

OIL SPILL PUBLIC INFO. CENTER



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EVOS
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1990
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[Shoreline evaluations, 1990].

MA-01 – MU-900

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SHORELINE EVALUATION

SEGMENT ST/ MA-01 SUBDIVISION A (1 OF 1) DATE 4/6/90

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)
1K Purse seine hook-off (7/20 to 9/30)
1L Set net sites (6/11 to 7/25)
5T All bald eagle nest (3/1 to 6/1)-Active eagle nest (3/1 to 9/1)
6U Recreation: Tent sites (6/1 to 9/15)
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. Holman

DATE: 4/18/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 72 m: No Oil 830 m
Subsurface Oil Observed: Yes X No Maximum Depth 22 cm

RECOMMENDATIONS:

<u> </u> No Treatment Recommended	<u> </u> Snare/Absorbent Booms
<u>X</u> Treatment Recommended	<u> </u> Oil Snares (pom poms)
<u>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 debris (pom poms, bucket, etc.)
Work should be conducted between 5/15 and 6/10 based on salmon and set
net constraints and with approval from ADF&G and USFWS regarding eagle
nests.

TAG COMMENTS:

TAG APPROVAL DATE: 4/18/90

ADEC ART WEINER
EXXON AND T&E
NOAA Bull Wescott
USCG G.A. HEITER

FOSC: My h

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

SEGMENT ST / MA-01 SUBDIVISION: A - 1 of 1 DATE 04/06/90

USCG

NAME Daniel S. Thomas SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Removal of oil Trash Recommended.

ADEC

NAME Clara S. Crosby SIGNATURE Clara S. Crosby

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Suggest clean up of oiled debris*. No specific technique recommended for oiling -

* Bags unavailable for debris pickups today. Prep will be done for following surveys.

LAND MANAGER

NAME MARSHA MARTIN/DNR SIGNATURE Marsha Martin

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS

Shore Fishery 1SE between pit 4 and light to North East. Bedrock/shale between Rock Outcrops in area of pit 6 is significant.

SHORELINE OILING SUMMARY

REVISION NO. 03/28/90

OG Rick Gillie USCG bm 1 Thomas SEGMENT ST/ MA-01
 BIO DAVE Lohae LAND REP Marsha Martin SUBDIVISION A-1 of 1
 EXXON FRANK DRY ADEC Clara Crosby (ADNR) TIME 14:45 to 15:42
 TEAM NO.: 13 TIDE LEVEL: +6 to +4 DATE 04/06/90
 EST. SUBDIVISION LENGTH: 1.750 to 2.535 ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☐ Rock SOME SNOW IN OPERATIONAL
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 20 % B 30 % C 30 % P 20 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Lang 40 % Hang 30 % Vert 30 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 11 m NO 1.739 m

45.785 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	C	S	P	B	BR	BL	GR	GL	SL	OR	TL	LR	SU	U	M	V
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 0/A sq. m by 0 cmPATTIES / TARBALLS 0 BAGSNEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash	X		
Debris			

DEBRIS COLLECTED
☐ YES ☒ NOTYPE 0/A#BAGS 0/A

Photographs:

Roll No. ST-13-3Frames 1-4

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	BR	BL	GR	GL	SL	OR	TL	LR	SU	U	M	V		
1	40					X	.											X					P
2	40		X				20-22	X							X			X					P
3	40					X	.											X					P, G
4	20					X	.											X					P
5	20					X	.											X					P
6	20					X	.											X					C, P

COMMENTS

- ① RARE TARBALLS AND SPLATTER COAT, ALSO RARE
 ② SOME OILED TRASH (DOM-DOM, ROPE, BUCKET OF MC OIL) TO BE REMOVED.

OG RE GILLIE

SEGMENT ST/ MA-D1

SUBDIVISION A-1 of 1

DATE 04/06/90

CHECKLIST

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

LEGEND

1 Δ

Pk - No Subsurface Oil

2 ▲

Pk - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

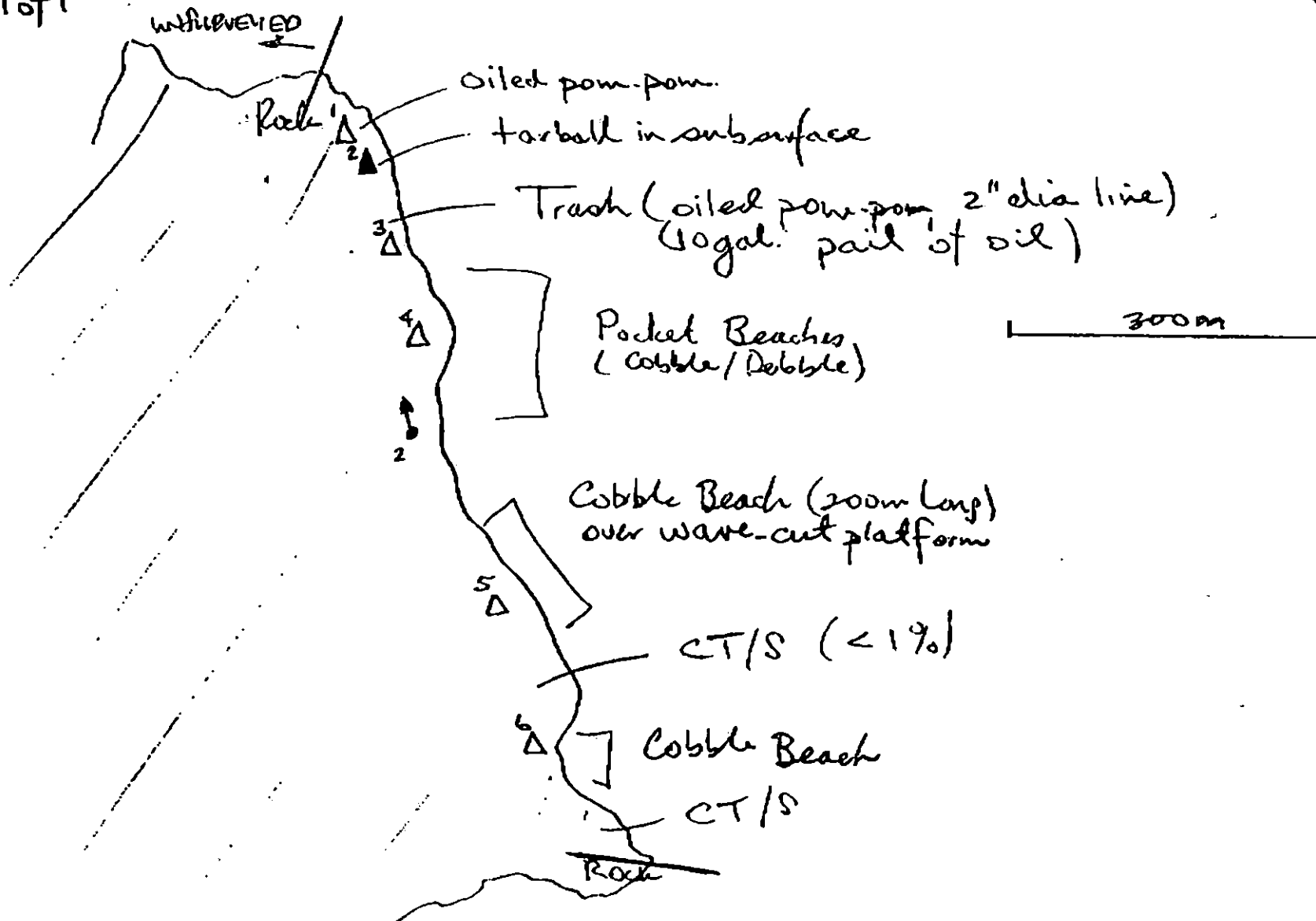
Splashed Distribution

Oiled Vegetation

1 ➡

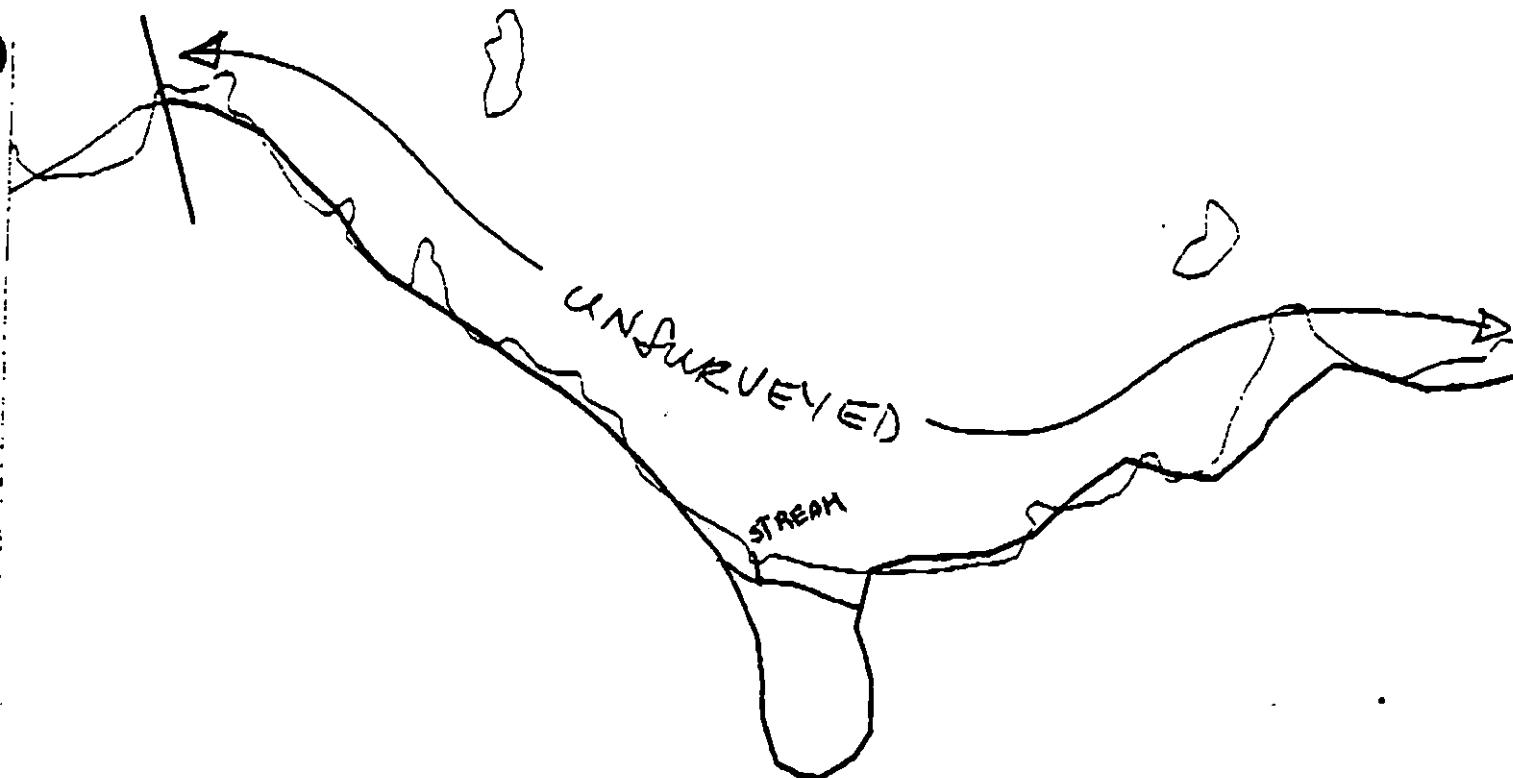
Photo location, direction, and number

SKETCH MAP



Oil Character Length (m): AP 0 PO 0 CV 0 CT 10 ST 0 MS 0 PT 0 TB 1 FL 0 NO 1739

REVISION: 03/04/90



SEGMENT 3 ST/MA-01

- UNSURVEYED PORTION
- PREVIOUS SURVEY (ADEC SEPT/OCT-1989) INDICATED NO OIL.

PWS
5-123 →

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

MA-1

ADEC Segment Length: 2535m



Map Key: PWS-542a

Name: R. GILLIE

Date: 4/6/90

Data Entered:

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / MA 001 Subdivision A Date (mo / day / yr) 4-6-90Time (24 hr) 14:45 Biologist David Lohr

(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 15 Moderate 35 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 (O)

Photographs: Roll No. ST-13-3Frames 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

GASTROPODS

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments:

1. Low intertidal not sampled

2. present in mid intertidal: Sculpins, coralline algae, Scytosiphon, Pagurus, Anthopleura leptasterias, unidentified branching red

Ecological Considerations: 3. many tide pools in high intertidal: gastropods (Littorina) dense in many of them

In part of segment previously marked no oil. Buried under snow.

1K, 1L - no comment

ST - none observed

6U - no comment

MA-1

MAIN BAY

SEGMENT : MA-01
SUBDIVISION : A, 1 of 1

← PWS
542.A

MA

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

MA-1

ADEC Segment Length: 2535m



Map Key: PWS-542b

Name: R. GILLIE

Date: 4/6/90

Data Entered: _____

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT MA-1 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 stream (225-10-15000) is present in segment. No constraint to manual pickup.
1E	Main Bay Hatchery Release	No constraint to manual pickup.
1I	Gill Net Area	No constraint to manual pickup.
1K	Purse Seine Area	No constraint to manual pickup.
1L	Set Net Sites	No constraint to manual pickup.
5T	Bald Eagle Nest	Closed to manual pickup. USFWS bald eagle impact assessment completed on 5/22/90 by Mike Lockhart indicates an active nest within 400m of the work area.

OTHER ECOLOGICAL CONSIDERATIONS

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

TAG ADDENDUM DATE 6/04/90
ADEC Ryan Merris
EXXON Andy Carr
NOAA Jason Talbot
USCG Chris Reiter

FOSC

G. Janofski

DATE

6/5/90

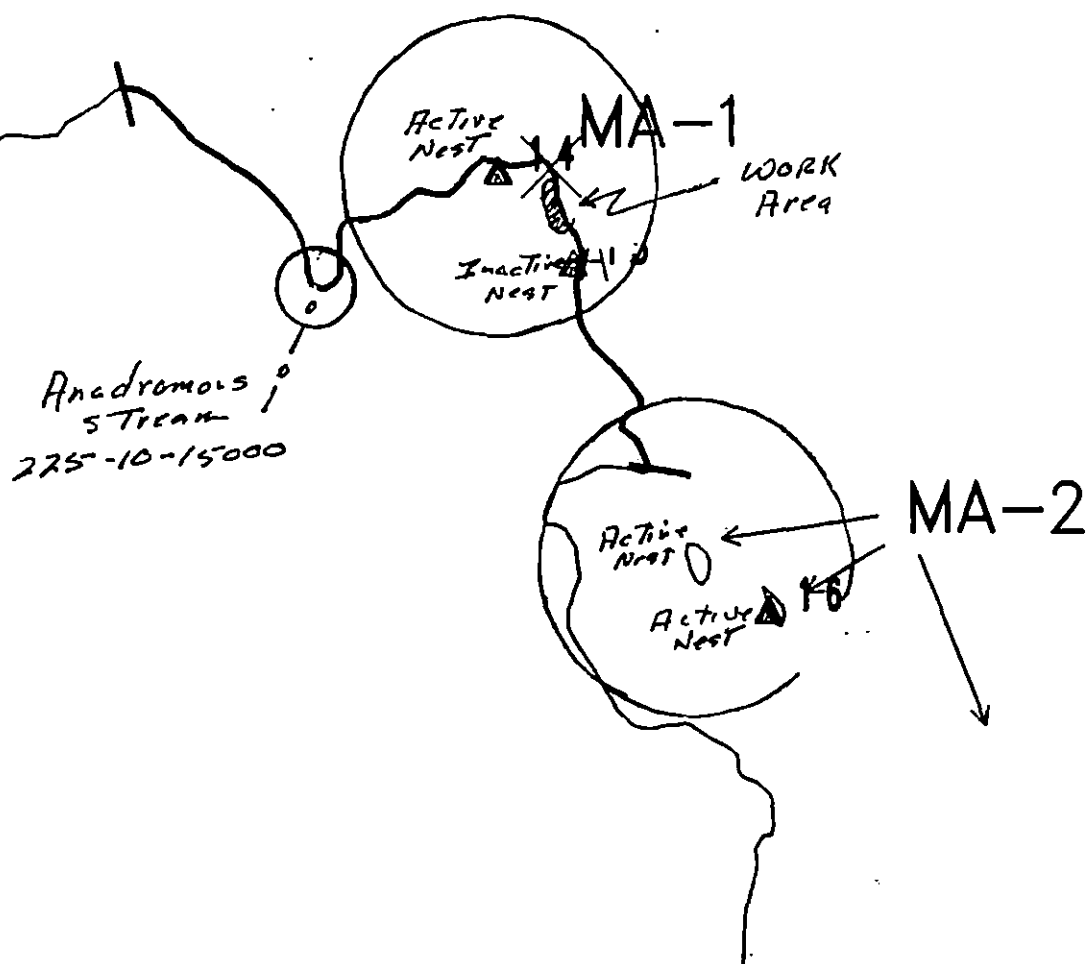
Prepared by:

Anders Meyer /PP

Date:

6/3/90

NJ-1



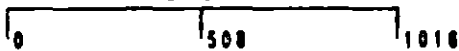
Exxon Company, USA

Map Key: PMS-MA-1

May 11, 1990



ECOLOGY MAP
SEGMENT MA-1
SUBDIVISION A (1 of 1)
METERS



- ★ Seabird Colony
- △ Eagle Nest

1 inch = 1667 feet

SHORELINE EVALUATION

SEGMENT ST/ MA-02 SUBDIVISION A (1 OF 1) DATE 4/6/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1E Main Bay Hatchery release (4/20 to 5/10)

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

5T All bald eagle nest (3/1 to 6/1)-Active eagle nest (3/1 to 9/1)

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

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. Jones DATE: 4/20/90

OILING CATEGORIZATION:

Wide 28 m: Medium 52 m: Narrow 66 m: V.Light 141 m: No Oil 195 m
Subsurface Oil Observed: Yes X No Maximum Depth 15 cm

RECOMMENDATIONS:

No Treatment Recommended

X Treatment Recommended

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: Recommend manual removal of tarmats and bioremediation of areas shown on attached sketch map. Work should be conducted between 5/11 and 6/10 based on hatchery and set net constraints and with approval from ADF&G and USFWS regarding eagle nests.

MANUALLY TILL/RAKE PRIOR TO BIOREMEDIATION IN AREA OF PIT 8

TAG COMMENTS: _____

TAG APPROVAL DATE: 4/19/80.
ADEC ALICE WILSON
EXXON AMY B.
NOAA B. Wescott
USCG KENNETH KEANE

FQSC:

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 unopened intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
3N, 3P 3O, 3Q	Harbor seal and sea lion pupping (5/15 to 7/1) Harbor seal and sea lion molting (8/15 to 9/15) Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
5R	Seabird colony (5/1 to 9/1) Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
5S	Shorebird/waterfowl concentration (4/1 to 5/15) Restrict all activity to essential minimum, especially air traffic.
5T	All Bald Eagle nests (3/1 to 6/1) Active Bald Eagle nests (3/1 to 9/1) Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
6U	Recreation: Tent sites (6/1 to 9/15)
6V	Anchorage (6/1 to 9/15)
6W	Forest Service cabins (6/1 to 9/15)
6X	Lodge (6/1 to 9/15)
6Y	Special use destination
7Z	Subsistence area: Salmon harvesting (5/1 to 9/30)
7HH	Finfish harvesting
7II	Deer harvesting (8/15 to 2/28)
7JJ	Invertebrate harvesting For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ MA-02 SUBDIVISION: A-10f1 DATE 04/06/96

USCG

NAME David S. Thomas

SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

ADEC

NAME Clara L. Crosby

SIGNATURE Clara L. Crosby

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Suggest manual removal of asphalt - all Islands.
~~Bioremediation~~ cc Bioremediation is a possibility
at sites on Island #3. No other specific
techniques recommended for cleanup of other
islands.

LAND MANAGER

NAME MARSHA MARTIN/DNR

SIGNATURE Marsh Martin

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

State Rep. Clara Crosby covered
this segment as I covered MA03.

SHORELINE OILING SUMMARY

REVISION NO. 02/22/90

OG Rick GILLIE USCG bm 1 Thomas SEGMENT ST/ MA-02
 BIO DAVE Lohse LAND REP Marsha Martin SUBDIVISION A 1 of 1
 EXXON FRANK Doy ADEC Clara Crosby (ADNR) TIME 16:00 to 19:00
 TEAM NO.: 13 TIDE LEVEL: +4 to +1 DATE 04/06/90
 EST. SUBDIVISION LENGTH: 2093 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 20 % C 25 % P 15 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 30 % Hang 10 % Vert 10 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 70 m M 30 m N 10 m VL 40 m NO 1953 m

SURFACE OIL

CHARACTER	DISTRIBUTION					OIL / FILM COLOR					IMPACTED ZONES			
	C	B	P	R	NO	SP	RP	ST	SL	TL	SU	U	M	U
ASPHALT PAVEMENT	*	0	X	✓	X									X
POOLED														
COVER														
COAT	X		✓	*	X									
STAIN														
MOUSSE														
PATTIES														
TARBALLS														
FILM			X					X						X
NO OIL											X			

PAVEMENT: H F (S) 40 sq. m by 3 cm

PATTIES / TARBALLS 0 BAGS

NEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☐ NO

TYPE 0

#BAGS 0

Photographs:

Roll No. ST-13-3

Frames 5-9

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm-cm)	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	SP	RP	ST	SL	TL	SU	U	M	U		
1	20					X	.									X				MUD
2	12					X	.									X				R S P
3	30					X	.									X				CSP
4	20					X	.									X				PS
5	30					X	.										X			SP
6	25					X	.									X				SP

COMMENTS

7W

SHORELINE OILING SUMMARY (PAGE 2 of 3)

SEGMENT ST/ MA-02 SUBDIVISION A-101

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	UG	10% W	20% W	30% W	40% W	50% W	SU	U	M	U				
7	20			X			5 - 12		X					X	X							PR (AP/C)
8	20	X					2 - 15		X	X					X							M/P/S-
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							.															
							.															
							.			</												

COMMENTS

REVIEWED 7W DATE 4/9/90

OG KIDGILLIE
SEGMENT ST/ MA-02
SUBDIVISION A-10f1
DATE 04, 06/90

SK 1 MAP

(KEY TO THREE ISLAND MAPS)



CHECKLIST

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

LEGEND

1 ▲

Pt - No Subsurface Oil

2 ▲

Pt - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splashed Distribution

Oiled Vegetation

1 ●→

Photo location, direction,
and number



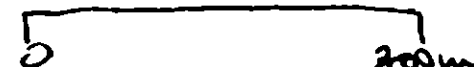
ISLAND 1



ISLAND 2



ISLAND 3



Oil Character Length (m): AP 40 PO 0 CV 0 CT 80 ST 0 MS 0 PT 0 TB 0 FL 20 NO 1753

REVISION: 03/04/90

(4/11)

00 Rick Gillie

SKETCH MAP

SEGMENT ST/ TRA-02

SUBDIVISION A-10f1 Island #1 (NORTH ISLAND)

DATE 04/06/90

CHECKLIST

- ☒ M Arrow
- ☒ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ 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

PI - No Subsurface Oil

2 Δ

PI - Subsurface Oil

CT/C

Continuous Distribution

CT/D

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splashed Distribution

Oil on Vegetation

1 ●→

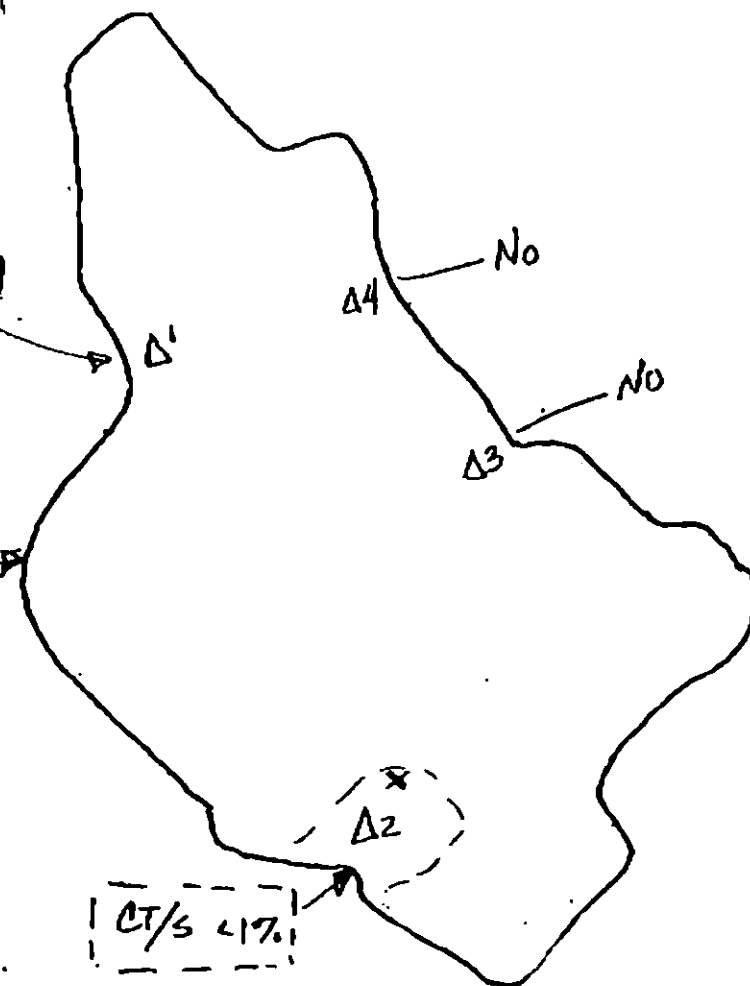
Photo location, direction, and number

x fishing net at Hwl.

CT/C UE 10x20m
CT/D MI
AP/P UE

R-AP/S
H

CT/S 41%



100m



5/11

REVISION 000000

Oil Character (Length (m)) AP PO OV ST PT MS PT TF FL NO

SEGMENT ST/ MA-02
SUBDIVISION A-1 of 1

DATE 04/06/90

CHECKLIST

- ☒ Arrow
- ☒ Approx. Scale
- ☒ Seg/Sub Entry
- ☒ Oil Dist.
- ☒ Width
- ☒ Length
- ☒ % Cover
- ☒ Substrate Character
- ☒ Ed. HMLAYL
- ☒ SSL
- ☒ Profile Location(s)
- ☒ Profile(s)
- ☒ Pit Location(s)
- ☒ Photo Location(s)

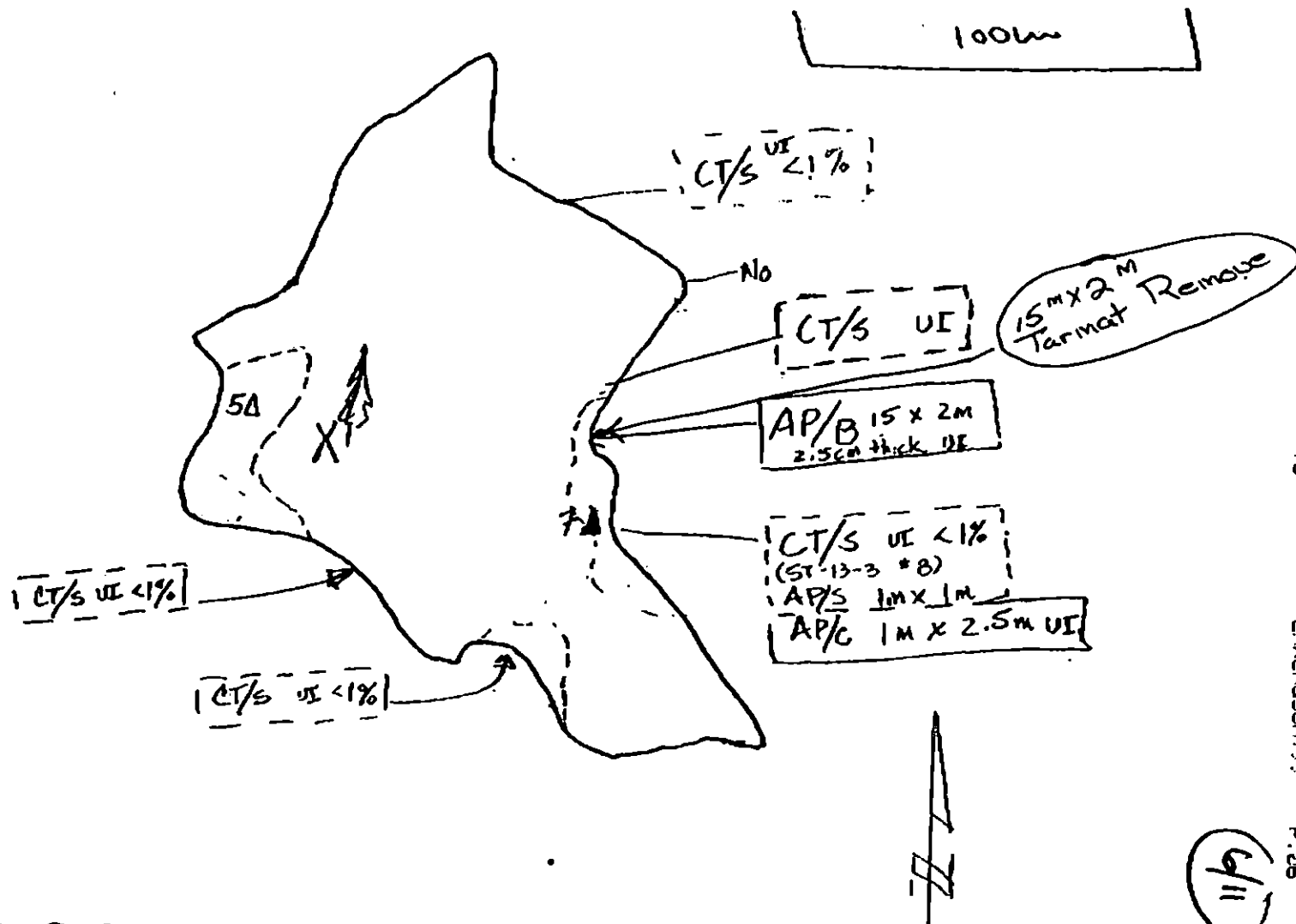
LEGEND

- 1 
Fit - No Substrate Oil
- 2 
Fit - Substrate Oil
- 
Continuous Distribution
- 
Broken Distribution
- 
Patchy Distribution
- 
Splashed Distribution
- 
Oiled Vegetation
- 1 
Plate location, direction and number

X - EAGLE NEST

SKETCH MAP

ISLAND #2



1006

$$CT/s \leq 1\%$$

No

AP/B 15 x 2m
2.5cm thick DE

15m x 2m
Tarmat Remove

CT/S $UI < 1\%$
(ST-13-3 * 8)
AP/S $1m \times 1m$
AP/C $1m \times 2.5m$ UI

P

$$|\overline{CT/s} - \pi| < 1\%$$

2

[illegible]

מלכות ישראל

7.
8.
9.

FILE NUMBER: 62-15630

OG Pick Gillie
 SEGMENT ST/ MA-02
 SUBDIVISION A10/1
 DATE 04/06 90

SKETCH MAP

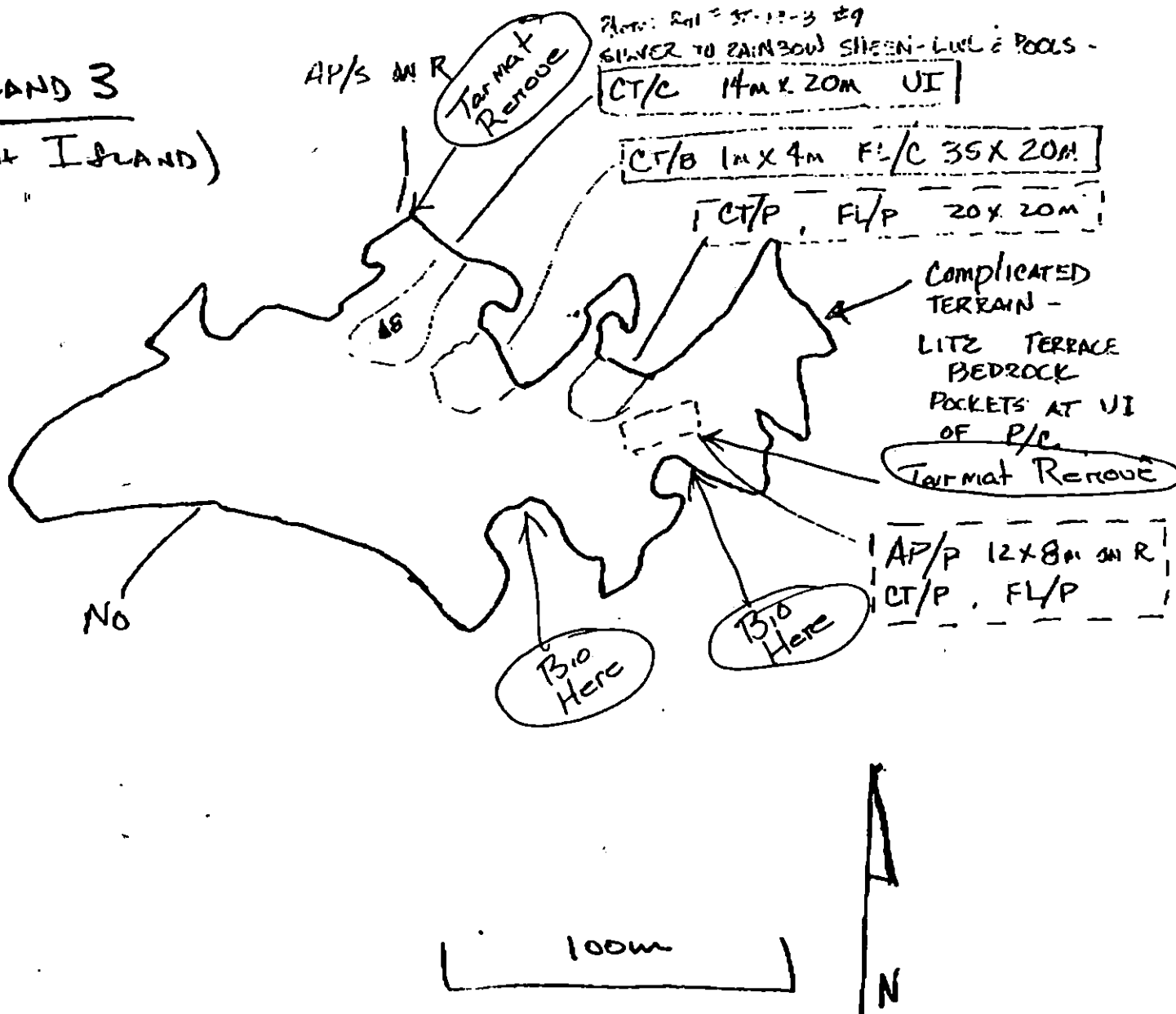
Island 3 (South Island)

CHECKLIST

- ✓ N Arrow
- ✓ Approx. Scale
- ✓ Seg/Sub Bndry
- ✓ Oil Obs.
- Width
- Length
- % Cover
- Substrate Character
- Est. HML/LWL
- SSL
- Profile Location(s)
- Photo(s)
- PH 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
- Spotted Distribution
- Oil Vegetation
- Photo location, direction, and number



SHORELINE ECOLOGICAL SUMMARY

1 of 2

REVISION: 02/22/90

Segment ST / MAON Subdivision A Date (mo / day / yr) 4-6-90

Time (24 hr) 16:00 Biologist Dave Lohr

(A) Substrate type and % of segments:
(1) Bedrock 40 (2) Boulder 20 (3) Cobble 25 (4) Pebble 15 (5) Sand (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 (O)

Photographs: Roll No. ST-13-3

Frames 5-9

BARNACLES

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

NOT PRESENT

MYTILUS

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

NOT PRESENT

GASTROPODS

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments:

See page 2

Ecological Considerations:

15 1L, 6Y - no comment

51 - 2 mature and one immature bald eagle bled. Nest also observed: marked by Forest Service (?) marker

Segment ST-MA002

Subdivision A

4-6-90

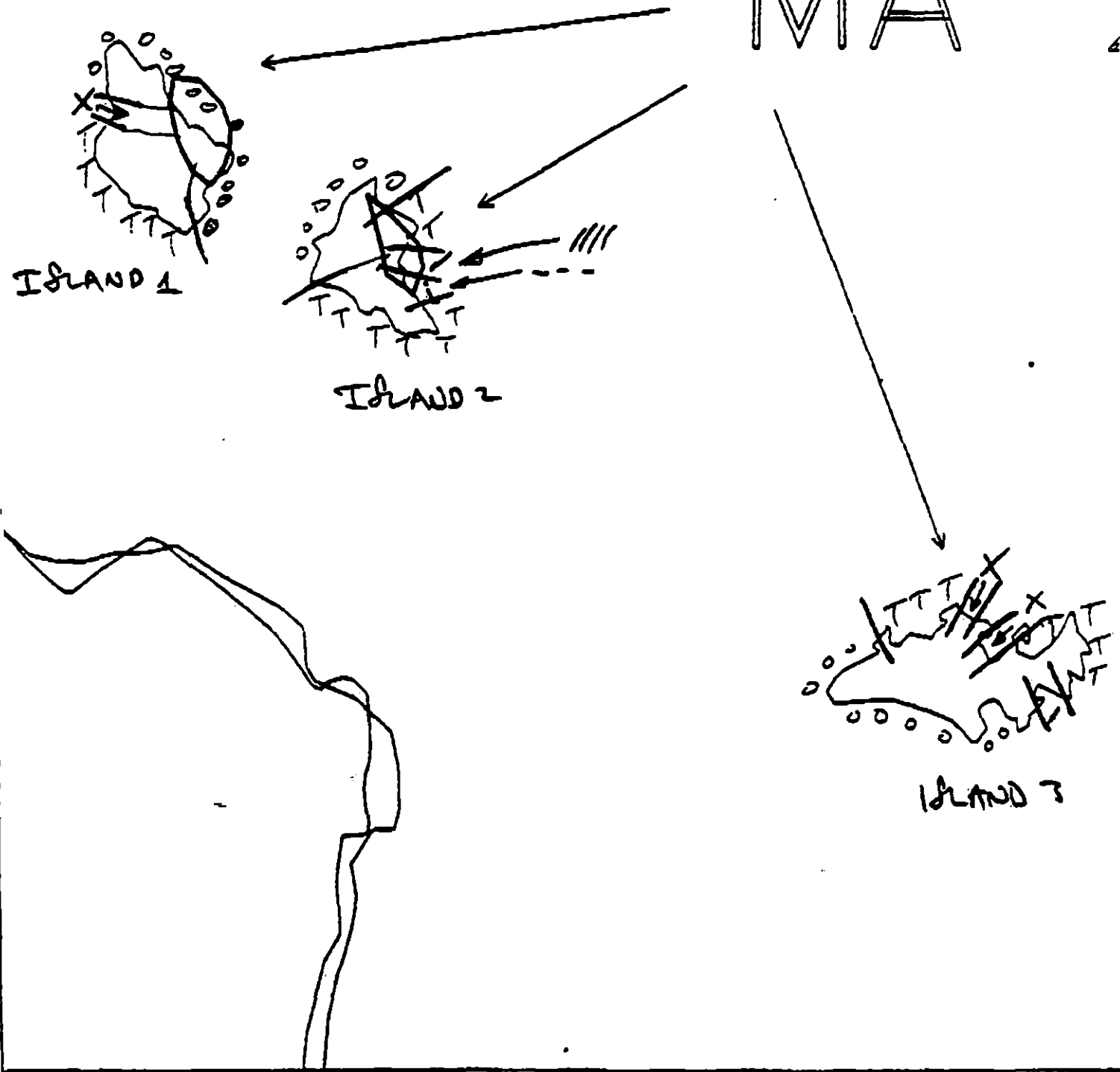
Biologist: David Cohen

Wildlife Observations/General Comments

1. present in mid intertidal: Ectocarpus, Enteromorpha, Halosaccion, Coralline algae, Epicetus, Anthopleura, Zostera (?) in mid-intertidal pools
low intertidal: Halosaccion (dense in spots), Ulva, coralline algae, Zonaria (?), Scytosiphon, Enteromorpha, ~~Enteromorpha~~ Teallic
2. 1 raven, 6 otters spotted in area
3. deer tracks, and lynx or wolverine tracks observed above high tide line.
4. Bear scat found above high tide line.

8/11

MA-



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

MA-2

ADEC Segment Length: 2093m



Map Key: PWS-545
Name: R GILLIE
Date: 4/6/90
Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT MA-2 SUBDIVISION A (1 of 1)

WORK WINDOW

Tarmat Removal Less Than 400m From Nests	CLOSED
Tarmat Removal More Than 400m From Nests	OPEN
Bioremediation/Manual Tilling Less Than 400m From Nests	CLOSED
Bioremediation/Manual Tilling More Than 400m From Nests	WORK 6/4 - 6/7

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

- | | | |
|----|---------------------------|---|
| 1E | Main Bay Hatchery Release | No constraint to tarmat removal. Subdivision open to bioremediation and manual tilling 6/4 to 6/8 per verbal authorization from Larry Peltz/ADF&G to Tom Monihan/Exxon on 5/24/90. No constraint to bioremediation and manual tilling after 6/15. |
| 1I | Gill Net Area | Closed to bioremediation and manual tilling after 6/7. No constraint to tarmat removal. |
| 1L | Set Net Sites | Closed to bioremediation and manual tilling from 6/11 to 7/25. No constraint to tarmat removal. |
| 5T | Bald Eagle Nest | USFWS bald eagle impact assessment completed on 5/22/90 by Mike Lockhart indicates 2 active nests within 400m of the work area. Closed to tarmat removal, bioremediation and manual pickup less than 400m from active nests. No constraint to tarmat removal, bioremediation and manual pickup more than 400m from nests. |

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and 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. From 6/11 to 7/25, when set net sites are present, restrict beach operations to essential minimum. Avoid any unnecessary disturbance or damage to unrolled blots and substrate.

TAG APPROVAL DATE 6/04/90
ADEC Ray Morris
EXXON Andy Tate
NOAA Jordan Gillett
USCG C. A. Felter

FOSC

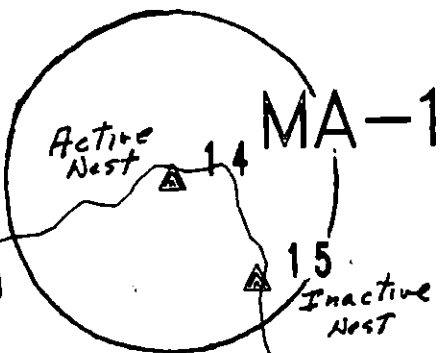
[Signature] Date 6/4/90

Prepared by

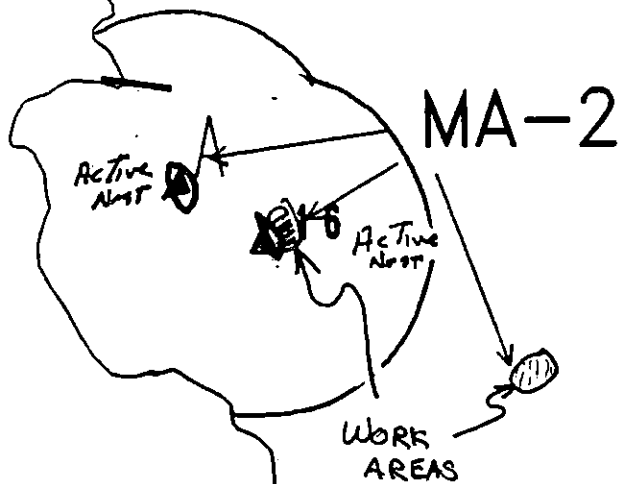
[Signature]

Date

6/2/90



*Incorporates information from
USFWS bald eagle survey 5/22/90.*



MA-3



Exxon Company, USA
Map Key: PWS-MA-2
May 11, 1990



ECOLOGY MAP ^{6/2}
SEGMENT MA-2
SUBDIVISION A (1 of 1)
METERS
0 458 913

★ Seabird Colony
▲ Eagle Nest

1 inch = 1497 feet

SHORELINE EVALUATION

SEGMENT ST/ MA-03 SUBDIVISION A (1 OF 1) DATE 4/6/90

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)
1E Main Bay Hatchery release (4/20 to 5/10)
1L Set net sites (6/11 to 7/25)
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:

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

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

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 406 m: No Oil 3801 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: Recommended treatment includes 1) manual pick up of oiled debris. Work should be conducted after approval by ADF&G and USFWS regarding eagle nest.

TAG COMMENTS:

TAG APPROVAL DATE: 4/19/90
ADEC ART WEINER
EXXON ANDY TEAL
NOAA Burt Worscott
USCG KENNETH KEANE

FOOSC: 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	Cannory Creek Hatchery release (4/21 to 6/1)
1H	Remote release site
1I	Gill net area (6/7 to 8/31)
1J	Purse seine area (7/20 to 9/30)
1K	Purse seine hook-off (7/20 to 9/30)
1L	Set net sites (6/11 to 7/25) For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
2M	Herring spawning (4/1 to 6/15) Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
3N, 3P 3O, 3Q	Harbor seal and sea lion pupping (5/15 to 7/1) Harbor seal and sea lion molting (8/15 to 9/15) Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
5R	Seabird colony (5/1 to 9/1) Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
5S	Shorebird/waterfowl concentration (4/1 to 5/15) Restrict all activity to essential minimum, especially air traffic.
5T	All Bald Eagle nests (3/1 to 6/1) Active Bald Eagle nests (3/1 to 9/1) Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
6U	Recreation: Tent sites (6/1 to 9/15)
6V	Anchorage (6/1 to 9/15)
6W	Forest Service cabins (6/1 to 9/15)
6X	Lodge (6/1 to 9/15)
6Y	Special use destination
7Z	Subsistence area: Salmon harvesting (5/1 to 9/30)
7HH	Finfish harvesting
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

9/11

SEGMENT ST / MA-03 SUBDIVISION: A-1 of 1 DATE 04/06/90

USCG

NAME David S. Thomas SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS Removal of oiled Debris suggested.

ADEC

NAME Clara J. Crosby SIGNATURE Clara J Crosby

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS In an attempt to complete segments assigned within time frame - Agency rep. Marsha Martin covered this portion of seg. V.L. designation - I covered MA 02 -

LAND MANAGER

NAME MARSHA MARTIN / DNR SIGNATURE Marsha Martin

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS Collected small wax ball near cabin; Northern portion Lagoon. TRASH. Should be removed. (oiled)

SHORELINE OILING SUMMARY

REVISION NO. 03/22/90

OG Rick Gillie USCG Am 1 Thomas SEGMENT ST/ MA-03 (21)
 IO DAVE Lohr LAND REP Marsha Martin SUBDIVISION A-1 of 1
 XXON FRANK Dwy ADEC Clara Crosby (ADNR) TIME 16:00 to 19:45
 TEAM NO.: 13 TIDE LEVEL: +4 16 -3 DATE 04/06/90
 EST. SUBDIVISION LENGTH: 4.500m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock Snow
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 30 % B 30 % C 20 % P 10 % G 7 % S 3 % 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 0 m VL 150 m NO 4350 m
 US 1,308

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	R	B	P	V	SP	BP	OP	GP	TP	LP	UP	LP	SU	U	M	U
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT																
STAIN																
MOUSSE																
PATTIES																
TARBALLS																
FILM																
NO OIL													X		X	X

PAVEMENT: H F S N/A sq. m by 0 cm

PATTIES / TARBALLS N/A BAGS

NEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash		X	
Debris			

DEBRIS COLLECTED

☐ YES ☒ NO

TYPE N/A

#BAGS N/A

Photographs:

Roll No. ST-13-2

Frames 10

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR								PIT ZONE	A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	SP	BP	OP	GP	TP	LP	UP	LP			
1	25					X	.											X		P, S
2	20					X	.											X		P
3	20					X	.											X		S, G, P
4	20					X	.											X		G
5	25					X	.											X		P, S, M
6	20					X	.											X		P, G

COMMENTS

OG Rick UE
 SEGMENT ST/ WAT-03
 SUBDIVISION A-1 of 1
 DATE 04, 06/90

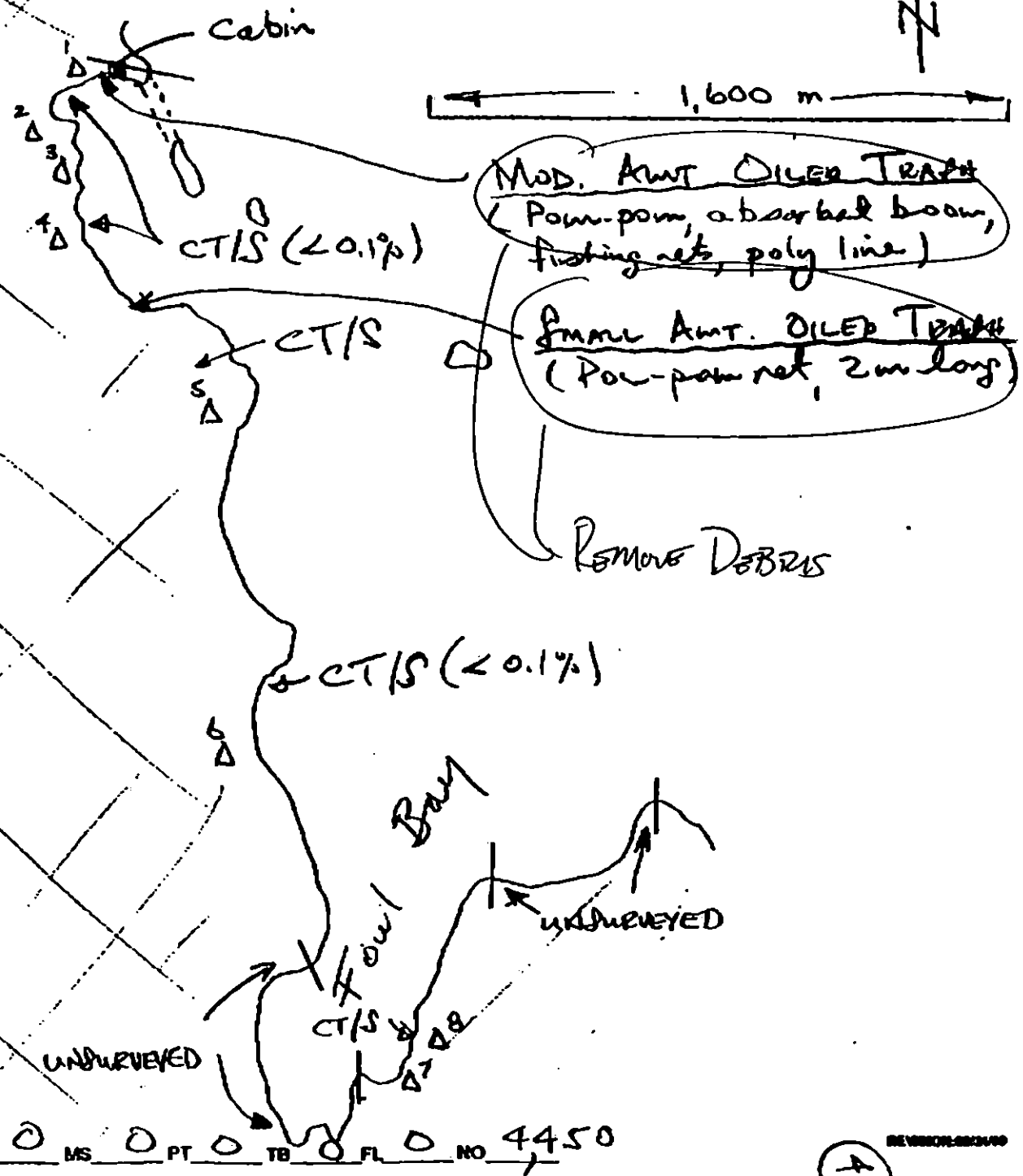
SKE MAP



1,600 m

- CHECKLIST**
- ☒ N Area
 - ☒ Approx. Scale
 - ☒ Seg/Sub Grid
 - ☐ Oil Dist.
 - ☐ Width
 - ☐ Length
 - ☐ % Cover
 - ☐ Substrate Character
 - ☐ Est. HWA/LWL
 - ☐ SSL
 - ☐ Profile Location(s)
 - ☐ Profile(s)
 - ☒ P/L Location(s)
 - ☐ Photo Location(s)

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



Oil Character Length (m): AP 0 PO 0 CV 0 CT 50 ST 0 MS 0 PT 0 TB 0 FL 0 NO 4450



REVISION 000000

ENCLOSURE 12105 FRUIT 500 THERM 1.04

SHORELINE ECOLOGICAL SUMMARY

1 of 4
REVISION: 03/2000 10/

Segment ST / MA 003 Subdivision A Date (mo / day / yr) 4-6-90

Time (24 hr) 19:00 Biologist David Loh

(A) Substrate type and % of segments:
(1) Bedrock 30 (2) Boulder 20 (3) Cobble 20 (4) Pebble 10 (5) Sand 15 (6) Silt 5

(B) Overall % cover of biota (% of segment): Dense 15 Moderate 45 Low 40

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

Photographs: Roll No. ST-13-3

Frames 10

BARNACLES

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

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	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	2	X	2	X	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

FUCUS

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	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

Wildlife Observations/ General Comments:

See page 2

Ecological Considerations:

2 streams located in segment. No oil found near the northernmost stream, the second was in part of segment previously marked no-oil.
1E, 1L, 6U - no comment
ST- 1 mature and 1 immature bald eagle sited in area

Shoreline Ecological Summary

2 of 2

Segment ST-MA003

Subdivision A

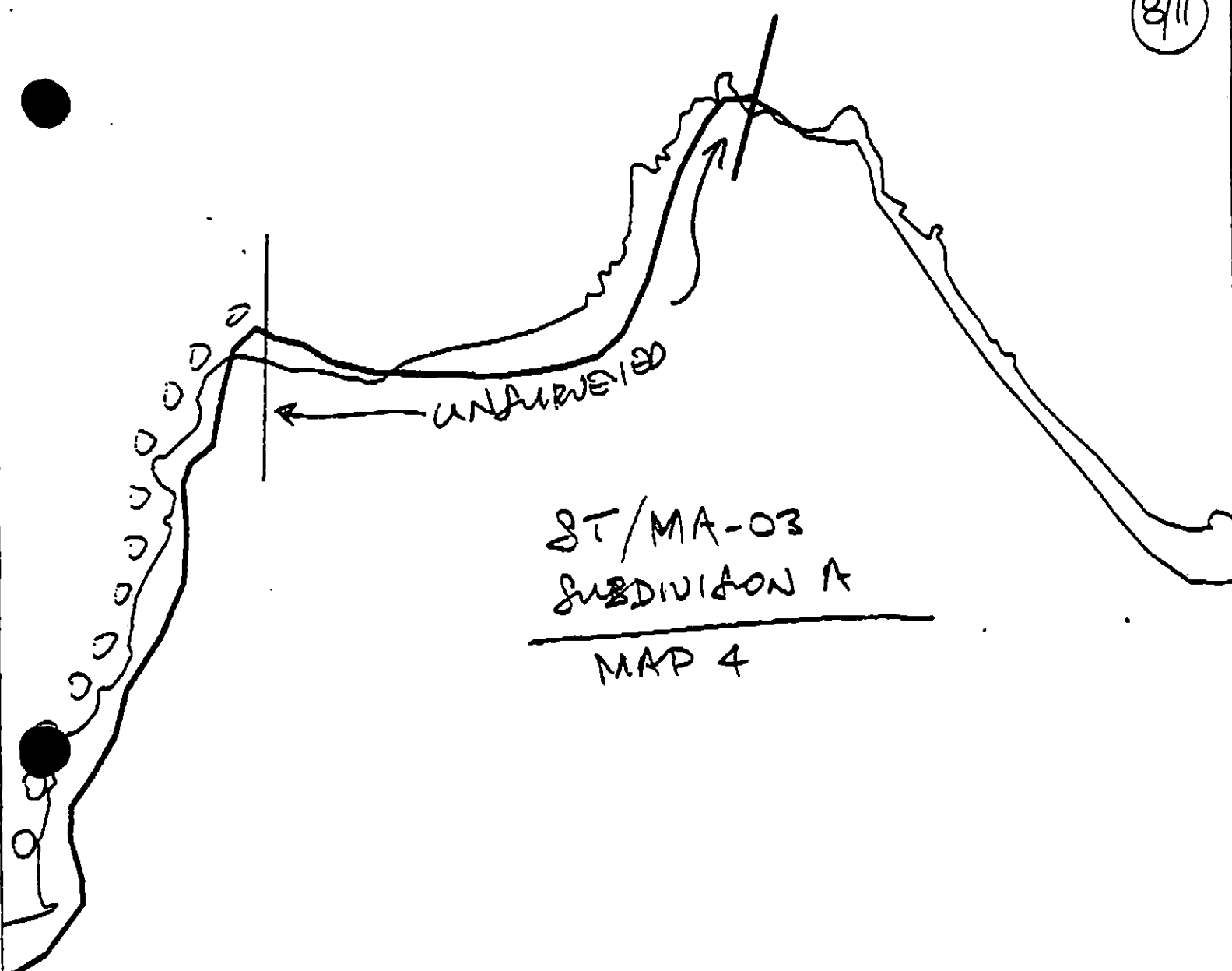
4-6-90

logist David Lohse

Wildlife Observations / ~~Project~~ General Comments

1. low intertidal not sampled
2. present in mid intertidal: Ulva, Enteromorpha, Cladophora, Halosaccion, Mucilley, Scytosiphon, unidentified ~~red~~ "black" red alga
3. 1 seal spotted in area
4. Patches of byssal threads located mid-intertidal bedrock

8/11



ST/MA-03
SUBDIVISION A
MAP 4

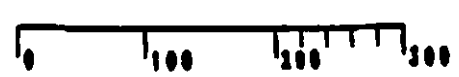
← 2015
1.1.1.1

MA-5

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

MA-3

ADEC Segment Length: 500m



Map Key: PWS-471b
Name: R GILLIE
Date: 4/6/98
Data Entered:

↑
PWS
471C

7/11

ST/MA-03
SUBDIVISION A
MAP 3

UNSURVEYED

PWS
471B →

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

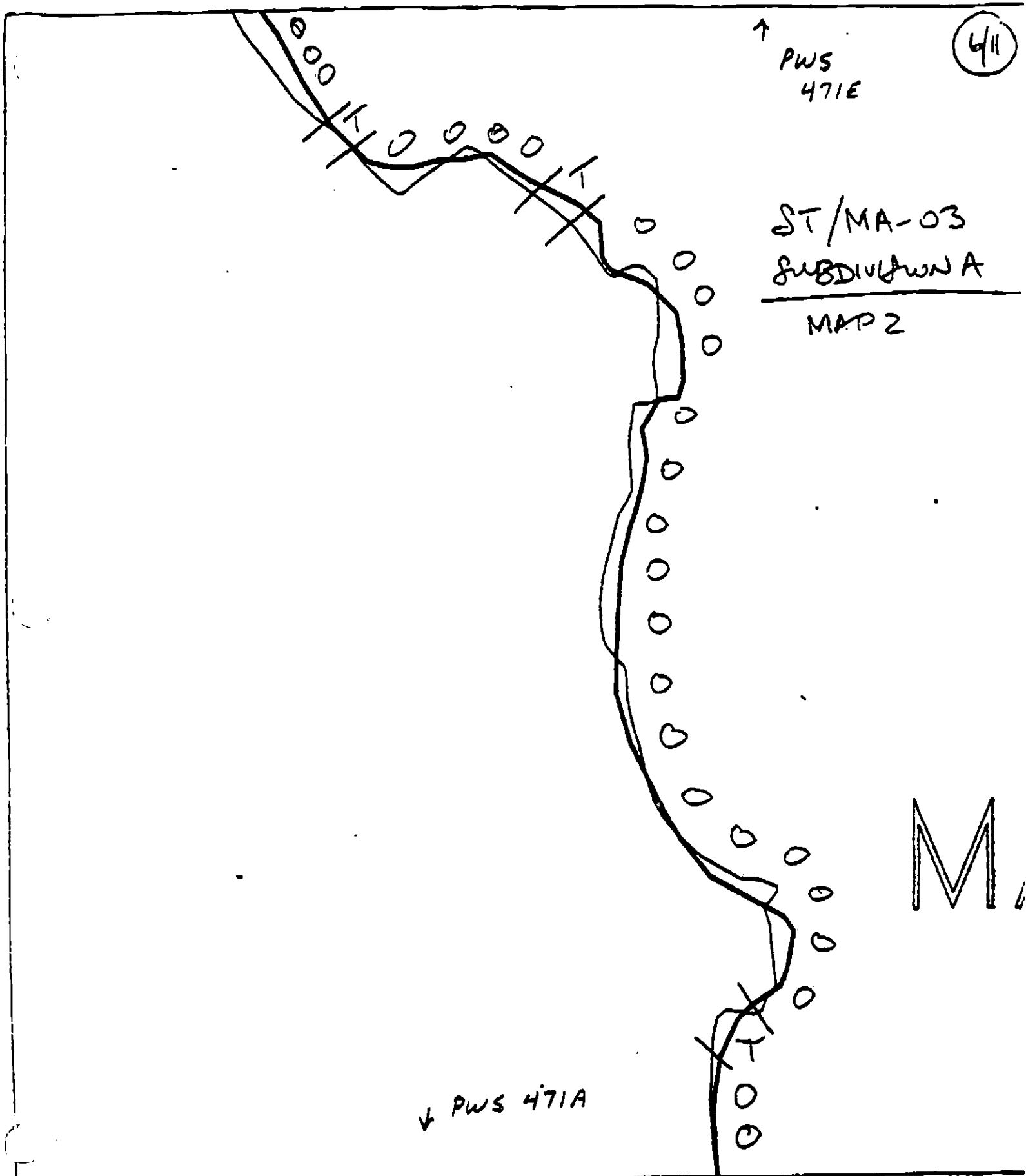
MA-3

AOEC Segment Length: 5808m

Map Key: PWS-471a

Name: R GILLIE

Date: 4/6/90



XXXX Wide
//// Medium
---- Narrow

MA-3

ADEC Segment Length: 5808m

Map Key: PWS-471c

Name: R. GILLIE

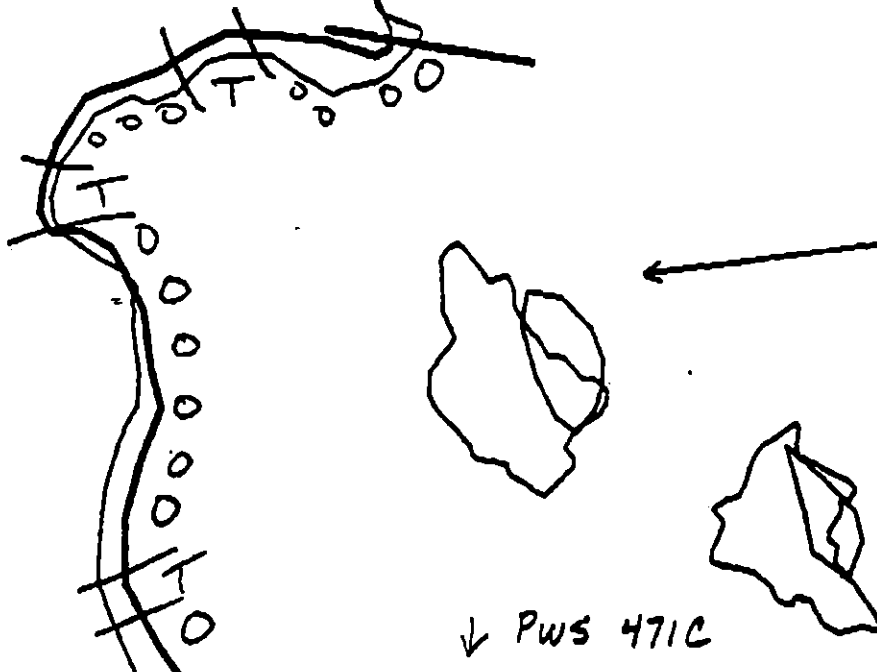
4/6/90

5/11

IVIA-1

ST/MA-03
SUBDIVISION A

MAP 1



XXXX Wide

//// Medium

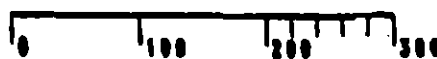
--- Narrow

TTTT Very Light

OOOO No Air

MA-3

ADEC Segment Length: 5808m



Map Key: PWS-4710

Name: R. GILLIE

Date: 4/6/90

Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT MA-3 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

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,B	Salmon Stream	ADF&G catalogued anadromous streams (225-10-15003 and 225-10-15010) are in Subdivision A. No constraint to manual pickup.
1E	Main Bay Hatchery	No constraint to manual pickup.
1L	Set Net Sites	No constraint to manual pickup.
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

No disturbance to stream bed or banks. Avoid any unnecessary disturbance or damage to unrolled biota and substrate.

FOSC

[Signature]

Date

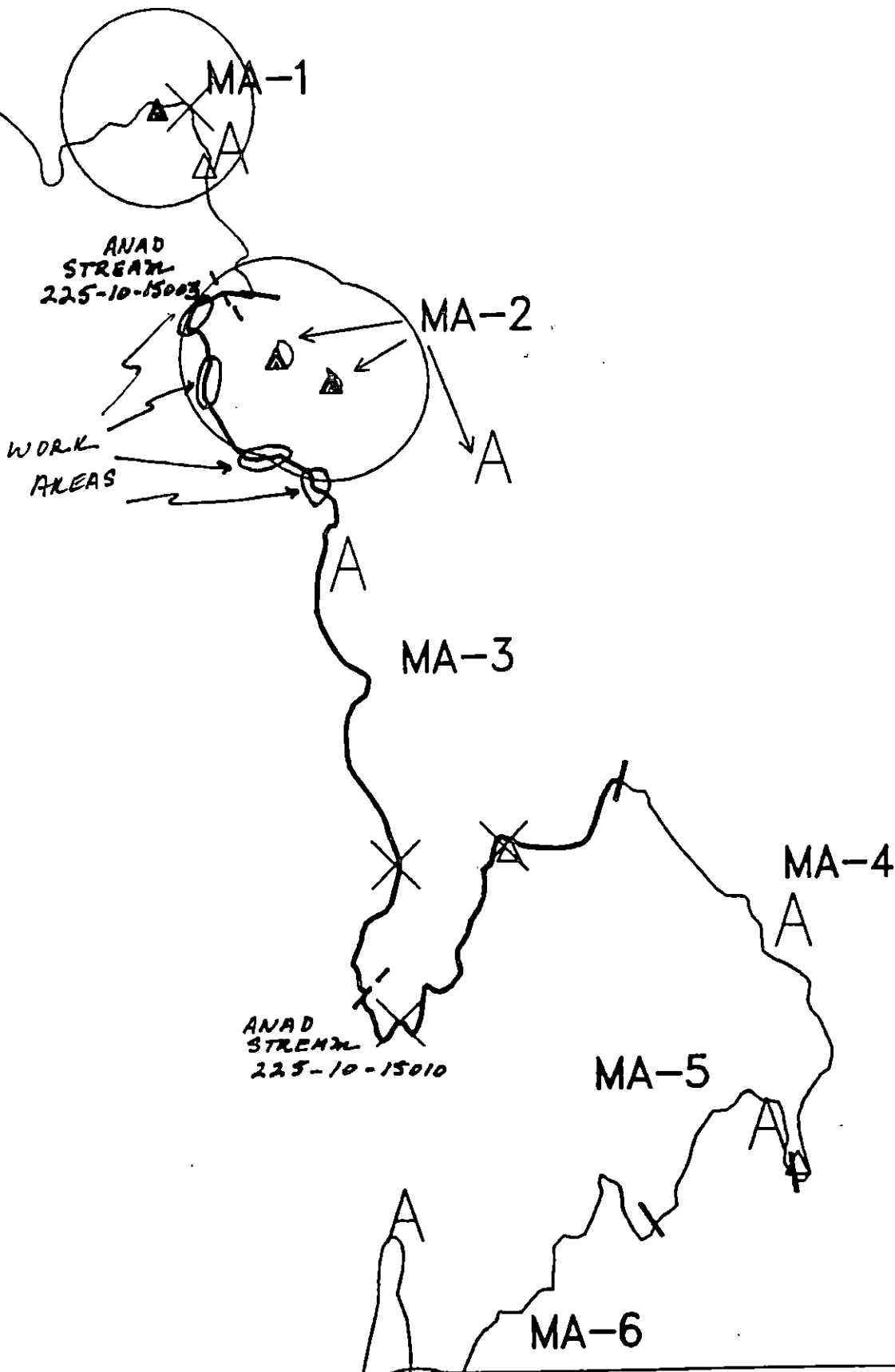
7/3/90

Prepared by

W. Kelley

Date

7/3/90



Exxon Company, USA
Map Key: PMS-MA-3
June 09, 1990



ECOLOGY MAP
SEGMENT MA-3
SUBDIVISION A (___ of ___)
METERS
0 648 1295

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

1 inch = 2125 feet

SHORELINE EVALUATION

SEGMENT ST/ MA-04 SUBDIVISION A (1 OF 1) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1L Set net sites (6/11 to 7/25)
5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unopened biota and substrate. Do not trample or otherwise damage mussel beds.

SHPO SIGNATURE: [Signature] DATE: 4/25/90

OILING CATEGORIZATION:

Wide 24 m: Medium 88 m: Narrow 0 m: V.Light 1565 m: No Oil 483 m
Subsurface Oil Observed: Yes X No Maximum Depth 10 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) removal of tarmat in high energy areas (see attached sketch map), 2) bioremediation in areas shown on map and, 3) manual pick up of absorbent boom at location on map. Work should be conducted prior to 6/11 or after 7/25 based on above set net constraint and with approval from USFWS regarding eagle nests.

TAG COMMENTS:

TAG APPROVAL DATE: 4/25/90
ADEC ART WEINER
EXXON ANN TAYLOR
NOAA Joseph C. Talbot
USCG KENNETH KRAVITZ

FOSC: [Signature] DATE: 5-3-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
 1B Salmon stream mouth - spawning (7/10 to 8/31)
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
- 1C Salmon fry nursery area (4/31 to 7/31)
 1D Esther Hatchery release (4/15 to 6/1)
 1E Main Bay Hatchery release (4/20 to 5/10)
 1F Sawmill Bay Hatchery release (4/15 to 6/1)
 1G Cannery Creek Hatchery release (4/21 to 6/1)
 1H Remote release site
 1I Gill net area (6/7 to 8/31)
 1J Purse seine area (7/20 to 9/30)
 1K Purse seine hook-off (7/20 to 9/30)
 1L Set net sites (6/11 to 7/25)
 For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
- 2M Herring spawning (4/1 to 6/15)
 Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
- 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 / MA-04 SUBDIVISION: A-1 of 1 DATE 09/07/90

USCG

NAME David S. ThomasSIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

ADEC

NAME Clara S. CrosbySIGNATURE Clara S. Crosby

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Manual Removal of Asphalt - Boom (^{su} stuck in ice)

Moderate area of CT/B - in MI (see sketch map) in ^{or} area
of rock platforms of ^{cc} lower subtidal reefs - would be
difficult to clean mechanically due to limited access.

No other specific techniques for cleaning recommended.

LAND MANAGER

NAME MARSHA MARFIN / DNRSIGNATURE Marsha Marfin

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

SHOREFISHERY use boundary indicated in S. ERN
portion segment.

SHORELINE OILING SUMMARY

REVISION NO. 02/23/90

OG Rick GILLIE USCG BM 1 Thomas SEGMENT ST/ MA-04
DAVE Lohr LAND REP Marsha Martin SUBDIVISION R-10f1
ION FRANK Boy ADEC Clara Crosby (ADNR) TIME 07:30 to 10:00
 TEAM NO.: 13 TIDE LEVEL: +2 to +6 DATE 04/07/90
 EST. SUBDIVISION LENGTH: 2.619 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock SNOW IN PART OF SUPRATIDAL
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 40 % B 30 % C 20 % P 10 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Lang 50 % Hang 30 % Vert 20 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 30 m M 50 m N 50 m VL 1,700 m NO 729 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		X			X											X
POOLED																
COVER																
COAT		X		X											X	X
STAIN																
MOUSSE																
PATTIES				X											X	
ARBALLS																
FILM				X				X								X
NO OIL													X			X

 PAVEMENT: H F (S) 100 sq. m by 5 cm

 PATTIES / TARBALLS 0.1 BAGS

 NEAR SHORE SHEEN? NO BR RW (SL) TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash	X		
Debris			

 DEBRIS COLLECTED ☐ YES ☒ NO

 TYPE 0

 #BAGS 0

Photographs:

 Roll No. ST-13-3

 Frames 11-13

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	SL 1P	SL 2P	SL 3P	SL 4P	SL 5P	SL 6P	SL 7P	SL 8P	SU	U	M	L			
1	40					X	.											X						P, G
2	10	X					5-10		X	X								X						P, G, R
3	30					X	.											X						G
4	20	X					5-7		X	X									X		X			P, G, Peat
5	10					X	.												X					C, P
							.																	

COMMENTS

- Oil predominantly in surface of fine shale and in thin (<10 cm) layer of sediment veneer on upper MI of reef.
- Shoreline predominantly very wide (100 m) intertidal rock platforms with subtidal reef.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 09/22/90

Segment ST / MA 004 Subdivision A Date (mo / day / yr) 4-7-90Time (24 hr) 7:15 Biologist David Lohr

(A) Substrate type and % of segments:

(1) Bedrock 40 (2) Boulder 30 (3) Cobble 20 (4) Pebble 10 (5) Sand (6) Silt (B) Overall % cover of biota (% of segment): Dense 30 Moderate 35 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 (O)

Photographs:

Roll No. ST-13-3Frames 11-13

BARNACLES

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

MYTILUS

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

Wildlife Observations/ General Comments:

See page 2

Ecological Considerations:

IL, 6Y - no commentAs in mid-intertidal cobble near pit 5 (see OG map) would be susceptible to disturbance/foot trafficDense Fucus mid-intertidal bedrock near pits 3 and 4 (see OG map) would be susceptible to disturbance/foot traffic.

Shoreline Ecological Summary

C of 2

Segment ST-MA004

Subdivision A

4-7-90

Biologist: David Lohse

Wildlife Observations / General Comments

1. present in low intertidal: Halosaccion, Ulva, coralline algae, Anthopleura, Syrtosiphon, unidentified red "bleb" ~~algae~~ algae
mid intertidal: Anthopleura, coralline algae, Entomopora, Halosaccion, Zostera? (in tide pools), unidentified red algal "branch"
2. many deer tracks spotted at high tide line. Also found set of tracks of an unknown small animal (fox?)
3. One seal, one otter, many shore birds/water fowl^{and}, ravens sited in area
4. patches of byssal threads found on mid intertidal bedrock and boulder
5. in some areas of low intertidal total algal cover reached 90%
6. On high intertidal bedrock barnacle mortality reached up to 80%, while on high intertidal boulder barnacle mortality reached 50%.
7. Mussel mortality in mid-intertidal cobble was ~25%
8. One otter skeleton and some fur found above high tide line. No oil was observed
9. 3 mature bald eagles sited in area
10. One running stream found in segment, No oil observed. No information given on any ecologically sensitive streams in this segment.

OG RICK GILLIE
 SEGMENT ST/ 1A-04
 SUBDIVISION A-10f1
 DATE 04, 07 90

CHECKLIST

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

LEGEND

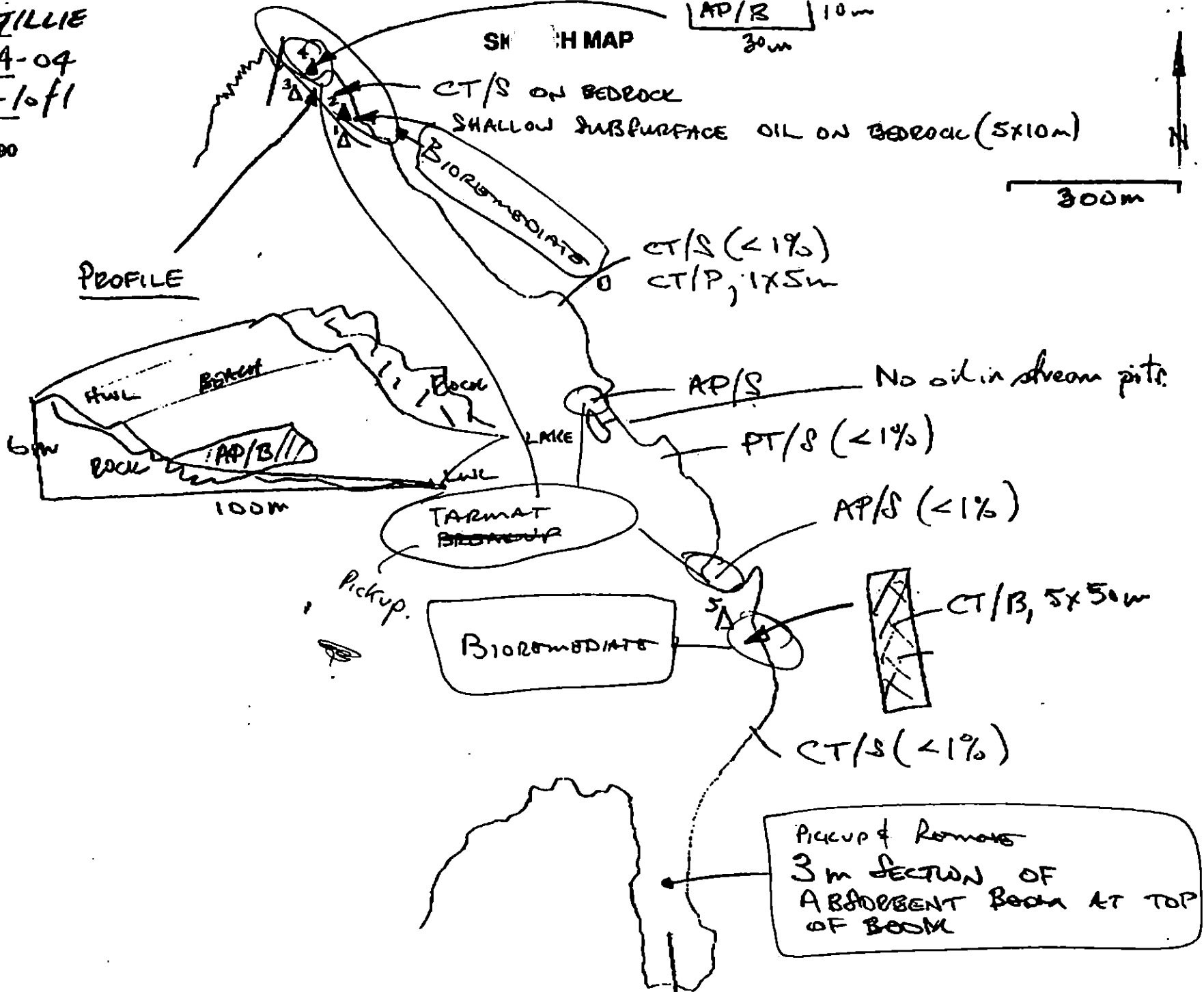
- 1 Δ
Pit - No Subsurface Oil
- 2 Δ
Pit - Subsurface Oil
- CT/C

Continuous Distribution
- CT/B

Broken Distribution
- CT/P

Patchy Distribution
- CT/S

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



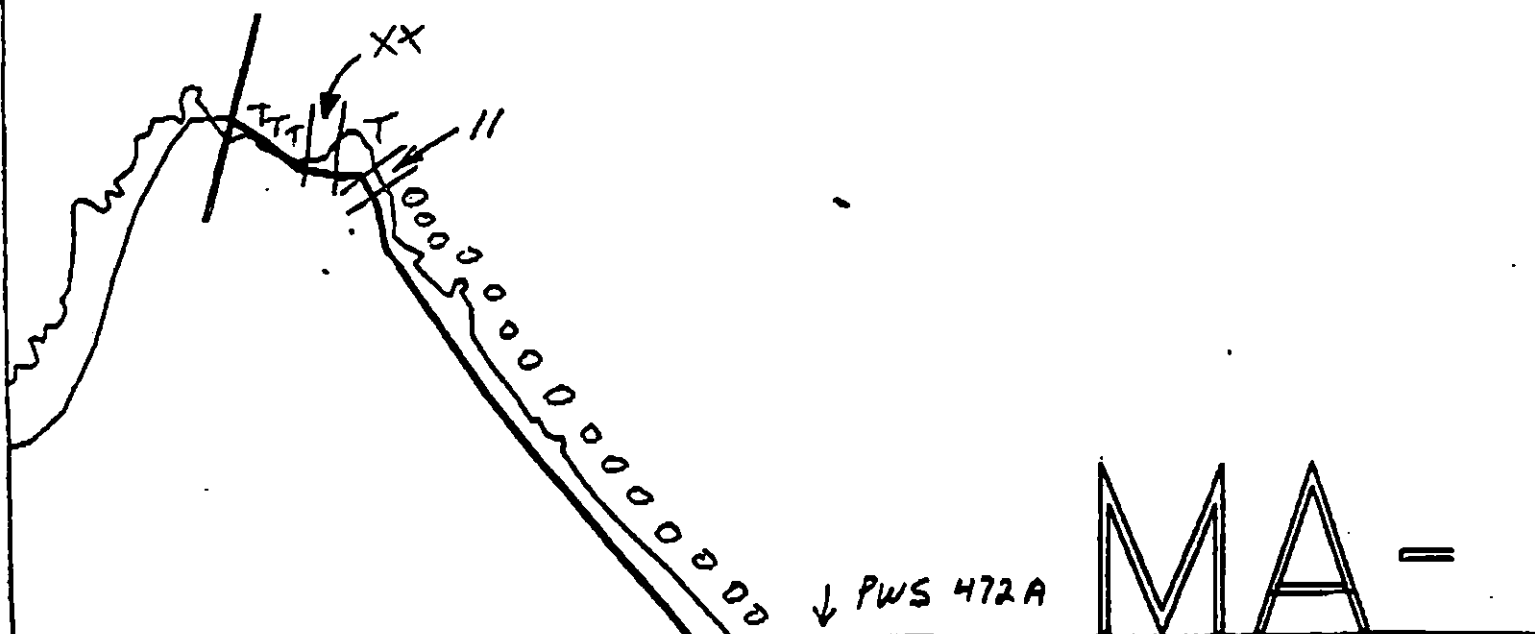
Oil Character Length (m): AP 30 PO 0 CV 0 CT 50 ST 0 MS 0 PT 1 TB 0 FL 10 NO 2,528

REVISION: 02/20/90

ST/MA-04

SUBDIVISION A - 1 of 1

NORTH PART



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

OOOO No Oil

MA-4

ADEC Segment Length: 2160m



Map Key: PWS-472b

Name: _____

Date: _____

Date Entered: _____

↑ PWS 472B

ST/MA-04
SUBDIVISION A-1 of 1

South Part

MA-5

XXXX Wide
//// Medium

MA-4

Map Key: PWS-472a

Name: _____

SHORELINE EVALUATION

SEGMENT ST/ MA-05 SUBDIVISION A (1 OF 1) DATE 4/8/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1E Main Bay Hatchery release (4/20 to 5/10)

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

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 E. H. H. H. DATE: 4/23/90

OILING CATEGORIZATION:

Wide 0 m: Medium 73 m: Narrow 0 m: V. Light 767 m: No Oil 358 m
Subsurface Oil Observed: Yes X No Maximum Depth 20+ cm

RECOMMENDATIONS:

 No Treatment Recommended

X Treatment Recommended

X Manual Pickup

X Bioremediation

X Tarmat: Breakup

X 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 debris and tarmat and bioremediation of areas shown on sketch map. Work should be conducted after 5/10 due to hatchery release constraint and before 6/11 due to set net constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 4/21/90.

ADEC ART WENNER

EXXON AMY TEAL

NOAA Burl Wescott

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 (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 / MA-05 SUBDIVISION: A-1 of 1 DATE 07/08/9

USCG

NAME David S. Thomas SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

ADEC

NAME Clara S. Crosby SIGNATURE Clara S Crosby

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

(An attempt was made to recover tarballs in segment - ^{due to time factor unable to recover all.}
Manual Removal of Asphalt; Tarballs.
Sorbent Boom - Tumbols - subsurface sifting emitted.
Strong smell - Anisole? Low energy area!
Splashes of CT throughout segment very sporadic -
Eastern end of segment - tarballs easily recovered -

LAND MANAGER

NAME MARSHA MARTIN/DNR SIGNATURE Marsha Martin

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Shore fishery lease. Oiled log at supratidal -
possibly creosote soaked in Very light near beginning
OR EAST portion segment. STRESS treatment
Medium PREM.

SHORELINE OILING SUMMARY

REVISION NO. 03/22/90

OG Rick Gillie USCG bm 1 Thomas SEGMENT ST/ MA-05
 BIO DAVE Lohr LAND REP Marsha Martin SUBDIVISION A-10f1
 EXXON Frank Dry ADEC Clara Crosby (ADNR) TIME 16:30 to 18:00
 TEAM NO.: 13 TIDE LEVEL: +16 10 +2 DATE 04/08/90
 EST. SUBDIVISION LENGTH: 1,500 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 40 % B 10 % C 30 % 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 50 m N 0 m VL 1000 m NO 458 m

SURFACE OIL

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

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

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

DEBRIS COLLECTED ☒ YES ☐ NOTYPE TB#BAGS 1

Photographs:

Roll No. ST-13-03Frames 23-26

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	L		
1	20					X	.										X				P, G, S
2	30					X	.										X				P
3	25					X	.										X				P
4	30		X				10-20	X		X							X				P
5	30			X			5-15	X		X							X				P
6	30		X				5-20	X		X							X				P

COMMENTS

SHORELINE OILING SUMMARY (PAGE 2 of)

REVISION 03/22/99

SEGMENT ST/ WA-05 SUBDIVISION A-1071

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		VO	UC	SL	BR	OR	OL	OF	NO	SU	U	M	U		
7	30					X	.									X					P.G
							.														
							.														
							.														
							.														
							.														
							.														
							.														
							.														
							.														
							.														
							.														
							.														
							.														
							.														
							.														

COMMENTS

REVIEWED _____ DATE _____

SHORELINE ECOLOGICAL SUMMARY

Segment ST / MA 005 Subdivision A Date (mo / day / yr) 4-8-90Time (24 hr) 16:30 Biologist David Lohm

(A) Substrate type and % of segments:

(1) Bedrock 40 (2) Boulder 10 (3) Cobble 30 (4) Pebble 20 (5) Sand (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 (3)

Photographs:

Roll No. ST-13-3Frames 23-26

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:

See page 2

Ecological Considerations:

E. 146U - no comment

ST - One mature bald eagle sited in the area. No nest was sited.

Shoreline Ecological Summary

6 or 6

Segment ST-MA005

Subdivision A

4-8-90

ologist: David Lohse

Wildlife Observations/General Comments

1. present in mid-intertidal: Ulva, Enteromorpha, Scytosiphon, Nuella, Sculpins, Nuella egg cases
2. low intertidal not sampled
3. Two running streams located in segment. No oil was found near either one. No information was supplied on the presence of ecologically sensitive streams in this segment.
4. Mortality of mussels in mid intertidal cobble reached up to 80%.
Many water fowl/shore birds and ravens spotted in area.

00 RICK TILLIE

SEGMENT ST/ MA-05

SUBDIVISION A-10f1

DATE 04, 08/90

CHECKLIST

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

LEGEND

1 Δ
P/L - No Subsurface Oil

2 Δ
P/L - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/P
Patchy Distribution

CT/S
Splashed Distribution

Oiled Vegetation

1 →
Photo location, direction,
and number

SKETCH MAP

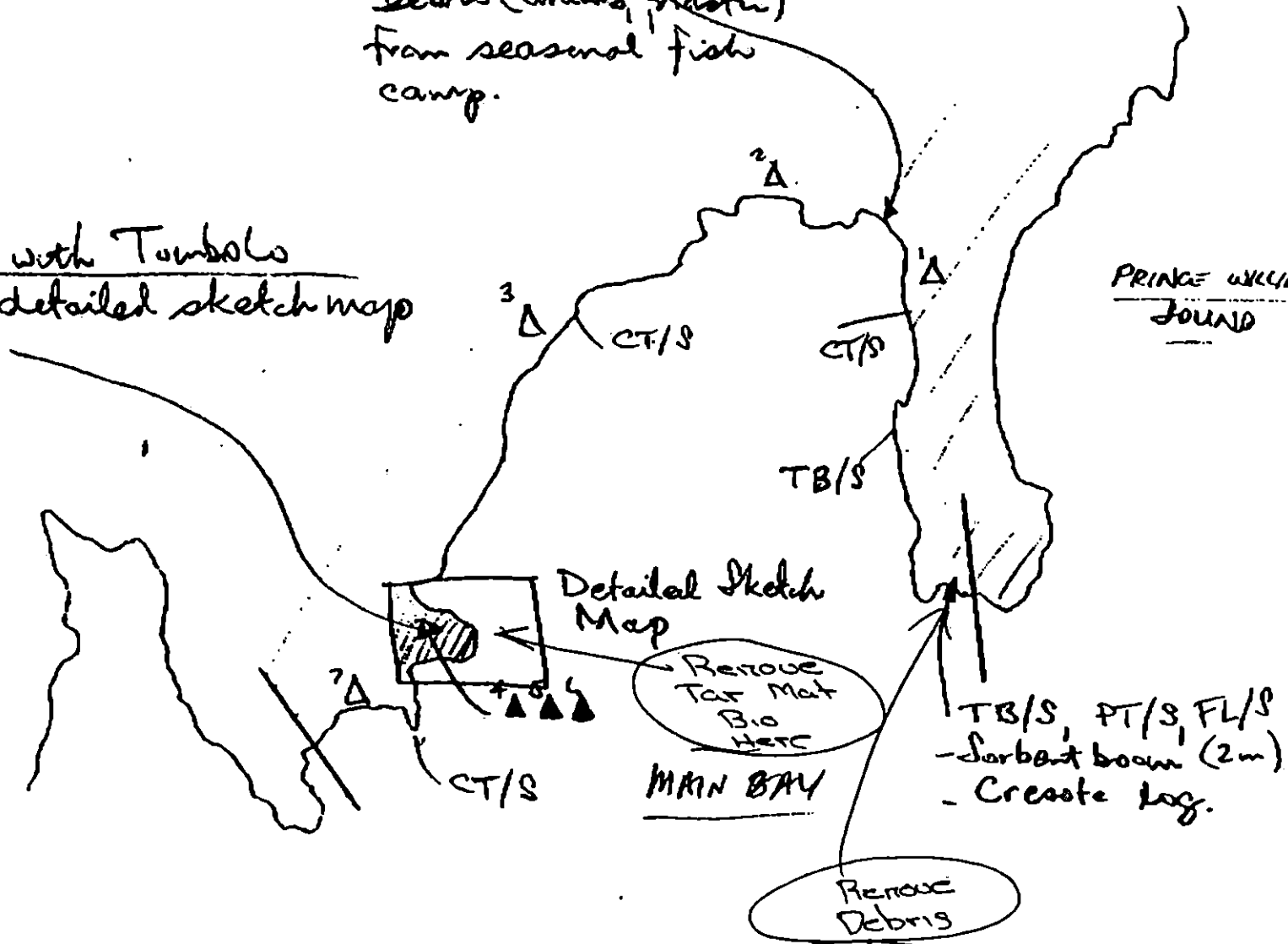
Pebble Beaches

- Debris (drums, plastic)
from seasonal fish
camp.

300 m

Island with Tombolo
- see detailed sketch map

PRINCE WILLIAM
SOUND

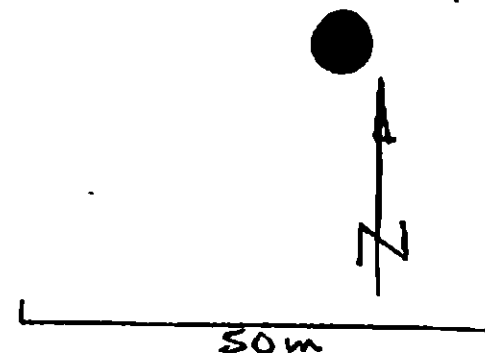


Oil Character Length (m): AP 30 PO 0 CV 0 CT 30 ST 0 MS 0 PT 10 TB 10 FL 2 NO 1426

REVISION: 03/24/90

DATE 07, 29/90

DETAILED SKETCH MAP

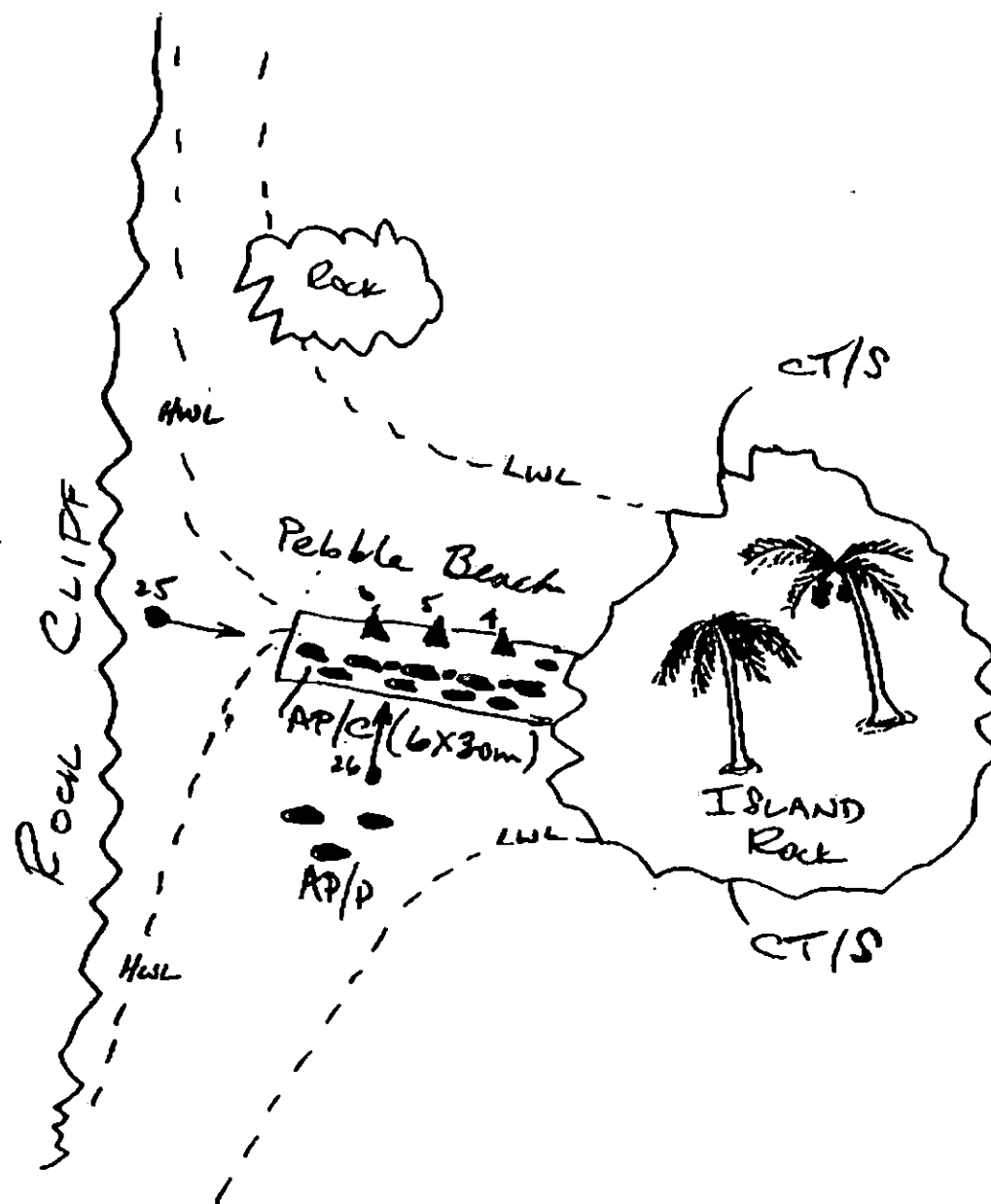


CHECKLIST

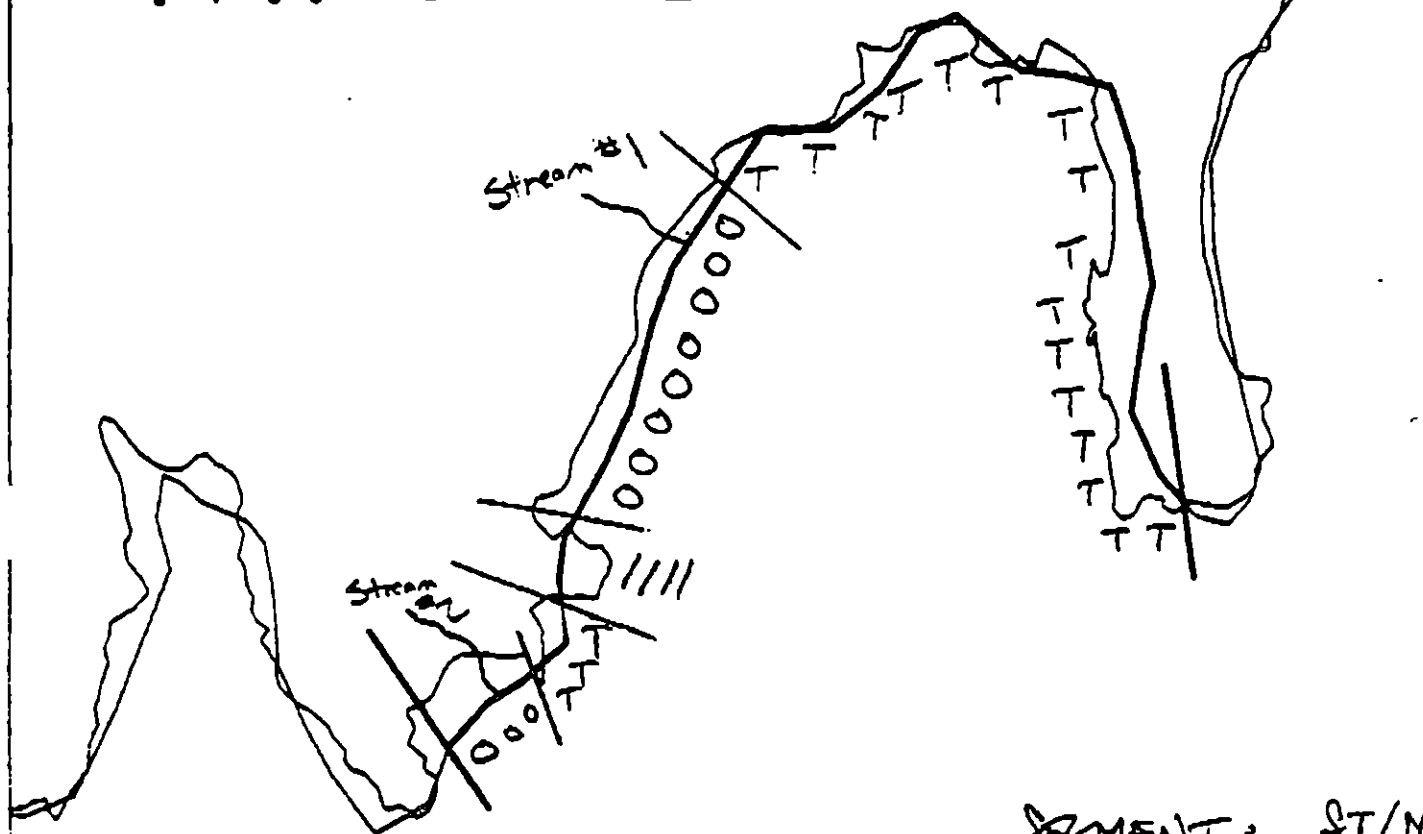
- ☒ Arrow
- ☒ Approx. Scale
- ☒ Seg/Sub Entry
- ☒ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☒ Substrate Character
- ☒ Est. HWA/LWL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☒ PH Location(s)
- ☒ Photo Location(s)

LEGEND

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



MA-5



SEGMENT: ST/MA-05
 SUBDIVISION: A-1f1

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

OOOO No Oil

MA-5

ADEC Segment Length: 1197m



METERS

Map Key: PWS-473

Name: R. GILWE

Date: 4/8/90

Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT MA-5 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup Tarmat Removal	OPEN
Bioremediation	WORK 6/4 - 6/7

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

- | | | |
|----|--------------------------------|---|
| 1E | Main Bay Hatchery Release Area | No constraint to manual pickup and tarmat removal. Subdivision open to bioremediation 6/4 to 6/8 per verbal authorization from Larry Peltz/ADF&G to Tom Monihan/Exxon on 5/24/90. No constraint to bioremediation after 6/15. |
| 1I | Gill Net Area | No constraint to manual pickup and tarmat removal; closed to bioremediation after 6/7. |
| 1L | Set Net Sites | No constraint to manual pickup and tarmat removal; closed to bioremediation after 6/11. |
| 5T | Bald Eagle Nest | NO CONSTRAINT. USFWS bald eagle impact assessment completed on 5/22/90 by Mike Lockhart indicates no active nests within 400m of the work area. |

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic to essential minimum after 6/7. After 6/11, when set net sites are present, restrict beach operations to essential minimum. Avoid any unnecessary disturbance or damage to unrolled biota and substrate.

TAG ADDENDUM DATE 6/04/90

ADEC

EXXON Ray Morris

NOAA Andy Earl

USCG Joseph Tallent

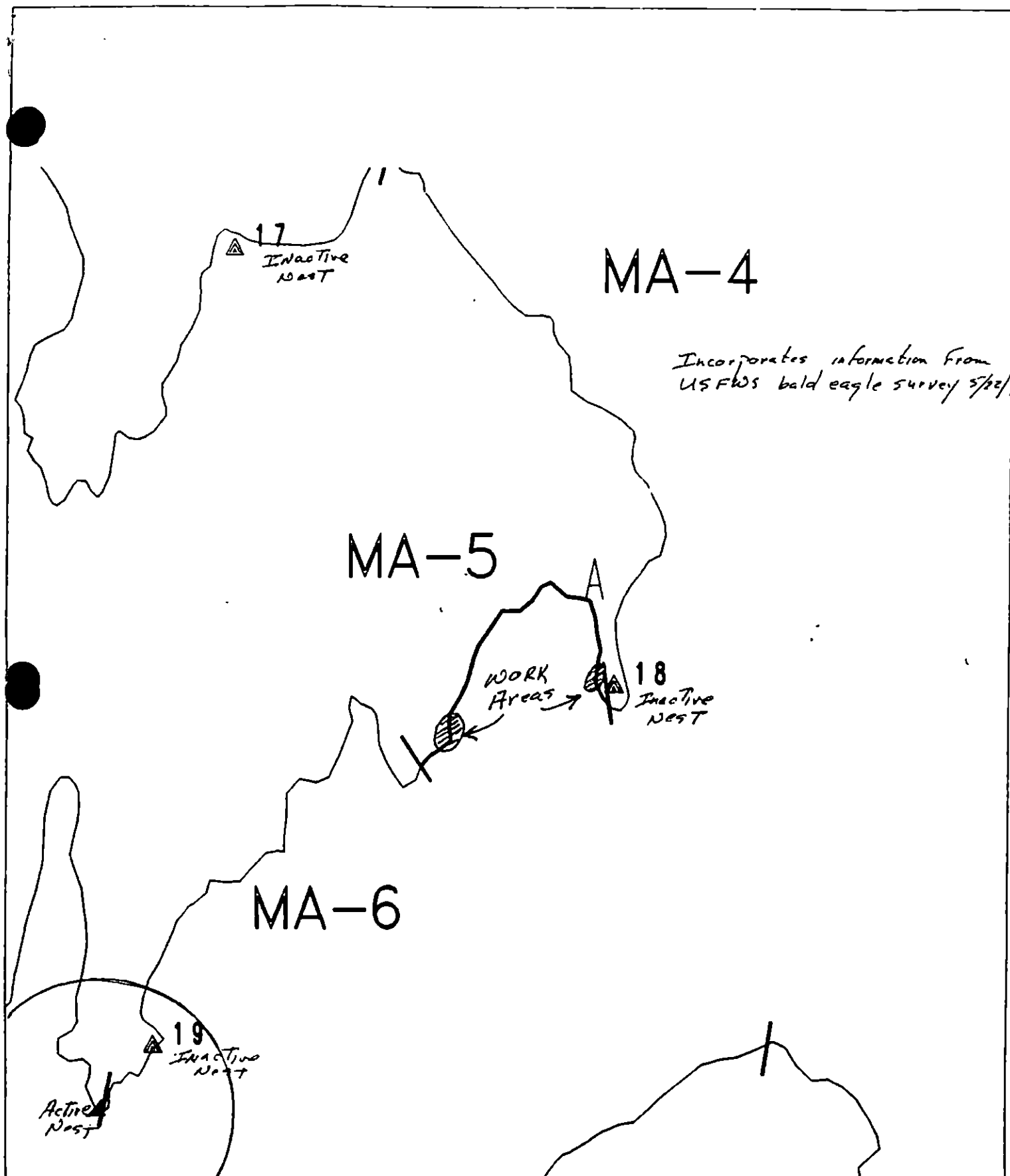
FOSC

DATE

6/4/90

Prepared by: Anden Meyer

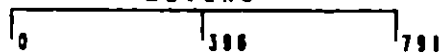
Date: 6/2/90



Exxon Company, USA
Map Keys PMS-MA-5
May 11, 1990



ECOLOGY MAP 6/1
SEGMENT MA-5
SUBDIVISION A (1 of 1)
METERS



★	Seabird Colony
▲	Eagle Nest

1 inch = 1298 feet

SHORELINE EVALUATION

SEGMENT ST/ MA-06 SUBDIVISION A (1 OF 1) DATE 4/8/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1E Main Bay Hatchery release (4/20 to 5/10)
1L Set net sites (6/11 to 7/25)
5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
6Y Recreation: Special use destination
See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

SHPO SIGNATURE: J. Daniel McKen

DATE: 5/8/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 412 m: No Oil 1767 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: MANUAL PICKUP OF TARBALLS + POOLED OIL

TAG COMMENTS:

TAG APPROVAL DATE: 4/23/90

ADEC ART WEINER
EXXON JOY TGA
NOAA Joseph C Talbot
USCG KENNETH KEANE

FOSC: W L

DATE: 5/12/90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ MA - 06 SUBDIVISION: A 1 of 1 DATE 04/08/90

USCG

NAME

David S. Thomas

SIGNATURE

[Signature]☒ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

ADEC

NAME

Clara J. Crosby

SIGNATURE

Clara J. Crosby☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Due to sensitivity (ecological) of segment. Suggest
manual removal of tarballs & pooled oil -
segment contained oil oiling - (Line #13 was a cc
oiling (tarballs) due to time constraints)

LAND MANAGER

NAME

MARSHA MARTIN/DNR

SIGNATURE

Marsha Martin☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

SHORELINE OILING SUMMARY

REVISION NO. 03/22/90

OG Rick Gillie USCG Bm 1 Thomas SEGMENT ST/ MA-06
 BIO DAVE Lohie LAND REP Marsha Martin SUBDIVISION A-10f1
 EXXON FRANK ADEC Clara Crosby (ADNR) TIME 18:00 to 19:45
 TEAM NO.: 13 TIDE LEVEL: +2 to +0 DATE 04/08/90
 EST. SUBDIVISION LENGTH: 2,657 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 60 % B 20 % C 10 % P 10 % 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 0 m VL 600 m NO 2,037 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR						IMPACTED ZONES			
	TC	TS	TP	TR	1	2	3	4	5	6	SU	UI	MI	U
ASPHALT PAVEMENT														
POOLED														
COVER														
COAT														
STAIN														
MOUSSE														
PATTIES				X		X						X		
TARBALLS				X		X						X		
FILM														
NO OIL														

PAVEMENT: H F S N/A sq. m by cm.PATTIES / TARBALLS 0.5 BAGSNEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NOTYPE N/A#BAGS

Photographs:

Roll No. ST-13-03Frames 27, 28

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CH)	BELOW		OIL / FILM COLOR						PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		VO	UC	1	2	3	4	5	6	SU	UI	MI	U		
1	25					X	.										X				P, G
2	30					X	.										X				C, P
							.														
							.														
							.														
							.														

COMMENTS

SHORELINE ECOLOGICAL SUMMARY

Segment ST / MA006 Subdivision A Date (mo / day / yr) 4-8-90Time (24 hr) 18:00 Biologist David Lohr(A) Substrate type and % of segments:
(1) Bedrock 60 (2) Boulder 10 (3) Cobble 10 (4) Pebble 10 (5) Sand (6) Silt (B) Overall % cover of biota (% of segment): Dense 40 Moderate 30 Low 30

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

Photographs:
Roll No. 51-B-3Frames 27, 28

BARNACLES

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

NOT PRESENT

MYTILUS

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

NOT PRESENT

GASTROPODS

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments:

See page 2

Ecological Considerations:

IE, IL, 6Y - no comment

Shoreline Ecological Summary

2 of 4

Segment ST-MA 006

Subdivision A

4-8-90

Biologist: David Lohse

Wildlife observations/General comments

1. present in low intertidal: *Nucella* egg cases, *Enteromorpha*, *Halosaccion*, coralline algae, *Scytosiphon*, *Anthopleura*
mid intertidal: *Cladophora*, *Anthopleura*, coralline algae, *Enteromorpha*, *Endocladia*, *Nucella*, Sculpin, *Scytosiphon*, *Halosaccion*
2. deer spotted wandering in intertidal zone
3. 4 running streams located within this segment. Streams 1, 2, 4 (see OG map) had no oil present. Stream #3 had no oil present in the immediate vicinity of the stream mouth, but there were some splatters on high intertidal bedrock ~40m away. No information was supplied on the presence of ecologically sensitive streams in this segment
4. Total algal cover reached 90% in some areas on low intertidal bedrock.
5. *Enteromorpha* was dense in some areas of low intertidal bedrock, boulder, and cobble, and mid-intertidal boulders
6. Patches of byssal threads were observed on mid-intertidal bedrock.
7. A white, powdery substance of unknown origin was found in a line along the high tide level, of one portion of this segment. It spanned unbroken across bedrock, boulder, and cobble. It would

RICK GILLIE

SEGMENT ST/ MA-06

SUBDIVISION A-10/1

DATE 04/08/90

CHECKLIST

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

LEGEND

- 1 Δ
- 2 Δ
- 1 - Subsurface Oil
- 2 Δ
- 1 - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

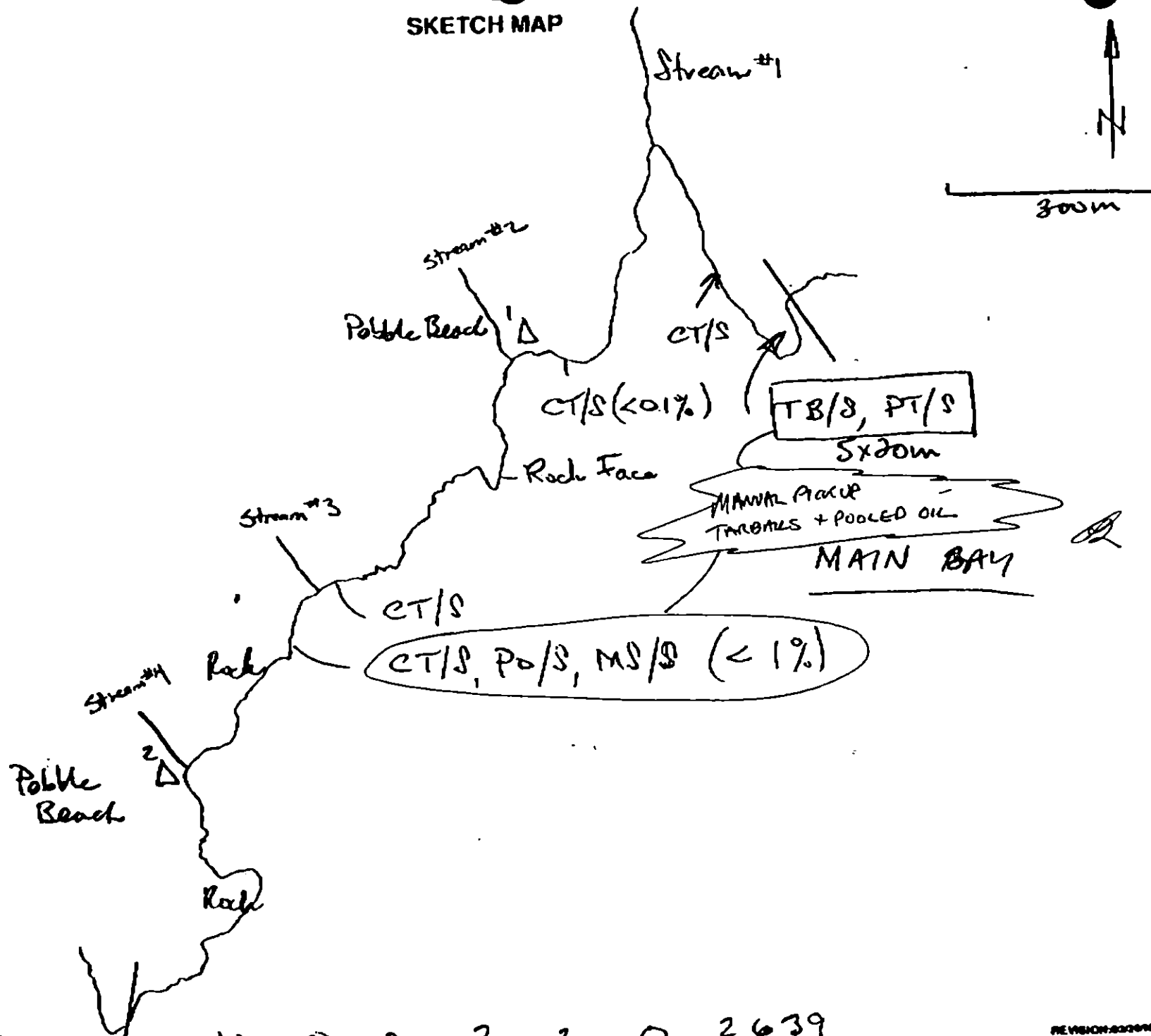
CT/P
Patchy Distribution

CT/S
Patched Distribution

illed Vegetation

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

SKETCH MAP



Character Length (m): AP 0 PO 2 CV 0 CT 10 ST 0 MS 2 PT 2 TB 2 FL 0 NO 2,639

REVISION: 032090

ECOLOGY
MAP

MA-6

SEGMENT: JT/MA-0
SUBDIVISION: A-1 of 1

Eagle
Nest
(SWT)

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

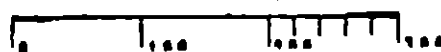
MA-6

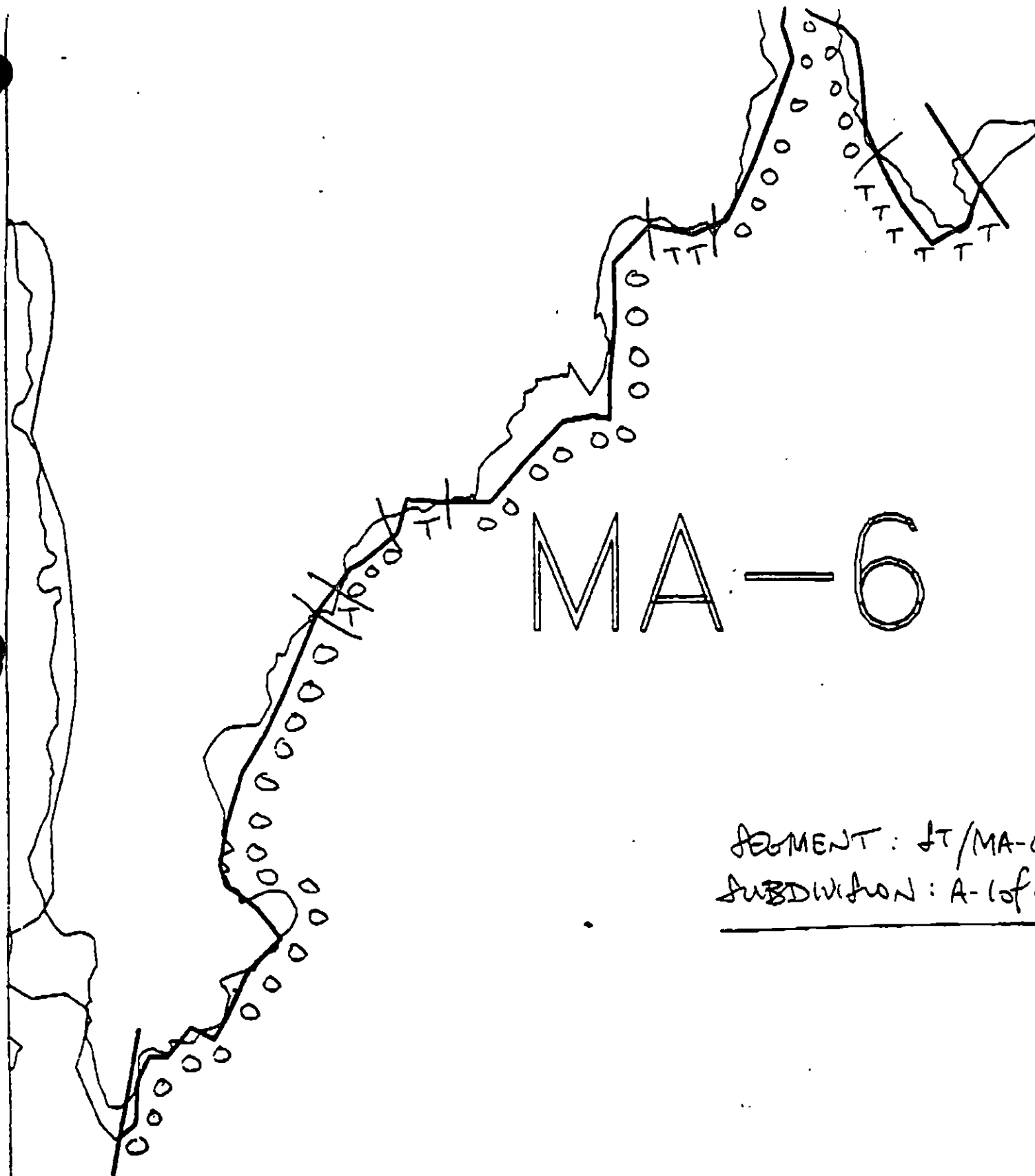
ADEC Segment Length: 2179m

Map Key: PWS-474a

Name: _____

Date: _____





SEGMENT: JT/MA-01
SUBDIVISION: A-1 of 1

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

MA-6

ADEC Segment Length: 2179m

Map Key: PWS-474a

Name: _____

Date: _____

SHORELINE EVALUATION

SEGMENT ST/ MA-07 SUBDIVISION A (1 OF 1) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 225-20-15020

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

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

1E Main Bay Hatchery release (4/20 to 5/10)

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

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. Himes DATE: 4/20/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 32 m: No Oil 4616 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 GRIFFIN Andy Griffin

NOAA BILL WESCOTT Bill Wescott

USCG KENNETH KEANE Kenneth Keane

FOSC: DATE: 4-26-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / MA-07 SUBDIVISION: A-1 of 1 DATE 04/09/90

USCG

NAME David S. JamesSIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

ADEC

NAME Clara J. CrosbySIGNATURE Clara J. Crosby

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

Diking observed was vt. or removed.
by survey crew

LAND MANAGER

NAME MARSHA MARIN/DNRSIGNATURE Marsha Marin

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

Litto

SHORELINE OILING SUMMARY

REVISION NO. 02/22/90

OG Rick GILLIE USCG bm 1 Thomas SEGMENT ST/ MA-07
 BIO DAVE Lohr LAND REP Marsha Martin SUBDIVISION A-10f1
 EXXON FRANK Boy ADEC Clara Crosby (ADNR) TIME 08:15 to 10:15
 TEAM NO.: 13 TIDE LEVEL: 0 to +4 DATE 04/09/90
 EST. SUBDIVISION LENGTH: 4,909 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 60 % B 20 % C 10 % P 10 % G 10 % S 0 % M 0 % V 0 %
 SLOPE: Lang 10 % Hang 60 % Vert 30 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL S m NO 4,909 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	C	R	P	S	1	2	3	4	5	6	7	8	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 N/A sq. m by N/A cmPATTIES / TARBALLS N/A BAGSNEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NOTYPE N/A#BAGS N/A

Photographs:

Roll No. ST-13-3

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		VO	UC	1	2	3	4	5	6	7	8	SU	U	M	U		
1	20					X	.											X					C/P, M/V
							.																
							.																
							.																
							.																
							.																

COMMENTS

OG KICK MILLIE
SEGMENT ST/ TA-07
SUBDIVISION A-1 of 1
DATE 04/09/90

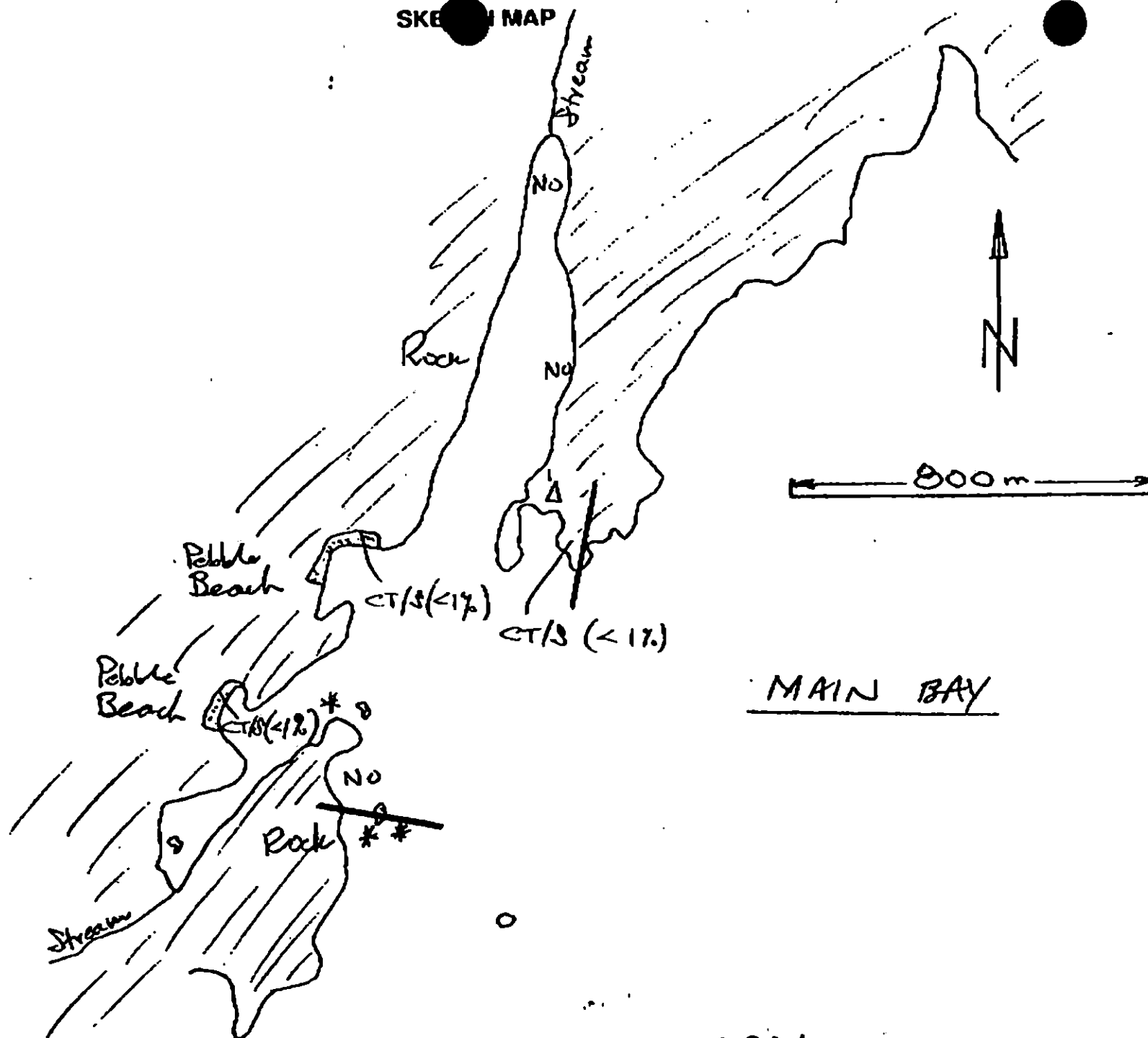
CHECKLIST

- ✓ N Area
- ✓ Approx. Scale
- ✓ Seg/Sub Bndry
- ✓ Oil Dist.
- ✓ Path
- ✓ Length
- ✓ % Cover
- ✓ Substrate Character
- ✓ Est. HWL/LWL
- ✓ SSL
- ✓ Profile Location(s)
- ✓ Profile(s)
- ✓ Pk Location(s)
- ✓ Photo Location(s)

LEGEND

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

SKEIN MAP



Oil Character Length (m): AP 0 PO 0 CV 0 CT 5 ST 0 MS 0 PT 0 TB 0 FL 0 NO 4,904

REVISED 03/03/90

SHORELINE ECOLOGICAL SUMMARY

Segment ST / MA 007 Subdivision A Date (mo / day / yr) 4-9-90

Time (24 hr) 8:00 Biologist Buologist

(A) Substrate type and % of segments:
(1) Bedrock 60 (2) Boulder 20 (3) Cobble 10 (4) Pebble 10 (5) Sand (6) Silt

(B) Overall % cover of biota (% of segment): Dense 15 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. ST-13-3

Frames 29, 30

BARNACLES

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

NOT PRESENT

MYTILUS

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

NOT PRESENT

GASTROPODS

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments:

See page 2

Ecological Considerations:

IL, 6Y- no comment

Shoreline Ecological Summary

Zot 2

Segment ST-MA007

Subdivision A

4-9-90

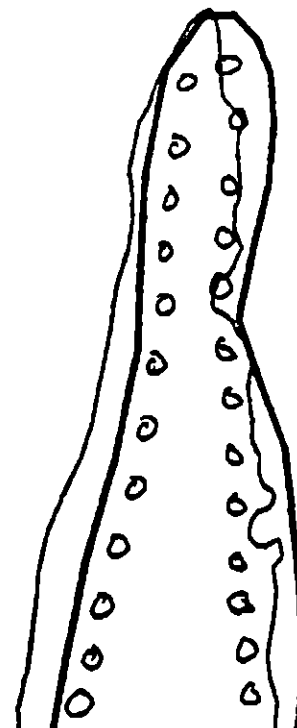
Biologist: David Lohr

Wildlife Observations/General Comments

1. present in low intertidal: Enteromorpha, Pycnopodia, Corallina algae, Scytosiphon, Halosaccion, Ulva, Ectocarpus, Anthopleura
mid intertidal: Leptasterias, Anthopleura
2. 1 otter, 1 seal, and many shore birds/water fowl seen in the area
3. extensive patches of byssal threads found on mid-intertidal bedrock
4. Total algal cover on low intertidal bedrock reached up to 80% in some areas
5. enteromorpha dense in spots on low intertidal boulder/cobble
6. Mussel mortality reached up to 70% on mid intertidal cobble.
7. Two running streams located in segment. No oil present.
8. Borecole cypids found on mid-intertidal cobble in one area. Settlement density would be characterized as sparse in this area, rare for the overall segment.

ST/MA-07
SUBDIVISION A - 1 of 1

↓ PWS
475A



XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

OOOO No Light

MA-7

ADEC Segment Length: 4648m

0 100 200 300

Map Key: PWS-475b

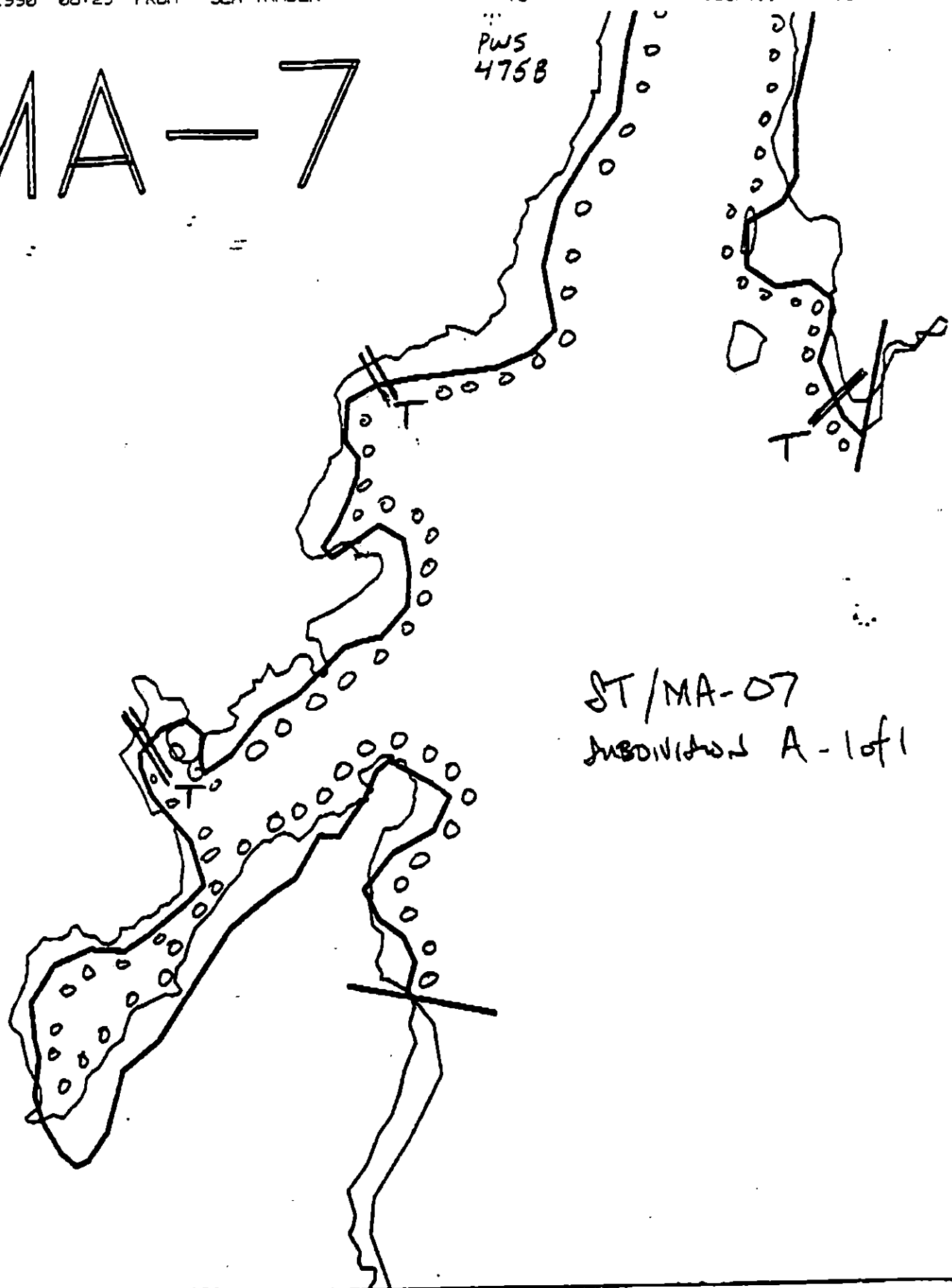
Name: _____

Date: _____

Data Entered: _____

MA-7

PWS
4758



ST/MA-07
SUBDIVISION A-1 of 1

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

MA-7

ADEC Segment Length: 4648m



Map Key: PWS-475a

Name: _____

Date: _____

Date Entered: _____

SHORELINE EVALUATION

SEGMENT ST/ MA-09 SUBDIVISION A (1 OF 1) DATE 4/7/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G Anadromous stream no. 225-20-15044

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

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

1E Main Bay Hatchery release (4/20 to 5/10)

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

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: 4/28/90

OILING CATEGORIZATION:

Wide 85 m: Medium 133 m: Narrow 0 m: V.Light 952 m: No Oil 1394 m
Subsurface Oil Observed: Yes X No Maximum Depth 10 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment activities include 1) remove oiled debris, 2) ~~breakup~~ tarmat and 3) bioremediate areas indicated on map.
Work should be conducted between 5/16 and 7/9 due to above listed constraints.

TAG COMMENTS: MONITORS TO ASSESS SUITZ

TAG APPROVAL DATE: 4/26/90
ADEC JOHN BAKER
EXXON ANDY TEAR
NOAA GARY PETROE
USCG KENNETH KEANE

FOSC: [Signature] 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) 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
1I	Gill net area (6/7 to 8/31)
1J	Purse seine area (7/20 to 9/30)
1K	Purse seine hook-off (7/20 to 9/30)
1L	Set net sites (6/11 to 7/25) For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
2M	Herring spawning (4/1 to 6/15) Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
3N, 3P 3O, 3Q	Harbor seal and sea lion pupping (5/15 to 7/1) Harbor seal and sea lion molting (8/15 to 9/15) Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
5R	Seabird colony (5/1 to 9/1) Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
5S	Shorebird/waterfowl concentration (4/1 to 5/15) Restrict all activity to essential minimum, especially air traffic.
5T	All Bald Eagle nests (3/1 to 6/1) Active Bald Eagle nests (3/1 to 9/1) Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
6U	Recreation: Tent sites (6/1 to 9/15)
6V	Anchorage (6/1 to 9/15)
6W	Forest Service cabins (6/1 to 9/15)
6X	Lodge (6/1 to 9/15)
6Y	Special use destination
7Z	Subsistence area: Salmon harvesting (5/1 to 9/30)
7HH	Finfish harvesting
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/ MA-09 SUBDIVISION: A-1 of 1 DATE 04/07/90

USCG

NAME David S. Thomas SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

ADEC

NAME Clara Crosby SIGNATURE Clara S. Crosby

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Supratidal not observed, due to snow cover to 3 feet.
Heavy storm berm prevented thorough view of VI - in some
pocket beaches - (High energy) - The South Eastern beach
of heavy coverage; Diking will be only partially inundated
every month.
Suggest manual pickups of AP's debris -

LAND MANAGER

NAME MARSHA MARTIN/DNR SIGNATURE Marsha Martin

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Shore Fishery LEASE ADL 32881 located at
South East portion segment. Roll 1, photo 21
of oiling under Rock ON Bedrock.

SHORELINE OILING SUMMARY

REVISION NO 03/28/90

OG Rick Gillie USCG BM 1 Thomas SEGMENT ST/ MA-09
 BIO DAVE Lohr LAND REP Marsha Martin SUBDIVISION A-10f1
 EXXON FRANK ADEC Chae Crosby (ADNR) TIME 16:10 to 18:55
 TEAM NO.: 13 TIDE LEVEL: +5 10 0 DATE 04/07/90
 EST. SUBDIVISION LENGTH: 2,738 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock 1-2' SNOW IN SUPRA-TIDAL
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 40 % B 20 % C 20 % P 20 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 40 % Hang 30 % Vert 30 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 50 m M 80 m N 0 m VL 1,200 m NO 1,400 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR				IMPACTED ZONES			
	R	B	P	S	SW	W	BL	BR	SU	U	M	U
ASPHALT PAVEMENT		✓	X		✓				✓			
POOLED												
COVER												
COAT	*		X	✓	*	✓			*	✓		
STAIN												
MOUSSE												
PATTIES				X	X				X			
TARBALLS												
FILM				X		X			X			
NO OIL									X	X	X	

PAVEMENT: H F S 20 sq. m by 5 cmPATTIES / TARBALLS 0.1 BAGSNEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris	X		

DEBRIS COLLECTED

☐ YES ☒ NOTYPE N/A#BAGS N/A

Photographs:

Roll No. ST-13-3Frames 14-17

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CH)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		VO	UC	Red 50	Red 100	OR 5	OR 10	TL 5	TL 10	SU	U	M	U				
1	20					X	.									X							P
2	30					X	.									X							P
3	15	X					5-10	X		X						X							C, P, G, M
4	20		X				5-10	X		X						X							G/S, Veg
5	10		X				5-10	X		X						X							C, G, d, M
6	40					X	.									X							P, G

COMMENTS

SUBSURFACE OIL (CONTINUED)

[illegible]

COMMENTS

REVIEWED _____ DATE _____

SHORELINE ECOLOGICAL SUMMARY

1 d L
REVISION: 0822.9

Segment ST / MA 009 Subdivision A Date (mo / day / yr) 4-7-90

Time (24 hr) 15:30 Biologist David Cohen

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

(B) Overall % cover of biota (% of segment): Dense 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: ST-13-3
Roll No. 14-17
Frames 14-17

BARNACLES

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

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	X	X	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	X	2	2	X	X	NOT PRESENT
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	
6	6	6	6	6	6	6	6	6	6	6	6	

Wildlife Observations/ General Comments:

See page 2

Ecological Considerations:

IE, IL, LY - no comment

IB - 3 running streams located in segment. All 5 were covered with snow above high tide line. Streams 1-4 had no oil in intertidal region. Stream the easternmost stream (close to border of MA 010) had oil present in intertidal area

Segment ST-MA009

Subdivision A

4-7-90

Biologist: David Lohr

Wildlife Observations / General Comments

1. present in low intertidal: Halosarcia, coralline algae, ~~Anthopleura~~
Anthopleura, Entromorpha, Scytosiphon
mid intertidal: Cladophora, Entromorpha, Ulva, Scytosiphon,
coralline algae, Halosarcia, Ectocarpus, Sculp,
Pagurus, unidentified red algal "branch",
Zostera? (mid intertidal pools)
2. 1 mature bald eagle spotted
3. Bear and deer tracks spotted above high tide line
4. Bald eagle tracks and tracks of small animal found together
at high tide line. Both sets of tracks converged on an area where
the sand was greatly disturbed.
5. Mortality of mussels in mid-intertidal pebbles ranged from
35-90%.
6. One freshly dead squid found washed up on high ~~low~~ intertidal
bedrock.
7. There were many high intertidal tide pools. Entromorpha and
gastropods (mostly Littorina) were mod-dense in these pools.
8. Entromorpha dense in some areas on low intertidal cobble and boulder

00 RIC GILLIE

SEGMENT ST/ MA-09

SUBDIVISION A-10f1

DATE 04, 07 90

CHECKLIST

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

LEGEND

1 Δ
No Subsurface Oil

2 Δ
Subsurface Oil

CT/C
Continuous Distribution

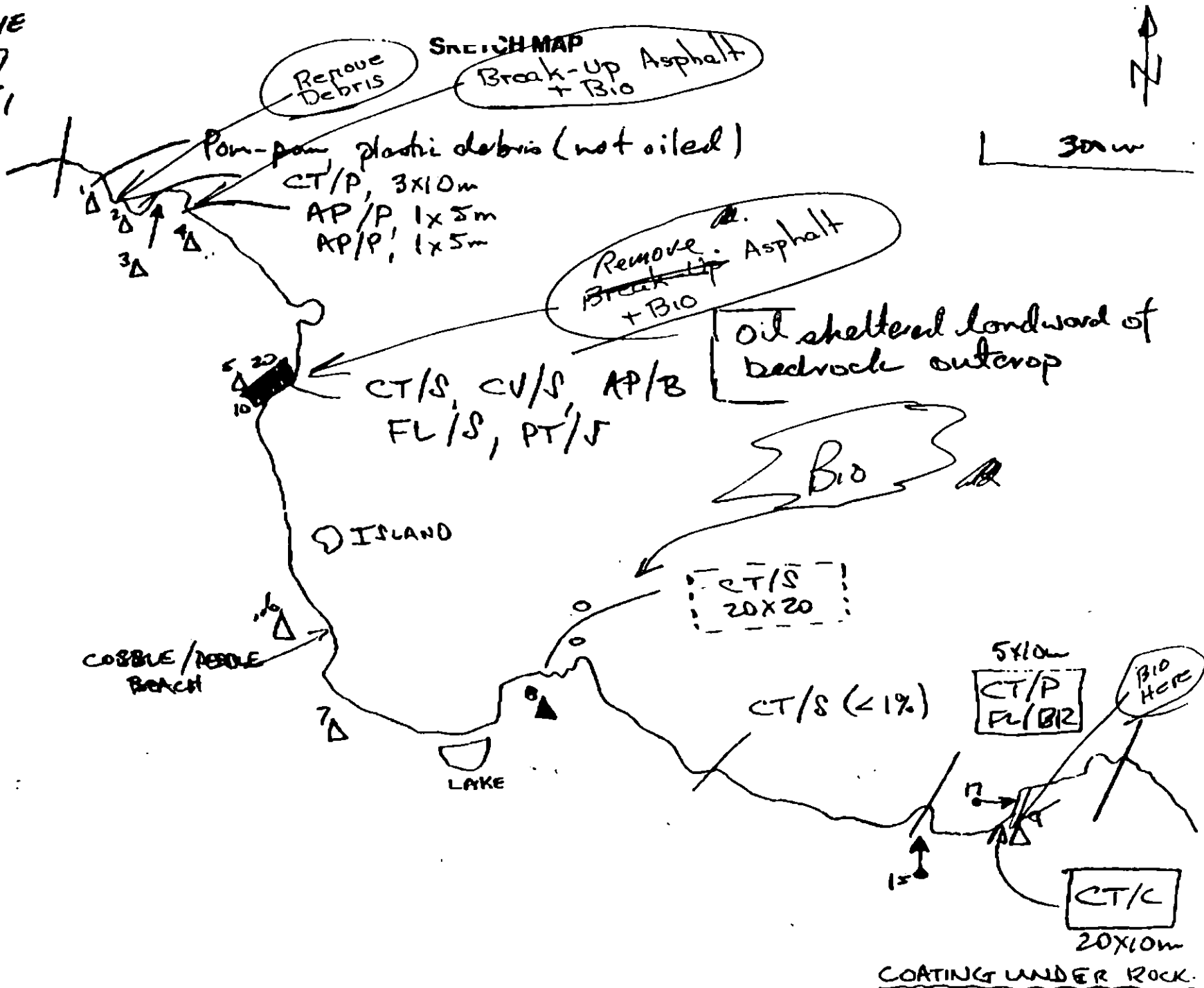
CT/B
Broken Distribution

CT/P
Patchy Distribution

CT/S
Splashed Distribution

Oiled Vegetation

1 ●
Photo location, direction, and number

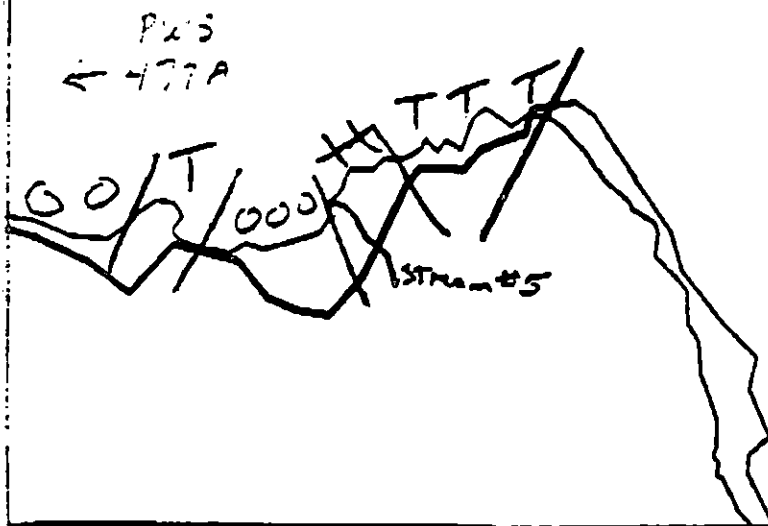


Oil Character Length (m): AP 14 PO 0 CV 2 CT 39 ST 0 MS 0 PT 2 TB 0 FL 5 NO 2676

REVISIONS

SEGMENT 3 ST/MA-09
SUBDIVISION A-1 of 1

PART 2



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

MA-9

ADEC Segment Length: 2564m



Map Key: PWS-477b

Name: _____

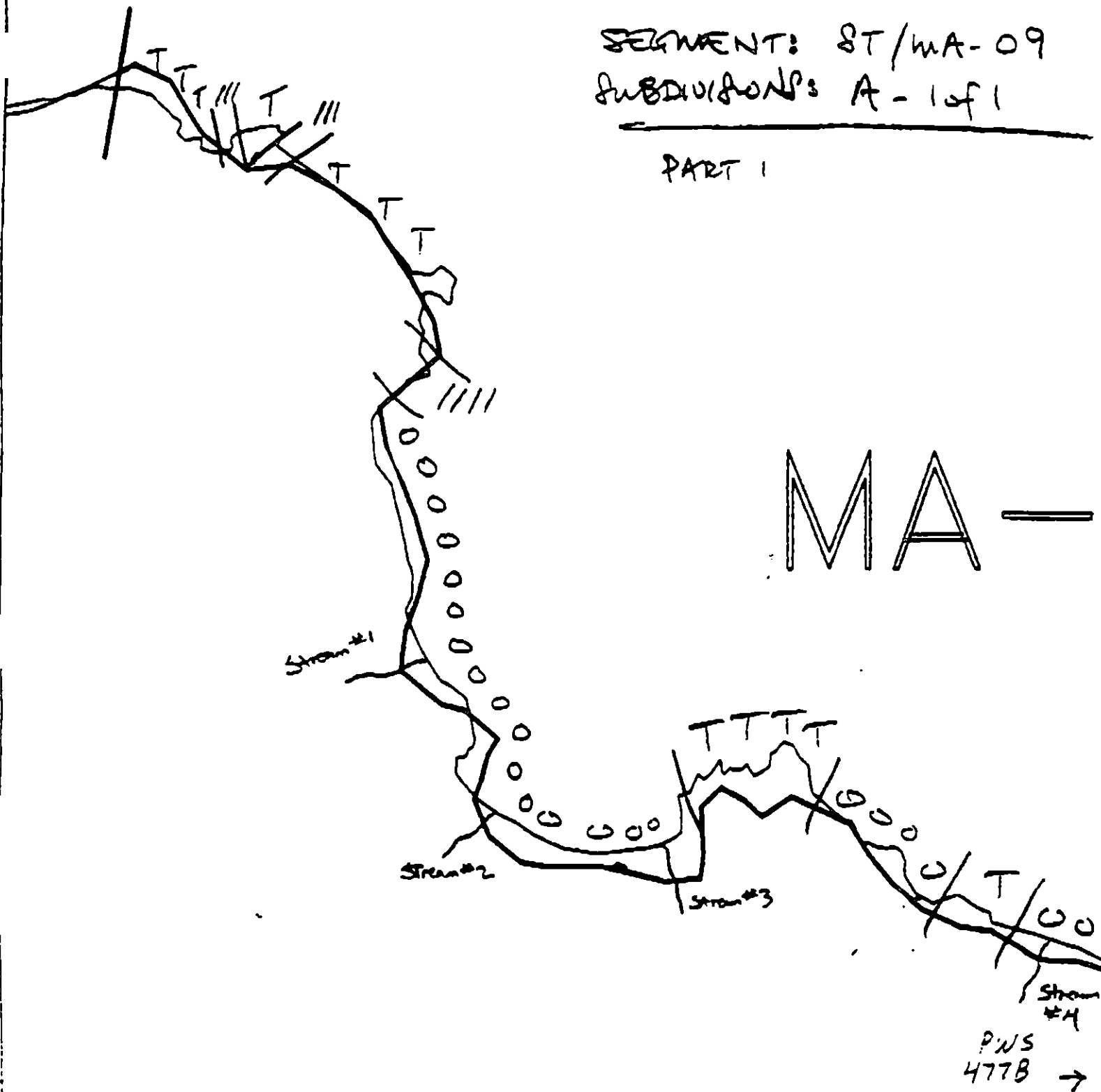
Date: _____

Date Entered: _____

SEGMENT: ST/MA-09
 SUBDIVISION: A-1 of 1

PART 1

MA-



XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

OOOO No Oil

MA-9

ADEC Segment Length: 2584m



Map Key: PWS-477a

Name: _____

Date: _____

Date Entered: _____

ADDENDUM: SUBDIVISION CONSTRAINTS**SEGMENT MA-9 SUBDIVISION A (1 of 1)**

WORK WINDOW	
Manual Pickup Tarmat Removal	OPEN
Bioremediation	WORK 6/4 to 6/7

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

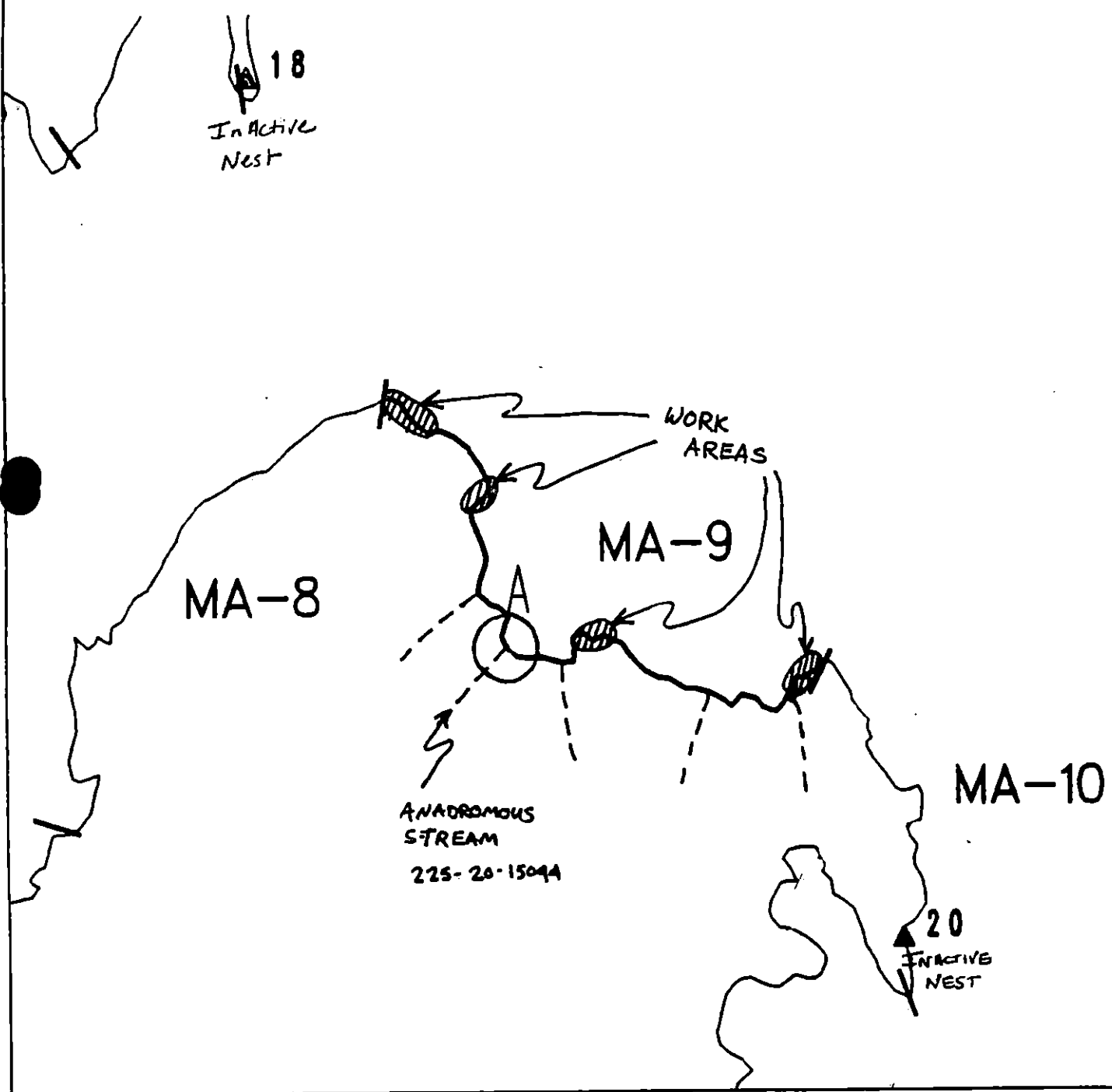
- | | | |
|-------|----------------------------------|--|
| 1A,1B | Salmon Stream | No constraint. ADF&G catalogued anadromous stream (225-20-15044) is more than 100m from recommended treatment areas. |
| 1E | Main Bay Hatchery Release | No constraint to manual pickup and tarmat removal. Subdivision open to bioremediation 6/4 to 6/8 per verbal authorization from Larry Peltz/ADF&G to Tom Monihan/Exxon on 5/24/90. No constraint to manual pickup and tarmat removal. |
| 1I | Gill Net Area | No constraint to manual pickup and tarmat removal; closed to bioremediation after 6/7. |
| 1L | Set Net Sites | No constraint to manual pickup and tarmat removal; closed to bioremediation from 6/11 to 7/25. |

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic to essential minimum after 6/7. From 6/11 to 7/25, when set net sites are present, restrict beach operations to essential minimum. Avoid any unnecessary disturbance or damage to uncollected biota and substrate.

TAG ADDENDUM DATE 6/04/90ADEC Rau Murre's R. Murre'sEXXON Amoy AmoyNOAA Joseph T. Kell J. KellUSCG G. A. Heiter G. A. HeiterFOSC B. J. J. J.DATE 6/5/90Prepared by: Andr. Meyer APDate: 6/4/90

Incorporates USFWS 6/1/90
map (Bald Eagle Nest Survey)



Exxon Company, USA
Map Key: PMS-MA-9
May 11, 1990



ECOLOGY MAP
SEGMENT MA-9
SUBDIVISION A (1 of 1)
METERS
0 525 1051

- ★ Seabird Colony
- ▲ Eagle Nest

1 inch = 1724 feet

SHORELINE EVALUATION

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

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

1E Main Bay Hatchery release (4/20 to 6/10)
1L Set net sites (6/11 to 7/25)
5T-1 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. One bald eagle nest (see ecology map).

SHPO SIGNATURE:

DATE:

OILING CATEGORIZATION:

Wide 0 m: Medium 89 m: Narrow 0 m: V.Light 76 m: No Oil 936 m
Subsurface Oil Observed: Yes X No Maximum Depth 15 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual pick up of oiled trash and absorbent boom, 2) tartrat removal and 3) bioremediation of subsurface oil in areas indicated on sketch map. Work should be conducted after 6/1 due to eagle nest constraint and with the approval of USFWS. MANUALLY RAKE IN AREA OF PIT 2 PRIOR TO BLO.

TAG COMMENTS:

TAG APPROVAL DATE:

ADEC	JOHN BAUER	JOHN BAUER
EXXON	AMY TEAL	AMY TEAL
NOAA	GARY PETRAE	GARY PETRAE
USCG	KENNETH KEANE	KENNETH KEANE

FOSC:

DATE :

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 6/10) *Dates may be revised. Contact*
 1F Sawmill Bay Hatchery release (4/15 to 6/1) *Larry Poltz, ADF&G*
 1G Cannery Creek Hatchery release (4/21 to 6/1) *424-3214*
 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

SEGMENT ST / MA-10 SUBDIVISION: A. 1 of 1 DATE 04/09/00**USCG**NAME David S. Thomas SIGNATURE [Signature]☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED**ADEC**NAME Clara S. Crosby SIGNATURE Clara S Crosby☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Full evaluation of biling hampered by snow in SW.
Relatively light area - areas previously designated (ADEC Fall SUR)
w/ concentrations of oil were surveyed as well as
possible (High energy segment - Heavy berm in 6 Beaches)
Suggest manual removal of asphalt. Bioremediation of
coatings.

LAND MANAGERNAME MARSHA MARTIN / DNR SIGNATURE Marsha Martin☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

SHORELINE OILING SUMMARY

REVISION NO. 02/22/90

OG Rick Gillie USCG BM 1 Thomas SEGMENT ST/ MA-10
 BIO DAVE Lohr LAND REP Marsha Martin SUBDIVISION A-101
 EXXON Frank Dwy ADEC Clara Creshy (ADNR) TIME 07:30 to 09:00
 TEAM NO.: 13 TIDE LEVEL: +0 to +3 DATE 04/08/90
 EST. SUBDIVISION LENGTH: 000 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock Snow on supratidal of beach.
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 40 % B 30 % C 20 % P 10 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 20 % Hang 30 % Vert 40 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 0 m M 25 m N 0 m VL 30 m NO 945 m

SURFACE OIL

CHARACTER	DISTRIBUTION					OIL / FILM COLOR								IMPACTED ZONES			
	C	S	P	B	W	Y	OR	GR	BR	BL	PK	LT	DR	SU	U	M	L
ASPHALT PAVEMENT	✓		X	*	✓									✓			
POOLED																	
COVER				X					X					X			
COAT				X					X					X			
STAIN																	
MOUSSE																	
PATTIES																	
TARBALLS																	
FILM				X		X								X			
NO OIL														X		X	X

PAVEMENT: H F (S) 30 sq. m by 2 cmPATTIES / TARBALLS 0 BAGSNEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash	X		
Debris			

DEBRIS COLLECTED
☒ YES ☐ NO
 TYPE T (SOBBEN BOOM)
 #BAGS 0.5

Photographs:

Roll No. ST-13-3Frames 18-22

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CM)	BELOW		OIL / FILM COLOR								PIT ZONE				A N A	SUBSURFACE SEDIMENTS	
		OS	OR	OL	OF	NO		UD	UC	SP	BR	BP	GP	BR	BL	PK	LT	DR	SU	U	M			L
1	40					X	.												X					P.G
2	15	X					5-15	X			X									X				P.G. Rock
3	25					X	.												X					P.G. J
4	45					X	.												X					P.G
5	40					X	.												X					P.G
6	30					X	.														X			D.G

COMMENTS

SHORELINE ECOLOGICAL SUMMARY

1 of 2
REVISION 03/22/90

Segment ST / MA 010 Subdivision A Date (mo / day / yr) 4-8-90

Time (24 hr) 7:15 Biologist David Cohen

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

(B) Overall % cover of biota (% of segment): Dense 40 Moderate 30 Low 30

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

Photographs:
Roll No. ST-13-3

Frames 18-22

BARNACLES

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

NOT PRESENT

MYTILUS

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

NOT PRESENT

GASTROPODS

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments:

See page 2

Ecological Considerations:

E, 1L - no comment

Segment ST-MA010

Subdivision A

4-8-90

Biologist: David Cohen

Wildlife Observations / General Comments

1. present in low intertidal: Scytosiphon, Halosarcia, coralline algae, Entomomorpha, Anthopleura, Pisaster ochraceus, Pycnopodia, Cladophora, unidentified red algal "bld"

mid intertidal: Anthopleura, coralline algae, Nereis, Leptasterias, Eusasterias, Ulva, unidentified yellow sponge, Zostera? (in tide pools),

high intertidal - Entomomorpha

2. Patches of beached threads found on mid-intertidal beach

Seal spotted in area

4. otter carcass found at/above high tide line. No oil observed

5. otter scat found above high tide line

6. Entomomorpha was moderate-dense and gastropods (Littorina) moderate in high intertidal tide pools

OG Ric. GILLIE
 SEGMENT ST/ WA-10
 SUBDIVISION A-10f1
 DATE 04/09/90

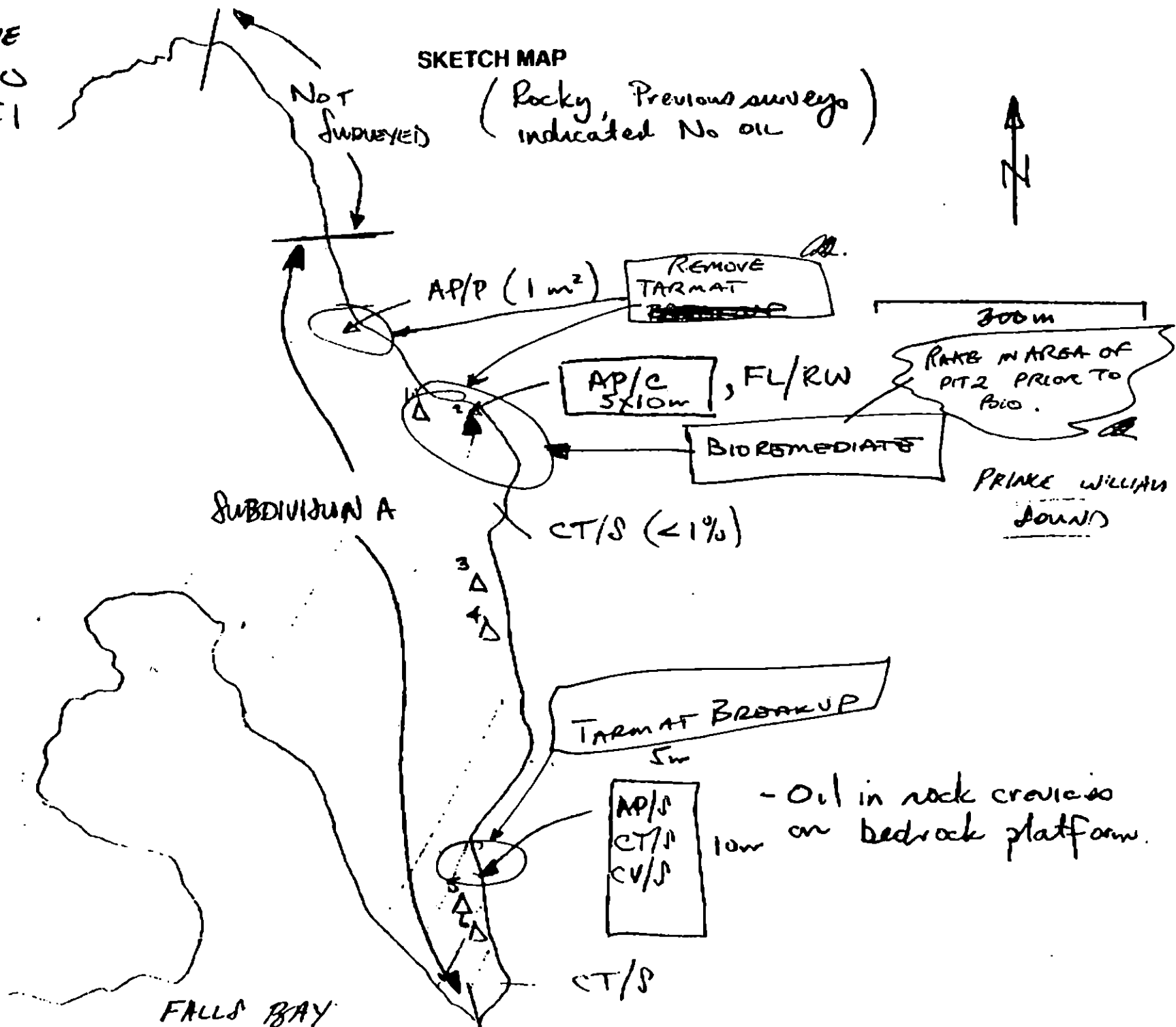
CHECKLIST

- ✓ M Arrow
- ✓ Approx. Scale
- ✓ Sep/Sub Bndry
- ✓ Oil Dst
- Width
- Length
- % Cover
- ✓ Substrate Character
- Est. HWW/LWL
- SSL
- Profile Location(s)
- Profile(s)
- ✓ Pit Location(s)
- Photo Location(s)

LEGEND

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

SKETCH MAP



Oil Character Length (m): AP 20 PO 0 CV 5 CT 20 SI 0 MS 0 PT 0 TB 0 FL 10 NO 945

ST/MA-10
SUBDIVISION A

Not diverged (PREVIOUSLY NO OIL)

ECOLOGY MAP

MA-

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

OOOO No Oil

MA-10

ADEC Segment Length: 1437m

0 100 200 300
METERS

Map Key: PWS-468

Name: _____

Date: _____

Date Entered: _____

ST/MA-10
SUBDIVISION A

Not diverged (PREVIOUSLY NO OIL)

MA-

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

OOOO No Oil

MA-10

ADEC Segment Length: 1437m

0 100 200 300
METERS

Map Key: PWS-468

Name: _____

Date: _____

Date Entered: _____

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT MA-10 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup Tarmat Removal	OPEN
Bioremediation Manual Raking	WORK 6/4 - 6/7

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

- | | | |
|----|---------------------------|---|
| 1E | Main Bay Hatchery Release | No constraint to manual pickup and tarmat removal. Subdivision open to bioremediation and manual raking 6/4 to 6/8 per verbal authorization from Larry Peltz/ADF&G to Tom Monihan/Exxon on 5/24/90. No constraint to bioremediation and manual raking after 6/15. |
| 1I | Gill Net Area | No constraint to manual pickup and tarmat removal Closed to bioremediation and manual raking after 6/7. |
| 1L | Set Net Sites | No constraint to manual pickup and tarmat removal. Closed to bioremediation and manual raking from 6/11 to 7/25. |
| 5T | Bald Eagle Nest | NO CONSTRAINT. USFWS bald eagle impact assessments completed on 5/10/90 and 5/22/90 by Mike Lockhart indicates no active nests within 400m of the work area. |

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic to essential minimum after 6/7. From 6/11 to 7/25, when set net sites are present, restrict beach operations to essential minimum. Avoid any unnecessary disturbance or damage to uncolled biota and substrate.

TAG APPROVAL DATE 5/29/90
ADEC Art Weiner
EXXON Andreas
NOAA B. Ascott
USCG G.A. Reister

FOSC [Signature]

Date 5/29/90

Prepared by Andreas Meyer

WTK

Date 5/20/90

MA-9

*Incorporates information from
USFWS Bald Eagle survey 5/10 & 5/22/80.*

Work site

MA-10

Inactive
Nest

Work site

FA-2

FA-1



Exxon Company, USA
Map Key: PMS-MA-10



ECOLOGY MAP ^{5/28}
SEGMENT MA-10
SUBDIVISION A (1 of 1)

METERS



- | | |
|---|----------------|
| ★ | Seabird Colony |
| ▲ | Eagle Nest |

1 inch = 1220 feet

SHORELINE EVALUATION

SEGMENT ST/ MN-01 SUBDIVISION A (1 OF 1) DATE 4/20/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 227-20-17570

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
- 1B Salmon stream mouth - spawning (7/10 to 8/31)
- 1E Main Bay Hatchery release (4/20 to 6/10)
- 2M Herring spawning (4/1 to 6/15)
- 5T-3 All bald eagle nests (3/1 to 6/1) - Active eagle nests (3/1 to 9/1)
- 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 unoiled biota and substrate. If bioremediation is recommended, use with caution due to above 1A, 1B, and 2M constraints and abundant intertidal biota.

SHPO SIGNATURE: [Signature]

DATE: 5/1/90

OILING CATEGORIZATION:

Wide 0 m: Medium 50 m: Narrow 0 m: V. Light 2105 m: No Oil 2839 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 1) manual removal of oiled rope and pom pom in area indicated on sketch map #1, and 2) manual removal of pooled oil and fine sediments found in cracks of shale located in area indicated on sketch map #1. Work should be conducted with approval of USFWS due to eagle nest.

TAG COMMENTS:

TAG APPROVAL DATE: 4/30/90

ADEC [Signature]
EXXON [Signature]
NOAA [Signature]
USCG [Signature]

FOSC: [Signature]

DATE: 5-9-90

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

Sewmill 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 8/15)

Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.

3N, 3P
3O, 3Q

Harbor seal and sea lion pupping (5/15 to 7/1)

Harbor seal and sea lion molting (8/15 to 9/15)

Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.

5R

Seabird colony (5/1 to 9/1)

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

5S

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

Restrict all activity to essential minimum, especially air traffic.

5T

All Bald Eagle nests (3/1 to 6/1)

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

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

6U

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

6V

Anchorage (8/1 to 9/15)

6W

Forest Service cabins (8/1 to 9/15)

6X

Lodge (8/1 to 9/15)

6Y

Special use destination

7Z

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

7HH

Finfish harvesting

7I

Deer harvesting (8/15 to 2/28)

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 / MN 1 SUBDIVISION: _____ DATE 4-20-90

USCG

NAME James C. Gambrell SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Double 4 ft no oil sighted. Several areas of AT/H which were broken up.
There is one section of beach that has CT/P in boulder and boulder note
That as sun heats it up it became foisted material. oil in bedrock ranging from
0-6 cm deep. The segment is 50m long by 3m wide (manual check of other
large no. of eagles, one seals. (see extend sketch map)

ADEC

NAME Brian K. Fitz Simons SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS I concur with OG's map and comments.

Pooled oil in interstices of vertical shale bedrock can be removed
manually (ie: Pick & shovel - field tested on site & proved effective)
Note: As sun warmed boulders with tarry coat, cracks formed
in surface of coat and black shiny viscous oil appeared to migrate
outward.

Might be good sight for bioremediation following hand removal.
Note: Beware of major Herring Spawn Area.

LAND MANAGER

NAME Don Crowshaw (DNE) SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

Pooled oil shown on OG sketch map was turning liquid as sun
out & heated rocks & oil. Some of tar coat was thick like
softening in mid intertidal & will shear, flow or wash away
high tide. Recommend removal of pooled oil with trowel or
shovel. Recoverable oil would amount to about 3 bags.
accessible by landing craft because of long shallow boulder
beach. Considerable splashes of coat on boulders as shown on
map. Heavy lot of herring eggs on focus oil grooves & rocks below
NE along 80% of beach. Numerous gulls, 15-20 eagles, Brant geese

SHORELINE OILING SUMMARY

REVISION NO. 04/13/88

OG B. Berglund USCG J. Gambill SEGMENT ST/ M/V-1
 BIO S. Schreeter LAND REP R. Greshaw (DR) SUBDIVISION A (1 OF 1)
 EXXON C. Levine ADEC B. Fr. + J. Simons TIME 13:00 to 14:00
 TEAM NO. 2 TIDE LEVEL +6.0 to +3.9 DATE 4/1/90
 EST. SUBDIVISION LENGTH: 5050 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: W to E
 SURFACE SEDIMENTS: R 20 % B 20 % C 8 % P 2 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 75 % Hang 20 % Vert 5 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 20 m M 50 m N 0 m VL 2150 m NO 2850 m

SURFACE OIL

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

PAVEMENT H F S NQ sq. m by 0 cm

PATTIES / TARBALLS 1 BAGS

NEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐

TYPE Fire hose

#BAGS —

Photographs:

Roll No. ST-1-4

Frames 7-20

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					BELOW	OIL / FILM COLOR					PIT ZONE				A N A	SHEEN (Y/N)	SURFACE - SUBSURFACE SEDIMENTS
		OF	OR	OL	OF	NO		U	U	1	2	3	U	U	U	U			
1	40					X		X					X					N	C/P/G
2	40					X		X					X					"	C/P/G/S
3	20					X		X					X					"	B/C/G
4	25					X		X					X					"	C/P/G
5	10					X		X					X					"	B/G
6	20					X		X					X					"	C/G

COMMENTS

Most of the segment consists of a boulder beach overlying shale bedrock. The bedrock is shallow and at times exposed. The majority of the beach is not oiled or very lightly oiled (splashed coat). Due to the shallow bedrock and light oiling subsurface oiling is not present. There is only one 50 m length of beach where oiling is moderately heavy (see sketch map 1). This is mainly due to oil pooling in the interstices of the shaly bedrock.

REVIEWED YW DATE 4/2/90

DATE 4 / 19 90

CHECKLIST

- H Area
 Approx. Scale
 Seg/Tab Body
 OS Dist
 Width
 Length
 % Cover
 Substrate Character
 Est. HWL/AWL
 SOL
 Profile Location(s)
 Profile(s)
 PH Location(s)
 Photo Location(s)

LEGEND

- 1 Δ**
Pr - No Substitution On

- 2A**
Pr. Subscription Of

CT/C

CT/D
Broken Distribution

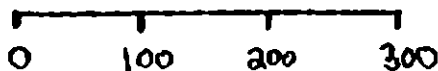
CT/P
Priority Distribution

CT/S

Old Vegetation

Photo location, direction,
and number

SUBCH MAP (2)



* Exposed bedrock

-o-o- SSL where signif. diff. than HWL

CT/S
W3
5%

Oiled Zone Shaded

15/5/57

12%
12%
12%

oil, located in
Mid. Upper Intertidal.

Talus boulders on shallow
or exposed bedrock

Boulders on
shallow bedrock

50 Pcs

==Lila

- HWL

STREAM

Prof. Ia

44

U_1 ————— M_1
 50m

isolated splashes on boulders with occasional oiled gravels between boulders.

Boulders on shallow bedrock

Sketch 3

08 Character (English) (m): AP PO CV CT ST MS PT TD FL NO

1. **Introduction**

Page 517

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / MN-01 Subdivision A Date (mo / day / yr) 4/28/90

Time (24 hr) 1320-1940 Biologist S. Schroeter Tide Range: >T.5

- (A) Substrate type and % of segments:
 (1) Bedrock 20 (2) Boulder 70 (3) Cobble 8 (4) Pebble 2 (5) Sand — (6) Silt —
- (B) Overall % cover of biota (% of segment): Dense 23 Moderate 19 Low 58
- (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	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
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: Sensitivities: 1A, 0; 1E; 7II; 2M;
2-3 Bald Eagles seen on shore ST-3 (3 w/in segment)
(20-30 seen on SCAT ~ 1/3 immature); Herring eggs in LIT2 ~ 50-60 eggs

Ecological Considerations: This segment had large areas of densely populated
 hardlands + boulder pocket beaches in the MIT2 + LIT2. About 70-80%
 of shore line was covered with dense concentrations of Herring eggs in
 the MIT2. Herring eggs were densest on bedrock outcrops which
 comprised ~ 34% of the segment. Bedrock + boulder/cobble pocket beaches
 near fresh water runoff had dense *B. glauca* + sparse to moderate
Mytilus in MIT2 + upper LIT2. These areas comprised ~ 10-15% of
 shoreline. Eel grass beds in subtidal + LIT3 along 60-70% of segment.
 1. Herring eggs in LIT2 ~ 50-60 eggs

DATE 4-20-98 TIME 1320-1900 TIDE HEIGHT 71 + 1.5

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

	SPECIES	UTZ	MITZ	LITZ	COMMENTS
FLORA:	BOSSIELLA/CORALLINA		1		IN Pools
	CALLIARTHRON/CORALLINA				
	CLADOPHORA SPP				
	COSTARIA SPP				
	ENDOGLADIA MURICATA	1,2	1,2		
	FILAMENTOUS GREENS		1,2		
	FILAMENTOUS REDS		1,2,3	1,2,3	
	GLOIOPELTIS FURCATA				
	HALOSACCION GLANDIFORME		1,2,3		
	LAMINARIA SPP			1	1 instance
	LITHOTHAMNION		1,2		in pools
	NEREOCYSTIS SPP				
	PORPHYRA SPP	2	2		
	RALPHSIA (HILDENBRANDI)		1		Abundant in pools
	RHODOMELA LARIX		1,2,3		
	RHOHOMENIA PALMATA			1,2	
	SCYTOSIPHON SPP		1,2		
	ULVA SPP		1,2,3		
	ZOSTERA MARINA				
	ENTOMORPHA				
	P. scouleri (eel grass)		1,2	1,2	
	Palmeria spp		1,2	1,2	
	Alaria marginata			1,2	In shallow subtidal
FAUNA:	ANTHOPELEURA SPP	1	1		Teleostissima, artemesia
	(SEM) BALUNUS CARIOSUS		1,2		on hard lands
	B. GLANDULA	1,2,3	1,2,3,4		
	BRYOZOANS		2		
	CHITONS (other than K. TUNICATA)				
	CLAMS				
	CRABS		2,3		
	DERMASTERIAS IMBRICATA				Not seen
	KATHARINA TUNICATA		1,2		recruits seen
	LEPTASTERIAS HEXACTIS		2		
	LIMPETS	1,2	1,2,3		
	LITTORINA SPP	1,2,3	1,2,3		
	NUCELLA SPP	1	1,2,3		
	PAGURUS SPP		2,3		
	PISASTER OCHRACEUS		1,2		4 recruits seen
	POLYCHAETES				
	PYCNOPODIA HELIANTHOIDES				Not seen
	SEARLESIA DIRA		1,2		
	SERPULIDS		2		Mainly under boulders
	SIPHONARIA THERSITES				Not seen
Pg 15 of 19	TEALIA		1		Crassicornis, coriacen
	Frusterias		1,2		2 seen
	Volutharpa spp		2		Abundant in boulder fields w/ F.w.

Segment: MN-01

Subdivision: A

Date: April 20, 1990

Start	Time	Tide	Biologist: B. Schroeter
End	1320	5.5	Segment Length: 5049 meters
Low	1900	3.9	
	1830	1.5	

Several of the salient ecological features on MN-01A were: (1) dense concentrations of herring eggs in the MITZ and the upper LITZ along about 80% of the segment. The herring eggs were found on bedrock, boulders and cobbles, eel grass, and most species of algae in the MITZ (e.g. *Fucus*, *Rhodomydium*, *Odonthalia*, *Ulva*). Egg concentrations were highest on bedrock headlands, although they were found on boulder and cobble pocket beaches, sometimes in dense aggregations. Herring eggs were absent from pocket beaches through which fresh water ran. (2) An anadromous stream about 1 km NE from the southern end of the segment; and (3) large numbers of adult and immature bald eagles.

The segment can be divided into 4 main kinds of shorelines: (1) bedrock headlands (34%), (2) boulder and cobble pocket beaches (27%), (3) cobble and pebble pocket beaches (16%), and (4) boulder/cobble/gravel pocket beaches with large amounts of freshwater runoff at low tides (23%).

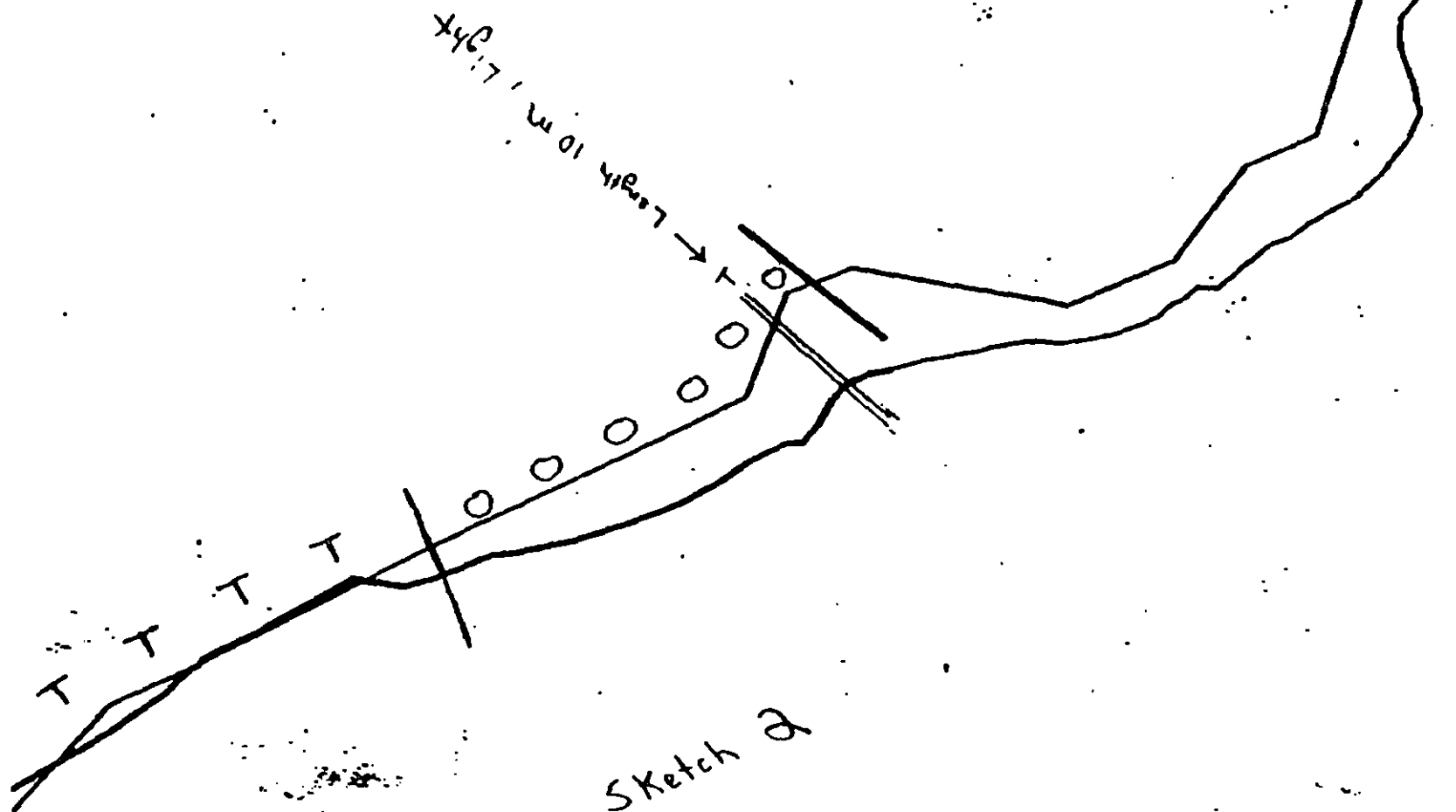
Shoreline (4) was notable in having high densities of barnacles (almost all *B. glandula*), mussels, and gastropods (littorines and *Notacmaea scutum*, and *Volutharpa*) throughout the MITZ and in the upper LITZ. Recruitment of barnacles and gastropods was moderate to dense in these areas, and recruitment of mussels was sparse. With the exception of several occurrences of *B. ochraceus* and *Exostoma* the stars on the segment were all *Leptasterias hexactis*. These occurred

under 20% of 66 boulders turned in the MITZ along the segment. None of them were brooding eggs.

On the rocky headlands, barnacles were sparse to rare and consisted mainly of adult *S. canalicus* with rare recruits. Mussels were rare and consisted mainly of small (< 3cm) individuals. The rocky headlands had moderate to high densities of *Fucus* in the MITZ and lower LITZ, as well as sparse to moderate densities of *Rhytilospadix scouleri* in pools in the MITZ. ~~Leptasterias~~ were found beneath boulders on the bedrock.

Fucus occurred in sparse to moderate densities in the LITZ and in the subtidal. *Rhytilospadix scouleri* beds occurred along about 80% of the segment in shallow subtidal. Herring eggs were on the *Fucus* and eel grass in the shallow subtidal.

Sea lions were abundant and feeding on (presumably) herring along the entire segment. Sea gulls numbered in the thousands per kilometer of shoreline, and 2 or 3 bald eagles were seen on every 500 meter stretch of shoreline. Sea otters were only seen twice, as were oyster catchers.



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

MN-1

ADEC Segment Length: 5049m



Map Key: PWS-4781

Name: B. Berglund

Date: 4/20/90

Date Entered:

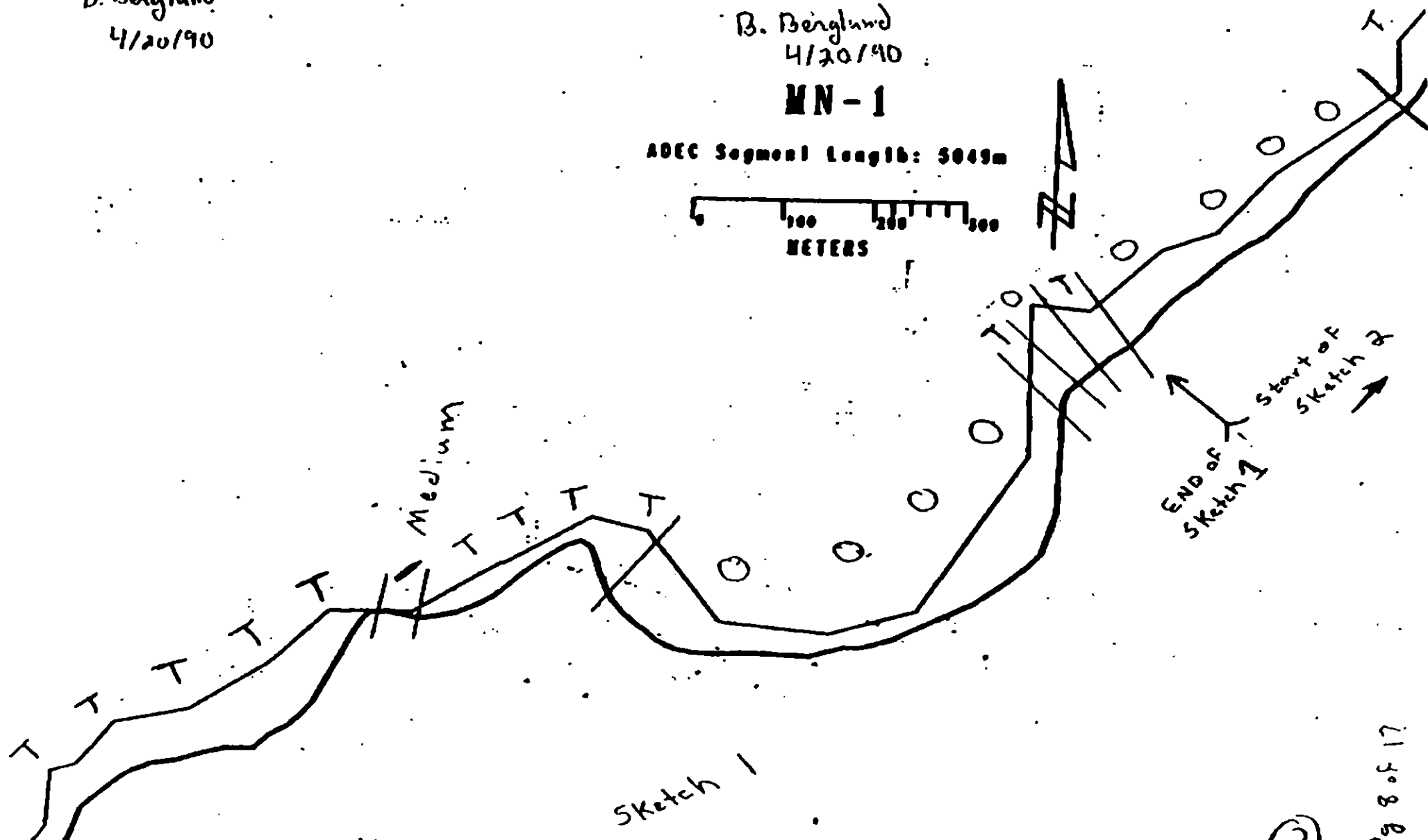
③

B. Berglund
4/20/90

B. Berglund
4/20/90

MN-1

ADEC Segment Length: 5049m



(2)

B. Berglund
4/20/90

MN-1

ADEC Segment Length: 5049m



Start sketch ①

→ Tar ball / Splash. Very isolated
splashes on boulders. $< 0.5\%$
Cover. Splashes 2-5 cm²
and 0.5-1 cm thick.
Black & Hard. Very weathered.
← 1 bag total

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT MN-1 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 stream (227-20-17570) is more than 100m from work site. No constraint to manual pickup.
1E	Main Bay Hatchery Release	No constraint to manual pickup.
2M	Herring Spawning	No constraint to manual pickup.
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.
7II	Subsistence: Deer Harvesting	No constraint to manual pickup.

OTHER ECOLOGICAL CONSIDERATIONS

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

SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM (STREAM NO. 227-20-17570)
FOR ADDITIONAL CONSTRAINT INFORMATION

FOSC

Date

Prepared by

Date

[Signature] 6/12/90
[Signature] 6/12/90

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT MN-2 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup Tarmat Removal	OPEN
Bioremediation	WORK 6/15 to 8/15

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B	Salmon Stream	No ADF&G catalogued anadromous streams are present in this subdivision. No constraint to manual pickup, tarmat removal, and bioremediation.
2M	Herring Spawning	No constraint to manual pickup and tarmat removal. Closed to bioremediation prior to 6/15.
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	No constraint to manual pickup and tarmat removal. Closed to bioremediation after 8/15.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat traffic and beach disturbance to essential minimum after 8/15. 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 to essential minimum. Avoid any unnecessary disturbance or damage to unrolled substrate and biota especially intertidal and subtidal algae and seagrass.

FOSC

Date

6/16/90

Prepared by

J Phillips

Date

6/14/90

MN-

MN-2

WORK
AREAS

Active
Nest

A
Active
Nest

A



Exxon Company, USA
Map Key: PWS-MN-2
June 04, 1990



ECOLOGY MAP
SEGMENT MN-2
SUBDIVISION A (1 of 1)
METERS
0 128 256

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

1 inch = 1572 feet

SHORELINE EVALUATION

SEGMENT ST/ MN-03 SUBDIVISION A (1 OF 1) DATE 4/23/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 227-10-17130 (P, 12/88) and 227-10-17120 (P, 12/88)

1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
1B Salmon stream mouth - spawning (7/10 to 8/31)
2M Herring spawning (4/1 to 6/15)
5T-1 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
7II Subsistence area: Deer harvesting (8/15 to 2/28)
9FF Deer habitat

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. Holman DATE: 5/3/90

OILING CATEGORIZATION:

Wide 12 m: Medium 0 m: Narrow 0 m: V.Light 3964 m: No Oil 3900 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> </u> Bioremediation	<u> </u> Spot Washing: <u> </u> Wands
<u>X</u> Tarmat Removal	<u> </u> Beach Cleaner
	<u> </u> Other (see comments)

COMMENTS: Manually remove asphalt pavement as shown on sketch map.
Work should be conducted after 6/1 with USFWS approval based on eagle
nest constraints.

TAG COMMENTS: MANUAL PICKUP OF TAR PATTIES

TAG APPROVAL DATE: 5/3/90
ADEC ART WEINER
EXXON Art Galt
NOAA Gary Petros
USCG KENNETH KEANE

FOSC: DATE: 5-8-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

9FF

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / MN003 SUBDIVISION: _____ DATE: _____

NAME Robert Jensen SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

The only area that needs to be treated is a pavement area (AP/P) NE of Regulatory Sign marker (see sketch). Area is 10x5m SUTZ 60%.

NAME Rowann F. Hudnall SIGNATURE Rowann F. Hudnall

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

AP/P needs to be removed. 1 area in long segment needs treatment. 1 asphalt patch in ^{su} ~~TT~~ TZ. Right above this patch there is oil on the sedge area that should be removed by shovel also.

LAND MANAGER

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

- NONE

SHORELINE OILING SUMMARY

REVISION NO. 04/13/88

OG HARPER USCG R. VENSEN SEGMENT ST/ MN-003
 BIO V. DIXON LAND REP NONE SUBDIVISION A (1 OF 1)
 EXXON ELLISON ADEC R. HUDNALL TIME 06:20 TO 10:30 1/11/1995
 TEAM NO. 2 TIDE LEVEL -0.8 to +7 HH DATE 4/23/90 YH
 EST. SUBDIVISION LENGTH: 8,708 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: SW TO NE NE TO SW
 SURFACE SEDIMENTS: R 25 % B 25 % C 25 % P 13 % G % S 2 % M - % V 10 %
 SLOPE: Long 100 % Hang 0 % Vert 0 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 10 m M - m N - m VL 4078 m NO 620 m

SURFACE OIL

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

PAVEMENT (H) F S 25 sq. m by 7 orPATTIES / TARBALLS 10 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 TB#BAGS 1

Photographs:

Roll No. ST-2-201Frames FR 15-22

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					BELOW	OIL / FILM COLOR				PIT ZONE				A N A	SHEEN (Y/N)	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		W	U	M	U	W	U	M	U			
1	20					X						X						C/S, P, G

COMMENTS

REVIEWED YHDATE 4-25-90

1/92

REF ID: A67247-1350 13-00 FROM: DCM BULL. OCT 21/82 10 DCM. P. 23

SUMMARY OF OILING OBSERVATIONS

for MN-002A

This is a long segment located immediately to the north of Hanning Bay on Montague Is.

A complete lack of identifiable features on most of the GIS map sheets means that there could be as much as +/- 1km error in the positioning of oiling categories within the central part of the segment; however, the total proportion of oiling categories are believed to be accurate within +/- 10%.

The dominant morphology of the shore zone is a hummocky bedrock ramp with a veneer of cobbles, boulders and some pebbles in the LITZ, MITZ and UITZ, a rock ramp with cobble/boulder veneer in the BUTZ often with either a "sedge" grass cover or a pebble granular berm. The immediate backshore of much of the segment consisted of a 50-100m wide area of sedge grasses and alder backed by a relict erosional scarp (pre-1964 earthquake). Exceptions to this general picture included: a complete cobble/boulder cover in the place of the bedrock ramp, small pebble/sand deltas at the mouths of some of the larger streams and the development of a very large cusped foreland near the south end of the segment (the cape immediately to the north of Cape Basil). Much of the intertidal cobble and boulder material is very angular and immature as a result of recent uplift associated with the 1964 earthquake. Longshore sediment transport, as indicated by drift of delta sediments and displacement of the cusped foreland, is to the southwest.

Oiling within the segment is relatively uniform with a discontinuous band of "tarry" splashes in the UITZ and sometimes in the BUTZ; band width is typically 10m with <<1% cover. At one location, asphalt pavement had formed in the BUTZ and there is a discontinuous line of mousse patties near the HWL. Near the south end of the segment, the tarry splashes that were noted were extremely hard and glassy inside when broken; it is believed that these splashes are unrelated to the EXXON VALDEZ oil although they are included on the oil maps.

4/27

OG _____

SEGMENT S1 _____

SUBDIVISION _____

DATE _____ / _____ 90

CHECKLIST

- ☐ N Area
- ☐ Approx. Scale
- ☐ Sky/Sea Entry
- ☐ On Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HW/LWL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pit Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ
Pit - No Subsurface Cl

2 Δ
Pit - Subsurface Cl

CT/C
Continuous Distribution

CT/B
Broken Distribution

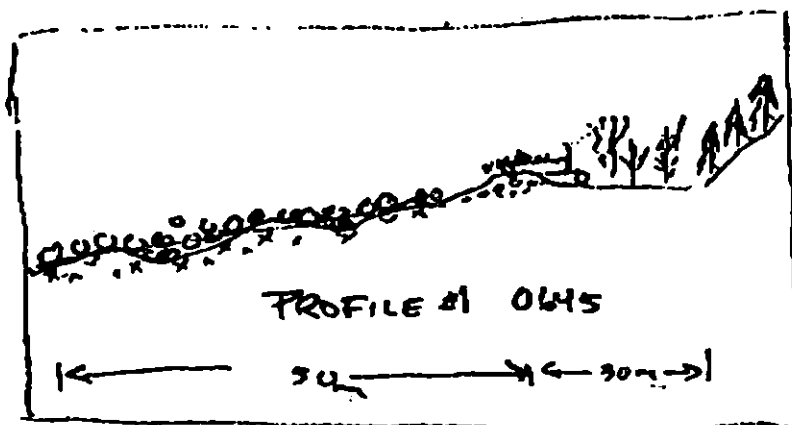
CT/P
Patchy Distribution

CT/S
Splashed Distribution

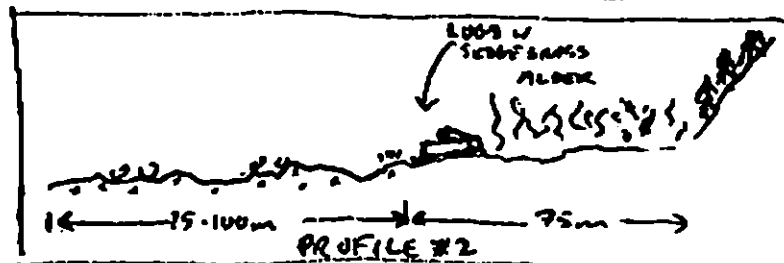
lll
Clad Vegetation

1 ●
Photo location, direction,
and number

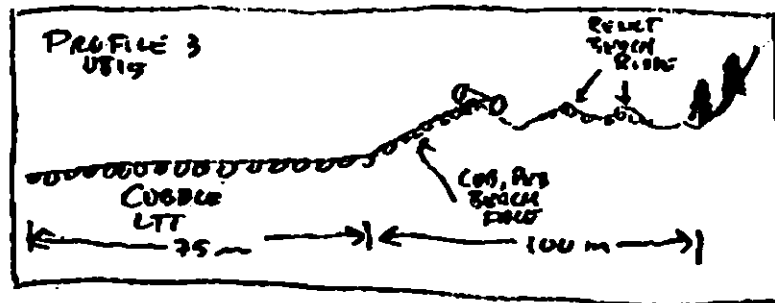
S CH MAP



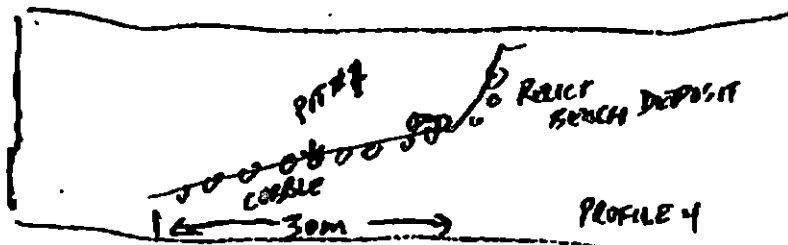
BOULDER, COBBLE JENWAMP
OVER BEDROCK



BOULDER JENWAMP (<20%) OVER
BEDROCK PLATFORM
(SEE FRAME 16)



CUSPATE FORELAND
PRIMARILY COBBLE PEBBLE



PIT 1 0-20 C/S, P, G N.O
UITZ

TWO LARGE PARTIES COLLECTED

On Character Length (m): AP 10 PO CV 1824 CT 2194 ST MB PT 180 TB FL NO 4620

REVISIONS

00 _____ HARPER
 SEGMENT STATION 1-003
 SUBDIVISION A
 DATE 4/23/90

CHECKLIST

☐ N Arrow
☐ Approx. Scale
☐ Seg/Sub Entry
☐ Off Dist.
☐ Width
☐ Length
☐ % Cover
☐ Substrate Character
☐ Est. HML/LWL
☐ SCL
☐ Profile Location(s)
☐ Profile(s)
☐ Plot Location(s)
☐ Photo Location(s)

LEGEND

1 Δ
 Pl - No Subsurface Oil

2 Δ
 Pl - Subsurface Oil

CT/C
 Continuous Distribution

CT/D
 Broken Distribution

CT/P
 Patchy Distribution

CT/S
 Splashed Distribution

eee
 Other Vegetation

1 ●
 Photo location, direction,
 and number

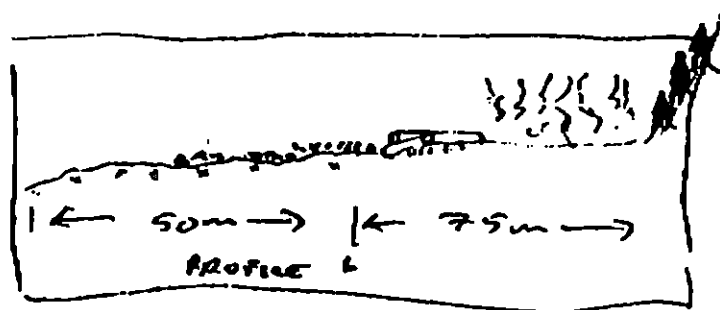
2/1

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

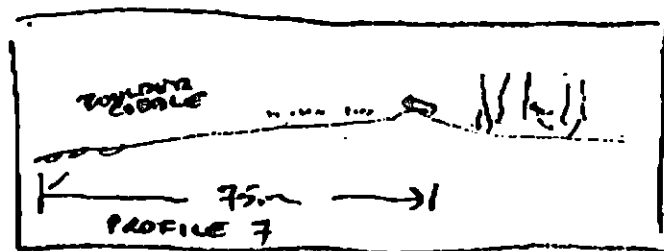
SKETCH MAP



BEDROCK RAMP, OCCASIONALLY
 BOULDER COBBLE VENTURE
 'SEDDG' GRASS ON BEDROCK



BEDROCK RAMP
 'SEDDG' GRASS IN SILT



VERY EVEN GRADIENT BEACH
 'SEDDG' GRASS IN SILT

SEE PREVIOUS FOR SUMMARY

REVISIONS

SHORELINE ECOLOGICAL SUMMARY

REVISION: 08/25/78

Segment ST / MN-03 Subdivision A Date (mo / day / yr) 04/23/90

Time (24 hr) 0620-1830 1611-1715 Biologist John Dixon

(A) Substrate type and % of segments:
(1) Bedrock 25 (2) Boulder 29 (3) Cobble 31 (4) Pebble 13 (5) Sand 2 (6) Silt 0

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

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

Photographs: Roll No. ST-2-201

Frames 15-22

BARNACLES

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

MYTILUS

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

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

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

Wildlife Observations/ General Comments: Waterline during survey: -0.8 - +7.0
10 Harbor seals off N. end. Many oyster catchers. Mergansers.
30 eagles seen during survey.

Ecological Considerations: Distal sensitivities: 1A, B; 2M; 5T; 7X; 9FF

High algal cover & abundant Picea ochroleuca
in lotus in Tidal. Middle & upper
in Tidal generally unremarkable.
2 distal and obvious streams.

16/27

Monday — 04/23/90

0620-1030

-0.8 - +7.0 ft

1611-1745

+1.1 - +4.2 ft

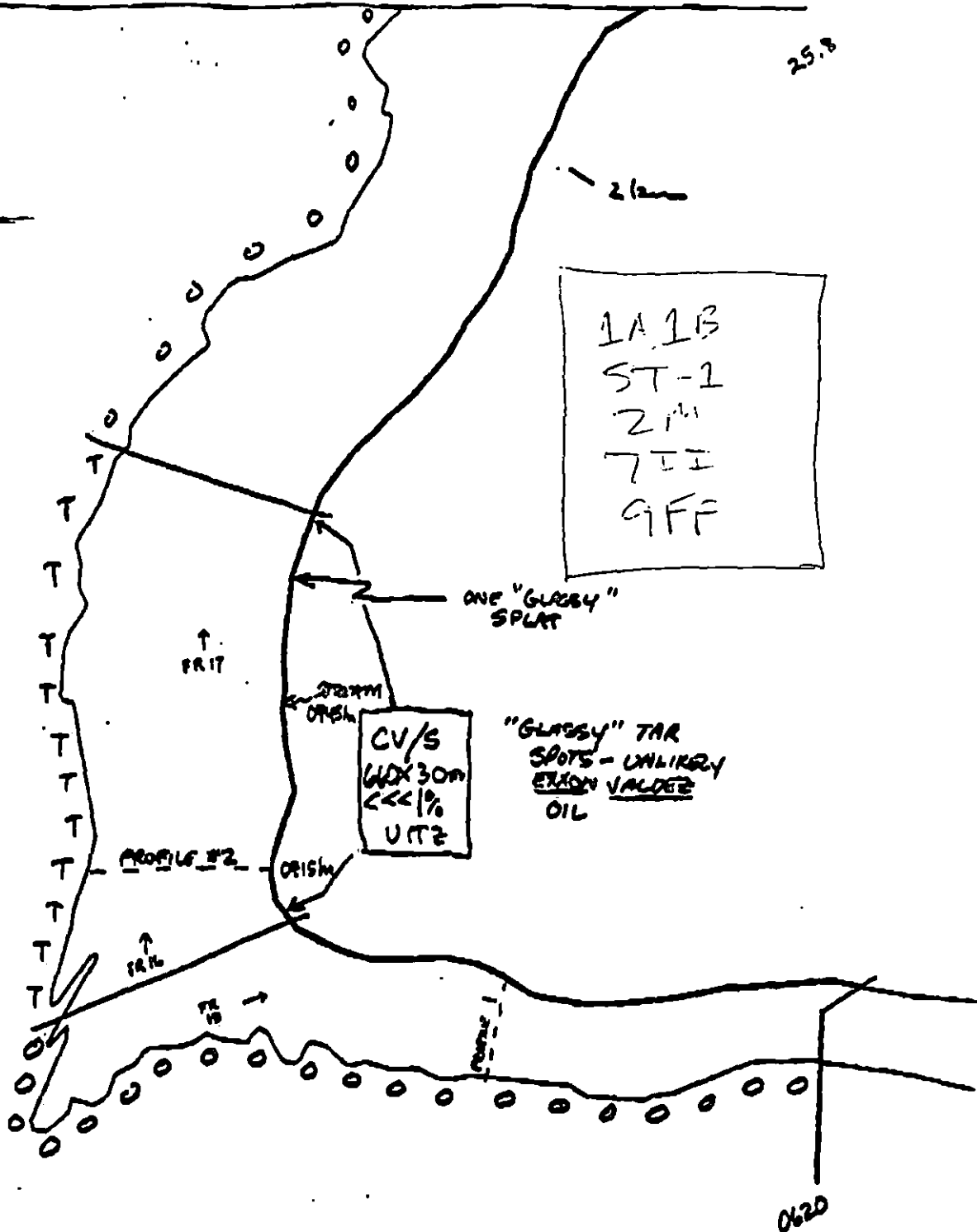
Biologist: John Dixon

MN-03 "A"

The shoreline along this 8 km segment is generally wide and gently sloping. About 60 percent of the segment is made up of broken rock platforms or ramps with a veneer of boulders and cobbles. The remaining 40 percent or so is comprised of boulder/cobble beaches which tend to be narrower, somewhat steeper, and often terraced. Where streams discharge onto the beach there is often a small sand/pebble delta. Three of the streams are probably used by anadromous fish - two are listed.

Although the cover of sessile organisms was reasonably high in areas of rock outcrop in the middle and lower intertidal, diversity tended to be low. Much of the highest zone had very low cover of sessile organisms, perhaps because the upper parts of the wide platforms do not get wetted much by swash or spray. The biota on the rock ramps and platforms was relatively uniform. There was about 75% algal cover in the low intertidal, contributed mostly by *Fucus*, *Ulva*, *Rhodocelia*, *Palmaria* and *Alaria*. *Pisaster ochraceus* and *Evasterias* were both abundant. No *Pycnopodia* were observed. Most of the middle and upper intertidal was on benches. *Fucus*, *Rhodocelia*, *Endocladia*, *Balanus glandula*, *Mytilus*, littorines and limpets were the most abundant organisms. The majority of the mussels occurred in the angular pebble matrix that formed a veneer over the bedrock in many areas. *Phyllospadix* occurred in slowly draining areas. The fauna under rocks generally consisted of hermit crabs, *Idotea*, *Notoacmea* scutum, and pricklebacks. *Leptosteria* was rare. The nudibranch *Lamellidors* was abundant under rocks on a platform in the southern part of the segment.

The boulder/cobble beaches were quite variable in biotic cover. An exposed beach at a point in the southwest portion of the segment consisted of terraced cobble before a steep berm and was nearly sterile. Only a few amphipods were observed. At the other extreme were protected boulders in areas of freshwater runoff. In such areas *Balanus glandula* was abundant, and *Littorina sitkana* and *L. scutulata* were moderate to dense.



NO. 1470m
VL: 660m

CV/S = 660m
ECOLOG
MTH
1 of 8

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

MN-3

ADEC Segment Length: 7875m



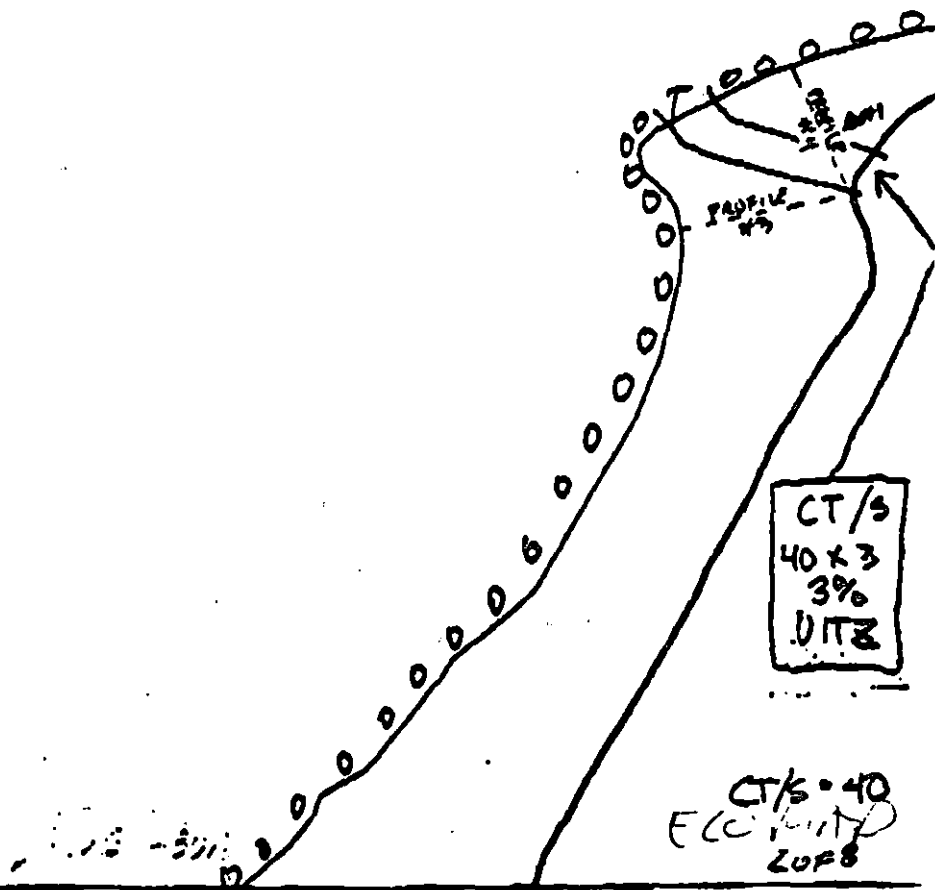
Map Key: PWS-4800

Name: HARDER

Date: 2 APRIL 90

Date Entered: 5/27

VL = 40m
UO = 92m



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

OOOO No Oil

MN-3

ADEC Segment Length: 7875m



Map Key: PWS-4801

Name: HARPER

Date: 23 APRIL 90

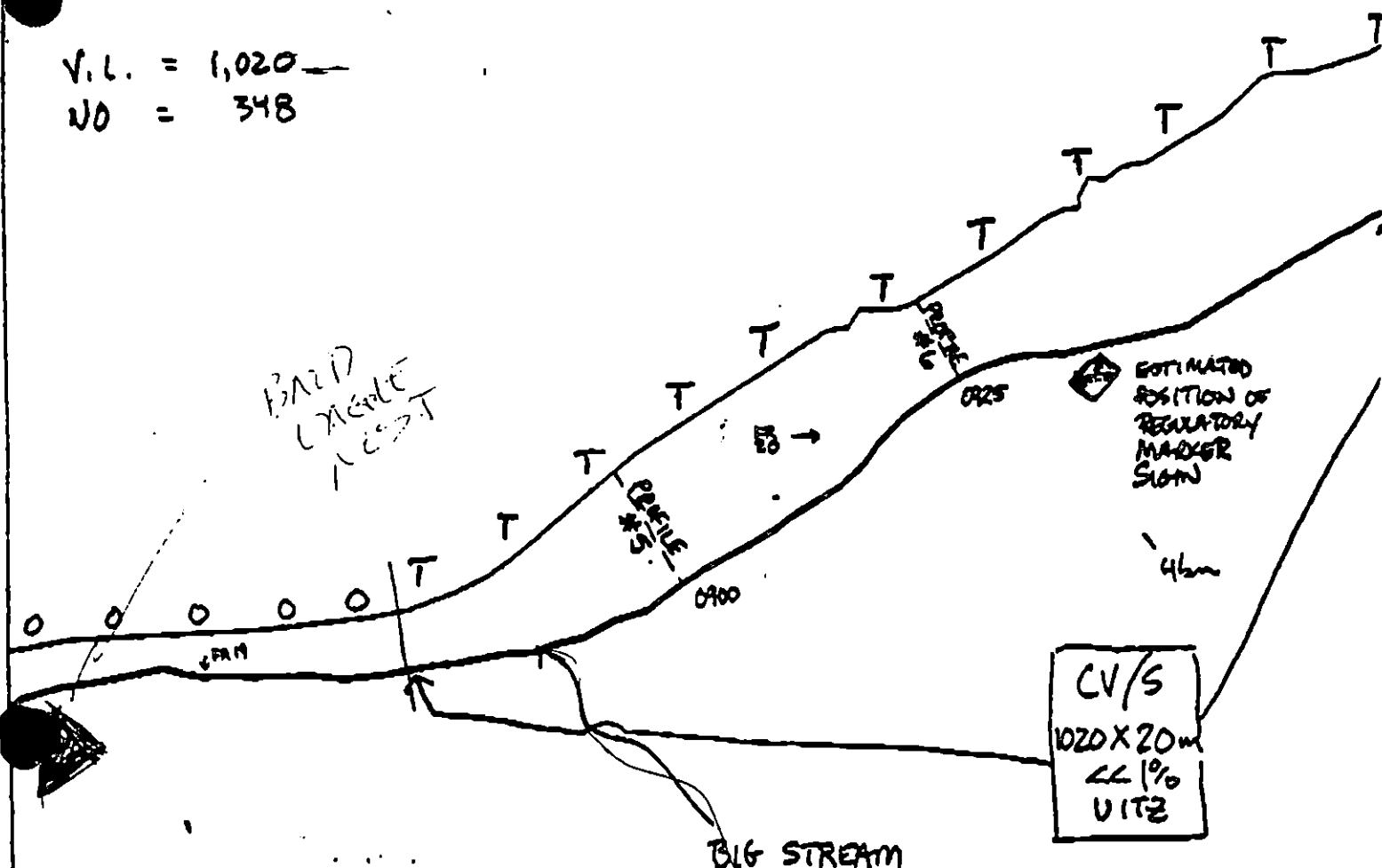
Date Entered: 6/27

CV/S = 1020

V.L. = 1,020

NO = 348

BAD
LITTLE
NEST



DISCLAIMER

DUE TO TOTAL LACK OF "CORRELATABLE" FEATURES BETWEEN THE CHART/MAP AND GIS MAPS, THERE IS A POTENTIAL +/- 1 KM ERROR IN POSITIONING OIL CATEGORIES ON THE GIS MAP SHEETS.

J. HARPER
23 APR 90

ANADROMOUS
STREAM

227-10-17120
(P, 12/88)

ECM:AP

3 of 8

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

MN-3

ADEC Segment Length: 7875m

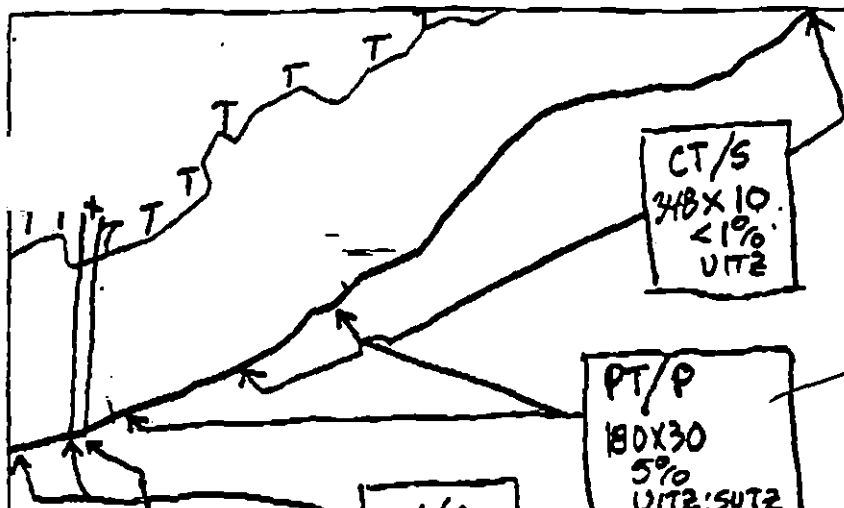


Map Key: PWS-480g

Name: J. HARPER

Date: 23 APR 90

Data Entered: 7/27



CT/S
348X10
<1%
VIT2

WIDE = 10
V.L. = 442

PT/P
180X30
5%
VIT2;SUT2

MANUAL
PICKUP.

CV/S
84X20M
<1%
VIT2

CV = 84
CT = 348 } OVERLAP
PT = 180
AP = 10

AP/P
10X5m
7cm
SUT2
60%

LOCATION OF
ASHPHALT AREA
IS 250m NE OF
REGULATORY SIGN
MARKER - STICK
AND FLOAT PUT
AT SITE

Remove
Pavement

DISCLAIMER

DUE TO TOTAL LACK
OF "CORRELATABLE" FEATURES
BETWEEN THE CHART/MAP AND
GIS MAPS, THERE IS A
POTENTIAL +/- 1KM ERROR
IN POSITIONING OIL CATEGORIES
ON THE GIS MAP SHEETS.

JHARPER
23 APR 90

4 of 8

XXXX Wide

MN-3

//// Medium

---- Narrow

ADEC Segment Length: 7875m

TTTT Very Light

0000 No Oil

0 100 200 300
METERS

Map Key: PWS-480h

Name: JHARPER

Date: 23 APR 90

Data Entered: 8/27

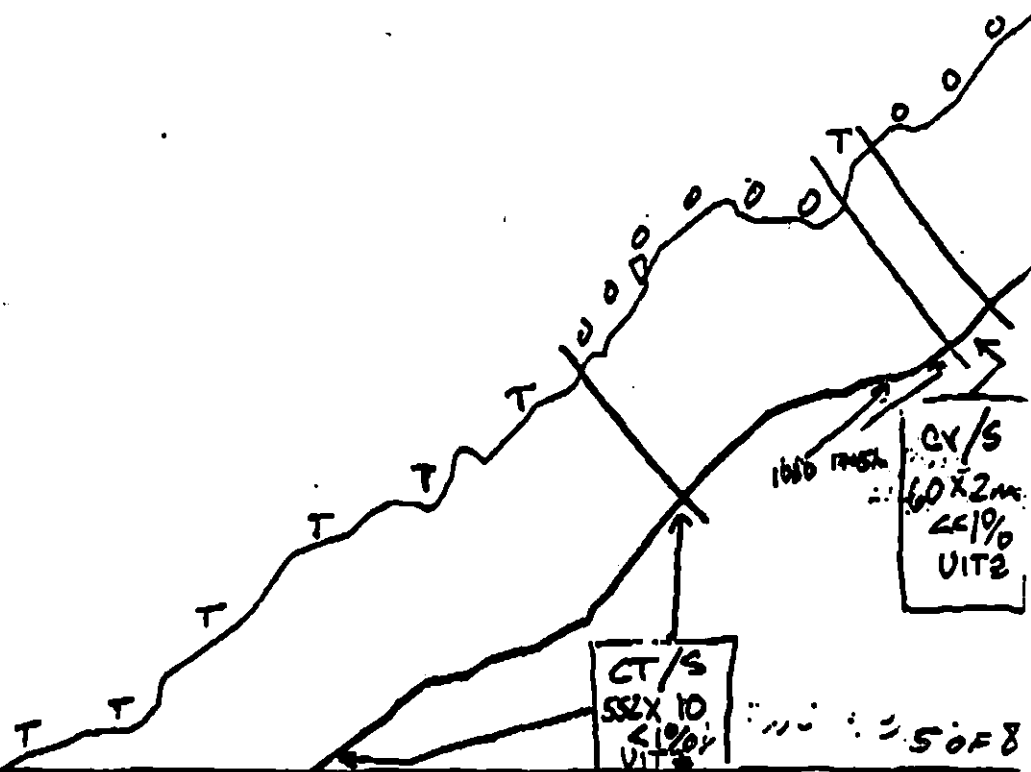
DISCLAIMER

DUE TO TOTAL LACK
OF "CORRELATABLE" FEATURES
BETWEEN THE CHART/MAP AND
GIS MAPS, THERE IS A
POTENTIAL +/- 1KM ERROR
IN POSITIONING OIL CATEGORIES
ON THE GIS MAP SHEETS.

J. HARPER
23 APR 90

CT = 552
CV = 60

VL = 612
NO = 480



XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

MN-3

ADEC Segment Length: 7875m



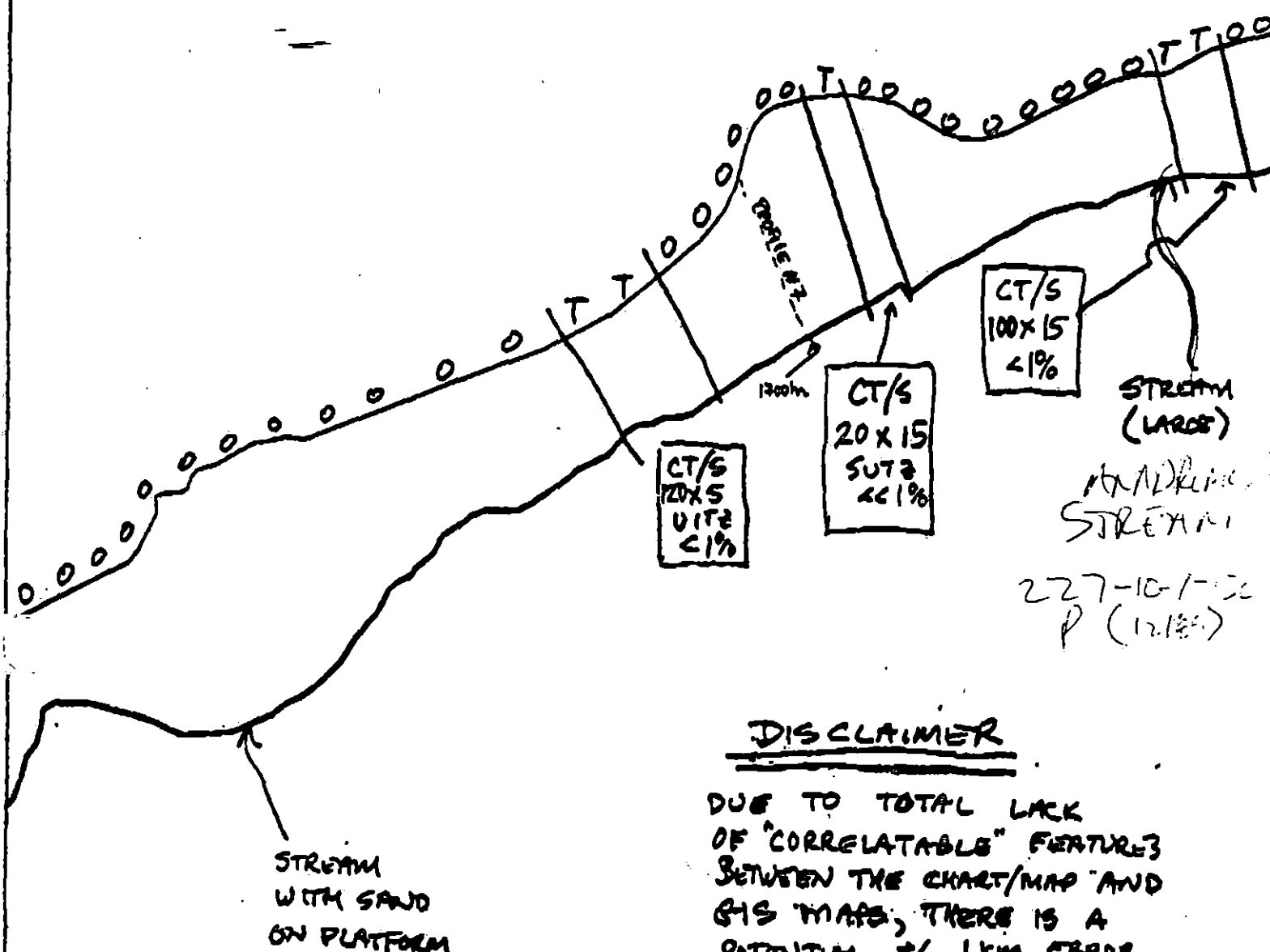
ECO CITY

Map Key: PWS-480m

Name: J. HARPER 56

Date: 23 Apr 90

Date Entered: 9/2



227-10-1-36
 P (12.13)

DISCLAIMER

DUE TO TOTAL LACK OF "CORRELATABLE" FEATURES BETWEEN THE CHART/MAP AND GIS MAPS, THERE IS A POTENTIAL +/- 1 KM ERROR IN POSITIONING OIL CATEGORIES ON THE GIS MAP SHEETS.

JHARRER
 23 APR 90

VL = 240
 NO = 1248
 CT = 240

6008

Y XXX Wide
 // // Medium
 - - - - Narrow
 T T T T Very Light
 0 0 0 0 No Oil

MN-3

ADEC Segment Length: 7875m

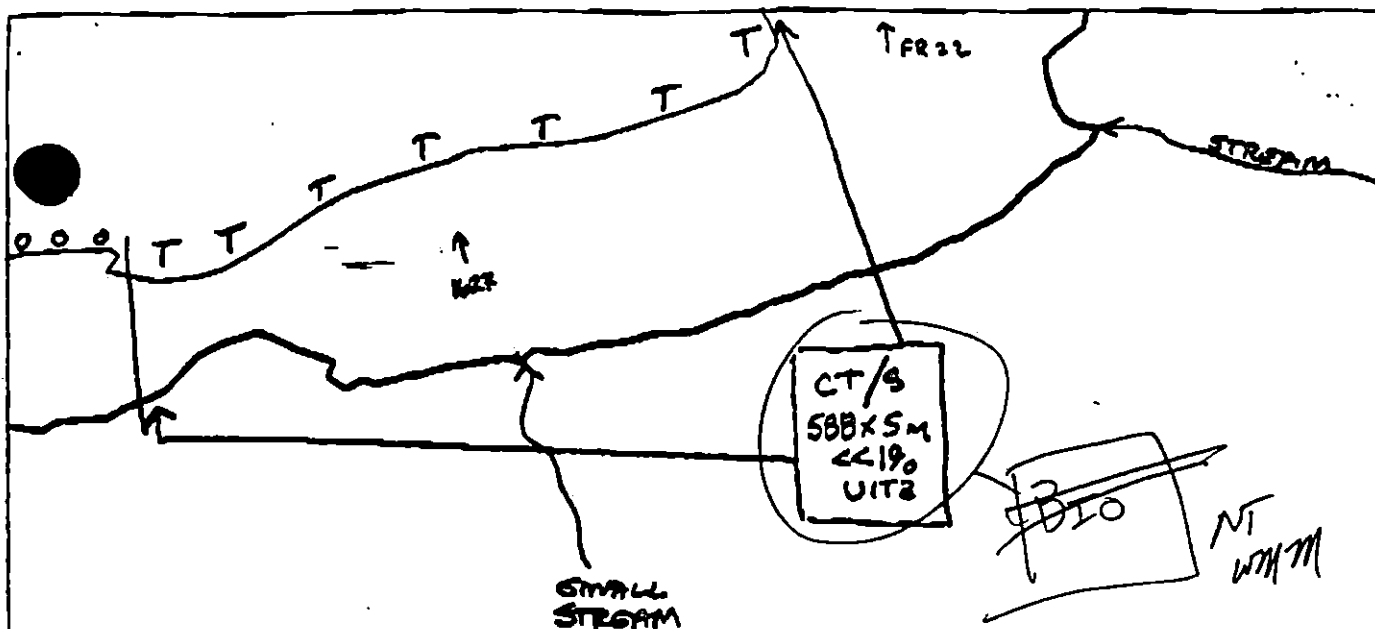
0 100 200 300
 METERS

Map Key: PWS-480n

Name: JHARRER

Date: 23 APR 90

Data Entered: 10/27



Y.L. = 580
N.O. = 132

CT = 588

7 of 8

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

MN-3

ADEC Segment Length: 7875m



Map Key: PWS-4800

Name: HARPER

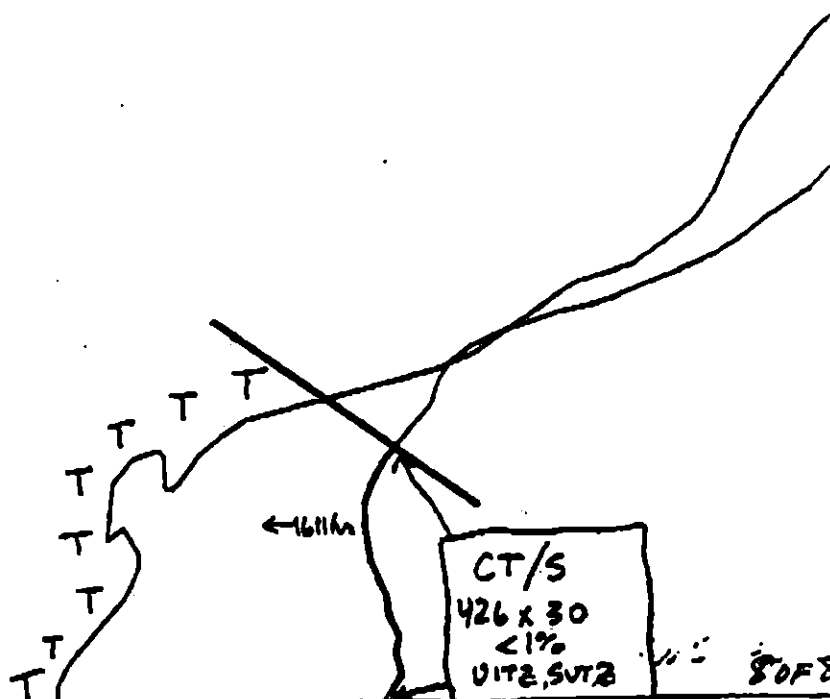
Date: 23 Apr 90

Date Entered: 11/27

VL = 426

CT/S = 426

OG MAP ENI



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

MN-3

ADEC Segment Length: 7875m

0 100 200 300
METERS

Map Key: PWS-4801

Name: HARPER

Date: 23 Apr 90

Data Entered: 12/27

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT MN-3 SUBDIVISION A (1 of 1)

WORK WINDOW	
Tarmat Removal	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

Two ADF&G anadromous Streams (227-10-17120 and 227-10-17130) are present in Subdivision A. No constraint to tarmat removal.

2M Herring Spawning

No constraint to tarmat removal.

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

No constraint to tarmat removal.

OTHER ECOLOGICAL CONSIDERATIONS

No disturbance to stream bed or banks. Avoid any unnecessary disturbance or damage to unrolled blots and substrate.

SEE ANADROMOUS FISH STREAM EVALUATION ADDENDUM (STREAM NO. 227-10-17120)
FOR ADDITIONAL CONSTRAINT INFORMATION

FOSC

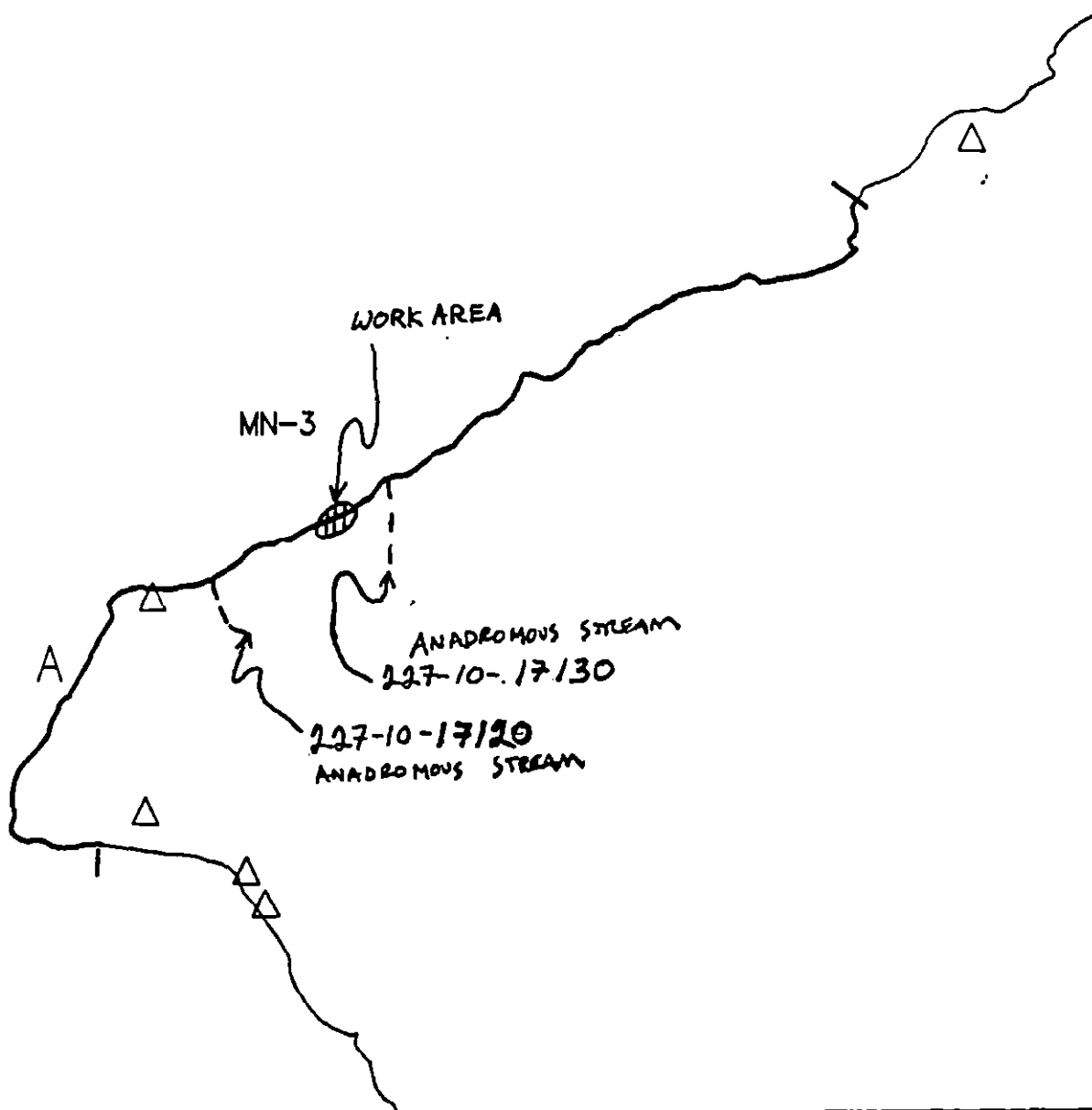
Date

6-10-90

Prepared by

Date

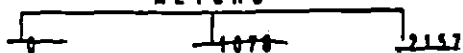
6-10-90
Ann
6/10/90



pany. USA
PMS-MN-3
04. 1990



ECOLOGY MAP
SEGMENT MN-3
SUBDIVISION A (1 of 1)
METERS



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

1 inch = 3538 feet

SHORELINE EVALUATION

SEGMENT ST/ MN-04 SUBDIVISION A (1 OF 1) DATE 4/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

2M Herring spawning (4/1 to 6/15)
5T-4 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
7II Subsistence area: Deer harvesting (8/15 to 2/28)
9FF Deer habitat

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: 5/5/90

OILING CATEGORIZATION:

Wide 0 m: Medium 74 m: Narrow 39 m: V.Light 2003 m: No Oil 1975 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: May 5 1990
ADEC Art Wenzel Art Wenzel
EXXON Mark N. Silber Mark N. Silber FOSC: W L DATE: 5-9-90
NOAA Gary Petrac Gary Petrac
USCG G.A. Butler G.A. Butler

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

✓ ~~2B~~
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.

✓ ~~5P~~
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.

10/17

SEGMENT ST/ MN004 SUBDIVISION: _____ DATE 4/21/90

JSCG NAME Robert Jensen SIGNATURE Robert Jensen

☒ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS
Most of oil described 200m NE along segment (see sketch map) described as CT/P 30% & CU/B 60% is weathered. Abundant wild life in area (Eagles, Sea Gulls, & Herring roe)

DEC NAME Rowann T. Hudnall SIGNATURE Rowann T. Hudnall

☒ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

COMMENTS
Small area patchy coat of cover on long segment. Well-weathered oil on boulders. Bathtub ring on rocky outcrop could be spot washed. High wildlife area - eagles, sea lions, seagulls, herring roe abundant.

AND MANAGER NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED

☐ TREATMENT SUGGESTED

NONE

SHORELINE OILING SUMMARY

REVISION NO. 04/13/90

OG HARRIS USCG R. JENSEN SEGMENT ST/ MN-004
 BIO J. DIXON LAND REP NONE SUBDIVISION A (1 OF 1)
 EXXON J. ELLISON ADEC R. MUDWALL TIME 13:15
 TEAM NO. 2 TIDE LEVEL _____ DATE 1 / 1 / 90
 EST. SUBDIVISION LENGTH: 4,240 m ☐ 80m ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: SE to NW
 SURFACE SEDIMENTS: R 34 % B 29 % C 29 % P 8 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 10 % Hang 25 % Vert 5 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 0 m M 60 m N 30 m VL 2040 m NO 2110 m

SURFACE OIL

CHARACTER	DISTRIBUTION					OIL / FILM COLOR					IMPACTED ZONES				
	1	2	3	4	5	6	7	8	9	10	BU	U	M	U	
ASPHALT PAVEMENT															
POOLED															
COVER		X					X					X			
COAT			X				X					X			
STAIN															
MOUSSE															
PATTIES				X				X			X				
TARBALLS															
FILM															
NO OIL															

PAVEMENT H F (S) 0.2 sq. m by 4 cmPATTIES / TARBALLS 0 BAGSNEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash	X		
Debris			

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐TYPE P6M ROM#BAGS 1

Photographs:

Roll No. ST-2-201ST-2-202Frames 31-341-8

SUBSURFACE OIL NO PITS DUE TO TYPE OF OILING

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	S E E N (Y/N)	↓	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		NO	UC	6	7	8	9	10	BU	U	M	U				

COMMENTS This segment consists of a series of bedrock headlands and cobble/boulder pocket beaches. A rock platform fringes much of the LITZ and has a patchy veneer of cobbles and boulders.

The general pattern of oiling is discontinuous splashes of oil in the VITZ; the oil was obviously well-weathered by the time it reached the segment and most of the observed oil could be classified as tar splats. Two areas have a slightly greener coverage of oiling as noted on the sketch.

REVIEWED 7WDATE 4/23/90

00 44444

SEGMENT ST/ MN-004

SUBDIVISION A

DATE 4/20/90

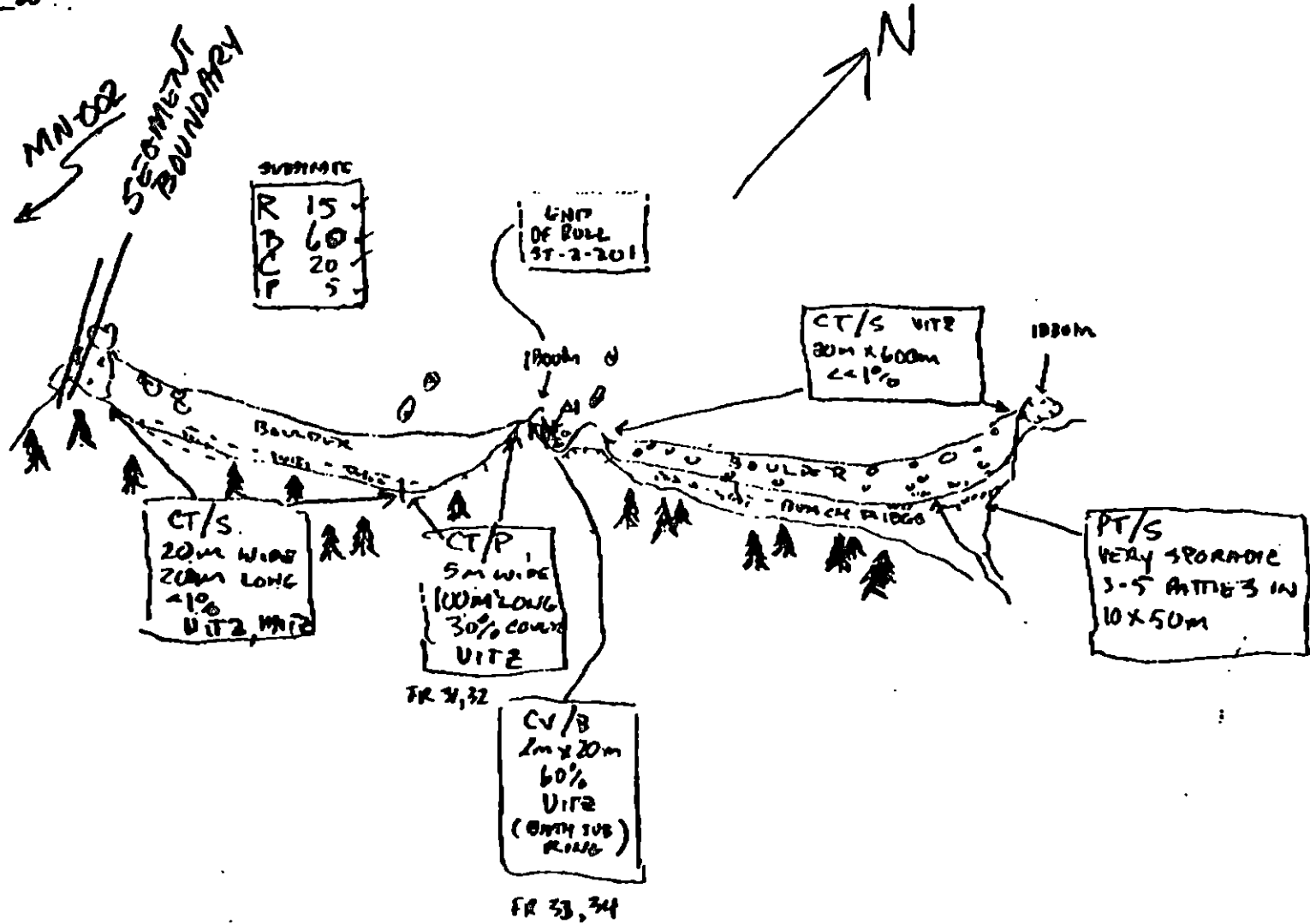
ATCH MAP
MAP 1 of 3

CHECKLIST

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

LEGEND

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



Pit #1
30cm P
N.O.

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

00. 1 FLAC

SEGMENT ST/ MA-004

SUBMISSION A

DATE 21 APR 00

CHECKLIST

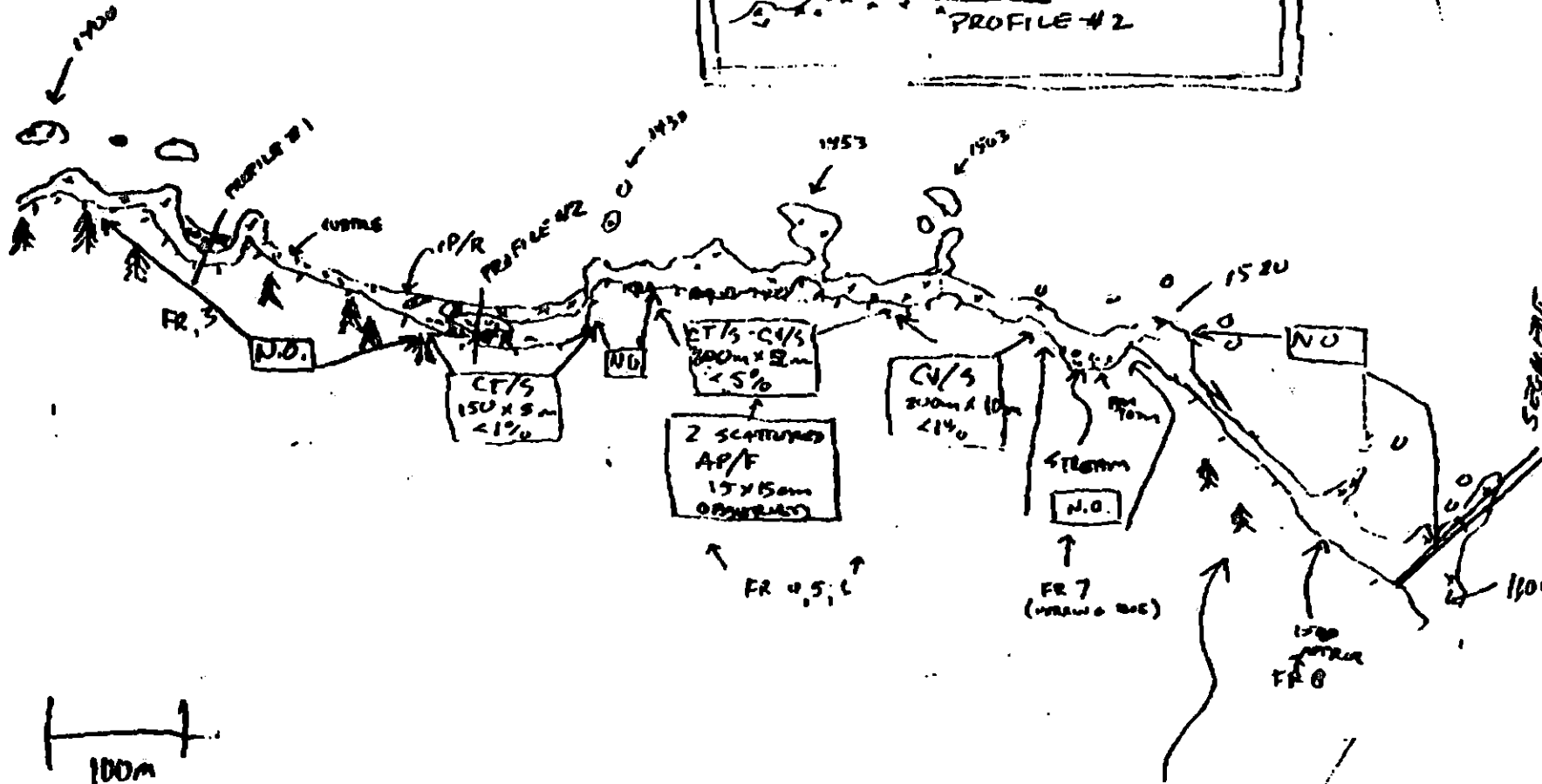
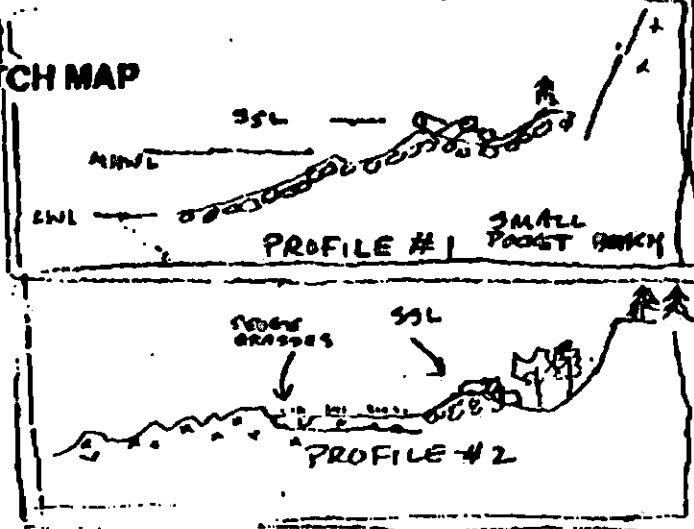
- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Body
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. MHW/LWL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Photo Location(s)

LEGEND

- ☐ 1 Δ
- Ph - No Occurrence Oil
- ☐ 2 Δ
- Ph - Subsurface Oil
- ☐ CT/C
- Continuous Distribution
- ☐ CT/D
- Broken Distribution
- ☐ CT/P
- Patchy Distribution
- ☐ CT/S
- Spotted Distribution
- ☐ lee
- Old Vegetation
- ☐ 1 ee
- Photo location, direction, and number

Map 3 of 3

SKETCH MAP



Oil Character Length (m): AP 0 PO 0 CV 390 CT 1730 ST 0 MS 0 PT 0 TB 0 FL 0 NO 2110

REVISIONS

SHORELINE ECOLOGICAL SUMMARY

REVISION: 05/22/90

Segment ST / MN-04 Subdivision A Date (mo / day / yr) 04/20/90
1750-1745Time (24 hr) 1406-1610 Biologist John Dixon

- (A) Substrate type and % of segments:
(1) Bedrock 34 (2) Boulder 29 (3) Cobble 29 (4) Pebble 8 (5) Sand 0 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense 15 Moderate 30 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-2-201 ST-2-202Frames 31-34 1-8

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
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: Waterline during survey: +1.9 - +6.3
Heavy bald eagles overhead or in trees. Canada geese overhead.Ecological Considerations: Listed sensitivities: ST-4, FIS, 2M, 9AF.Herring eggs on Fucus & rocks in sheltered
areas of the middle intertidal zone. No eagle nests
seen, but adult & immature bald eagles common.

Friday	04/20/90	1730-1945	+1.9 - +5.0
Saturday	04/21/90	1406-1610	+2.2 - +6.3

Biolog. & John Dixon

MN-04 "A"

The western half of this 4.2 km segment is a series of bedrock headlands interspersed with boulder/cobble pocket beaches. In the pocket beaches the boulders and cobbles are rounded and scoured and form a series of small terraces on the wider beaches. The eastern half is similar but with extensive areas of bedrock platform in the intertidal zone with a patchy veneer of boulders and cobbles. The platforms are cut by surge channels and contain many shallow pools.

The scoured boulders and cobbles in the pocket beaches were relatively depauperate. On the mid shore, rocks were patchily covered with a thin film of filamentous green algae. In the middle and upper intertidal zones, barnacles (*B. glandula*) and rockweed (*Fucus*) were very sparse and mussels (*Mytilus*) essentially absent. Snails were sparse and mostly *Littorina sitkana*. There were very few new recruits (1-3 mm). *Littorina* egg masses were present under larger boulders along with a few amphipods.

The boulders and cobbles overlaying rock platforms supported a greater diversity. Sparse populations of *B. glandula* and *Fucus* were often present and occasionally small patches of *Mytilus*. *Littorina sitkana* were locally very abundant, especially in surge channels. *Nucella lamellosa* and *N. lima* were common to abundant on rock platforms and headlands throughout the segment. *Mytilus* were most abundant among pebbles overlaying the large platform at the east end of the segment. Under the boulders, amphipods, isopods, pricklebacks, yellow sponges, hermit crabs, and the sea star *Leptasterias hexactis* were often found. Few of the *Leptasterias* were brooding eggs. *Littorine* egg masses were under about 25 % of the boulders.

Pools were often covered with encrusting coralline algae, probably *Lithothamnion*. Anemones were very abundant, particularly *Anthopleura artimisia* and *Epiactis* sp. However, *A. xanthogrammica*, *Tealia crassicornis*, and *Metridium senile* were also occasionally seen. *Phyllospadix* grew in many of the pools and chitons (*Tonicella lineata* & *Katherina tunicata*) were common.

Most areas of bedrock outcrop were irregular platforms or ramps rather than vertical faces and the biota was less obviously zoned and more patchy than on cliff faces. *Fucus* and *Rhodomena laris* were the dominant algae, although *Endocladia* & *Porphyra* were common. *Balanus glandula* occurred throughout the upper and middle intertidal, but *B. cariosus* was confined to the lower mid-shore where overall cover of sessile species was about 75%.

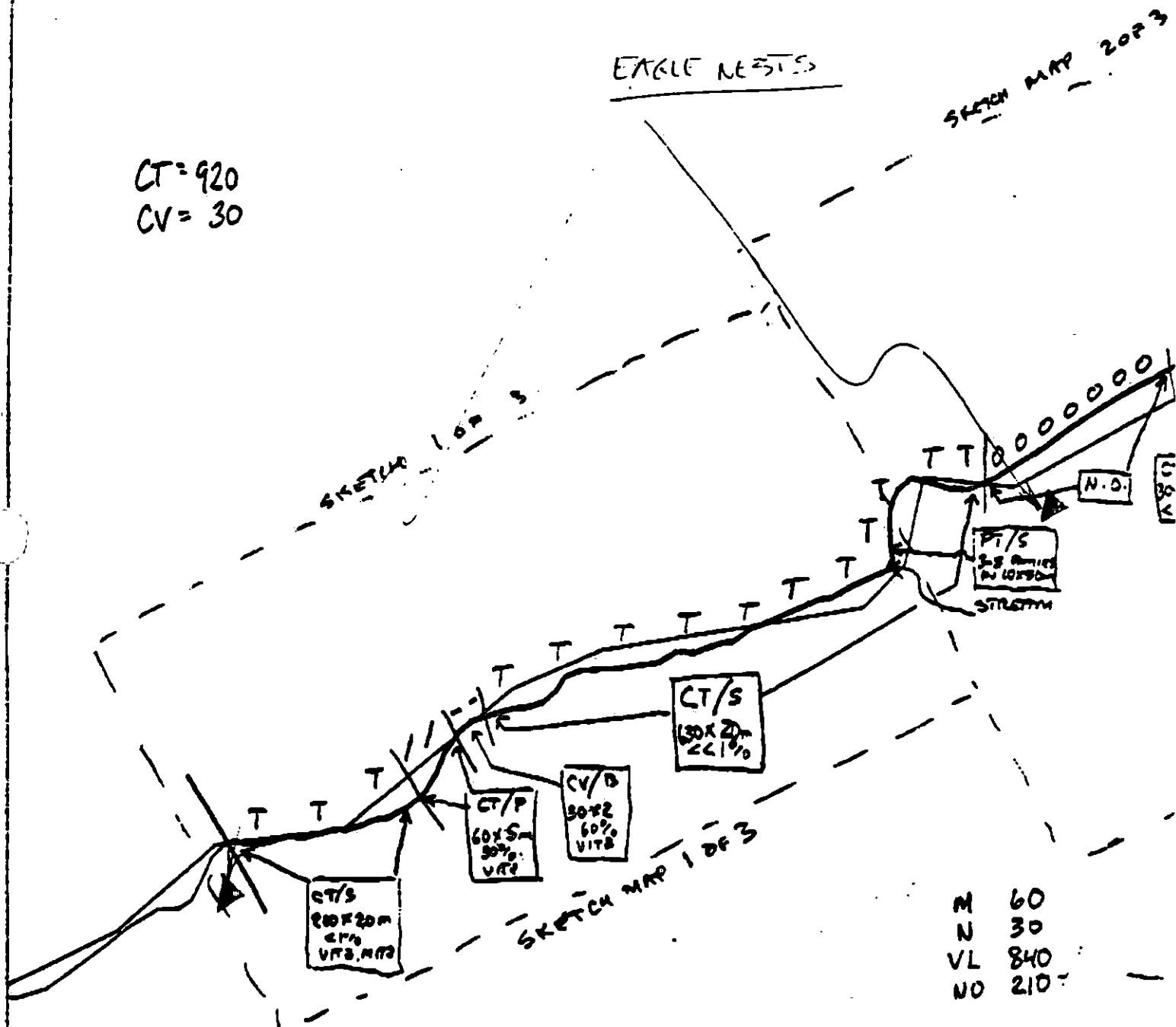
Herring eggs were present throughout the segment, but were only abundant in the middle intertidal in a few sheltered locations. Within surge channels, the water was often milky with loose eggs, and in one such area above the waterline the herring eggs formed a mat about 10 cm deep.

ECOLOGICAL MAP (1 of 4)

CT = 920
CV = 30

EAGLE NESTS

SKETCH MAP 2 OF 3



M 60
N 30
VL 840
NO 210

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

OOOO No Oil

MN-4

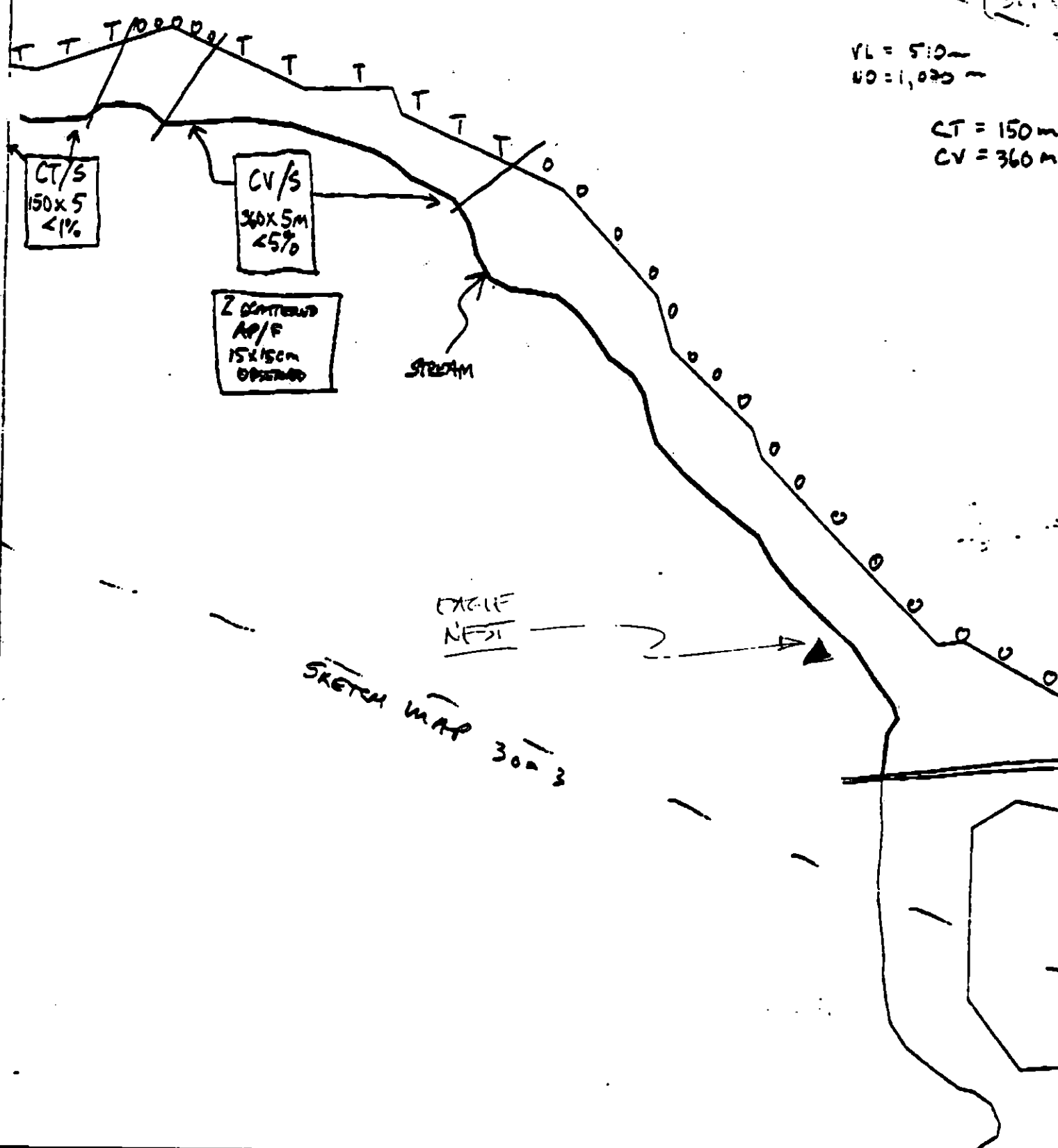
ADEC Segment Length: 4092m

Map Key: PWS-481a

Name: WATER

Date: 20-21/4/90

Data Entered:



XXXX Wide	MN-4 ADEC Segment Length: 4092m 	Map Key: PWS-481c
//// Medium		Name: <u>HARPER</u>
--- Narrow		Date: <u>20-21/4/90</u>
TTTT Very Light		Data Entered:
0000 No Oil		

SKETCH MAP 3 of 3

NO=150m

SKETCH MAP 3 of 3

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

MN-4

ADEC Segment Length: 4092m

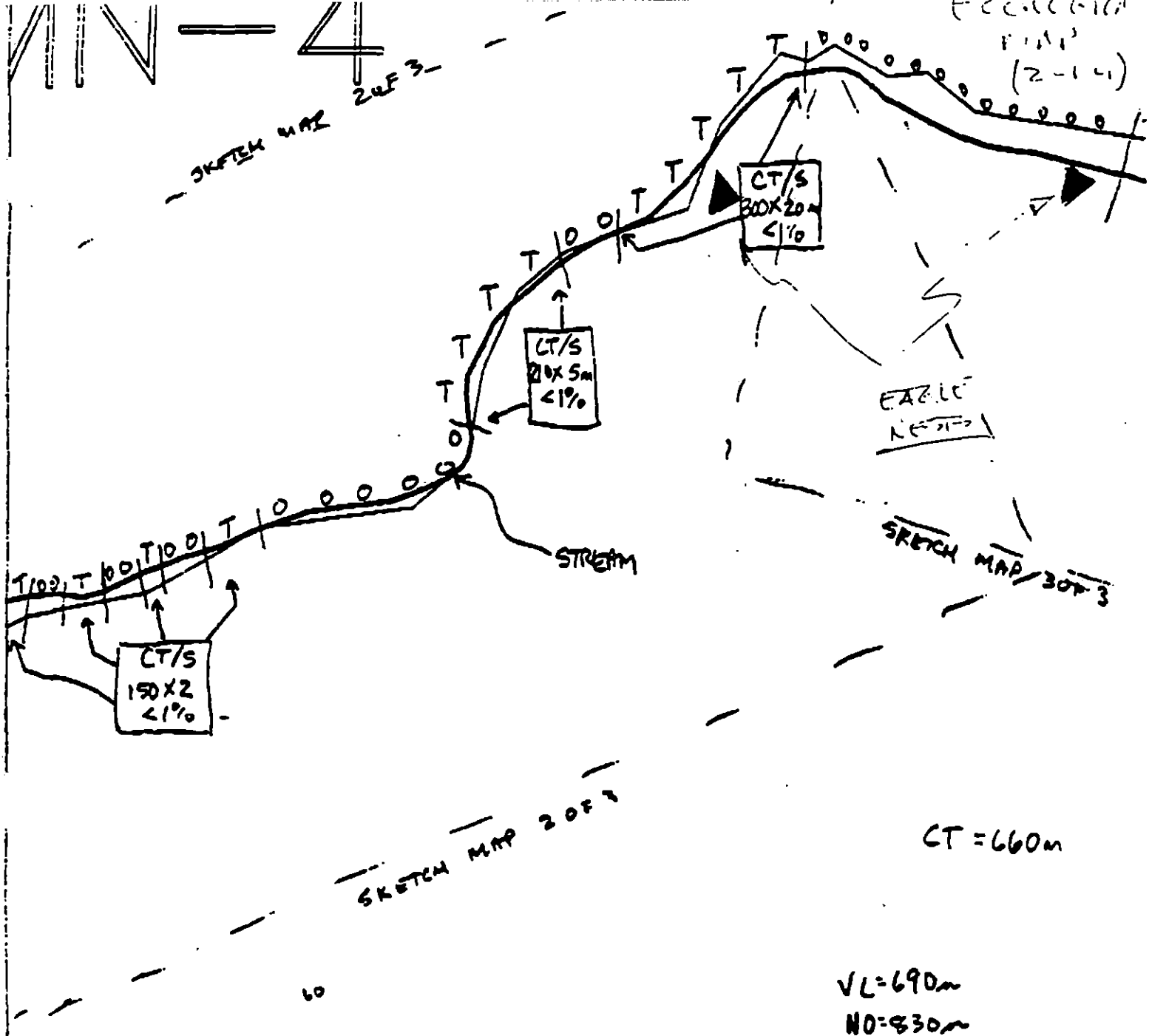
0 100 200 300
METERS

Map Key: PWS-481d

Name: HARPER

Date: 20-21/4/90

Data Entered:



XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

OOOO No Oil

MN-4

ADEC Segment Length: 4092m



Map Key: PWS-481b

Name: HARPER

Date: 20-21/4/90

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ MN-05 SUBDIVISION A (1 OF 1) DATE 4/9/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

SHPO SIGNATURE: *Charles H. Hume* DATE: 4/25/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 241 m: No Oil 1460 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: 4/24/90
ADEC ART WEINER Art Weiner
EXXON Andy Ten Andy Ten
NOAA John Talbot John Talbot
USCG M.J. HALL M.J. Hall

FOSC: L DATE: 5-3-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
 1B Salmon stream mouth - spawning (7/10 to 8/31)
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
- 1C Salmon fry nursery area (4/31 to 7/31)
 1D Esther Hatchery release (4/15 to 6/1)
 1E Main Bay Hatchery release (4/20 to 5/10)
 1F Sawmill Bay Hatchery release (4/15 to 6/1)
 1G Cannery Creek Hatchery release (4/21 to 6/1)
 1H Remote release site
 1I Gill net area (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 (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

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 / MN-05 SUBDIVISION: _____ DATE 4/9/10

SCG
NAME Robert G. Jensen SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

Obs. only a few splashes.

ADEC
NAME Rouann T. Hudnell SIGNATURE Rouann T. Hudnell

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

occasional splashes in middle of island.

LAND MANAGER

NAME U.S. Forest Service SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

few widely scattered splatters/drops in center of island

Continue Natural Treatment

SHORELINE OILING SUMMARY

REVISION NO. 03/22/88

OG John M. Sample USCG Bob Jensen SEGMENT ST/ MNI-5
 BIO John Dixon LAND REP Bob Keeley SUBDIVISION A
 EXXON Jim Ellison ADEC Rowan Hudmell TIME 17:00 to 19:30
 TEAM NO.: 2 TIDE LEVEL: +6' to +1.5' DATE April 9 / 1990
 EST. SUBDIVISION LENGTH: 2877 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☐ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 50 % B 25 % C 20 % P 5 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Lang 100 % Hang 0 % Vert 0 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 250 m NO 2627 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR						IMPACTED ZONES			
	C	B	P	R	SP	DEL	OR	SL	TL	LR	SU	U	M	L
ASPHALT PAVEMENT														
POOLED														
COVER														
COAT														
STAIN				X		X					X			
MOUSSE														
PATTIES														
TARBALLS														
FILM														
NO OIL											X		X	X

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

OILED DEBRIS <u>NO</u>	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NOTYPE 0#BAGS 0

Photographs:

Roll No. ST-2-11Frames F 20-30

SUBSURFACE OIL

NONEBedrock sample

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	DEL	OR	SL	TL	LR	SU	U	M	L		

COMMENTS

OG San Juan Islands

SEGMENT ST/ MS-05

SUBDIVISION Nunc

DATE Apr 19/1990

SKETCH MAP

CHECKLIST

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

LEGEND

1 ▲

Plt - No Subsurface Oil

2 ▲

Plt - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splashed Distribution

Oiled Vegetation

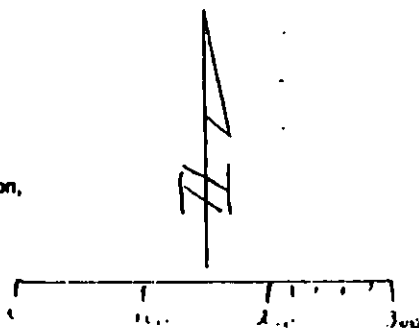
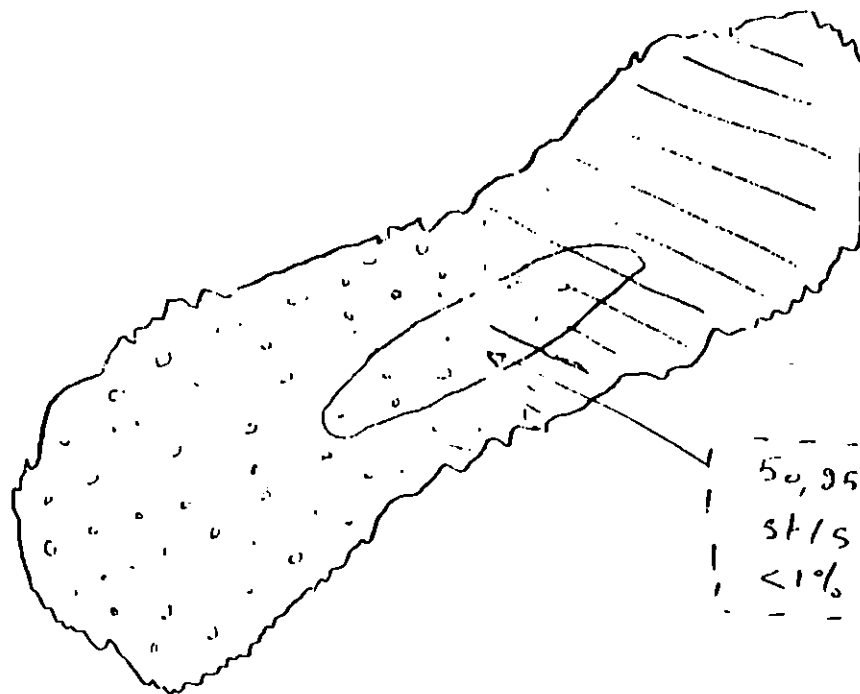
1 ➡

Photo location, direction,
and number

Legend

Redrock ramp / low outcrops

pebbles / rubble



Oil Character Length (m): AP _____ PO _____ CV _____ CT _____ ST 250 MS _____ PT _____ TB _____ FL _____ NO 2627

REVISION: 03/24/98

Montague Island, MN-05, April 8, 1990

Segment MN-05 makes up the shoreline of an intertidal island located near the northeastern tip of Montague Island. The shore is exposed to a long fetch to the north and east, and it is sheltered in other directions.

The island is composed of boulders, cobbles and pebbles over its western half and bedrock ramp and low bedrock outcrops over its northern half. The bedrock area has a very irregular surface, a consequence of the steep to vertical dip of the metamorphic rocks (strike about S.E.). Where sediments are present, they appear to increase in size towards the northeast and also, at any given location, towards the upper part of the island.

A few stains and coats of splatters were found within a band 50 m wide by 250 m long over the north central part of the island. The small splatters are very dispersed and cover much less than 1 % of the area over which they occur.

REVISION: 03/22/99

Time (24 hr) 1715 - 1830 Biologist John Dixon

(1) Bedrock 50 (2) Boulder 25 (3) Cobble 20 (4) Pebble 5 (5) Sand (6) Silt

(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)

Roll No. 57-2-11

Frames 20-30

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

Wildlife Observations/General Comments: Water line $\pm 5'$ - $\pm 2'$ during period of observation. Many sea otters, several with pups. Several harbor seals, small pod of porpoises. Many eyster collectors. Bald eagle overhead. Limited sensitivities (3NP, 30Q, 7II, 2M, 9FF, 6U) probably wrong for this Ecological Considerations: intertidal island.

This entire island is mainly silted in at its highest high tides. It supports a remarkably rich intertidal biota. The N.E. 2/3 of the island with a mostly bedrock outcrop, the considerable reef flat. The S.W. 1/3 is largely Boulder & cobble & is relatively depauperate. Where the substrate changes to boulder the diversity of gastropods increases by 2 or orders of magnitude. Algae - Fucus, Ulva, Rhodomela, Ulva, Alaria, Isoetes, Odonthalia. Snails - N. scutum, L. citharus, L. scutellata, Succinea, Glyptorhinus, Nucula, Margarita, Calliostoma. Stars - Pisaster, Dendrosermus, Leptasterias, Echinaster, Pip

Monday 17/5 - 1930 (45.5 - +2)
04/09/30

MNOS 6:

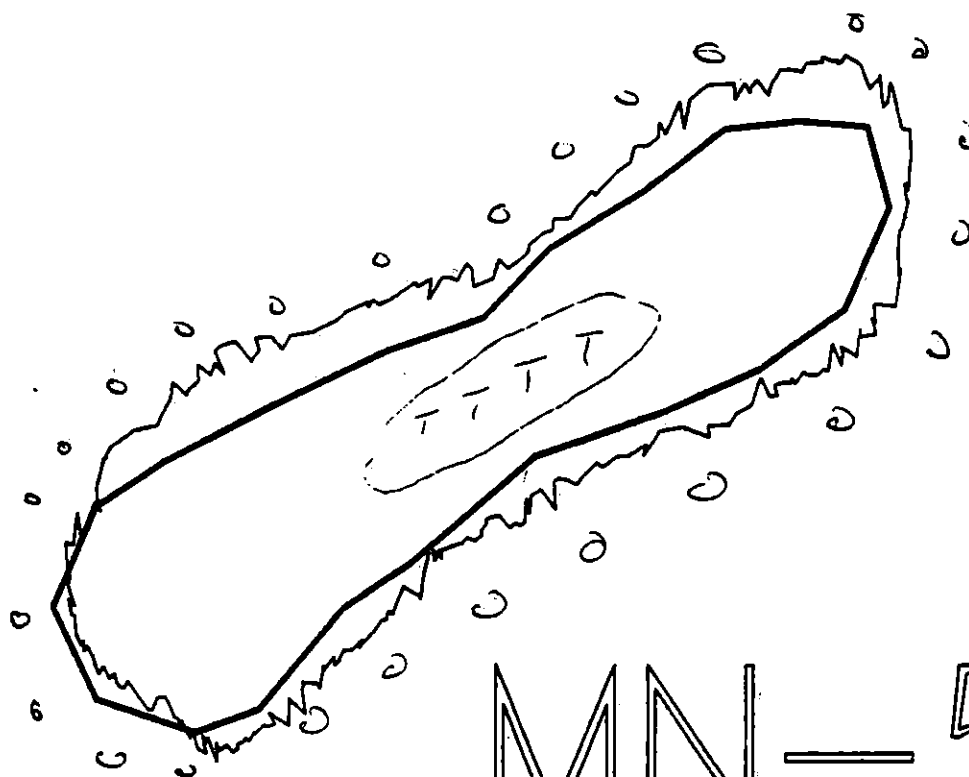
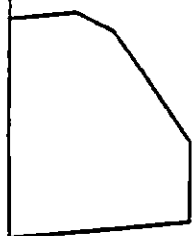
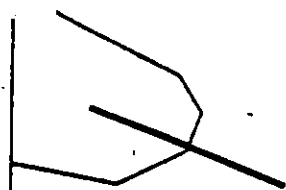
This low lying island is mostly intertidal. The entire island is, probably submerged during the highest high tides. The south ^{west} ~~east~~ $\frac{1}{3}$ of the island is comprised of a central corridor of boulders & cobbles with a small bedrock outcrop to the east. The north east $\frac{2}{3}$ is on a bedrock base with an overburden of boulders & cobbles. The size of boulders & the vertical relief of the outcrops increases towards the N.E. end.

This is an extremely rich intertidal especially on the upper $\frac{2}{3}$. There is an obvious discontinuity where the bedrock base near the surface begins & the density of littorines on boulders increases by several orders of magnitude over a distance of a few meters.

In the bedrock areas there is a great diversity of algae in the lower & middle intertidal. Ulva, Ulex, Fucus, Alaria, Rhodospira, Odonatalia, erect coralline, and Halosaccus are all abundant. Thylogaster is dense in pools. Alaria is more abundant than at any previously visited site. There is also a high density of sea stars. P. ashiensis, Peronaster, Euryaster, Leptasteria leptasteria are all common.

The pulmonate limpet, Siphonaria occurs in moderate densities on boulders in the M.I. Seabird dense under boulders in pools.

Many others, some w/ pups on their chest several ketcher seals & small pod of porpoises offshore. Pterodroma had surrounded the island. Bald eagle overhead. A dozen or more oysters catches in intertidal.



MN-5

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

MN-5

ADEC Segment Length: 1700m



METERS



Map Key: PWS-482

Name: Jean Marie Sample

Date: April 9/1992

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ MN-06 SUBDIVISION A (1 OF 1) DATE 4/23/90

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)
6V Recreation: Anchorages (6/1 to 9/15)
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 H. Hume DATE: 5/3/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 893 m: No Oil 1766 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: Recommend manual pickup of debris. Work should be conducted after 6/1 and with USFWS approval based on eagle nest constraints.

TAG COMMENTS:

TAG APPROVAL DATE: 5/3/90
ADEC Art Wagoner
EXXON Andy Bae
NOAA Gary Petros
USCG Kenneth Keane

FOSC: ML

DATE: 5-8-90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

ST / MN 006 SUBDIVISION: _____ DATE 4/23/90

SCG
NAME James C. Gambill SIGNATURE James C. Gambill

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS Natural cleansing.

Note: There's some surge boom and other such oiled debris that need to be picked up from UITS. Also the eastern end of MN006 needs to be sectioned because there was some oiling evidence starting to show up. This area is a low exposure beach. The beach name is Henning Bay.

DEC
NAME Brian K. FitzSimons SIGNATURE Brian K. FitzSimons

☒ TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

COMMENTS I concur with OG Map and Comments.

NOTE: Pick up oiled snare boom from UITS.

NOTE: Eastern end of MN006 showed increasing evidence of oiling as it moves from high/moderate exposure to low exposure inside Henning Bay. I recommend a thorough SCAT of Henning Bay - possibly areas of oiling requiring treatment exist in unobserved more sheltered areas.

No treatment: High exposure, minimal oil - natural cleansing OK

AND MANAGER
NAME Kim Crenshaw (NIE) SIGNATURE Kim Crenshaw

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS

6 splashes of cover mixed with pebbles & gravels near pit #1 - each averaged 1 sq ft in UI. Hi exposure. No treatment recommended.

Sheen from surface CT caused by digging pit #2 & reaching water in pit. No treatment.

Oiled debris & snare boom near pit #3. Pick up manually. Interior of Henning Bay between segments 3 & 6.

SHORELINE OILING SUMMARY

REVISION NO. 02/12/88

OG B. Berglund USCG J. Gambill SEGMENT ST/ MN-6
 BIO S. Schaefer LAND REP R. Greshaw (DNR) SUBDIVISION A (1 OF 1)
N. C. Levine ADEC T. Fritz Simons TIME 16:00 to 19:00
 NO. 1 TIDE LEVEL +5.7 to 0.5 DATE 4/23/90
 EST. SUBDIVISION LENGTH: 2790 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 52 % C 6 % P 2 % G — % S — % M — % V — %
 SLOPE: Long 100 % Hang — % Vert — % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High
 OIL CATEGORY LENGTH: W — m M — m N — m VL 960 m NO 1830 m

SURFACE OIL

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

PAVEMENT H F S No sq. m by — cmPATTIES / TARBALLS No 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 Oiled veg.#BAGS 1

Photographs:

Roll No. ST-1-5Frames None

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR				PIT ZONE				AN A	S	T	SURFACE SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	1	2	3	4	SU	M	E	U				
1	30					/	.	/						/							B/G/S
2	35					/	.	/						X							C/G
3	20					/	.	/						/							C/G
4	10					/	.	/		/				/				4	5		C/G
							.														
							.														

COMMENTS

The segment consists of a low gradient beach with exposed bedrock and/or boulders. Oiling is non-existent to light (Coat/splashy). The eastern half is the most consistently oiled sector. A splashy coat is present at the base of the storm berm. Near the eastern end of the segment a splashy coat is also present in back (shoreward) of the storm berm.

REVIEWED SH DATE 4-25-90

DATE 4 / 23 90

CHECKLIST

- ___ H Answer
- ___ Approx. Scale
- ___ Sig/Fab Study
- ___ OS Dist.
- ___ Width
- ___ Length
- ___ % Cover
- ___ Substrate Character
- ___ Est. INFLUENCE
- ___ S-SI
- ___ Profile Location(s)
- ___ Profile(s)
- ___ PFI Location(s)
- ___ Photo Location(s)

LEGEND

1 Δ (but not segment)
FR - No Submarine Oil

2 Δ
← See complete map.

2A
Pg - Subsurface Oil

CT/C
Confidential

CI/B
System Distribution

CT/P
Family Distribution

[CT/3]
Special Distribution

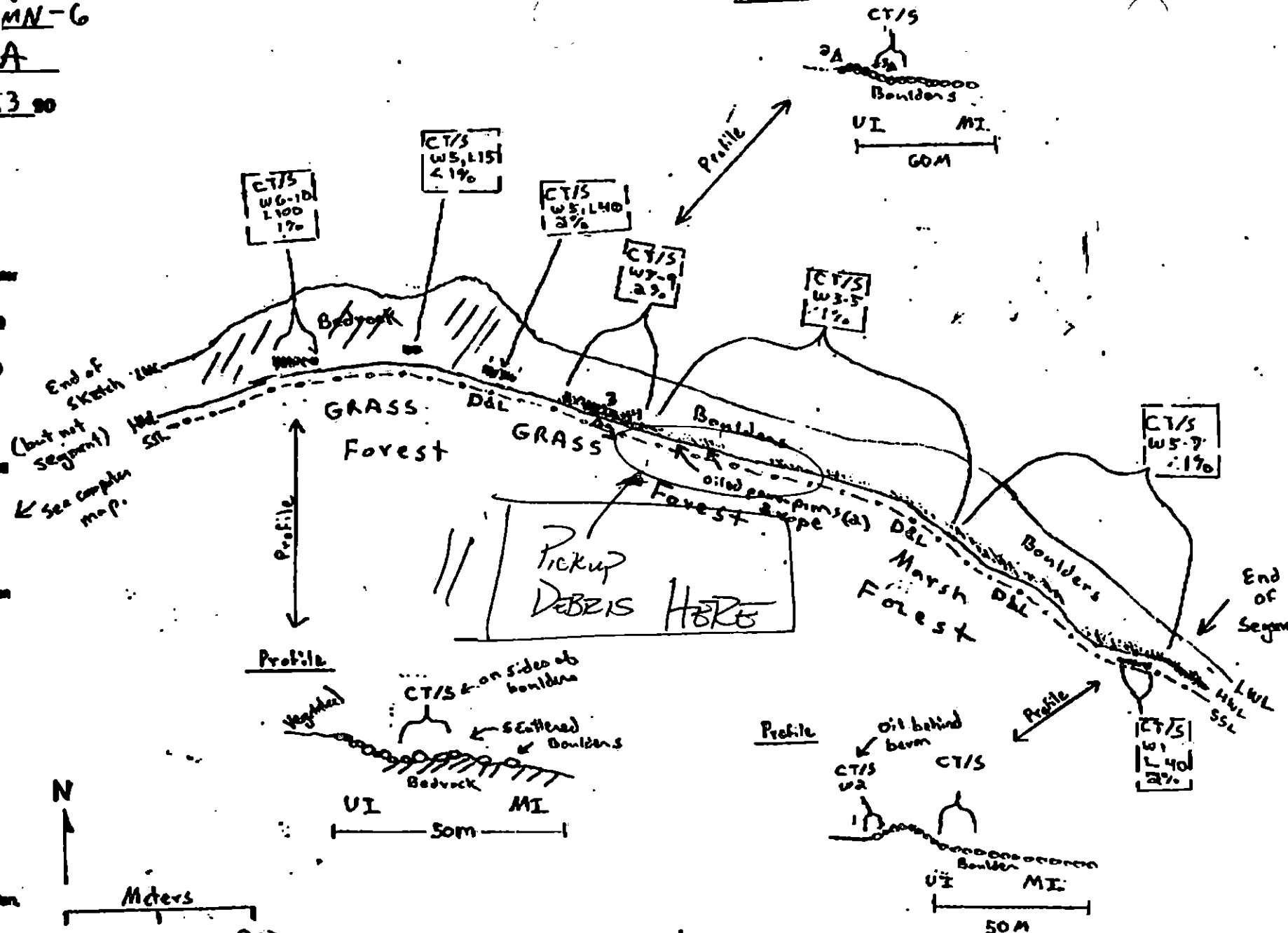
Old Vegetables

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

N

A horizontal number line is shown with the word "Meters" written above it. There are three tick marks labeled "0", "100", and "200" below the line.

SKETCH MAP Pr. 12a



Of Character Length (m): AP _____ PO _____ CV _____ CT 960 ST _____ MS _____ PT _____ TD _____ FL _____ NO 1830

Abstract

SHORELINE ECOLOGICAL SUMMARY

REVISION: 12/12/90

Segment ST / MN-06 Subdivision A Date (mo / day / yr) 4-23-90
 (24 hr) Start 16:10 END 19:00 Biologist S. Schroeter Tide: Start 5.7
END 8.5
Low: 8.5

- (A) Substrate type and % of segments:
 (1) Bedrock 40 (2) Boulder 52 (3) Cobble 6 (4) Pebble 2 (5) Sand — (6) Silt —
- (B) Overall % cover of biota (% of segment): Dense 34 Moderate 22 Low 44
- (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 N/A

BARNACLES

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

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

GASTROPODS

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

FUCUS

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

Wildlife Observations/ General Comments: ST-1 (No bird signs observed); 6 V; 2 sea otters

Ecological Considerations: ① High energy beach with much fresh water; mussels, barnacles, Fucus & especially gastropods (mainly L. suttana & N. personia, N. scutum).
 ② Thick Nereis beds offshore entire segment; ③ High densities of Alaria marginata & Laminaria setchellii in L & M just tidally; ④ very high densities of P. ochracea & Pycnopodia under boulders in low MITZ & LITZ
 ⑤ high abundance of encrusting sulfur sponge in MITZ & LITZ

Segment: MN-06	Subdivision: A	Date: April 23, 1990
	Time	Tide
Start	1610	5.7
End	1900	0.5
Low	1800	0.5

Biologist: S. Schroeter
Segment Length: 2790 meters

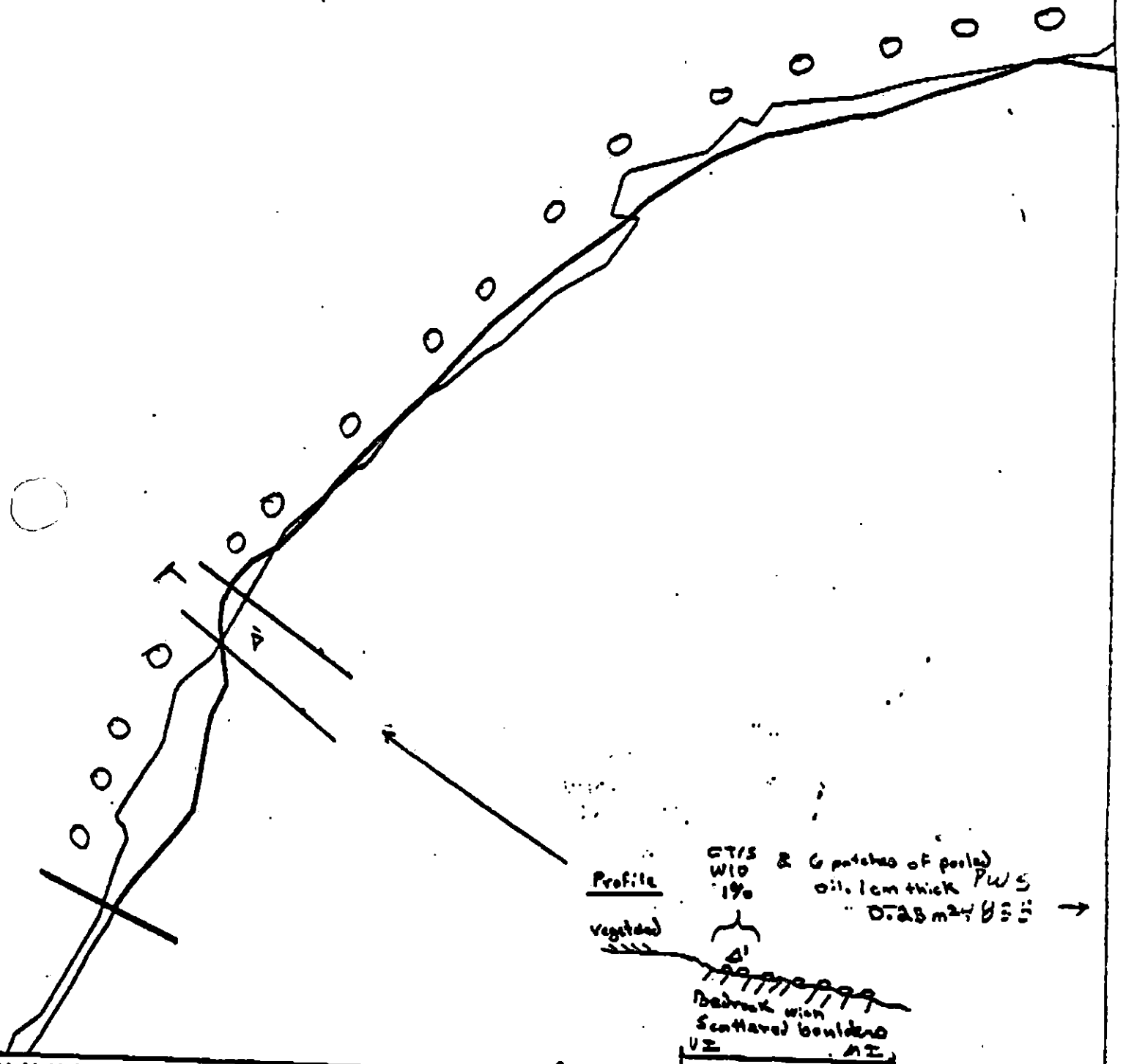
The segment consisted of 2 kinds of shorelines; those that were predominantly bedrock and boulders (89%), and those that were composed of boulders, cobbles and gravel (11%). Shorelines on the segment are exposed to high wave energy, and have many large logs lining the storm berm. Despite the potential for battering from rocks and logs during storms, large portions of the beaches with bedrock have high densities of barnacles, *Eucus*, and mussels. Evidently, the bedrock provides protection to these plants and animals.

Salient ecological observations include: (1) no bald eagles observed, despite previous observations of a nesting site; (2) 2 sea otters observed offshore; (3) Dense *Maracystis* beds lie offshore along the entire segment; (4) *Alaria marginata* and *Laminaria setchellii* are dense in the LITZ and extend into the subtidal; (5) Mussels, barnacles, and *Eucus* are abundant along most of the segment, but especially so in areas where fresh water runs across the intertidal, as it does for about 15 - 20% of the segment; (6) Gastropods (littorines, *N. personata*, and *N. acutum*) are very abundant throughout the entire segment. Many pools with very dense aggregations of littorines and small (probably recently recruited) limpets are found in the MITZ and lower UITZ. (7) Two species of sea stars, *Pisaster ochraceus* and *Pycnopodia helianthoides*, are remarkably abundant in the lower MITZ and LITZ under boulders. (8)

Despite diligent searching, no brooding sea stars (*Leptasterias hexactis*) were observed along the segment.

(001064 1/12 11.11)

ST-1
6V 1/11



Profile
vegetated
DTS W/O 1%
2 patches of pooled oil, 1cm thick PWS
D.25m2 1/12
Bedrock with scattered boulders
50m

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

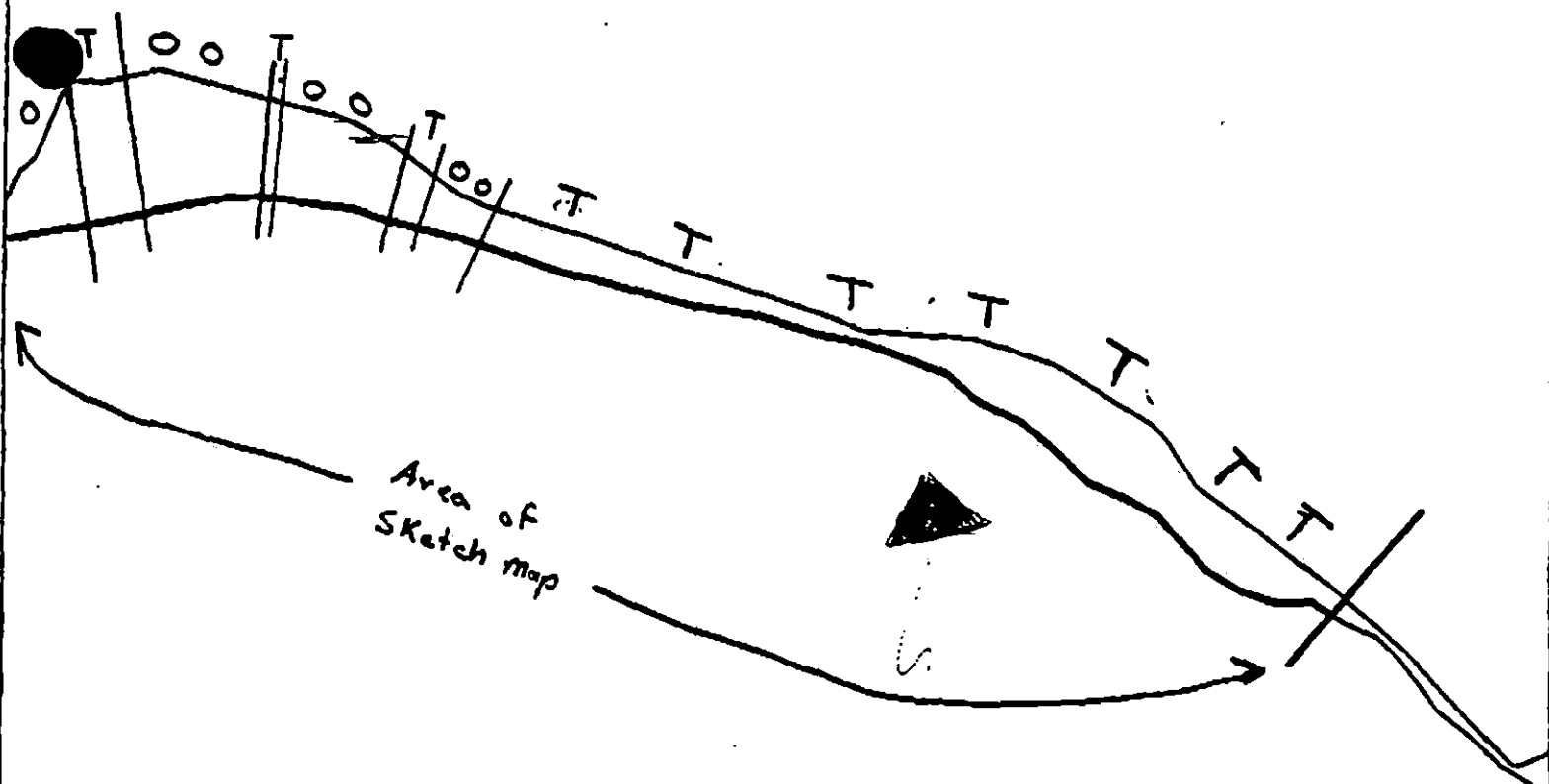
MN-6(1 of 2)

ADEC Segment Length: 2059m

0 100 200 300
METERS

Map Key: PWS-4830
Name: B. Berylund
Date: 4/23/90
Date Entered:

10000/10000



BALD EAGLE NEST

← PWS
483A

XXXX Wide

/// Medium

---- Narrow

TTTT Very Light

0000 No Oil

MN-6 (2 of 2)

ADEC Segment Length: 2659m



Map Key: PWS-483b

Name: B. Berglund

Date: 4/23/90

Date Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT MN-6 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

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

No constraint to tarmat removal.

OTHER ECOLOGICAL CONSIDERATIONS

Avoid any unnecessary disturbance or damage to uncolled biota and substrate. Restrict boat and air traffic and beach disturbance to essential minimum after 8/15.

FOSC

Date

6-10-90

Prepared by

Date

6/10/90

MN-6

WORK
AREA

A



Exxon Company, USA
Map Key: PMS-MN-6
Date: 10/01



ECOLOGY MAP
SEGMENT MN-6
SUBDIVISION --- (--- of ---)
METERS

0 613 1225

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

1 inch = 2010 feet

SHORELINE EVALUATION

SEGMENT ST/ MN-007 SUBDIVISION A (1 OF 2) DATE 6/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

6Y Recreation: Special use destination
6V Recreation: Anchorage (6/1 to 9/15)
2M Herring spawning (4/15 to 6/30)
7II Deer harvesting (8/15 to 2/28)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid disturbance/damage to unoiled biota and substrate.

SHPO SIGNATURE: Kathleen Chan Olen DATE: 7/2/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 236 m: No Oil 1895 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:

TAG APPROVAL DATE: 7/02/90

ADEC Ray Monahan
EXXON Andy Seal
NOAA Joseph Talbot
USCG G.A. Reiter

FOSC: W L DATE: 7-10-90

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / MN-007 SUBDIVISION: A DATE 21 June 90

USCG
NAME Bm' FAZIO SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

ADEC
NAME Peter Montesano SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

The Torballs were extremely Rare and Small.

LAND MANAGER

NAME None SIGNATURE _____

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

SHORELINE OILING SUMMARY

OG 11/11 USCG F1210 SEGMENT STI 11/11
 BIO 12/11 LAND REP 12/11 SUBDIVISION A
 EXXON 12/11 ADEC MONTESANO TIME 9:20 10/10 00
 TEG NO. X1 TIDE LEVEL +2 DATE 6/21/90
 SUBDIVISION LENGTH: 1800 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 0 % B 10 % C 20 % P 20 % G 5 % S 10 % M 35 % 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 1600 m

SURFACE OIL

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

PAVEMENT H F S 0 sq. m by 0 cm

PATTIES / TARBALLS 1/2 BAGS

NEAR SHORE SHEEN? ☒ NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☐ NO ☒

TYPE —

#BAGS —

Photographs:

Roll No. —

Frames —

SUBSURFACE OIL No pits dug—much of shoreline has rich intertidal vegetation.

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		VO	UC	1	2	3	4	5	SU	U	M	U			

COMMENTS

We found only sporadic tarballs on this sheltered shoreline. No treatment is recommended here.

REVIEWED 7/10 DATE 6/23/91

SHORELINE ECOLOGICAL SUMMARY

REVISION: 08/22/90

Segment ST / MN-7 Subdivision A Date (mo / day / yr) 6/21/90Time (24 hr) 0800-1000 Biologist S. BAN

- (A) Substrate type and % of segments:
 (1) Bedrock 3 (2) Boulder 12 (3) Cobble 20 (4) Pebble 20 (5) Sand 10 (6) Silt 35
- (B) Overall % cover of biota (% of segment): Dense 10 Moderate 80 Low 10
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs:
Roll No. NoneFrames —BARNACLES Also spt - sparse to mod on cobbles - lower ITZ.

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

MYTILUS

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

GASTROPODS - V. small Littorinas on green algal mat in lower ITZ

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

FUCUS

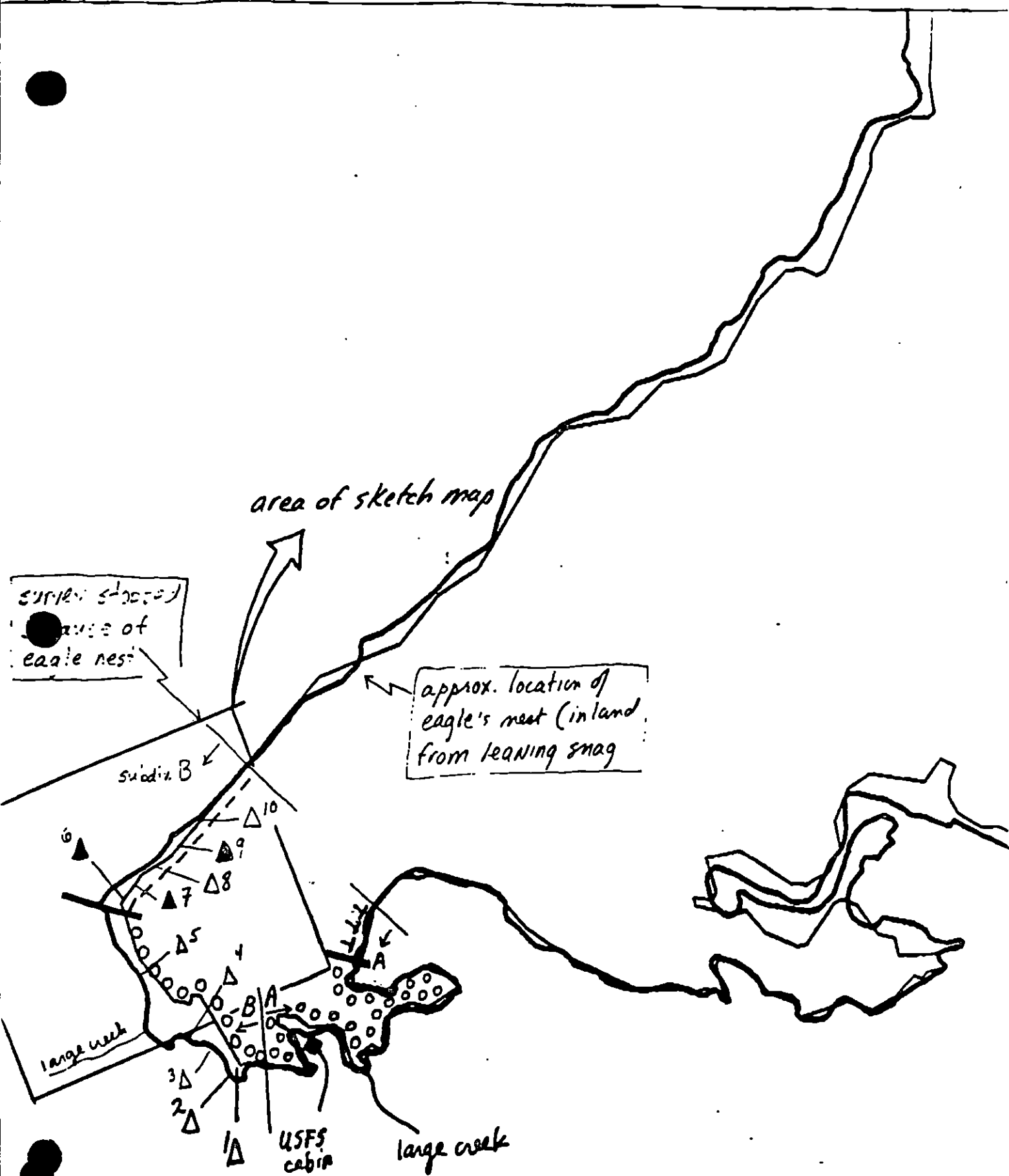
Dense			Moderate			Sparse			Rare			
1U	1M	1L	1U	1M	1L	1U	1M	1L	1U	1M	1L	
2	2	2	2	2	2	2	2	2	2	2	2	NOT PRESENT
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	5	5	5	5	5	5	5	5	
6	6	6	6	6	6	6	6	6	6	6	6	

Wildlife Observations/ General Comments:

Extensive sand/mud areas with dense clams (*Saxidomus*?) as evidenced by siphon holes. - Dense limpets on b
 Autonomous streams - No evidence of oiled organisms

Ecological Considerations:

Avoid clam & mussel beds; Avoid sandy/muddy areas

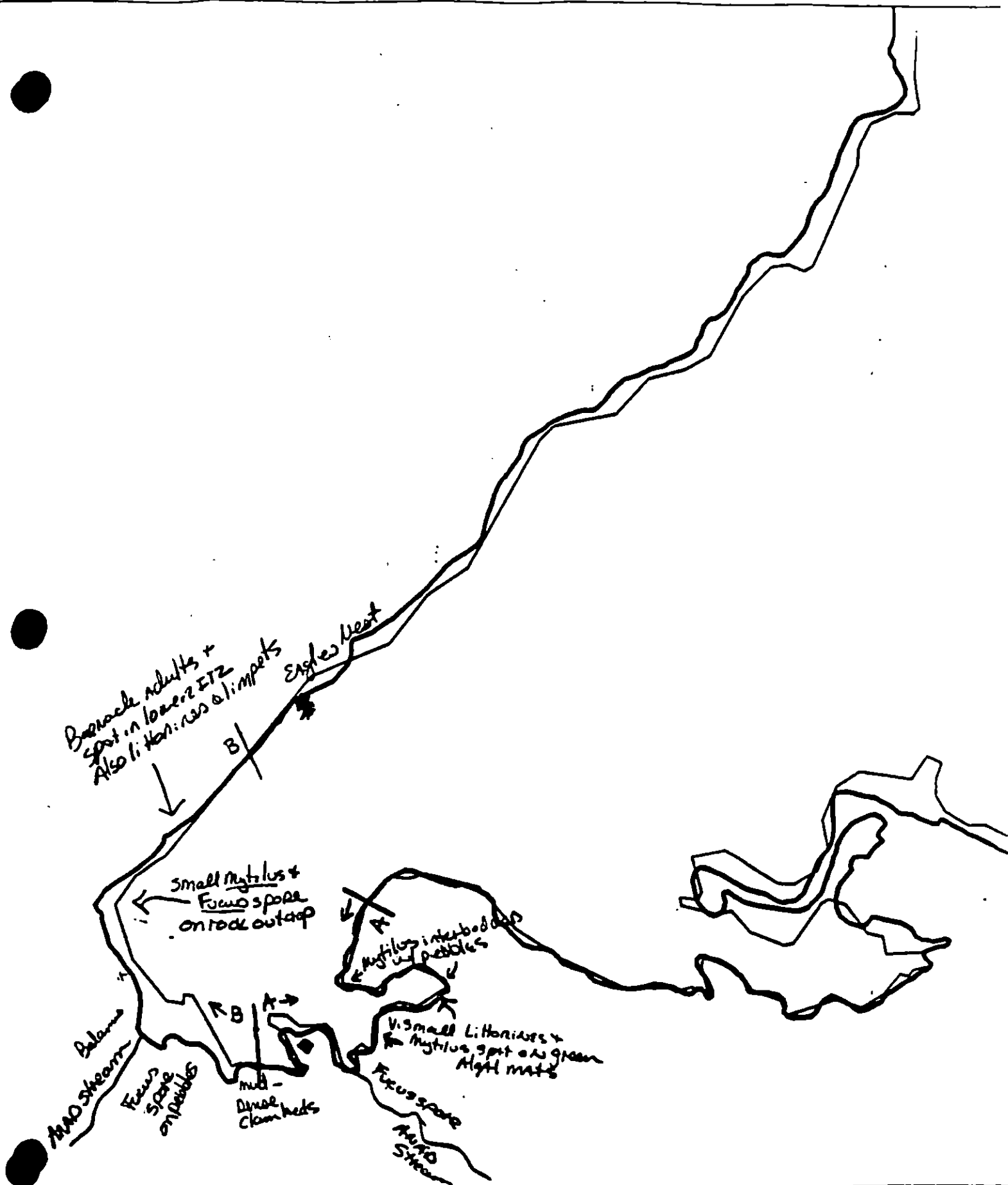


XXXX Wide
 /// Medium
 --- Narrow

MN-7 incorrect?
 ADEC Segment Length: 1604m

Map Key: PWS-MN-7a

Name: Mann



SHORELINE EVALUATION

SEGMENT ST/ MN-007 SUBDIVISION B (2 OF 2) DATE 6/21/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

- 5T All Bald Eagle nests (3/1 to 6/1)
- Active Bald Eagle nests (3/1 to 9/1)
- 6Y Recreation: Special use destination
- 6V Recreation: Anchorage (6/1 to 9/15)
- 2M Herring spawning (4/15 to 6/30)
- 7II Deer harvesting (8/15 to 2/28)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid disturbance/damage to unoiled biota and substrate.

SHPO SIGNATURE: Lucille Ann Darn DATE: 7/2/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 751 m: V.Light 0 m: No Oil 1073 m
Subsurface Oil Observed: Yes X No Maximum Depth 10cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes: 1) manual removal of tarmat.
Work with USFWS monitor concerning eagle nest.

TAG COMMENTS: BIOREMEDIATION (CUSTOMBLEN) FOLLOWING MANUAL
PICKUP OF TARMAT

TAG APPROVAL DATE: 7/02/90
ADEC Ram Moore's R.D.
EXXON ANDY TALL FOSC: DATE: 7-10-90
NOAA Joseph C. Tallman Joseph T. Galt
USCG G.A. BEITER G.A. BEITER

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / MN-007 SUBDIVISION: B DATE 21 June 90

USCG
NAME Bm' FAZC SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED
COMMENTS

Concur with OG Sheet

ADEC
NAME Peter Montesano SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS - manually remove AP which dips, in places, below
1 layer of cobbles
- mechanically Till and fertilize barried mousse mat which is
identified on OG Sketch map

LAND MANAGER

NAME _____ SIGNATURE _____

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

SHORELINE OILING SUMMARY

CG 17.200 USCG F7210 SEGMENT STI 1111
 BIO B2N LAND REP A SUBDIVISION 1000
 EXXON ADEC Motiesaro TIME 10 00 11 20
 TEAM NO. X1 TIDE LEVEL +5 DATE 21 Jan 1990
 SUBDIVISION LENGTH: 1700 m ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: S 10 N
 SURFACE SEDIMENTS: R 0 % B 60 % C 30 % 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 250 m VL 0 m NO 1450 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	C	E	P	S	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) 140 sq. m by 5 cmPATTIES / TARBALLS 0 BAGSNEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MO	LG
Logs			
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☐ NO ☒TYPE #BAGS

Photographs:

Roll No. Frames

SUBSURFACE OIL * oiled interval < 5 cm does not constitute subsurface oiling.

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR								PIT ZONE				A	N	A	SHEEN (Y/N)	↓	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	1	2	3	4	5	6	7	8	SU	U	M	U						
1	25					✓	.											✓				N	N	N	N		CPG
2	30					✓	.											✓				N	N	N	N		CPG
3	30					✓	.											✓				N	N	N	N		CPG
4	40					✓	.											✓				N	N	N	N		CP
5	50					✓	.											✓				N	N	N	N		PCGS
6	25	✓		asphalt			0-10	✓										✓				N	N	N	N		Cover GP

COMMENTS Cobble and small boulder beaches cover much of this subdivision. The upper shoreline is quite mobile—several minor storm berms are present and the asphalt patches are partially buried in places. This asphalt is formed in C/S's under an armor of C/B. Eagle constraints prevented us from going further north along this shoreline. ST/S occurs upslope of the asphalt as spots on stones. Manual removal followed by tilling and spot bioremediation is suggested.

REVIEWED DATE 6/23/90

SHORELINE OILING SUMMARY (PAGE 2)

REVISION 04/13/90

SEGMENT ST/ MAN 7 SUBDIVISION B (2 OF 2)

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	2nd BX	1st BX	1st BX	1st BX	1st BX	1st BX	1st BX	SU	U	M	U				
* 7	25	✓					0-6		✓					✓			✓				N	N	N	PCOIL GS
8	30					✓	.										✓				N	N	N	" " "
* 9	30	✓					0-6		✓					✓			✓				N	N	N	" " "
10	45					✓	.										✓				N	N	N	PCOIL GS
							.																	
							.																	
							.																	
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							.																	
							.																	

COMMENTS

✓A)

10/23/90

KG MANN
 SEGMENT STI MN-7
 SUBDIVISION B
 DATE 21 June 90

SKETCH MAP # 1 of 1

CHECKLIST

- ☐ N Arrow
- ☐ Approx. Scale
- ☐ Seg/Sub Boundary
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HMLA/VL
- ☐ SSI
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pit Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ
 Pt - No Subsurface Oil

2 Δ
 Pt - Subsurface Oil

CT/C
 Continuous Distribution

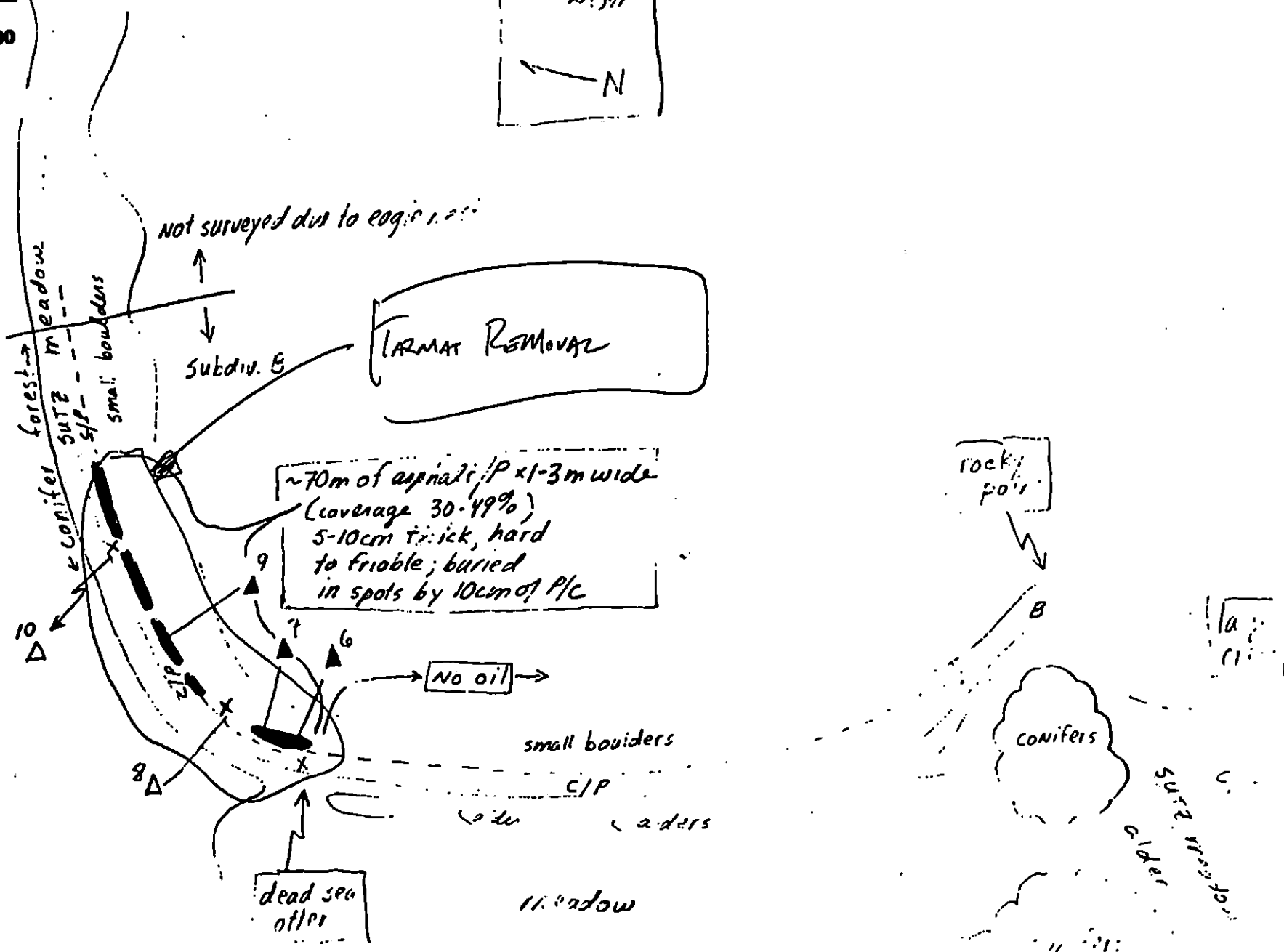
CT/B
 Broken Distribution

CT/P
 Patchy Distribution

CT/S
 Splashed Distribution

~~~~~  
 Other Vegetation

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



# SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/22/88

Segment ST/MN-7 Subdivision B Date (mo / day / yr) 6/21/90

Time (24 hr) 0000-1100 Biologist S. B. W.

(A) Substrate type and % of segments:  
(1) Bedrock 2% (2) Boulder 3% (3) Cobble 50% (4) Pebble 30% (5) Sand 4% (6) Silt 1%

(B) Overall % cover of biota (% of segment): Dense 10% Moderate 75% 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. 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:

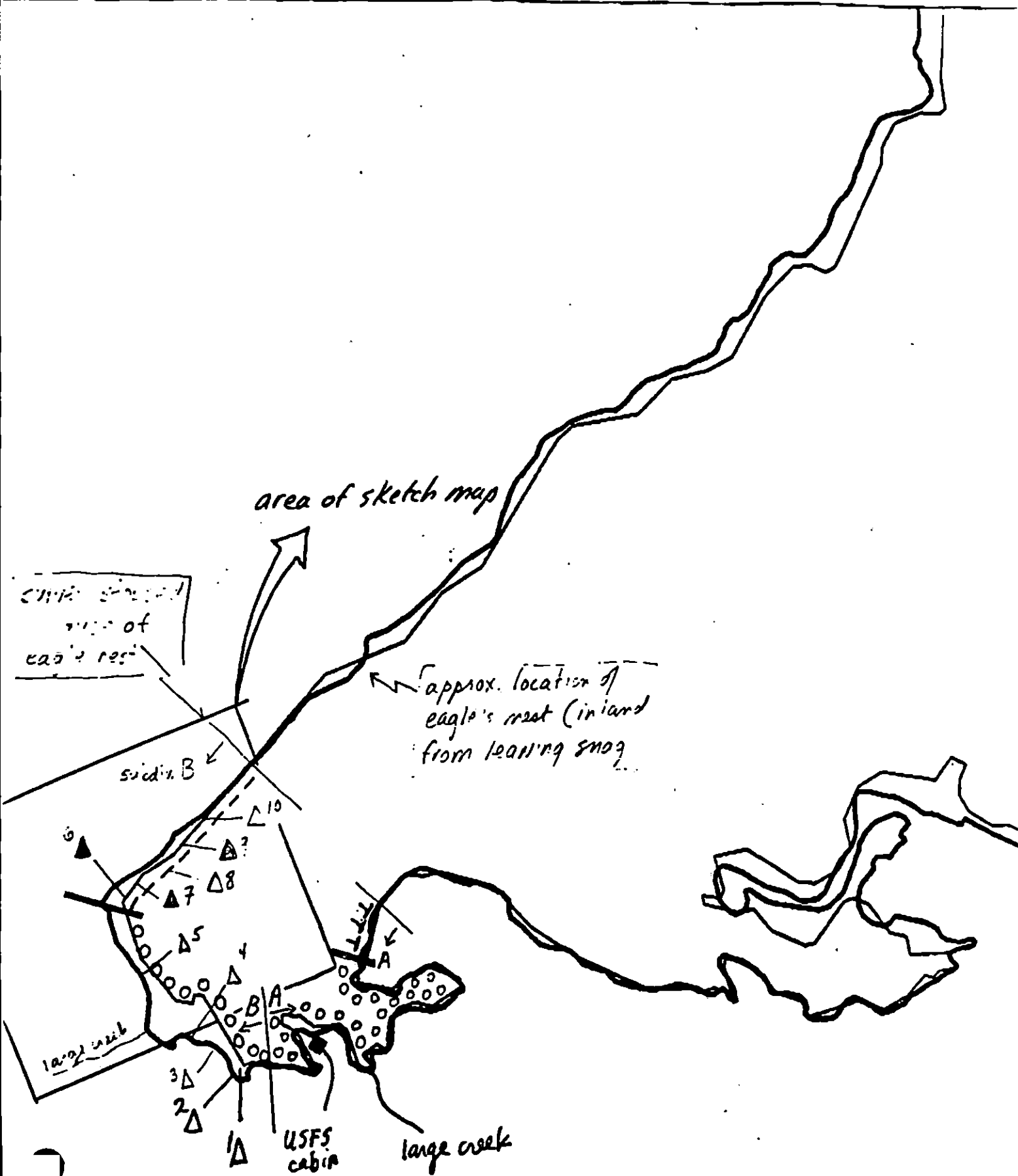
Healthy lower ITZ in oiled region - no oiled organisms observed  
Skeleton in drift line on cobble beach - possibly otter.

Limpets dense throughout segment

## Biological Considerations:

Do not disturb healthy lower ITZ if cleanup is recommended.

Avoid eagles' nest as mappers



\\\ Wide  
 /// Medium  
 --- Narrow

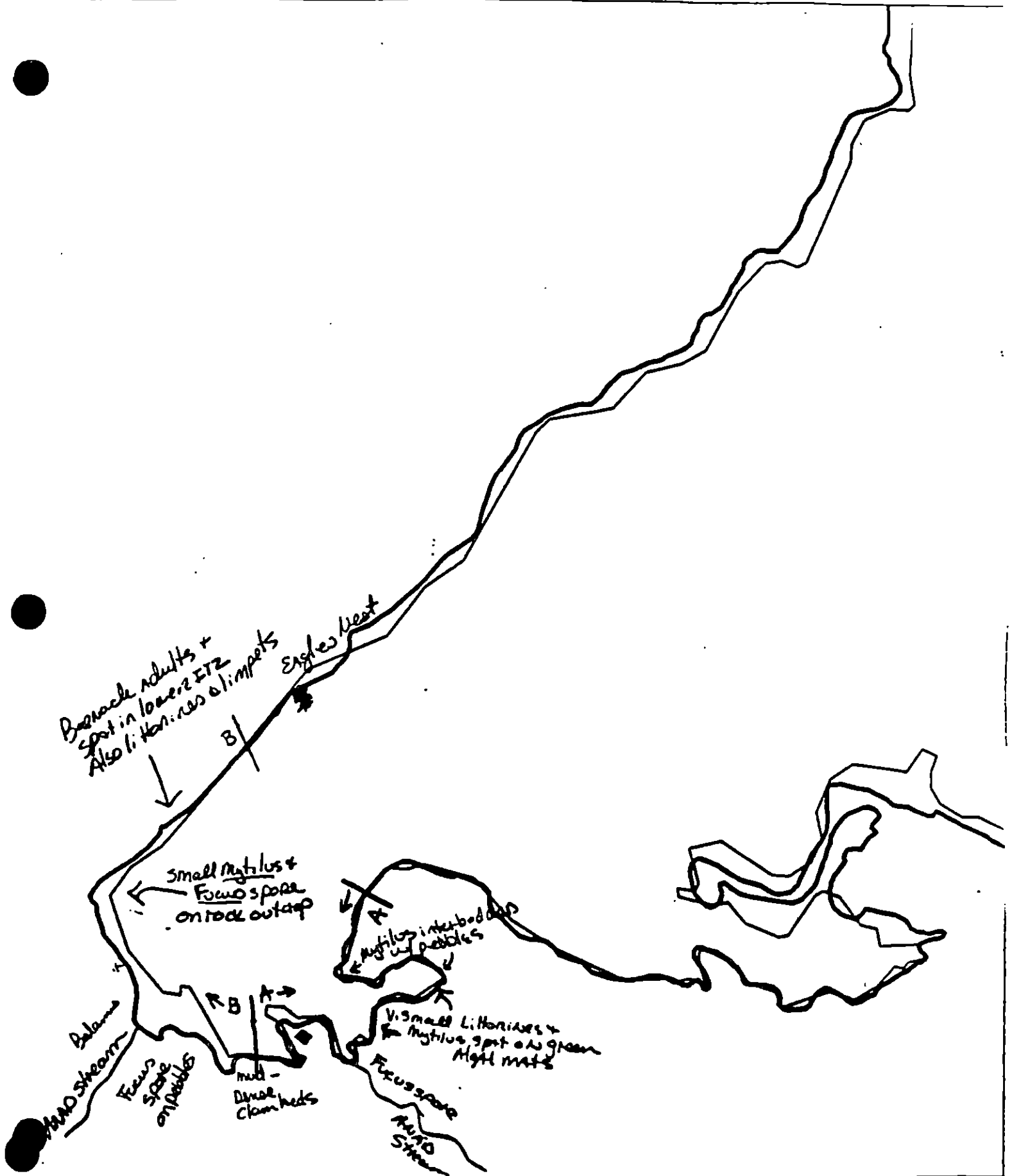
MN-7

ADEC Segment Length: 1004m

Map Key: PWS-MN-7a

Name: Mann

71.7.2000



XXXX Wide  
 //// Medium  
 --- Narrow

MN-7

ADEC Segment Length: 1604m

Map Key: PWS-MN-7a  
 Name: BAN

## ADDENDUM: SUBDIVISION CONSTRAINTS

### SEGMENT MN-7 SUBDIVISION B ( 2 of 2 )

| WORK WINDOW                                                                    |                    |
|--------------------------------------------------------------------------------|--------------------|
| Tarmat Removal Less Than 400m From Active Nest                                 | CLOSED             |
| Tarmat Removal Less Than 100m From Stream                                      | WORK PRIOR TO 8/15 |
| Tarmat Removal More Than 100m From Stream and More Than 400m From Active Nest  | WORK PRIOR TO 8/15 |
| Bioremediation* Less Than 100m From Stream and Less Than 400m From Active Nest | CLOSED             |
| Bioremediation* More Than 100m From Stream and More Than 400m From Active Nest | WORK PRIOR TO 8/15 |

\*Use Customblen Only - Do Not Use Inipol

#### ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

#### APPLICABLE ECOLOGICAL TIME CONSTRAINTS

|      |                              |                                                                                                                                                                                                                                                                                                                                                                                                        |
|------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1A,B | Salmon Stream                | ADF&G catalogued anadromous streams (227-20-17582 and 227-20-17584) are 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 tarmat removal. |
| 5T   | Bald Eagle Nest              | USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to tarmat removal and bioremediation within 400m of active nest. No constraint to tarmat removal and bioremediation more than 400m from active nest.                                                                                                                                                                                |
| 7II  | Subsistence: Deer Harvesting | Closed to bioremediation after 8/15. No constraint to tarmat removal.                                                                                                                                                                                                                                                                                                                                  |

#### 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. No disturbance to stream bed or banks. Avoid any unnecessary disturbance or damage to unrolled biota and substrate.

FOSC

Date

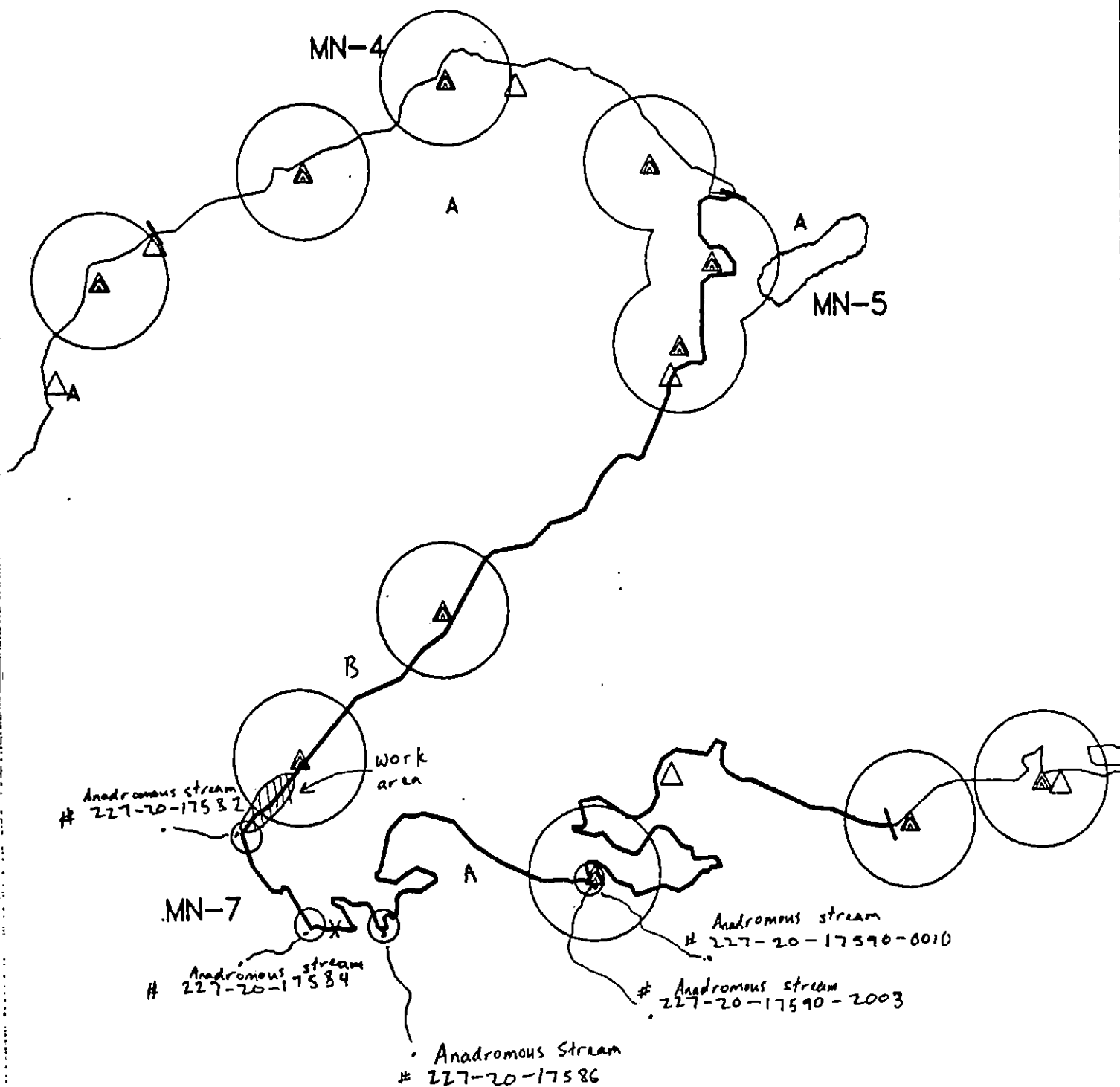
7-12-90

Prepared by

Date

7/12/90





Exxon Coastline  
Exxon Company, USA  
Map Key: PMS-MN-7  
July 11, 1990



ECOLOGY MAP  
SEGMENT MN-7  
SUBDIVISION B (2 of 2)  
METERS  
0 877 1755

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

1 inch = 2079 feet

# SHORELINE EVALUATION

SEGMENT ST/ MN-500 SUBDIVISION A (1 OF 2) DATE 4/21/90

## SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

ADF&G anadromous stream no. 227-20-17610 (Ps, 2/90) and an uncatalogued salmon stream (not on ADF&G database).

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
- 1B Salmon stream mouth - spawning (7/10 to 8/31)
- 2M Herring spawning (4/1 to 6/15)
- 3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)
- 3O,3Q Harbor seal and sea lion molting (8/15 to 9/15)
- 5T-6 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
- 6Y Recreation: Special use destination
- 6V Recreation: Anchorages (6/1 to 9/15)
- 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. 3 eagle nests in subdivision.

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

## OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 567 m: V.Light 1314 m: No Oil 3512 m  
Subsurface Oil Observed: Yes      No X Maximum Depth     

## RECOMMENDATIONS:

- |                                                              |                                                          |
|--------------------------------------------------------------|----------------------------------------------------------|
| <input checked="" type="checkbox"/> No Treatment Recommended | <input type="checkbox"/> Snare/Absorbent Booms           |
| <input type="checkbox"/> Treatment Recommended               | <input type="checkbox"/> Oil Snares (pom poms)           |
| <input type="checkbox"/> Manual Pickup                       | <input type="checkbox"/> Absorbents (pads, rolls, etc)   |
| <input type="checkbox"/> Bioremediation                      | <input type="checkbox"/> Spot Washing: <u>    </u> Wands |
| <input type="checkbox"/> Tarmat Removal                      | <input type="checkbox"/> Beach Cleaner                   |
|                                                              | <input type="checkbox"/> Other (see comments)            |

COMMENTS:     

TAG COMMENTS:     

TAG APPROVAL DATE: 5/3/90  
ADEC ART WENGER  
EXXON ANDY TEAL  
NOAA Greg Petroc  
USCG KENNETH KEANE

FOSC:      DATE: 5-8-90

# PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- ✓ 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)  
 ✓ 1B Salmon stream mouth - spawning (7/10 to 8/31)  
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.  
 AGENCY CONTACT PERSON: ADF&G John Morison 267-2324
- 1C Salmon fry nursery area (4/31 to 7/31)  
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.  
 AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1D Esther Hatchery release (4/15 to 6/1)  
 1E Main Bay Hatchery release (4/20 to 6/10)  
 1F Sawmill Bay Hatchery release (4/15 to 6/1)  
 1G Cannery Creek Hatchery release (4/21 to 6/1)  
 1H Remote release site  
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.  
 AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214  
 1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511
- 1I Gill net area (6/7 to 8/31)  
 1J Purse seine area (7/20 to 9/30)  
 1K Purse seine hook-off (7/20 to 9/30)  
 1L Set net sites (6/11 to 7/25)  
 Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.  
 AGENCY CONTACT PERSON: ADF&G James Brady 424-3212
- 2M Herring spawning (4/1 to 6/15)  
 Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to unholed intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.  
 AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
- 3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)  
 3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)  
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.  
 AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235  
 ADF&G Don Calkins 267-2403
- 5R Seabird colony (5/1 to 9/1)  
 Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.  
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)  
 Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.  
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377  
 ADF&G Tom Roth 267-2206
- ✓ 5T All Bald Eagle nests (3/1 to 6/1)  
 Active Bald Eagle nests (3/1 to 9/1)  
 Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.  
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- ✓ 6U Recreation: Tent sites (6/1 to 9/15)  
 ✓ 6V Anchorages (6/1 to 9/15)  
 6W Forest Service cabins (6/1 to 9/15)  
 ✓ 6X Lodge (6/1 to 9/15)  
 ✓ 6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)  
 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 267-2358

# FIELD SHORELINE COMMENT SHEET

SEGMENT ST / MN-500 SUBDIVISION: A DATE April 21, 1990

USCG

NAME Ames C Gambrell SIGNATURE Ames C Gambrell

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

## COMMENTS

I concur with OG's comments but the small amount of CTIP on the intertidal bar. Except IT needs to be closely monitor because if IT becomes mobile IT can affect continuation another. Large no. of eels and fish 2-10 in. This area only way into IT. U by foot. ~~IT is~~  
The side 1-2 m wide with a 30-35% cover

ADEC

NAME Brian K. FitzSimons SIGNATURE Brian K. FitzSimons

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS I concur with OG's comments and sketch map. The area of P/CT located on both sides of the mouth of intertidal basin may threaten migratory waterfowl, (large population of geese) within the basin. Do not recommend Bio - low energy intertidal areas.

No hand removal: - would expose stable ~~estuary~~ estuary banks to erosion

Possibly string snare line terraco fashion along length of impacted area to catch mobilized oil & prevent migration of oil into basin.

LAND MANAGER

NAME Edm. Crumshaw (DNR) SIGNATURE Edm. Crumshaw

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED

## COMMENTS

Sketch map accurately portrays oiling conditions. Except for 2 or 3 ~~small~~ terns over entire subdivision (sample brought back from stop pit #1) which were broken up on scene, the ~~loamy~~ tercoat in MI to UI area on sides & lower parts of boulders is not readily treatable. Sheen will occur @ north wk.

Numerous eagles, seagulls, seals & herring observed. Extensive sand beaches observed underwater at LI area.

## SHORELINE OILING SUMMARY

REVISION NO. 04-12-88

OG B. Berglund USCG J. Gambill SEGMENT ST/ MN-500  
 BIO S. Schaefer LAND REP R. Crenshaw (CNA) SUBDIVISION A (1 OF 2)  
 EXXON C. Levine ADEC B. Fritzsimons TIME (H:M:S) 06:10:19:30  
 TEAM NO. 1 TIDE LEVEL C-1 DATE 4/21/90  
 ST. SUBDIVISION LENGTH: 5598 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow  
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock  
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: W to E  
 SURFACE SEDIMENTS: R 38 % B 57 % C 4 % P 3 % G 2 % S 1 % M 0 % V 0 %  
 SLOPE: Long 70 % Hang 20 % Vert 10 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High  
 OIL CATEGORY LENGTH: W 2 m M 2 m N 300 m VL 1698 m NO 3600 m

## SURFACE OIL

| CHARACTER        | DISTRIBUTION |   |   |   | OIL / FILM COLOR |   |   |   | IMPACTED ZONES |   |   |   |
|------------------|--------------|---|---|---|------------------|---|---|---|----------------|---|---|---|
|                  | E            | E | P | E | 1                | 2 | 3 | 4 | SW             | U | M | U |
| ASPHALT PAVEMENT |              |   |   |   |                  |   |   |   |                |   |   |   |
| POOLED           |              |   |   |   |                  |   |   |   |                |   |   |   |
| COVER            |              |   |   |   |                  |   |   |   |                |   |   |   |
| COAT             |              |   | 1 | 2 | 12               |   |   |   | 1-2            |   |   |   |
| STAIN            |              |   |   |   |                  |   |   |   |                |   |   |   |
| MOUSSE           |              |   |   |   |                  |   |   |   |                |   |   |   |
| PATTIES          |              |   |   |   |                  |   |   |   |                |   |   |   |
| TARBALLS         |              |   |   | X | X                |   |   |   | X              |   |   |   |
| Oil              |              |   |   |   |                  |   |   |   | X              |   | X | X |

PAVEMENT H F S NO 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 0#BAGS 0

Photographs:

Roll No. ST-1-4Frames 21-28

## SUBSURFACE OIL

| PIT NO. | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER |    |    |    |    | BELOW | OIL / FILM COLOR |    |   |   |   | PIT ZONE |    |   |   | AN A | SHEEN (Y/N) | SURFACE - SUBSURFACE SEDIMENTS |
|---------|----------------|--------------------------|----|----|----|----|-------|------------------|----|---|---|---|----------|----|---|---|------|-------------|--------------------------------|
|         |                | OP                       | OR | OL | OF | NO |       | US               | US | 1 | 2 | 3 | 4        | SW | U | M | U    |             |                                |
| 1       | 20             |                          |    |    |    | X  |       | X                |    |   |   |   |          | X  |   |   |      |             | G                              |
| 2       | 15             |                          |    |    |    | X  |       | X                |    |   |   |   |          | X  |   |   |      |             | B/G/S                          |
| 3       | 25             |                          |    |    |    | X  |       | X                |    |   |   |   |          | X  |   |   |      |             | B/G                            |
| 4       | 30             |                          |    |    |    | X  |       | X                |    |   |   |   |          | X  |   |   |      |             | S                              |
| 5       | 15             |                          |    |    |    | X  |       | X                |    |   |   |   |          | X  |   |   |      |             | B/G/S                          |

(Few pits dug due to exposed or shallow bedrock)

COMMENTS

Most of the segment is composed of exposed bedrock (vertical shale) or shallow bedrock with scattered boulders. Oiling is sporadic and light (splashy coat). The only area of significance is the protected inlet (intertidal basin) at a mid segment. This area has a patchy coat. Due to the low wave exposure natural cleaning/reworking is slow. Warm temperatures and sun were starting to soften the coat on the boulders making it potentially mobile.

REVIEWED W DATE 4/24/90

Subsurface oiling does not appear to be a problem due to the light oiling and shallow or exposed bedrock.

Pa 12/12

SEGMENT 1N-500SUBDIVISION ADATE 4/21/90

## SKETCH MAP

## CHECKLIST

☐ Name  
☐ Approx. Scale  
☐ Seg/Sub Study  
☐ Offsite  
☐ Width  
☐ Length  
☐ % Cover  
☐ Substrate Character  
☐ Est. HWA/LWL  
☐ SBL  
☐ Profile Location(s)  
☐ Profile(s)  
☐ PR Location(s)  
☐ Photo Location(s)

## LEGEND

1 Δ  
 PR - No Subsurface Oil

2 Δ  
 PR - Subsurface Oil

CT/C  
 Continuous Distribution

CT/D  
 Broken Distribution

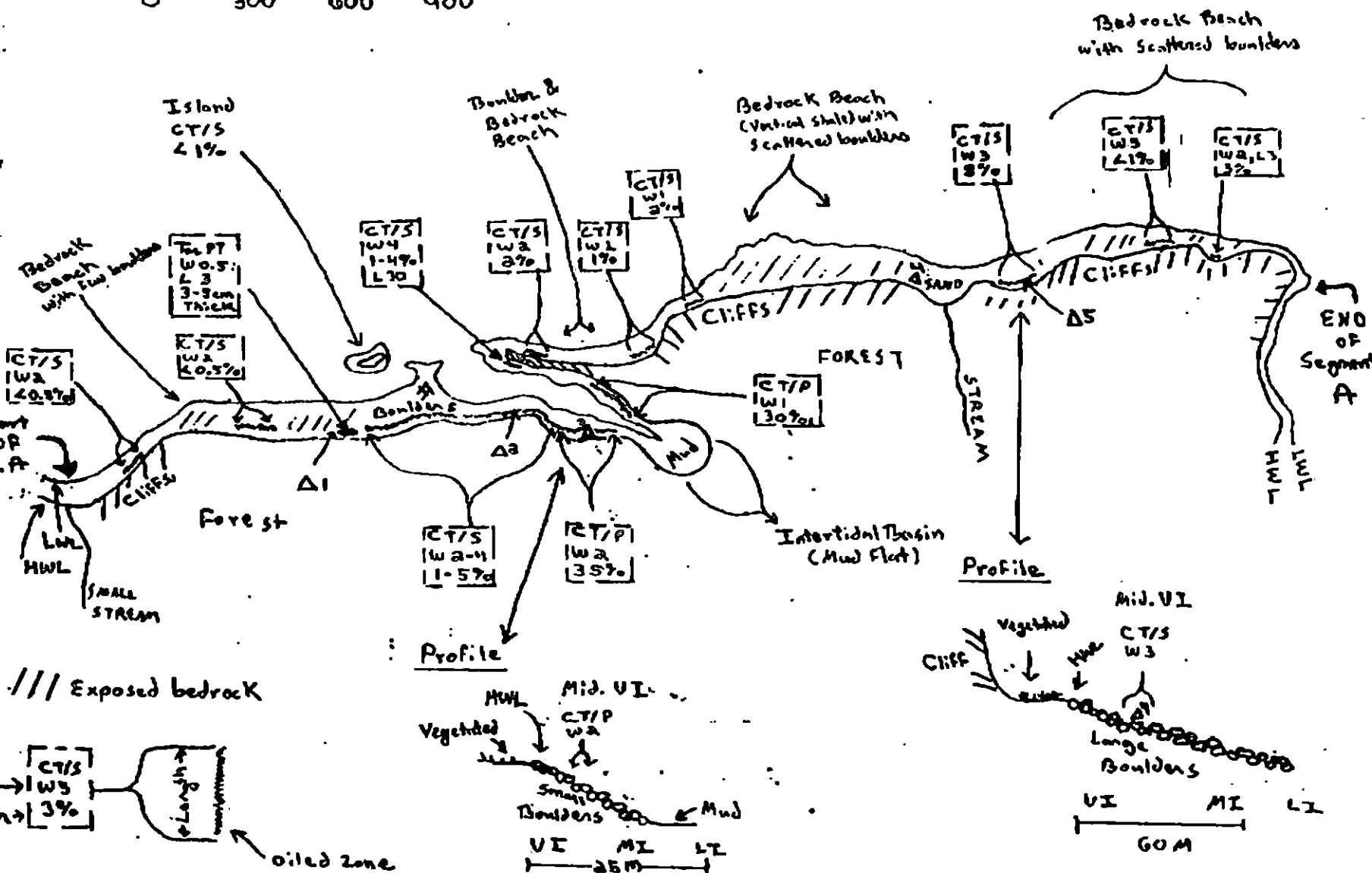
CT/P  
 Patchy Distribution

CT/S  
 Splashed Distribution

Oiled Vegetation  
 Width → CT/S  
 % Cover → WS  
 3%

Photo location, direction,  
 and number

Meters  
 0 300 600 900



Oil Character Length (m): AP PO CV CT LG DST MS PT TB FL NO 3600

REVISION: 000000

092012

# SHORELINE ECOLOGICAL SUMMARY

REVISION: 10/12/90

Segment ST / MN-500 Subdivision A Date (mo / day / yr) 4/21/90  
 ne (24 hr) 1400-1930 Biologist S. Schroeter Tide: > +1.01

- (A) Substrate type and % of segments:  
 (1) Bedrock 38 (2) Boulder 57 (3) Cobble 4 (4) Pebble 5 (5) Sand 1 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense 27 Moderate 22 Low 51
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

Photographs: \_\_\_\_\_  
 Roll No. \_\_\_\_\_

Frames \_\_\_\_\_

## BARNACLES

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

## MYTILUS

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

## GASTROPODS

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

## FUCUS

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

Wildlife Observations/ General Comments: Sensitivity & priorities: 1A, B-2; 5T-6 (25-30 bald eagles seen along segment 6 IV, 7 II; 1 M (herring eggs moderate in MITZ ~ 1 km from west end of segment

Ecological Considerations: ① comparatively high densities of barnacles, gastropods, mussels & Fucus. Considering subdivision as a whole, they tend to be more abundant than in any benches presented thus far on PWS. ② Bird eggs are abundant along the subdivision. ③ Seals & sea lions abundant; ④ Anadromous stream drain through a unique extensive mud flat containing high densities of clams, echinoderms & arthropods. ⑤ P. ochroleucus & P. pennsylvanicus common in low MITZ & LITZ. hystrix on mid-lower tide. ⑥ 1 (2) Eel grass & 2 m 100 m

pg 16 of 28

-4/21/98  
-4/22/98

SHALLOW MUDFLATS (OFFSHORE ROCKS)



# ECOLOGY MAP (1 OF 1)

RESOURCE CODES FOR [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] & FORM OF [REDACTED]

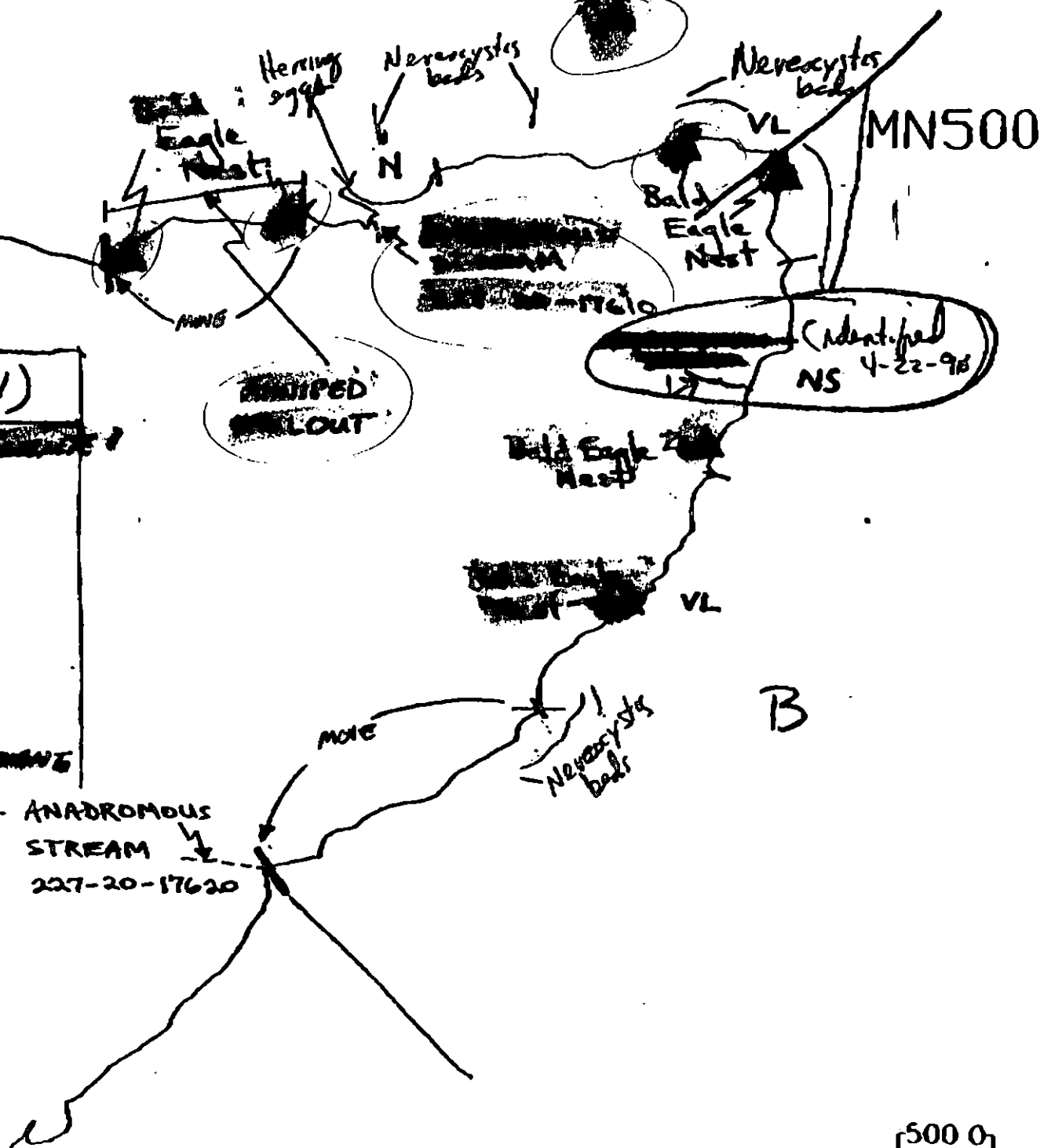
## OUTLINE

- Heavy
- Moderate
- Light
- Very Light
- None
- Not Surveyed

Distance in Meters

ABCE So, 1st 1998 Survey

ANADROMOUS  
STREAM  
227-20-17620



500.0



Segment: MN-500

Subdivision: A

Date: April 21, 1990

|       |      |      |                              |
|-------|------|------|------------------------------|
|       | Time | Tide | Biologist: S. Schroeter      |
| Start | 1400 | 6.1  | Segment Length: 10498 meters |
| End   | 1930 | 3.4  |                              |
| Low   | 1630 | 1.0  |                              |

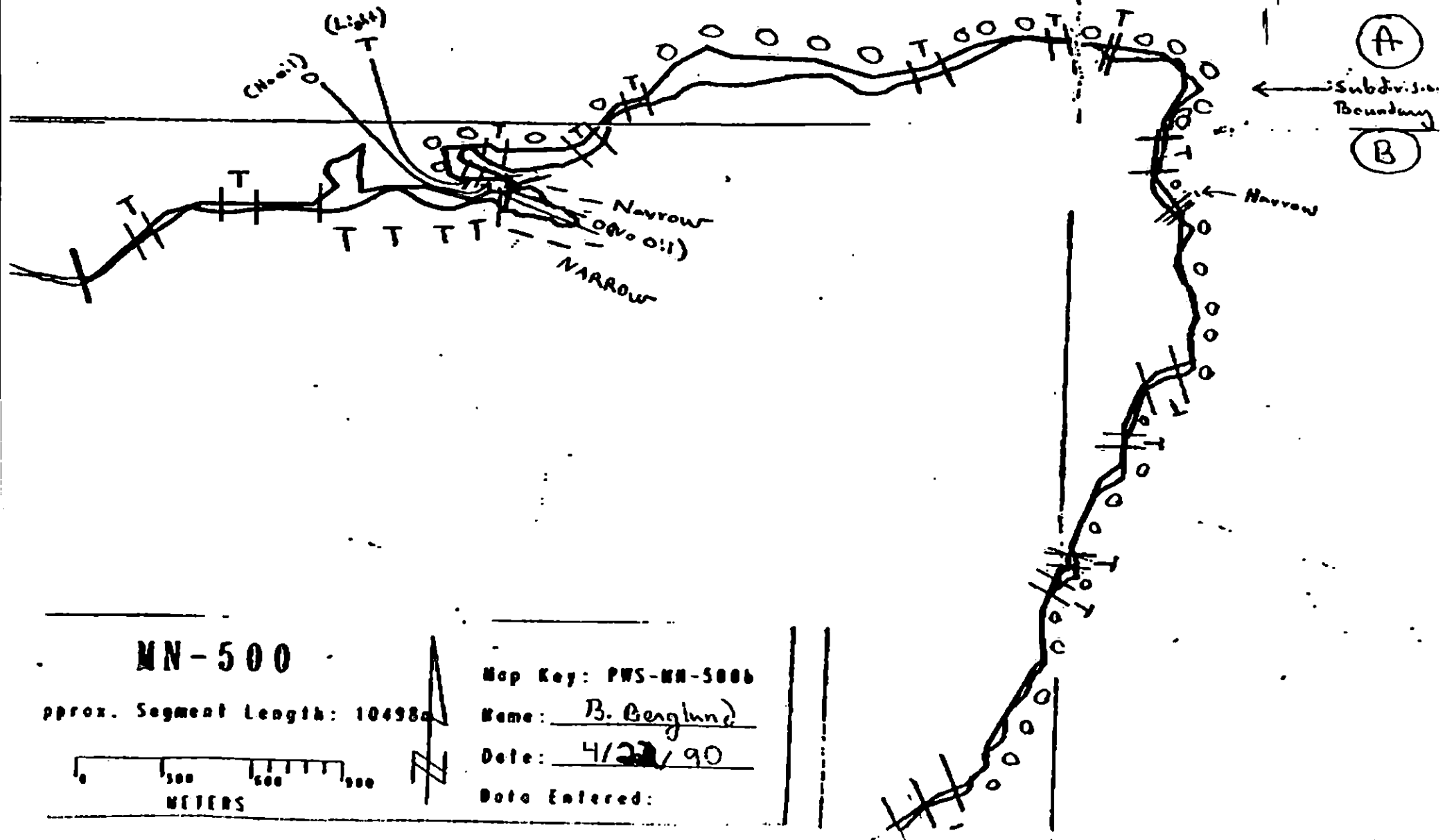
MN-500 was divided into 2 subdivisions. Subdivision A is approximately 5000 meters in length, or half of the segment. It is comprised of 6 distinct types of shoreline: (1) boulder/cobble beaches without any appreciable bedrock (13%); (2) boulder/cobble beaches with bedrock in the UITZ (26%); (3) beaches that are predominantly horizontal bedrock benches with small amounts of boulders and cobbles (40%); (4) predominantly pebble and gravel beaches with small amounts of boulder (8%); (5) an estuarine mudflat with small amounts of boulders and cobbles in the MITZ (9%); and (6) beaches with very large boulders and vertical or near vertical bedrock cliffs (3%).

The salient ecological features include: (1) very high densities of barnacles (primarily *B. glandula*), mussels, and gastropods in the MITZ and low UITZ. For the segment as a whole, these three taxa are denser than on any beach I've yet surveyed. Gastropods in order of abundance were *L. sitkana*, *L. scutulata*, *N. perona*, and *N. scutum*. Littorines were commonly found at densities between 10,000 to 100,000 per m<sup>2</sup> over stretches of beach 100's of meters long. Typically, these high densities were found on *Rhodymala larix* on horizontal slate bedrock benches. (2) *Fucus* occurred in sparse to moderate densities in the MITZ throughout much of the subdivision. (3) MITZ pools had high covers of encrusting coralline algae and eel grass (*P. scouleri*) and the sea anemones, *Anthopleura artemesia* and *Tealia* spp. were common. (4) There was an interesting estuarine area about 1500 meters

from the western end of the segment that had high densities of echiuroids and clams; enteropneust worms were also common here. (5) Herring eggs occurred in moderate densities on algae, eelgrass, and rock on slate platforms in the middle of the subdivision. (6) *Nereocystis* beds were found offshore along the last 2/3 of the subdivision. (7) Bald eagles were common. We observed 25-30 along the subdivision. (8) *Pisaster ochraceus* and *Pycnopodia* were common in the lower MITZ and upper LITZ on bedrock shorelines (types 3 and 6).

3  
899820

MN-500



# SHORELINE EVALUATION

SEGMENT ST/ MN-500 SUBDIVISION B (2 OF 2) DATE 4/22/90

## SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Anadromous stream no. 227-20-17610 (Ps, 2/90) and one not identified on ADF&G data base.

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)
- 1B Salmon stream mouth - spawning (7/10 to 8/31)
- 2M Herring spawning (4/1 to 6/15)
- 3N,3P Harbor seal and sea lion pupping (5/15 to 7/1) within 400M
- 3O,3Q Harbor seal and sea lion molting (8/15 to 9/15) within 400M
- 5T-6 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)
- 6Y Recreation: Special use destination
- 6V Recreation: Anchorages (6/1 to 9/15)
- 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 unoiled biota and substrate. Uncatalogued salmon stream and 3 eagle nests in subdivision.

SHPO SIGNATURE: Charles E. Holmes DATE: June 12, 1990

## OILING CATEGORIZATION:

Wide 0 m: Medium 114 m: Narrow 255 m: V.Light 967 m: No Oil 3981 m  
Subsurface Oil Observed: Yes X No      Maximum Depth 20+ cm

## RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual pickup of oiled vegetation and debris under logs (see pocket beach detail sketch map), 2) manual pickup of mousse and 3) bioremediation of all areas indicated on sketch map. Work should be conducted between 7/1 and 7/10 based on constraints.

TAG COMMENTS: MONITORS TO ASSESS ZAIKOF BAY DURING TREATMENT OF MN500

TAG APPROVAL DATE: 5/3/90  
ADEC ART WENGER  
EXXON ANDY TEE  
NOAA GARY DEBEAR  
USCG KENNETH KEANE

FOSC: [Signature] DATE: 7/3/90

- 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.  
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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)  
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AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214  
1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511
- 1I Gill net area (6/7 to 8/31)  
1J Purse seine area (7/20 to 9/30)  
1K Purse seine hook-off (7/20 to 9/30)  
1L Set net sites (6/11 to 7/25)  
Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.  
AGENCY CONTACT PERSON: ADF&G James Brady 424-3212
- 2M Herring spawning (4/1 to 6/15)  
Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to unopened intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.  
AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
- 3P Harbor seal and sea lion pupping (5/15 to 7/1)  
3Q Harbor seal and sea lion molting (8/15 to 9/15)  
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.  
AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235  
ADF&G Don Calkins 267-2403
- 5R Seabird colony (5/1 to 9/1)  
Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.  
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)  
Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.  
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377  
ADF&G Tom Roth 267-2206
- 5T All Bald Eagle nests (3/1 to 6/1)  
Active Bald Eagle nests (3/1 to 9/1)  
Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and 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 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 Subistence area: Salmon harvesting (5/1 to 9/30)  
7HH Finfish harvesting  
7H 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 / MN 500B SUBDIVISION: 13 DATE 22 April 90

NAME James C. Gentile SIGNATURE James C. Gentile

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

## COMMENTS

Two pocket beaches on the S.E. end of segment have heavy oiling, CT/S 3m U m long, also m/s 5m wide x 10m long, CT/S 3-7m wide, and CT/S 5m wide x 40m long just north of narrow stream which is a salmon stream. These areas are boulders, also oiling in the stream bed. Due to size of boulders, a more intensive type of treatment would be needed. SEE EX/ on sketch map. Also most of subdivision has no oiling or very light oiling that can be treated by natural cleaning (CT/S near HWL)

## DEC

NAME Brian K. FitzSimons SIGNATURE Brian K. FitzSimons

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

COMMENTS I concur with OG sketch map & comments.

Pocket Beach #1 (Pit #1 & 2): Manual removal of oiled fine sediment (small cobbles, G, P, S) due to adjacent Salmon stream.

Pocket Beach #2 (Pit 3-6): Remove oiled vegetation & debris (will require use of chainsaw with carbide chain to cut & move drift & logs to gain access).

Possibly move B/C surface layer & remove mousse/OP ~~sediments~~ sediments. Bio & monitor

Pocket Beach #6 (Pit #11) Bio & monitor

Note: SCAT in detail remainder of bay (both north & south shores) to head of bay - possibly unobserved areas of oiling requiring treatment.

## AND MANAGER

NAME Don Crossman (MIZ) SIGNATURE Don Crossman

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

## COMMENTS

All oil in subdivision MN 500B was in a narrow band along UI & SU

Remove surface oil & OP around pit #1.

Manual removal of oiled debris & veg near pit #3. Till large cobbles to expose subsurface oil.

Manual remove shallow oil around pit #11

Bioremediate surface oil pooled beneath cobbles over shallow bedrock in UI at south end of northernmost end of subdivision.

## SHORELINE OILING SUMMARY

REVISION NO. 06-1388

OG B. Berglund USCG J. Gambill SEGMENT ST/ MN-500  
 BIO S. Schaefer LAND REP R. Greshaw (CNR) SUBDIVISION B (2 OF 2)  
 EXXON C. Levine ADEC B. Fritzsims TIME IS 001021:00  
 TEAM NO. 1 TIDE LEVEL +6 to 5.8 DATE 4/22/90  
 ST. SUBDIVISION LENGTH: 5310 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow  
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock  
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: SE to NW  
 SURFACE SEDIMENTS: R 30 % B 60 % C 10 % P 0 % 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 65 m N 180 m VL 1100 m NO 3965 m

## SURFACE OIL

| CHARACTER        | DISTRIBUTION |   |   |   | OIL / FILM COLOR |     |   |   |   | IMPACTED ZONES |     |   |   |
|------------------|--------------|---|---|---|------------------|-----|---|---|---|----------------|-----|---|---|
|                  | C            | S | P | A | 1                | 2   | 3 | 4 | 5 | SW             | U   | M | U |
| ASPHALT PAVEMENT |              |   |   |   |                  |     |   |   |   |                |     |   |   |
| POOLED           |              |   |   |   |                  |     |   |   |   |                |     |   |   |
| COVER            |              | 1 |   |   | 1                |     |   |   |   |                | 1   |   |   |
| COAT             |              | 1 | 2 | 3 | 4                | 1-4 |   |   |   | 4              | 1-3 |   |   |
| STAIN            |              |   |   |   |                  |     |   |   |   |                |     |   |   |
| MOUSSE           |              | 1 |   |   |                  |     |   |   |   | 1              | 1   |   |   |
| 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 |    |    | DID YOU COLLECT DEBRIS?                                             |
|--------------|--------|----|----|---------------------------------------------------------------------|
|              | SM     | MD | LG |                                                                     |
| Logs         |        |    | X  | YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> |
| Vegetation   |        |    | X  |                                                                     |
| Trash        |        |    |    | TYPE <u>Boom</u>                                                    |
| Debris       |        |    | X  |                                                                     |
|              |        |    |    | #BAGS <u>1</u>                                                      |

Photographs:

Roll No. 57-1-4Frames 29-36

## SUBSURFACE OIL

| PIT NO. | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER |    |    |    |    | OILED INTERVAL | BELOW |    | OIL / FILM COLOR |   |   |   |   | PIT ZONE |   |   |   | AN A | SEEN (Y/N) | V  | SURFACE - SUBSURFACE SEDIMENTS |
|---------|----------------|--------------------------|----|----|----|----|----------------|-------|----|------------------|---|---|---|---|----------|---|---|---|------|------------|----|--------------------------------|
|         |                | OP                       | OR | OL | OF | NO |                | VS    | US | 1                | 2 | 3 | 4 | 5 | SW       | U | M | U |      |            |    |                                |
| 1       | 20             | X                        |    |    |    |    | 0-2            |       | X  | X                |   |   |   |   | X        |   |   |   |      | N          |    | B/P/G                          |
| 2       | 30             |                          |    |    | X  |    | 0-2            |       | X  | X                |   |   |   |   | X        |   |   |   |      | N          |    | C/G/S                          |
| 3       | 20             | X                        |    |    |    |    | 0-20           | X     |    |                  |   |   | X |   | X        |   |   |   |      | Y          | 20 | C/G                            |
| 4       | 15             |                          |    |    | X  |    | 0-15           | X     |    | X                |   |   |   |   | X        |   |   |   |      | N          |    | C                              |
| 5       | 30             |                          |    |    |    | X  | -              |       | X  |                  |   |   |   |   |          |   | X |   |      | N          |    | B/C/G                          |
| 6       | 10             |                          | X  |    |    |    | 0-10           |       | X  |                  |   |   | X |   | X        |   |   |   |      | Y          | 10 | C/G                            |

## COMMENTS

See Next pg.

REVIEWED 7/0DATE 4/24/90

## SHORELINE OILING SUMMARY (PAGE 2)

REVISION 04/13/90

SEGMENT ST/ MN-500 SUBDIVISION B (2 OF 2)

## SUBSURFACE OIL (CONTINUED)

| PIT NO. | PIT DEPTH (cm) | SUBSURFACE OR CHARACTER |    |    |    |    | OILED INTERVAL (cm) | BELOW |    | OIL / FILM COLOR |   |   |   |   |   |   | PIT ZONE |   |   |   | A<br>N<br>A | SHEEN (Y/N) | ! | SURFACE - SUBSURFACE SEDIMENTS |
|---------|----------------|-------------------------|----|----|----|----|---------------------|-------|----|------------------|---|---|---|---|---|---|----------|---|---|---|-------------|-------------|---|--------------------------------|
|         |                | OP                      | OR | OL | OF | NO |                     | VO    | VC | 1                | 2 | 3 | 4 | 5 | 6 | 7 | SV       | U | M | U |             |             |   |                                |
| 7       | 30             |                         |    |    |    | X  | .                   |       | X  |                  |   |   |   |   |   |   |          | X |   |   |             |             |   | C/G                            |
| 8       | 35             |                         |    |    |    | X  | .                   |       | X  |                  |   |   |   |   |   |   |          | X |   |   |             |             |   | C/G                            |
| 9       | 30             |                         |    |    | X  |    | 0-1                 |       | X  | X                |   |   |   |   |   |   |          | X |   |   |             |             |   | C/G                            |
| 10      | 20             |                         |    |    |    | X  | .                   |       | X  |                  |   |   |   |   |   |   |          | X |   |   |             |             |   | B/G                            |
| 11      | 15             | X                       |    |    |    |    | 0-15                | X     |    |                  |   |   | X |   |   |   |          | X |   |   | Y           | 15          |   | B/G                            |
| 12      | 20             |                         |    |    |    | X  | .                   |       | X  |                  |   |   |   |   |   |   |          | X |   |   |             |             |   | B/G                            |
|         |                |                         |    |    |    |    | .                   |       |    |                  |   |   |   |   |   |   |          |   |   |   |             |             |   |                                |
|         |                |                         |    |    |    |    | .                   |       |    |                  |   |   |   |   |   |   |          |   |   |   |             |             |   |                                |
|         |                |                         |    |    |    |    | .                   |       |    |                  |   |   |   |   |   |   |          |   |   |   |             |             |   |                                |
|         |                |                         |    |    |    |    | .                   |       |    |                  |   |   |   |   |   |   |          |   |   |   |             |             |   |                                |
|         |                |                         |    |    |    |    | .                   |       |    |                  |   |   |   |   |   |   |          |   |   |   |             |             |   |                                |
|         |                |                         |    |    |    |    | .                   |       |    |                  |   |   |   |   |   |   |          |   |   |   |             |             |   |                                |
|         |                |                         |    |    |    |    | .                   |       |    |                  |   |   |   |   |   |   |          |   |   |   |             |             |   |                                |
|         |                |                         |    |    |    |    | .                   |       |    |                  |   |   |   |   |   |   |          |   |   |   |             |             |   |                                |
|         |                |                         |    |    |    |    | .                   |       |    |                  |   |   |   |   |   |   |          |   |   |   |             |             |   |                                |
|         |                |                         |    |    |    |    | .                   |       |    |                  |   |   |   |   |   |   |          |   |   |   |             |             |   |                                |

## COMMENTS

Generally boulder beach with shallow or exposed bedrock. Large amount of debris and logs in storm berm (united except on one pocket beach). Most of the subdivision has no oiling or very light oiling (CT/S near HWL). The exceptions are the two pocket beaches at the SW end of the segment. Both these beaches have zones of heavy oiling (see map for details). It may be a good idea to survey the head of the bay (S of these 2 pocket beaches) for further oiling.

REVIEWED

JW

DATE

4/24/90



OG B. [unclear]

SEGMENT ST/ MN-500

SUBDIVISION B

DATE 4/22/90

# CHECKLIST

- Map Area
- Approx. Scale
- Seafloor Entry
- Oil Dist.
- Width
- Length
- % Cover
- Substrate Character
- Est. HML/LWL
- SSL
- Profile Location(s)
- Photo Location(s)

## LEGEND

1 Δ (Exposed)  
Pt - No Subsurface Oil

2 Δ Length  
Pt - Subsurface Oil

CT/C  
Coastal Distribution

CT/B  
% Cover

Broken Distribution

CT/P  
Patchy Distribution

CT/S  
Splashed Distribution

Oil Vegetation

Oil Vegetation

Photo location, direction, and number



Meters  
0 300 600

## ETCH MAP (\*1.062)

Profile

Go to Sketch  
MN-500B  
#2

LWL  
HWL

FOREST

BFO 10 Δ

9 Δ

CLIFF

Profile

CT/S  
Boulders & boulders heavily oiled, 2cm thick.  
vegetated  
CV/B  
Boulder  
UI MI  
45m

Pits 3-7  
See Close Up  
Sketch  
(1/3)

Profile

2 Δ

1 Δ

STREAM  
(Anadromous)

Start of Segment

Oil is very visible on surface but under 1st boulder layer gravels + boulders are heavily oiled.  
OR  
close up  
Boulders  
UI MI  
50m

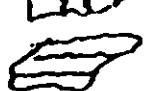
Generally Boulder Beach with shallow & exposed bedrock. Large amount of logs & debris in storm berm. Steep headlands (cliffs) in back of berm. Oil in upper intertidal zone.

Oil Character Length (m): AP — PO — CV 13 CT 1280 ST — MS 10 PT — TB — FL — NO 3965

# Sketch 1B (Close up of Pocket Beach)

Key

 = Mousse

 = Broken Coat

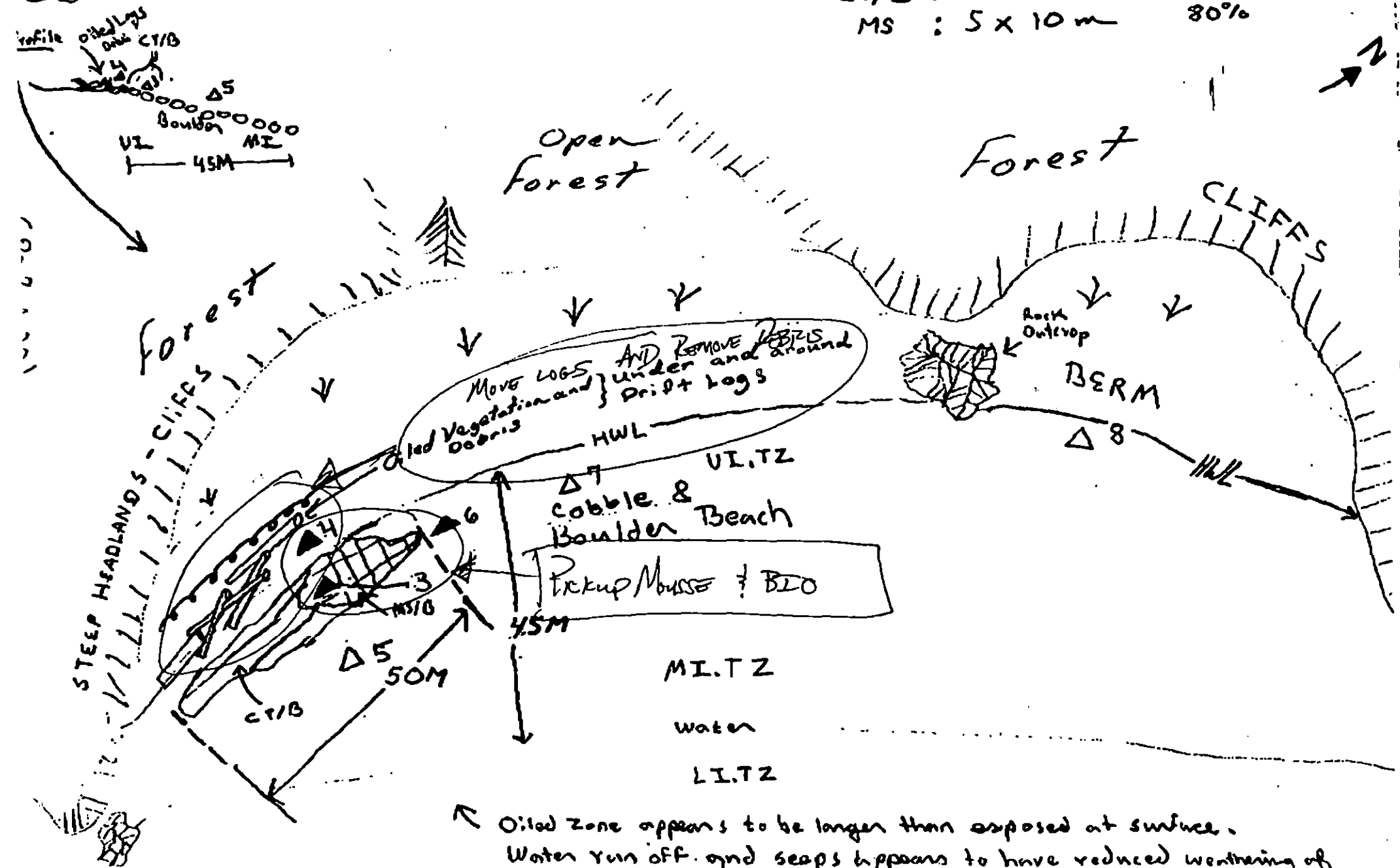
## Oiled Zone

CT/B : 5 x 40 m

70%

MS : 5 x 10 m

80%



03 B. England  
 SEGMENT ST/ MN-500  
 SUBDIVISION B  
 DATE 4/22/80

# CHECKLIST

☐ H Area  
☐ Approx. Scale  
☐ Seg/Sub Study  
☐ Oil Dist.  
☐ Width  
☐ Length  
☐ % Cover  
☐ Substrate Character  
☐ Est. HWL/LWL  
☐ S&T  
☐ Profile Location(s)  
☐ Photo(s)  
☐ Photo Location(s)

# LEGEND

1 Δ  
 PH - No Subsurface Oil

2 Δ  
 PH - Subsurface Oil

CT/C  
 Continuous Distribution

CT/B  
 Broken Distribution

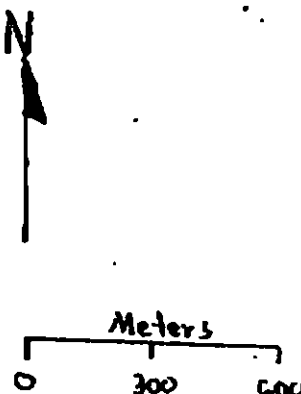
CT/P  
 Patchy Distribution

CT/S  
 Streaked Distribution

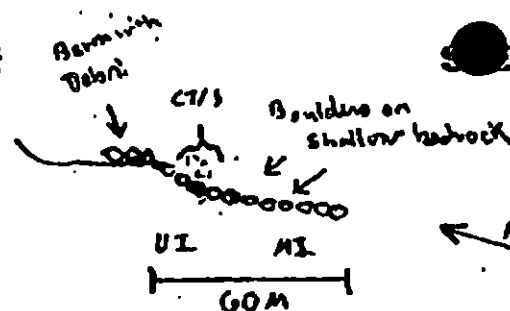
eee  
 Oiled Vegetation

100  
 Photo location, direction, and number

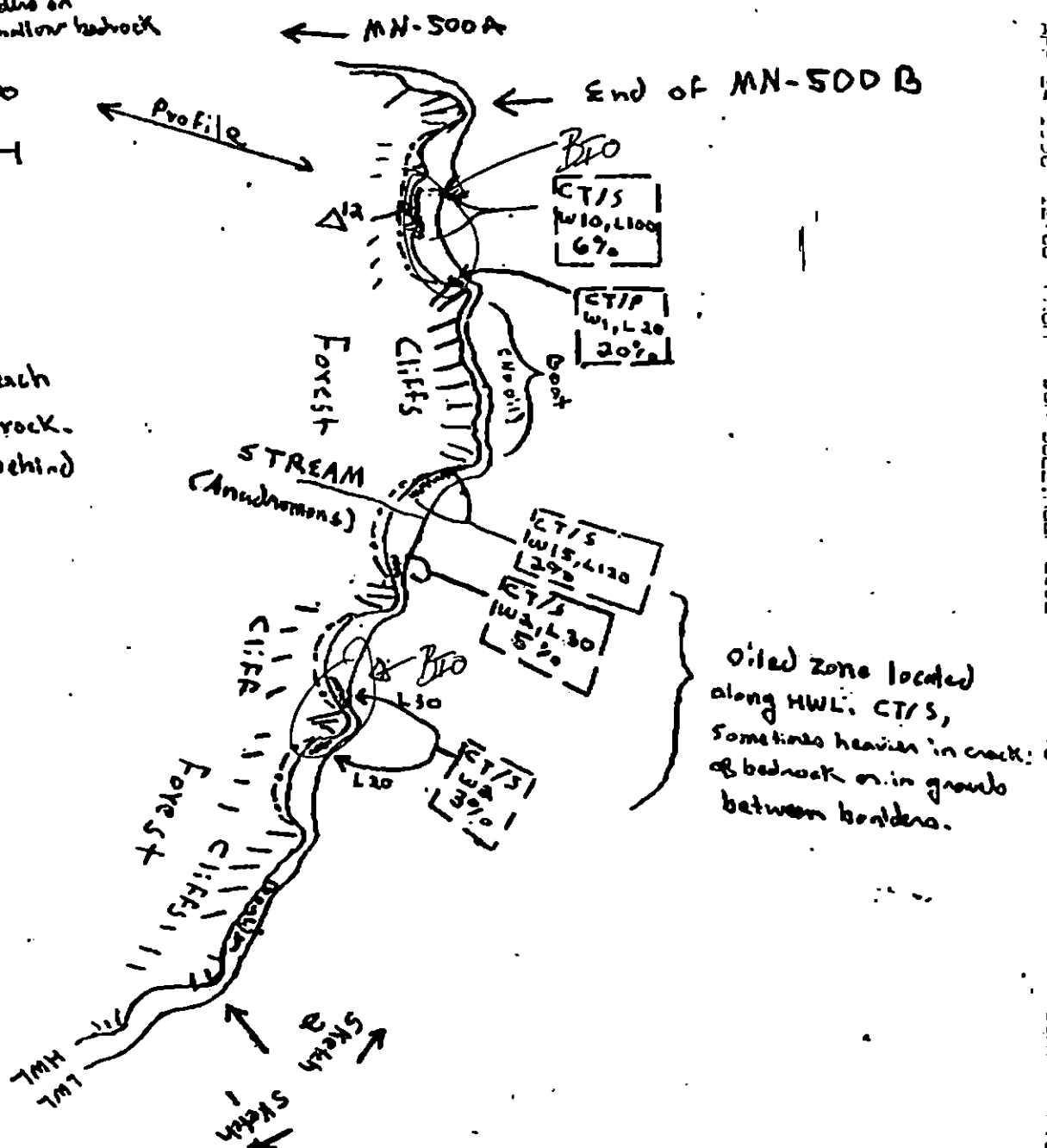
See Key on Sketch Map 1.



Profile



# SKETCH MAP \*2



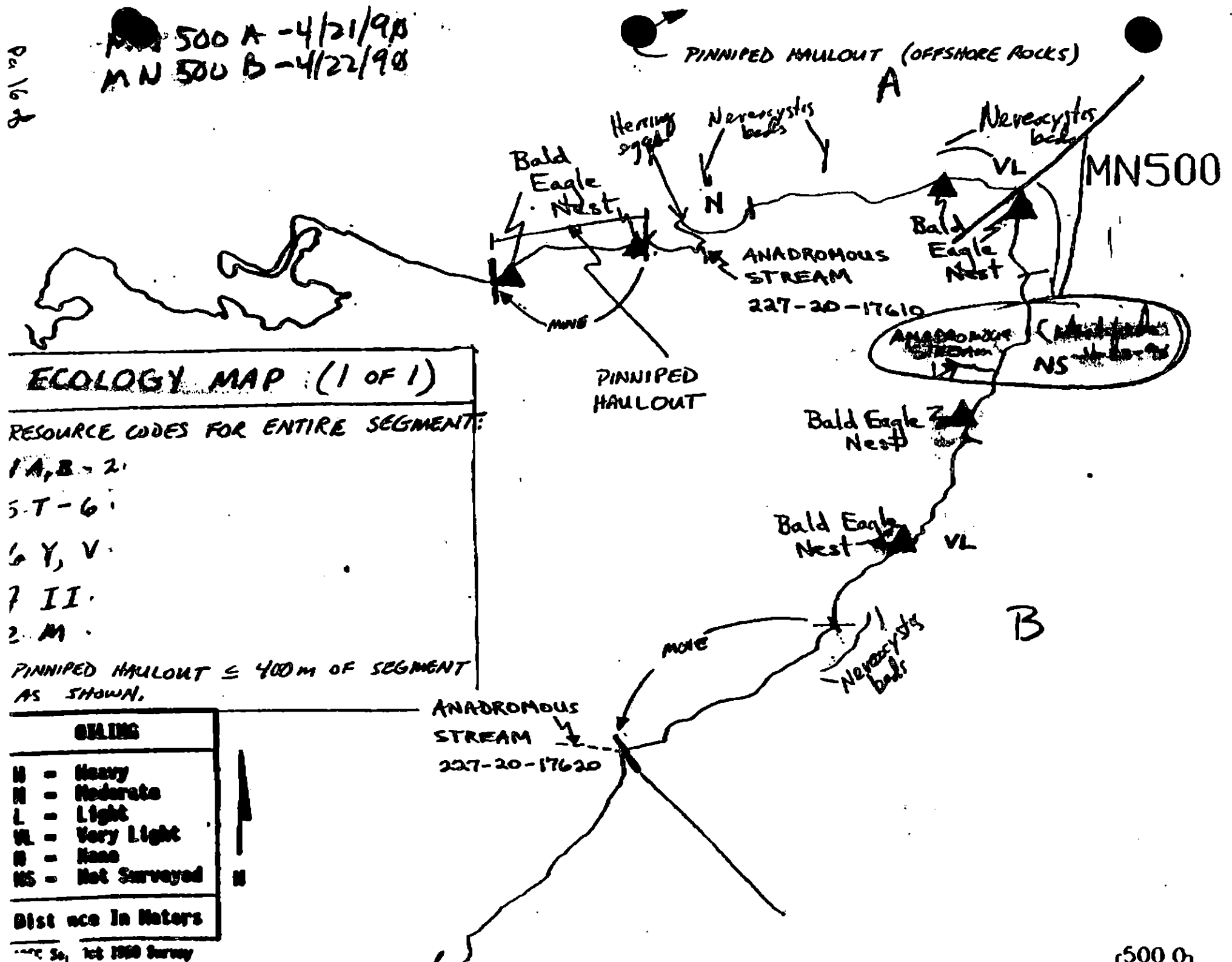
Generally boulder beach with shallow & exposed bedrock. Steep headlands & cliffs behind storm berm.

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

REVISIONS

02/16/2

MN 500 A - 4/21/98  
 MN 500 B - 4/22/98



# ECOLOGY MAP (1 OF 1)

RESOURCE CODES FOR ENTIRE SEGMENT:

- 1 A, B - 2
- 5 T - 6
- 6 Y, V
- 7 II
- 2 M

PINNIPED HAULOUT  $\leq$  400m OF SEGMENT AS SHOWN.

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

# SHORELINE ECOLOGICAL SUMMARY

REVISION 02/25/78

Segment ST / MN-500 Subdivision B Date (mo / day / yr) 4/22/90  
 Time (24 hr) 1500-2100 Biologist S. Schroeter Tide: Start = 6.1  
 End = 3.4  
 Low = 0.6

- (A) Substrate type and % of segments:  
 (1) Bedrock \_\_\_\_\_ (2) Boulder \_\_\_\_\_ (3) Cobble \_\_\_\_\_ (4) Pebble \_\_\_\_\_ (5) Sand \_\_\_\_\_ (6) Silt \_\_\_\_\_
- (B) Overall % cover of biota (% of segment): Dense 21 Moderate 21 Low 58
- (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-1-4  
 Roll No. ST-1-4  
 Frames 29-36

## BARNACLES

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

## MYTILUS

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

## GASTROPODS

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

## 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  | X      | X  | 2  | O    | O  | X  |             |
| 3     | 3  | 3  | 3        | 3  | 3  | X      | X  | 3  | X    | X  | X  |             |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |             |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |             |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  |             |

Wildlife Observations/ General Comments: 1 A, B - 3 (another located see Ecology map); ST-6 (5 birds seen on this subdivision); 6Y, V, 7H; 2 ML no heron, eggs observed on this subdivision. High energy site w/ windy logs along banks of pocket beaches. 3 otters & numerous sea lions seen.

Ecological Considerations: (1) Phenomenally high densities of Pisaster ochraceus in lower M, T2 & upper Ltz3, Ectocarpus were common but not as abundant; (2) generally high abundance of mussels, barnacles & gastropods in M, T2, especially in hardlands (36% of segment) and in areas where fresh water drains across intertidal (5-10% of segment); (3) Nereis beds offshore about 15% of subdivision; (4) abundant Rhodysmela beds & mudcrabs; (5) high abundance of adults

Segment: MN-500

Subdivision: B

Date: April 22, 1990

|       |      |      |                             |
|-------|------|------|-----------------------------|
|       | Time | Tide | Biologist: S. Schroeter     |
| Start | 1500 | 6.1  | Segment Length: 5250 meters |
| End   | 2100 | 3.4  |                             |
| Low   | 1800 | 0.6  |                             |

The subdivision is comprised of cobble and boulder pocket beaches (64%) bordered by bedrock headlands (36%). The bedrock consists of vertically tilted slate beds that contain many tidepools in the UITZ and MITZ. The LITZ on both kinds of shorelines are boulders and cobbles.

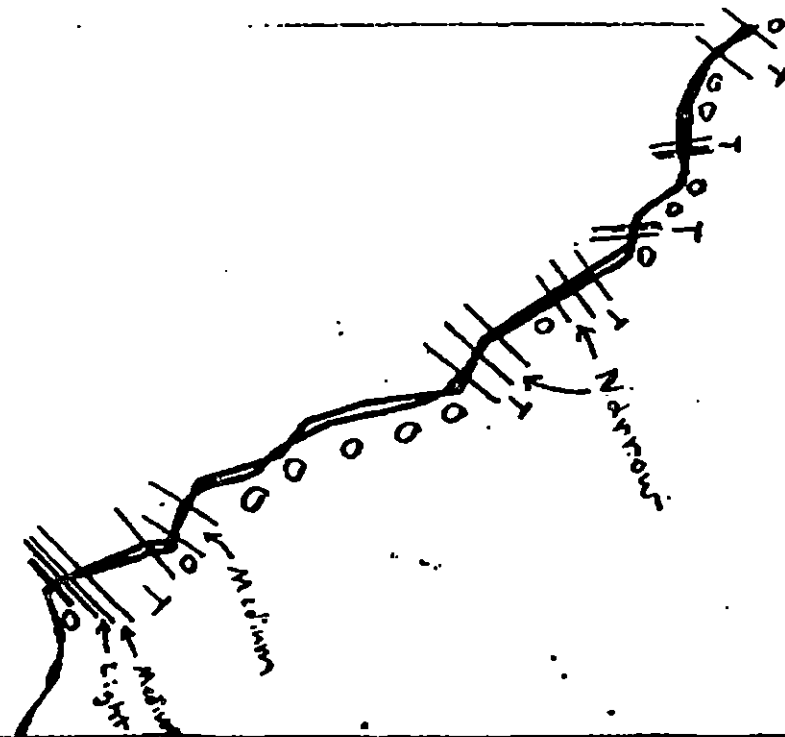
Judging from the sizes of the boulders in the pocket beaches, and the heavy concentrations of logs along their storm berms, this subdivision is exposed to heavy wave action during storms. There is a large anadromous stream about 1 km from the northern end of the subdivision, and numerous small streams throughout its entire length. This stream in addition to the 2 marked on the ecology maps, and is noted on the ecology map sent with the package for this subdivision. Where freshwater runs across the intertidal there are high densities of littorines, ~~Notocamnes~~ ~~persona~~, ~~B. glandula~~, and ~~Mytilus~~ in the MITZ and in the upper LITZ. This "freshwater" effect usually extends several meters beyond the obvious surface flow of fresh water, and may be due to reductions in predators (*Nucella* and seastars, primarily ~~Leptasterias~~ ~~hexactis~~ are notably absent in these freshwater areas).

Notable ecological features of the subdivision include: (1) a large anadromous stream mentioned above; (2) 5 bald eagles, 2 sea otters, and numerous sea lions; (3) generally moderate to high

densities of mussels, barnacles, *Littorina sitkana*, and *Fucus* in the MITZ throughout the subdivisions; (4) notable recruitment of barnacles (chiefly *B. glandula*) and littorines in the MITZ; (5) Eel grass, laminarians, and *Nereocystis* along much of the subtidal offshore; (6) Remarkably high densities of *B. ochraceus* in the MITZ and upper LITZ along the entire subdivision. Densities along the pocket beaches were 1 per 5 to 10 m<sup>2</sup> and were several per m<sup>2</sup> along much of the headlands. *Evasterias* were also abundant in the low MITZ and upper LITZ along the pocket beaches. As was the case for MN-500A, *Leptasterias* were conspicuous because of their extremely low abundance (a single individual was seen along the entire subdivision).

**Data Entered:**

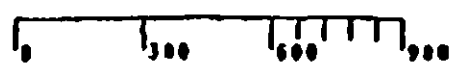




XXXX Wide  
 //// Medium  
 --- Narrow  
 TTTT Very Li

**MN-500**

Approx. Segment Length: 104980



Map Key: PWS-MN-500a  
Name: B. Berglund  
Date: 4/22/90

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

## ADDENDUM: SUBDIVISION CONSTRAINTS

### SEGMENT MN-500 SUBDIVISION B (2 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 | WORK PRIOR TO 8/15 |
| Bioremediation Less Than 400m From Active Nest | CLOSED             |

#### ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

#### APPLICABLE ECOLOGICAL TIME CONSTRAINTS

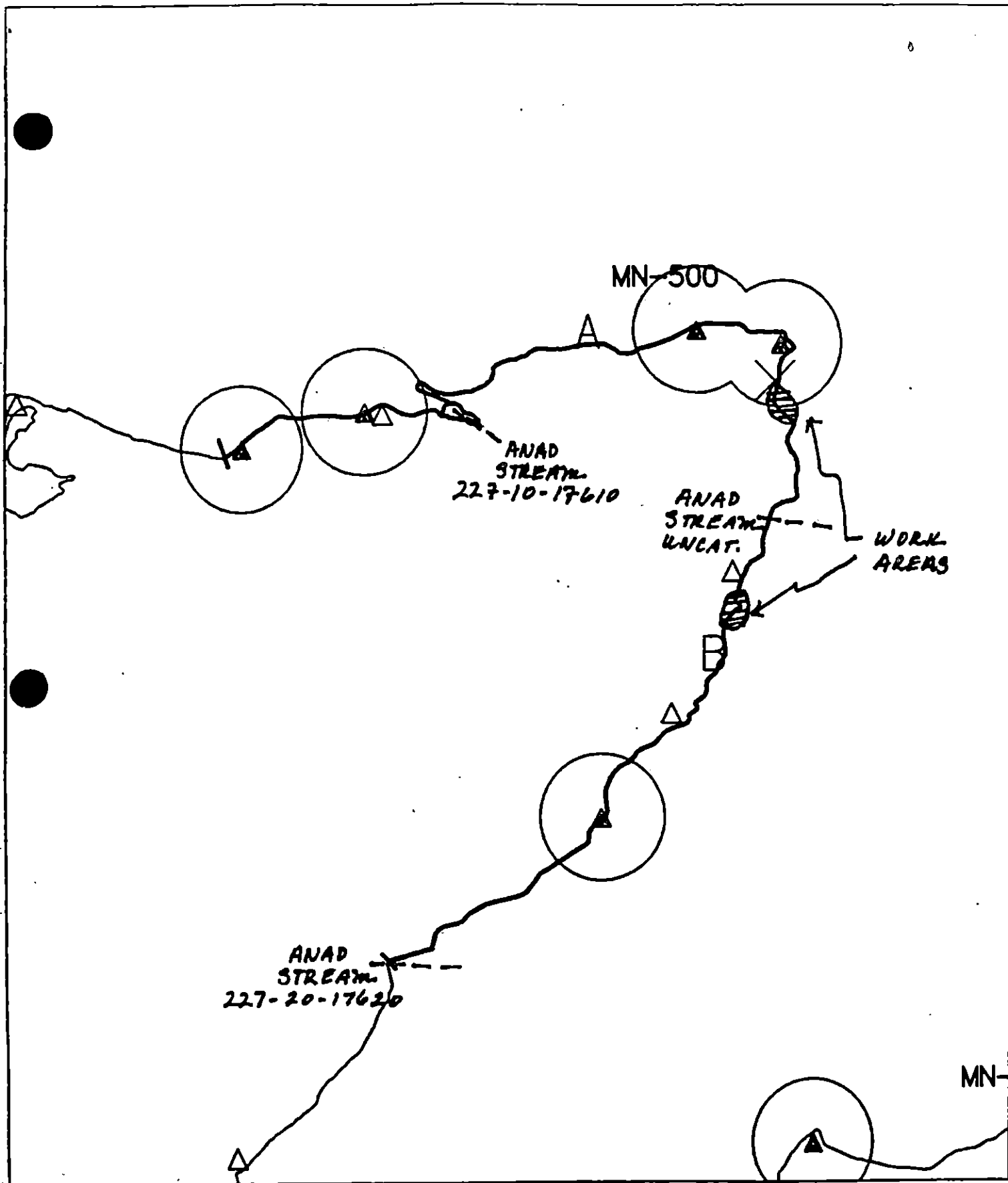
|          |                                            |                                                                                                                                                                                                                       |
|----------|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1A,B     | Salmon Stream                              | ADF&G catalogued anadromous streams (227-10-17610 and 227-20-17620) and an uncataloged stream are in Subdivision A and are more than 100m from work site. No constraint to manual pickup and bioremediation.          |
| 2M       | Herring Spawning                           | No constraint to manual pickup and bioremediation.                                                                                                                                                                    |
| 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 5 active nests 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 nest. |
| 7II      | Subsistence: Deer Harvesting               | Closed to bioremediation after 8/15. No constraint to manual pickup.                                                                                                                                                  |

#### OTHER ECOLOGICAL CONSIDERATIONS

Restrict boat and air traffic and beach disturbance to essential minimum. No disturbance to stream bed or banks. Avoid any unnecessary disturbance or damage to uncollected biota and substrate.

FOSC                      Date 7 Jul 90

Prepared by W. Kelley Date 7/6/90



Exxon Company, USA  
Map Key: PMS-MN-500  
June 09, 1990



**ECOLOGY MAP**  
SEGMENT MN-500  
SUBDIVISION 8 (2 of 2)  
METERS  
0 845 1690

|                    |                     |
|--------------------|---------------------|
| ★                  | Seabird Colony      |
| ▲                  | Active Eagle Nest   |
| △                  | Inactive Eagle Nest |
| 1 inch = 2772 feet |                     |

# SHORELINE EVALUATION

SEGMENT ST/ MN-501 SUBDIVISION A (1 OF 1) DATE 4/21/90

## SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Uncatalogued potential anadromous streams.

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

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

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

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 unoiled biota and substrate.

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

## OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 75 m: No Oil 7043 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: 5/3/90  
ADEC Art Weiner  
EXXON Andy Tetz  
NOAA Gary Patrice  
USCG KENNETH KEANE

FOSC: Wyl DATE: 5-8-90

# PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

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

No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. 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 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

7JJ 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/ MN 501 SUBDIVISION: \_\_\_\_\_ DATE 4/22/90

**CG**  
NAME Robert Tensen SIGNATURE [Signature]

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED  
COMMENTS

**ADEC**  
NAME Rowann T. Hudnell SIGNATURE Rowann T. Hudnell

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED  
COMMENTS

Very Very Little oil in one area  
Most of segment uncoiled

**LAND MANAGER**

NAME \_\_\_\_\_ SIGNATURE \_\_\_\_\_

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED  
COMMENTS

1/10

REVISION NO. 04/13/90

## SHORELINE OILING SUMMARY

OG HARPOUN USCG R. VERNON SEGMENT ST/ MN-501  
 BIO J. DIXON LAND REP NONE SUBDIVISION A (1 OF 7)  
 EXXON J. ELLISON ADEC R. HUDNALL TIME     to      
 TEAM NO. 2 TIDE LEVEL 1.9-5.0 DATE 4/21-22/90  
 EST. SUBDIVISION LENGTH: 7.074 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow  
 UPLANDS DESCRIPTION: ☐ Grass ☐ Forest ☐ Rock  
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: E to W  
 SURFACE SEDIMENTS: R 25 % B 33 % C 27 % P 9 % G 3 % S 3 % M 0 % V 0 %  
 SLOPE: Long 95 % Hang 5 % Vert 0 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High  
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 80 m NO 6,974 m

## SURFACE OIL

| CHARACTER        | DISTRIBUTION |   |   |   | OIL / FILM COLOR |   |   |   |   | IMPACTED ZONES |   |   |   |   |
|------------------|--------------|---|---|---|------------------|---|---|---|---|----------------|---|---|---|---|
|                  | C            | S | P | R | 1                | 2 | 3 | 4 | 5 | SU             | U | M | L | U |
| ASPHALT PAVEMENT |              |   |   |   |                  |   |   |   |   |                |   |   |   |   |
| POOLED           |              |   |   |   |                  |   |   |   |   |                |   |   |   |   |
| COVER            |              |   |   |   |                  |   |   |   |   |                |   |   |   |   |
| 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-2-202Frames FR 9-14

## SUBSURFACE OIL NO PITS - NOT APPROPRIATE FOR OBSERVED OIL TYPE

| 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    | VO | 1                | 2 | 3 | 4 | 5 | SU       | U | M | L |       |             |   |                                |
|         |                |                          |    |    |    |    |                |       |    |                  |   |   |   |   |          |   |   |   |       |             |   |                                |
|         |                |                          |    |    |    |    |                |       |    |                  |   |   |   |   |          |   |   |   |       |             |   |                                |
|         |                |                          |    |    |    |    |                |       |    |                  |   |   |   |   |          |   |   |   |       |             |   |                                |
|         |                |                          |    |    |    |    |                |       |    |                  |   |   |   |   |          |   |   |   |       |             |   |                                |
|         |                |                          |    |    |    |    |                |       |    |                  |   |   |   |   |          |   |   |   |       |             |   |                                |
|         |                |                          |    |    |    |    |                |       |    |                  |   |   |   |   |          |   |   |   |       |             |   |                                |
|         |                |                          |    |    |    |    |                |       |    |                  |   |   |   |   |          |   |   |   |       |             |   |                                |
|         |                |                          |    |    |    |    |                |       |    |                  |   |   |   |   |          |   |   |   |       |             |   |                                |

COMMENTS A variety of coastal types occur within this segment including:  
 (a) HUMMOCKY BEDROCK RIMPS (HEADLANDS), (b) UNIFORMLY SLOPING BOULDER/Cobble  
 BEACHES, (c) A ABBLE/SAND RECURVED SPIT AND (d) A GRAVEL DELTA WITH  
 ASSOCIATED 2-M HIGH SWASH RIDGES.

Over 98% of the segment is unoiled - oiling consisted of  
 a 2-m wide band of splatters of an est. 80 m of shoreline. The concentration  
 of splats was much less than 1% (est. 1-2 splats/10m).

REVIEWED JW DATE 4/23/90

OG HARPER  
SEGMENT ST/ MN-501  
SUBDIVISION A

S. CH MAP

DATE 4/21/80

**CHECKLIST**

- ☒ Arrow
- ☒ Approx. Scale
- ☒ See Sub Entry
- ☒ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HWM/LWM
- ☐ SCL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pb Location(s)
- ☐ Photo Location(s)

NO APPRELIABLE OIL (EST. 25 TMR SPLATS)  
SEE G.I.S. MAP

**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

eee  
Oiled Vegetation

1 ➡

Photo location, direction,  
and number

NO PITS

Oil Character Length (in): AP \_\_\_\_\_ PO \_\_\_\_\_ CV \_\_\_\_\_ CT 80 ST \_\_\_\_\_ MS \_\_\_\_\_ PT \_\_\_\_\_ TB \_\_\_\_\_ FL \_\_\_\_\_ NO 6,994 ← TOTAL

REVISION 02/01/80

HR-22-1550 20:25 FROM DON BOLLINGER 2152 TO R-----0013075643771# P.03  
1/10



7/10

## SHORELINE ECOLOGICAL SUMMARY

Segment ST/MN-50/ Subdivision ADate (mo / day / yr) 04/21/90Time (24 hr) 0634-0830 Biologist JOHN DIXON

(A) Substrate type and % of segments:

(1) Bedrock 25 (2) Boulder 33 (3) Cobble 27 (4) Pebble 12 (5) Sand 3 (6) Silt 0(B) Overall % cover of biota (% of segment): Dense 15 Moderate 30 Low 55

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

Photographs:

Roll No. ST-2-202Frames 9-14

## BARNACLES

NOT PRESENT

## MYTILUS

NOT PRESENT

## GASTROPODS

NOT PRESENT

## FUCUS

NOT PRESENT

Wildlife Observations/ General Comments: water line during survey: +1.1 - +5.4  
 Otters with young offshore. Oyst. catches - eating 1 in 7.5.  
 Lynx, deer tracks on beach. Bear scat & other scat.  
 Unidentified other carcass in storm berm.

Ecological Considerations: listed sensitivities: FII, 6V

2, probably anadromous, 5 Trans.

8/10

Saturday 04/21/90 1738-2030 +1.1 - +5.4 ft  
Sunday 04/22/90 0634-0830 +1.1 - +4.2 ft  
Biologist: John Dixon

## MN-501 "A"

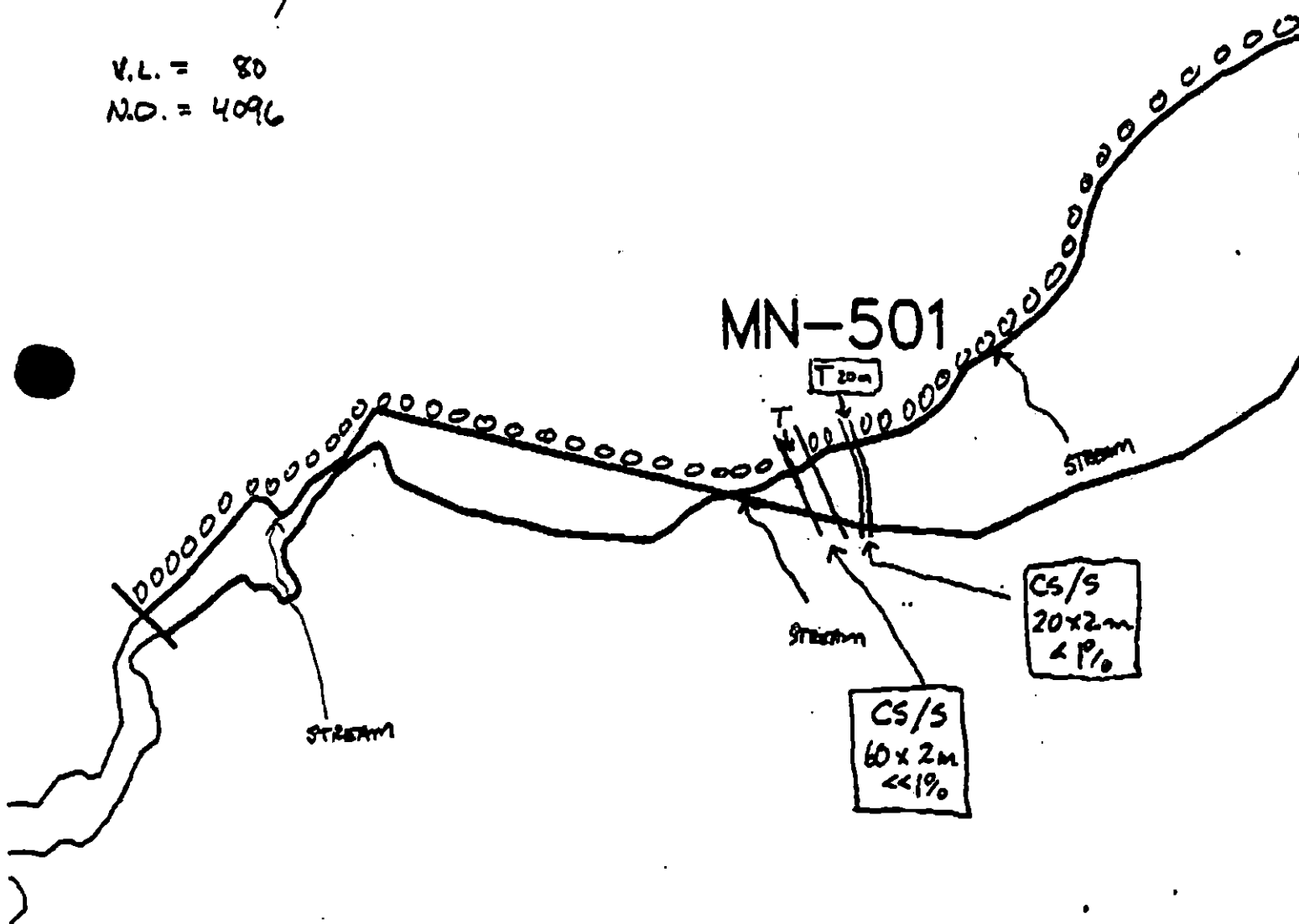
This 7.1 km segment includes a variety of habitat types. Although there are small areas of bedrock outcrop at headlands throughout the segment, in general there is a gradation from rock platforms and hummocky ramps and large talus blocks at the very exposed point at the northeast end to small cobble, pebble and sand beaches at the southwest boundary of the segment. There are several small streams and diffuse areas of freshwater runoff. In addition, there are two rather more substantial streams - one in an embayment on the exposed northeast end (which is bounded by regulatory markers) and one at the southwest end of the segment which is 4-5 m wide by 20-30 cm deep and empties onto a cobble/pebble beach.

The unstable boulder/cobble beaches had the usual sparse cover of *Balanus glandula*, *Fucus*, and filamentous green algae. *Mytilus* was rare and patchy. In the higher areas *Littornia sitkana* was the dominant snail. Limpets, *N. scutum* and *N. persona* were more abundant in the middle zone. In areas of freshwater runoff, barnacles and mussels were more abundant. All species increased in abundance on large boulders in areas partially sheltered from waves by rock platforms. On the sandy cobble/pebble beaches *Pycnopodia* were common.

In general, the biota on rock platforms, ramps and talus blocks was more diverse and abundant, but generally not remarkable. *Mytilus* was generally relatively rare except on some protected middle intertidal benches. *Balanus cariosus* occurred in the middle and lower areas but was nowhere very dense. *Fucus* and *Rhodocela larix* were the dominant algae. *Odonthalia* was also abundant in wetter areas. *Leptosteria hexactis* was common under boulders on bedrock, averaged around 2 cm from madreporite to ray tip, and none were observed brooding. In an area of rock platform and talus blocks about 2/3 of the way toward the southwest end of the segment, large (c. 8 cm radius) *Pisaster ochraceus* were very abundant in the lower part of the middle intertidal (c. 1 per 5 sq m).

CS = 80m

V.L. = 80  
N.O. = 4096



XXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

MN-501

Approx. Segment Length: 6735m



Map Key: PWS-MN-501a

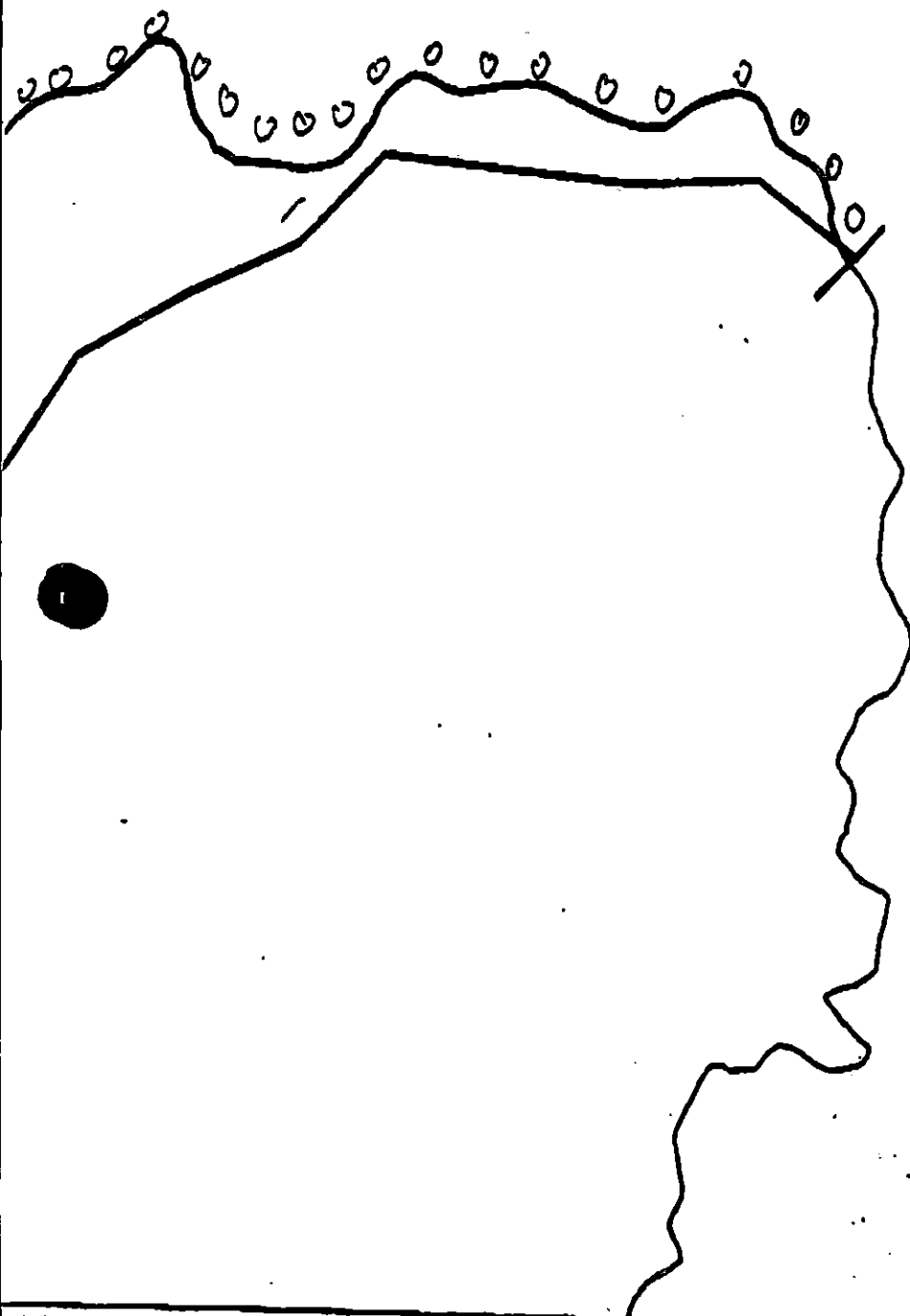
Name: J. Hanger

Date: 22 April 90

Date Entered:

4/10

ND = 2,998



XXXX Wide

/●/ Medium

---- Narrow

TTTT Very Light

0000 No Oil

MN-501

Approx. Segment Length: 6735m



METERS

Map Key: PWS-MN-501b

Name: J Harper

Date: 22 April 90

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ MR-001 SUBDIVISION A (1 OF 3) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Active bald eagle nest (5T) - 3/1 to 6/1. 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. Kenai Fjords National Park (4LL).

SUBDIVISION ECOLOGICAL CONSTRAINTS: Treatment should proceed with minimum disturbance to substrate.

SHPO SIGNATURE: [Signature] DATE: 7/27/90

OILING CATEGORIZATION:

Wide 0 m: Medium 34 m: Narrow 180 m: V.Light 46 m: No Oil 0 m  
Subsurface Oil Observed: Yes X No      Maximum Depth 20

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: Tarmat removal in asphalt pavement area. Manual pickup (trowling) in pooled oil area. Bioremediate pooled oil, cover and coat areas. Follow Cultural Resource Program "Work Plan Outline" dated July 27, 1990.

TAG COMMENTS: Treatment is recommended pending resolution of cultural resources issues. If cultural resource issues cannot be resolved a no treatment recommendation is the preferred option.

This recommendation was revised by TAG on 4/19/90 and supercedes the recommendation forwarded to FOSC on 4/12/90.

TAG APPROVAL DATE: 4/19/90  
ADEC JOHN BAUER  
EXXON ANDY TEAL FOSC: [Signature] DATE: 7-30-90  
NOAA Burt Wescott  
USCG G.A. REITER G.A. Reiter Customblen only can be applied to the MITZ + LITZ TUNDOI IS NOT

EXXON VALDEZ CULTURAL RESOURCE PROGRAM

WORK PLAN OUTLINE  
FOR OIL SPILL CLEANUP AT MR-1A/C  
July 27, 1990

The proposed steps of the treatment program are as follows:

- 1) Archaeological monitors to brief cleanup personnel prior to the cleanup crew's arrival to MR-1. Cleanup personnel will be briefed regarding the significance of the site, and on artifact types which may be encountered.
- 2) Archaeological monitors to orient cleanup personnel on site at MR-1 prior to the commencement of work.
- 3) Cleanup personnel manually recover pooled oil in MR 1A/C with trowels, spoons and other manual devices under the close supervision of archaeological monitors. Archaeological monitors to map, record and either replace or collect artifacts encountered during manual removal depending upon the artifact type and its susceptibility to illicit collection.
- 4) Cleanup personnel manually remove tarmat with shovels and spades. The broken-up asphalt and attached rocks and sediments will be inspected for artifacts by archaeological monitors prior to the removal of asphalt, rocks and sediments. Any artifacts observed in the tarmat debris will be collected and curated in accordance with the MOA.
- 5) Bioremediation crew will spray the beach under the close supervision of the archeological monitors.
- 6) Concurrent with, or immediately after Exxon's work in the intertidal zone, Chugach Alaska Corporation and the NPS will be responsible for attempting a limited amount of surface and subsurface work in the site uplands. The key element of this work will be the re-excavation of the 1989 test pit and the recording of its stratigraphy. The purpose of this work is to aid interpretation of the data obtained in the intertidal zone in order to contextualize that data. As a result of this work, NPS will provide Exxon with pertinent information on the number of components present and comment on the nature of these components. Logistics will be coordinated through Exxon.
- 7) The principal archaeological monitor will describe the cleanup and monitoring processes and analyze the pertinent intertidal and uplands cultural resource findings in a comprehensive report.

## **Recommended Scope of Work for Monitoring Activity at MR-1A/C**

Planned treatment activity recommended by TAG at MR-1A/C is limited to manual recovery (trowling) of pooled mousse located in bedrock and boulder crevices, bioremediation of pooled oil, cover and coat areas, and removal of the asphalt tarmat. Due to the sensitive nature of lithic artifacts in the intertidal zone, the recommended monitoring activity will differ according to the different treatment activities planned.

Prior to initiating treatment at MR-1A/C, an informal briefing session will be held for all personnel involved in treatment activity at MR-1A/C. Information will be presented regarding the sensitive nature of the work area, the level of care that must be exercised throughout treatment, the sequence and method of treatment, and the need for constant direction by an on-site archaeological monitor. Our intention is to prepare all treatment personnel for the sensitive nature of the undertaking prior to arriving on the beach. Once on the beach, treatment will proceed in the following manner:

TASK 1) The first task will be to manually recover the pooled oil trapped in bedrock crevices and between boulders in both A and C subdivisions. Trowels and large spoons will be used to scoop the pooled oil into containers. Archaeological monitors will map, record and either collect or replace any artifacts encountered during this task depending upon the artifact type and its susceptibility to illicit collection. Only pooled oil will be removed. Both the movement of treatment personnel in the intertidal zone and the manual removal process will be closely monitored.

TASK 2) The second task will be tarmat removal. The area intended for tarmat removal encompasses 32 square meters, 4 of which have been removed as part of the archaeological investigation conducted in April. The remaining 28 square meters will be removed with spades and shovels. Asphalt and attached rocks and sediments to be removed will be inspected for artifacts by monitors. Any artifacts present will be collected and curated in accordance with the MOA.

TASK 3) The third task is bioremediation. Direction will be given to treatment workers as they move in the intertidal zone applying the fertilizer where appropriate. All treatment personnel working in the intertidal zone will confine their movement wherever feasible to large boulders and bedrock outcroppings.

TASK 4) The final task will be analysis of the archaeological data collected during the cleanup. The principal archaeological monitor will produce a report describing the monitoring process, as well as the location, nature and significance of archaeological material observed in and/or collected from the intertidal zone at MR 1A/C.

### SUMMARY

Effective on-site monitoring at MR-1A by professional archaeologists will ensure that the treatment recommended by TAG will take place and that the cultural remains present in the intertidal zone will receive the maximum degree of protection given the planned treatment. The scope of work recommended for on-site monitoring activity at MR-1A/C is consistent with the treatment planned at this location. We recommend that the scope of work outlined above be considered the appropriate archaeological constraint for this subdivision.



# EXXON-VALDEZ CULTURAL RESOURCE SUMMARY SHEET

SEGMENT MR-001 A Landowner: NPS Region: SEWARD

AHRS: Number Type ITZ Upland Features:  
 1: SEL-188 FCR, PAG, HTD [X] [X] MCARTHUR PASS  
 2: [ ] [ ]  
 3: [ ] [ ]  
 4: [ ] [ ]

SCAT: YARBOROUGH Metres: 9000 Minutes: 272 Methods: B,G  
 SSAT: Metres: 0 Minutes: 0 Methods:

## 1990 WORK PLAN No Treatment [ ]

Bioremediation [X]  
 Manual/Mechanical: MP,TR Treatment Intensity [2]

| 1989             | 1989               | 1990           | 1990          |
|------------------|--------------------|----------------|---------------|
| CONSTRAINTS      | ACTION             | CONSTRAINTS    | ACTION        |
| Standard [ ]     | Monitored [ ]      | Deferred [ ]   | --            |
| Evaluation [ ]   | Incidents [ ]      | Standard [ ]   | --            |
| Pre-Evaluation & | Post-cleanup       | Inspection [ ] | Inspected [ ] |
| Monitoring [ ]   | Assessment [ ]     | Monitoring [X] | Monitored [ ] |
| Monitoring [X]   | Bioremediation [ ] | Segment        | Segment       |
| Other NO CLEAN   |                    | Evaluation [X] | Evaluated [ ] |
|                  |                    | Subdivision    | Subdivision   |
|                  |                    | Evaluation [ ] | Evaluated [ ] |

## COMMENTS

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## TRACKING

RECEIVED 04/08/90 FIELD SURVEY OUT 04/24/90 CTAG OUT 04/09/90  
 BACK 04/30/90 BACK / /

SHPO / / FOSC / / COMPLETED / /

DATE MONITORING  
 REQUESTED / / Monitor:  
 PLANNED TREATMENT:  
 MONITORED

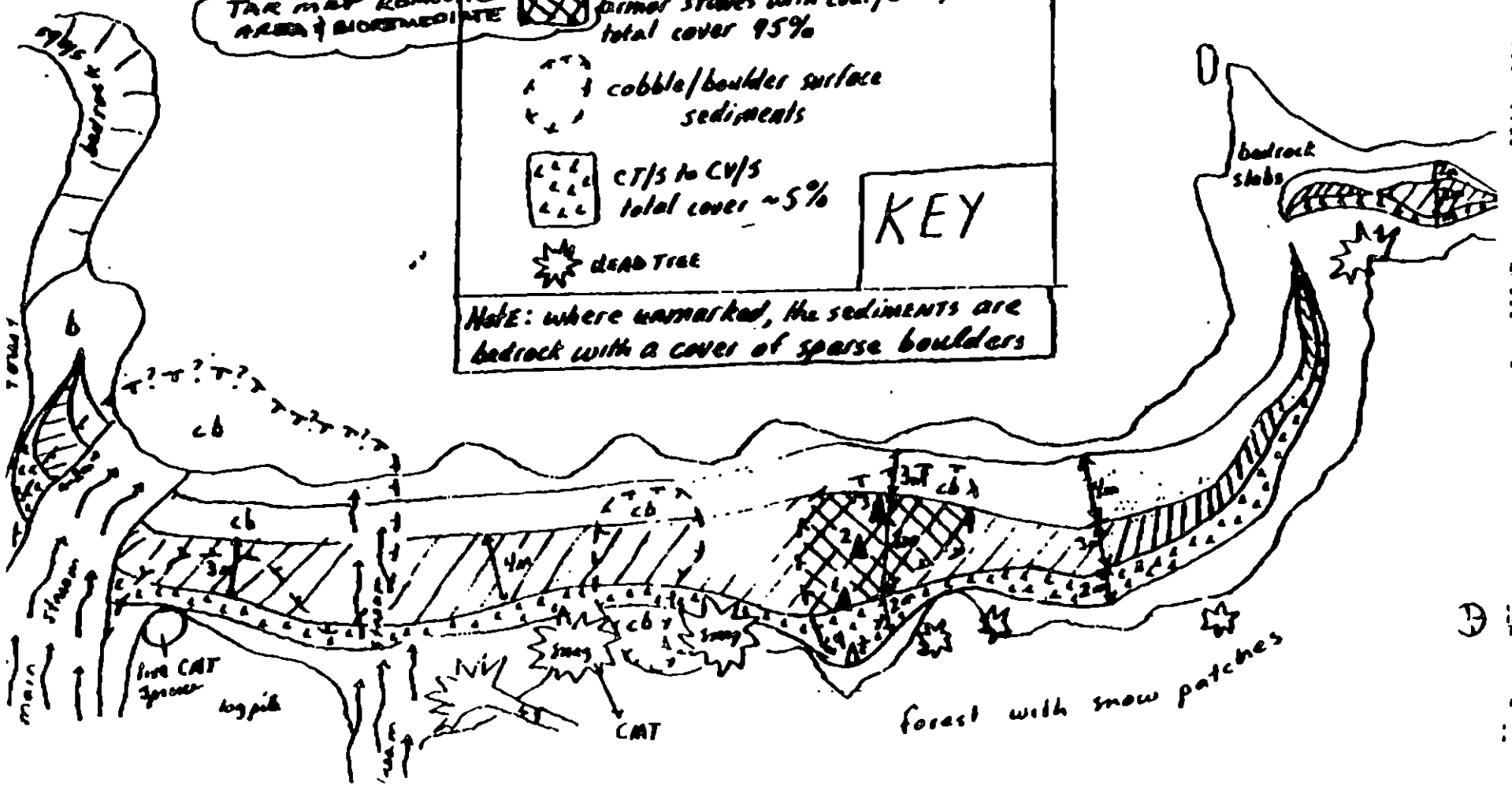
R-1

90

# SKETCH MAP

MacArthur Pass

10m length scale



BIOREMEDIATE  
ALON ONLY



CT/B to CV/B with  
poled/P and /s; total cover ~30%

NATURAL  
PICKUP



MS/S to CV/S;  
total cover ~5%

TAR MAT REMOVAL  
AREA + BIOREMEDIATE



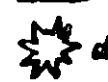
asphalt pavement /c;  
armor stones with coat/B to /s  
total cover 95%



cobble/boulder surface  
sediments



CT/S to CV/S  
total cover ~5%



dead tree

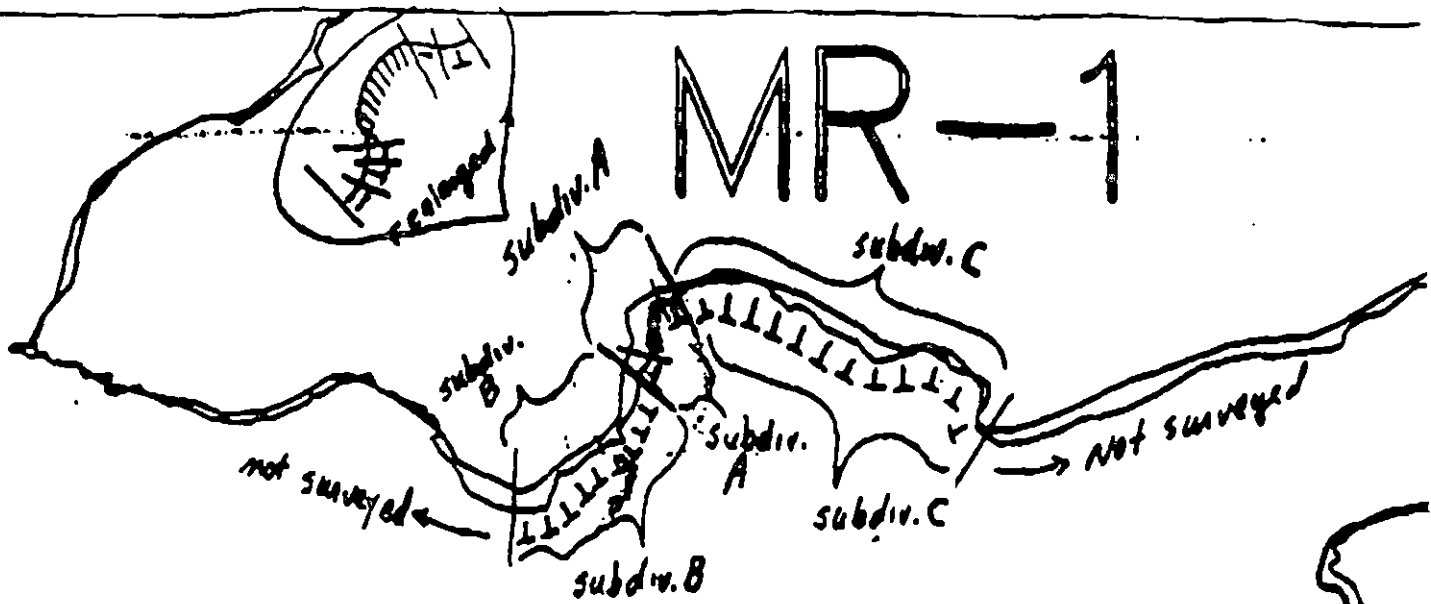
KEY

Note: where unmarked, the sediments are  
bedrock with a cover of sparse boulders

bedrock  
slabs

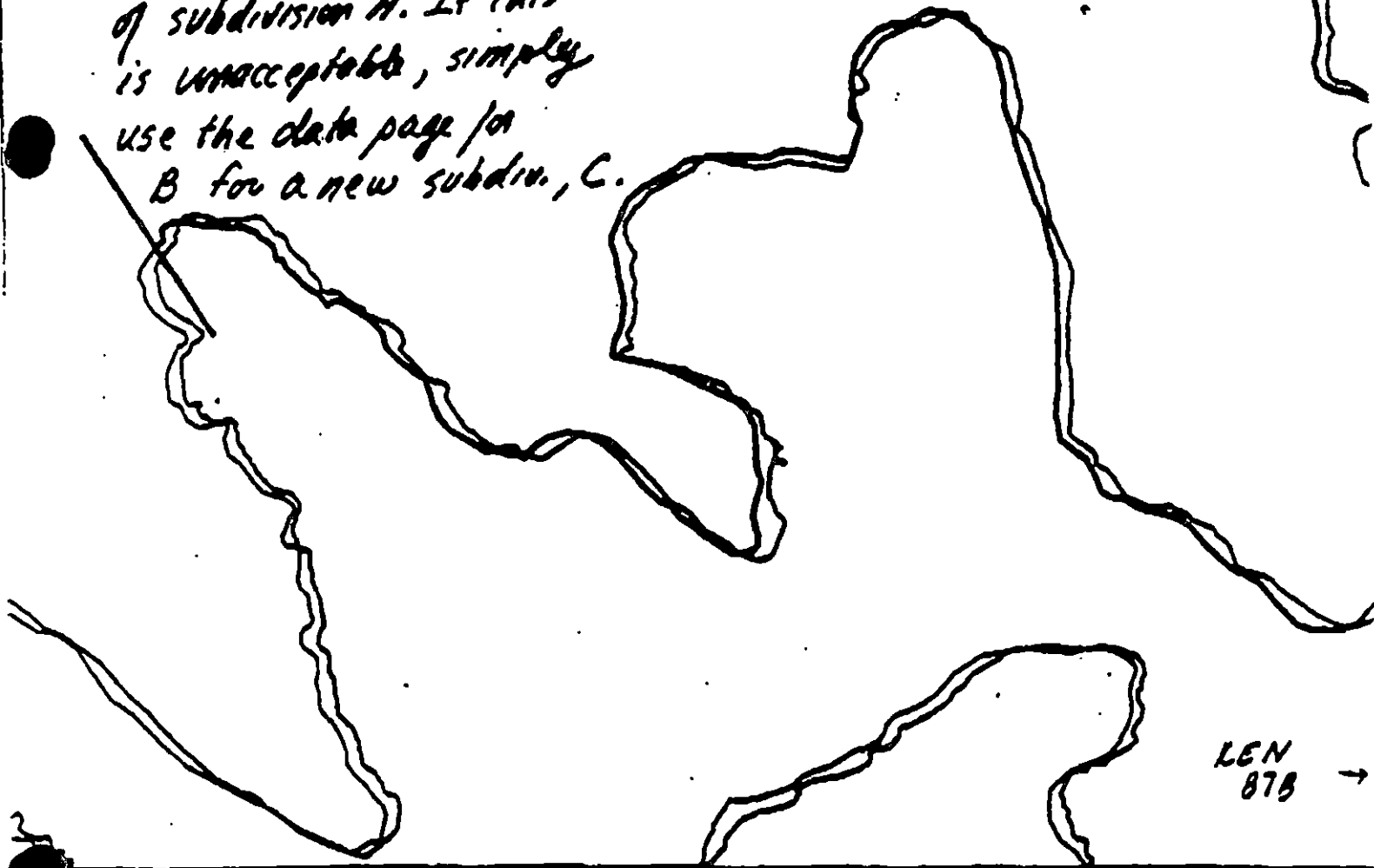
forest with snow patches

# MR-1



# PY-15

Note that subdivision B occurs on either side of subdivision A. If this is unacceptable, simply use the data page for B for a new subdiv. C.



LEN 878 →

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

~~PY-15~~ MR-1

ABEC Segment Length: 11882m

Map Key: KEN-070

Name: MOAN

3/21/97

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT MR-1 SUBDIVISION A (1 of 3)

WORK WINDOW

MANUAL PICKUP & TREATMENT REMOVAL

OPEN

BIOREMEDIATION

OPEN

ARCHAEOLOGICAL CONSTRAINT: An Exxon archaeological monitor is required on-site during shoreline treatment.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

NO APPLICABLE ECOLOGICAL CONSTRAINTS

OTHER ECOLOGICAL CONSTRAINTS

AVOID ANY UNNECESSARY DISTURBANCE OR DAMAGE TO UNOILED BIOTA AND SUBSTRATE

FOSC

DATE

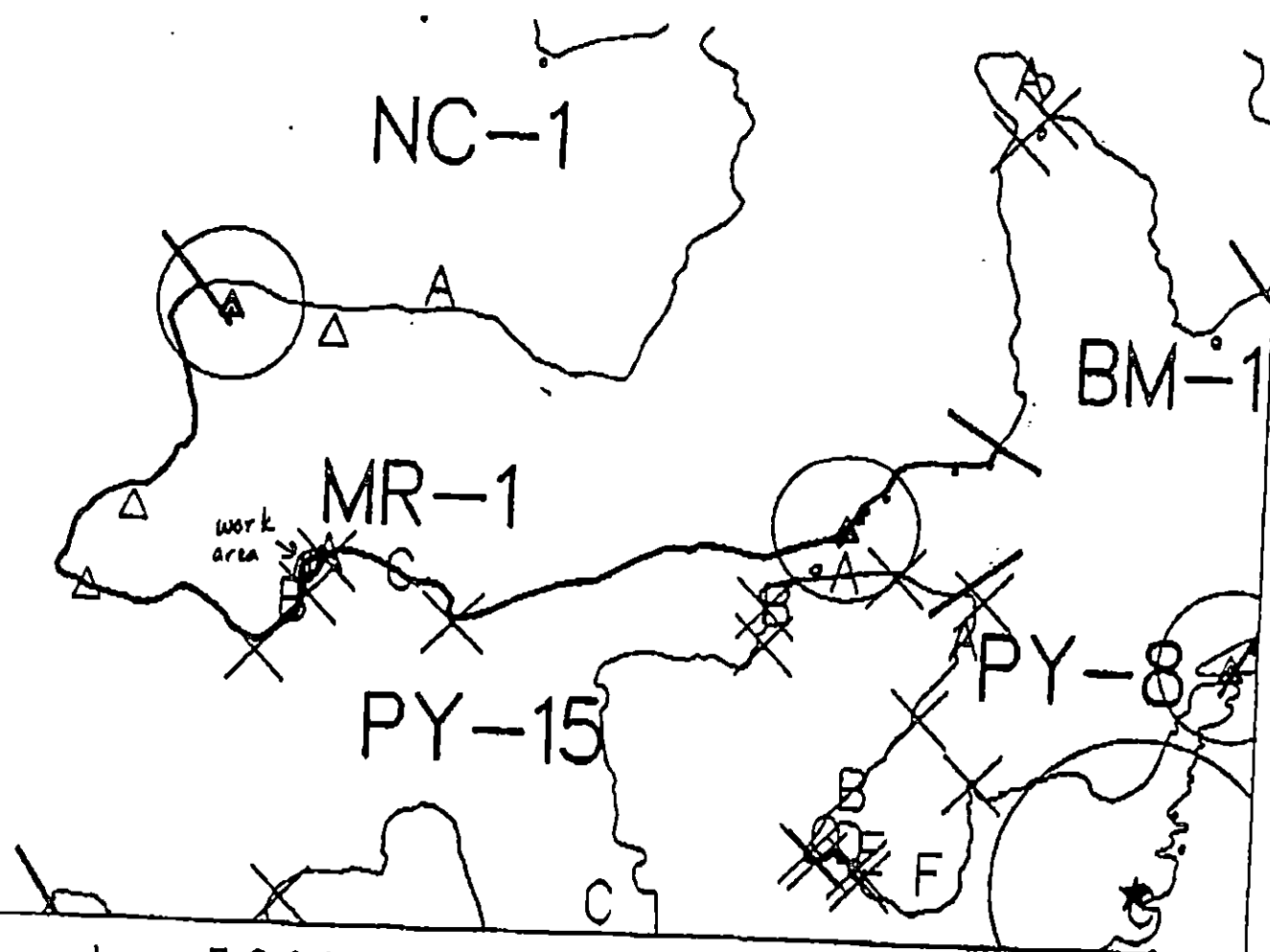
7-31-90

Prepared By:

J.P. Phillips

Date

7/27/90



xon Company, USA  
Map Key: KGV-MR-1



ECOLOGY MAP  
SEGMENT MR-1  
SUBDIVISION A (1 of 3)  
METERS

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

SHORELINE EVALUATION

SEGMENT ST/ MR-001 SUBDIVISION B (2 OF 3) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Active bald eagle nest (5T) - 3/1 to 6/1. 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. Kenai Fjords National Park (4LL).

SUBDIVISION ECOLOGICAL CONSTRAINTS: Treatment should proceed with  
minimum disturbance to substrate.

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

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 414 m: No Oil 0 m  
Subsurface Oil Observed: Yes      No X Maximum Depth     

RECOMMENDATIONS:

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

COMMENTS: Manual removal of pooled oil with absorbents and trowl-  
ing and bioremediation in same area. Work is to be conducted after  
6/1.

TAG COMMENTS: DUE TO THE SENSITIVE NATURE OF THIS LOCATION  
NO TREATMENT IS APPROPRIATE.

TAG APPROVAL DATE: 4/12/90.  
ADEC JOHN BAUER Whelan  
EXXON ANDY TAYLOR Reed FOSC:      DATE:       
NOAA Burl Wescott Burl Wescott  
USCG M. J. Hall M. J. Hall

## FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ MR 01 SUBDIVISION: B DATE 3/31/90

USCG/NOAA

NAME JACQUI MILES SIGNATURE [Signature]☐ NO TREATMENT RECOMMENDED  
COMMENTS☒ TREATMENT SUGGESTED

Manual removal of pooled oil is suggested.

ADEC

NAME JOHN R. REED SIGNATURE [Signature]☐ NO TREATMENT RECOMMENDED  
COMMENTS☒ TREATMENT SUGGESTED

Manual Removal of pooled oil on bedrock outcrop with hand trowel or shovel. I have read and agree with all information on S.S.A.T. Forms.

~~LAND MANAGER~~ CACNAME Peter Zellers SIGNATURE [Signature]☐ NO TREATMENT RECOMMENDED  
COMMENTS☐ TREATMENT SUGGESTED

Subdivision B takes up the west end of MR-01's Archaeological site, as well as the area immediately west of the site's perimeter. Manual removal of pooled oil has been suggested and is plausible. There are no archaeological constraints regarding the westernmost portion of the site.

## FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ MB-1 SUBDIVISION: B DATE 3/31/90USCG

NAME \_\_\_\_\_ SIGNATURE \_\_\_\_\_

☐ NO TREATMENT RECOMMENDED  
COMMENTS☐ TREATMENT SUGGESTEDADEC

NAME \_\_\_\_\_ SIGNATURE \_\_\_\_\_

☐ NO TREATMENT RECOMMENDED  
COMMENTS☐ TREATMENT SUGGESTEDLAND MANAGER NPSNAME Michael Tetreau SIGNATURE [Signature]☐ NO TREATMENT RECOMMENDED  
COMMENTS☐ TREATMENT SUGGESTED

Good survey. Manual removal of pooled oil with  
trowels and sorbents and removal of cover coat  
with sorbents if oil becomes mobile enough can  
be done.



## SHORELINE OILING SUMMARY

**DRAFT**

Revision NO. 02/12/88

OG Mann USCG Michel SEGMENT ST/ MR-1  
 BIO Can LAND REP Zollars/Tetreau SUBDIVISION 6  
 EXXON Coyer ADEC Reed TIME 9:00 to 9:30  
 TEAM NO.: 18 TIDE LEVEL: +2 to +1 DATE 3/31/90  
 EST. SUBDIVISION LENGTH: 500 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 25 % C 0 % P 0 % G 0 % S 0 % M 0 % V 0 %  
 SLOPE: Long 50 % Hang 50 % Vert 0 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High  
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 500 m NO 0 m

## SURFACE OIL

| CHARACTER        | DISTRIBUTION |   |   |   | OIL / FILM COLOR |   |   |   | IMPACTED ZONES |   |   |   |
|------------------|--------------|---|---|---|------------------|---|---|---|----------------|---|---|---|
|                  | C            | R | P | S | 1                | 2 | 3 | 4 | SU             | U | M | U |
| ASPHALT PAVEMENT |              |   |   |   |                  |   |   |   |                |   |   |   |
| 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 <u>NO</u> | AMOUNT |    |    |
|------------------------|--------|----|----|
|                        | SM     | MD | LG |
| Logs                   |        |    |    |
| Vegetation             |        |    |    |
| Trash                  |        |    |    |
| Debris                 |        |    |    |

DEBRIS COLLECTED  
☐ YES ☒ NO

TYPE \_\_\_\_\_

#BAGS \_\_\_\_\_

Photographs:

Roll No. none

Frames \_\_\_\_\_

SUBSURFACE OIL No pits dug - shoreline is predominantly bedrock.

| 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 | SU       | U | M | U |       |                      |
|         |                |                          |    |    |    |    | .                   |       |    |                  |   |   |   |          |   |   |   |       |                      |
|         |                |                          |    |    |    |    | .                   |       |    |                  |   |   |   |          |   |   |   |       |                      |
|         |                |                          |    |    |    |    | .                   |       |    |                  |   |   |   |          |   |   |   |       |                      |
|         |                |                          |    |    |    |    | .                   |       |    |                  |   |   |   |          |   |   |   |       |                      |
|         |                |                          |    |    |    |    | .                   |       |    |                  |   |   |   |          |   |   |   |       |                      |
|         |                |                          |    |    |    |    | .                   |       |    |                  |   |   |   |          |   |   |   |       |                      |
|         |                |                          |    |    |    |    | .                   |       |    |                  |   |   |   |          |   |   |   |       |                      |

## COMMENTS

"Deep bedrock coastline of light-colored granitic rocks with discontinuous  
 "athtub ring" of splattered oil. Very little wave abrasion of oiling  
 evident. Overall looks alot like it did last August.

MR-1, Subdivision B, site sketch, Mann 4/3/90 (see attached map for location)

KEY



=  $ct/p$ ,  $\frac{1}{2}m \times 8m$  on vertical face



=  $ct/p + cv/p + PO/s$  (total oil coverage = 40%)



=  $ct/s, cv/s$

(This is not a subdivision map)



- ① APPLY TROWLS & ABSORBENT TO PICKUP POOLED OIL
- ③ BIOPREMIATE

granite bedrock point

10m

bedrock slabs and rubble

forest

CLEARED

FOREST

forest

Notes: we visited this site at 1140-1200 on 4/3/90 with tide level  $\approx +5'$ . Coverage by  $PO/s$  is  $\approx 5\%$  in the  $2m \times 4m$  area.

# SHORELINE ECOLOGICAL SUMMARY

REVISION: 08/22/90

Segment ST/ MRO1 Subdivision B (of A-C) Date (mo/day/yr) 3/31/90

Time (24 hr) 0943 Biologist M. CARR

(A) Substrate type and % of <sup>SEGMENTATION</sup> segments:  
(1) Bedrock 75 (2) Boulder 25 (3) Cobble \_\_\_\_\_ (4) Pebble \_\_\_\_\_ (5) Sand \_\_\_\_\_ (6) Silt \_\_\_\_\_

(B) Overall % cover of biota (% of <sup>SEGMENTATION</sup> 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 | XU       | 1M | 1L | 1U     | 1M | X | 1U   | 1M | 1L |             |
| → 2  | 2     | 2  | 2        | 2  | 2  | 2      | 2  | 2 | 2    | 2  | 2  |             |
| 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  | NOT PRESENT IN LOWER 2L |
| 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 | XU       | 1M | 1L | 1U     | 1M | X | 1U   | 1M | 1L |             |
| → 2  | 2     | 2  | 2        | 2  | 2  | 2      | 2  | 2 | 2    | 2  | 2  |             |
| 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 | XU       | 1M | 1L | 1U     | 1M | X | 1U   | 1M | 1L |             |
| → 2  | 2     | 2  | 2        | 2  | 2  | 2      | 2  | 2 | 2    | 2  | 2  |             |
| 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:

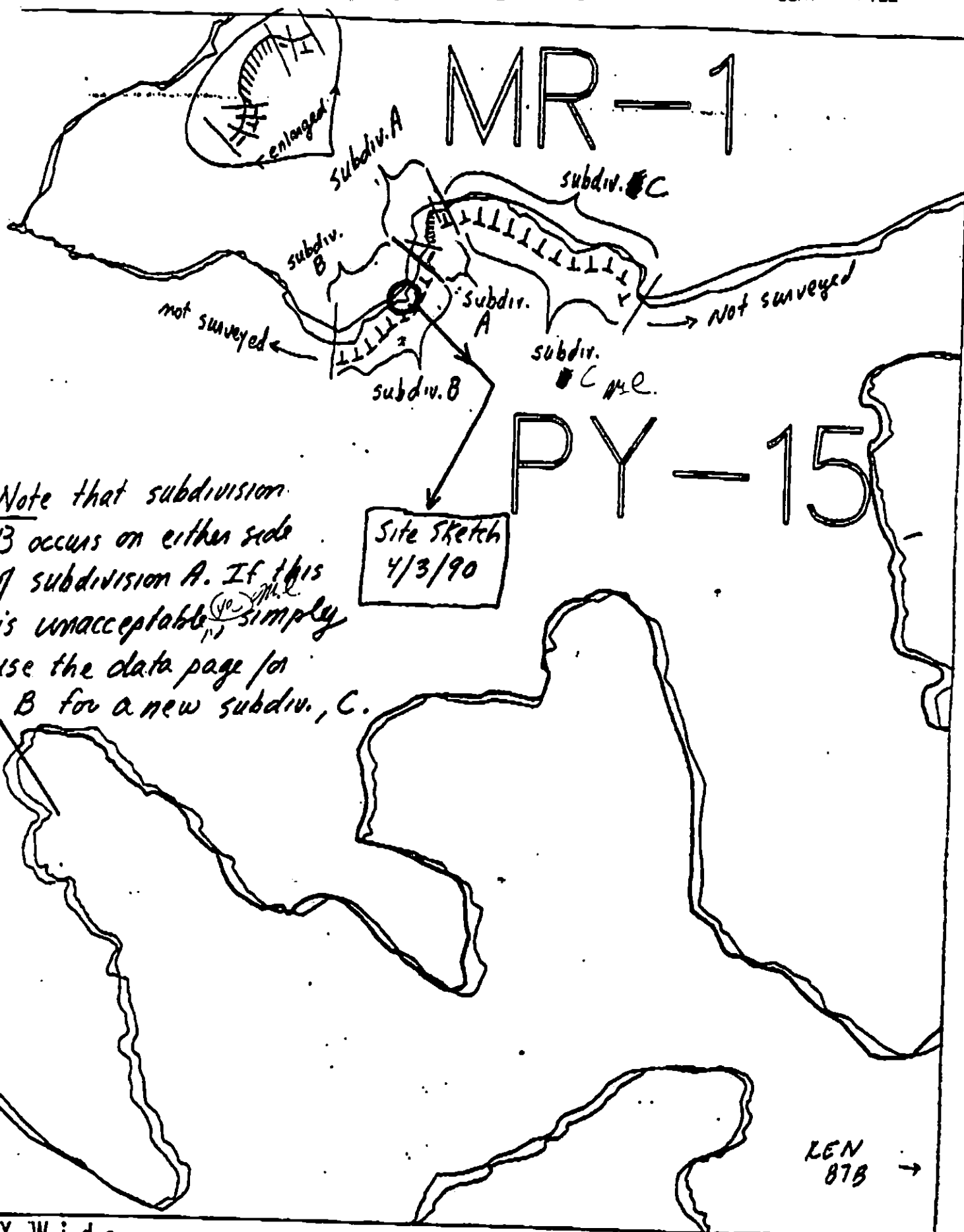
Harlequin ducks (3)

## Ecological Considerations:

Sensitivity codes: 5T (Active bald eagle nest)  
4L Keri, F

MR-1

PY-15



Note that subdivision B occurs on either side of subdivision A. If this is unacceptable, simply use the data page for B for a new subdiv., C.

Site Sketch  
4/3/90

LEN 87B →

XXXX Wide  
 /// Medium  
 --- Narrow  
 TTTT

~~PY-15~~ MR-1  
 ADEC Segment Length: 11802m

Map Key: KEN-87a  
 Name: MOAN

## ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT MR-001 SUBDIVISION B ( 2 of 3 )

### WORK WINDOW

Manual Pickup  
Tarmat Removal

OPEN

Bioremediation\*  
Other Approved Treatment

OPEN

\*No Inipol - Only Customblen as per FOSC

### ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

### APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T Bald Eagle Nest

NO CONSTRAINT. USFWS 6/10/90 map indicates no active nest within 400m of Subdivision B work site. No constraint to manual pickup, bioremediation and other approved treatments.

### OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC

*[Signature]*

Date

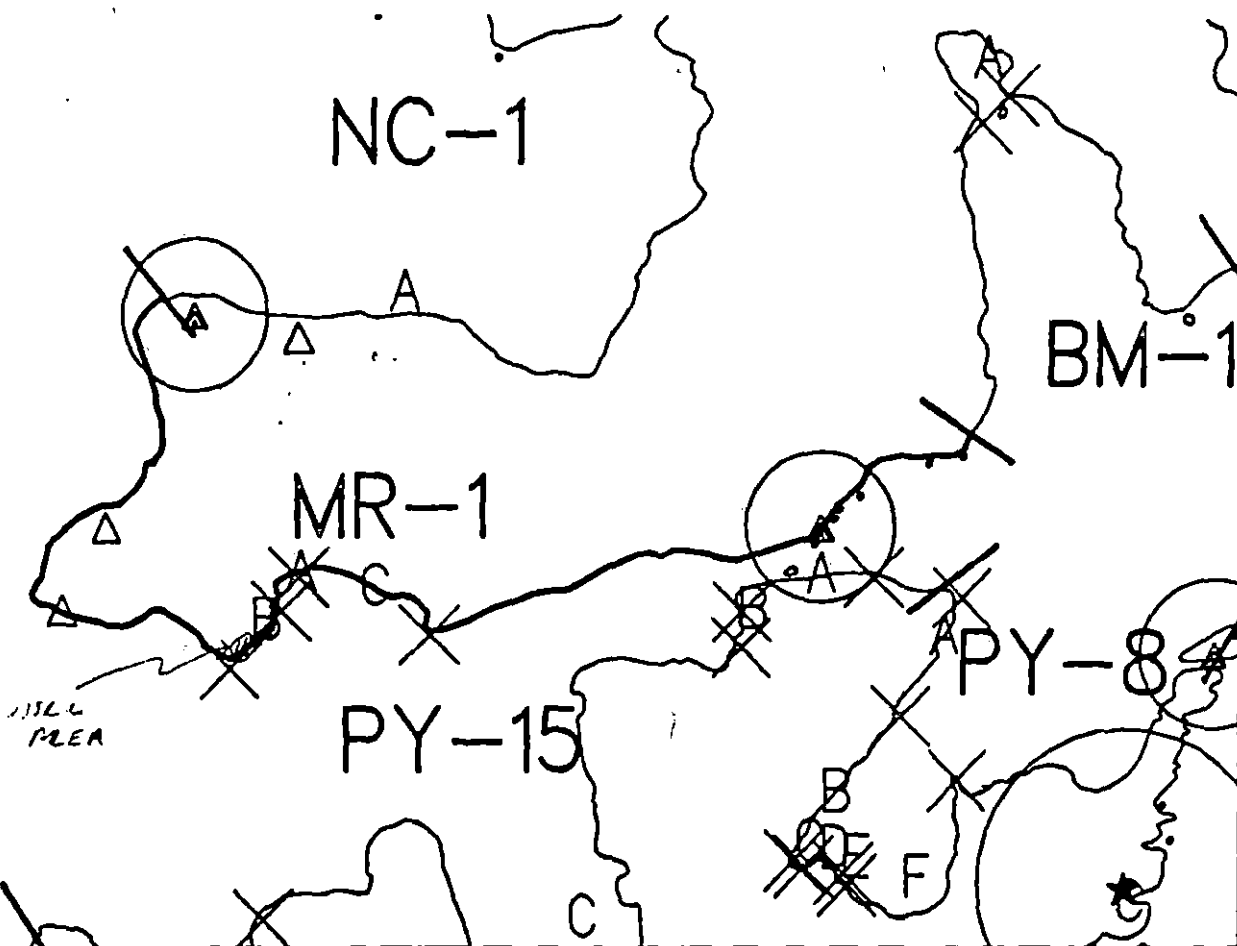
*6/29/90*

Prepared by

*Ray D. Coulter*

Date

*06/27/90*



Exxon Company, USA

Map Key: KEN+R-1

June 10, 1990



ECOLOGY MAP  
SEGMENT MR-1  
SUBDIVISION B (2 of 3)  
METERS

0 1044 2088

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

1 inch = 3426 feet

# SHORELINE EVALUATION

SEGMENT ST/ MR-001 SUBDIVISION C (3 OF 3) DATE 3/31/90

## SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Active bald eagle nest (5T) - 3/1 to 6/1. 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. Kenai Fjords National Park (4LL).

SUBDIVISION ECOLOGICAL CONSTRAINTS: Treatment should proceed with minimum disturbance to substrate.

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

## OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 872 m: No Oil 0 m  
Subsurface Oil Observed: Yes      No X Maximum Depth     

## RECOMMENDATIONS:

|                                         |                                             |
|-----------------------------------------|---------------------------------------------|
| <u>X</u> No Treatment Recommended       | <u>    </u> Snare/Absorbent Booms           |
| <u>    </u> Treatment Recommended       | <u>    </u> Oil Snares (pom poms)           |
| <u>    </u> Manual Pickup               | <u>    </u> Absorbents (pads, rolls, etc)   |
| <u>    </u> Bioremediation              | <u>    </u> Spot Washing: <u>    </u> Wands |
| <u>    </u> Tarmat: <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 BAKER  
EXXON ANDY TOL  
NOAA Bert Wescott  
USCG M. J. HALL

FOSC:      DATE: 4-23-90  
Do not treat unless Sand Manager  
consents with bioremediation.

SHORELINE EVALUATION

SEGMENT ST/ MR-001 SUBDIVISION C (3 OF 3) DATE 3/31/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Active bald eagle nest (5T) - 3/1 to 6/1. 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. Kenai Fjords National Park (4LL).

SUBDIVISION ECOLOGICAL CONSTRAINTS: Treatment should proceed with  
minimum disturbance to substrate.

ARCHAEOLOGICAL CONSTRAINTS: If treatment is planned, a cultural re-  
source evaluation is required prior to shoreline treatment.

SHPO SIGNATURE: Charles Hoffman DATE: April 12, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 872 m: No Oil 0 m  
Subsurface Oil Observed: Yes      No X Maximum Depth     

RECOMMENDATIONS:

|                                                              |                                             |
|--------------------------------------------------------------|---------------------------------------------|
| <input checked="" type="checkbox"/> 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 BAKER  
EXXON ANDY TATE  
NOAA Burt Westcott  
USCG M. J. HALL

FOSC:     

DATE: 4-23-90

Do not treat unless Sand Manager  
consents with bioremediation.



## FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ MR-1 SUBDIVISION: C DATE 3/31/90USCG

NAME \_\_\_\_\_ SIGNATURE \_\_\_\_\_

☐ NO TREATMENT RECOMMENDED  
COMMENTS☐ TREATMENT SUGGESTEDADEC

NAME \_\_\_\_\_ SIGNATURE \_\_\_\_\_

☐ NO TREATMENT RECOMMENDED  
COMMENTS☐ TREATMENT SUGGESTEDLAND MANAGERNPSNAME Michael Tetreau SIGNATURE [Signature]☒ NO TREATMENT RECOMMENDED  
COMMENTS☒ TREATMENT SUGGESTED

Good survey. Very light splatters of dried cover  
and coat. Cleaning would be difficult and  
would be primarily cosmetic.

## FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ MR-1 SUBDIVISION: C DATE 3/31/90USCG / NOAA  
NAME

JACQUI MICHEL

SIGNATURE

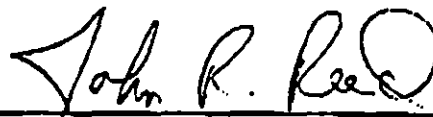
☒ NO TREATMENT RECOMMENDED  
COMMENTS☐ TREATMENT SUGGESTED

The light distribution of oil on rocky outcrops does not warrant any treatment.

ADEC

NAME JOHN R. REED

SIGNATURE

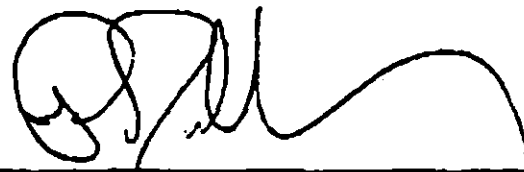
☐ NO TREATMENT RECOMMENDED  
COMMENTS☐ TREATMENT SUGGESTED

Very light banded Ring on granite bedrock and boulders. I have read and agree with all information on S.S.A.T. Forms.

~~LAND MANAGER~~ CAC

NAME Peter Zellers

SIGNATURE

☐ NO TREATMENT RECOMMENDED  
COMMENTS☐ TREATMENT SUGGESTED

The intermittent presence of cover/coat type oil in subdivision C doesn't, in my opinion, warrant a treatment effort. This is subject to review by CAC later this year. I presently agree with SSAT's on re-garding this area. If cleanup is implemented MR-01's archaeological integrity would not be threatened.

## SHORELINE OILING SUMMARY

REVISION NO. 02/28/98

OG Mann USCG Michel (201/45 (CAC)) (SEGMENT ST/ MR-1)  
 BIO Call LAND REP Tetreau (USNPS) SUBDIVISION C (3 of 3)  
 EXXON Boyer ADEC Reed TIME 9:30 to 10:00  
 TEAM NO.: 18 TIDE LEVEL: +1 to -1 DATE 3/31/90  
 EST. SUBDIVISION LENGTH: 850 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 25 % C 0 % P 0 % G 0 % S 0 % M 0 % V 0 %  
 SLOPE: Long 50 % Hang 50 % Vert 0 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High  
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 850 m NO 0 m

## SURFACE OIL

| CHARACTER        | DISTRIBUTION |    |    |    | OIL / FILM COLOR |    |    |    |    |    |    |    | IMPACTED ZONES |   |   |   |
|------------------|--------------|----|----|----|------------------|----|----|----|----|----|----|----|----------------|---|---|---|
|                  | IC           | IS | IP | IR | SL               | SL | SL | SL | SL | SL | SL | SL | 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 | No | AMOUNT |    |    |
|--------------|----|--------|----|----|
|              |    | SM     | MD | LG |
| Logs         |    |        |    |    |
| Vegetation   |    |        |    |    |
| Trash        |    |        |    |    |
| Debris       |    |        |    |    |

DEBRIS COLLECTED  
☐ YES ☒ NO

TYPE \_\_\_\_\_

#BAGS \_\_\_\_\_

Photographs:

Roll No. noneFrames none

## SUBSURFACE OIL

| PIT NO. | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER |    |    |    |    | OILED INTERVAL (CM-CM) | BELOW |    | OIL / FILM COLOR |    |    |    |    |    |    |    | PIT ZONE |   |   |   | A N A | SUBSURFACE SEDIMENTS |
|---------|----------------|--------------------------|----|----|----|----|------------------------|-------|----|------------------|----|----|----|----|----|----|----|----------|---|---|---|-------|----------------------|
|         |                | OP                       | OR | OL | OF | NO |                        | UO    | UC | SL               | SL | SL | SL | SL | SL | SL | SL | SU       | U | M | U |       |                      |
|         |                |                          |    |    |    |    |                        |       |    |                  |    |    |    |    |    |    |    |          |   |   |   |       |                      |
|         |                |                          |    |    |    |    |                        |       |    |                  |    |    |    |    |    |    |    |          |   |   |   |       |                      |
|         |                |                          |    |    |    |    |                        |       |    |                  |    |    |    |    |    |    |    |          |   |   |   |       |                      |
|         |                |                          |    |    |    |    |                        |       |    |                  |    |    |    |    |    |    |    |          |   |   |   |       |                      |
|         |                |                          |    |    |    |    |                        |       |    |                  |    |    |    |    |    |    |    |          |   |   |   |       |                      |
|         |                |                          |    |    |    |    |                        |       |    |                  |    |    |    |    |    |    |    |          |   |   |   |       |                      |
|         |                |                          |    |    |    |    |                        |       |    |                  |    |    |    |    |    |    |    |          |   |   |   |       |                      |
|         |                |                          |    |    |    |    |                        |       |    |                  |    |    |    |    |    |    |    |          |   |   |   |       |                      |

## COMMENTS

This subdivision lies east of subdivision A. This shoreline is very similar to that of subdivision B - the shoreline is bedrock slabs of granite with angular boulders that have weathered-out locally. The forest presses close to the sea and weathered snags are common.

# SHORELINE ECOLOGICAL SUMMARY

REVISION: 10/22/90

Segment ST / MR-1 Subdivision C (of A-C) Date (mo / day / yr) 3 / 31 / 90

Time (24 hr) 0930 Biologist M. CARR

(A) Substrate type and % of segments: <sup>SUBDIVISION</sup>  
(1) Bedrock 75 (2) Boulder 25 (3) Cobble — (4) Pebble — (5) Sand — (6) Silt —

(B) Overall % cover of biota (% of segment): <sup>SUBDIVISION</sup> 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  | 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:

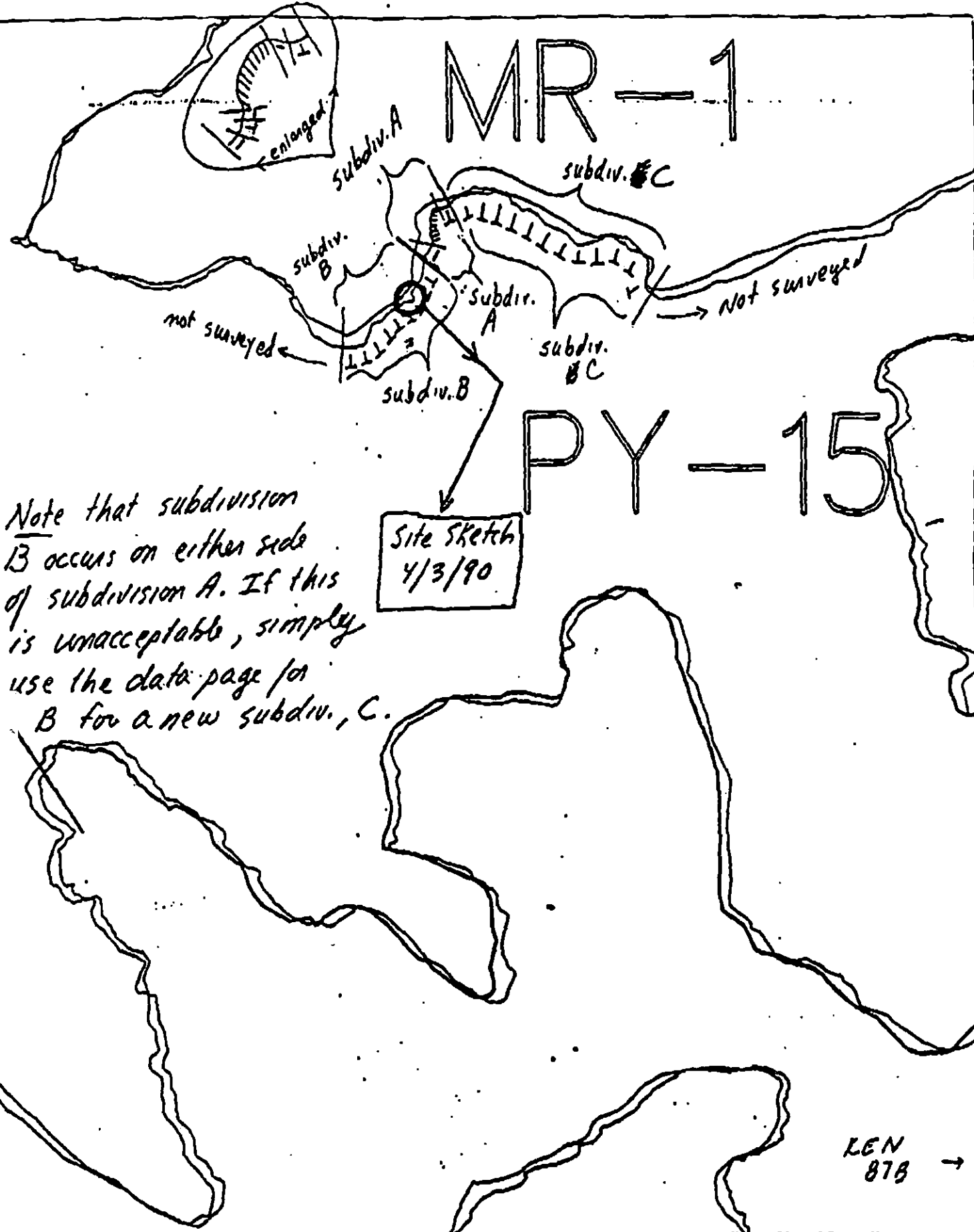
Ecological Considerations:

Sensitivity codes: ST. (Bald eagle nest)

4 LL - Red Keri, Fjords National Park

# MR-1

# PY-15

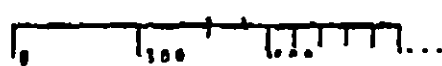


Note that subdivision B occurs on either side of subdivision A. If this is unacceptable, simply use the data page for B for a new subdiv., C.

KEN 87B →

X Wide  
 // Medium  
 --- Narrow  
 TTT Very Light  
 ooo "

~~PY-15~~ MR-1  
 ADEC Segment Length: 11862m



Map Key: KEN-870

Name: Mann

Date: 3/31/90

WORK PLAN ADDENDUM

Segment MRI

Subdivision A/C

Dated Aug 2 1990

MODIFICATION

1. REASON FOR MODIFICATION

REQUEST FROM THE FIELD (BY PHONE) TO ADD SPOT WASHING  
TO AID IN THE REMOVAL OF OIL FROM BOULDER AREAS.

2. ADJUSTMENT TO WORK PLAN

- FOLLOWING MANUAL REMOVAL OF ACCESSIBLE OIL  
(MOUSSE + POOLED OIL) SPOT WASH AS REQUIRED.

SHPO APPROVAL NEEDED YES X  
NO       

SHPO SIGNATURE Rachel Jean Olsen 2 Aug/90  
MONITOR CONSTRAINT APPLIES.

TAG APPROVAL DATE 8/2/90

ADEC JOAN BAUER JOHNSON

EXXON ANNY TEAL TEAL

NOAA Burl Wescott Burl Wescott

USCG D.D. Rome DD Rome

FOSC [Signature] DATE 8/2/90

SHORELINE EVALUATION

SEGMENT ST/ MT-001 SUBDIVISION A (1 OF 1) DATE 4/7/90

**SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:**

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

4QQ National Wildlife Refuge (no time constraints given)

**SUBDIVISION ECOLOGICAL CONSTRAINTS:**

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

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

**OILING CATEGORIZATION:**

Wide 0 m: Medium 0 m: Narrow 38 m: V. Light 404 m: No Oil 747 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> <u>    </u> Beach Cleaner       |
| <u>    </u> <u>    </u> Removal         | <u>    </u> Other (see comments)            |

**COMMENTS:**

**TAG COMMENTS:**

TAG APPROVAL DATE: 4/14/90

ADEC JOHN BAUER John Bauer

EXXON ANDY TERRY Andy Terry

NOAA BILL GREGGOTT Bill Greggott

USCG G.A. REITER G.A. Reiter

FOSC: W L DATE: 5-1-90

# PWS ECOLOGICAL CONSTRAINTS

MT-001

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



## FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ MT 01 SUBDIVISION: A DATE 4/7/90

USCG/NOAA

NAME JACQUI MICHEL SIGNATURE Michel☒ NO TREATMENT RECOMMENDED  
COMMENTS☐ TREATMENT SUGGESTED

OIL WAS FOUND @ 2 SITES WITHIN THE SEGMENT: 1) ST/CT IN SUBSURFACE IN THE BOULDER BEACH, AND 2) SCATTERED BANDS/DROPS ON THE MORE SHELTERED ROCK FACES AND BEHIND OFFSHORE ROCKS. I WAS QUITE SURPRISED TO FIND ANY OIL - THIS AREA IS VERY HIGH ENERGY. YET NATURAL REMOVAL HAS BEEN EFFECTIVE AND THE SMALL AMOUNT OF REMAINING OIL DOES NOT WARRANT FURTHER TREATMENT.

ADEC

NAME JOHN R. REED SIGNATURE John R. Reed☒ NO TREATMENT RECOMMENDED  
COMMENTS☐ TREATMENT SUGGESTED

Most of this segment is vertical granite bedrock with a few large granite boulder beaches. Very light oil of mostly stain found in granite boulders on site #1 (see sk). Some coat and stain found in band on vertical wall. Does not require cleanup in this segment. I have read and agree with all data on S.S.A.T. Forms.

LAND MANAGER/USFWS

NAME Mary Porter SIGNATURE Mary Porter☒ NO TREATMENT RECOMMENDED  
COMMENTS☒ TREATMENT SUGGESTED

Oil was present in 2 locations within this segment. At site 1, oil persisted as 3, 3-5 m. long x 2m wide patches of coat and stain. Subsurface oil was present as coat and stain to a depth of 25 cm. This beach is only accessible in very calm water. Oil was also present in this segment as a sporadic band of drips on the rock face.

## SHORELINE OILING SUMMARY

REVISION NO. 83/22/99

OG Mann USCG Michel SEGMENT STI MT-1  
 BIO Carr LAND REP Partner USFWS SUBDIVISION A  
 EXXON Boyer ADEC Reed TIME 15:45 to 16:36  
 TEAM NO.: 18 TIDE LEVEL: +5 to +4 DATE 4/7/90  
 EST. SUBDIVISION LENGTH: 1357 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 20 % C 0 % P 0 % G 0 % S 0 % M 0 % V 0 %  
 SLOPE: Long 20 % Hang 0 % Vert 20 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High  
 OIL CATEGORY LENGTH: W 0 m M 0 m N 30 m VL 480 m NO 847 m

## SURFACE OIL

| CHARACTER        | DISTRIBUTION |   |   |   | OIL / FILM COLOR |    |    |    |    |    | IMPACTED ZONES |   |   |   |
|------------------|--------------|---|---|---|------------------|----|----|----|----|----|----------------|---|---|---|
|                  | C            | N | P | S | BR               | FW | GY | BL | TL | LR | 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? ☒ BR RW SL TL

| OILED DEBRIS | AMOUNT |    |    |
|--------------|--------|----|----|
|              | SM     | MD | LG |
| Logs         |        |    |    |
| Vegetation   |        |    |    |
| Trash        |        |    |    |
| Debris       |        |    |    |

DEBRIS COLLECTED  
☐ YES ☒ NOTYPE NA 0#BAGS NA 0

Photographs:

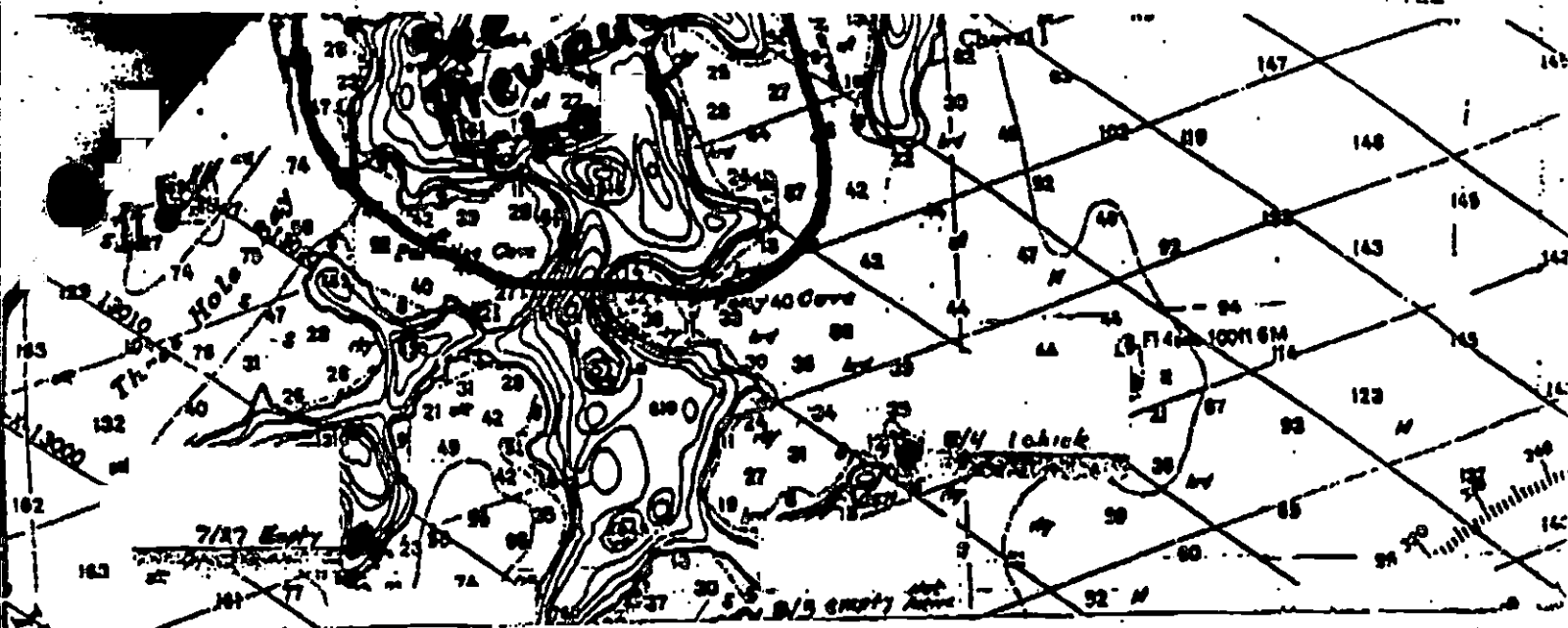
Roll No. ST 18-4Frames 27-30

## SUBSURFACE OIL

| PIT NO. | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER |    |    |    |    | OILED INTERVAL (CM-CL) | BELOW |    | OIL / FILM COLOR |    |    |    |    |    | PIT ZONE |   |   |   | A N A | SUBSURFACE SEDIMENTS |
|---------|----------------|--------------------------|----|----|----|----|------------------------|-------|----|------------------|----|----|----|----|----|----------|---|---|---|-------|----------------------|
|         |                | OP                       | OR | OL | OF | NO |                        | VO    | UC | BR               | FW | GY | BL | TL | LR | SU       | U | M | U |       |                      |
| 1       | 50             | ✓                        | -  |    |    |    | 0-30                   | ✓     |    |                  |    |    | ✓  |    |    | ✓        |   |   |   | NO    | BC throughout        |
|         |                |                          |    |    |    |    |                        |       |    |                  |    |    |    |    |    |          |   |   |   |       |                      |
|         |                |                          |    |    |    |    |                        |       |    |                  |    |    |    |    |    |          |   |   |   |       |                      |
|         |                |                          |    |    |    |    |                        |       |    |                  |    |    |    |    |    |          |   |   |   |       |                      |
|         |                |                          |    |    |    |    |                        |       |    |                  |    |    |    |    |    |          |   |   |   |       |                      |
|         |                |                          |    |    |    |    |                        |       |    |                  |    |    |    |    |    |          |   |   |   |       |                      |

## COMMENTS

Patches of coat and cover exist on high angle, lee faces on some cliffs. This segment encompasses the inner, eastern shoreline of the cove on eastern Motakka Island. Its walls are near-vertical except when broken by steep, boulder beaches. Bedrock is granite. At the south end of the cove, we landed and observed remnants of oil. Most of this oil is a sparse ST and CT on boulders below the surface horizon of



Sensitivity sites for segments MT-1, MT-3, & MT-4.

ENTIRE SHORELINE OF ISLAND IS INHABITED BY  
SEA BIRD COLONIES



OG MarSEGMENT ST/ MT-1SUBDIVISION ADATE 4, 7 90**CHECKLIST**

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

**LEGEND**1 

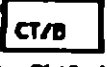
PI - No Subsurface Oil

2 

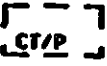
PI - Subsurface Oil

 CT/C

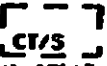
Continuous Distribution

 CT/B

Broken Distribution

 CT/P

Patchy Distribution

 CT/S

Splashed Distribution

Oil Vegetation

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

NO sketch

Oil Character Length (m): AP 0 PO 0 CV 0 CT 100 ST 100 MS 0 PT 0 TB 0 FL 0 NO 1257

## SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / MT-1 Subdivision A Date (mo / day / yr) 4 / 7 / 90Time (24 hr) 1605 Biologist M. CARR(A) Substrate type and % of <sup>subdivision</sup> segments:  
(1) Bedrock 80 (2) Boulder 20 (3) Cobble      (4) Pebble      (5) Sand      (6) Silt     (B) Overall % cover of biota (% of <sup>subdivision</sup> segment): Dense 70 Moderate 20 Low 10

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

Photographs: 4  
Roll No.     Frames 27 - 30

## 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  | Inaccessible |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  | NOT PRESENT  |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |              |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |              |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  |              |

## MYTILUS

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    |                    |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|--------------------|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |                    |
| 2     | 2  | 2  | 2        | 2  | 2  | 2      | 2  | 2  | 2    | 2  | 2  | NOT PRESENT IN LOW |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  | Inaccessible       |
| 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  | Inaccessible |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  | NOT PRESENT  |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |              |
| 5     | 5  | 5  | 5        | 5  | 5  | 5      | 5  | 5  | 5    | 5  | 5  |              |
| 6     | 6  | 6  | 6        | 6  | 6  | 6      | 6  | 6  | 6    | 6  | 6  |              |

## FUCUS

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

## Wildlife Observations General Comments:

Bald eagle (1)  
 Cormorant (29) double-crested  
 Surf-scooter (1)  
 Glaucous-winged gull (1)

## Ecological Considerations:

Sensitivity codes: 4-DR (National Wildlife Refuge), 5-R (Seabird colonies)

Shore was inaccessible, therefore all observations were made from skiff.

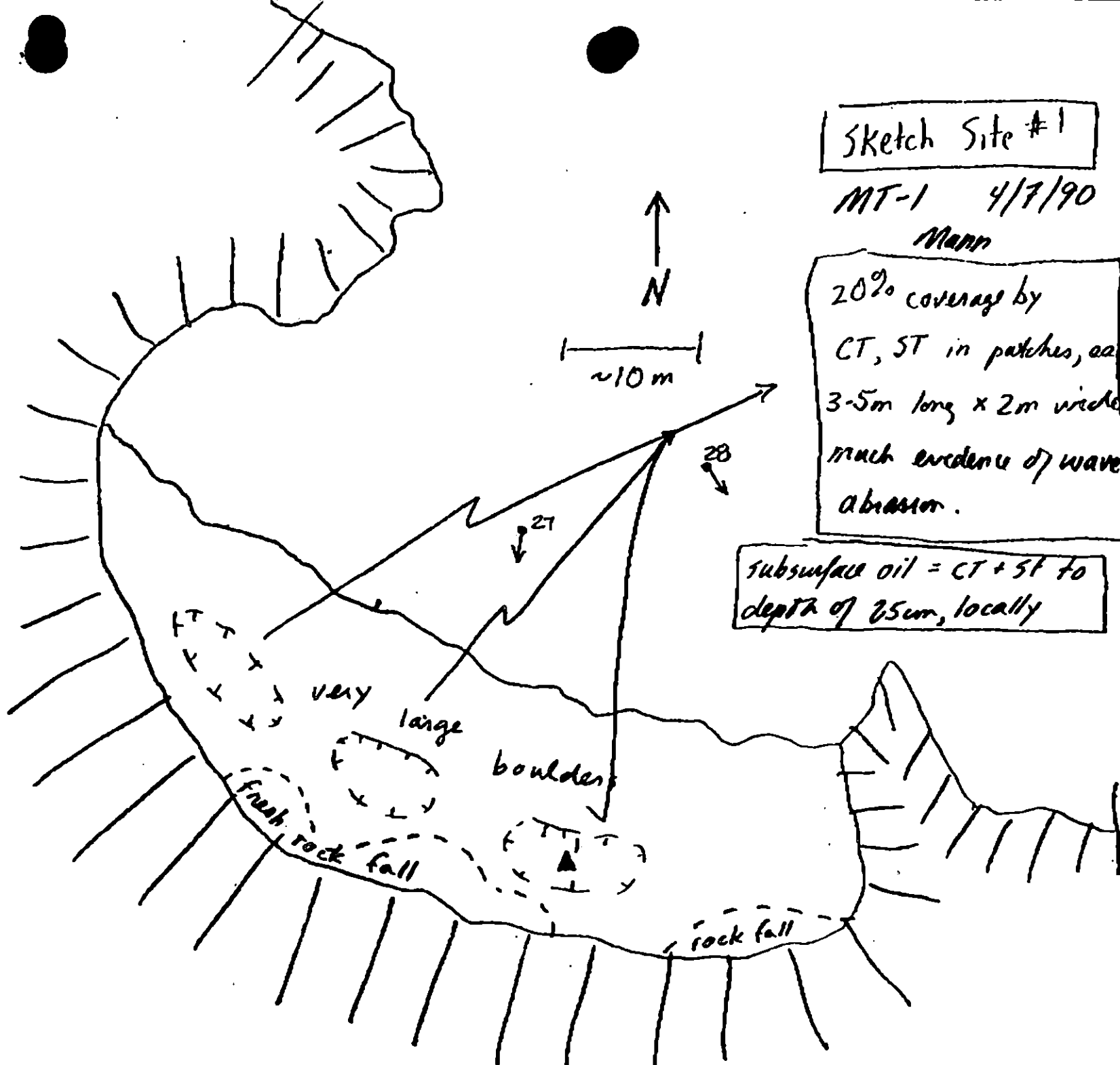
Sketch Site #1

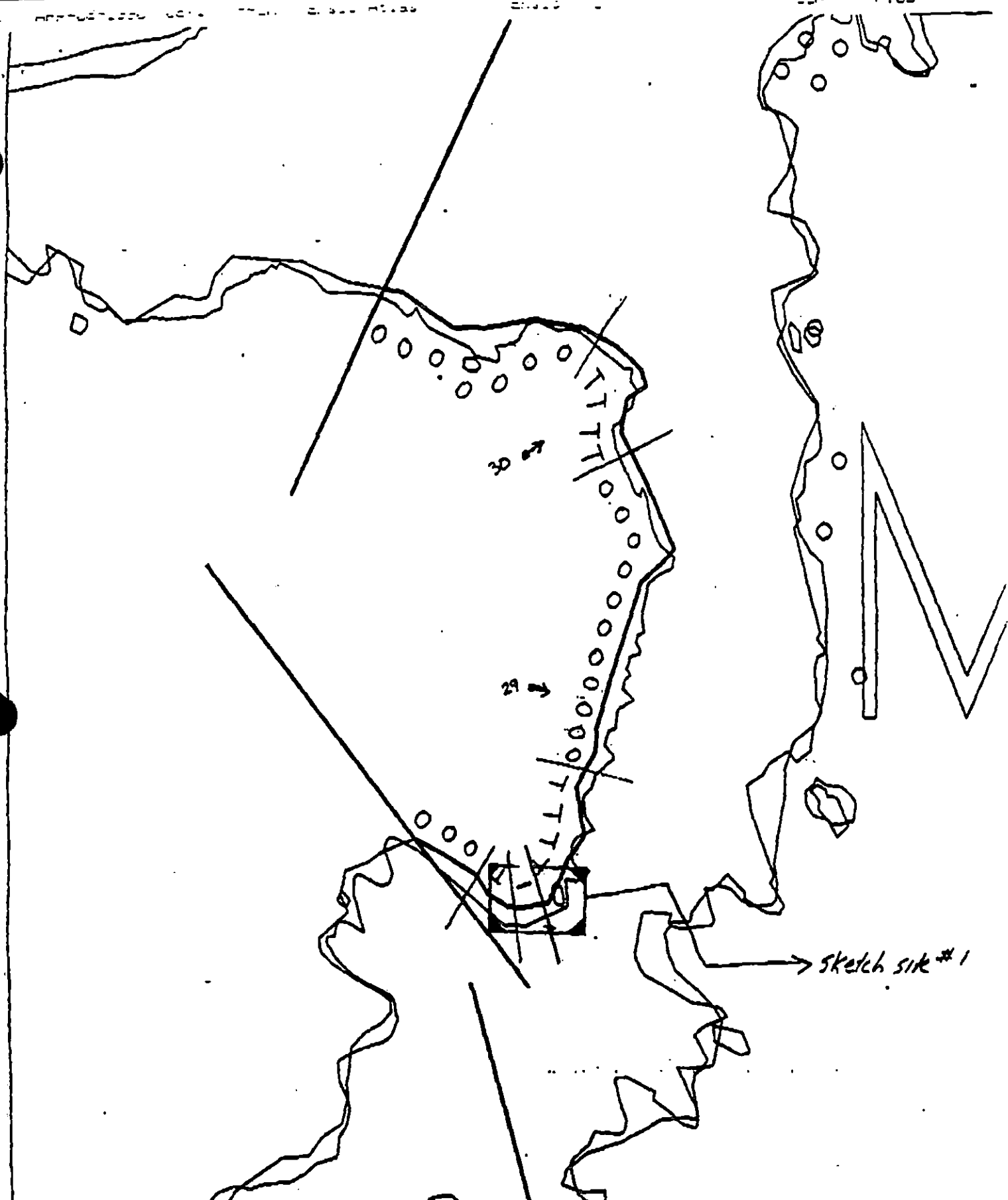
MT-1 4/7/90

Mann

20% coverage by  
CT, ST in patches, each  
3-5m long x 2m wide:  
much evidence of wave-  
abrasion.

subsurface oil = CT + ST to  
depth of 25cm, locally





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

MT-1A

ADEC Segment Length: 1189m



Map Key: KEN-60

Name: Mann

Date: 4/7/90

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ MT-003 SUBDIVISION A (1 OF 1) DATE 4/7/90

**SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:**

5R Seabird colony (5/1 to 9/1)  
4QQ National Wildlife Refuge (no time constraints given)

**SUBDIVISION ECOLOGICAL CONSTRAINTS:**

Avoid disturbance/damage to uncoiled biota and substrate. See attached Ecological Constraints Sheet.

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

**OILING CATEGORIZATION:**

Wide 0 m: Medium 0 m: Narrow 0 m: V. Light 0 m: No Oil 1202 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: 4/14/90

ADEC JOHN BAWER John Bawer  
EXXON ANNY TEAL Anny Teal FOSC:      DATE: 5-1-90  
NOAA Burt W. Wright Burt W. Wright  
USCG G.A. REITER G.A. Reiter



## PWS ECOLOGICAL CONSTRAINTS

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

MENT ST / MT 03 SUBDIVISION: A DATE 4/7/90

USCG/NOAA

NAME JACQUI MICHEL SIGNATURE Michel

☒ NO TREATMENT RECOMMENDED  
COMMENTS

☐ TREATMENT SUGGESTED

WE WERE NOT ABLE TO INSPECT ANY OF THIS SEGMENT BY FOOT. HOWEVER, MOST OF THE SHORELINE WAS COMPOSED OF VERTICAL ROCKY CLIFFS WHICH WERE FREE OF OIL. THE ONE BEACH IS LIKELY TO HAVE HAD SOME SMALL AMOUNT OF OIL, BASED ON SURVEYS OF SIMILAR BEACHES. NO FURTHER TREATMENT IS WARRANTED ALONG THIS HIGH ENERGY SEGMENT. IT IS QUITE A PLACE!

ADEC

NAME JOHN R. REED SIGNATURE John R Reed

☐ NO TREATMENT RECOMMENDED  
COMMENTS

☐ TREATMENT SUGGESTED

The majority of this segment is vertical granite cliffs with a large bird colony. No oil was observed in this segment. No treatment is needed. I have read and agree with all data on S.S.A.T. Forms.

LAND MANAGER/USFWS

NAME Mary Portner SIGNATURE Mary Portner

☐ NO TREATMENT RECOMMENDED  
COMMENTS

☐ TREATMENT SUGGESTED

we were unable to inspect the small pocket beach in this segment which was oiled in 1989. (See 1989 scat notes). The remainder of the segment is primarily vertical rock face with high wave energy. No oil was observed in this portion of the segment.

## SHORELINE OILING SUMMARY

REVISION NO. 02/22/90

OG MANN USCG/NOAA MICHEL SEGMENT ST/ MT 03  
 RIO CARE LAND REP PORTNER - FWS SUBDIVISION A  
 XXON BOYER ADEC LEED TIME 16:36 to 17:00  
 TEAM NO.: 18 TIDE LEVEL: +4.0 to +2.7 DATE 4/17/90  
 EST. SUBDIVISION LENGTH: 1869 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow  
 UPLANDS DESCRIPTION: ☒ Grass ☐ Forest ☒ Rock  
 SURVEYED FROM: ☐ Foot ☒ Boat ☐ Helo WORKING DIRECTION: South to NORTH  
 SURFACE SEDIMENTS: R 95 % B 5 % C 0 % P 0 % G 0 % S 0 % M 0 % V 0 %  
 SLOPE: Long 5 % Hang 20 % Vert 75 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High  
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 0 m NO 1839 m

SURFACE OIL NONE OBSERVED

| CHARACTER        | DISTRIBUTION |   |   |   | OIL / FILM COLOR |    |    |    |    | IMPACTED ZONES |    |   |   |   |
|------------------|--------------|---|---|---|------------------|----|----|----|----|----------------|----|---|---|---|
|                  | C            | B | P | S | SP               | OR | OL | OF | TL | LM             | SU | U | M | U |
| ASPHALT PAVEMENT |              |   |   |   |                  |    |    |    |    |                |    |   |   |   |
| POOLED           |              |   |   |   |                  |    |    |    |    |                |    |   |   |   |
| COVER            |              |   |   |   |                  |    |    |    |    |                |    |   |   |   |
| COAT             |              |   |   |   |                  |    |    |    |    |                |    |   |   |   |
| STAIN            |              |   |   |   |                  |    |    |    |    |                |    |   |   |   |
| MOUSSE           |              |   |   |   |                  |    |    |    |    |                |    |   |   |   |
| PATTIES          |              |   |   |   |                  |    |    |    |    |                |    |   |   |   |
| TARBALLS         |              |   |   |   |                  |    |    |    |    |                |    |   |   |   |
| FILM             |              |   |   |   |                  |    |    |    |    |                |    |   |   |   |
| NO OIL           |              |   |   |   |                  |    |    |    |    |                | ✓  | ✓ | ✓ | ✓ |

NOT OBSERVED 30PAVEMENT: H F S N/A sq. m by N/A cmPATTIES / TARBALLS N/A BAGSNEAR SHORE SHEEN? (NO) BR RW SL TL

| OILED DEBRIS <u>NO</u> | AMOUNT |    |    |
|------------------------|--------|----|----|
|                        | SM     | MD | LG |
| Logs                   |        |    |    |
| Vegetation             |        |    |    |
| Trash                  |        |    |    |
| Debris                 |        |    |    |

DEBRIS COLLECTED

☐ YES ☒ NOTYPE N/A#BAGS N/A

Photographs:

Roll No. none

Frames \_\_\_\_\_

SUBSURFACE OIL NO PITS DUG BECAUSE OF INACCESSIBILITY OF THE SHORE AND UPRIGHT ROCKY SHORES.

| PIT NO. | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER |    |    |    |    | OILED INTERVAL (CM-CH) | BELOW |    | OIL / FILM COLOR |    |    |    |    |    |   |   | PIT ZONE |    |   |   | A N A | SUBSURFACE SEDIMENTS |
|---------|----------------|--------------------------|----|----|----|----|------------------------|-------|----|------------------|----|----|----|----|----|---|---|----------|----|---|---|-------|----------------------|
|         |                | OP                       | OR | OL | OF | NO |                        | UO    | UC | SP               | OR | OL | OF | NO | SU | U | M | U        | SU | U | M | U     |                      |
|         |                |                          |    |    |    |    |                        |       |    |                  |    |    |    |    |    |   |   |          |    |   |   |       |                      |
|         |                |                          |    |    |    |    |                        |       |    |                  |    |    |    |    |    |   |   |          |    |   |   |       |                      |
|         |                |                          |    |    |    |    |                        |       |    |                  |    |    |    |    |    |   |   |          |    |   |   |       |                      |
|         |                |                          |    |    |    |    |                        |       |    |                  |    |    |    |    |    |   |   |          |    |   |   |       |                      |
|         |                |                          |    |    |    |    |                        |       |    |                  |    |    |    |    |    |   |   |          |    |   |   |       |                      |
|         |                |                          |    |    |    |    |                        |       |    |                  |    |    |    |    |    |   |   |          |    |   |   |       |                      |
|         |                |                          |    |    |    |    |                        |       |    |                  |    |    |    |    |    |   |   |          |    |   |   |       |                      |

COMMENTS

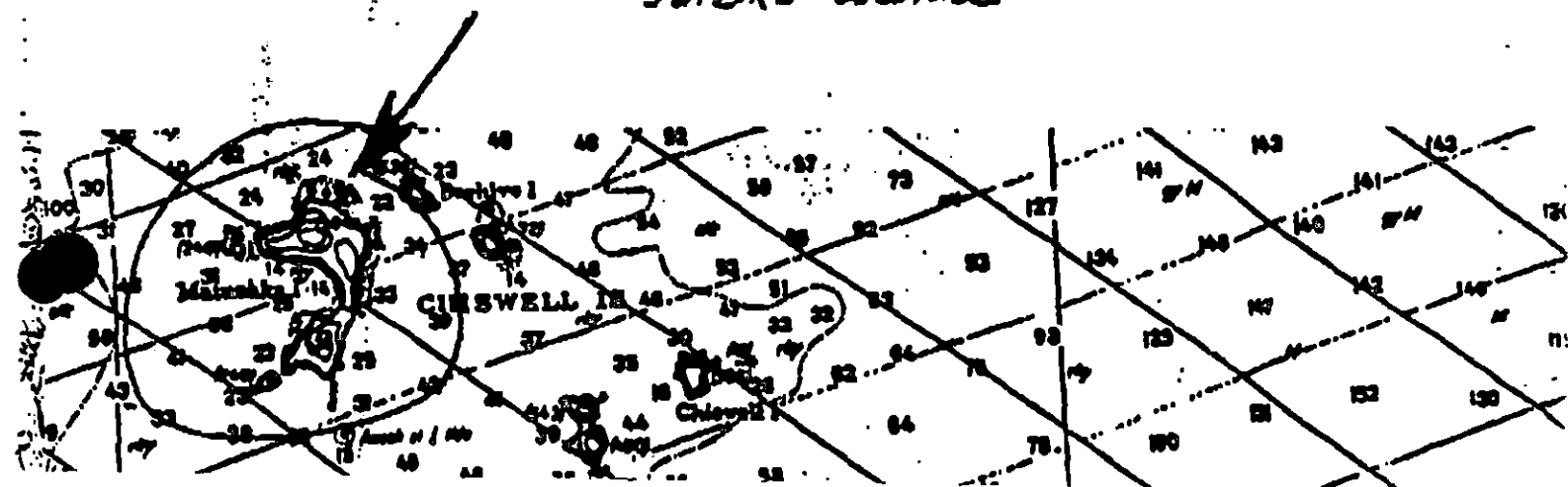
marked as "unobserved" on the GIS map.

MT-3 is the roughest and most inaccessible of the Makushka Island  
 ments. We had ocean swells of about 10 feet which made approach  
 to the cliffs impossible at distances < 30-50 yards. Shorelines are  
 steep and much wave energy is reflected. Judging from the fate  
 and persistence of oil in a similar cove in MT#1, I think it unlikely,



Sensitivity sites for segments MT-1, MT-3, & MT-4.

ENTIRE SHORELINE OF ISLAND IS INHABITED BY  
SEABIRD COLONIES



OG MT

SEGMENT ST/ MT/3

SUBDIVISION A

DATE 4, 7 90

# SKETCH MAP

## CHECKLIST

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

NO sketch

## LEGEND

1 

Pht - No Subsurface Oil

2 

Pht - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splashed Distribution

Other Vegetation

1 

Photo location, direction,  
and number

Oil Character Length (m): AP 0 PO 0 CV 0 CT 0 ST 0 MS 0 PT 0 TB 0 FL 0 NO 1839

# SHORELINE ECOLOGICAL SUMMARY

REVISION: 08/25/90

Segment ST / MT-3 Subdivision A (of A) Date (mo / day / yr) 4 / 7 / 90

(24 hr) 1639 Biologist M. CARR

(A) Substrate type and % of <sup>SUBDIVISION</sup> segments:  
(1) Bedrock 95 (2) Boulder 5 (3) Cobble      (4) Pebble      (5) Sand      (6) SR     

(B) Overall % cover of biota (% of <sup>SUBDIVISION</sup> segment): Dense 90 Moderate 10 Low     

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

Photographs: Roll No.     

Frames     

## BARNACLES

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

## MYTILUS

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

LOWER BONE INACCESSIBLE.

LOWER BONE INACCESSIBLE.

## 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  |             |
|       |    |    |          |    |    |        |    |    |      |    |    |             |

INACCESSIBLE

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  | 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  |             |
|       |    |    |          |    |    |        |    |    |      |    |    |             |

LOWER BONE INACCESSIBLE

NOT PRESENT

## Wildlife Observations/ General Comments:

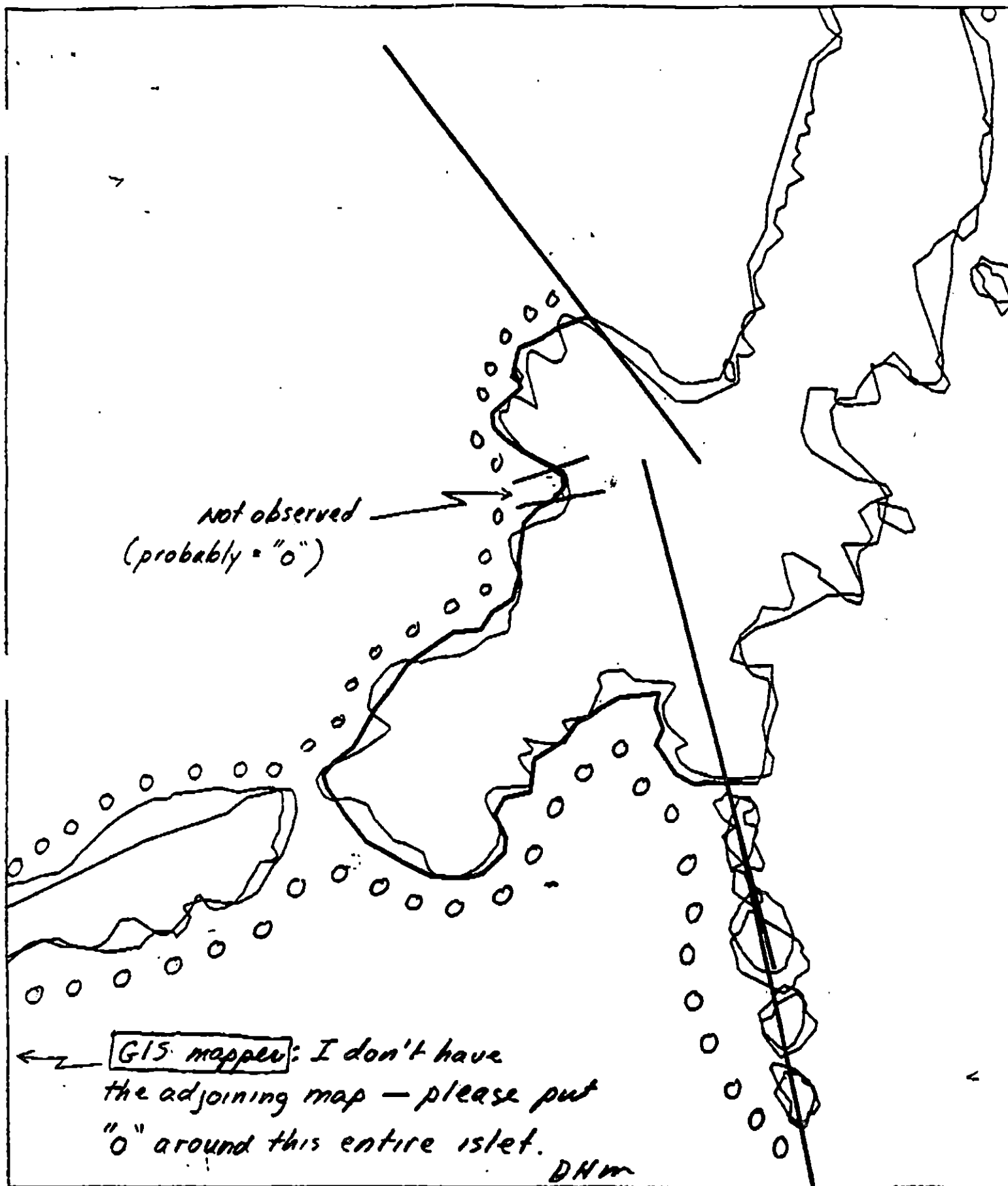
Bald eagle (2), both immature

Glaucopteryx guller (200), on rocks.

Black-legged Kittiwake (30), on rocks

## Ecological Considerations:

Sensitivity codes: 4-00 (National Wildlife Refuge), 5-R (seabird colonies)



XXXX Wide

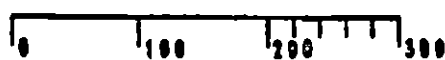
//// Medium

--- Narrow

TTTT Very Light

MT-3

ADEC Segment Length: 1534m



Map Key: KEN-62

Name: Mann

Date: 4/7/90

SHORELINE EVALUATION

SEGMENT ST/ MT-004 SUBDIVISION A (1 OF 1) DATE 4/7/90

**SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:**

5R Seabird colony (5/1 to 9/1)  
4QQ National Wildlife Refuge (no time constraints given)

**SUBDIVISION ECOLOGICAL CONSTRAINTS:**

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

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

**OILING CATEGORIZATION:**

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 36 m: No Oil 2728 m  
Subsurface Oil Observed: Yes X No      Maximum Depth 50 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: 4/14/90  
ADEC Art Wanner Art Wanner  
EXXON ANDY TGA FOSC: W L DATE: 5-1-90  
NOAA Bruce Wasolt Bruce Wasolt  
USCG G.A. REITER G.A. Reiter



## PWS ECOLOGICAL CONSTRAINTS

- 1A** Salmon stream mouth - fry outmigration (3/1 to 5/15)  
**1B** Salmon stream mouth - spawning (7/10 to 8/31)  
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
- 1C** Salmon fry nursery area (4/31 to 7/31)  
**1D** Esther Hatchery release (4/15 to 6/1)  
**1E** Main Bay Hatchery release (4/20 to 5/10)  
**1F** Sawmill Bay Hatchery release (4/20 to 5/10)  
**1G** Cannery Creek Hatchery release (4/21 to 6/1)  
**1H** Remote release site  
**1I** Gill net area (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 (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  
**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/ MT 04 SUBDIVISION: A DATE 4/7/90

USCG/NOAA

NAME JACQUI MICHEL SIGNATURE J. Michel

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED  
COMMENTS

NO OIL WAS OBSERVED ALONG THE VERTICAL ROCKY SHORELINE. SMALL AMOUNTS OF POOLED OIL (COAT) STAIN WERE FOUND AT A PREVIOUSLY OILED BOULDER BEACH, MOSTLY WITHIN/BLOW THE BOULDER SUBSTRATE. HOWEVER, NATURAL REMOVAL ALONG THIS HIGH ENERGY SHORELINE IS THE MOST EFFECTIVE MEANS OF OIL REMOVAL.

ADEC

NAME JOHN R. REED SIGNATURE John R. Reed

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED  
COMMENTS

NO OIL PRESENT ON VERTICAL GRANITE SHORELINE. ONE SMALL AREA OF COAT, STAIN, AND VERY ~~THICK~~ LITTLE MOUSSE WAS PRESENT IN A LARGE BOULDER BEACH. NO CLEANUP NEEDED IN THIS SEGMENT. LARGE BIRD COLONY PRESENTS IN THIS SEGMENT I HAVE READ AND AGREE WITH ALL DATA ON S.S.A.T. FORMS.

LAND MANAGER/USFWS

NAME Mary Portner SIGNATURE Mary Portner

☐ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED  
COMMENTS  
Oil remains as pooled, coat and stain at the small pocket beach described as Site 2 in the 1989 SCAT. The oil is concentrated in the NE corner of the beach where boulders shelter the bedrock. This site is accessible only during calm weather. A rich avifauna is present in this segment.

## SHORELINE OILING SUMMARY

REVISION NO. 03/22/98

OG MANN USCG/NOAA MICHEL SEGMENT ST/ MT. 04  
 BIO CARR LAND REP PARTNER - FWS SUBDIVISION A  
 XXON BIKER ADEC REED TIME 17:00 to 17:50  
 TEAM NO.: 19 TIDE LEVEL: +2.8 to +0.9 DATE 4/7/90  
 EST. SUBDIVISION LENGTH: 3040 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow  
 UPLANDS DESCRIPTION: ☒ Grass ☐ Forest ☒ Rock  
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: SOUTH to NORTH  
 SURFACE SEDIMENTS: R 95 % B 5 % C 0 % P 0 % G 0 % S 0 % M 0 % V 0 %  
 SLOPE: Long 5 % Hang 12 % Vert 85 % WAVE EXPOSURE: ☐ Low ☐ Med ☒ High  
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 30 m NO 3010 m

## SURFACE OIL

| CHARACTER        | DISTRIBUTION |   |   |   | OIL / FILM COLOR |    |    |    |    |    |    |    | IMPACTED ZONES |   |   |   |
|------------------|--------------|---|---|---|------------------|----|----|----|----|----|----|----|----------------|---|---|---|
|                  | C            | R | B | N | WH               | OR | OL | OF | NO | TL | BL | LB | SU             | U | M | L |
| ASPHALT PAVEMENT |              |   |   |   |                  |    |    |    |    |    |    |    |                |   |   |   |
| POOLED           |              |   |   |   |                  |    |    |    |    |    |    |    |                |   |   |   |
| COVER            |              |   |   |   |                  |    |    |    |    |    |    |    |                |   |   |   |
| COAT             |              |   |   |   |                  |    |    |    |    |    |    |    |                |   |   |   |
| STAIN            |              |   |   |   |                  |    |    |    |    |    |    |    |                |   |   |   |
| MOUSSE           |              |   |   |   |                  |    |    |    |    |    |    |    |                |   |   |   |
| PATTIES          |              |   |   |   |                  |    |    |    |    |    |    |    |                |   |   |   |
| TARBALLS         |              |   |   |   |                  |    |    |    |    |    |    |    |                |   |   |   |
| FILM             |              |   |   |   |                  |    |    |    |    |    |    |    |                |   |   |   |
| NO OIL           |              |   |   |   |                  |    |    |    |    |    |    |    |                |   |   |   |

PAVEMENT: H F S N/A sq. m by N/A cmPATTIES / TARBALLS N/A BAGSNEAR SHORE SHEEN? ☒ BR RW SL TL

| OILED DEBRIS | AMOUNT |    |    |
|--------------|--------|----|----|
|              | SM     | MD | LG |
| Logs         |        |    |    |
| Vegetation   |        |    |    |
| Trash        |        |    |    |
| Debris       |        |    |    |

DEBRIS COLLECTED  
☐ YES ☒ NOTYPE N/A#BAGS N/A

Photographs:

Roll No. ST 18-4Frames 31

## 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 |
|---------|----------------|--------------------------|----|----|----|----|------------------------|-------|------------------|----|----|----|----|----|----|----|----------|---|---|---|-------|----------------------|
|         |                | OF                       | OR | OL | OF | NO |                        |       | WH               | OR | OL | OF | NO | TL | BL | LB | SU       | U | M | L |       |                      |
| 1       | 50             |                          |    |    |    |    | 25-50                  |       |                  |    |    |    |    |    |    |    |          |   |   |   |       | NO BC throughout     |
|         |                |                          |    |    |    |    |                        |       |                  |    |    |    |    |    |    |    |          |   |   |   |       |                      |
|         |                |                          |    |    |    |    |                        |       |                  |    |    |    |    |    |    |    |          |   |   |   |       |                      |
|         |                |                          |    |    |    |    |                        |       |                  |    |    |    |    |    |    |    |          |   |   |   |       |                      |
|         |                |                          |    |    |    |    |                        |       |                  |    |    |    |    |    |    |    |          |   |   |   |       |                      |
|         |                |                          |    |    |    |    |                        |       |                  |    |    |    |    |    |    |    |          |   |   |   |       |                      |

## COMMENTS

This side of Matushka Island is mainly a high cliff infested with seabirds. Wave energy is very high and mainly reflected from the shore. Oil does occur at the north end of the segment in a small pocket beach where we were able to land. Here it and it persists on bedrock and boulder surfaces but shows wave/boulder abrasion. A few areas of pooled mousse exist on bedrock where sheltered by stable boulders. REVIEWED DATE



OG MAN

# SKETCH MAP

SEGMENT ST/ MT 04

SUBDIVISION A

DATE 4/7 90

## CHECKLIST

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

NO SKETCH PROVIDED

## LEGEND

1 ▲

PS - No Subsurface Oil

2 ▲

PS - Subsurface Oil

CT/C

Concentrated Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splashed Distribution

Cited Vegetation

1 ➡

Photo location, direction,  
and number

Oil Character Length (m): AP 0 PO 3 CV 0 CT 30 ST 30 MS 0 PT 0 TB 0 FL 0 NO 3010

## SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST MT-4 Subdivision A (of A) Date (mo / day / yr) 4 / 7 / 90  
 Time (24 hr) 1700 Biologist M. LARR

- (A) Substrate type and % of <sup>SUBDIVISION</sup> segments:  
 (1) Bedrock 75 (2) Boulder 5 (3) Cobble        (4) Pebble        (5) Sand        (6) Silt
- (B) Overall % cover of biota (% of <sup>SUBDIVISION</sup> segment): Dense 90 Moderate 10 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: 4  
 Roll No.         
 Frames 31

## BARNACLES

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    |             |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|-------------|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |             |
| 2     | 2  | 2  | 2        | 2  | 2  | X      | X  | X  | 2    | 2  | 2  | NOT PRESENT |
| 3     | 3  | 3  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |             |
| 4     | 4  | 4  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |             |
| 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:

Glaucous-winged gulls (200)

Red-tailed cormorant (20)

Common murre (11)

Black-legged Kittiwake (50)

Oyster catcher (1)

crow (1)

Bald eagle (1), mature

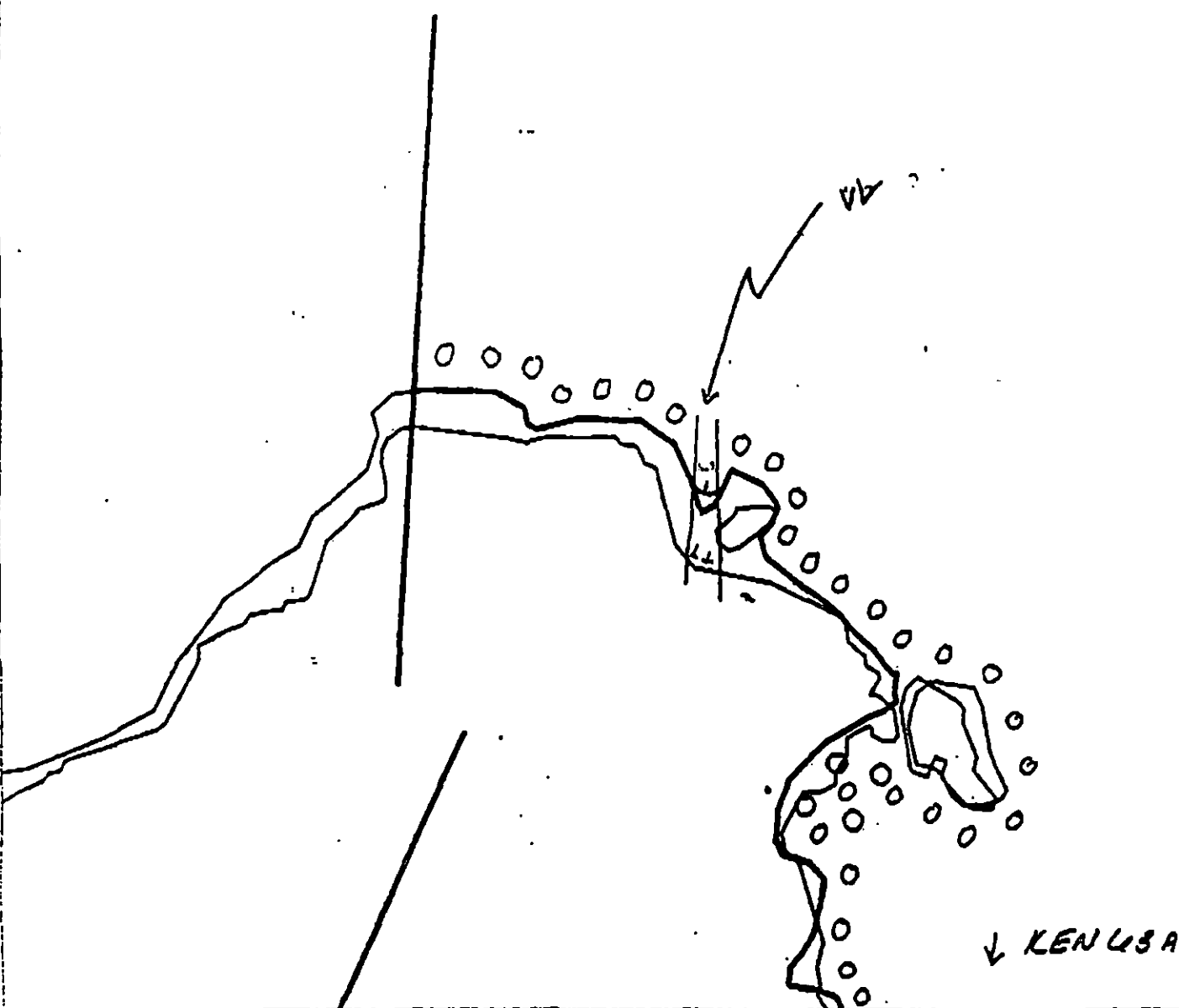
Harlequin duck (1)  
 whale (1), unidentified

## Ecological Considerations:

Sensitivity codes:

4-00 (Natural Wildlife Refuge), 5-R (seabird colonies)

140



XXX Wide

/// Medium

--- Narrow

TTTT Very light

MT-4

ADEC Segment Length: 2820m

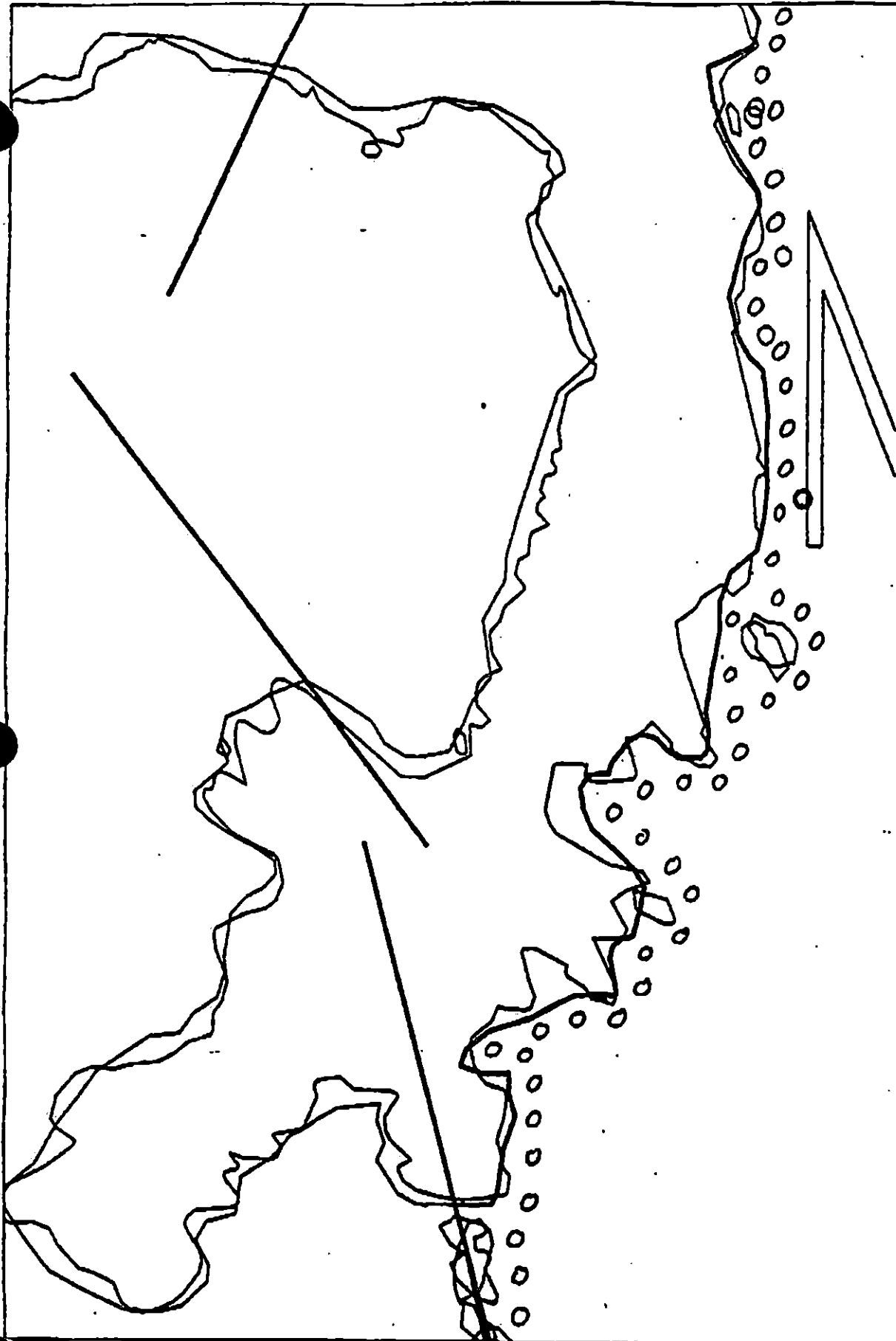
Map Key: KEN-65b

Name: Mann

Date: 4/7/90



↑  
LEN 038



XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

MT-4

ADEC Segment Length: 2820m



Map Key: XEN-630

Name: Mann

Date: 4/7/90



# SHORELINE EVALUATION

SEGMENT ST/ MU-01 SUBDIVISION A (1 OF 3) DATE 4/20/90

## 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)  
7HH Subsistence area: Finfish harvesting  
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 43 m: Narrow 525 m: V.Light 599 m: No Oil 0 m  
Subsurface Oil Observed: Yes X No      Maximum Depth 30 cm

## RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual pickup of debris,  
2) removal of tarmat as indicated on sketch map, and 3) bioremediation  
of area shown on sketch map (location #1). Work should be conducted  
after 6/1 with approval of USFWS regarding eagle nest constraints.

TAG COMMENTS: Monitors to REASSESS LOGS

TAG APPROVAL DATE: 5/1/90.

ADEC Art Wozar [Signature]  
EXXON AMY TAYLOR [Signature]  
NOAA Gary Petroe [Signature]  
USCG KENNETH KEENE [Signature]

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

# PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)  
1B Salmon stream mouth - spawning (7/10 to 8/31)  
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
- 1C Salmon fry nursery area (4/31 to 7/31)  
1D Esther Hatchery release (4/15 to 6/1)  
1E Main Bay Hatchery release (4/20 to 5/10)  
1F Sawmill Bay Hatchery release (4/15 to 6/1)  
1G Cannery Creek Hatchery release (4/21 to 6/1)  
1H Remote release site  
1I Gill net area (8/7 to 8/31)  
1J Purse seine area (7/20 to 9/30)  
1K Purse seine hook-off (7/20 to 9/30)  
1L Set net sites (8/11 to 7/25)  
For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
- 2M Herring spawning (4/1 to 6/15)  
Restrict boat traffic to essential minimum. Avoid damage to 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.
- ✓ GU 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 Finfish harvesting  
7I Deer harvesting (8/15 to 2/28)  
7JJ Invertebrate harvesting  
For Codes 7Z through 7JJ contact ADF&G and Chenega Corporation for specific dates, locations, and constraints.

# FIELD SHORELINE COMMENT SHEET

SEGMENT ST 1 MV - 1 SUBDIVISION: H DATE 4/20/90

~~USOE~~ NOAA

NAME STEPHEN STURN

SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

## COMMENTS

LOCATIONS #1, 2, 3 ARE LOCATED ALONG LONG CHANNEL ON THE WEST SIDE OF MUMMY ISLAND. AS THESE LOCATIONS ARE LOW ENERGY SHELTERED AREAS, ANAEROBIC CONDITIONS GENERALLY IMPAIR DEGRADATION OF SUBSURFACE OIL. SEDIMENTS (COBBLE/BOULDER WITHIN PEBBLE) VANDERED BEACHES SHOULD BE MECHANICALLY TILLED OR PLOWED TO EXPOSE SUBSURFACE OIL TO NATURAL REMOVAL PROCESSES. TAR MATS SHOULD BE REMOVED (LOCATION 3). TILLING MAY BE COMBINED W/BIOREMEDIATION TO SPEED MICROBIAL DEGRADATION. CARE SHOULD BE TAKEN IN LOCATION #1 AS TO NOT RE-MOBILIZE OIL INTO PREVIOUSLY UNOILED SEDIMENTS.

ADEC

NAME Wesley Ghormley

SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

## COMMENTS

Location #1 - Clean-up is recommended in Location of Pit #5. Hot H<sub>2</sub>O High pressure washing is suggested & manual moving of small boulders to remove subsurface oil which is 30 cm in depth. Retrieve oil with pom-poms. Also broken coat thru-out subdivision could be spot washed & or scraped off using putty knives.  
Location #2 - Manually remove various types of debris at surf. Oiled Pom-poms were removed by crew.  
Location #3 - Manually remove 6 x 3 m chunk of asphalt pavement using shovels. Manually remove tarballs on Rocky Headland.

LAND MANAGER

NAME Ray Burger

SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

## COMMENTS

- Broken coat along UT2 needs to be removed by manual scarification or spot washing
- Pocket beach @ Loc #2 has coat on cobbles & splashes of coat on logs that require same treatment. This beach is landable/campable
- Concur with tx. outlined by ADEC above
- Special caution @ Loc #1 to prevent spread of oil

OG K. DEBUSSCHER Not S.D. STUM SEGMENT STIMU-1  
 BIO DR. REED LAND REP Ray Burger ADEC Wesley Ghormley SUBDIVISION A (1 OF 3)  
 EXXON Tony Diaz ADEC Wesley Ghormley TIME 13:15 to 15:00  
 TEAM NO. 9 TIDE LEVEL +8 to +3.5 Ft DATE 4/20/90  
 EST. SUBDIVISION LENGTH: 1100 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow  
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock  
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: S to N  
 SURFACE SEDIMENTS: R 30 % B 40 % C 15 % P 10 % G 5 % S 0 % M 0 % V 0 %  
 SLOPE: Long 15 % Hang 30 % Vert 15 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High  
 OIL CATEGORY LENGTH: W 0 m M 30 m N 480 m VL 530 m NO 0 m

## SURFACE OIL

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

PAVEMENT H (F) S 18 sq. m by 2 cm

PATTIES / TARBALLS 0 BAGS

NEAR SHORE SHEEN? (NO) BR RW SL TL

| OILED DEBRIS | AMOUNT |    |    | DID YOU COLLECT DEBRIS?                                             |
|--------------|--------|----|----|---------------------------------------------------------------------|
|              | SM     | MD | LG |                                                                     |
| Logs         | X      |    |    | YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> |
| Vegetation   |        |    |    |                                                                     |
| Trash        |        |    |    |                                                                     |
| Debris       | X      |    |    | TYPE <u>POM POMS</u> (2) BAGS <u>1</u>                              |

Photographs:

Roll No. ST-9-3

Frames 9-13

(1) ABSORBENT BOOM CASH  
 (1) SORBENT PF

SUBSURFACE OIL\* oiled interval < 5cm in pits 10, 11, & 12 does not constitute subsurface oil.

| PIT NO. | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER |    |    |    |    | OILED INTERVAL (cm) | BELOW |    | OIL / FILM COLOR |   |   |   | PIT ZONE |   |   |   | A N A | SHEEN (Y/N) | ↓  | SURFACE - SUBSURFACE SEDIMENTS |
|---------|----------------|--------------------------|----|----|----|----|---------------------|-------|----|------------------|---|---|---|----------|---|---|---|-------|-------------|----|--------------------------------|
|         |                | OP                       | OR | OL | OF | NO |                     | UO    | UC | 1                | 2 | 3 | 4 | SU       | U | M | V |       |             |    |                                |
| 1       | 12             |                          |    |    |    | X  | -                   |       |    |                  |   |   |   |          |   | X |   | N     | 10          |    | P-P/G/S                        |
| 2       | 15             |                          |    |    |    | X  | -                   |       |    |                  |   |   |   |          |   | X |   | N     | 10          |    | P-P/G/S                        |
| 3       | 10             |                          |    |    |    | X  | -                   |       |    |                  |   |   |   |          | X |   |   | N     | -           |    | P-P/G/S                        |
| 4       | 10             |                          |    |    |    | X  | -                   |       |    |                  |   |   |   | X        |   |   |   | N     | -           |    | P-P/G/S                        |
| 5       | 33             | X                        |    |    |    |    | 10-14               | X     |    | X                |   |   |   | X        |   |   |   | N     | -           |    | C-P/G/CoS                      |
| "       | "              | X                        |    |    |    |    | 20-30               | X     |    | X                |   |   |   | X        |   |   |   | N     | 11          | 11 | "                              |

## COMMENTS

- SUBDIVISION IS RELATIVELY UNIFORM CONSISTING OF BED ROCK AND HIGH ANGE BOULDER/LOBBLE SHORE FRACS
- MOST SIGNIFICANT OILING OCCURS JUST N OF ① ON GIS MAP AND IN LOCATION ③

→ OVER

REVIEWED 7W DATE 4/24/90

2 of 19

## SHORELINE OILING SUMMARY (PAGE 2)

REVISION 04/19/90

SEGMENT ST/ MD-1 SUBDIVISION H (2 OF 2)

## SUBSURFACE OIL (CONTINUED)

| PIT NO.   | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER |    |    |    |    | OILED INTERVAL (cm) | BELOW |    | OIL / FILM COLOR |    |    |    |    |    | PIT ZONE |   |   |   | ANALYSIS (V/L) | V  | SURFACE - SUBSURFACE SEDIMENTS |
|-----------|----------------|--------------------------|----|----|----|----|---------------------|-------|----|------------------|----|----|----|----|----|----------|---|---|---|----------------|----|--------------------------------|
|           |                | OP                       | OR | OL | OF | NO |                     | UO    | UC | SP               | SL | ST | SC | SS | SO | BU       | U | M | U |                |    |                                |
| LOC ② 6   | 30             |                          |    |    |    | X  | .                   |       |    |                  |    |    |    |    |    | X        |   |   |   | N              | -  | P-P/G                          |
| 7         | 30             |                          |    |    |    | X  | .                   |       |    |                  |    |    |    |    |    | X        |   |   |   | N              | -  | P-P/G                          |
| 8         | 15             |                          |    |    |    | X  | .                   |       |    |                  |    |    |    |    |    |          | X |   |   | N              | 10 | P-P/G                          |
| 9         | 20             |                          |    |    |    | X  | .                   |       |    |                  |    |    |    |    |    | X        |   |   |   | N              | -  | B-C/P/GAS                      |
| LOC ③ 10* | 15             |                          | X  |    |    |    | 0.3                 | X     |    |                  | X  |    |    |    |    | X        |   |   |   | Y*             | 5  | P-P/G                          |
| 11*       | 20             |                          | X  |    |    |    | 0.3                 | X     |    |                  | X  |    |    |    |    | X        |   |   |   | N              | -  | P-P/GAS                        |
| LOC ④ 12* | 10             |                          | X  |    |    |    | 0.3                 | X     |    |                  | X  |    |    |    |    | X        |   |   |   | Y*             | 5  | P-P/GAS                        |
|           |                |                          |    |    |    |    | .                   |       |    |                  |    |    |    |    |    |          |   |   |   |                |    |                                |
|           |                |                          |    |    |    |    | .                   |       |    |                  |    |    |    |    |    |          |   |   |   |                |    |                                |
|           |                |                          |    |    |    |    | .                   |       |    |                  |    |    |    |    |    |          |   |   |   |                |    |                                |
|           |                |                          |    |    |    |    | .                   |       |    |                  |    |    |    |    |    |          |   |   |   |                |    |                                |
|           |                |                          |    |    |    |    | .                   |       |    |                  |    |    |    |    |    |          |   |   |   |                |    |                                |
|           |                |                          |    |    |    |    | .                   |       |    |                  |    |    |    |    |    |          |   |   |   |                |    |                                |
|           |                |                          |    |    |    |    | .                   |       |    |                  |    |    |    |    |    |          |   |   |   |                |    |                                |
|           |                |                          |    |    |    |    | .                   |       |    |                  |    |    |    |    |    |          |   |   |   |                |    |                                |

COMMENTS \* SHEEN IN PIT 10 WAS BROWN WITH BLACK GLOBULES  
 \* " " " 12 " RW

→ SKETCH MAP

- JUST N OF LOC. ①: HIGH ANGLE BOULDER/COBBLE SHORE-FACE WITH BROKEN COAT IN U.I. - BAND IS 2-3 M WIDE  
 → SUBSURFACE OIL IS TO 30 CM (PIT # 5)
- LOC. ③ HAS MOST SIGNIFICANT OILING RELATIVE TO AREAL EXTEND (SKETCH MAP); ASPHALT PAVEMENT ON LAG DEPOSITS; TAR BALLS ON R-HEADLAND; COAT ON ROCK FACES IN U.I. AND ON LEE-SIDE OF HEADLAND  
 NO SUBSURFACE OIL

3 of 19

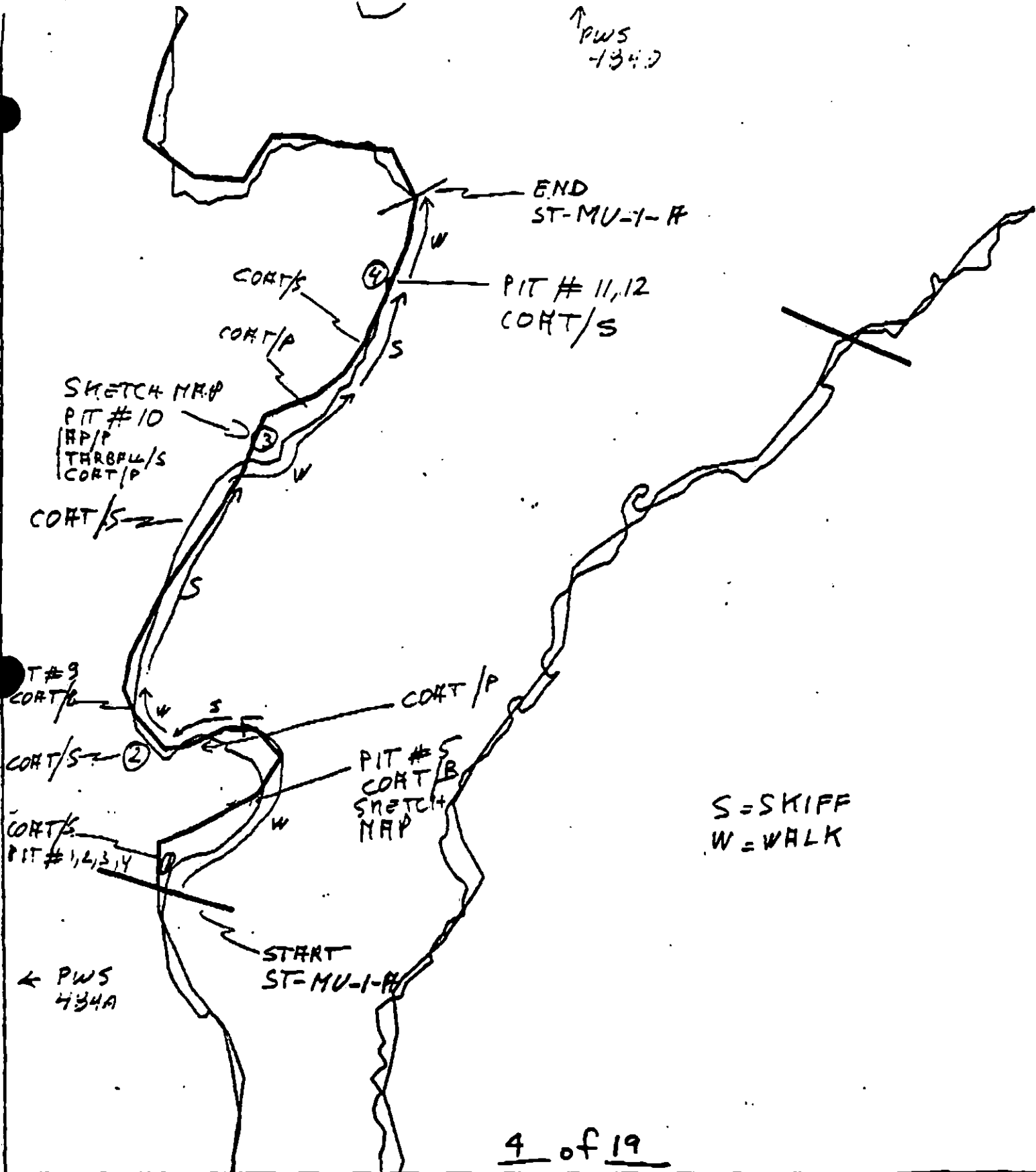
REVIEWED

YW

DATE

4/21/90

↑ PWS  
-134.7



S = SKIFF  
W = WALK

4 of 19

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ST-MU-1-A

ADEC Segment Length: 7775m



Map Key: PWS-4040

Name: K. DEBUSSCHE

Date: 4/20/90

Date Entered:

SEGMENT ST-MU-1

SUBDIVISION A

DATE 4/20/90

SKETCH MAP  
ST-MU-1-A  
(Location #1)  
& NORTH OF ①

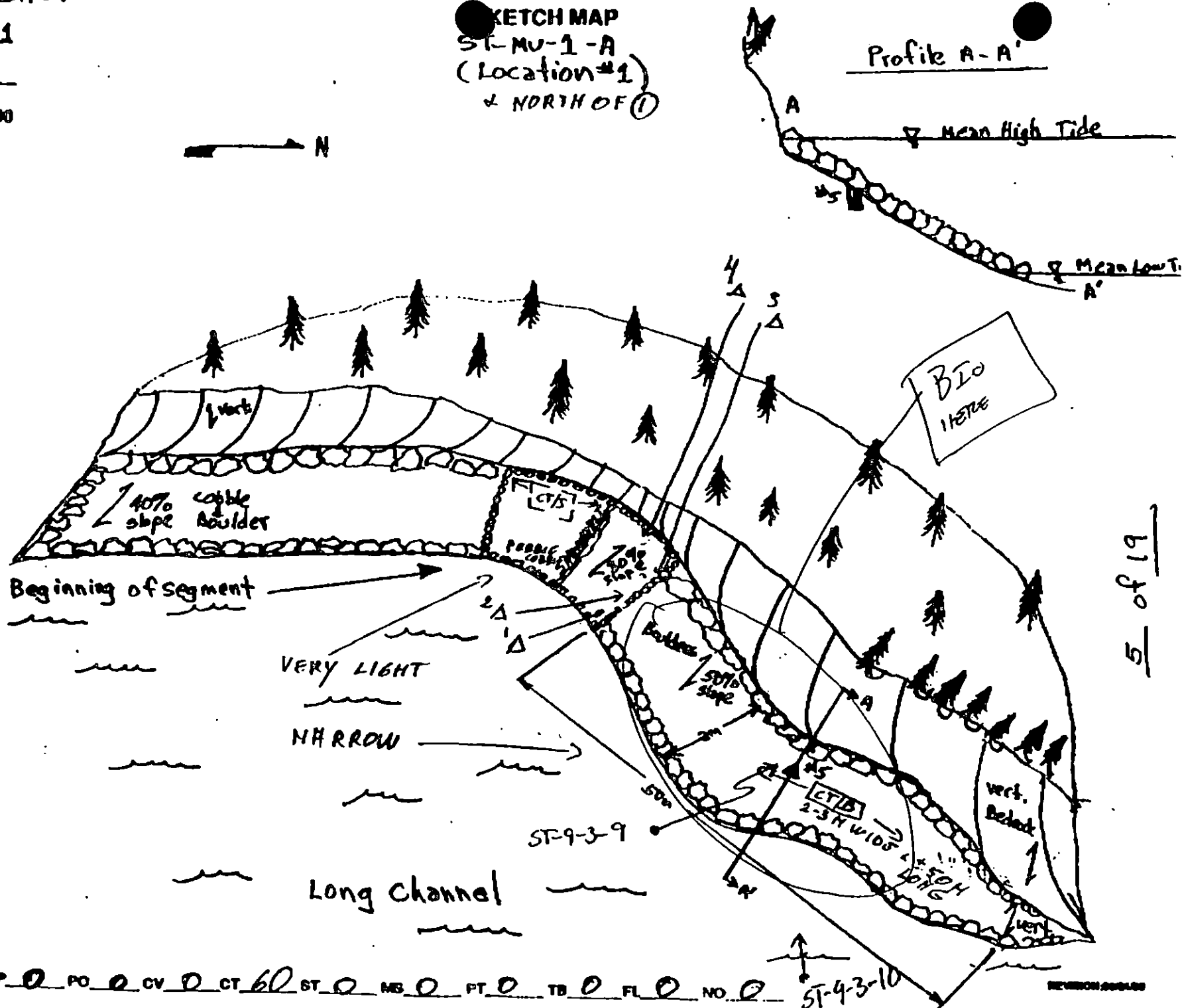
Profile A-A'

# CHECKLIST

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

# LEGEND

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



5 of 19

Oil Character Length (m): AP 0 PO 0 CV 0 CT 60 ST 0 MS 0 PT 0 TB 0 FL 0 NO 0

ST-4-3-10

REVISION 000000

OGK.D. VSSCHERF

SEGMENT ST/MV-1

SUBDIVISION A

DATE 4/20/90

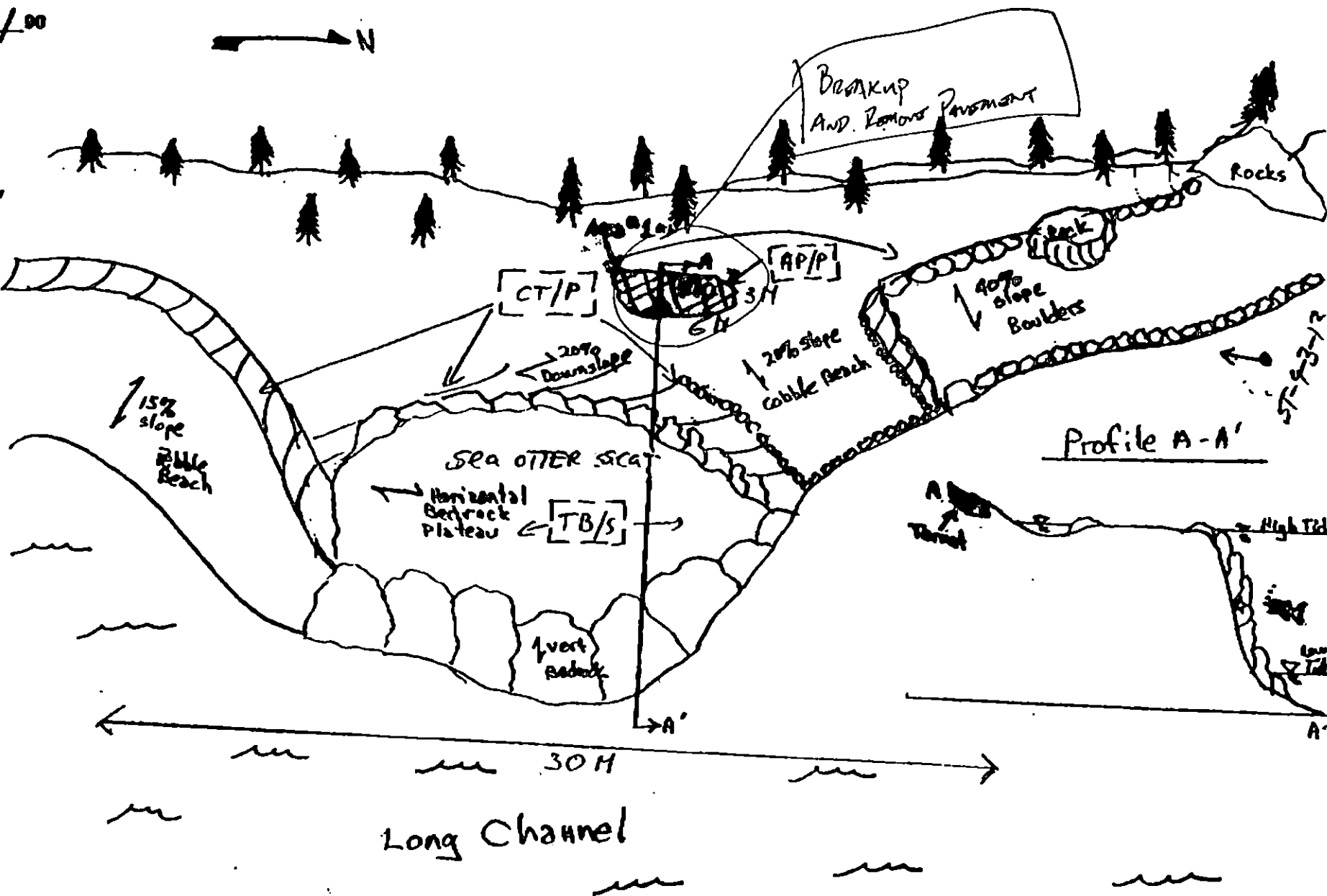
SKETCH MAP (6 of 19)  
ST-MV-1-A  
(Location #3)

# CHECKLIST

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

## LEGEND

- 1  $\Delta$   
PI - No Subsurface Oil
- 2  $\Delta$   
PI - Subsurface Oil
- CT/C  
Continuous Distribution
- CT/B  
Broken Distribution
- CT/P  
Pebbly Distribution
- CT/S  
Splashed Distribution
- $\lll$   
Oiled Vegetation
- 1  $\Rightarrow$   
Photo location, direction, and number



Oil Character Length (m): AP 6 PO 0 CV 0 CT 20 ST 0 MS 0 PT 0 TB 10 FL 0 NO 0

REVISION 000000



## SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/91

Segment ST / MU-1 / Subdivision A Date (mo / day / yr) 04/20/90  
 Time (24 hr) 1315-1450 Biologist D. REED

- (A) Substrate type and % of segments:  
 (1) Bedrock 30 (2) Boulder 40 (3) Cobble 15 (4) Pebble 10 (5) Sand 5 (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: ST-4-3  
 Roll No. 5  
 Frames 9-13

## 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:

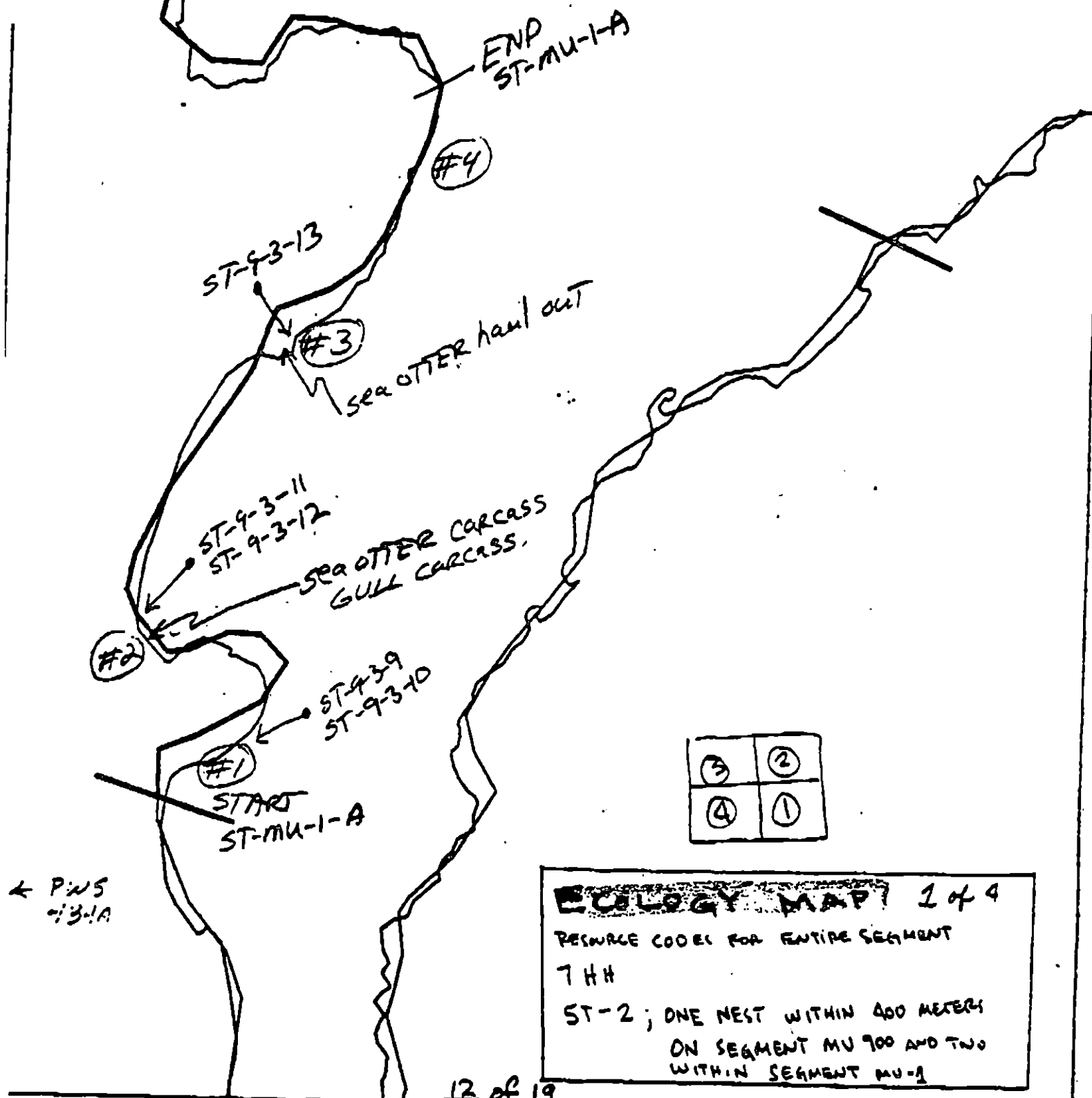
1 EAGLE, 2 DUCKS, NO SEA OTTERS OR SEALS. FUCUS RECRUITS COMMON ON UNOILED BEDROCK IN UPPER EDGE OF DISTRIBUTION.

## Ecological Considerations:

SEA OTTER SCAT FOUND ON BEDROCK IN HIGH ZONE ABOVE A small patch of medium oil. ALTHOUGH IT DID NOT LOOK LIKE AN extensively used haul out area, cleanup could cause short-term DISRUPTION to sea otter haul out behavior.

↑ PWS  
484D

# = location number  
IN FIELD NOTES



XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ST-MU-1-A

ADEC Segment Length: 6466m



Map Key: PWS-484D

Name: DAN REEDate: 04/20/90

Data Entered:

PWS  
4340

END  
ST-MU-1-A

SM OF NARROW

OIL MAP

PWS  
434A

13 of 19

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ST-MU-1-A

ADEC Segment Length: 7775



Map Key: PWS-4846

Name: K. DEBUSSCHE

Date: 4/20/90

Date Entered:

## ADDENDUM: SUBDIVISION CONSTRAINTS

### SEGMENT MU-1 SUBDIVISION A (1 of 3)

| WORK WINDOW                                                         |                   |
|---------------------------------------------------------------------|-------------------|
| Manual Pickup and Tarmat Removal<br>Less Than 400m From Active Nest | CLOSED            |
| Manual Pickup and Tarmat Removal<br>More Than 400m From Active Nest | OPEN              |
| Bioremediation Less Than 400m From Active Nest                      | CLOSED            |
| Bioremediation More Than 400m From Active Nest                      | WORK PRIOR TO 7/1 |

#### 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.

7HH Subsistence: Finfish Harvesting

Closed to manual pickup, tarmat removal, and bioremediation after 7/1.

#### 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

*[Signature]*

Date

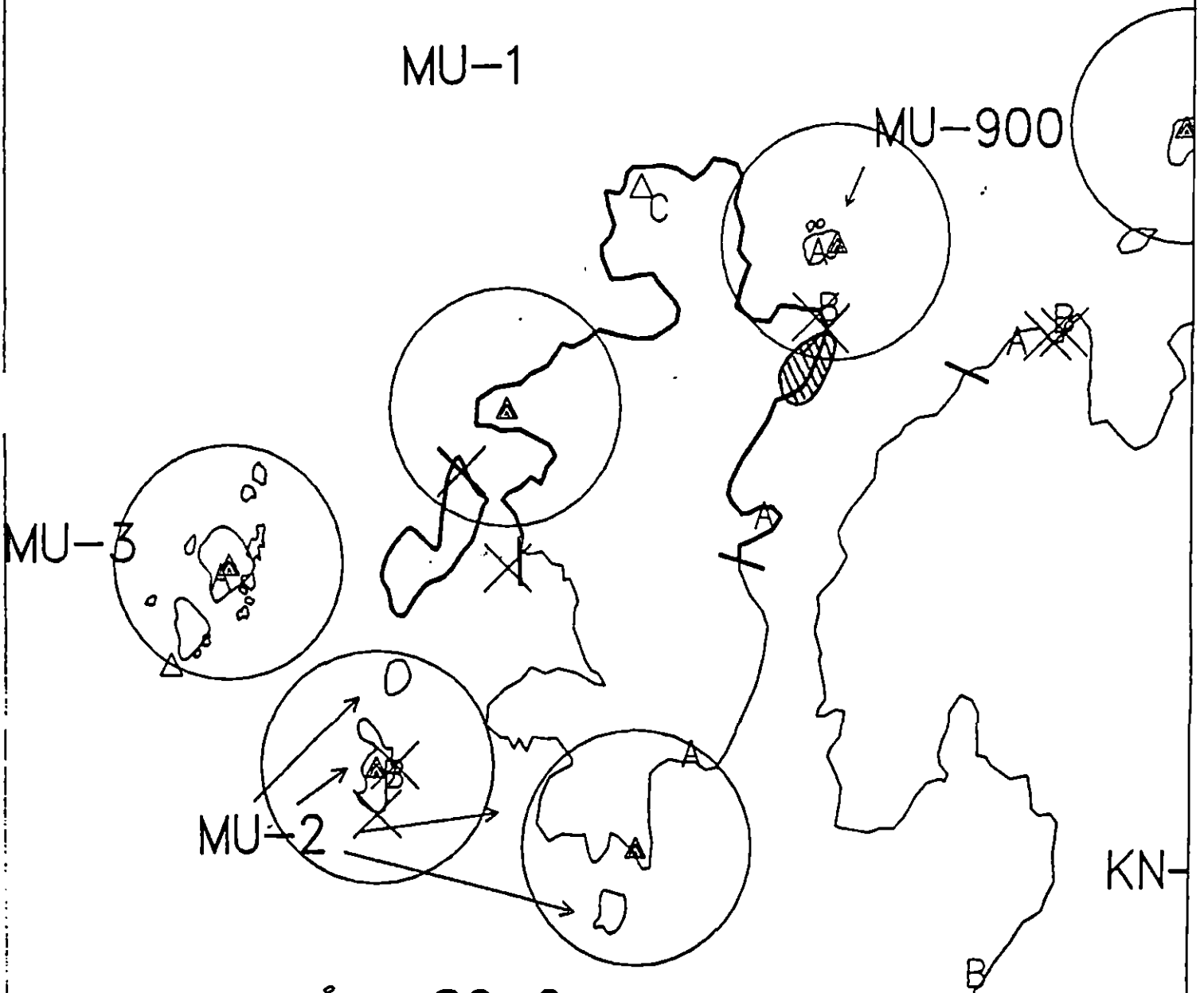
*6/12/90*

Prepared by

*[Signature]*

Date

*6/12/90*



Exxon Company, USA  
 Map Key: PMS-MU-1  
 June 04, 1992



**ECOLOGY MAP**  
 SEGMENT MU-1  
 SUBDIVISION A (1 of 3)  
 METERS  
 0 100 200

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

1 inch = 1752 feet

## SHORELINE EVALUATION

SEGMENT ST/ MU-01 SUBDIVISION B (2 OF 3) DATE 4/20/90

### 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)  
7HH Subsistence area: Finfish harvesting  
See attached Ecological Constraint sheet for specific constraints and contacts.

**SUBDIVISION ECOLOGICAL CONSTRAINTS:**

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

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

**OILING CATEGORIZATION:**

Wide 62 m: Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 0 m  
Subsurface Oil Observed: Yes X No        Maximum Depth 15 cm

**RECOMMENDATIONS:**

|                                                           |                                                                                             |
|-----------------------------------------------------------|---------------------------------------------------------------------------------------------|
| <input type="checkbox"/> No Treatment Recommended         | <input type="checkbox"/> Snare/Absorbent Booms                                              |
| <input checked="" type="checkbox"/> Treatment Recommended | <input type="checkbox"/> Oil Snares (pom poms)                                              |
| <input checked="" type="checkbox"/> Manual Pickup         | <input checked="" type="checkbox"/> Absorbents (pads, rolls, etc)                           |
| <input checked="" type="checkbox"/> Bioremediation        | <input checked="" type="checkbox"/> Spot Washing: <input checked="" type="checkbox"/> Wands |
| <input checked="" type="checkbox"/> Tarmat Removal        | <input type="checkbox"/> Beach Cleaner                                                      |
|                                                           | <input type="checkbox"/> Other (see comments)                                               |

COMMENTS: Recommended treatment includes 1) spot washing with wands and absorbents to recover oil in south portion of subdivision (see sketch map) 2) removal of tarmats as shown on map, 3) manual pickup of mousse/pooled oil and oiled vegetation (see map) and 4) bioremediation of areas shown on sketch map. Work should be conducted after 6/1 and with approval from USFWS regarding eagle nest.

**TAG COMMENTS:** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

TAG APPROVAL DATE: 5/1/90.  
 ADEC ART WEINER Dan Wein  
 EXXON AWOY GALT AWOY  
 NOAA GARY PETRAE GARY PETRAE  
 USCG KENNETH KEANE KENNETH KEANE

FOSC:                      DATE: 5-13-90

## ADDENDUM: SUBDIVISION CONSTRAINTS

### SEGMENT MU-1 SUBDIVISION B ( 2 of 5 )

#### WORK WINDOW

Manual Pickup  
Tarmat Removal

**CLOSED**

Bioremediation  
Spot Washing  
Other Approved Treatment

**CLOSED**

#### ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, . PHONE 564-3274.

#### APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T      Bald Eagle Nest

USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to manual pickup, tarmat removal, bioremediation, spot washing, and other approved treatment within 400m of active nest. No constraint to manual pickup, tarmat removal, bioremediation, spot washing, and other approved treatment more than 400m from active nest.

7HH      Subsistence: Finfish Harvesting

Closed to bioremediation, spot washing, and other approved treatment after 7/1. No constraint to manual pickup and tarmat removal.

#### OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC

Date

6-12-90

Prepared by

Date

6/11/90

MU-1

MU-900

MU-3

MU-2

KN-



Exxon Company, USA  
Map Key: PWS-MU-1  
June 04, 1990

ECOLOGY MAP  
SEGMENT MU-1  
SUBDIVISION B (2 of 3)  
METERS

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

1:750,000



# SHORELINE EVALUATION

SEGMENT ST/ MU-01 SUBDIVISION C (3 OF 3) DATE 4/20/90

## 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)  
7HH Subsistence area: Finfish harvesting  
See attached Ecological Constraint sheet for specific constraints and contacts.

## SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. 5T - Two bald eagle nests and one more nest within 400m in adjacent segment MU-900. 6U - Tent sites noted on ecology map.

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

## OILING CATEGORIZATION:

Wide 0 m: Medium 40 m: Narrow 513 m: V.Light 2704 m: No Oil 1982 m  
Subsurface Oil Observed: Yes X No      Maximum Depth 15 cm

## RECOMMENDATIONS:

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

COMMENTS: Recommend removal of tarmats as indicated on sketch map.  
Work should be conducted after 6/1 and with USFWS approval based on  
eagle nest constraints. NOTE: Sketch map made up of four sections.  
Begin with upper right and lay out clockwise.

TAG COMMENTS: MANUAL PICKUP OF TAR BALLS + TARPATTIES, BIOREMEDIATE  
WHERE COATS + COVERS ARE FOUND IN POCKET BEACHES.

TAG APPROVAL DATE: 5/1/90  
ADEC ART WENNER  
EXXON AMORY ISN  
NOAA GARY PATRICK  
USCG KEVIN TH KIDNEY

FOSC: My L DATE: 5-8-90

# PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)  
 1B Salmon stream mouth - spawning (7/10 to 8/31)  
 No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream. Contact ADF&G Habitat Division prior to treatment for permits.
- 1C Salmon fry nursery area (4/31 to 7/31)  
 1D Esther Hatchery release (4/15 to 6/1)  
 1E Main Bay Hatchery release (4/20 to 5/10)  
 1F Sawmill Bay Hatchery release (4/15 to 6/1)  
 1G Cannery Creek Hatchery release (4/21 to 6/1)  
 1H Remote release site  
 1I Gill net area (6/7 to 8/31)  
 1J Purse seine area (7/20 to 9/30)  
 1K Purse seine hook-off (7/20 to 9/30)  
 1L Set net sites (6/11 to 7/25)  
 For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
- 2M Herring spawning (4/1 to 6/15)  
 Restrict boat traffic to essential minimum. Avoid damage to uncultivated intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
- 3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)  
 3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)  
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
- 5R Seabird colony (5/1 to 9/1)  
 Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)  
 Restrict all activity to essential minimum, especially air traffic.
- ✓ 5T All Bald Eagle nests (3/1 to 6/1)  
 Active Bald Eagle nests (3/1 to 9/1)  
 Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
- ✓ 6U Recreation: Tent sites (6/1 to 9/15)  
 6V Anchorages (6/1 to 9/15)  
 6W Forest Service cabins (6/1 to 9/15)  
 6X Lodge (6/1 to 9/15)  
 6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)  
 ✓ 7H 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 1 MU-1 SUBDIVISION: C DATE 4/20/90

~~NORA~~  
~~NAME~~

NAME STEPHEN STURN SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

## COMMENTS

MANUAL REMOVAL OF TAR BALLS/MOUSSE/ASPHALT PYMNT/ETC, AS NOTED IN HIGH INTERTIDAL - STORM BEACH AREAS OF LOCATIONS # 1, 2, 3, AND 13. LOCATION #8 - MAY NEED ~~MANUAL~~ HAND-RAKING AND PICK-UP OF TAR/OILED SEDIMENT GENERALLY, HIGHER ENERGY BEACHES ON NORTH SIDE OF ISLAND - SUBJECTED TO ACTIVE, NATURAL CLEANING BY STORMS. RES. OIL OBSERVED ON SHELTERED MARGINS OF BEACHES.

NOISE AND OTHER MAN-MADE DISRUPTIONS SHOULD BE MINIMIZED AS TO NOT DISTURB EAGLE-NEST SITES (LOCATION 9) AND OTHERS ALONG NORTHERN - NORTHWESTERN END OF ISLAND.

**ADEC**

NAME Wesley Ghormley SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

## COMMENTS

1. Manual removal of Mousse patties at locations 1 & 2. Red Flagging in tree in location #1 shows area.
2. Manual removal of tarballs & 2x5m area of cover on North side of location in Location #2.
3. Possible Hot H<sub>2</sub>O washing at Location #8 on west side consisting of boulder, bedrock - Area is a High energy beach.
4. 3x2m stretch of Asphalt along bedrock in Location #9 but recommend no clean up due to the presence of active bald Eagle nest.
5. Manually pick up small chunk of asphalt at Location #9.

- 2 large bags of oiled clean-up debris were removed from entire segment by Team.
- 2 dead otters, 1 dead deer & dead seagull were also located, to decomposed to no any sign of oil.

**LAND MANAGER**

NAME Ray Burger **ADNR** SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

## COMMENTS

- Broken & patchy coats, covers, mousse & asphalt as diagramed on maps should be removed in accessible areas (denoted by sections that were walked, on attached maps) - All tarballs & mousse to be picked up in these areas also.

- Scenic, well protected waters, - tent sites available as noted on map

- Concur w ADEC Tx. as outlined above except for tx @ Loc #9 where ~~we~~ recommend <sup>manual</sup> removal of asphalt after eagles are fledged.

## SHORELINE OILING SUMMARY

REVISION NO. 04/12/90

OAK DEBUSSCHERE <sup>NOM</sup> ~~BOGG~~ STEVE STORM SEGMENT ST/ MU-1  
 BIO DAN REED LAND REP Ray Burger ADNR SUBDIVISION C (3 OF 3)  
 EXXON TOMY DIAZ ADEC Wesley E. G. W. W. W. TIME 18:00 to 22:00  
 EAM NO. 97 TIDE LEVEL 2 → 6 FT DATE 4/12/90  
 ST. SUBDIVISION LENGTH: 6.575 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow  
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock  
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: E to W  
 SURFACE SEDIMENTS: R 70% B 15% C 10% P 5% G 0% S 0% M 0% V 0%  
 SLOPE: Long 20% Hang 25% Von 55% WAVE EXPOSURE: ☐ Low ☒ Med ☐ High  
 OIL CATEGORY LENGTH: W 0 m M 40 m N 658 m VL 366 m NO 2301 m

## SURFACE OIL

| CHARACTER        | DISTRIBUTION |    |    |    | OIL / FILM COLOR |    |    |    | IMPACTED ZONES |   |   |   |
|------------------|--------------|----|----|----|------------------|----|----|----|----------------|---|---|---|
|                  | 10           | 15 | 17 | 18 | 19               | 20 | 21 | 22 | SU             | U | M | L |
| ASPHALT PAVEMENT |              |    | X  |    |                  | X  |    |    |                | X |   |   |
| POOLED           |              |    |    |    |                  |    |    |    |                |   |   |   |
| COVER            | V            | Z  | O  | X  |                  | V  |    |    |                |   |   |   |
| COAT             | Z            | X  | V  | O  |                  | X  |    |    |                |   |   |   |
| STAIN            | X            |    |    |    |                  | X  |    |    |                | X |   |   |
| MOUSSE           |              |    | V  | X  |                  |    |    |    |                | X |   |   |
| PATTIES          |              |    |    | X  |                  |    |    | X  |                | X | X |   |
| TARBALLS         |              |    |    | X  |                  | X  |    |    |                | X | X |   |
| M                |              |    |    |    |                  |    |    |    |                |   |   |   |
| NO OIL           |              |    |    |    |                  |    |    |    | X              |   |   | X |

PAVEMENT H (F) S 7 sq. m by 2 cmPATTIES / TARBALLS 0 BAGSNEAR SHORE SHEEN? (NO) BR RW SL TL

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

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐TYPE POM-POM (NO)#BAGS 1  
POM-POMS OILED

Photographs:

Roll No. ST-9-3Frames 18

## 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 |                | US    | US | 19               | 20 | 21 | 22 | SU       | U | M | L |   |   |             |   |                              |
| 1       | 40             |                          |    |    |    | X  | .              |       |    |                  |    |    |    | X        |   |   |   |   | N | -           |   | P-P                          |
| 2       | 20             |                          |    |    |    | X  | .              |       |    |                  |    |    |    |          | X |   |   |   | N | -           |   | P-P & GAS                    |
| 3       | 30             |                          |    |    |    | X  | .              |       |    |                  |    |    |    |          | X |   |   |   | N | 25          |   | P-P                          |
| 4       | 40             |                          |    |    |    | X  | .              |       |    |                  |    |    |    | X        |   |   |   |   | N | 25          |   | P-P                          |
| 5       | 25             |                          |    |    |    | X  | .              |       |    |                  |    |    |    | X        |   |   |   |   | N | -           |   | P-P/B                        |
| 6       | 30             |                          |    |    |    | X  | .              |       |    |                  |    |    |    |          | X |   |   |   | N | 25          |   | P-P                          |

## COMMENTS

- SUBDIVISION IS MOSTLY BED ROCK WITH INTERMITTENT POCKET BEACHES

- OILING IS OVERALL LIGHT

SUBSURFACE OILING IS PRESENT IN: LOC ⑧ IN ±15 M OF BROKEN COVER, AND IN LOC ⑭ IN ±15 M OF PATCHY COAT

REVIEWED YWDATE 4/22/90

→ OVER

⑧ o/c

## SHORELINE OILING SUMMARY (PAGE 2)

REVISION 04/12/98

SEGMENT ST/ MV-1 SUBDIVISION C (3 OF 3)

**SUBSURFACE OIL (CONTINUED)**

[illegible]

## COMMENTS

PAVEMENT IS PRESENT IN LOC ⑨ (2X3 M)  
LOC ⑬ (1X1 M)

- NORTH FACING BEACHES ON NORTHERN END OF MUMMY ISLAND ARE MOD-TO HIGH ENERGY, WITH WELL-DEVELOPED BEACH PROFILES. BEACHES ARE COMPOSED OF PEBBLE/GRAVEL W/MINOR COBBLE VENEER ALONG MARGINS. \* OIL APPEARS TO HAVE BEEN REMOVED FROM THESE BEACHES IN EXPOSED AREAS BY NATURAL CLEANING. HOWEVER, OIL/MOUSSE/TAR BALLS/TAR MATS/ASPHALT PUNT IS STILL FOUND ALONG THE SHELTERED MARGINS AND PLATFORMS OF THESE BEACHES.

REVIEWED YW DATE 4/22/90

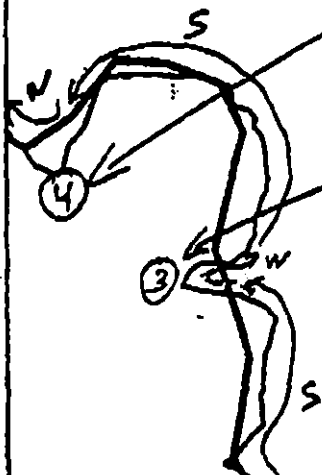
2/25

Q<sub>1</sub>

W = WALK  
S = SKIFF

← PWS 484C  
PIT # 1 & 2  
COAT/B ON E-SIDE (±8M) ON R  
COAT/S } ON W-SIDE ON B  
COVER/P }

MU-90



THRBALL/S  
COAT/P  
COVER/C (2X5M HT N-SIDE)

DD

↓ PWS 484B

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

ST-MU-1-C

ADEC Segment Length: 7775

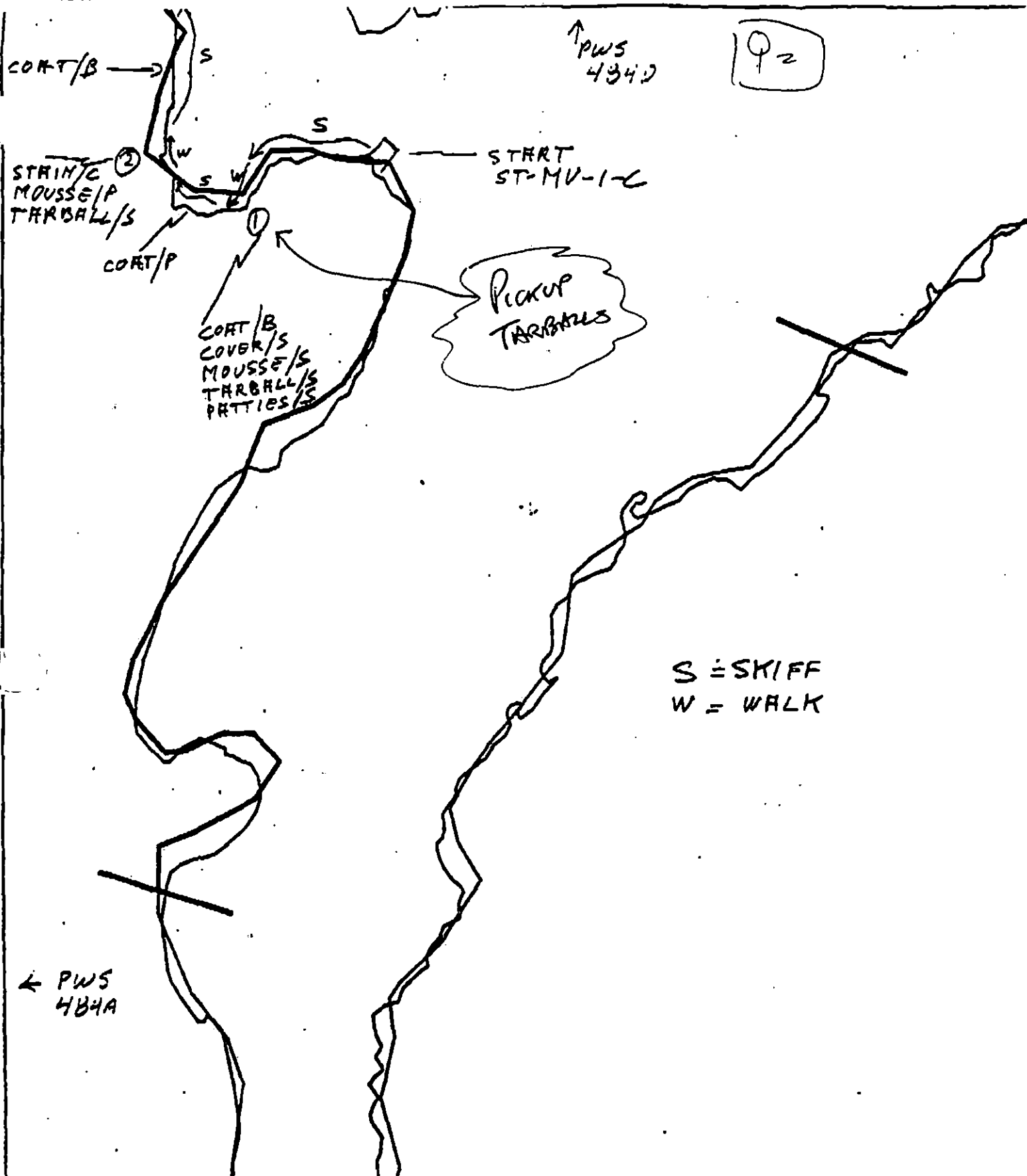
5/25 100 200 300

Map Key: PWS-484d

Name: K. DEBUSSCHERE

Date: 4/10/90

Data Entered:



XXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ST-MU-1-C

ADEC Segment Length: 7775m

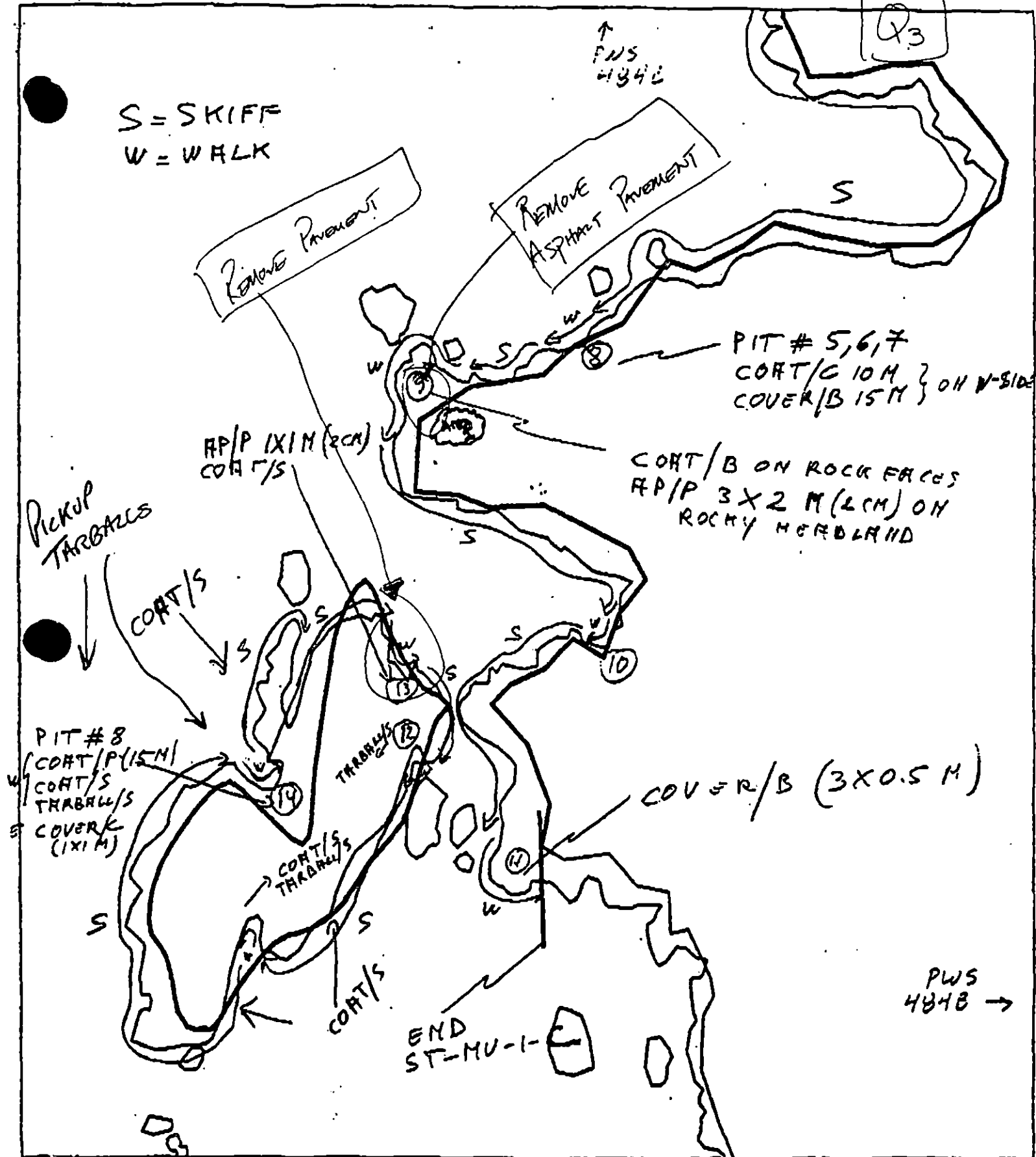
4/25 100 200 300 METERS

Map Key: PWS-484b

Name: K. DEBUSSCHE

Date: 4/20/90

Data Entered:



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

ST-MU-1-C

ADEC Segment Length: 7775

0 7/25 100 200 300

Map Key: PWS-4848

Name: K. DEBUSSCHERE

Date: 4/20/90

Data Entered:



## SHORELINE ECOLOGICAL SUMMARY

REVISED: 02/22/90

gment ST, MU-1 Subdivision C Date (mo / day / yr) 04/20/90Time (24 hr) 1600-2000 Biologist D. Reed

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

Photographs:  
Roll No. ST-9-3Frames 18

## BARNACLES

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

## MYTILUS

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

## GASTROPODS

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

## FUCUS

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

## Wildlife Observations/ General Comments:

2 EAGLE W/NEST, 4 EAGLES, 5 HARBOR SEALS, 8 OTTERS, 4 MERGANSERS, 6 HARLEQUIN DUCKS, 2 KITTOWAKES, 1 CORMORANT, 6 GULLS, 1 DEER, 5 GOLDEN EYE. OCCASIONAL DENSE MUSSEL BEDS ON AND NEAR ISLETS, OTTER SCAT COMMON.

## Biological Considerations:

EAGLE NEST ACTIVE WITH EIL PAVEMENT & BROKEN COAT BELOW. SUBSTANTIAL MUSSEL BEDS BELOW. SEA OTTER HAIL OUT AREA. 100M AWAY ON ISLETS. ALL COULD BE DISTURBED BY HUMANS DURING CLEANING.

Q4

MU-1

PIT# 3 & 4  
CORT/S (E-SIDE)

PWS  
4840 →

CORT/C (3X1 ON E-SIDE)  
CORT/P (E-SIDE OF  
HEADLAND)

↓ PWS 484 A

XXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No

ST-MU-1-C

ADEC Segment Length: ~~7775~~

0 100 200 300

Map Key: PWS-484c

Name: K. DEBUSSCHER

Date: 4/20/90

↑ PWS  
484D

START  
ST-MU-1-C

|   |   |
|---|---|
| ③ | ② |
| ④ | ① |

RESOURCE CODES FOR ENTIRE SEGMENT

T.H.H

ST-2 ; ONE NEST WITHIN 400 METERS  
ON SEGMENT MU 900 AND TWO  
WITHIN SEGMENT MU-1

ST-MU-1-C

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ADEC Segment Length: 6400m

12/25 METERS

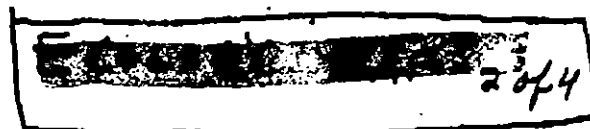
Map Key: PWS-484b

Name: D. Reed

Date: 04/20/90

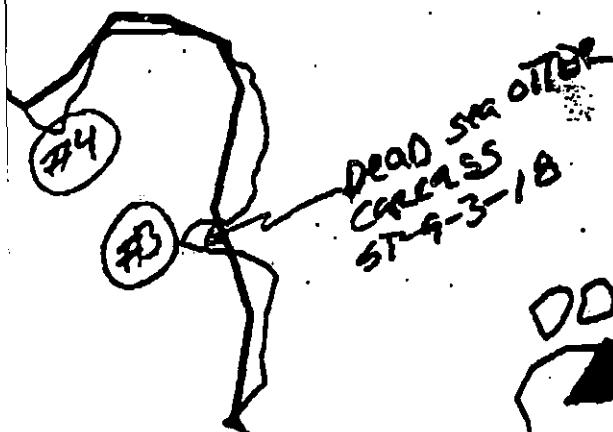
Date Entered:

B



← PWS  
484C

# MU-90



BALD EAGLE  
NEST

↓ PWS 484B

XXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ST-MU-1-C

ADEC Segment Length: 6400m



Map Key: PWS-484d

Name: D. Reed

Date: 04/20/90

Date Entered:

# MU-1

E COLORED 3 of 4

PWS  
4940 →

TENT  
SITE

BALD  
EAGLE  
NEST

↓ PWS 494 A

XXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ST-MU-1-C

ADEC Segment Length: 6486m

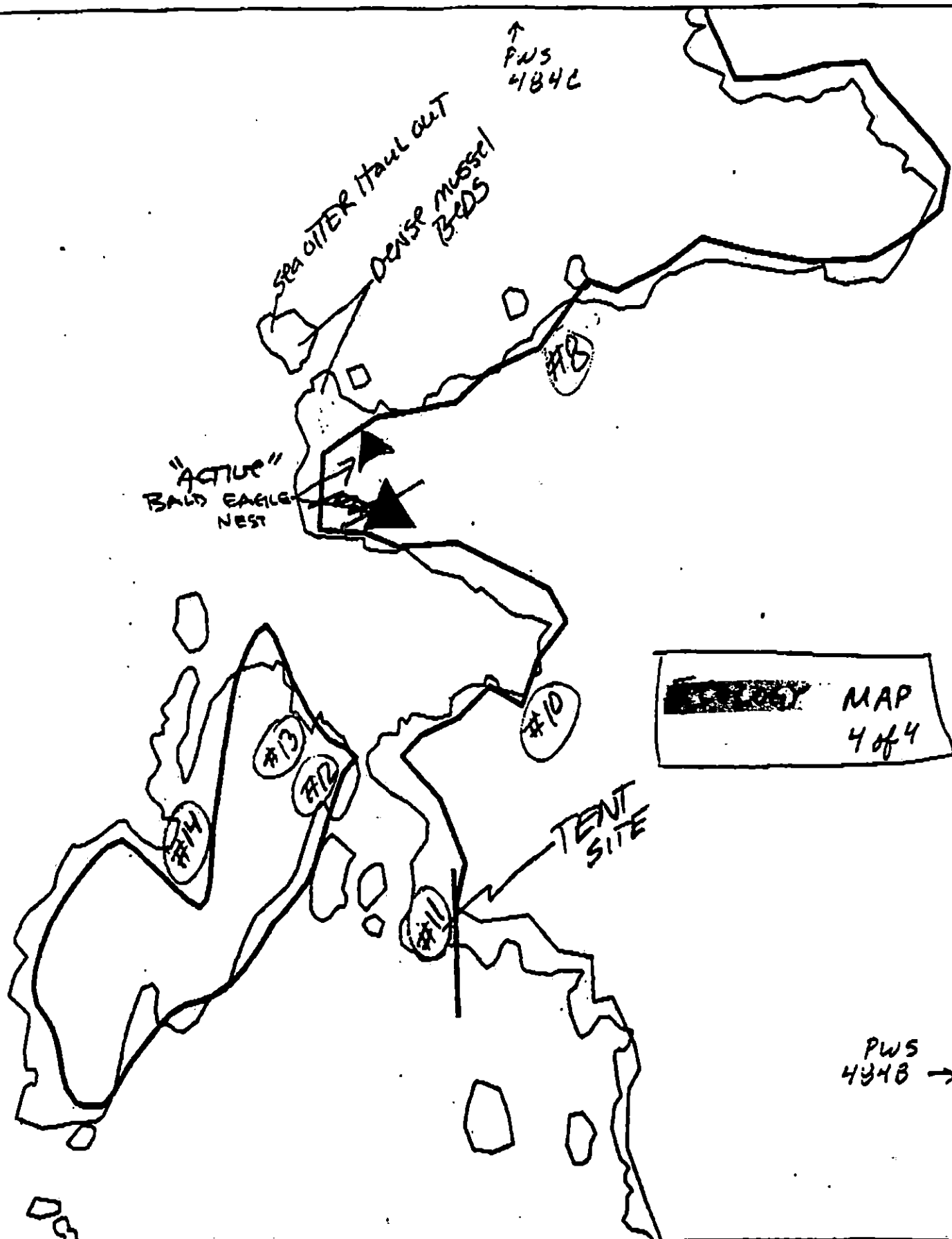
0 100 200 300  
N/C

Map Key: PWS-484c

Name: D. Reed

Date: 04/20/90

Date Entered:



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

ST-MU-1-C

ADEC Segment Length: 8466m

0 100 200 300

Map Key: PWS-484C

Name: D. ReedDate: 04/20/90

Not Colored.

# OIL MAP

## MU-90

← PWS 484C



↓ PWS 484B

XXX Wide

//// Medium

---- Narrow

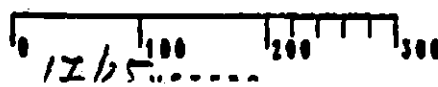
TTTT Very Light

OOOO No Oil

ST-MU-1-C

7775

ADEC Segment Length: ~~1000m~~



Map Key: PWS-484d

Name: K. DEBUSSCHKE

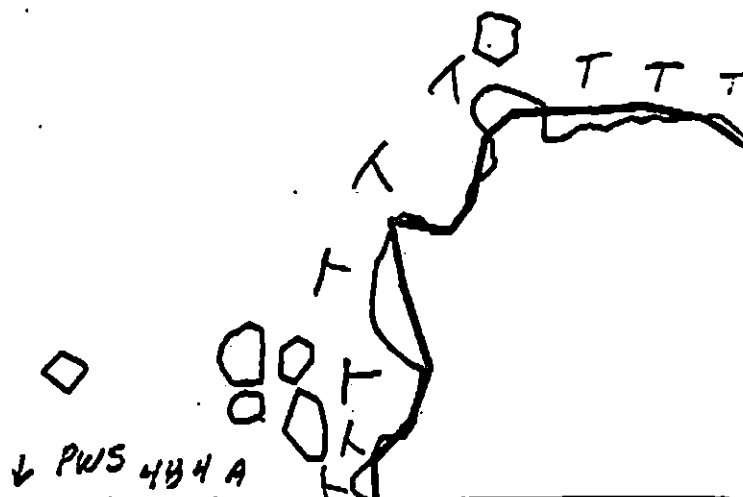
Date: 4/20/90

Data Entered:

OIL MAP

MU-1

PWS  
4840 →



XXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ST-MU-1-C 7775

ADEC Segment Length: ~~7775~~ m



Map Key: PWS-404c

Name: K. DEBUSSIERE

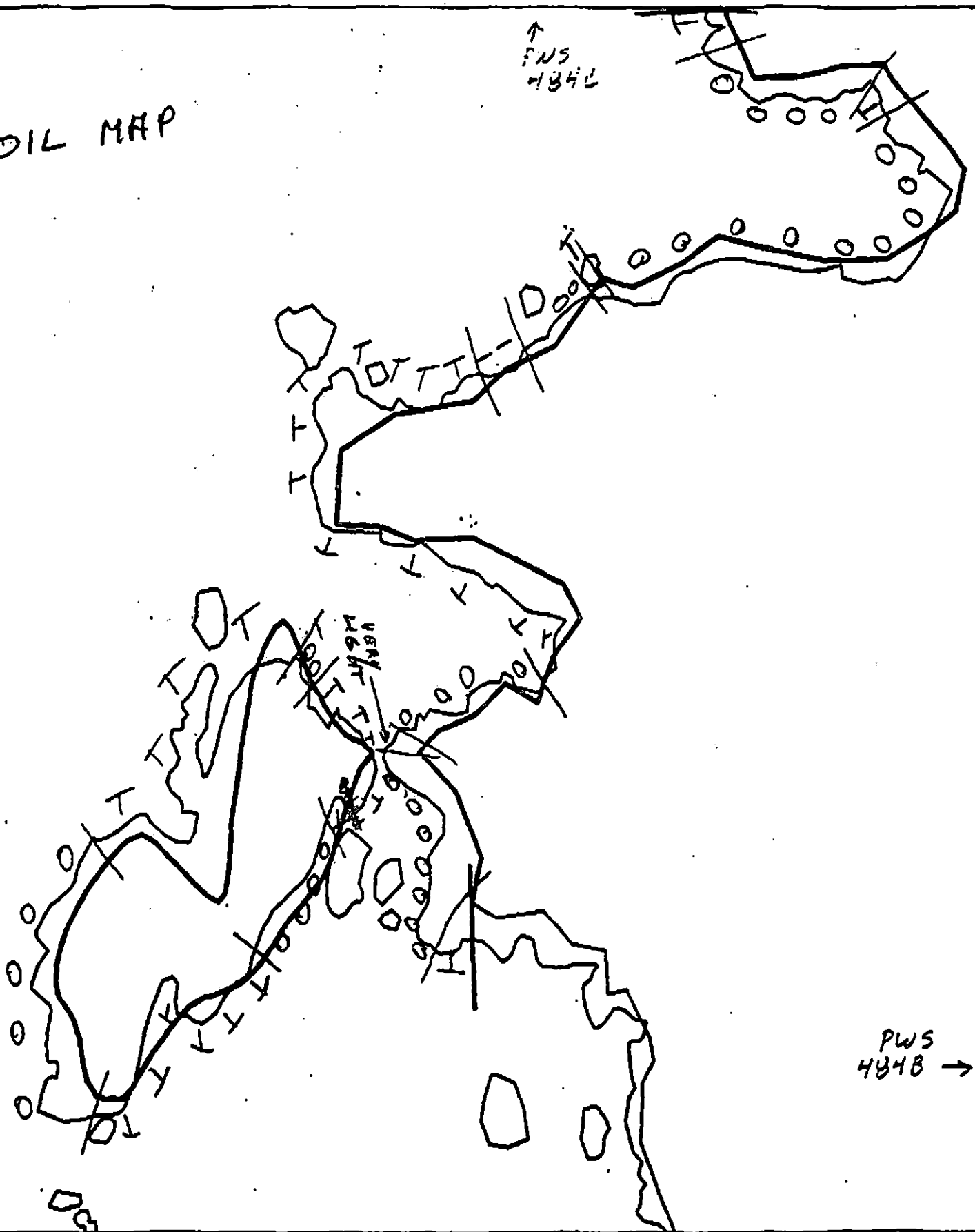
Date: 4/29/90

Date Entered:



OIL MAP

↑  
PWS  
4842



PWS  
4848 →

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

OOOO No Oil

ST-MU-1-C

ADEC Segment Length: ~~7775~~

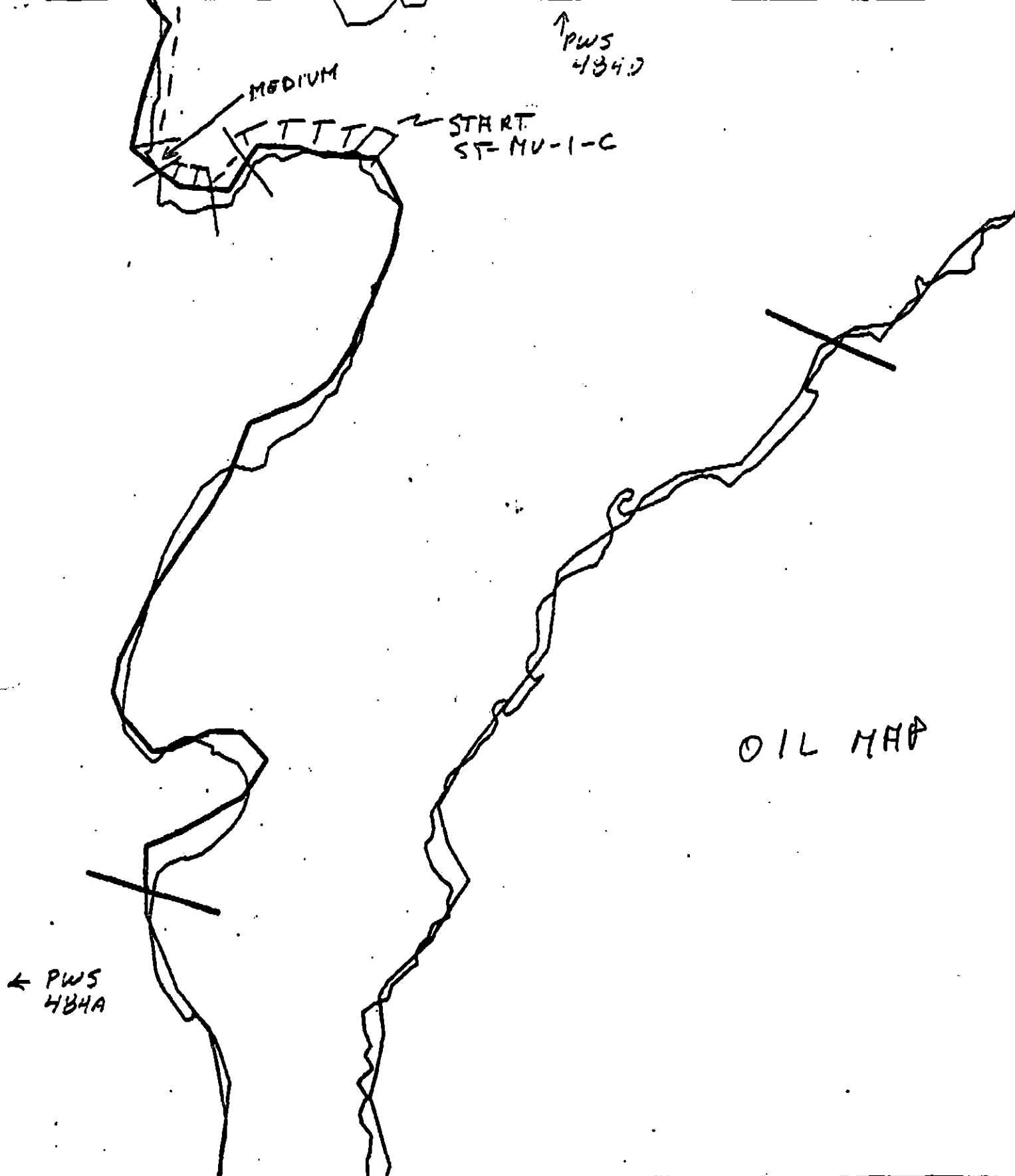
19/2 100 200 300

Map Key: PWS-4840

Name: K. DEBUSSCHE

Date: 4/29/90

Data Entered:



**Y X X X W i d e**

/// Medium

----- Narrow

TTTT Very Light

0000 No 211

SF-MU-1-C

ADEC Segment Length: ~~0.000m~~ <sup>111m</sup>

A horizontal ruler with markings at 0, 100, 200, and 300. The text "16/25 METERS" is written below the 100 mark.



Map Key: PWS-404b

NAME: K. DERUSSCHAKOFF

Date: 4/20/90

**Data Entered:**

## ADDENDUM: SUBDIVISION CONSTRAINTS

### SEGMENT MU-1 SUBDIVISION C (3 of 3)

#### WORK WINDOW

|                                                                     |                   |
|---------------------------------------------------------------------|-------------------|
| Manual Pickup and Tarmat Removal<br>Less Than 400m From Active Nest | CLOSED            |
| Manual Pickup and Tarmat Removal<br>More Than 400m From Active Nest | OPEN              |
| Bioremediation Less Than 400m From Active Nest                      | CLOSED            |
| Bioremediation More Than 400m From Active Nest                      | WORK PRIOR TO 7/1 |

#### 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 C. 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.

7HH Subsistence: Finfish Harvesting

Closed to bioremediation after 7/1. 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 and beach disturbance to essential minimum. Avoid any unnecessary disturbance or damage to uncollected biota and substrate.

FOSC

Date

6-12-90

Prepared by

Date

6/11/90

MU-1

MU-900

WORK  
AREAS

Eagle  
NEST  
BUFFER  
ZONE

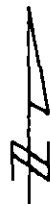
MU-3

MU-2

KN-



Exxon Company, USA  
Map Key: PWS-MU-1  
June 04, 1990



ECOLOGY MAP  
SEGMENT MU-1  
SUBDIVISION C (3 of 3)  
METERS



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

SECTION 1  
6/23/90

## ADDENDUM: SUBDIVISION CONSTRAINTS

### SEGMENT MU-1 SUBDIVISION C (3 of 3)

#### 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 **WORK PRIOR TO 7/1**

#### ARCHAEOLOGICAL STANDARD CONSTRAINT

~~If cultural resources are uncovered, PHONE 564-3274.~~

ARCHAEOLOGICAL  
MONITOR REQUIRED ON  
SITE. Phone 564-3274  
PP  
6/23

#### APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T Bald Eagle Nest

USFWS 8/1/90 map indicates an active nest in Subdivision C. 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.

7HH Subsistence: Finfish Harvesting

Closed to bioremediation after 7/1. 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 and beach disturbance to essential minimum. Avoid any unnecessary disturbance or damage to unrolled biota and substrate.

FOSC

Date

6-12-90

Prepared by

Date

6/11/90

MU-1

MU-900

WORK  
AREAS

Eagle  
NEST  
BUFFER  
ZONE

MU-3

MU-2

KN-



Exxon Company, USA

Map Key: PMS-MU-1

June 04, 1990

# ECOLOGY MAP

SEGMENT MU-1

SUBDIVISION C (3 of 3)

METERS



Seabird Colony



Active Eagle Nest



Inactive Eagle Nest

## SHORELINE EVALUATION

SEGMENT ST/ MU-02 SUBDIVISION A (1 OF 2) DATE 4/21/90

**SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:**

3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)  
3O,3Q Harbor seal and sea lion molting (8/15 to 9/15)  
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)  
7HH Subsistence area: Finfish harvesting  
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. Paul M. McKen DATE: 5/8/90

**OILING CATEGORIZATION:**

Wide 0 m: Medium 0 m: Narrow 232 m: V.Light 2441 m: No Oil 1706 m  
Subsurface Oil Observed: Yes \_\_\_\_\_ No X Maximum Depth \_\_\_\_\_

**RECOMMENDATIONS:**

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

COMMENTS: MANUAL PICKUP OF TARBALLS LOCATION #1, ASPHALT AT  
LOCATION #4, AND TARBALLS AT LOCATION #6

**TAG COMMENTS:** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

TAG APPROVAL DATE: 5/2/90.

|       |                |                |
|-------|----------------|----------------|
| ADEC  | Art Weimer     | Art Weimer     |
| EXXON | Andy Carl      | Andy Carl      |
| NOAA  | Gary Delaney   | Gary Delaney   |
| USCG  | KENNETH KEARNE | Kenneth Kearne |

FOSC: W L DATE: 5-12-90

## PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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



# FIELD SHORELINE COMMENT SHEET

SEGMENT ST / MU-2 SUBDIVISION: A DATE 4-21-90

~~NOAA~~  
~~USFWS~~

NAME STEPHEN STURM SIGNATURE Stephen Sturm

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

## COMMENTS

RECOMMEND REMOVAL OF TAR BALLS AND BREAK-UP PAVEMENTS AT LOCATIONS #4 & 6. ~~THE~~ REMOVAL SHOULD BE DONE BY SMALL WORK TEAMS THAT WILL MINIMIZE IMPACT TO WILDLIFE POPULATIONS IN THE AREA (SEA OTTERS - EAGLES).

DUE TO THE RESTRICTED, SHELTERED NATURE OF THESE AREAS, CLEAN-UP WILL PREVENT PERMANENT ASPHALT MATS AND PAVEMENTS FROM DEVELOPING.

## ADEC

NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

## COMMENTS

Location #1 - Manually remove tar balls. (small amount thru-out location)

Location #4 - Manually remove small amount of asphalt/Pavement at UITE.

Location #6 - Manually remove small amount of tar balls.

- THE REST OF subdivision is very light in oiling -

## LAND MANAGER

NAME Roy Burger ADNR SIGNATURE Roy Burger

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

## COMMENTS

In addition to the tx. outlined by ADEC above I would remove the broken coat on the east side of Mummy Island - at least breaking the continuity of this band to reduce its visibility.

Loc #4 - remove continuous cover also

Loc #5 - remove continuous cover

NW point of island to south of Mummy Is - remove broken coat

2 islands to west of Mummy Is. - remove patchy & continuous coat from east side

Abut. - inner pocket beaches on this segment are easy to land on & are well

# SHORELINE OILING SUMMARY

REVISION NO. 04/13/90

OG K. DERUSSCHER 10008 STEVEN STURM SEGMENT ST/ MU-2  
 BIO D. REED LAND REF Ray Burger ARNR SUBDIVISION H (1 OF 2)  
 EXXON T. DIAZ ADEC Shelby Sheldahl TIME 14:00:17:30  
 TEAM NO. 9 TIDE LEVEL 4-1 FT DATE 4/21/90  
 EST. SUBDIVISION LENGTH: 70 ± 3 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 10 % C 8 % P 3 % G 0 % S 2 % M 2 % V 0 %  
 SLOPE: Long 25 % Hang 45 % Vert 30 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High  
 OIL CATEGORY LENGTH: W 0 m M 0 m N 240 m VL 4113 m NO 2720 m

## SURFACE OIL

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

PAVEMENT H (F) S 0.5 sq. m by 1 cm

PATTIES / TARBALLS 1 BAGS

NEAR SHORE SHEEN? (NO) BR RW SL TL

| OILED DEBRIS | AMOUNT |    |    |
|--------------|--------|----|----|
|              | SM     | MD | LG |
| Logs         |        |    |    |
| Vegetation   |        |    |    |
| Trash        |        |    |    |
| Debris       |        |    |    |

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐

TYPE PONDS  
SORBIT PR  
 #BAGS 1

Photographs:

Roll No. ST-9-3

Frames 19

## SUBSURFACE OIL\* oiled interval < 5cm in pit\* does not constitute subsurface oil

| PIT NO.    | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER |    |    |    |    | OILED INTERVAL | BELOW |    | OIL / FILM COLOR |   |   |   |   | PIT ZONE |   |   |   | A | N | SHEEN (Y/N) | D | SURFACE-SUBSURFACE SEDIMENTS |    |                                   |
|------------|----------------|--------------------------|----|----|----|----|----------------|-------|----|------------------|---|---|---|---|----------|---|---|---|---|---|-------------|---|------------------------------|----|-----------------------------------|
|            |                | OF                       | OR | OL | OF | NO |                | UO    | UC | 1                | 2 | 3 | 4 | 5 | 6        | 7 | 8 | 9 |   |   |             |   |                              | 10 | 11                                |
| LOC #<br>1 | 1              | 15                       | X  |    |    |    | 0.3            |       | X  |                  |   |   |   | X |          |   | X |   |   |   |             |   | N                            | 12 | P - P <sub>2</sub> G <sub>2</sub> |
| LOC<br>2   | 2              | 20                       |    |    |    | X  | .              |       |    |                  |   |   |   |   | X        |   |   |   |   |   |             |   | N                            | 15 | G - G <sub>2</sub> S <sub>1</sub> |
|            | 3              | 15                       |    |    |    | X  | .              |       |    |                  |   |   |   |   |          |   | X |   |   |   |             |   | N                            | 8  | G - S                             |
|            | 4              | 20                       |    |    |    | X  | .              |       |    |                  |   |   |   |   | X        |   |   |   |   |   |             |   | N                            | -  | G - S <sub>2</sub> G <sub>1</sub> |
|            | 5              | 30                       |    |    |    | X  | .              |       |    |                  |   |   |   |   |          | X |   |   |   |   |             |   | N                            | -  | P - P                             |
|            |                |                          |    |    |    |    | .              |       |    |                  |   |   |   |   |          |   |   |   |   |   |             |   |                              |    |                                   |

## COMMENTS

SUBDIVISION IS DOMINATED BY HIGH ANGLE/VERTICAL BEDS WITH SMALL POCKET BEACHES AND BOULDER SHORE FACES ON EAST END

OILING IS PREDOMINANTLY NO OIL TO VERY LIGHT MOST SIGNIFICANT OILING IS ON E-MUNNY ISLAND

WHERE A BROKEN COAT OF ± IN COATS THO B/C-F

OIL AROUND ANOMALOUS STRAIN (LOC 1) IS VERY LIGHT - NO

REVIEWED W DATE 9/23/90

## SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/2

Segment ST / MU-2 Subdivision A Date (mo / day / yr) 04/21/90Time (24 hr) 1400-1730 Biologist DAN REED

(A) Substrate type and % of segments:

(1) Bedrock 75 (2) Boulder 10 (3) Cobble 8 (4) Pebble 3 (5) Sand 2 (6) Silt 2(B) Overall % cover of biota (% of segment): Dense 30 Moderate 40 Low 30

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

Photographs:

Roll No. ST-9-3Frames 19

## 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:

4 EAGLES, 1 NEST, 4 SEA OTTERS, 1 SEA OTTER SKELETON, 2 HARBOR SEALS, 2 OYSTER CATCHERS, 3 CANADA GEESSE, 4 GOLDEN EYES, 15 SCOTTERS, 2 BUFFLEHEADS, 2 GULLS, MANY DEER TRACKS NEAR SALMON STREAM.

## Ecological Considerations:

SEE ATTACHED

## Ecological Considerations

MU-2-A

### - General Community Description

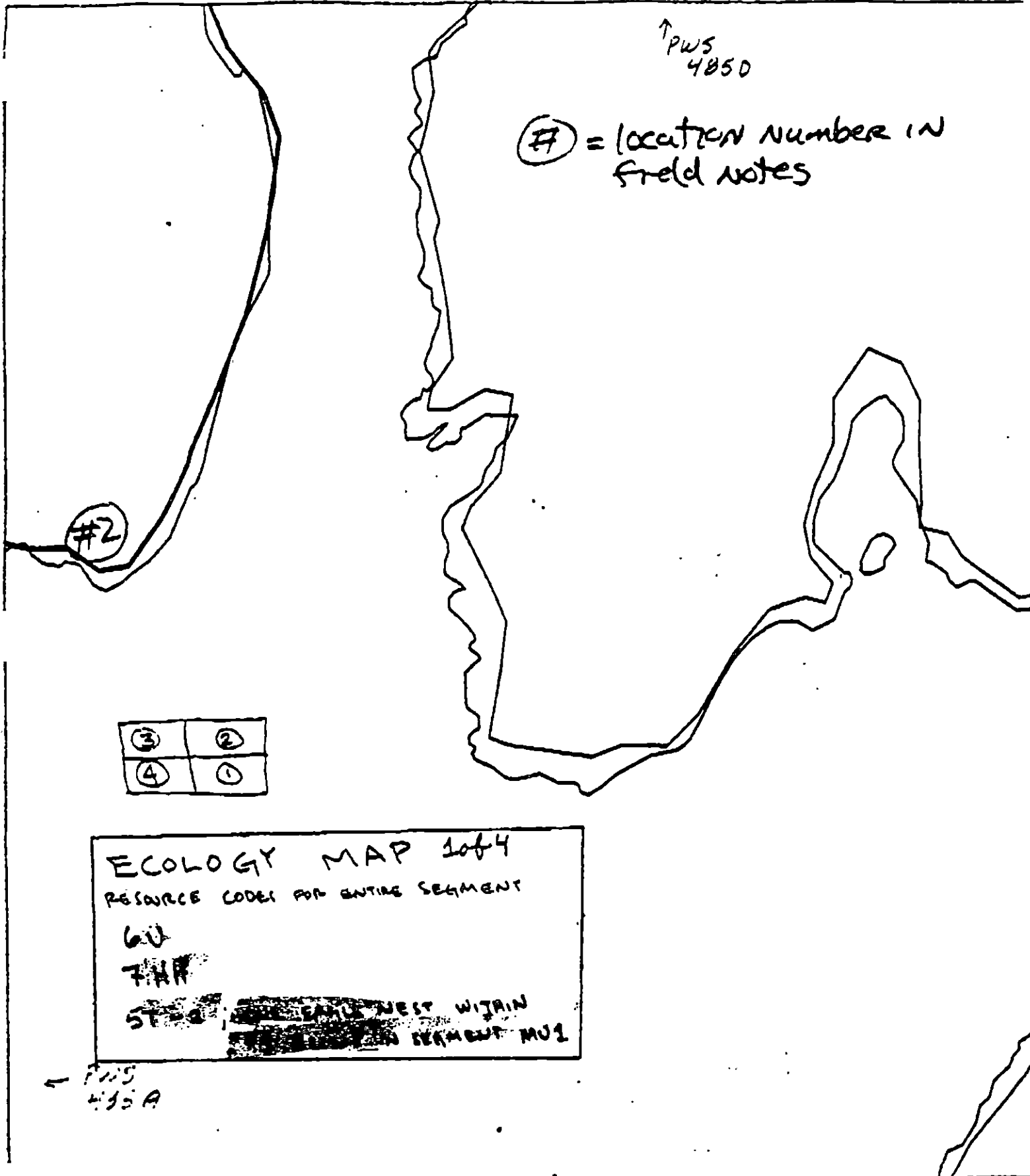
THIS AREA CONSISTS largely OF BEDROCK IN THE MID AND UPPER TIDAL ZONES. DENSE FUCUS COVER ON INCLINED AND HORIZONTAL SURFACES. DENSE RECRUITMENT OF FUCUS AS WELL AS NEW GROW FOUND THROUGHOUT MID ZONE.

VERTICAL BEDROCK SURFACES WITH DENSE BARNACLE COVER. MODERATE BARNACLE DENSITIES ELSEWHERE.

COBBLE, PEBBLE AND SILT COMMON IN LOW ZONE AND SUPPORT MODERATE DENSITIES OF MUSSELS AND CLAMS.

### - Notes on Wildlife.

ABUNDANT wildlife in this area. Numerous EAGLES, EAGLE NESTS, SEA OTTERS, AND DUCKS. SEA OTTER FORAGING (AS EVIDENCED BY EXTREMELY LARGE NUMBER OF CLAM PITS) EXTENSIVE ON THE S.W. SIDE OF ISLAND IN LOW ZONE, ESPECIALLY IN AREA OF ANADROMOUS FISH STREAM (LOCATION #7). MANY OF THE ISLETS IN THIS AREA ARE USED BY SEA OTTERS AS HAUL OUT SITES (EVIDENCED BY SCAT).



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

ST-MU-2-A

ADEC Segment Length: 5561m

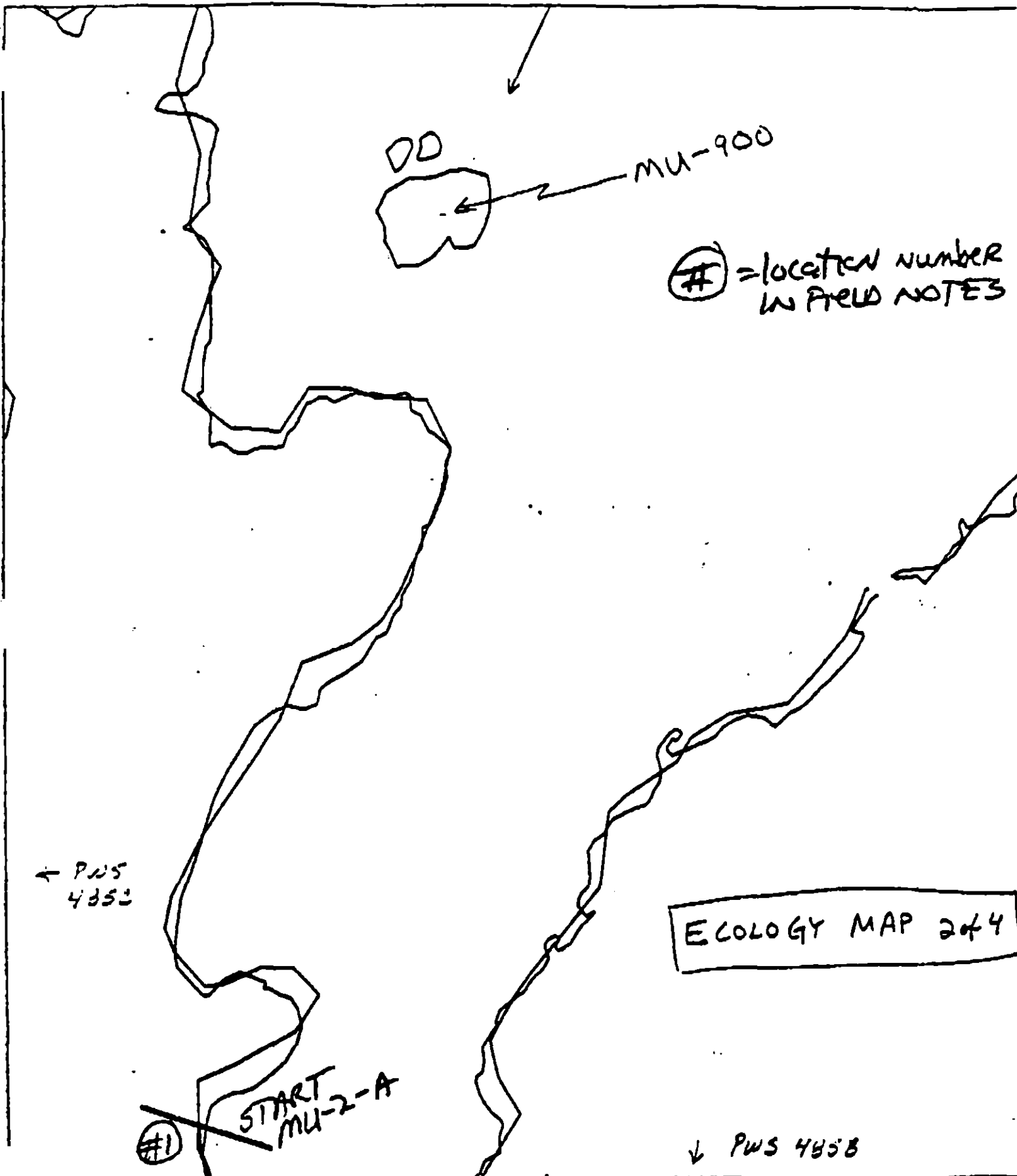
0 100 200 300

Map Key: PWS-4850

Name: DAN REED

Date: 04/21/90

Date Released:



XXXX Wide

//// Medium

---- Narrow

TTTT Very light

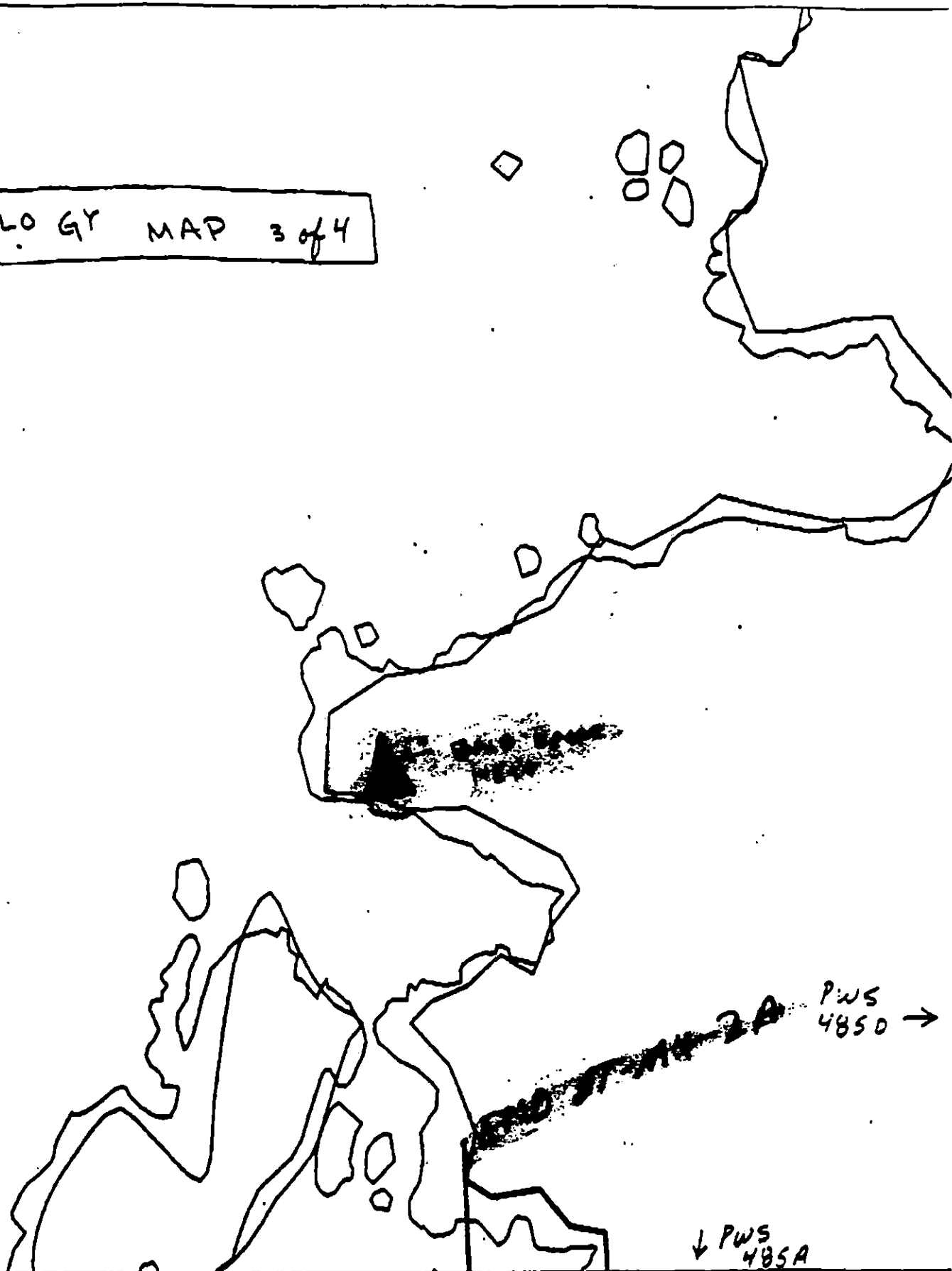
ST-MU-2-A

ADEC Segment Length: 5561m

Map Key: PWS-4858

Name: DAN ReelDate: 04/28/90

ECOLOGICAL MAP 3 of 4



PWS 4850 →

↓ PWS 485A

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

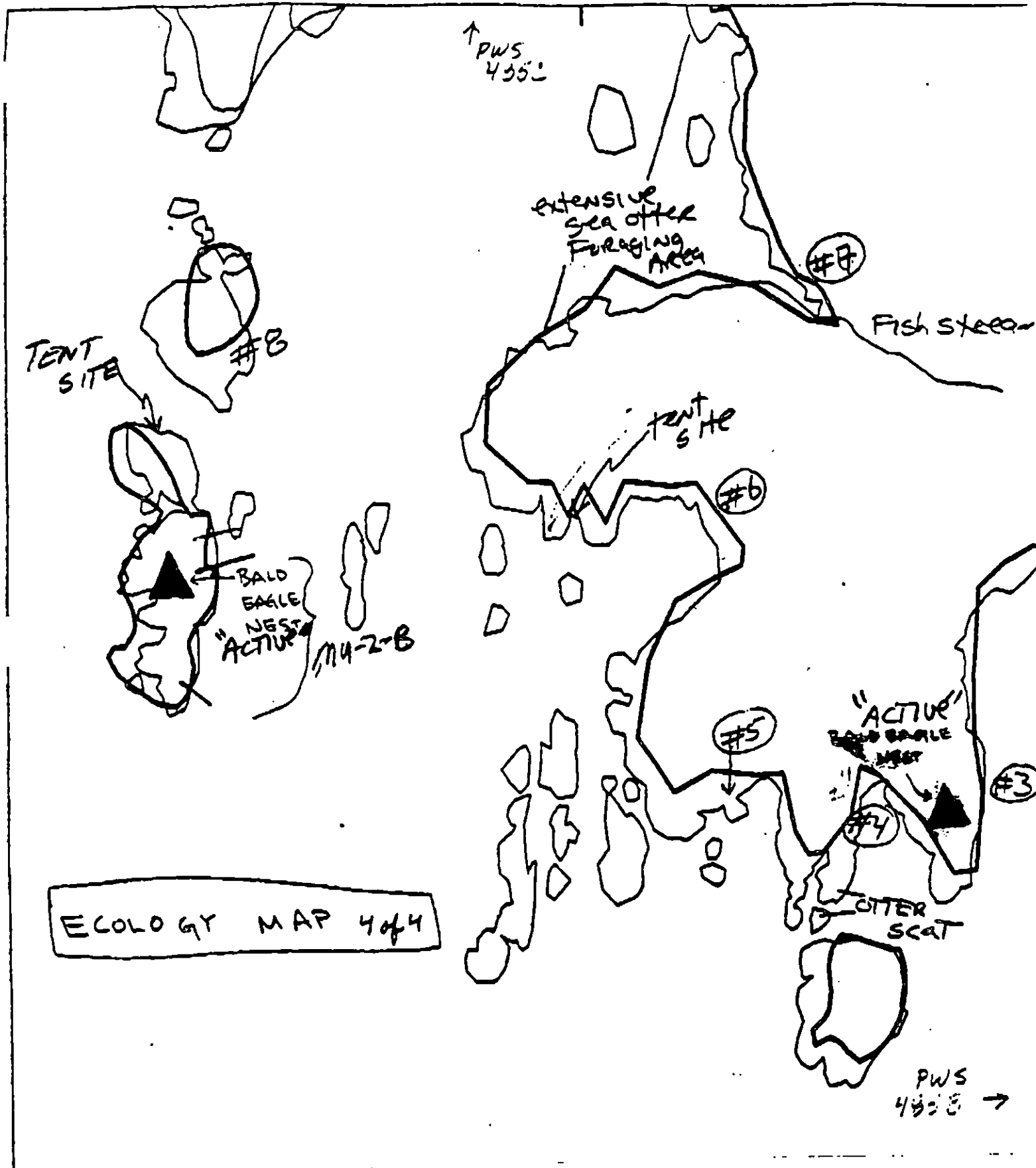
ST-MU-2-A

ADEC Segment Length: 5501m

Map Key: PWS-485c

Name: Dan Reel

Date: 04/21/90



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

ST-MU-2-A

ADEC Segment Length: 5561m



Map Key: PWS-4850

Name: DAN REED

Date: 04/21/90



S = SKIFF  
W = WALK

END  
ST-MU-2-A

PWS  
4850 →

↓ PWS  
485A

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

ST-MU-2-A

ADEC Segment Length: 7223

0 100 200 300

Map Key: PWS-485c

Name: K. DEBUSSCHERE

Date: 4/21/90

Date Entered:

AFF-22-1990 22:07 FROM ALBERTA TIDE

TO

EMERSON BOAT AND

PLOT

END  
ST-MU-2-F

PWS  
4850 →

↓ PWS  
485A

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

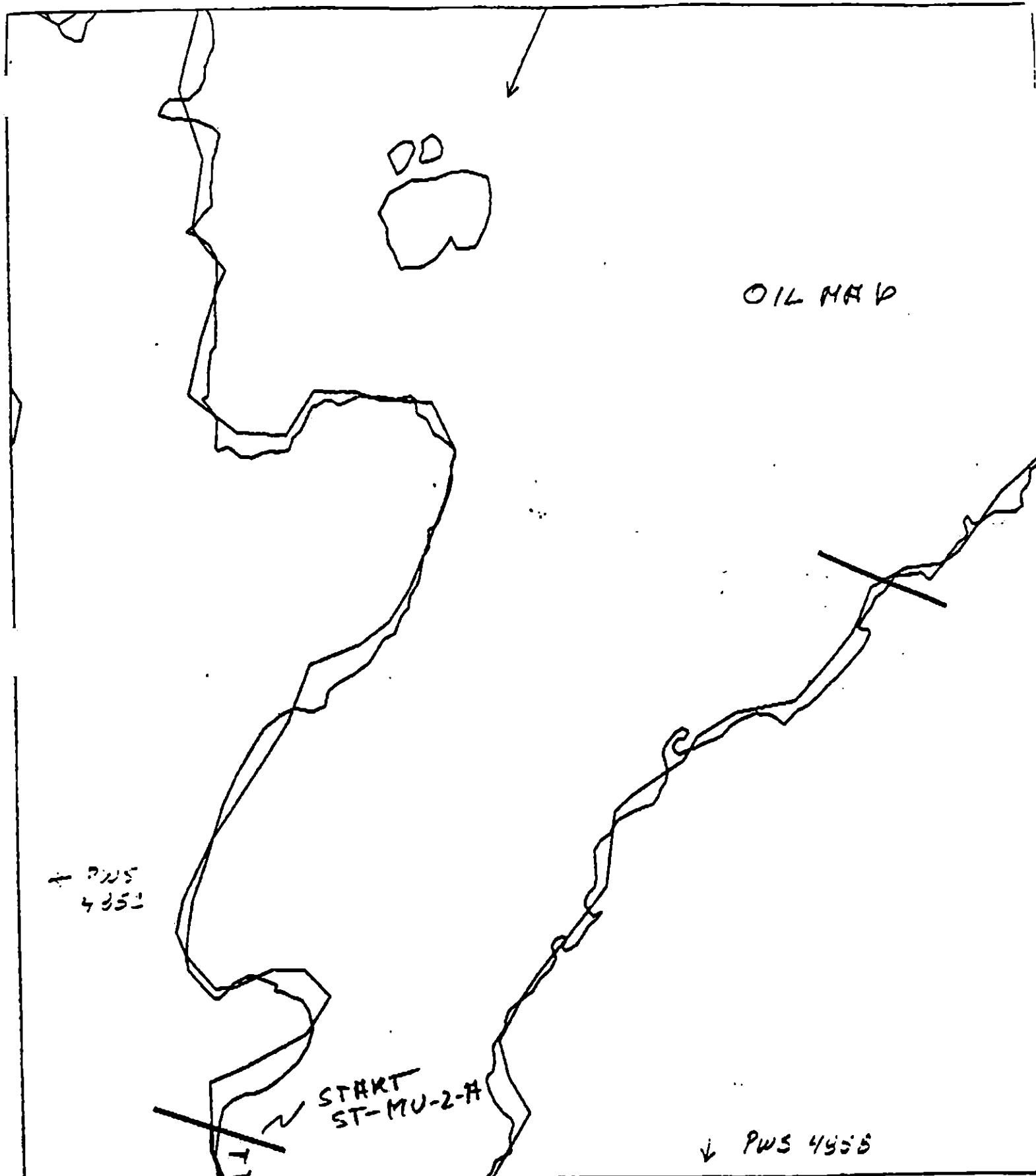
ST-MU-2-F

ADEC Segment Length: 7223  
~~5700m~~

Map Key: PWS-485c

Name: K. DEBUSSCHER

Date: 4/21/90



XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

OOOO No Oil

ST-MU-2-A

ADEC Segment Length: 7223 m



Map Key: PWS-485d

Name: K. DEBRUSCHKE

Date: 4/21/90

Data Entered:

↑ PWS  
4850

OIL MAP

← PWS  
4850A

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

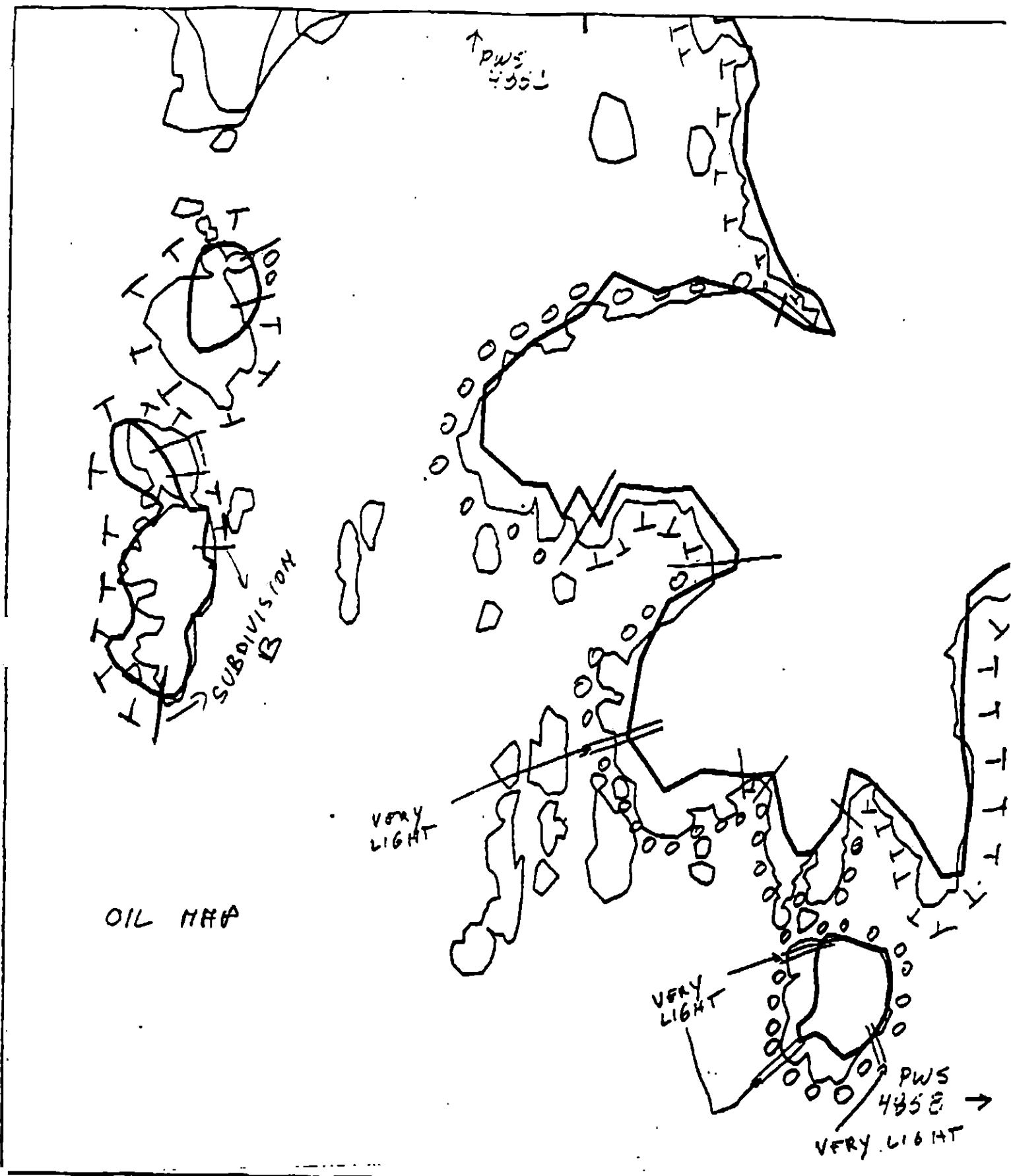
ST-MU-2-A

ADEC Segment Length: 7223 ~~7223~~ m

Map Key: PWS-4850

Name: K. DEBUSSCHE

Date: 4/21/90



XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

ST-MU-2-A

ADEC Segment Length: ~~500~~ 7223m

1864 100 200 300

Map Key: PWS-4850

Name: K. DEBUSSCHER

Date: 4/21/90

Og #1 of 4

S = SKIFF  
W = WALK

PWS  
4852

START  
ST-MU-2-H

CORT/P  
THICKNESS  
CORT/S

PWS 4855

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No

ST-MU-2-H

ADEC Segment Length: 7223



Map Key: PWS-485d

Name: K. DEBUSSCHERE

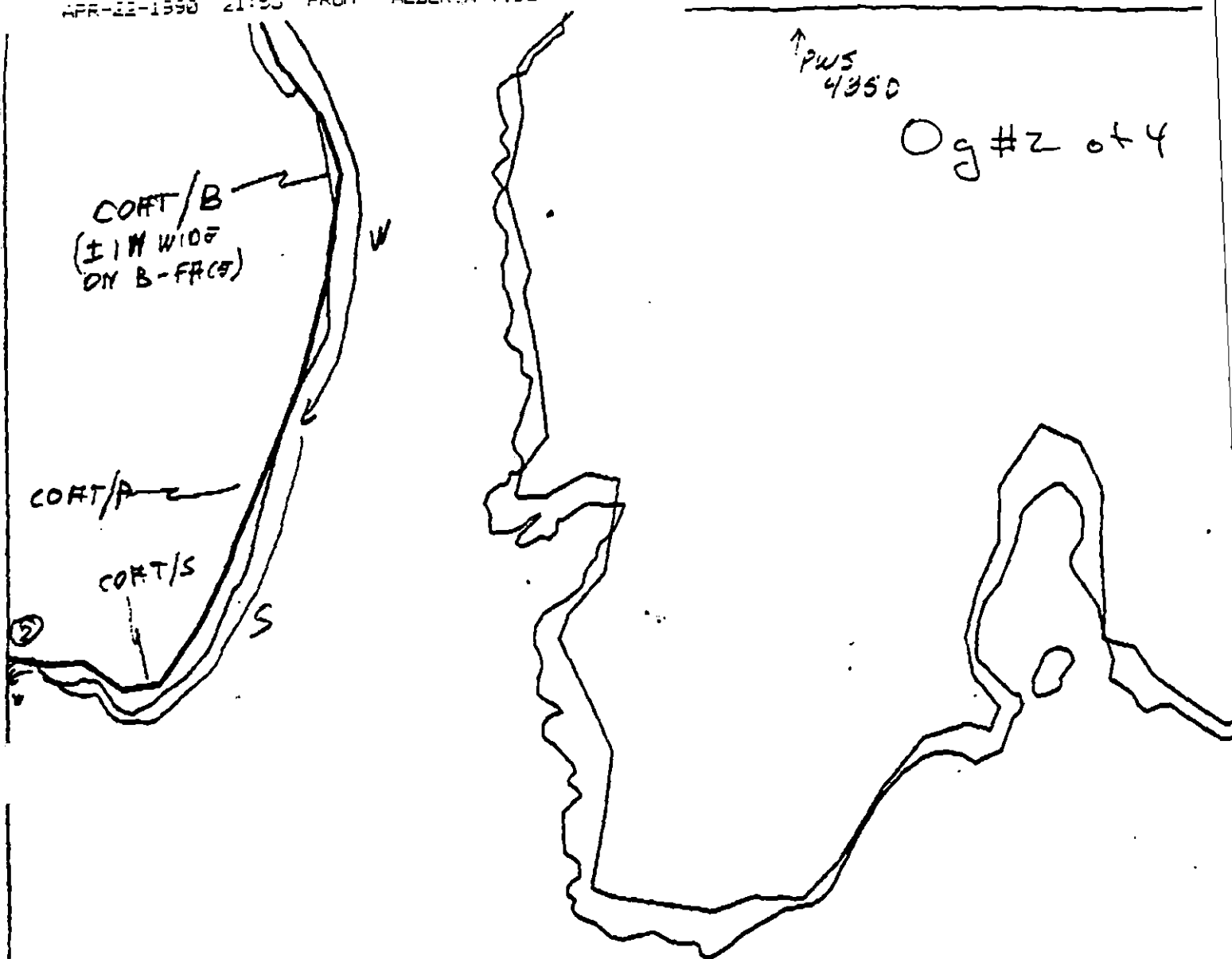
Date: 4/21/90

APR-22-1990 21:55 FROM ALBERTA TIDE

TO

EMMON SCOT WIC

F.04



S = STIFF

W = WALK

PWS  
435A

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

ST-MU-2-H

ADEC Segment Length: 7223

Map Key: PWS-485b

Name: K. DEBUSSCHE

Date: 4/21/90

S = SKIFF  
W = WALK

g#3 of

END  
ST-MU-2-A

PWS  
4850 →

↓ PWS  
485A

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

ST-MU-2-A

ADEC Segment Length: 7223

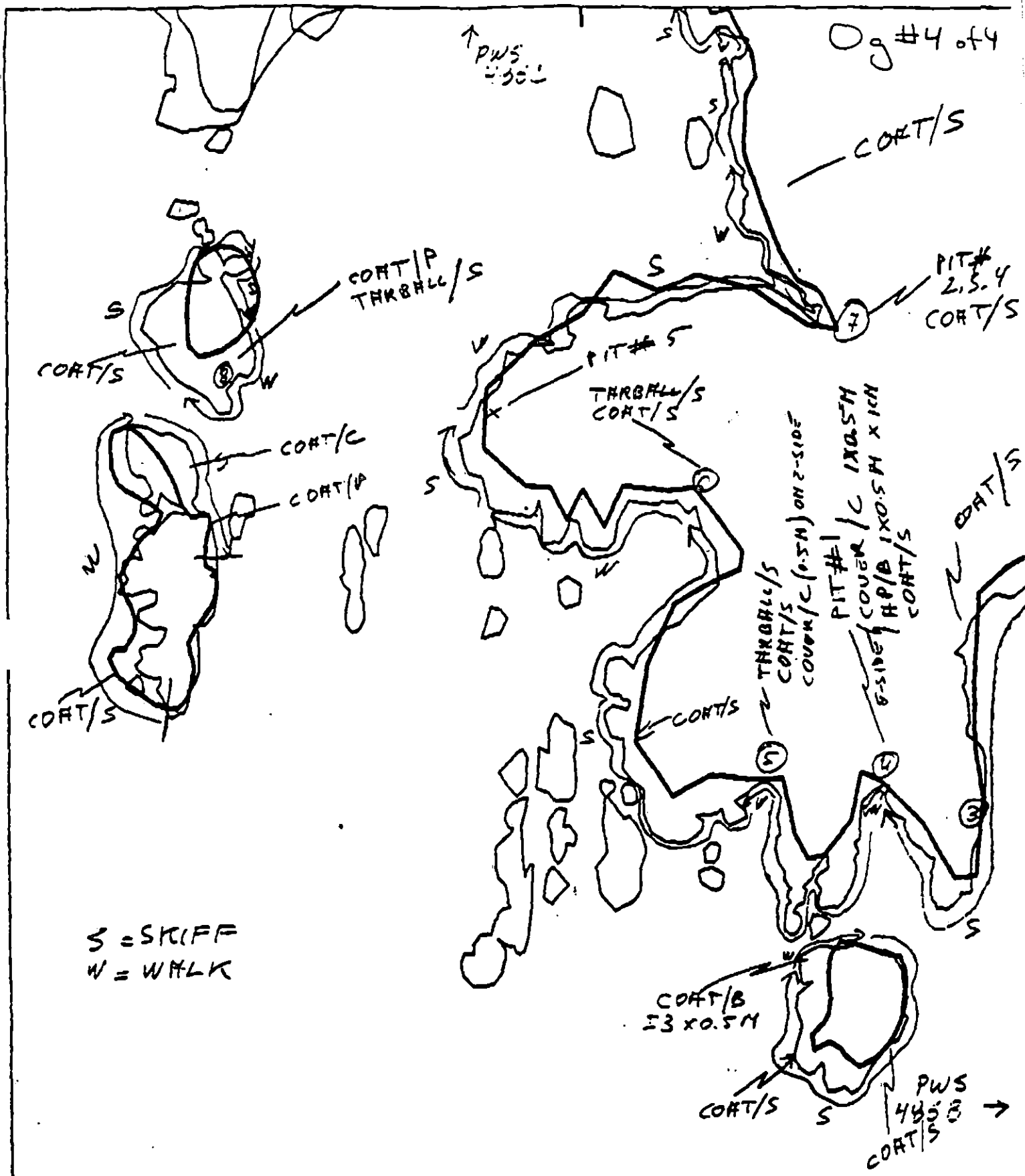


Map Key: PWS-485c

Name: K. DEBUSSCHERE

Date: 4/21/90





XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

ST-MU-2-A

ADEC Segment Length: 7223

Map Key: PWS-4850

Name: K. DEBUSSCHER

Date: 4/21/90

## ADDENDUM: SUBDIVISION CONSTRAINTS

### SEGMENT MU-2 SUBDIVISION A (1 of 2)

#### 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

|          |                                            |                                                                                                                                                                                             |
|----------|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 approved treatments within 400m of active nest. No constraint to approved treatments more than 400m from active nest. |
| 7HH      | Subsistence: Finfish Harvesting            | No constraint to manual pickup.                                                                                                                                                             |

#### 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 boat and air traffic and beach disturbance to essential minimum after 7/1. 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

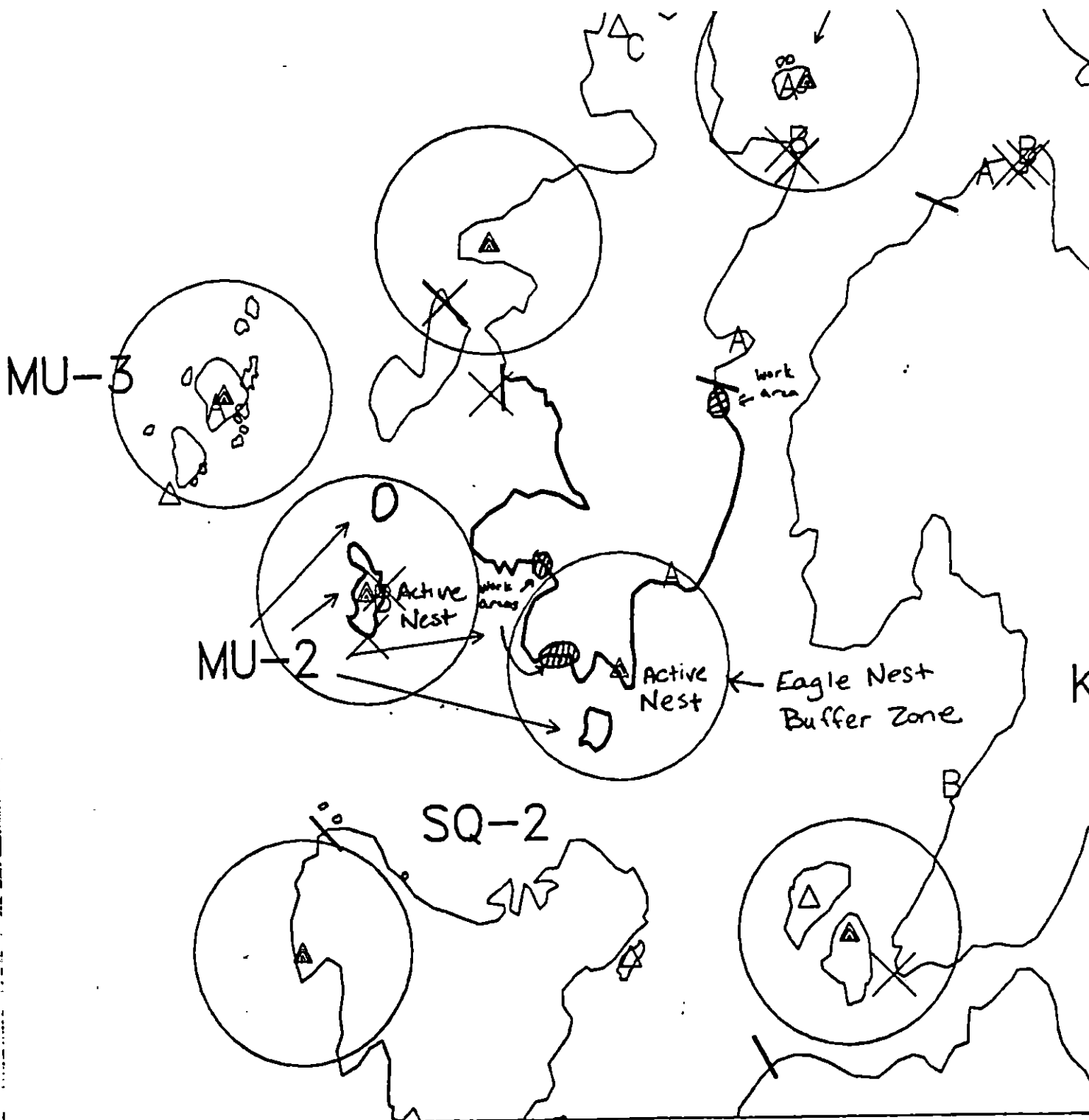
Date

6/12/90

Prepared by

Date

6/12/90



Exxon Company, USA  
 Map Key: PXS-MU-2  
 June 04, 1990

# ECOLOGY MAP SEGMENT MU-2

SUBDIVISION --- (--- of ---)  
 METERS



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

~~1:100,000 scale~~

# SHORELINE EVALUATION

SEGMENT ST/ MU-02 SUBDIVISION B (2 OF 2) DATE 4/21/90

## SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)  
3O,3Q Harbor seal and sea lion molting (8/15 to 9/15)  
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)  
7HH Subsistence area: Finfish harvesting  
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. Hines DATE: 5/2/90

## OILING CATEGORIZATION:

Wide 0 m: Medium 209 m: Narrow 0 m: V.Light 0 m: No Oil 0 m  
Subsurface Oil Observed: Yes      No X Maximum Depth     

## RECOMMENDATIONS:

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

COMMENTS: The recommended treatment includes 1) spot washing in conjunction with sorbents on pooled oil, 2) removal of tarmats and 3) bioremediation of area shown on sketch map. Bioremediation should be conducted between 7/2 and 7/31 based on pinniped constraints and all work after 6/1 with USFWS approval regarding eagle nest.

TAG COMMENTS:       
      
      
    

TAG APPROVAL DATE: 5/2/90

ADEC Ann Wagner  
EXXON Andy Tish  
NOAA Sally Petros  
USCG Kenneth Kline

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

# FIELD SHORELINE COMMENT SHEET

SEGMENT ST MU-2 SUBDIVISION: B DATE 4-21-90

~~NAME~~ NAME STEPHEN STURN SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

## COMMENTS

OIL COLLECTED IN ROCK TENTS AND SANDLES ON THE SOUTHERN AND SOUTHEASTERN END OF ISLAND (SEE MAP) AT HIGH TIDE. BEING IN A SHELTERED AREA, SMALL POCKETS OF POOLED OIL AND TAR/ASPHALT PYMENT ARE PRESENT.

RECOMMEND POOLED OIL BE REMOVED WITH ADEQUATE MATERIALS AND PAVEMENTS AND TAR PATCHES BOTH REMOVED AND BROKEN UP TO INCREASE MICROBIAL DEGRADATION DURING THE SUMMER.

IF SPOT HOT H<sub>2</sub>O WASHING IS NECESSARY, IT SHOULD BE DONE AFTER BALD EAGLE NESTING SEASON (SUMMER-FALL). HOT H<sub>2</sub>O MAY RE-DISTRIBUTE OIL INTO NON-OILED AREAS. USE OF BIODEGRADATION MAY BE AN ALTERNATIVE TO HOT H<sub>2</sub>O.

## ADEC

NAME Wesley Ghormley SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

## COMMENTS

Manually remove small patches of asphalt Pavement.

THIS subdivision consists mainly of bedrock. THE bedrock has a large crack that runs thru-out subdivision that acted as a catch basin for floating oil. Pooled oil & cover has accumulated all along crack.

Recommend - Hand towels & sorbant Pads should be used to Remove as much oil as possible, Followed by Hot H<sub>2</sub>O washing of entire crack at low to medium pressure so as not to blow the retrievable oil out of crack. Retrieve oil with sorbant pads & pom-poms.

- Clean in late summer due to the presence of eagle nest.

## LAND MANAGER

NAME Ray Burger AONR SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

## COMMENTS

Concur with ADEC tx. as above with wildlife constraints.

9/26

SHORELINE OILING SUMMARY

REVISION NO. 04 12/88

OG K. DEBUSSCHERE NAVA STEVEN STUM SEGMENT ST/ MU-2  
BIO D. REED LAND REP RAY BURGER BANK SUBDIVISION 13 (2 OF 2)  
EXXON T. DIAZ ADEC Wks/Chloromell TIME 7:30 to 8:00  
TEAM NO. 9 TIDE LEVEL 1.5 FT DATE 4/21/90  
ST. SUBDIVISION LENGTH: 150 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow  
UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☐ Rock  
SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: N to S  
SURFACE SEDIMENTS: R 85% B 2% C 5% P 5% G 3% S 0% M 0% V 2%  
SLOPE: Long 20% Hang 50% Ven 30% WAVE EXPOSURE: ☒ Low ☐ Med ☐ High  
OIL CATEGORY LENGTH: W 0 m M 150 m N 0 m VL 0 m NO 0 m

SURFACE OIL

| CHARACTER        | DISTRIBUTION |   |   |   | OIL / FILM COLOR |   |   |    | IMPACTED ZONES |   |   |   |
|------------------|--------------|---|---|---|------------------|---|---|----|----------------|---|---|---|
|                  | C            | B | P | V | W                | M | N | VL | W              | U | M | U |
| ASPHALT PAVEMENT | X            |   |   |   | X                |   |   |    | X              |   |   |   |
| POOLED           |              |   | X |   |                  |   |   |    | X              |   |   |   |
| COVER            |              | X |   |   |                  |   | X |    | X              |   |   |   |
| COAT             |              |   |   | X | X                |   |   |    | X              |   |   |   |
| STAIN            |              |   |   |   |                  |   |   |    |                |   |   |   |
| MOUSSE           |              |   |   |   |                  |   |   |    |                |   |   |   |
| PATTIES          |              |   |   |   |                  |   |   |    |                |   |   |   |
| TARBALLS         |              |   |   |   |                  |   |   |    |                |   |   |   |
| LM               |              |   |   |   |                  |   |   |    |                |   |   |   |
| NO OIL           |              |   |   |   |                  |   |   |    | X              | X | X |   |

PAVEMENT H (F) 10 sq. m by 2 cm  
PATTIES / TARBALLS 0 BAGS  
NEAR SHORE SHEEN? (NO) BR RW SL TL

| OILED DEBRIS | AMOUNT |    |    |
|--------------|--------|----|----|
|              | SM     | MD | LG |
| Logs         |        |    |    |
| Vegetation   |        |    |    |
| Trash        |        |    |    |
| Debris       |        |    |    |

DID YOU COLLECT DEBRIS?  
YES ☒ NO ☐  
TYPE SOD-BET-Y  
PAD  
#BAGS 1

Photographs:  
Roll No. NONE  
Frames NONE

SUBSURFACE OIL

| PIT NO.   | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER |    |    |    |    | OILED INTERVAL | BELOW |    | OIL / FILM COLOR |   |   |    | PIT ZONE |   |   |   | A<br>N<br>A | SHEEN (VAN) | !        | SURFACE - SUBSURFACE SEDIMENTS |
|-----------|----------------|--------------------------|----|----|----|----|----------------|-------|----|------------------|---|---|----|----------|---|---|---|-------------|-------------|----------|--------------------------------|
|           |                | OP                       | OR | OL | OF | NO |                | UO    | UC | W                | M | N | VL | W        | U | M | U |             |             |          |                                |
| <u>1K</u> | <u>5</u>       |                          | X  |    |    |    | <u>0.2</u>     |       | X  | X                |   |   |    | X        |   |   |   |             | <u>N</u>    | <u>-</u> | <u>P&amp;G-R</u>               |
|           |                |                          |    |    |    |    |                |       |    |                  |   |   |    |          |   |   |   |             |             |          |                                |
|           |                |                          |    |    |    |    |                |       |    |                  |   |   |    |          |   |   |   |             |             |          |                                |
|           |                |                          |    |    |    |    |                |       |    |                  |   |   |    |          |   |   |   |             |             |          |                                |
|           |                |                          |    |    |    |    |                |       |    |                  |   |   |    |          |   |   |   |             |             |          |                                |
|           |                |                          |    |    |    |    |                |       |    |                  |   |   |    |          |   |   |   |             |             |          |                                |

COMMENTS \* OILED INTERVAL IS PAVEMENT and does not constitute subsurface oil  
- SUBDIVISION CONSISTS MAINLY OF BEDROCK. - THE S-END IS A INTERTIDAL ROCK PLATFORM - THE N-END IS CLIFF BORDERED BY FOREST  
- OIL: POOLED OIL IS PRESENT IN CRACKS IN WEATHERED R  
- COVER OCCURS WHERE R HAS ERODED TO FORM GULLIES - FORM "CATCH BASINS"  
- RAINBOW SHEEN IS PRESENT ON R. REVIEWED JW DATE 4/23/90

# SHORELINE ECOLOGICAL SUMMARY

REVISION: 08-2-79

Segment ST / MU-2 Subdivision B Date (mo / day / yr) 04/21/90  
 Time (24 hr) 1730-1800 Biologist D. Reed

- (A) Substrate type and % of segments:  
 (1) Bedrock 85 (2) Boulder 2 (3) Cobble 5 (4) Pebble 5 (5) Sand 5 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense 20 Moderate 50 Low 30
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (O)

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

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      | O  | X  | 3    | O  | O  |
| 4     | 4  | 4  | 4        | X  | 4  | 4      | O  | X  | 4    | O  | O  |
| 5     | 5  | 5  | 5        | X  | 5  | 5      | O  | X  | 5    | O  | O  |
| 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  | 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  |

NOT PRESENT

## FUCUS

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

NOT PRESENT

## Wildlife Observations/ General Comments:

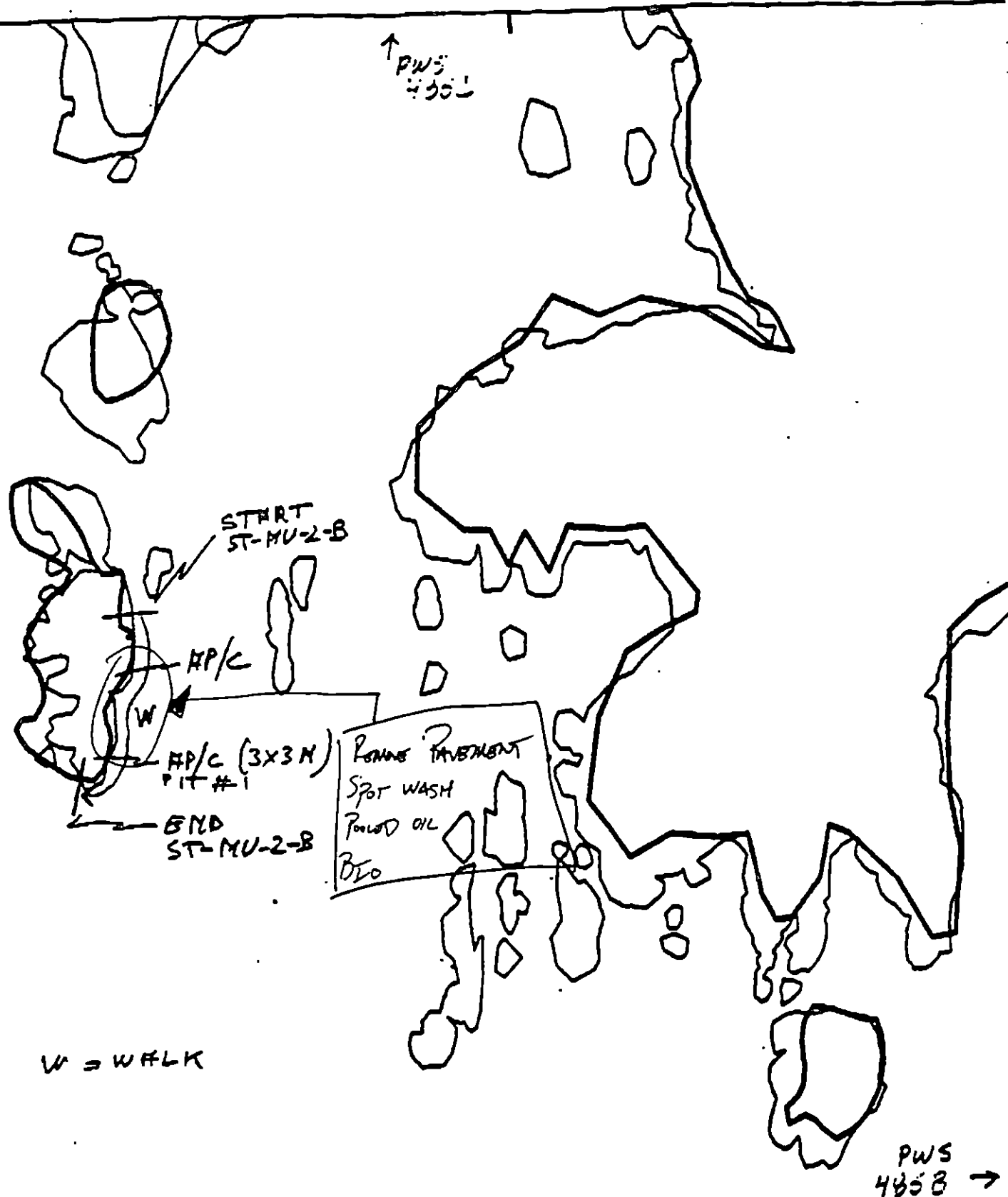
2 Bald Eagles with 1 EAGLE NEST. . . . 2 BLACK SCOTTERS  
 1 common merganser

## Ecological Considerations:

medium oiling in this short (150m) subdivision. Bald eagle NEST IS ACTIVE AND SHOULD BE TAKEN INTO CONSIDERATION WHEN DETERMINING THE TIMING AND TYPE OF CLEANUP. PRIMARILY FUCUS AND BARNACLES IN AREAS OF HEAVIEST OIL.

4/26





XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

ST-MU-2-B

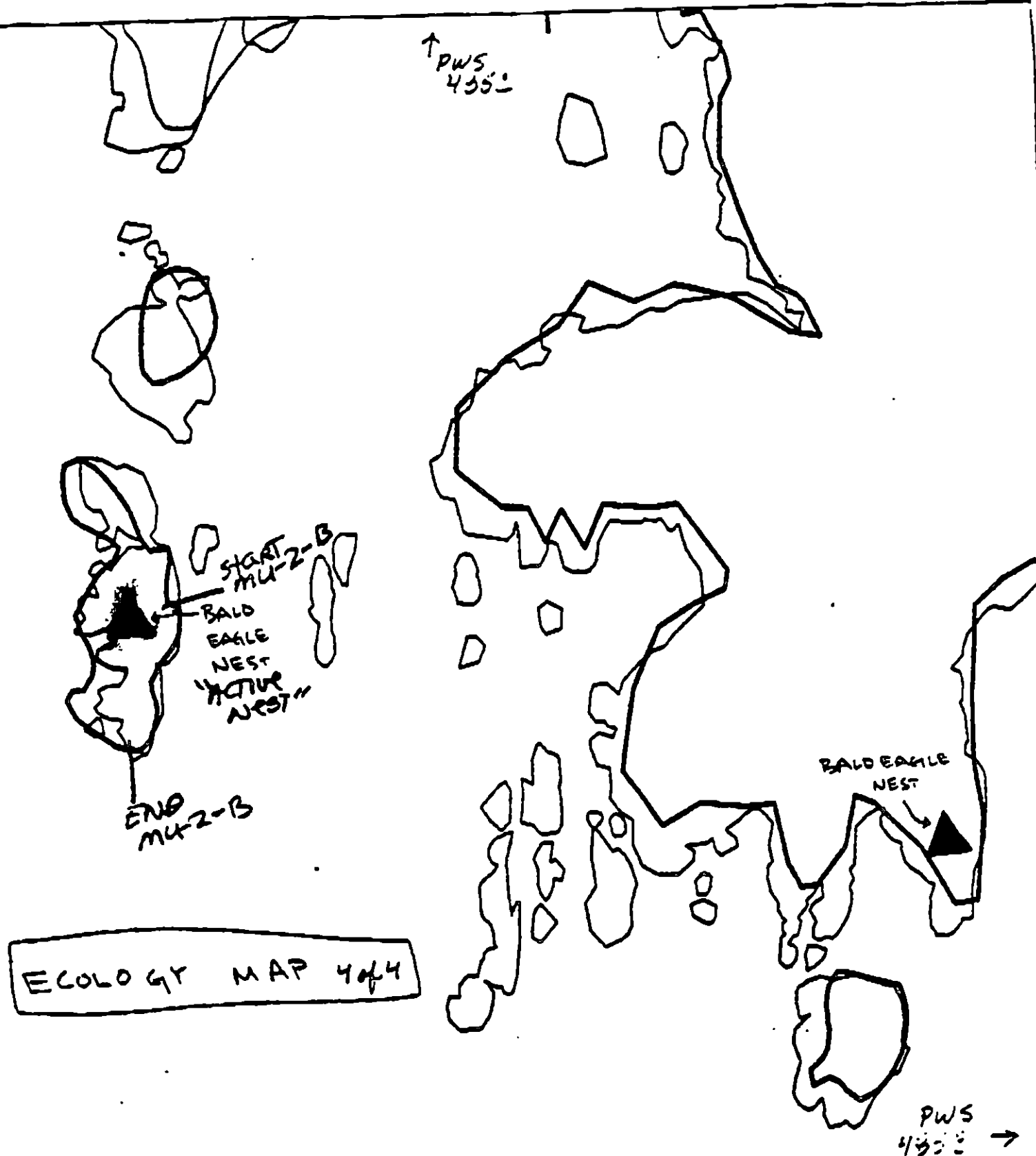
ADEC Segment Length: 5581m

0 200 100 200 300

Map Key: PWS-4850

Name: K. DEBUSSCHEDate: 4/21/90

Date Entered:



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

ST-MU-2-B

ADEC Segment Length: 5561m

0 100 200 300

Map Key: PWS-4850

Name: D. Reed

Date: 04/21/90

Date Entered:

↑ PWS  
4358

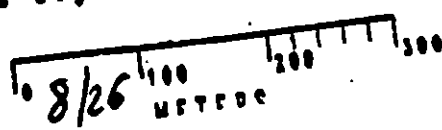
START  
ST-MU-2-B

END  
ST-MU-2-B

PWS  
4358 →

ST-MU-2-B

ADEC Segment Length: 556m



Map Key: PWS-4850  
Name: K. DEBUSSCHER  
Date: 4/21/90  
Date Entered:

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

## ADDENDUM: SUBDIVISION CONSTRAINTS

### SEGMENT MU-2 SUBDIVISION B ( 2 of 2 )

| WORK WINDOW                                                |        |
|------------------------------------------------------------|--------|
| Tarmat Removal                                             | CLOSED |
| Bioremediation<br>Spot Washing<br>Other Approved Treatment | CLOSED |

#### ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

#### APPLICABLE ECOLOGICAL TIME CONSTRAINTS

|          |                                               |                                                                                                                                                                                                                                                                                                          |
|----------|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3N,O,P,Q | Harbor Seal & Sea Lion<br>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 tarmat removal, bioremediation, spot washing, and other approved treatment within 400m of active nest. No constraint to tarmat removal, bioremediation spot washing, and other approved treatment more than 400m from active nest. |
| 7HH      | Subsistence: Finfish<br>Harvesting            | Closed to bioremediation, spot washing, and other approved treatment after 7/1. No constraint to tarmat removal.                                                                                                                                                                                         |

#### OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC

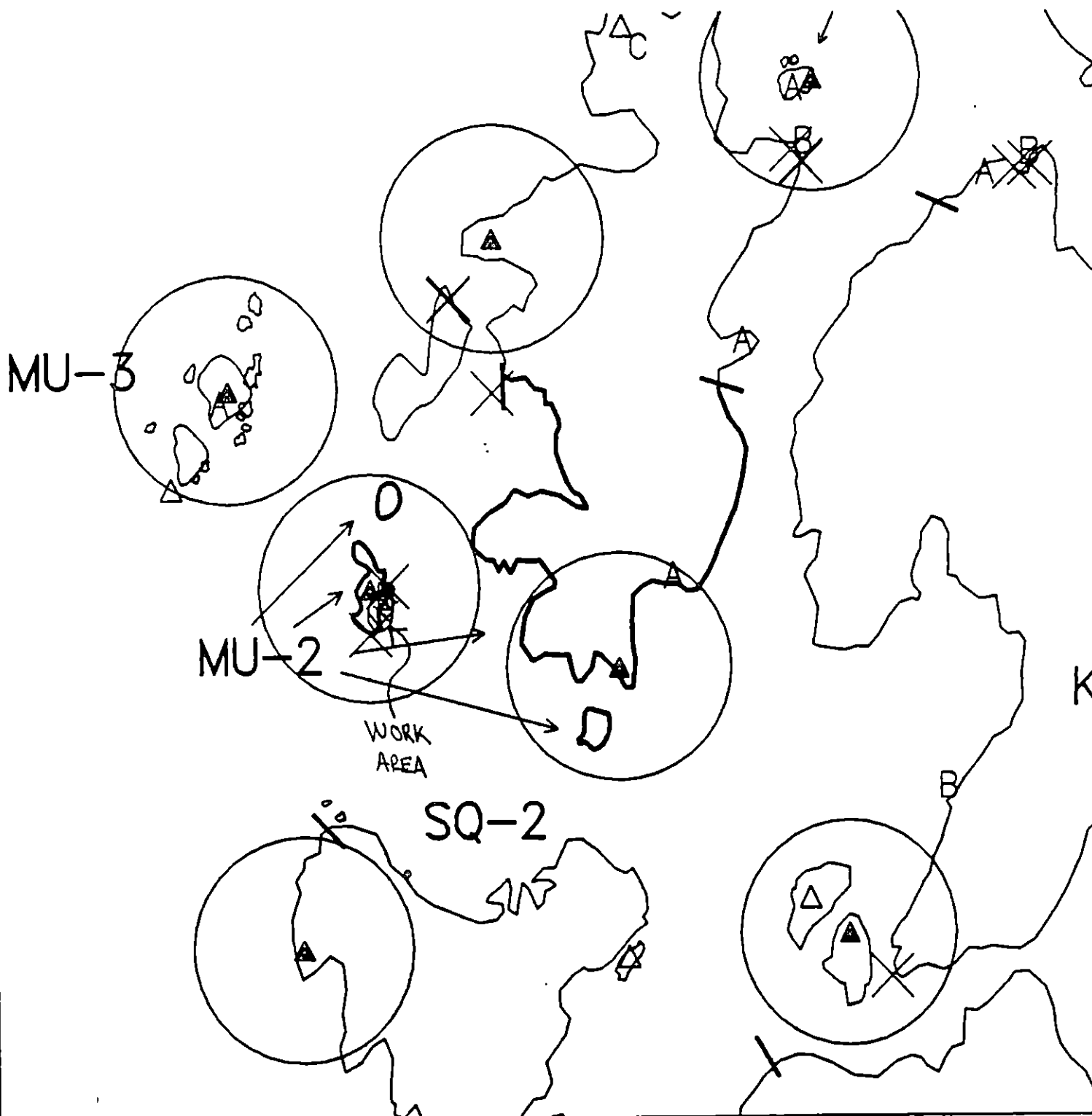
Date

6-12-90

Prepared by

Date

6/11/90



Exxon Company, USA  
Map Key: PMS-MU-2  
June 09, 1990

**ECOLOGY MAP**  
SEGMENT MU-2  
SUBDIVISION B (2012)  
METERS  
0 513 1026

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

1 inch = 1684 feet

# SHORELINE EVALUATION

SEGMENT ST/ MU-03 SUBDIVISION A (1 OF 1) DATE 4/21/90

## SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)  
30,3Q Harbor seal and sea lion molting (8/15 to 9/15)  
5T-2 All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1)  
6Y Recreation: Special use destination  
7HH Subsistence area: Finfish harvesting  
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 G. Hines DATE: 5/3/90

## OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 71 m: V.Light 1155 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>X</u> Spot Washing: <u>X</u> Wands        |
| <u>X</u> Tarmat Removal              | <u>    </u> Beach Cleaner                    |
|                                      | <u>    </u> Other (see comments) <u>    </u> |

COMMENTS: Manually remove tarmats, pooled oil and tarballs. Biore-  
mediate areas indicated on sketch map. Work should be conducted prior  
to 5/15 or between 7/1 and 8/15 and with USFWS approval based on pinni-  
ped and eagle constraints respectively. Inipal should only be applied  
between 7/2 and 7/31 due to pinnipeds.

TAG COMMENTS: SPOT WASH PRIOR TO BIO AS INDICATED  
      
      
    

TAG APPROVAL DATE: 5/3/90.  
ADEC ART WEINER Art Weiner  
EXXON ANDY TEN PICAL  
NOAA GARY PETROE Gary Petroe  
USCG KENNETH KATHOLIC Kenneth Katholic

FOSC:      DATE: 5-8-90

- 1A Salmon stream mouth - fry outmigration (3/1 to 5/15)  
1B Salmon stream mouth - spawning (7/10 to 8/31)  
No disturbance of stream bed or banks unless authorized by ADF&G. No beach flushing into stream drainage. No bioremediation or other chemical application within 100m of stream without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.  
AGENCY CONTACT PERSON: ADF&G John Morison 267-2324
- 1C Salmon fry nursery area (4/31 to 7/31)  
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.  
AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1D Esther Hatchery release (4/15 to 6/1)  
1E Main Bay Hatchery release (4/20 to 6/10)  
1F Sawmill Bay Hatchery release (4/15 to 6/1)  
1G Cannery Creek Hatchery release (4/21 to 6/1)  
1H Remote release site  
No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.  
AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214  
1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511
- 1I Gill net area (6/7 to 8/31)  
1J Purse seine area (7/20 to 9/30)  
1K Purse seine hook-off (7/20 to 9/30)  
1L Set net sites (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
- 3A Harbor seal and sea lion pupping (5/15 to 7/1)  
3B Harbor seal and sea lion molting (8/15 to 9/15)  
Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31). Contact ADF&G and USFWS prior to treatment for confirmation.  
AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235  
ADF&G Don Calkins 267-2403
- 5R Seabird colony (5/1 to 9/1)  
Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.  
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)  
Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.  
AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377  
ADF&G Tom Roth 267-2206
- 6F 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)  
Finfish harvesting  
7A Deer harvesting (8/15 to 2/26)  
7B 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 / MU-3 SUBDIVISION: A DATE 4-21-90

~~NOAA~~ NAME STEPHEN STURM SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

## COMMENTS

MANUALLY REMOVE TAR BALLS, TAR MATS, ETC FROM SHELTERED AREAS IN LOCATIONS 3 & 5 WITH SMALL WORK TEAMS AT THE END OF SUMMER - EARLY FALL. BALD EAGLE NESTING SITES ARE IN CLOSE PROXIMITY TO BOTH LOCATIONS. ADDITIONAL USE OF SPOT HOT WASHING OF SHELTERED, VERTICAL ROCK FACES MAY BE NECESSARY TO REMOVE CONTINUOUS COAT OF OIL IN UITE. CARE SHOULD BE TAKEN AS TO NOT RE-MOBILIZE OIL INTO UNOILED AREAS DURING HOT WATER WASHING.

ADEC NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

## COMMENTS

Location #3 - Manually remove tar balls. Spot wash continuous coat on Rock at UITE using Hot H<sub>2</sub>O.

Location #5 - Manually remove small amount of pooled oil on North side of location in bedrock crack. Manually remove tar mat & tar balls from same location. Spot washing using Hot H<sub>2</sub>O to remove coated oil from both South & North pocket beaches on location.

- All other locations were lightly stained & coated & require NO clean-up.
- large tar patty was removed from location #1.

## LAND MANAGER

NAME Ray Burger AONR SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

## COMMENTS

- Concur with ADEC as above with addition of removal of broken continuous coat on east side of northern island
- Pocket beaches on islands allow easy landing for exploring, but no good campsites found



## SHORELINE OILING SUMMARY

REVISION NO. 06/13/90

OG K. DERUSSCHKE W228 S. STORM SEGMENT ST/ MU-3  
 BIO P. REED LAND REP Rayburger AQNR SUBDIVISION H (1 OF 1)  
 EXXON T. DIAZ ADEC Wesley Gohormley TIME 18:25 to 19:30  
 TEAM NO. 9 TIDE LEVEL 1.75 - 3.5 DATE 4/21/90  
 EST. SUBDIVISION LENGTH: 33.59 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow  
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock  
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: E to W  
 SURFACE SEDIMENTS: R 90 % B 5 % C 4 % P 1 % G 0 % S 0 % M 0 % V 0 %  
 SLOPE: Long 0 % Hang 15 % Vert 85 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High  
 OIL CATEGORY LENGTH: W 0 m M 0 m N 70 m VL 32.89 m NO 0 m

## SURFACE OIL

| CHARACTER        | DISTRIBUTION |    |    |    |    | OIL / FILM COLOR |    |    |    |    | IMPACTED ZONES |   |   |   |  |
|------------------|--------------|----|----|----|----|------------------|----|----|----|----|----------------|---|---|---|--|
|                  | 10           | 15 | 20 | 25 | 30 | 35               | 40 | 45 | 50 | 55 | BU             | U | M | U |  |
| ASPHALT PAVEMENT | X            |    |    |    |    |                  |    |    |    |    | X              |   |   |   |  |
| POOLED           |              |    | X  |    |    |                  |    |    |    |    | X              |   |   |   |  |
| COVER            |              | X  |    |    |    |                  |    |    |    |    | X              |   |   |   |  |
| COAT             | 0            | X  | Z  | V  |    |                  |    |    |    |    |                |   |   |   |  |
| STAIN            | X            |    |    |    |    |                  |    |    |    |    | X              |   |   |   |  |
| MOUSSE           |              |    |    |    |    |                  |    |    |    |    |                |   |   |   |  |
| PATTIES          |              |    |    |    |    |                  |    |    |    |    |                |   |   |   |  |
| TARBALLS         |              |    |    | X  |    |                  |    |    |    |    | X              |   |   |   |  |
| FILM             |              |    |    |    |    |                  |    |    |    |    |                |   |   |   |  |
| NO OIL           |              |    |    |    |    |                  |    |    |    |    | X              | X | X |   |  |

PAVEMENT H (P) S 2 sq. m by 1 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 THA-PATT#BAGS 1

Photographs:

Roll No. NONEFrames NONE

## SUBSURFACE OIL

| PIT NO. | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER |    |    |    |    | OILED INTERVAL (cm) | BELOW |    | OIL / FILM COLOR |    |    |    |    | PIT ZONE |   |   |   | A N A | SHEEN (Y/N) | ↓ | SURFACE-SUBSURFACE SEDIMENTS |
|---------|----------------|--------------------------|----|----|----|----|---------------------|-------|----|------------------|----|----|----|----|----------|---|---|---|-------|-------------|---|------------------------------|
|         |                | OP                       | OR | OL | OF | NO |                     | UO    | UC | 35               | 40 | 45 | 50 | 55 | BU       | U | M | U |       |             |   |                              |
| 1       | 30             |                          |    |    |    | X  | .                   |       |    |                  |    |    |    |    | X        |   |   |   |       | N           | - | P-P/S                        |
| 2       | 35             |                          |    |    |    | X  | .                   |       |    |                  |    |    |    |    | X        |   |   |   |       | N           | - | P-P                          |
|         |                |                          |    |    |    |    | .                   |       |    |                  |    |    |    |    |          |   |   |   |       |             |   |                              |
|         |                |                          |    |    |    |    | .                   |       |    |                  |    |    |    |    |          |   |   |   |       |             |   |                              |
|         |                |                          |    |    |    |    | .                   |       |    |                  |    |    |    |    |          |   |   |   |       |             |   |                              |
|         |                |                          |    |    |    |    | .                   |       |    |                  |    |    |    |    |          |   |   |   |       |             |   |                              |

## COMMENTS

SEGMENT IS MAINLY BED ROCK

OILING IS MOST SIGNIFICANT IN LOCATIONS ③ &amp; ⑤

③ → POCKET BEACH (B&amp;C) → BAND OF CONTINUOUS COAT AT UI &amp; TARBALLS

⑤ → 1.5 M WIDE GULLIE WITH COMBINATION OF COAT/B &amp; COVER/B ON VERTICAL ROCK (15X1.5M)

→ JUST NORTH: COAT/C ON VERTICAL ROCK (20X1M)

ALSO PO/P (20X40 CM); TARBALLS &amp; #P/C (1X2M)

REVIEWED

DATE 4/23/90

14/26

# SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST/ MU-3 Subdivision A Date (mo / day / yr) 04/21/90

Time (24 hr) 1825-1930 Biologist D. REED

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

(B) Overall % cover of biota (% of segment): Dense 30 Moderate 40 Low 30

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

Photographs: \_\_\_\_\_  
Roll No. \_\_\_\_\_

Frames ABNE

## BARNACLES

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |
| 2     | 2  | 2  | X        | X  | 2  | 2      | 2  | X  | 2    | 2  | 2  |
| 3     | 3  | 3  | X        | 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  |

NOT PRESENT

## MYTILUS

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

NOT PRESENT

## GASTROPODS

| Dense |    |    | Moderate |    |    | Sparse |    |    | Rare |    |    |
|-------|----|----|----------|----|----|--------|----|----|------|----|----|
| 1U    | 1M | 1L | 1U       | 1M | 1L | 1U     | 1M | 1L | 1U   | 1M | 1L |
| 2     | 2  | 2  | X        | X  | 2  | 2      | 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  |

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  | 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  |

NOT PRESENT

## Wildlife Observations/ General Comments:

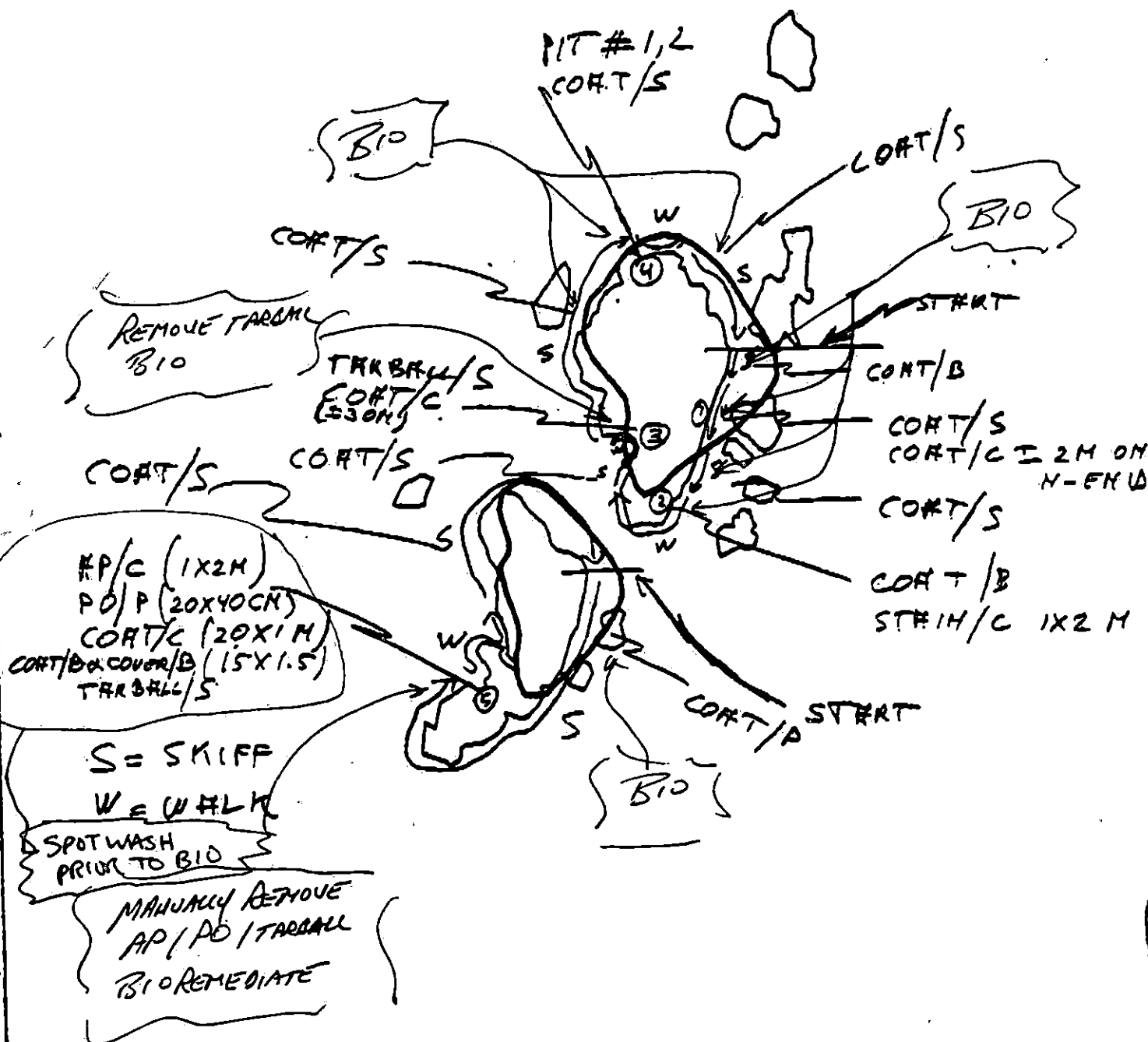
3 BALD EAGLES, 2 ACTIVE EAGLE NESTS, 6 SEA OTTERS, 3 HERRING DUCKS. SEA OTTER HAUL OUT AREA ON HIGH ZONE BEDROCK. BIVALVE MORTALITY NOTICEABLY HIGHER IN OILED AREAS. NOT SO FOR MUSSELS

## Ecological Considerations:

2 ACTIVE EAGLE NESTS (ONE ON EACH ISLAND) SHOULD BE TAKEN INTO CONSIDERATION WHEN DETERMINING THE TIMING AND TYPE OF CLEAN UP.

16/26

NOTE: NO BIO ON VERTICAL FACES



XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

ST-MU-3-A

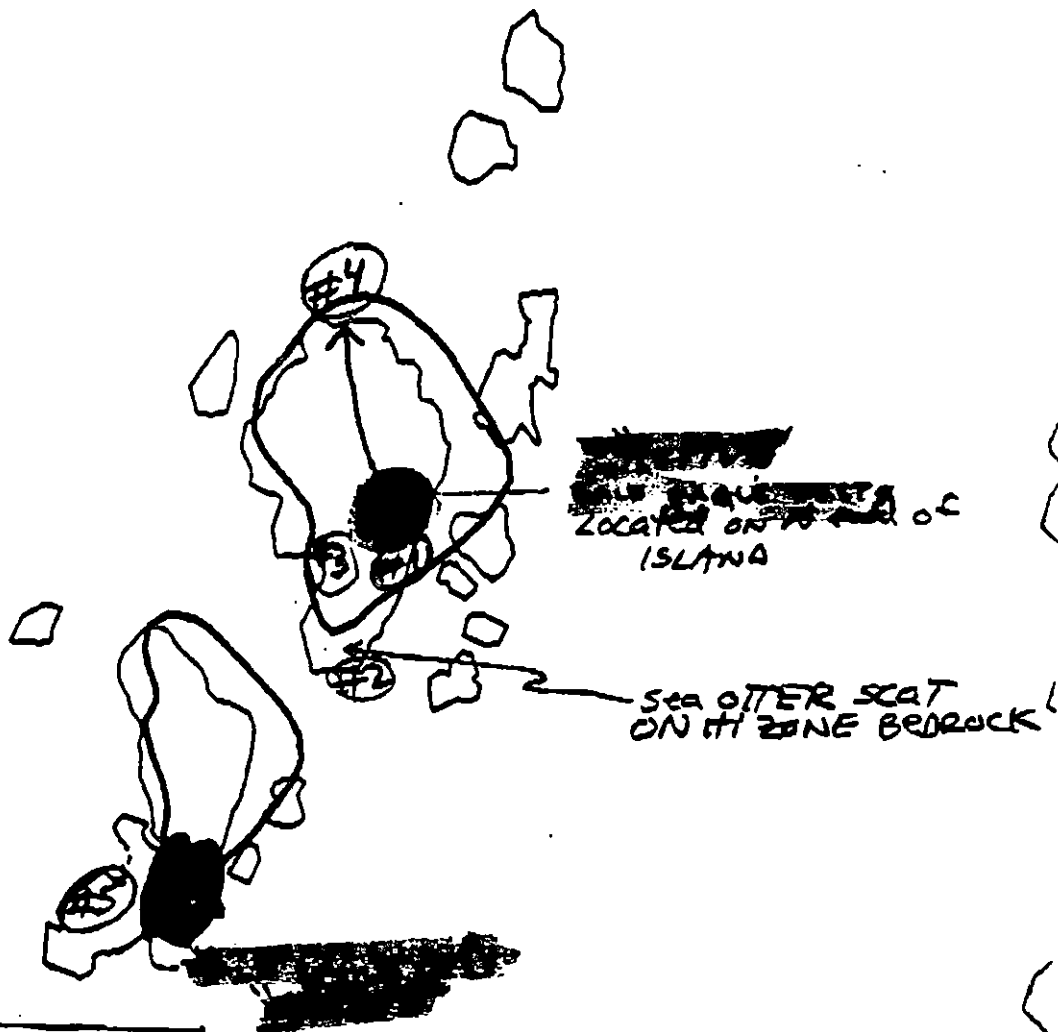
ADEC Segment Length: 3353

Map Key: PWS-486

Name: K. DERUSSCHER

Date: 4/21/90

Date Entered:



# ECOLOGY MAP

RESOURCE CODES FOR ENTIRE SEGMENT

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ST-MU-3-A

ADEC Segment Length: 1227m

19/26 100 200 300 METERS

Map Key: PWS-486

Name: D. REED

Date: 04/21/90

Date Entered:

OIL MAP



XXXX Wide  
//// Medium  
---- Narrow

TTTT Very Light  
0000 No Oil

ST-MU-3-A

ADEC Segment Length: 3359  
~~1111~~m

0 100 200 300  
20/26 METERS



Map Key: PWS-486

Name: K. DEBUSSCHE

Date: 4/21/90

Date Entered:

## ADDENDUM: SUBDIVISION CONSTRAINTS

### SEGMENT MU-3 SUBDIVISION A ( 1 of 1 )

#### WORK WINDOW

Manual Pickup  
Tarmat Removal

CLOSED

Bioremediation  
Spot Washing

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

7HH

Subsistence: Finfish  
Harvesting

Closed to spot washing and bioremediation after 7/1. No constraint to manual pickup and tarmat removal.

#### OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC

*[Signature]*

Date

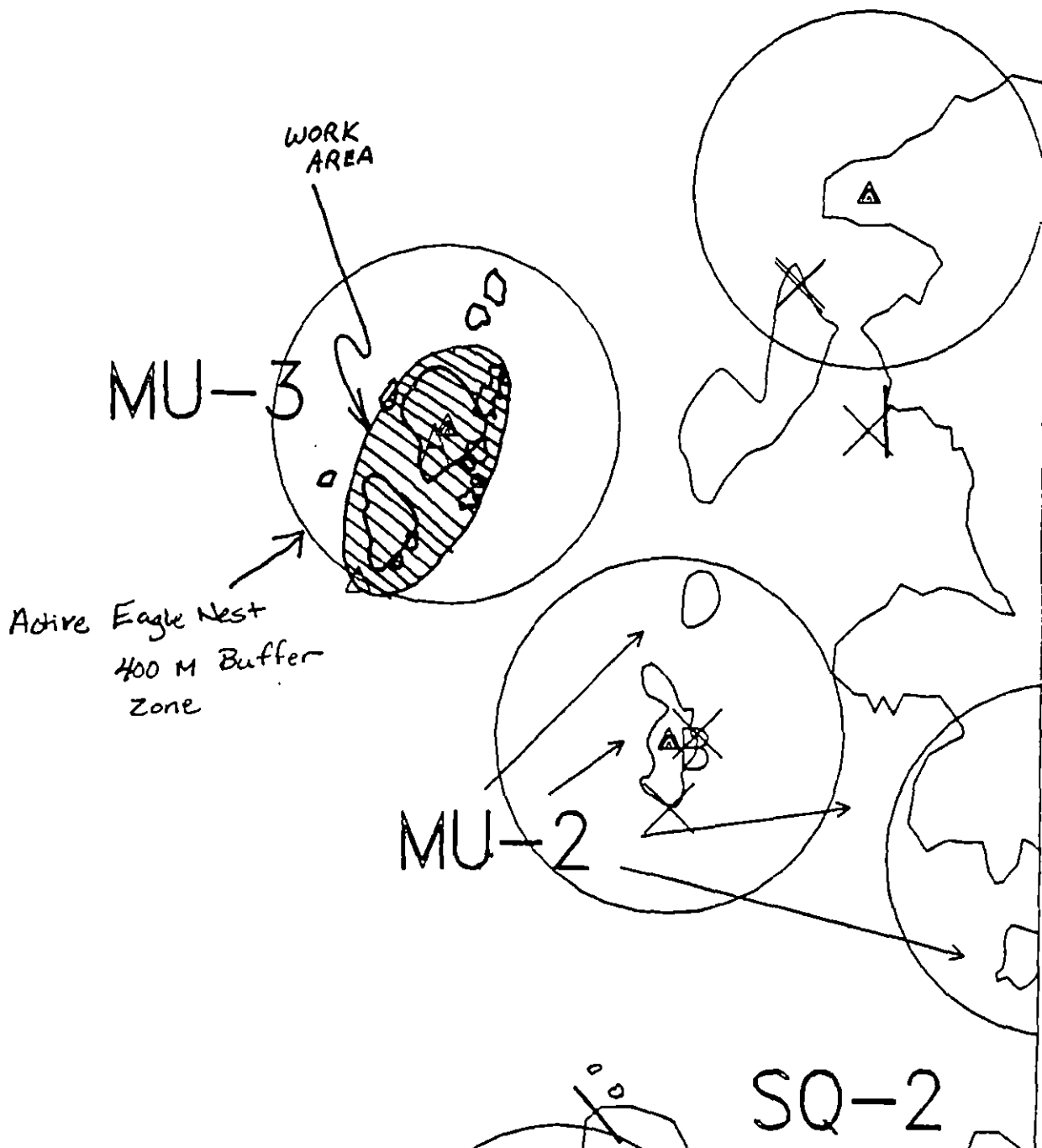
*6/6/90*

Prepared by

*[Signature]*

Date

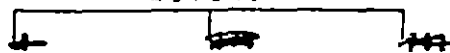
*6/14/90*



xon Company, USA  
Map Key: PWS-MU-3  
June 04, 1990 ✓



ECOLOGY MAP  
SEGMENT MU-3  
SUBDIVISION A (1 of 1)  
METERS



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

~~1988 1989 1990 1991~~

REVISION 1  
6/23/90

## ADDENDUM: SUBDIVISION CONSTRAINTS

### SEGMENT MU-3 SUBDIVISION A (1 of 1)

#### WORK WINDOW

Manual Pickup  
Tarmat Removal

CLOSED

Bioremediation  
Spot Washing

CLOSED

#### ARCHAEOLOGICAL STANDARD CONSTRAINT

~~If cultural resources are uncovered, PHONE 564-3274.~~

ARCHAEOLOGICAL INSPECTION /  
CONSULTATION REQUIRED  
Phone 564-3274  
JPP  
6/23

#### 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.

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Subsistence: Finfish  
Harvesting

Closed to spot washing and bioremediation after 7/1. No constraint to manual pickup and tarmat removal.

#### OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC

*[Signature]*

Date

6/6/90

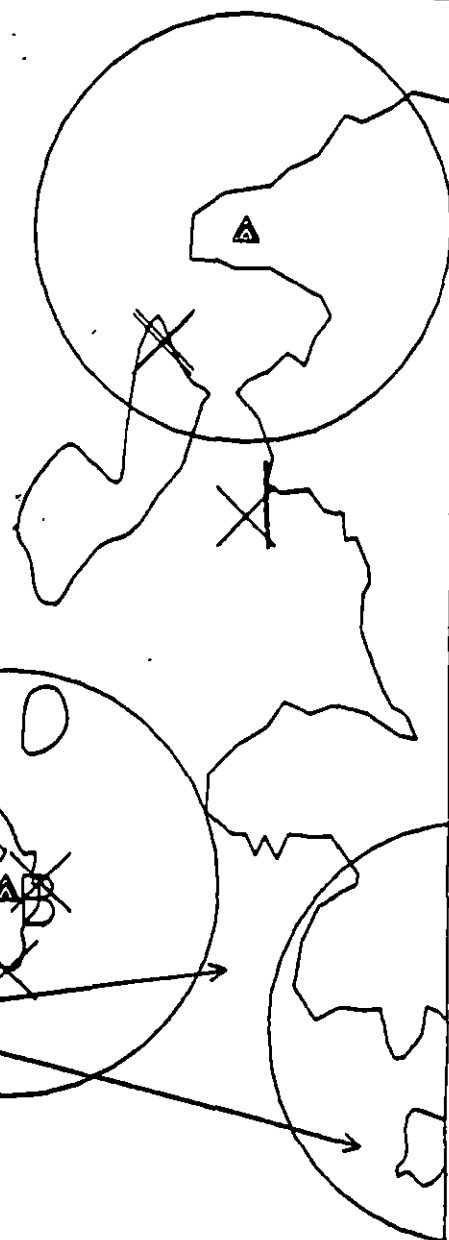
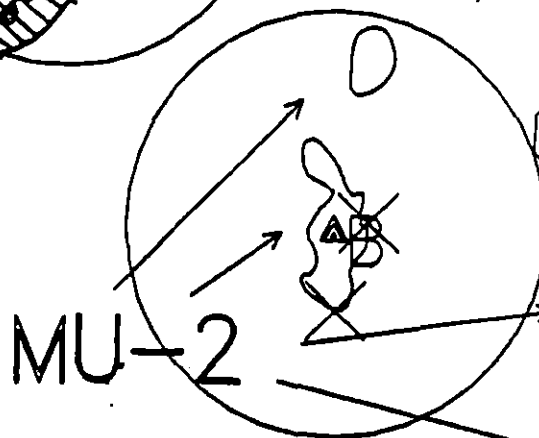
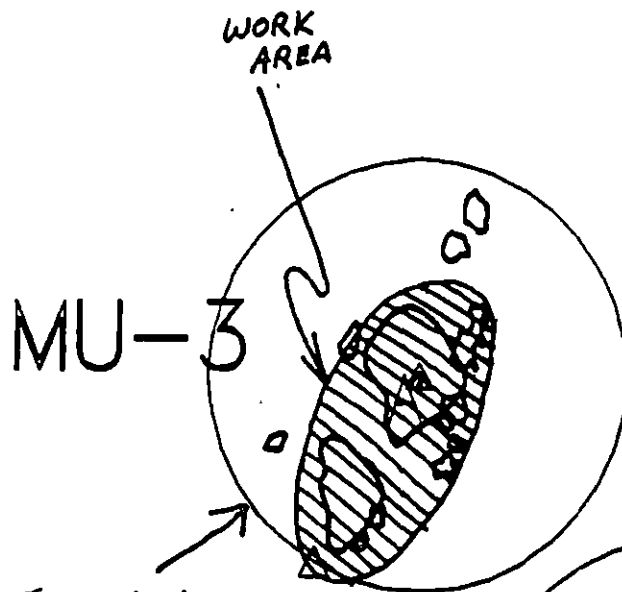
Prepared by

*[Signature]*

Date

6/14/90





Exxon Company, USA  
Map Key: PWS-MU-3  
June 04, 1990 ✓



ECOLOGY MAP  
SEGMENT MU-3  
SUBDIVISION A (1 of 1)  
METERS



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

1:25000 1:50000 1:100000

# SHORELINE EVALUATION

SEGMENT ST/ MU-900 SUBDIVISION A (1 OF 1) DATE 4/21/90

## SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

3N,3P Harbor seal and sea lion pupping (5/15 to 7/1)  
3O,3Q Harbor seal and sea lion molting (8/15 to 9/15)  
5T-1 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 Hoffmann DATE: 5/3/90

## OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 422 m: No Oil 0 m  
Subsurface Oil Observed: Yes      No X Maximum Depth     

## RECOMMENDATIONS:

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

COMMENTS: Recommend manual pickup of patties and removal of tarmat as indicated on sketch map. Work should be conducted between 7/1 and 8/15 based on constraints.

TAG COMMENTS:     

TAG APPROVAL DATE: 5/3/90.  
ADEC Art Weiner  
EXXON Andy Tette  
NOAA Gary Petrac  
USCG Kenneth Korne

FOSC: my 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 Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.  
 AGENCY CONTACT PERSON: ADF&G John Morison 267-2324
- 1C Salmon fry nursery area (4/31 to 7/31)  
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.  
 AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1D Esther Hatchery release (4/15 to 6/1)  
 1E Main Bay Hatchery release (4/20 to 6/10)  
 1F Sawmill Bay Hatchery release (4/15 to 6/1)  
 1G Cannery Creek Hatchery release (4/21 to 6/1)  
 1H Remote release site  
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.  
 AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214  
 1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511
- 1I Gill net area (8/7 to 8/31)  
 1J Purse seine area (7/20 to 9/30)  
 1K Purse seine hook-off (7/20 to 9/30)  
 1L Set net sites (8/11 to 7/25)  
 Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.  
 AGENCY CONTACT PERSON: ADF&G James Brady 424-3212
- 2M Herring spawning (4/1 to 6/15)  
 Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to uncoiled intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.  
 AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
- Harbor seal and sea lion pupping (5/15 to 7/1)  
 Harbor seal and sea lion molting (8/15 to 9/15)  
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts. No application of Inipol within two weeks of arrival dates (work window at these sites is limited to 7/2 to 7/31).  
 Contact ADF&G and USFWS prior to treatment for confirmation.  
 AGENCY CONTACT PERSON: US National Marine Fisheries Service Steve Zimmerman 586-7235  
 ADF&G Don Calkins 267-2403
- 5R Seabird colony (5/1 to 9/1)  
 Restrict air and boat traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance from colony. Contact USFWS prior to treatment.  
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)  
 Restrict all activity to essential minimum, especially air traffic. Contact USFWS and ADF&G for confirmation.  
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377  
 ADF&G Tom Roth 267-2206
- ✓ 6E 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)  
 7HH Finfish harvesting  
 7I Deer harvesting (8/15 to 2/28)  
 7JJ Invertebrate harvesting  
 Contact ADF&G and appropriate Native Corporation for specific dates, locations, and constraints. Restrict boat and air traffic and beach disturbance to essential minimum. If plans for treatment include methods such as hot water wash or application of Inipol which might affect intertidal or nearshore oil or toxicity levels, contact ADF&G and appropriate Native Corporation for authorization - see Native Corporation Contact List for each Native Corporation's contact person.  
 AGENCY CONTACT PERSON: ADF&G Jim Fall 287-2359

# FIELD SHORELINE COMMENT SHEET

SEGMENT ST / MU-900 SUBDIVISION: A DATE 4-21-90  
~~WAA~~  
~~SCS~~  
 NAME STEVEN STUM SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

## COMMENTS

RECOMMEND HAND RAKING/TILLING OF PAVEMENT AND TAR MAT AT  
 END OF SUMMER TO PREVENT DISRUPTION OF EAGLE-NESTING SITE ON  
 ISLAND. PROCESS OF RAKING OILED SEDIMENTS - PAVEMENT AND REMOVAL  
 OF SUCH SUBSTANCE SHOULD PROBABLY NOT TAKE MORE LONGER THAN  
 ONE HOUR BY SMALL WORK PARTY.

ADEC  
 NAME Wesley Ghormley SIGNATURE Wesley Ghormley

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

## COMMENTS

MANUALLY REMOVE SMALL AMOUNT OF ASPHALT & PATTIES ON EAST SIDE OF  
 ISLAND LATE IN SUMMER AS NOT TO DISTURB NESTING EAGLES.

LAND MANAGER  
 NAME Ray Gurge ADNR SIGNATURE [Signature]

☐ NO TREATMENT RECOMMENDED ☒ TREATMENT SUGGESTED

## COMMENTS

Concur w ADEC tx. as above.

A couple of pocket beaches on this island make for easy landing  
 in this scenic spot.

9/19

## SHORELINE OILING SUMMARY

REVISION NO. 05-13-90

OG K. DEBUSSCHERE NAVA S. STURM SEGMENT ST/ 14U-900  
 BIO D. REED LAND REP RAY BURGER SUBDIVISION FF (OF 1)  
 EXXON T. DIAZ ADEC Wesley Ghermley TIME 19:45 to 20:05  
 TEAM NO. 9 TIDE LEVEL 3.75 - 4.50 DATE 4/21/90  
 EST. SUBDIVISION LENGTH: 617 m ☐ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow  
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock  
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: W to E  
 SURFACE SEDIMENTS: R 90 % B 4 % C 3 % P 2 % G 1 % S 0 % M 0 % V 0 %  
 SLOPE: Long 15 % Hang 30 % Vert 55 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High  
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 617 m NO 0 m

## SURFACE OIL

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

PAVEMENT H (F) S 1.25 sq. m by 1 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 0#BAGS 0

Photographs:

Roll No. NONEFrames NONE

## SUBSURFACE OIL

| PIT NO. | PIT DEPTH (cm) | SUBSURFACE OIL CHARACTER |    |    |    |    | OILED INTERVAL | BELOW |    | OIL / FILM COLOR |   |   |   |   | PIT ZONE |   |   |   | A<br>N<br>A | SHEER (Y/N) | ↓ | SURFACE - SUBSURFACE SEDIMENTS |
|---------|----------------|--------------------------|----|----|----|----|----------------|-------|----|------------------|---|---|---|---|----------|---|---|---|-------------|-------------|---|--------------------------------|
|         |                | CP                       | OR | OL | CP | NO |                | VS    | US | 1                | 2 | 3 | 4 | 5 | B        | U | M | V |             |             |   |                                |
|         |                |                          |    |    |    |    |                |       |    |                  |   |   |   |   |          |   |   |   |             |             |   |                                |
|         |                |                          |    |    |    |    |                |       |    |                  |   |   |   |   |          |   |   |   |             |             |   |                                |
|         |                |                          |    |    |    |    |                |       |    |                  |   |   |   |   |          |   |   |   |             |             |   |                                |
|         |                |                          |    |    |    |    |                |       |    |                  |   |   |   |   |          |   |   |   |             |             |   |                                |
|         |                |                          |    |    |    |    |                |       |    |                  |   |   |   |   |          |   |   |   |             |             |   |                                |
|         |                |                          |    |    |    |    |                |       |    |                  |   |   |   |   |          |   |   |   |             |             |   |                                |
|         |                |                          |    |    |    |    |                |       |    |                  |   |   |   |   |          |   |   |   |             |             |   |                                |
|         |                |                          |    |    |    |    |                |       |    |                  |   |   |   |   |          |   |   |   |             |             |   |                                |
|         |                |                          |    |    |    |    |                |       |    |                  |   |   |   |   |          |   |   |   |             |             |   |                                |

## COMMENTS

SEGMENT IS DOMINATED BY BEDROCK.

- EASTERN HALF OF ISLAND IS ROCK PLATFORM (INTERTIDAL WITH SOME PAVEMENT, COAT/S &amp; PATTIES /S

- WESTERN END IS FORESTED BEDROCK WITH COAT/S ON CLIFFS

NO PITS B/C BEDROCK

REVIEWED YW DATE 4/23/90

2/13

## SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/22/90

Segment ST MU-900 Subdivision A Date (mo / day / yr) 04/21/90Time (24 hr) 1945-2005 Biologist D. REED(A) Substrate type and % of segments:  
(1) Bedrock 90 (2) Boulder 4 (3) Cobble 3 (4) Pebble 2 (5) Sand 1 (6) Silt —(B) Overall % cover of biota (% of segment): Dense 30 Moderate 50 Low 20

(C) Density, substrate preference (by number from A, above), &amp; 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  | X        | X  | 2  | 2      | 2  | 2  | 2    | 2  | 2  |
| 3     | 3  | 3  | X        | 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

## 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     | X  | X  | 3        | 3  | 3  | 3      | 3  | 3  | 3    | 3  | 3  |
| 4     | X  | X  | 4        | 4  | 4  | 4      | 4  | 4  | 4    | 4  | 4  |
| 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

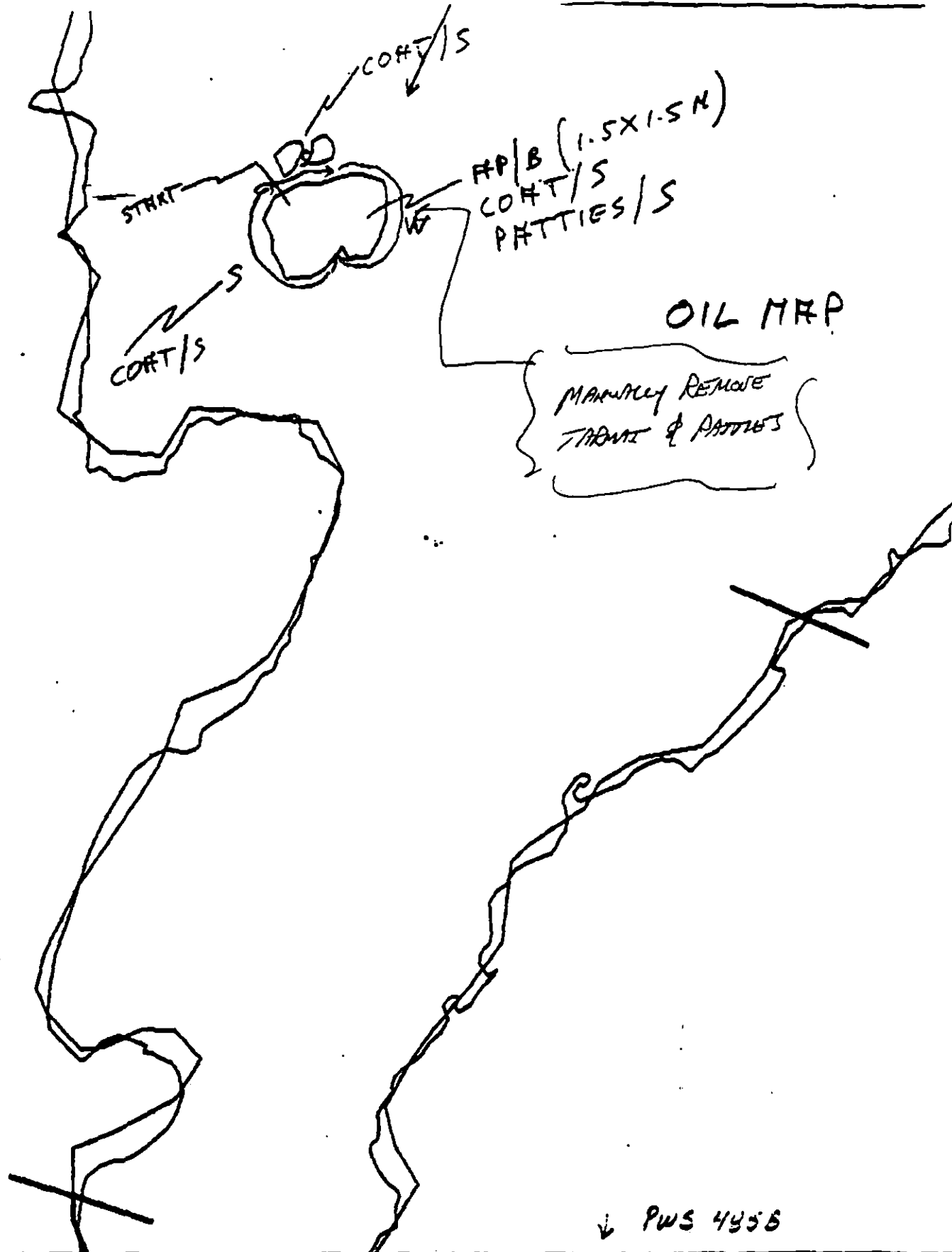
## Wildlife Observations/ General Comments:

2 EAGLES, 1 NEST. - small island is largely bedrock with numerous small dense mussel beds on the eastern side.

## Ecological Considerations:

EAGLE NESTING AND MUSSEL BEDS susceptible to human disturbance and should be considered when determining the timing and type of cleanup.

4/19



XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ST-MU-~~900~~-A

ADEC Segment Length: ~~200m~~ 617

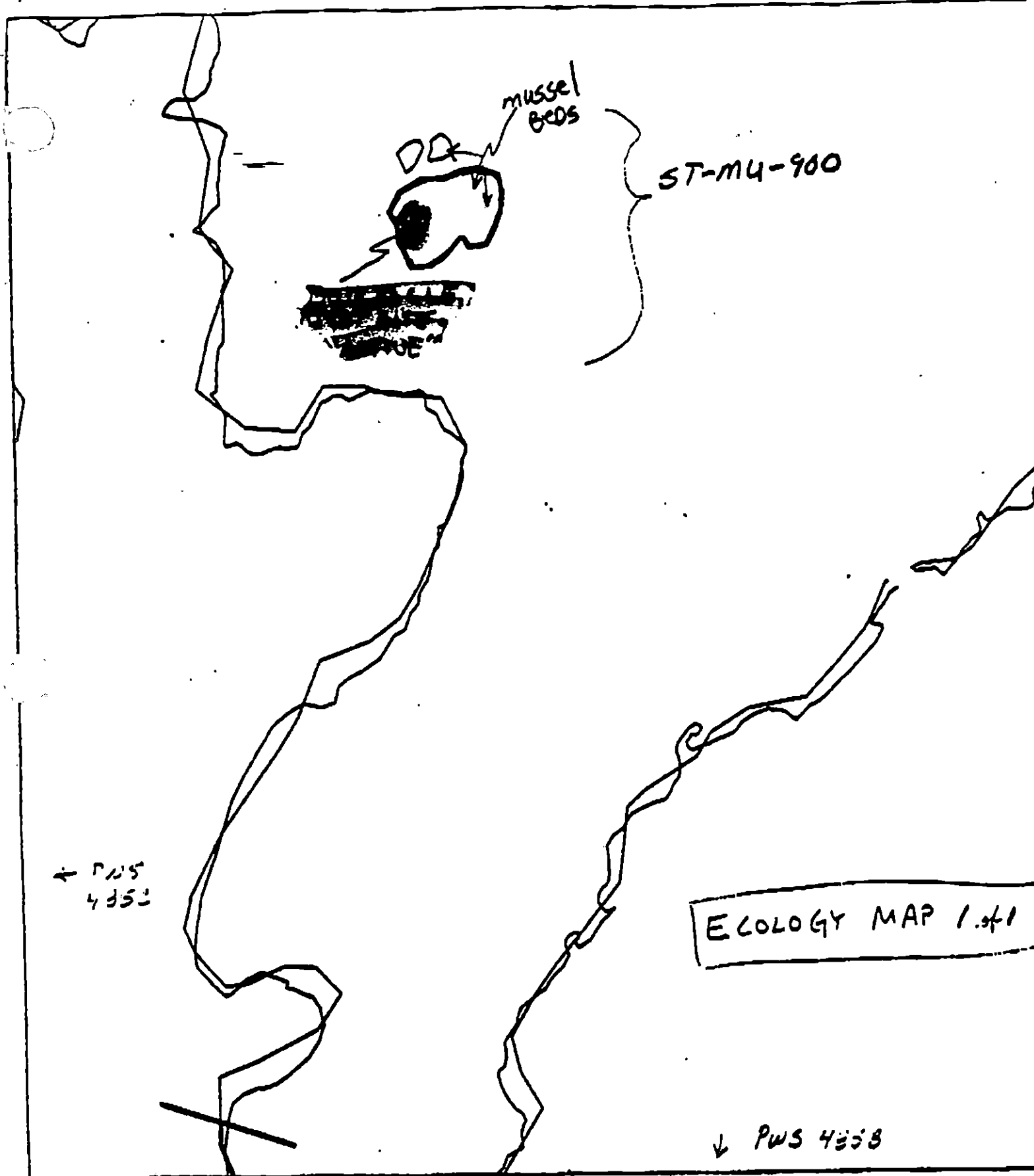
3/13 100 200 300  
METERS

Map Key: PWS-485d

Name: K. DEB USSCHENT

Date: 4/21/90

Date Entered:



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

ST-MU-900

ADEC Segment Length: 5561m

0 7/13 100 200 300  
METERS



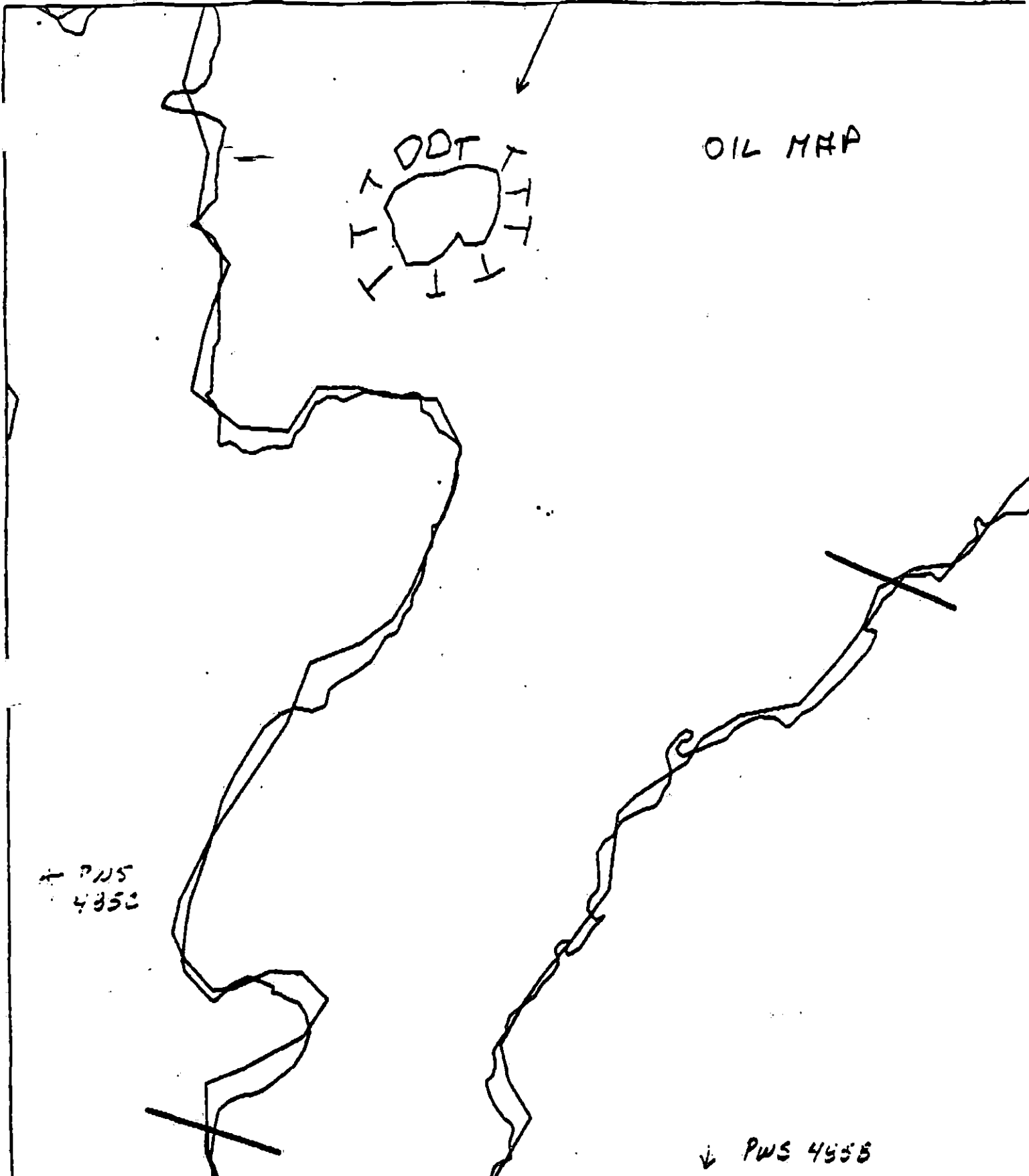
Map Key: PWS-4858

Name: D. REED

Date: 04/24/90

Date Entered:





OIL MAP

+ PWS  
4955

↓ PWS 4958

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

ST-MU-#300-A  
ADEC Segment Length: <sup>617</sup>~~500~~m  
8/13 100 200 300  
METERS



Map Key: PWS-485d  
Name: K. DEBUSSCHE  
Date: 4/21/90  
Date Entered:

## ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT MU-900 SUBDIVISION A (1 of 1)

---

### WORK WINDOW

---

Manual Pickup  
Tarnat Removal

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 tarnat removal within 400m of active nest. No constraint to manual pickup and tarnat removal more than 400m from active nest.

### OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC

*Al Zanghi*

Date

*6/14/90*

Prepared by

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*6/14/90*

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