

OIL SPILL PUBLIC INFO. CENTER



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1991
v.28

[Shoreline evaluations, 1991].

Prince William Sound CU-17 to DI-65

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REGION: PRINCE WILLIAM SOUND

SEGMENT: CU-17

SUBDIVISIONS: A (1 OF 1)

SHORELINE EVALUATION

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

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Salmon stream mouths (ADF&G catalogue 224-20-13078; 224-20-13070) -
fry outmigration (1A) - 3/1 to 5/15 and spawning (1B) - 7/10 to
8/31; purse seine hook-off (1K) - 7/21 to 9/30; bald eagle nests
(5T-2) - 3/1 to 6/1.

SUBDIVISION ECOLOGICAL CONSTRAINTS: (1A, 1B) No disturbance of
stream bed or banks unless authorized by ADF&G. Contact ADF&G Hab-
tat Division prior to treatment for permits. (1K) Contact ADF&G for
dates, locations, constraints. (5T) Restrict air traffic to essen-
tial minimum, air approach and takeoff from and to seaward only.
Contact USFWS prior to treatment for confirmation of dates and
avoidance minimums.

ARCHAEOLOGICAL CONSTRAINTS: If cultural resources are uncovered
during shoreline treatment, stop work in the vicinity, mark the lo-
cation of the find and contact a member of Exxon's Cultural Re-
source Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 123 m: V.Light 311 m: No Oil 2504 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: _____ Wands
<u> X </u> Tarmat: _____ Breakup	<u> </u> Beach Cleaner
<u> </u> <u> X </u> Removal	<u> </u> Other (see comments)

COMMENTS: The recommended treatment activities are as follows:
1) Manual pickup of intermittent tar balls; 2) Manual removal of
small tarmat; 3) Bioremediation of areas shown on attached sketch
map but no closer than 100m of stream. Activities should be con-
ducted 6/1 to 7/10 based on above constraints.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ CU-17 SUBDIVISION: A, 1 of 1 DATE 04/04/90

SCG

NAME Dr. 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

Treatment suggested @ Site # 4
Manual removal of Asphalt. (Possible Anadromous Stream CC - Anadromous Stream @ Site # 4)
Upper Intertidal not viewed due to snow cover.
Manual removal of any tarballs ~~if~~ within Segment.

LAND MANAGER

NAME MARSHA MARTIN/DUR 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/ CU-17
 BIO DAVE Lohr LAND REP Marsha Martin SUBDIVISION A-10F1
 EXXON FRANK Dry ADEC Clara Crosby (ADNR) TIME 12:15 to 13:40
 TEAM NO.: 13 TIDE LEVEL: +10 to +5 DATE 04/04/90
 EST. SUBDIVISION LENGTH: 3336 m ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☒ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock Snow
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 60 % B 30 % C 15 % P 5 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 10 % Hang 40 % Vert 50 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 100 m VL 300 m NO 2936 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	IC	IB	IP	IS	SW	GW	BL	BR	BL	BR	BL	BR	SU	U	M	U
ASPHALT PAVEMENT POOLED																
COVER				X				X							X	
COAT			*X	X				X					X		X	
STAIN																
MOUSSE																
PATTIES																
TARBALLS				X				X							X	
FILM				X				X							X	
NO OIL													S			X

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

 PATTIES / TARBALLS 0.5 BAGS

 NEAR SHORE SHEEN? ☒ NO BR RW SL TL

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

DEBRIS COLLECTED

☐ YES ☒ NO

 TYPE N/A

 #BAGS N/A

Photographs:

 Roll No. ST-13-2

 Frames 11

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	SW SP	SW FW	GY P	SW L	SW LR	SU	U	M	LI					
1	10	X					5-10		X			X					X						C, P
2	10					X	.										X						C, P
3	20					X	.										X						P, S, M
4	15					X	.										X						P, G, S
5	30					X	.										X						P
6	20		X				5-10		X			X					X						P, S, M

COMMENTS

① Snow covered beach down to previous HT (+10'), however do not consider that this significantly affected assessment

② SITE 4 HAS "NARROW" OIL CATEGORY ON COBBLE / BOUNDER BEACH.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / 10017 Subdivision A Date (mo / day / yr) 4-4-90

Time (24 hr) 12:15 Biologist David White

(A) Substrate type and % of segments:
(1) Bedrock 50 (2) Boulder 30 (3) Cobble 15 (4) Pebble 5 (5) Sand (6) Silt

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

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

Photographs:
Roll No. ST-13-7

Frames 11

BARNACLES

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

NOT PRESENT

MYTILUS

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

NOT PRESENT

GASTROPODS

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments:

See page 2

Ecological Considerations:

ST- Scutt and one juvenile bald eagle sited in area. No nests observed
- no comment

Shoreline Ecological Summary

2 of 2

Segment ST-CU017

Subdivision A

4-4-90

Biologist David Lohse

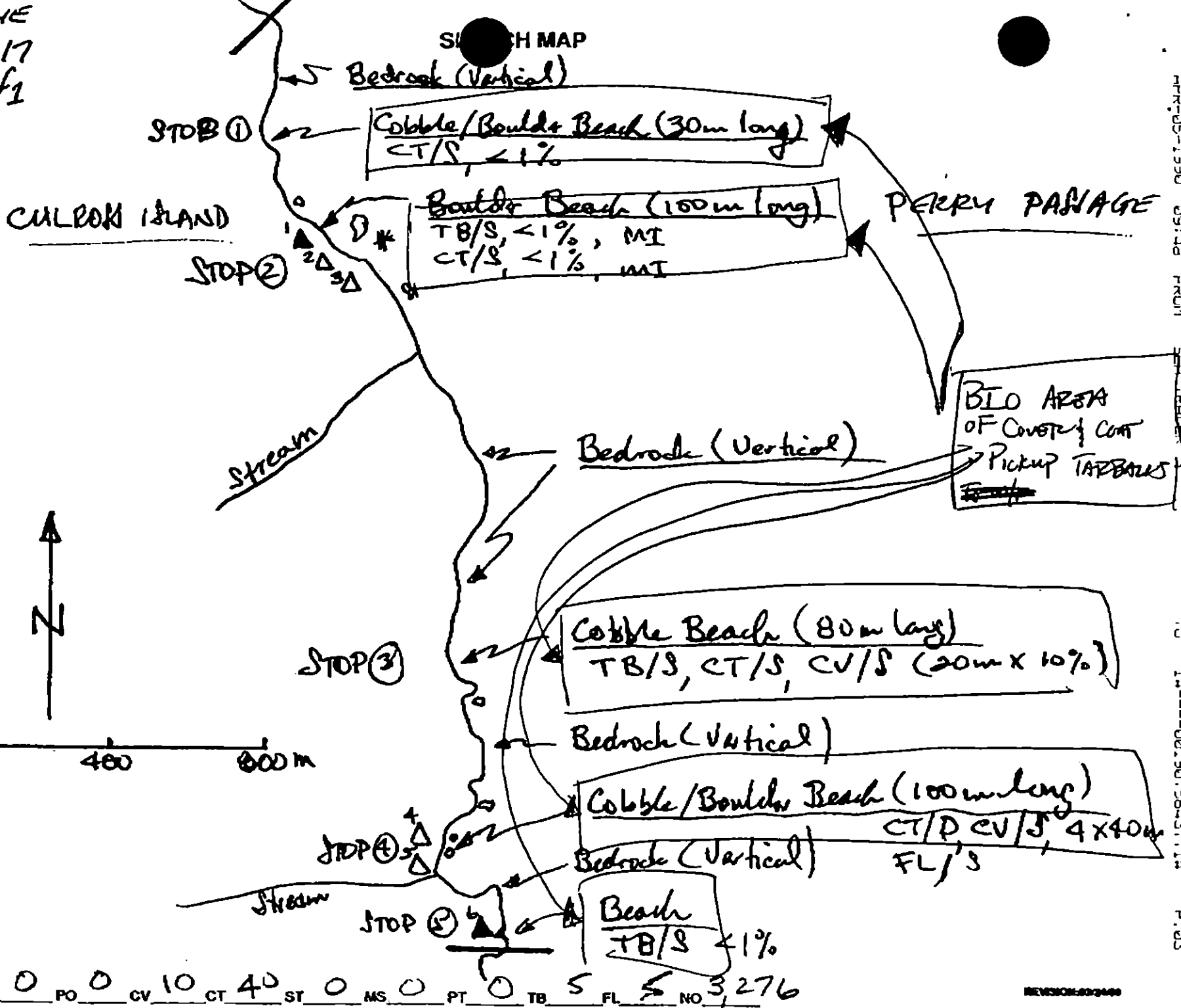
Wildlife Observations/General Comments.

1. low intertidal not sampled due to tidal level
2. present in mid-intertidal: Scytosiphon, coralline algae, Anthopleura
high intertidal: Enteromorpha (dense in some areas)
3. cormorants, ducks spotted in area
4. many deer tracks observed above high tide line
5. Some of the shoreline was surveyed by boat due to rough seas and impassible rocky cliffs. However, the abundances of *Fucus* and *Mytilus* (the only organisms readily ~~seen~~ seen from the boat) appeared comparable to those areas sampled on foot
6. While landing at site 5 (see OG map), we startled an adult bald eagle feeding on an otter carcass at the high tide line. No oil observed.
7. At site 2 (see OG map) there were lots of empty *Urella* shells and ~95% mortality of mussels in mid-intertidal cobble.
8. One running stream located at site 4 (see OG map). Although there is no indication of this being an ecologically sensitive stream based on the sensitivity tables, there was a "no salmon fishing" sign posted several hundred meters north of this location. Oil is present in area of stream mouth.

OG KICK GILLIE
 SEGMENT ST 1-17
 SUBDIVISION A-1 of 1
 DATE 04, 04 90

- CHECKLIST**
- ☒ Accor
 - ☒ Approx. Scale
 - ☒ Seg/Sub Bndry
 - ☐ Oil Dist.
 - ☐ Width
 - ☐ Length
 - ☐ % Cover
 - ☐ Substrate Character
 - ☐ Est. HW/LA/VL
 - ☐ SSL
 - ☐ Profile Location(s)
 - ☐ Profile(s)
 - ☐ PH Location(s)
 - ☐ Photo Location(s)

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

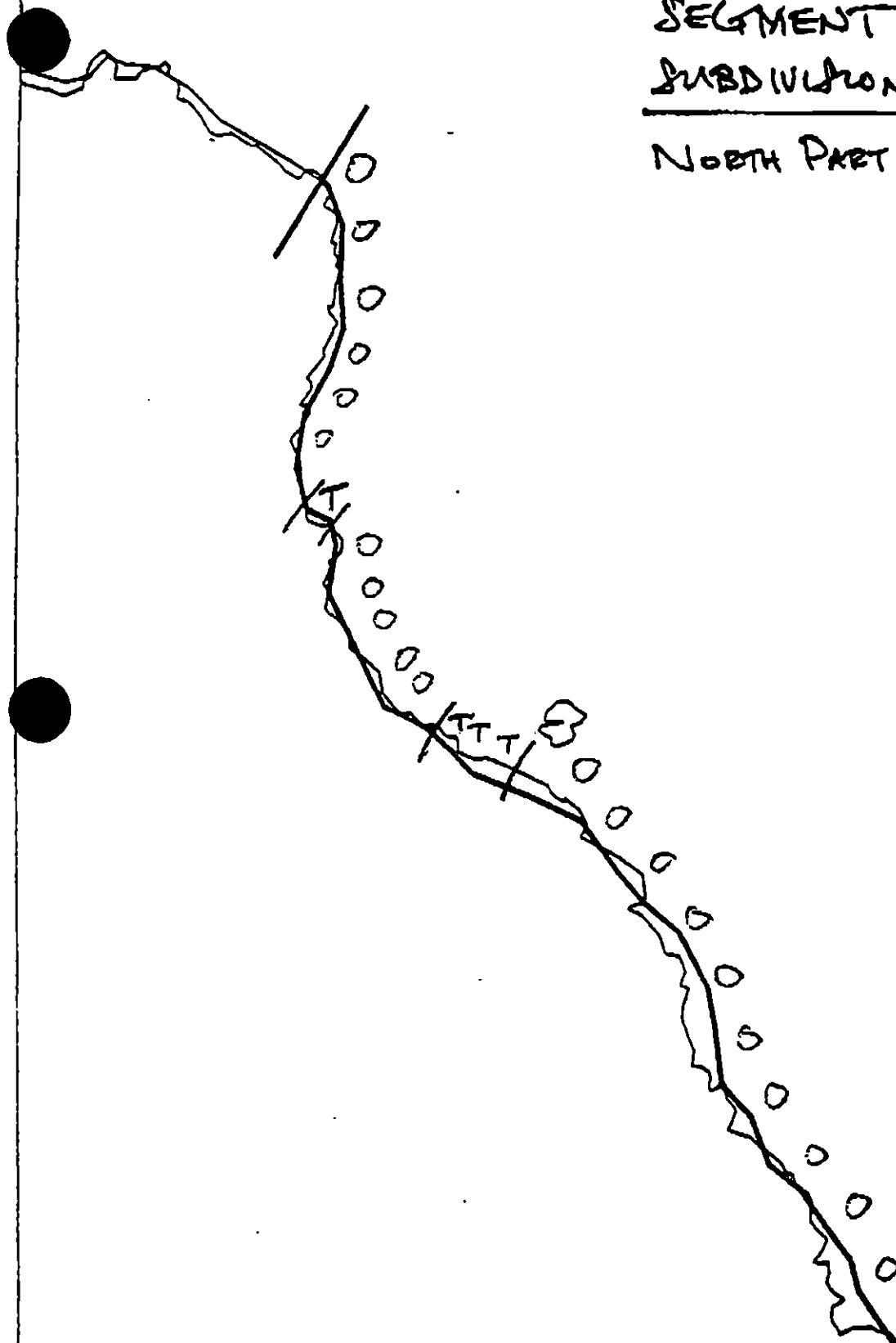


XI Character Length (m): AP 0 PO 0 CV 10 CT 40 ST 0 MS 0 PT 0 TB 5 FL 5 NO 3,276

CULROSS ISLAND

SEGMENT: CU-17
SUBDIVISION: A-1 of 1

NORTH PART



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

CU-17

ADEC Segment Length: 3336m



Map Key: PWS-115b

Name: GILLIE

Date: 4-9-90

not colored.

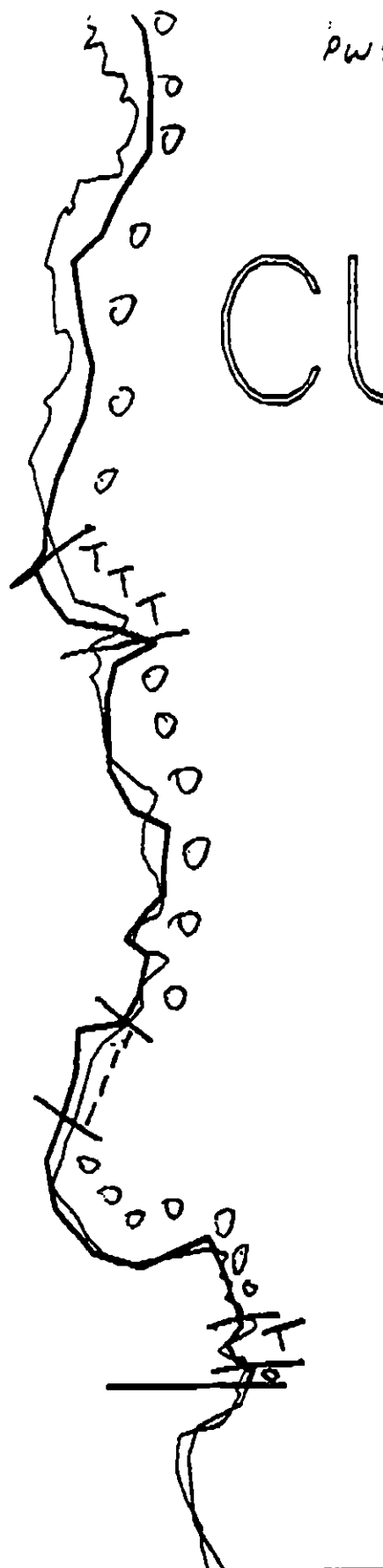
CULROSS ISLAND

PWS 75B

SEGMENT: CU-17

SUBDIVISION: A-10f1

SOUTH PART



XXXX Wide

/// Medium

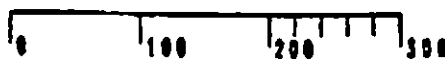
--- Narrow

TTTT Very Light

OOOO NA 0:1

CU-17

ADEC Segment Length: 2939m



Map Key: PWS-75a

Name: GILLIE

Date: 4-4-90

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT CU-17 SUBDIVISION A (1 of 1)

WORK WINDOW

Manual Pickup & Tarmat Removal
More Than 400m From Active Nest

OPEN

Manual Pickup & Tarmat Removal
Less Than 400m From Active Nest

CLOSED

Bioremediation More Than 100m From Stream

WORK PRIOR TO 7/20

Bioremediation Less Than 100m From Stream

WORK PRIOR TO 7/10
(ADF&G MONITOR REQ.)

Bioremediation More Than 400m From Active Nest

OPEN

Bioremediation Less Than 400m From Active Nest

CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B Salmon Stream

ADF&G catalogued anadromous streams (224-20-13078; 224-20-13070) are present in Subdivision A. This subdivision is closed to bioremediation less than 100m from stream 7/10 to 8/31. Before 7/10, bioremediation is permitted less than 100m from stream with on-site ADF&G monitor or ADEC alternate present. No constraint to bioremediation more than 100m from stream. No constraint to manual pickup and tarmat removal.

1K Purse Seine Hook-off

No constraint to manual pickup and tarmat removal; closed to bioremediation after 7/20.

5T Bald Eagle Nest

USFWS 6/1/90 map indicates an active nest in adjacent subdivision. Closed to manual pickup, tarmat removal, and bioremediation within 400m of active nest. No constraint to manual pickup, tarmat removal, and bioremediation more than 400m from active nest.

OTHER ECOLOGICAL CONSIDERATIONS

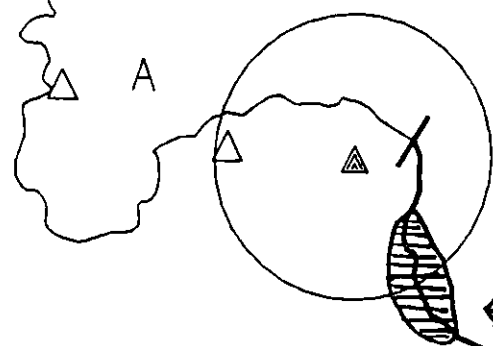
No disturbance to stream bed or bank. No flushing of pollutants or sediments into stream drainage; do not allow Inpol to enter stream flow. On-site examination and consultation by ADF&G monitor is required prior to bioremediation in order to authorize a setback distance from the stream during chemical application; if ADF&G monitor's presence is impossible, authorization may be given by the ADEC monitor. 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 400m horizontal, 300m vertical distance from active nests. Avoid any unnecessary disturbance or damage to unrolled biota and substrate.

FOSC

Date 6-10-90

2000.00.00

CU-18

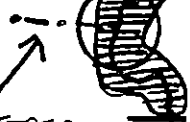


ANADROMOUS STREAM
(224-20-13078)



CU-17

ANADROMOUS STREAM
(224-20-13070)



CU-16



TREATMENT
AREAS



Exxon Company, USA
Map Key: PWS-CU-17
June 04, 1990

ECOLOGY MAP
SEGMENT CU-17
SUBDIVISION A (1 of 1)

METERS



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

1 inch = 1584 feet

SHORELINE EVALUATION

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

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Salmon stream mouths (ADF&G catalogue 224-20-13078; 224-20-13070) -
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source Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: Charles Z. Jones DATE: April 14, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 123 m: V. Light 311 m: No Oil 2504 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: <u> </u> Breakup	<u> </u> Beach Cleaner
<u> </u> <u>X</u> Removal	<u> </u> Other (see comments)

COMMENTS: The recommended treatment activities are as follows:

1) Manual pickup of intermittent tar balls; 2) Manual removal of TRASH +
small tarmat; 3) Bioremediation of areas shown on attached sketch
map but no closer than 100m of stream. Activities should be con-
ducted (6/1 to 7/10) based on above constraints.

SEE ADDENDUM dated 6/9/90

TAG COMMENTS:

TAG APPROVAL DATE: 4/14/90

ADEC JOHN BAUER
EXXON ANDY TEE
NOAA B. J. WRIGHT
USCG G.A. REITER

FOSC: DATE:

SHORELINE EVALUATION

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

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☒ Treatment Recommended	☐ Oil Snares (pom poms)
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☒ Bioremediation	☐ Spot Washing: _____ Wands
☒ Tarmat: _____ Breakup	☐ _____ Beach Cleaner
☒ Removal	☐ Other (see comments)

COMMENTS: The recommended treatment activities are as follows:
1) Manual pickup of intermittent tar balls; 2) Manual removal of TRASH +
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map but no closer than 100m of stream. Activities should be con-
ducted 6/1 to 7/10 based on above constraints.

TAG COMMENTS: _____

TAG APPROVAL DATE: 4/14/90
 ADEC JOHN BAUER John Bauer
 EXXON ANDY TEE Andy Tee FOSC: W L DATE: 4-20-90
 NOAA Bry/Wassett Bry/Wassett
 USCG G.A. REITER G.A. Reiter

OG KICK GALLIE
 SEGMENT ST/ CU-17
 SUBDIVISION A-1 of 1
 DATE 07, 09 90

CHECKLIST

- ☒ M Area
- ☒ Approx. Scale
- ☒ Seg/Sub Bndry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HNTL/VL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ Pit Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ
 Pit - No Subsurface Oil

2 Δ
 Pit - Subsurface Oil

$\boxed{CT/C}$
 Continuous Distribution

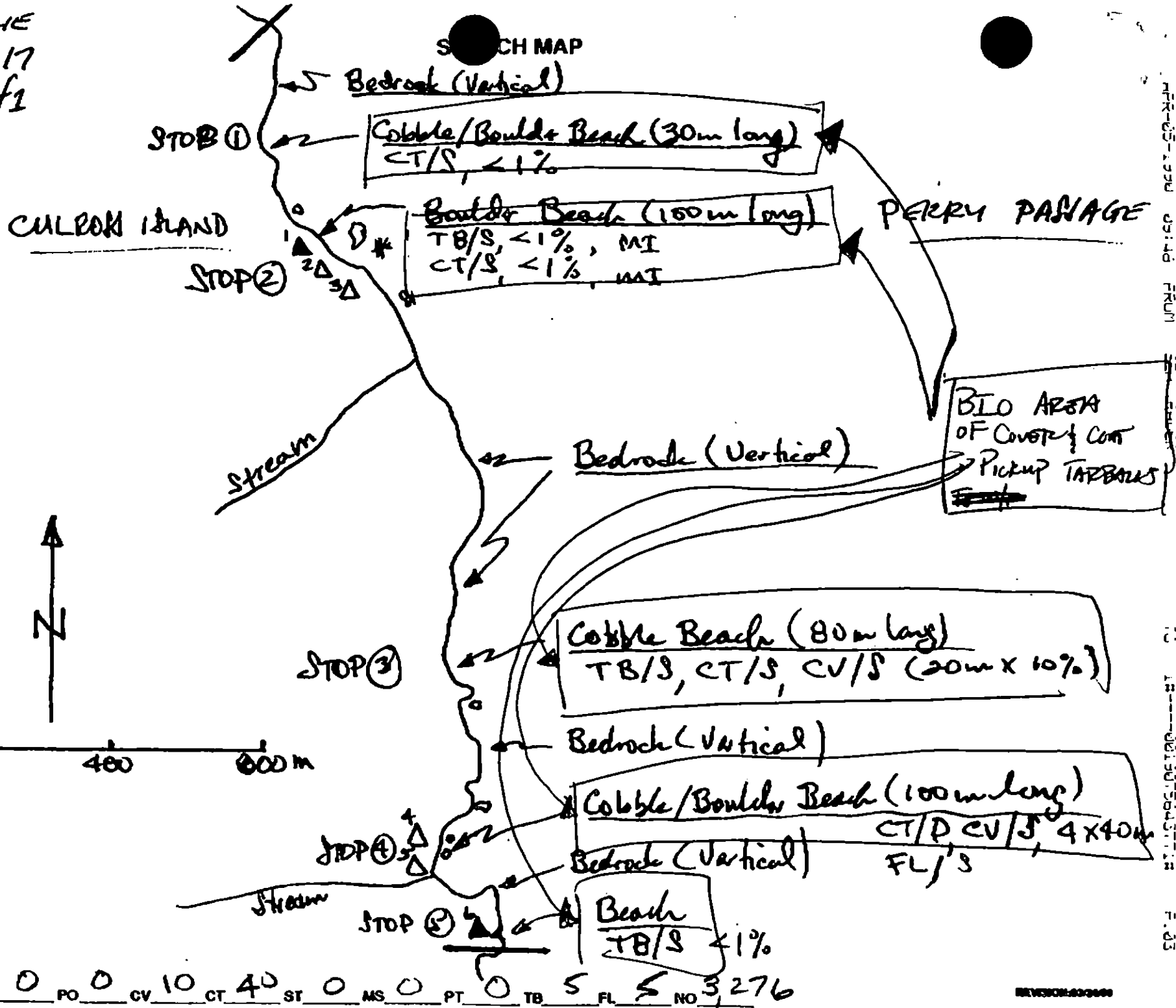
$\boxed{CT/B}$
 Broken Distribution

$\boxed{CT/P}$
 Patchy Distribution

$\boxed{CT/S}$
 Splashed Distribution

Oiled Vegetation

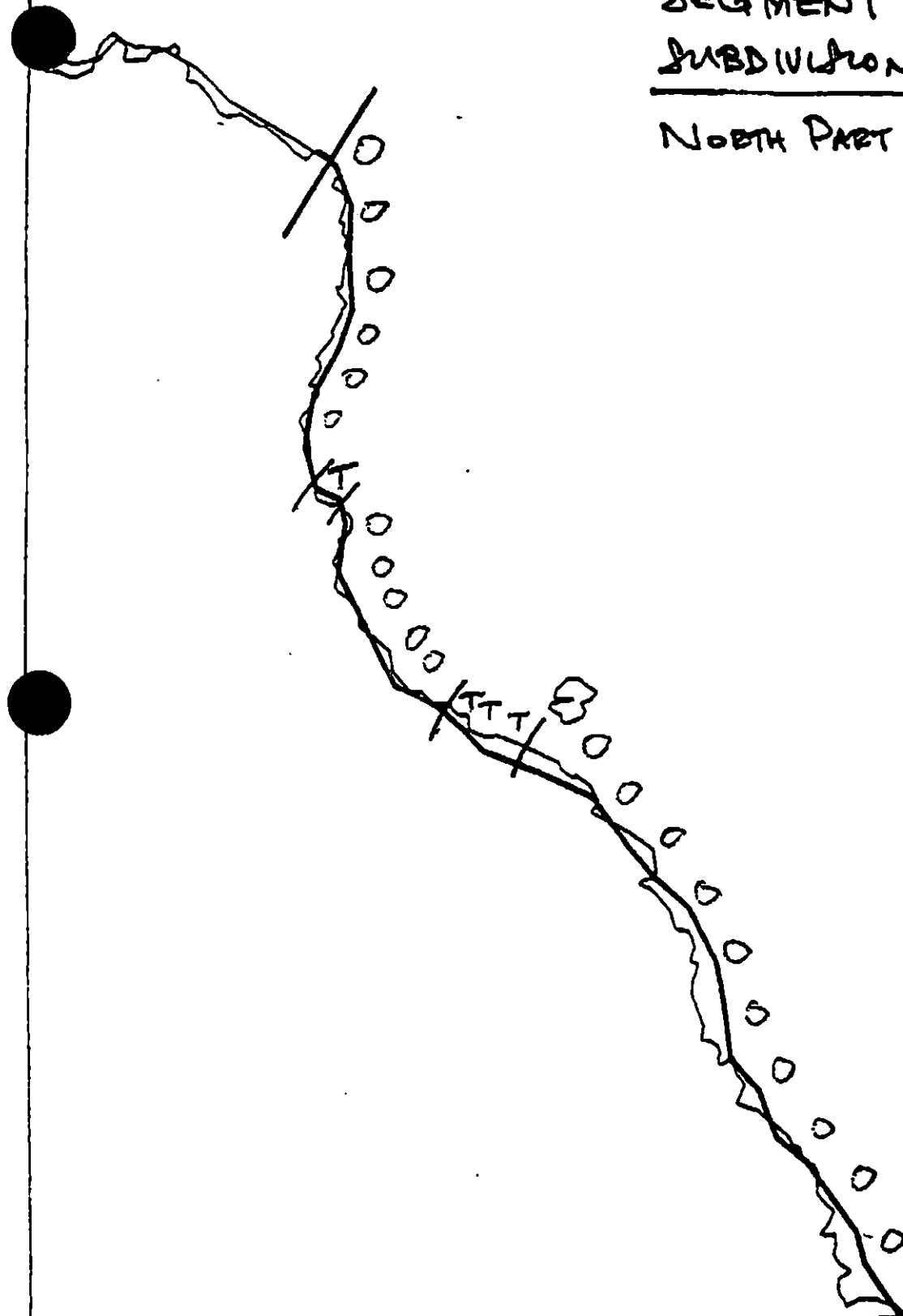
1 $\rightarrow$
 Photo location, direction,
 and number



CULROSS ISLAND

SEGMENT: CU-17
SUBDIVISION: A-1 of 1

NORTH PART



XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

CU-17

ADEC Segment Length: 3336m

0 100 200 300
METERS

Map Key: PWS-115b

Name: GILLIE

Date: 4-4-90

Data Entered:

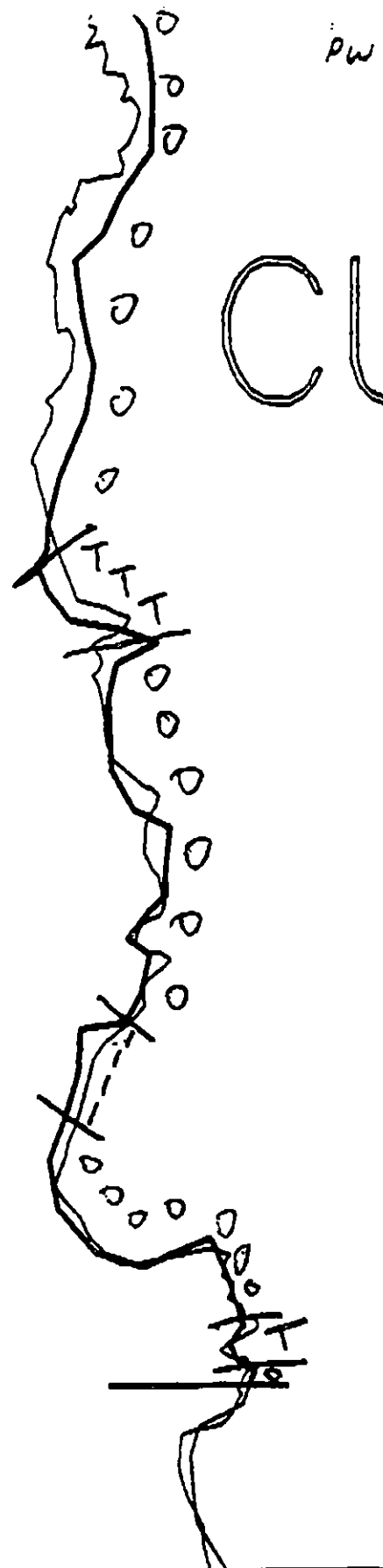
CULROSS ISLAND

PWS 75B

SEGMENT: CU-17

SUBDIVISION: A-1 of 1

SOUTH PART



XXXX Wide

/// Medium

---- Narrow

TTTT Very Light

0000 No Oil

CU-17

ADEC Segment Length: 2939m



METERS

Map Key: PWS-75a

Name: GILLIEDate: 4-4-90

Data Entered:

1991 MAYSAP EVALUATION

SEGMENT: CU 017 SUB: A REGION: PWS SURVEY DATE: 5/15/91

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) RESTRICTED 3/1 - 9/15

Ecological/Constraints (see page two for details) Eagle nest,
Anadromous stream, Fish harvest area

ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is
required prior to shoreline treatment.

SHPO Signature: Rachel Jean Oam Date: 5/24/91

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

N

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: MAY 24 1991

FOSC APPROVAL DATE: 5/29/91

ADEC

FOSC

EXXON

E. E. PAGE, CDR, USCG
CHIEF OF STAFF, FOSC

USCG

NOAA

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

Eagle Nest: Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.

Anadromous Stream: Unlimited treatment up to stream bank between May 15 and July 10. ADF&G approval required for work after July 10. Fish Habitat Permit required for instream work. ADF&G approval required for bioremediation within 100 meters of anadromous stream after July 10.

Fish Harvest Area: Unlimited treatment unless otherwise directed by ADF&G. Sheen containment/recovery procedures required for mechanical treatment.

ADEC

NAME

JEFF GUALIAS

SIGNATURE

[Signature]



NTR

NO RECOVERABLE OIL ON SEGMENT. OCCASIONAL SPLASH
OR STAIN PERIODICALLY.

EXXON

NAME

RANDALL K. BOYER

SIGNATURE

[Signature]



NTR

NO TREATABLE OIL WAS IDENTIFIED ON THIS SUBDIVISION.
AN OCCASIONAL TARBALL WAS PICKED UP BY PASSING MAYSAPERS.
SAW A LARGE WHALE JUST OFF SHORE. THE LOWER INTERTIDAL ZONE
HAD ONE OF THE LARGEST SNAIL COLONIES SEEN ON THE SURVEY.

LANDMANAGER

NAME

MARSHA HALL OF DNR

SIGNATURE

[Signature]



NTR

SPARSE patches of cover to MOUSSE in
INACCESSIBLE spaces AROUND BLDEAS.

USCG/NOAA

NAME

SCHULTZ

1CHILDS

SIGNATURE

[Signature]



NTR

NO TREATABLE OIL FOUND. TEAM REMOVED THE SURFACE RESIDUE

HI ANGLE BED ROCK BEACH W/ BOWLOER-COBBLE POCKETS - MUDDY PEAT BELOW
ROCK FRAGMENTS IN AREAS BEDROCK NOT UNDER LYING. SUBANGULAR BGP
INDICATE MED TO LOW ENERGY ENVIRONMENT. SURFACE OIL AS DEGRADED
SOR IN POCKETS UNDER BETWEEN B.T.C's - SOME CT'S ST ON VERTICAL R.C
FACES. TOTAL AMOUNT VERY LITTLE - NO SUBSURFACE OIL ENCOUNTERED.

PAGE 4 OF

DATE 5 / 15 / 91

ENERGY LEVEL: ☐ H ☒ M ☐ L

WEATHER: ☐ SUN ☐ CLOUDS ☐ FOG ☒ RAIN ☐ SNOW

NEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONE

W 1 m M 1 m N 1 m VL 1 m NO 1,25 m US 1,68 m

SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE PHOTO ROLL # MAYSAP- 1 - 22 FRAMES 1~10

SHEEN COLOR: B = BROWN; R = RAINBOW; S = SILVER; N = NONE

OG COMMENTS: Steep rocky shore, Mod - lo energy, w/ massive bc over
peat or grass and R.
Surface oil only, as to SOR, CT & TB in localized trace amounts.

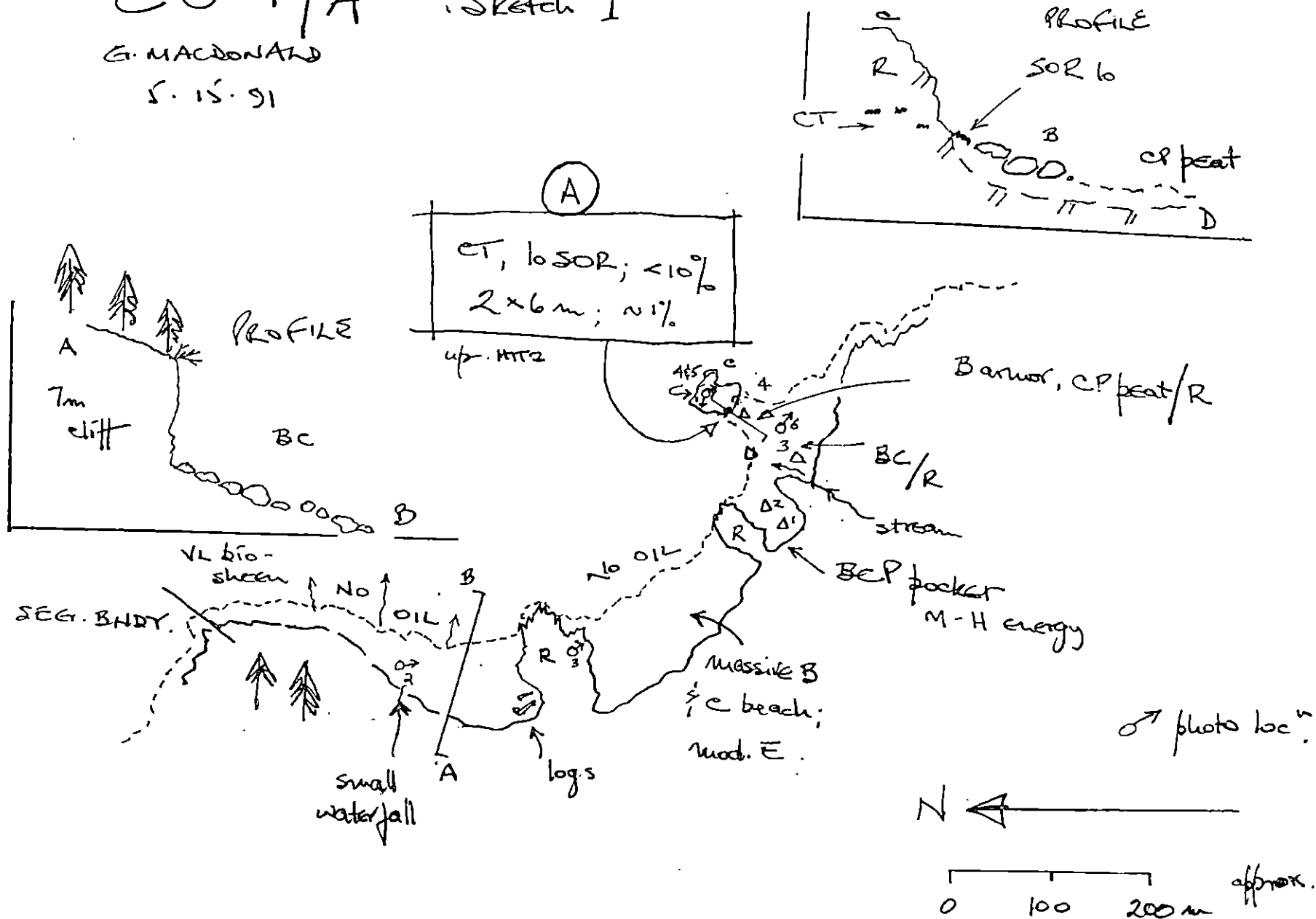
REVIEWED CG 17 MAY 1964

CU-17A

Sketch 1

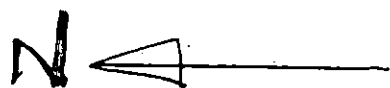
G. MACDONALD

S. 15. 91

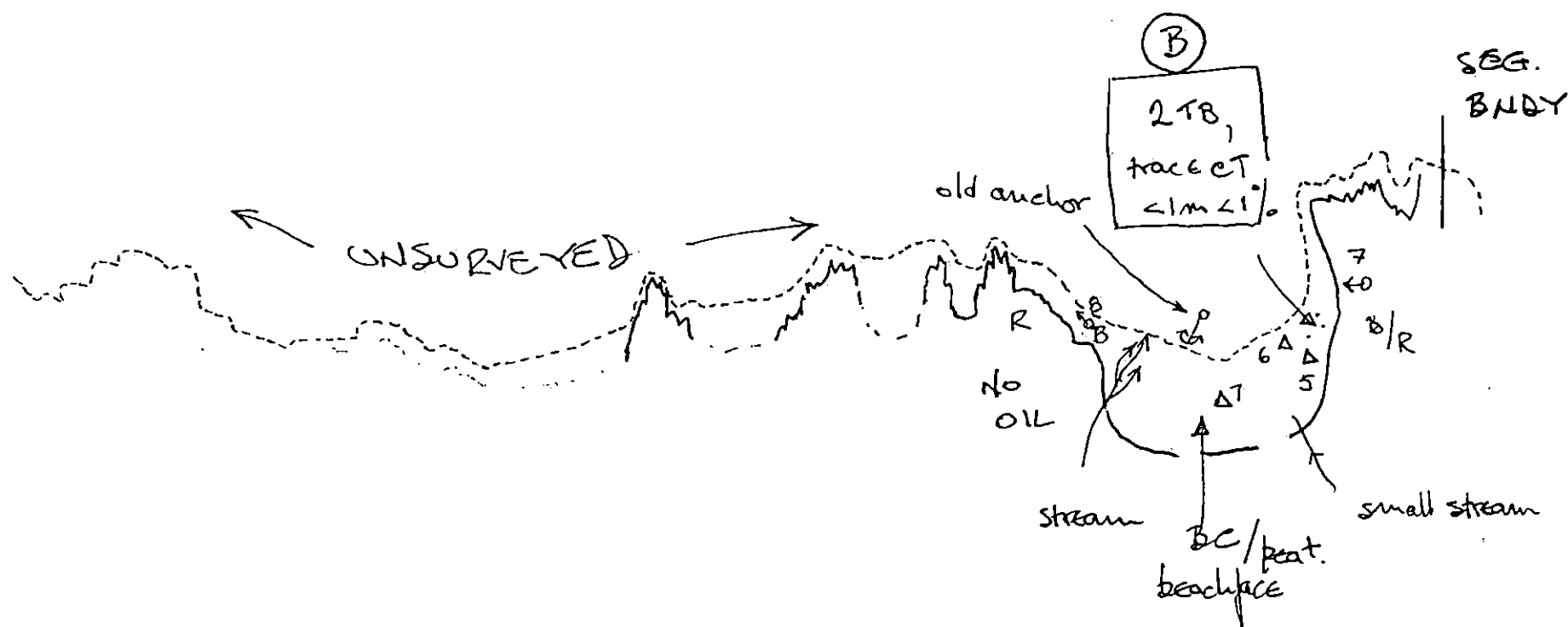


reviewed 5/16/91 KLG
reviewed 6/17/91 MAY

CU-17A Sketch 2



0 100 200 m approx.



G. MACDONALD

5.15.91

Reviewed SL10191 R/g
Reviewed CD 17 MAY

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 1 DATE 15 May 91
 SEGMENT # CU 17 TIDAL HEIGHT(Range) -2.2 to +2.2 ft MLLW
 SUBDIVISION A BIOLOGIST Michael Fawcett
 SEA STATE 1 ft swell, 1 ft seas WIND SPEED/DIRECTION NE 15 knots
 PHOTOGRAPHS: ROLL # _____ FRAME # _____

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):

subdivision contains rugged outcrops and massive boulders, and boulder/cobble pocket beaches. High density of littorinids on northernmost beach, less dense on unstable cobbles on southern beach. Typically rich biota in MTZ-LTZ tidepools. Mature barnacles, spat and whelks (*Nucella emarginata* and *N. lamellosa*) dense throughout most of subdivision. *N. lamellosa* breeding in LTZ. Very small patches of oil or SOR found at two sites --- see sketch maps for descriptions of biota near oiled sites.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	1	black prickleback
Seabirds			tidal pool sculpin
Waterfowl			
Gulls/kittiwakes	1 (GW gull)	2	
Shorebirds			
Corvids			
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds(specify)	3 sea lions		
Whales(specify)	7 humpback whales		

Shoreline subdivision map showing important biological features attached.

4
 Pinnipeds seen

C.V. 17A 5/15/91 Fawcett

arr 1000 hrs at North end

- eagle in tree on islet 300m

South of end of segment

- 2 gulls

no oil

Side 11. B/C beach - some car-size
boulders MTZ + 4-8 ft w/ very dense
barnacles, spat, & *N. emarginata* -

Litt, Ling mod. dense throughout C/B

MTZ-LTZ up to + 8 ft - patchy

Fucus - moderate energy

- 3 humpback whales (GM saw)

- 2 Sea lions

- moving south littorinids become
very dense 100 yds from shore,
then thin out again -

Large *Turbo* & *B. carinatus*

LTZ on BR & boulders

10405 1045 - lee side of islet - A on map

CT, CV in boulders + 9-10 ft among
moderate barnacles, dense periwinkle

- also SOR - sparse litt -

downy 2m sparse *Fucus*

more litt - MTZ tidepools 10m away

on south side of BR - rich fauna -

Kath, *Tenella*, etc. - breeding *lavellana*

under 104905

N

A

CV 17 north half

Side A

- eagle

dermatidians, Pycnospodina, Leptasteria,
MTZ-LTZ pools

1100 hrs - skuffed south to next
side - smallomad sth crossing.

SC beach - anchored in LTZ

w/ large *carcinus* & mussel

- moderately dense litt in cobble

- 2 Tar balls in boulders at south

end of cove - + 12 feet - no hole

N
↑

CU 17 South half

2nd side
anchoring

CU 17(cont) 15 May 91 Fawcett

except lichen mass -

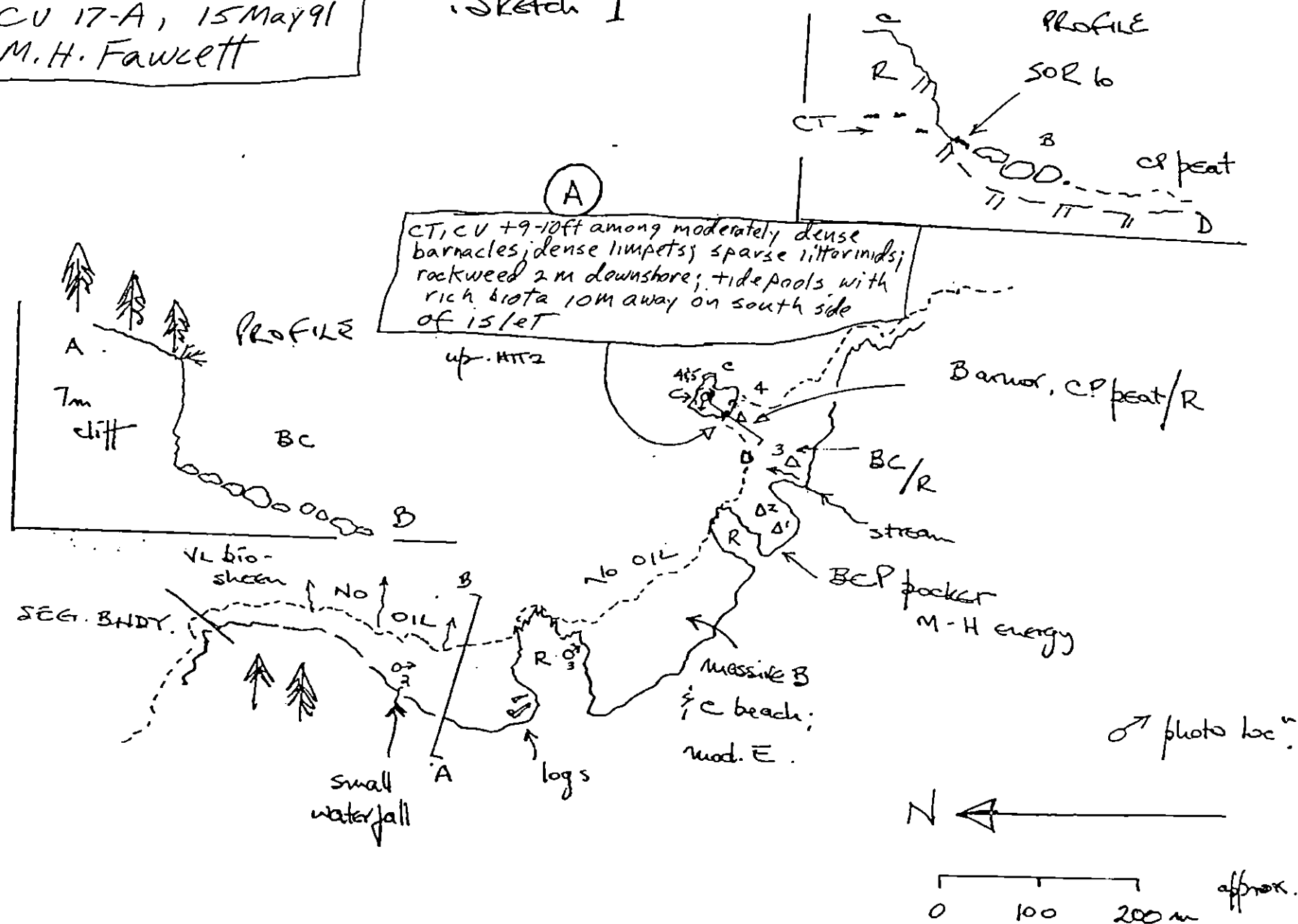
- mod Fucus, rhod, lump, lili,
barn, whelks, etc 5m down shore
+ 4-8 ft

1 sea lion

dep 1130

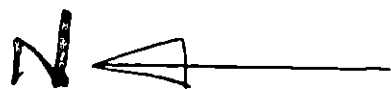
BIO Sketch Map
 CU 17-A, 15 May 91
 M.H. Fawcett

Sketch 1

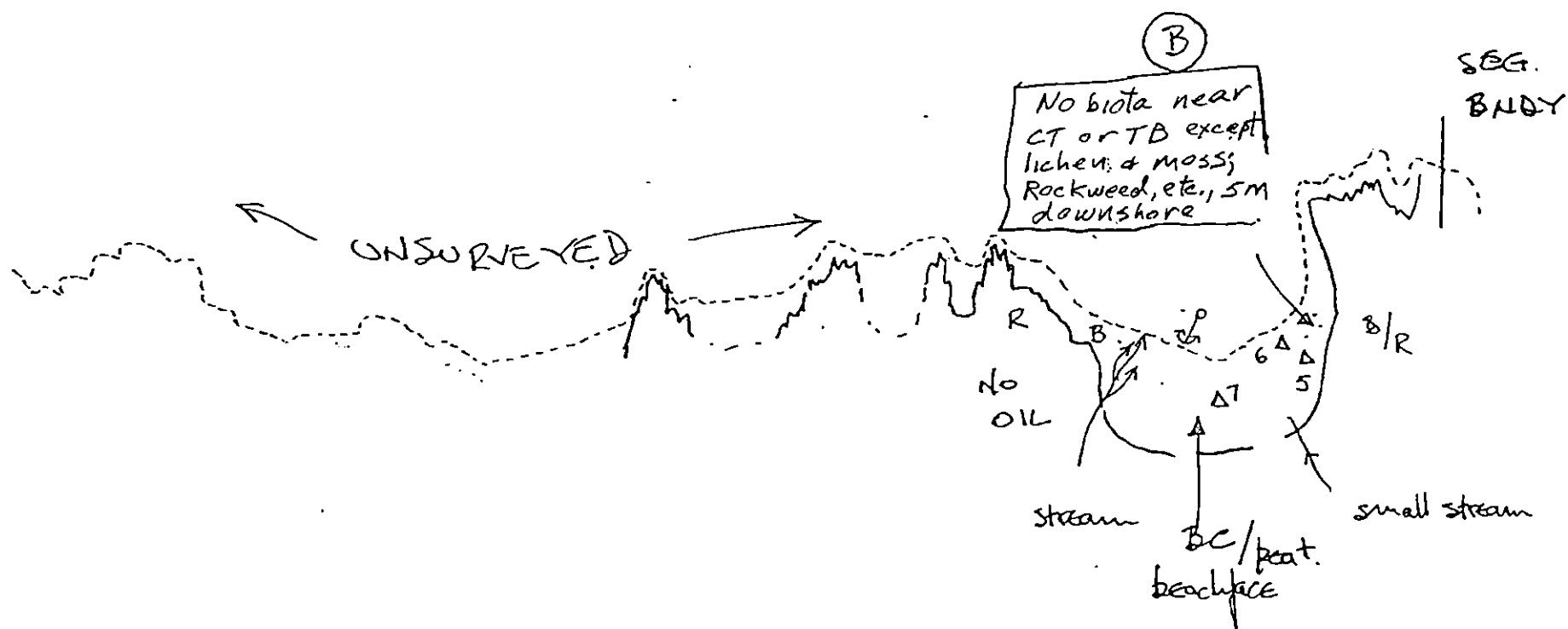


Sketch 2

Bio Sketch Map
CU 17A, 15 May 9
M. H. Fawcett

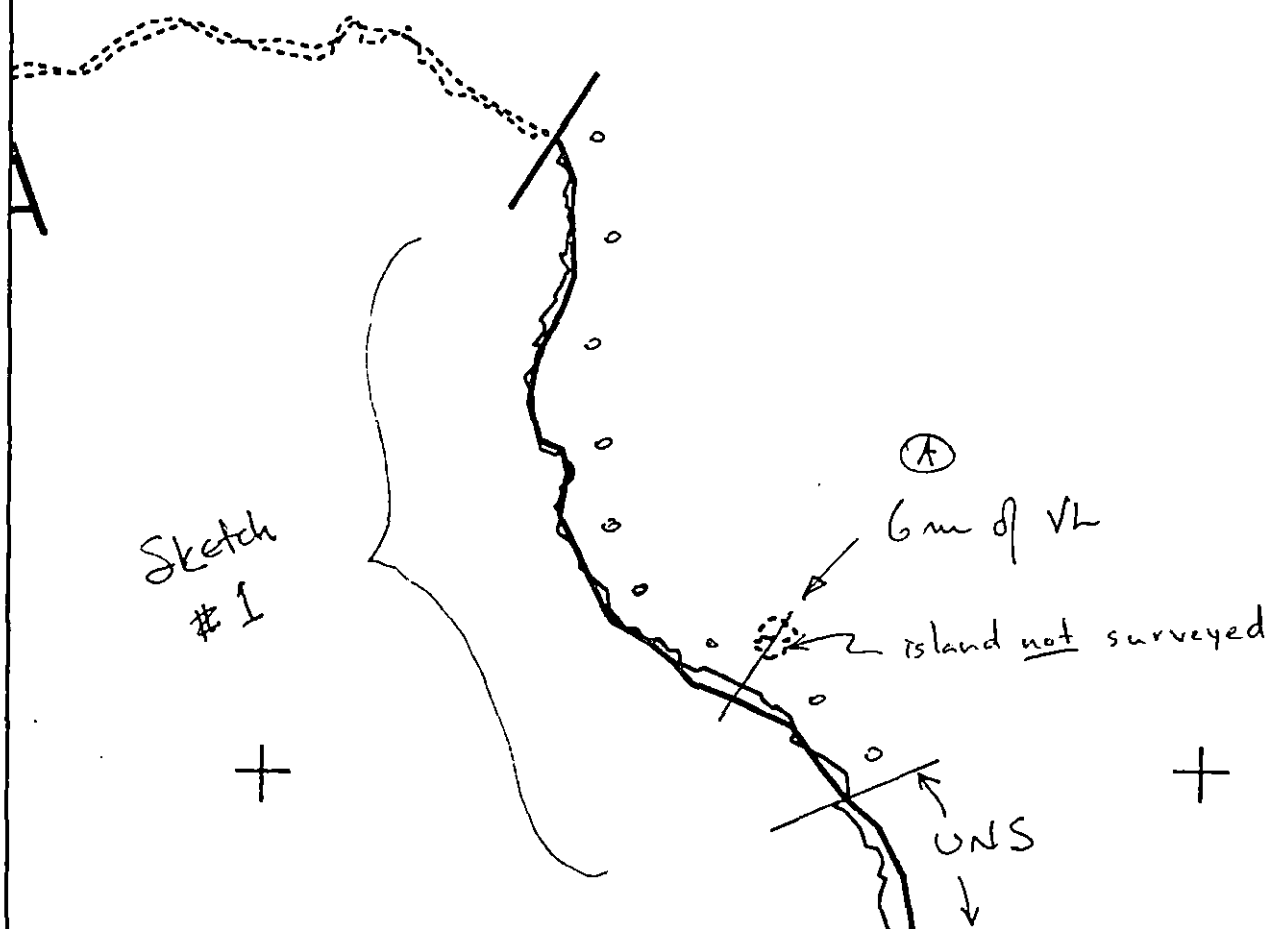


0 100 200 m approx.



18

1 of 2



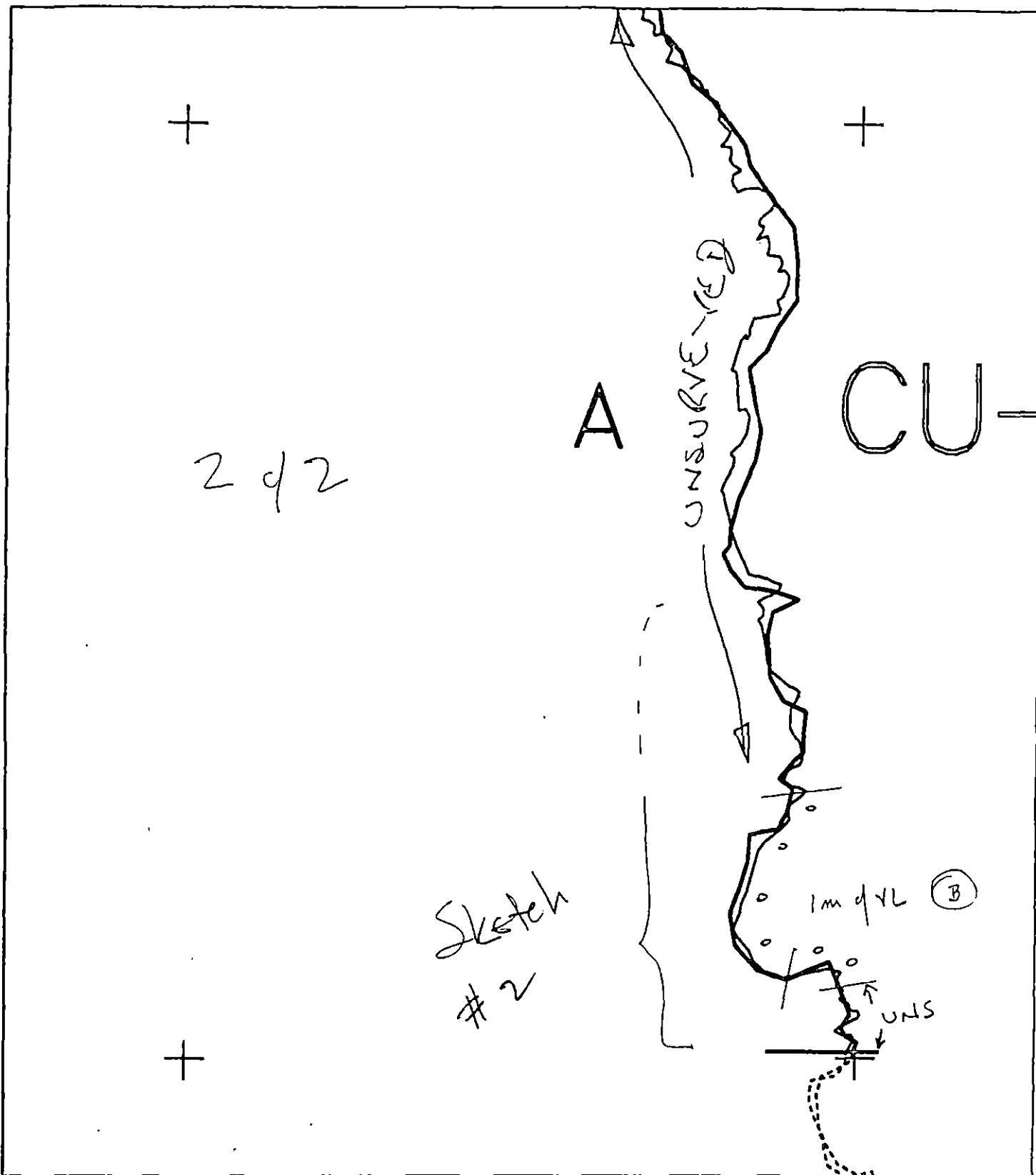
XXXX Wide
 //// Medium
 ---- Narrow
 TTTT Very Light
 0000 No Oil

CU017 A
 ADEC Subsegment Length: 2938m
 METERS
 0 200 400
 AK State Plane Zone 4
 pcn017ab



Subdivision Field Map
 Map Key: PWSCU017Ab
 Name: GM
 Date: 5-15-91
 Date Entered:

renewed 5/10/91 kg
 REVIEWED CB 17 MAY 91



XXXX	Wide	CU017 A ADEC Subsegment Length: 2938m METERS 0 200 400 AK State Plane Zone 4 proj17aa	Subdivision Field Map Map Key: PWSCU017Aa Name: <u>GM</u> Date: <u>5.15.91</u> Data Entered:
////	Medium		
----	Narrow		
TTTT	Very Light		
0000	No Oil		

reviewed 5/16/91 CG S.
REVIEWED CG 17 MAY

1991 MAYSAP EVALUATION

SEGMENT: CU 017 SUB: A REGION: PWS SURVEY DATE: 5/15/91

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) RESTRICTED 3/1 - 9/15

Ecological/Constraints (see page two for details) Eagle nest,
Anadromous stream, Fish harvest area

ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is
required prior to shoreline treatment.

SHPO Signature: _____ Date: _____

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL: _____

TAG: _____

FOSC: _____

TAG APPROVAL DATE: _____

FOSC APPROVAL DATE: _____

ADEC _____

FOSC _____

EXXON _____

USCG _____

NOAA _____

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

Eagle Nest: Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.

Anadromous Stream: Unlimited treatment up to stream bank between May 15 and July 10. ADF&G approval required for work after July 10. Fish Habitat Permit required for instream work. ADF&G approval required for bioremediation within 100 meters of anadromous stream after July 10.

Fish Harvest Area: Unlimited treatment unless otherwise directed by ADF&G. Sheen containment/recovery procedures required for mechanical treatment.

ADEC

NAME JEFF GIBBLAS

SIGNATURE

[Signature]

☒ NTR

NO RECOVERABLE OIL ON SEGMENT. OCCASIONAL SPLASH
OR SIMIN PERIODICALLY.

EXXON

NAME RANDALL K. BOYER

SIGNATURE

[Signature]

☒ NTR

NO TREATABLE OIL WAS IDENTIFIED ON THIS SUBDIVISION.
AN OCCASIONAL TARBALL WAS PICKED UP BY PASSING MAYSERS.
SAW A LARGE WHALE JUST OFF SHORE. THE LOWER INTERTIDAL ZONE
HAD ONE OF THE LARGEST SNAIL COLONIES SEEN ON THE SURVEY.

LANDMANAGER

NAME MARSHA HALL OF DNR

SIGNATURE

[Signature]

☒ NTR

SPARSE patches of cover to MOUSSE in
INACCESSIBLE spaces AROUND BLDEAS.

USCG/NOAA

NAME SCHULTZ

CHILD

SIGNATURE

[Signature]

☒ NTR NO TREATABLE OIL FOUND. TEAM REMOVED THE SURFACE RESIDUE

HI ANGLE BED ROCK BEACH w/ BOULDER-COBBLE POCKETS - MUDDY PEAT BELOW
ROCK FRAGMENTS IN AREAS BED ROCK NOT UNDER LYING. SUB ANGULAR BGP
INDICATE MED TO LOW ENERGY ENVIRONMENT. SURFACE OIL AS DEGRADED
SOR IN POCKETS UNDER BETWEEN B.C.'S - SOME CT'S ST ON VERTICAL PC
FACES. TOTAL AMOUNT VERY LITTLE - NO SUBSURFACE OIL ENCOUNTERED.

PAGE 1 OF 1

DATE 5/15/91

ENERGY LEVEL: ☐ H ☒ M ☐ L

EST. OIL CATEGORY LENGTH: W 1 m M 1 m N 1 m VL 7 m NO 1,251 m US 1680 m

SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE PHOTO ROLL # MAYSAP- 1 - 22 FRAMES 1210

SHEEN COLOR: B = BROWN; R = RAINBOW; S = SILVER; N = NONE

Surface oil only, as to SDR, CT & TB in localized trace amounts.

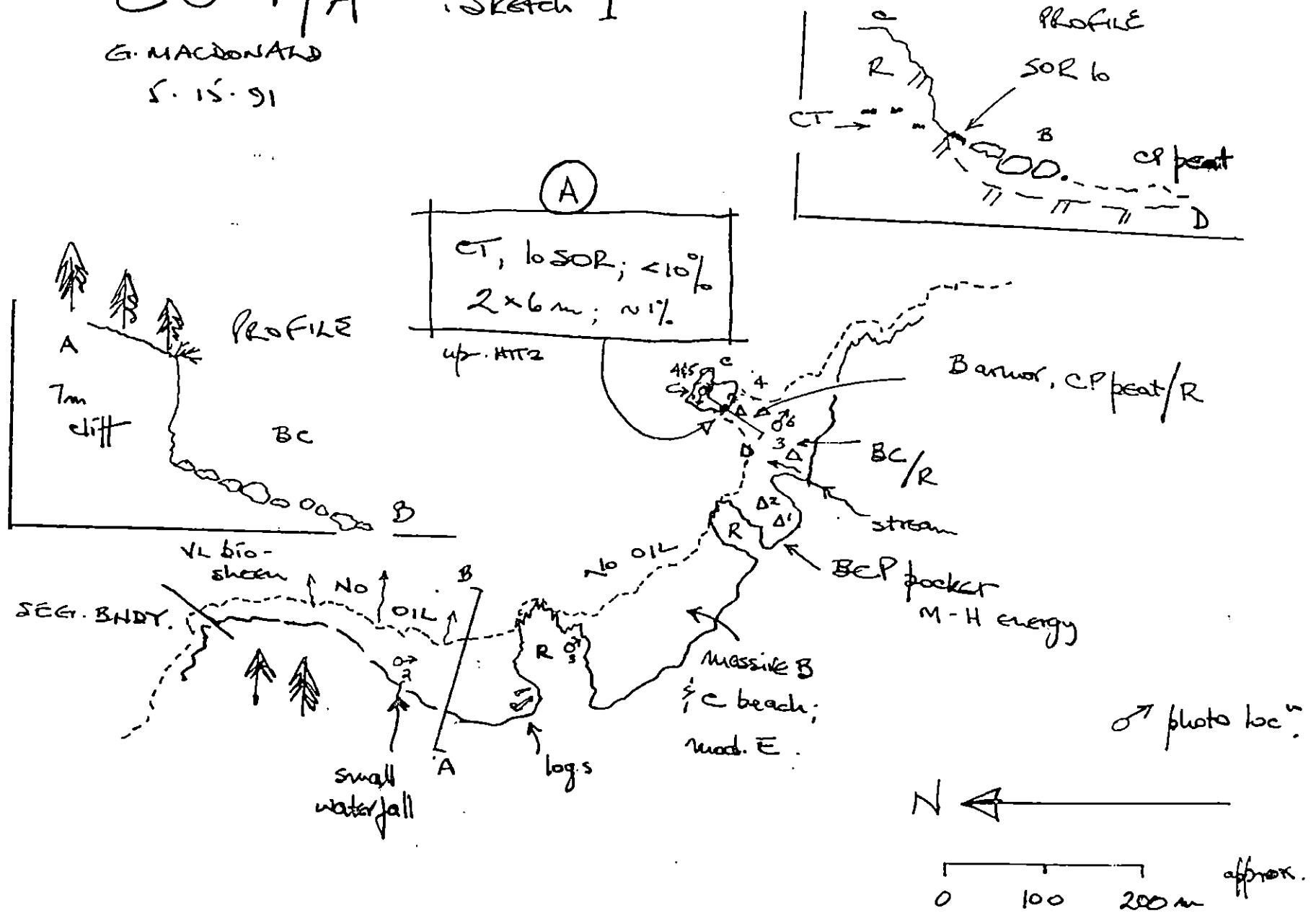
revised 5/10/81 RG
REVIEWED -- 1/10/81

CU-17A

Sketch 1

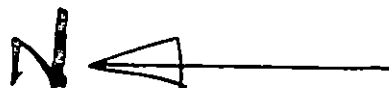
G. MACDONALD

5.15.91

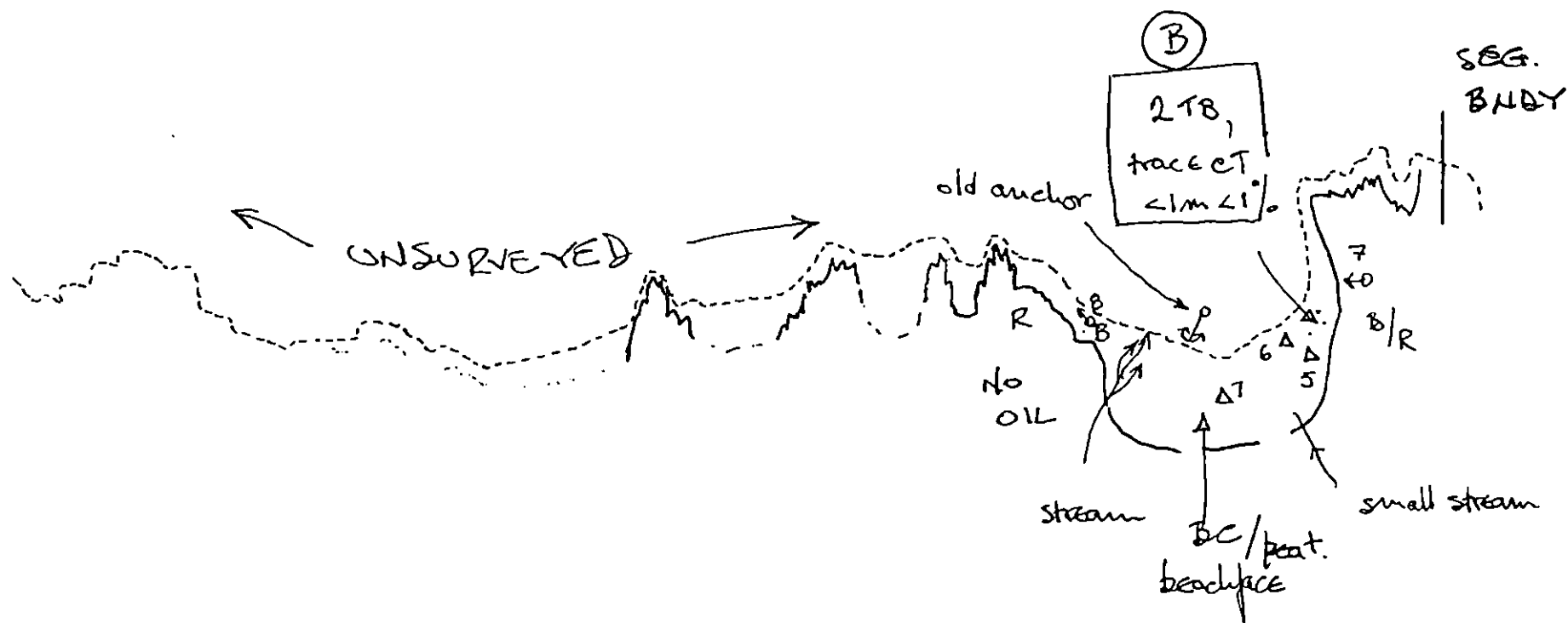


checked 5/16/91 KLG
REVIEWED CB 17 MAY

CU-17A Sketch 2



0 100 200 m approx.



G. McDONALD

5.15.91

reviewed SLW/21 V2
REVIEWED CB 7 MAY

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 1 DATE 15 May 91
 SEGMENT # CU 17 TIDAL HEIGHT (Range) -2.2 to +2.2 ft MLLW
 SUBDIVISION A BIOLOGIST Michael Fawcett
 SEA STATE 1ft swell, 1ft seas WIND SPEED/DIRECTION NE 15 knots
 PHOTOGRAPHS: ROLL # _____ FRAME # _____

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):

subdivision contains rugged outcrops and massive boulders and boulder/cobble pocket beaches. High density of littorinids on northernmost beach, less dense on unstable cobbles on southern beach. Typically rich biota in MTZ-LTZ tidepools. Mature barnacles, spat, and whelks (*Nucella emarginata* and *N. lamellosa*) dense throughout most of subdivision. *N. lamellosa* breeding in LTZ. Very small patches of oil or SOR found at two sites -- see sketch maps for descriptions of biota near oiled sites.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	1	black prickleback
Seabirds			tidalpool sculpin
Waterfowl			
Gulls/kittiwakes	1 (GW gull)	2	
Shorebirds			
Corvids			
Other Birds			

LAND MAMMALS

MARINE MAMMALS	# OBSERVED	SPECIES	# OBSERVED
Sea Otters			
Pinnipeds (specify)	3 sea lions		
Whales (specify)	7 humpback whales		

Shoreline subdivision map showing important biological features attached.

6
 Printed at 10:00 AM

C.V. 17A 5/15/91 Fawcett

abt 1000 hrs at North end

- eagle in tree in idled 300m

South of end of segment

- 2 gulls

no oil

Side 11 B/C beach - some car-size boulders MTZ + 4-8 ft w/ very dense barnacles, spat, & *N. emarginata* -

Litt, long mod. dense throughout C/B

MTZ-LTZ up to 8 ft - patchy

Fucus - moderate energy

- 3 humpback whales (GM saw 7)

- 2 sea lions

- moving south littorals become very dense 100 yds from start, then thin out again -

Large *Tealia* & *B. carinatus*

LTZ on BR & boulders

10405 1045 - see side of 15let - A on map

CT, CV in boulders + 9-10 ft among

moderate barnacles, dense periwinkle

- also 50R - sparse litt -

downy 2m sparse *Fucus*

more litt - MTZ tidepools 10m away

on south side of BR - rich fauna -

Kath, *Tanella*, etc - breeding *Tanella* under 10490

N

↑

CU 17 north half

Side A →

- eagle

dermatidians, Pysnopsidinae, Leptadenia,
MTZ-LTZ pools

1100 hrs - skiffed south to next

side - small amad sth crossing

SC beach - anchored in LTZ

w/ large carinatus & mussel

- moderately dense Litt in cobble

- 2 Tar balls in boulders at south

end of cove - + 12 feet - no birds

N
↑

CU 17 South half

2nd side
anchoring

CU 17(cont) 15 May 91 Fawcett

except lichen mass -

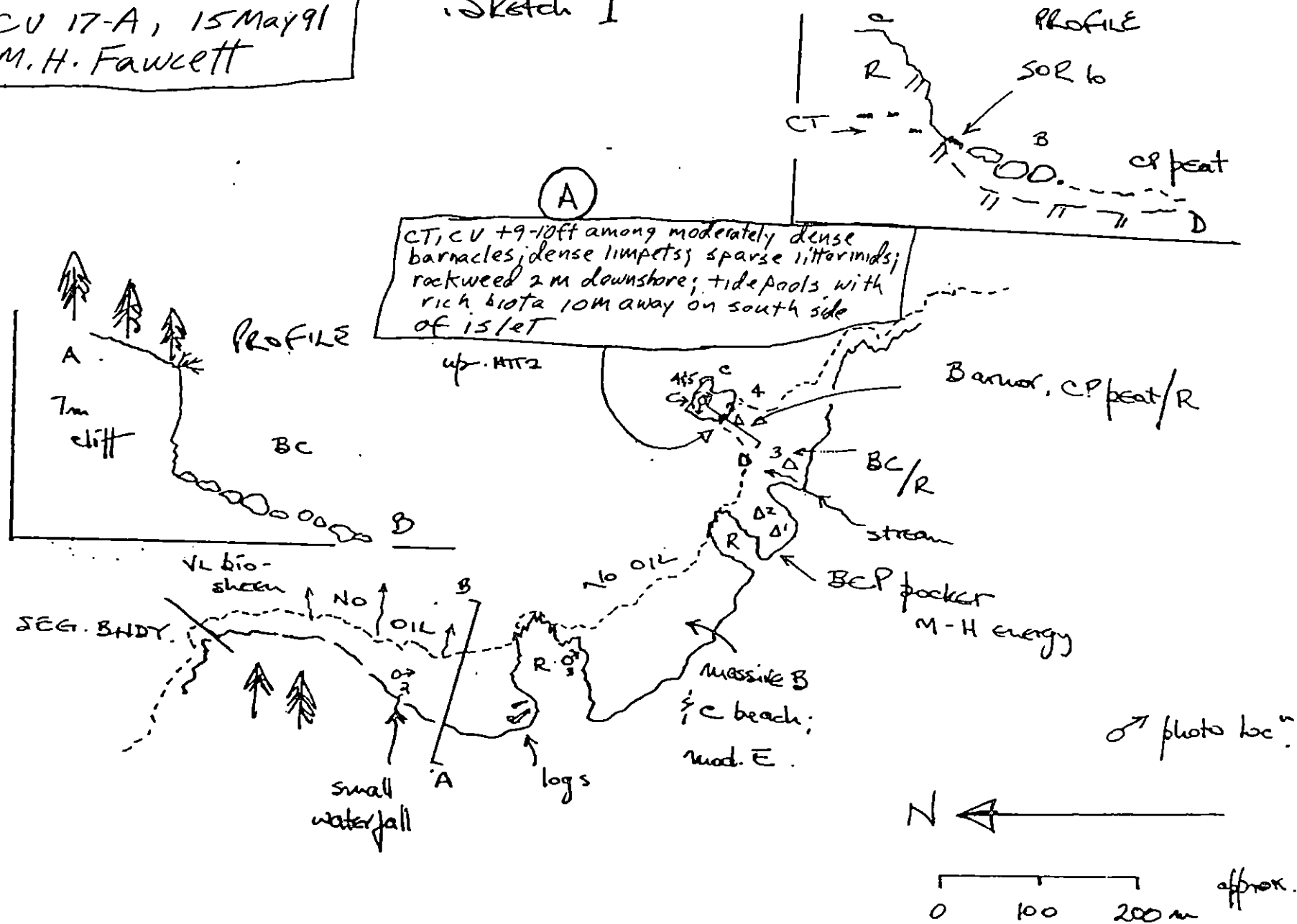
- mod Fucus, rhod, lump, lily,
barn, whelks, etc 5m down shore
ty - 8 ft

1 sea lion

dep 1130

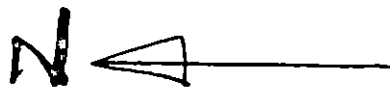
BIO Sketch Map
 CV 17-A, 15 May 91
 M.H. Fawcett

Sketch 1

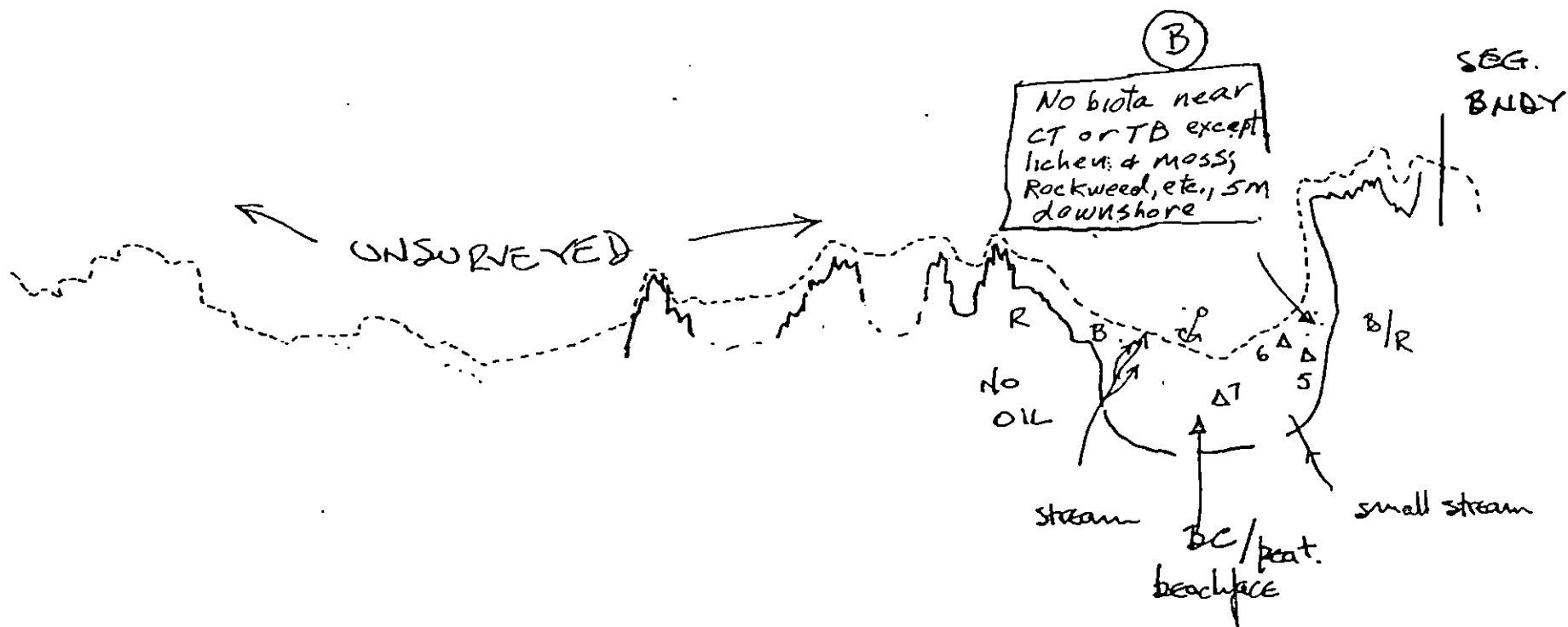


Sketch 2

BIO Sketch Map
CU 17A, 15 May 99
M. H. Fawcett

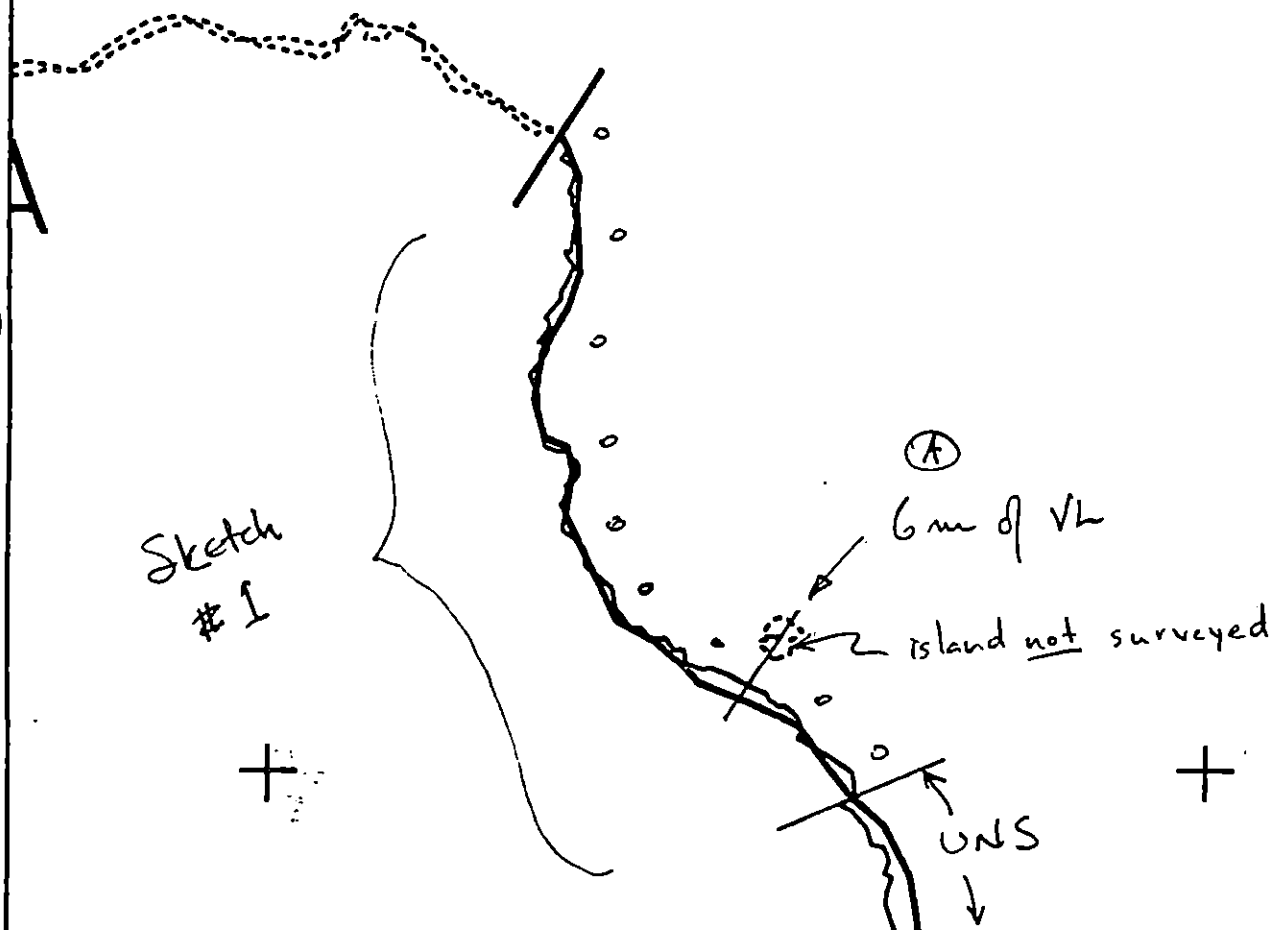


0 100 200 m approx.



18

1 of 2



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

CU017 A
 ADEC Subsegment Length: 2938m
 METERS
 0 200 400
 AK State Plane Zone 4
 pcn017ab

Subdivision Field Map
 Map Key: PWSCU017Ab
 Name: GM
 Date: 5.15.91
 Date Entered:

renewed 5/10/91 by
 REVIEWED CD 17 MAY 91

+

+

2 d 2

A

CU-

UNSURVEYED

Sketch
#2

1m d VL (B)

UNIS

+

XXXX
////

TTTT
0000

Wide
Medium
Narrow
Very Light
No Oil

CU017 A

ADEC Subsegment Length: 2938m

METERS

0 200 400

AK State Plane Zone 4
pca017aa



Subdivision Field Map

Map Key: PWSCU017Aa

Name: GM

Date: 5.15.91

Date Entered:

reviewed 5/16/91 CG S.
REVIEWED CD 17 MAY

REGION: PRINCE WILLIAM SOUND

SEGMENT: CU-18

SUBDIVISIONS: A (1 OF 1)

SHORELINE EVALUATION

SEGMENT ST/ CU-18 SUBDIVISION A (1 OF 1) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Esther hatchery release (1D) - 4/15 to 6/1; Purse seine hook-off (1K) - 7/20 to 9/30; Active Bald Eagle nests (5T-3) - 3/1 to 6/1; Recreation anchorage (6V) - 6/1 to 9/15.

SUBDIVISION ECOLOGICAL CONSTRAINTS: (1K) and (1D) Contact ADF&G for dates, locations, constraints. (5T) Restrict air traffic to essential minimum. Air approach and take off from and to seaward only. Contact USFWS prior to treatment, for confirmation dates and avoidance minimums.

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

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 2982 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:

TAG COMMENTS:

TAG APPROVAL DATE: _____

ADEC _____

EXXON _____

NOAA _____

USCG _____

FOSC: _____ DATE: _____

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / CU-18 SUBDIVISION: A, 1 of 1 DATE 4/2/90

USCG

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

ADEC

NAME Clara S. Crosby SIGNATURE Clara S. Crosby☒ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

No Oil observed - Eastern portion of
CU018 was surveyed by skiff - Rocky
Beach & surf. limited access.

LAND MANAGER

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

Did not observe any oil

SHORELINE OILING SUMMARY

REVISION NO. 03/22/90

OG Rick GILLIE USCG bm 1 Thomas SEGMENT ST/ Cu-18
 BIO DAVE Lohse LAND REP Marsha Martin SUBDIVISION A-1 of 1
 EXXON FRANK Dwy ADEC Clara Crosby (BPR) TIME 10:00 to 12:00
 TEAM NO.: 13 TIDE LEVEL: +7 16 +3 DATE 4/2 /90
 EST. SUBDIVISION LENGTH: 2,901 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 20 % B 20 % C 40 % P 10 % G 10 % S 0 % M 0 % V 0 %
 SLOPE: Lang 40 % Hang 40 % Vert 20 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 0 m NO 2,901 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	IC	IB	IP	IS	SB	BR	IR	OR	SL	TL	LR	LB	SU	UI	M	LI
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT																
STAIN																
MOUSSE																
PATTIES																
TARBALLS																
FILM																
NO OIL													X	X	X	X

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

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation	<u>N/A</u>		
Trash			
Debris			

DEBRIS COLLECTED

☐ YES ☒ NO

TYPE _____

#BAGS _____

Photographs: WATERS

Roll No. _____

Frames No Photos, No oil!

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	SB	BR	IR	OR	SL	TL	LR	LB	SU	UI	M	LI		
1	30					X	-											X					P/G/S
2	20					X	-												X				P/G
3	20					X	-												X				G/S/M
4	30					X	-											X					P
5	30					X	-											X					P/G
6	30					X	-											X					P/G

COMMENTS

GENERAL: ① No oil observed on surface or in pits!

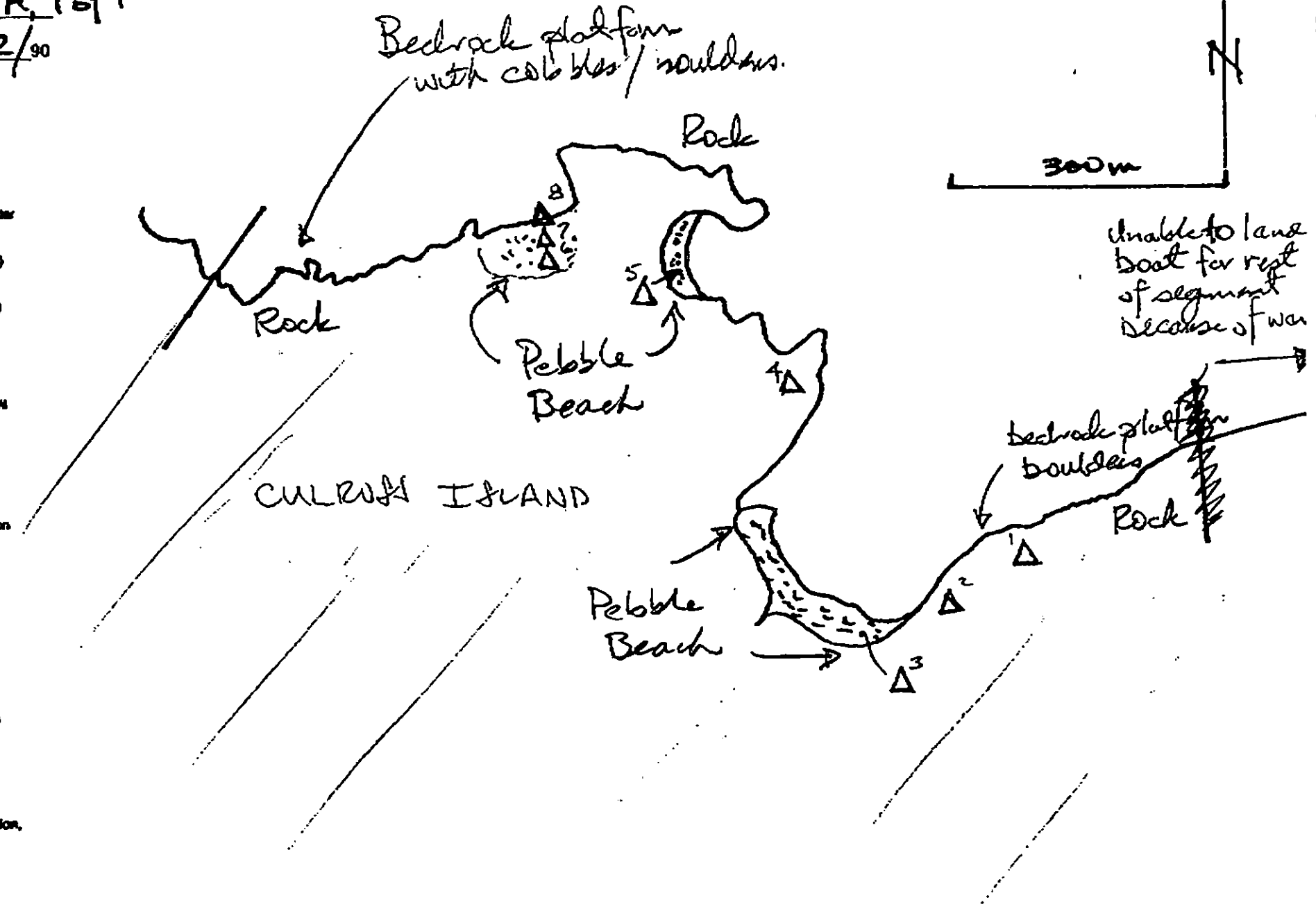
② Geomorphology comprises wavecut platforms covered with boulders/cobble and small pocket beaches of gravel.

JG Rick WIE
 SEGMENT ST/ CU-18
 SUBDIVISION A, 1 of 1
 DATE 4, 2/90

SKETCH MAP

- CHECKLIST**
- ☒ M Arrow
 - ☒ Approx. Scale
 - ☒ Seg/Sub Bndry
 - ☒ Oil Dist.
 - ☒ Width
 - ☒ Length
 - ☒ % Cover
 - ☒ Substrate Character
 - ☒ Est. HWM/LWL
 - ☒ SSL
 - ☒ Profile Location(s)
 - ☒ Profile(s)
 - ☒ P/L Location(s)
 - ☒ Photo Location(s)

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



Character Length (m): AP 0 PO 0 CV 0 CT 0 ST 0 MS 0 PT 0 TB 0 FL 0 NO 2901

SHORELINE ECOLOGICAL SUMMARY

Segment ST / CU-018 Subdivision A Date (mo / day / yr) 4-2-90Time (24 hr) 10:00 Biologist David Lohan

- (A) Substrate type and % of segments:
 (1) Bedrock 20 (2) Boulder 20 (3) Cobble 40 (4) Pebble 10 (5) Sand 10 (6) Silt _____
- (B) Overall % cover of biota (% of segment): Dense 20 Moderate 30 Low 50
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)

 Photographs: _____
 Roll No. _____
 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:

See page 2

Ecological Considerations:

1D, 1K, 6V - no comment

ST- 3 ~~MAV~~ mature bald eagles observed in area. No nests were seen

Shoreline Ecological Summary

Lot 2

Segment ST-CU018 Subdivision A 4-2-90

Biologists David Cohen

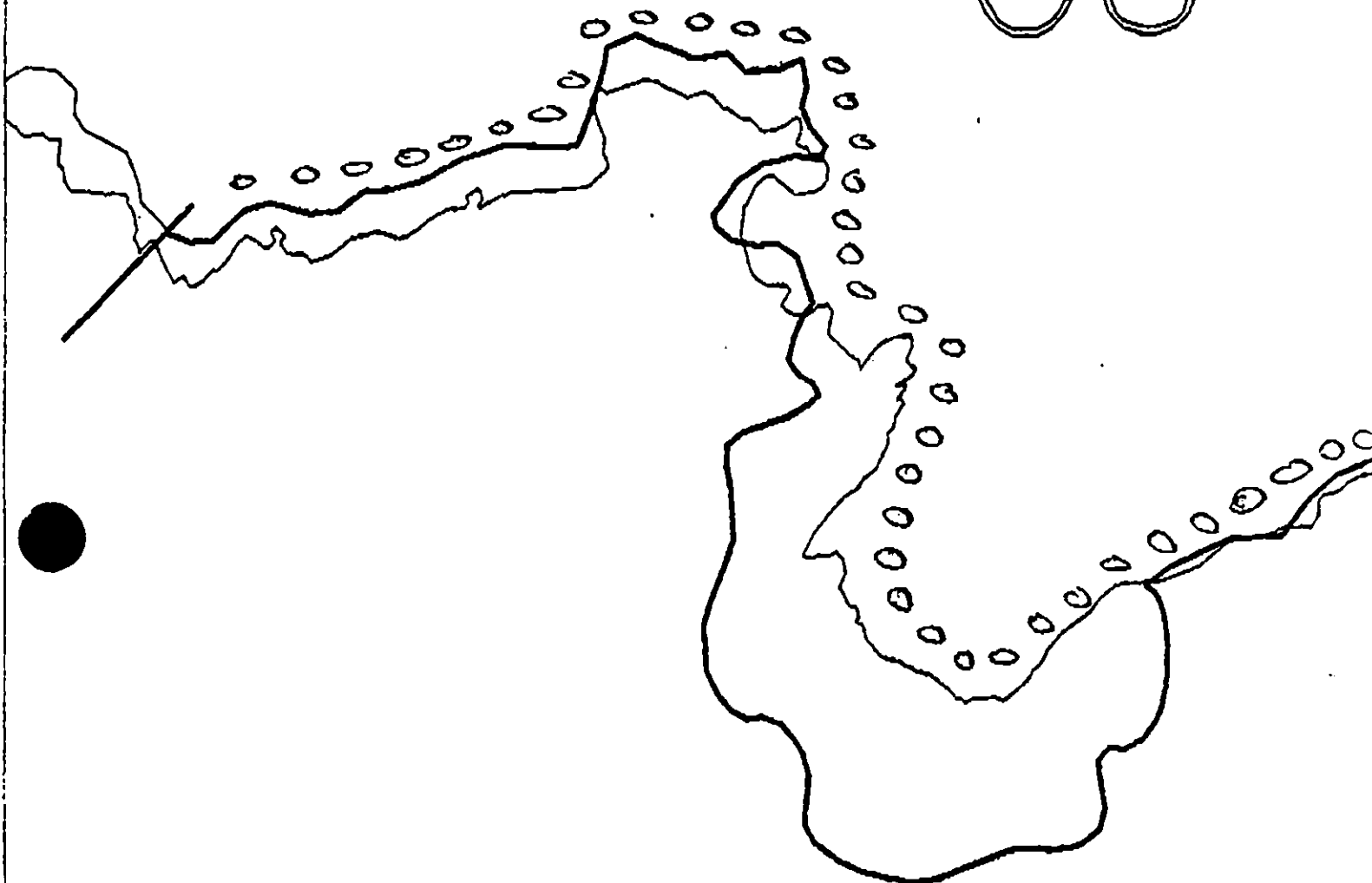
Wildlife observations/General comments

1. present in mid intertidal - Cladophora, Anthopleura, Nucella, Enteromorpha (dense in spots)
high intertidal - Enteromorpha (dense in spots)
2. low intertidal not sampled due to tidal level.
3. Deer tracks spotted on beach and above high tide line
4. Cormorants, ducks, several shore birds, and one seal observed in area
5. There were several areas in mid-intertidal on bedrock where there were ~~byssal~~ patches of byssal threads attached to the rock, but no mussels, ~~none~~
6. Skeleton and some fur of a dead seal were observed near high tide line. No oil was observed

SEGMENT: CU-18
SUBDIVISION: A-1 of 1

● (WEST PART)

CU-



● XXX Wide

//// Medium

--- Narrow

TTTT Very Light

CU-18

ADEC Segment Length: 2901m



Map Key: PWS-125a

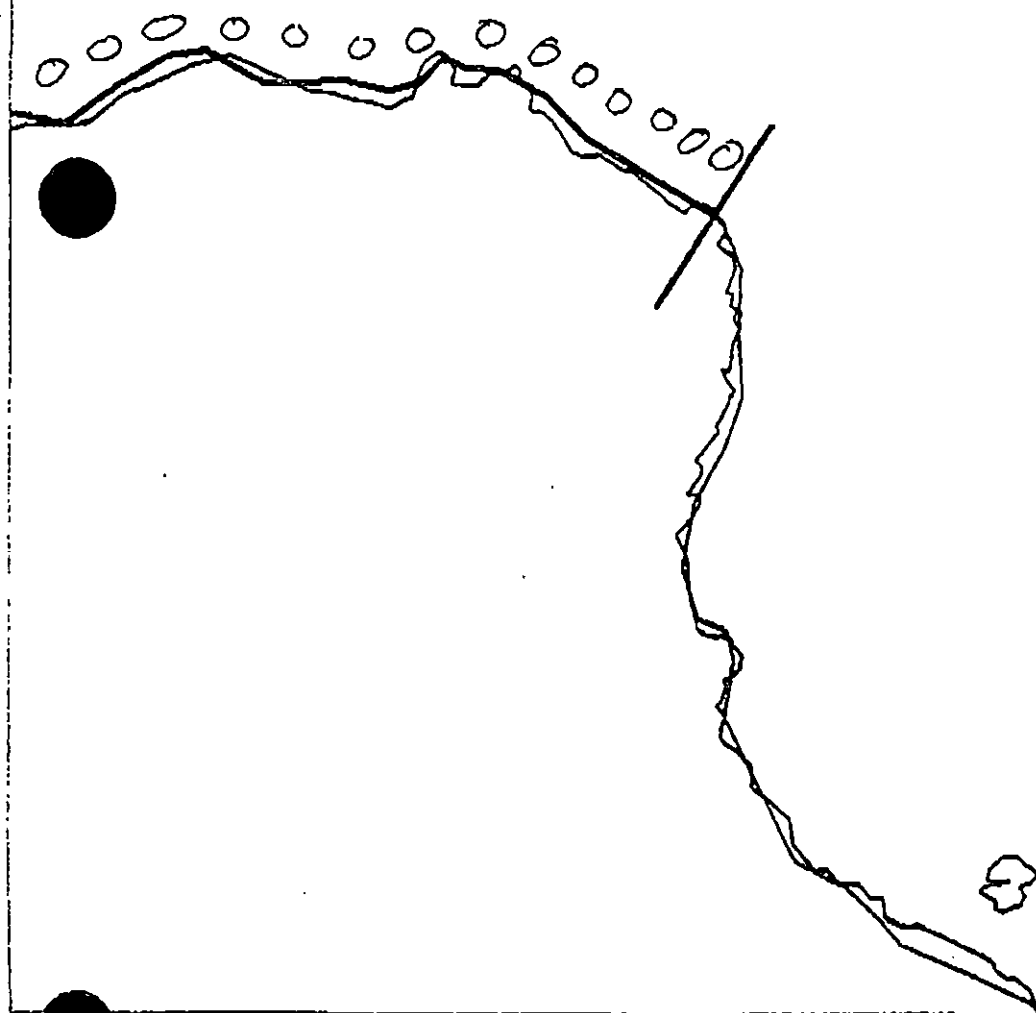
Name: GILLIE

Date: 4-2-90

SEGMENT : CU-18

SUBDIVISION : A-1 of 1

(EAST PART)



XXX Wide

//// Medium

--- Narrow

TTTT Very Light

CU-18

ADEC Segment Length: 2901m

Map Key: PWS-125b

Name: GILUE

Date: 4-2-90

SHORELINE EVALUATION

SEGMENT ST/ CU-18 SUBDIVISION A (1 OF 1) DATE 4/2/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Esther hatchery release (1D) - 4/15 to 6/1; Purse seine hook-off (1K) - 7/20 to 9/30; Active Bald Eagle nests (5T-3) - 3/1 to 6/1; Recreation anchorage (6V) - 6/1 to 9/15.

SUBDIVISION ECOLOGICAL CONSTRAINTS: (1K) and (1D) Contact ADF&G for dates, locations, constraints. (5T) Restrict air traffic to essential minimum. Air approach and take off from and to seaward only. Contact USFWS prior to treatment, for confirmation dates and avoidance minimums.

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

SHPO SIGNATURE: Chuck 3/4/90 DATE: April 14, 1990

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 2982 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 BAUER JDH

EXXON ANDY GIL AG

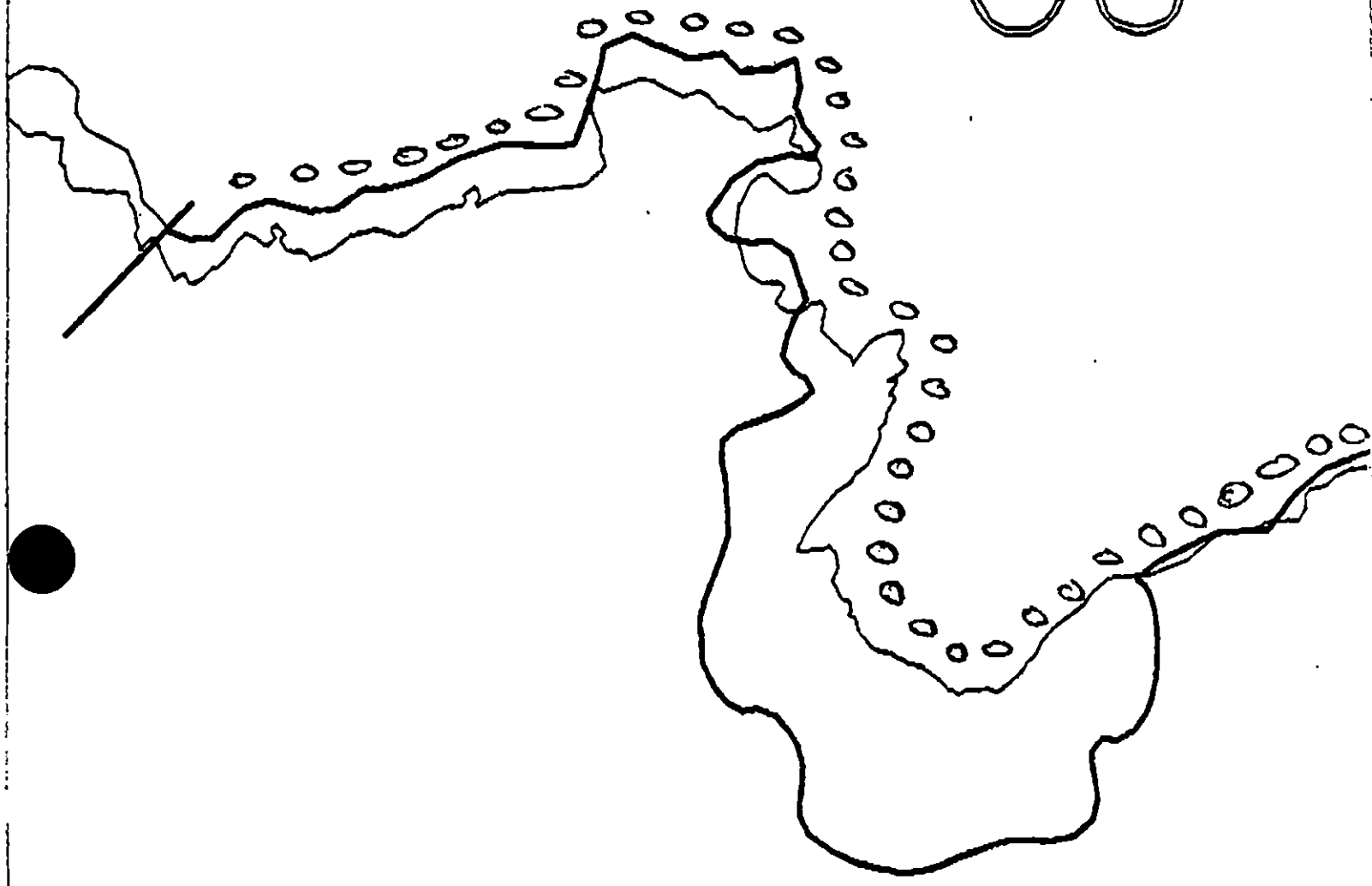
NOAA Burt Wergatz BW

USCG G.A. REITER GA

FOSC: DATE: 4-20-90

SEGMENT : CU-18
SUBDIVISION : A-10f1
(WEST PART)

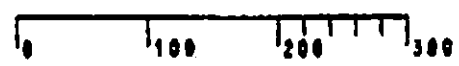
CU-18



XXX Wide
/// Medium
--- Narrow
TTTT Very Light
OOOO N : 1

CU-18

ADEC Segment Length: 2901m



Map Key: PWS-125a

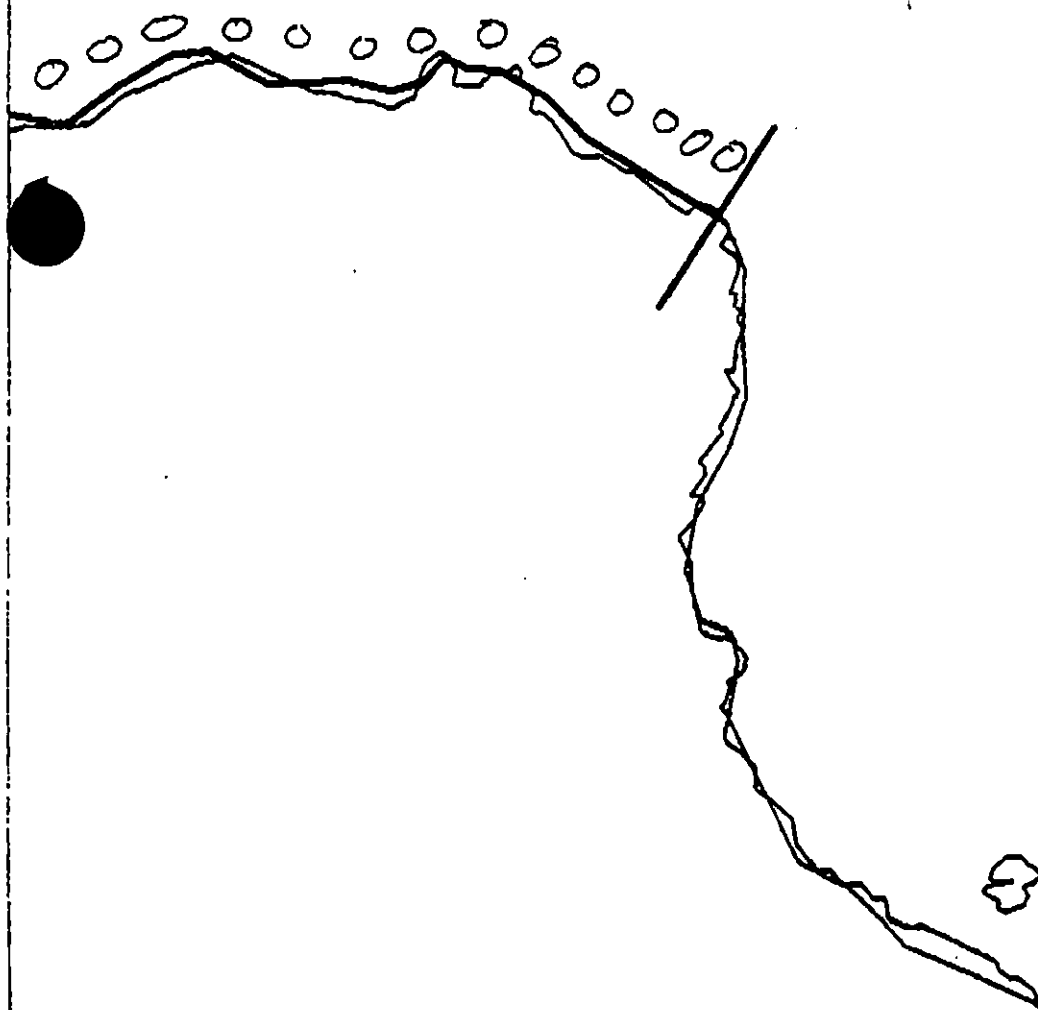
Name: GILLIE

Date: 4-2-90

Data Entered:

SEGMENT : CU-18
SUBDIVISION : A - 1 of 1

(EAST PART)



XXX Wide

/// Medium

--- Narrow

TTTT Very Light

OOO M. S. S.

CU-18

ADEC Segment Length: 2901m



Map Key: PWS-125b

Name: GILLIE

Date: 4-2-90

NAME: CU-18

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/CU-19

SUBDIVISIONS: A (1 OF 1)

SHORELINE EVALUATION

SEGMENT ST/ CU-19 SUBDIVISION A (1 OF 1) DATE 4/26/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 3993 m
Subsurface Oil Observed: Yes _____ No X Maximum Depth _____

RECOMMENDATIONS:

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

COMMENTS: _____

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

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

WATER QUALITY COMMENT SHEET

SEGMENT ST / CU-19 SUBDIVISION: A DATE 4-26-90SCG
NAME M.J. SHARRK SIGNATURE [Signature]☒ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTEDADEC
NAME STEPHEN FERGUSON SIGNATURE [Signature]☒ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTEDONE MUSSE BALL WAS OBSERVED (REMOVED)LAND MANAGER
NAME Leigh Carlson SIGNATURE Leigh Carlson ADNR☒ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTEDListed as priority 1 by PWSCA. Area used for recreation.

SHORELINE OILING SUMMARY

REVISION NO. 06/12/88

OG K. Ramsey USCG R. Sharpe SEGMENT ST/ CU-19
 BIO G. Penn LAND REP L. Carlson SUBDIVISION A (1 OF 1)
 EXXON S. Reid ADEC S. Ferguson TIME 7:40 to 11:30
 TEAM NO. 4 TIDE LEVEL -3 to +1 DATE 4/26/90
 EST. SUBDIVISION LENGTH: 4207 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: N to S
 SURFACE SEDIMENTS: R 40 % B 25 % C 15 % P 10 % G 5 % S 0 % M 0 % V 0 %
 SLOPE: Long 5 % Hang 55 % Vert 40 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 0 m NO 4207 m

SURFACE OIL

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

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

OILED DEBRIS	AMOUNT		
	S	M	L
Logs			
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐TYPE Pom Pom#BAGS 1

Photographs:

Roll No. Frames

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SHEEN (Y/N)	▼	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UG	UG	1	2	3	4	5	SU	U	M	L				
1	25					X	-	-	X							X			N	N	23	G
2	30					X	-	-	X							X			N	N	26	P, G
							.	.														
							.	.														
							.	.														
							.	.														

COMMENTS

This segment consisted of vertical rocky headland in boulder & cobble + gravel pocket beaches. There were 2 tar balls found in in the southern end of the segment + were picked up. Otherwise, no oil observed.

REVIEWED MF DATE 4-27-90

OG Komsey
 SEGMENT ST/ CU-19
 SUBDIVISION A
 DATE 4/26/90

SKETCH MAP

CHECKLIST

☒ N Arrow
☒ Approx. Scale
☒ Spot/Sub Backy
☒ Oil Dist
☒ Width
☒ Length
☒ % Cover
☒ Substrate Character
☒ Est. H/W/L/V/L
☒ SS
☒ Profile Location(s)
☒ Profile(s)
☒ Pit Location(s)
☒ Photo Location(s)

LEGEND

1 Δ
 PR - No Subsurface Oil

2 Δ
 PR - Subsurface Oil

$\boxed{CT/C}$
 Continuous Distribution

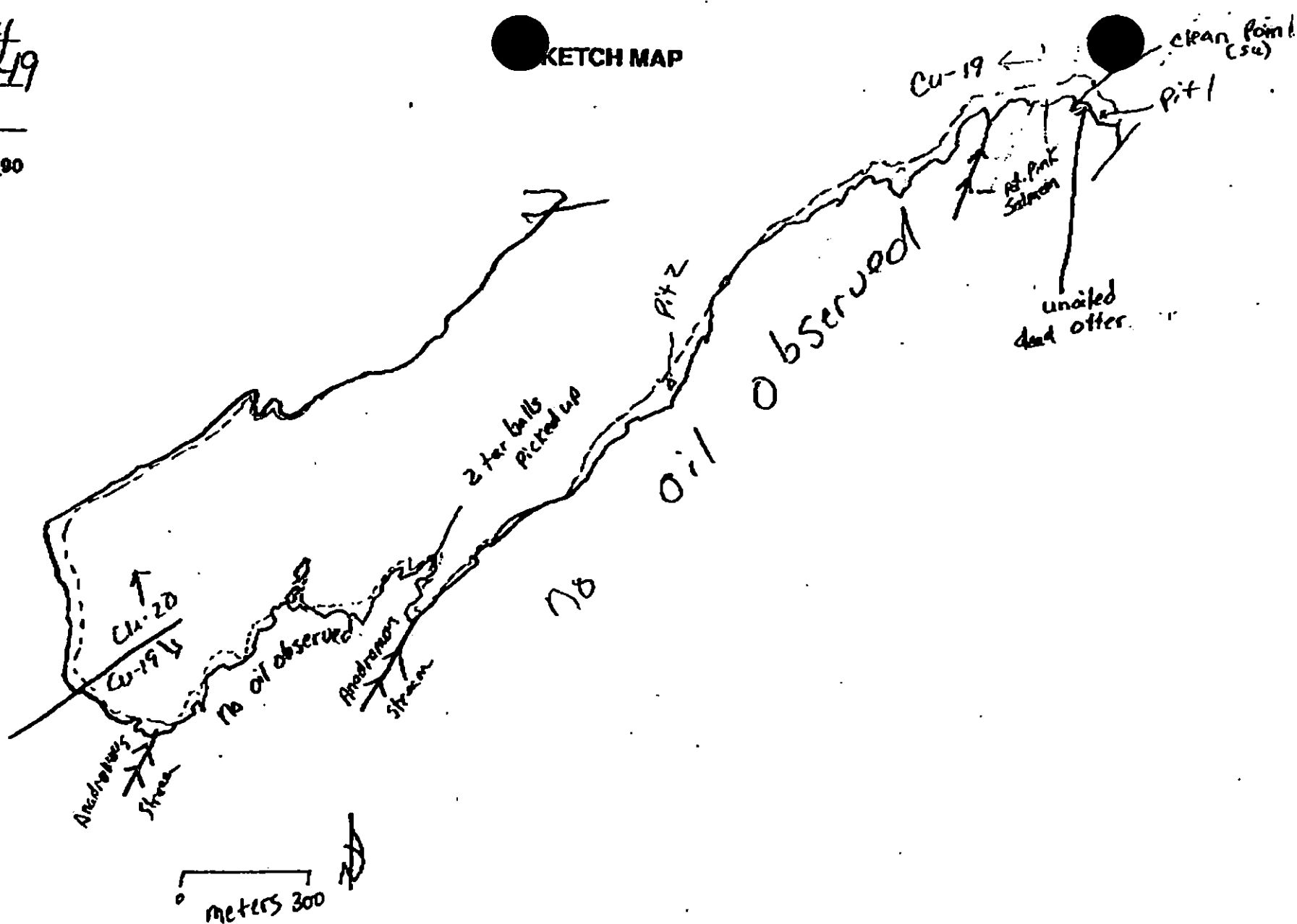
$\boxed{CT/B}$
 Broken Distribution

$\boxed{CT/P}$
 Patchy Distribution

$\boxed{CT/S}$
 Splashed Distribution

$\bullet \rightarrow$
 Oil Vegetation

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



Oil Character Length (m): AP 0 PO 0 CV 0 CT 0 ST 0 MS 0 PT 0 TB 0 FL 0 NO 4207

SHORELINE ECOLOGICAL SUMMARY

REVISION: 000000

Segment ST CU-19 Subdivision A Date (mo / day / yr) 04/26/90

Time (24 hr) 0740 Biologist Penz

- (A) Substrate type and % of segments:
 (1) Bedrock 40 (2) Boulder 25 (3) Cobble 15 (4) Pebble 15 (5) Sand 0 (6) Silt 0
- (B) Overall % cover of biota (% of segment): Dense 10 Moderate 15 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-4-2
 Roll No. 29-36

Frames 29-36

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

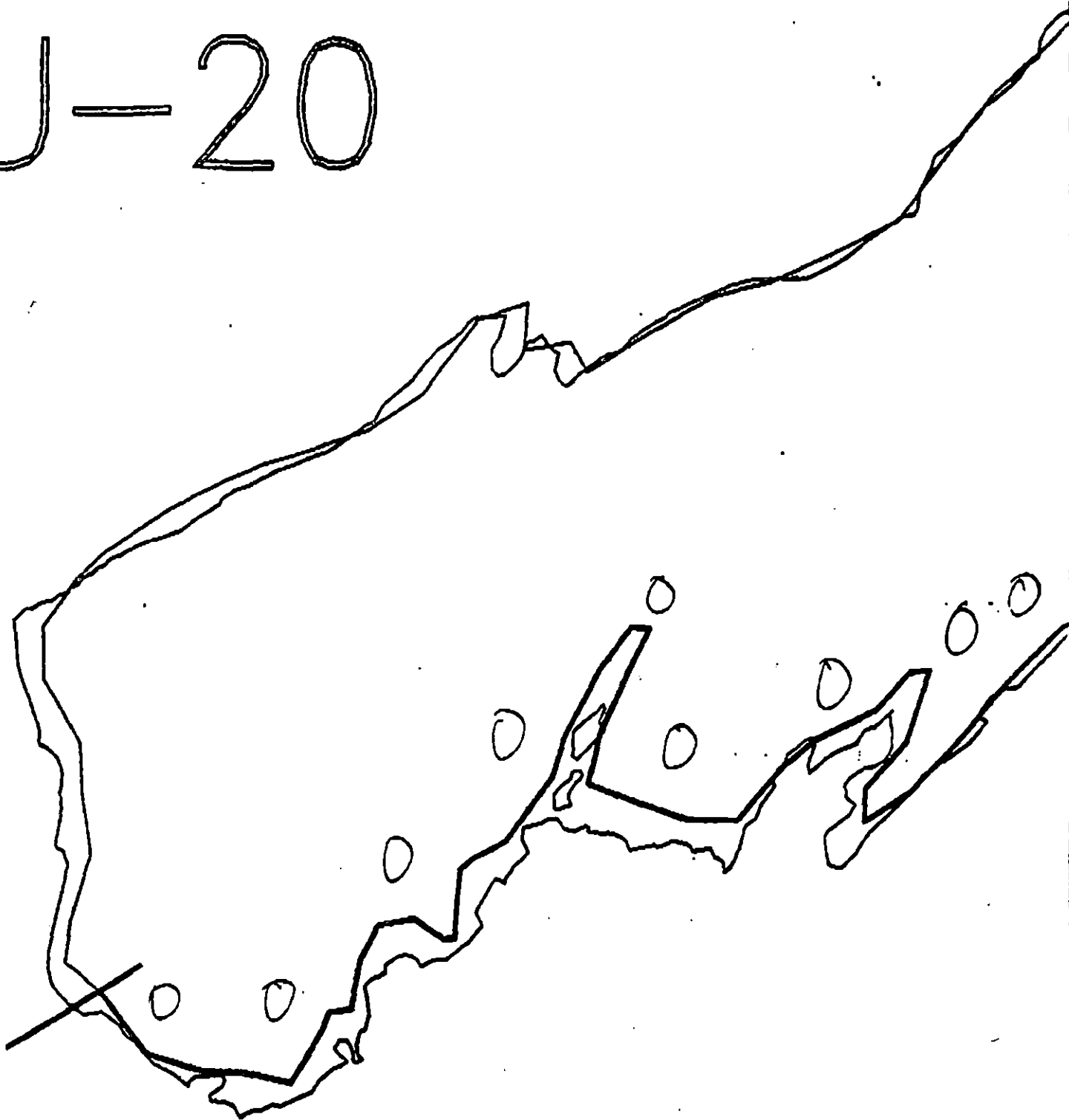
NOT PRESENT

Wildlife Observations/ General Comments:

1 Dead otter - Hitz
 1 River otter
 1 immature eagle
 1 eagle
 6 Harlequin

Ecological Considerations:

CU-20

PWS
778 →

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

CU-19

ADEC Segment Length: 3992m

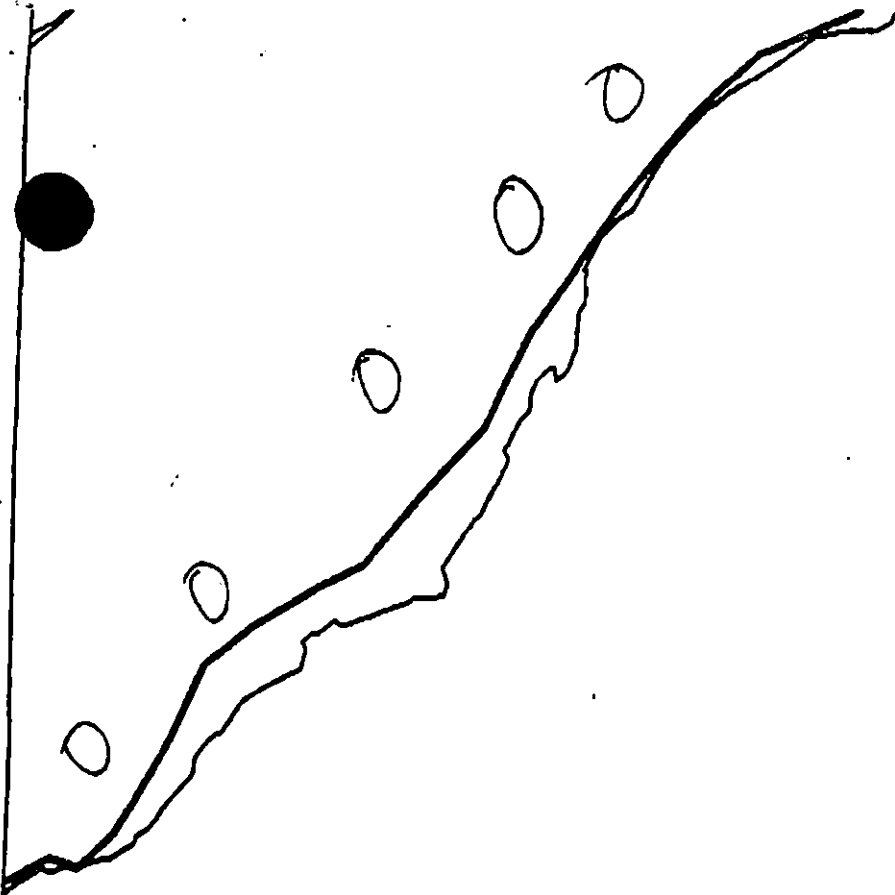
0 100 200 300

Map Key: PWS-77c

Name: K. RAMSEYDate: 4/26/90

Data Entered:

↑ PWS 77E



● CU-19

← PWS 77A

XXXX Wide

● // Medium

---- Narrow

TTTT Very Light

0000 No Oil

CU-19

ADEC Segment Length: 3992m



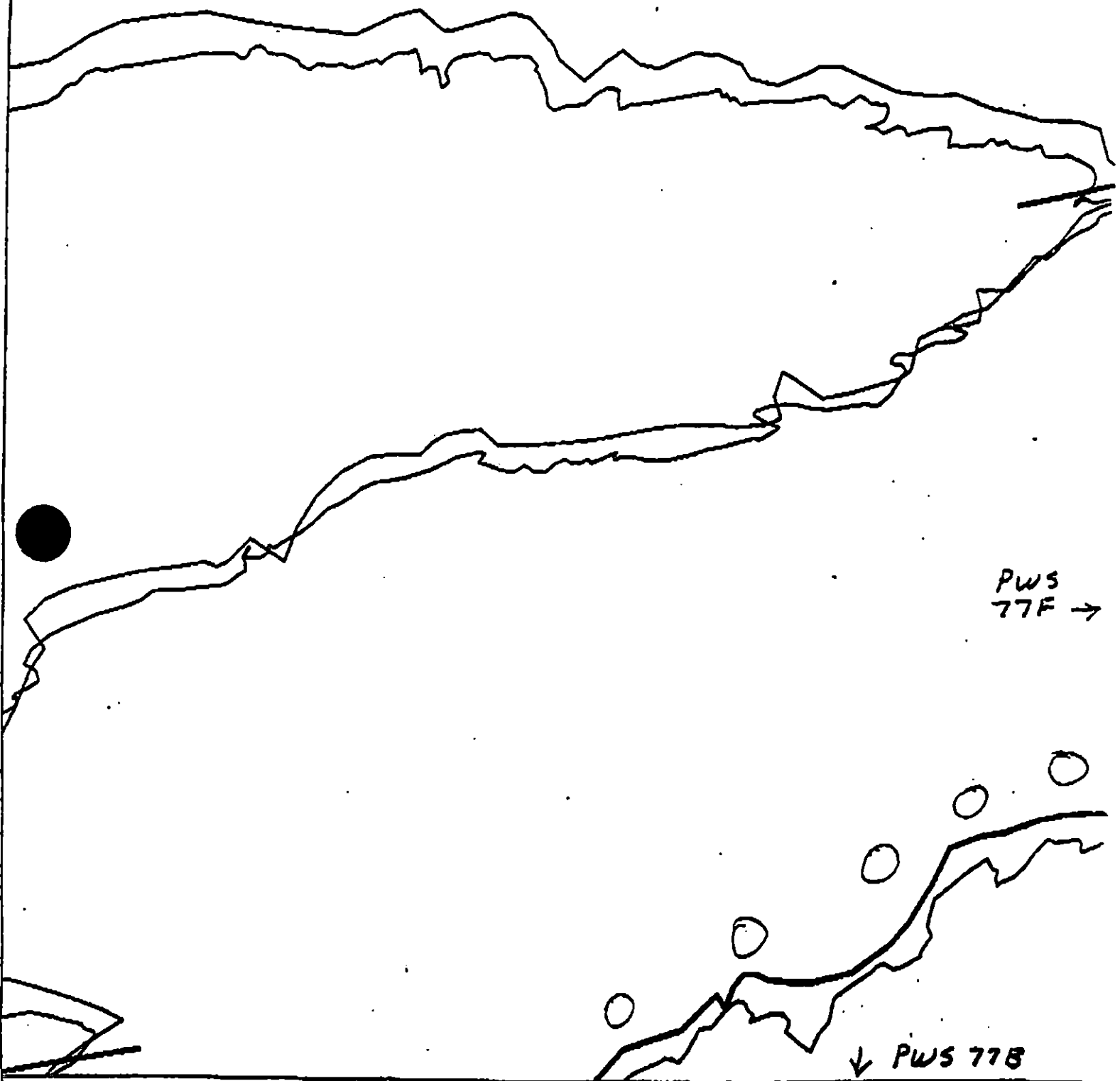
Map Key: PWS-77b

Name: K. Ramsey

Date: 4/26/90

Data Entered:





XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

CU-19

ADEC Segment Length: 3992m



Map Key: PWS-770

Name: K. Ramsey

Date: 4/26/90

Date Entered:

PWS 77E

CU-

XXXX Wide

// Medium

---- Narrow ADEC Segment Length: 3992m

TTTT Very Light

0000 No Oil

CU-19


METERS

Map Key: PWS-77E

Name: K. RamseyDate: 4/26/90

Date Entered:

SHORELINE EVALUATION

SEGMENT ST/ CU-19 SUBDIVISION A (1 OF 1) DATE 4/26/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO SIGNATURE: *J. Daniel McManus*

DATE: 5/9/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 3993 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: 5/9/90.

ADEC *Art Wacker Art Wacker*

EXXON *Andy TGAZ Seal*

NOAA *Burl Wescott Burl Wescott*

USCG *D.D. Rome DD Rome*

FOSC: *ny L*

DATE: 5-12-90

OG Ramsey
SEGMENT ST/ CU-49

SUBDIVISION A

DATE 4/26/90

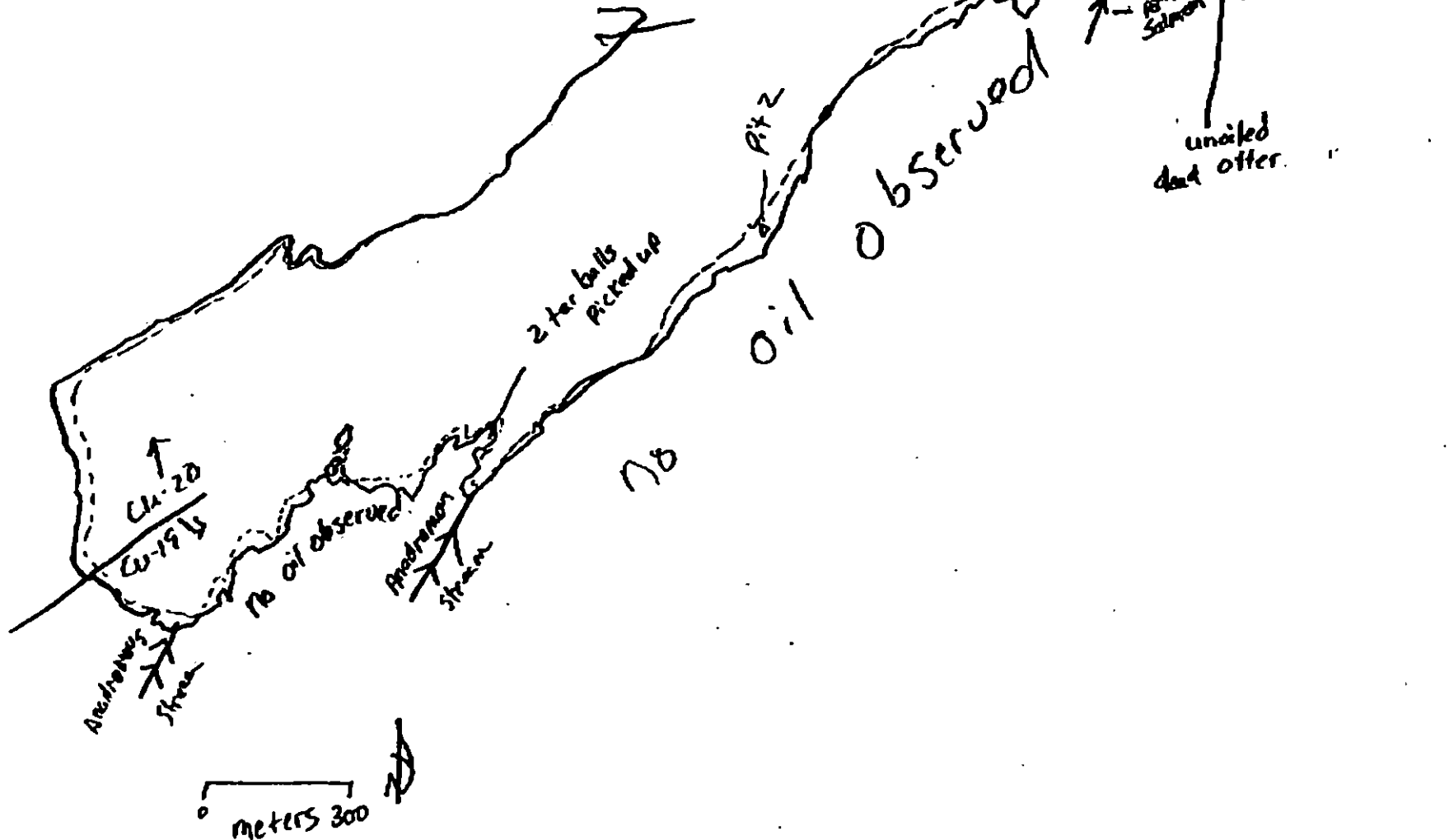
CHECKLIST

- ☒ N Arrow
- ☒ Approx. Scale
- ☒ Spot/Sub Body
- ☒ Oil Dist
- ☒ Width
- ☒ Length
- ☒ % Cover
- ☒ Substrate Character
- ☒ Est. HW/LA/WL
- ☒ SSI
- ☒ Profile Location(s)
- ☒ Profile(s)
- ☒ Pit Location(s)
- ☒ Photo Location(s)

LEGEND

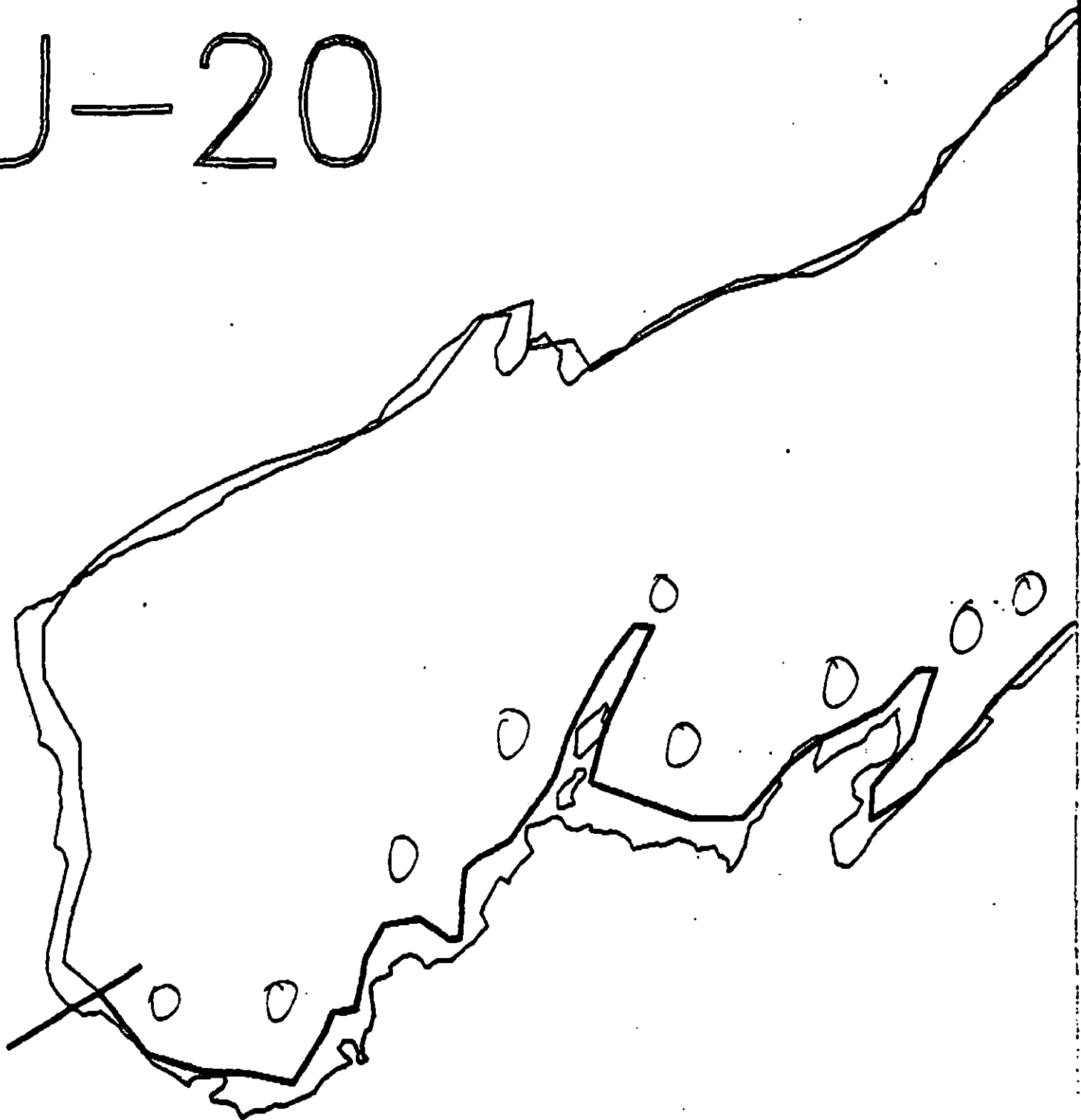
- 1 Δ
- PR - No Subsurface Oil
- 2 Δ
- Pit - Subsurface Oil
- CT/C
- Continuous Distribution
- CT/B
- Broken Distribution
- CT/P
- Patchy Distribution
- CT/S
- Splashed Distribution
- Oil Vegetation
- 1 ↔
- Photo location, direction, and number

SKETCH MAP



Oil Character Length (m): AP PO CV CT ST MS PT TB FL NO 4207

CU-20



PWS
778 →

XXXX Wide

/// Medium

-- Narrow

TTTT Very Light

0000 No Oil

CU-19

ADEC Segment Length: 3992m



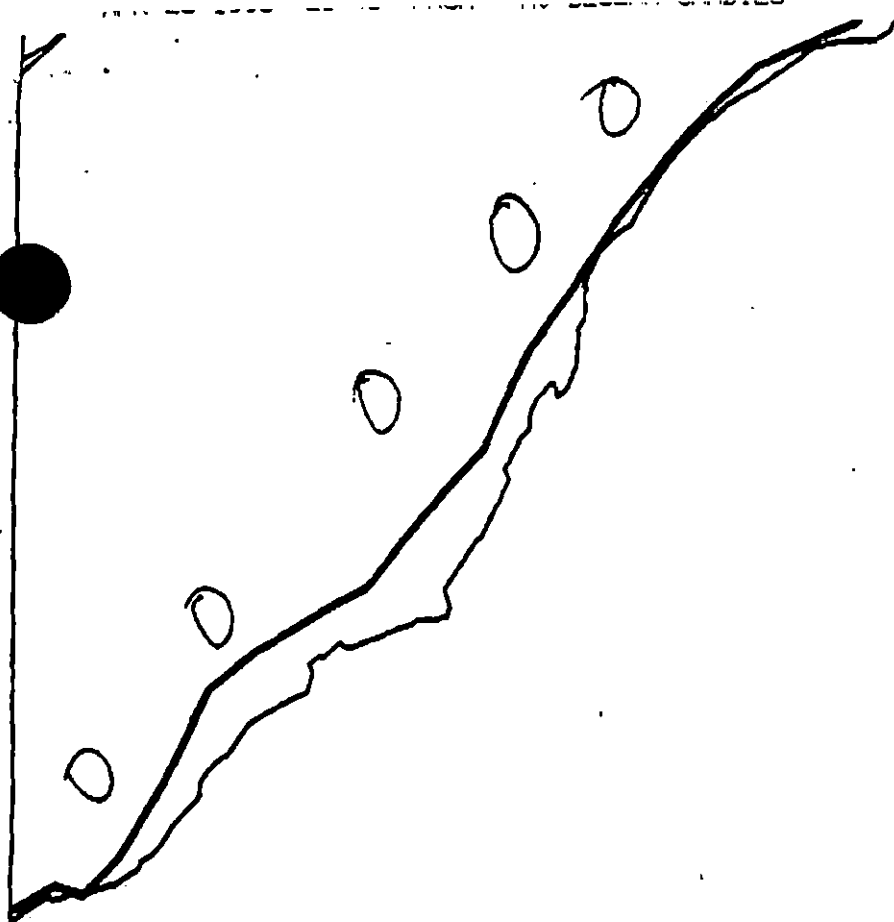
Map Key: PWS-770

Name: K. RAMSEY

Date: 4/26/90

Date Entered:

↑ PWS 77E



CU-19

← PWS 77A

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

CU-19

ADEC Segment Length: 3992m

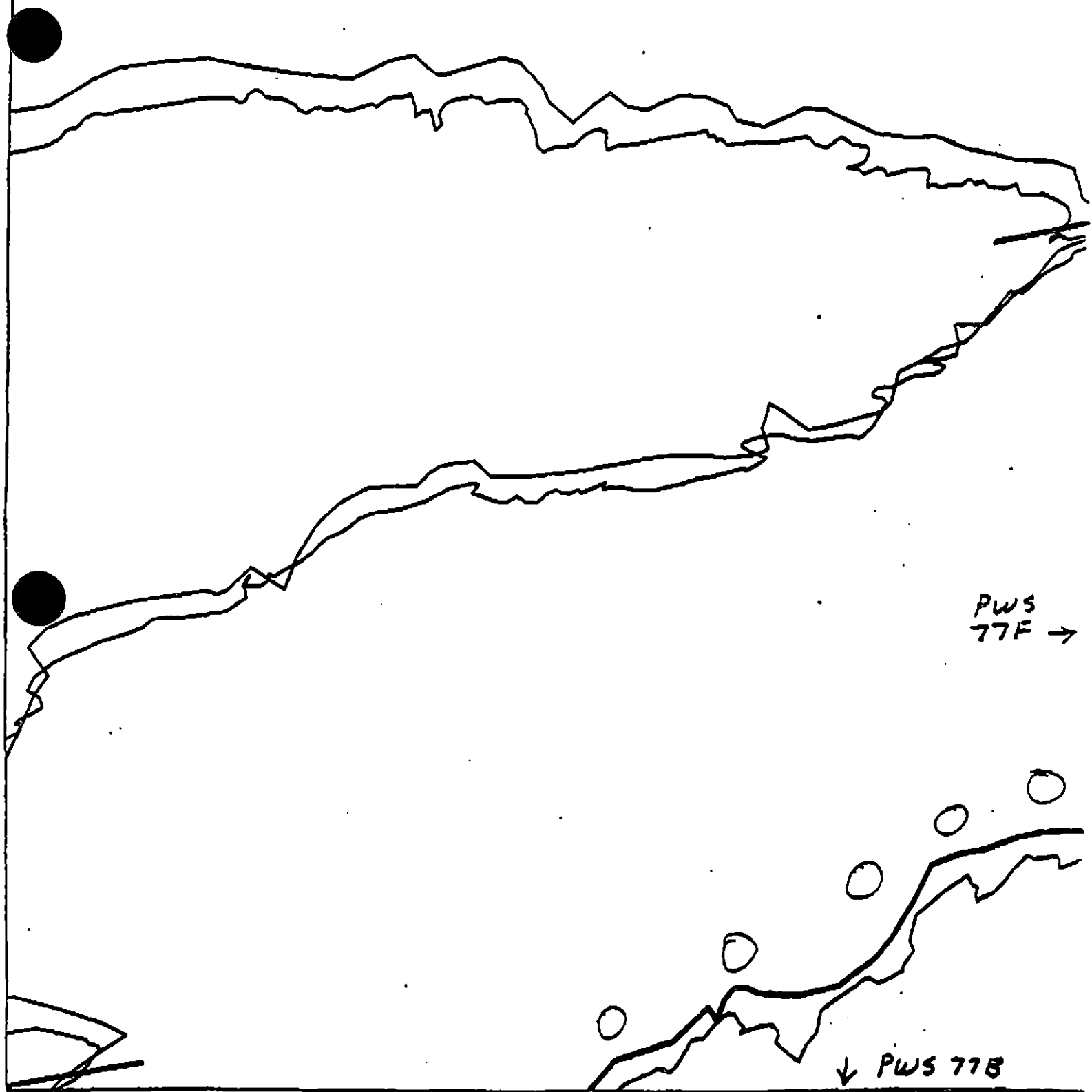


Map Key: PWS-77b

Name: K. Ramsey

Date: 4/26/90

Data Entered:



PWS 77F →

↓ PWS 77B

CU-19

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

ADEC Segment Length: 3992m



METERS



Map Key: PWS-770

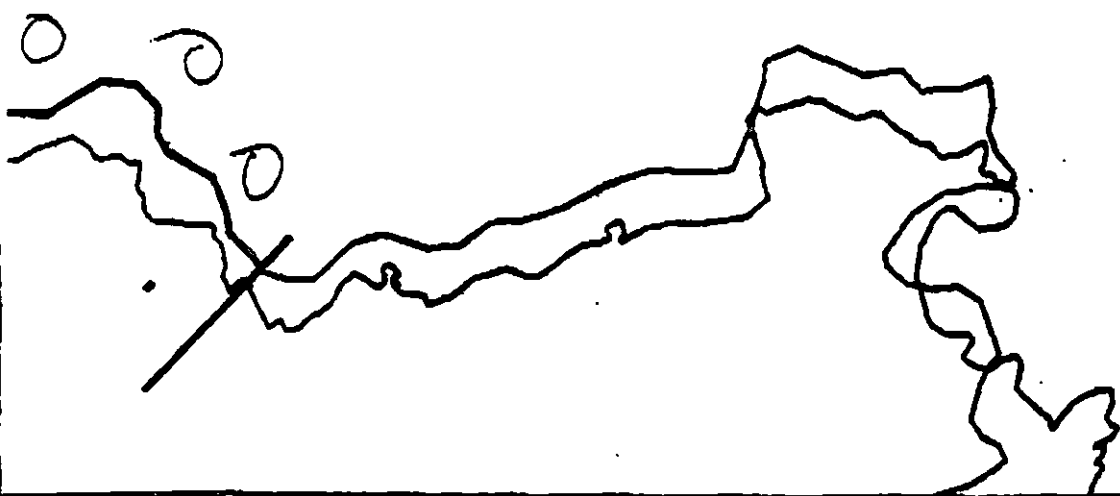
Name: K. Ramsey

Date: 4/26/90

Date Entered:

PWS 77E

CU-



XXXX Wide

CU-19

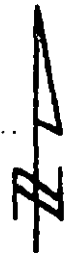
/// Medium

-- Narrow

TTTT Very Light

0000 No Oil

ADEC Segment Length: 3992m



Map Key: PWS-77f

Name: K. Ramsey

Date: 4/26/90

Date Entered:

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/CU-20

SUBDIVISIONS: A (1 OF 1)

SHORELINE EVALUATION

SEGMENT ST/ CU-20 SUBDIVISION A (1 OF 1) DATE 4/26/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 1905 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: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

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 without authorization from ADF&G. No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G. Treatment which is not intrusive and which will not affect nearshore oil or toxicity levels, such as manual removal, can probably proceed without adherence to time constraints. In any case, contact ADF&G Habitat Division prior to treatment for consultation and/or permit application.
 AGENCY CONTACT PERSON: ADF&G John Morison 267-2324
- 1C Salmon fry nursery area (4/31 to 7/31)
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to July 31 unless authorized by ADF&G. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G prior to treatment for confirmation and advice.
 AGENCY CONTACT PERSON: ADF&G Larry Peltz 424-3214
- 1D Esther Hatchery release (4/15 to 6/15)
 1E Main Bay Hatchery release (4/20 to 6/15)
 1F Sawmill Bay Hatchery release (4/15 to 6/1)
 1G Cannery Creek Hatchery release (4/21 to 6/1)
 1H Remote release site
 No use of methods which might affect nearshore oil or toxicity levels, such as hot water wash or Inipol application, prior to at least July 1 unless authorized by ADF&G and/or PWS Aquaculture Association. Treatment which will not affect nearshore oil or toxicity levels, such as manual or mechanical removal, can probably proceed without adherence to time constraints. Contact ADF&G or PWS Aquaculture Association for confirmation and authorization.
 AGENCY CONTACT PERSON: 1E ADF&G Larry Peltz 424-3214
 1D 1F 1G PWS Aquaculture Association John McMillan or Bruce Suzumoto 424-7511
- 1I Gill net area (8/7 to 8/31)
 1J Purse seine area (7/20 to 9/30)
 1K Purse seine hook-off (7/20 to 9/30)
 1L Set net sites (8/11 to 7/25)
 Contact ADF&G for specific dates, locations and constraints. Restrict boat and air traffic to essential minimum. When set net sites are present (1L) restrict beach operations to essential minimum as authorized by ADF&G. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
 AGENCY CONTACT PERSON: ADF&G James Brady 424-3212
- 2M Herring spawning (4/1 to 6/15)
 Contact ADF&G for confirmation - dates and locations may vary. Restrict boat traffic to essential minimum. Avoid damage to unrolled intertidal and subtidal algae and seagrass. If plans for treatment include methods such as hot water wash or Inipol application which might affect nearshore oil or toxicity levels, contact ADF&G for consultation and authorization.
 AGENCY CONTACT PERSON: ADF&G Evelyn Biggs 424-3235
- 3N, 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 Roth 267-2206
- 5T All Bald Eagle nests (3/1 to 6/1)
 Active Bald Eagle nests (3/1 to 9/1)
 Restrict air traffic and all disturbance to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
 AGENCY CONTACT PERSON: USFWS Jill Parker 786-3377
- 6U Recreation: Tent sites (5/1 to 9/15)
 6V Anchorages (5/1 to 9/15)
 6W Forest Service cabins (5/1 to 9/15)
 6X Lodge (5/1 to 9/15)
 6Y Special use destination
- 7Z Subistence area: Salmon harvesting (5/1 to 9/30)
 7H 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

SEGMENT ST / CU-020 SUBDIVISION: A DATE 4/26/90

NAME SCOTT RAMSFOED SIGNATURE Scott Ramsford MSTI

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

ADEC NAME Lori J. Stettin SIGNATURE Lori J. Stettin

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

at had pebble/granule clean-swept 10' beach and shoreline with angular slate cobbles, and occasional moderate angle boulder shoreline, all with very low energy exposure. We walked 95% of the segment.
No oil was observed; no cleanup recommended.

LAND MANAGER NAME U.S. Forest Service SIGNATURE Leo Tucker

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

No oil found

SHORELINE OILING SUMMARY

REVISION NO. 000000

OG G. MCDONALD USCG S. RAINSFORD SEGMENT ST/ CU-20
 BIO MA: SCOT LAND REP L. KESLER SUBDIVISION A (1 OF 1)
 EXXON J. BUTLER ADEC LORI STRATTON TIME 07:45 0000:10
 TEAM NO. 5 TIDE LEVEL -2.2 to -3.0 FT DATE 4/26/90
 EST. SUBDIVISION LENGTH: 1.950 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☐ Boat ☐ Helo WORKING DIRECTION: SW to NNE
 SURFACE SEDIMENTS: R 20 % S 30 % C 30 % P 9 % G 9 % B 1 % M 1 % V — %
 SLOPE: Long 65 % Hang 30 % Vert 5 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W — m M — m N — m VL — m NO 1.950 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR				IMPACTED ZONES			
	N	S	E	W	1	2	3	4	SW	SE	NE	NW
ASPHALT PAVEMENT												
POOLED												
COVER												
COAT												
STAIN												
MOUSSE												
PATTIES												
TARBALLS												
FILM												
NO OIL									X	X	X	X

PAVEMENT H F S — sq. m by — cm

PATTIES / TARBALLS — BAGS

NEAR SHORE SHEEN? ☒ NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☐ NO ☒

TYPE 0

#BAGS 0

Photographs:

Roll No. —

Frames —

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED CENTRAL	BELOW		OIL / FILM COLOR				PIT ZONE				A N A	DND	V	SURFACE SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		NO	NO	1	2	3	4	SW	SE	NE	NW				
1	45					X	—							X							PSO
2	30					X	—							X							SGP
3	33					X	—								X						PG
4	35					X	—									X				32	PG

COMMENTS Sheltered bay w/ moderate LCB shore and low PG beach @ head of the bay. No oil. Conspicuously clean and free of debris and driftwood. Recent submergence as evidenced by drowned tree stumps & dead trees @ H. water level.

REVIEWED YH

DATE 4-27-90

OG G. MACDONALD

SKETCH MAP

SEGMENT U-20

SUBDIVISION A

DATE 4/26/90

CHECKLIST

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

LEGEND

1 Δ

PT - No Subsurface Oil

2 Δ

PT - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

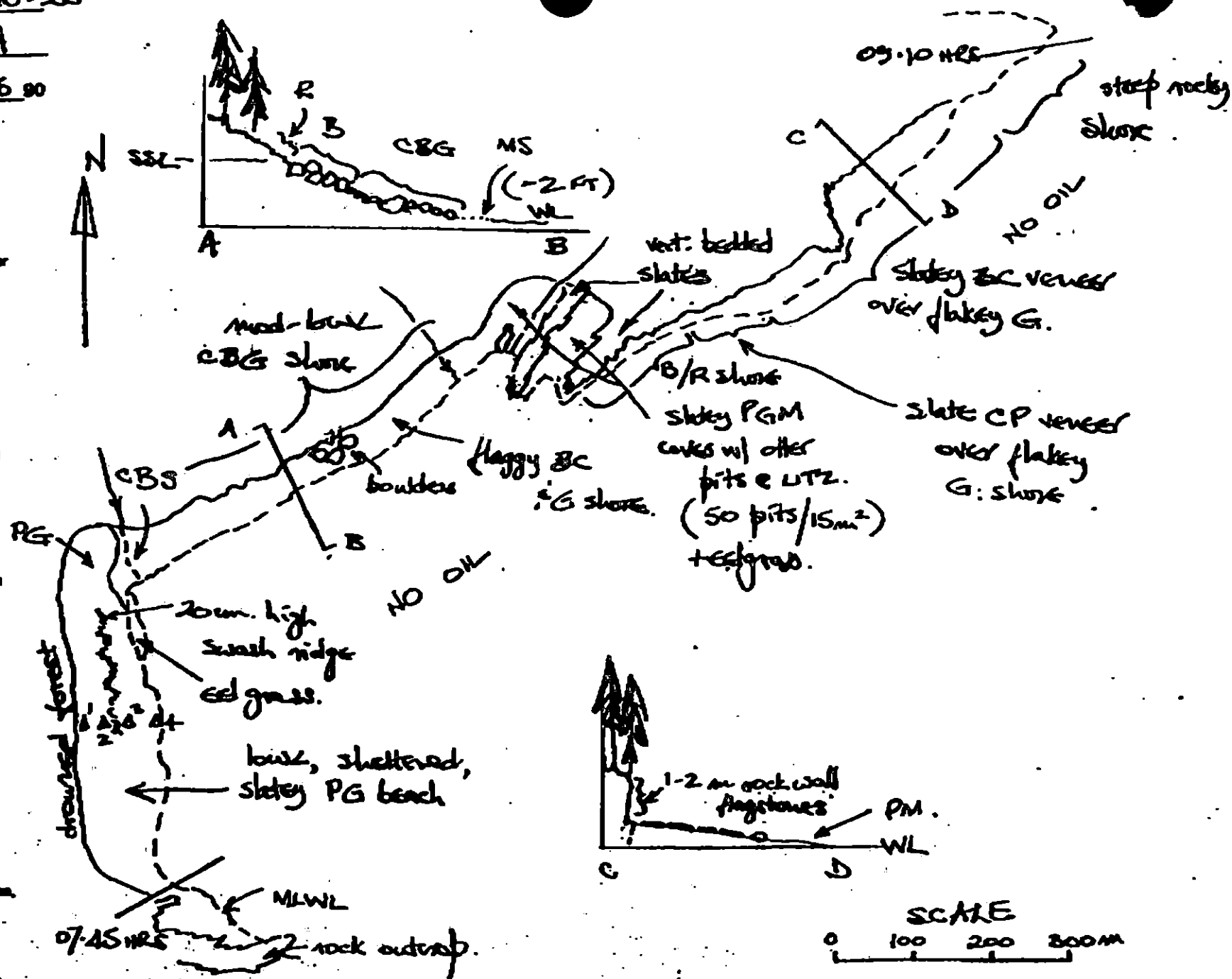
CT/S

Splashed Distribution

Old Vegetation

•••

Photo location, direction, and number



Oil Character Length (m): AP — PO — CV — CT — BT — MS — PT — TB — FL — NO 1950

REVISION 001/90

SHORELINE ECOLOGICAL SUMMARY

REVISION: 000290

Segment ST/ LU-20 Subdivision A Date (mo / day / yr) 4/24/90

Time (24 hr) 7:45-9:15 Biologist M.A. Scott

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

(B) Overall % cover of biota (% of segment): Dense 25 Moderate 20 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. 8

Frames 8

BARNACLES

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

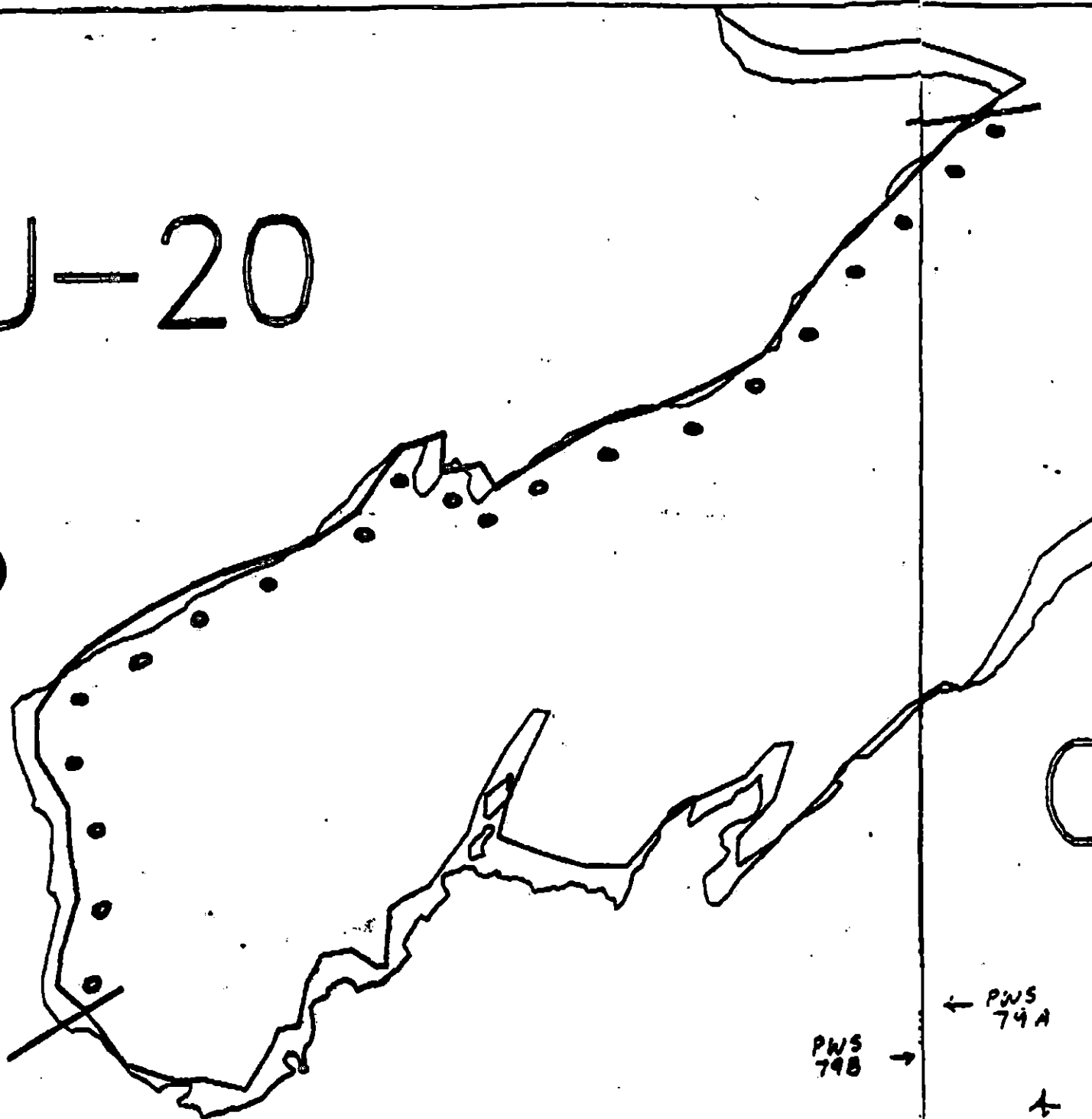
Wildlife Observations/ General Comments:

1. steller jay
2. golden eyes
3. ducks
western part - typical of river bay - low bird density and diversity; eastern part had moderate density & diversity becoming more typical of more exposed areas

Ecological Considerations:

Eastern beds, dense in western (lower) part of segment - subtidal to LTB
salmon fry observed near shore

U-20



XXX Wide
 /// Medium
 - Narrow ADEC Segment Length: 1903m
 TTT Very Light
 0000 No Oil

CU-20

100 200 300
 METERS

Map Key: PWS-79a

Name: A.M.Date: 4.26.90

Data Entered:

XXXX Wi
 /// Me
 --- No
 TTTT Ve
 0000 No

SHORELINE EVALUATION

SEGMENT ST/ CU-20 SUBDIVISION A (1 OF 1) DATE 4/26/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO SIGNATURE: J. Paul McMan DATE: 5/9/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 1905 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS:

TAG COMMENTS:

TAG APPROVAL DATE: 5/9/90
ADEC Art Wernke
EXXON Andy Galt
NOAA Burt Wescott
USCG D.D. Rome

FOSC: W L DATE: 5-12-90

OG G. MACDONALD

SEGMENT CU-20

SUBDIVISION A

DATE 4 / 26 80

CHECKLIST

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

LEGEND

1 Δ
 Pt - No Subsurface Oil

2 Δ
 Pt - Subsurface Oil
 CT/C
 Continuous Distribution

CT/D
 Broken Distribution

CT/P
 Patchy Distribution

CT/S
 Streaked Distribution

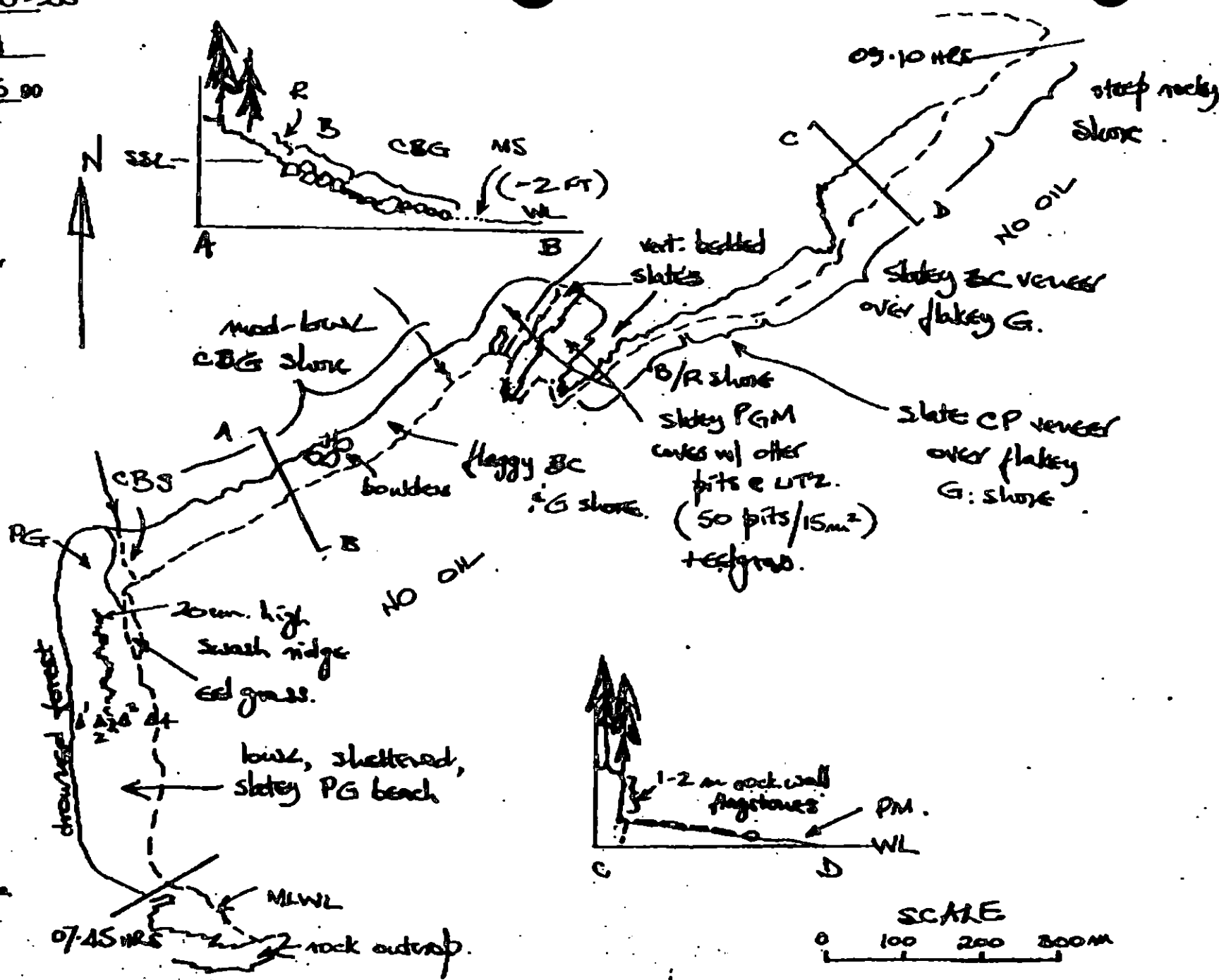
Cloud Vegetation

1 or
 Photo location, direction,
 and number

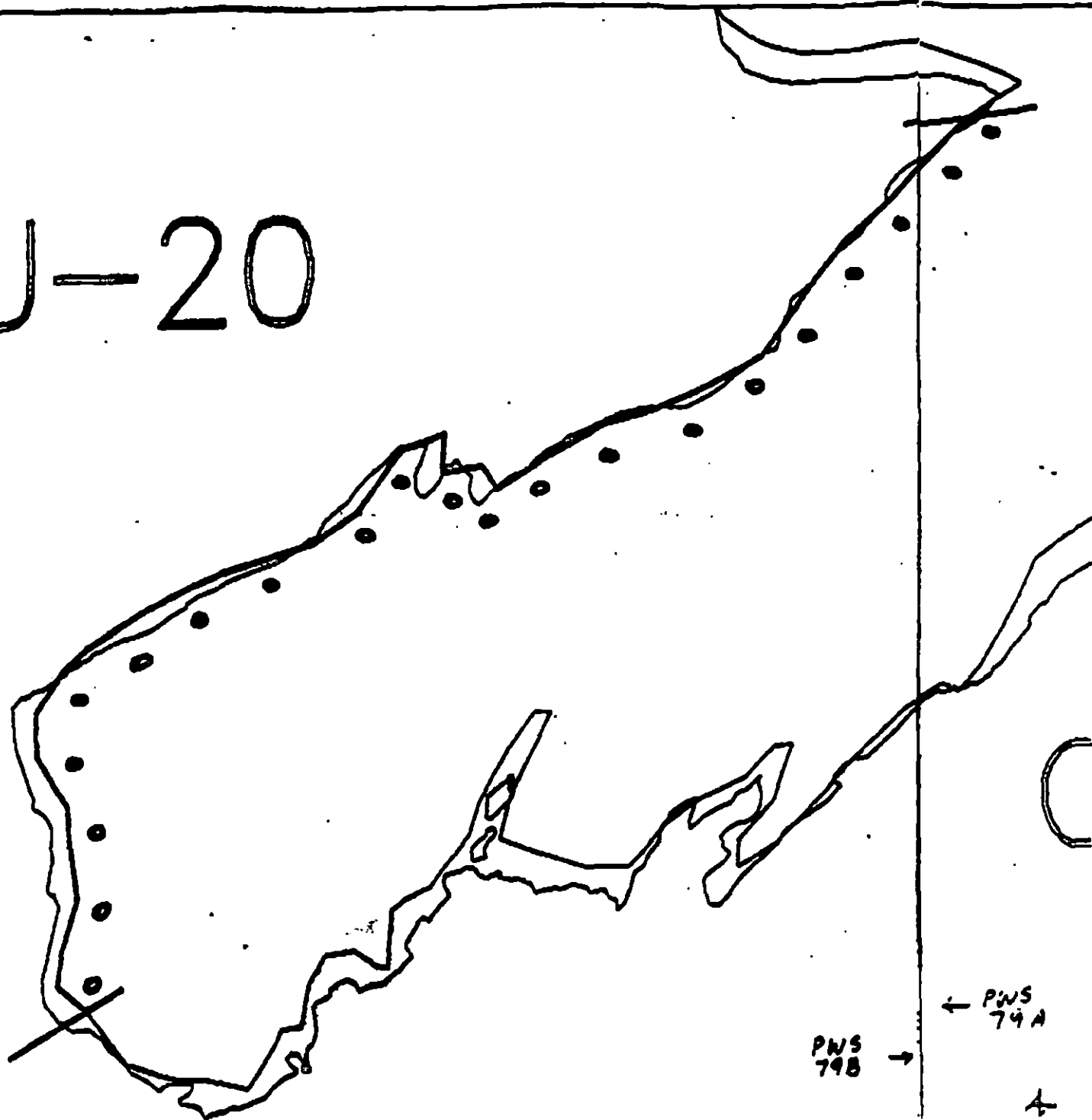
→
 Stream

Oil Character Length (m): AP — PO — CV — CT — BT — MS — PT — TB — FL — NO 1950

SKETCH MAP



U-20



XXX Wide
 /// Medium
 -- Narrow
 TT Very Light
 0000 No Oil

CU-20

ABEC Segment Length: 1903m

0 100 200 300
 METERS



Map Key: PWS-790
 Name: G.M.
 Date: 4-26-90
 Date Entered:

XXXX Wi
 /// Me
 --- No
 TTTT Ve
 0000 No

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/CU-21

SUBDIVISIONS: A (1 OF 1)

SHORELINE EVALUATION

SEGMENT ST/ CU-21 SUBDIVISION A (1 OF 1) DATE 4/26/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 2477 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: _____

ADEC _____

EXXON _____

NOAA _____

USCG _____

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

SEGMENT ST / CU-031 SUBDIVISION: A DATE 4/26/90

U.S. NAME SCOTT RAINSPAD SIGNATURE Scott Rainspad MSTI

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

ADEC NAME Lori J. Stratton SIGNATURE Lori J. Stratton

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

with a gravel/pebble flat beach (10° slope) surrounded by boulder beaches followed by moderate-angle bedrock and boulder shoreline. No oil was observed. ∴ No treatment is recommended.

LAND MANAGER NAME U.S. Forest Service SIGNATURE Rev. Keeler

☒ NO TREATMENT RECOMMENDED ☐ TREATMENT SUGGESTED
COMMENTS

No oil found

OG G. MACDONALD USCG S. RANSFORD SEGMENT ST/ Cu - 21
 BIO MA. SCOTT LAND REP L. KEELER SUBDIVISION A (1 OF 1)
 EXXON J. BURKE ADEC W. L. DEAN STRATTON TIME 9:20 to 10:15
 TEAM NO. 3 TIDE LEVEL -3.5 to -1.5 FT DATE 4/26/90
 ST. SUBDIVISION LENGTH: 2500 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☐ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: SW to NW
 SURFACE SEDIMENTS: R 70 % B 10 % C 10 % P 3 % G 5 % S 12 % M - % V - %
 SLOPE: Long 10 % Hang 70 % Vert 20 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W - m M - m N - m VL - m NO 2,500 m

SURFACE OIL

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

PAVEMENT H F S - sq. m by - cm

PATTIES / TARBALLS - BAGS

NEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐

TYPE debris polypro.

#BAGS 2

Photographs:

Roll No. -

Frames -

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SHEEN (Y/N)	V	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		NO	UC	1	2	3	4	5	SW	U	M	L				
1	25					X	---								X						-	PC
2	35					X	---									X					-	GC
3	20					X	---										X				10	GC
4	15					X	---											X			2	CBGS
							.															
							.															

COMMENTS Northern shore of Culross Bay. Sheltered bay, fringed by BC and R shore. The local shales weather to flagstone BC and PC as shales. The segment is devoid of debris of any kind. No oil at present, and none recorded ever to date.

REVIEWED YH DATE 4-27-90

SEGMENT U-21

SUBDIVISION A

DATE 4/26/90

CHECKLIST

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

LEGEND

1 Δ
PIL - No Subsurface Oil

2 Δ
PIL - Subsurface Oil

CT/C
Continuous Distribution

CT/B
Broken Distribution

CT/P
Patchy Distribution

CT/S
Splashed Distribution

Oil Vegetation

Photo location, direction, and number

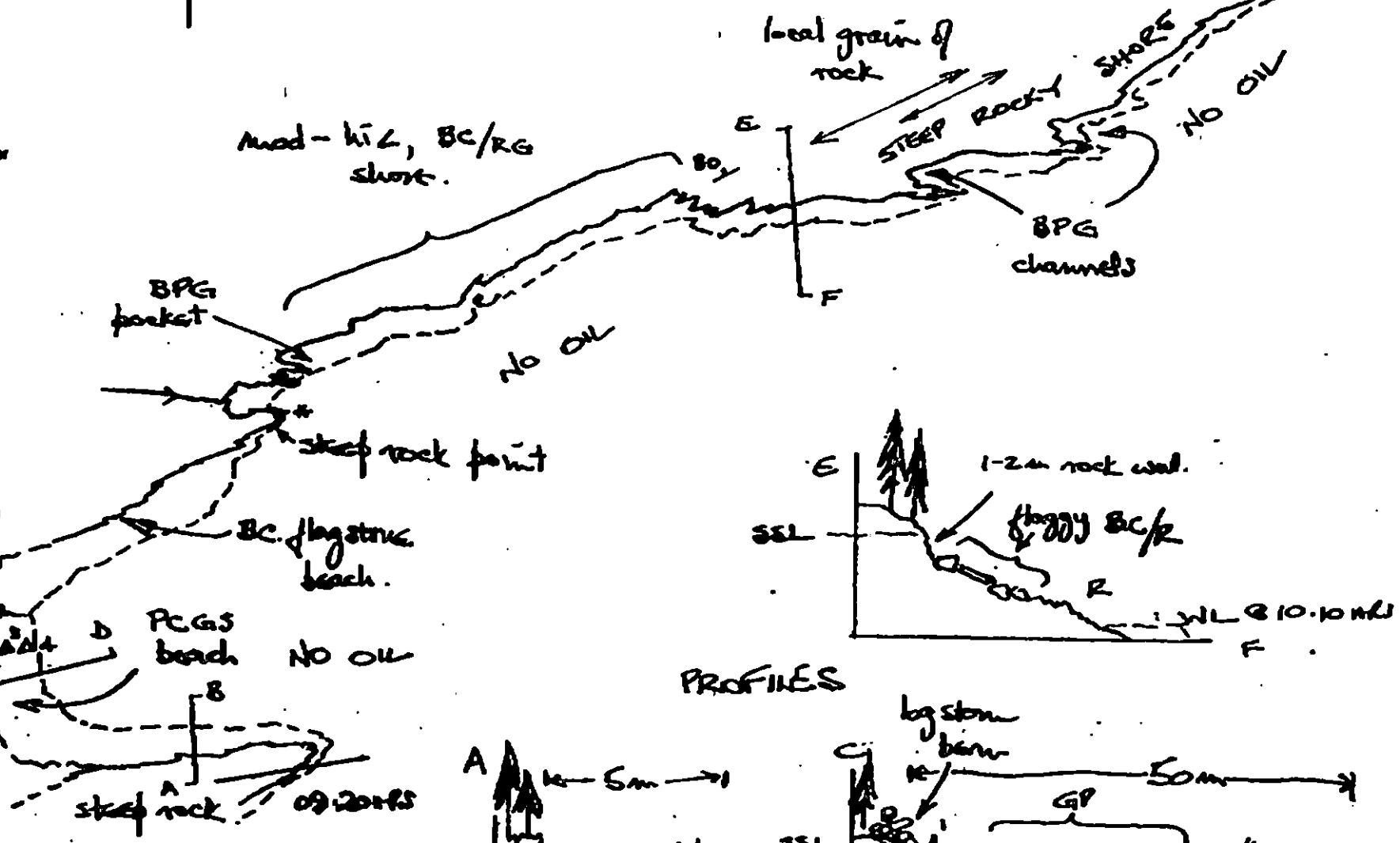
stream

SKETCH MAP

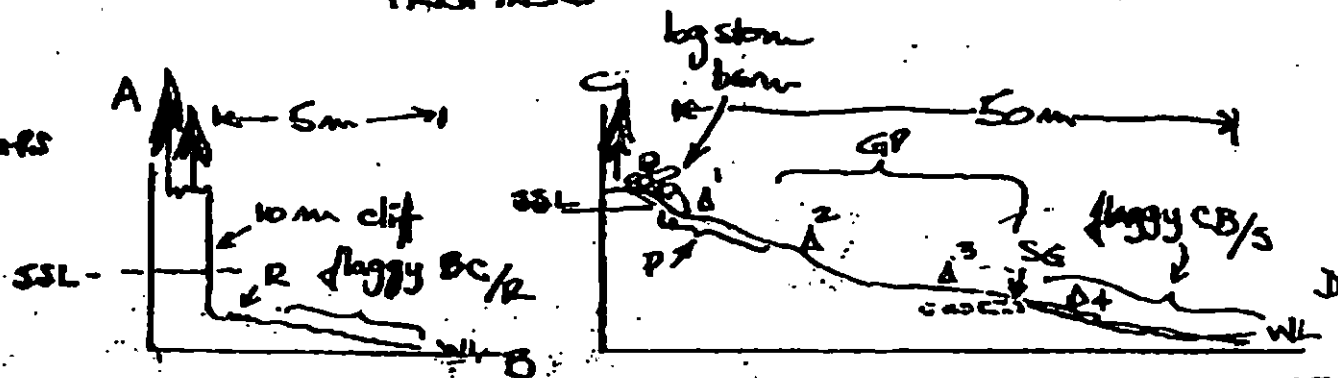


SCALE

0 100 200 300m



PROFILES



Oil Character Length (m): AP — PO — CV — CT — ST — MS — PT — TB — FL — NO 2500

REVISION 000000

SHORELINE ECOLOGICAL SUMMARY

REVISION: 09/84

Segment ST / CU-21 Subdivision A Date (mo / day / yr) 4/26/90

Time (24 hr) 020-103 Biologist M.A. Scott

(A) Substrate type and % of segments:
(1) Bedrock 70 (2) Boulder 10 (3) Cobble 15 (4) Pebble 5 (5) Sand tr (6) SM —

(B) Overall % cover of biota (% of segment): Dense 50 Moderate 20 Low 20

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

Photographs:
Roll No. Ø

Frames Ø

BARNACLES

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

MYTILUS

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

GASTROPODS

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

FUCUS

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

Wildlife Observations/ General Comments: (observations by boat)

moderate/dense, diverse community; dense algae in M7B + L7B

Ecological Considerations:

Salmon fry observed near shore

Zostera - subtidal, western part of segment

A hand-drawn map of a coastline, likely a bay or inlet. The coastline is irregular, with several points of land extending into the water. A vertical line is drawn across the map, possibly representing a boundary or a specific location. The label 'CU-21' is written in large, bold letters in the upper left quadrant. In the lower right quadrant, there are two labels: 'PWS 808' with an arrow pointing right, and 'PWS 60A' with an arrow pointing left. There are several small black dots scattered along the coastline, possibly representing specific locations or features. The map is drawn on a white background with black ink.

← PWS
EON

0000 No Oil

000 No Oil

A horizontal scale bar with markings at 0, 100, 200, and 300 meters.



SHORELINE EVALUATION

SEGMENT ST/ CU-21 SUBDIVISION A (1 OF 1) DATE 4/26/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO SIGNATURE: J. Daniel McManis

DATE: 5/9/90

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 0 m: No Oil 2477 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: 5/9/90.

ADEC Art Wenger

EXXON Andy Tera

NOAA Bar/Wassett

USCG D.D. Rome

FOSC: ML

DATE: 5-12-90

SEGMENT CU-21

SUBDIVISION A

DATE 4/26/90

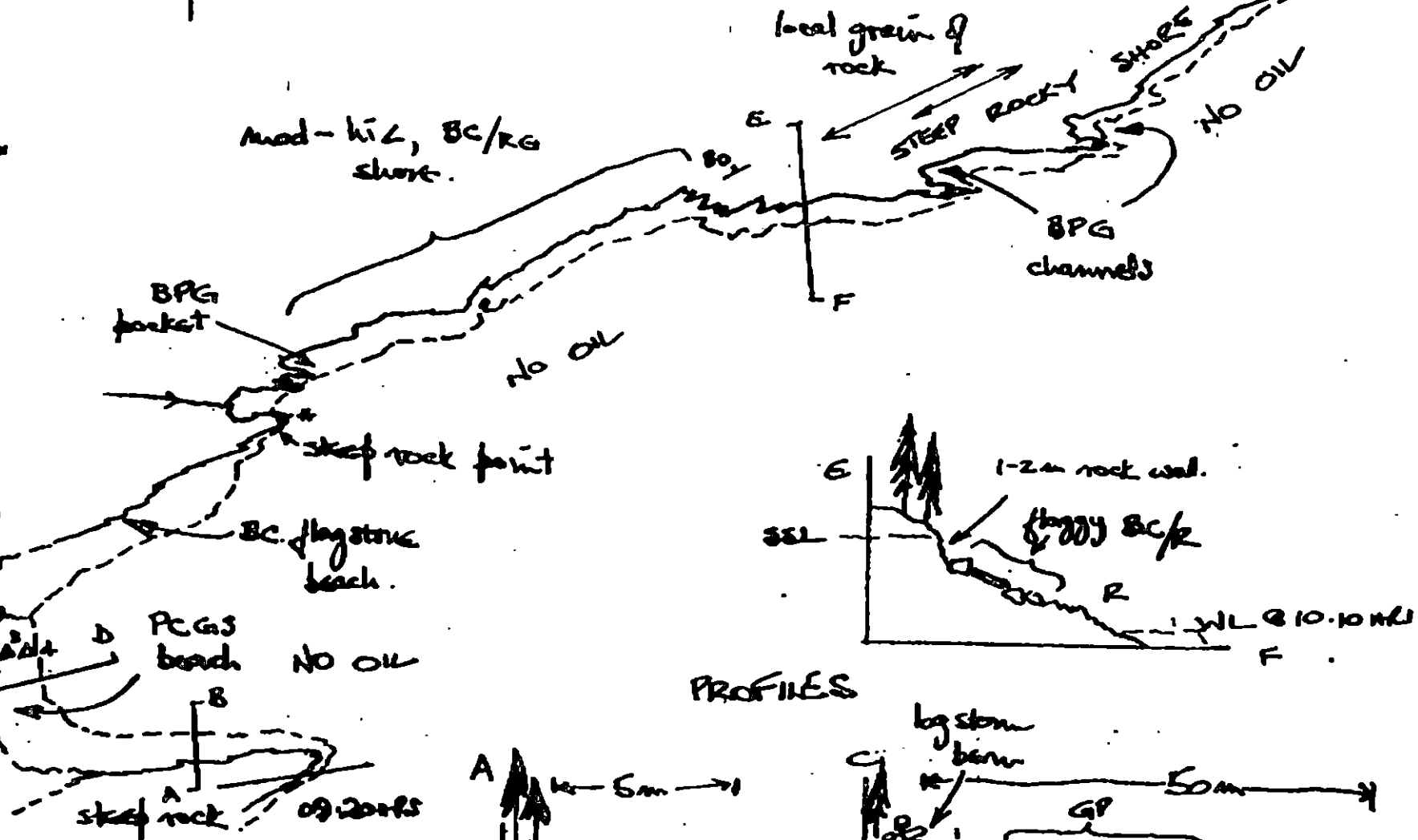
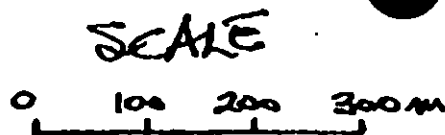
CHECKLIST

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

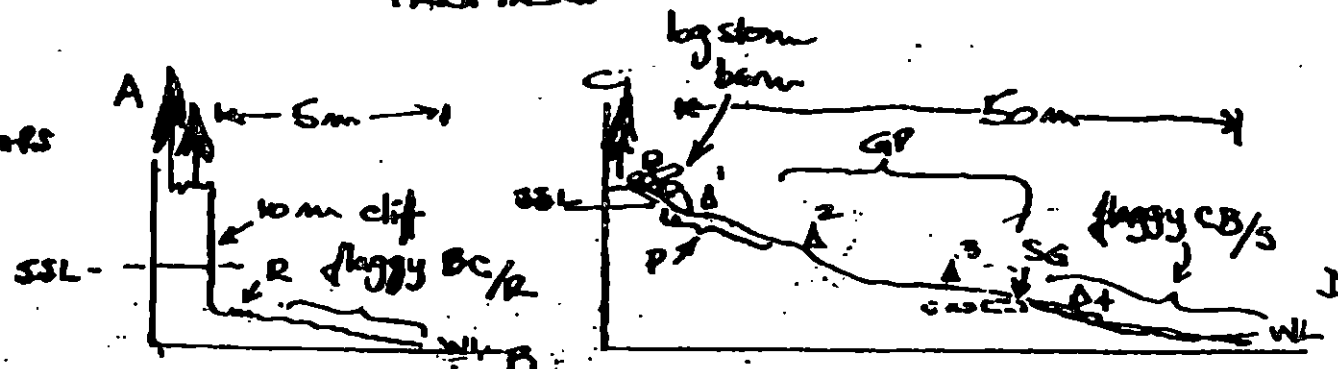
LEGEND

- 1 Δ
- PS - No Subsurface Oil
- 2 Δ
- PS - Subsurface Oil
- CT/C
- Continuous Distribution
- CT/D
- Broken Distribution
- CT/P
- Patchy Distribution
- CT/S
- Spotted Distribution
- Offed Vegetation
- 1 →
- Photo location, direction, and number

SKETCH MAP



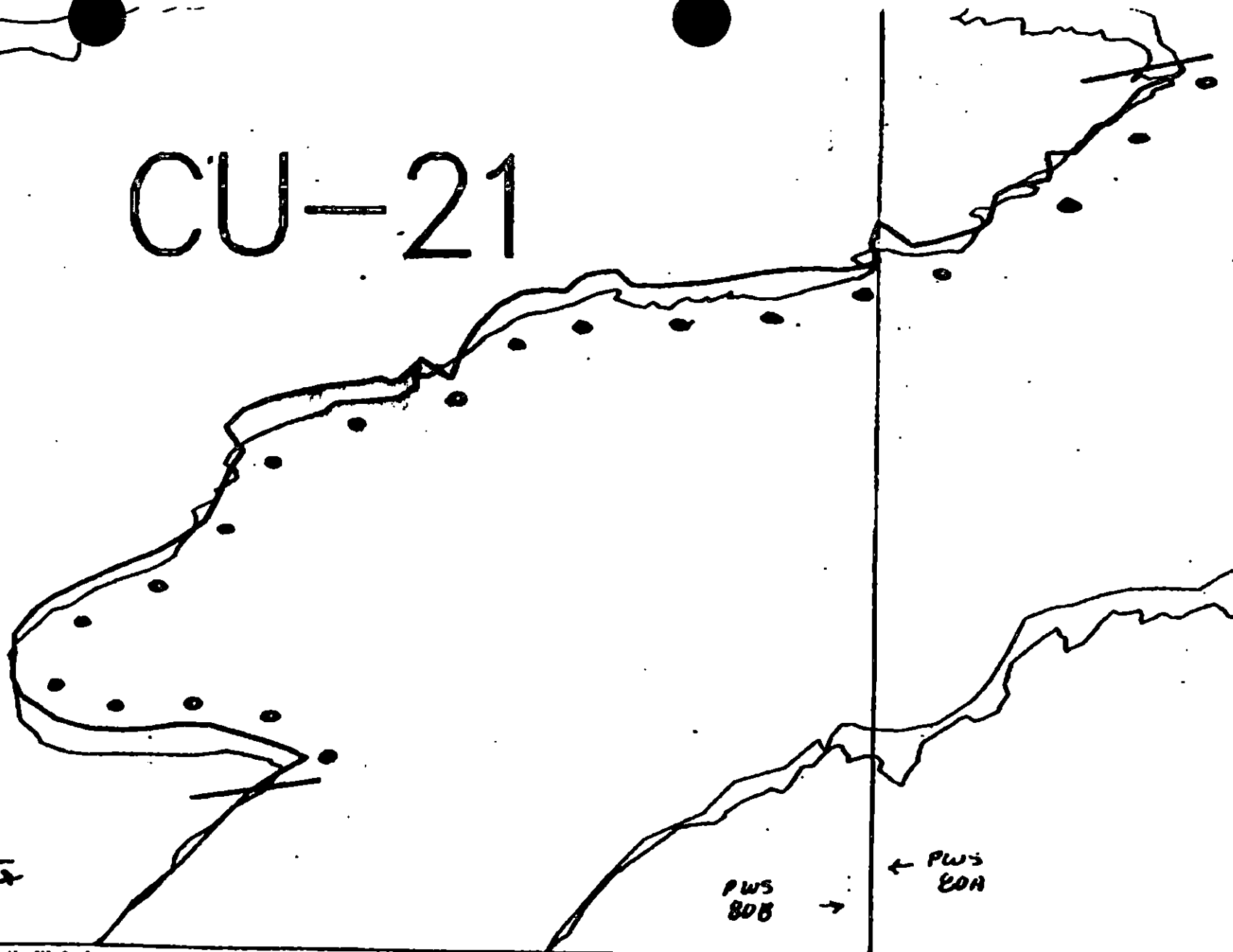
PROFILES



Oil Character Length (m): AP — PO — CV — CT — BT — MG — PT — TR — FL — NO 2500

REVISION 000000

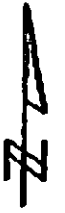
CU-21



(XXX Wide
 /// Medium
 --- Narrow ADEC Segment Length: 2477m
 TTTT Very Light
 0000 No Oil

CU-21

100 200 300 METERS



Map Key: PWS-800
 Name: G.M.
 Date: 4-26-90
 Data Entered:

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

1991 MAYSAP EVALUATION

SEGMENT: DA 001 SUB: A REGION: PWS SURVEY DATE: 5/17/91

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) RESTRICTED 3/1 - 9/1

Ecological/Constraints (see page two for details) Seabird colony,
Eagle nest, Subsistence - Invertebrate harvesting

ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is
required prior to shoreline treatment.

SHPO Signature: _____ Date: _____

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL: _____

TAG: _____

FOSC: _____

TAG APPROVAL DATE: _____

FOSC APPROVAL DATE: _____

ADEC _____

FOSC _____

EXXON _____

USCG _____

NOAA _____

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

Seabird Colony: Access restricted. USF&WS authorization required after 5/15. Maintain 1000' vertical and 1/2 mile horizontal buffer.

Eagle Nest: Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.

Subsistence, Invertebrate Harvesting: Unlimited treatment except avoid disturbance of clam/mussel beds unless specifically directed by TAG Work Order.

MAYSAP FIELD SHORELINE COMMENT SHEET - ①

TEAM NO. 5 SEGMENT DA-1 SUBDIVISION A DATE 5/17/91

ADEC

NAME John Hayer SIGNATURE [Signature]

☐ NTR ☒ Treatment Recommended Oil here should be removed in an effort to restore this
scrubland to Island where many species nest & breed.

A large amount of the oil I observed on this site in 1989-90 has weathered although there are still three areas that could use treatment in 1991. Area 6 - main house of AP 503 cells that is on SE side of state house mostly covered in sheltered pockets.

Area 4 p. 12 7+8 - broke away clean sediments & remove lens of OP that could only be exposed from water action - commoner birds that feed here. Poor access helicopter crew & Area 5 - removal of AP between cobbles & boulders. recommended. See true M&L 7's & 3's history.

EXXON

NAME JOHN DEAN SIGNATURE [Signature]

☒ NTR MUCH OF OIL OBSERVED IS NOT OF A RECOVERABLE CHARACTER, IE; CT, CV, AP/MS in bedrock cracks or VERTICAL SHALE.

RECOVERABLE OIL IS MINIMAL AND ACCESS IS WITHIN ACTIVE NESTING AREAS, SEE BIO COMMENTS REGARDING DISTURBANCE.

BEFORE ADDITIONAL TREATMENT IS APPROVED, CAREFUL CONSIDERATION SHOULD BE GIVEN "NET BENEFIT"

LANDMANAGER

NAME Steve WARD OF CUC/FS SIGNATURE [Signature]

☐ NTR There is a Sub-Stratigal Amount of oil Remaining that should be picked up manually. Danger is is a Bird Area with Ducks and Geese Feeding on the Grass that's saturated with your oil. this is a High Priority job that should be cleaned. enough Local Response could be Available Any time there are no constraints.

NO-BIO.

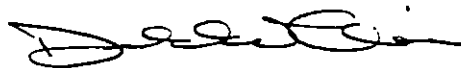
USCG/NOAA

NAME DREHER/CLINE SIGNATURE [Signature]

☒ NTR KRP This is a very active bird colony. The largest oil category I observed was hardened, well weathered, asphaltic oil residue. One very small pocket (pit 4) contained a quantity of OP where it was trapped in bed rock. Any attempt a further clean up in this segment would be counter productive. The local fowl are Blooding. KRP

PLEASE SEE NOAA'S COMMENTS ON PAGE TWO (2).

NOAA Comments - DA1-A
5/17/91



Geomorphically and ecologically, this area is very distinct. The exposure to the Gulf of Alaska makes Danger Island a high energy area throughout, however this particular site is on the lee side of the island and is relatively protected. The presence of a seabird colony nearby makes this site important from an ecological standpoint. The island, as its name suggests, is dramatic due to its location, and warrants particular consideration.

Subsurface oiling is severe in the location of pits 7 and 8 (note OG sketch map). A 16 m² lens of OP occurs beneath a mantle of pebbles and granules which is only 4 cm thick. Any significant wave action at all could erode this mantle, reexposing the OP layer. On site, the biologist noted the danger of this type of oiling to seabird eggs, and the fact that this fluid oil is easily transferred by the birds. Although disturbance of this unique area should be minimized, this subsurface oiling poses a threat to the local ecology, and should be removed.

Additional oiling on the site, characterized by AP/T, CV/T, etc., could be easily removed at the same time.

NOTE: Because of the ecological importance of this area, any work crews placed on this site should be closely supervised to restrict access to oiled sites only.

DWC

TEAM NO. 0 MAYDAY SHORELINE OILING SUMMARY PAGE OF

OG CHANEY BIO CRANK USFS ✓ SEGMENT DA-1

ADEC HAYES LANDMANAGER WARD for CUC SUBDIVISION A

EXXON DEAN USCG/NOAA DREHER/CLINE DATE MAY 17 1991

TIME 10:00 to 12:20 TIDE LEVEL -3.0 ft. to 0 ft. ENERGY LEVEL: ☒ H ☐ M ☐ L

SURVEYED FROM: ☒ FOOT ☐ BOAT ☐ HELO WEATHER: ☐ SUN ☒ CLOUDS ☐ FOG ☒ RAIN ☐ SNOW

TOTAL LENGTH SHORELINE SURVEYED: 550 m NEAR SHORE SHEEN: ☐ BR ☒ RB ☒ SL ☐ NONE

EST. OIL CATEGORY LENGTH: W 0 m M 100 m N 75 m VL 180 m NO 195 m US 0 m

LOG	SURFACE OIL CHARACTER										SURFACE SEDIMENT TYPE	SHORE SLOPE VHML	AREA		ZONE				NOTES
	AP	MS	TB	SO	CV	CT	ST	FL	DB	NO			WIDTH m	LENGTH m	S	UI	MI	LI	
A				T	T	T					RB	M	10	50		✓			PLATTERS IN VERT BEDRK
B				T		T	T				CPG	L	30	50		✓			Cobble Pebble Flat
C	T					T	T				R	VH	10	30		✓	✓		Rock & Pebble Faces
D	T			S	S	S	S	T			R	H-L	20	10		✓			OIL TRAPPED IN BEDRK CRKS
E					T	T	T				R	L	30	20	✓	✓			SPLATTERS IN BEDRK
F				T	S	S	S				R	V	1	25		✓			BAND CV ON BEDRK WALL
G	T	T		T	P	S					R	L	6	50		✓			VERTICAL SHALE BEDDING
H					T	S	T				R	V-H	10	20		✓			PATCHES ON BEDRK
I	S	T		S	S	S	S				BC	M	8	50		✓	✓		ANGULAR SMALL BEDRK COL
J					T	P	P				VR	V	1.5	50		✓			BAND ON BEDRK WALL

DISTRIBUTION: C = 91-100%; B = 51-90%; P = 11-50%; S = 1-10%; T = <1%

SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE PHOTO ROLL # MAYSAP- 5-18 FRAMES 6-15

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER							OILED ZONE cm-cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS	NOTES
		OP	HOR	MOR	LOR	OF	TR	NO					S	UI	MI	LI		
1	25							✓	-		20	N	✓				S-SV	
2	35							✓	-		30	N	✓				S-SV	
3	35							✓	-		-	-	✓				V-S	Through Sealed
4	10	✓							0-5		8	BR	✓				BC-CPR	BEDROCK POCKET
4B			✓						5-10	Y	8	BR	✓				"	"
5	30							✓	-		-	-	✓				PS-SP	
6	30							✓	-		-	-	✓				P-SPG	
7	20							✓	-		10	S	✓				PS-PS	SILVER SHEEN
8	10	✓							4-8	Y	0	B	✓				PG-PG	PHOTO 14 16m ²

SHEEN COLOR: B = BROWN; R = RAINBOW; S = SILVER; N = NONE

VERY BROAD WAVE CUT PLATFORM. VERTICAL BEDDING. SEVERAL SHELTERED POCKETS.

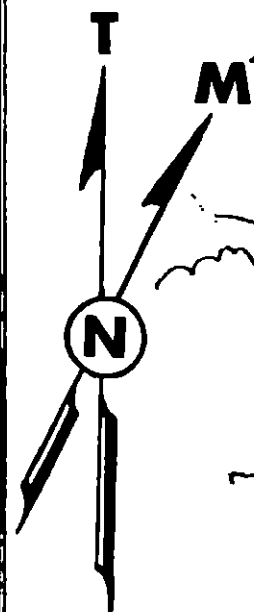
OG COMMENTS (D) OP, BR, HEAVY COVER ETC IN VERTICAL BEDROCK CRACKS. HOR/OP EXTENT LIMITED TO THE IMMEDIATE AREA OF PIT 4.

(G) COVER TRAPPED IN VERTICAL BEDDING PLANES OF SHALE. THERE ARE RANDOM PATCHES OF AP IN THIS AREA. MOST OF THE AP WAS SECURELY ANCHORED BY THE ROCK. THERE WERE A FEW SMALL LOCALIZED POCKETS OF POOLED MORSE IN THIS AND AS WELL. (H) IN AREA OF PIT 8; OP LAYER 16m², SEVERAL PITS WERE USED TO DEFINE THIS 4x4m AREA. THE LOG FOR PIT 8 IS TYPICAL. OP LAYER IS MOUSSE AND LOWER VISCOSITY MOBILE BROWN OIL. FREELY SHEENING. LOOSE PEBBLE OVER BURDEN 4cm THICK.

REVIEWED: F.W. 5/24/91

REVIEWED: MC 5/24/91

MAY 1991
 OG SKETCH MAP
 GREG CHANEY
 TEAM 5
 SEGMENT: DA-2-A
 DATE: MAY 17 1991
 AIR P.N.: PIM 005-30



LEGEND

BEDROCK	
BOULDERS	
FINE BED.	
DRIFT LOG	
GRASS	
BRUSH	
FOREST	
OILED PIT	
NO OIL PIT	
PHOTO	

SCALE

60
 METERS

DANGER ISLAND

H PATCHY CT ON BEDROCK
 WALLS OF SMALL POCKET
 BEACH CT 5% CV ST <1%

MASSIVE DRIFT
 LOG WITH STAIN
 AT BASE ~5%

5m BAND
 RAFTED
 SEAWEED

5m BAND
 RAFTED
 SEAWEED

B 30x50m
 TRACE SOR,
 CT, ST ON
 FLATS
 1m² AP
 PU

A DRAINAGE

DA-1-A

A 10x50m SPLATTERS IN
 VERTICAL BEDROCK
 SOR, CV, CT <1%

C 10x30m
 AP, CT, ST
 <1%

No Pits No Data
 Assume
 1m² m OP

D 20x10m
 AP <1%, SOR 1%
 CV 2%, CT 3%
 ST 1% FL <1%
 OIL TRAPPED IN
 BEDROCK CRACKS

E 30x20m SPLATTERS ON
 BEDROCK CV, CT, ST <1%

F 1x25m BAND CV ON BEDROCK
 SOR/H <1% CV 10% CT 5% ST 5%

G 6x50m VERTICAL SHALE BEDDING
 CV 30% CT 10% MS TRACE
 AP <1% SOR <1%

PITS 7, 8 *
 OP 16m²

BIG
 DRIFT
 LOG

TREES

J 1.5x50m
 CV <1% CT 20%
 ST 15%

I 8x50m AP 5% MS <1%
 SOR/H 2% CV 5% CT 10% ST 5%

DA-1-A
 DA-2

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 5

DATE 17 MAY 1991

SEGMENT # DA-1

TIDAL HEIGHT (Range) -3 → 0

SUBDIVISION A

BIOLOGIST Crank

SEA STATE (gentle swell)

WIND SPEED/DIRECTION 45 knots / West

PHOTOGRAPHS: ROLL #

FRAME #

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):

This low-energy exposed subdivision has a thick near shore kelp bed, a sediment covered area in a near lower intertidal zone including an eelgrass and clam bed. There is a dense cover in the LITZ including a variety of kelps, studded reds, epiphytic plants, filamentous green, and bluish greens. Sculpin eggs were observed on algae blades. This subdivision is ecologically sensitive. In order to access oiled areas, breeding seabirds are disturbed. Defensive tern behavior was observed during survey.

(A) Area is located high in the UITZ, on bedrock. Moss; yellow, white and black lichens and rye grass cover ~20% of the surface sediments.

(B) Area is located high in the UITZ on a flat cobble pebbles area. No intertidal biota was observed within the site.

(C) Area is located on bedrock in the MLITZ and UITZ. In the UITZ black lichen encrusts ~40% of the sediments. Sparsely concentrated *Littorina* and a few patches of moss and rye grass cover ~1% of the sediments. In the MLITZ, a moderately concentrated *Fucus* population; sparse *Littorina*; and rare barnacles and mussels cover ~40% of the surface. The *Fucus* conceptacles are just beginning to mature.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	2	
Seabirds	2	7	
Waterfowl	2	31	
Gulls/kittiwakes	2	24	
Shorebirds	4	62	
Corvids	2	7	
Other Birds	2	2	

LAND MAMMALS

MARINE MAMMALS	# OBSERVED	SPECIES	# OBSERVED
Sea Otters	2 (inc pup)		
Pinnipeds (specify)			
Whales (specify)			

Shoreline subdivision map showing important biological features attached.

Team # 5
Segment # DA-1
Subdivision A
Sea State 1' (gentle swell)

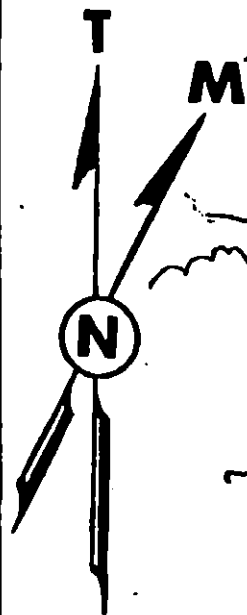
Date 17 May 1991
Tidal Height - 3 $\rightarrow$ 0
Biologist Crank
Wind Speed / Direction < 5 knots / West

pg 2 of 2

Comments (cont.)

- (D) Area is located in the SUPRA. No biota observed on cobble. On bedrock there are moss, lichen, succulent plants, rye grass and small conifers, potential nesting area.
- (E) Area is located in the UITZ on bedrock. Black lichen covers ~30% of the surface. Two meters west of the site there is a small (30cm x 60cm) patch of Fucus sporelings.
- (F) Area is located on the side of a rockface in the UITZ. Rare barnacles cover less than 1% of the surface area. A half a meter below Fucus sporelings, dense Odonthulia (alga) and dense Littorina cover 70% of the surface area. Below the rockface in the pebble/cobble there are moderately concentrated mussels of varying age classes and sparsely concentrated barnacles covering 70% of the surface area.
- (G) Area is in the high UITZ on a vertical slate bed. No intertidal biota is present. In the SUPRA, rye grass and moss are present.
- (H: pit 8) Area is located on bedrock in the UITZ. An encrustose green algae and black lichen cover ~70% of the surface. Rarely concentrated Fucus sporelings are also present. Pit 8 is located in the UITZ on the granular beach. No biota located near the pit. 3m north on bedrock moderate Fucus with maturing conceptacles and sporeling and moderate barnacles cover ~50% of the surface. In the MITZ there is a dense mussel bed with pre and post-spill age classes. Barnacles are sparsely concentrated. ~70% of the Chthamalus (small acorn) are empty shells. Spat is present. Pile worms are present. Amphipods are dense and Littorina and limpets are dense with several age classes.
- (I) Area is located along the base of bedrock in the UITZ. On the west side of the site there is a moderate patch of Fucus sporelings. Throughout the site black lichen covers between 40-70% of the surface. MITZ is same as described for H.
- (J) Area is located high in the UITZ along a rock face. No biota is found in the site. Directly below the site is a 'green line' of filamentous algae and below the green line is a moderate to dense concentration of Fucus. Biota cover is ~80%.

MAYCAP 1991
 OG WATCH MAP/Bio
 GRAY CHANEY/Crank
 TEAM 5
 SEGMENT: DA-1-A
 DATE: MAY 17 1991
 AIR P.N: PIM 005-30

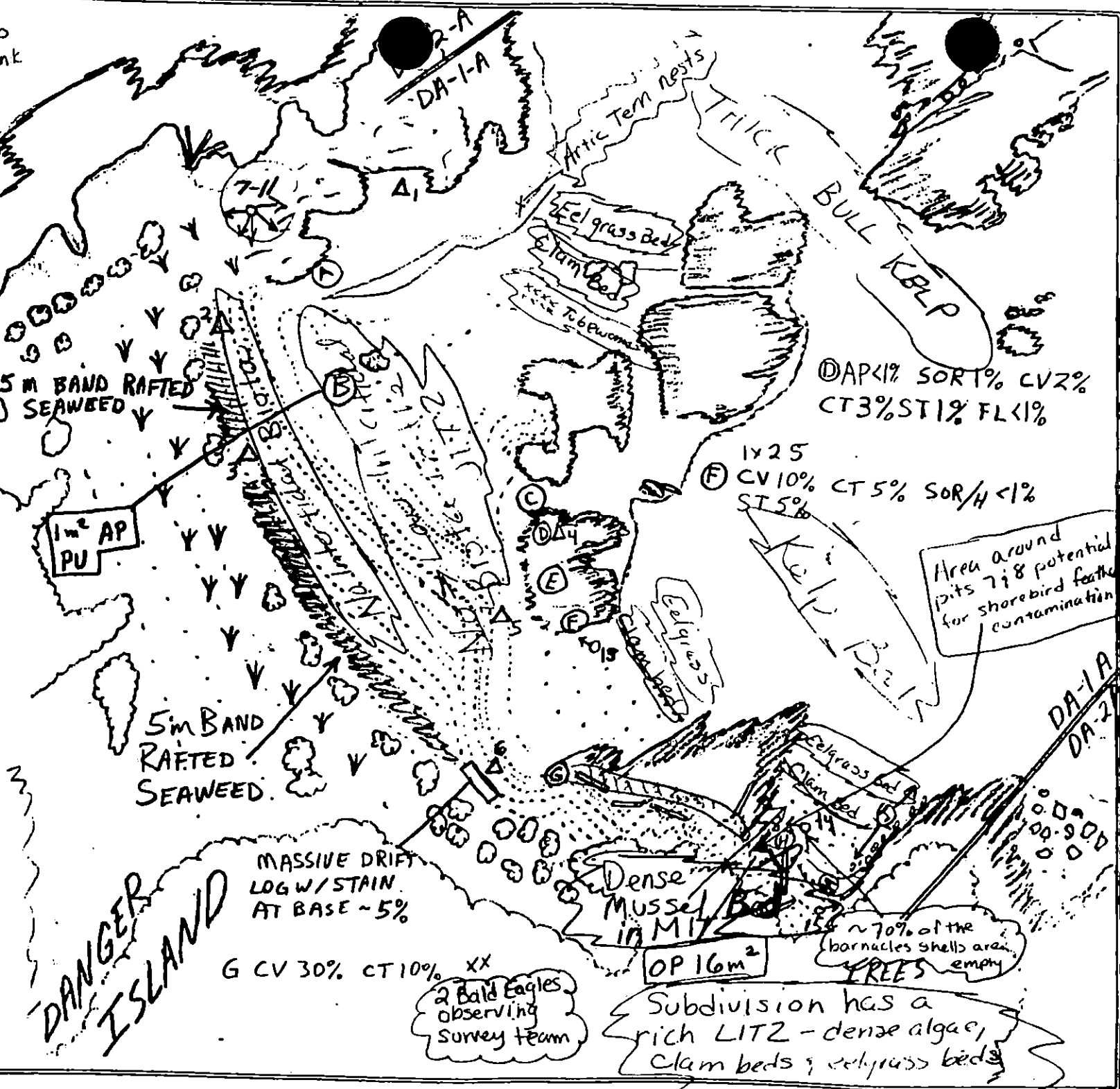


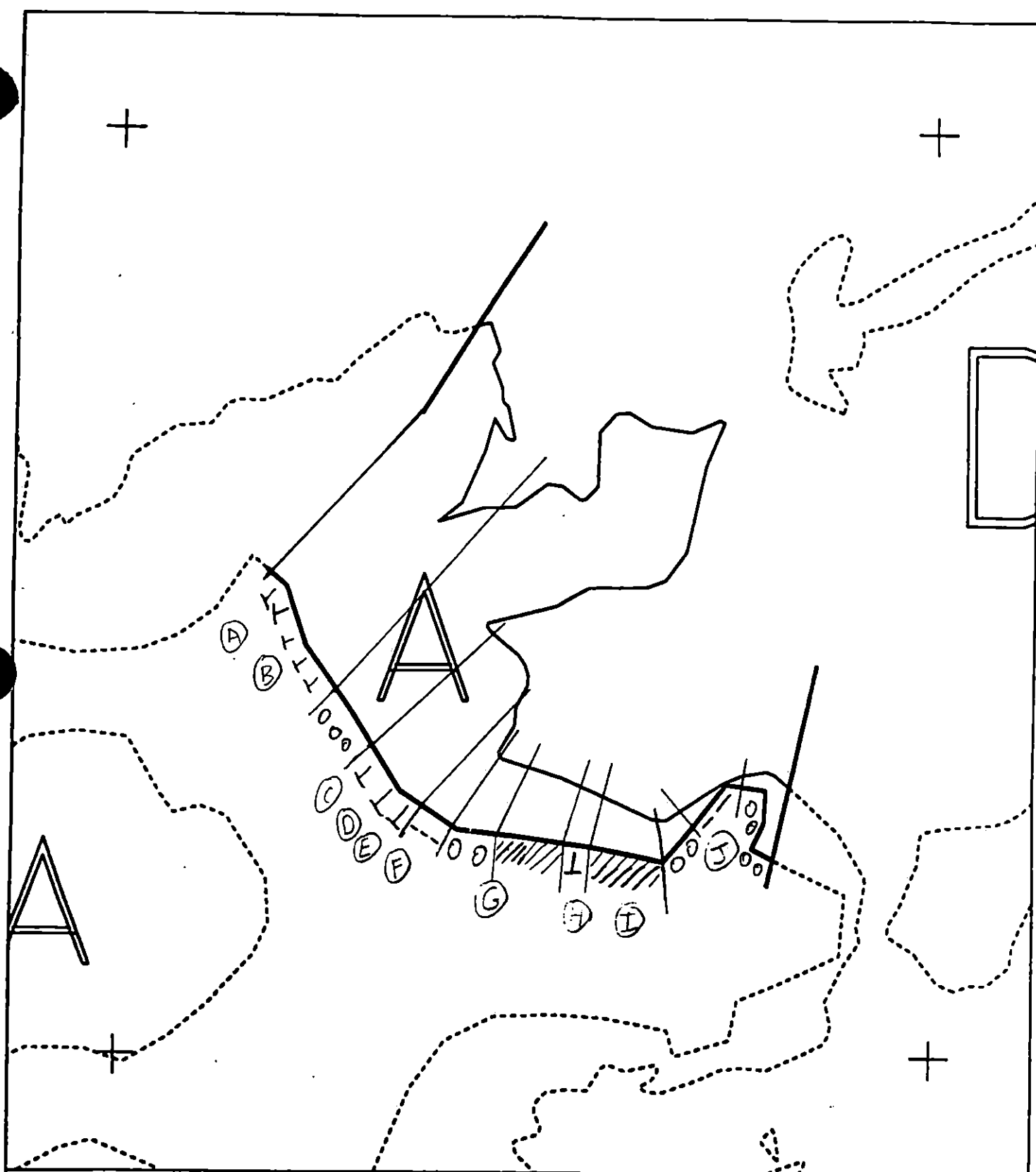
LEGEND

BEDROCK	
BOULDERS	
FINE BED.	
DRIFT LOG	
GRASS	
BRUSH	
FOREST	
OILED PIT	
NO OIL PIT	
PHOTO	

SCALE

60
METERS





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

DA001 A
 ADEC Subsegment Length: 550m
 METERS
 0 100 200
 AK State Plane Zone 4
 pda001a

Subdivision Field Map
 Map Key: PWSDA001A
 Name: CHANEY
 Date: MAY 18 1991
 Date Entered:

REVIEWED: F.W. 5/24/91
 D-

1991 MAYSAP EVALUATION

SEGMENT: DA 001 SUB: A REGION: PWS SURVEY DATE: 5/17/91ENVIRONMENTAL SENSITIVITIES:Work Window(s) RESTRICTED 3/1 - 9/1Ecological/Constraints (see page two for details) Seabird colony,
Eagle nest, Subsistence - Invertebrate harvestingARCHAEOLOGICAL CONSTRAINTS:

Consultation and inspection with an Exxon archaeologist is required prior to treatment. Specific on-site monitoring requirements will be determined at that time. PHONE 564-3276; 564-3657; (Anchorage) or 229-1514 (24 hrs.)

RECOMMENDATIONS:

	INITIAL	TAG	FOSC
TREATMENT REQUIRED (Y or N)	<u>N</u>	<u>Y</u>	<u>Y</u>
Manual Pickup (Check as Req.)	<u>_____</u>	<u>X</u>	<u>Y</u>
Spot Washing	<u>_____</u>	<u>_____</u>	<u>_____</u>
Bio-Customblen Only	<u>_____</u>	<u>_____</u>	<u>_____</u>
Bio-Inipol/Customblen	<u>_____</u>	<u>_____</u>	<u>_____</u>
Other	<u>_____</u>	<u>_____</u>	<u>_____</u>
Other	<u>_____</u>	<u>_____</u>	<u>_____</u>

COMMENTS:INITIAL: _____

TAG: MANUAL P/U OF MOUSSE LENSE (BURIED) AT LOCATION H
AN P/U H2O2/HP AT LOCATION I
ACCESS WILL NEED TO BE CLEARED BY USF+LW.

FOSC: _____TAG APPROVAL DATE: JUNE 4 1991 FOSC APPROVAL DATE: 6/11/91ADEC [Signature]FOSC [Signature]E. E. PAGE, CDR, USCG
CHIEF OF STAFF, FOSCEXXON [Signature]USCG [Signature]NOAA [Signature]

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

Seabird Colony: Access restricted. USF&WS authorization required after 5/15. Maintain 1000' vertical and 1/2 mile horizontal buffer.

Eagle Nest: Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.

Subsistence, Invertebrate Harvesting: Unlimited treatment except avoid disturbance of clam/mussel beds unless specifically directed by TAG Work Order.

TEAM NO. 5 SEGMENT DA-1 SUBDIVISION A DATE 5/17/91

ADEC

NAME John Hayer SIGNATURE [Signature]

- ☐ NTR ☒ Treatment Recommended Oil here should be removed in an effort to restore this
scrubland to Island where many species nest & thrive.

A large amount of the oil I observed on the site in 1989+90 has weathered although there are still three areas that could use treatment in 1991. Area 6 - Manual Removal of AP, SP, MS that is on lee side of shore bedrock mostly confined in sheltered pockets.

Area 4 pits 7+8 - Buks carry clean sediments & remove lens of OP that could easily be exposed from wave action & common birds that feed here.

Area 1 - Manual Removal of AP between cobbles & boulders. Poor Access Helicopter crew is recommended. See true M&L FZ's & B history.

EXXON

NAME John Dean SIGNATURE [Signature]

- ☒ NTR MUCH OF OIL OBSERVED IS NOT OF A RECOVERABLE CHARACTER, IE; CT, CV, AP/MS in bedrock cracks or vertical shale.

RECOVERABLE OIL IS MINIMAL AND ACCESS IS WITHIN ACTIVE NESTING AREAS, SEE BIO COMMENTS REGARDING DISTURBANCE.

BEFORE ADDITIONAL TREATMENT IS APPROVED, CAREFUL CONSIDERATION SHOULD BE GIVEN "NET BENEFIT"

LANDMANAGER

NAME Steve Ward OF CUK/FS SIGNATURE [Signature]

- ☐ NTR there is a Sub-Stratified Amount of oil Remaining that should be picked up manually. Danger is is a Bird Area with Ducks and Geese Feeding on the Grass that's saturated with your oil. This is a High Priority Job that should be cleaned. Chenega Local Response could be Available Any time there are no constraints.

NO-BIO.

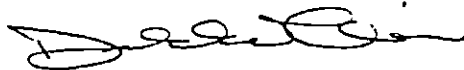
USCG/NOAA

NAME DREHER/CLINE SIGNATURE [Signature]

- ☒ NTR This is a very active bird colony. The largest oil category I observed was hardened, well weathered, asphaltic oil residue. One very small pocket (pit 4) contained a quantity of OP where it was trapped in bed rock. Any attempt a further clean up in this segment would be counter productive. The local fowl are Raising. KLD

PLEASE SEE NOAA'S COMMENTS ON PAGE TWO (2).

NOAA Comments - DA1-A
5/17/91



Geomorphically and ecologically, this area is very distinct. The exposure to the Gulf of Alaska makes Danger Island a high energy area throughout, however this particular site is on the lee side of the island and is relatively protected. The presence of a seabird colony nearby makes this site important from an ecological standpoint. The island, as its name suggests, is dramatic due to its location, and warrants particular consideration.

Subsurface oiling is severe in the location of pits 7 and 8 (note OG sketch map). A 16 m² lens of OP occurs beneath a mantle of pebbles and granules which is only 4 cm thick. Any significant wave action at all could erode this mantle, reexposing the OP layer. On site, the biologist noted the danger of this type of oiling to seabird eggs, and the fact that this fluid oil is easily transferred by the birds. Although disturbance of this unique area should be minimized, this subsurface oiling poses a threat to the local ecology, and should be removed.

Additional oiling on the site, characterized by AP/T, CV/T, etc., could be easily removed at the same time.

NOTE: Because of the ecological importance of this area, any work crews placed on this site should be closely supervised to restrict access to oiled sites only.

DWC

TEAM NO. 5 MAYSAP SHORELINE OILING SUMMARY PAGE 1 OF 1

OG CHANEY BIO CRANK SEGMENT DA-1

ADEC HAYES LANDMANAGER WARD for CVC SUBDIVISION A

EXXON DEAN USCG/NOAA DREHER/CLINE DATE MAY 17 1991

TIME 10:00 to 12:20 TIDE LEVEL -3.0 ft. to 0 ft. ENERGY LEVEL: ☒ H ☐ M ☐ L

SURVEYED FROM: ☒ FOOT ☐ BOAT ☐ HELO WEATHER: ☐ SUN ☒ CLOUDS ☐ FOG ☒ RAIN ☐ SNOW

TOTAL LENGTH SHORELINE SURVEYED: 550 m NEAR SHORE SHEEN: ☐ BR ☒ RB ☒ SL ☐ NONE

EST. OIL CATEGORY LENGTH: W 0 m M 100 m N 75 m VL 180 m NO 195 m US 0 m

L O G	SURFACE OIL CHARACTER										SURFACE SEDIMENT TYPE	SHORE SLOPE V H M L	AREA		ZONE				NOTES
	AP	MS	TB	SOF	CV	CT	ST	FL	DB	NO			WIDTH m	LENGTH m	S	UI	MI	LI	
A				T	T	T					RB	M	10	50		✓			SPLATTERS IN VERT BEDRK
B				T		T	T				CPG	L	30	50		✓			Cobble Pebble Flat
C	T					T	T				R	VH	10	30		✓	✓		Rock & Pebble Faces
D	T			S	S	S	S	T			R	H-L	20	10		✓			OIL TRAPPED IN BEDRK CRKS
E					T	T	T				R	L	30	20	✓	✓			SPLATTERS IN BEDRK
F				T	S	S	S				R	V	1	25		✓			BAND CV ON BEDRK WALL
G	T	T		T	P	S					R	L	6	50		✓			VERTICAL SHALE BEDDING
H					T	S	T				R	V-H	10	20		✓			PATCHES ON BEDRK
I	S	T		S	S	S	S				BC	M	8	50		✓	✓		ANGULAR SMALL BEDRK BL
J					T	P	P				VR	V	1.5	50		✓			BAND ON BEDRK WALL

DISTRIBUTION: C = 91-100%; B = 81-90%; P = 71-80%; S = 61-70%; T = 51-60%;

SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE

PHOTO ROLL # MAYSAP-

5-18

FRAMES 6-15

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER							OILED ZONE cm-cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS	NOTES
		OP	HOR	MOR	LOR	OF	TR	NO					S	UI	MI	LI		
1	25							✓	-		20	N		✓			S-SV	
2	35							✓	-		30	N		✓			S-SV	
3	35							✓	-		-	-		✓			V-S	Through Seawall
4A	10	✓							0-5		8	BR		✓			BC-CPR	BEDROCK POCKET
4B			✓						5-10	Y	8	BR		✓			"	"
5	30							✓	-		-	-		✓			PS-SP	
6	30							✓	-		-	-		✓			P-SPG	
7	20							✓	-		10	S		✓			PS-PS	SILVER SHEEN
8	10	✓							4-8	Y	0	B		✓			PG-PG	PHOTO 14 16m ²

SHEEN COLOR: B = BROWN; R = RAINBOW; S = SILVER; N = NONE

VERY BROAD WAVE CUT PLATFORM. VERTICAL BEDDING. SEVERAL SHELTERED POCKETS.

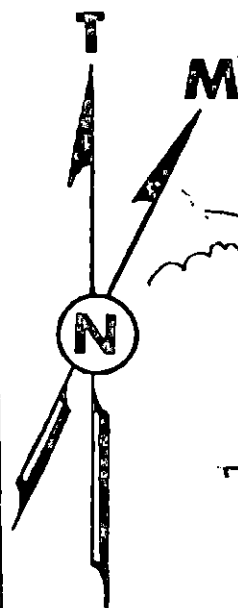
OG COMMENTS (D) OP, BR, HEAVY COVER ETC. IN VERTICAL BEDROCK CRACKS. HOR/OP EXTENT LIMITED TO THE IMMEDIATE AREA OF PIT 4.

(G) COVER TRAPPED IN VERTICAL BEDDING PLANES OF SHALE. THERE ARE RANDOM PATCHES OF AP IN THIS AREA. MOST OF THE AP WAS SECURELY ANCHORED BY THE ROCK. THERE WERE A FEW SMALL LOCALIZED POCKETS OF POOLED MORSE IN THIS BAND AS WELL. (H) IN AREA OF PIT 8; OP LAYER 16m², SEVERAL PITS WERE USED TO DEFINE THIS 4x4m AREA. THE LOG FOR PIT 8 IS TYPICAL. OP LAYER IS MOUSSE AND LOWER VISCOSITY MOBILE BROWN OIL. FREELY SHEENING. LOOSE PEBBLE OVER BURDEN 4cm THICK.

REVIEWED: R.W. 5/24/91

REVIEWED: MC 5/24/91

AP 1991
 DGS SKETCH MAP
 GREG CHANEY
 TEAM 5
 SEGMENT: DA-2-A
 DATE: MAY 17 1991
 AIR P.#: PIM COOS-30



LEGEND

BEDROCK	
BOULDERS	
FINE BED.	
DRIFT LOG	
GRASS	
BRUSH	
FOREST	
OILED PIT	
NO OIL PIT	
PHOTO	

SCALE

60
 METERS

REVIEWED: F.O. Slath
 REVISED: MC Slath



TEAM # 5
 SEGMENT # DA-1
 SUBDIVISION A
 SEA STATE 1 (gentle swell)
 PHOTOGRAPHS: ROLL #
 DATE 17 MAY 1991
 TIDAL HEIGHT (Range) -3 → 0
 BIOLOGIST Crank
 WIND SPEED/DIRECTION 45 knots / West
 FRAME #

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):

This non-energy exposed subdivision has a thick near shore kelp bed, a seaward sand area and a rich lower intertidal zone including an eelgrass and clam bed. Lichen forms a dense cover in the LITZ including a variety of kelps, bladed reds, epiphytic plants, filamentous greens, and bluish greens. Sculpin eggs were observed on algae blades. This subdivision is ecologically sensitive. In order to access other areas, breeding seabirds are disturbed. Defensive tern behavior was observed during survey.

(A) Area is located high in the UITZ on bedrock. Moss, yellow, white and black lichens and rye grass cover ~20% of the surface sediments.

(B) Area is located high in the UITZ on a flat cobble pebbles area. No intertidal biota was observed within the site.

(C) Area is located on bedrock in the MITZ and UITZ. In the UITZ black lichen encrusts ~40% of the sediments. Sparsely concentrated Littorina and a few patches of moss and rye grass cover ~1% of the sediments. In the MITZ, a moderately concentrated Fucus population; sparse Littorina; and rare barnacles and mussels cover ~40% of the surface. The Fucus conceptacles are just beginning to mature.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	2	
Seabirds	2	7	
Waterfowl	2	31	
Gulls/kittiwakes/Temps	2	24	
Shorebirds	4	62	
Corvids	2	7	
Other Birds	2	2	

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters	2 (inc 1 pup)		
Pinnipeds (specify)			
Es (specify)			

Shoreline subdivision map showing important biological features attached.

Pinned photos

Team # 5

Segment # DA-1

Subdivision A

Sea State 1 (gentle swell)

Date 17 May 1991

Tidal Height - 3 $\approx$ 0

Biologist Crank

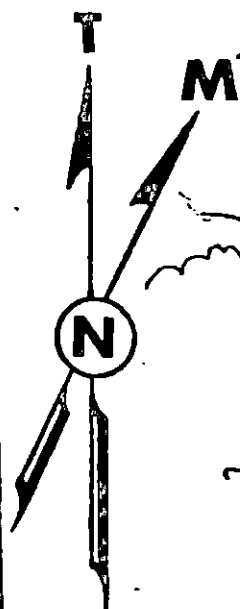
Wind Speed / Direction < 5 knots / West

pg 2 of 2

Comments (cont.)

- (D) Area is located in the SUPRA. No biota observed on cobble. On bedrock there are moss, lichens, seasonal plants, rye grass and small conifers, potential nesting area.
- (E) Area is located in the UITZ on bedrock. Black lichen covers ~30% of the surface. Two meters west of the site there is a small (30cm x 60cm) patch of Fucus sporelings.
- (F) Area is located on the side of a rockface in the UITZ. Rare barnacles cover less than 1% of the surface area. A half a meter below Fucus sporelings, dense Odonthalia (alga) and dense Littorina cover 70% of the surface area. Below the rockface in the pebble/cobble there are moderately concentrated mussels of varying age classes and sparsely concentrated barnacles covering 70% of the surface area.
- (G) Area is in the high UITZ on a vertical slate bed. No intertidal biota is present. In the SUPRA, rye grass and moss are present.
- (H: pit 8) Area is located on bedrock in the UITZ. An encrustose green algae and black lichen cover ~70% of the surface. Rarely concentrated Fucus sporelings are also present. Pit 8 is located in the UITZ on the granular beach. No biota located near the pit; 3m north on bedrock moderate Fucus with maturing conceptacles and sporeling and moderate barnacles cover ~50% of the surface. In the MITZ there is a dense mussel bed with pre and post-spill age classes. Barnacles are sparsely concentrated. ~70% of the Chthamalus (small acorn) are empty shells. Spat is present. Pile worms are present. Amphipods are dense and Littorina and limpets are dense with several age classes.
- (I) Area is located along the base of bedrock in the UITZ. On the west side of the site there is a moderate patch of Fucus sporelings. Throughout the site black lichen covers between 40-70% of the surface. MITZ is same as described for H.
- (J) Area is located high in the UITZ along a rock face. No biota is found in the site. Directly below the site is a 'green-line' of filamentous algae and below the green line is a moderate to dense concentration of Fucus. Biota cover is ~80%.

SAP 1991
 D SKETCH MAP/Bio
 GREG CHANEY/Crank
 TEAM 5
 SEGMENT: DA-1-A
 DATE: MAY 17 1991
 AIR P.#: PIM C005-30

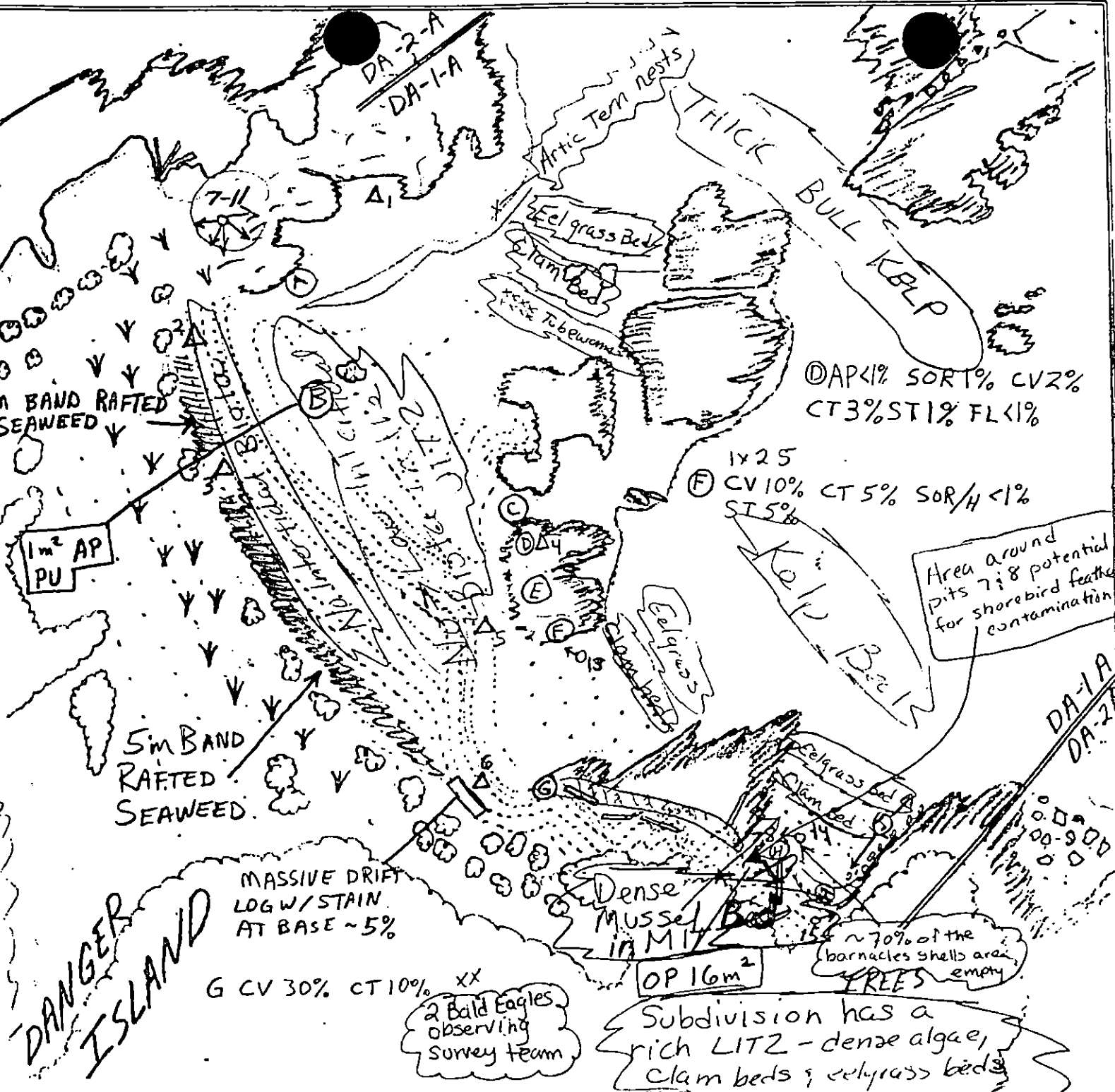


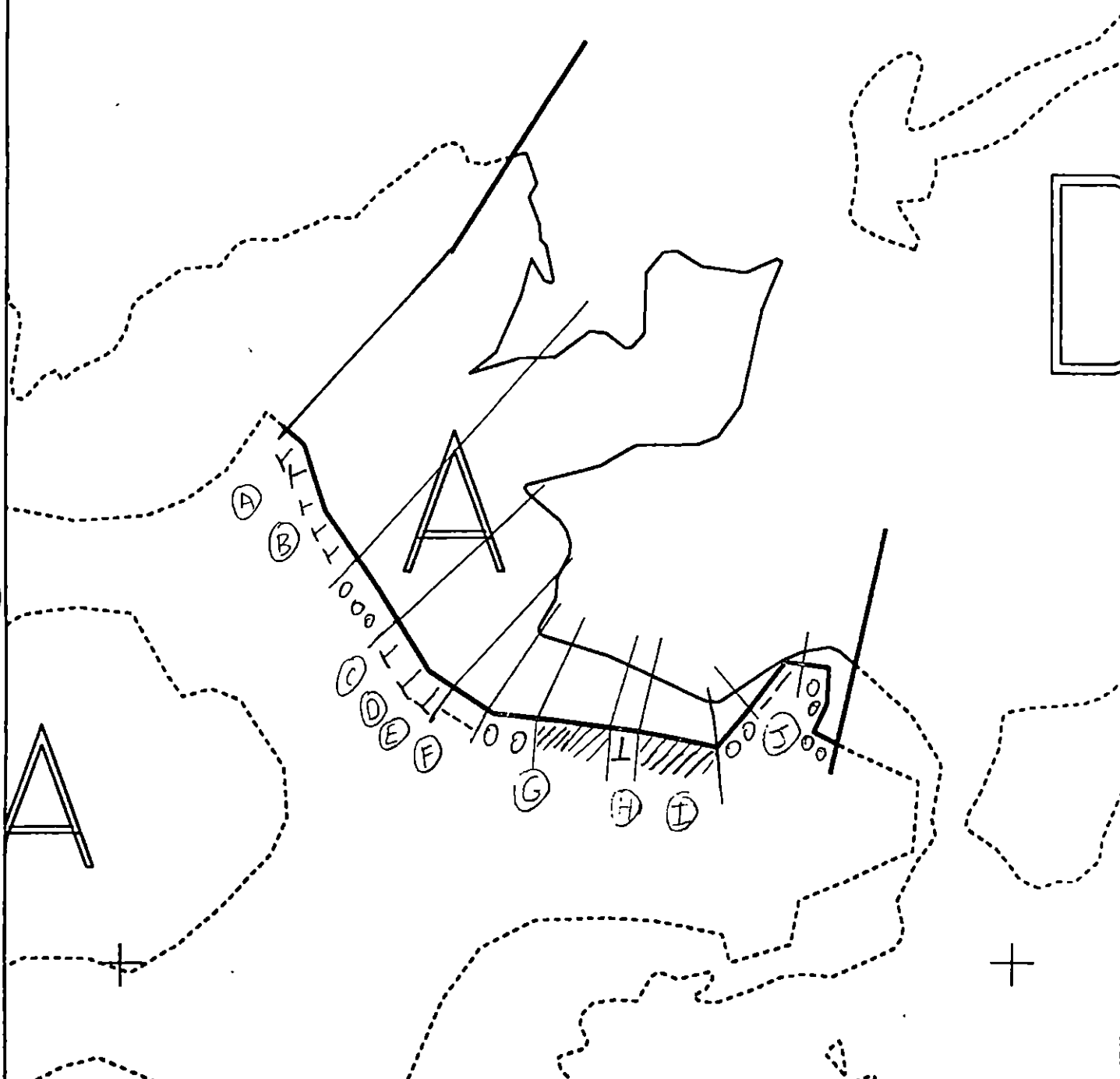
LEGEND

BEDROCK	
BOULDERS	
FINE BED.	
DRIFT LOG	
GRASS	
BRUSH	
FOREST	
OILED PIT	
NO OIL PIT	
PHOTO	

SCALE

60
METERS





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

DA001 A
 ADEC Subsegment Length: 550m
 METERS
 0 100 200
 AK State Plane Zone 4
 pda001a

Subdivision Field Map
 Map Key: PWSDA001A
 Name: CHANEY
 Date: MAY 18 1991
 Date Entered:



REVIEWED: F.W. 5/24/91
 REVIEWED: MC 5/24/91

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT DA-1 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup Tarmat Removal	OPEN
Bioremediation Manual Tilling (Reworking)	OPEN

ARCHAEOLOGICAL INSPECTION/CONSULTATION REQUIRED.

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

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

3N,O,P,Q	Harbor Seal & Sea Lion Pupping and Molting	NO TIME CONSTRAINT. Authorized per memorandum dated 5/14/90 from Kathryn Frost/ADF&G to Mark Kuwada/ADF&G.
5R	Seabird Colony	NO TIME CONSTRAINT. Treatment area on DA-1A approved for work access by Mike Lockhart on 5/30/90 (USFWS Bald Eagle Impact Assessment).
5T	Bald Eagle Nest	NO CONSTRAINT. USFWS Bald Eagle Impact Assessment on 5/15/90 by Mike Lockhart verified nest is no longer present.
7JJ	Subsistence: Finfish Harvesting	No constraint to manual pickup and tarmat removal. Contact Chenega Village Corporation prior to bioremediation and manual tilling.

OTHER ECOLOGICAL CONSIDERATIONS

Do not remove peat mat during tarmat removal treatment. Avoid arctic tern nesting area circled on attached map to the extent possible. Restrict boat and air traffic to essential minimum, and avoid accessing the south and southeast side of island where seabird colony is present. 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. Avoid repeated overflights of haulout areas and seabird colony. Avoid any unnecessary disturbance or damage to unrolled biota and substrate.

TAG APPROVAL DATE 5/30/90.
ADEC Art Weiner
EXXON Art Weiner
NOAA John J. Ball
USCG G.A. Reiter

FOSC

Date

Prepared by

Date

5/30/90

BOAT/AIRCRAFT
ACCESS
AND LANDING
AREA

ARCTIC TERN
NESTING
AREA

[Seabird
Colony]

BOAT
ACCESS
MOD.
J.A. 2
1/90

WORK
AREA

★ SEABIRD
COLONY

USFWS Bald Eagle Impact Assessment
Survey 5/15/90 modified 5/30/90
Mike Lockhard, USFWS

SEGMENT DA-1A

Exxon Segment Length: 4324m

METERS

0 100 200 300

Map Key: PWS-DA-2

Exxon Company, USA

May 09, 1990

1 inch = 500 feet



SHORELINE EVALUATION

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

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Invertebrate harvesting (7JJ) - contact ADF&G and Chenega Village Corp. for appropriate dates.

SUBDIVISION ECOLOGICAL CONSTRAINTS: No specific subdivision constraints.

ARCHAEOLOGICAL CONSTRAINTS: Consultation and d
inspection with an Exxon archaeologist is required e
prior to treatment. Specific on-site monitoring Re-
requirements will be determined at that time.

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

OILING CATEGORIZATION:

Wide 0 m: Medium 361m: Narrow 188m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 15 cm

RECOMMENDATIONS:

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

COMMENTS: Treatment activities are recommended as follows:

1) Manual pickup of debris on berm area located on attached sketch map, 2) Tar mat ~~breakup~~ removal where indicated on map, 3) Suggest bioremediation of area where cover is indicated on map.

MANUALLY REWORK SEDIMENTS BENEATH ASPHALT AREAS AS REQUIRED PRIOR TO CAUTION: PEAT MAT MUST NOT BE REMOVED, - MAY BE MISTAKEN AS A TAR MAT BIOREMEDIATION

TAG COMMENTS:

TAG APPROVAL DATE: 4/9/90
ADEC JOHN BAUER
EXXON ANDY GIL
OAA Burl Wescott
SCG G.A. BEITER

FOSC: DATE: 4.9.90

SHORELINE EVALUATION

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

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Invertebrate harvesting (7JJ) - contact ADF&G and Chenega Village Corp. for appropriate dates.

SUBDIVISION ECOLOGICAL CONSTRAINTS: No specific subdivision constraints.

ARCHAEOLOGICAL CONSTRAINTS: Consultation and inspection with an Exxon archaeologist is required prior to treatment. Specific on-site monitoring requirements will be determined at that time.

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

OILING CATEGORIZATION:

Wide 0 m: Medium 361m: Narrow 188m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 15 cm

RECOMMENDATIONS:

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

COMMENTS: Treatment activities are recommended as follows:

1) Manual pickup of debris on berm area located on attached sketch map, 2) Tar mat ~~breakup~~ and removal where indicated on map, 3) Suggest bioremediation of area where cover is indicated on map.

MANUAL REWORK SEDIMENTS BENEATH ASPHALT AREAS AS REQUIRED PRIOR TO CAUTION: PENT MAT MUST NOT BE REMOVED, - MAY BE MISTAKEN AS A TAR MAT

TAG COMMENTS:

TAG APPROVAL DATE: 4/9/90

ADEC JOHN BAUER

EXXON ANDY TAT

NOAA Burl Wescott

USCG G.A. REITER

FOSC: DATE: 4-19-90

oil Map



DA-1

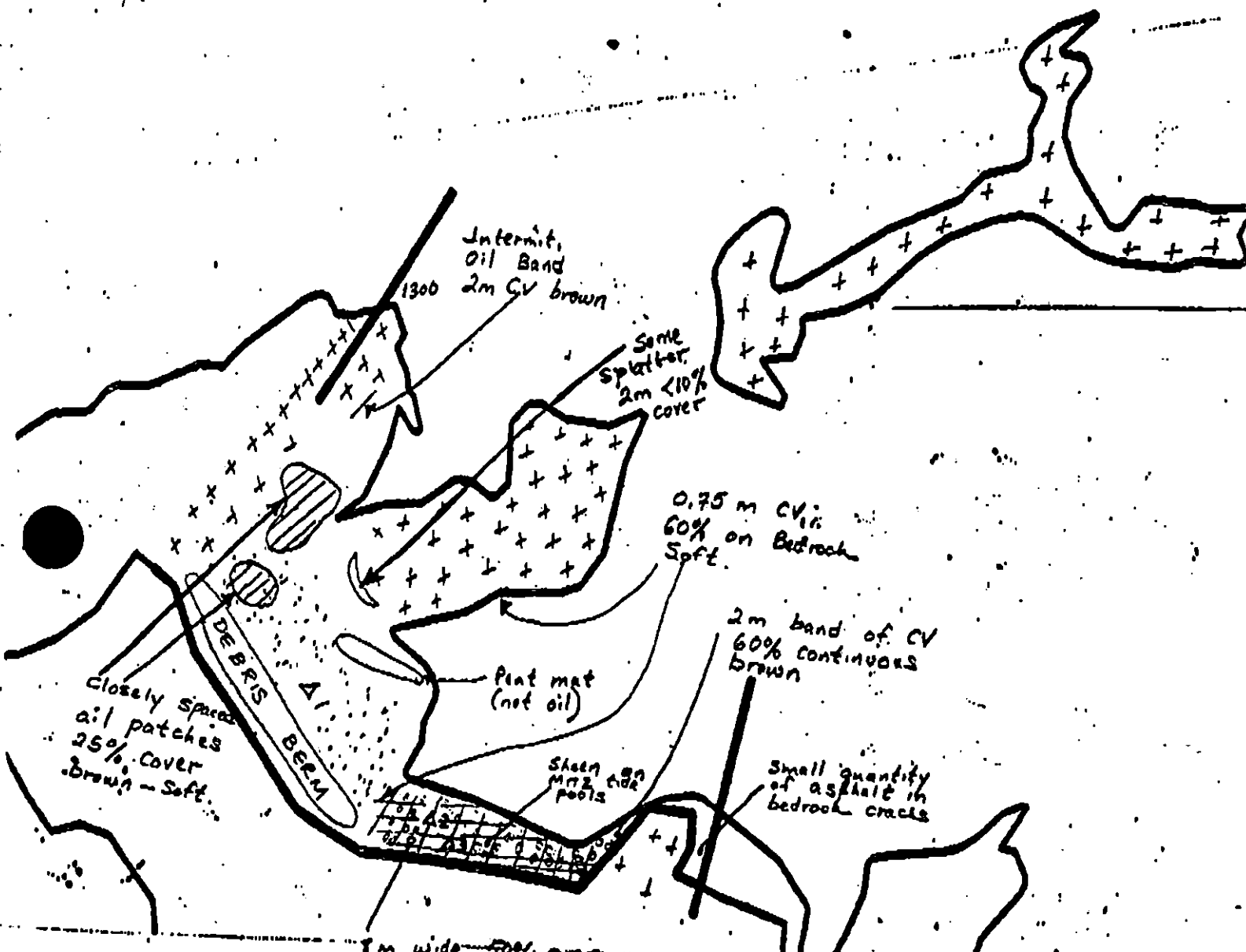
	inches	unadj.	adj.
Med	4.0	= 667m	675m
Narrow	2.4"	= 400m	404
		1066	1079

0 100 200 300
METERS

(24)

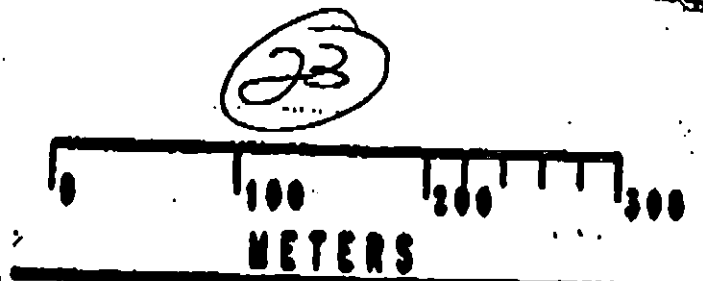
1.8" = 300m

⇒ 1" = 166



1m wide 50% over asphalt pavement on west to 5m wide 60% cover on east end. Local shallow bedrock boat bags

DA-1



SHORELINE EVALUATION

SEGMENT ST/ DA-02 SUBDIVISION A (1 of 1) DATE 4/1/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

Seabird colony (5R) - 5/1 to 9/1; Invertebrate harvesting (7JJ) -
contact ADF&G and Chenega Village Corp. for appropriate dates.

SUBDIVISION ECOLOGICAL CONSTRAINTS: No specific subdivision con-
straints.

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

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

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 642m: V.Light 789m: No Oil 901m
Subsurface Oil Observed: Yes X No Maximum Depth 8 cm

RECOMMENDATIONS:

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

COMMENTS: No treatment recommended on this subdivision due to oil
being discontinuous and located in a salt marsh. Please review
Field Shoreline Comment Sheet.

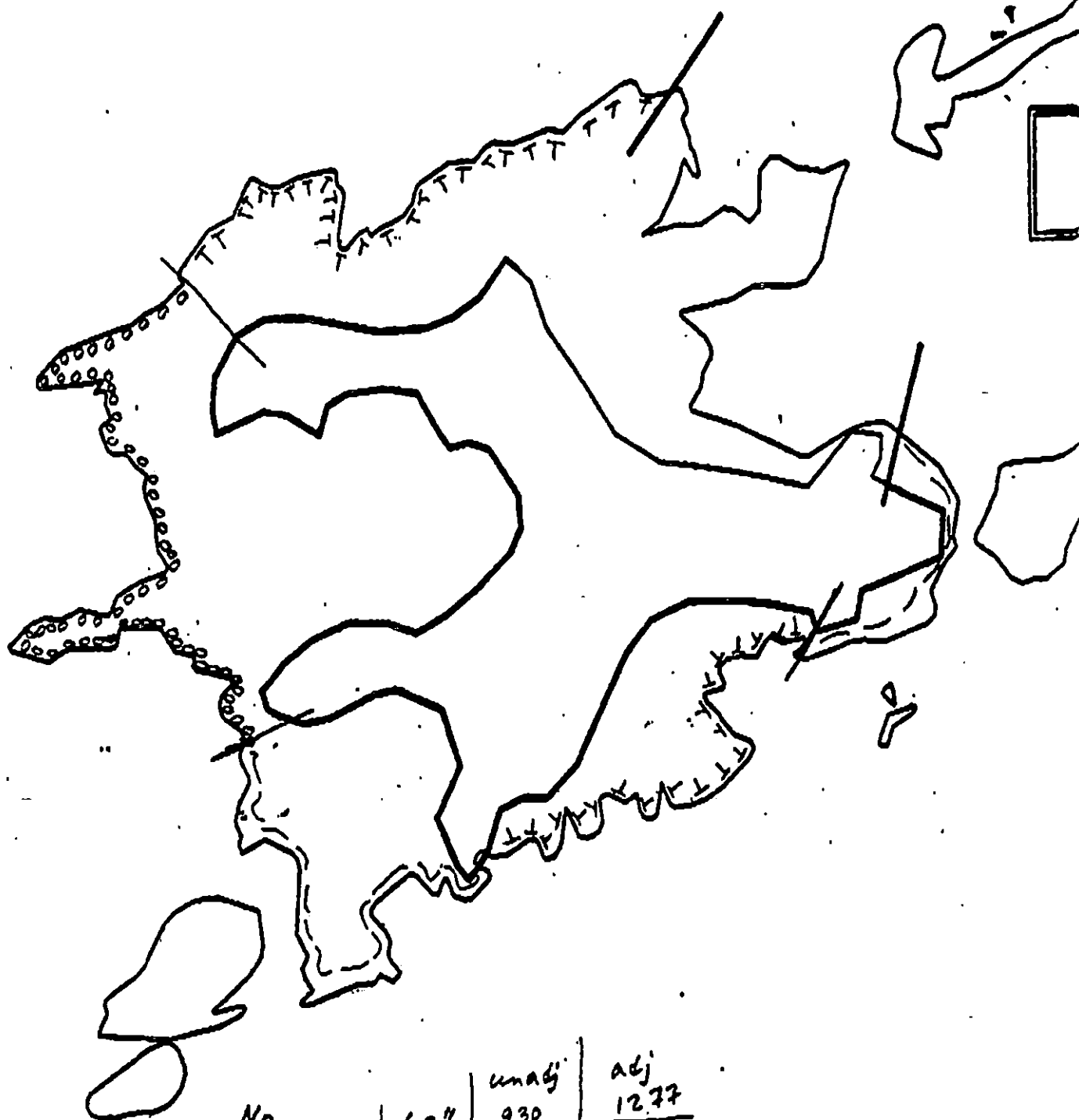
TAG COMMENTS:

TAG APPROVAL DATE: 4/9/90

ADEC JOHN BAUER
EXXON ANDY TATE
NOAA Burl Wescott
USCG G.A. REITER

FOSC:

DATE: 4-19-90



No		unadj	adj
	6.2"	930	1277
Very Light	8.4"	1260	1730
Light	6.4"	960	1317
		3150	4324

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

(18)

DA-2

ADEC Segment Length: 2332m



METERS



Map Key: PWS-89

Name: MARTY

Date: 4-1-90

Date Entered:

1991 MAYSAP EVALUATION

SEGMENT: DE 001 SUB: A REGION: PWS SURVEY DATE: 5/2/91

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) RESTRICTED 3/1 - 9/1

Ecological/Constraints (see page two for details) Eagle nest

ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO Signature: _____ Date: _____

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL: _____

TAG: _____

FOSC: _____

TAG APPROVAL DATE: _____

FOSC APPROVAL DATE: _____

ADEC

FOSC

EXXON

USCG

NOAA

ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

Eagle Nest: Access restricted from 3/1 to 9/1. USF&WS
authorization required. Maintain 1000' vertical and 1/4 mile
horizontal buffer.

TEAM NO. 4 SEGMENT DEAN 1 SUBDIVISION A DATE 2 MAY 91

ADEC
NAME Dianne Munson SIGNATURE Dianne Munson

☐ NTR ☒ Treatment Recommended. much of the oiling classified as cover and SOR is in my opinion tar mat or soft/friable asphalt (Heavily oiled beach sediments held cohesively together). These tarballs and tar mats occur similarly around the entire island. The island has no previous SCAT, SSAT or ASAP survey information. No record of previous treatment. Reported as a seal haulout area. Highly recommend manual removal of heavily oiled beach sediments held cohesively together (tar mat, tarballs). Easy to remove manually.

EXXON
NAME LARRY D. OLSON SIGNATURE Larry D. Olson

☒ NTR Veco crew removed 16 bags from areas indicated on map. An option for this segment would have CVC clean up crew remove remainder if recoverable. However, in my opinion, what remains is not recoverable and does not appear to be harmful.

LANDMANAGER
NAME LARRY EVANOFF OF CVC SIGNATURE LE

☐ NTR ☒ TREATMENT RECOMMENDED.
TAR BALLS/PATTIES/~~SCAT~~ TAR MATS FOUND SCATTERED AROUND THE ENTIRE ISLAND. RECOMMEND MANUAL PICK UP USING TROWELS/RAKES/SHOVELS. THOSE AREAS WHERE LARGER COBBLE/BOULDERS ARE FOUND SHOULD BE TURNED OVER AND OILED DEBRIS ~~SHOULD BE REMOVED~~ ^{NO BIOREMEDIATION} AND SCRAPED FROM ROCK. RECOMMEND

USCG/NOAA
NAME JERRY SCHULTZ SIGNATURE Jerry Schultz

☒ NTR
MOST OF WHAT WAS RECOVERABLE WAS PICKED UP (14 BAGS). THAT IS REMAINING, ALTHOUGH THE OIL DISTRIBUTION AROUND THE ISLAND WAS ~~FAIRLY~~ UNIFORM. THE SMALL TAR BALLS WERE WIDELY SCATTERED AND WELL WEATHERED. THE REMAINING OIL IS VERY STIFF AND SHOWED NO TENDENCY TO MOVE OR RUB OFF EVEN UNDER EXTREME PRESSURE.

TEAM NO. 4

OG 17 Samples

ADEC D. Munson

EXXON L. Olson

BIO J. Barry

LANDMANAGER L. Eversell for

USCG/NOAA J. Schultz / J. Galt

SEGMENT DE 001

SUBDIVISION A

DATE 21 MAY 1991

TIME 10:44 to 12:07

TIDE LEVEL 0.0 ft. to +2.5 ft.

ENERGY LEVEL: ☒ H ☒ M ☐ L

SURVEYED FROM: ☒ FOOT ☐ BOAT ☐ HELO WEATHER: ☐ SUN ☒ CLOUDS ☐ FOG ☒ RAIN ☐ SNOW

TOTAL LENGTH SHORELINE SURVEYED: 860 m NEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONE

EST. OIL CATEGORY LENGTH: W _____ m M _____ m N 40 m VL 540 m NO 286 m US _____ m

L O C	SURFACE OIL CHARACTER										SURFACE SEDIMENT TYPE	SHORE SLOPE VHML	AREA		ZONE				NOTES
	AP	MS	TB	SOR	CV	CT	ST	FL	DB	NO			WIDTH m	LENGTH m	S	UI	MI	LI	
A1					S						Bed	A	3	70		X			
A2						S					Bed	A	1	50		X			
A3						S					pb sb	L	1	30		X			
A4			S								pb sb	L	1	50		X			
A5				S							pb sb	L	0.5	20		X			
A6					P						Bed	H	1	40		X			
A7					S						pb sb	M	2	30		X			
A8					S						Bed	A	1	40		X			
A9					S						Bed	M	3	100		X			
A10			T								pb sb	M	1	70		X			
A11			T								pb sb	M	2	100		X			

DISTRIBUTION: C = 91-100%; B = 51-90%; P = 11-50%; S = 1-10%; T = <1%

SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE PHOTO ROLL # MAYSAP- _____ FRAMES _____

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER							OILED ZONE cm-cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE				SURFACE- SUBSURFACE SEDIMENTS	NOTES
		OP	HOR	MOR	LOR	OF	TR	NO					S	UI	MI	LI		
1								X	-						X			NO FIELD
2								X	-					X				DATA PLOT
									-									FRUIT
									-									DETHS
									-									
									-									
									-									
									-									
									-									

SHEEN COLOR: B = BROWN; R = RAINBOW; S = SILVER; N = NONE

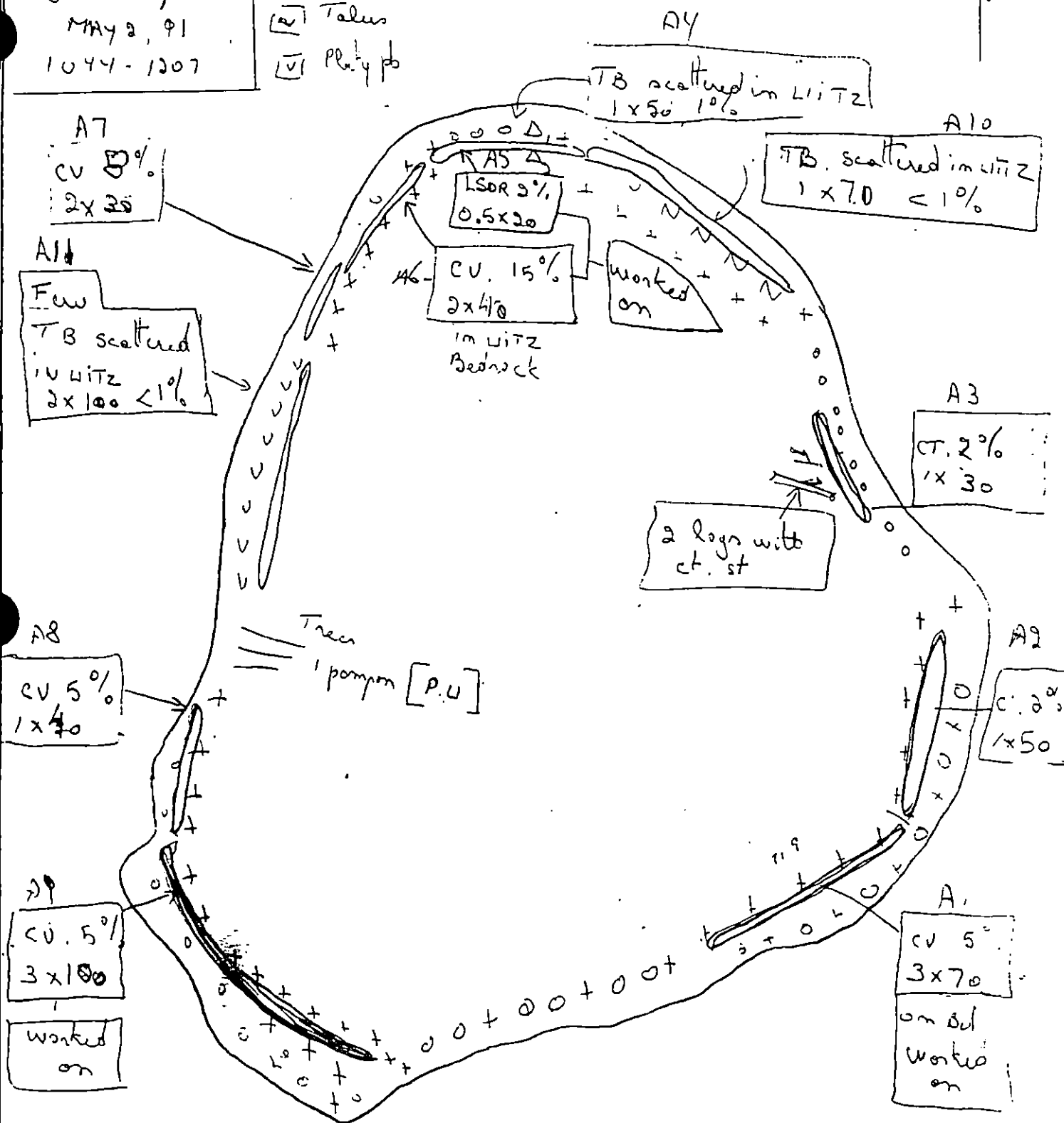
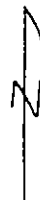
OG COMMENTS:

See map.

Revised: 5/17/91 me
revised 5/17/91

OG Sketch Map
 DE 001 A
 JM Samples
 MAY 2, 91
 1044-1207

Legend
 (+) Bedrock with vertical fol.
 (o) pb. ch. Bd
 (v) Talus
 (v) Platy pb



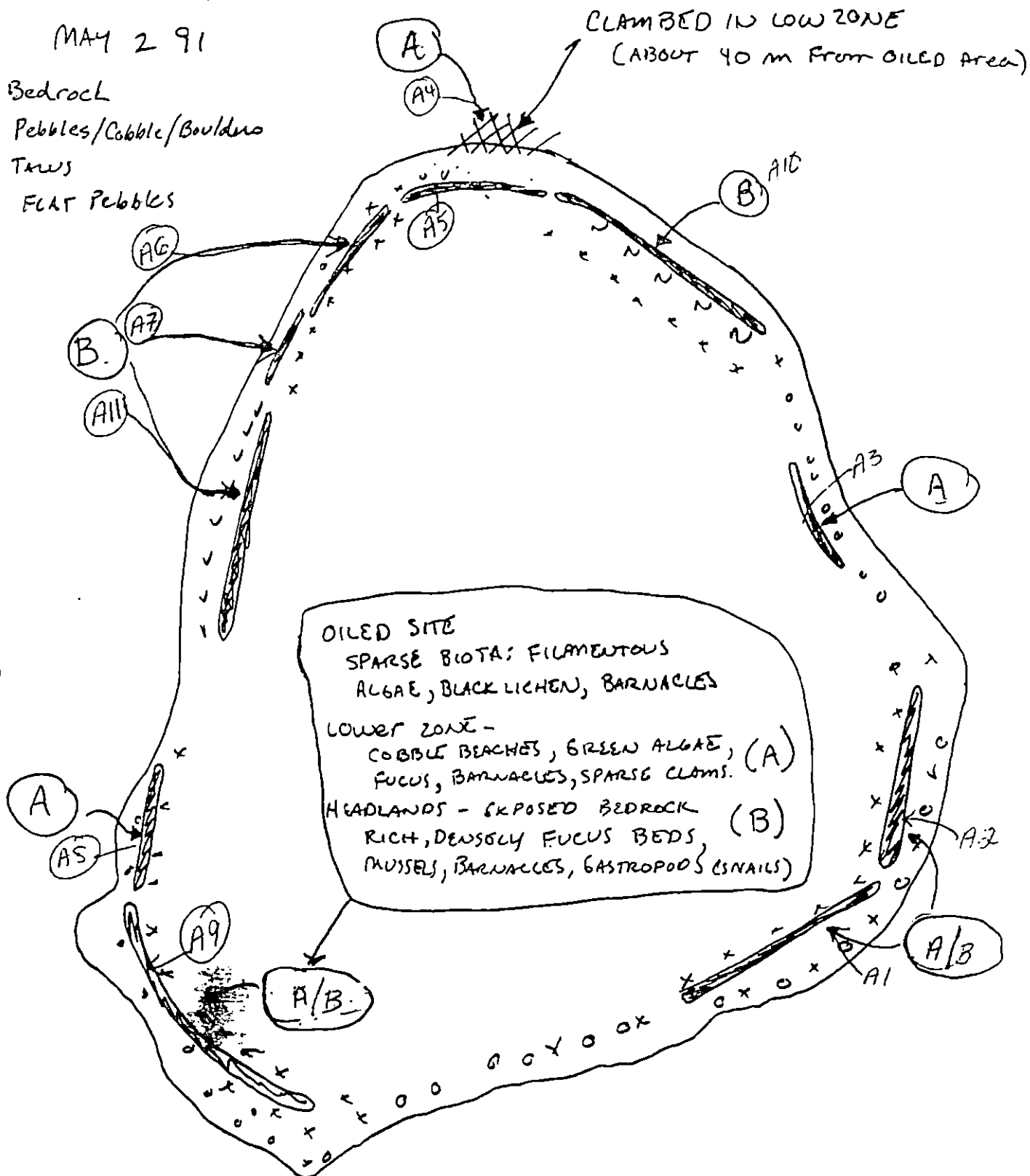
M. L. H.
 Reviewed: 5/7/91 M.
 reviewed 5/1/97

BIO SKETCH MAP

DE 001 A

MAY 2 91

- Bedrock
- Pebbles/Cobble/Boulders
- ⊞ Traws
- ⊞ FLAT Pebbles



REVIEWED: 5/1/91 MC

NAVSAP BIOLOGICAL SUMMARY FORM

TEAM #	4	DATE/TIME	May 2, 1991	1048 - 1220
SEGMENT #	DE001	TIDAL HEIGHT (Range)	0.0 => +2.5	
SUBDIVISION	A	BIOLOGIST	JIM BARRY	
SEA STATE	Calm	WIND SPEED/DIRECTION	NE 5 kt., light rain	

COMMENTS / OBSERVATIONS - OILED SUBDIVISIONS

A The oiled areas surrounding Delenia Island are similar to each other with regard to the biota immediately adjacent to the oiled site. Oiled areas are located on bedrock and cobble in the drift line of the upper intertidal zone. This zone circles the island as bedrock outcrops and shallow cliffs, with pebble and gravel beaches and bedrock outcrops below. The biota near the oiled area are very sparse. The only common species are scattered patches of filamentous algae, black lichen, and barnacles.

The general features of the biota below the oiled areas are related to beach type. Cobble and pebble beaches have fairly sparse cover of biota in the high to middle intertidal zones, with scattered to moderate Fucus cover, and moderate barnacle and littorine densities. Lower in the intertidal, the abundance and diversity of biota increase. Beaches with fairly shallow slope (A on map) appear to have a sparse clam beds in the lowest intertidal zone, at a distance of 30 to 40 m from the oiled area. Slightly above this zone, a mussel bed is present in the cobble and pebble sediments.

Beaches with talus boulders or bedrock outcrops and cliffs have much greater cover and density of species than beaches. On these sites (B on map) barnacles and Fucus form a distinct band with nearly 100% cover in the middle to upper intertidal. Mussels are present in fairly dense patches slightly below the barnacles, but still overlapping the Fucus zone. Overlapping and below the mussels, the brown alga, Scytosiphon lomentaria, forms a distinct band. Other species typical of moderately

(continued)

WILDLIFE OBSERVATIONS - Completed on all subdivisions

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	1	
Seabirds	2	15	
Waterfowl	3	9	
Gulls/Kittiwakes	2	25	
Shorebirds			
Corvids	1	1	
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters	1	Sitka Deer (dead on beach - 2)	
Pinnipeds (specify)			
Whales (specify)			

Coreline subdivision map showing important biological features attached.

REVIEWED: 5/7/91 AC

DE001-A Biological Report, continued

exposed coasts also are present. A small globular alga (probably *Petrocelis*) appears as abundant small dots (ca 2 mm diameter) throughout the barnacle zone. Littorine snails, limpets, anemones, small shrimps, amphipods, chitons, and crabs are common throughout the lower intertidal zone.

Beaches with both bedrock and cobble/pebble features are marked A/B on the sketch map.

Evidence of recent recruitment is distinct for several species. Barnacle spat are exceedingly numerous throughout the low to upper intertidal. Mussels are abundant as juveniles. Littorines, and several other gastropods have deposited egg masses under cobble throughout the intertidal. *Fucus* sporelings are abundant.

Because the oil is located in the upper zone, cleanup operations, if required, will not adversely impact intertidal biota. However, heavy machinery should not be allowed on the lower zones of beaches with clam and mussel beds. Manual cleanup will have no adverse impacts on the biota near the oiled site.

Summary of DE001-A

This small island has two major habitat types. High angle bedrock and talus beaches and headlands border approximately 2/3 of the island, with cobble and pebble beaches on the remainder of the subdivision. The beaches vary in slope and type of sediments from large cobble to pebbles and sand. The finer grained beaches are more expansive, shallower and, in their lower zones, have sparse to dense clam beds (see D above). Middle and upper zones of these beaches have little flora and fauna compared to other habitat types. Steeper beaches with larger cobble have denser cover of invertebrates and algae, dominated by the key species. Bedrock cliffs and outcrops have the highest cover of biota, as described above.

List of Common Species from DE001-A

A. Marine Plants

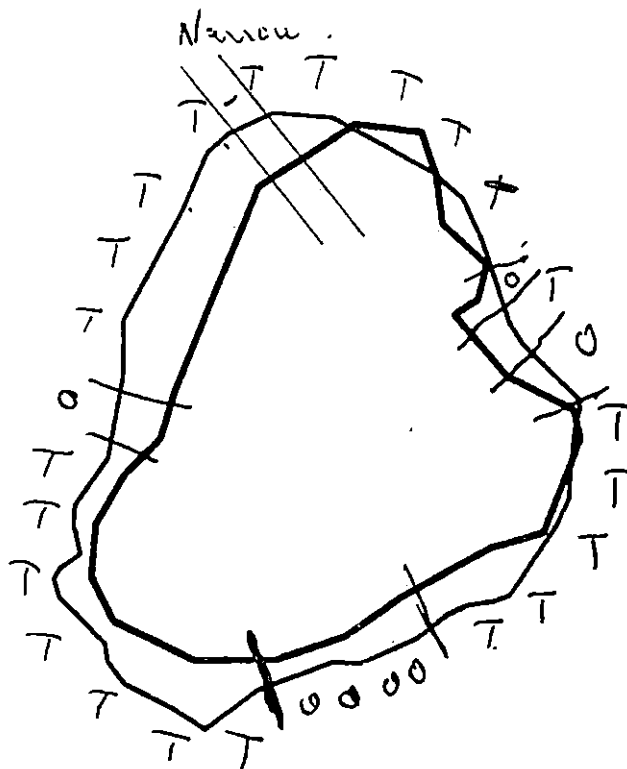
1. Diatoms, Blue Greens
2. Green Algae - Chlorophyta
Cladophora sp., *Enteromorpha* sp., *Ulva* sp., *Urospora* sp.
3. Brown Algae - Phaeophyta
Agarum fibriatum, *Ectocarpus* sp., *Fucus distichus*, *Hildenbrandia* sp., *Ralfsia* sp., *Syctosiphon lomentaria*
4. Red Algae - Rhodophyta
Calliarthron sp., *Cryptosiphonia woodii*, *Halosaccion glandiforme*, *Iridaea* sp., *Lithothamnion* sp., *Membranoptera dimorpha*, *Odonthalia floccosa*, *Palmaria palmata*, *Petrocelis* sp., *Ptilota filicina*, *Rhodomela larix*
5. Higher Plants - *Leymus mollis* (beach rye grass)

II. Marine Animals

1. Sponges - Porifera - *Halichondria* sp.
2. Anemones
Anthopleura artemesia, *A. elegantissima*, *Epiactis ritteri*, *Metridium senile*
3. Hydroids - Sertularidae - *Sertularella*?
5. Flatworms - Platyhelminthes - Polyclads
6. Nemertean Worms - Ribbon Worms - *Emplectonema gracile*
8. Polychaete worms
Nepthyidae
Nereidae - *Nereis* spp.
Serpulidae - *Serpula* sp., *Crucigera* sp.
Spirorbidae - *Spirorbis* sp.
9. Peanut worms - Sipunculids - *Phascolosoma agassizii*

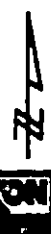
DE001-A Biological Report, continued

10. Crustaceans
 - a. Amphipods - *Orchestia* sp.?
 - b. Barnacles - *Balanus glandula*, *Chthamalus dalli*, *Semibalanus cariosus*
 - c. Crabs - *Haplogaster* sp., *Hemigrapsus oregonensis*, *Paguridae* (hermit crabs), *Oregonia gracilis*,
11. Mollusca
 - a. Chitons - *Mopalia mucosa*, *Katharina tunicata*, *Tonicella lineata*,
 - b. Snails - Gastropods
Littorina scutulata, *L. sitkana*, *Natica clausa*, *Nucella lamellosa*, *N. lima*, *Tachyrhynchus* sp., *Margarites* sp., *Searlesia* sp.
 - c. Limpets - *Acmaea mitra*, *L. persona*, *Tectura persona*, *T. scutum*
 - d. Nudibranches - *Lamellidoris fusca*
 - e. Mussels and Clams
Clinocardium sp., *C. nuttalli*, *Hiatella arctica*, *Macoma balthica*, *Macoma nasuta*, *Modiolus* sp., *Mytilus edulis*, *Pododesmus cepio*, *Prototheca staminea*
12. Echinoderms -
 - a. Brittle Stars - *Ophiolus* sp., ?
 - b. Sea stars
Dermasterias imbricata, *Evasterias truscheli*, *Leptasterias hexactis*, *Orthasterias keohleri*, *Pisaster ochraceus*, *Pycnopoda helianthoides*,
 - c. Sea Cucumbers - Holothurians - *Eupentacta* sp., *Leptosynapta* sp.
 - d. Urchins - *Strongylocentrotus droebachiensis*
13. Bryozoans - *Schizoporella* sp.
15. Fishes
Cottidae - unknown species
Liparidae - *Liparis callyodon*
Stichaeidae - *Xiphister atropurpureus*, *X. mucosus*



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

DE001 A
 ADEC Subsegment Length: 800m
 METERS
 100 200
 AK State Plane Zone 4
 pds001a



Subdivision Field Map
 Map Key: PWSDE001A
 Name: 5H Samples
 Date: May 2, '91
 Date Entered:

Revised: 5/7/91 me
 revised 5/6/91 KG

State will evaluate the need for further treatment.

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

Eagle Nest: Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.

TEAM NO. 4SEGMENT DE 001SUBDIVISION ADATE 2 MAY 1991

ADEC

NAME Dianne MunsonSIGNATURE Dianne Munson

☐ NTR ☒ Treatment Recommended. much of the oiling classified as cover and SOR is in my opinion tar mat or soft friable asphalt (Heavily oiled beach sediments held cohesively together). These tarballs and tar mats occur similarly around the entire island. The island has no previous SCAT, SSAT or ASAP survey information. No record of previous treatment. Reported as a seal haulout area. Highly recommend manual removal of heavily oiled beach sediments held cohesively together (tar mat, tarballs). Easy to remove manually.

EXXON

NAME LARRY D. OLSONSIGNATURE Larry D. Olson

☒ NTR Ueco crew removed 16 bags from areas indicated on map. An option for this segment would have CVC clean up crew remove remainder if recoverable. However, in my opinion, what remains is not recoverable and does not appear to be harmful.

LANDMANAGER

NAME LARRY EVANOFF OF CVCSIGNATURE Dr. E. J.

☐ NTR ☒ TREATMENT RECOMMENDED.
TAR BALLS / PATTIES / ~~DEBRIS~~ TAR MATS FOUND SCATTERED AROUND THE ENTIRE ISLAND. RECOMMEND MANUAL PICK UP USING TROWELS / RAKES / SHOVELS. THOSE AREAS WHERE LARGER COBBLE / BOULDERS ARE FOUND SHOULD BE TURNED OVER AND OILED DEBRIS ~~SHOULD BE~~ REMOVED AND SCRAPED FROM ROCK. NO BIODEGRADATION RECOMMENDED.

USCG/NOAA

NAME JERRY SCHULTZSIGNATURE Jerry Schultz☒ NTR

MOST OF WHAT WAS RECOVERABLE WAS PICKED UP (16 BAGS). THAT, THAT IS REMAINING, ALTHOUGH THE OIL DISTRIBUTION AROUND THE ISLAND WAS FAIRLY UNIFORM. THE SMALL TAR BALLS WERE WIDELY SCATTERED AND WELL WEATHERED. THE REMAINING OIL IS VERY STIFF AND SHOWED NO TENDENCY TO MOVE OR RUB OFF EVEN UNDER EXTREME PRESSURE.

MAYSAP SHORELINE OILING SUMMARY

PAGE 2 OF 8

TEAM NO. 4

OG J. M. Sempels

ADEC J. Munson

EXXON L. Olson

BIO J. Barry

LANDMANAGER L. Eversiff for _____

USCG/NOAA J. Schultz / J. Galt

SEGMENT DE001

SUBDIVISION A

DATE 2 / MAY / 91

TIME 10:44 to 12:07

TIDE LEVEL 0.0 ft. to +2.5 ft.

ENERGY LEVEL: ☒ H ☒ M ☐ L

SURVEYED FROM: ☒ FOOT ☐ BOAT ☐ HELO

WEATHER: ☐ SUN ☒ CLOUDS ☐ FOG ☒ RAIN ☐ SNOW

TOTAL LENGTH SHORELINE SURVEYED: 860 m

NEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONE

EST. OIL CATEGORY LENGTH: W _____ m M _____ m N 40 m VL 540 m NO 280 m US _____ m

L O C	SURFACE OIL CHARACTER										SURFACE SEDIMENT TYPE	SHORE SLOPE V H M L	AREA		ZONE				NOTES
	AP	MS	TB	SOR	CV	CT	ST	FL	DB	NO			WIDTH m	LENGTH m	S	UI	MI	LI	
A1					S						Bed	A	3	70		X			
A2						S					Bed	A	1	50		X			
A3						S					ph sb	L	1	30		X			
A4			S								ph sb	L	1	50		X			
A5				S							ph sb	L	0.5	20		X			
A6					P						Bed	H	2	40		X			
A7					S						ph sb	M	2	30		X			
A8					S						Bed	H	1	40		X			
A9					S						Bed	M	3	100		X			
A10			T								ph sb	M	1	70		X			
A11			T										2	100		X			

DISTRIBUTION: C = 91-100%; B = 51-90%; P = 11-50%; S = 1-10%; T = <1%

SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE PHOTO ROLL # MAYSAP- _____ FRAMES _____

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER							OILED ZONE cm-cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE				SURFACE- SUBSURFACE SEDIMENTS	NOTES
		OP	HOR	MOR	LOR	OF	TR	NO					S	UI	MI	LI		
1								X	-						X			NO FIELD
2								X	-					X				DATA RECORDED
									-									FOR PIT
									-									DEPTHS
									-									
									-									
									-									
									-									

SHEEN COLOR: B = BROWN; R = RAINBOW; S = SILVER; N = NONE

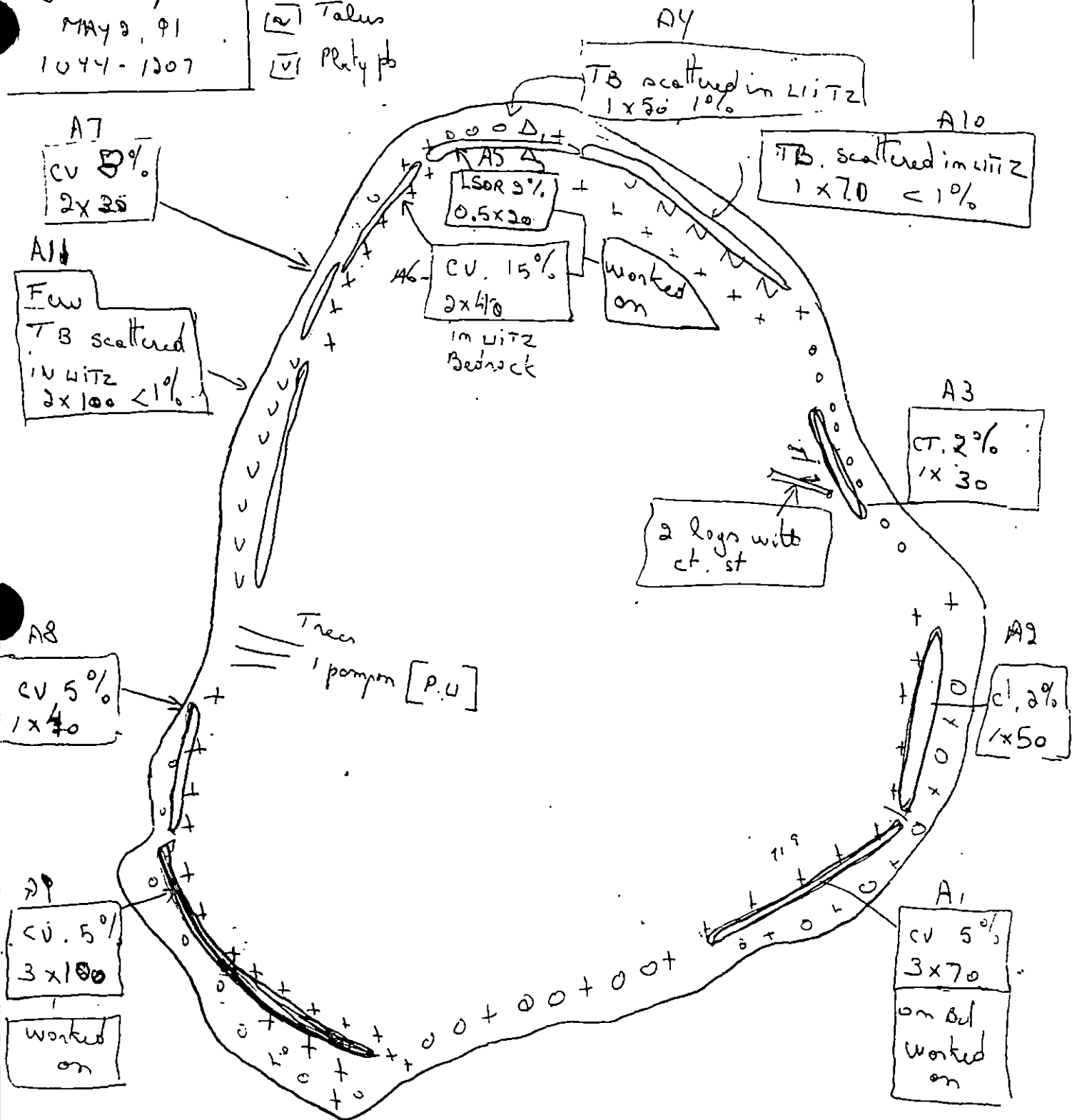
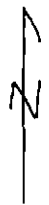
OG COMMENTS:

See map.

Revises: 5/7/91 MC
revised 5/6/91 KG

Og Sketch Map
DE 001 A
J.M. Samples
MAY 2, 91
1044-1207

- Legend
- [+/-] Bedrock with vertical fol.
 - [□] pb, ch, Bd
 - [~] Talus
 - [V] Platy pb

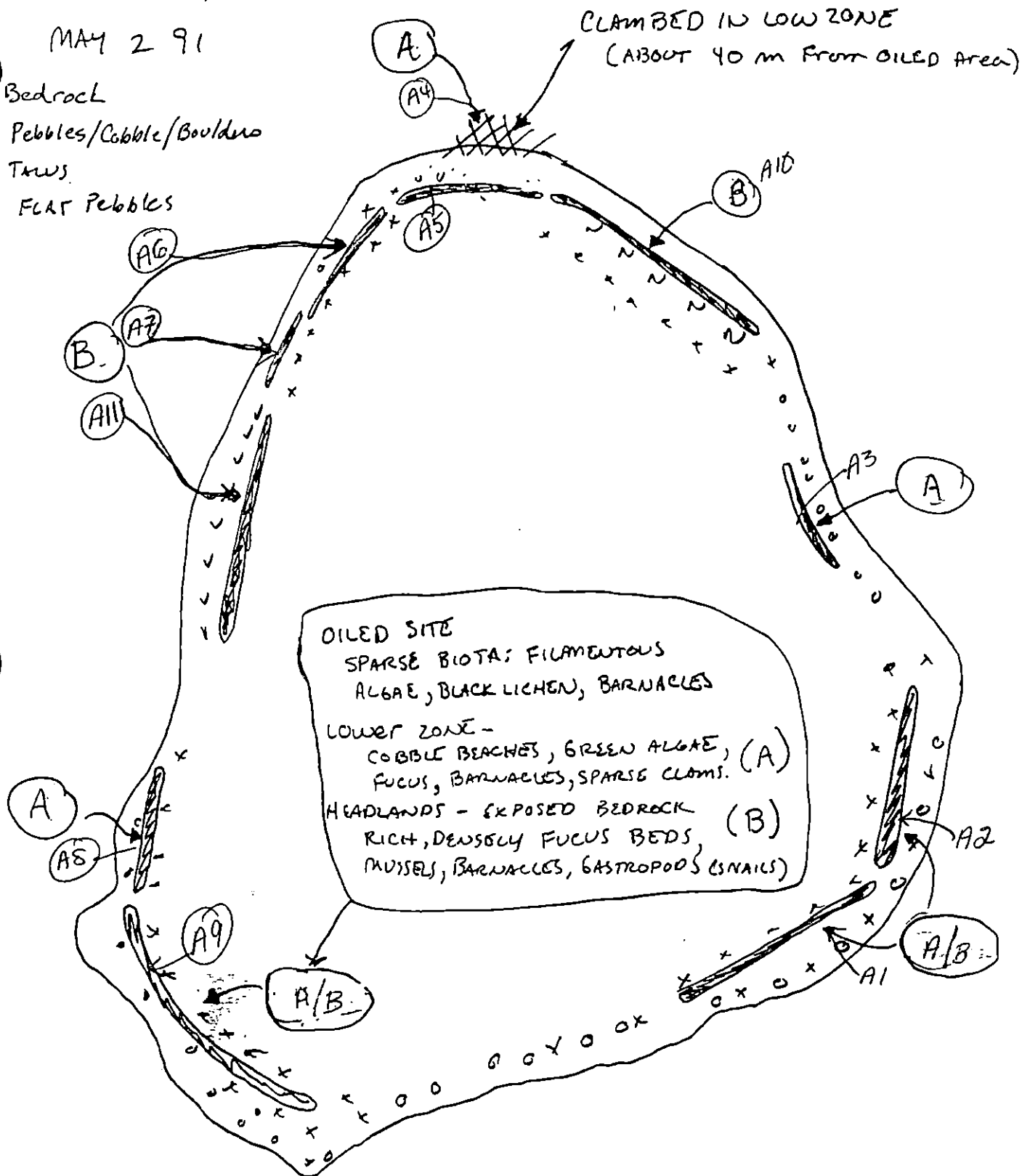


BIO SKETCH MAP

DE 001 A

MAY 2 91

- ☒ Bedrock
- ☒ Pebbles/Cobble/Boulders
- ☒ TAWS
- ☒ FLAT Pebbles



Meters
0 50

REVIEWED: 5/7/91 MC

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM #	4	DATE/TIME	May 2, 1991	1048 - 1220
SEGMENT #	DE001	TIDAL HEIGHT (Range)	0.0 => +2.5	
SUBDIVISION	A	BIOLOGIST	JIM BARRY	
STATE	Calif	WIND SPEED/DIRECTION	NE 5 kt., light rain	

COMMENTS / OBSERVATIONS - OILED SUBDIVISIONS

The oiled areas surrounding Delenia Island are similar to each other with regard to the biota immediately adjacent to the oiled site. Oiled areas are located on bedrock and cobble in the drift line of the upper intertidal zone. This zone circles the island as bedrock outcrops and shallow cliffs, with pebble and gravel beaches and bedrock outcrops below. The biota near the oiled area are very sparse. The only common species are scattered patches of filamentous algae, black lichen, and barnacles.

The general features of the biota below the oiled areas are related to beach type. Cobble and pebble beaches have fairly sparse cover of biota in the high to middle intertidal zones, with scattered to moderate Fucus cover, and moderate barnacle and littorine densities. Lower in the intertidal, the abundance and diversity of biota increase. Beaches with fairly shallow slope (A on map) appear to have a sparse clam beds in the lowest intertidal zone, at a distance of 30 to 40 m from the oiled area. Slightly above this zone, a mussel bed is present in the cobble and pebble sediments.

Beaches with talus boulders or bedrock outcrops and cliffs have much greater cover and density of species than beaches. On these sites (B on map) barnacles and Fucus form a distinct band with nearly 100% cover in the middle to upper intertidal. Mussels are present in fairly dense patches slightly below the barnacles, but still overlapping the Fucus zone. Overlapping and below the mussels, the brown alga, Scytosiphon lomentaria, forms a distinct band. Other species typical of moderately

(continued)

WILDLIFE OBSERVATIONS - Completed on all subdivisions

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1	1	
Seabirds	2	15	
Waterfowl	3	9	
Gulls/Kittiwakes	2	25	
Shorebirds			
Corvids	1	1	
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters	1	Sitka Deer (dead on beach - 2)	
Pinnipeds (specify)			
Whales (specify)			

reline subdivision map showing important biological features attached.

REVIEWED: 5/7/91 MC

DE001-A Biological Report, continued

exposed coasts also are present. A small globular alga (probably *Petrocelis*) appears as abundant small dots (ca 2 mm diameter) throughout the barnacle zone. Littorine snails, limpets, anemones, small shrimps, amphipods, chitons, and crabs are common throughout the lower intertidal zone.

Beaches with both bedrock and cobble/pebble features are marked A/B on the sketch map.

Evidence of recent recruitment is distinct for several species. Barnacle spat are exceedingly numerous throughout the low to upper intertidal. Mussels are abundant as juveniles. Littorines, and several other gastropods have deposited egg masses under cobble throughout the intertidal. *Fucus* sporelings are abundant.

Because the oil is located in the upper zone, cleanup operations, if required, will not adversely impact intertidal biota. However, heavy machinery should not be allowed on the lower zones of beaches with clam and mussel beds. Manual cleanup will have no adverse impacts on the biota near the oiled site.

Summary of DE001-A

This small island has two major habitat types. High angle bedrock and talus beaches and headlands border approximately 2/3 of the island, with cobble and pebble beaches on the remainder of the subdivision. The beaches vary in slope and type of sediments from large cobble to pebbles and sand. The finer grained beaches are more expansive, shallower and, in their lower zones, have sparse to dense clam beds (see D above). Middle and upper zones of these beaches have little flora and fauna compared to other habitat types. Steeper beaches with larger cobble have denser cover of invertebrates and algae, dominated by the key species. Bedrock cliffs and outcrops have the highest cover of biota, as described above.

List of Common Species from DE001-A

A. Marine Plants

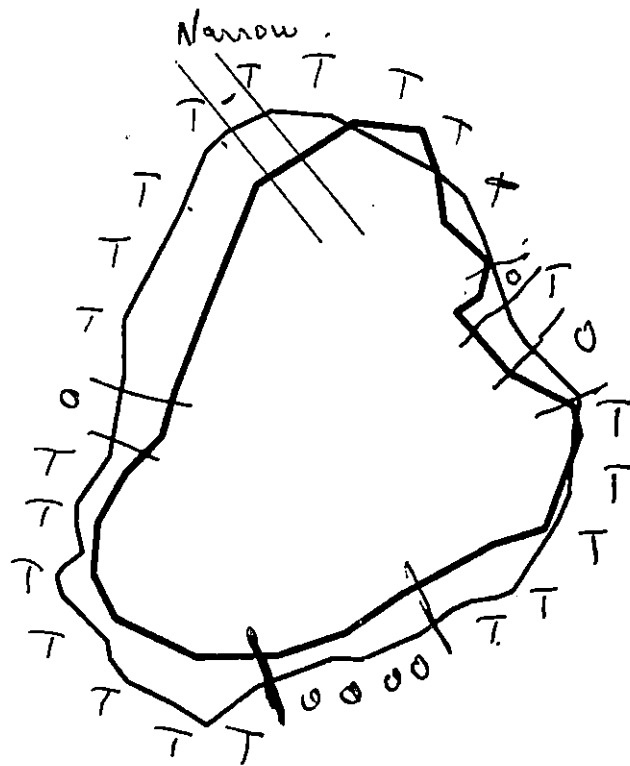
1. Diatoms, Blue Greens
2. Green Algae - Chlorophyta
Cladophora sp., *Enteromorpha* sp., *Ulva* sp., *Urospora* sp.
3. Brown Algae - Phaeophyta
Agarum fimbriatum, *Ectocarpus* sp., *Fucus distichus*, *Hildenbrandia* sp., *Ralfsia* sp., *Syctosiphon lomentaria*
4. Red Algae - Rhodophyta
Calliarthron sp., *Cryptosiphonia woodii*, *Halosaccion glandiforme*, *Iridaea* sp., *Lithothamnion* sp., *Membranoptera dimorpha*, *Odonthalia floccosa*, *Palmaria palmata*, *Petrocelis* sp., *Ptilota filicina*, *Rhodomela larix*
5. Higher Plants - *Leymus mollis* (beach rye grass)

II. Marine Animals

1. Sponges - Porifera - *Halichondria* sp.
2. Anemones
Anthopleura artemesia, *A. elegantissima*, *Epiactis ritteri*, *Metridium senile*
3. Hydroids - Sertularidae - *Sertularella*?
5. Flatworms - Platyhelminthes - Polyclads
6. Nemertean Worms - Ribbon Worms - *Emplectonema gracile*
8. Polychaete worms
Nepthyidae
Nereidae - *Nereis* spp.
Serpulidae - *Serpula* sp., *Crucigera* sp.
Spirorbidae - *Spirorbis* sp.
9. Peanut worms - Sipunculids - *Phascolosoma agassizii*

DE001-A Biological Report, continued

10. Crustaceans
 - a. Amphipods - *Orchestia* sp.?
 - b. Barnacles - *Balanus glandula*, *Chthamalus dalli*, *Semibalanus cariosus*
 - c. Crabs - *Haplogaster* sp., *Hemigrapsus oregonensis*, Paguridae (hermit crabs), *Oregonia gracilis*,
11. Mollusca
 - a. Chitons - *Mopalia mucosa*, *Katharina tunicata*, *Tonicella lineata*,
 - b. Snails - Gastropods
Littorina scutulata, *L. sitkana*, *Natica clausa*, *Nucella lamellosa*, *N. lima*, *Tachyrhynchus* sp., *Margarites* sp., *Searlesia* sp.
 - c. Limpets - *Acmaea mitra*, *L. persona*, *Tectura persona*, *T. scutum*
 - d. Nudibranches - *Lamellidoris fusca*
 - e. Mussels and Clams
Clinocardium sp., *C. nuttalli*, *Hiatella arctica*, *Macoma balthica*, *Macoma nasuta*, *Modiolus* sp., *Mytilus edulis*, *Pododesmus cepio*, *Prototheca staminea*
12. Echinoderms -
 - a. Brittle Stars - *Ophiolus* sp., ?
 - b. Sea stars
Dermasterias imbricata, *Evasterias truscheli*, *Leptasterias hexactis*, *Orthasterias keohleri*, *Pisaster ochraceus*, *Pycnopoda helianthoides*,
 - c. Sea Cucumbers - Holothurians - *Eupentacta* sp., *Leptosynapta* sp.
 - d. Urchins - *Strongylocentrotus droebachiensis*
13. Bryozoans - *Schizoporella* sp.
15. Fishes
Cottidae - unknown species
Liparidae - *Liparis callyodon*
Stichaeidae - *Xiphister atropurpureus*, *X. mucosus*



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

DE001 A
ADEC Subsegment Length: 880m
METERS
0 100 200
AK State Plane Zone 4
pdc001a

Subdivision Field Map
Map Key: PWSDE001A
Name: 5H Samples
Date: May 2, '91
Data Entered:



Reviewed: 5/7/91 me
revised 5/6/91 KG

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT DI-59 SUBDIVISION A (1 of 1)

WORK WINDOW	
Bioremediation	OPEN
Manual Raking	
Other Recommended Treatment	

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

No time-dependent ecological constraints.

OTHER ECOLOGICAL CONSIDERATIONS

Avoid disturbance/damage to uncolled biota and substrate. Significant Invertebrate (bivalve) colonies should be avoided during treatment (ie: mussel and clam beds).

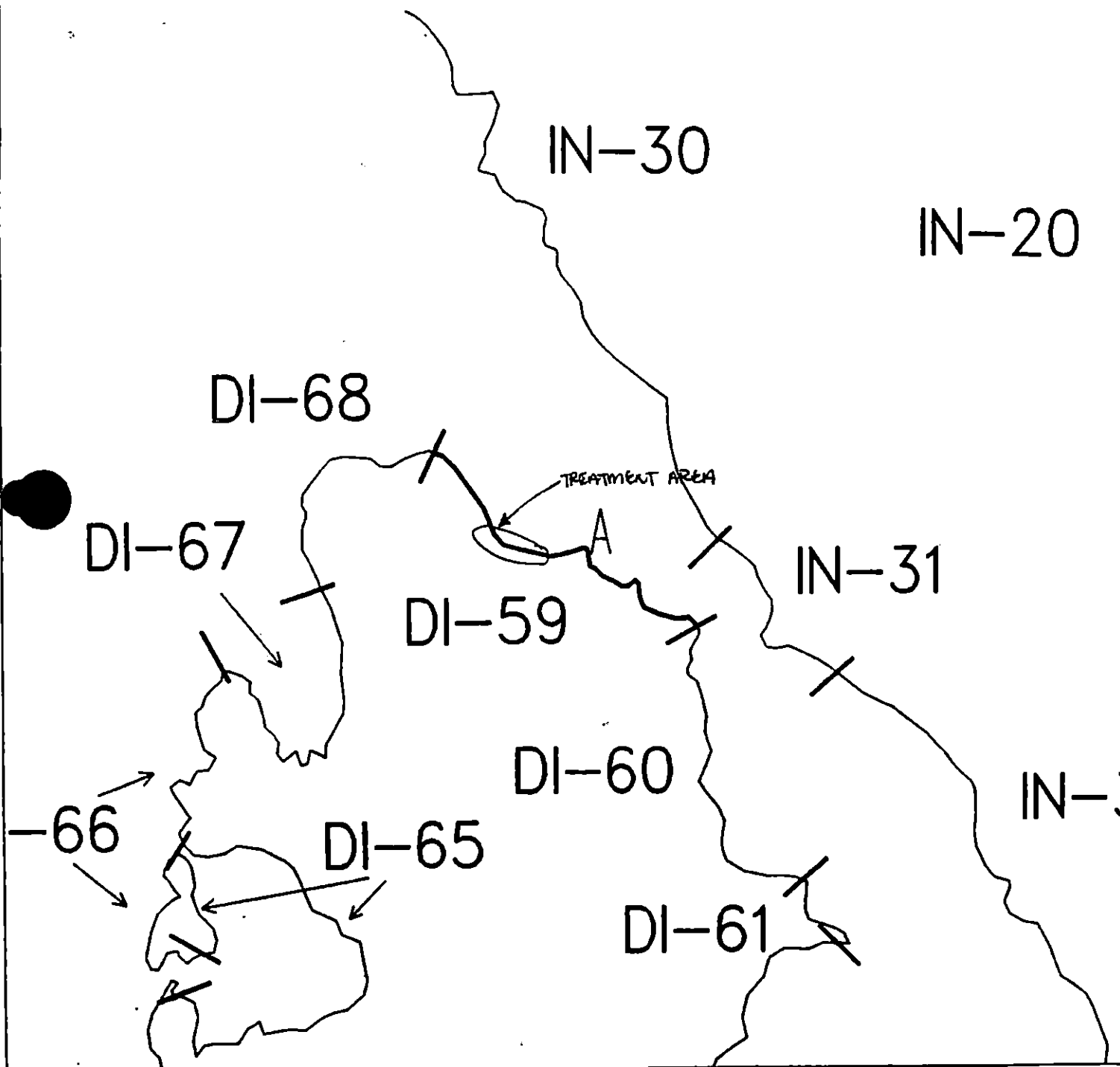
TAG ADDENDUM DATE 5/16/90
ADEC ART WEINER Art Weiner
EXXON Andy Tate Andy Tate
NOAA Gary Peters Gary Peters
USCG G.A. REITER G.A. Reiter

FOSC h

DATE 5-17-90

Prepared by: WPK

Date: 5/14/90



ECOLOGY MAP SEGMENT DI-59

SUBDIVISION A (1 of 1)

METERS

SHORELINE EVALUATION

SEGMENT ST/ DI-59 SUBDIVISION A (1 OF 1) DATE 4/20/90

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

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Significant invertebrate (bivalve) colonies should be avoided during cleanup (ie: mussel and clam beds)

ARCHAEOLOGICAL CONSTRAINTS: If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately ~~required prior~~ (564-3657; 564-3658 or 564-3276).

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

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 92 m: V.Light 545 m: No Oil 414 m
Subsurface Oil Observed: Yes X No Maximum Depth 15+ cm

RECOMMENDATIONS:

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

COMMENTS:

TAG COMMENTS: BIOREMEDIATION IN AREAS INDICATED ON SKETCH. RAKE +
USE OF OIL SNARE IN AREA OF TP9 FROM TO BLO

TAG APPROVAL DATE: 4/30/90

ADEC ART WEINER
EXXON ANDY GO
NOAA Cary Petrac
USCG Kenneth Kerner

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

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT DI-59 SUBDIVISION A (1 of 1)

WORK WINDOW	
Bioremediation, Manual Raking, and Other Approved Treatment More Than 400m From Nest	OPEN
Bioremediation, Manual Raking and Other Approved Treatment Less Than 400m From Nest	CLOSED

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

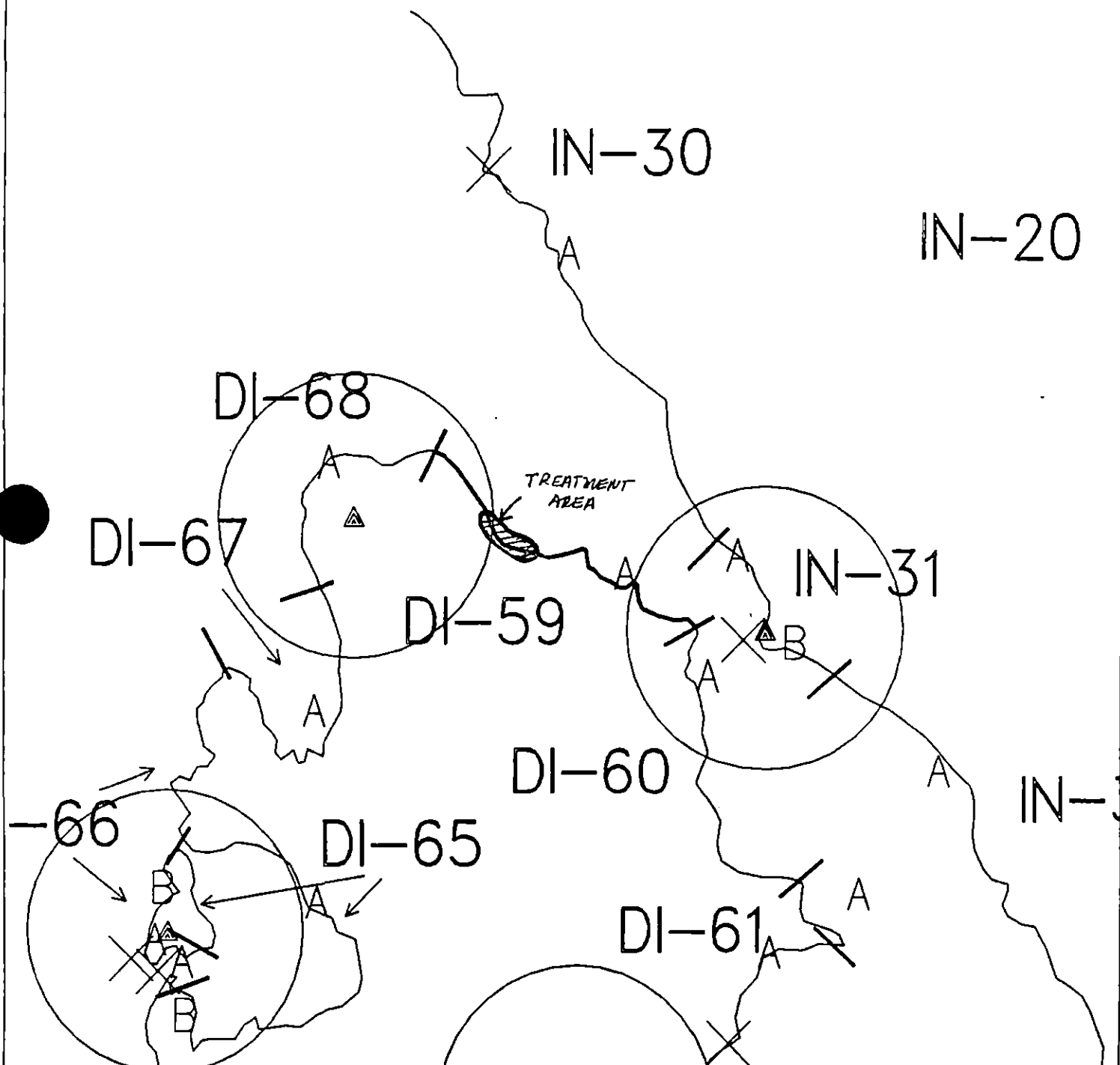
5T **Bald Eagle Nest** USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to bioremediation, manual raking and other approved treatment within 400m of active nest. No constraint to bioremediation manual raking and other approved treatment more than 400m from active nest.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict air traffic and all disturbance to essential minimum. No personnel or boat traffic within 400m of active nests. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from active nests. Avoid disturbance/damage to uncollected biota and substrate. Significant invertebrate (bivalve) colonies should be avoided during treatment (i.e. mussel and clam beds).

FOSC [Signature] Date 6-10-90

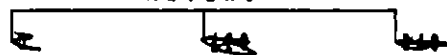
Prepared by J.P. Phillips ⁶⁻¹⁰⁻⁹⁰ am Date 6/10/90



Exxon Company, USA
 Map Key: PWS-DI-59
 June 04, 1990



ECOLOGY MAP
 SEGMENT DI-59
 SUBDIVISION A (1 of 1)
 METERS



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

~~XXXXXX~~ = ~~XXXXXX~~

SHORELINE EVALUATION

SEGMENT ST/ DI-59 SUBDIVISION A (1 OF 1) DATE 4/20/90

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

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to uncoiled biota and substrate. Significant invertebrate (bivalve) colonies should be avoided during cleanup (ie: mussel and clam beds)

ARCHAEOLOGICAL CONSTRAINTS: If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately ~~acquired~~ prior (564-3657; 564-3658 or 564-3276).

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

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 92 m: V.Light 545 m: No Oil 414 m
Subsurface Oil Observed: Yes X No Maximum Depth 15+ cm

RECOMMENDATIONS:

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

COMMENTS: SEE CONSTRAINTS ADDENDUM dated 6/10/90/PP

TAG COMMENTS: BIOREMEDIATION IN AREAS INDICATED ON SKETCH. RAKE +
USE OF OIL SNARE IN AREA OF TP9 PRIOR TO BLO

TAG APPROVAL DATE: 4/30/90.
ADEC ART WINGATE [Signature]
EXXON ANDY GEL [Signature]
NOAA GARY PETROS [Signature]
USCG KENNETH KENNEDY [Signature]

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

SHORELINE EVALUATION

SEGMENT ST/ DI-59 SUBDIVISION A (1 OF 1) DATE 4/20/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

No specific sensitivities or time constraints identified.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

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Subsurface Oil Observed: Yes X No Maximum Depth 15+ cm

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☒ Treatment Recommended	☒ Oil Snares (pom poms)
☐ Manual Pickup	☐ Absorbents (pads, rolls, etc)
☒ Bioremediation	☐ Spot Washing: <u> </u> Wands
☐ Tarmat Removal	☐ Beach Cleaner
	☐ Other (see comments)

COMMENTS:

TAG COMMENTS: BIOREMEDIATION IN AREAS INDICATED ON SKETCH. RAKE +
USE OF OIL SNARE IN AREA OF TP9. FROM TO B20.

TAG APPROVAL DATE: 4/30/90.
ADEC ART WEINER
EXXON ANDY GOR
NOAA GARY PETRAE
USCG KORALITH REINE

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

00 C. DI TEAM 6

SEGMENT ST/ DI-59

SUBDIVISION A

DATE 4/1/90

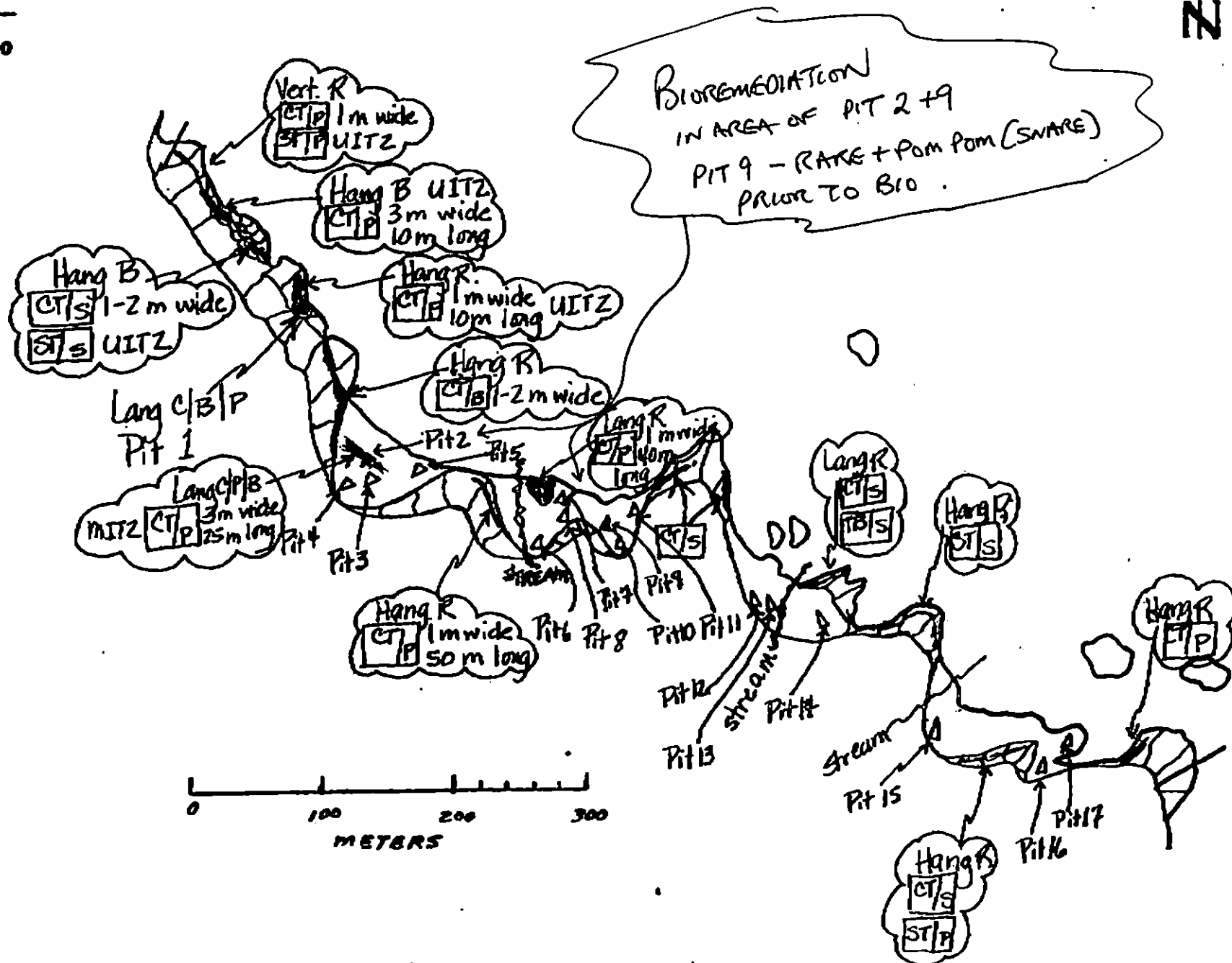
CHECKLIST

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

LEGEND

- ☐ 1 Δ
- PH - No Subsurface Oil
- ☐ 2 Δ
- PH - Subsurface Oil
- ☐ CT/C
- Continuous Distribution
- ☐ CT/S
- Broken Distribution
- ☐ CT/P
- Patchy Distribution
- ☐ CT/S
- Splashed Distribution
- ☐ eee
- Clad Vegetation
- ☐ 1 Δ
- Photo location, direction, and number

SKETCH MAP



Oil Character Length (m): AP 0 PO 0 CV 0 CT 600 ST 175 MS 0 PT 0 TB 3 FL 0 NO 585

REVISIONS

OG C. Di TEAM 6

SEGMENT ST/ DI-59

SUBDIVISION A

DATE 4, 20 90

CHECKLIST

- ☐ H Area
- ☐ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HPT/LVL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ PT Location(s)
- ☐ Photo Location(s)

LEGEND

1 Δ

PT - No Subsurface Oil

2 Δ

PT - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Spotted Distribution

Oil Vegetation

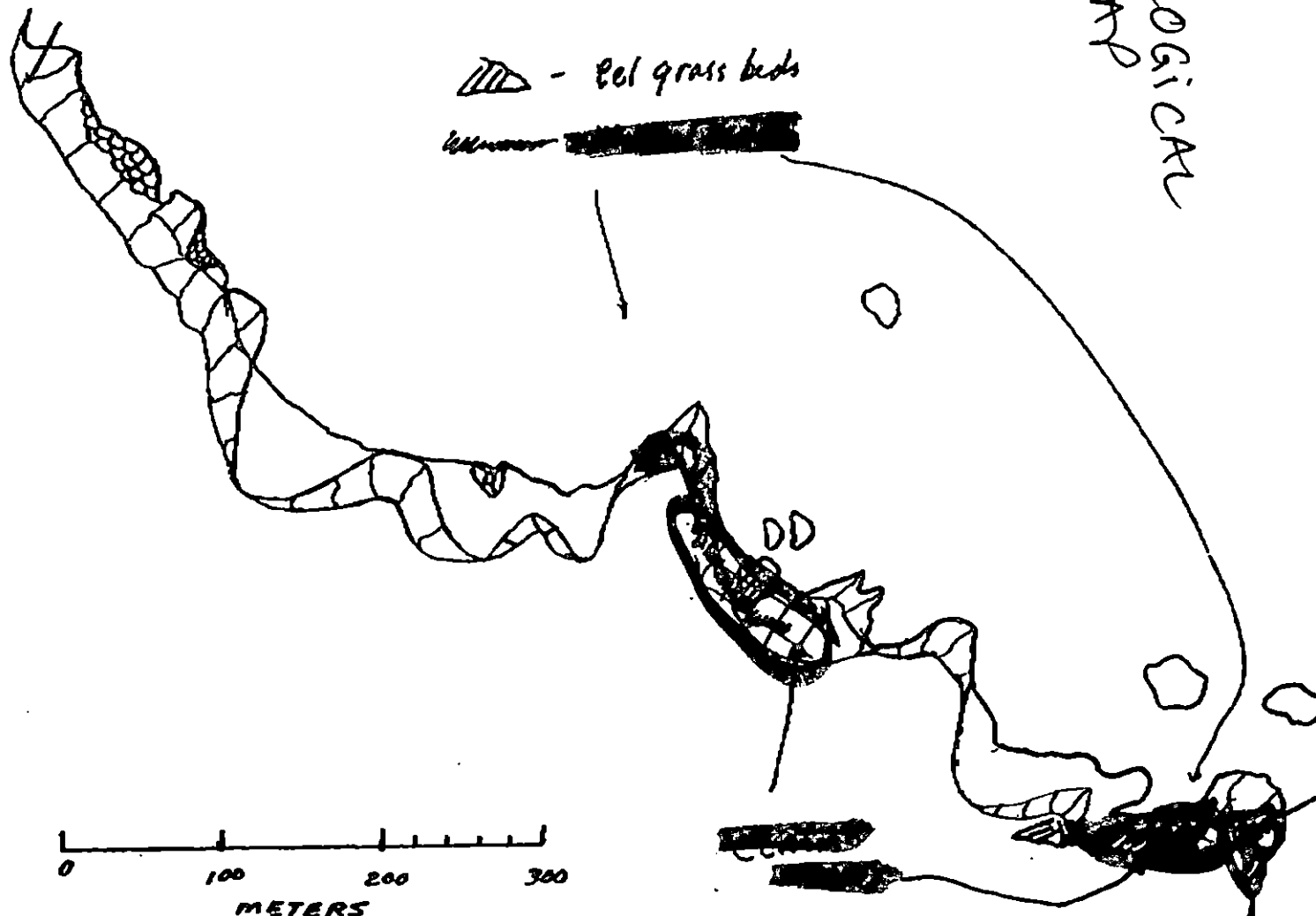
1 ●

Photo location, direction, and number

ATCH MAP

N

ECOLOGICAL
MAP



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

4/4
REVISIONS

DI-59

DI-60

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

DI-59

EXXON SEGMENT LENGTH: 1363m

ADEC Segment Length: 1048m

0 100 200 300

METERS

Map Key: PWS-91

Name: C. DILLON

Date: 4/20/90

Date Entered:

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/DI-59

SUBDIVISIONS: A (1 OF 1)

SHORELINE EVALUATION

SEGMENT ST/ DI-59 SUBDIVISION A (1 OF 1) DATE 4/20/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

No specific sensitivities or time constraints identified.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Significant invertebrate (bivalve) colonies should be avoided during cleanup (ie: mussel and clam beds)

ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 92 m: V.Light 545 m: No Oil 414 m
Subsurface Oil Observed: Yes X No _____ Maximum Depth 15+ cm

RECOMMENDATIONS:

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

COMMENTS: _____

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / DI-59 SUBDIVISION: A DATE 4/20/90

USCG

NAME William E. White SIGNATURE William E. White

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

CONTINUOUS wave EXPOSURE cleaning.

ADEC

NAME Peter Montesano SIGNATURE Peter Montesano

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

- Heavy interstitial sheen at pit 2, appropriate for localized bioremediation.
- Pit 9, Too thick OP for bioremediation. Area heavily oiled is small and bag removal should be considered. It does not appear that this oiling will soon break up since it is now an almost impenetrable layer.

LAND MANAGER

USDA Forest Service
NAME Don J. Breitinger SIGNATURE Don J. Breitinger

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

Natural wave action cleaning appears to be the best cleaning method.

SHORELINE OILING SUMMARY

REVISION NO. 02/13/88

OG C. DILLON USCG PS1 E. WHITE SEGMENT ST/ DI-59
 BIO J. BARRY LAND REP D. BRIGHTENGER (NCS) SUBDIVISION A (1 OF 1)
 EXXON G. STILES ADEC P. MONTESANO TIME 15:15 to 18:00
 TEAM NO. 6 TIDE LEVEL +2.25 to +2.5 DATE 04/20/90
 ST. SUBDIVISION LENGTH: 1363 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☒ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: NW to SE
 SURFACE SEDIMENTS: R 40 % B 20 % C 30 % P 8 % G 1 % S 1 % M 0 % V 0 %
 SLOPE: Long 5.5 % Hang 30 % Vert 15 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 130 m VL 48 m NO 585 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR				IMPACTED ZONES			
	R	B	P	S	1	2	3	4	SU	U	M	U
ASPHALT PAVEMENT												
POOLED												
COVER												
COAT		X	X	X	X					X		✓
STAIN			X	X				X		X		
MOUSSE												
PATTIES												
TARBALLS				X	X					X		
LM												
NO OIL	Snow on beach SITZ								S			X

PAVEMENT H F S 0 sq. m by 0 cmPATTIES / TARBALLS 0 BAGS

NEAR SHORE SHEEN? NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐

Uniled trash

TYPE 1 oiled pom-pom#BAGS 1

Photographs:

Roll No. NONEFrames -

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR				PIT ZONE				A N A	SHEER (Y/N)	↓	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	1	2	3	4	SU	U	M	U				
1	35					X	.		X							X			N	30	P/C - P
2	25		X				5-15		X			X				X			Y	15	B/C/P - C/P
3	30					X	.		X						X				N	25	C/P - C/P/G
4	30					X	.		X					X					N	-	C/P - C/P/G
5	25					X	.		X							X			N	-	C/P - C/P/G
6	45					X	.		X						X				N	-	P - P/G

COMMENTS

REVIEWED YWDATE 4/23/90

SHORELINE OILING SUMMARY (PAGE 2)

REVISION 06/12/90

OG C. DILLON
TEAM 6SEGMENT ST/ DI-59 SUBDIVISION A (2 OF 2)

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM-CL)	BELOW		OIL / FILM COLOR						PIT ZONE				A N A	GREEN (Y/N)	↓	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	SL	SR	ST	SW	LT	LB	SU	U	M	U				
7	25					X	-		X									X			N	—	P - P/G
8	40					X	-		X								X				N	—	P - P/G
9	15	X					0-15	X					X					X			N	—	B/C - C/P/G/M
10	30					X	-		X								X				N	—	P - P/G
11	45					X	-		X									X			N	—	P - P/G/P/G
12	30					X	-		X									X			N	25	P/G - G/M
13	40					X	-		X								X				N	40	P/G - G/M
14	35					X	-		X								X				N	30	P. - P/G
15	30					X	-		X								X				N	20	C/P. - P/G
16	30					X	-		X								X				N	25	C/S - C/S/H
17	25					X	-		X									X			N	—	C/G - G/S
							.																
							.																
							.																

COMMENTS

REVIEWED

700

DATE

4/23/90

DATE 4 1 20 90

SKETCH MAP



CHECKLIST

- ___ N Area
- ___ Approx. Scale
- ___ Seg/Sub Entry
- ___ On Out
- ___ Width
- ___ Length
- ___ % Cover
- ___ Substrate Character
- ___ Est. HVL/LVL
- ___ SSL
- ___ Profile Location(s)
- ___ Profile(s)
- ___ Pin Location(s)
- ___ Photo Location(s)

LEGEND

- 1 A**
PM - No Subsurface Oil

- 2A
PH - Subsurface Oil

CT/C
Continuous Distribution

CT/O

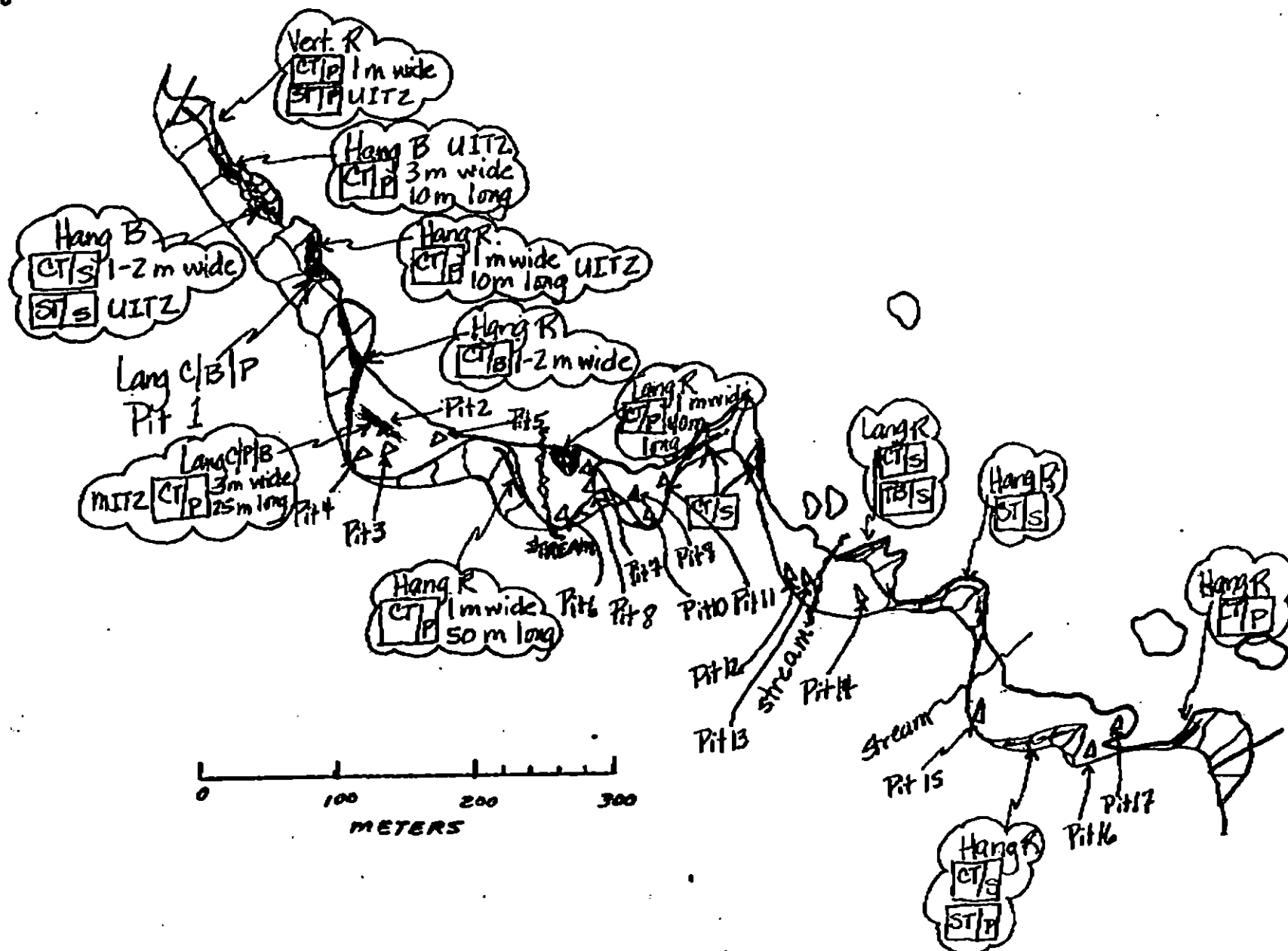
CT/P

Product Distribution

CT/S
Selected Distribution

eee
Old Vegetation

- Photo transfer, director,
and runner



Of Character Length (m): AP 0 PO 0 CV 0 CT 600 ST 175 MS 0 PT 0 TB 3 FL 0 NO 585

RETURN TO CONTENTS

SHORELINE ECOLOGICAL SUMMARY

REVISION: 06/22/90

Segment ST / DI59 Subdivision A Date (mo / day / yr) 4/20/90

Time (24 hr) 1515-1800 Biologist JIM BARRY Length = 1363 1/7

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

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

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

Photographs:
Roll No. ST-6-6

Frames 5

BARNACLES

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

MYTILUS

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

GASTROPODS

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

FUCUS

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

Wildlife Observations/ General Comments:

SEA OTTER - 1 PINK GULLS - 2
BAND EAGLE - 2 RIVER OTTER SKELTON - 1

GLAUCOUS WINGED GULLS - 3

Ecological Considerations:

NONE LISTED, HOWEVER, SIGNIFICANT MUSSEL/CLAM BED AREAS REST ON THIS SEGMENT (SEE MAP) AND SHOULD NOT BE DESTROYED BY TRAMPLING DURING CLEAN UP OPERATIONS.

I GENERAL COMMENTS

- A. HABITAT TYPES
- 1) Vertical Bedrock
 - 2) High angle Boulder/Bedrock to medium angle Cobble beaches
 - 3) Cobble/Pebble beaches / intertidal flat w/ clam/mussel beds & eel grass.

1) Vertical Bedrock - This habitat generally has a sparse cover, if any, of *Mytilus* adults, with moderate densities of spat in crevices. Some headlands in the southern end of DI 59A have dense or moderate patches of *Mytilus* adults. Differences in the density of mussels along the segment are likely not a consequence of oil-related activities, but these activities may have contributed to this pattern. In addition to *Mytilus*, barnacles are generally moderate. In the lower zones, several species of green, red, and brown algae cover the substratum.

2) Boulder/Cobble beaches.

Larger boulders and cobble have distributions of biota similar to vertical bedrock, but with slightly lower densities of many species.

Smaller cobble ~~are~~ have more open space, lower barnacle cover, mussel cover, and algal cover. Gastropods, however, are frequently dense in these locations.

3) Low angle beaches - Several beaches exist along this segment. Those towards the northern end are often lacking biota, except for gastropods (Littorines) in the middle to upper zones and thick filamentous algae in lower zones.

In the remainder of the segment, there are a few beaches w/ a high density of mussels, clams, eel grass, and organic material.

These clam/mussel beds are utilized by Otters (river and sea) and probably by deer and bear. The mussel beds are broken on pebble beaches. Their condition prior to oiling & clean up operations is unknown. Spat and small juveniles are abundant in these beds, and without further disturbance by humans, should coalesce into continuous beds. Otter foraging also may produce the broken appearance of these beds.

II Oil-related Comments

- 1) Oiling is largely restricted to upper zones along the segment. Natural weathering should be adequate to mitigate its effects on the biota.

Access to mussel beds on beaches (pebble/cobble) should be highly restricted. Eel grass beds and nearby clam beds also should not be trampled.

III Major Species

- A) ~~BARNACLES~~ - Semibalanus cariosus is the most abundant species in the ~~low~~ middle zone. Balanus glandula and Chthamalus dalli dominate the barnacle populations in the upper zone.
- B) Mysis - no further comment
- C) Gastropods - Littorines, whelks, and limpets are variably abundant throughout the segment, but generally moderate. All species show recruitment.
- D) Pucus - mostly moderate density of juveniles & adults.
- E) Other species - Juvenile clams (Prototheca staminea, Hiatella spp, and Macoma spp) are present in the clam beds.

APRIL 20 1990

DISS A

5/2

IV Species List

A. MARINE PLANTS

1) DIATOMS / BLUE GREEN ALGAE M-D 123

2) GREEN ALGAE - CHLOROPHYTA

ACROSIPHONIA DM12

CLADOPHORA S123

ENTEROMORPHA M23

GREEN CRUST. S1

ULVA SM123

UROSPORA MD-23

3) RED ALGAE - RHODOPHYTA

BOSSIOLA R1

CALLIARTHRA R1

CORALLINA R1

CRYPTOSIPHONIA M123

ENDOLADIA MURICATA S1

HALOSACCION GLANDIFORMIS SM123

IRIDAEARS 12

MASTOCARPUS ?

MEMBRANOPTERA SM123

MICROCLADIA ? SM123

LITHOTHAMNION PALPILUM

PETROCELLIS MIDDENDORFFII

PORPHYRA spp.

RHODOMELA LONIA

PALMARIA PALMATA

Petrocelis M12

4) BROWN ALGAE - PHAEOPHYTA

ALARIA MARGINATA U

AGARUM spp. U

COSTARIA U

FUCUS DISTICHUS M123

HEDOPHYLLUM SESSILE U

HILDEBRANDIA SM1

LAMINARIA U

NEROCYSTIS R1 U

RALPSIA M1

SCYTOSIPHON COMENTARIA S12

★ SPAT OR JUVENILES
PRESENT

D DENSE

M MODERATE

S SPARSE

R RARE

1 BEDROCK

2 BOULDER

3 COBBLE

4 PEBBLE

U. SUBTIDAL

★ PROBABLY PRESENT

B MARINE INVERTEBRATES

1) ANEMONES

EPIACTIS RITTERI ? S12*
 URTICINA CRASSICORNIS R12*
 Anthopleura elegantissima R1*
 A. ortimisea S12
 A. ~~kanthogramma~~

2) Annelid Worms

Polychaetes
 Nereidae X
 Nephtyidae X 34
 Serpulidae
 Serpula S12*
 Crucifera S12*
 Spirobridae
 Spirobrus M3*

3) Peanut Worms - Sipunculid

PHASCOLOSOMA HERESITES X 34

MOLLUSCS

a) CHITONS

CATHARINA TUNICATA S1*
 TONICELLA LINEATA R12*
 MOPALIA spp. X

b) Snails - Gastropods

LITTORINA SCUTULATA MD123*
 L. SITKANA MD123*
 NUCELLA LAMELLOSA MD23*
 N. EMARGINATA MD23*
 SCARLETTA DINA S123*
 AMPHISCA COLUMBANA R23
 TACHYRHYNCHUS spp. R23

c) Nudibranchs

LAMELLIDORIS FUSCA R12*

d) Limpers

LOTIA DIGITALIS S1*
 AEMAEA MITRA R1/
 LOTIA PERSOEA RS12*

d) Limpers (cont)

TECTURA SCUTURUM S23*
 T. PERSOEA ?

SIPHONAREA HERESITES R12*
 DIADORA ASPERA X

e) Mussels -

MYTILUS EDULIS R-D123*

f) Clams

SINGLE - PODOSSMUS CEPHO R1
 HATHELLA spp. S234*
 PROTHESON STAMINEA S234*
 MACOMA spp. S34*

g) Crustaceans

1) BARNACLES

SEMIBALANUS CARIOSUS MD12*
 BALANUS GLANDULOSA SM123*
 CITHAMALUS DALLI M123*

2) Crabs

HAPLOGASTER spp X
 HEMIGRAPSUS OREGONENSIS R2
 PUZZILLIA spp. X
 HERMIT CRABS - PAGURIDAE MD2

3) Beach Hopper

ISOPODA S23*
 AMPHIPODA
 ORCHESTRA ? M23*

h) Bryozoans

SCHIZOPORELLA spp ? M23*

i) Echinoderms

1) Sea Stars
 * M23 Pycnopoda helianthoides
 * MD Dermasterias imbricata
 * S23 Leptasterias hexactis
 * R23 Euranterias fruscheli
~~Orthasterias hochstetteri~~
 RS12 : Pisaster ochraceus.

6/7

SPECIES LIST (cont)

2/7

E Echinoderms (cont)

2) Brittle Stars

~~Ophiaster~~ spp.?

3) Sea Cucumbers

Cucumera miniata X

3) Sea Urchins

~~*Strongylocentrotus drobachensis*~~

C. Marine Vertebrates

1) Fish: Stichaeidae 11; Xiphaster spp. m 23*

LOTTIDAE 512*

OG C. DI TEAM 6

SEGMENT ST/ DI-59

SUBDIVISION A

DATE 4/20/90

CHECKLIST

- ☐ N Arrow
- ☐ Apprx. Scale
- ☐ Seg/Sub Entry
- ☐ Oil Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substrate Character
- ☐ Est. HAP/LUL
- ☐ SSL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ PR Location(s)
- ☐ Photo Location(s)

LEGEND

1 ▲

PR - No Subsurface Oil

2 ▲

PR - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splashed Distribution

eee

Oil Vegetation

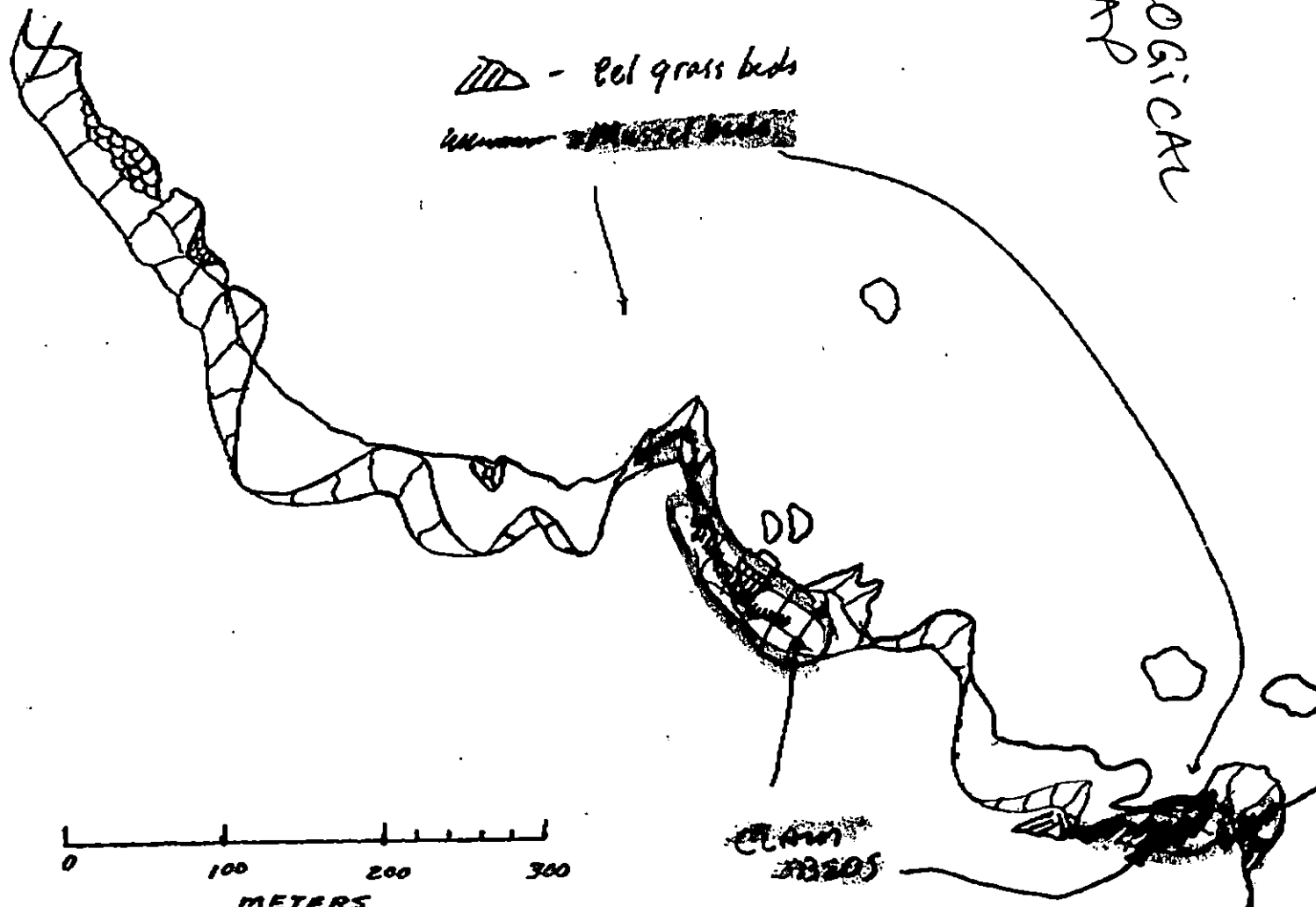
1 ●

Photo location, direction,
and number

ATCH MAP

N

ECOLOGICAL
MAP



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

4/7
REVISION 2/90

DI-59

DI-60

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

DI-59

Exxon Segment Length: 1363m
ADEC Segment Length: 1048m

0 100 200 300
METERS

Map Key: PWS-91

Name: C. DILLON

Date: 4/20/90

Data Entered:

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/DI-60

SUBDIVISIONS: A (1 OF 1)

SHORELINE EVALUATION

SEGMENT ST/ DI-60 SUBDIVISION A (1 OF 1) DATE 4/20/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

No specific constraints identified.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 30 m: V.Light 687 m: No Oil 247 m
Subsurface Oil Observed: Yes _____ No X Maximum Depth _____

RECOMMENDATIONS:

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

COMMENTS: _____

TAG COMMENTS: _____

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

FOSC: _____ DATE: _____

FIELD SHORELINE COMMENT SHEET

SEGMENT ST DI-60 SUBDIVISION: A DATE 4/20/90

USCG

NAME William E. White SIGNATURE William E. White☒ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

Cleaning by
CONTINUOUS Wave's action

ADEC

NAME Peter Montesano SIGNATURE Peter Montesano☒ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

oiling characterized best as light Boulder Shadow oiling
and intermittent status/costs.

LAND MANAGER USDA Forest ServiceNAME Don J. Bunting SIGNATURE Don J. Bunting☒ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

Natural cleaning will probably have the least
impact and will be most beneficial to the area.

SHORELINE OILING SUMMARY

REVISION NO. 06-12-90

OG C. DILLON USCG PS1 E. WHITE SEGMENT STI DI-60
 BIO J. BARRY LAND REP D. BRIGHTENGER (NES) SUBDIVISION A (1 OF 1)
 EXXON G. STILES ADEC P. MONTESANO TIME 18:00 to 19:00
 TEAM NO. 6 TIDE LEVEL +2.5 to +4 DATE 04/20/90
 EST. SUBDIVISION LENGTH: 1011 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: S to N
 SURFACE SEDIMENTS: R 65 % B 30 % C 4 % P 1 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Lang 5 % Hang 40 % Vert 55 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 50 m VL 661 m NO 300 m

SURFACE OIL

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

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

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐TYPE un-oiled trash#BAGS 1

Photographs:

Roll No. NONEFrames ---

SUBSURFACE OIL * 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)	F	SURFACE-SUBSURFACE SEDIMENTS
		OF	OR	OL	OF	NO		UO	US	1	2	3	4	5	6	7	8					
1	7		X				0-2*	X					X					X		N	2	C/P-P/G
2	20					X	.	X										X		N	10	B/C/P-P/G/m
							.															
							.															
							.															
							.															

COMMENTS SUBDIVISION WAS ALMOST ENTIRELY VERTICAL ROCK AND HANG ROCK/BOULDER WITH VERY LIGHT STAIN AND COAT ALONG THE HIGH TIDE LINE, UP TO 1m WIDE. NO SKETCH MAP INCLUDED.

THERE ARE 2 20m LONG LANG C/B AND C/P BEACHES AT THE NORTH END. THE SURFACE OILING IS A PATCHY COAT THAT WIDENS UP TO 3m ON THE LAST BEACH. THE P/G UNDERLYING SURFACE C/P ARE OILED TO 2cm (Pit 1) REVIEWED 7W DATE 4/23/90

IN-

20m long LANG C/P beach
CT/P 3m wide
10m long UITZ

20m long LANG C/B
CT/S 1m wide UITZ

STREAM

VERT R
ST/B
CT/P

HANG R CT/S 1m wide UITZ

HANG B/R/C CT/B 1m wide UITZ.

HANG B/R/C
CT/P 1m wide UITZ

VERT. R
CT/S 1m wide
UITZ

HANG R/B/C
ST/B 1m wide
CT/S UITZ

OIL CATEGORY LENGTHS(m):

CT 511

ST 200

NO 300

VERT R
CT/S 1m wide
ST/S UITZ

Vert. R.

DI-61

DI-60-A
1101 m

1-60

HANG R
CT/B

HANG R/B
ST/P CT/S

Pit 2

Pit 1

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST/ DI60 Subdivision A Date (mo/day/yr) 4/20/90Time (24 hr) 1730-1800 Biologist Jim Barry Length 1011 m

1/7

(A) Substrate type and % of segments:
(1) Bedrock 65 (2) Boulder 30 (3) Cobble 4 (4) Pebble 1 (5) Sand 0 (6) Silt 0(B) Overall % cover of biota (% of segment): Dense 50 Moderate 30 Low 20

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

Photographs:
Roll No. ST-6-6Frames NONE

BARNACLES

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

NOT PRESENT

MYTILUS

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

NOT PRESENT

GASTROPODS

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments:

Bald Eagle - 4
 Glaucous-winged Gull
 Barrow's Goldeneye - 2

Common Loon
 Sea Otter - 2
 Deer Track on Beach

Ecological Considerations:

NONE

DIGO-A

APRIL 20 1990

2/7

TIDAL WINDOW $+2 \rightarrow +5$

I General Comments.

A. HABITAT TYPES.

- 1) Vertical Bedrock Cliffs. This habitat is similar to others in the vicinity with a low exposure. The upper zones have moderate barnacle cover, sparse mussel cover (adults), moderate to dense Fucus, and thick cover of thin blade-like red and filamentous green, and red and brown algae. Gastropods, mainly Littorines and limpets in the upper zone and including Whelks in the middle and lower zones, are generally moderate in abundance.

Sea stars are moderately dense in low zones.

- 2) Boulder & large cobble high angle beaches are very similar.
- 3) Cobble/Pebble beaches have lower biotic densities overall, but often have denser cover of Mytilus on adjacent headlands. Cobble commonly have moderate to dense Littorina & populations amongst them.

Algae cover is similar to vertical walls.

★ → second of page

- B. Oil-related comments - This section has little oiling, and is restricted to upper zones where its impact most strongly affects barnacles, but to a minor extent.

RE

No restrictions are recommended for cleanup, if any is performed, except for avoiding visitation on the mussel bed beach area at the end of the segment.

IN-31

DI-60

DI-61

XXXX Wide

//// Medium

---- Narrow

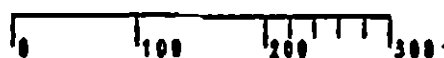
TTTT Very Light

0000 No Oil

DI-60

EXXON SEGMENT LENGTH: 1011m

ADEC Segment Length: 964m


METERS

Map Key: PWS-92

Name: C. DILLONDate: 4/20/90

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ DI-60 SUBDIVISION A (1 OF 1) DATE 4/20/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

No specific constraints identified.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO SIGNATURE: Charles E. Holmes DATE: 5/5/90

OILING CATEGORIZATION:

Wide_0_m: Medium_0_m: Narrow_30_m: V.Light_687_m: No Oil_247_m
Subsurface Oil Observed: Yes_____ No_X_____ Maximum Depth_____

RECOMMENDATIONS:

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

COMMENTS: _____

TAG COMMENTS: _____

TAG APPROVAL DATE: 5/4/90
 ADEC ART WEINER Art Weiner
 EXXON ANDY TICAL Andy Tical FOSC: W L DATE: 5-9-90
 NOAA GARY PETERSON Gary Peterson
 USCG G. ALFREDER G.A. Alfreder

IN-

20m long LANG C/P beach

CT/P 3m wide
10m long UITZ

Pit 1

HANG R
CT/B

HANG R/B
ST/P CT/S

20m long LANG C/B

CT/S 1m wide UITZ

STREAM

VERT R

ST/B
CT/P

HANG R CT/S 1m wide UITZ

HANG B/R/C CT/B 1m wide UITZ

HANG B/R/C
CT/P 1m wide UITZ

Pit 2

VERT R
CT/S 1m wide
UITZ

HANG R/B/C
ST/B 1m wide
CT/S UITZ

DI-60-A
1101 m

OIL CATEGORY LENGTHS(m)

CT 511

ST 200

NO 300

VERT R
CT/S 1m wide
ST/S UITZ

VERT R

DI-61

IN-31

DI-60

DI-61

XXXX Wide

//// Medium

--- Narrow

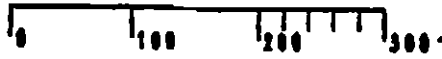
TTTT Very Light

0000 No Oil

DI-60

EXXON SEGMENT LENGTH: 1011m

ADEC Segment Length: 964m


METERS

Map Key: PWS-92

Name: C. DILLONDate: 4/20/90

Data Entered:

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/DI-61

SUBDIVISIONS: A (1 OF 1)

SHORELINE EVALUATION

SEGMENT ST/ DI-61 SUBDIVISION A (1 OF 1) DATE 4/22/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

No specific constraints identified.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 10 m: Narrow 118 m: V.Light 77 m: No Oil 98 m
Subsurface Oil Observed: Yes _____ No X Maximum Depth _____

RECOMMENDATIONS:

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

COMMENTS: _____

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

FIELD SHORELINE COMMENT SHEET

SEGMENT ST 1 DI-61-3 SUBDIVISION: A DATE 4/22/90

USCG

NAME William E. White SIGNATURE William E. White

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

NATURAL CLEANING OF BEACHES, ALSO
WAVE ACTION SEEM TO BE THE BEST METHOD
OF CLEANING.

ADEC

NAME Peter Montesano SIGNATURE Peter Montesano

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

Pockets of minimal Penetration are in areas where bioremediation
is inappropriate with the possible exception of pit 3. Present degree
of oiling is relatively insignificant and immobile.

LAND MANAGER USDA - Forest Service

NAME Don J. Breitung SIGNATURE Don J. Breitung

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

Natural wave action appears to be best
method of clearing.

SHORELINE OILING SUMMARY

REVISION NO. 06-12-88

OG C. DILLON USCG PS1 E. WHITE SEGMENT ST/ DE-61
 BIO J. BARRY LAND REP D. BRIGHTENGER (NCS) SUBDIVISION A (1 OF 1)
 EXXON G. STILES ADEC P. MONTESANO TIME 16:00:15:50
 TEAM NO. 6 TIDE LEVEL +4 to +2.5 DATE 04/21/90
 EST. SUBDIVISION LENGTH: 364 m ☒ Sun ☒ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: NW to SE
 SURFACE SEDIMENTS: R 90 % B 5 % C 4 % P 1 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Lang 5 % Hang 30 % Vert 65 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 5 m N 100 m VL 189 m NO 70 m

SURFACE OIL

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

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

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

Photographs:

Roll No. NONEFrames —

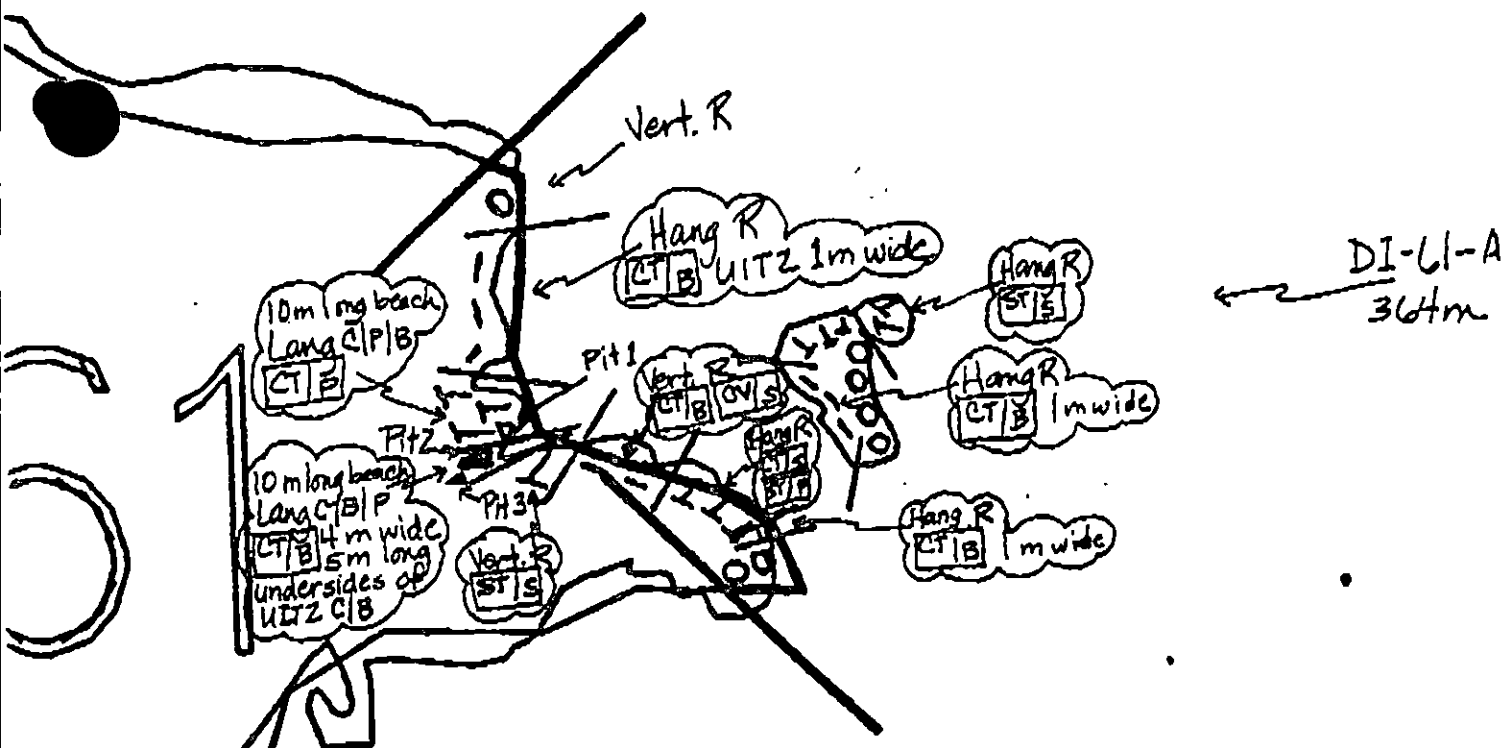
SUBSURFACE OIL * Does not constitute subsurface oil

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	UG	1	2	3	4	SU	U	M	L				
1	10		X				0-4 th MC		X			X		X				N	—		R/G/m - M/R
2	25					X	.		X							X		N	—		C/P/G - G/m
3	15		X				0-3 rd MC		X			X		X				N	10		C/P - P/G/m
							.														
							.														
							.														

COMMENTS SUBDIVISION IS ALL HANG AND VERT ROCK WITH 2 10 m LONG LANG C/B/P POCKET BEACHES. THE SOUTHERNMOST BEACH HAS A B/C/PUITZ WITH AN AREA 4m WIDE BY 5m LONG WITH A BROKEN COAT ON THE UNDERSIDES OF THE B/C AND PENETRATION OF THE UNDERLYING P/G OF 3cm.

PIT 1 WAS DUG THROUGH THE G/m ACCUMULATION IN THE CREVIC OF THE HANG ROCK FACE. THE OFFSHORE ROCK WAS NOT INCLUDED IN THE OIL CATEGORY AND OIL CHARACTER LENGTHS BECAUSE DOING SO WOULD CAUSE INACCURACIES IN THE SURVEY. THE ROCK IS APPROX. 250 m LONG.

REVIEWED TW DATE 4/23/90



OIL CHARACTER LENGTHS (M):
 CV 10 CT 200 ST 84 NO 70
 (DOES NOT INCLUDE LENGTHS OF OFFSHORE ROCK)

DI-69

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / DI 61 Subdivision A Date (mo / day / yr) 4/21/90Time (24 hr) 1506 - 1600 Biologist JIM BARRY Length 3.64 m 1/7(A) Substrate type and % of segments:
(1) Bedrock 50 (2) Boulder 5 (3) Cobble 4 (4) Pebble 1 (5) Sand (6) Silt (B) Overall % cover of biota (% of segment): Dense 60 Moderate 35 Low 5

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

Photographs:
Roll No. ST-6-6Frames 7

BARNACLES

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

NOT PRESENT

MYTILUS

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

NOT PRESENT

GASTROPODS

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

NOT PRESENT

FUCUS

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

NOT PRESENT

Wildlife Observations/ General Comments:

Bald Eagles - 2

Sea Otter - 2

GLAUCOUS-WINGED GULL - 3

DEER SIGN IN UPLAND

SEA OTTER HAUL OUT SITE

Ecological Considerations: BU - TENT SITES

One small headland adjacent to a pocket beach is used as
and haul out site for sea otters and should not be disturbed
or visited for more than one or 2 days. (See map in OG section)

DI 61 A

4/21/90

2/7

Time 1500-1600

Tide +4 → +2

I General Comments

This is a short segment similar to DI 60, but with a slightly higher exposure, especially in the adjacent offshore island. Overall, biota are dense, due to the thick cover of filamentous and then blade-like algae, as well as a frequently dense cover of large acorn barnacles in the middle zone.

A. HABITATS

- 1) Vertical Bedrock cliffs and boulder beaches. High macroalgal cover in low zone. Sparse mytilus overall, but occasional dense patches of adults. Barnacles generally moderate, with dense *Semibalanus carosus* in the middle zone.
- 2) Cobble/Pebble beaches - low biotic cover, with mussels & barnacles on boulders. Adjacent headlands have higher *Mytilus* densities than remainder of segment. One of these headlands has many scat from sea otters, indicating ~~nearby~~ the site is used as a haul out site.
- 3) Offshore Island - ~100% Bedrock cliffs. This is highly exposed on one end (south), ~~where~~ The entire island has dense *Semibalanus* on the ~~steepest~~ steep cliffs along the middle zone. *Pisaster*, the sea star is abundant ~~in~~ in this zone. *Balanus* and *Clithromalus* are found in the upper zone. *Mytilus* is sparse (mainly spat and juveniles) or rare for most of the island. Fucus is sparse to moderate.

DIG 1-A

April 21 1990

3/7

General Comments (cont)

B. Oil Related Comments.

- 1) Any cleanup operations ~~near~~ ⁱⁿ the segment should be cautious of disturbing others at the haul out site indicated on the OB map. Visits should be restricted to one or 2 days.

II Recruitment & Mortality

1) Barnacles

Tiled areas - mainly a thin coat in the upper zone
~ 30% dead (0-95%)

Un tiled areas

~ ~~the same~~ 20% dead (0-80%)

Nucella is moderate to dense in the ^{lower mid} zone, and these predators appear to severely impact low to mid zone barnacle populations in some areas.

2) Mytilus -

Spots & small juveniles (~5 mm) are sparse, but ~~are~~ generally much more abundant and widespread than adults.

Mortality is difficult to discern. The few patches of adults have very few dead individuals ~~that may be~~

3) Gastropods -

Nucella and Littorina are presently depositing egg cases in the lower to middle intertidal zones.

- 4) Fucus - Recruitment active throughout the intertidal: Mortality rarely detected.

DI61-A

April 20 1990

4/7

~~II~~ Recruitment and Mortality, (cont)

5) Other species:

Citons, hermit crabs, ~~some~~ limpets, ~~and~~ and a few other groups are found as young juveniles in many locations

APRIL 1990

D161A

5/7

IV Species List

A. MARINE PLANTS

1) DIATOMS / BLUE GREEN ALGAE M-D 123

2) GREEN ALGAE - CHLOROPHYTA

ACROSIPHONIA MD 123 C

CLADOPHORA S 12 AB

ENTEROMORPHA M 123 BC

GREEN CRUST. S 12 A

ULVA M 123 BC

UROSPORA MD 123 BC

3) RED ALGAE - RHODOPHYTA

BOSSIELLA R 12 BC

★ SPAT OR JUVENILES
PRESENT

D DENSE

M MODERATE

S SPARSE

R RARE

1 BEDROCK

2 BOULDER

3 COBBLE

4 PEBBLE

U. SUBTIDAL

B MARINE INVERTEBRATES

DI 61A

APRIL 21 1990

B/6

1) ANEMONES

~~ERECTIS RUFFES?~~

URTICINA CRASSICORNIS R12 C

Anthopleura elegantissima R12 C*

A. artimisia S12 C*

~~A. xanthogrammica~~

2) Annelid Worms

Polychaetes

Nereidae X

Nephtyidae X

Serpulidae

Serpula ~~sp.~~ S12 C

Crucigera X

Spirorbidae

Spirorbis M23 C

3) Peanut Worms - Sipunculid

Phascolosoma thersites X

4) MOLLUSCS

a) CHITONS

CATHARINA TUCATA S12 BC

TONICELLA LINIATA S12 BC

MOPALIA spp. X

b) Snails - GASTROPODS

LITTORINA SCUTULATA M123 ABC*

L. SITKANA

Nucella lamellosa M123 ABC*

M123 BC

N. emarginata M12 BC

Searlesia dira S23 BC

Amphissa columbiana R23 BC

Tachyrhynchus spp. R3 B

c) Nudibranchs

Lamellidors fusca S1*

d) Limpets

Lottia digitalis M1 A*

Aemaea mitra R1 C

Lottia pumila S12 ABC*

d) Limpets (cont)

Tectura scutum S23 BC

T. pumila S123 ABC

Siphonaria thersites S12 AB*

Diadema aspera X

e) Mussels -

Mytilus edulis S123 ABC*

f) Clams

Single - Pseudosquilla cepio S12 C

Hiatella spp. R23 A BC

Protothaca staminea ? X

Macoma spp. ?

g) Crustaceans

1) BARNACLES

Semibalanus cariosus M12*

Balanus glandula M12 AB*

Chthamalus dalli M12 AB*

2) Crabs

Haplogaster spp. X

Hemigrapsus oregonensis S23*

Puzosia spp. X

Hermit Crabs - Paguridae M23

BC

3) Beach Hopper

ISOPODA X

AMPHIPODA M23* BC

Orchestra?

h) Bryozoans

Schizoporella spp. S123*

i. Echinoderms

1) Sea Stars

S23a CUPYENOPODA helianthoides

S23* CUPYENOPODA imbricata

S23* CUPYENOPODA hexactis

R512 C EUSTERIAS fruscheli

~~Orthostigma kochi~~

S12 C PISASTRA ochraceus.

APR-22-1990 13:38 FROM ARCTIC SALVOR TO SSAT F.02/04

SPECIES LIST (cont)

7/7

2 Echinoderms (cont)

2) Brittle Stars

~~Ophiothrix~~ spp?

3) Sea Cucumbers

Cucumaria miniata X

3) Sea Urchins

Strongylocentrotus droebachiensis X

C. Marine Vertebrates

1) Fish: Stichaeidae 11; Xiphiidae spp. Sta 23★ ABC
LOTTIDAE 5 12★ ABC

SPECIES LIST (cont)

DI 60 A APRIL 20 1990

7/7

Echinoderms (cont)

2) Brittle Stars

Ophiurus spp? X

3) Sea Cucumbers

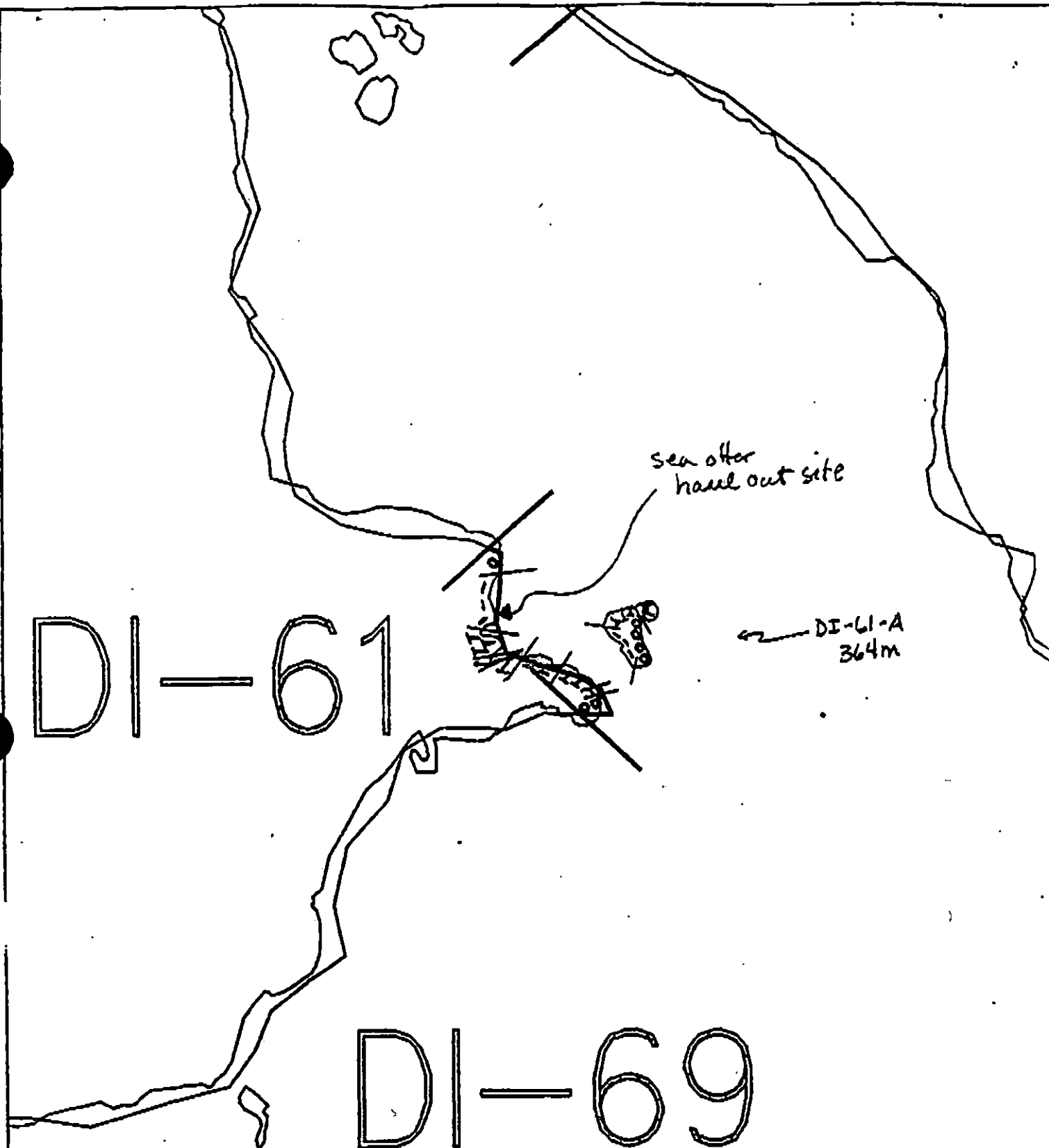
X Cucumera miniata

3) Sea urchins

X Strongyl. centrotus droebachiensis

C. Marine Vertebrates

D Fish Stichaeidae V: Xiphister spp. 523* C
EOTTIDAE



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

OOOO No Oil

DI-61-A

Exxon Segment Length: 364m

ADEC Segment Length: 302m



Map Key: PWS-93

Name: C. DILLONDate: 4/21/90

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ DI-61 SUBDIVISION A (1 OF 1) DATE 4/22/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

No specific constraints identified.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO SIGNATURE: Charles E. Holmes DATE: 5/5/90

OILING CATEGORIZATION:

Wide_0_m: Medium_10_m: Narrow_118_m: V.Light_77_m: No Oil_98_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:_____Wands
<u> </u> Tarmat Removal	<u> </u> Beach Cleaner
	<u> </u> Other (see comments)

COMMENTS: _____

TAG COMMENTS: _____

TAG APPROVAL DATE: 5/4/90

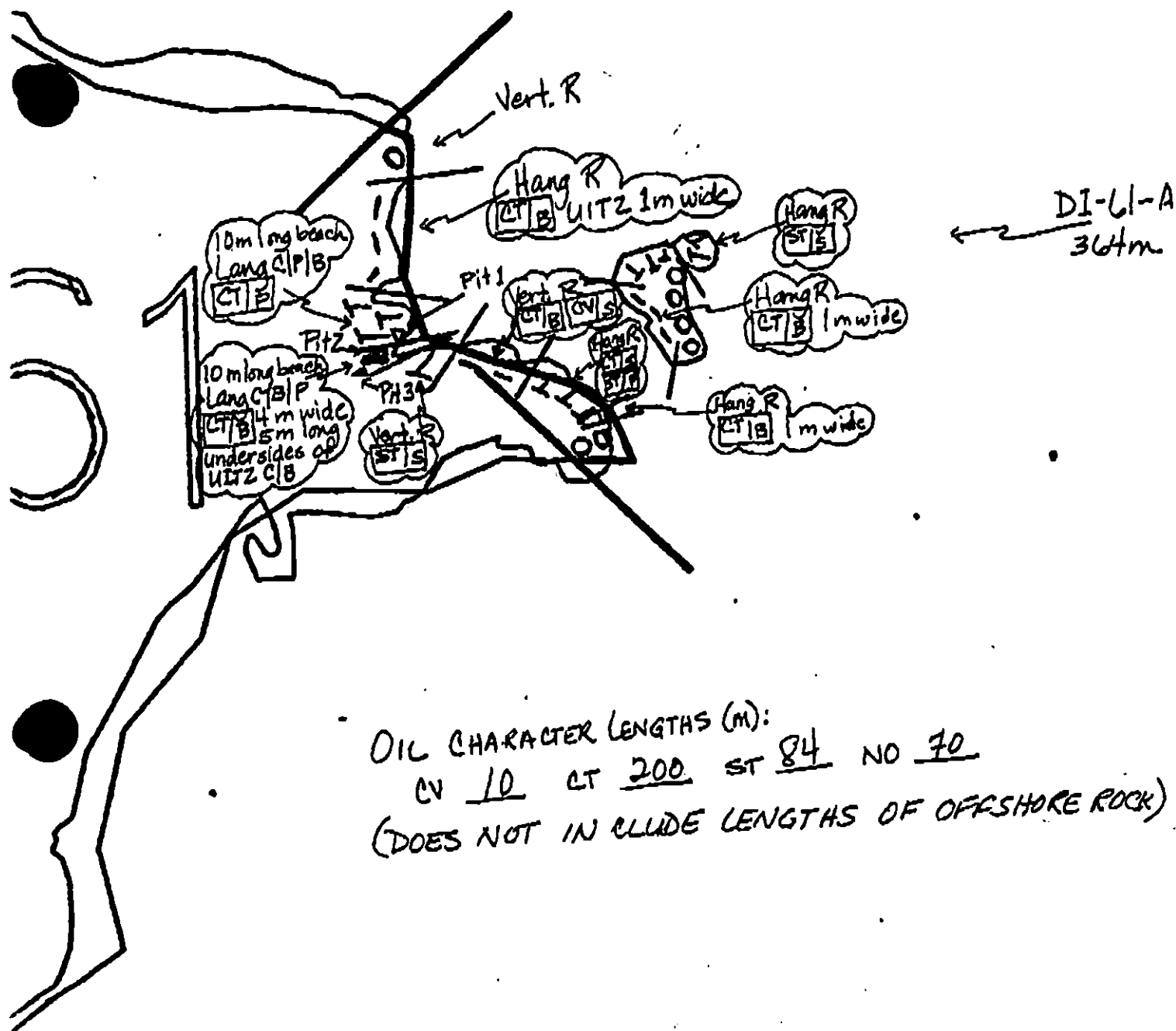
ADEC ART WELCH Art Welch

EXXON *Supply Team Please*

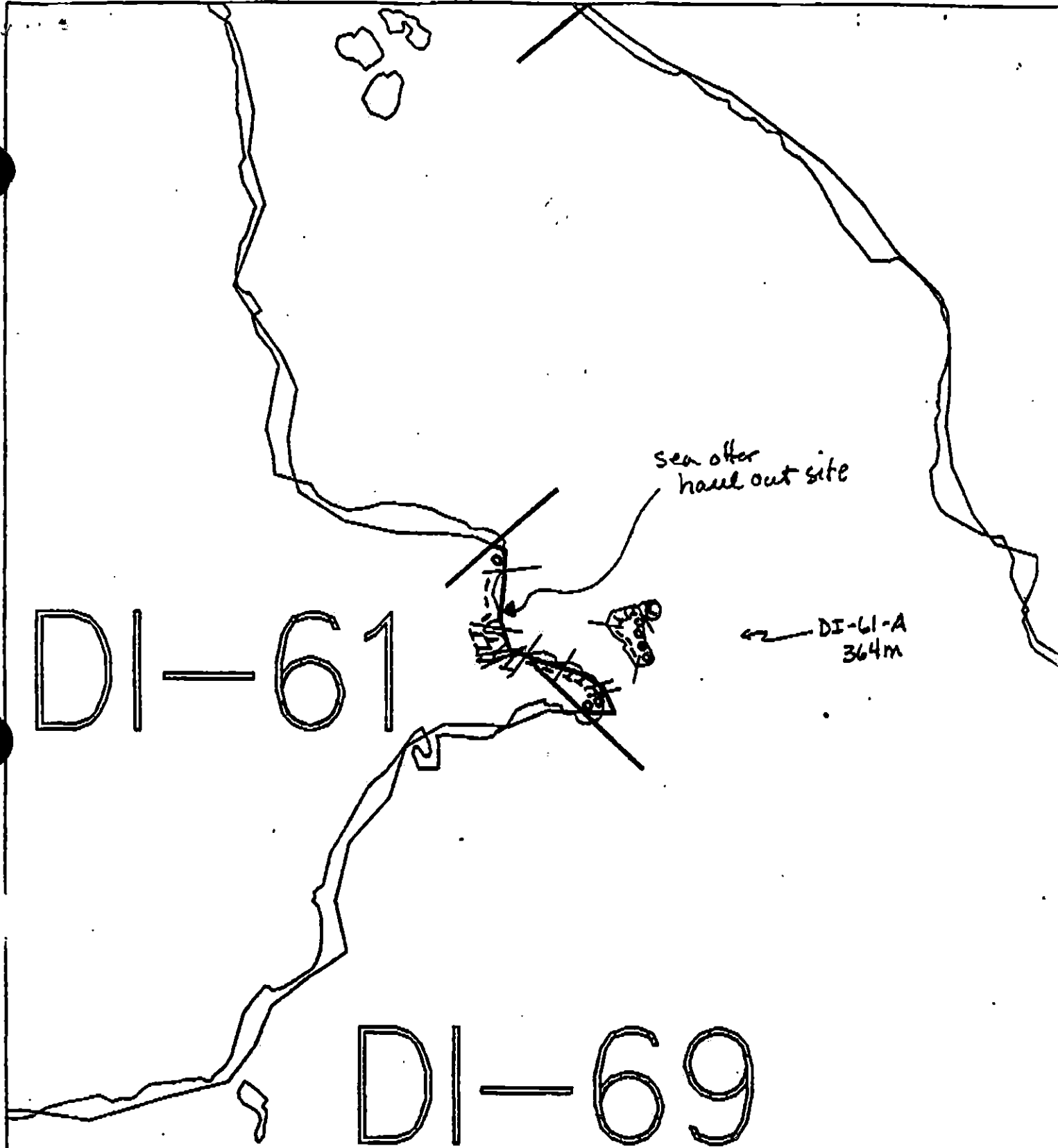
NOAA Gary Petros Asst Director

FOSC: W L DATE: 5-7-90

USCG G.A. BEITER G.A. Beiter



DI-69



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

DI-61-A
Exxon Segment Length: 364m
ADEC Segment Length: 302m

0 100 200 300
METERS



Map Key: PWS-93

Name: C. DILLON

Date: 4/21/90

Data Entered:

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/DI-62

SUBDIVISIONS: A (1 OF 2)

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

SHORELINE EVALUATION

SEGMENT ST/ DI-62 SUBDIVISION A (1 OF 2) DATE 4/19/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 21 m: Medium 0 m: Narrow 218 m: V.Light 0 m: No Oil 224 m
Subsurface Oil Observed: Yes X No _____ Maximum Depth 28 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes manual removal of pebbles and cobble with oiled cover and mousse in area indicated on attached sketch map. Work should be conducted after 5/1.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____

EXXON _____

NOAA _____

USCG _____

FOSC: _____ DATE: _____

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / DI-62 SUBDIVISION: A DATE 19 April 90

USCG

NAME AEC Vandepels SIGNATURE AEC Vandepels

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

I suggest manual treatment for 5x15m band of pool/asphalt in center of sub. A

ADEC

NAME Michelle Baer SIGNATURE M Baer

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

- 1) On 1st NE B beach, remove area underneath B's down to clean substrate, replace B lg. B's.
- 2) On Northern most B, C, P beach (Pit #1), manually till & bio. approximately 3 M x 3M area containing DR to -15 cm.
- 3) On NW beach (pit #6), rake and bio. 40 M long band of buried DR. Appears a layer exists at 25-28 cm and dissipates at the sides of the beach. The band area is approximately 1 M wide.

LAND MANAGER

NAME Carol S Huber SIGNATURE Carol S Huber

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Resource sensitivities include anchorages and special use destination. Note - one small beach about 200 m W. E. boundary is an active avalanche shoot - Not an anchorage. Oil (Rainier) leaching into LITZ. 2 eagles sighted. Distinct oil band (B&K) on vertical headlands. Riprap oil observed on rocky headland and beach. Parked on beaches mostly 15 ft and 1 ft.

SHORELINE OILING SUMMARY

REVISION NO. 04-13/90

OG J. Springer USCG R. Vandepels SEGMENT ST/ DI-62
 BIO P. Crank LAND REP C. Huber SUBDIVISION A (1 OF 2)
 EXXON T. Tomblin ADEC M. Baer TIME 16:10:18:10
 TEAM NO. 5 TIDE LEVEL +2 to +4 DATE 04/19/90
 EST. SUBDIVISION LENGTH: 546 m ☐ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: _____ to _____
 SURFACE SEDIMENTS: R 40 % B 30 % C 20 % P 10 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 25 % Hang 35 % Vert 40 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 18 m M 0 m N 180 m VL 0 m NO 348 m

SURFACE OIL

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

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

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash	X		
Debris			

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐TYPE floats, p/c#BAGS 1

Photographs:

Roll No. ST-5-6Frames 8-14

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL	BELOW		OIL / FILM COLOR				PIT ZONE				A N A	SHEEN (Y/N)	V T	SURFACE-SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	1	2	3	4	BU	U	M	L				
1	30		X				10-15		X				X	X				BR	20		P/PG
2	30					X	.		X					X				N	10		P/P
3	30					X	.		X						X			N	10		P/PG
4	30					X	.		X						X			N	10		C/PG
5	20					X	.		X					X				N	10		C/CPG
6	40		X				25-28		X				X	X							CP/CPG

COMMENTS

Very serious oil on boulder beach at base of old avalanche shoot (see map). If boulders are moved during remediation, care must be taken to avoid re-activating the landslide. Boulders must not be permanently removed.

REVIEWED 70DATE 4/21/90

SEGMENT ST/ DI-62 SUBDIVISION A (1 OF 2)

REVISION 04-12-99

[illegible]

COMMENTS

COMMENTS Aerial extent of subsurface oil around pit no. 1 is probably not more than 3m x 3m. Ditto for pit no. 6.

9

REVIEWED

7w

DATE _____

4/24/90

00 J. Springer

SEGMENT DE-62

SUBDIVISION A

DATE 04/19/90

CHECKLIST

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

LEGEND

1 ▲

PH - No Subsurface Oil

2 ▲

PH - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

Splashed Distribution

eee

Oiled Vegetation

1 ➔

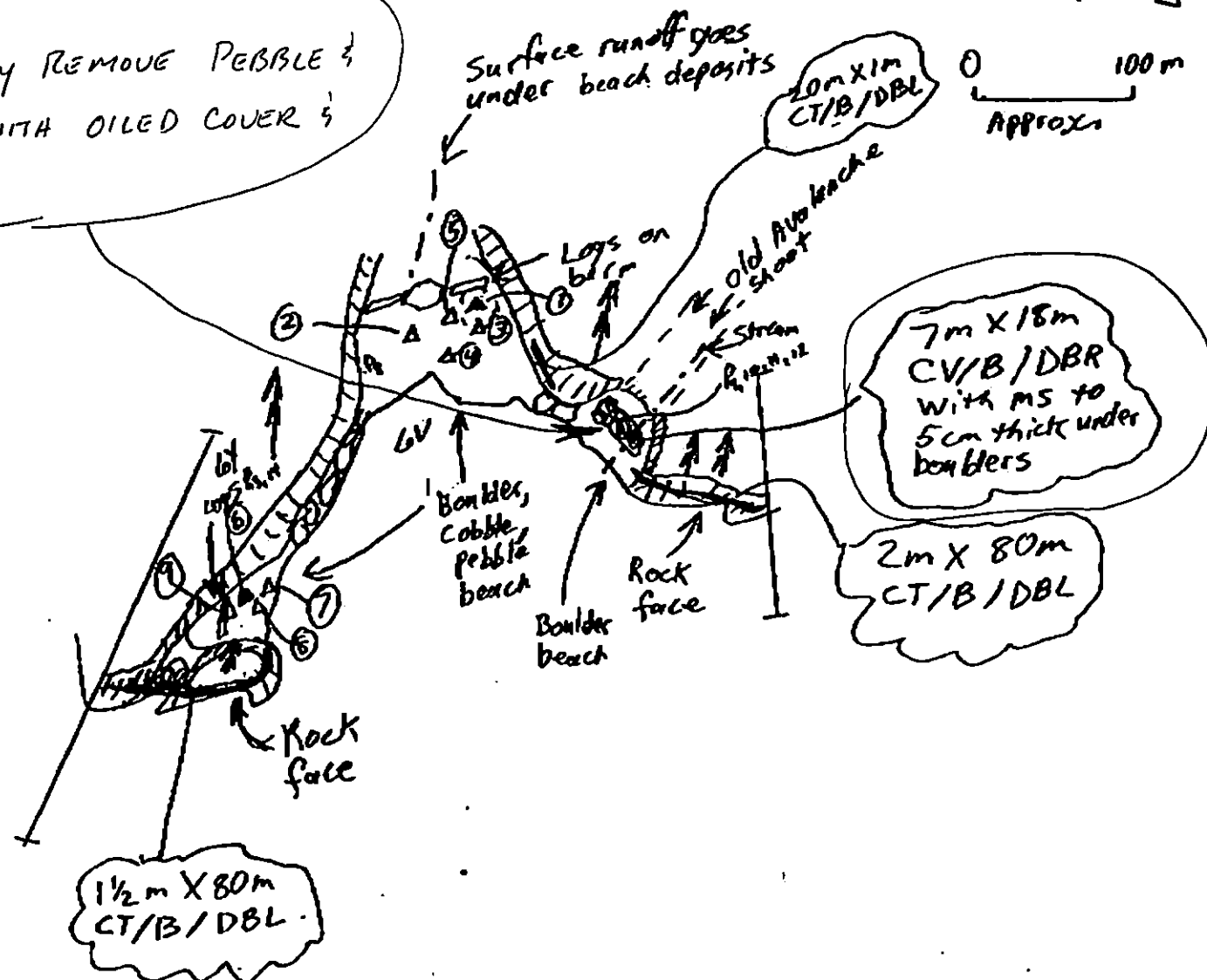
Photo location, direction,
and number

SKETCH MAP



0 100 m
Approx.

MANUALLY REMOVE PEBBLE &
COBBLE WITH OILED COVER &
MOUSSE



Oil Character Length (m): AP _____ PO _____ CV 18 CT 190 ST. _____ MS _____ PT _____ TB _____ FL _____ NO 348

REVISED 08/03/98

Segment: ST/D162 A

Length: 546m

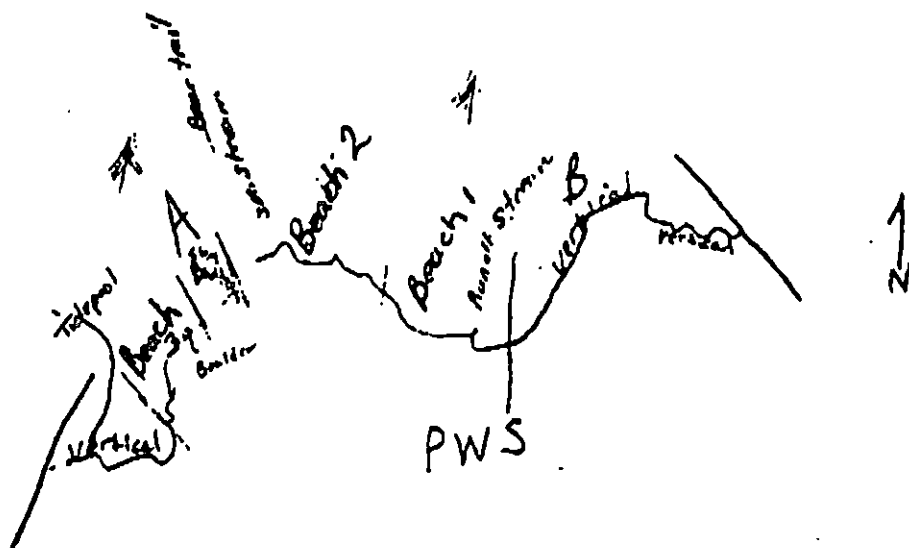
Biologist: Crank

pg. 2 of 2

Time: 1610-1805

Tide Height: +2 → +4 ft

Date: 4/19/90



Comments

- Most of LITZ unexposed throughout survey.
- Dense and continuous barnacle recruitment on beach 2.

Beach 1:

- Dense patches of Dermasterias imbricata obs under H_2O line on vert. faces.
- Cobble/Boulder pocket beach-Angular
- In MITZ the surface of the stones were covered with filamentous green algae and a rare distribution of barnacles and 90% mortality. The undersides, however, have a moderate concentration of Adult, new growth and barnacle spat - 20% mortality.
- There is a small stream (probably runoff related).

Beach 3:

- Boulder/Cobble in LITZ to mid-MITZ; upper MITZ and UITZ were ^{rounded} Pebble/Cobble
- Drift beach - tremendous amount of logs in SUPRA and drift Fucus at H_2O edge.
- There was a continuous mod → dense filamentous green algae cover on the boulder/cobble, patchy and sparse on the pebble/cobble
- Small upland stream that ran under intertidal stones. Bear trail paralleling Stream and several deer trails. Skunk cabbage had been eaten to the roots.
- 80% Barnacle mortality on substrate covered w/ fil greens.
- Boulder located at +2 ft has a rare concentration of mussels. They are covered with filamentous green algae with less than 5% mortality.

SHORELINE ECOLOGICAL SUMMARY

pg 1 of 3

REVISION: 03/22/90

Segment ST / N 62 Subdivision A Date (mo / day / yr) 4 / 17 / 90
 Time (24 hr) 1610 - 1805 Biologist Crank Length 546 m
 Tide Height +2 to +4 ft

- (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 5 Moderate 20 Low 75
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (3)
- Photographs: Roll No. ST-5-6
 Frames 8, 14

BARNACLES

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

MYTILUS

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

GASTROPODS

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

FUCUS

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

Wildlife Observations/ General Comments:

- 1- Stellar Jay 1- Raven Note: Obs. include skiff time back to Lewis Bay.
 3 Others 4- Eagles - Adults, one was missing 50 (or 60) primary
 1- Gull - Deer scat - One bear trail, several deer trails

Ecological Considerations:

- 6 V - Anchorage
 6 Y - Special Use Destination

12 - -

DATE 4/19/90 TIME 1610-1805 TIDE HEIGHT +2 → +4 ft.1 = BEDROCK 2 = BOULDER 3 = COBBLE 5 = SAND 6 = SILT P 2 of 3

SPECIES	UITZ	MITZ	LITZ	COMMENTS
FLOA: BOSSIELLA/CORALLINA			1	Tide pool
CALLIARTHRON/CORALLINA			1	Tide pool
CLADOPHORA SPP				
COSTARIA SPP				
ENDOCLADIA MURICATA				
FILMAENTOUS GREENS				
FILAMENTOUS REDS				
GLOIOPELTIS FURCATA				
HALOSACCION GLANDIFORME		12		
LAMINARIA SPP				
LITHOTHAMNION				
NEREOCYSTIS SPP				
PORPHYRA SPP		12		
RALPHSIA/HILDENBRANDIA				
PHODOMELA LARX				
RHOZOMENIA PALMATA				
SCYTOSIPHON SPP		12		
ULVA SPP			23	
ZOSTERA MARINA				
ENTEROMORPHA			23	Dense patch
<i>Odonthalia</i> sp		1		
FAUNA: ANTHOPLEURA SPP				
(SEMI) BALUNUS CARIOSUS		12	12	
B. GLANDULA	123	123	123	
BRYOZOANS				
CHITONS (other than K. TUNICATA)				
CLAMS				
CRABS				
DERMASTERIAS IMBRICATA			1	Dense patches
KATHARINA TUNICATA				
LEPTASTERIAS HEXACTIS				
LIMPETS	123			
LITTORINA SPP	123			
NUCELLA SPP		1		
PAGURUS SPP		34	34	
PISASTER OCHRACEUS				
POLYCHAETES				
PYCNOPODIA HELIANTHOIDES				
SEARLESIA DIRA				
SERPULIDS				
SIPHONARIA THERSITES		1		
TEALIA				

13

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/DI-62

SUBDIVISIONS: B (2 OF 2)

SHORELINE EVALUATION

SEGMENT ST/ DI-62 SUBDIVISION B (2 OF 2) DATE 4/19/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5V Recreation: Anchorages (6/1 to 9/15)

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 43 m: Narrow 65 m: V.Light 76 m: No Oil 27 m
Subsurface Oil Observed: Yes _____ No X Maximum Depth _____

RECOMMENDATIONS:

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

COMMENTS: _____

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

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

SEGMENT ST / DI-62 SUBDIVISION: B DATE 19 April 1996

USCG

NAME

AEC Vandepels

SIGNATURE

AEC Vandepels☒ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

I recommend no treatment for DI-62 Sub B.

ADEC

NAME

Michelle Baer

SIGNATURE

M Baer☒ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

CT is patchy on tops of B's and does not penetrate the surface layer. Also, this appears to be a high-use area for otters, due to the large amount of otter scat found.

LAND MANAGER

NAME

Carol S Huber

SIGNATURE

Carol S Huber☐ NO TREATMENT RECOMMENDED☐ TREATMENT SUGGESTED

COMMENTS

Recommend continued natural cleansing. Resource sensitivities include anchorage and special use destination. Observed otter scat - small scenic waterfall. Well defined oil band (DBK) visible on vertical headlands.

21

REVISION NO. 03/21/90

SHORELINE OILING SUMMARY

OG J. Springer USCG R. Vandepels SEGMENT ST/ DI-62
 BIO P. Crank LAND REP C. Huber SUBDIVISION B (2 OF 2)
 EXXON T. Tomblin ADEC M. Boer TIME 15:30 to 16:10
 TEAM NO. 5 TIDE LEVEL +2 to +2 DATE 04/19/90
 EST. SUBDIVISION LENGTH: 280 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 55 % C 15 % P 5 % G 0 % S 0 % M 0 % V 0 %
 SLOPE: Long 30 % Hang 40 % Vert 30 % WAVE EXPOSURE: ☐ Low ☒ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 40 m N 100 m VL 80 m NO 160 m

SURFACE OIL

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

PAVEMENT H F S 0 sq. m by 0 cm

PATTIES / TARBALLS 0 BAGS

NEAR SHORE SHEEN? (NO) BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☐ NO ☒

TYPE 0

#BAGS 0

Photographs:

Roll No. ST-5-62

Frames 6, 7

SUBSURFACE OIL

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

COMMENTS No pits - Boulders too big.

1b

REVIEWED

7W

DATE

4/21/90

OG J. Sp...er
 SEGMENT ST/ DL-62
 SUBDIVISION B
 DATE 04/19/90

CHECKLIST

☒ Areas
☒ Approx. Scale
☒ Map/Scale Entry
☒ Oil Desc.
 Width
 Length
☒ Cover
☒ Substrate Character
☒ Est. HAZARD
☒ SSL
☐ Profile Location(s)
☐ Profile(s)
☐ Photo Location(s)
☐ Photo Location(s)

LEGEND

1 Δ
 PH - No Subsurface Oil

2 Δ
 PH - Subsurface Oil

CT/C
 Continuous Distribution

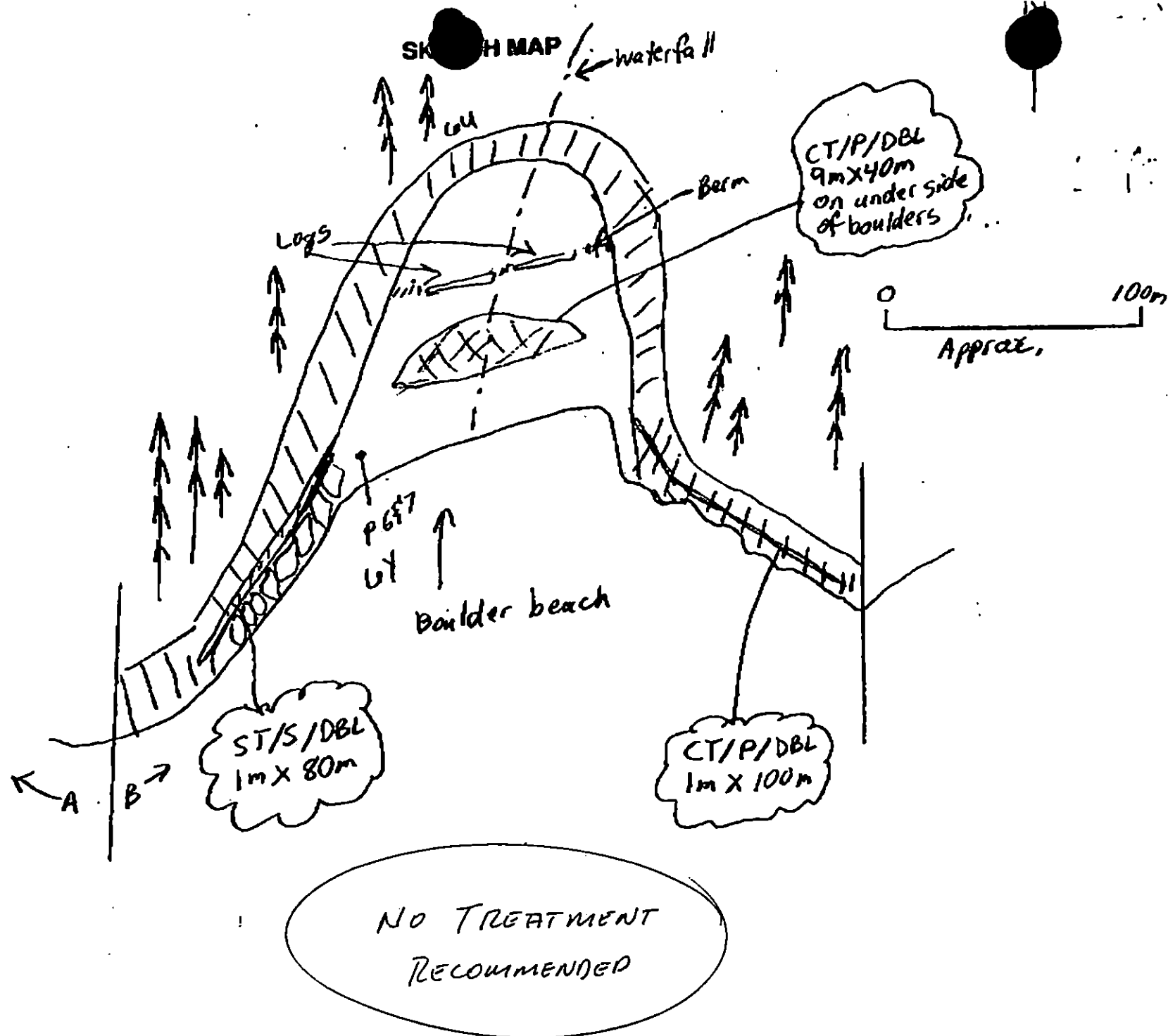
CT/B
 Broken Distribution

CT/P
 Patchy Distribution

CT/S
 Spinal Distribution

eee
 Oiled Vegetation

1 ●→
 Photo location, direction,
 and number



Oil Character Length (m): AP _____ PO _____ CV _____ CT 140 ST 80 MS _____ PT _____ TB _____ FL _____ NO 160

REVISIONS

SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/22/90

Segment ST/ D1 62 Subdivision B Date (mo / day / yr) 4/19/90
 Time (24 hr) 1535-1610 Biologist Grant Length 280m pg 1 of 3

- (A) Substrate type and % of segments:
 (1) Bedrock 25 (2) Boulder 55 (3) Cobble 15 (4) Pebble 5 (5) Sand _____ (6) Silt _____
- (B) Overall % cover of biota (% of segment): Dense 30 Moderate 50 Low 20
- (C) Density, substrate preference (by number from A, above), & vertical zonation of major taxa: (upper-U; mid-M; low tidal-L); juveniles / adults (X), new settlement (O)

Photographs:
 Roll No. ST-5-6

Frames 6, 7

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	
X	X	X	2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
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	
X	X	2	2	2	2	2	2	2	2	2	2	
3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	4	4	4	4	4	4	4	4	4	
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:

Other scat in SUPRA - mostly Scallop Shells (Scallop shells not observed on rest of subdivision, Possible den habitat in uplands)

Ecological Considerations:

- 6U - Tenting Sites
 6Y - Special Use Destination

DATE 4/19/90 TIME 1535-1610TIDE HEIGHT +2 ft

1 - BEDROCK

2 - BOULDER

3 - COBBLE

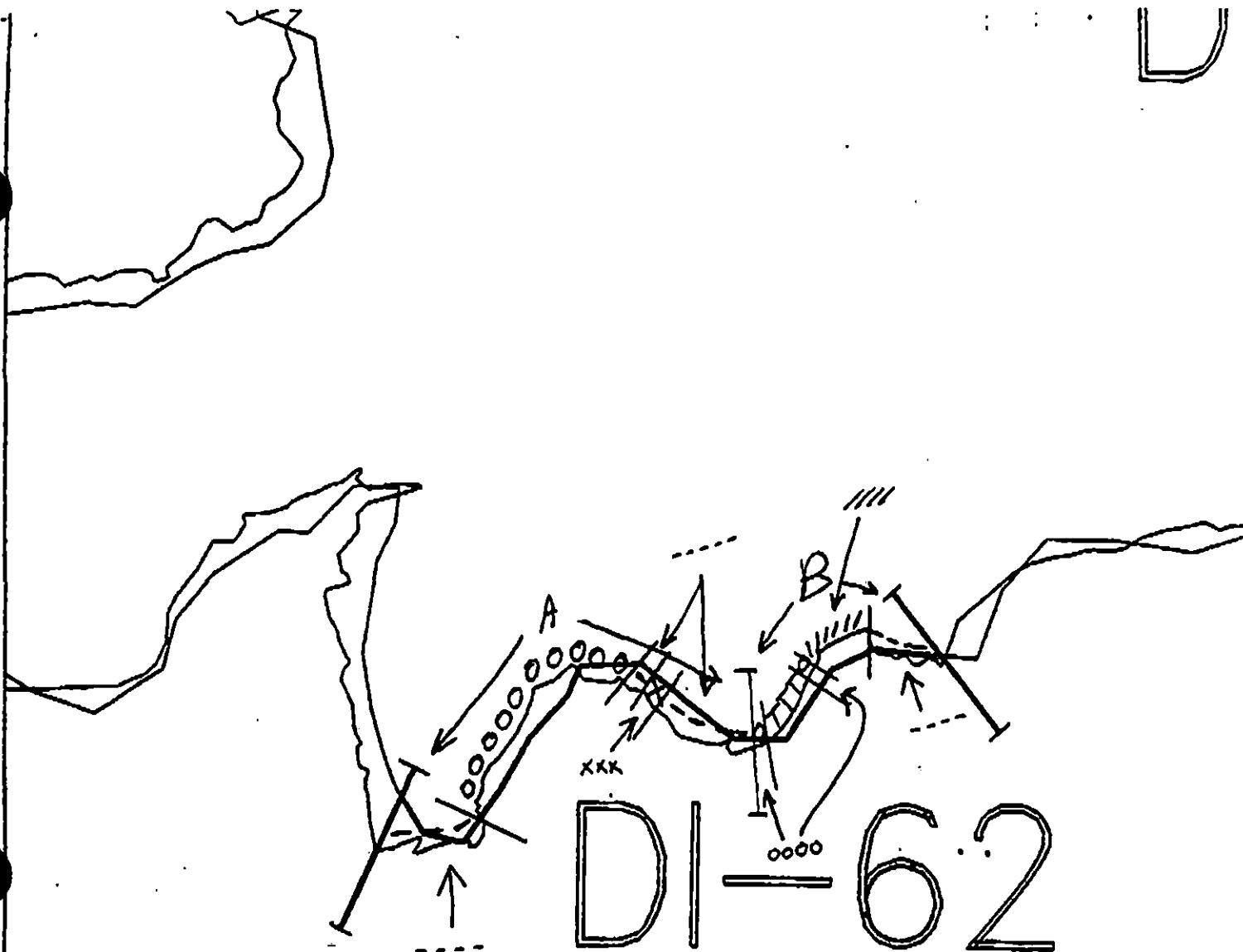
5 - SAND

6 - SILT

Pg 2 of 3

11626

SPECIES	UITZ	MITZ	LITZ	COMMENTS
BOSSIELLA/CORALLINA				
CALLIARTHRON/CORALLINA				
CLADOPHORA SPP				
COSTARIA SPP				
ENDOCLADIA MURICATA				
FILAMENTOUS GREENS		123	2	
FILAMENTOUS REDS				
GLOIOPELTIS FURCATA		23	23	
HALOSACCION GLANDIFORME		2		
LAMINARIA SPP				
LITHOTHAMNION				
NEREOCYSTIS SPP				
PORPHYRA SPP				
RALPHSIA/HILDENBRANDIA				
PHODOMELA LARIX				
RHOHOMENIA PALMATA				
SCYTOSIPHON SPP				
ULVA SPP		2	2	
ZOSTERA MARINA				
ENTOROMORPHA				
<i>Mastocarpus</i>			2	
FAUNA: ANTHOPLEURA SPP				
(SEMI) BALUNUS CARIOSUS		1		
B. GLANDULA	1234	1234		
BRYOZOANS			2	
CHITONS (other than K. TUNICATA)				
CLAMS				
CRABS				
DERMASTERIAS IMBRICATA			1	
KATHARINA TUNICATA				
LEPTASTERIAS HEXACTIS				
LIMPETS	127	127	123	
LITTORINA SPP				
NUCELLA SPP		23	2	
PAGURUS SPP		3		19
PISASTER OCHRACEUS				
POLYCHAETES				
PYCNOPODIA HELIANTHOIDES				
SEARLESIA DIRA				
SERPULIDS				
SIPHONARIA THERSITES				
TEALIA				
<i>Orthasterias</i>			1	under H ₂ O



KN-107

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

DI-62

ADEC Segment Length: 826
~~870m~~

0 100 200 300
 METERS



Map Key: PWS-94

Name: James Springe

Date: 4/19/90

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT DI-62 SUBDIVISION A (1 of 2)

WORK WINDOW	
Manual Pickup	OPEN
Bioremediation	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

No ecological time constraints.

OTHER ECOLOGICAL CONSIDERATIONS

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

TAG ADDENDUM DATE

ADEC

EXXON

NOAA

USCG

5/16/90.
ART WEINER Art Weiner
ANDY GALE Andy Gale
GARY PETERSON Gary Peterson
G.A. REITER G.A. Reiter

FOSC

DATE

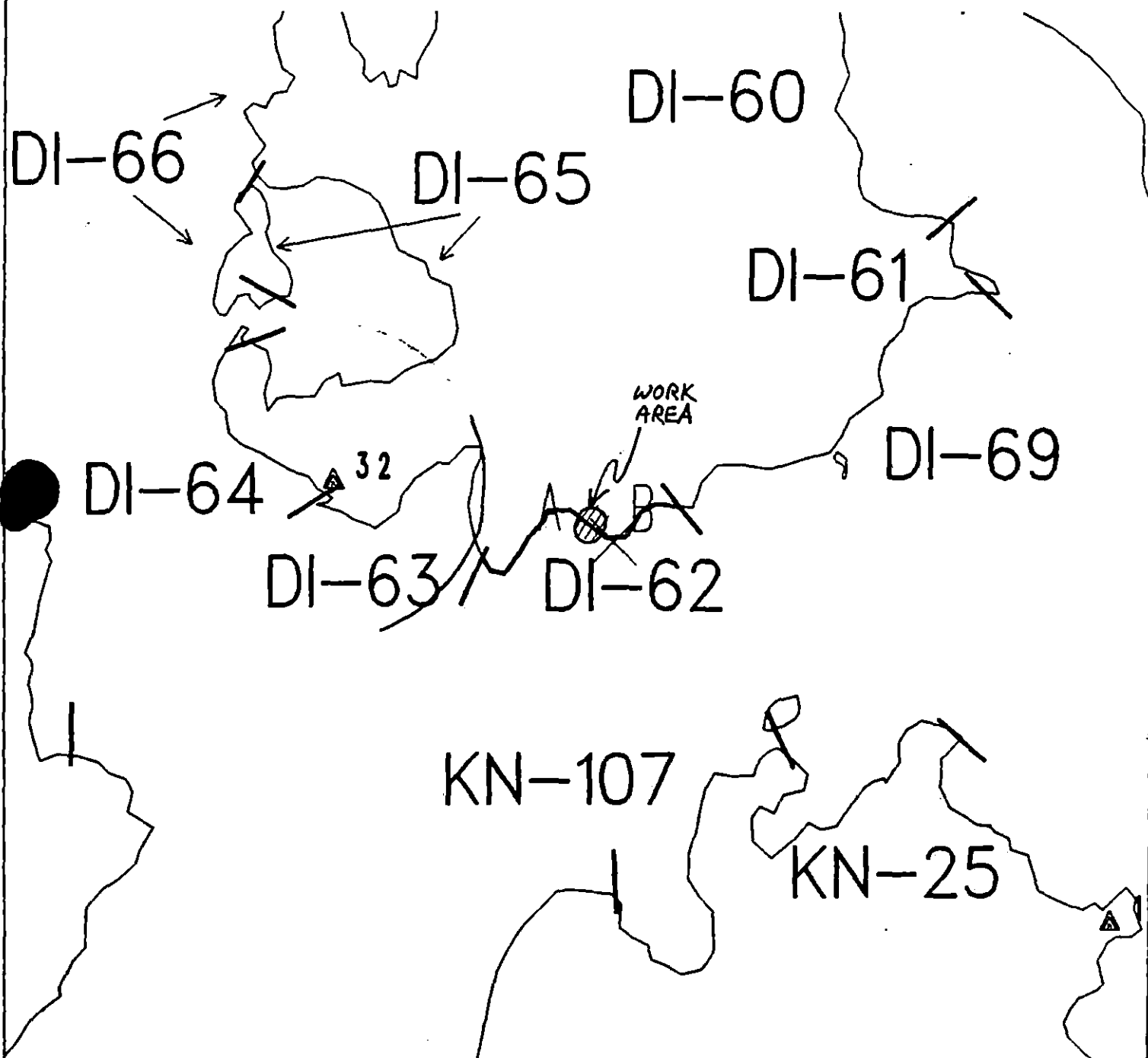
5-17-90

Prepared by:

Anders Meyer Wm

Date:

5/14/90

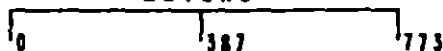


Exxon Company, USA
Map Key: KNI-DI-62
May 11, 1990

ECOLOGY MAP SEGMENT DI-62

SUBDIVISION A (1 of 2)

METERS



1 inch = 1268 feet

SHORELINE EVALUATION

SEGMENT ST/ DI-62 SUBDIVISION A (1 OF 2) DATE 4/19/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: [Signature] DATE: 5/1/90

OILING CATEGORIZATION:

Wide 21 m: Medium 0 m: Narrow 218 m: V.Light 0 m: No Oil 224 m
Subsurface Oil Observed: Yes X No Maximum Depth 28 cm

RECOMMENDATIONS:

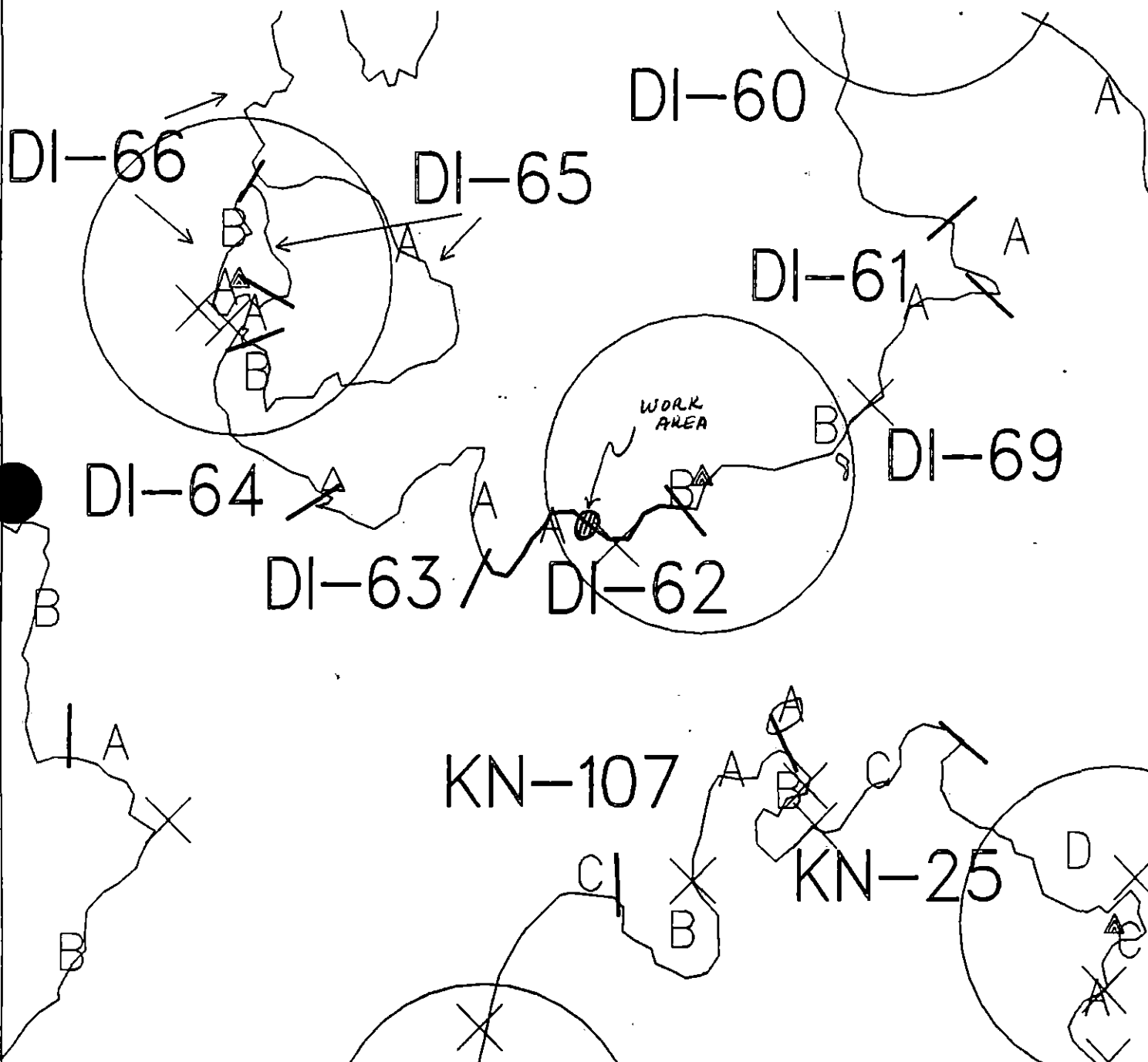
<u> </u> No Treatment Recommended	<u> </u> Snare/Absorbent Booms
<u> X </u> Treatment Recommended	<u> </u> Oil Snares (pom poms)
<u> X </u> Manual Pickup	<u> </u> Absorbents (pads, rolls, etc)
<u> X </u> Bioremediation	<u> </u> Spot Washing: <u> </u> Wands
<u> </u> Tarmat Removal	<u> </u> Beach Cleaner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

COMMENTS: ~~Recommended treatment includes manual removal of pebbles and cobble with oiled cover and mousse in area indicated on attached sketch map. Work should be conducted after 5/1.~~

TAG COMMENTS: MANUAL PICK UP OF MOUSSE / AVAILABLE OIL FOLLOWED
BY BIOREMEDIATION

TAG APPROVAL DATE: 4/28/90
ADEC ART WENGER
EXXON AMY TEAL
NOAA GARY PETRO
USCG BENJAMIN KEANE

FOSC: [Signature] DATE: 5-9-90



Exxon Company, USA

Map Key: PWS-DI-62

June 04, 1990



ECOLOGY MAP
SEGMENT DI-62
SUBDIVISION A (L of 2)
METERS

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



~~Line 1-1990-1-1990~~

SHORELINE EVALUATION

SEGMENT ST/ DI-62 SUBDIVISION A (1 OF 2) DATE 4/19/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: [Signature]

DATE: 5/1/90

OILING CATEGORIZATION:

Wide 21 m: Medium 0 m: Narrow 218 m: V.Light 0 m: No Oil 224 m
Subsurface Oil Observed: Yes X No Maximum Depth 28 cm

RECOMMENDATIONS:

 No Treatment Recommended

X Treatment Recommended

X Manual Pickup

X Bioremediation

 Tarmat Removal

 Snare/Absorbent Booms

 Oil Snares (pom poms)

 Absorbents (pads, rolls, etc)

 Spot Washing: Wands

 Beach Cleaner

 Other (see comments)

COMMENTS: ~~Recommended treatment includes manual removal of pebbles and cobble with oiled cover and mousse in area indicated on attached sketch map. Work should be conducted after 5/1.~~

SEE CONSTRAINTS ADDENDUM DATED 6/10/90 [Signature]

TAG COMMENTS:

MANUAL PICK UP OF MOUSSE / AVAILABLE OIL FOLLOWED
BY BIOREMEDIATION

TAG APPROVAL DATE: 4/28/90

ADEC

ART WENGER

EXXON

ANDY TGA

NOAA

GARY PETRO

USCG

KENNETH KRANE

FOSC: [Signature]

DATE: 5-9-90

SHORELINE EVALUATION

SEGMENT ST/ DI-62 SUBDIVISION B (2 OF 2) DATE 4/19/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

5V Recreation: Anchorages (6/1 to 9/15)

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO SIGNATURE: J. Davis M² Mahan DATE: 5/1/90

OILING CATEGORIZATION:

Wide 0 m: Medium 43 m: Narrow 65 m: V.Light 76 m: No Oil 27 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: 4/28/90
ADEC Art Weiner Dist. Comm.
EXXON Andy Tena
NOAA Gary Petrac
USCG Kenneth Keane

FOSC: WJL DATE: 5-8-90

J. Springer
 SEGMENT ST/ 17-62
 SUBDIVISION B
 DATE 04 / 19 / 90

CHECKLIST

☒ Approx. Scale
☒ Approx. Sub. Entry
☒ Oil Dist.
 Width
 Length
☒ Cover
☒ Substrate Character
☒ Est. HML/LVL
 SSL
 Profile Location(s)
 Profile(s)
 P/L Location(s)
 Photo Location(s)

LEGEND

1 Δ
 P/L - No Subsurface Oil

2 Δ
 P/L - Subsurface Oil

CT/C
 Continuous Distribution

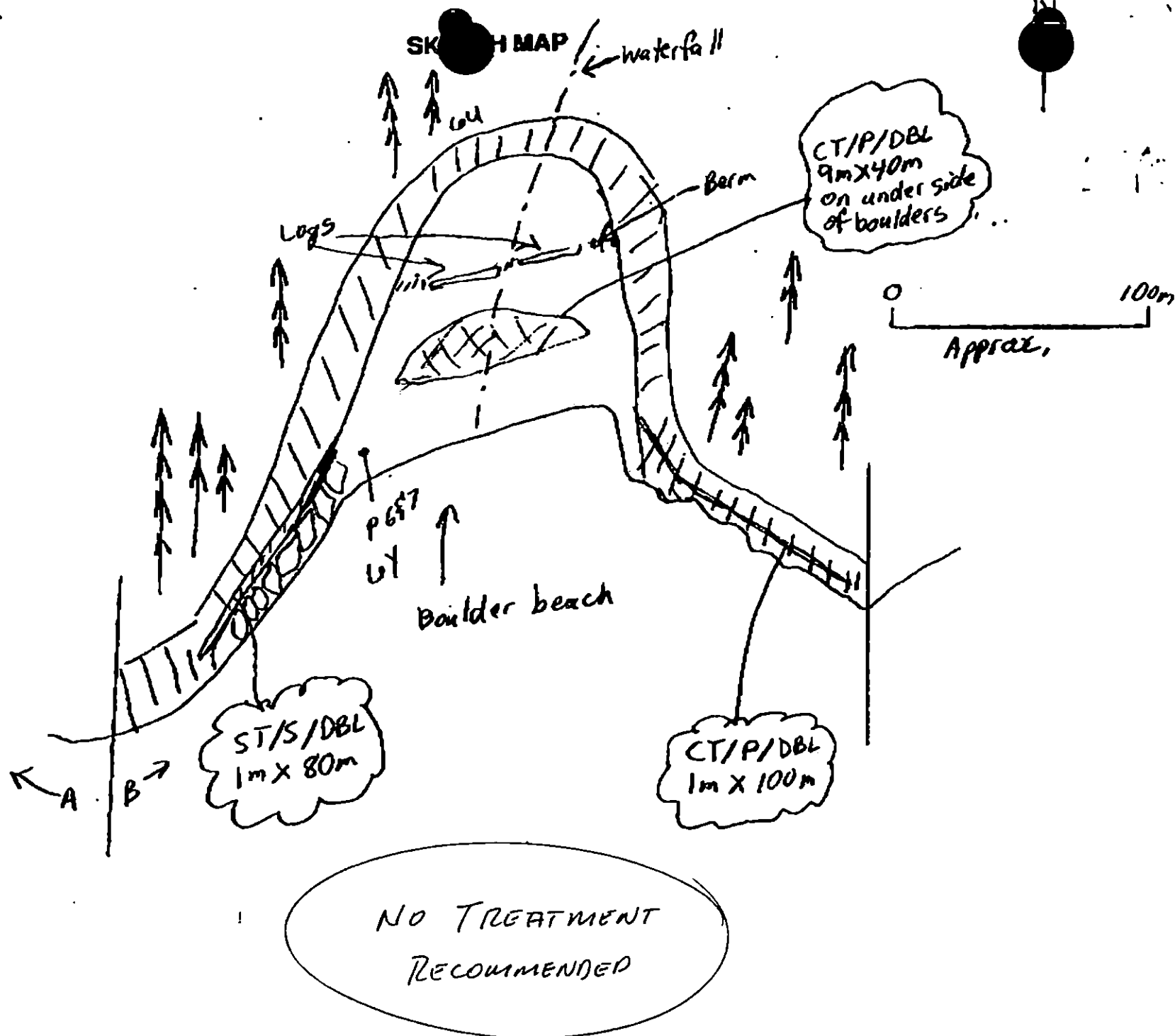
CT/B
 Broken Distribution

CT/P
 Patchy Distribution

CT/S
 Splashed Distribution

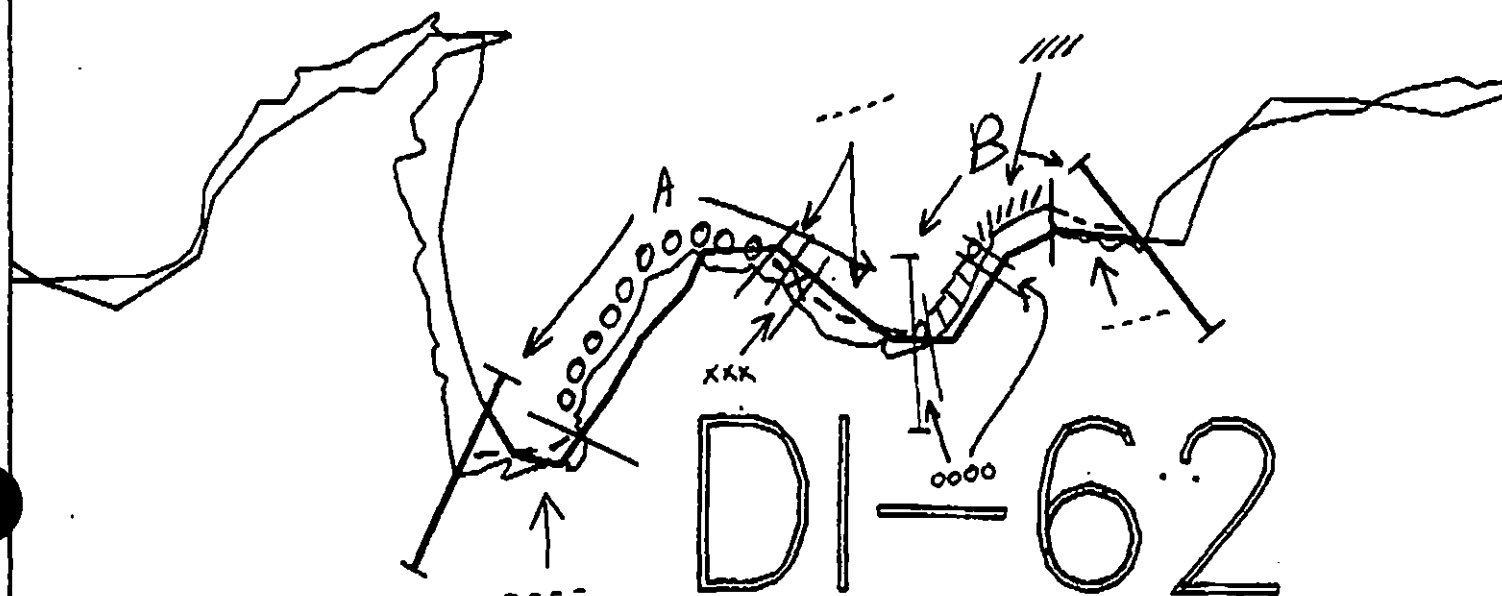
eee
 Oiled Vegetation

1 ●→
 Photo location, direction,
 and number



H Character Length (m): AP _____ PO _____ CV _____ CT 140 ST 80 MS _____ PT _____ TB _____ FL _____ NO 160

REVISIONS



KN-107

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

DI-62

826

ADEC Segment Length: 570m



Map Key: PWS-94

Name: James Springe

Date: 4/19/90

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ DI-62 SUBDIVISION A (1 OF 2) DATE 4/19/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

6Y Recreation: Special use destination

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: [Signature] DATE: 5/1/90

OILING CATEGORIZATION:

Wide 21 m: Medium 0 m: Narrow 218 m: V.Light 0 m: No Oil 224 m
Subsurface Oil Observed: Yes X No Maximum Depth 28 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 manual removal of pebbles and cobble with oiled cover and mousse in area indicated on attached sketch map. Work should be conducted after 5/1.~~

TAG COMMENTS: MANUAL PICK UP OF MOUSSE / AVAILABLE OIL FOLLOWED BY BIOREMEDIATION

TAG APPROVAL DATE: 4/28/90
ADEC ART WENGER
EXXON ANDY TEAL
NOAA GARY PATRICK
USCG KENNETH KEANE

FOSC: [Signature] DATE: 5-9-90

SEGMENT 37 DI-62

SUBDIVISION A

DATE 04 / 19 / 90

CHECKLIST

- ☐ H Area
- ☐ Approx. Scale
- ☐ Seg/Sub Entry
- ☐ Off Dist.
- ☐ Width
- ☐ Length
- ☐ % Cover
- ☐ Substance Character
- ☐ Est. HHA/LVL
- ☐ SQL
- ☐ Profile Location(s)
- ☐ Profile(s)
- ☐ PI Location(s)
- ☐ Photo Location(s)

LEGEND

Fit - No Subsurface Oil

2 A
Fig - Subsurface Oil

CT/C
Continuous Distribution

CT/8
Broken Distribution

CT/P

Factorial Distribution:

[CT/5]
Special Distribution

ell
Oiled Vegetation

Photo location, direction,
and number

SKETCH MAP

MANUALLY REMOVE PEBBLE &
COBBLE WITH OILED COVER &
MOUSSE

MANUAL PICKUP
OF MOUSE AVAILABLE ON
FOLLOWED BY BRO.

Surface runoff goes under beach deposits

20m x 1m
CT/B/DBL

0 100 m
Approx.

7m x 18m
CV/B/DBR
with ms to
5cm thick under
boulders

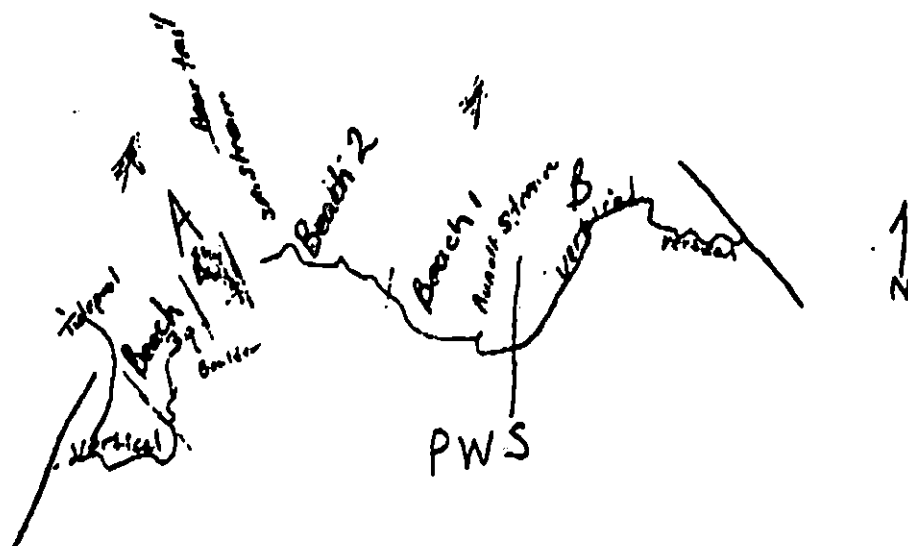
2m X 80m
CT/B/DBL

1 1/2 m X 80m
CT/B/DBL.

Oil Character Length (m): AP _____ PO _____ CV 18 CT 190 ST _____ MS _____ PT _____ TB _____ FL _____ NO 348

● 2017 年 12 月 1 日

Segment: ST/D162 A Length: 546m Biologist: Crank pg. 2 of 2
 Time: 1610-1805 Tide Height: +2 → +4 ft
 Date: 4/19/90



Comments

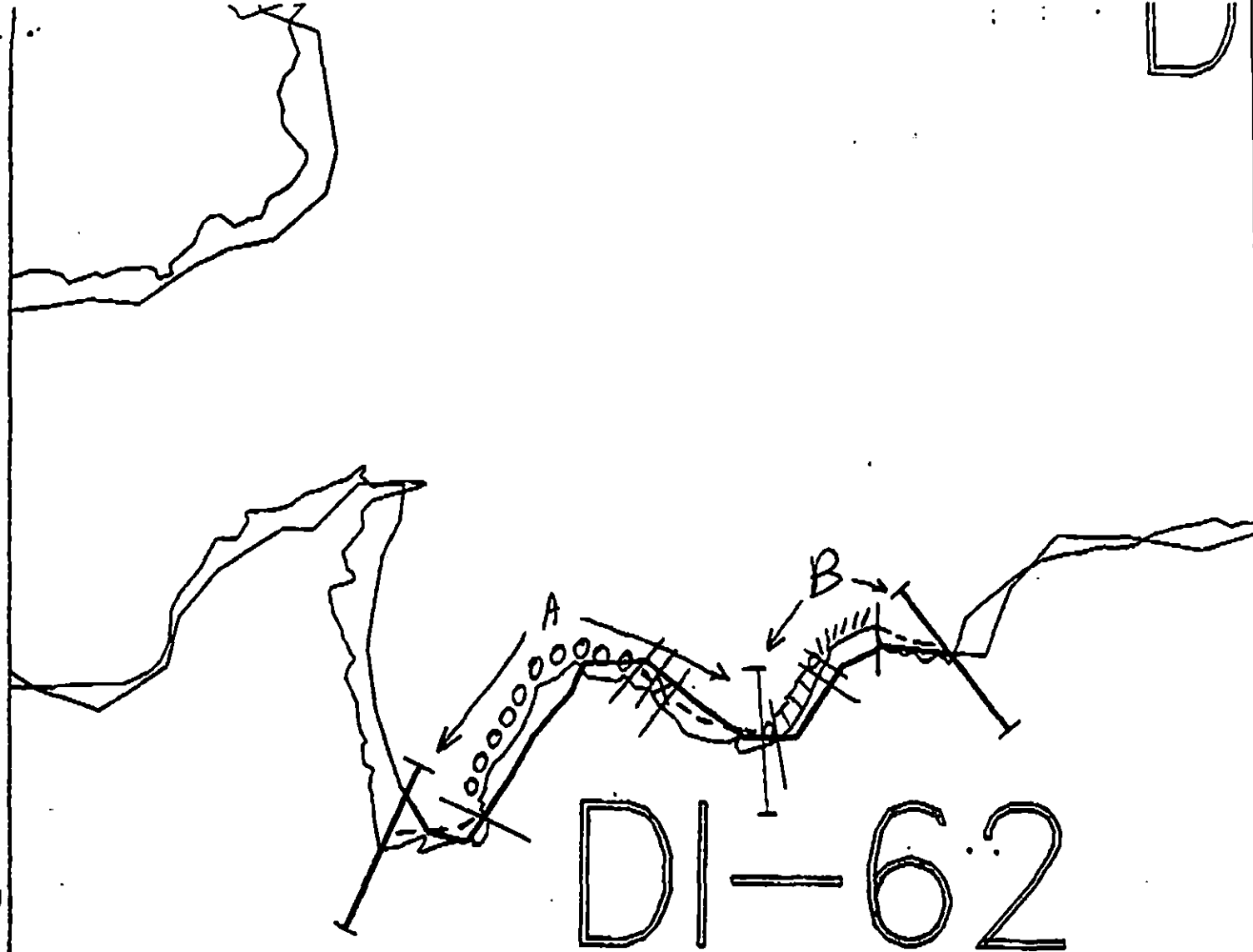
- Most of LITZ unexposed throughout survey.
- Dense and continuous barnacle recruitment on beach 2.

Beach 1:

- Dense patches of Dermasterias imbricata obs under H₂O line on vert. faces.
- Cobble/Boulder pocket beach - Angular
- In MITZ the surface of the stones were covered with filamentous green algae and a rare distribution of barnacles and 90% mortality. The undersides, however, have a moderate concentration of Adult, new growth and barnacle spat - 20% mortality.
- There is a small stream (probably runoff-related).

Beach 3:

- Boulder/Cobble in LITZ to mid-MITZ; upper MITZ and UITZ were ^{rounded} Pebble/Cobble Drift beach - tremendous amount of logs in SUPRA and drift Fucus at H₂O edge.
- There was a continuous mod → dense filamentous green algae cover on the boulder/cobble, patchy and sparse on the pebble/cobble.
- Small upland stream that ran under intertidal stones. Bear trail paralleling Stream and several deer trails. Skunk cabbage had been eaten to the roots.
- 80% Barnacle mortality on substrate covered w/ fil greens.
- Boulder located at +2 ft has a rare concentration of mussels. They are covered with filamentous green algae with less than 5% mortality.



KN-107

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

DI-62

ADEC Segment Length: 826



Map Key: PWS-94
 Name: James Springs
 Date: 4/19/90
 Data Entered:

1991 MAYSAP EVALUATION

SEGMENT: DI 062 SUB: A REGION: PWS SURVEY DATE: 5/13/91

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) RESTRICTED 3/1 - 9/1

Ecological/Constraints (see page two for details) Eagle nest

ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO Signature: _____ Date: _____

RECOMMENDATIONS:

	INITIAL	TAG	FOSC
TREATMENT REQUIRED (Y or N)	<u>Y</u>	_____	_____
Manual Pickup (Check as Req.)	_____	_____	_____
Spot Washing	_____	_____	_____
Bio-Customblen Only	_____	_____	_____
Bio-Inipol/Customblen	<u>X</u>	_____	_____
Other _____	_____	_____	_____
Other _____	_____	_____	_____

COMMENTS:

INITIAL: Apply Customblen and Inipol at locations A, E, G, H, I, and K.

TAG: _____

FOSC: _____

TAG APPROVAL DATE: _____

FOSC APPROVAL DATE: _____

ADEC _____

FOSC _____

EXXON _____

USCG _____

NOAA _____

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

Eagle Nest: Access restricted from 3/1 to 9/1. USF&WS
authorization required. Maintain 1000' vertical and 1/4 mile
horizontal buffer.

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 2 SEGMENT DI-62 SUBDIVISION A DATE MAY 13/91

ADEC

NAME

Peter Montesano

SIGNATURE

Peter Montesano☐ NTR

TREATMENT RECOMMENDED

PIT 3 was Definitely OP NOT HOR, Area "A" was a 7x4m AP area concentrated over a 5x3m area. Area "H" was Solid AP to be removed w/untreatable ms lined C's down through m/LITEs. Also Remove the SCR/AP in area "K", AP in Area "A". The OP lens (distinct in fines) around Pit 3 (Area "A"). Otherwise the extensive oiling w/in this subdivision is well documented and largely untreatable. The recommended treatment areas are all easily accessible for standard shovel/trawl removal. Biological Considerations do NOT interfere w/Removal areas.

ADNR lists this site as a camping, kayaking, anchorage, and special use destination.

EXXON

NAME

O.M. Katsimpralis

SIGNATURE

O.M. Katsimpralis☐ NTR

SOME OF THE SCR HVY & AP AREAS WITHIN THIS SEGMENT COULD BENEFIT FROM MANUAL TREATMENT & BIOREMEDIATION.

LANDMANAGER

NAME

DENNIS S. Kennedy OF USFS

SIGNATURE

D.S. Kennedy☐ NTR

Areas with Heavy SCR can be removed and/or tilled where practical then treated with bioremediation. Subdivision is a river otter study area.

USCG/NOAA D. SIMEONE-BERRY NOAAD. Simeone-Berry

NAME

BMI M.P. ZENONE USCG

SIGNATURE

BMI M.P. Zenone☒ NTR

Although pavements were observed between boulders within a low energy environment, manual breakup of AP would be very difficult due to confined spaces between large boulders (area H). The oil within areas of HOR (trunks #3 and #5) penetrates the sediments between O-10cm over a small area. These areas are also located near jettied tidal pools containing fish, crabs and algae. DS-B

CGI - EXCELLENT COMMENTS BY NOAA. CONCUR W/NOAA THAT MANUAL WORK IN AREA H WOULD BE DIFFICULT RECOMMEND TAG LOOK AT THIS CAREFULLY TO WEIGH DEGREE OF DIFFICULTY IN REMOVAL AND NET BENEFIT AND DAMAGE REMOVAL MAY CAUSE. 3

TEAM NO. 2OG B. TrimmBIO S. BanSEGMENT DT-62ADEC P. MontesanoLANDMANAGER D. Kennedy for USFSSUBDIVISION AEXXON C. KatsimpalisUSCG/NOAA D. Simecek-BrattyDATE MAY 13 1991TIME 07:20 to 08:18TIDE LEVEL -2.48 ft. to -1.74 ft.ENERGY LEVEL: ☐ H ☒ M ☒ LSURVEYED FROM: ☒ FOOT ☒ BOAT ☐ HELOWEATHER: ☒ SUN ☐ CLOUDS ☐ FOG ☐ RAIN ☐ SNOWTOTAL LENGTH SHORELINE SURVEYED: 199 mNEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONEEST. OIL CATEGORY LENGTH: W 0 m M 22 m N 54 m VL 53 m NO 20 m US 265 m

L O C	SURFACE OIL CHARACTER										SURFACE SEDIMENT TYPE	SHORE SLOPE V H M L	AREA		ZONE				NOTES
	AP	MS	TB	SOR	CV	CT	ST	FL	DB	NO			WIDTH m	LENGTH m	S	UI	MI	LI	
A	S			P							BC	M	1.5	5.0		X			LT SOR UNDER BOULDER VENEER
B				S							B	M	1.5	15.0		X			MED SOR UNDER BOULDER TALUS
C					S						R	V	1.5	4.0	X	X			
D					B						R	V	1.5	2.0	X				PROTECTED ROCK FACE
E				S							B	M	1.0	12.0		X	X		Hvy SOR, UNDER BOULDER TALUS
F					S	S	S				R	H	1.0	25.0	X	X			
G				P							B	M	1.0	1.0			X		SMALL PATCH UNDER TALUS
H	P				S	S	S				B	M	3.5	22.0		X			AP IN BETWEEN BOULDER TALUS
I					S	S	S				R	M	1.0	30.0	X				
J				P				S			B	M	0.5	6.0		X			Hvy SOR UNDER BOULDER VENEER
K	S			S	S	S	S				B	M	2.5	25.0	X	X			Hvy SOR, MOST BEHIND SEASTACK

DISTRIBUTION: C = 91-100%; B = 51-90%; P = 11-50%; S = 1-10%; T = <1%

SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE PHOTO ROLL # MAYSAP- 2 - 11 FRAMES 9-13

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER							OILED ZONE cm-cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE				SURFACE- SUBSURFACE SEDIMENTS	NOTES
		OP	HOR	MOR	LOR	OF	TR	NO					S	UI	MI	LI		
1	25							X	---	Y	20	N		X			P-Porg	
2	27							X	---	Y	-	-		X			PB-PGSM B	
3	12		X						4-10	Y	-	-		X			BGP-GPS M	HOR UNDER SOR
4	15						X		0-3	Y	-	-		X			PB-PGCSM	
5	23		X						0-3	Y	-	-		X			BPL-GPS	
									-									
									-									
									-									

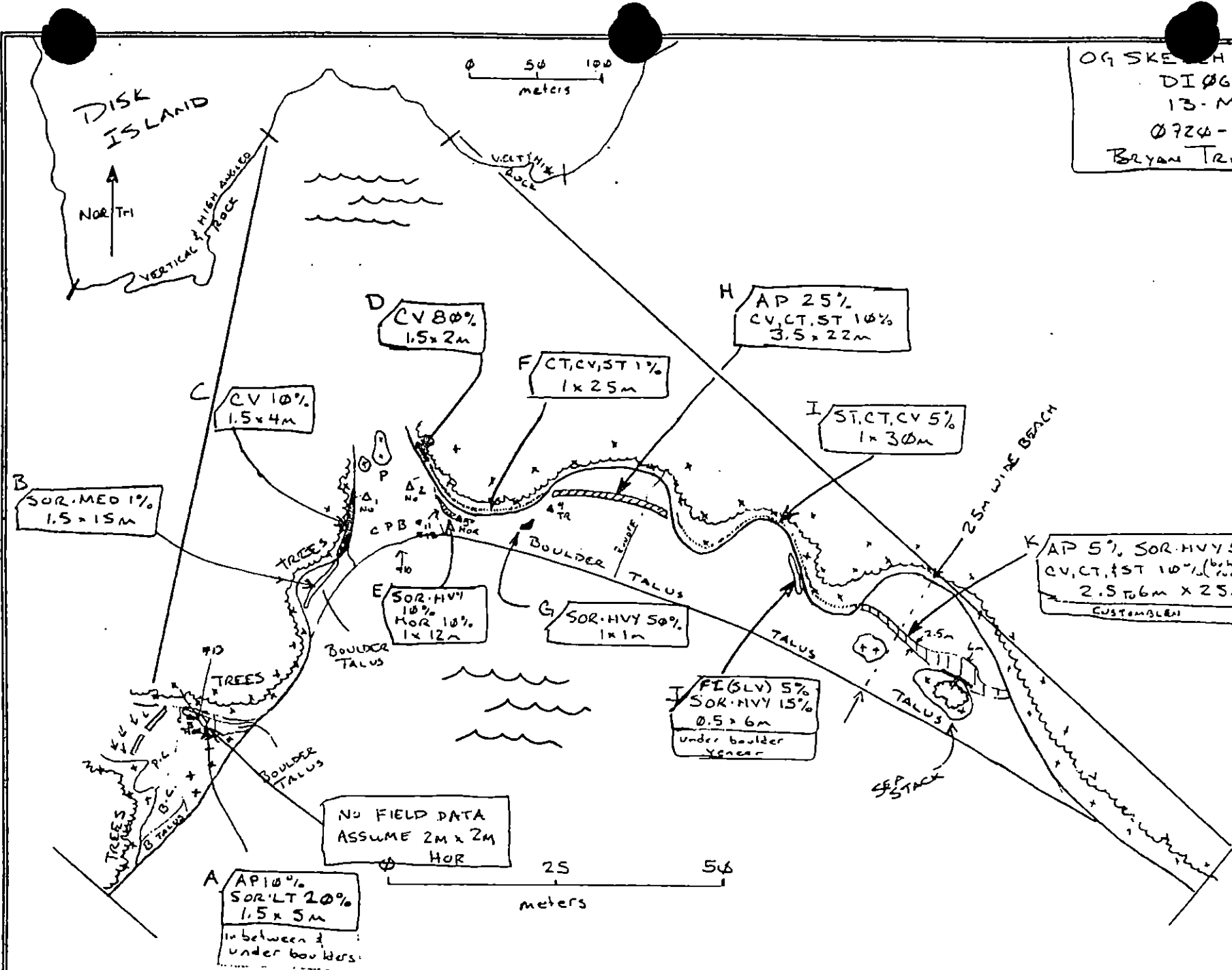
SHEEN COLOR: B = BROWN; R = RAINBOW; S = SILVER; N = NONE

OG COMMENTS:

HOR SUBSURFACE OILING FOUND BENEATH SOR IN LOCATIONS 'A' & 'E'.
BOULDER SHORE WITH 2 SMALL PEBBLE POCKET BEACHES IN SURVEYED AREA.
VERTICAL & HIGH ANGLED SHORELINE IS FOUND IN THE 'UNSURVEYED' PORTION
OF SUBDIVISION.

revised 5/18/91 LG
REVIEWED CB 18 MAY

OG SKETCH MAP
DI 062-A
13-MAY-91
0724-0818
Bryan Trim



5/18/91 K.C. reviewed
REVIEWED CD 18 MAY

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 2 DATE 13 May 91
 SEGMENT # DE-62 TIDAL HEIGHT (Range)
 SUBDIVISION A BIOLOGIST S. BAN
 SEA STATE Calm WIND SPEED/DIRECTION Calm
 PHOTOGRAPHS: ROLL # — FRAME # —

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):

A: Green algae on cobbles at location of Pit #5. Littorinids & limpets (juvenile) immediately below oiled zone. Lower ITZ supports several tide pools. Pools contain sculpins, Agurias Algae - Recent spat in lower ITZ.

B+C: Green algae & lichen in oiled zones. Several Pycnophoria in lower ITZ at B. Fucus recruits and barnacle spat below C.

D: A Few Barnacles & barnacle scales on rocks adjacent to pit no spat. Lichen & green algae also observed near pit.

E: No branch egg cases under rocks seaward of Pit #3. Recent spat small limpets Fucus recruits in lower zones. Spat from 1990 (Fall) adjacent to pit. Brown algal band on boulders below high tide line.

F, I & J: Rock face w/oil stain. Fucus & Balanus assemblage below oil. Lichen above & within oiled zone.

G+H: Littorinids & limpets in oiled zone. Pycnophoria, Hemicia & leather stars in lower ITZ. Barnacle spat & Fucus spatlings in lower ITZ. Fucus more dense near FW runoff. Herring eggs on drift seaward near Pit #4.

K: Few gastropods & green algae at oiled zone. Lower zones as described above.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	1 (flew past site)	1	#5 SCULPINS
Seabirds			
Waterfowl			
Gulls/kittiwakes	1	2-3	
Shorebirds			
Corvids			
Other Birds			

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters	1	/	/
Pinnipeds (specify)			
Whales (specify)			

Shoreline subdivision map showing important biological features attached.

REVIEWED CB 18 MAY
 Reviewed M.B. 5/18/91

DISK
ISLAND

NORTH

VERTICAL HIGH WATER
TIDE

50 100
meters

SKETCH MAP
DI 062-A
13-MAY-91
0724-0801

B+C:

Green algae in
oiled zone. Rich
lower ITZ.
Recent spat
Fucus spore

D: Few Barnacles
& scars no spat

I+J:

Rock Face
with Fucus
Balanus zonation
Lichen above +
in oiled zone

Kelp
BEDS

Boulder
Talus

E: 1990 spat
& more recent
in vicinity of
pit; Audubon
egg masses

Talus

C+H:

Few Littorines
and limpets
in oiled zone
Fucus recruits
and Barnacle
spat in lower
zones

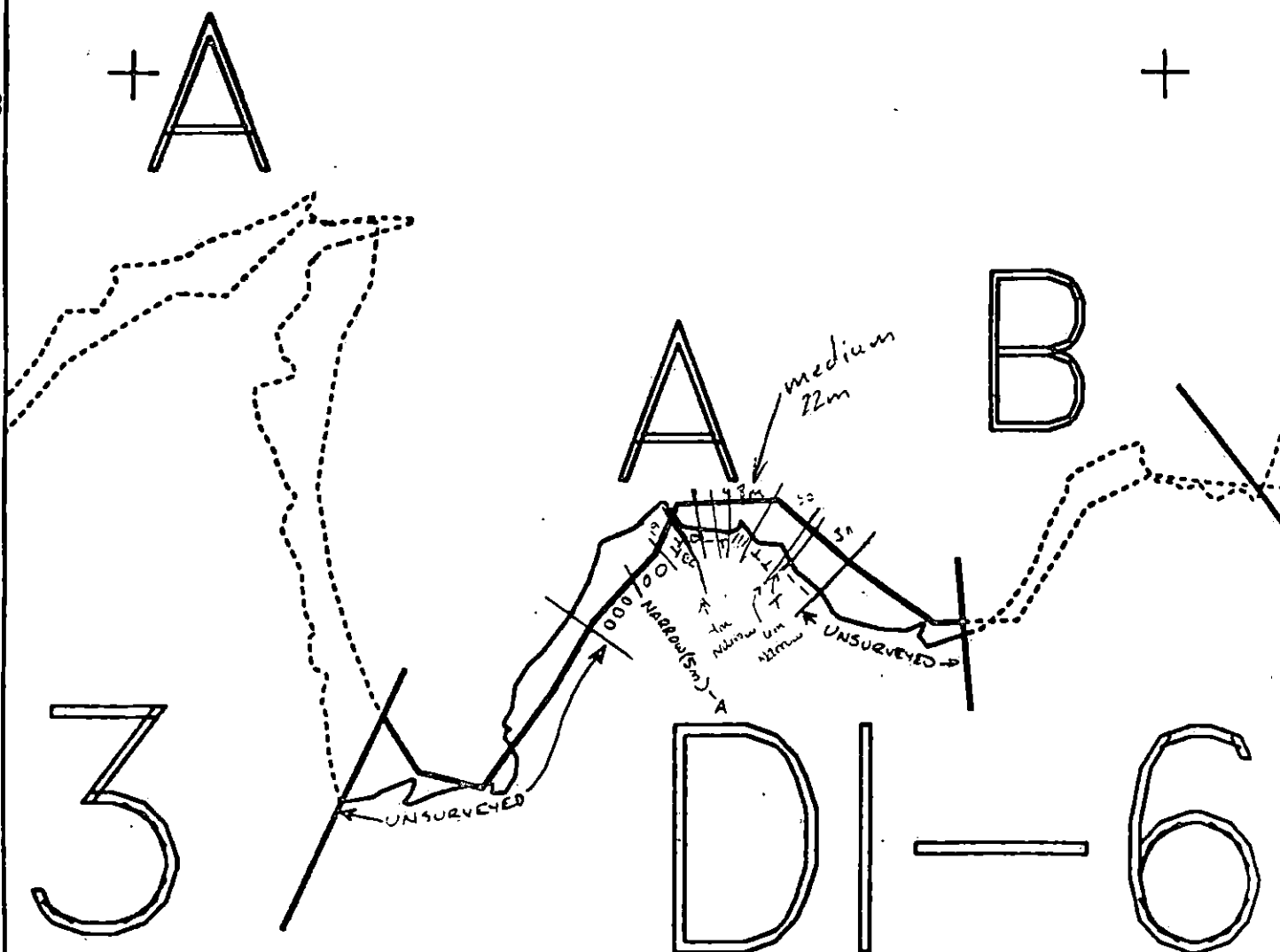
K: Few gastropods
and green algae in oiled zone
Fucus-Balanus assemblage
in lower zones

A: Green algae
on cobble at
pit. Small
Littorinids and
Tide pools and
recent spat in
lower ITZ

25 50
meters

Revised M.B. 5/18/91

MB 13 May 91



XXXX	Wide	DI062 A ADEC Subsegment Length: 484m METERS AK State Plane Zone 4 641002a	 	Subdivision Field Map
////	Medium			Map Key: KNID1002A
----	Narrow			Name: <u>TIRIUM</u>
TTTT	Very Light			Date: <u>13-MAY-91</u>
0000	No Oil			Date Entered:

- ADEC SURFACE OIL CATEGORY MAP -

revised 5/18/91 KG
 REVISED CD 18 MAY

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/DI-63

SUBDIVISIONS: A (1 OF 1)

SHORELINE EVALUATION

SEGMENT ST/ DI-63 SUBDIVISION A (1 OF 1) DATE 4/19/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

Possible (5T) All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1).

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

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

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 55 m: Medium 129 m: Narrow 395 m: V.Light 88 m: No Oil 241 m
Subsurface Oil Observed: Yes X No _____ Maximum Depth 30 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes bioremediation of two areas indicated on sketch map. Work should be conducted after 6/1 with approval of USFWS due to eagle nest constraint and with approval of ADF&G regarding use of Inipol.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

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

SEGMENT ST / DI-63 SUBDIVISION: A DATE 19 April 90

CG NAME AEC Vandepels SIGNATURE AEC Vandepels

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

I suggest treatment for the 20x20 M band east of stream, bio. 20x40 M band 100 M west of stream west portion of cobble beach also bio.

ADEC NAME Michelle Baer SIGNATURE M Baer

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

- 1) At pit #8, till and bioremediate surface layer. Stream nearby is not designated as a spawning area. In addition, bioremediate NW side of stream.
- 2) In the area of pit #11, till and bio. from MITZ to LITZ, to the Lg. B/R Hdd mid beach. After the Lg. B/R Hdd, remove m/s with shovel.
- 3) In the area of pit #13, bioremediate and till to bring up OR substrate (15 cm deep).

LAND MANAGER

NAME Carol S. Huber SIGNATURE Carol S. Huber 30

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS

Reasons sensitivity: anchorages. Otter scatt - otter use area. Disturb oil band (2.1-2m) on rocky vertical headlands. Double / triple oiling noted (by headland band). Relatively low energy beaches (angular rocks range from boulders to gravels (and sand). (Unsorted) Possible bioremediate for surface oil on beaches. Some mobility of oil noted by cleaning evidence.

SHORELINE OILING SUMMARY

REVISION NO. 34-13-08

OG J. Springer USCG R. Vandepels SEGMENT ST/ DI-63
 BIO P. Can R LAND REP C. Huber SUBDIVISION A (1 OF 1)
 EXXON T. Temblin ADEC M. Baer TIME 11:30 to 15:30
 TEAM NO. 5 TIDE LEVEL +6 to +2 DATE 04/19/90
 EST. SUBDIVISION LENGTH: 1057 m ☐ Sun ☒ Clouds ☐ Fog ☒ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock Pillow Basalt
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: E to W
 SURFACE SEDIMENTS: R 40 % B 30 % C 15 % P 10 % G 5 % S 0 % M 0 % V 0 %
 SLOPE: Lang 20 % Hang 50 % Ven 30 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 60 m M 120 m N 495 m VL 20 m NO 362 m

SURFACE OIL

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

PAVEMENT H F S 0 sq. m by 0 cmPATTIES / TARBALLS 10 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 ☐Beer Cans, pbs, TYPE bottles#BAGS 1

Photographs:

Roll No. _____

Frames _____

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM)	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SHEEN (Y/N)	?	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	CL	OF	NO		UO	UC	1	2	3	4	5	SU	U	M	L				
1	30					X	.		X							X				N	20	BC/PGS
2	15					X	.		X						X					N	20	B/PGS
3	30				X		10-30	X				X				X				TL	20	B/CPGV
4	30					X	.		X							X				N	20	B/PGV
5	25					X	.		X								X		X	N	20	C/PGSMV
6	45				X		0-10	X	X							X					15	C/PGSM

COMMENTS In 1st pocket beach (from west), light brown coat on few boulders may be some type of immulsion (?). Double band of coat/stain on rocks indicates two or more episodes of oiling.

REVIEWED 7/22DATE 4/21/90

SHORELINE OILING SUMMARY (PAGE 2)

REVISION 04/13/90

SEGMENT ST/ DI-63 SUBDIVISION A (1 OF 1)

SUBSURFACE OIL (CONTINUED)

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR						PIT ZONE				A	N	A	SCREEN (Y/N)	↓	SURFACE - SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	SP	BP	GP	WP	LP	TP	SU	U	M	U						
7 ⁺	25					X	.		X										X						P/P/GSM
8	30					X	.		X								X					N	10		C/P/GSM
9	30					X	.		X								X					N	15		C/P/GSM
10	15					X	.		X							X						N	7		C/P/GSV
11	30	X					0-10		X				X			X						BR	10		C/P/GSM
12	30				X		5-30	X					X						X			TL	25		C/P/GSM
13	30		X				0-15		X					X				X							C/P/GSMV
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		
							.																		

COMMENTS

Pit 7 Oil in upper 5 cm.

REVIEWED

7^W

DATE

4/21/90

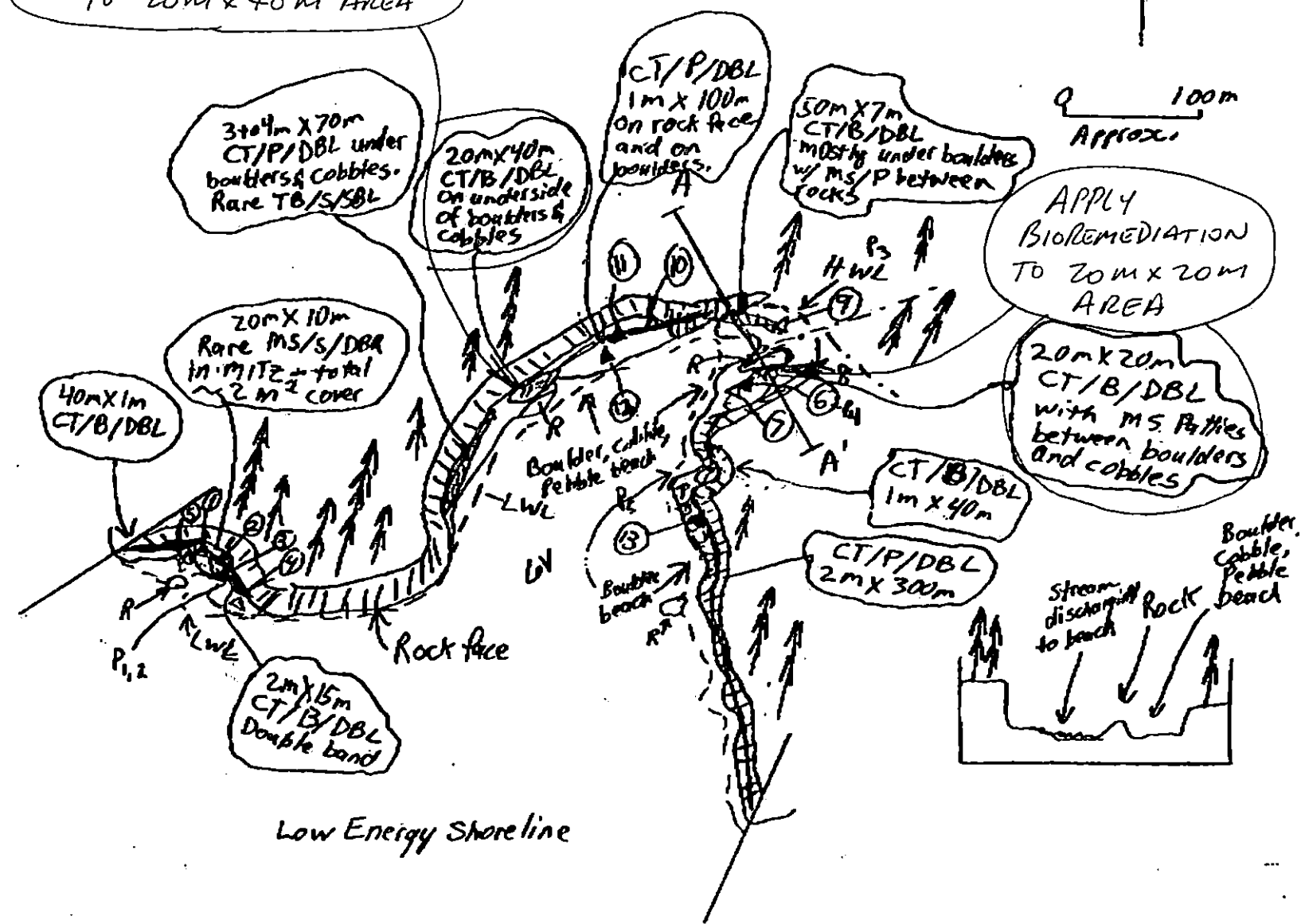
00 J. Springer
 SEGMENT ST 63
 SUBDIVISION A
 DATE 04 / 19 90

SURCH MAP

APPLY BIOREMEDIATION
 TO 20m x 40m AREA

- CHECKLIST**
- ☒ Arrow
 - ☒ Approx. Scale
 - ☒ Day/Sea Entry
 - ☒ Oil Dist.
 - ☒ Width
 - ☒ Length
 - ☒ Cover
 - ☒ Substrate Character
 - ☒ Est. HML/VOL
 - ☒ PSI
 - ☒ Profile Location(s)
 - ☒ Profile(s)
 - ☒ PI Location(s)
 - ☒ Photo Location(s)

- LEGEND**
- 1 ▲
P11 - No Subsurface Oil
 - 2 ▲
P11 - Subsurface Oil
 - CT/C
Continuous Distribution
 - CT/B
Broken Distribution
 - CT/P
Patchy Distribution
 - CT/S
Splashed Distribution
 - lll
Oiled Vegetation
 - 1 ➡
Photo location, direction, and number



SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/98

Segment ST D163 Subdivision A Length 1057m Date (mo/day/yr) 4/19/90

Time (24 hr) 1145-1525 Biologist Crank

pg 1 of 4

(A) Substrate type and % of segments:
(1) Bedrock 40 (2) Boulder 30 (3) Cobble 15 (4) Pebble 10 (5) Sand 5 (6) Silt

(B) Overall % cover of biota (% of segment): Dense 0 Moderate 20 Low 80

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

Photographs: Roll No. ST-5-6

Frames 3

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:

5-Bald Eagles - Adult

3-Bald Eagles - Immature

5-Cormorants

3-Ravens - one heard only

Ecological Considerations:

- CoV - Anchorages

- Stream - not listed as a Salmon Stream - Possible, low potential spawning areas in intertidal zone

- 75% of Segment has a continuous Moderate intercobble/gravel Mussel bed in MITZ.

- Possible Eagle Nest West of Stream

2-Akies - unidentified (Hires?) P-Pigeon Guillemot - Breeding Plumage

30-Geese - approx. flying in V formation 5-Others - includes one pup

9-Glaucous-winged Gulls

1-Hawk - unidentified

1-terrestrial bird singing - unidentified (only heard, not seen)

Note: One include skiff ride from Lewis Bay to Dis

26

DATE 4/19/90 TIME 1145-1525 TIDE HEIGHT +6 → +2 FS ±

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

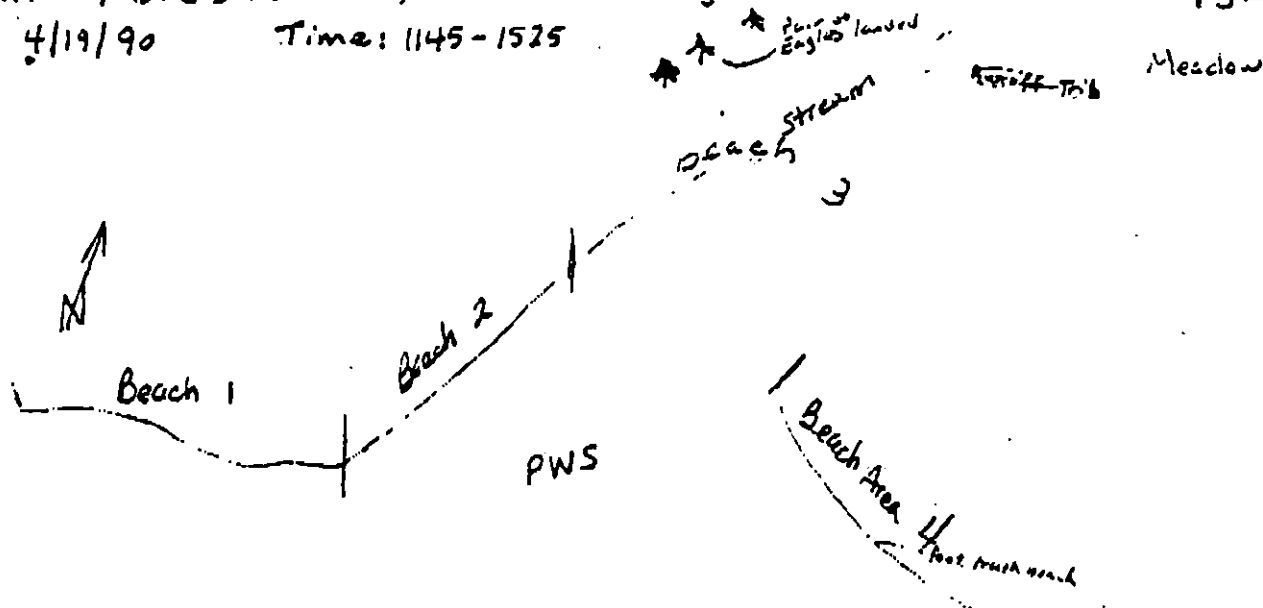
SPECIES	—UITZ	MITZ	LITZ	COMMENTS
FLORA: BOSSIELLA/CORALLINA				
CALLIARTHRON/CORALLINA				
CLADOPHORA SPP				
COSTARIA SPP				
ENDOCLADIA MURICATA				
FILAMENTOUS GREENS		1234		
FILAMENTOUS REDS				
GLOIOPELTIS FURCATA		33		
HALOSACCION GLANDIFORME				Drift
LAMINARIA SPP				
LITHOTHAMNION		1		By Rock outcrop on beach in cracks
NEREOCYSTIS SPP				
PORPHYRA SPP				
RALPHSIA/HILDENBRANDIA				
RHODOMELA LARX		1		
RHODOMENTIA PALMATA				
SCYTOSIPHON SPP		2		Near stream mouth
ULVA SPP				
ZOSTERA MARINA				
ENTOMORPHA				
Cryptosiphonia	1			
FAUNA: ANTHOPLEURA SPP				
(SEMI) BALANUS CARIOSUS				
B. GLANDULA	1234	1234		
BRYOZOANS				
CHITONS (other than K. TUNICATA)				
CLAMS		3		Scallop shells found on beach
CRABS		45		Hemigrapsus under boulders
DERMASTERIAS IMBRICATA				
KATHARINA TUNICATA				
LEPTASTERIAS HEXACTIS				
LIMPETS	123	123		Squid
LITTORINA SPP	123	231		Range
NUCELLA SPP				
PAGURUS SPP		45		Under boulder
PISASTER OCHRACEUS				
POLYCHAETES				
PYCNOPODIA HELIANTHOIDES				
SEARLESIA DIRA				
SERPULIDS				27
SIPHONARIA THERSITES			1	CA. Pol. 4
TEALIA				
Segmented Worms		51		
Beach Hoppers		5		in soil

Segment: ST/D163 A
 Date: 4/19/90

Time: 1145-1525

Biologist: Crane

Page: 1



Comments

-LITZ unexposed for most of survey; majority of LITZ unexposed for all of survey.

Beach 1 :

- Beach 1 is a pocket Boulder/Cobble beach with underlying pebble.
- Throughout MITZ there is an interpebble/cobble Mytilus bed with 30% mortality.
- Otter-use area (pockets on beach and obs. one otter feeding 3m from shore).
- Otter scat in SUPRA, mostly crab shell - crabs not observed in this survey.
- On the NW headland rock, the LITZ had an oil coat band. Within this band there was a sparse concentration of Gastropod shells. Although mortalities the shells remained adhered to the substrate. The Limpet shells appears to be clamped down but were easily manually removed. The Littorina shells retained their operculums.
- Throughout MITZ there was a brown coat on the substrate that had a similar appearance to Mousse oil but it smelled and tasted organic and would wash off with water and minimal scrubbing. Collected coated cobble.

Beach 2 :

- Cobble/Boulder beach similar to beach 1
- Filamentous green algae cover continuous and dense on Boulders; Cobble surface. The undersides has rare fil. greens and a moderate Adult, Juvenile and Spat concentration of Barnacles.
- Littorina egg masses under cobble
- Juvenile cells present under cobble in sparse concentrations.
- Mussels in sparse concentrations on boulders and bedrock, found mainly in cracks (Adults, juveniles and spat observed). The western end of the beach had a moderate intergravel bed that diminished to sparse and patchy.
- Reproductive Odonthalia floccosa in sparse concentrations on MITZ boulders
- Fucus (Mature and Gametophyte) coat and moderate on boulders.

Segment: ST/DI 63 A Biologist: Crank

pg 4 of 4

Date: 4/19/90

Time: 1145-1525

Length: 1057m

Comments (cont.)

Beach 3

- Cobble/Boulder cove with substantial stream, not listed as a Salmon Stream.
- Pair of Bald Eagles in courtship flight, landed in trees West of Stream and began vocalizations. Five minutes earlier an immature eagle also landed in same vicinity - Possible Nest?
- Living beach hoppers in oiled sand under cobble.
- Within and stream and 5m either side Barnacles are dense and continuous on bedrock and boulders, moderate on cobble.
- There is a continuous, moderate intergravel/cobble mussel bed throughout MITZ; growth and recruitment are sparse.
- Littorina ^{Adults} are mod $\rightarrow$ dense in UITZ and dense in MITZ; Limpet adults are mod $\rightarrow$ sparse; Nucella adults are sparse on boulders, not found on other substr.
- Gastropod new growth is mod $\rightarrow$ sparse; Eggs & new settlement is rare.
- Fucus near stream in a 5m x 10m dense patch
- Moderate amount of segmented worms in pebble & sand in all zones.
- Mytilus mortality 30% in both oiled and unoiled surfaces.

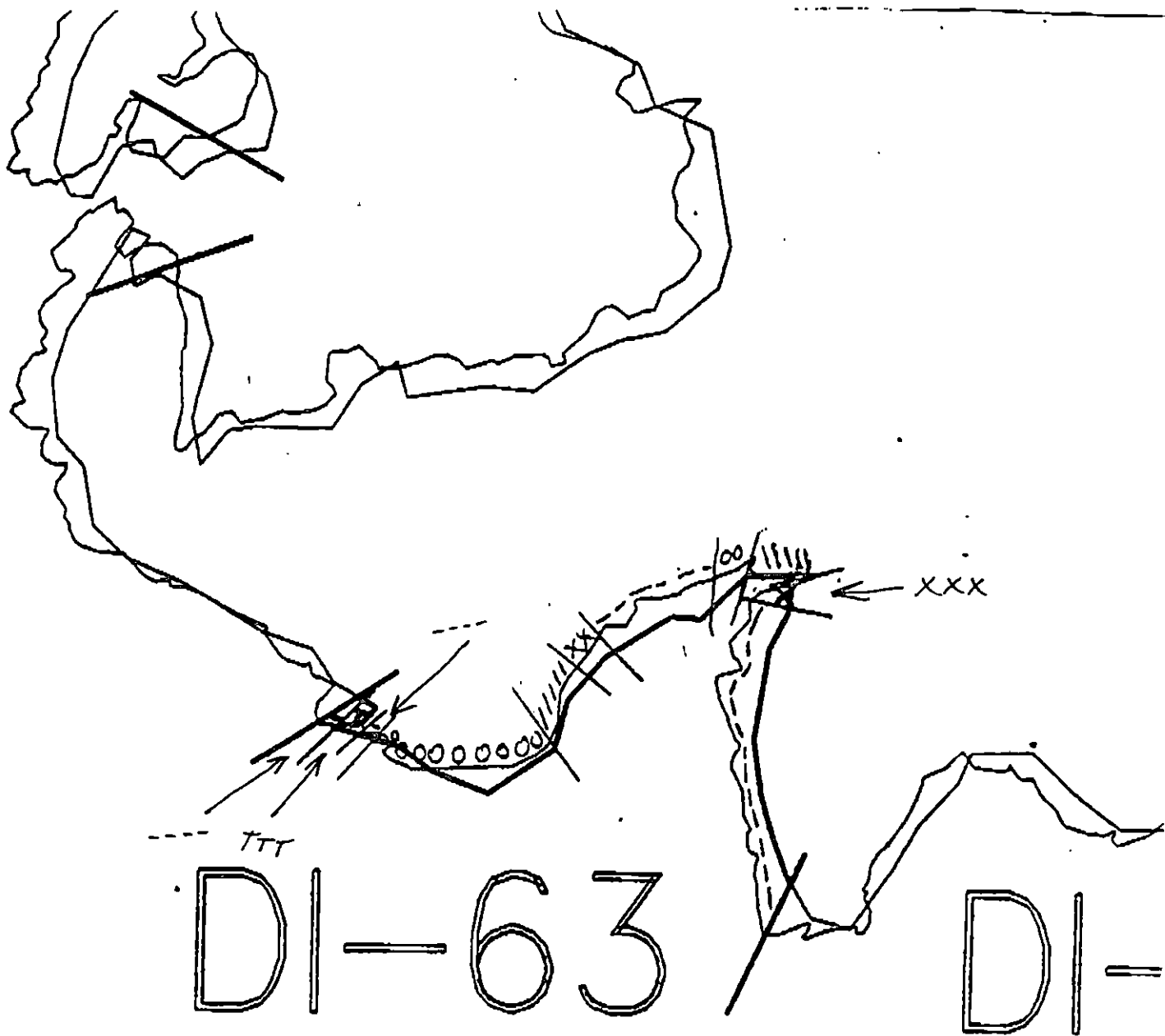
29

Beach Area 4

- Headlands with small areas of boulder/cobble, skiff surveyed and foot-truthed one beach
- Green filamentous algae cover on cobble/boulders throughout MITZ & upper L.
- 80% mussel mortality under stones, unattached.
- Littorina, Limpets, Littorina egg mass and Fucus present in sparse concentrations.
- On point b/n DI 63A & 62A barnacle scarring present, approx 5%.

Mortality / Recruitment & Growth

- Mussels in intercobble/pebble bed had approx. 30% mortality - other use area. Recruitment and growth was continuous in sparse concentrations.
- On city substrate barnacle mortality in MITZ was 20-30%; in low-mid UITZ 30-40%; upper UITZ 50-70%. Recruitment along vertical rock faces was continuous & dense; moderate in boulder/cobble areas.
- Fucus growth was in MITZ, patchy and sparse except for dense patch by stream.



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

DI-63

ADEC Segment Length: ¹⁰⁵⁷ ~~907~~m

0 100 200 300
METERS



06

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT DI-63 SUBDIVISION A (1 of 1)

WORK WINDOW	
Manual Pickup	OPEN
Bioremediation	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

1A,1B	Salmon Stream	NO CONSTRAINT. No ADF&G cataloged anadromous stream in this subdivision.
5T	Bald Eagle Nest	NO CONSTRAINT. USFWS 6/1/90 map indicates no active nest within 400m of Subdivision A work site.

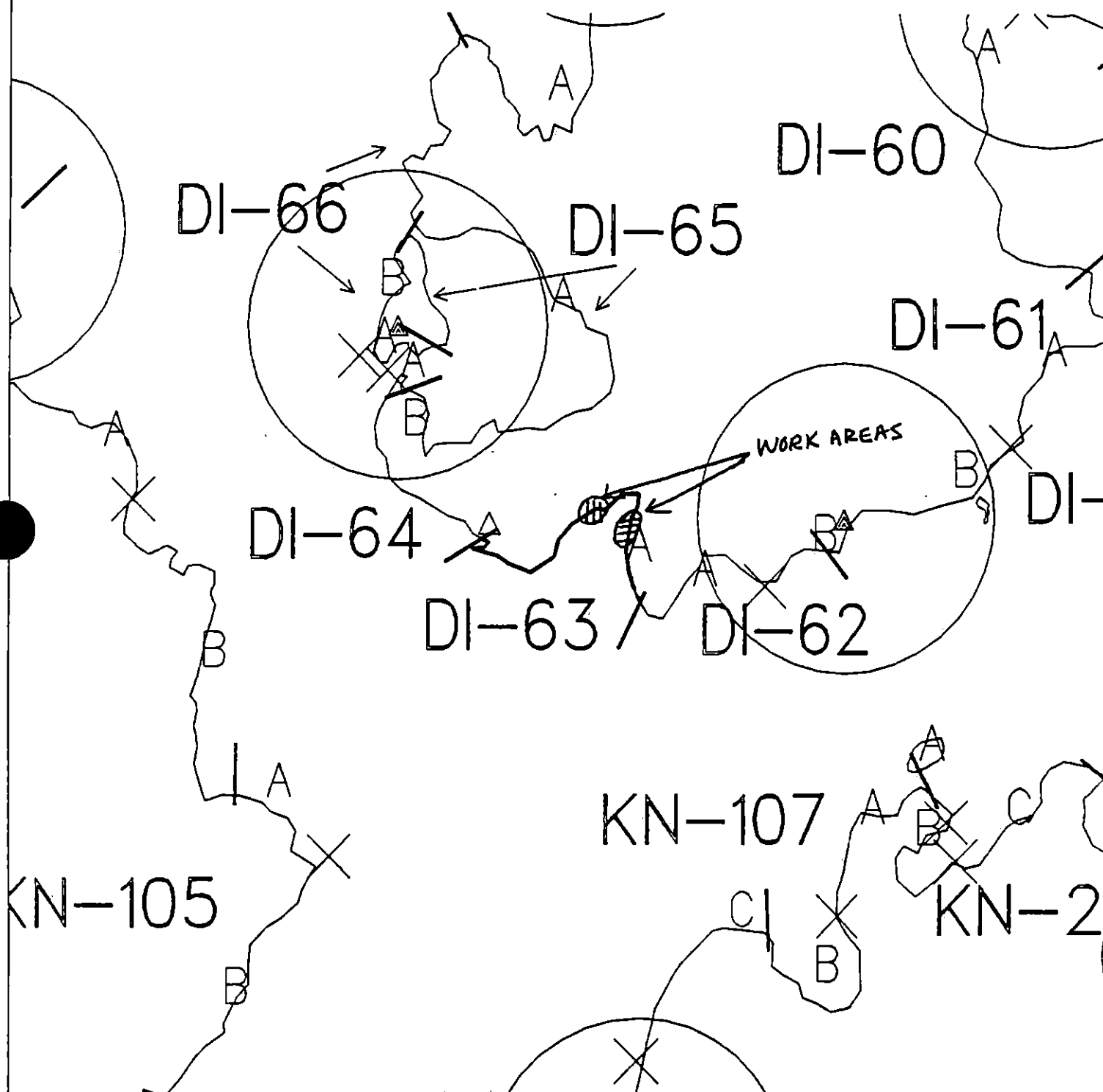
OTHER ECOLOGICAL CONSIDERATIONS

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

for FOSC G.A. Reiter DATE 6/10/90

Prepared By: W. Kelley

Date 6/9/90



Exxon Company, USA
Map Key: PWS-DI-63
June 04, 1990

ECOLOGY MAP
SEGMENT DI-63
SUBDIVISION A (1 of 1)
METERS
0 378 756

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

1 inch = 1241 feet

SHORELINE EVALUATION

SEGMENT ST/ DI-63 SUBDIVISION A (1 OF 1) DATE 4/19/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

Possible (5T) All-bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1).

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

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

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

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

OILING CATEGORIZATION:

Wide 55 m: Medium 129 m: Narrow 395 m: V.Light 88 m: No Oil 241 m
Subsurface Oil Observed: Yes X No Maximum Depth 30 cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes bioremediation of two areas indicated on sketch map. Work should be conducted after 6/1 with approval of USFWS due to eagle nest constraint and with approval of ADF&G regarding use of Inipol. MANUAL PICKUP OF MOUSSE PARTIES PRIOR TO BIC

[See Constraint Addendum Dated 6/9/90 wxc]

TAG COMMENTS:

TAG APPROVAL DATE: 4/30/90
ADEC ART WEINER Art Weiner
EXXON ANDY GIL Andy Gil
NOAA GARY PETERSON Gary Peterson
USCG KENNETH KIRBY Kenneth Kirby

FOSC: W L DATE: 5-9-90

SHORELINE EVALUATION

SEGMENT ST/ DI-63 SUBDIVISION A (1 OF 1) DATE 4/19/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

Possible (5T) All bald eagle nests (3/1 to 6/1)-Active eagle nests (3/1 to 9/1).

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

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

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: J. Paul McManis

DATE: 5/1/90

OILING CATEGORIZATION:

Wide 55 m: Medium 129 m: Narrow 395 m: V.Light 88 m: No Oil 241 m
Subsurface Oil Observed: Yes X No Maximum Depth 30 cm

RECOMMENDATIONS:

 No Treatment Recommended

X Treatment Recommended

X Manual Pickup

X Bioremediation

 Tarmat Removal

 Snare/Absorbent Booms

 Oil Snares (pom poms)

 Absorbents (pads, rolls, etc)

 Spot Washing: Wands

 Beach Cleaner

 Other (see comments)

COMMENTS: Recommended treatment includes bioremediation of two areas indicated on sketch map. Work should be conducted after 6/1 with approval of USFWS due to eagle nest constraint and with approval of ADF&G regarding use of Inipol. MANUAL PICKUP OF MOUSSE PATTIES PRIOR TO BIO

TAG COMMENTS:

TAG APPROVAL DATE: 4/30/90

ADEC ART WEINER Art Weiner

EXXON ANDY SEAL Andy Seal

NOAA GARY PATRICK Gary Patrick

USCG KENNETH KEENE Kenneth Keene

FOSC: W L

DATE: 5-9-90

00 J. S. Singer

SEGMENT ST. 0163

SUBDIVISION A

DATE 04 / 19 90

CHECKLIST

- ☒ N Arrow
- ☒ Approx. Scale
- ☒ Seg/Sub Entry
- ☒ Oil Dist.
- ☒ With
- ☒ Length
- ☒ Cover
- ☒ Substrate Character
- ☒ Est. HWA/LWL
- ☒ P/L
- ☒ Profile Location(s)
- ☒ Profile(s)
- ☒ P/L Location(s)
- ☒ Photo Location(s)

LEGEND

1 Δ

PH - No Subsurface Oil

2 Δ

PH - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

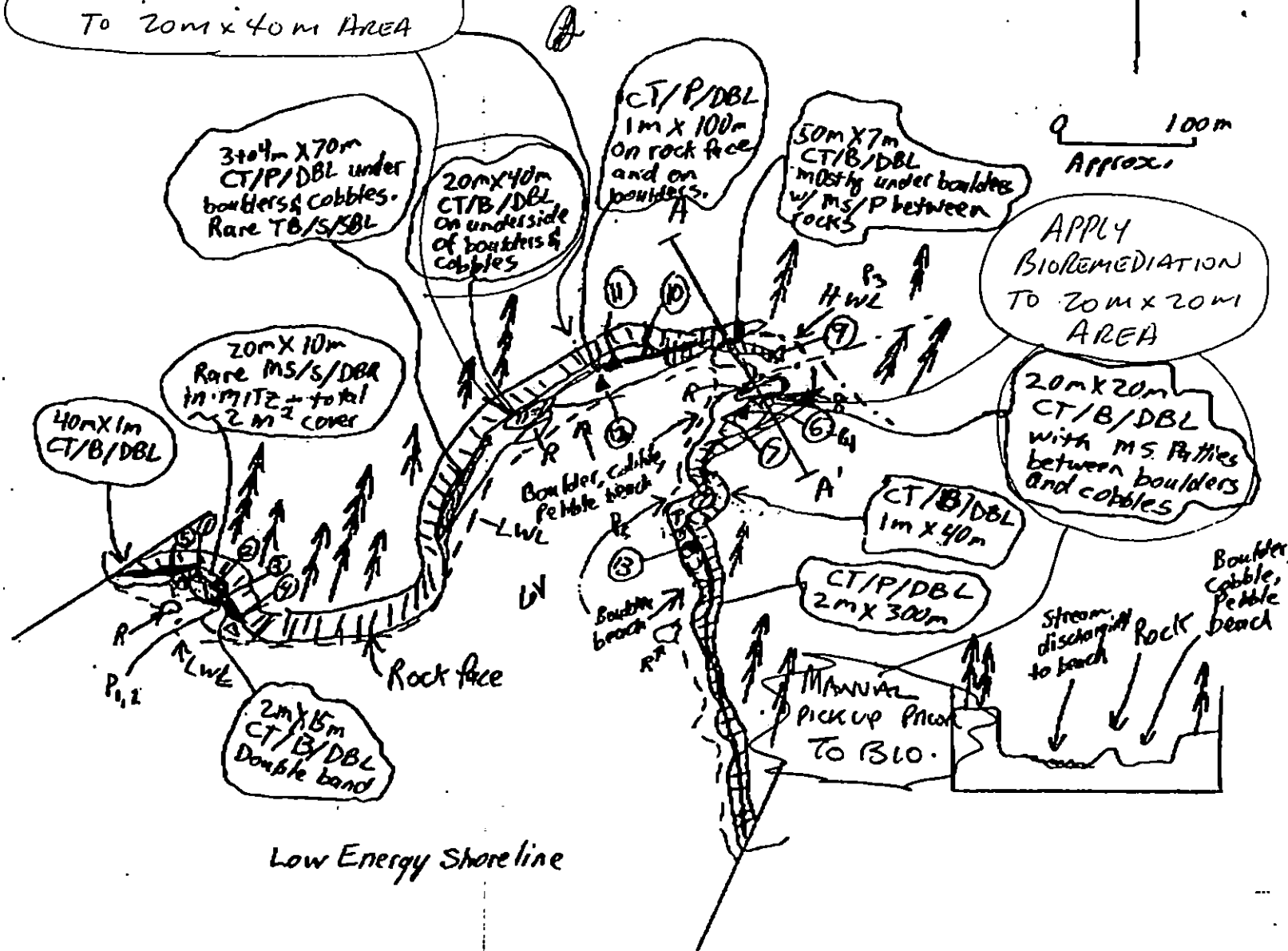
Splashed Distribution

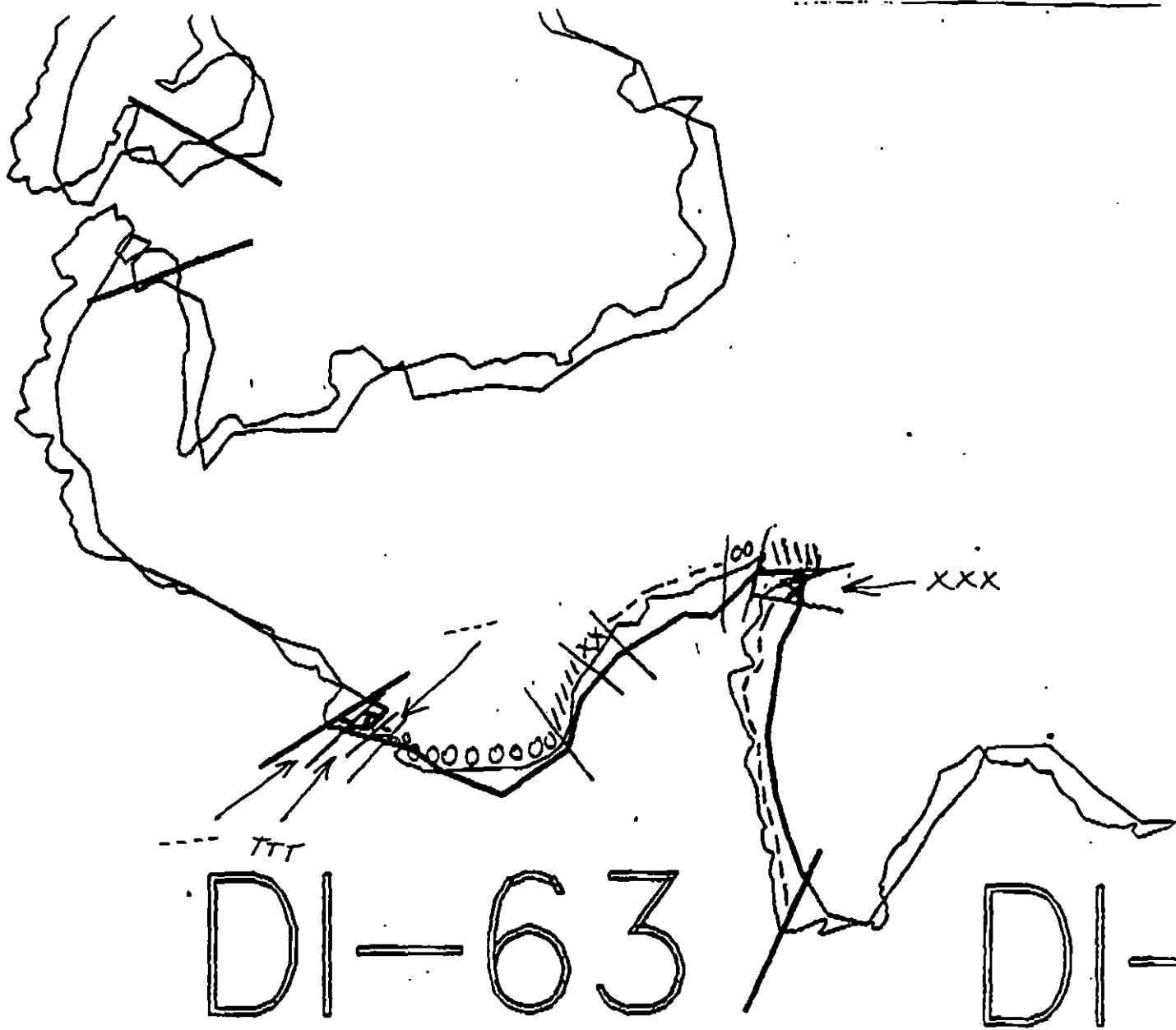
Oil Vegetation

Photo location, direction, and number

ETCH MAP

APPLY BIOREMEDIATION
TO 20m x 40m AREA





XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

DI-63

ADEC Segment Length: ¹⁰⁵⁷~~407~~m



00

1991 MAYSAP EVALUATION

SEGMENT: DI 063 SUB: A REGION: PWS SURVEY DATE: 5/13/91

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) RESTRICTED 3/1 - 9/1

Ecological/Constraints (see page two for details) Eagle nest

ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO Signature: _____ Date: _____

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL: _____

TAG: _____

FOSC: _____

TAG APPROVAL DATE: _____ FOSC APPROVAL DATE: _____

ADEC _____ FOSC _____

EXXON _____

USCG _____

NOAA _____

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

Eagle Nest: Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.

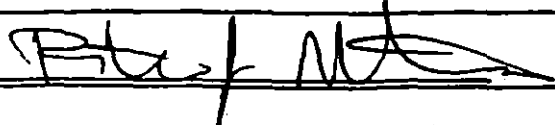
TEAM NO. 2 SEGMENT PI-63 SUBDIVISION A DATE MAY 13/91

ADEC

NAME

Peter Montesano

SIGNATURE

☐ NTR ☒ TREATMENT RECOMMENDED

most of the oiled zones in this subdivision that would appear worthy of treatment are in jagged sediments making access extremely difficult, however, the oiling in area "B" is on a sheltered rise and warrants treatment. Remove the AP (soft) and Rebe out the true SOR. The Biologist does NOT differentiate areas "A+B" in her comments. Work in Area "B" is easily performed w/o adverse affects. Work is recommended in nearby areas making crews available for this small job.

EXXON

NAME

C.M. Kitchin

SIGNATURE



☒ NTR MOST OILED AREAS NOT EASILY ACCESSABLE.
PLENTIFUL BIOTA NOTED EVEN IN OILED AREAS.

LANDMANAGER

NAME

DRANIS S KENNEDY OF USFS

SIGNATURE



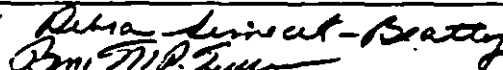
☒ NTR AP in location B can be treated with handwork but biota [mussels] maybe harmed. Care should be taken on any beach access near stream [sagranah].

USCG/NOAA NOAA DEBRA SIMBERG-BEATTY

NAME

BMI M. P. ZENONE - USCG

SIGNATURE



☐ NTR As only small amounts of surface oil observed, no treatment is recommended. Good survey!

CG FURTHER REMOVAL OPERATIONS WOULD CAUSE MORE ENVIRONMENTAL HARM THAN THE OIL TO BE REMOVED. AREA TEeming WITH ANTHROPODS AND MANY OTHER SMALL ANIMAL LIFE, SPECIFICALLY IN AREA B. 3

SEGMENT OT-63

SUBDIVISION A

DATE MAY 13 191

ENERGY LEVEL: ☐ H ☐ M ☒ L

WEATHER: ☒ SUN ☐ CLOUDS ☐ FOG ☐ RAIN ☐ SNOW

NEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONE

EST. OIL CATEGORY LENGTH: W 0 m M 0 m N 50 m VL 696 m NO 161 m US 0 m

DISTRIBUTION: C = 91-100%; B = 51-90%; P = 11-50%; S = 1-10%; T = <1%

SLOPE: V = VERTICAL: H = HIGH ANGLE: M = MEDIUM ANGLE: L = LOW ANGLE

PHOTO ROLL # MAYSAP- 2 - 11 FRAMES 14 - 16

SHEEN COLOR: B - BROWN: R - RAINBOW: S - SILVER: N - NONE

COMMENTS:
IN LOCATION 'D', WHERE SOR > 5 cm, MOR IS FOUND - ALL UNDER & BETWEEN ANGULAR BOULDER TALUS. APPROXIMATELY 10% MOR IN EXPOSED AREA.
IN LOCATION 'F' LOR & MOR ARE FOUND UNDER BOULDERS WHERE SOR > 5 cm.
LOCATIONS G & H DOCUMENT STAIN ALONG ROCKY SHORE. HARD TO DISTINGUISH BETWEEN OIL & BLACK LICHEN

revised 5.18.91 Jif
REVIEWED CG 15 MAY

NORTH

DISK ISLAND

0 50 100
m

OG SKETCH MAP
DI 063-A
13 MAY-91
0818-0912
BRYAN TRIMM

G ST < 10%
1/4 x 440m

H ST < 10%
1/4 x 220m

D SOR-LT 5%
HOR 10%
2 x 20m
under boulder talus

MOR
1 x 1m

SOR-LT 3%
CV, CT, ST 5%
LOR/MOR
1.5 x 35m
under boulders

E CV, CT, ST 100%
1 x 1m

A SOR-LT 5%
3 x 25m

C CV, CT 50%
1 x 5m

B API 10%
SOR-HVY 5%
SOR-LT 20%
CV, CT, ST 5%
2 x 25m

0 50 100
meters

Reviewed 5.18.91 gy

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 2 **DATE** 13 May 91
SEGMENT # DI-63 **TIDAL HEIGHT (Range)** -3 to -1 ft
SUBDIVISION A **BIOLOGIST** S. BAN
SEA STATE Calm **WIND SPEED/DIRECTION** Calm
PHOTOGRAPHS: ROLL # — **FRAME #** —

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):

A+B: Small mussels - some drilled by Nucella, Nucella in beds.
 Small limpets below oiled zone

C: Gastropod egg masses under rocks - (possibly Littoridinid cases)
 Adult Littoridines found with cases. Limpets also. Green algae
 in oiled zones.

D: Older spxt (spxt is oiled but alive) and green algae on surface of
 rocks near pit. No organisms in pit.

E+F: Algae dense at water line. Filamentous brown algae and Ulva
 Fucus recruits competing for space. Some recruits found higher
 in ITZ above Ulva assemblages. Barnacle spxt also above dense
 Ulva zone. Spxt is both recent and from fall 1990. Verucaria
 above oiled zone. Oligochaetes under rocks in mid ITZ

Sea grass beds (Zostera) offshore of stream. Pycnospodia dense
 in beds. Several individuals found on shore in stream bed.
 Moon snail egg cases (look like grey rubber gaskets) dense at stream
 mouth. Polychaetes (Nereis) found at stream mouth.
 Avoid disturbing stream mouth and sensitive sea grass beds offshore

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			
Seabirds			
Waterfowl			
Gulls/Kittiwakes	1	1	
Shorebirds			
Corvids			
Other Birds	Phaethon	1	

LAND MAMMALS

MARINE MAMMALS	# OBSERVED	SPECIES	# OBSERVED
Sea Otters			
Pinnipeds (specify)			
Es (specify)			

Shoreline subdivision map showing important biological features attached.

REVIEWED CD 12 MAY
 REVIEWED M.B. 5/18/91

North

DISK Island

0 50 100
m

SKETCH MAP
DI 063-A
13 MAY-91
0818-0912

Fucus recruits,
1990 spat and adult
Littorinids near pit

D: OLDER spat (some oiled) and
green algae E vicinity of
pit

F: Dense Ulva on
cobble. Fucus recruits
at below oiled zone
lichen above

TREES

ALDERS

Plasmogam in back shore

ANIMAL BOULDER

CORALS
HOR

ANIMAL BOULDER

E: ALGAE DENSE
AT WATER
LINE - banded
SPAT + small
L. Littorinids near
oiled zone

ANIMAL BOULDER
MOON SNAIL
egg cases

Pachyopoda
in Zostera
beds offshore

ALDERS

C: GASTROPOD egg masses under
rocks - Littorinids + limpet
adults also under rocks

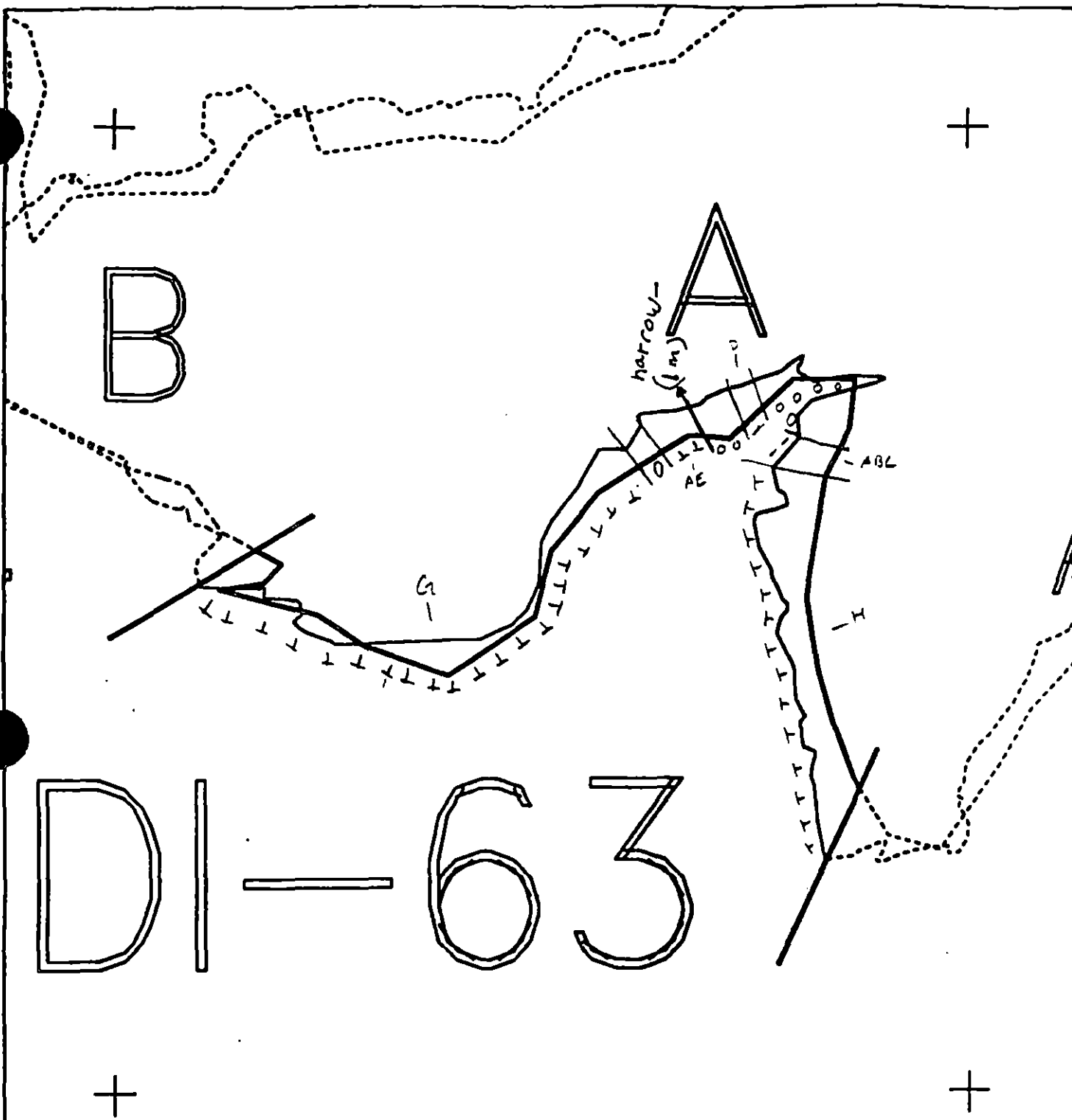
A+B: Small mussels, Nucella
+ small limpets dense on
boulders in mid + lower IZ

0 50 100
meters

TREES

MB 13 May 91

Reviewed M.B. 5/18/91



D1-63

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

D1063 A
 ADEC Subsegment Length: 007m
 METERS
 0 100 200
 AK State Plane Zone 4
 641003a

Subdivision Field Map
 Map Key: KNID1003A
 Name: TRIMM
 Date: 13-MAY-91
 Date Entered:



SURFACE OIL CATEGORY MAP

revised 5.18.91 JY
 REVISED 05 16 MAY

1991 MAYSAP EVALUATION

SEGMENT: DI 063 SUB: A REGION: PWS SURVEY DATE: 5/13/91

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) RESTRICTED 3/1 - 9/1

Ecological/Constraints (see page two for details) Eagle nest

ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO Signature: Rachel Jean Dae Date: 5/24/91

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

N

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: 5/24/91

FOSC APPROVAL DATE: 5/29/91

ADEC

FOSC

EXXON

E. E. PAGE, CDR, USCG
CHIEF OF STAFF, FOSC

USCG

NOAA

ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

Eagle Nest: Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.

TEAM NO. 2 SEGMENT PI-63 SUBDIVISION A DATE MAY 13/91

ADEC

NAME Peter Montesano SIGNATURE [Signature]☐ NTR ☒ TREATMENT RECOMMENDED

Most of the oiled zones in this subdivision that would appear worthy of treatment are in jagged sediments making access extremely difficult, however, the oiling in area "B" is on a sheltered rise and warrants treatment. Remove the AP (soft) and Rake out the trace SOR. The Biologist does not differentiate areas "A+B" in her comments. Work in Area "B" is easily performed w/o adverse affects. Work is recommended in nearby areas making crews available for this small job.

EXXON

NAME C.M. Lutescentia SIGNATURE [Signature]

☒ NTR MOST OILED AREAS NOT EASILY ACCESSABLE.
PLENTIFUL BIOTA NOTED EVEN IN OILED AREAS.

LANDMANAGER

NAME DEBRA S Kennedy OF USFS SIGNATURE D.S. Kennedy

☒ NTR AP in location B can be treated with handwork but biota [mussels] maybe harmed. Care should be taken on any beach access near stream [seagrass beds].

USCG/NOAA NOAA DEBRA SIMCEK-BEATTY Debra Simcek-BeattyNAME BMI M. P. ZENONE - USCG SIGNATURE [Signature]

☐ NTR As only small amounts of surface oil observed no treatment is recommended. Good survey!

CG FURTHER REMOVAL OPERATIONS WOULD CAUSE MORE ENVIRONMENTAL HARM THAN THE OIL TO BE REMOVED. AREA TEeming WITH ANTHROPODS AND MANY OTHER SMALL ANIMAL LIFE, SPECIFICALLY IN AREA B. 3

revised 5.18.91 QY
REVIEWED CS 18 MAY

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 2 DATE 13 May 91
 SEGMENT # DI-63 TIDAL HEIGHT (Range) -3 to -1 ft
 SUBDIVISION A BIOLOGIST S. BAN
 SEA STATE Calm WIND SPEED/DIRECTION Calm
 PHOTOGRAPHS: ROLL # — FRAME # —

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):

A+B: Small mussels - some drilled by Nucella, Nucella in beds.
 Small limpets below oiled zone

C: GASTROPOD egg masses under rocks - (possibly Littoriniaceae)
 Adult Littorines found with cases. Limpets also. Green algae
 in oiled zones.

D: Older spat (SPAT is oiled but alive) and green algae on surface of
 rocks near pit. No organisms in pit.

E+F: Algae dense at water line. Filamentous brown algae and Ulva
 Fucus recruits competing for space. Some recruits found higher
 in ITZ above Ulva assemblage. Barnacle spat also above Achna
 Ulva zone. Spat is both recent and from fall 1990. Verucaria
 above oiled zone. Oligochaetes under rocks in mid ITZ

Sea grass beds (Zostera) offshore of stream. Pycnopholia dense
 in beds. Several individuals found on shore in stream bed.
 Moon snail egg cases (look like grey rubber gaskets) dense at stream
 mouth. Polychaetes (Nereis) found at stream mouth
 Avoid disturbing stream mouth and sensitive sea grass beds offshore

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			
Seabirds			
Waterfowl			
Gulls/Kittiwakes	1	1	
Shorebirds			
Corvids			
Other Birds	Ptarmigan	1	

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds (specify)			
Whales (specify)			

Shoreline subdivision map showing important biological features attached.

REVIEWED CD 18 MAY
 REVIEWED M.B. 5/18/91

SKETCH MAP
DI 063-A
13 MAY 91
0818-0912

DISK Island

0 50 100
m

NORTH
↑

Fucus recruits,
1790 spat and adult
Littorinids near pit

D: OLDER spit (some oiled) and
green algae in vicinity of
pit

F: Dense Ulva on
cobbles. Fucus recruits +
spat below oiled zone
lichen above

Pharmigian in back shore

E: ALGAE DENSE
AT WATER
line - bryozoan
spat + small
Littorinids near
oiled zone

Pteropoda
in gastropod
beds offshore

MOON SNAIL
EGG CASES

C: GASTROPOD egg masses under
rocks - Littorinids + limpet
adults also under rocks

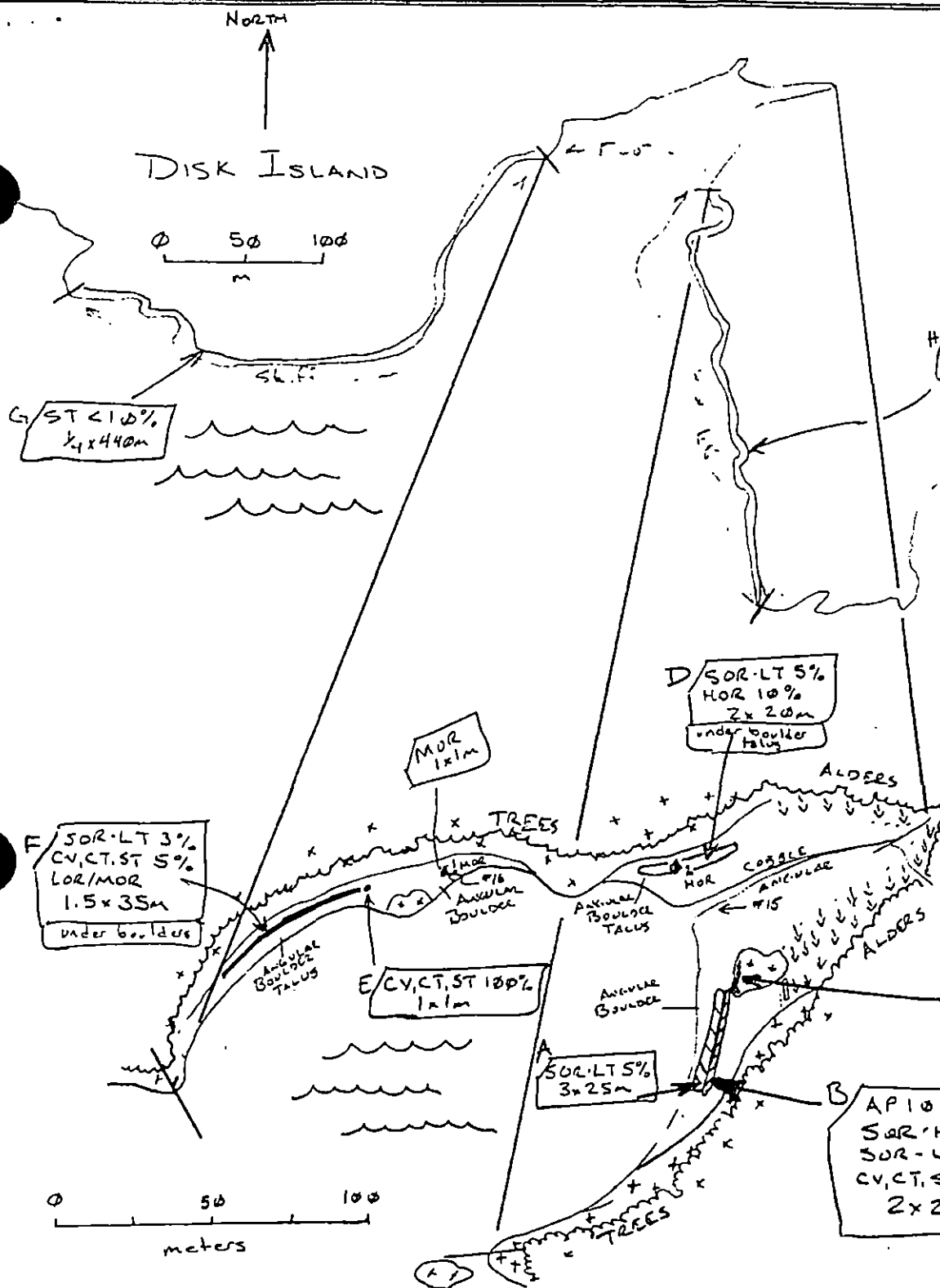
A+B: Small mussels, Nucella
+ small limpets dense on
boulders in mid + lower IZ

0 50 100
meters

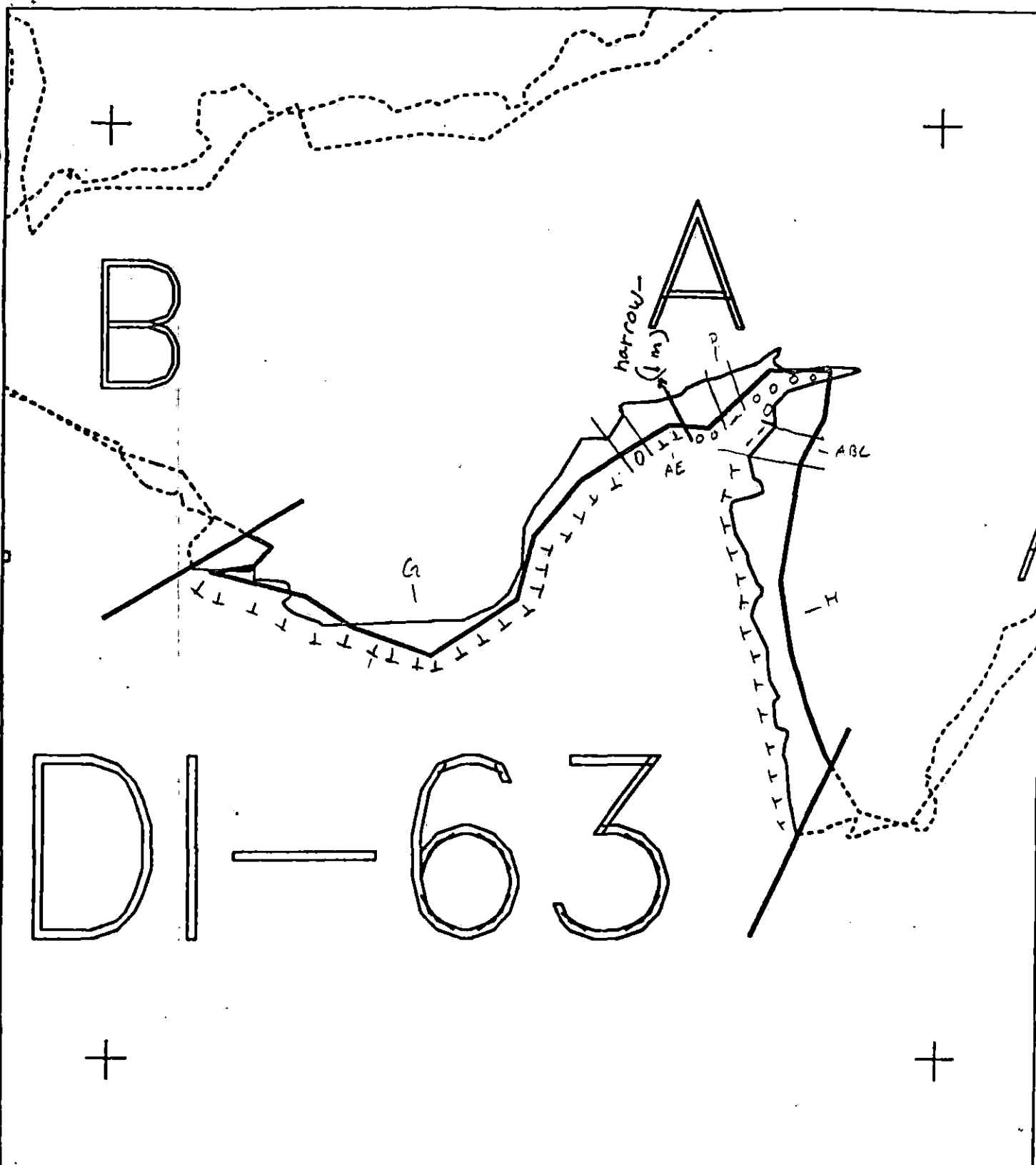
SMB 13 MAY 91

Reviewed M.B. 5/18/91

OG SKETCH MAP
DI 063-A
13 MAY-91
0818-0912
BRYAN TRIMM



reviewed 5.18.91 ggy
REVIEWED CD 12 MAY



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

DI063 A
 ADEC Subsegment Length: 907m
 METERS

AK State Plane Zone 4
 641003a



Subdivision Field Map
 Map Key: KNID1063A
 Name: TRIMM
 Date: 13-MAY-91
 Date Entered:

SURFACE OIL CATEGORY MAP

revised 5.18.91 JY
 REVISED 18 MAY

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/DI-64

SUBDIVISIONS: A (1 OF 2)

SHORELINE EVALUATION

SEGMENT ST/ DI-64 SUBDIVISION A (1 OF 2) DATE 4/7/90

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)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 115 m: No Oil 0 m
Subsurface Oil Observed: Yes _____ No X Maximum Depth _____

RECOMMENDATIONS:

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

COMMENTS: Manual pick up of tar balls followed by bioremediation of
coat area as indicated on attached sketch map. Work should be conduc-
ted after 6/1 with approval of USFWS regarding eagle nest.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

FIELD SHORELINE COMMENT SHEET

SEGMENT ST / 01-64 SUBDIVISION: A DATE 04/07/90

USCG

NAME AEC Vandepels SIGNATURE AEC Vandepels

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

*I recommend no treatment. Maybe bio. the
1 x 100 M band.*

ADEC

NAME Michele Barr SIGNATURE M. Barr

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

*Manual scrubbing and removal of TB's in band,
NO subsurface oil found, only occasional ET on
underside of B's found.*

LAND MANAGER

NAME DAW LOGAN SIGNATURE Daw Logan

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

*THIS AREA IS AN EXCELLENT ANCHORAGE AND RECEIVES HIGH
RECREATION USE. ON THE 1M X 100M TB/S/DAL BAND THE ROCKS
SHOULD BE MANUALLY SCRUBBED AND THE BOULDER/COBBLE PORTIONS
AND ^{WIPED} ~~WIPED~~ AND FERTILIZER APPLIED, THIS AREA SHOULD BE CLEARED
BY AN ARCHEOLOGIST PRIOR TO WORK.*

35

SHORELINE OILING SUMMARY

REVISION NO. 08/22/

OG J. Springer USCG R. Vandepels SEGMENT ST/ DI-64
 BIO P. Crank LAND REP D. Logan SUBDIVISION A (1 of 2)
 EXXON T. Templin ADEC M. Baer TIME 17:00 to 17:25
 TEAM NO.: 5 TIDE LEVEL: +3 to +2 DATE 04/07/90
 EST. SUBDIVISION LENGTH: 100 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock Pillow lava
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: _____ to _____
 SURFACE SEDIMENTS: R 50 % B 5 % C 15 % P 25 % G 5 % S _____ % M _____ % V _____
 SLOPE: Long 80 % Hang 20 % Vert _____ % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 100 m NO 0 m

SURFACE OIL

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

PAVEMENT: H F S _____ sq. m by _____

PATTIES / TARBALLS 10 BAGSNEAR SHORE SHEEN? ☒ NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NO

TYPE _____

#BAGS _____

Photographs:

Roll No. ST-5-4Frames 26

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (CM)	BELOW		OIL / FILM COLOR					PIT ZONE				A N A	SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		UO	UC	1	2	3	4	5	SU	U	M	L		
1	20					X	.		X								X			PGSM
2	30					X	.		X								X			PGSM
3	15					X	.		X							X				PGS
4	10					X	.		X							X			X	PGM
							.													
							.													

COMMENTS

32

OG J. [REDACTED] inger
SEGMENT ST/ DI-64
SUBDIVISION A
DATE 04.07/90

CHECKLIST

- ☒ In Answer
☒ Approx. Scale
☒ Seg/Tab Study
☒ Oil Data
☐ Width
☐ Length
☐ % Cover
☒ Substrate Character
☐ Est. HAP/LAWL
☐ SST
☐ Profile Location(s)
☐ Profile(s)
☐ P/L Location(s)
☒ Photo Location(s)

LEGEND

- 1 Δ**
PX - No Subsurface Oil

- 2 ▲
Ph - Subsurface Oil

CT/C
Continuous Distribution

CT/D
Broken Distribution

[CT/P]

Peachy Distribution

CT/S
Spliced Distribution

Old Vegetation

1 

From location, direction,
and number

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

THE UNIVERSITY OF CHICAGO

SHORELINE ECOLOGICAL SUMMARY

REVISION: C

Segment ST / D164 Subdivision A Date (mo / day / yr) 4/2/90

Time (24 hr) 1700-1715 Biologist Crank

pg 1 of 2

(A) Substrate type and % of segments:
(1) Bedrock 50 (2) Boulder 5 (3) Cobble 15 (4) Pebble 25 (5) Sand 5 (6) Silt

(B) Overall % cover of biota (% of segment): Dense 50 Moderate 50 Low 20

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

Photographs: Roll No. ST-5-4

Frames 24

BARNACLES

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

NOT PRESE

MYTILUS

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

NOT PRESE

GASTROPODS

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

NOT PRESE

FUCUS

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

NOT PRESEN

Wildlife Observations/ General Comments:

1 Cormorant Deer mandible in SUPRA
3 Sea Otter
1 Raven
1 Marbled Murrelet
1 Bald Eagle - 5 Adult, 1 immature

Ecological Considerations:

6V - Anchorages
ST - Active Eagle Nest
(Did not locate)

- Subdivision is a dense clam bed, utilized by otters.
- There is a 10m x 30m intercobble/gravel moderate concentrated mussel bed. It has been heavily preyed upon by gastropods.

- Fucus bed is healthy.
- Recruitment for this subdivision is low for barnacles, mussels and Fucus, but is high for Littorina and Nucella.
- Due to the mussel bed and healthy Fucus bed, work crews should be small and 33 machinery restricted from beach below +10 ft tide level.

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

SEGMENT: ST/ D1 64 SUBDIVISION A LENGTH 100m BIOLOGIST Crank

DATE 4/7/90 TIME 1700-1725 TIDE HEIGHT +3 → 7.5 ft

pg 2 of 2

1 - BEDROCK 2 - BOULDER 3 - COBBLE 4 - PEBBLE 5 - SAND 6 - SILT

FLORA:

[illegible]

FAUNA:

DI-66

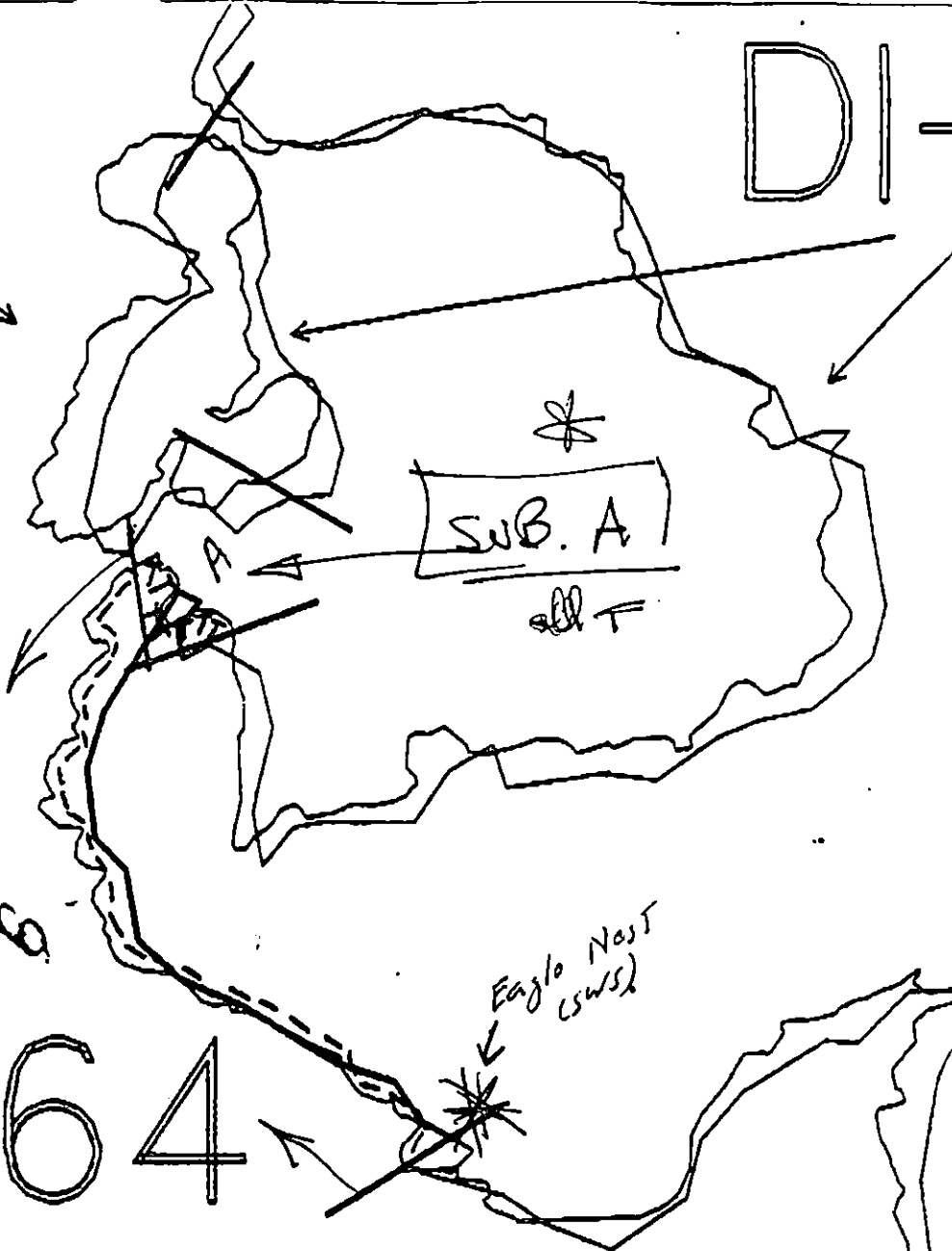
DI-

ECOLOGY
MAP

SUBDIV
B

DI-64

DI-63



XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

DI-64A-100

ADEC Segment Length: 935



Map Key: PWS-96

Name: James Spring

Date: 4/7/90

Data Entered:

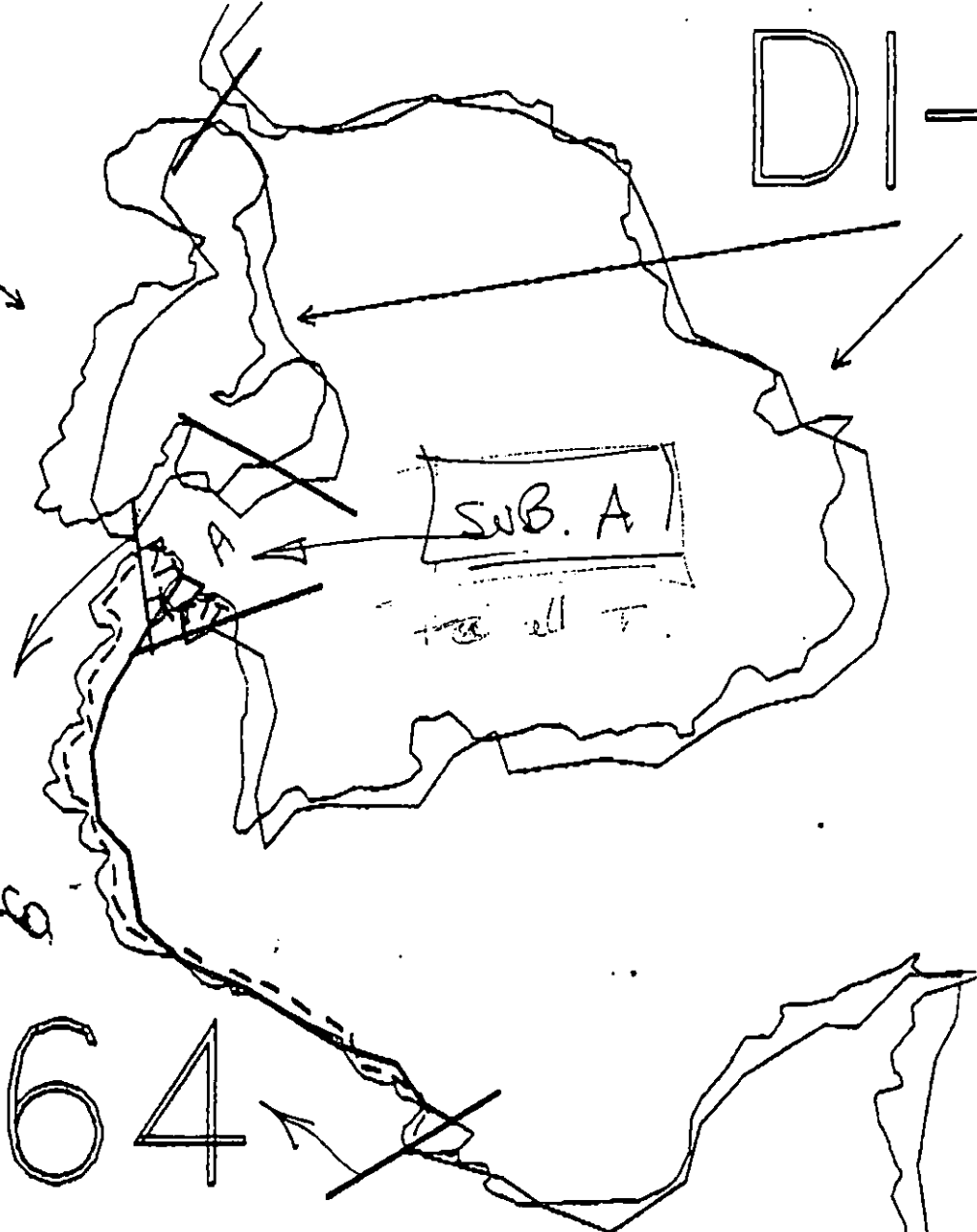
DI-66

DI-

SUBDIV.
B

DI-64

DI-63



XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

DI-64

ADEC Segment Length: 935



Map Key: PWS-96

Name: James Springer

Date: 4/7/90

Data Entered:

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/DI-64

SUBDIVISIONS: B (2 OF 2)

SHORELINE EVALUATION

SEGMENT ST/ DI-64 SUBDIVISION B (2 OF 2) DATE 4/7/90

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)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Eagle nest in Subdivision B on or near border with DI-63.

ARCHAEOLOGICAL CONSTRAINTS:

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 185 m: Narrow 365 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No _____ Maximum Depth 30+ cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual pick up of mousse patties, 2) bioremediation of areas shown on attached sketch map. Work should be conducted after 6/1 and after approval of USFWS regarding eagle nest.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

FOSC: _____ DATE: _____

FIELD SHORELINE COMMENT SHEET **DRAFT**SEGMENT ST 1 DI-64 SUBDIVISION: B DATE 04/07/90**USCG**NAME AEC Vandepels SIGNATURE AEC Vandepels☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

*I suggest hot water wash, pick up mousse
patties manually in areas indicated on the map.*

ADECNAME Michele Baers SIGNATURE M Baers☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

*Remove mousse patties manually. On the R & B ^{beach} ~~areas~~
use hot water wash to remove the CT's ⁱⁿ the indi-
cated areas. There are mussel & fucus beds
throughout the area.*

LAND MANAGERNAME DAN LOGAN SIGNATURE Dan Logan☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

*THIS IS A HIGH RECREATION USE AREA AS THE PROTECTED COVE ON
DISK ISLAND IS EXCELLENT ANCHORAGE. I RECOMMEND MANUALLY REMOVING
THE MOUSSE PATTIES AND A HOT WATER - HIGH PRESSURE WASH ON THE COATED
AREAS INDICATED ON THE MAP.*

SHORELINE OILING SUMMARY

REVISION NO. 03/22/78

OG J. Springer USCG R. Vandepels SEGMENT ST/ DI-64
 BIO P. Crank LAND REP D. Logan SUBDIVISION B (2 of 2)
 EXXON T. Tamblin ADEC M. Baer TIME 17:25 to 18:30
 TEAM NO.: 5 TIDE LEVEL: +2 to +1 DATE 04/07/90
 EST. SUBDIVISION LENGTH: 835 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock Pillow lava
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: to
 SURFACE SEDIMENTS: R 30 % B 40 % C 20 % P 10 % G 0 % S 0 % M 0 % V
 SLOPE: Lang 20 % Hang 70 % Vert 10 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 160 m N 675 m VL 0 m NO 0 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR								IMPACTED ZONES			
	AC	AB	AP	AS	SP	BP	CP	DP	EP	FP	GP	HP	SU	UM	ML	LU
ASPHALT PAVEMENT																
POOLED																
COVER																
COAT	✓	×				✓	✓						✓	✓		
STAIN																
MOUSSE		✓				✓	✓						✓	✓		
PATTIES		×				×	×						×	×		
TARBALLS																
FILM																
NO OIL													×	×	×	

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

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED ☐ YES ☒ NOTYPE 0#BAGS 0

Photographs:

Roll No. 5T-5-4Frames 27-32

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		UO	UC	SP BR	BP RW	CP BL	DP TL	EP LT	SU	UM	ML	LU							
1	30				X		0-30	X							X		X								BCPGM
2*	10					X	.		X								X								CPSM
							.																		
							.																		
							.																		
							.																		
							.																		

COMMENTS * 3-5cm surface oil at pit 2, ✓

OG J. NGER

SEGMENT ST/ D1-64

SUBDIVISION B

DATE 04 / 07 / 90

CHECKLIST

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

LEGEND

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

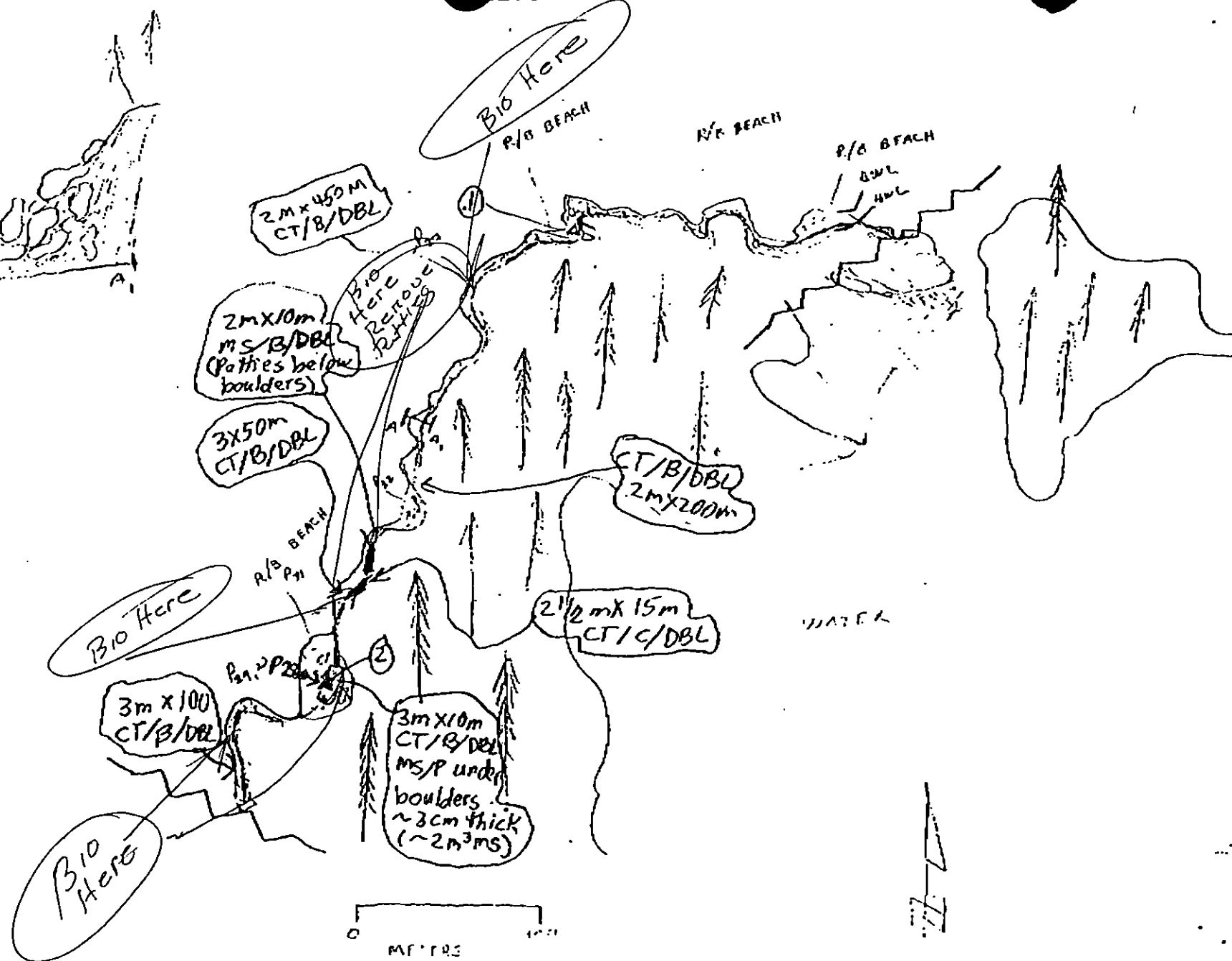
Continuous Distribution
- CT/B

Broken Distribution
- CT/P

Patchy Distribution
- CT/S

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

ETCH MAP



Oil Character Length (m): AP _____ PO _____ CV _____ CT 825 ST _____ MS 10 PT _____ TB _____ FL _____ NO _____

REVISION: 00/0000

SHORELINE ECOLOGICAL SUMMARY

Pg 10+ =

REVISION: 03/22/7

Segment ST / D114 Subdivision B Date (mo / day / yr) 4 / 7 / 90
 Time (24 hr) 1725-1850 Biologist Crank Length 335m
 Tide Height +1.5 → +0.5

- (A) Substrate type and % of segments:
 (1) Bedrock 30 (2) Boulder 40 (3) Cobble 20 (4) Pebble 10 (5) Sand (6) Silt
- (B) Overall % cover of biota (% of segment): Dense 30 Moderate 25 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-5-4

Frames 27

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: This segment was partially surveyed by shifts.
 1 Raven
 1 Bald Eagle - Adult
 gastropod densities are inferred throughout segment areas that were not surveyed.

Ecological Considerations:

6V - Anchorages

ST - Active Bald Eagle Nest
 (Did not locate.)

- Barnacle scarring present, most prevalent in U1T2
- 50-80% Barnacle mortality in U1T2 along oil band.
- There are a few small (less than 2 m²) intertidal mussel beds with sparse to moderate concentrations with many mounds drilled by predatory snails.

- There is a rich flow covering in L1T2, suggest if treated work be done at a +4 ft or higher tide to protect this zone.

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.

SEGMENT: ST/ D114 SUBDIVISION 6 LENGTH 835m BIOLOGIST Crank

DATE 4/7/90 TIME 1725-1850 TIDE HEIGHT +1.5 → +0.5

1 - BEDROCK 2 - BOULDER 3 - COBBLE 4 - PEBBLE 5 - SAND 6 - SILT

FLORA:

SPECIES	UITZ	MITZ	LITZ	COMMENTS
BOSSIELLA/CORALLINA				
CALLIARTHRON/CORALLINA				
CLADOPHORA SPP	1			
COSTARIA SPP				
ENDOCLADIA MURICATA				
FILAMENTOUS GREENS		12345	12345	Blanco on Cobble
FILAMENTOUS REDS		345	345	
GLOIOPELTIS FURCATA				
HALOSACCION GLANDIFORME		123	12	
LAMINARIA SPP				
LITHOTHAMNION			1	
NEREOCYSTIS SPP				
PORPHYRA SPP				
RALPHSIA/HILDENBRANDIA				
RHODOMELA LARIX		234	1234	
RHODOMENIA PALMATA		234	1234	
SCYTOSIPHON SPP		123	123	
ULVA SPP		213	132	
ZOSTERA MARINA				
Cytosiphonia		12	123	
Enteromorpha			1	
Mastrorhizus			2	
Petraria	3			
ANTHOPLEURA SPP				
(SEM) BALUNUS CARIOSUS				
B. GLANDULA		1234	1234	
BRYOZOANS				
CHITONS (OTHER THAN K. TUNICATU)				
CLAMS				Shells only in LITZ Protocra
CRABS				
DERMASTRIAS IMBRICATA			213	Down concentrations
KATHARINA TUNICATA			?	
LEPTASTERIAS HEXACTIS				
LIMPETS	1234	1234	1234	
LITTORINA SPP	1234	1234	1234	
NUCELLA SPP		1234	1234	
PAGURUS SPP		34	34	
PISASTER OCHRACEUS				
POLYCHAETES				
PYCNOPODIA HELIANTHOIDES				
SEARLESIA DIRA		234	234	
SERPULIDS				
SIPHONARIA THERSITES				
TEALIA				
Ctenophore			1	one specimen in H ₂ O.

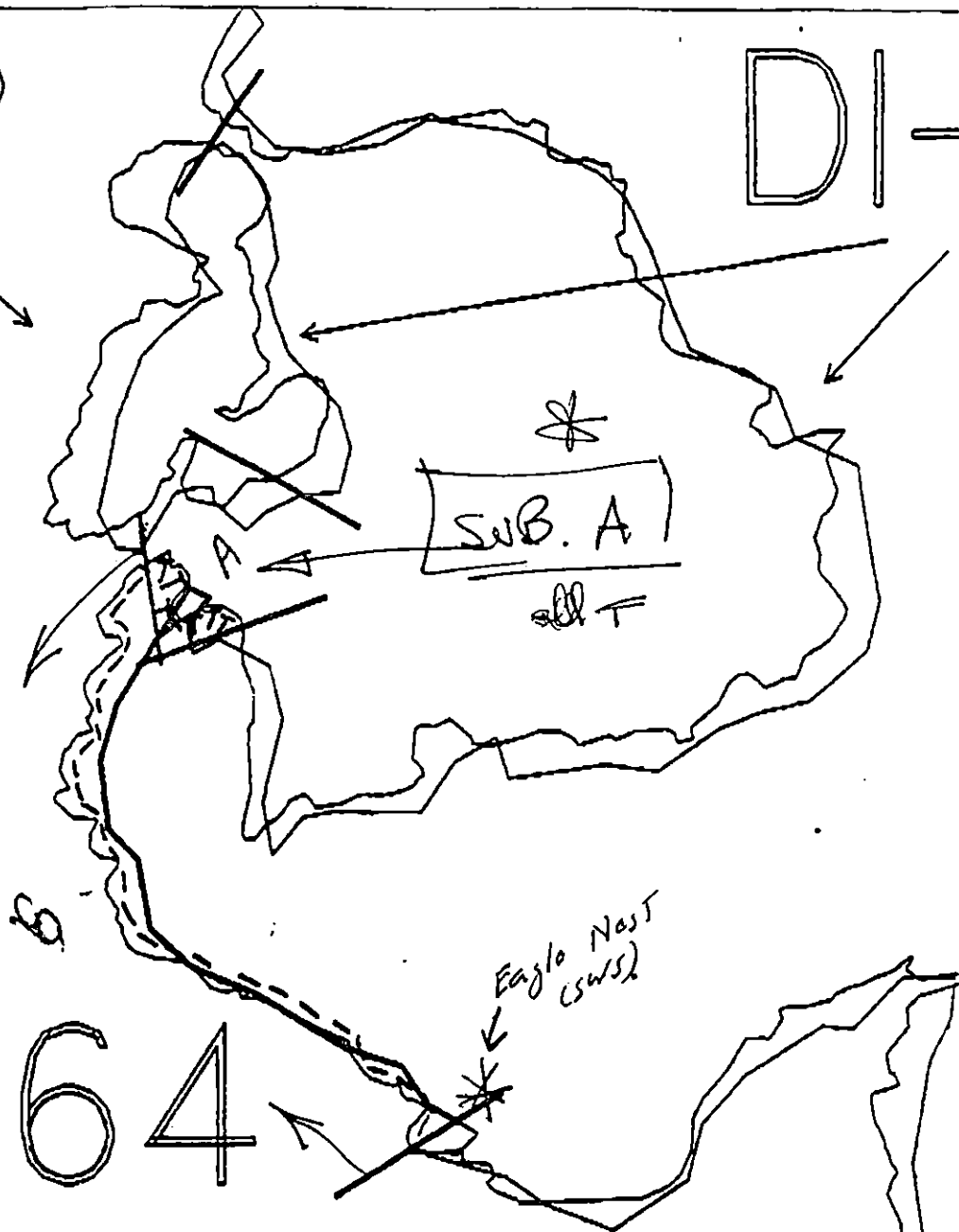
DI-66

ECOLOGY
MAP

SUBDIV.
B

DI-64

DI-63



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

DI-64A-100
ADEC Segment Length: ⁹³⁵~~400~~m

0 100 200 300
METERS

Map Key: PWS-96
Name: James Springer
Date: 4/7/90
Data Entered:

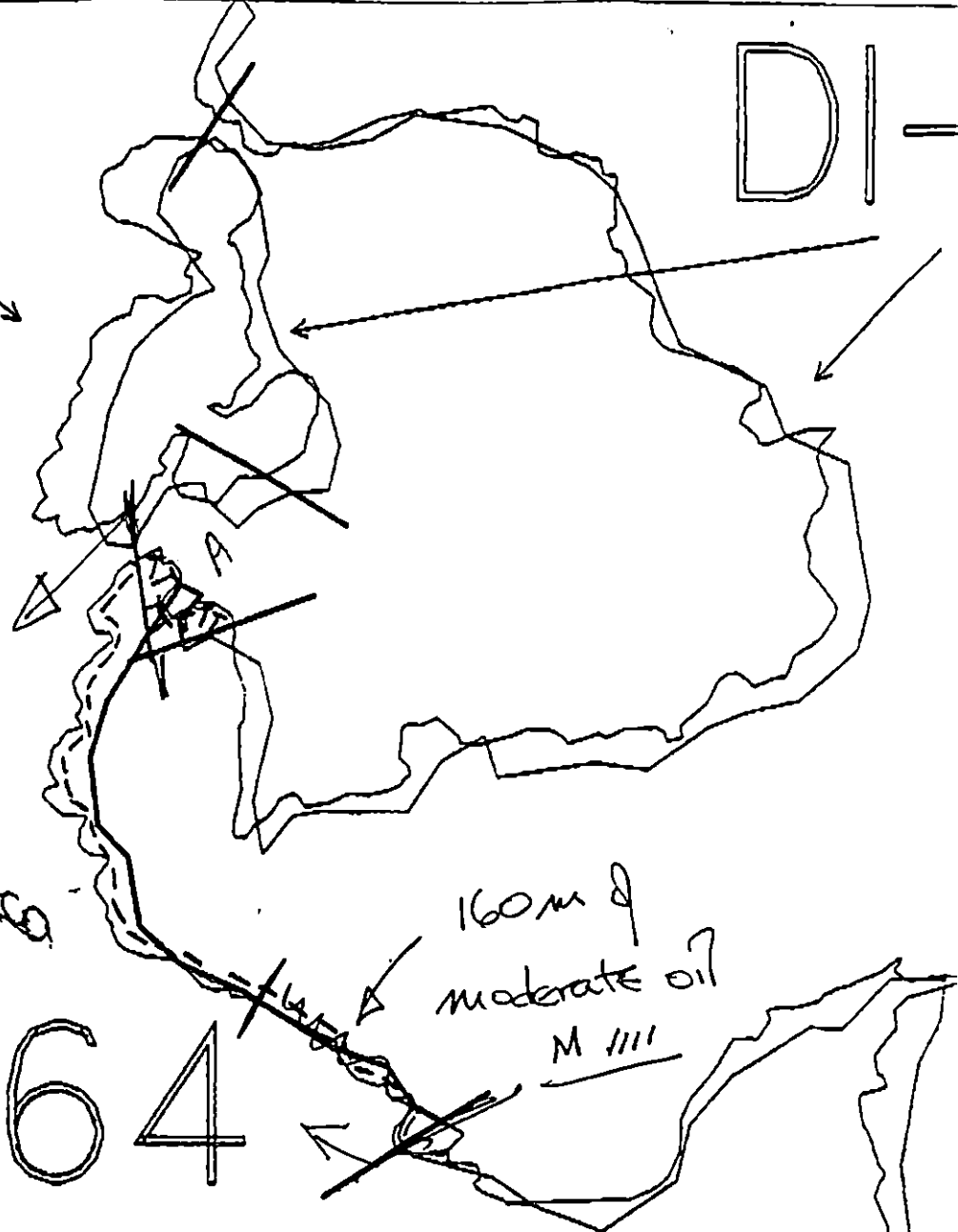
DI-66

DI-

SUBDIV. B

DI-64

DI-63



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

DI-64

ADEC Segment Length: ⁹³⁵~~400~~m



Map Key: PWS-96
Name: James Springer
Date: 4/7/90
Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

-SEGMENT DI-64 SUBDIVISION B (2 of 2)

WORK WINDOW	
Manual Pickup	OPEN
Bioremediation	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T Bald Eagle Nest

USFWS 6/1/90 map indicates an active nest within 400m of Subdivision B work site, however, USFWS has granted access to work site per 5/10/90 survey conducted by Mike Lockhart (see map). No constraint to manual pickup and bioremediation.

OTHER ECOLOGICAL CONSIDERATIONS

Restrict air traffic and all disturbance to essential minimum. Air approach and takeoff from and to seaward only; maintain 400m horizontal, 300m vertical distance from nests. Avoid any unnecessary disturbance or damage to uncollected biota and substrate. Stay out of USFWS established eagle nest buffer zone. No personnel or boat traffic within USFWS designated buffer zone.

FOSC

G.A. Reiter
for FOSC

DATE

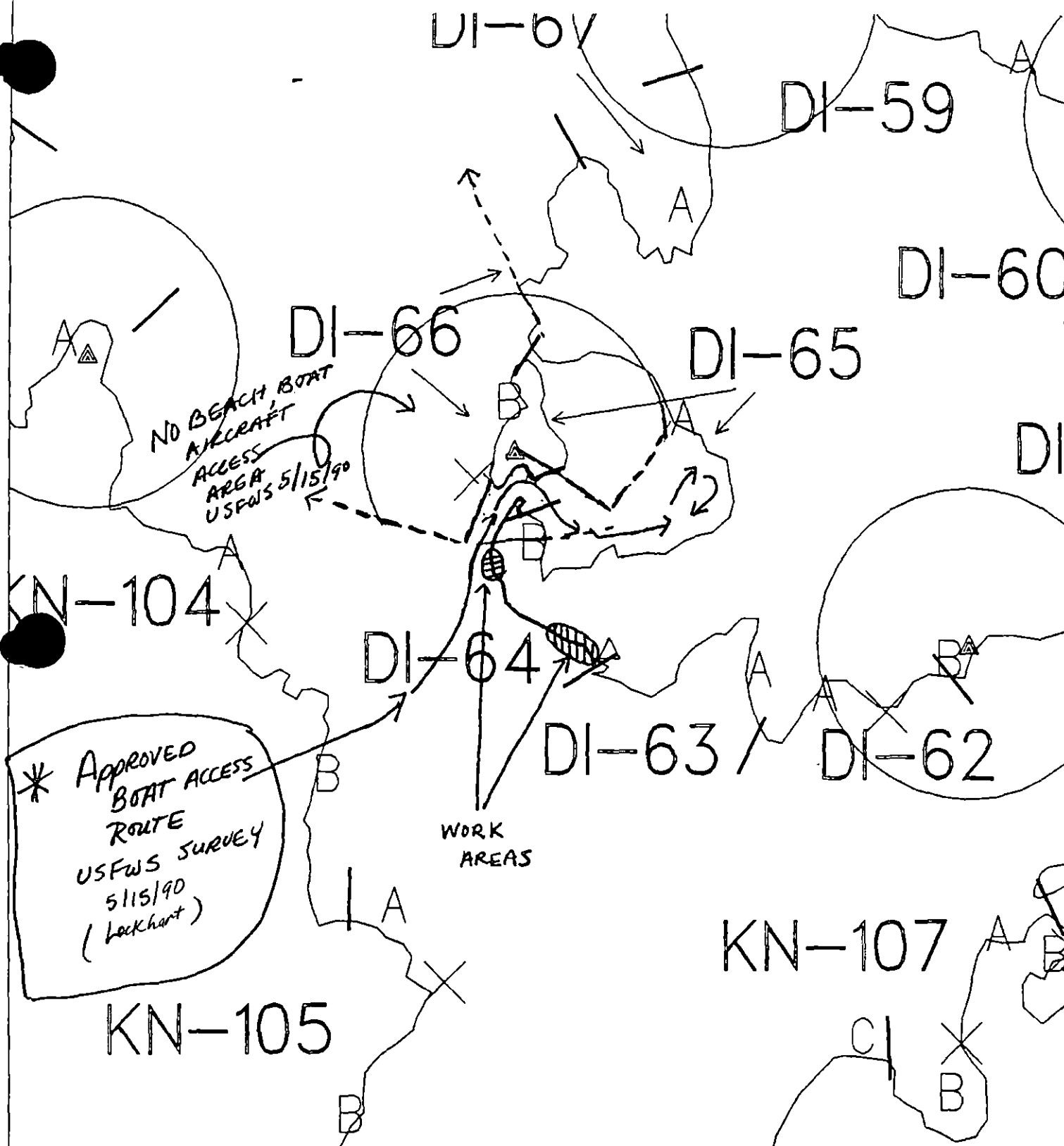
6/10/90

Prepared By:

W. Kelley

Date

6/9/90



Exxon Company, USA

Map Key: PWS-DI-64

June 04, 1990



Seabird Colony



Active Eagle Nest



Inactive Eagle Nest

SHORELINE EVALUATION

SEGMENT ST/ DI-64 SUBDIVISION B (2 OF 2) DATE 4/7/90

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)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Eagle nest in Subdivision B on or near border with DI-63.

ARCHAEOLOGICAL CONSTRAINTS:

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

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

OILING CATEGORIZATION:

Wide 0 m: Medium 185 m: Narrow 365 m: V.Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 30+ cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual pick up of mousse patties, 2) bioremediation of areas shown on attached sketch map. Work should be conducted after (6/1) and after approval of USFWS regarding eagle nest.

See Constraint Addendum Dated 6/9/90 wyc

TAG COMMENTS:

TAG APPROVAL DATE: 4/24/90.

ADEC Art Weiner
EXXON Andy Lee
NOAA Joseph Tallant
USCG W. J. Hall

FOSC: WJL DATE: 5-3-90

SHORELINE EVALUATION

SEGMENT ST/ DI-64 SUBDIVISION B (2 OF 2) DATE 4/7/90

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

SUBDIVISION ECOLOGICAL CONSTRAINTS:

Avoid any unnecessary disturbance or damage to unoiled biota and substrate. Eagle nest in Subdivision B on or near border with DI-63.

ARCHAEOLOGICAL CONSTRAINTS:

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

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

OILING CATEGORIZATION:

Wide 0 m: Medium 185 m: Narrow 365 m: V. Light 0 m: No Oil 0 m
Subsurface Oil Observed: Yes X No Maximum Depth 30+ cm

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes 1) manual pick up of mousse patties, 2) bioremediation of areas shown on attached sketch map. Work should be conducted after 6/1 and after approval of USFWS regarding eagle nest.

TAG COMMENTS:

TAG APPROVAL DATE: 4/24/90

ADEC ART WEINER
EXXON AMY TGA
NOAA Joseph Tallant
USCG Mr. J. Hall

FOSC: W/L DATE: 5-3-90

OG J. S. GEB

SEGMENT ST 01-64

SUBDIVISION B

DATE 04/07/90

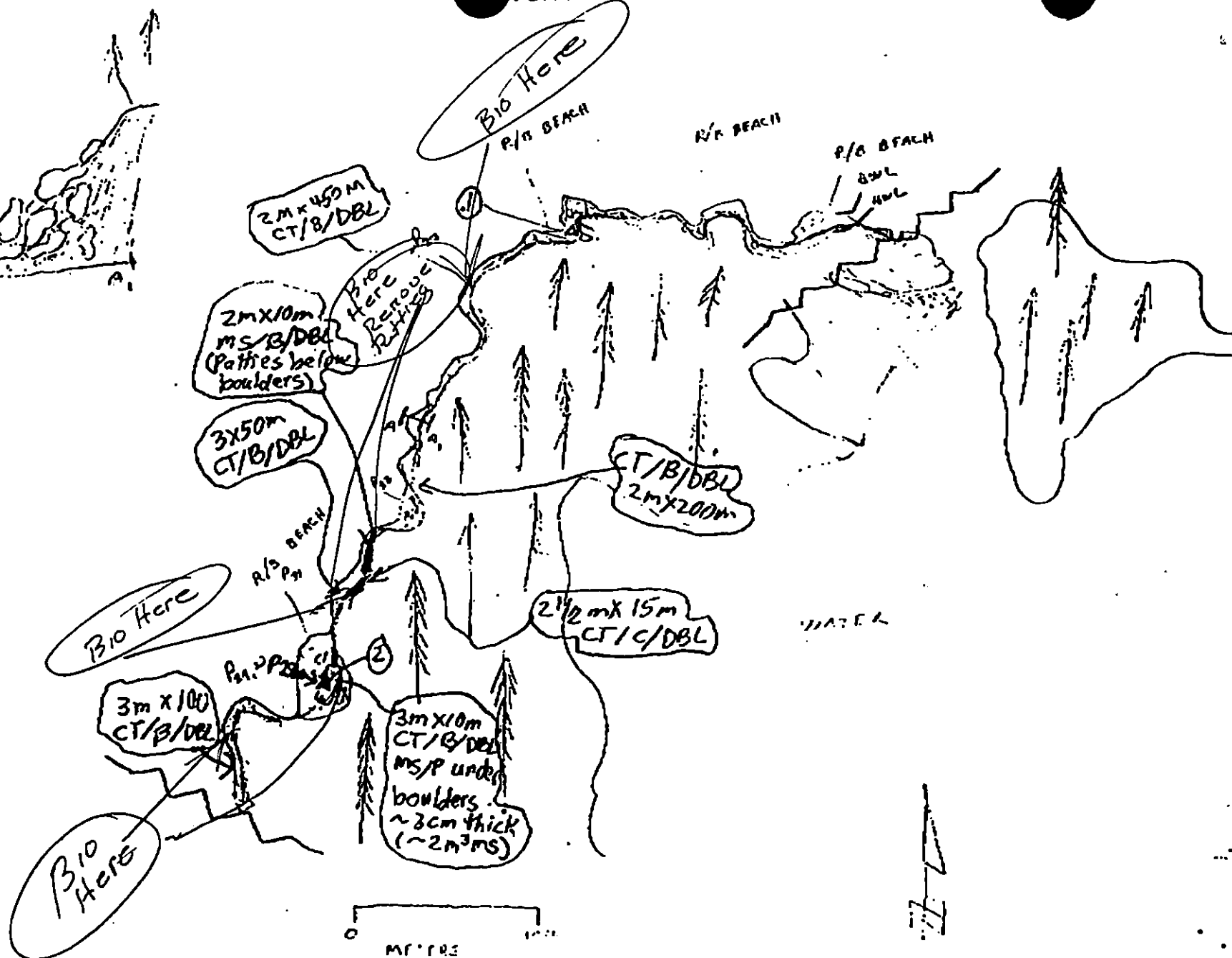
CHECKLIST

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

LEGEND

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

TCH MAP



Oil Character Length (m): AP _____ PO _____ CV _____ CT 25 ST _____ MS 10 PT _____ TB _____ FL _____ NO _____

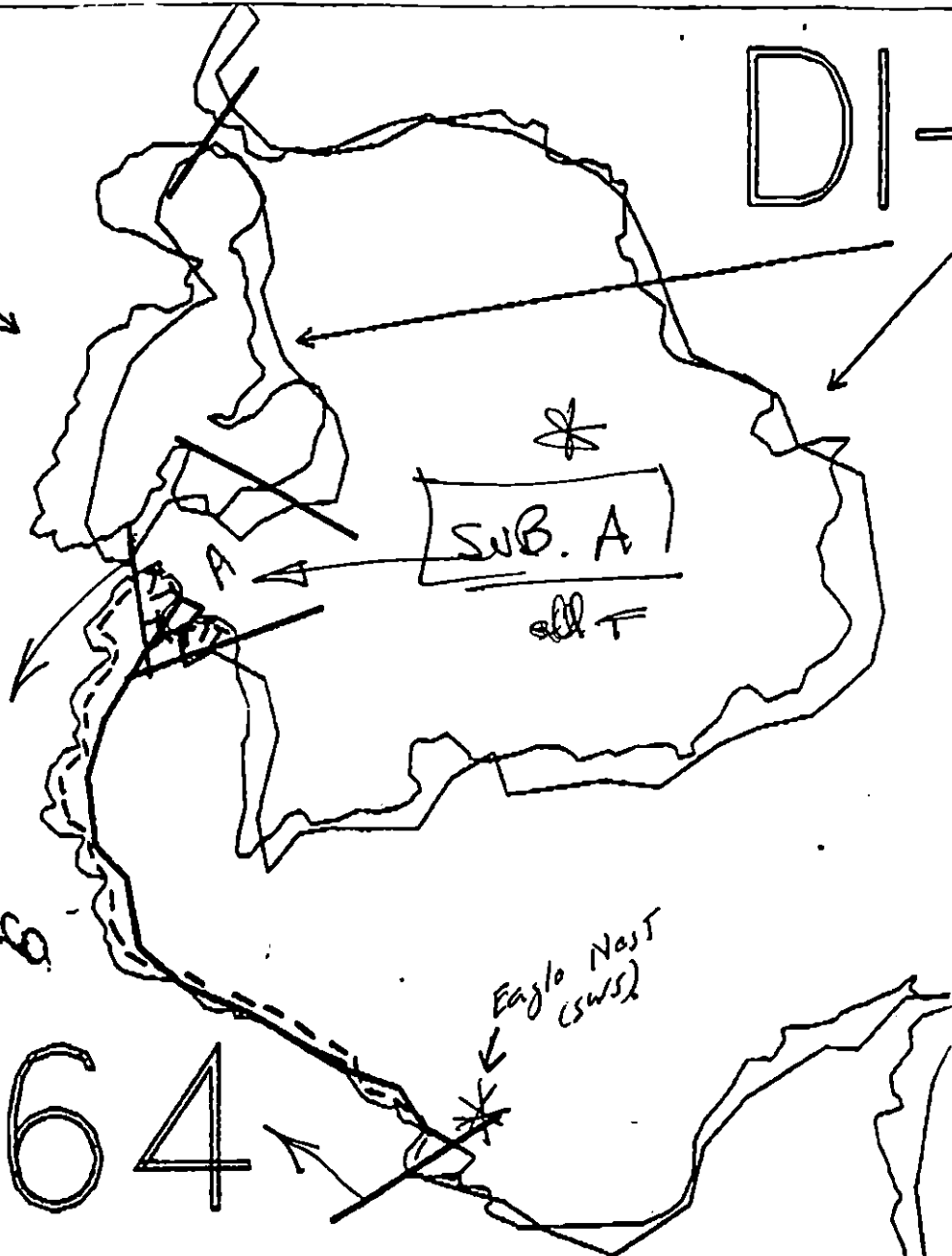
REVISION 000000

DI-66
ECOLOGY
MAP

SUBDIV.
B

DI-64

DI-63



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

DI-64A-100

ADEC Segment Length: 935

0 100 200 300
METERS



Map Key: PWS-96

Name: James Spring

Date: 4/7/90

Data Entered:

DI-66

DI-

SUBDIVN. B

DI-64

160m of moderate oil
M IIII

DI-63

XXXX Wide

//// Medium

--- Narrow

TTTT Very Light

0000 No Oil

DI-64

ADEC Segment Length: ⁹³⁵~~405~~m



Map Key: PWS-96

Name: James Springer

Date: 4/7/90

Data Entered:

SHORELINE EVALUATION

SEGMENT ST/ DI-64 SUBDIVISION A (1 OF 2) DATE 4/7/90

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

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS: If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276). *Required prior*

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

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 115 m: No Oil 0 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: Manual pick up of tar balls followed by bioremediation of coat area as indicated on attached sketch map. Work should be conducted after 6/1 with approval of USFWS regarding eagle nest.

TAG COMMENTS: _____

TAG APPROVAL DATE: 4/24/20.
ADEC Art Weimer Art Weimer
EXXON Art Weimer Art Weimer
NOAA Joseph Talbot J. Talbot
USCG M. J. Hall M. J. Hall

FOSC: W L DATE: 5-3-90

OG J. S. [redacted]
 SEGMENT ST/ DE-64
 SUBDIVISION A
 DATE 04/07/80

CHECKLIST

- ☒ H Area
- ☒ Approx. Scale
- ☒ Seg/Sub Body
- ☒ Oil Dist
- ☒ Width
- ☒ Length
- ☒ % Cover
- ☒ Substrate Character
- ☒ Est. HML/LANA
- ☒ SBL
- ☒ Profile Location(s)
- ☒ Profile(s)
- ☒ P/L Location(s)
- ☒ Photo Location(s)

LEGEND

1 Δ

PH - No Subsurface Oil

2 Δ

PH - Subsurface Oil

CT/C

Continuous Distribution

CT/B

Broken Distribution

CT/P

Patchy Distribution

CT/S

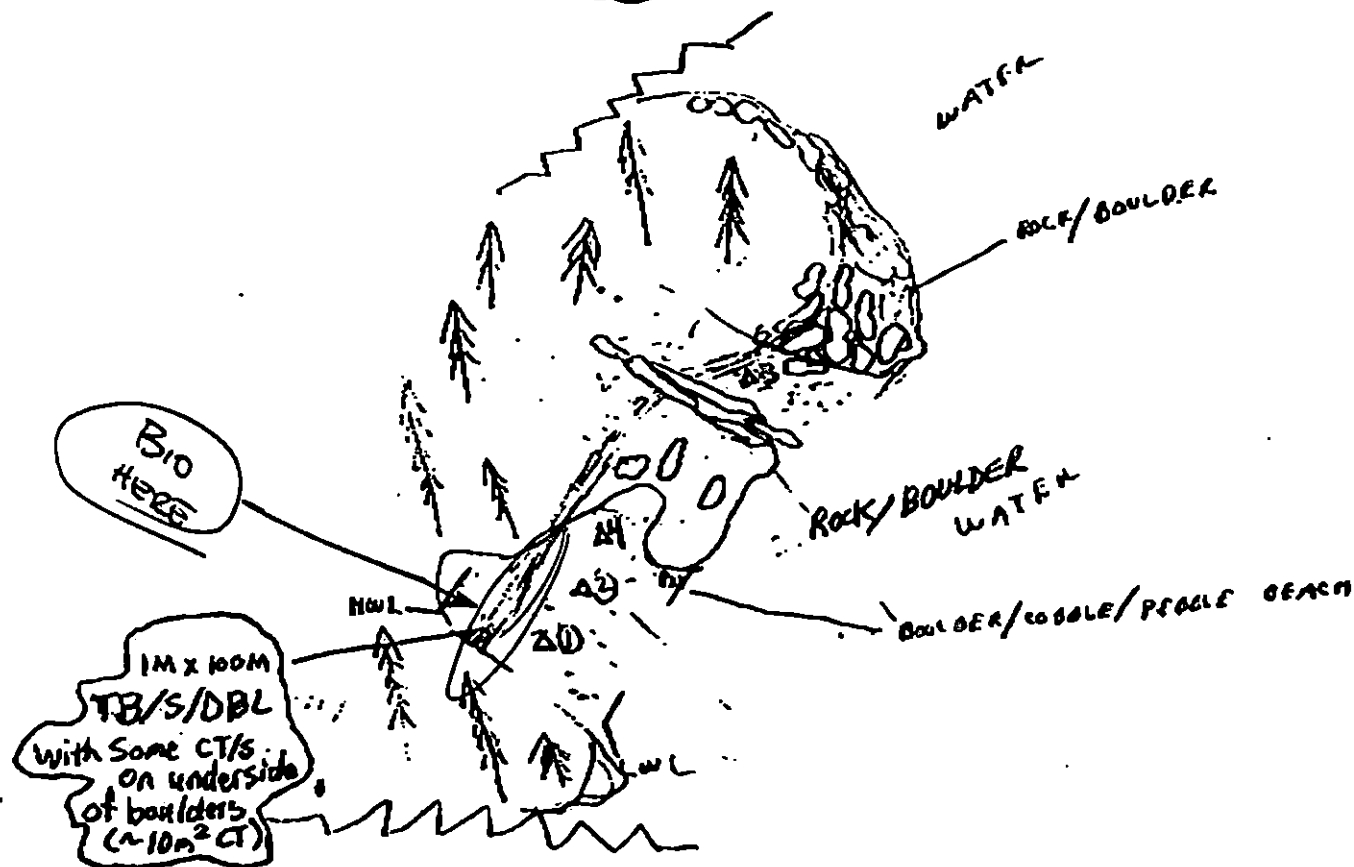
Spotted Distribution

Other Vegetation

1 $\Rightarrow$

Photo location, direction, and number

SKETCH MAP



0 50
 METERS

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

REVISED 08/80

FIELD SHORELINE COMMENT SHEET

SEGMENT ST 01-64 SUBDIVISION: A DATE 04/07/90

USCG

NAME AEC Vandepels SIGNATURE AEC Vandepels

☒ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

*I recommend no treatment. Maybe bio. the
1 x 100 M band.*

ADEC

NAME Michele Barr SIGNATURE Michele Barr

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

*Manual scrubbing and removal of TB's in band,
NO subsurface oil found, only occasional CT on
underside of B's found.*

LAND MANAGER

NAME DAN LOGAN SIGNATURE Dan Logan

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

*THIS AREA IS AN EXCELLENT ANCHORAGE AND RECEIVES HIGH
RECREATION USE. ON THE 1M X 100M TB/S/DAL BAND THE ROCKS
SHOULD BE MANUALLY SCRUBBED AND THE ROULDER/COBBLE PORTIONS
HAND ^{WIPED} ~~SCUBED~~ AND FERTILIZER APPLIED, THIS AREA SHOULD BE CLEARED
BY AN ARCHEOLOGIST PRIOR TO WORK.*

35

SHORELINE OILING SUMMARY

REVISION NO. 08224

OG J. Springer USCG R. Vandepels SEGMENT ST/ DI-64
 BIO P. Crank LAND REP D. Logan SUBDIVISION A (10P2)
 EXXON T. Tomblin ADEC M. Baer TIME 17:00 to 17:25
 TEAM NO.: 5 TIDE LEVEL: +3 to +2 DATE 04/07/90
 EST. SUBDIVISION LENGTH: 100 m ☒ Sun ☐ Clouds ☐ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock Pillow lava
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: to
 SURFACE SEDIMENTS: R 50 % B 5 % C 15 % P 25 % G 5 % S — % M — % V —
 SLOPE: Long 80 % Hang 20 % Vert — % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 0 m N 0 m VL 100 m NO 0 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	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 — sq. m by — cPATTIES / TARBALLS 10 BAGSNEAR SHORE SHEEN? ☒ NO BR RW SL TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation			
Trash			
Debris			

DEBRIS COLLECTED
☐ YES ☒ NOTYPE —#BAGS —

Photographs:

Roll No. ST-5-4Frames 26

SUBSURFACE OIL

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR								PIT ZONE	A N A	SUBSURFACE SEDIMENTS
		CP	CR	CL	CF	NO		UC	UC	1	2	3	4	5	6	7	8			
1	20					X	.		X									X		PGSM
2	30					X	.		X									X		PGSM
3	15					X	.		X									X		PGS
4	10					X	.		X									X		PGM
							.													
							.													

COMMENTS

32

DI-66

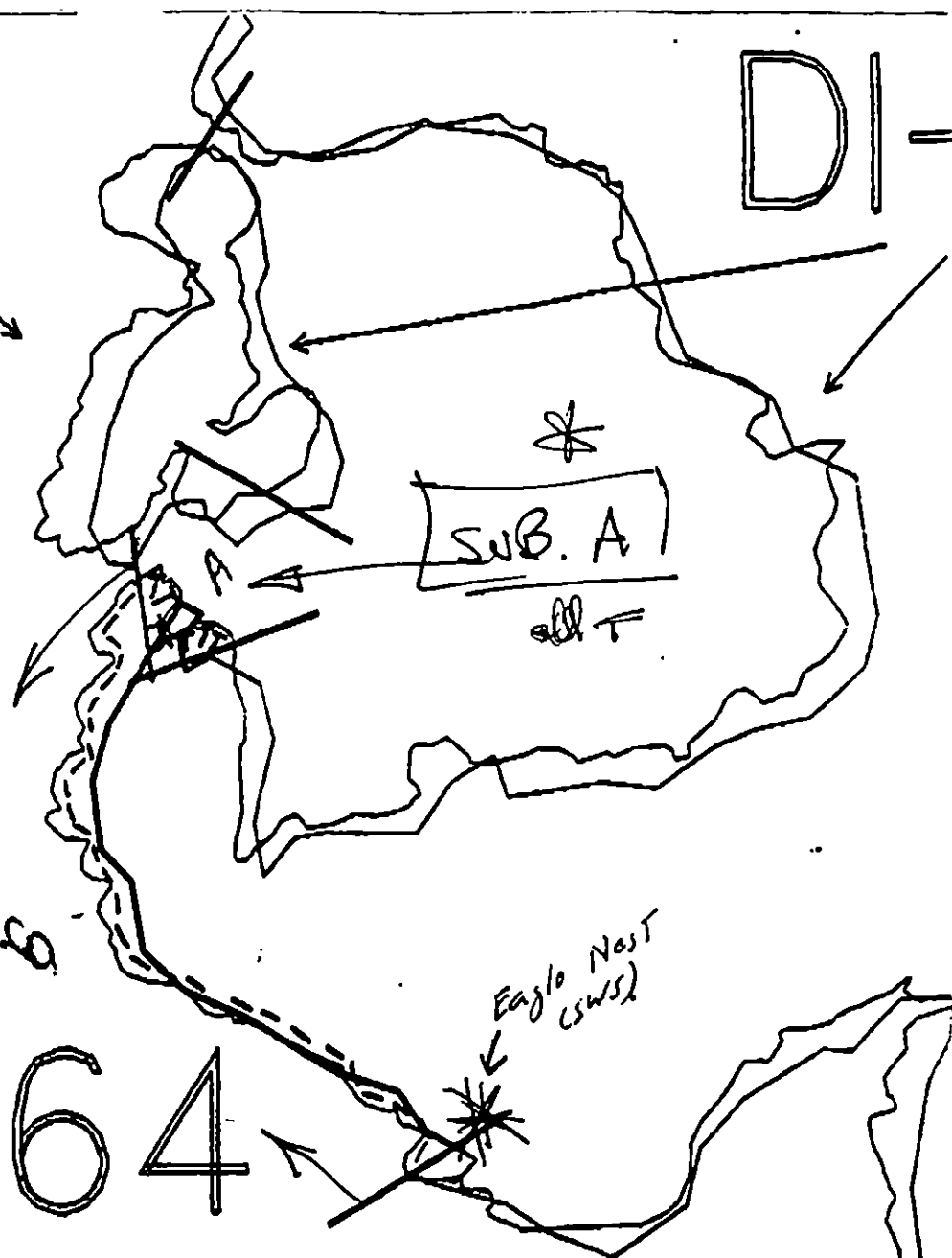
DI-

ECOLOGY
MAP

SUBDIV.
B

DI-64

DI-63



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

DI-64A-100

ADEC Segment Length: 935

0 100 200 300
METERS



Map Key: PWS-96

Name: James Springs

Date: 4/7/90

Data Entered:

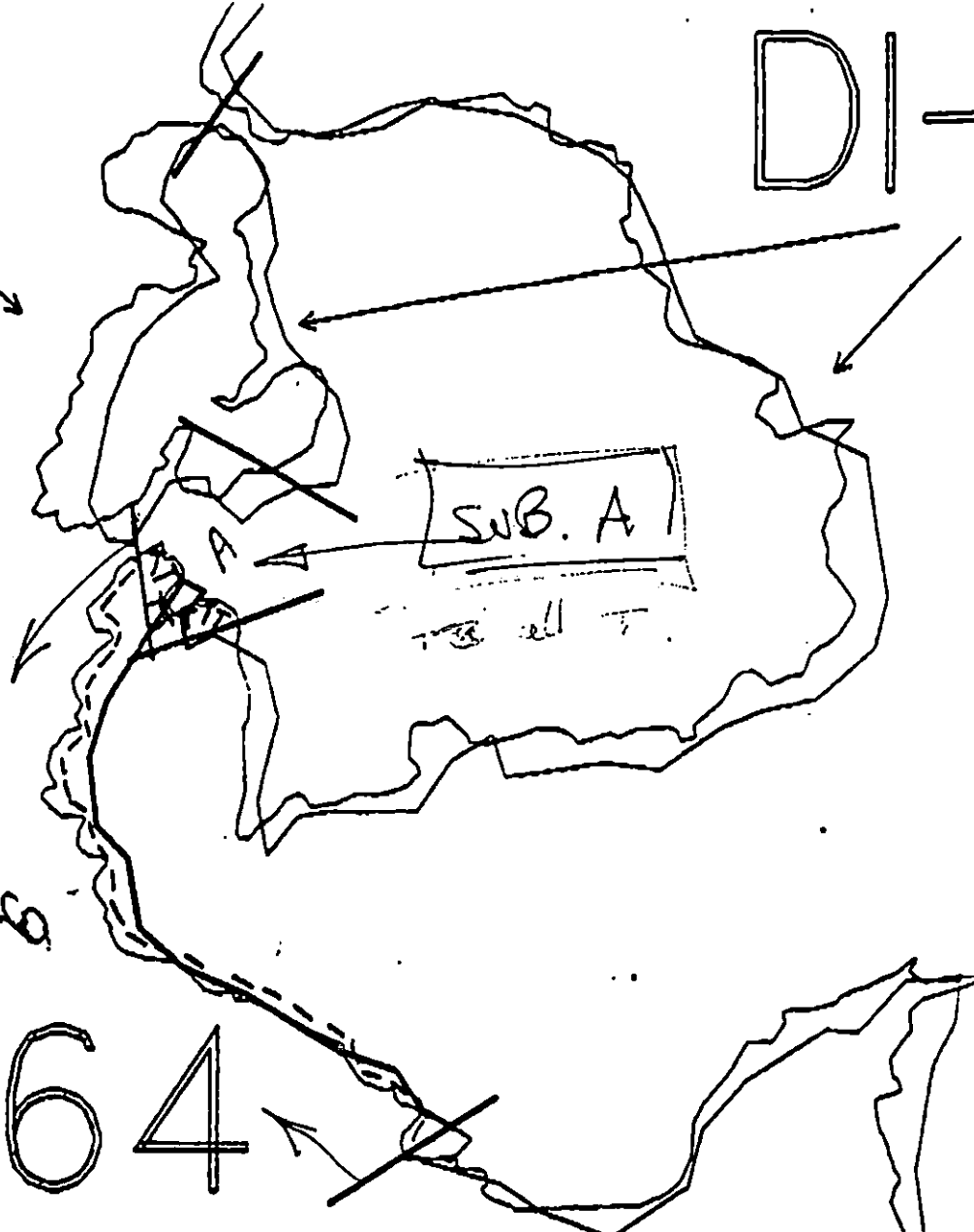
DI-66

DI-

SUBDIV.
B

DI-64

DI-63



XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

DI-64

ADEC Segment Length: ⁹³⁵~~400~~m

0 100 200 300
METERS

Map Key: PWS-96

Name: James Springer

Date: 4/7/90

Data Entered:

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT DI-64 SUBDIVISION A (1 of 2)

WORK WINDOW	
Manual Pickup Bioremediation	OPEN

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T Bald Eagle Nest

NO CONSTRAINT. Bald eagle nest is in adjacent Subdivision B of Segment DI-64, and more than 400m from work site.

OTHER ECOLOGICAL CONSIDERATIONS

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

TAG ADDENDUM DATE 5/16/90
ADEC ART WEINER Art Weiner
EXXON ANDY TON Andy Ton FOSC M L DATE 5-17-90
NOAA Jordan Talbot
USCG G.A. Fitter G.A. Fitter

Prepared by: WKS

Date: 5/17/90

ECOLOGY
MAP

SUBDIV.
B

DI-64

DI-63

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

DI-64A-100

ADEC Segment Length: 935



METERS

Map Key: PWS-96

Name: James Springer

Date: 4/7/90

Date Entered:

SHORELINE EVALUATION

SEGMENT ST/ DI-64 SUBDIVISION A (1 OF 2) DATE 4/7/90

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)

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS: If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276). ~~Required prior~~

SHPO SIGNATURE: Charles E. H. H. H. DATE: 4/25/90 ^{CEH}

OILING CATEGORIZATION:

Wide 0 m: Medium 0 m: Narrow 0 m: V.Light 115 m: No Oil 0 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: Manual pick up of tar balls followed by bioremediation of
coat area as indicated on attached sketch map. Work should be conduc-
ted after 6/1 with approval of USFWS regarding eagle nest.

TAG COMMENTS:

TAG APPROVAL DATE: 4/24/90

ADEC Art Weimer Art Weimer

EXXON Anthony

NOAA Joseph Talbot

USCG M. J. Hall

FOSC: W L DATE: 5-3-90

See Addendum Dated 5/14/90 WSK

1991 MAYSAP EVALUATION

SEGMENT: DI 064 SUB: A REGION: PWS SURVEY DATE: 5/17/91

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) RESTRICTED 3/1 - 9/1

Ecological/Constraints (see page two for details) Eagle nest

ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO Signature:

Date:

RECOMMENDATIONS:

INITIAL

TAG

FOSC**TREATMENT REQUIRED (Y or N)**

N

2

2

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Custombien

Other

Other

COMMENTS:

INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: JUNE 4 1991

FOSC APPROVAL DATE:

ADEC

FOSC

EXXON

USCG

NOAA

E. E. PAGE, CDR USCG
CHIEF OF STAFF, FOSC

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

Eagle Nest: Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 2 SEGMENT DT-64 SUBDIVISION A DATE MAY 17 1991

DEC
NAME

Peter Montesano

SIGNATURE

[Signature]

☒ NTR ☐ TREATMENT RECOMMENDED

Comprehensive report. Area of Pit 2 has fine sediments and is prone to shear even so lightly. Extremely low energy and easily disturbed shoreline. This Subdivision is inside of the Disk Island Lagoon.

EXXON
NAME

C.M. KATSIMPALIS

SIGNATURE

[Signature]

☒ NTR

VERY LITTLE OIL REMAINS. NO FURTHER TREATMENT NEEDED.

LANDMANAGER

NAME DENNIS S. KENNEDY OF USFS

SIGNATURE

[Signature]

☒ NTR

Very small amounts of oil in this sheltered environment on the lagoon side of Disk Island. This is a high recreation area.

USCG/NOAA D. SIMEK - BEATTY NOAA D. Simek - Beatty NOAA

NAME BM. M. P. ZENONE USCG

SIGNATURE

[Signature]

☐ NTR

Photograph #16 is of a tar ball in Area B. After the photo was taken, the group determined that the tarball was weathered and probably not from the Exxon Valdez. The remaining surface oil was very light and patchy. This oil was usually found beneath the rocks. As this is a low energy area and the amount of oil is very light, no treatment is recommended. NOTE: The biologist had indicated that this may be a high use area for otters. -DS-B

CG - No further treatment Required. *[Signature]*

PAGE 1 OF 1

DATE 5 / 17 / 91

USCG/NOAA D. Simerak-Boatty

ENERGY LEVEL: ☐ H ☐ M ☒ LWEATHER: ☒ SUN ☒ CLOUDS ☐ FOG ☐ RAIN ☐ SNOWNEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONE

EST. OIL CATEGORY LENGTH: W m M m N m VL 50 m NO 65 m US m

DISTRIBUTION: C = 91-100%; B = 51-90%; P = 11-50%; S = 1-10%; T = <1%

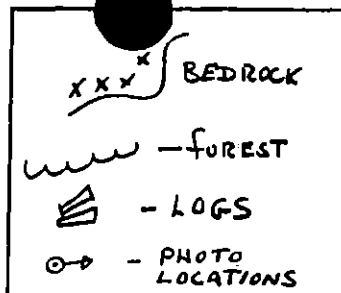
SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE

PHOTO ROLL # MAYSAP- 2 - 19 FRAMES 16-19

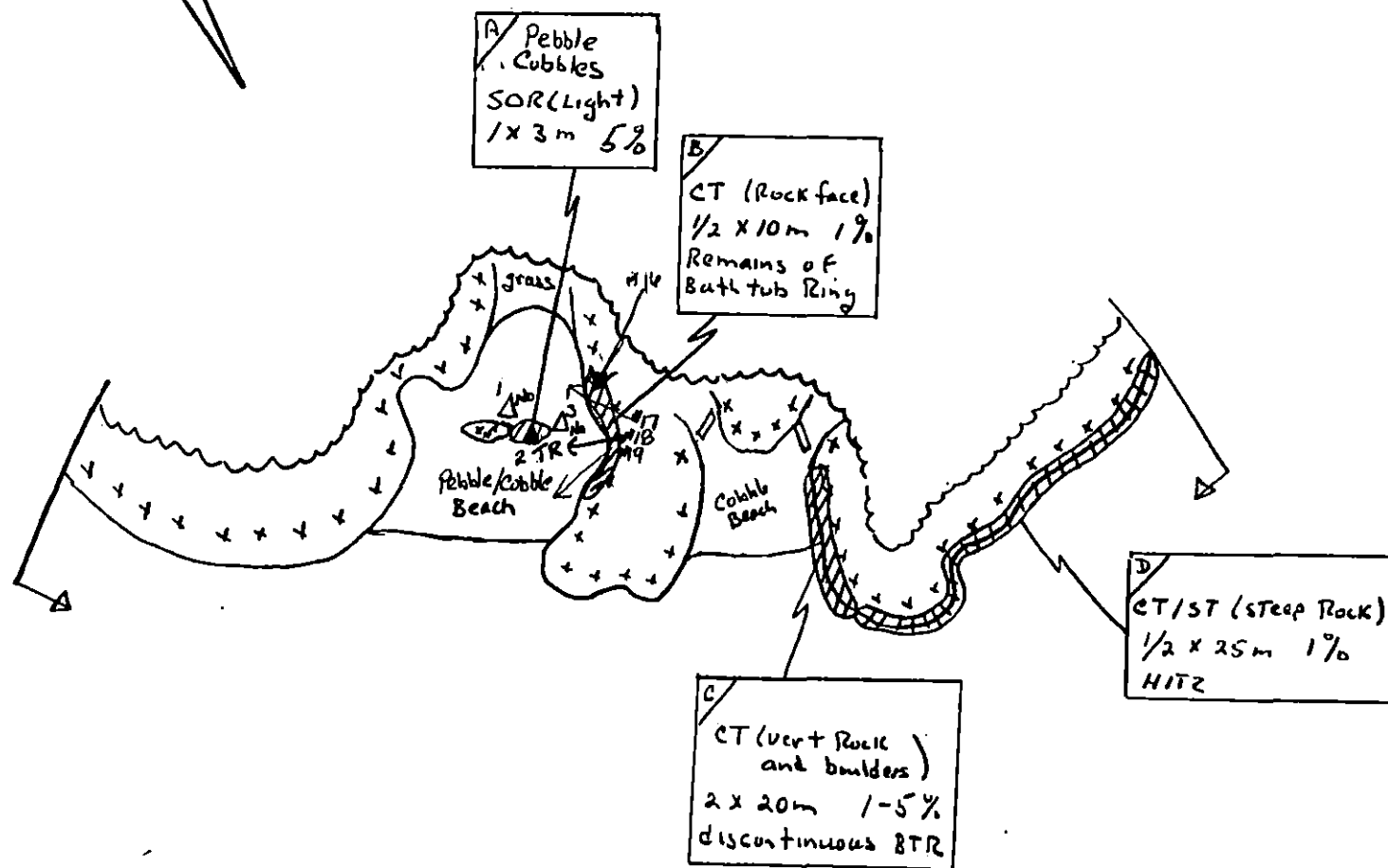
SHEEN COLOR: B = BROWN; R = RAINBOW; S = SILVER; N = NONE

OG COMMENTS: Subdivision consists of two small pocket Coves bounded by Rocky headlands. This is a very sheltered environment inside the Lagoon on Disk Island. Oiling consists of a small remnant of SOR on the eastern beach at the lower NITZ near a fucus bed. No surface expression of oil was observed, however scraping a few cm found light SOR. The western end of the segment has the remains of a bathtub ring along the NITZ on Rock Cliff and boulder slopes. It is very sporadic/discontinuous with higher percentages (5%) in sheltered crevices or behind boulders.

BTR - Bath Tub Ring
Beach width - 18 meters



OG SKETCH
 DI-64 A
 MAY 17, 91
 13:45 - 14:21
 Doug Reimer



Reviewed: MC 5/22/91
 reviewed 5.21 DJ

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 2 DATE 13 May 91
 SEGMENT # DI-64A TIDAL HEIGHT(Range) 4 to 6 ft
 SUBDIVISION A BIOLOGIST S. BAN
 SEA STATE calm WIND SPEED/DIRECTION calm
 PHOTOGRAPHS: ROLL # FRAME #

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):

A: See Sand at upper edge of a dense Fucus band. The band consists of adult plank & recruits, P. Verreauxi, limpets & mussels

BC&D: oil is discontinuous and high in ITZ. Lower ITZ dense with algae Fucus & barnacles. Tide too high to see much of the lower ITZ at C&D, but expect dense algae, Pycnospidia etc

Evidence of sea otter use (weathered scat) on outcrop between beaches.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

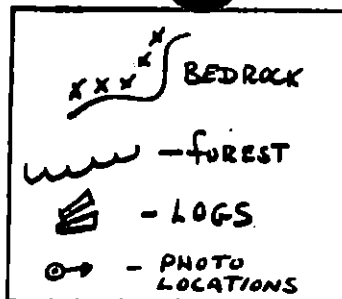
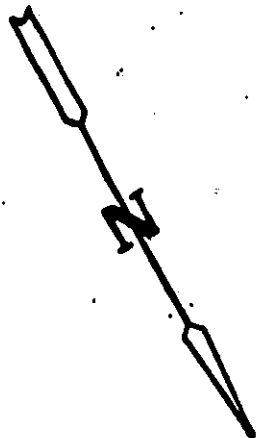
BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	/	/	Small School salmon smolt
Seabirds			
Waterfowl			
Gulls/kittiwakes			
Shorebirds			
Corvids			
Other Birds			

LAND MAMMALS

MARINE MAMMALS	# OBSERVED	SPECIES	# OBSERVED
Sea Otters	/	/	/
Pinnipeds(specify)			
Whales(specify)			

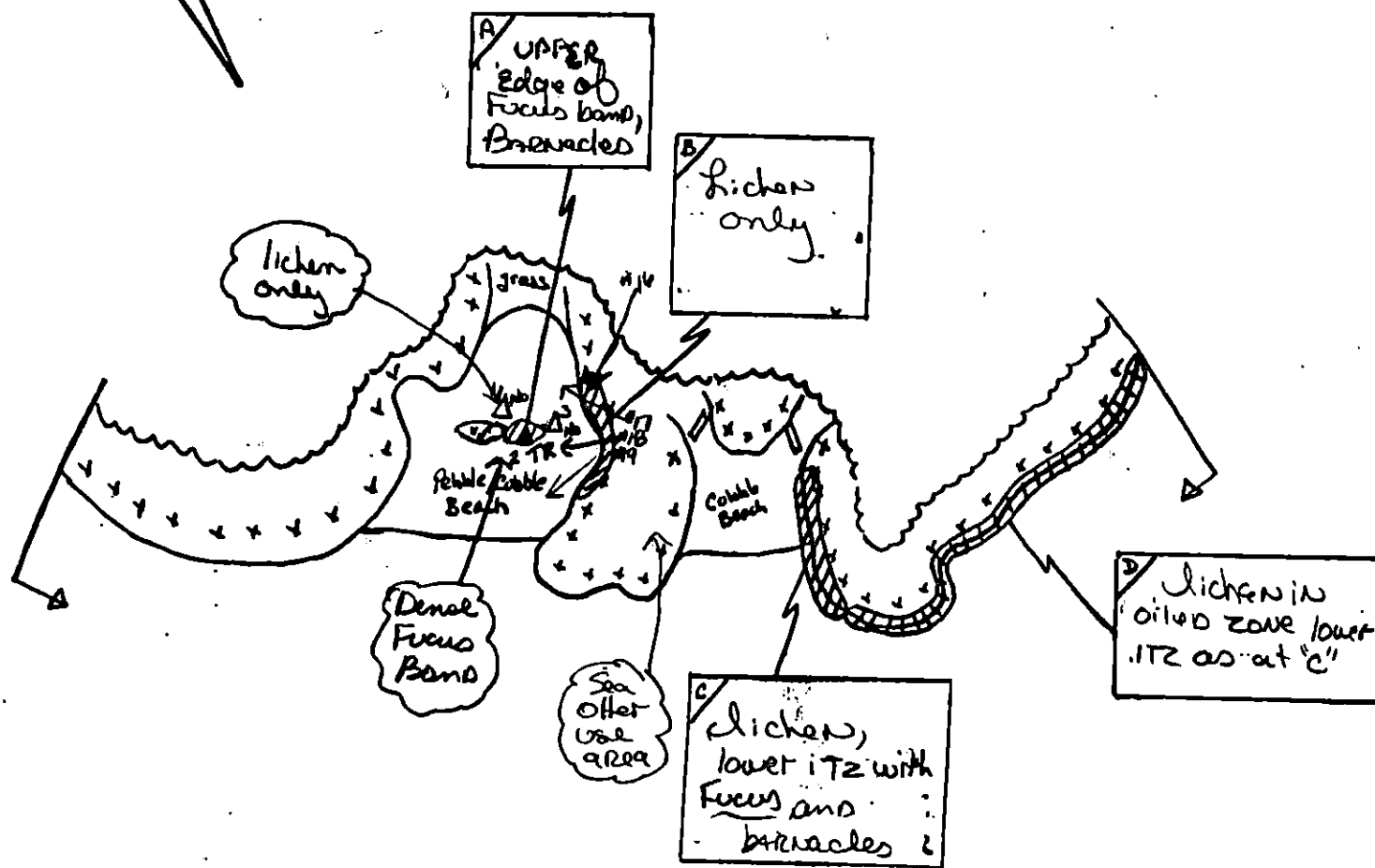
Shoreline subdivision map showing important biological features attached.

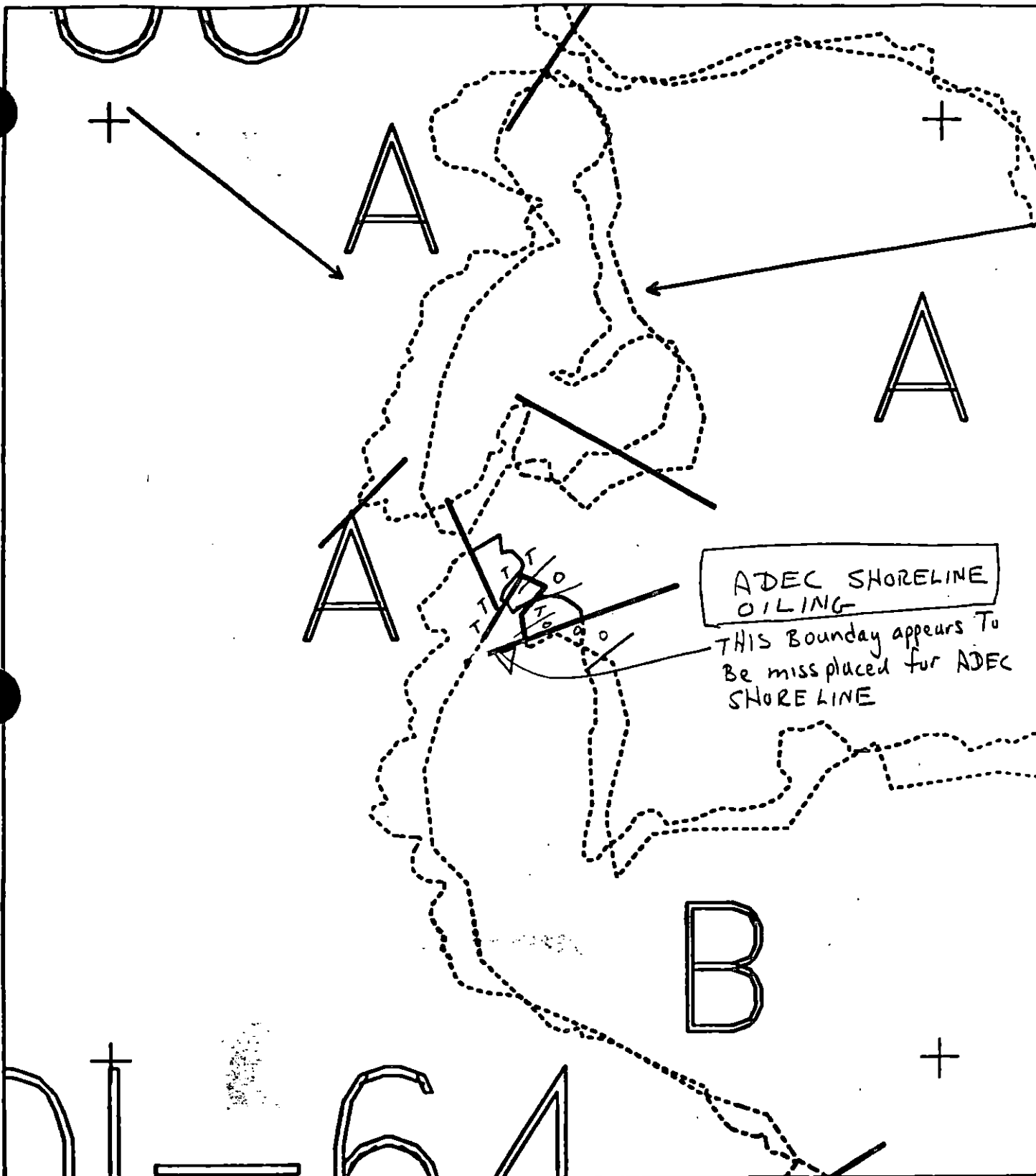
BTR - Bath Tub Ring
Beach width - 18 meters



OG SKETCH
D1-64 A
MAY 17, 91
13:45 - 14:21
Doug Reimer

SMB 17 May 91





XXXX
 '///'

 TTT
 0000

Wide
 Medium
 Narrow
 Very Light
 No Oil

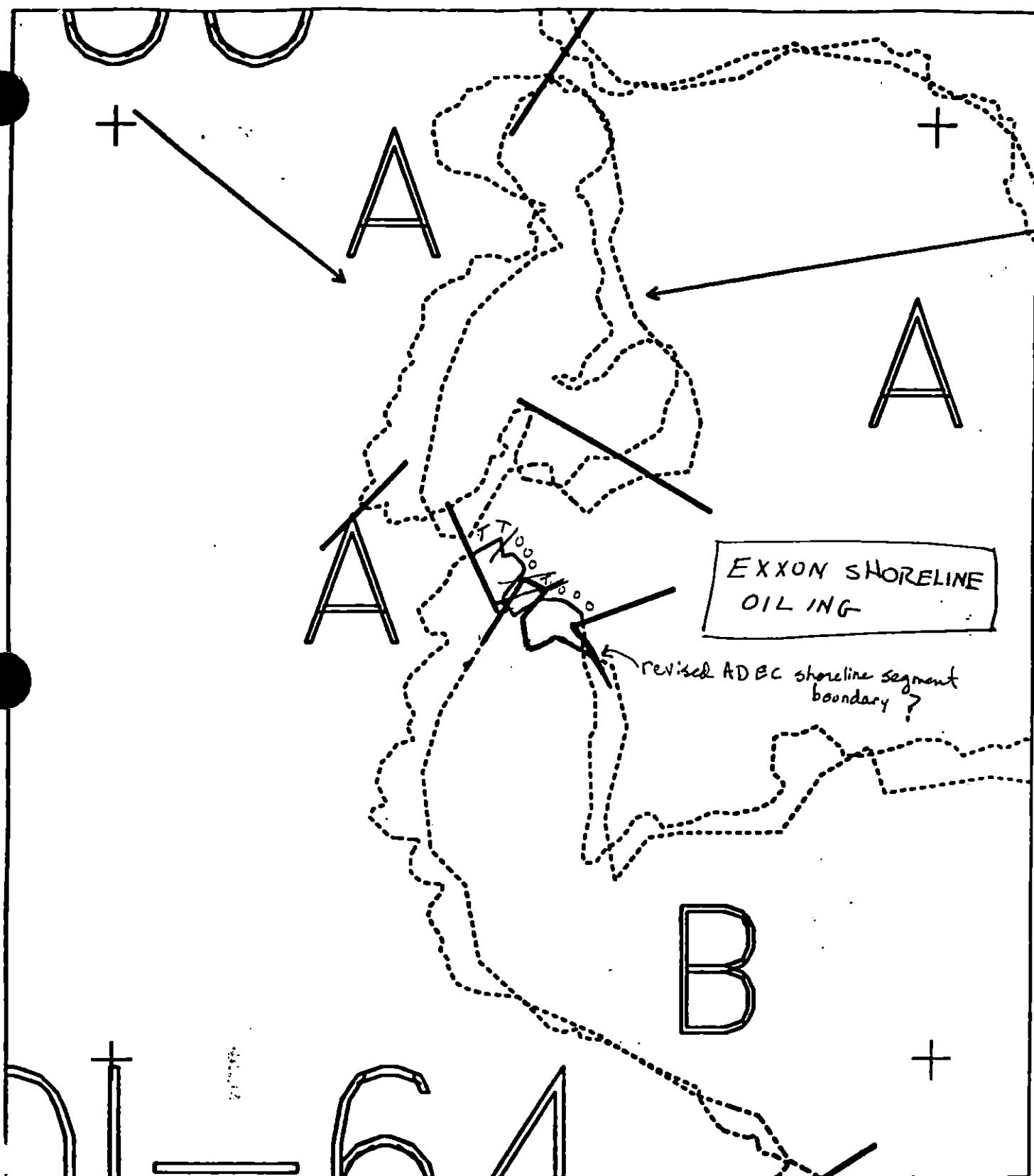
D1064 A
 ADEC Subsegment Length: 115m
 METERS
 0 100 200
 AK State Plane Zone 4
 821084a



Subdivision Field Map
 Map Key: KNID1084A
 Name: Reimer
 Date: 5/17/91
 Date Entered:



Reviewed: MC 5/20/91
 reviewed 5.21.94



XXXX
 ///

 TTTT
 0000

Wide
 Medium
 Narrow
 Very Light
 No Oil

D1064 A

ADEC Subsegment Length: 115m
 METERS

5 100 200
 AK State Plane Zone 4
 641064a



Subdivision Field Map

Map Key: KH101064A

Name: Reimer

Date: 5/17/91

Date Entered:

Reviewed: MC 5/22/91
 OK HEAD TV 6.21

1991 MAYSAP EVALUATION

SEGMENT: DI 064 SUB: B REGION: PWS SURVEY DATE: 5/21/91

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) RESTRICTED 3/1 - 9/1

Ecological/Constraints (see page two for details) Eagle nest

ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO Signature: Timothy A. Smith Date: 6/04/91

RECOMMENDATIONS:

	INITIAL	TAG	FOSC
TREATMENT REQUIRED (Y or N)	<u>N</u>	<u>N</u>	<u>N</u>
Manual Pickup (Check as Req.)	<u> </u>	<u> </u>	<u> </u>
Spot Washing	<u> </u>	<u> </u>	<u> </u>
Bio-Customblen Only	<u> </u>	<u> </u>	<u> </u>
Bio-Inipol/Customblen	<u> </u>	<u> </u>	<u> </u>
Other	<u> </u>	<u> </u>	<u> </u>
Other	<u> </u>	<u> </u>	<u> </u>

COMMENTS:

INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: JUNE 4 1991

FOSC APPROVAL DATE: 6/8/91

ADEC

FOSC

EXXON

E. E. PAGE, CDR, USCG
CHIEF OF STAFF, FOSC

USCG

NOAA

ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES

Eagle Nest: Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 2 SEGMENT DI-64 SUBDIVISION B DATE 5/21/91

ADEC

NAME Peter Montesano

SIGNATURE

Peter Montesano☐ NTR☒ TREATMENT RECOMMENDED

Nice Report by OG + Bio! The oiling along the series of pocket beaches is scattered light and well documented. Only area "C" has sufficient accessible oil for treatment. The small area has a SORH area that would make quick standard trowel work. This area can be hit while the crew addressed the recommended work on the subdivision just to the east.

EXXON

NAME FRANK Rex

SIGNATURE

Frank Rex☒ NTR

Due to the small amount of oil in this segment and the high degree of mussel beds and bryozoans, no activity.

LANDMANAGER

NAME Dennis S Kennedy OF USFS

SIGNATURE

D. S. Kennedy☐ NTR

subdivision has many small pocket beaches. mussels and other bryozoans seem to be doing well and should be avoided, treatment not recommended here.

USCG/NOAA NOAA D. SIMONE-BERRY

D. Simone-Berry

NAME BMI M.P. ZENONE USCG

SIGNATURE

BMI M.P. Zenone☐ NTR

A discontinuous band of surface and subsurface oil was found in the mid to upper intertidal zone. As this segment consists of vertical rock and large boulders, with small areas of SOR, no treatment is recommended DS-13

CG - NO TREATMENT RECOMMENDED. 3

TEAM NO. 2OG ReinerADEC MontesanoEXXON BoxBIO BanLANDMANAGER Leavely for USFS
BMI Zenned
USCG/NOAA D. S. S. - BoatSEGMENT D164SUBDIVISION BDATE 5/21/91ME 16 : 30 to 17 : 40TIDE LEVEL 3.51 ft. to 5.70 ft.ENERGY LEVEL: ☐ H ☒ M ☐ LSURVEYED FROM: ☒ FOOT ☒ BOAT ☐ HELOWEATHER: ☒ SUN ☐ CLOUDS ☐ FOG ☐ RAIN ☐ SNOWTOTAL LENGTH SHORELINE SURVEYED: 550 mNEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONEEST. OIL CATEGORY LENGTH: W — m M 211 m N 225 m VL 314 m NO 10 m US 0 m

L O C	SURFACE OIL CHARACTER										SURFACE SEDIMENT TYPE	SHORE SLOPE V H M L	AREA		ZONE				NOTES
	AP	MS	TB	SOR	CV	CT	ST	FL	DB	NO			WIDTH m	LENGTH m	S	UI	MI	LI	
A						S					R	V	1	20		X			
B					P	P					RB	V	2.5	15		X			
C				P	S	S					B	H	4	6		X	X		
D					B						R	V	2	3		X			
E					P	P					RB	H	2	25		X			
F					S	S					B	H	1	4		X			
G					B	B					R	V	1	3		X			
H						P					R	V	1	10		X			
I					B	B					R	V	1	4		X			
J				P		S					B	H	5	5		X	X		
K					P	P					RB	H	2	15		X			
L				S	P	P					B	H	2.5	20		X	X		
M				S	P	P					B	H	2	70		X			
N						S					R	H	1	20		X			
				S	P	P					B	H	2	20		X			
					P	P					RB	H	1	60		X			

DISTRIBUTION: C = 91-100%; B = 51-90%; P = 11-50%; S = 1-10%; T = <1%

SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE PHOTO ROLL # MAYSAP- 2 - 23 FRAMES 15-18

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER							OILED ZONE cm-cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS	NOTES
		OP	HOR	MOR	LOR	OF	TR	NO					S	UI	MI	LI		
1	2					X			0-8	Y	-	-		X			C-GP	
									-									
									-									
									-									
									-									
									-									
									-									
									-									
									-									

SHEEN COLOR: B = BROWN; R = RAINBOW; S = SILVER; N = NONE

OG COMMENTS:

Rocky coast with numerous small pocket boulder beaches or steep boulder lag deposits mandaling the shoreline. Ciling consists of a weathered discontinuous Badk tub Ring (BTR) along the U1T2 on Rock and boulder faces. It is variable in coverage throughout the segment, but generally has a higher % on the side walls of coves, and sides of boulders. Small pockets of SUR were found on a few boulder beaches. The entire Segment was walked except for a few Rocky headlands.

reviewed 5/28/94
Revised: MC 5/28/94

Reviewed 5.28.91
Reviewed: MC 5/28/91



OG SKETCH #1
DI 64 B
MAY 21, 1991
16:30 - 17:40
Doug Reimer

Y
STEEP ROCK
WITH POCKET BLD. BCW
1 X 130m (BTR)
CT/ST Discont.
UITZ < 5%

X
Boulder lag
CT/CV 15%
1 TO 3m X 40m

W
STEEP ROCK
CT < 5% (BTR)
1 X 80m. UITZ

SEE SKETCH
MAP #2
SITE #2

Q
Rock/BLDS
CT < 5% (BTR)
1 X 60m
UITZ

P
Rock/BLDS
CT/CV (BTR)
20-30%
1 X 60m

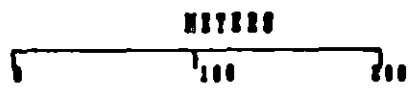
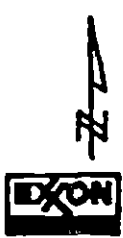
O
BOULDER BANK
CT/CV 30%
SOR (INT) 5%
(Light)
2 X 20m

N
High Rock
CT (BTR) 5%
1 X 20m

M
Boulder Bank
CT/CV 30%
SOR (Light) 5%
2 X 70m

SEE SKETCH
MAP #2
SITE #1

DI 064 B

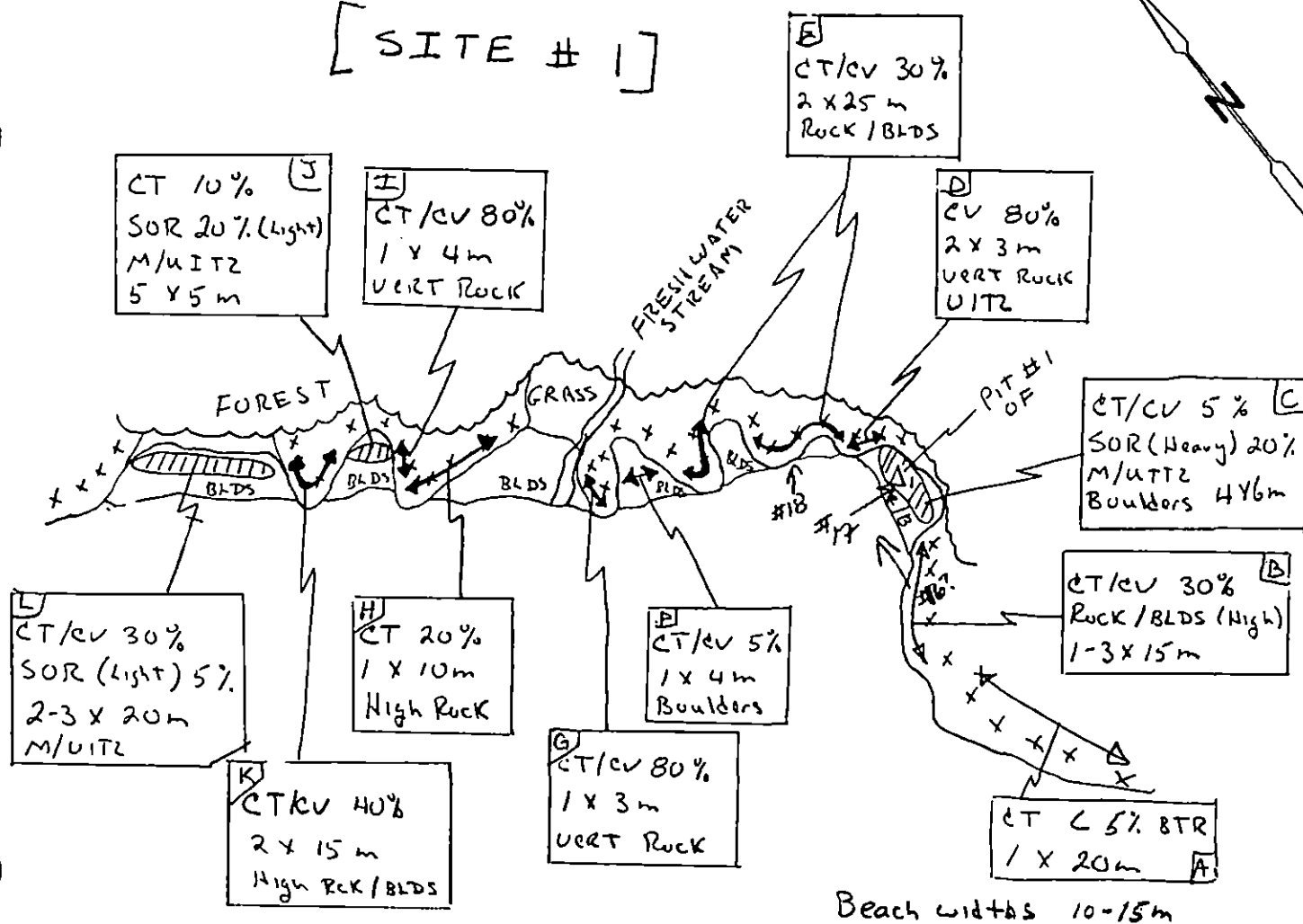


AS State Plane Zone 4

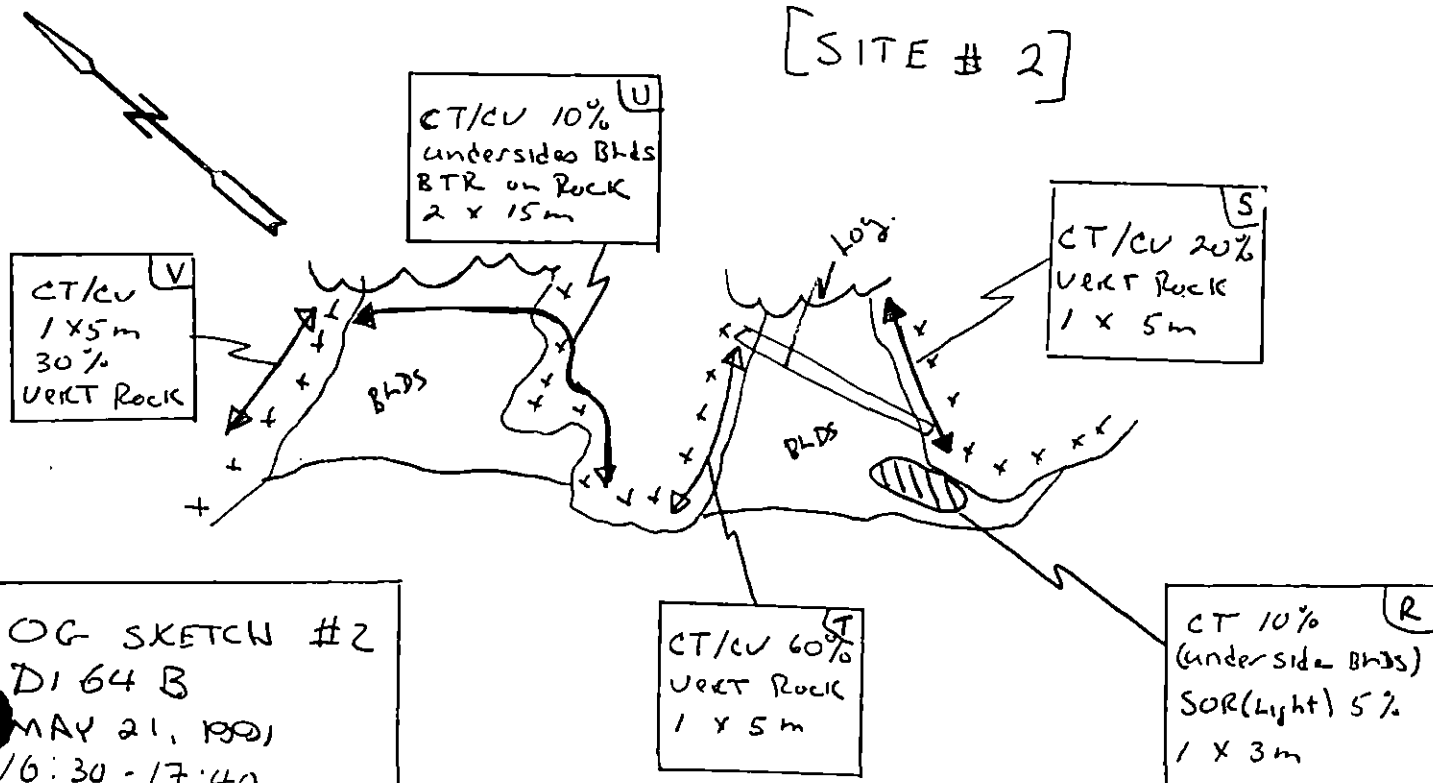
Subdivision Field Map
Map Key: KN101064B
Name: Reimer
Date: 5/21/91

REVIEWED: MC 5/28/91
reviewed S.284y

[SITE # 1]



[SITE # 2]



OG SKETCH #2
D164 B
MAY 21, 1991
16:30 - 17:40
Doug Reimer

Beach widths = ~10m

Reviewed: MC 5/24/91
reviewed 5.28 94

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 2 DATE 21 May 91
 SEGMENT # DF-64 TIDAL HEIGHT (Range) +3.5 to +6 ft
 SUBDIVISION B BIOLOGIST S.M.B.M.
 SEA STATE calm WIND SPEED/DIRECTION calm
 PHOTOGRAPHS: ROLL # — FRAME # —

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):

ABDEGHIJK: CT/CV/AIR ON vertical rock generally in lichen zone but reaching to upper edge of the barnacle zone as indicated.

CFLJ: CT/CV/SOR IN boulder beach areas. Oil is somewhat lower here reaching well into the barnacle zone. Oiled barnacles were observed in several locations as mapped. Interbedded mussels dense in the lower ITZ of these pocket beaches along with Littorines. Littorine egg masses were observed near "C". Dense barnacle spat was only observed near "L".

MNOPQ: As mapped lower zones in these high angle areas did not support dense mussel beds, but Fucus, barnacles, red & brown algae were observed at the water line & subtidally.

R: SOR here is fairly low in the ITZ, basically reaching to the mussel zone, although no oiled mussels were observed.

STUV: CT/CV high in ITZ on vertical rock or steep boulder areas. Lichen, green algae & the upper edge of barnacles affected in some areas. Lower rock faces dense & diverse.

WXYZ: As mapped. Lower zones support Fucus barnacles etc.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			/
Seabirds			
Waterfowl			
Gulls/kittiwakes	gulls	~ 10	
Shorebirds			
Corvids			
Other Birds	hummingbird	1	

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters	2	/	/
Pinnipeds (specify)			
Whales (specify)			

Shoreline subdivision map showing important biological features attached.

D.S. ... M.R. 2/1/91

OG SKETCH #1
 DI 64 B
 MAY 21, 1991
 16:30 - 17:40
 Doug Reimer

SMB 21 May 91

Wxy: Lichen
 zone reaching
 to barnacle
 zone in some
 areas

SEE SKETCH
 MAP #2
 SITE #2

Boulder Bank
 CT/CV 30%
 SOR (light) 5%
 2 x 70 m

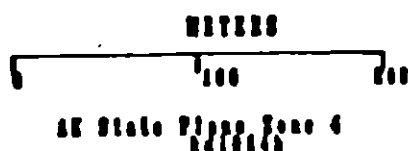
Upper
 barnacle
 zone

N, O, P, Q:
 Lichen
 zone upper
 edge of
 barnacles,
 sparse or less barnacles
 sporadic on boulders

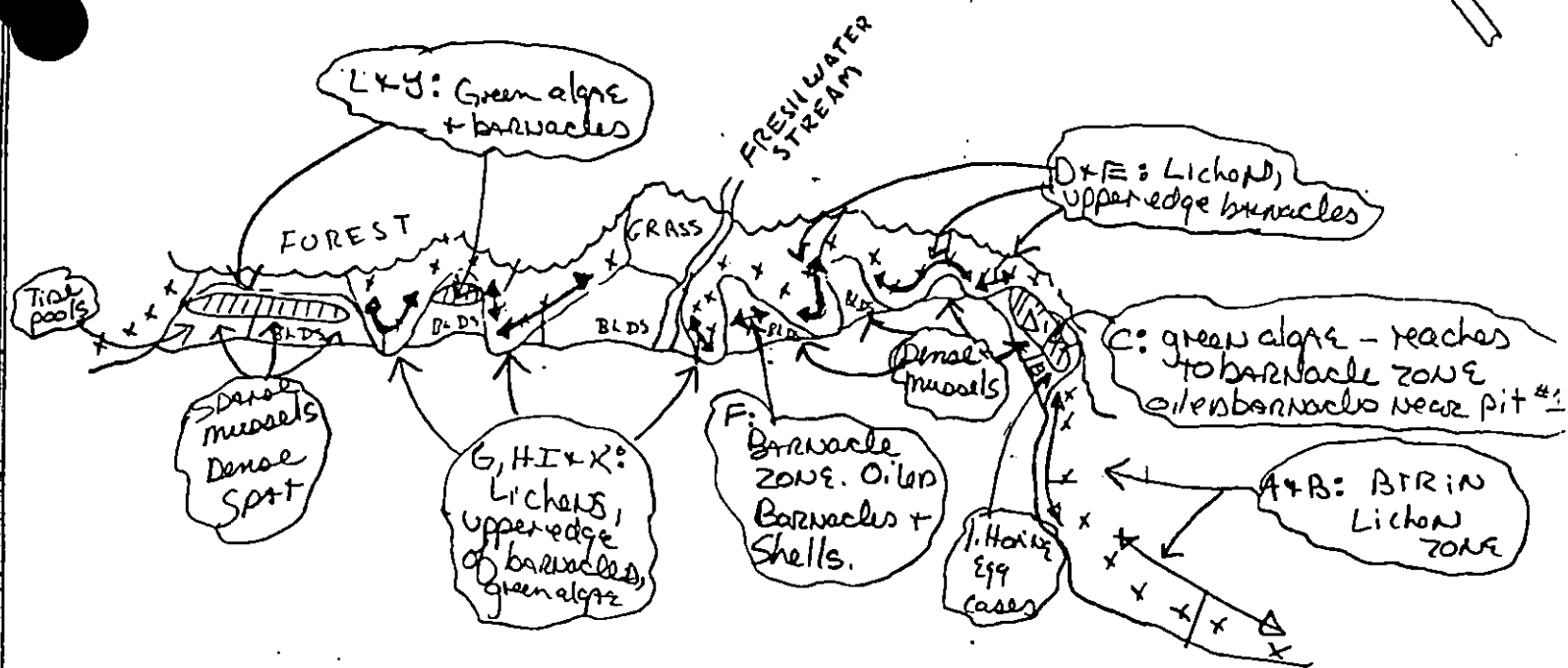
SEE SKETCH
 MAP #2
 SITE #1

DI064 B

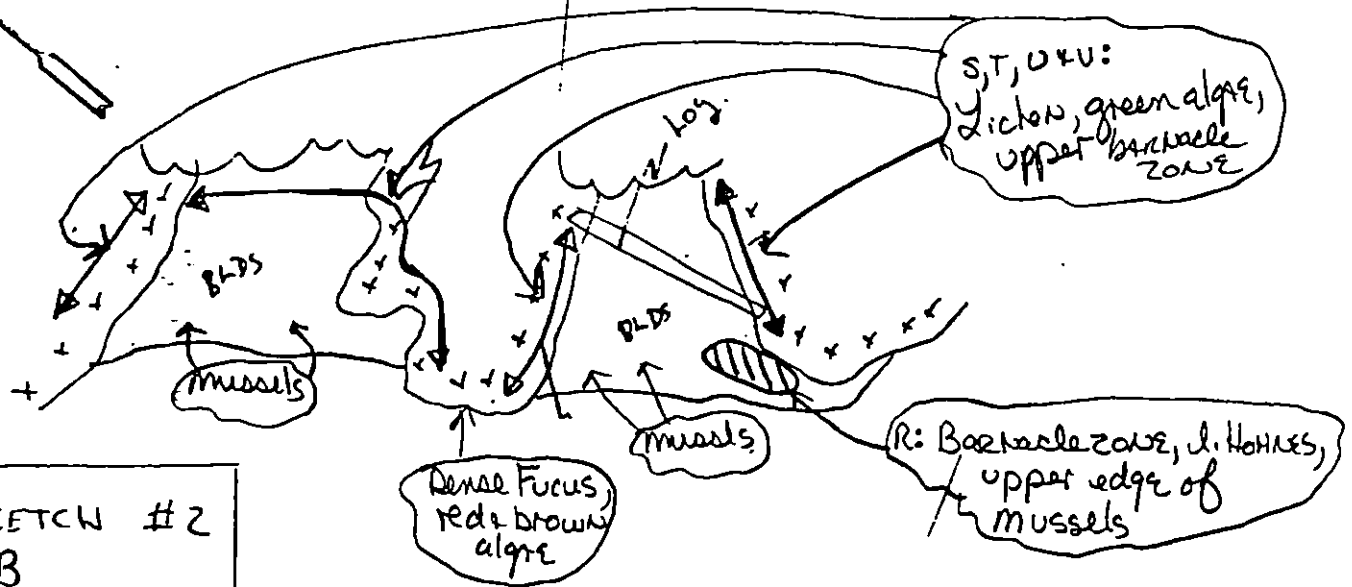
Subdivision Field Map
 Map Key: ENHDI064B
 Name: Reimer
 Date: 5/21/91



[SITE # 1]



[SITE # 2]



OG SKETCH #2

DI 64 B

MAY 21, 1961

30 - 17:40

Doug Reimer

EMB 21 May 71

Reviewed M.B.S./zslan

DI 66

Access to last
com of sub-
Segment permitted
by USFWS representative.
Nest not visible
from DI-64 B.
BIRDS NOT DISTURBED.

SNB
21 May
91

64

B

A



DI 064 B

METERS



AK State Plane Zone 4
961966

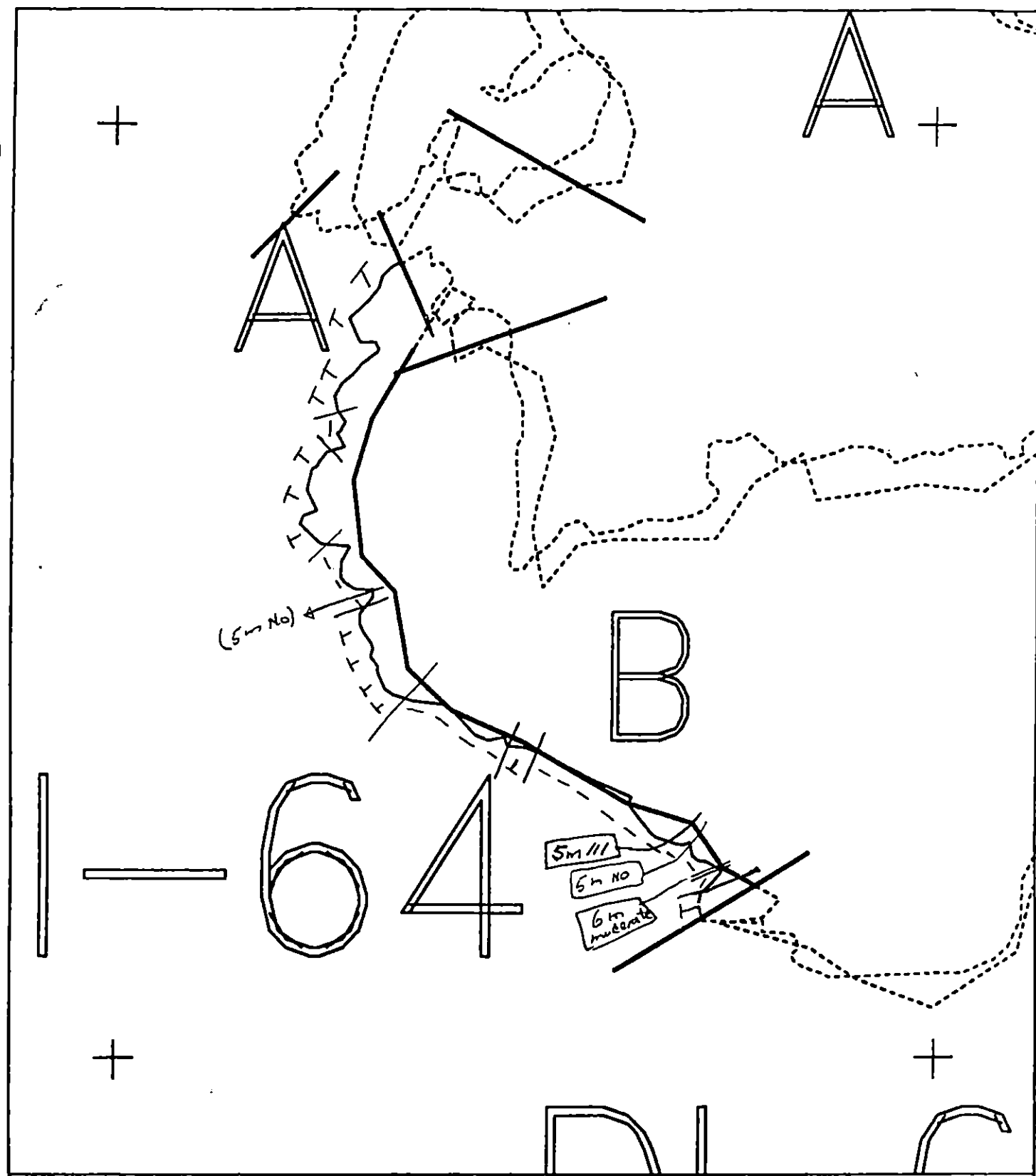
Segment Reference Map

Map Key: PWS01064



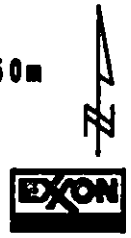
EAGLE NEST

Reviewed M.B. 5/28/0



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

D1064 B
 ADEC Subsegment Length: 550m
 METERS
 0 100 200
 AK State Plane Zone 4
 4d1064b



Subdivision Field Map
 Map Key: KNID1064B
 Name: Reimer
 Date: 5/21/91
 Date Entered:

Reviewed: MC 5/28/91
 revised 5-28-94

1991 MAYSAP EVALUATION

SEGMENT: DI 064 SUB: A REGION: PWS SURVEY DATE: 5/17/91

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) RESTRICTED 3/1 - 9/1

Ecological/Constraints (see page two for details) Eagle nest

ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO Signature: _____ Date: _____

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL: _____

TAG: _____

FOSC: _____

TAG APPROVAL DATE: _____

FOSC APPROVAL DATE: _____

ADEC _____

FOSC _____

EXXON _____

USCG _____

NOAA _____

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

Eagle Nest: Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 2 SEGMENT DT-64 SUBDIVISION A DATE MAY 17 1991

ADEC

NAME Peter Montesano

SIGNATURE [Signature]

☒ NTR ☐ TREATMENT RECOMMENDED

Comprehensive report. Area of pit 2 has fine sediments and is prone to sheen even so lightly. Extremely low energy and easily disturbed shoreline. This Subdivision is inside of the Disk Island Lagoon.

EXXON

NAME C.M. KASSIMPALIS

SIGNATURE [Signature]

☒ NTR VERY LITTLE OIL REMAINS. NO FURTHER TREATMENT NEEDED.

LANDMANAGER

NAME DENNIS S. KENNEDY OF USFS

SIGNATURE [Signature]

☒ NTR Very small amounts of oil in this sheltered environment on the lagoon side of Disk Island. This is a high recreation area.

USCG/NOAA D. SINGER - BEATTY NOAA D. Singer - Beatty NOAA

NAME BM. M. P. ZENONE USCG

SIGNATURE [Signature]

☐ NTR Photograph #16 is of a tar ball in area B. After the photo was taken, the group determined that the tarball was weathered and probably not from the Exxon Valdez. The remaining surface oil was very light and patchy. This oil was usually found beneath the pebbles. As this is a low energy area and the amount of oil is very light, no treatment is recommended. NOTE: The biologist had indicated that this may be a high use area for otters. - DS-B

CG - No further treatment Required. 3

PAGE 1 OF 1

DATE 5 / 17 / 91

USCG/NOAA D. Simerak-Boathy

ENERGY LEVEL: ☐ H ☐ M ☒ L

WEATHER: ☒ SUN ☒ CLOUDS ☐ FOG ☐ RAIN ☐ SNOW

NEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONE

EST. OIL CATEGORY LENGTH: W m M m N m VL 50 m NO 65 m US m

DISTRIBUTION: C = 91-100%; B = 51-90%; P = 11-50%; S = 1-10%; T = <1%

SLOPE: V = VERTICAL: H = HIGH ANGLE: M = MEDIUM ANGLE: L = LOW ANGLE

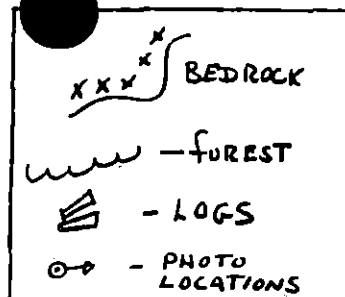
PHOTO ROLL # MAYSAP- 2 - 19 FRAMES 16-19

SHEEN COLOR: B = BROWN: R = RAINBOW: S = SILVER: N = NONE

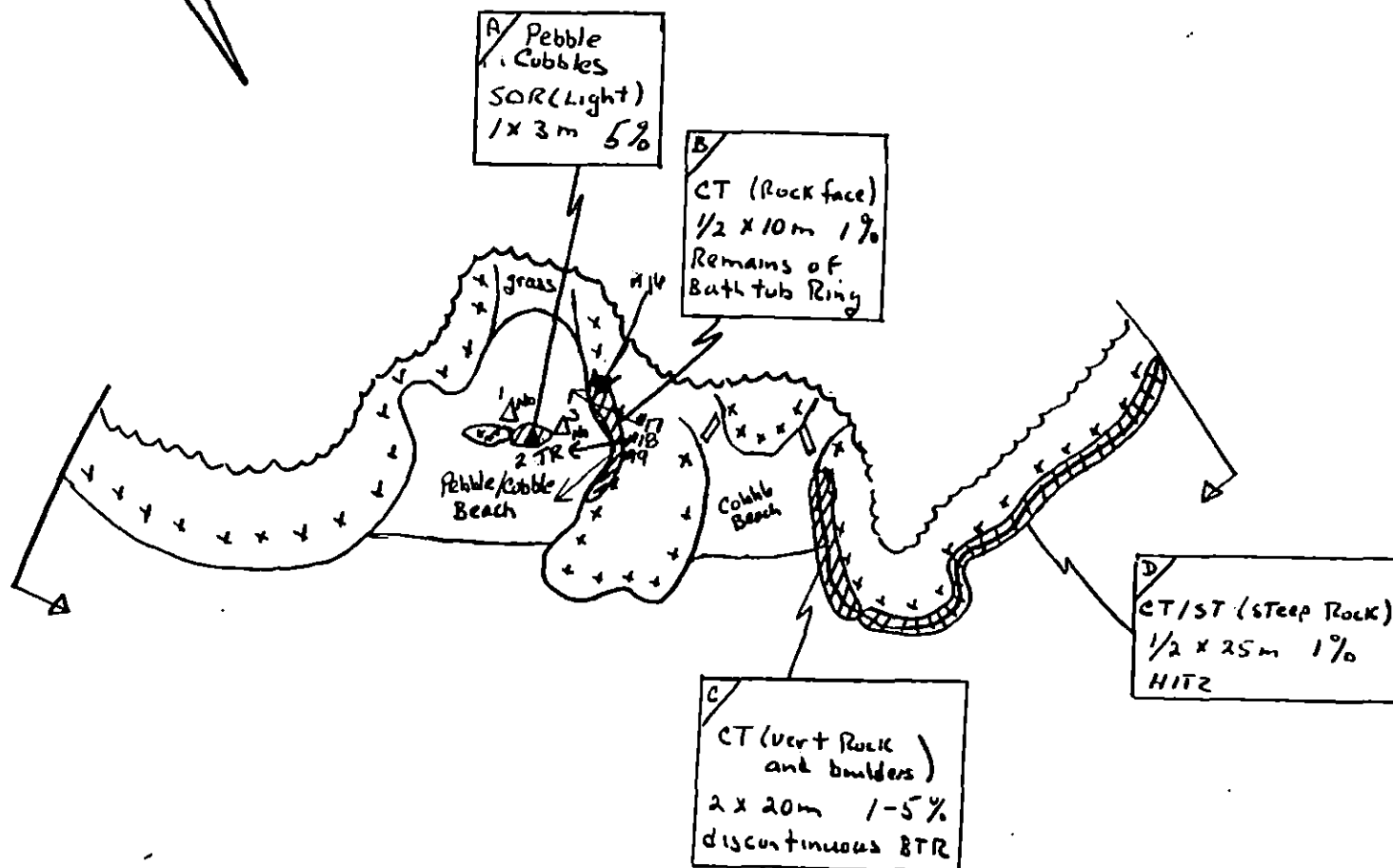
OG COMMENTS: Subdivision consists of two small pocket Coves bounded by rocky headlands. This is a very sheltered environment inside the lagoon on Disk Island. Oiling consists of a small remnant of SOR on the eastern beach at the lower NITZ near a fucus bed. No surface expression of oil was observed, however scraping a few cm found light SOR. The western end of the segment has the remains of a bathtub ring along the NITZ on Rock Cliff and boulder slopes. It is very sporadic/discontinuous with higher percentages (5%) in sheltered crevices or behind boulders.

Revised: M.C. 5/22/91 revised 5.21 49

BTR - Bath Tub Ring
Beach width - 18 meters



OG SKETCH
D1-64 A
MAY 17, 91
13:45 - 14:21
Doug Reimer



Reviewed: MC 5/22/91

NAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 2 DATE 13 May 91
 SEGMENT # DI-64A TIDAL HEIGHT(Range) 4 to 6 ft
 SUBDIVISION A BIOLOGIST S. BAN
 SEA STATE calm WIND SPEED/DIRECTION calm
 PHOTOGRAPHS: ROLL # FRAME #

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):

A: SR found at upper edge of a dense Fucus band. The band consists of adult plants & recruits, & Nerites, limpets & mussels

BC&D: oil is discontinuous and high in ITZ. Lower ITZ dense with glass Fucus & barnacles. Tide too high to see much of the lower ITZ at C&D, but expect dense algae, Pycnospira et

Evidence of sea otter use (weather sock) on outcrop between triches.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

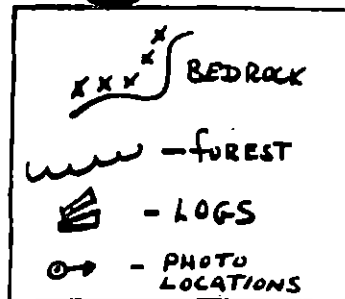
BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles	/	/	Small School Salmon
Seabirds			
Waterfowl			
Gulls/Kittiwakes			
Shorebirds			
Corvids			
Other Birds			

LAND MAMMALS

MARINE MAMMALS	# OBSERVED	SPECIES	# OBSERVED
Sea Otters	/	/	/
Pinnipeds(specify)			
Whales(specify)			

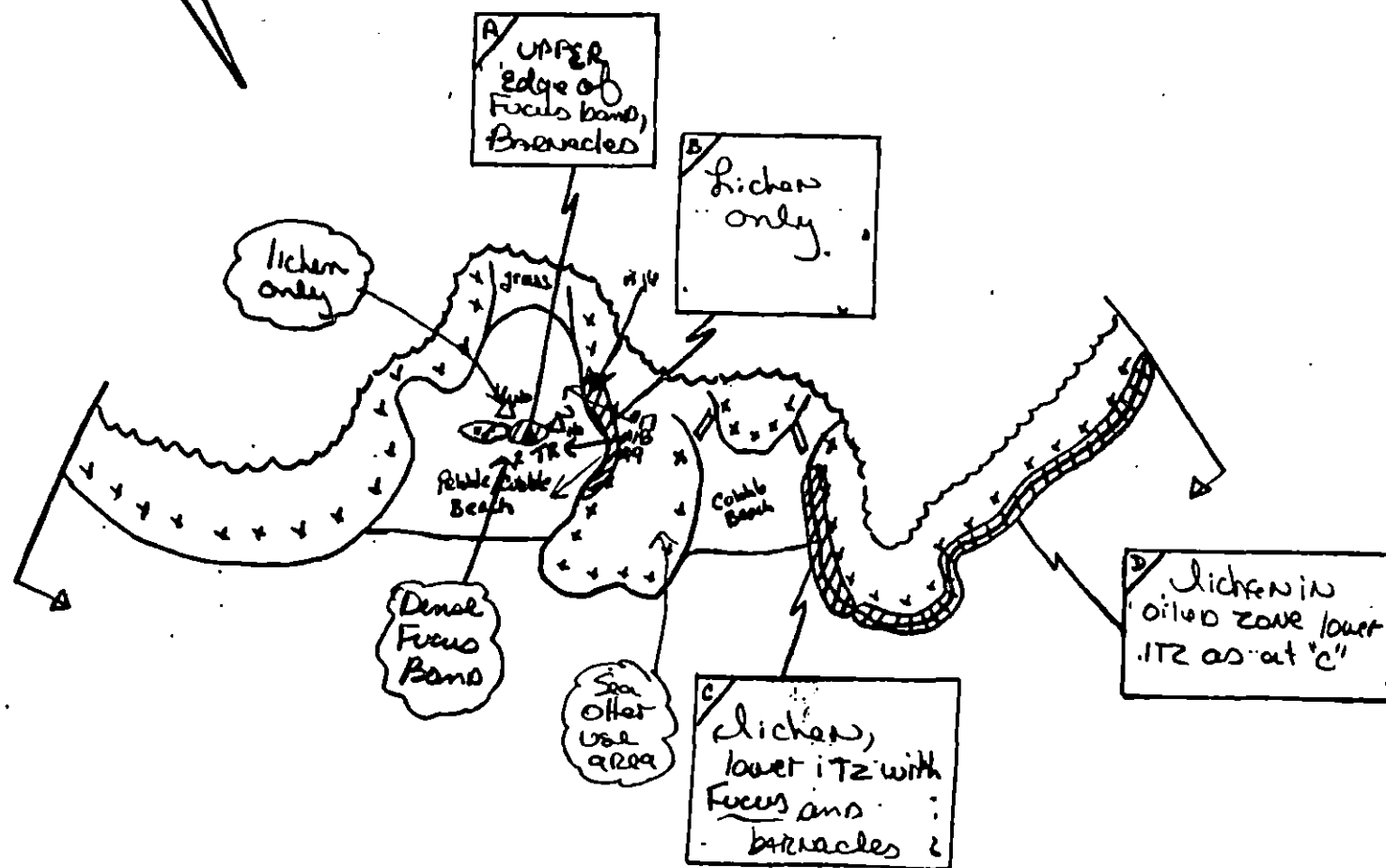
Shoreline subdivision map showing important biological features attached.

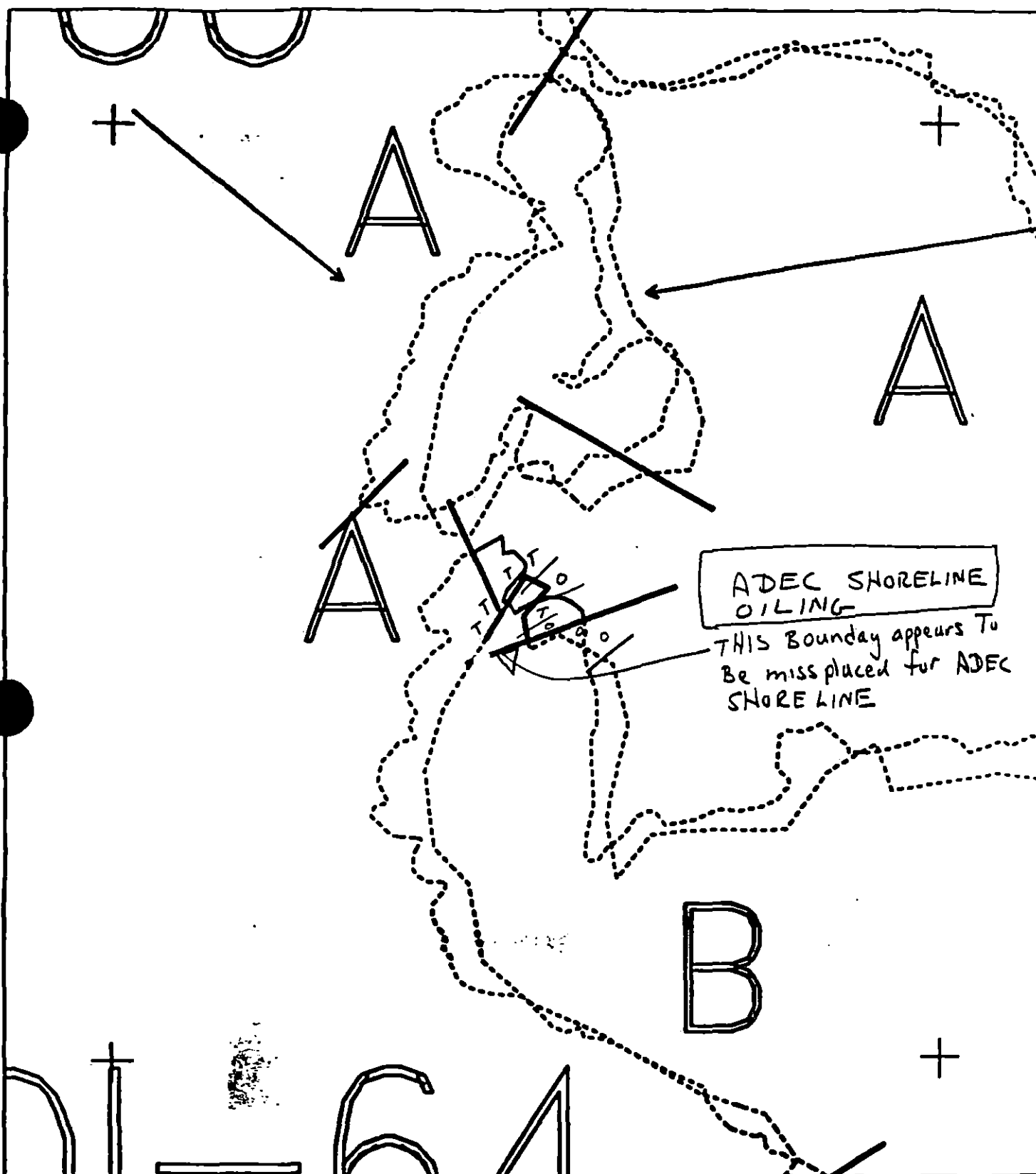
BTR - Bath Tub Ring
Beach width - 18 meters



OG SKETCH
 D1-64 A
 MAY 17, 91
 13:45 - 14:21
 Doug Reimer

SMB 17 May 91





XXXX
 '///'

 TTT
 0000

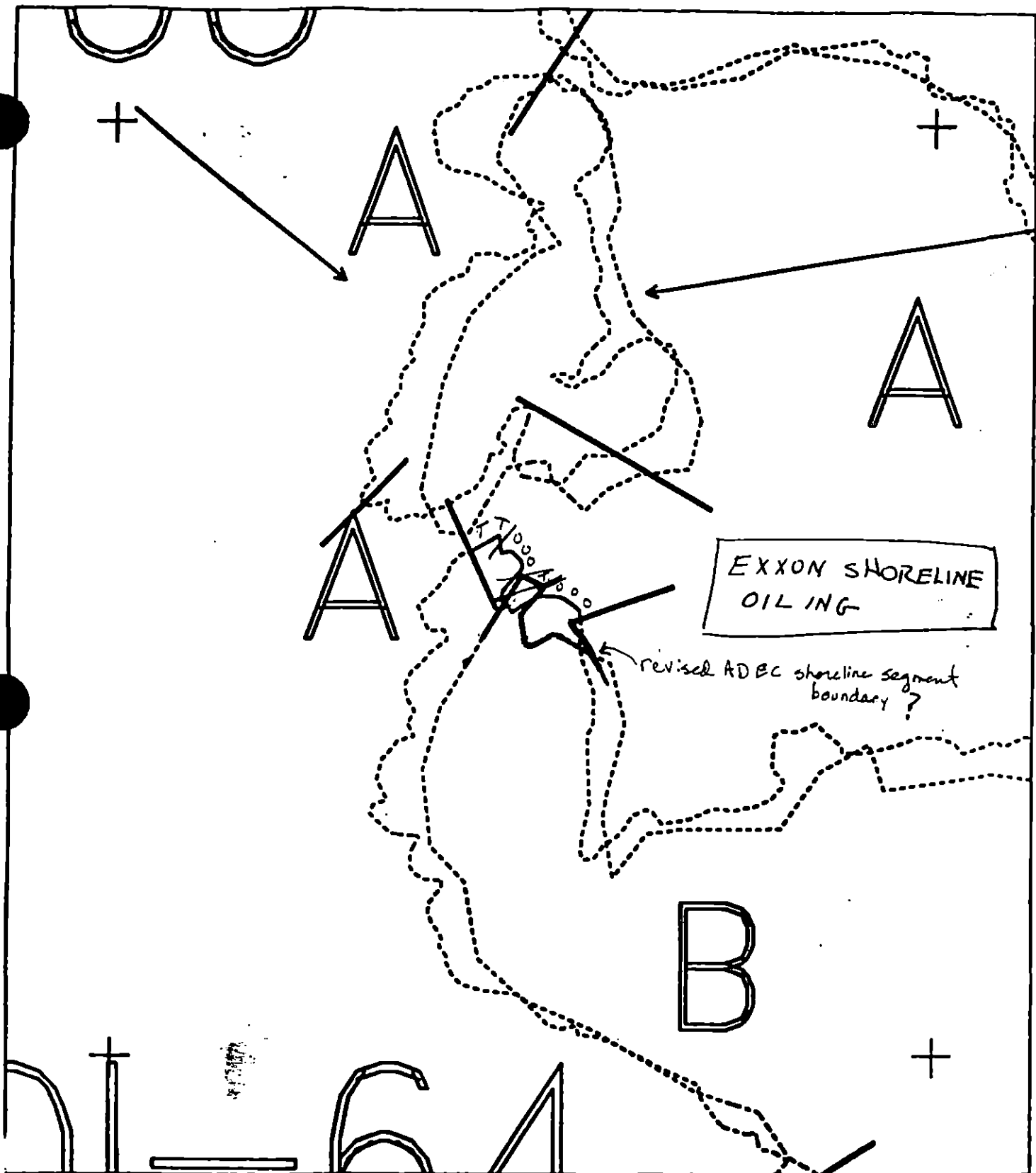
Wide
 Medium
 Narrow
 Very Light
 No Oil

DI064 A
 ADEC Subsegment Length: 115m
 METERS
 0 100 200
 AK State Plane Zone 4
 601084a

Subdivision Field Map
 Map Key: KNID1064A
 Name: Reimer
 Date: 5/17/91
 Date Entered:



Reviewed: MC 5/20/91
 reviewed 5.21.91



XXXX	Wide	D1064 A		Subdivision Field Map	
////	Medium	ADEC Subsegment Length: 115m		Map Key: KN101064A	
--	Narrow	METERS		Name: <u>Reimer</u>	
TTT?	Very Light	0 100 200		Date: <u>5/17/91</u>	
0000	No Oil	AK State Plane Zone 4 641064a		Date Entered:	



Reviewed: MC 5/24/91
revised JY 5.21

1991 MAYSAP EVALUATION

SEGMENT: DI 064 **SUB:** B **REGION:** PWS **SURVEY DATE:** 5/21/91

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) RESTRICTED 3/1 - 9/1

Ecological/Constraints (see page two for details) Eagle nest

ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO Signature: _____ **Date:** _____

RECOMMENDATIONS:

	INITIAL	TAG	FOSC
TREATMENT REQUIRED (Y or N)	<u>N</u>	_____	_____
Manual Pickup (Check as Req.)	_____	_____	_____
Spot Washing	_____	_____	_____
Bio-Customblen Only	_____	_____	_____
Bio-Inipol/Customblen	_____	_____	_____
Other _____	_____	_____	_____
Other _____	_____	_____	_____

COMMENTS:

INITIAL: _____

TAG: _____

FOSC: _____

TAG APPROVAL DATE: _____ **FOSC APPROVAL DATE:** _____

ADEC _____ **FOSC** _____

EXXON _____

USCG _____

NOAA _____

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

Eagle Nest: Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 2 SEGMENT DI-64 SUBDIVISION B DATE 5/21/91

ADEC

NAME

Peter Montesano

SIGNATURE

Peter Montesano

☐ NTR

☒ TREATMENT RECOMMENDED

Nice Report by OG + Bio! The oiling along the Series of Pocket Beaches is scattered light and well documented. Only area "C" has sufficient accessible oil for treatment. The small area has a SOR/H area that would make quick standard trowel work. This area can be hit while the crew addresses the recommended work on the subdivision just to the east.

EXXON

NAME

FRANK Rex

SIGNATURE

Frank Rex

☒ NTR

Due to the small amount of oil in this segment and the high degree of mussel beds and bryta, would have no activity.

LANDMANAGER

NAME

Dennis S Kennedy OF USFS

SIGNATURE

D. S. Kennedy

☐ NTR

subdivision has many small pocket beaches. mussels and other bryta seem to be doing well and should be avoided, treatment not recommended here.

USCG/NOAA

NOAA D. SINGER-BEATTY

D. Singer-Beatty

NAME

BMI M.P. ZENONE USCG

SIGNATURE

BMI M.P. Zenone

☐ NTR

A discontinuous band of surface and subsurface oil was found in the mid to upper intertidal zone. As this segment consists of vertical rock and large boulders with small areas of SOR, no treatment is recommended DS-13

CG - NO TREATMENT RECOMMENDED. 3

TEAM NO. 2OG ReinerADEC MontesanoEXXON CoxBIO BanLANDMANAGER Lezney for USFSUSCG/NOAA Disposal-BoatSEGMENT D164SUBDIVISION BDATE 5/21/91TIME 16:30 to 17:40TIDE LEVEL 351 ft. to 570 ft.ENERGY LEVEL: ☐ H ☒ M ☐ LSURVEYED FROM: ☒ FOOT ☒ BOAT ☐ HELOWEATHER: ☒ SUN ☐ CLOUDS ☐ FOG ☐ RAIN ☐ SNOWTOTAL LENGTH SHORELINE SURVEYED: 550 mNEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONEEST. OIL CATEGORY LENGTH: W — m M 11 m N 225 m VL 314 m NO 10 m US 0 m

L O C	SURFACE OIL CHARACTER										SURFACE SEDIMENT TYPE	SHORE SLOPE VHML	AREA		ZONE				NOTES
	AP	MS	TB	SOR	CV	CT	ST	FL	DB	NO			WIDTH m	LENGTH m	S	UI	MI	LI	
A						S					R	V	1	20		X			
B					P	P					RB	V	2.5	15		X			
C				P	S	S					B	H	4	6		X	X		
D					B						R	V	2	3		X			
E					P	P					RB	H	2	25		X			
F					S	S					B	H	1	4		X			
G					B	B					R	V	1	3		X			
H						P					R	V	1	10		X			
I					B	B					R	V	1	4		X			
J				P		S					B	H	5	5		X	X		
K					P	P					RB	H	2	15		X			
L				S	P	P					B	H	2.5	20		X	X		
M				S	P	P					B	H	2	70		X			
N						S					R	H	1	20		X			
O				S	P	P					B	H	2	20		X			
P					P	P					RB	H	1	60		X			

DISTRIBUTION: C = 91-100%; B = 51-90%; P = 11-50%; S = 1-10%; T = <1%

SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE PHOTO ROLL # MAYSAP- 2 - 23 FRAMES 15-18

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER							OILED ZONE cm-cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE				SURFACE- SUBSURFACE SEDIMENTS	NOTES
		OP	HOR	MOR	LOR	OF	TR	NO					S	UI	MI	LI		
1	2						X		0-8	Y	—	—		X			C-GP	
									—									
									—									
									—									
									—									
									—									
									—									
									—									

SHEEN COLOR: B = BROWN; R = RAINBOW; S = SILVER; N = NONE

OG COMMENTS:

Rocky coast with numerous small pocket boulder beaches or steep boulder lay deposits mandating the shoreline. Oiling consists of a weathered discontinuous Badkub Ring (BTR) along the UITE on Rock and boulder faces. It is variable in coverage throughout the segment, but generally has a higher % on the side walls of coves, and sides of boulders. Small pockets of SUR were found on a few boulder beaches. The entire segment was walked except for a few rocky headlands.

reviewed 5-28-94

SEGMENT DI-64

SUBDIVISION B

DATE 5 / 21 / 91

ENERGY LEVEL: ☐ H ☒ M ☐ L

WEATHER: ☒ SUN ☐ CLOUDS ☐ FOG ☐ RAIN ☐ SNOW

NEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☐ NONE

EST. OIL CATEGORY LENGTH: W m M ~~6~~⁴ m N ~~220~~²²⁰ m VL 314 m NO 10 m US 0 m

DISTRIBUTION: C = 91-100%; B = 51-90%; P = 11-50%; S = 1-10%; T = <1%

SLOPE: V = VERTICAL: H = HIGH ANGLE: M = MEDIUM ANGLE: L = LOW ANGLE PHOTO ROLL # MAYSAP- - FRAMES

SHEEN COLOR: B = BROWN: R = RAINBOW: S = SILVER: N = NONE

reviewed 5-28-94
Reviewed by Mr. Elmer

STEEP ROCK
WITH POCKET BLD. BCH
1 X 130m (BTR)
CT/ST Discont.
UITZ < 5%

Boulder lag
CT/CV 15%
1 To 3m X 40m

STEEP ROCK
CT < 5% (BTR)
1 X 80m. UITZ

SEE SKETCH
MAP #2
SITE #2

ROCK/BLDS
CT < 5% (BTR)
1 X 60m
UITZ

ROCK/BLDS
CT/CV (BTR)
20-30%
1 X 60m

BOULDER BANK
CT/CV 30%
SOR (INT) 5%
(Light)
2 X 20m

High Rock
CT (BTR) 5%
1 X 20m

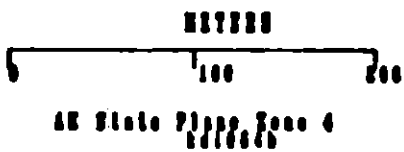
Boulder Bank
CT/CV 30%
SOR (Light) 5%
2 X 70m

SEE SKETCH
MAP #2
SITE #1

OG SKETCH #1
DI 64 B
MAY 21, 1991
1630 - 1740
Doug Reimer



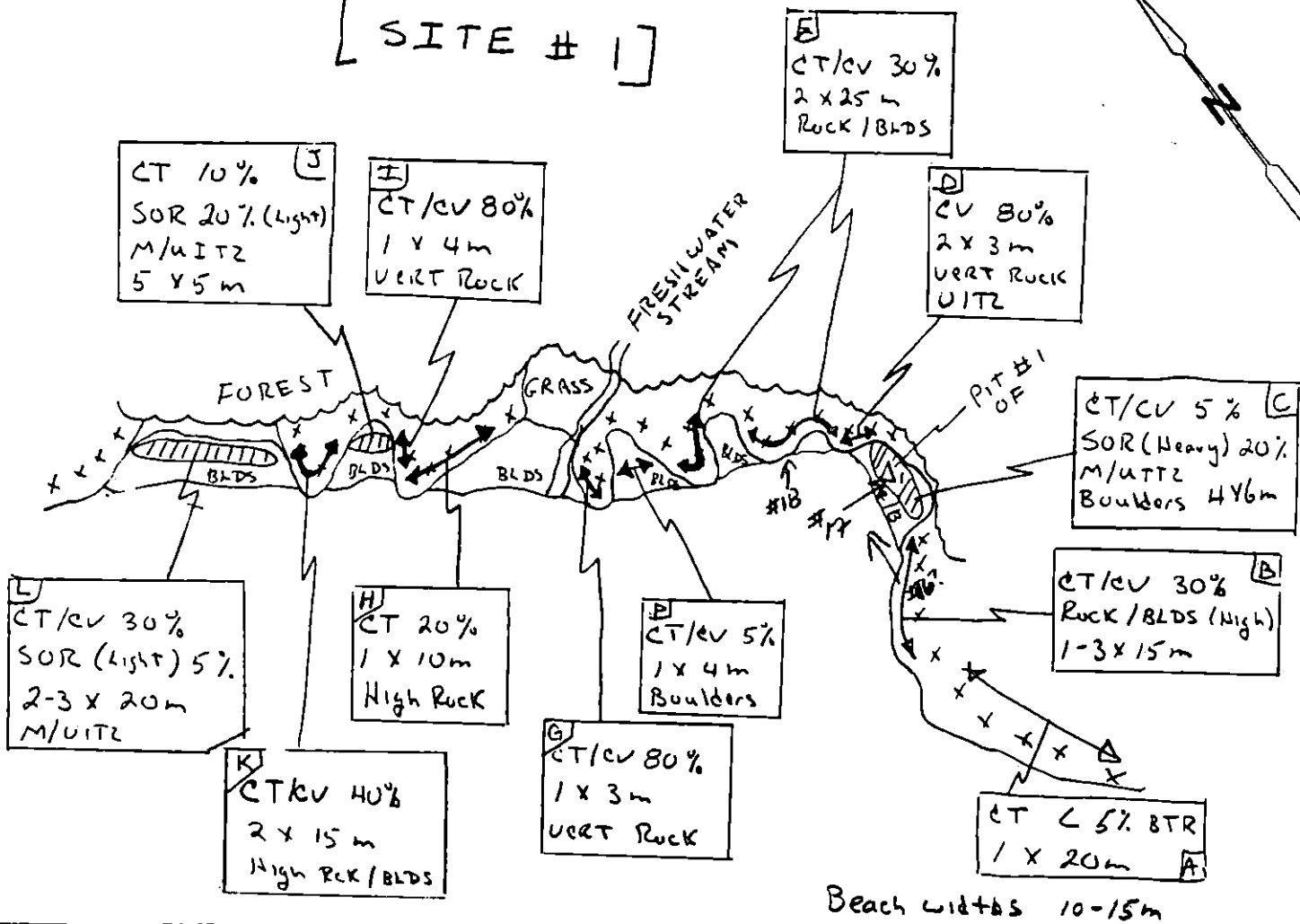
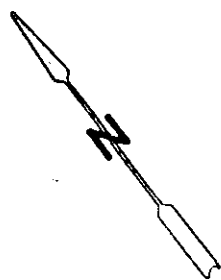
DI064 B



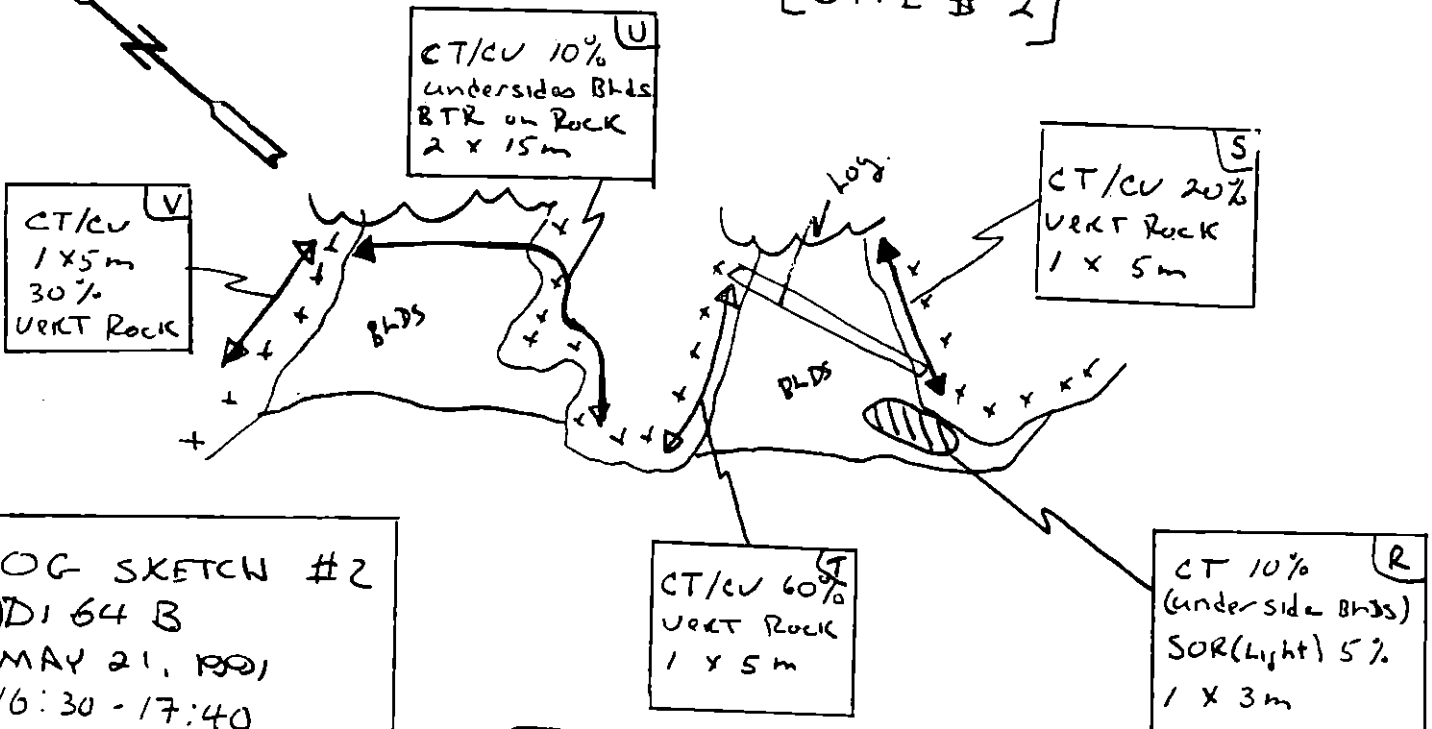
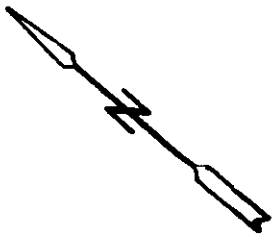
Subdivision Field Map
Map Key: EN1010040
Name: Reimer
Date: 5/21/91

REVIEWED: MC 5/28/91
reviewed 5-28-91

[SITE # 1]



[SITE # 2]



OG SKETCH #2
DI 64 B
MAY 21, 1991
16:30 - 17:40
Doug Reimer

MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 2 DATE 21 May 91
 SEGMENT # DF-64 TIDAL HEIGHT (Range) +3.5 to +6 ft
 SUBDIVISION B BIOLOGIST SMBAR
 SEA STATE calm WIND SPEED/DIRECTION calm
 PHOTOGRAPHS: ROLL # — FRAME # —

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):

ABDEGH+I+K: CT/CV/ATR ON vertical rock generally in lichen zone but reaching to upper edge of the barnacle zone as indicated.

CFL+J: CT/CV/SOR IN boulder beach areas. Oil is somewhat lower here reaching well into the barnacle zone. Oiled barnacles were observed in several locations as mapped. Interbedded mussels dense in the lower ETZ of these pocket beaches along with *L. Haines*. *L. Haines* egg masses were observed near "C". Dense barnacle spat was only observed near "L".

MNOPQ: AS MAPPED Lower zones in these high angle areas did not support dense mussel beds, but *Fucus*, barnacles, *Ner* + brown algae were observed at the water line + sub-tidally.

R: SOR here is fairly low in the ETZ, basically reaching to the mussel zone, although no oiled mussels were observed.

STUV: CT/CV high in ETZ on vertical rock or steep boulder areas. Lichen, green algae + the upper edge of barnacles affected in some areas. Lower rock is denser + diverse.

WX+Z: AS MAPPED. Lower zones support *Fucus* barnacles etc.

WILDLIFE OBSERVATIONS

TO BE COMPLETED IN ALL SUBDIVISIONS

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			
Seabirds			
Waterfowl			
Gulls/kittiwakes	<u>gulls</u>	<u>~ 10</u>	/
Shorebirds			
Corvids			
Other Birds	<u>hummingbird</u>	<u>1</u>	

MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters	<u>2</u>	/	/
Pinnipeds (specify)			
Whales (specify)			

Shoreline subdivision map showing important biological features attached.



OG SKETCH #1
D1 64 B
MAY 21, 1991
16:30 - 17:40
Doug Reimer

Wxy: Lichen
zone reaching
to barnacle
zone in some
areas

SMB 21/MAY 91

SEE SKETCH
MAP #2
SITE #2

Boulder Bank
CT/CV 30%
SOR (light) 5%
2 x 70 m

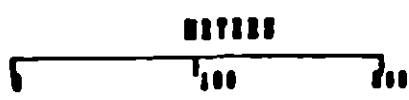
Upper
barnacle
zone

N, O, P, Q:
Lichen
zone upper
edge of
barnacles,
Sparse or no barnacles
Spotted on boulders

See sketch
Map #2
Site #1

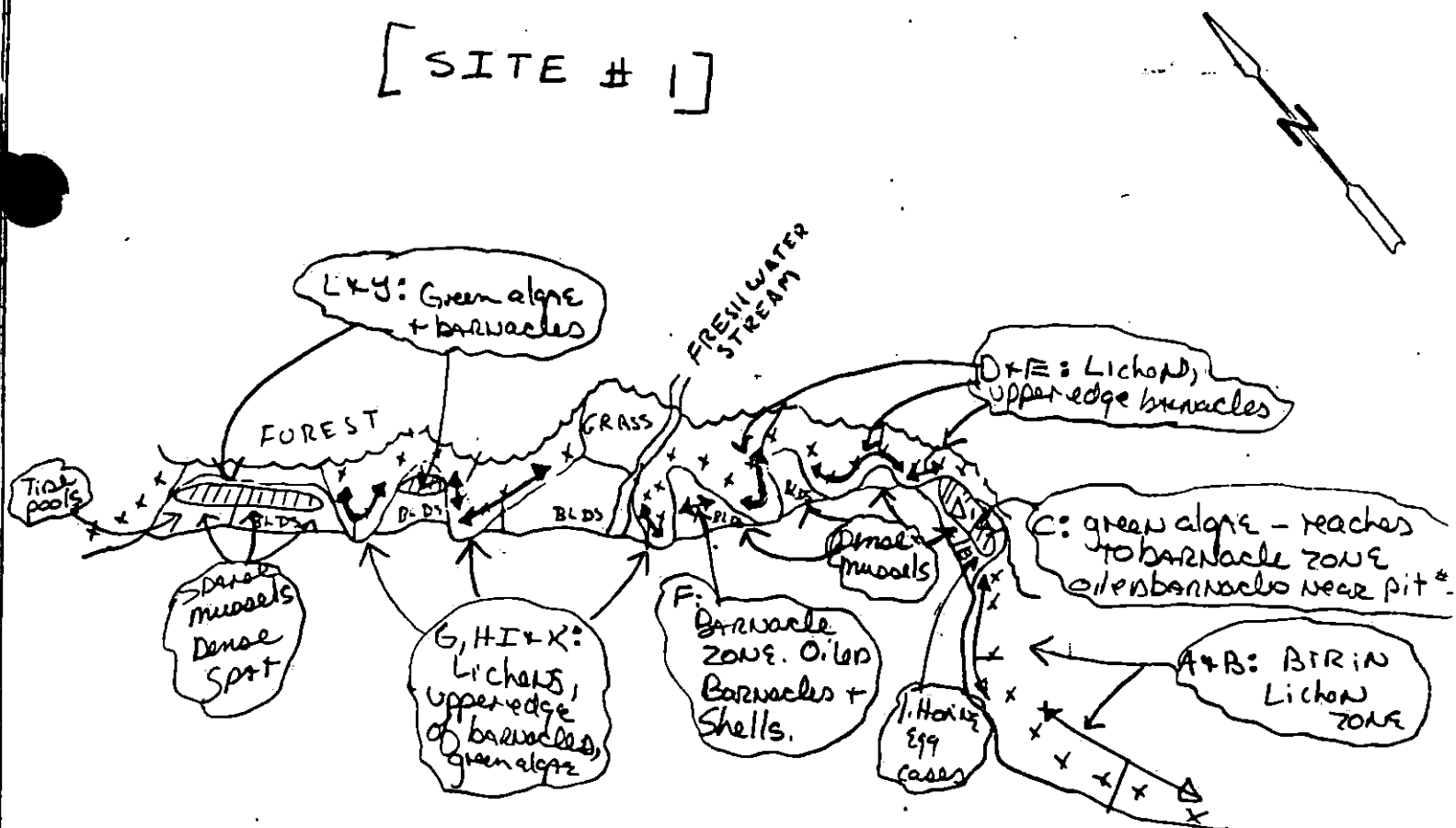
D1064 B

Subdivision Field Map
Map Key: K101064B
Name: Reimer
Date: 5/21/91

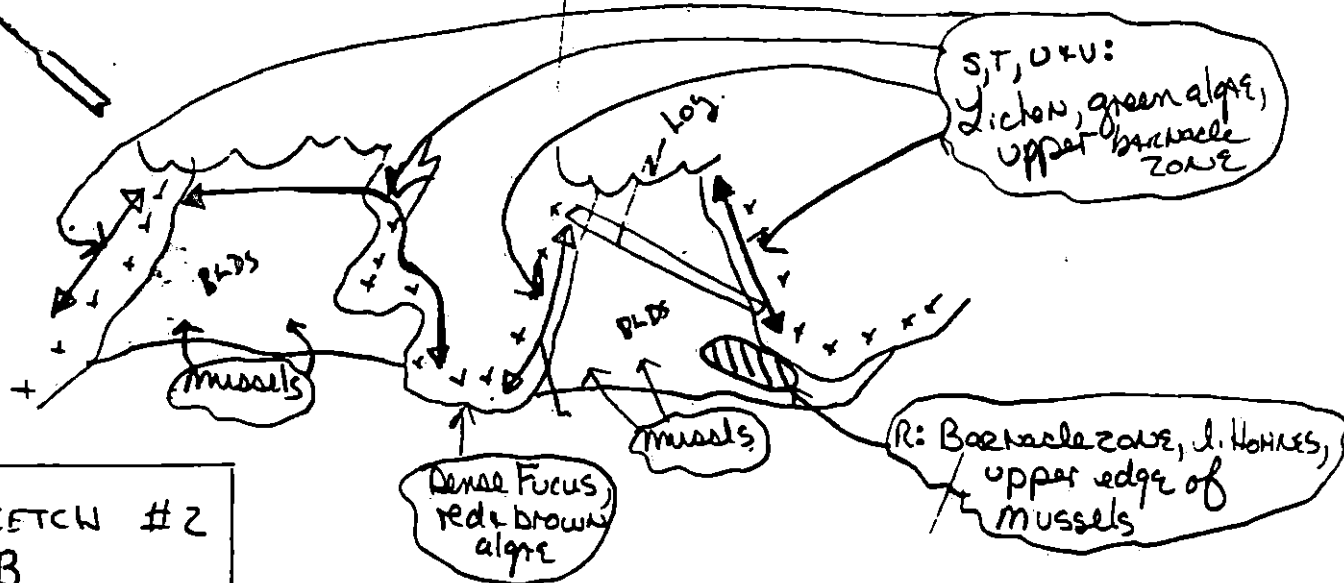


AS State Plane Zone 4

[SITE # 1]



[SITE # 2]



OG SKETCH #2

DI 64 B

AY 21, 1981

8:30 - 17:40

Doug Reimer

SMB 21 May 91

Reviewed A.B.s/28/91

DIGG

Access to last
com of sub-
segment permitted
by USFWS representative.
Nest not visible
from DI-64 B.
BIRDS NOT DISTURBED.

SMB
21 May
91

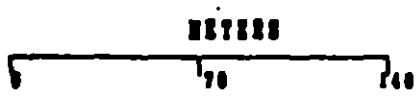
64

B



DI064B

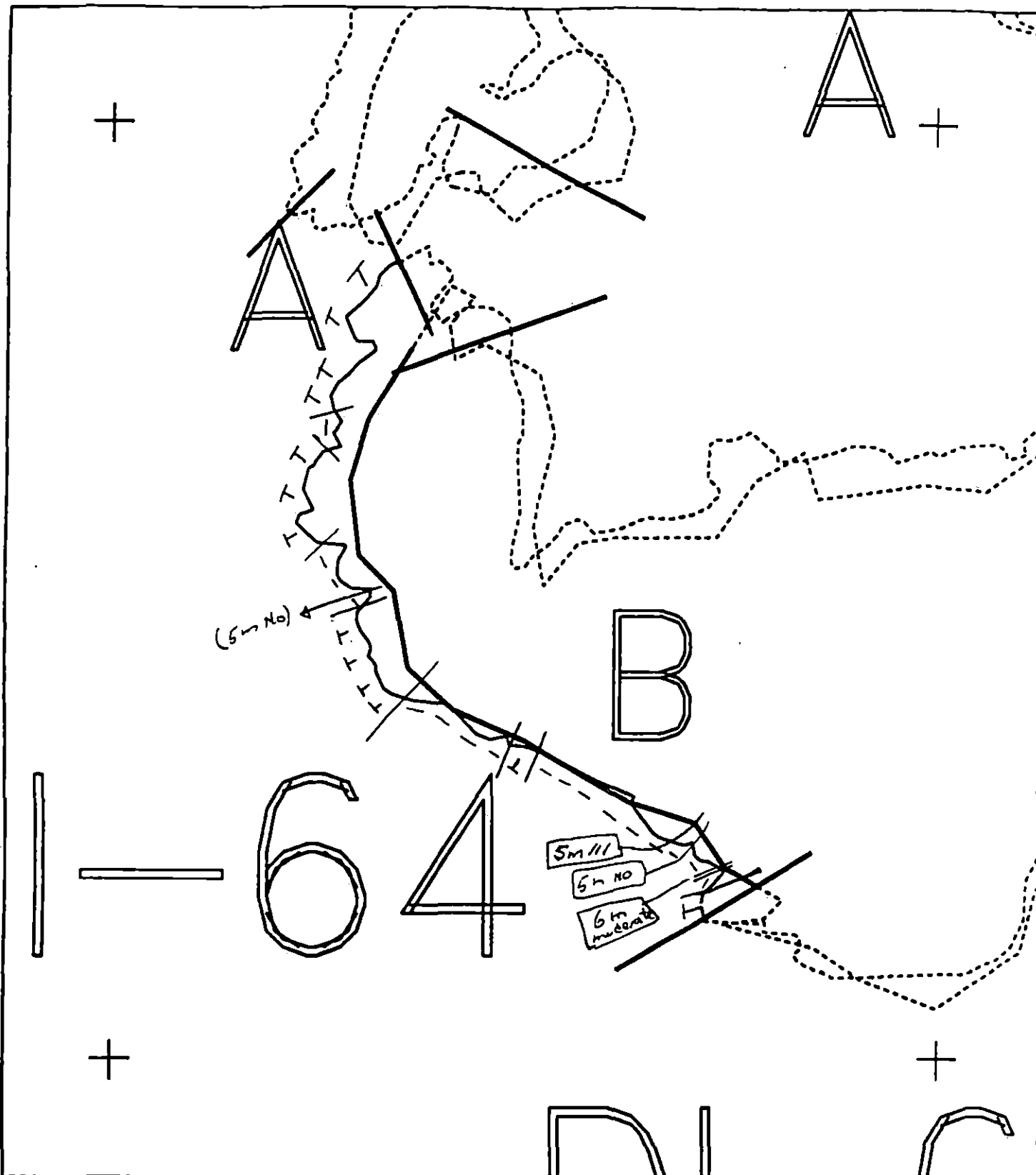
Segment Reference Map
Map Key: PUSDI064



AK State Planning Zone 4
9/1/84



EAGLE NEST



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

D1064 B
 ADEC Subsegment Length: 550m
 METERS
 0 100 200
 AK State Plane Zone 4
 481064b



Subdivision Field Map
 Map Key: KNID1064B
 Name: Reimer
 Date: 5/21/91
 Date Entered:

Reviewed: MC 5/28/91
 revised 5-28-94

REGION: PRINCE WILLIAM SOUND

SEGMENT: ST/DI-65

SUBDIVISIONS: A (1 OF 1)

SHORELINE EVALUATION

SEGMENT ST/ DI-65 SUBDIVISION A (1 OF 1) DATE 4/19/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: _____ DATE: _____

OILING CATEGORIZATION:

Wide 0 m: Medium 25 m: Narrow 186 m: V.Light 1749 m: No Oil 53 m

Subsurface Oil Observed: Yes _____ No X Maximum Depth _____

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes manual removal of tarballs and tar patties and removal of rope in areas indicated on attached sketch map. Work should be conducted after 5/1.

TAG COMMENTS: _____

TAG APPROVAL DATE: _____

ADEC _____
EXXON _____
NOAA _____
USCG _____

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 5/10)
 1F Sawmill Bay Hatchery release (4/15 to 6/1)
 1G Cannery Creek Hatchery release (4/21 to 6/1)
 1H Remote release site
 1I Gill net area (6/7 to 8/31)
 1J Purse seine area (7/20 to 9/30)
 1K Purse seine hook-off (7/20 to 9/30)
 1L Set net sites (6/11 to 7/25)
 For Codes 1C through 1L contact ADF&G for specific dates, locations and constraints.
- 2M Herring spawning (4/1 to 6/15)
 Restrict boat traffic to essential minimum. Avoid damage to unrolled intertidal and subtidal algae and seagrass. Contact ADF&G for specific dates and locations.
- 3N, 3P Harbor seal and sea lion pupping (5/15 to 7/1)
 3O, 3Q Harbor seal and sea lion molting (8/15 to 9/15)
 Restrict boat and air traffic to essential minimum. No personnel within 400m. Aircraft to maintain 800m horizontal and 300m vertical distance from haulouts.
- 5R Seabird colony (5/1 to 9/1)
 Restrict air traffic to essential minimum. No personnel within 800m. Aircraft to maintain 800m horizontal, 300m vertical distance. Contact ADF&G and USFWS prior to treatment.
- 5S Shorebird/waterfowl concentration (4/1 to 5/15)
 Restrict all activity to essential minimum, especially air traffic.
- 5T All Bald Eagle nests (3/1 to 6/1)
 Active Bald Eagle nests (3/1 to 9/1)
 Restrict air traffic to essential minimum. No personnel within 400m 3/1 to 6/1. Air approach and takeoff from and to seaward only; maintain 800m horizontal, 300m vertical distance from nests. Contact USFWS prior to treatment for confirmation of dates.
- 6U Recreation: Tent sites (6/1 to 9/15)
 6V Anchorages (6/1 to 9/15)
 6W Forest Service cabins (6/1 to 9/15)
 6X Lodge (6/1 to 9/15)
 6Y Special use destination
- 7Z Subsistence area: Salmon harvesting (5/1 to 9/30)
 7HH Finfish harvesting
 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/ DI-65 SUBDIVISION: A DATE 4/19/90

USCG

NAME William E. White SIGNATURE William E. White☐ NO TREATMENT RECOMMENDED
COMMENTS☐ TREATMENT SUGGESTED

Manual pickup of tarballs and patties -
area of concentration.

This area serves as a boat anchorage
between the period June 1st - Sep 15th - has a high
recreation boat usage - floats and line tied to up
lands in the south west section of DI-65 - Should be
removed - if it was part of the cleanup operation.

ADEC

NAME Peter Montesano SIGNATURE Peter Montesano☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Segment of utmost Recreational Value - only flushed by tidal action
Nowave exposure. Silver/gray Shown sporadic from shore between lagoon entrances.

- Manually remove tarballs and patties all along lagoon. They are easily retrieved and are most common between the two entrances to lagoon.
- The penetration pits revealed oil under clean surface sediments and often under the active green zone. Bio is Not recommended since it would have to be applied on live intertidal vegetation.

LAND MANAGER US OA - Forest Service

NAME Don J. Breitinger SIGNATURE Don J. Breitinger☐ NO TREATMENT RECOMMENDED
COMMENTS☒ TREATMENT SUGGESTED

Manual pickup of tar balls and patties
in areas of concentration.

This area serves as a : boat anchorage
between the period of June 1 - Sep. 15 and has a
high recreation boat usage. Line and floats tied to
up lands, in the south west, section of DI-65

SHORELINE OILING SUMMARY

REVISION NO. 04/13/90

OG C. DILLON USCG PS1 E. WHITE SEGMENT ST/ DI-65
 BIO J. BARRY LAND REP D. BRIGHTENGER (NESS) SUBDIVISION A (1 OF 1)
 SURVEYOR G. STILES ADEC P. MONTESANO TIME 11:35 10/14/90
 M NO. 6 TIDE LEVEL +6.5 to +2 DATE 04/19/90
 EST. SUBDIVISION LENGTH: 2273 m ☐ Sun ☒ Clouds ☒ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock SUBDIVISION IS CIRCULAR
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: W to N to E to S (circle)
 SURFACE SEDIMENTS: R 30 % B 20 % C 40 % P 5 % G 0 % S 0 % M 0 % V 5 %
 SLOPE: Lang 15 % Hang 75 % Vert 10 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 18 m N 205 m VL 2000 m NO 50 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR					IMPACTED ZONES			
	10	15	20	25	1	2	3	4	5	SU	U	M	L
ASPHALT PAVEMENT													
POOLED													
COVER													
COAT		X	X	X	X				X	X			✓
STAIN			X	X					X	X		X	
MOUSSE													
PATTIES				X					X		X		
TARBALLS				X		X					X		
FILM													
NO OIL										X			X

PAVEMENT H F S 0 sq. m by 0 cmPATTIES / TARBALLS 10 BAGSNEAR SHORE SHEEN? NO BR (RW) (SL) TL

OILED DEBRIS	AMOUNT		
	SM	MD	LG
Logs			
Vegetation	X		
Trash			
Debris			

DID YOU COLLECT DEBRIS?

YES ☒ NO ☐
uniled trash,
TYPE melted plastic#BAGS 2

Photographs:

Roll No. NONEFrames 0

SUBSURFACE OIL * Oiled interval < 5 cm in pit #3 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	5	SU	U	M	L				
1	7		X				0-3		X					X	X					N	—	C - P/M/R
2	10	X					0-4		X					X		X				N	10	C/P-P/G/Peat
* 3	12	X					0-3		X					X	X					N	12	P-P/Peat
4	12	X					0-3		X					X	X					N	12	C/P-P/Peat
5	10					X	0-0		X						X					N	—	P-P/Peat
6	20	X					0-2		X				X		X					N	8	C-C/P/Peat
7	25					X	0-0		X						X					N	—	C/P-P/G/M

COMMENTS: All PITS INDICATE NO SUBSURFACE OIL. PEAT IS NOT ANAEROBIC.

MAJORITY OF SUBDIVISION IS HANG ROCK AND BOULDER SLOPES WITH A THIN SURFACE LAYER OF COBBLES. THE OIL CATEGORIES ARE FAIRLY HOMOGENEOUS THROUGHOUT AS SPORADIC TO BROKEN COAT WITH SPORADIC TARBALLS ALONG THE WITZ; THEREFORE, NO SKETCH MAP WAS DRAWN.
 IN A FEW AREAS THE SHORELINE IS LANG COBBLE AND PEBBLE. IN
 REVIEWED W DATE 4/21/90
 ON WIDTH INCREASES TO NARROW OR MEDIUM.

SHORELINE ECOLOGICAL SUMMARY

REVISION: 02/22/90

Segment ST/ DIGS Subdivision A Date (mo / day / yr) 20 APRIL 1990

Time (24 hr) 1200-1440 Biologist JIM BARRY length = 2273m 1/4

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

(B) Overall % cover of biota (% of segment): Dense 50 Moderate 45 Low 5

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

Photographs:
Roll No. NO PHOTOS

Frames

BARNACLES

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

MYTILUS

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

GASTROPODS

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

FUCUS

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

Wildlife Observations/ General Comments:

Pelagic Cormorant - 5 GADWALL? - 2 DEER JAW - 1
BALD EAGLE - 4 COMMON GOLDEN EYE - 4 GLAUCOUS-WINGED GULLS - 10
PIGEON GUILLEMOT - 2 OTTER (RIVER OR SEA) SCAT - RAVENS - 2

Ecological Considerations:

- 1) BALD EAGLE NEST ADJACENT TO SEGMENT - CLEAN UP OPERATIONS UNLIKELY TO INTERFERE
- 2) Otter foraging and haul out site located within segment (river otter)

APRIL 20 1990

DI 65 A

2/4

START 1200

TIDAL WINDOW - +6 $\rightarrow$ +2

STOP 1440

I. General Comments

A. HABITAT TYPES - THE ENTIRE SEGMENT is a protected bay with very low wave energy. Runoff streams and the rise and fall of the tide provide the major flushing action. High angle vertical cliffs, cobble/boulder beaches, and a few cobble/pebble beaches are present.

Because of the extremely low wave energy much of the lower intertidal zones are covered by a matt of filamentous brown and green algae and diatoms. Species diversity is low compared to open water sites.

- 1) High angle bedrock and cobble/boulder beaches have similar biotic communities. *Mytilus* typically is sparse, with moderate densities of barnacles (*Balanus*), adults and sparse spot and juveniles. Fucus is sparse to moderate and often is covered by a thick film of filamentous algae. Gastropods, mainly Littorines, are patchy, and occasionally dense.
- 2) Beaches are generally the same, except where runoff is strong enough to remove the thick matts of filamentous algae from the low zones.
- 3) Near the outlet to Outer Disk Island, mussel beds are the dense, especially for the northern outlet.

APRIL 20 1990

DI 65A

3/1

B OIL-RELATED COMMENTS

- 1) Oiling is persistent inside this bay, where the sediments frequently produce a sheen when disturbed. Oil coats on barnacles appear to have killed up to 40-50% of all individuals in small patches, but mortality is generally much less severe (~5-10% dead). Clam shells are present in many areas - oil-related mortality is unknown.

Juveniles & spats for barnacles and Mytilus are sparse, likely due to factors other than oil.

No individuals were observed living on oiled bedrock or boulders. However, biota are present closely adjacent to oil on and under boulders and cobble.

- 2) Clean up operations should have little negative impact to these communities as long as it is restricted to a few days maximum.

II Recruitment and Mortality.

Mortality comments - see B above

Recruitment for most species appears lower than in sites outside this bay, due most likely to physical processes unrelated to oil pollution or clean up activities.

Because of the slow flushing rate, and the apparently lower recruitment rates for many biota, recovery from any oil-related mortality may be slower than in other areas. Oil-related mortality does not appear to be extensive, but may have impacted some species (e.g. clams) to an unknown extent.

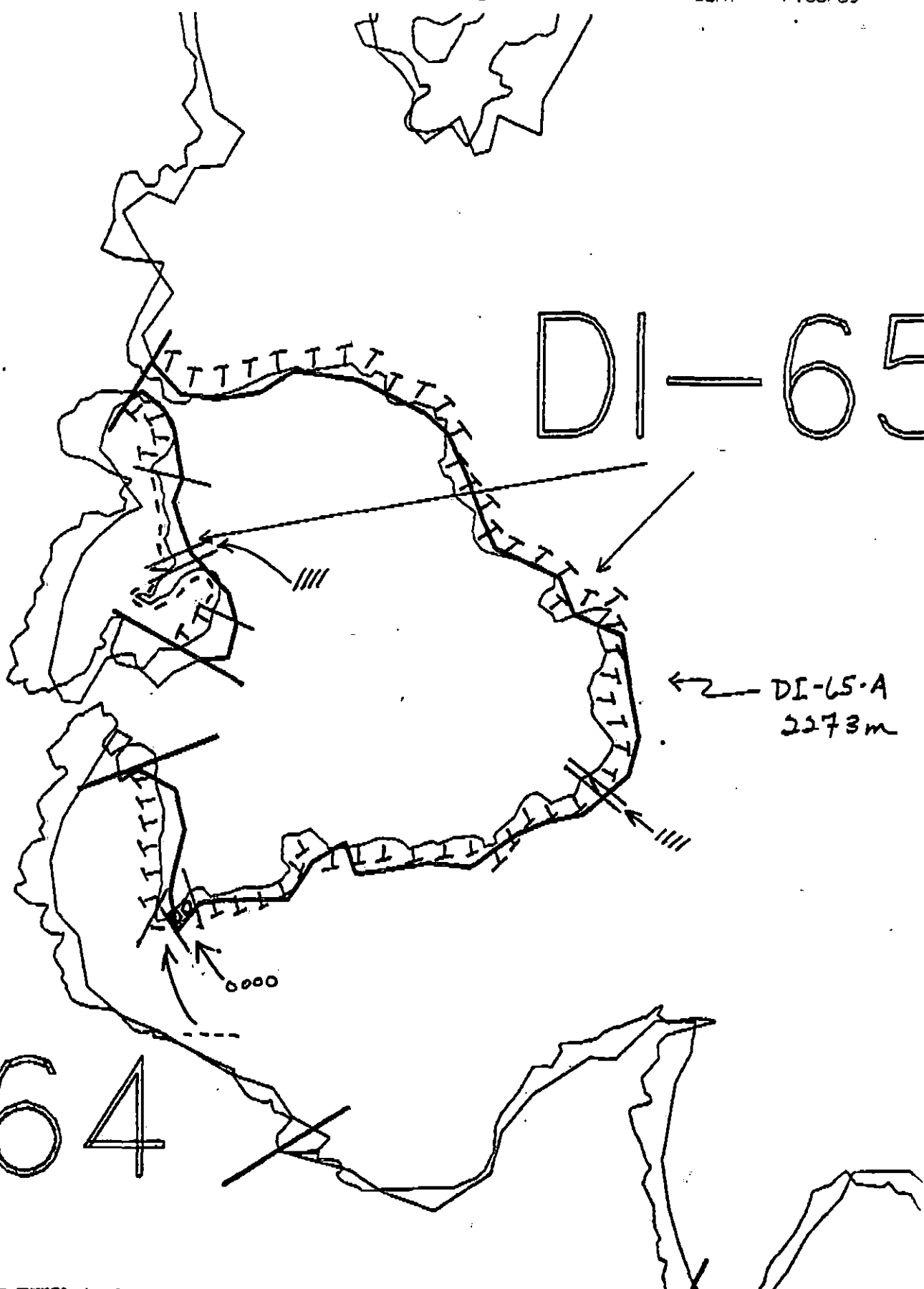
APRIL 20, 1990

DISS A

4/4

II Recruitment And Mortality (cont)

- A. *Mytilus* - Juveniles & spars present in low densities
mortality - lower zones of *Mytilus* area have
~ 40% drill holes
- B. *Balanus* - Oil cover ~~sand~~ kills up to 40-60% in patches.
Spat of *Balanus* are present but sparse.
- C. *Fucus* - sporings moderate & occasionally dense. Occasional
withered individuals in upper zone - heat treatment kill?
- D. *GASTROPODS*. *Littorina* egg cases are abundant
whelk - egg cases occasional.
Mortality unknown.
- E. *Pagurus* - Hermit crabs - abundant in low zone and mid
zone, usually occupying *Littorina* shells.
- F. *Sea Stars* - Unlike all previously surveyed sites, sea stars
were rare in this segment. This may or may not be
related to oil - few dead individuals, and no
juveniles, were observed.



1-64

XXXX Wide

/// Medium

--- Narrow

TTTT Very Light

0000 No Oil

DI-65-A

EXXON SEGMENT LENGTH: 2273m

ADEC Segment Length: 2007m



Map Key: PWS-97

Name: C. DILLON

Date: 4/19/90

Data Entered:

1991 MAYSAP EVALUATION

SEGMENT: DI 065 SUB: A REGION: PWS SURVEY DATE: 5/18/91

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) RESTRICTED 3/1 - 9/1

Ecological/Constraints (see page two for details) Eagle nest

ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO Signature: _____ Date: _____

RECOMMENDATIONS:

INITIAL

TAG

FOSC

TREATMENT REQUIRED (Y or N)

N

Manual Pickup (Check as Req.)

Spot Washing

Bio-Customblen Only

Bio-Inipol/Customblen

Other

Other

COMMENTS:

INITIAL: _____

TAG: _____

FOSC: _____

TAG APPROVAL DATE: _____

FOSC APPROVAL DATE: _____

ADEC

FOSC

EXXON

USCG

NOAA

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

Eagle Nest: Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.

TEAM NO. 2 SEGMENT DI-065 SUBDIVISION A DATE 5/18/91

ADEC

NAME

Peter Montenegro

SIGNATURE

Peter Montenegro☒ NTR

TREATMENT RECOMMENDED

Extremely high, extremely low energy area. The only noticeable change in this lagoon is the removal of AP and TBS by the Cordova LRP last October.

The SOR areas mapped are thin and largely not visible from the surface and are mostly associated w/ a ~~thin~~ near surface organic/peat layer which is easily disturbed. These areas perpetually let off a light yellow sheen which probably is the best way for the oil to work its way out. OR as Exxon rep noted a small, carefully divided LRP group could complete the TB removal and gently rake out the SOR.

EXXON

NAME

C.M. Katsimpalis

SIGNATURE

C.M. Katsimpalis☒ NTR

REMAINING OIL DOES NOT REQUIRE FURTHER TREATMENT. THIS IS A HIGH PUBLIC USE AREA. MR. JANKA (PWSCA) DID EXPRESS A GENUINE DESIRE TO CARRY OUT A LOCAL RESPONSE OR JOINT LAND MANAGER (USFS) CLEAN UP EFFORT IN ORDER TO OPTIMIZE CONDITIONS HERE.

LANDMANAGER

NAME

DENNIS S. KENNEDY OF USFS

SIGNATURE

D.S. Kennedy☒ NTR

Subdivision inside Duck Island lagoon which is a high recreational use.

FS note: trash left by rec. users and cleaners needed.

USCG/NOAA DISMANTLER-BEATTY NOAA D. Dismant-Beatty NOAA

NAME

BMI H.P. ZENONE USCG

SIGNATURE

Bmi H.P. Zenone☐ NTR

The SOR observed in area D is in a sheltered area with fine sediments. As this area extends into the MITZ, there are several species of algae and mollusks. The tarballs observed in the MITZ are very weathered and inert. -DSB

CG - NO FURTHER TREATMENT REQUIRED. 3

TEAM NO. 2OG D. ReimerBIO S. BANSEGMENT D1 65ADEC P. MontesanoLANDMANAGER D. Kennedy for US FSSUBDIVISION AEXXON C. Katsimpalis8M1 Zone
USCG/NOAA D. Simecek BaughDATE 5/18/91TIME 08:30 to 10:00TIDE LEVEL 4.18 ft. to -0.3 ft.ENERGY LEVEL: ☐ H ☐ M ☒ LSURVEYED FROM: ☒ FOOT ☐ BOAT ☐ HELOWEATHER: ☐ SUN ☐ CLOUDS ☐ FOG ☒ RAIN ☐ SNOWTOTAL LENGTH SHORELINE SURVEYED: 667 mNEAR SHORE SHEEN: ☐ BR ☐ RB ☐ SL ☒ NONEEST. OIL CATEGORY LENGTH: W — m M 59 m N — m VL 248 m NO 360 m US 13-1 m

L O C	SURFACE OIL CHARACTER										SURFACE SEDIMENT TYPE	SHORE SLOPE V H M L	AREA		ZONE				NOTES
	AP	MS	TB	SOR	CV	CT	ST	FL	DB	NO			WIDTH m	LENGTH m	S	UI	MI	LI	
A				T	T	T					BC	H	3	50		X			
B				P		S					BC	M	3	4		X			
C						T					PC	M	3	10		X			
D			T	P							BCPGSMO	H	4	45		X	X		
E			T			T					R	H	2	20		X			
F				S							PG	M	2	3		X			
G				P							PGS	M	3	10		X			
H						S					BCR	M	2	25		X			
I						T					RBC	M-H	3	150		X			See Location MAP

DISTRIBUTION: C = 91-100%; B = 51-90%; P = 11-50%; S = 1-10%; T = <1%

SLOPE: V = VERTICAL; H = HIGH ANGLE; M = MEDIUM ANGLE; L = LOW ANGLE PHOTO ROLL # MAYSAP- 2 - 20 FRAMES 1-4

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER							OILED ZONE cm-cm	CLEAN BELOW Y/N	H2O LEVEL (cm)	SHEEN COLOR B R S N	PIT ZONE				SURFACE-SUBSURFACE SEDIMENTS	NOTES
		OP	HOR	MOR	LOR	OF	TR	NO					S	UI	MI	LI		
1	13				X				3-B	Y	9	B		X			BC-PGC	
2	20							X	-	Y				X			PSM-SMO	
3	20							X	-	Y				X			CPB-SMO	
4	15			X					5-B	Y	7	B				X	PSM-SMO	
5	15			X					5-11	Y	8	B				X	PSM-SMO	
									-									

SHEEN COLOR: B = BROWN; R = RAINBOW; S = SILVER; N = NONE

OG COMMENTS:

Three Sites were surveyed within this subdivision - Two of these (Sketch 1 and 2) were surveyed during ASAP and were recommended for treatment on SSAT Report. The remainder of the subdivision was indicated as having sporadic ST/TB on SSAT Report. A Representative Section of this type of Shoreline (north side of Lagoon) was walked to check oiling conditions. A group consensus was made to not walk the remaining shoreline - IT is likely that similar conditions would be found. (continued)

revised 5.21.91

[illegible]

SHEEN COLOR: B - BROWN: R - RAINBOW: S - SILVER: N - NONE

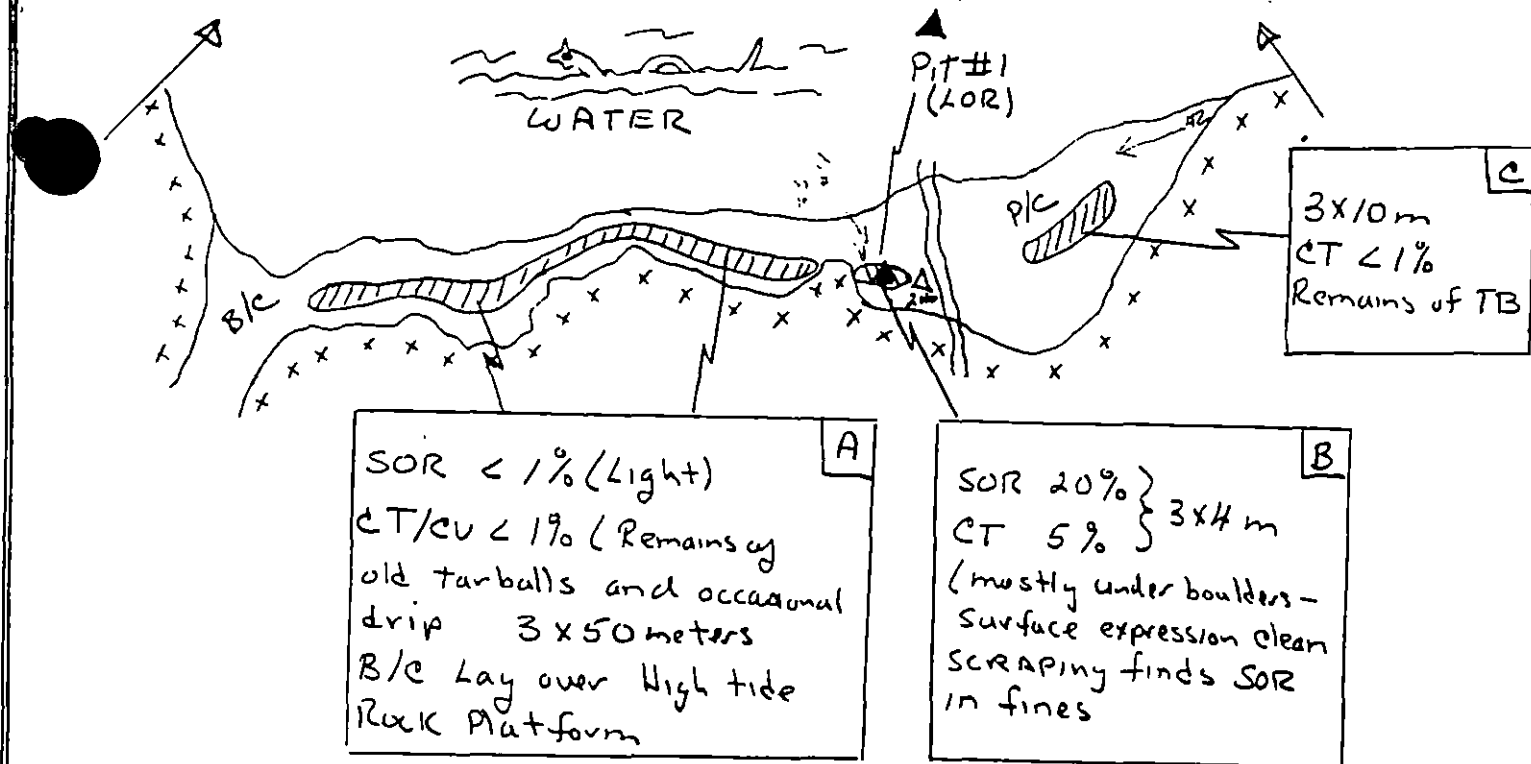
OG COMMENTS: (Continued from page #1)

Those of very sporadic remains of Tarballs (CT) on Rock and boulder beaches

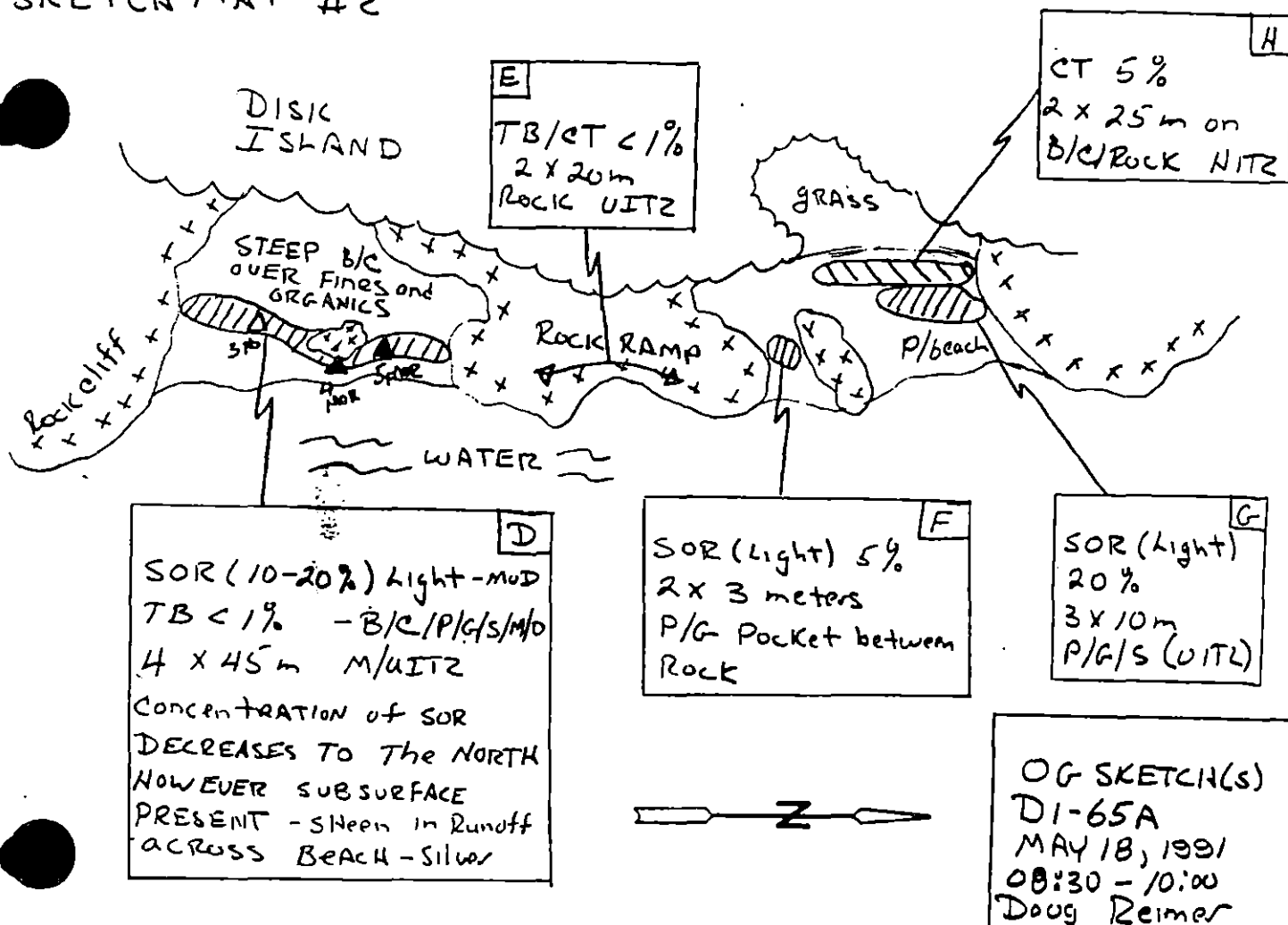
The only significant oiling found was on the South end of Sketch map #2 where up to 20% SOTZ was noted in a band at the upper MITZ associated with fine sands/muds/organics underlying a Boulder/cobble armor on a steep sheltered beach.

reviewed 5.21.94

SKETCH MAP #1

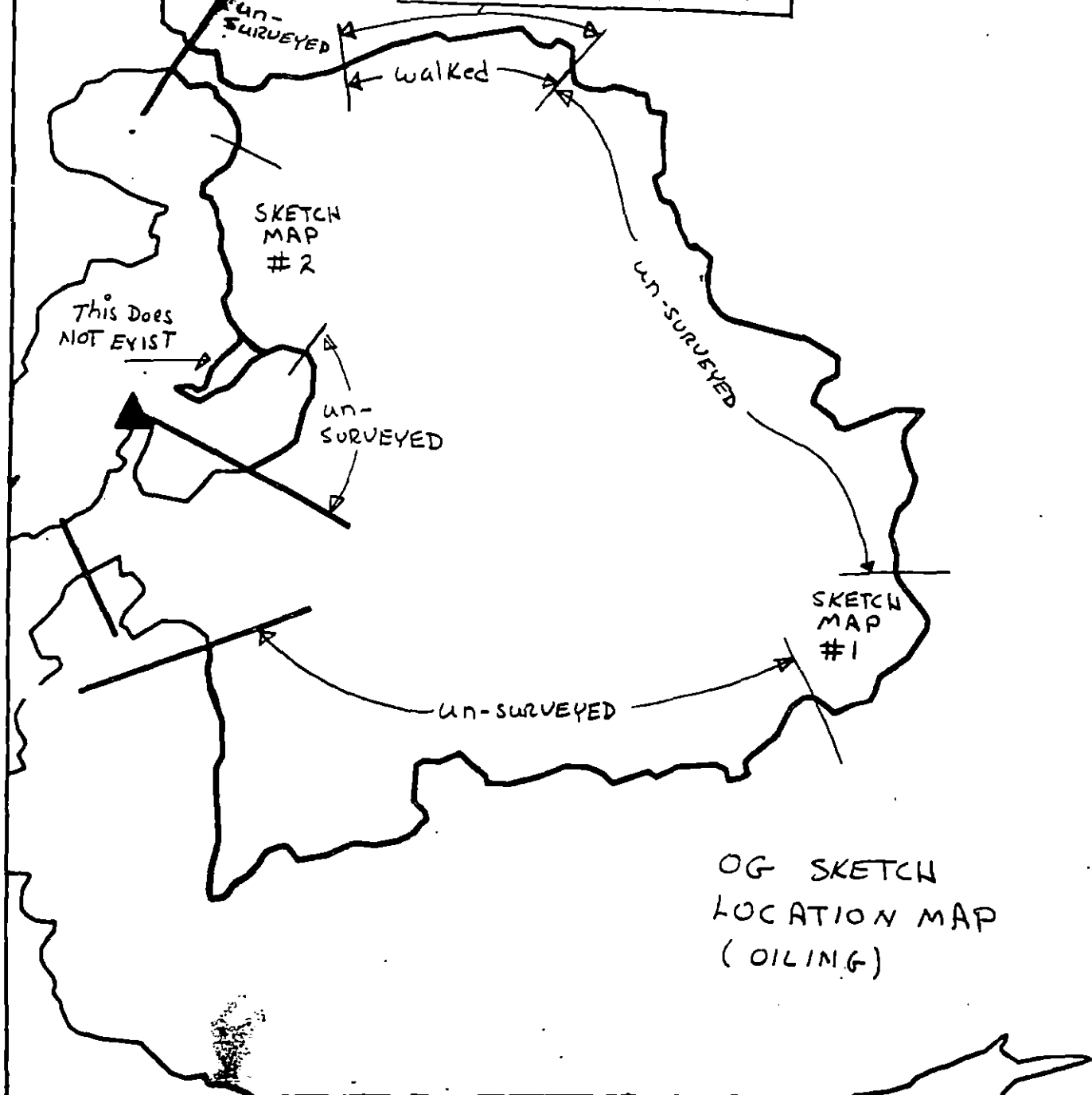


SKETCH MAP #2



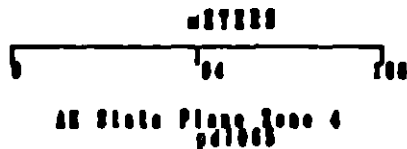
Reviewed 5.21.99

I
VERY SPORADIC CT(drips)
and BROKEN REMAINS of TB
< 1% HITZ 3 X 150m



D1065A

Segment Reference Map
Map Key: PWS01006



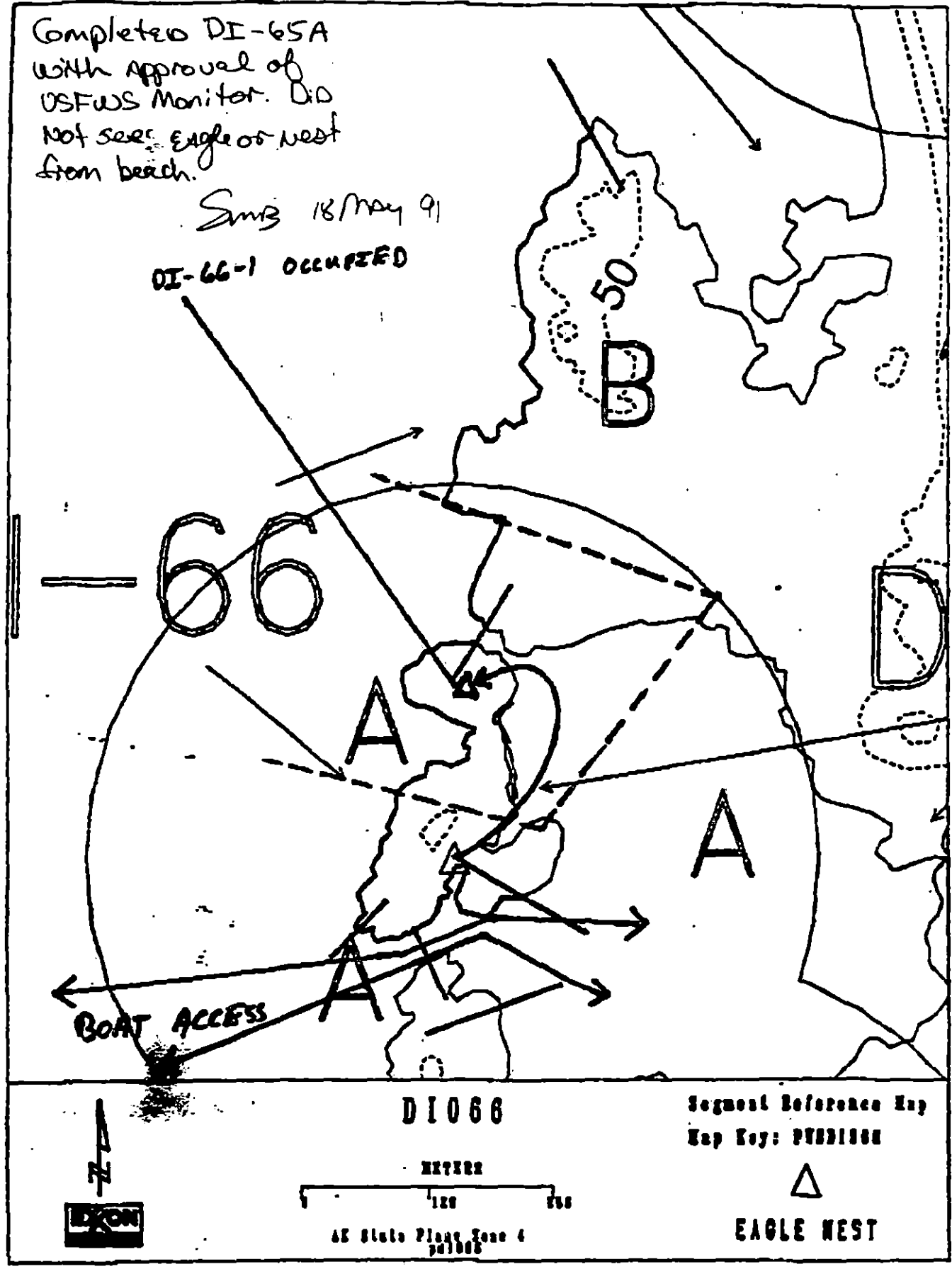
EAGLE NEST

Reviewed 5.21.94

Completed DI-65A
with approval of
USFWS Monitor. Did
not see eagle or nest
from beach.

Sm3 18/May 91

DI-66-1 OCCUPIED



MAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 2 DATE 18 May 91
 SEGMENT # D1-05 TIDAL HEIGHT(Range) 4 to 0 ft
 SUBDIVISION A BIOLOGIST SMBW
 SEA STATE ± 1 ft WIND SPEED/DIRECTION 5-7 kts
 PHOTOGRAPHS: ROLL # — FRAME # —

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):

- A: As mapped. Lower intertidal along Boulders & cobbles supports dense Fucus clumps, barnacles, patchy mussels and littorines.
- B: Living limpets observed on pit CT/CI near Pit #1. A dense bed of mussels were seaward of the pit. Other organisms as documented on the map.
- C: CT here is discontinuous in a 3 m-wide band. Barnacles, Fucus recruits and littorines were observed in the band.
- D: Silver surface when observed in mid. South of boulder as indicated. Barnacles, mussels and littorines were observed. Other organisms as documented on map.
- E: Lichen in IT/CT zone. Lower ITZ supports barnacle sp. (recent) and dense algae.
- F: As shown on map. Dense juvenile littorines on adjacent boulders.
- G: SOR zone reaches to upper edge of mussel band. Dense littorines encountered under rocks. Barnacles & gastropods are patchy throughout zone.
- H: CT is discontinuous in UITZ. Only green algae & lichen in this zone.

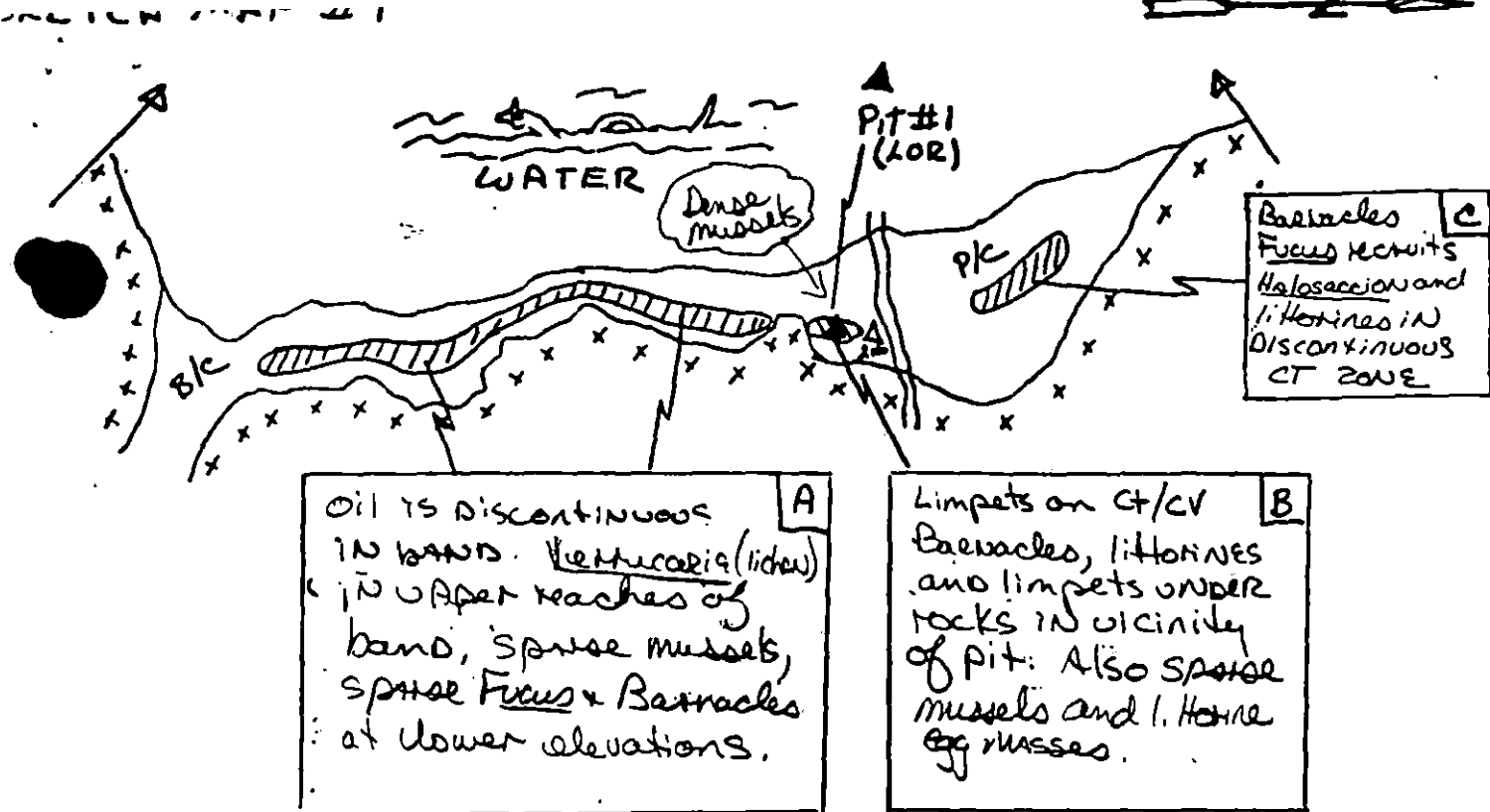
WILDLIFE OBSERVATIONS → If treatment recommended Avoid mussels near Pit #2 and TO BE COMPLETED IN ALL SUBDIVISIONS Organisms near Pit #3.

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			
Seabirds			
Waterfowl			
Gulls/Kittiwakes			
Shorebirds			
Corvids			
Other Birds			

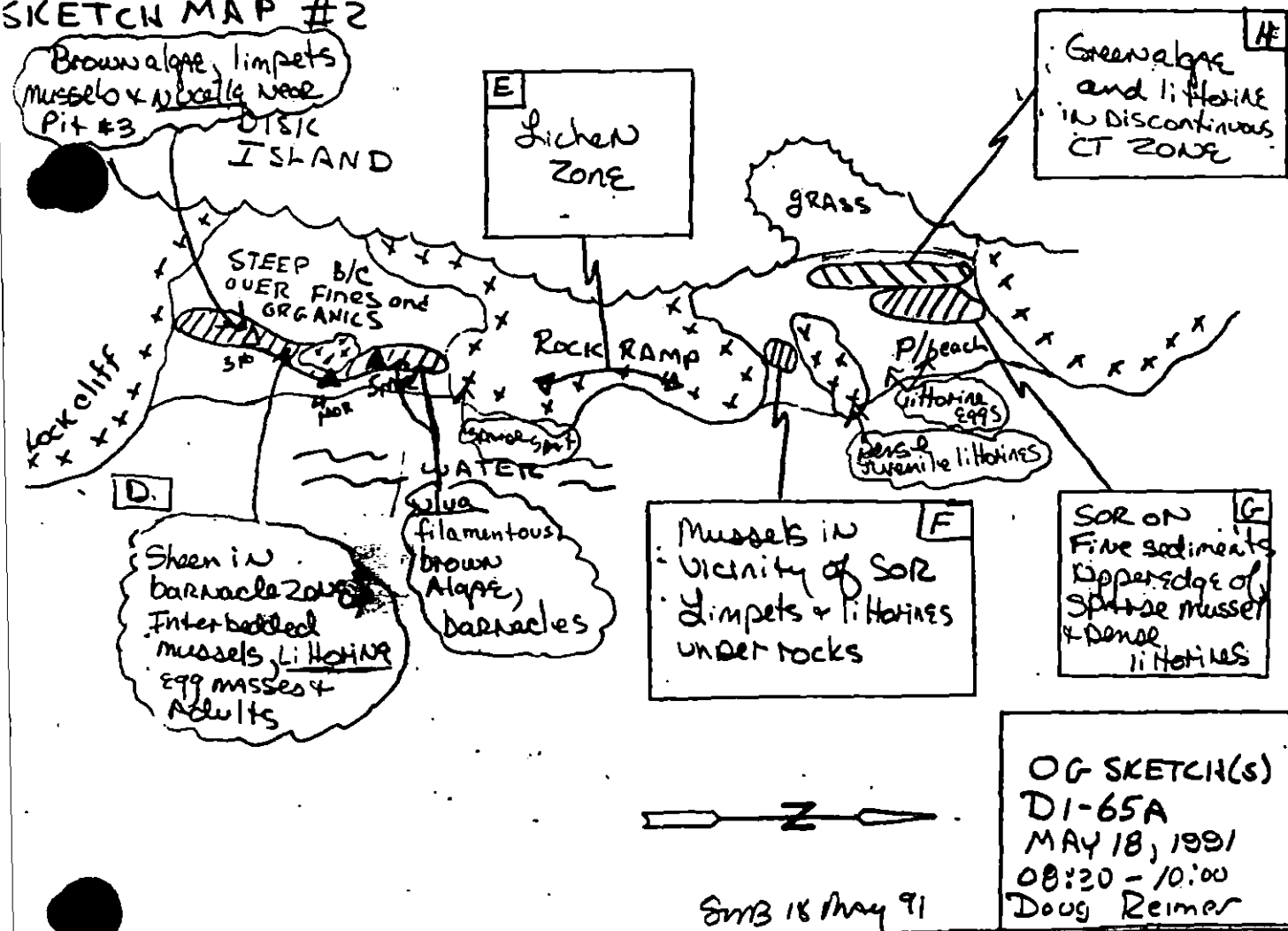
MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds (specify)			
F (specify)			

Shoreline subdivision map showing important biological features attached.

Reviewed M.B. 5/21/91



SKETCH MAP #2



1991 MAYSAP EVALUATION

SEGMENT: DI 065 SUB: A REGION: PWS SURVEY DATE: 5/18/91

ENVIRONMENTAL SENSITIVITIES:

Work Window(s) RESTRICTED 3/1 - 9/1

Ecological/Constraints (see page two for details) Eagle nest

ARCHAEOLOGICAL CONSTRAINTS:

If treatment is planned, a cultural resource evaluation is required prior to shoreline treatment.

SHPO Signature: Timothy A. Smith Date: 5/31/91

RECOMMENDATIONS:

	INITIAL	TAG	FOSC
TREATMENT REQUIRED (Y or N)	<u>N</u>	<u>N</u>	<u>N</u>
Manual Pickup (Check as Req.)	<u> </u>	<u> </u>	<u> </u>
Spot Washing	<u> </u>	<u> </u>	<u> </u>
Bio-Customblen Only	<u> </u>	<u> </u>	<u> </u>
Bio-Inipol/Customblen	<u> </u>	<u> </u>	<u> </u>
Other	<u> </u>	<u> </u>	<u> </u>
Other	<u> </u>	<u> </u>	<u> </u>

COMMENTS:

INITIAL:

TAG:

FOSC:

TAG APPROVAL DATE: MAY 31 1991

FOSC APPROVAL DATE: 6/8/91

ADEC [Signature]

FOSC [Signature]

EXXON [Signature]

E. E. PAGE, CDR, USCG
CHIEF OF STAFF, FOSC

USCG [Signature]

NOAA [Signature]

**ECOLOGICAL CONSTRAINTS
1991 FIELD ACTIVITIES**

Eagle Nest: Access restricted from 3/1 to 9/1. USF&WS authorization required. Maintain 1000' vertical and 1/4 mile horizontal buffer.

MAYSAP FIELD SHORELINE COMMENT SHEET

TEAM NO. 2 SEGMENT DI-065 SUBDIVISION A DATE 5/18/91

ADEC

NAME Peter MontanoSIGNATURE Peter Montano☒ NTR☐ TREATMENT RECOMMENDED

Extremely high tide, extremely low energy area. The only noticeable change in this lagoon is the removal of AP and TBs by the Cordova LRP last October.

The SOR areas mapped are thin and largely not visible from the surface and are mostly associated w/ a ~~thin~~ near surface organic/peat layer which is easily disturbed. These areas perpetually set off a light yellow sheen which probably is the best way for the oil to work its way out. OR as Exxon up noted a small, carefully directed LRP group could complete the TB removal and gully, take out the SOR.

EXXON

NAME C.M. KatsimpalisSIGNATURE C.M. Katsimpalis☒ NTR

REMAINING OIL DOES NOT REQUIRE FURTHER TREATMENT. THIS IS A HIGH PUBLIC USE AREA. MR. JANKA (PWSCA) DID EXPRESS A GENUINE DESIRE TO CARRY OUT A LOCAL RESPONSE OR JOINT LAND MANAGER (USFS) CLEAN UP EFFORT IN ORDER TO OPTIMIZE CONDITIONS HERE.

LANDMANAGER

NAME DENNIS S. KENNEDY OF USFSSIGNATURE D.S. Kennedy☒ NTR

Subdivision inside Duck Island lagoon which is a high recreational use.

FS note: trash left by rec. users and clean up needed.

USCG/NOAA D. SIMONE-BATTY NOAA D. Simone-Batty NOAANAME BMI U.P. ZENONE USCGSIGNATURE Bmi U.P. Zenone☐ NTR

The SOR observed in area D is in a sheltered area with fine sediments. As this area extends into the MITZ, there are several species of algae and mollusks. The tarballs observed in the MITZ are very weathered and inert. -DSB

CG - NO FURTHER TREATMENT REQUIRED. 3

revised 5.21 gy

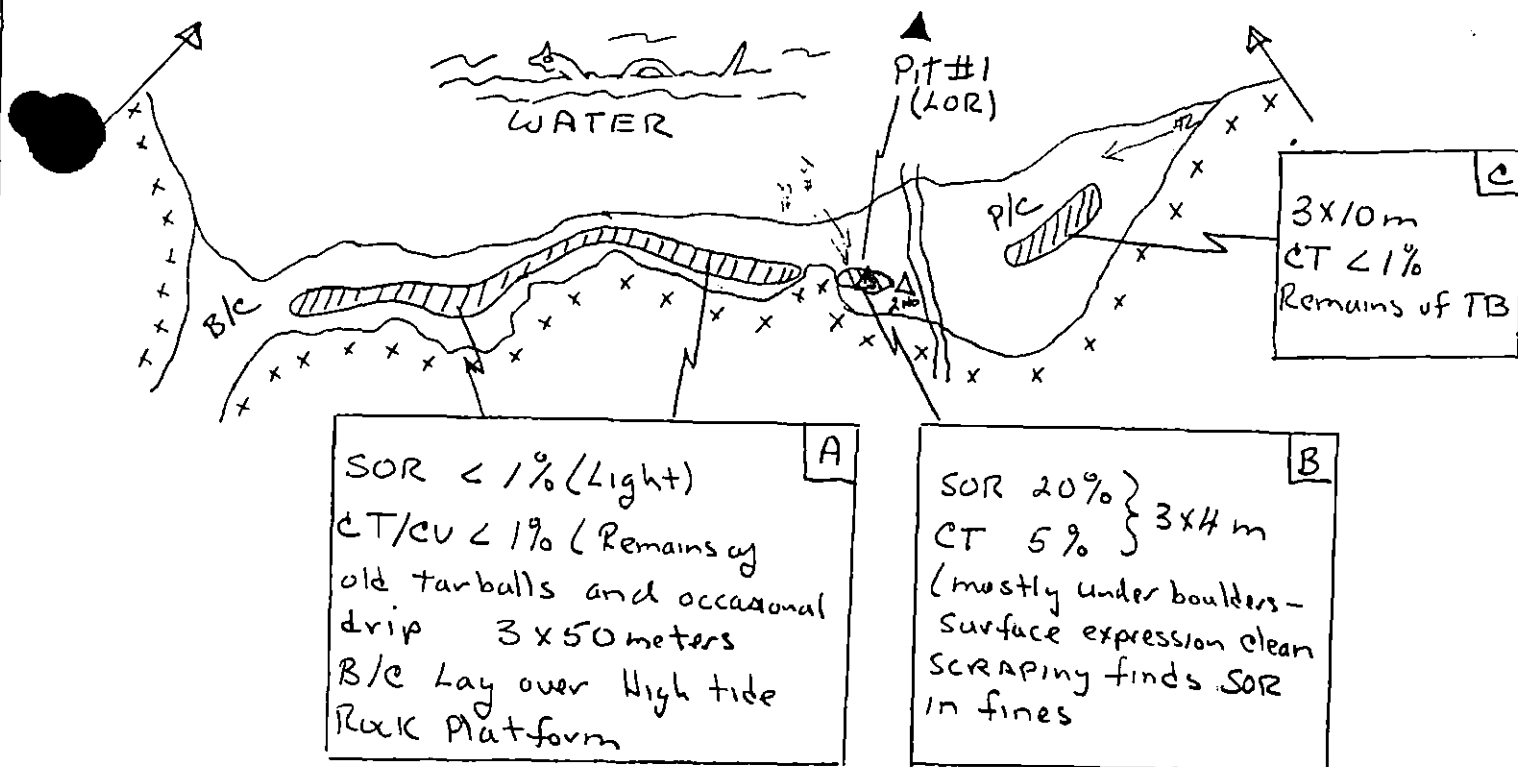
SHEEN COLOR: B = BROWN: R = RAINBOW: S = SILVER: N = NONE

Those of very sporadic remains of Tarballs (eT) on Rock and boulder beaches

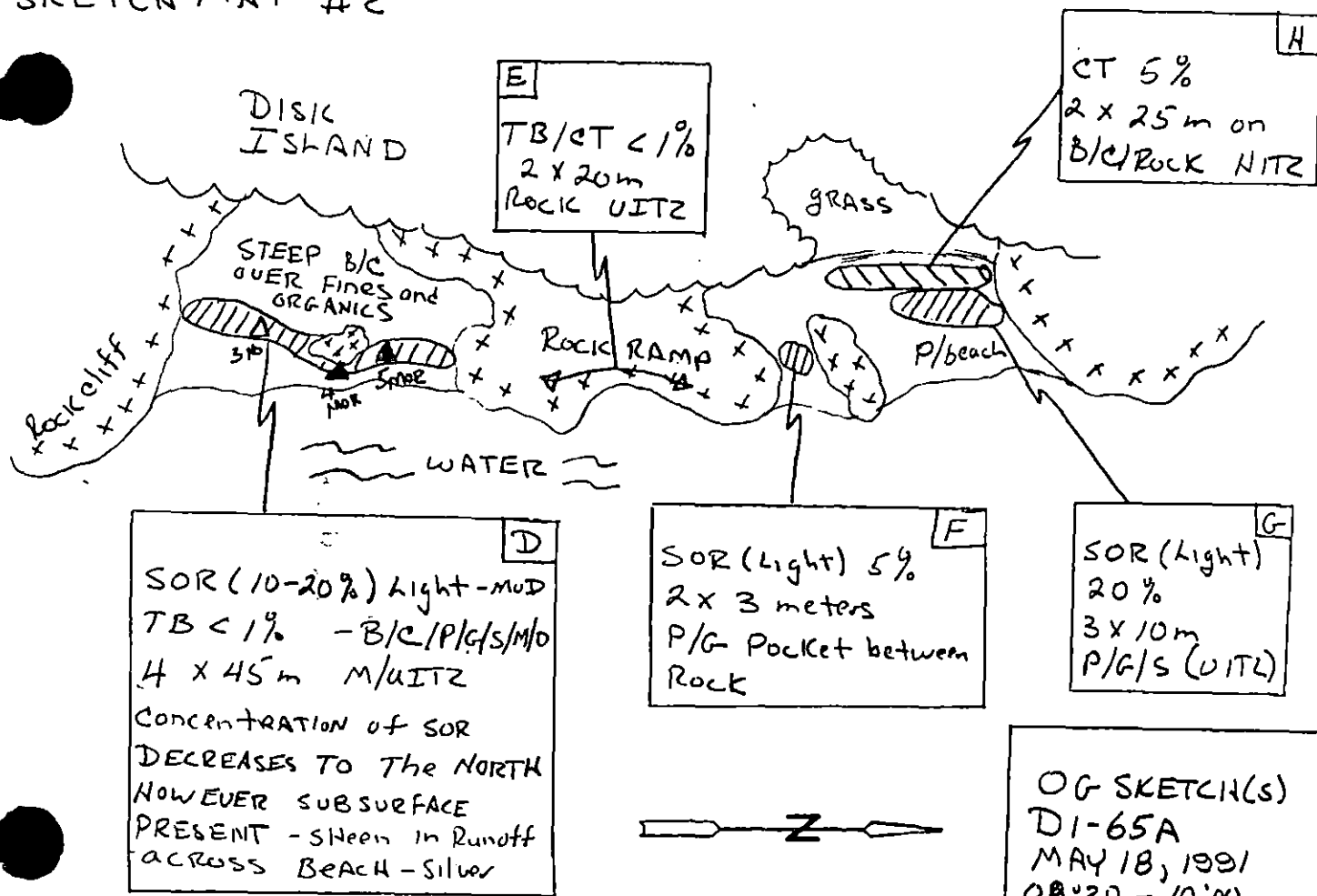
The only significant oiling found was on the South end of Sketch map # 2 where up to 20% SOTZ was noted in a band at the upper MITZ associated with fine sands/muds/organics underlying a Boulder/Cobble armor on a steep sheltered beach.

reviewed 5.21.94

SKETCH MAP #1



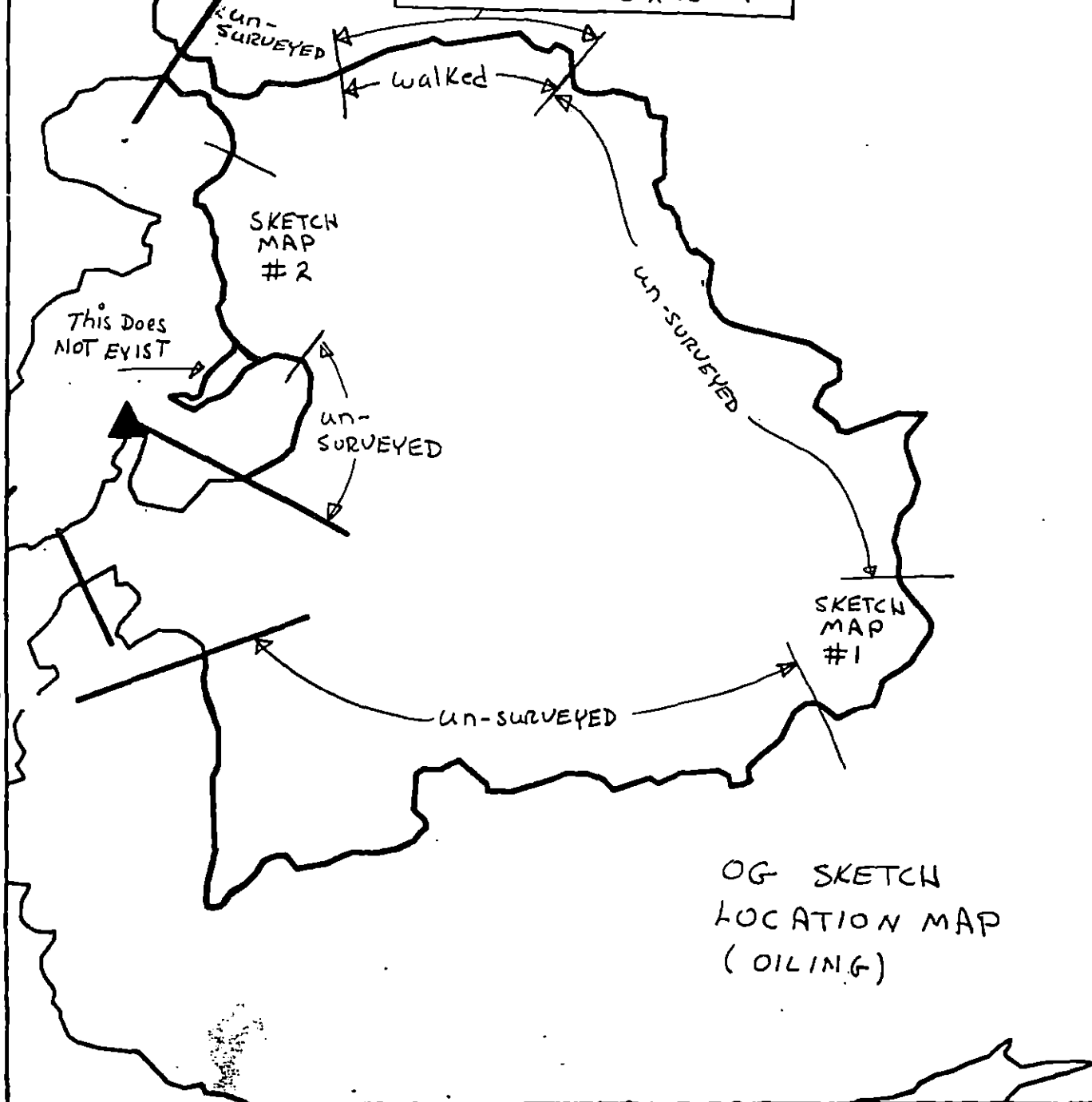
SKETCH MAP #2



OG SKETCH(S)
DI-65A
MAY 18, 1991
08:30 - 10:00
Doug Reimer

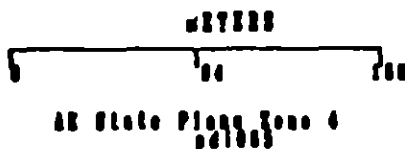
reviewed 5.21.4y

I
VERY SPORADIC CT(drips)
and BROKEN REMAINS of TB
L 1% HITZ 3 X 150m



D1065A

Segment Reference Map
Map Key: PWSB1066



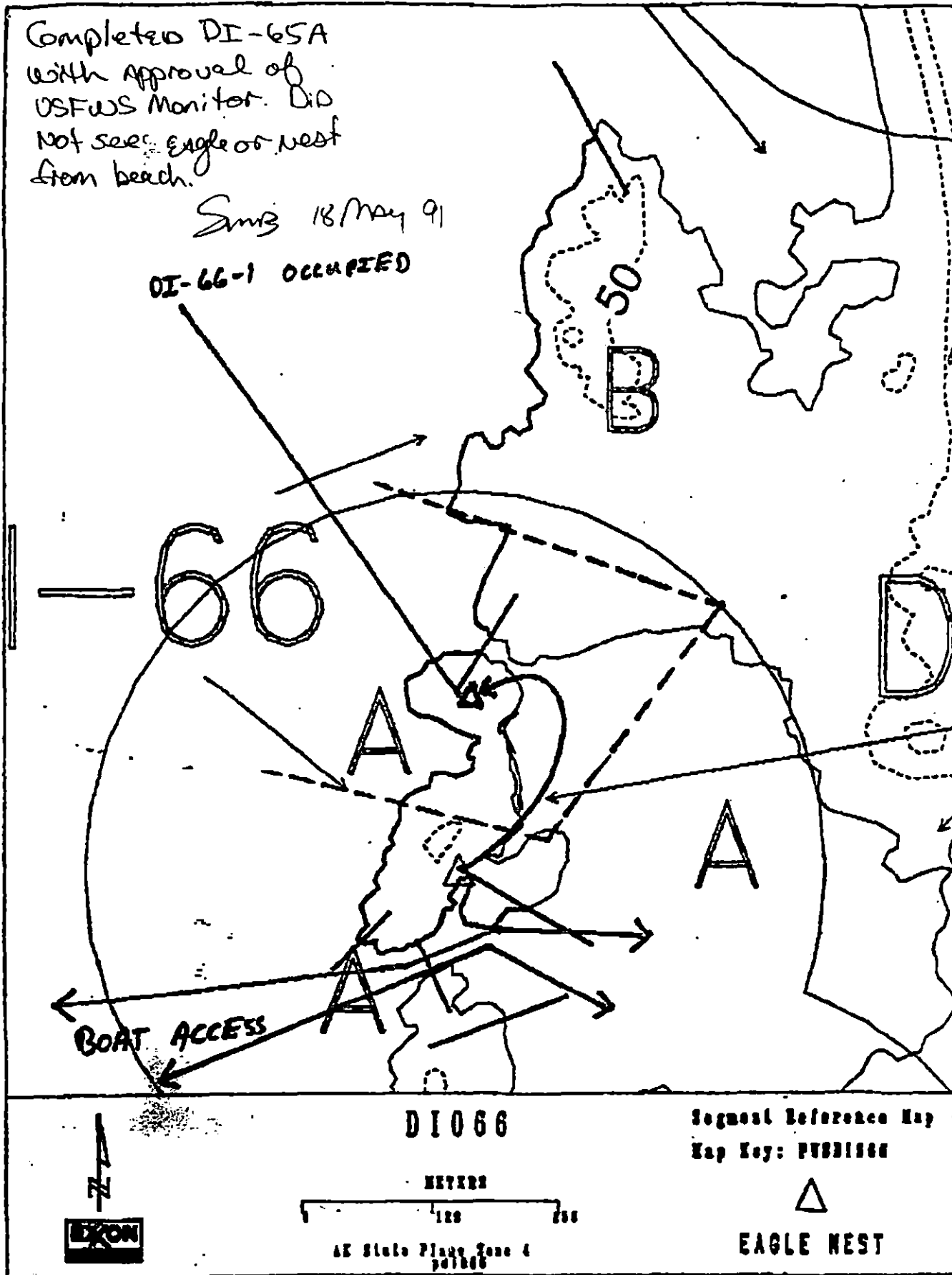
EAGLE NEST

Reviewed 5.21.94

Completed DI-65A
with approval of
USFWS Monitor. Did
not see eagle or nest
from beach.

Smr 18 May 91

DI-66-1 OCCUPIED



WAYSAP BIOLOGICAL SUMMARY FORM

TEAM # 2 DATE 18 May 91
 SEGMENT # D1-05 TIDAL HEIGHT (Range) 4 to 0 ft
 SUBDIVISION A BIOLOGIST S.M. BAN
 STATE ± 1 ft WIND SPEED/DIRECTION 5-7 kts
 PHOTOGRAPHS: ROLL # FRAME #

COMMENTS/OBSERVATIONS (to be completed in oiled subdivisions only):

- A: As mapped. Lower intertidal along Boulders & cobbles supports dense Fucus clumps, barnacles, patchy mussels and Littorines
- B: Living limpets observed on pit CT/CI near Pit #1. A dense bed of mussels seen seawards of the pit. Other organisms as documented on the map
- C: CT here is discontinuous in a 3 m-wide band. Barnacles, Fucus turrits and Littorines were observed in the band.
- D: Silver surface sheen observed in med. south of boulder as indicated. Barnacles, mussels and Littorines were observed. Other organisms as documented on map.
- E: Lichen in TB/CT zone. Lower ITZ supports barnacles & pit (recent) and dense algae.
- F: As shown on map. Dense juvenile Littorines on adjacent boulders
- G: SOR zone reaches to upper edge of mussel band. Dense Littorines encountered under rocks. Bivalves & gastropods are patchy throughout zone.

H: CT is discontinuous in UITZ. Only green algae & lichen in this zone.

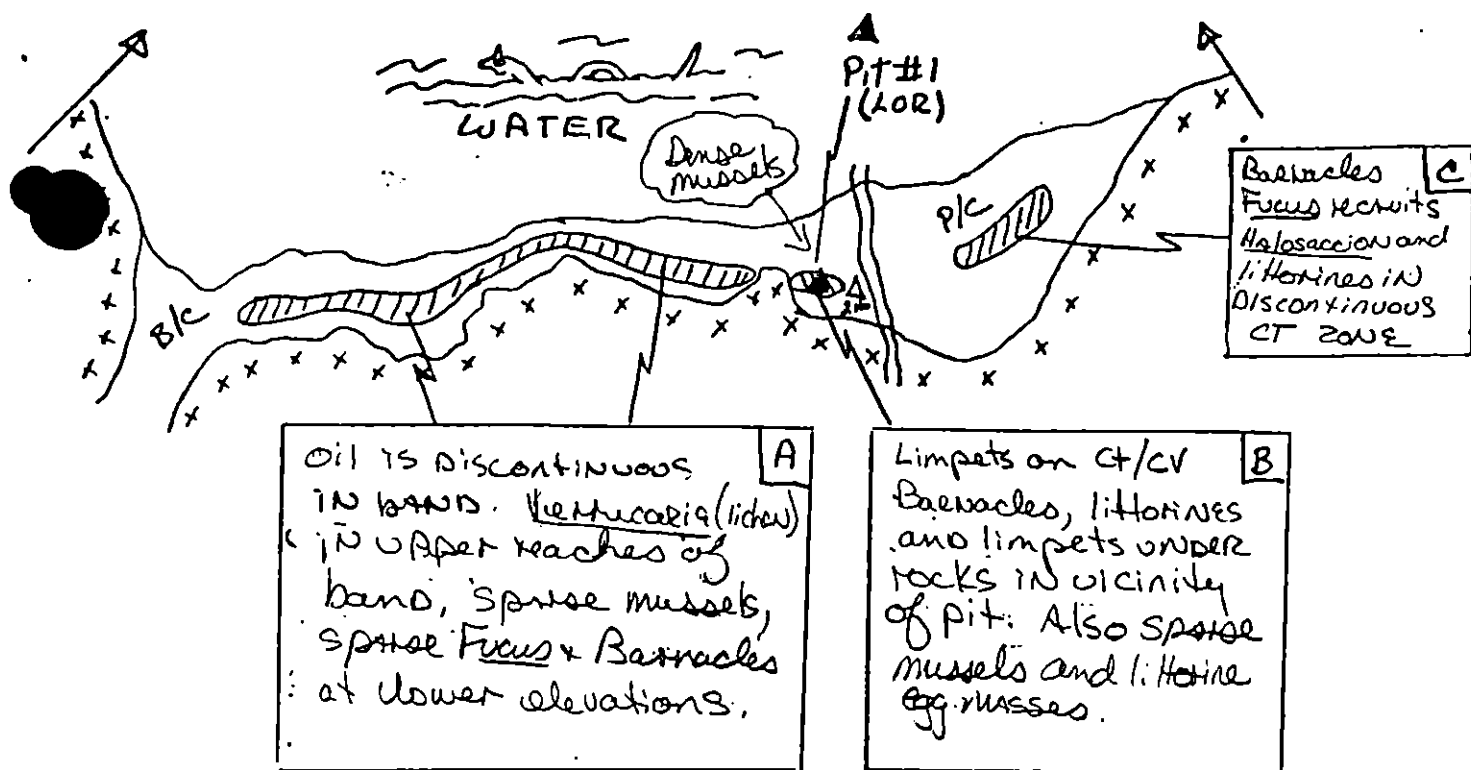
WILDLIFE OBSERVATIONS → If treatment recommended Avoid mussels near pit #1 and TO BE COMPLETED IN ALL SUBDIVISIONS Organisms near pit #3.

BIRDS	# OF SPECIES	TOTAL BIRDS	FISH OBSERVED SPECIES PRESENT
Eagles			
Seabirds			
Waterfowl			
Gulls/kittiwakes			
Shorebirds			
Corvids			
Other Birds			

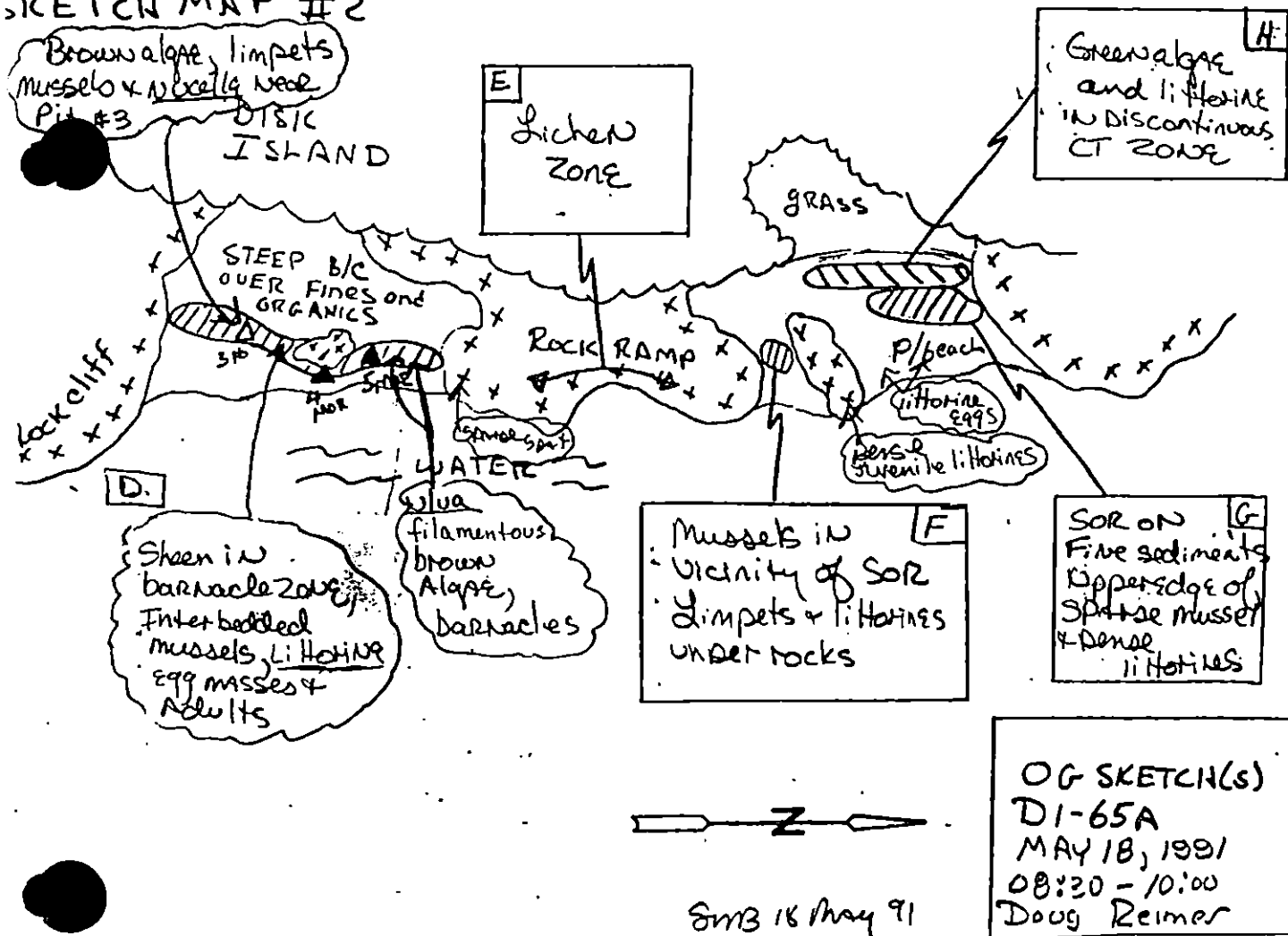
MARINE MAMMALS	# OBSERVED	LAND MAMMALS SPECIES	# OBSERVED
Sea Otters			
Pinnipeds (specify)			
_____ (specify)			

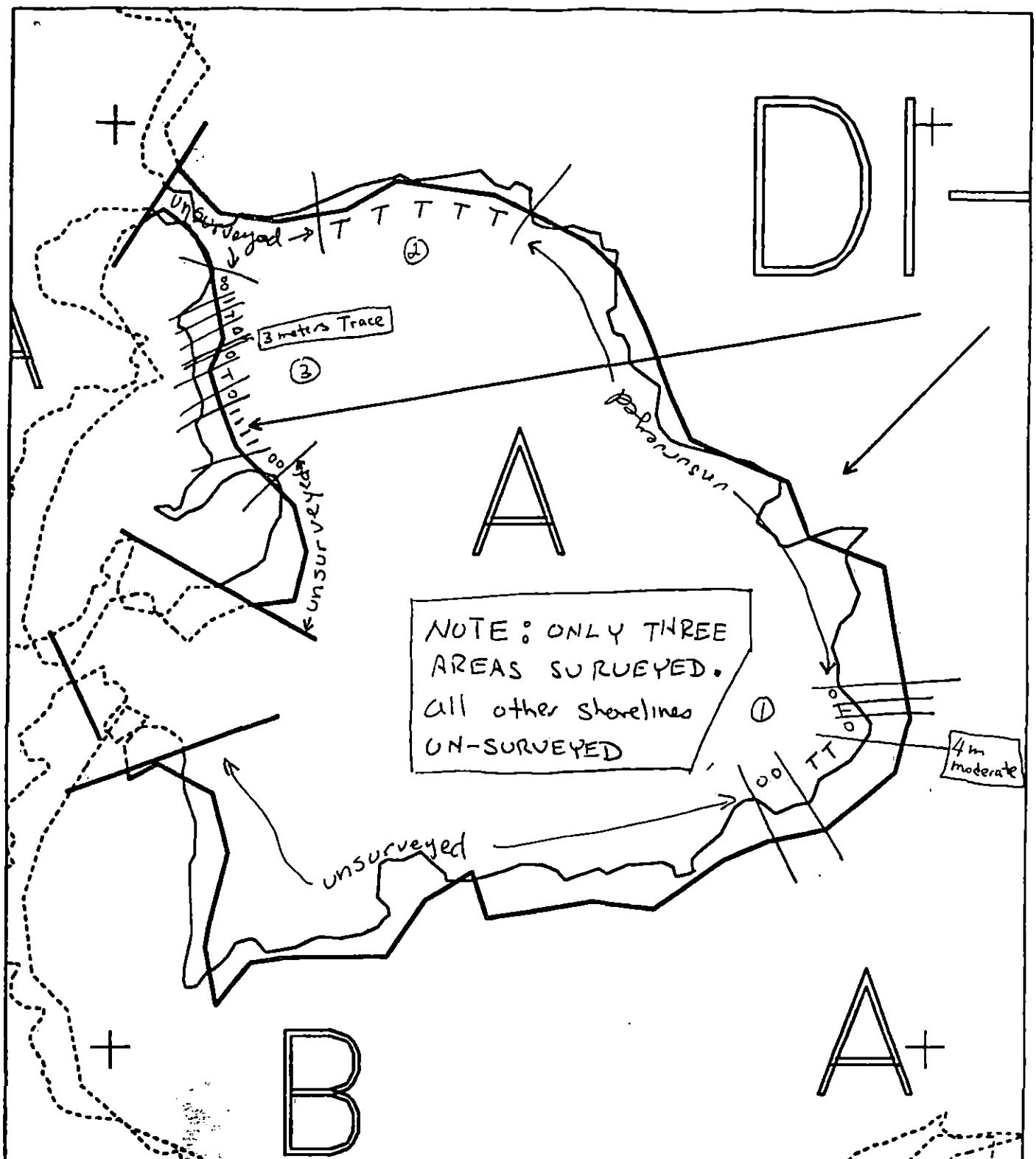
Shoreline subdivision map showing important biological features attached.

SKETCH MAP #1



SKETCH MAP #2





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

D1065 A
 ADEC Subsegment Length: 2008m
 METERS
 5 100 200
 AK State Plane Zone 4
 601065a

Subdivision Field Map
 Map Key: KNIDI065A
 Name: Reimer
 Date: 5/18/91
 Date Entered:

revised 5.21 4y

ADDENDUM: SUBDIVISION CONSTRAINTS

SEGMENT DI-65 SUBDIVISION A (1 of 1)

WORK WINDOW

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

ARCHAEOLOGICAL STANDARD CONSTRAINT

If cultural resources are uncovered, PHONE 564-3274.

APPLICABLE ECOLOGICAL TIME CONSTRAINTS

5T Bald Eagle Nest

USFWS 6/1/90 map indicates an active nest in Subdivision A. Closed to manual pickup and bioremediation within 400m of active nest. No constraint to manual pickup and bioremediation more than 400m from active nest.

OTHER ECOLOGICAL CONSIDERATIONS

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

FOSC

Date

7 July 90

Prepared by

Date

W. Kelley
7/6/90

KN-102

DI-67

DI-59

DI-60

DI-66

DI-65

DI-61

KN-104

DI-64

DI-63

DI-62

KN-107

KN-105

KN-

WORK
AREAS



Exxon Company, USA
Map Key: PWS-DI-65
June 08, 1990



ECOLOGY MAP
SEGMENT DI-65
SUBDIVISION A (1 of 2)
METERS
0 392 784

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

1 inch = 1286 feet

SHORELINE EVALUATION

SEGMENT ST/ DI-65 SUBDIVISION A (1 OF 1) DATE 4/19/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: Rachel Jean Owen DATE: 6/20/90

OILING CATEGORIZATION:

Wide 0 m: Medium 25 m: Narrow 186 m: V.Light 1749 m: No Oil 53 m
Subsurface Oil Observed: Yes No X Maximum Depth

RECOMMENDATIONS:

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

COMMENTS: Recommended treatment includes manual removal of tarballs and tar patties and removal of rope in areas indicated on attached sketch map. Work should be conducted after 5/1.

BIOREMEDIATION TO FOLLOW MANUAL PICKUP AS INDICATED ON SKETCH
See Constraint Addendum Dated 7/6/90 with

TAG COMMENTS:

TAG APPROVAL DATE: 4/28/90
DEC ART WEAVER Det Wierman
EXXON Arvoren
NOAA Gary Petrone Gary Petrone
USCG KENNETH KENNIS

FOSC: B. Zampetti DATE: 7/3/90

SHORELINE EVALUATION

SEGMENT ST/ DI-65 SUBDIVISION A (1 OF 1) DATE 4/19/90

SEGMENT ENVIRONMENTAL SENSITIVITIES AND TIME CONSTRAINTS:

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

See attached Ecological Constraint sheet for specific constraints and contacts.

SUBDIVISION ECOLOGICAL CONSTRAINTS:

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

ARCHAEOLOGICAL CONSTRAINTS:

If cultural resources are uncovered during shoreline treatment, stop work in the vicinity, mark the location of the find and contact a member of Exxon's Cultural Resource Program immediately (564-3657; 564-3658 or 564-3276).

SHPO SIGNATURE: Rachel Jean Dore DATE: 6/20/90

OILING CATEGORIZATION:

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RECOMMENDATIONS:

<u> </u> No Treatment Recommended	<u> </u> Snare/Absorbent Booms
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<u>X</u> Manual Pickup	<u> </u> Absorbents (pads, rolls, etc)
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<u> </u> Tarmat Removal	<u> </u> Beach Cleaner
	<u> </u> Other (see comments)

COMMENTS: Recommended treatment includes manual removal of tarballs and tar patties and removal of rope in areas indicated on attached sketch map. Work should be conducted after 5/1.

BIOREMEDIATION TO FOLLOW MANUAL PICKUP AS INDICATED ON SKETCH

TAG COMMENTS:

TAG APPROVAL DATE: 4/28/90
ADEC ART WEINER
EXXON ANDY TATE
NOAA GARY PETRO
USCG KENNETH KEENE

FOSC: A. J. Jansoff DATE: 7/3/90

PWS, SEWARD AND HOMER ECOLOGICAL CONSTRAINTS

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

FIELD SHORELINE COMMENT SHEET

SEGMENT ST/ DI-65 SUBDIVISION: A DATE 4/19/90

USCG

NAME William E. White SIGNATURE William E. White

☐ NO TREATMENT RECOMMENDED
COMMENTS

☐ TREATMENT SUGGESTED

Manual pickup of tarballs and patties -
area of concentration.

This area serves as a boat anchorage
between the period June 1st - Sep 15th - has a high
recreation boat usage - floats and line tied to up
lands in the south west section of DI-65 - should be
removed - if it was part of the cleanup operation.

ADEC

NAME Peter Montesano SIGNATURE Peter Montesano

☐ NO TREATMENT RECOMMENDED

☒ TREATMENT SUGGESTED

COMMENTS Segment of utmost Recreational Value - only flushed by tidal action,
Nowave exposure. Silver/gray silt/sand from shore between lagoon entrances.

- Manually remove tarballs and patties all along lagoon. They are easily retrieved and
are most common between the two entrances to lagoon.
- The penetration pits revealed oil under clean surface sediments and often
under the active green zone. Bio is Not recommended since it would have
to be applied on live intertidal vegetation.

LAND MANAGER USOA - Forest Service

NAME Don J. Breitner SIGNATURE Don J. Breitner

☐ NO TREATMENT RECOMMENDED
COMMENTS

☒ TREATMENT SUGGESTED

Manual pickup of tar balls and pattie.
in areas of concentration.

This area serves as a : boat anchorage
between the period of June 1 - Sep. 15 and has a
high recreation boat usage. Line and floats tied to
on lands in the south west, section of DI-65,

SHORELINE OILING SUMMARY

REVISION NO. 04/13/90

OG C. DILLON USCG PS1 E. WHITE SEGMENT ST/ DI-65
 NO J. BARRY LAND REP D. BRIGHTENGER (NCS) SUBDIVISION A (1 OF 1)
 ON G. STILES ADEC P. MONTESANO TIME 11:35 to 14:40
 TEAM NO. 6 TIDE LEVEL +6.5 to +2 DATE 04/19/90
 EST. SUBDIVISION LENGTH: 2273 m ☐ Sun ☒ Clouds ☒ Fog ☐ Rain ☐ Snow
 UPLANDS DESCRIPTION: ☐ Grass ☒ Forest ☒ Rock SUBDIVISION IS CIRCULAR
 SURVEYED FROM: ☒ Foot ☒ Boat ☐ Helo WORKING DIRECTION: W to N to E to S (circle)
 SURFACE SEDIMENTS: R 30 % B 20 % C 40 % P 5 % G 0 % S 0 % M 0 % V 5 %
 SLOPE: Lang 15 % Hang 75 % Vert 10 % WAVE EXPOSURE: ☒ Low ☐ Med ☐ High
 OIL CATEGORY LENGTH: W 0 m M 18 m N 205 m VL 2000 m NO 50 m

SURFACE OIL

CHARACTER	DISTRIBUTION				OIL / FILM COLOR				IMPACTED ZONES			
	N	E	S	W	1	2	3	4	SW	SE	NE	NW
ASPHALT PAVEMENT												
POOLED												
COVER												
COAT		X	X	X	X			X	X			
STAIN			X	X				X	X		X	
MOUSSE												
PATTIES				X				X		X		
TARBALLS				X	X					X		
FILM												
NO OIL									X			X

PAVEMENT H F S 0 sq. m by 0 cm

PATTIES / TARBALLS 10 BAGS

NEAR SHORE SHEEN? NO BR (RW) (SL) TL

OILED DEBRIS	AMOUNT			DID YOU COLLECT DEBRIS?
	SM	MD	LG	
Logs				
Vegetation	X			YES ☒ NO ☐
Trash				un-oiled trash
Debris				TYPE <u>melted plastic</u>
				#BAGS <u>2</u>

Photographs:

Roll No. NONE

Frames 0

SUBSURFACE OIL * Oiled interval < 5 cm in pit #3 does not constitute subsurface oil.

PIT NO.	PIT DEPTH (cm)	SUBSURFACE OIL CHARACTER					OILED INTERVAL (cm)	BELOW		OIL / FILM COLOR				PIT ZONE				AN A SHEEN (Y/N)	↓	SURFACE-SUBSURFACE SEDIMENTS
		OP	OR	OL	OF	NO		VO	UC	1	2	3	4	SW	SE	NE	NW			
1	7		X				0-3		X				X	X				N	—	C-P/M/R
2	10	X					0-4		X				X		X			N	10	C/P-P/g/Peat
* 3	12	X					0-3		X				X	X				N	12	P-P/Peat
4	12	X					0-3		X				X	X				N	12	C/P-P/Peat
5	10					X	0-0		X					X				N	—	P-P/Peat
6	20	X					0-2		X			X		X				N	8	C-C/P/Peat
7	25					X	0-0		X					X				N	—	C/P-P/g/M

COMMENTS: All Pits indicate NO SUBSURFACE OIL. PEAT IS NOT ANAEROBIC.

MAJORITY OF SUBDIVISION IS HANG ROCK AND BOULDER SLOPES WITH A THIN SURFACE LAYER OF COBBLES. THE OIL CATEGORIES ARE FAIRLY HOMOGENEOUS THROUGHOUT AS SPORADIC TO BROKEN COAT WITH SPORADIC TARBALLS ALONG THE UTLZ. THEREFORE, NO SKETCH MAP WAS DRAWN.

T. A FEW AREAS THE SHORELINE IS LANG COBBLE AND PEBBLE. IN
 REVIEWED W DATE 4/21/90
 (HARRIS) NOT MEDIUM

SHORELINE ECOLOGICAL SUMMARY

REVISION: 03/22/90

Segment ST / DI 65 Subdivision A Date (mo / day / yr) 20 APRIL 1990

Time (24 hr) 1200 - 1440 Biologist JIM BARRY length = 2273m 1/4

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

(B) Overall % cover of biota (% of segment): Dense 50 Moderate 45 Low 5

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

Photographs:
Roll No. NO PHOTOS

Frames

BARNACLES

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

MYTILUS

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

GASTROPODS

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

FUCUS

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

Wildlife Observations/ General Comments:

Pelagic Cormorant - 5 GADWALL? - 2 DEER SAW - 1
BALD EAGLE - 4 COMMON GOLDEN EYE - 4 GLAUCOUS-WINGED GULLS - 10
PIGEON GULLMOT - 2 OTTER (RIVER OR SEA) SCAT - RAVENS - 2

Ecological Considerations:

- BALD EAGLE NEST ADJACENT TO SEGMENT - CLEAN UP OPERATIONS UNLIKELY TO INTERFERE
- OTTER foraging and haul out site located within segment (river otter?)

APRIL 20 1990

DI 65 A

2/4

START 1200

TIDAL WINDOW - +6 → +2

STOP 1440

I. General Comments

A. HABITAT TYPES - THE ENTIRE SEGMENT is a protected bay with very low wave energy. Runoff streams and the rise and fall of the tide provide the major flushing action. High angle vertical cliffs, cobble/boulder beaches, and a few cobble/pebble beaches are present.

Because of the extremely low wave energy, much of the lower intertidal zones are covered by a mat of filamentous brown and green algae and diatoms. Species diversity is low compared to open water sites.

- 1) High angle bedrock and cobble/boulder beaches have similar biotic communities. *Mytilus* typically is sparse, with moderate densities of barnacles (*Balanus*). adults and sparse spat and juveniles. *Fucus* is sparse to moderate and often is covered by a thick film of filamentous algae. Gastropods, mainly Littorines, are patchy, and occasionally dense.
- 2) Beaches are generally the same, except where runoff is strong enough to remove the thick mats of filamentous algae from the low zones.
- 3) Near the outlet to Outer Disk Island, mussel beds are the dense, especially for the northern outlet.

APRIL 20 1990

DEGSA

3/1

OIL-RELATED COMMENTS

- 1) Oiling is persistent inside this bay, where the sediments frequently produce a sheen when disturbed. Oil coats on barnacles appear to have killed up to 40-50% of all individuals in small patches, but mortality is generally much less severe (~5-10% dead). Clam shells are present in many areas - oil-related mortality is unknown.

Juveniles & spots for barnacles and *Mytilus* are sparse, likely due to factors other than oil.

No individuals were observed living on oiled bedrock or boulders. However, biota are present closely adjacent to oil on and under boulders and cobble.

- 2) Clean up operations should have little negative impact to these communities as long as it is restricted to a few days maximum.

II Recruitment and Mortality.

Mortality comments - see B above

Recruitment for most species appears lower than in sites outside this bay, due most likely to physical processes unrelated to oil pollution or clean up activities.

Because of the slow flushing rate, and the apparently lower recruitment rates for many biota, recovery from any oil-related mortality may be slower than in other areas. Oil-related mortality does not appear to be extensive, but may have impacted some species (e.g. clams & an unknown oyster).

APRIL 20, 1990

DISS A

4/4

II Recruitment And Mortality (cont)

A. MYTILUS - juveniles & spats present in low densities
mortality - lower zones of Mytilus area have
~ 40% drill holes

B. PARNACLES - Oil cover ~~and~~ kills up to 40-60% in patches.
Spat of Balanus are present but sparse.

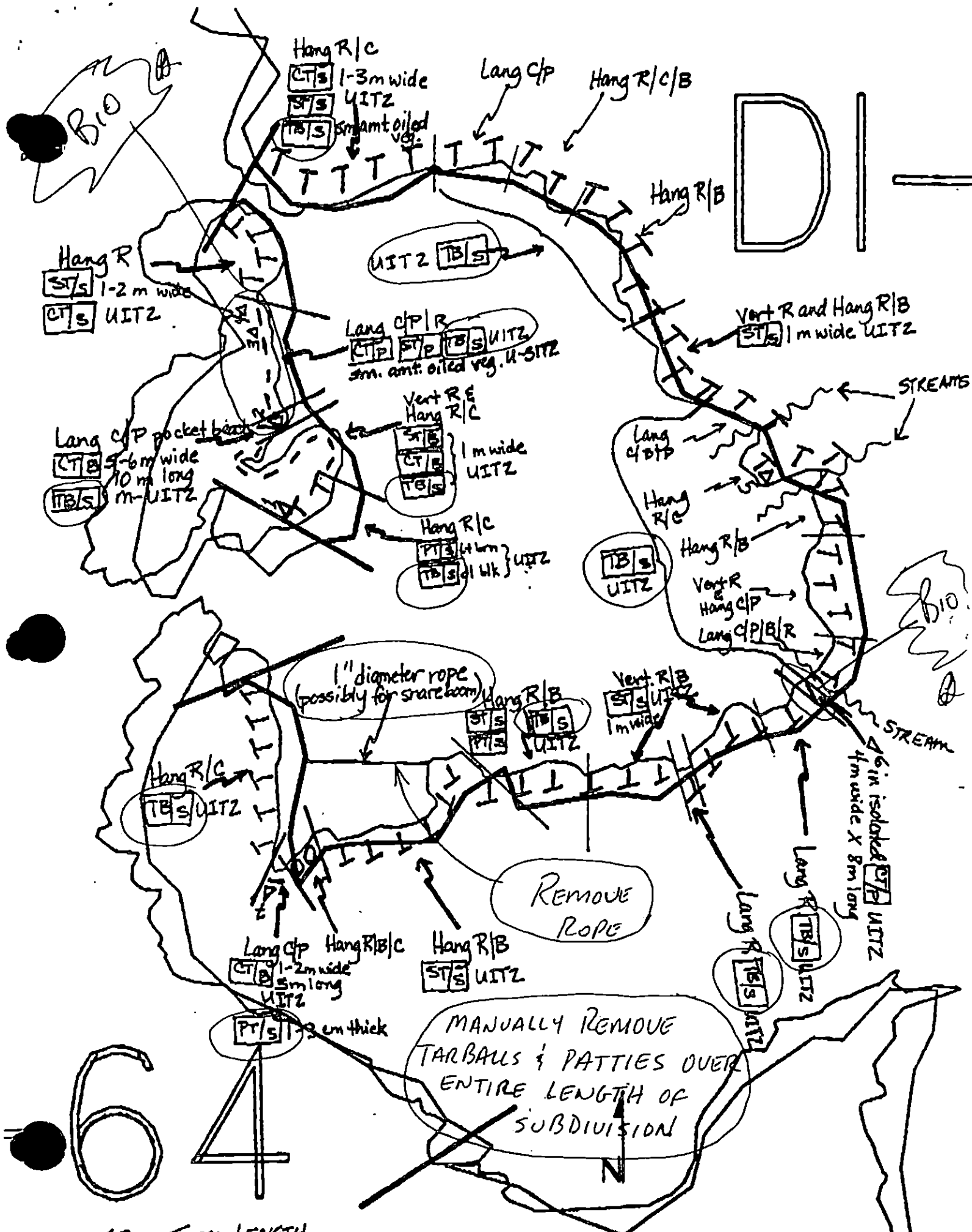
C. FUCUS - sporlings moderate & occasionally dense. Occasional
withered individuals in upper zone - heat treatment kill?

D. GASTROPODS. Littorina egg cases are abundant
whelk - egg cases occasional.

Mortality unknown.

E. PAGURIDS - Hermit crabs - abundant in low zone and mid
zone, usually occupying Littorina shells.

F. SEA STARS - Unlike all previously surveyed sites, sea stars
were rare in this segment. This may or may not be
related to oil. Few dead individuals, and no
juveniles, were observed.



2273 M TOTAL LENGTH
 DT-LS-A DL CATEGORY LENGTHS (m): CT 600 ST 100 PT 100 TB 1423 NO 5

DI-65

DI-65-A
2273m

I-64

XXXX Wide

//// Medium

---- Narrow

TTTT Very Light

0000 No Oil

DI-65-A

EXXON SEGMENT LENGTH: 2273m
ADEC Segment Length: 2007m

0 100 200 300
METERS

Map Key: PWS-97

Name: C. DILLON

Date: 4/19/90

Data Entered:

ARLIS
Alaska Resources
Library & Information Services
Anchorage, AK