M. OIL PENETRATION IS UP

CG K. DEBUESCHER

SEGMENT ST/KN-578

SUBDIVISION A

DATE 4/4/90

CHECKLIST

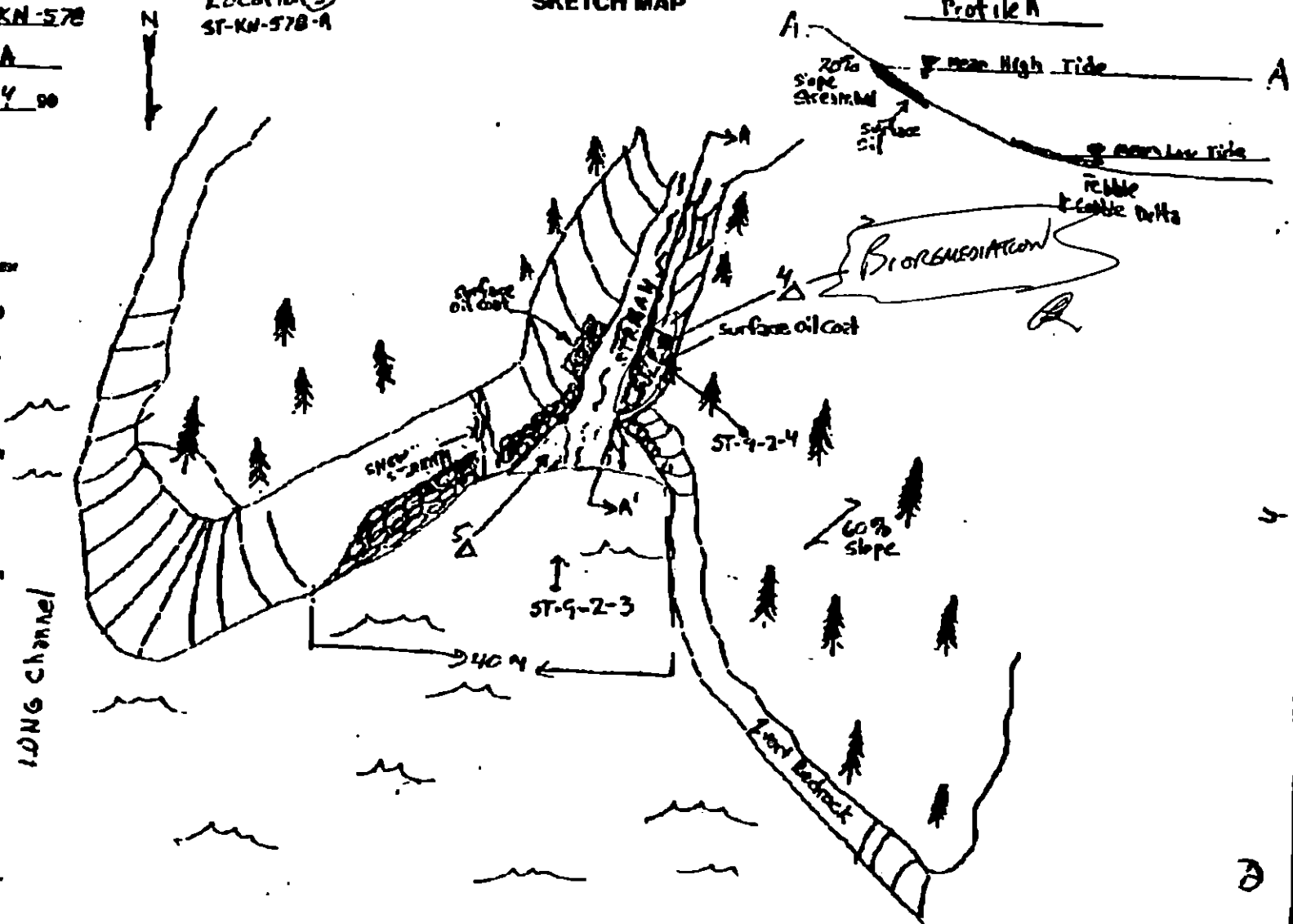
- ☐ Name
- ☐ Approx. Scale
- ☐ Sup/Sub Entry
- ☐ On Chl.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ E or MALL/WH
- ☐ SBL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pt. Location(s)
- ☐ Photo Location(s)

LEGEND

- ☐ 1 Δ - No Substrate Ch
- ☐ 2 Δ - Substrate Ch
- ☐ CT/C - Continuous Dist. Basin
- ☐ CT/B - Broken Dist. Basin
- ☐ CT/P - Patchy Distribution
- ☐ CT/S - Spotted Distribution
- ☐ Obs. Vegetation
- ☐ 1 - Photo location, direction, and number

Location ⑤
ST-KN-578-A

SKETCH MAP



Oil Cracks Length (ft): AP 0 PO 0 CV 0 CT 7 ST 0 NS 0 PT 0 TB 0 FL 0 NO 0

ST-KN-578-A

SEGMENT KN-578

SUBDIVISION A

DATE 4/4 90

CHECKLIST

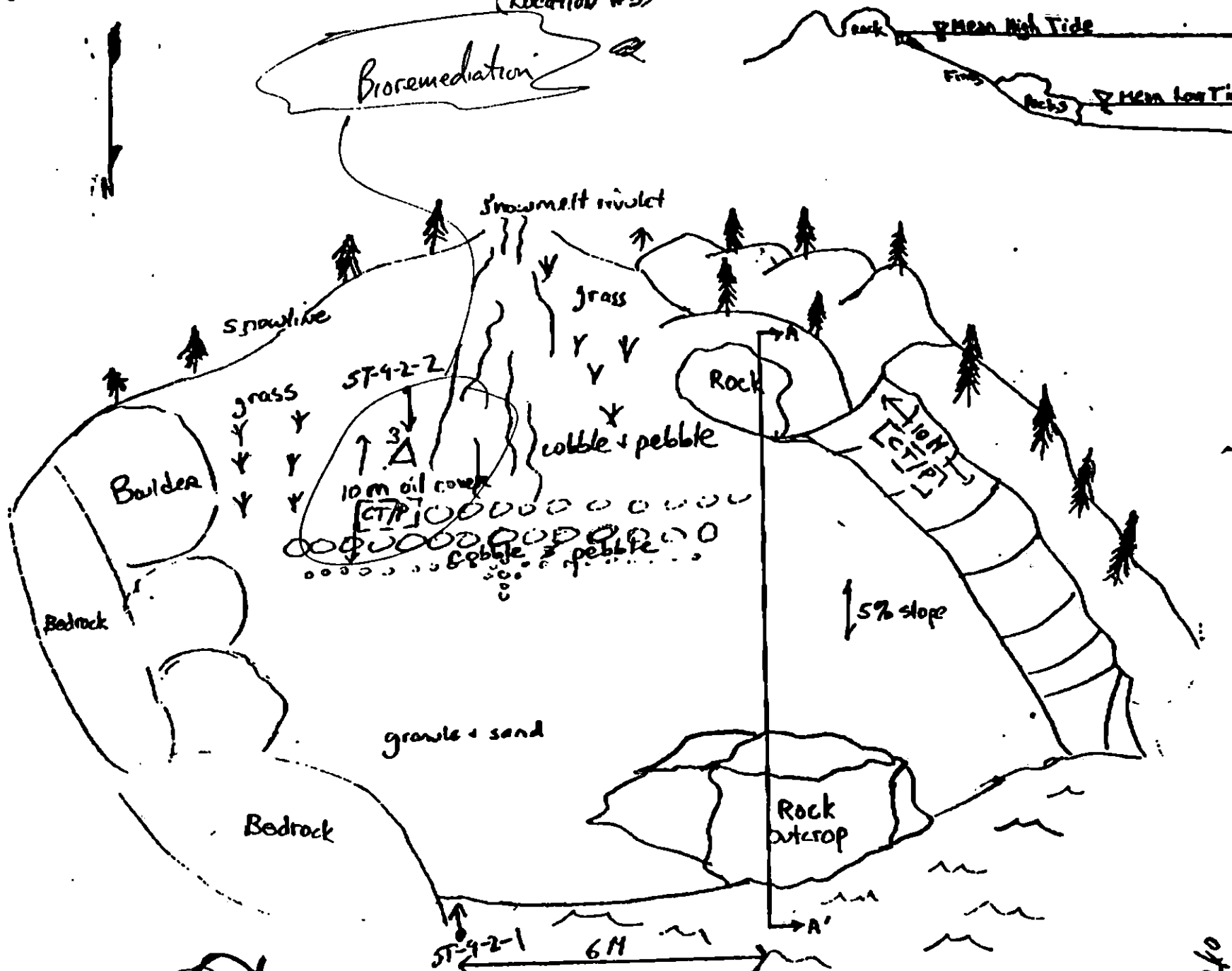
- ☐ N Area
- ☐ Approx. Scale
- ☐ Seg/Sub Boundary
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HAW/LWL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Photo(s)
- ☐ PB Location(s)
- ☐ Photo Location(s)

LEGEND

- 1 Δ
- PB - No Subsurface Oil
- 2 Δ
- PB - 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

SKETCH MAP
(Location #3)

Profile A-A'



Oil Character Length (m): AP 0 PO 0 CV 20 ST 0 BT 0 MS 0 PT 0 TB 0 FL 0 NO 35

SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/22/90

Segment ST KN 578 Subdivision A Date (mo / day / yr) 04/04/90Time (24 hr) 1300-1700 Biologist D. REED

- A) Substrate type and % of segments:
 (1) Bedrock 45 (2) Boulder 45 (3) Cobble 5 (4) Pebble 4 (5) Sand 1 (6) SR
- (B) Overall % cover of biota (% of segment): Dense 40 Moderate 40 Low 20
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (O)

Photographs: Roll No. ST-9-2Frames 1-4

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

ASTROPODS

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

NOT PRESENT

FUCUS

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

NOT PRESENT

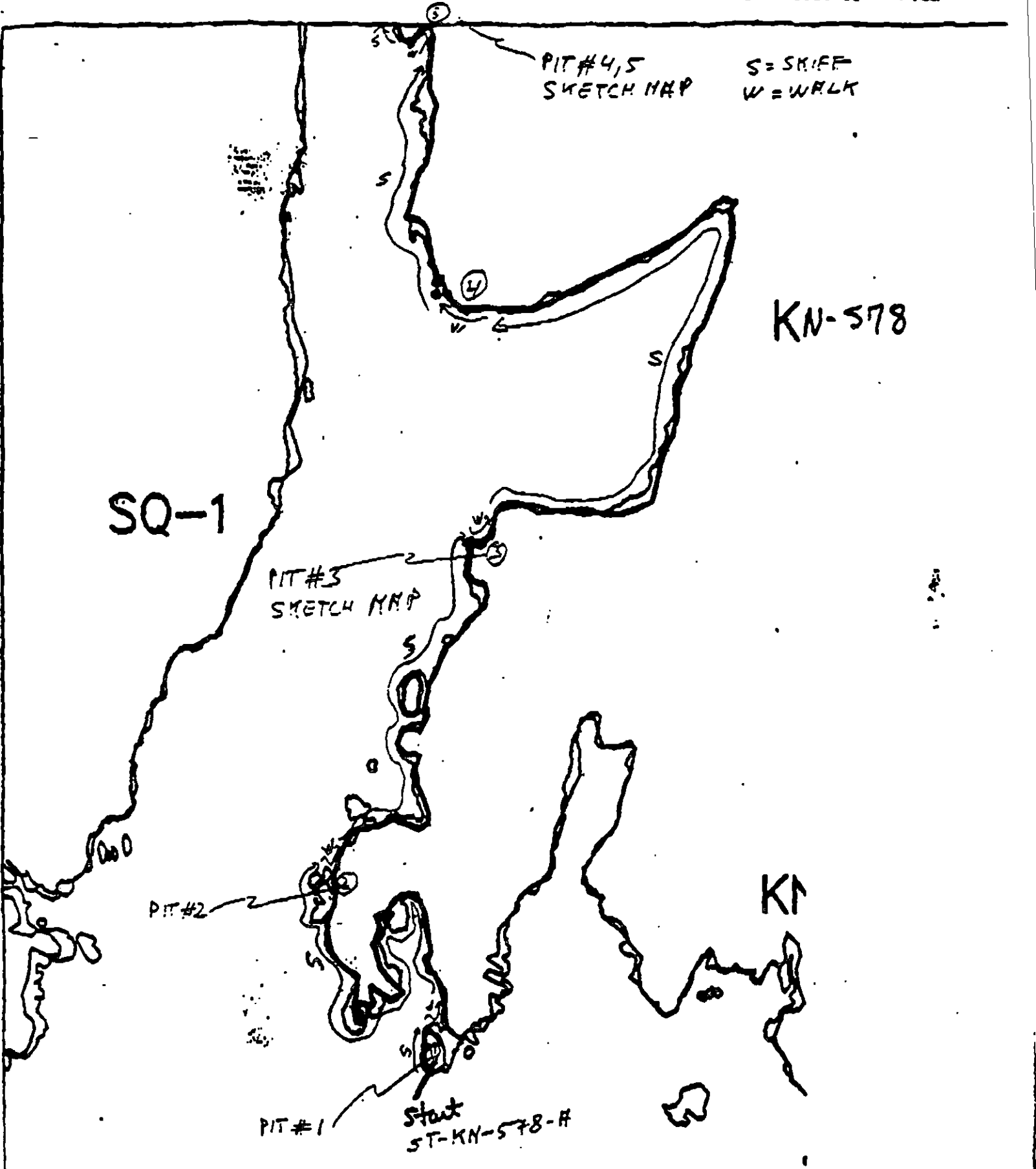
Wildlife Observations/ General Comments:

7 MATURE EAGLES, A FEW DUCKS, SEVERAL CROWS.
 5 EAGLE NESTS PREVIOUSLY REPORTED FOR THIS SECTION. WE
 SAW ZERO.

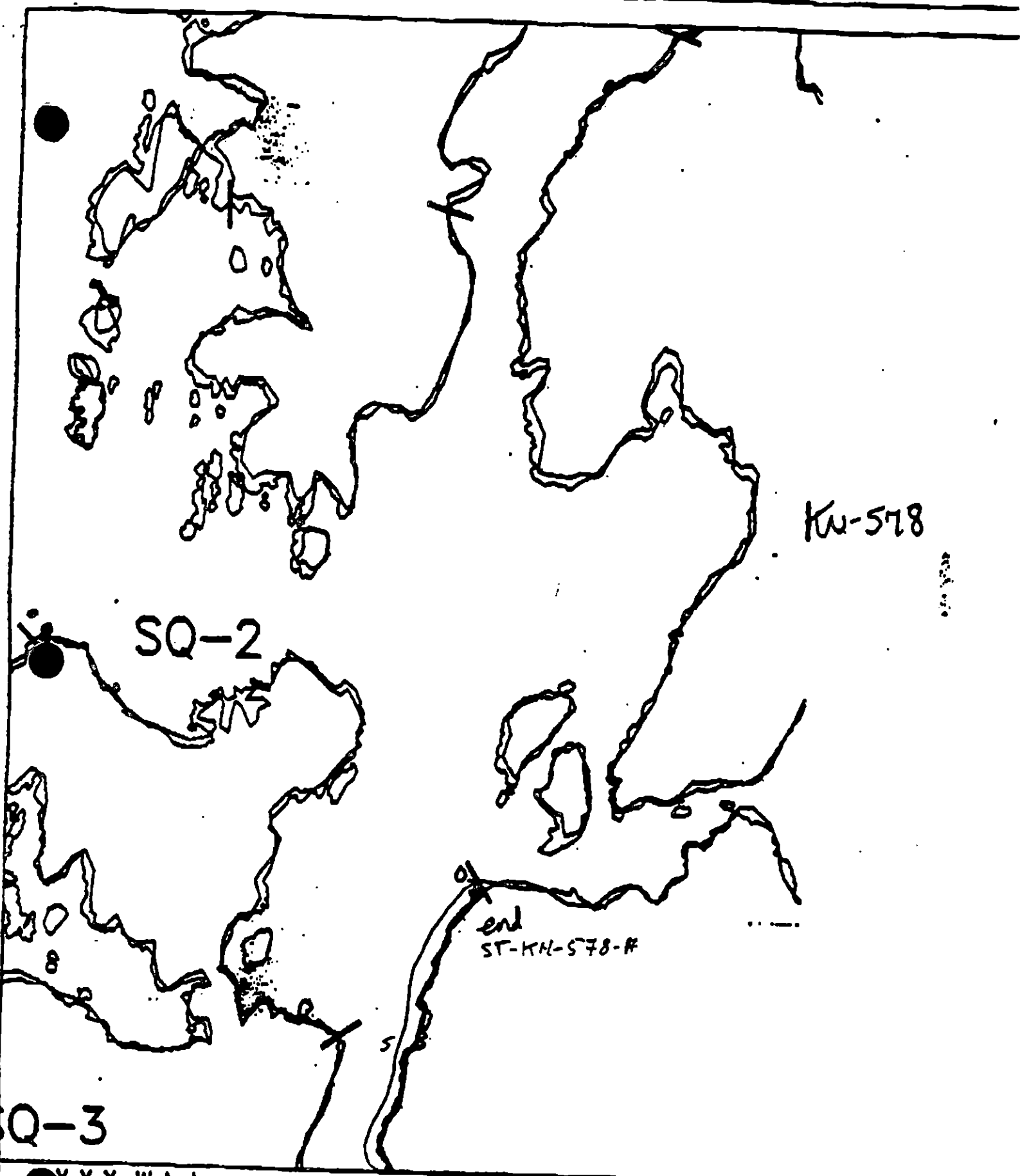
Ecological Considerations:

NONE

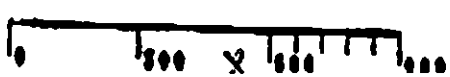
8/10



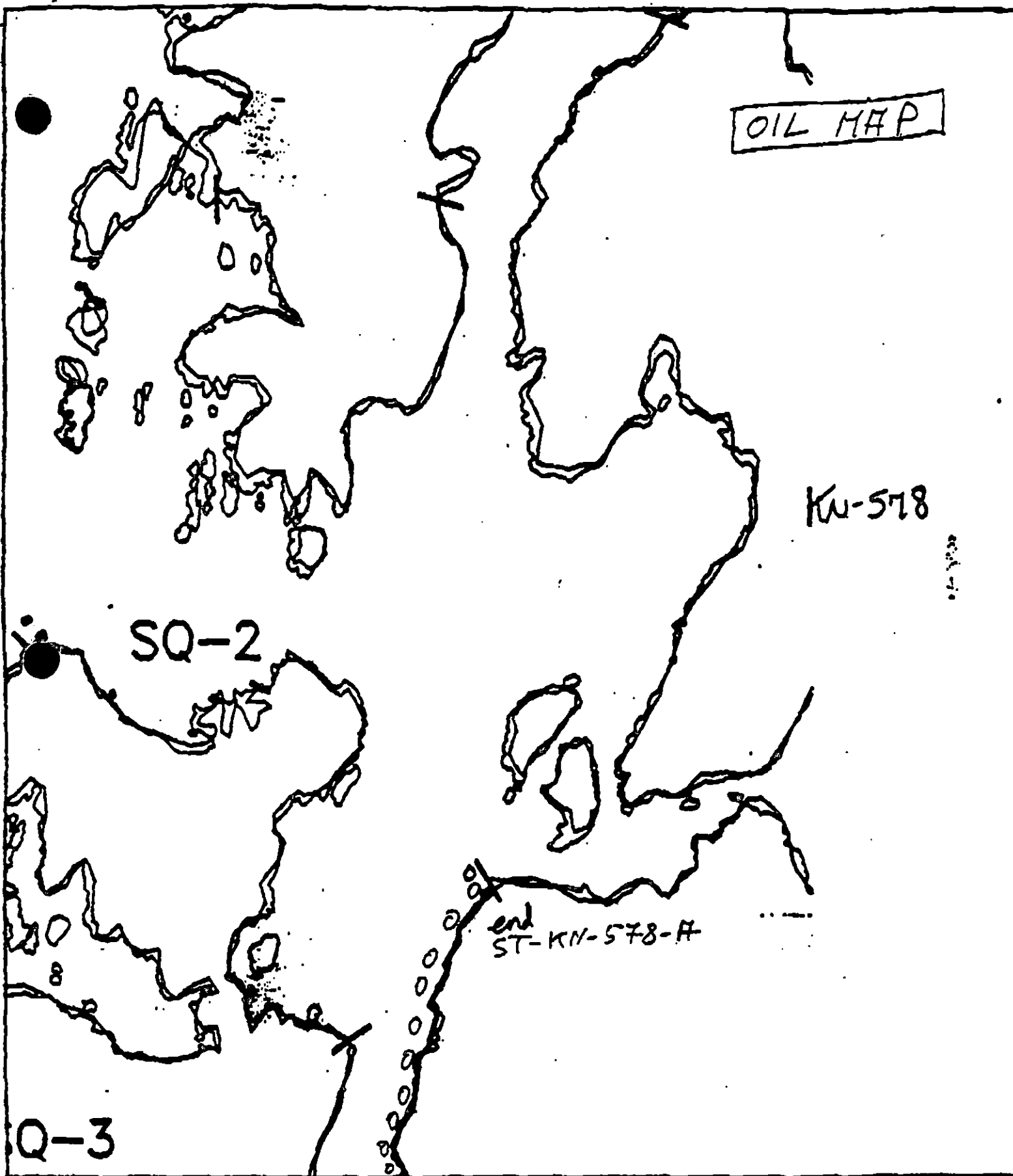
Y Y X X	Wide	ST-KN-578-H	Map Key: PWS-4750
, , / /	Medium	ADEC Segment Length: 1000m	Name: <u>K. DEBUSSCHERE</u>
- - - -	Narrow		Date: <u>4/4/90</u>
6/12 T T T T	Very Light		Date Entered:
0 0 0 0	No Oil		



● XXX Wide
 /// Medium
 --- Narrow
 TTTT Very Light
 A A A " A . .
 ST KN-578-A
 ADEC Segment Length: 10901m



Map Key: PWS-475b
 Name: K. DEBUSSCHERE
 Date: 4/4/90



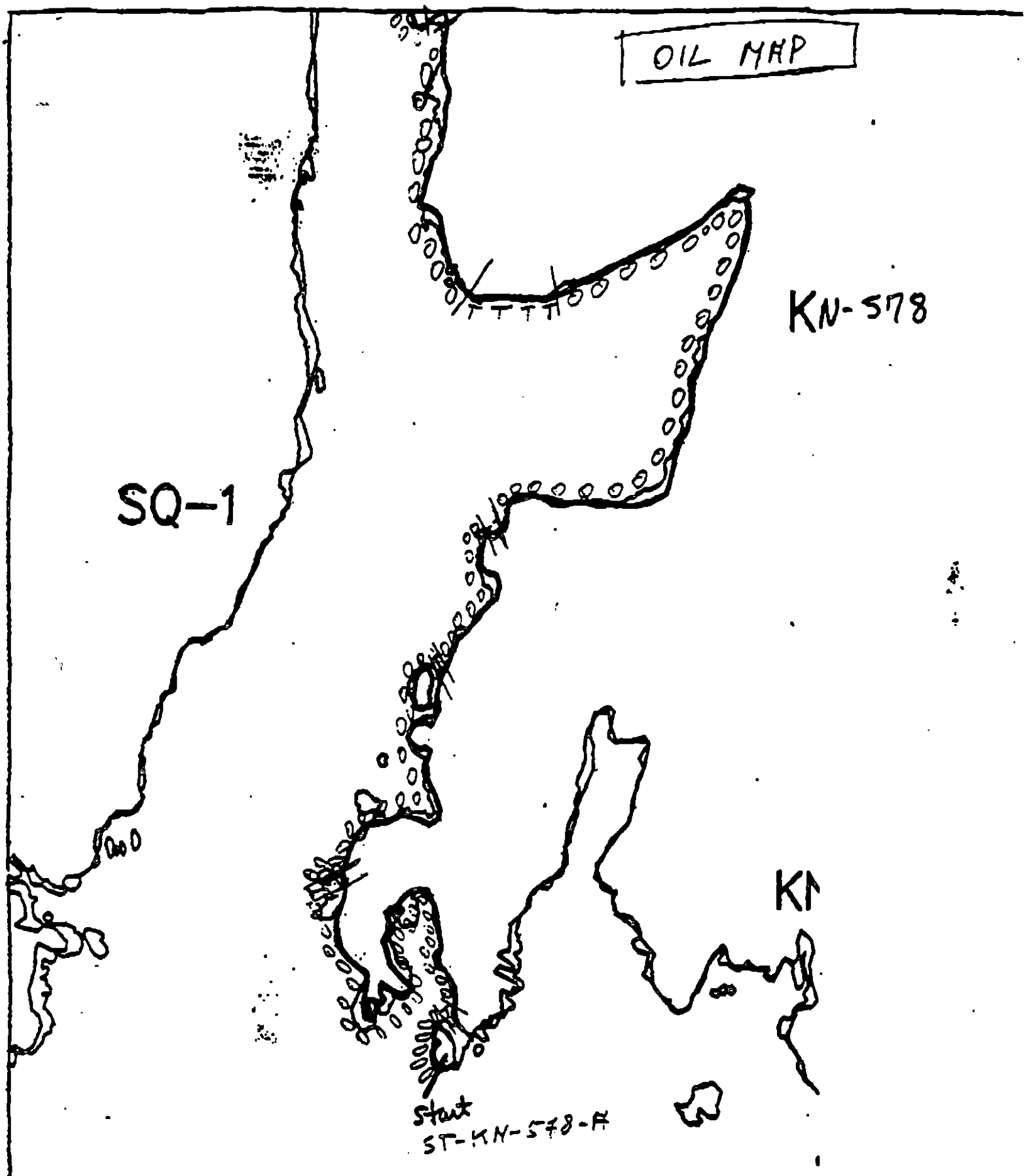
● XXX Wide
 /// Medium
 --- Narrow
 TTTT Very Light
 ^^^^ " "

ST-KN-578-A
 ADEC Segment Length: 10901m

5/10

0 500 1000 1500

Map Key: PWS-475b
 Name: K. DEBUSSCHE
 Date: 4/4/90



XXX Wide	ST-KN-578-A	
/// Medium	ADEC Segment Length: 10901m	
--- Narrow		
TTTT Very Light		
0000 No Oil		

410



Map Key: PWS-4730

Name: K. DEBUSSCHE

Date: 4/4/90

Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT KN-578 SUBDIVISION A (1 of 1)

WORK WINDOW	
Bioremediation	WORK PRIOR TO 8/15

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.

7II Subsistence: Deer Harvesting

Closed to bioremediation after 8/15.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic and beach disturbance to essential minimum. Avoid any unnecessary disturbance or damage to uncollected biota and substrate.

FOSC

DATE

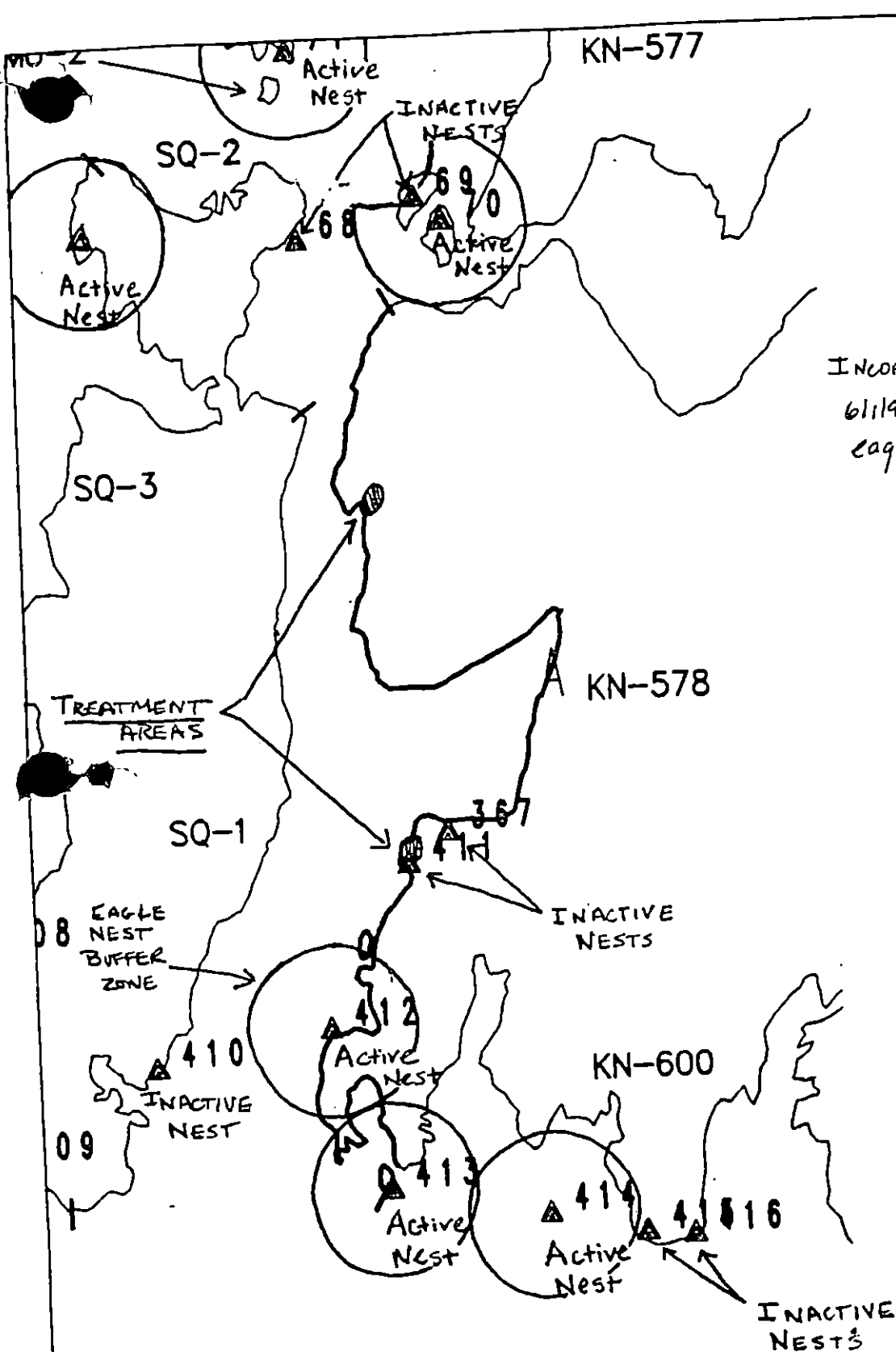
6-10-90

Prepared By:

W. Kelly

Date

6/8/90



Exxon Company, USA

ECOLOGY MAP 6/5/90
 SEGMENT KN-578
 SUBDIVISION A (1 of 1)
 METERS

★ Seabird Colony
 ▲ Eagle Nest

ARLIS
Alaska Resources
Library & Information Services
Anchorage, Alaska